TECHNICAL MANUAL

UNIT MAINTENANCE MANUAL FOR

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

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

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

CARRIER, STANDARDIZED INTEGRATED COMMAND POST SYSTEM,
M1068

NSN 2350-01-354-5657

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

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

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HEADQUARTERS
DEPARTMENT OF THE ARMY
WASHINGTON, D.C., 26 AUGUST 2005

TECHNICAL MANUAL UNIT MAINTENANCE MANUAL

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CHAPTER 8

UNIT MAINTENANCE INSTRUCTIONS FOR COOLING SYSTEM

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0192 00

INITIAL SETUP:

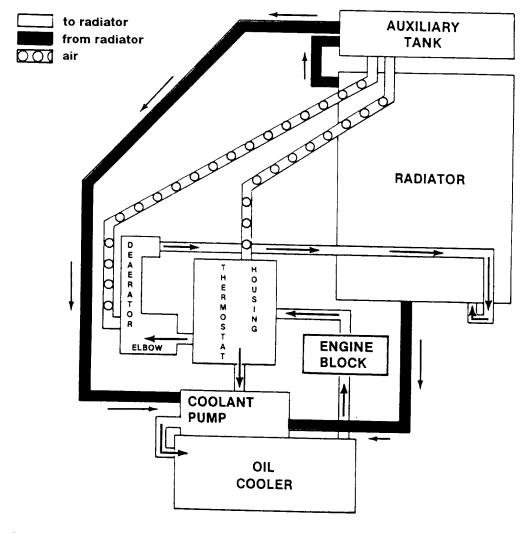
Maintenance Level

Unit

Engine coolant maintains normal operating temperatures. Coolant flow is as follows:

Coolant is drawn from the radiator by the coolant pump. It is pumped through the oil cooler, and the engine block, up to the cylinder heads, and into the thermostat housing. The coolant then passes through a deaerator elbow and back to the radiator. The deaerator elbow swirls the coolant to remove air. This air is vented back to the auxiliary tank.

The auxiliary tank provides for coolant overflow from the radiator. The tank also vents air out through its cap.



DRAIN COOLANT SYSTEM

0193 00

THIS WORK PACKAGE COVERS:

Servicing (page 0193 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Suitable Container

Personnel Required

Unit Mechanic

References

TB 750-651

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

Hull bottom access cover removed (WP 0434 00)

Driver's power plant access panel removed (WP 0430 00)

Power plant rear access panel removed (WP 0431 00,

WP 0432 00, or WP 0433 00)

SERVICING

WARNING



Hot radiator coolant can burn you. Remove cap only if cool to touch. Drain cocks may be hot. Turn cap slowly to release pressure. Replace cap by pressing down and turning until tight.

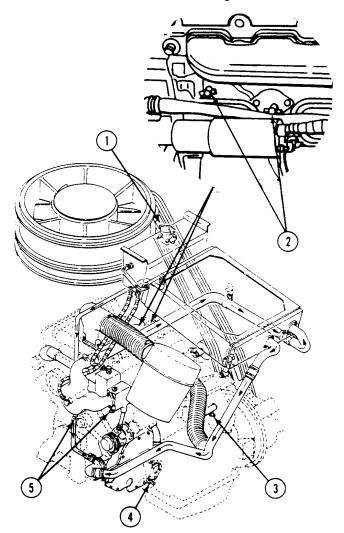
CAUTION

Coolant in the cooling system must flow freely. If rust, scale, or sediment prevent the free flow of coolant, flush system per TB 750-651. This is to be done only as necessary. Do not operate engine above 230°F (110°C). Serious engine damage can result.

NOTE

For partial drain, attach a length of 1/2 inch (13 mm) hose to the drain cock on thermostat housing or on deaerator elbow. Drain coolant into a clean container. Save coolant for reuse. Close drain cock.

- 1. Remove coolant filler cap (1) slowly to relieve pressure.
- 2. Place clean containers under drain cocks (2), (3), (4), and (5).
- 3. Open oil cooler drain cock (4).
- 4. Open three engine block drain cocks. One drain cock (3) is on left side of block. The other two drain cocks (2) are on right side.
- 5. Open thermostat and deaerator elbow drain cocks (5). Allow system to drain.
- 6. After system is drained, close six drain cocks (2), (3), (4), and (5). Replace filler cap (1).
- 7. Tag master switch to warn others that engine coolant has been drained.
- 8. Save coolant for reuse, unless check shows coolant should be changed.



DRAIN COOLANT SYSTEM — Continued

0193 00

FOLLOW-THROUGH STEPS

- 1. Install hull bottom access cover (WP 0434 00).
- 2. Install driver's power plant access panel (WP 0430 00)
- 3. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 4. Close power plant front access door (see your -10).
- 5. Raise trim vane (see your -10)

FILL COOLING SYSTEM

0194 00

THIS WORK PACKAGE COVERS:

Servicing (page 0194 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Antifreeze and Battery Tester (WP 0780 00, Item 77) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Antifreeze (WP 0782 00, Item 7) Container (14 gallon)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Driver's power plant access panel removed (WP 0430 00)

Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

SERVICING

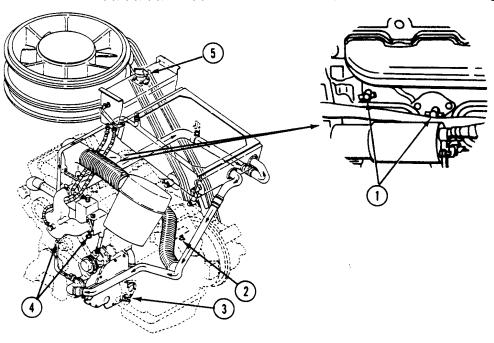
NOTE

When filling the radiator, add coolant slowly to allow trapped air to escape.

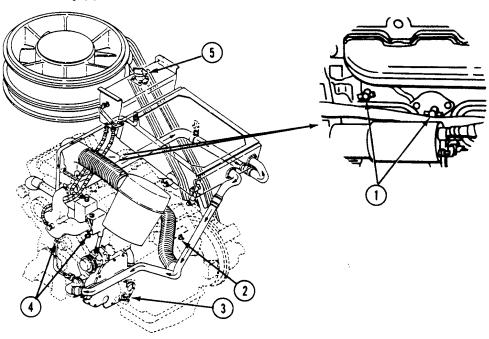
NOTE

Use antifreeze coolant in system at all times. It will reduce corrosion in engine block and cooling system parts. Ethylene glycol coolant will provide low temperature protection. Mix coolant and clean water based on protection label on container.

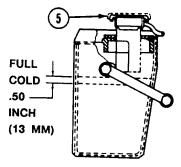
1. Make sure all six drain cocks (1), (2), (3), and (4) are closed and all tubes, hoses and connections are tight.



2. Remove coolant filler cap (5).



3. Fill system slowly with 14 gallons (53 liters) of coolant. Bring coolant level to within 1/2 inch (13 mm) of bottom of filler neck.



4. Install coolant filler cap.

CAUTION

Do not operate engine if temperature exceeds 230°F (110°C). Serious engine damage will occur.

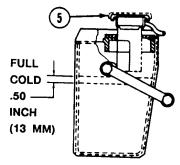
- 5. Start and run engine until it reaches 160°F to 200°F (71.1°C to 93.3°C) operating temperature. Check for leaks.
- 6. If engine coolant temperature gauge reading is above 230°F (110°C), stop engine and allow it to cool. Check the following for causes of engine overheating:
 - Make sure air cleaner element is clean and installed correctly (see your -10).
 - Check fan belts (WP 0211 00) for correct adjustment.
 - Check radiator and air intake grill air passages. Clean passages and remove debris that blocks free movement of air.
 - Check engine oil level. Check for right grade of oil (WP 0120 00).
- 7. Stop/shutdown engine and allow it to cool (see your -10).

WARNING



Hot radiator coolant can burn you. Remove cap only if cool to touch. Drain cocks may be hot. Turn cap slowly to release pressure. Replace cap by pressing down and turning until tight.

8. Add coolant as necessary to within 1/2 inch (13 mm) of bottom of filler neck.



9. Using antifreeze and battery tester, check coolant for level of protection required for climate.

FOLLOW-THROUGH STEPS

- 1. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 2. Install driver's power plant access panel (WP 0430 00).
- 3. Close power plant front access door and raise trim vane (see your -10).

CLEAN RADIATOR 0195 00

THIS WORK PACKAGE COVERS:

Cleaning (page 0195 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Radiator Cleaning Tool (WP 0780 00, Item 17)

Materials/Parts

General purpose detergent (WP 0782 00, Item 23)

Suitable container

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Driver's power plant access panel removed (WP 0430 00)

Hull bottom access cover removed (WP 0434 00)

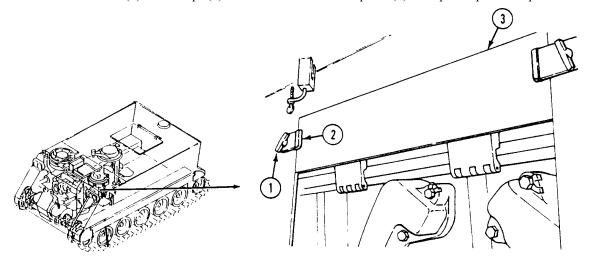
Trim vane lowered (see your -10)

Power plant front access door opened (see your -10)

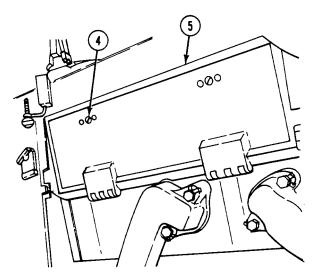
Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

CLEANING

1. Loosen two thumbscrews (1) and clamps (2). Remove radiator access panel (3) from power plant compartment bulkhead.



2. Release two fasteners (4) securing radiator access door (5) to radiator opening. Open door.



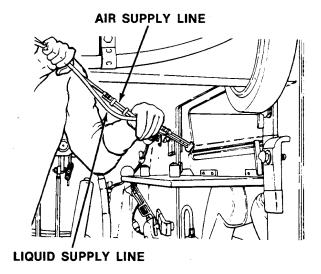
- 3. Cover exposed engine openings.
- 4. Mix one part detergent to five parts water in a clean container.
- 5. Submerge end of radiator cleaner siphon tube in detergent solution.



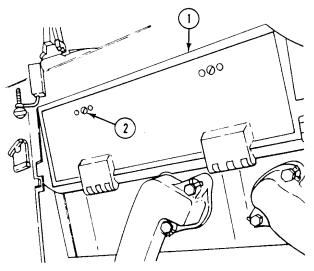
Air pressure in excess of 30 psi (207 kPa) can injure personnel. Do not direct pressurized air at yourself or others. Always wear goggles.

- 6. Attach radiator cleaning tool to available air supply.
- 7. Clean sand, oil, and debris from radiator.
- 8. Rinse radiator with clear water.

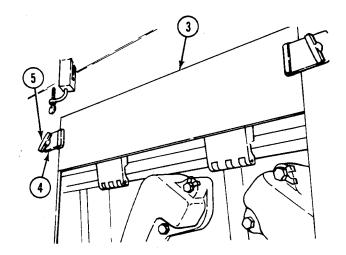
9. Remove siphon hose from detergent solution.



- 10. Remove excess water with available air supply.
- 11. Uncover exposed engine openings.
- 12. Secure radiator access door (1) to radiator opening with two fasteners (2).



13. Secure radiator access panel (3) to power plant compartment bulkhead with two clamps (4) and thumbscrews (5).



FOLLOW-THROUGH STEPS

- 1. Install hull bottom access cover (WP 0434 00).
- 2. Install driver's power plant access panel (WP 0430 00).
- 3. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 4. Close power plant front access door (see your -10).
- 5. Raise trim vane (see your -10).

REPLACE ENGINE COOLANT PUMP IDLER PULLEY AND BELTS

0196 00

THIS WORK PACKAGE COVERS:

Removal (page 0196 00-1). Installation (page 0196 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Set (WP 0780 00, Item 96) Torque Wrench (WP 0780 00, Item 102)

Personnel Required

Unit Mechanic

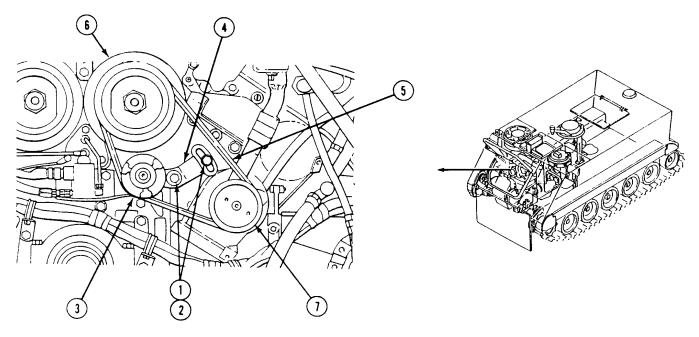
Equipment Condition

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

Trim vane lowered and power plant front access door open (see your -10)

REMOVAL

- 1. Remove two screws (1), washers (2), idler pulley (3), and idler adjusting bracket (4) from engine.
- 2. Remove two drive belts (5) from pulleys (6) and (7).

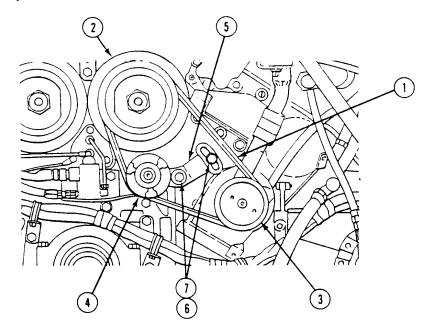


INSTALLATION

NOTE

Drive belts must be replaced in matched sets.

- 1. Position drive belts (1) on pulleys (2) and (3).
- 2. Install idler pulley (4) and idler bracket (5) on engine with drive belts (1) positioned on idler pulley (4). Secure with two washers (6) and screws (7). Do not tighten screws.
- 3. To adjust drive belts (1), move idler bracket (5) to obtain a 3/8-inch (10 mm) deflection when drive belts (1) are depressed midway between pulleys (2) and (3).
- 4. AFTER ADJUSTMENT OF DRIVE BELTS (1), TIGHTEN TWO SCREWS (7) TO 360-420 LB-IN (41-47 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS





Startup of equipment or moving parts can injure you. Stay clear of moving parts when power plant is running.

- 1. Start engine (see your -10). Check idler pulley for proper operation.
- 2. Stop/shutdown engine (see your -10).
- 3. Close power plant front access door and raise trim vane (see your -10).

REPLACE ENGINE COOLANT PUMP

0197 00

THIS WORK PACKAGE COVERS:

Removal (page 0197 00-1). Installation (page 0197 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 61)

Gasket

Lockwasher (4)

Personnel Required

Unit Mechanic

References

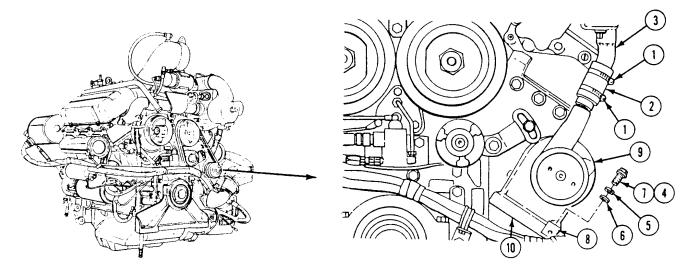
WPI0196100

Equipment Condition

Power plant removed from carrier (WP 0131 00)

REMOVAL

- 1. Remove coolant pump drive belts (WP 0196 00).
- 2. Loosen two clamps (1) and slide bypass hose (2) upward on thermostat tube (3).
- 3 Remove four cap screws (4), washers (5), lockwashers (6), one socket head screw (7), wiring harness bracket (8), coolant pump (9), and gasket (10) from oil cooler housing. Discard gasket and lockwashers.



INSTALLATION

WARNING

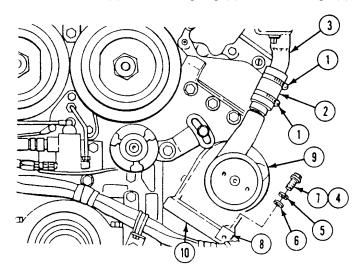




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply sealing compound to new gasket (10). Secure gasket, coolant pump (9), and bracket (8) to oil cooler housing with one socket head screw (17), four washers (15), new lockwashers (16), and lockwashers (14).
- 2. Secure bypass hose (2) to thermostat tube (3) and coolant pump (9) with two clamps (1).



- 3. Install coolant pump drive belts (WP 0196 00).
- 4. Adjust coolant drive belts (WP 0196 00).

FOLLOW-THROUGH STEPS

- 1. Install power plant assembly in carrier (WP 0131 00). Leave power plant access door open.
- 2. Start engine (see your -10). Check for leaks around water pump and bypass hose.
- 3. Stop/shutdown engine (see your -10).
- 4. Close power plant front access door (see your -10).

REPLACE DEAERATION ELBOW TO RADIATOR INLET ELBOW COOLANT TUBE

0198 00

THIS WORK PACKAGE COVERS:

Removal (page 0198 00-1). Installation (page 0198 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut

Locknut

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

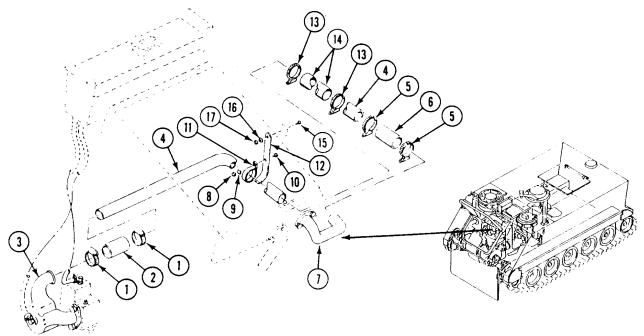
Driver's power plant access panel removed (WP 0430 00)

Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

Cooling system completely drained (WP 0193 00)

REMOVAL

- 1. Remove two clamps (1) and hose (2) from deaeration elbow (3) and coolant tube (4).
- 2. Remove two clamps (5) and hose (6) from coolant tube (4) and radiator elbow (7).
- 3. Remove locknut (8), washer (9), screw (10), clamp (11), and coolant tube (4) from bracket (12). Discard locknut.
- 4. Remove coolant tube (4) through power plant rear access panel opening.
- 5. Remove clamp (11), two clamps (13), and insulation (14) from coolant tube (4).
- 6. Remove screw (15), washer (16), locknut (17), and bracket (12) from power plant compartment bulkhead. Discard locknut.

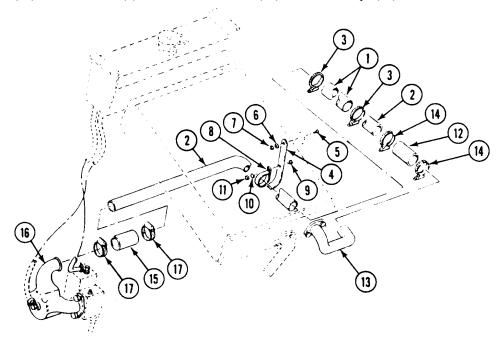


REPLACE DEAERATION ELBOW TO RADIATOR INLET ELBOW COOLANT TUBE — Continued

0198 00

INSTALLATION

- 1. Secure insulation (1) to coolant tube (2) with two clamps (3).
- 2. Secure bracket (4) to bulkhead with screw (5), washer (6), and new locknut (7).
- 3. Place clamp (8) on coolant tube (2). Secure clamp to bracket (4) with screw (9), washer (10), and new locknut (11).
- 4. Secure hose (12) to radiator inlet elbow (13) and coolant tube (2) with two clamps (14).
- 5. Secure hose (15) to coolant tube (2) and deaeration elbow (16) with two clamps (17).



FOLLOW-THROUGH STEPS

- 1. Fill cooling system (WP 0194 00).
- 2. Start engine (see your -10). Check for leaks.
- 3. Stop/shutdown engine (see your -10).
- 4. Install driver's power plant access panel (WP 0430 00).
- 5. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00)
- 6. Close power plant front access door and raise trim vane (see your -10).

REPLACE RADIATOR OUTLET ELBOW TO COOLANT PUMP ELBOW HOSE AND TUBE

0199 00

THIS WORK PACKAGE COVERS:

Removal (page 0199 00-1). Installation (page 0199 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Driver's power plant access panel removed (WP 0430 00)

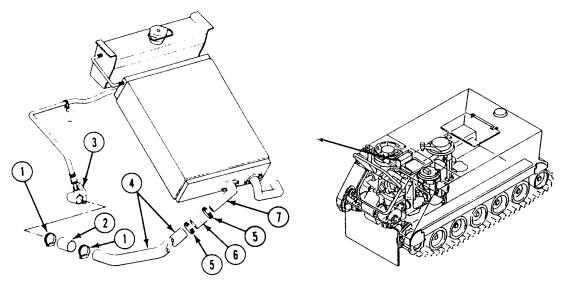
Trim vane lowered and power plant front access door open (see your -10)

Cooling system completely drained (WP 0193 00)

Air cleaner housing and element removed (WP 0185 00)

REMOVAL

- 1. Remove two clamps (1) and hose (2) from coolant pump elbow (3) and tube (4).
- 2. Remove two clamps (5), hose (6), and tube (4) from radiator outlet elbow (7).
- 3. Remove tube (4) through power plant front access door opening.

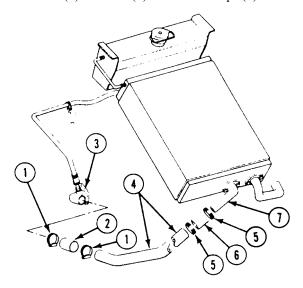


REPLACE RADIATOR OUTLET ELBOW TO COOLANT PUMP ELBOW HOSE AND TUBE — Continued

0199 00

INSTALLATION

- 1. Install tube (4) through power plant front access door opening.
- 2. Secure hose (2) to coolant pump elbow (3) and tube (4) with two clamps (1).
- 3. Secure hose (6) to radiator outlet elbow (7) and tube (4) with two clamps (5).



FOLLOW-THROUGH STEPS

- 1. Install air cleaner element and housing (WP 0185 00).
- 2. Fill cooling system (WP 0194 00).
- 3. Start engine (see your -10). Check for leaks.
- 4. Stop/shutdown engine (see your -10).
- 5. Install driver's power plant access panel (WP 0430 00).
- 6. Close power plant front access door and raise trim vane (see your -10).

REPLACE THERMOSTAT, HOUSING, AND DEAERATION ELBOW

0200 00

THIS WORK PACKAGE COVERS:

Removal (page 0200 00-1). Installation (page 0200 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Socket Wrench Set (WP 0780 00, Item 96)

Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Sealing compound (WP 0782 00, Item 65)

Sealing compound (WP 0782 00, Item 62)

Deaeration elbow gasket

Housing gasket

Key washer (2)

Lockwasher (6)

Thermostat gasket

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked

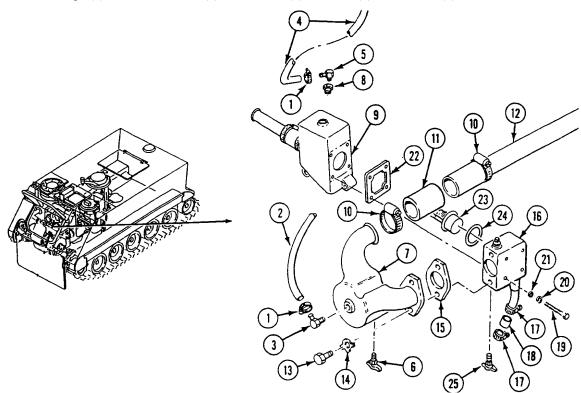
Trim vane lowered and power plant front access door open (see your -10)

Cooling system drained (WP 0193 00)

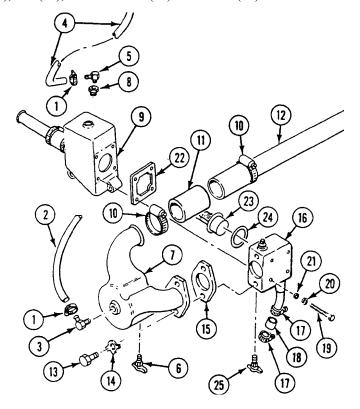
Remove air cleaner housing and element (WP 0185 00)

REMOVAL

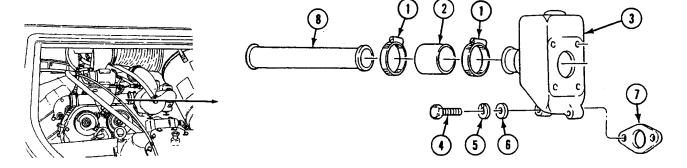
1. Loosen two clamps (1). Disconnect hose (2) from elbow (3) and hose (4) from elbow (5).



- 2. Remove elbow (3) and drain cock (6) from deaeration elbow (7). Remove bushing (8) from thermostat housing (9).
- 3. Loosen two clamps (10). Disconnect hose (11) from deaeration elbow (7) and tube (12).
- 4. Remove two screws (13), key washers (14), deaeration elbow (7), and gasket (15) from thermostat housing cover (16). Discard key washers and gasket.
- 5. Loosen two clamps (17). Disconnect hose (18) from cover (16).
- 6. Remove four screws (19), lockwashers (20), washers (21), cover (16), and gasket (22) from housing (9). Discard lockwashers and gasket.
- 7. Remove thermostat (23), seal (24), and drain cock (25) from cover (16).



- 8. Loosen two clamps (1). Slide hose (2) off the housing (3).
- 9. Remove two screws (4), lockwashers (5), and washers (6) securing housing (3) to the engine. Remove housing (3) and gasket (7). Discard lockwashers and gasket.
- 10. If hose (2) is damaged, slide off tube (8). Discard hose.



1. If hose (2) was discarded, slide new hose on tube (8). Slide two clamps (1) on hose. Do not tighten.

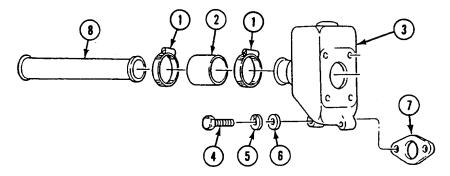






Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 2. Apply sealing compound (WP 0782 00, Item 62) to both sides of new gasket (7). Place gasket on housing (3). Secure housing (3) on engine with two screws (4), new lockwashers (5), and two washers (6).
- 3. Slide hose (2) onto housing (3). Position two clamps (1) on each end of hose, and tighten.

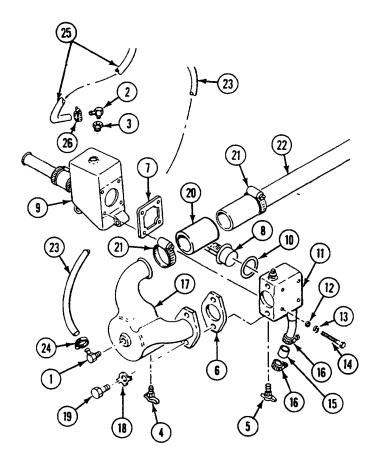






Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 4. Apply a light coat of sealing compound (WP 0782 00, Item 65) to external threads of elbows (1) and (2), bushing (3), and drain cocks (4) and (5). Apply sealing compound (WP 0782 00, Item 62) to both sides of gaskets (6) and (7).
- 5. Install thermostat (8) and new gasket (7) in thermostat housing (9).
- 6. Install seal (10) in cover (11). Secure thermostat cover (11) to housing (9) with four new washers (12), lockwashers (13), and screws (14). TIGHTEN SCREWS TO 180-240 LB-IN (20-27 N·M) TORQUE. Use torque wrench and socket wrench set.
- 7. Connect hose (15) to cover (11) with two clamps (16). Tighten clamps.
- 8. Secure deaeration elbow (17) and new gasket (6) to cover (11) with two new key washers (18) and screws (19).
- 9. Connect hose (20) to deaeration elbow (17) and tube (22) with two clamps (21). Tighten clamps.
- 10. Install elbow (1) in deaeration elbow (17).
- 11. Secure hose (23) to elbow (1) with clamp (24).
- 12. Install bushing (3) in housing (9).
- 13. Install elbow (2) in bushing (3).
- 14. Secure hose (25) to elbow (2) with clamp (26).
- 15. Install drain cock (4) in deaeration elbow (17) and drain cock (5) in housing cover (11).



FOLLOW-THROUGH STEPS

- 1. Install air cleaner element and housing (WP 0185 00).
- 2. Fill cooling system (WP 0194 00).
- 3. Start engine (see your -10). Check for leaks.
- 4. Stop/shutdown engine (see your -10).
- 5. Close power plant front access door and raise trim vane (see your -10).

REPLACE THERMOSTAT HOUSING TO ENGINE COOLANT TUBE

0201 00

THIS WORK PACKAGE COVERS:

Removal (page 0201 00-1). Installation (page 0201 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Sealing compound (WP 0782 00, Item 60) Sealing compound (WP 0782 00, Item 62) Gasket Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

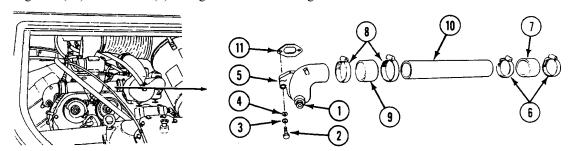
Cooling system drained (WP 0193 00)

REMOVAL

NOTE

Plug (1) should be removed only if you see leakage.

- 1. Remove two screws (2), lockwashers (3), and flat washers (4) securing elbow (5) to engine. Discard lockwashers.
- 2. Loosen two clamps (6) on hose (7). Move elbow (5), two clamps (8), hose (9), and coolant tube (10) to the left as a unit.
- 3. Loosen two clamps (8). Disassemble hose (9), coolant tube (10), and elbow (5).
- 4. Remove gasket (11) from elbow (5) or engine block. Discard gasket.



WARNING





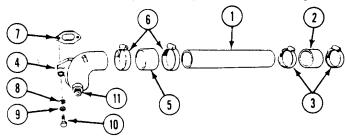
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

NOTE

If plug (11) was removed, clean and apply a thin coat of sealing compound (WP 0782 00, Item 60) on threads before installing.

- 1. Connect coolant tube (1) to hose (2) with two clamps (3). Tighten two clamps (3).
- 2. Connect coolant tube (1) and elbow (4) with hose (5) and two clamps (6). Tighten two clamps (6).
- 3. Apply a thin coat of sealing compound (WP 0782 00, Item 62) to both sides of new gasket (7).
- 4. Install new gasket (7) between elbow (4) and engine. Secure with two flat washers (8), new lockwashers (9), and screws (10). TIGHTEN SCREWS TO 360-384 LB-IN (41-43 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Fill cooling system (WP 0194 00).
- 2. Start engine (see your -10). Check for leaks.
- 3. Stop/shutdown engine (see your -10).
- 4. Close power plant front access door and raise trim vane (see your -10).

REPLACE RADIATOR AND PARTS

0202 00

THIS WORK PACKAGE COVERS:

Removal (page 0202 00-1). Installation (page 0202 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Endless Sling (WP 0780 00, Item 66)

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Socket Wrench Set (WP 0780 00, Item 96)

Torque Wrench (WP 0780 00, Item 102)

Lifting Device

Materials/Parts

Sealing compound (WP 0782 00, Item 60)

Sealing compound (WP 0782 00, Item 66)

Gasket (2)

Key washer (4)

Mount (4)

Seal (4)

Personnel Required

Unit Mechanic

Helper (H)

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Driver's power plant access panel removed

(WP 0430 00)

Power plant rear upper access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00).

Power plant grill raised (WP 0130 00)

Balance hose removed (WP 0203 00)

REMOVAL

WARNING



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

WARNING





Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

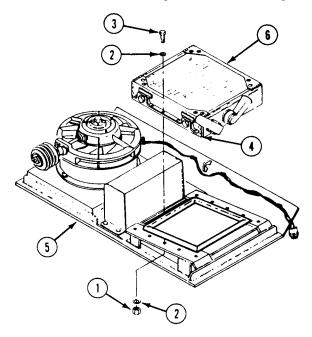
Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as DAMAGED - DO NOT USE.



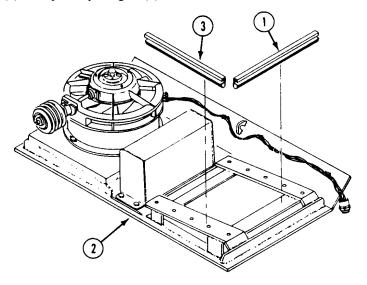
Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

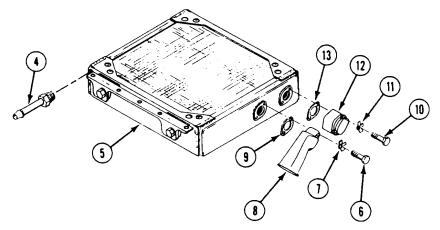
1. Attach sling to lifting device of at least 150 lb (68 kg) capacity to radiator. Remove ten nuts (1), 20 washers (2), and ten screws (3) that secure radiator supports (4) to power plant grill (5). Lift radiator supports and radiator (6) from power plant grill. Lower radiator to a work table or flat wooden plate and detach lifting device. Have helper assist.



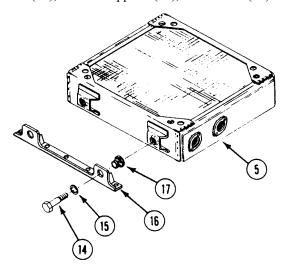
- 2. Remove two end seals (1) from power plant grill (2). Discard seals.
- 3. Remove two side seals (3) from power plant grill (2). Discard seals.



- 4. Remove balance hose adapter (4) from radiator (5).
- 5. Remove two screws (6), key washers (7), radiator outlet elbow (8), and gasket (9) from radiator (5). Discard gasket and washers.
- 6. Remove two screws (10), key washers (11), radiator inlet elbow (12), and gasket (13) from radiator (5). Discard gasket and washers.



7. Remove four screws (14), washers (15), radiator supports (16), and mounts (17) from radiator (5). Discard mounts.

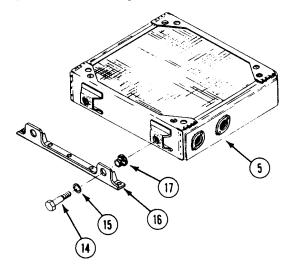


INSTALLATION

CAUTION

If installing a new radiator, make sure shipping plugs are removed.

- 1. Lubricate four new mounts (17) with water. Install mounts on two radiator supports (16).
- 2. Install two radiator supports (16) on radiator (5). Secure with four screws (14) and washers (15). TIGHTEN SCREWS TO 360420 LB IN (4148 N·M) TORQUE. Use for que wrench and socket wrench set.

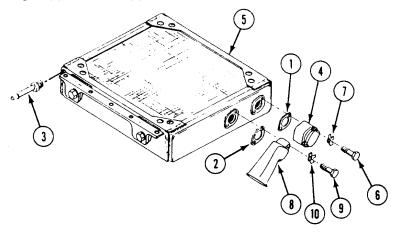






Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 3. Apply a thin coat of sealing compound to both sides of new gaskets (1) and (2) and external threads of adapter (3).
- 4. Install radiator inlet elbow (4) and new gasket (1) on radiator (5). Secure with two screws (6) and new key washers (7).
- 5. Install radiator outlet elbow (8) and new gasket (2) on radiator (5). Secure with two screws (9) and new key washers (10).
- 6. Install balance hose adapter (3) on radiator (5).



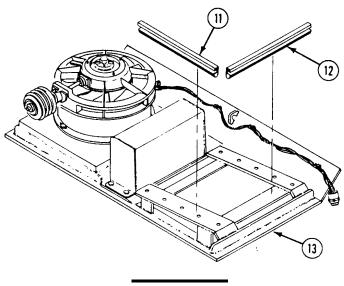




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 7. Apply thin coat of adhesive sealant to mounting surfaces of seals (11) and (12).
- 8. Install two side seals (11) on power plant grill (13).
- 9. Install two end seals (12) on power plant grill (13).



WARNING



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





Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as DAMAGED - DO NOT USE.

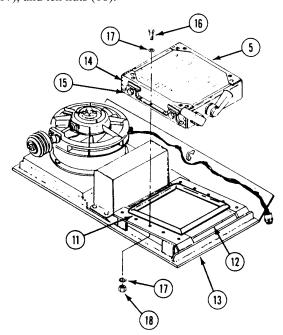
WARNING



Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

- 10. Attach a lifting device of at least 150 lb (68 kg) capacity to radiator support eyes (14). Lift and place radiator on four seals (11) and (12).
- 11. Align mounting holes of two radiator supports (15) to power plant grill (13). Secure radiator on power plant grill with ten screws (16), 20 washers (17), and ten nuts (18).



0202 00-7

REPLACE RADIATOR AND PARTS — Continued

0202 00

FOLLOW-THROUGH STEPS

- 1. Install balance hose (WP 0203 00).
- 2. Lower power plant grill (WP 0130 00).
- 3. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 4. Install driver's power plant access panel (WP 0430 00).

REPLACE BALANCE HOSE

0203 00

THIS WORK PACKAGE COVERS:

Removal (page 0203 00-1). Installation (page 0203 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

Equipment Condition

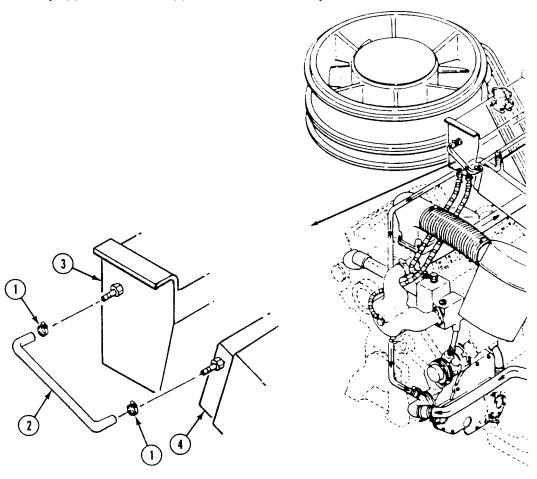
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

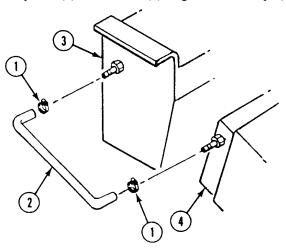
Power plant grill raised (WP 0130 00)

REMOVAL

1. Loosen two clamps (1) on balance hose (2). Remove hose and clamps.



- 1. Slide two clamps (1) on new balance hose (2).
- 2. Install balance hose (2) on auxiliary tank (3) and radiator (4). Tighten two clamps (1).



FOLLOW-THROUGH STEPS

1. Lower power plant grill (WP 0130 00).

REPLACE RADIATOR ACCESS DOOR SEALS AND FASTENERS

0204 00

THIS WORK PACKAGE COVERS:

Removal (page 0204 00-1). Repair (page 0204 00-2). Installation (page 0204 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Rivet Tool (WP 0780 00, Item 60)

Materials/Parts

Cleaning compound (WP 0782 00, Item 16) Sealing compound (WP 0782 00, Item 66) Rivet (4) Seal

Personnel Required

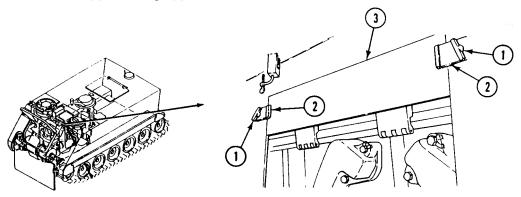
Unit Mechanic

Equipment Condition

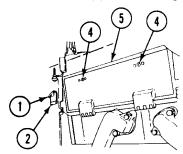
Engine stopped/shutdown (see your -10) Driver's power plant access panel removed (WP 0430 00)

REMOVAL

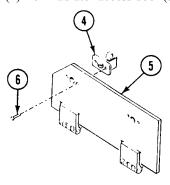
1. Loosen two thumbscrews (1) and clamps (2). Remove radiator access panel (3) from power plant compartment bulkhead.



2. Release two fasteners (4) securing radiator access door (5) to radiator opening, and open door.



3. Remove four rivets (6) and two fasteners (4) from radiator access door (5). Discard rivets.



REPAIR

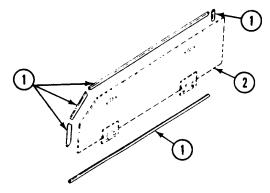
WARNING



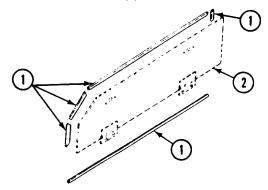


Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

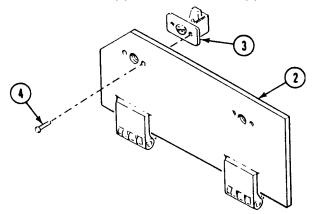
- $1.\Box$ Use Gleaning Compound to Temove five-piece Seal ((1)) from Tadiator access Idoor ((2)). Discard seal.
- 2. Apply a thin coat of adhesive sealant to bottom surface of new five-piece seal (1). Apply same sealant to seal area of radiator access door (2).



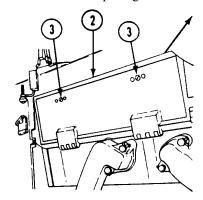
1. Install new five-piece seal (1) on radiator access door (2). Allow 20 minutes to dry.



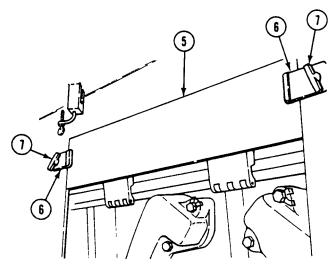
2. Secure two fasteners (3) to radiator access door (2) with four new rivets (4). Use rivet tool.



3. Close radiator access door (2). Secure door to radiator opening with two fasteners (3).



4. Secure radiator access panel (5) to power plant compartment bulkhead with two clamps (6) and thumbscrews (7).



FOLLOW-THROUGH STEPS

1. Install driver's power plant access panel (WP 0430 00).

REPAIR RADIATOR ACCESS DOOR

0205 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0205 00+1)... Assembly (page 0205 00+2)...

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (4)

Personnel Required

Unit Mechanic

Equipment Condition

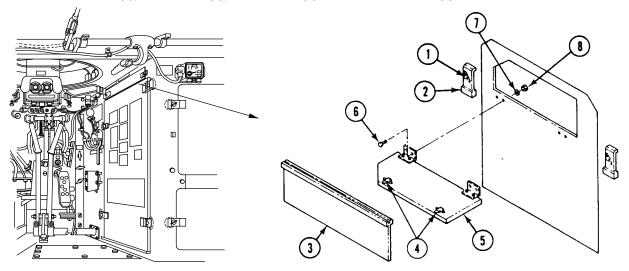
Engine stopped/shutdown

Carrier blocked (see your -10)

Driver's power plant access panel removed (WP 0430 00)

DISASSEMBLY

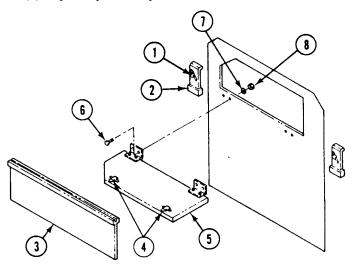
- 1. Loosen two thumbscrews (1) and clamps (2). Remove radiator access panel (3) from power plant compartment bulkhead.
- 2. Release two fasteners (4) on access door (5) and lower access door.
- 3. Remove four screws (6), flat washers (7), and locknuts (8). Remove access door (5). Discard four locknuts.



0205 00

ASSEMBLY

- 1. Position access door (5) and install four screws (6), flat washers (7), and new locknuts (8).
- 2. Close radiator access door (5) and secure two fasteners (4).
- 3. Install radiator access panel (3) on power plant compartment bulkhead. Secure with two clamps (2) and thumbscrews (1).



FOLLOW-THROUGH STEPS

1. Install driver's power plant access panel (WP 0430 00).

REPLACE AUXILIARY TANK AND PARTS

0206 00

THIS WORK PACKAGE COVERS:

Removal (page 0206 00-1). Installation (page 0206 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench Set (WP 0780 00, Item 96) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Sealing compound (WP 0782 00, Item 60) Sealing compound (WP 0782 00, Item 62) Filler neck gasket Lockwasher (4)

Personnel Required

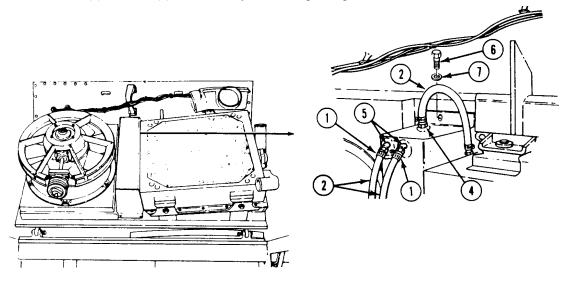
Unit Mechanic

Equipment Condition

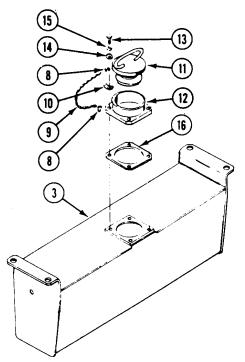
Engine stopped/shutdown (see your -10) Carrier blocked (see your -10) Power plant grill raised (WP 0130 00)

REMOVAL

- 1. Loosen three clamps (1). Disconnect three hoses (2) from auxiliary tank.
- 2. Remove adapter (4) and two elbows (5) from auxiliary tank.
- 3. Remove four screws (6), washers (7), and auxiliary tank from power plant grill.



- 4. Remove two hooks (8) and chain (9) from bracket (10) and filler cap (11).
- 5. Remove filler cap (11) from filler neck (12).
- 6. Remove four screws (13), flat washers (14), lockwashers (15), filler neck (12), bracket (10), and gasket (16) from auxiliary tank (3). Discard gasket and lockwashers.



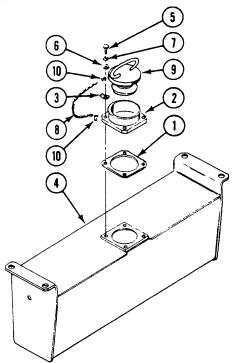
WARNING





Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 1. Apply thin coat of sealing compound (WP 0782 00, Item 62) to both sides of new gasket (1).
- 2. Install new gasket (1), filler neck (2), and bracket (3) on auxiliary tank (4). Secure with four screws (5), flat washers (6), and new lockwashers (7).
- 3. Secure chain (8) to bracket (3) and filler cap (9) with two hooks (10).
- 4. Install filler cap (9) in filler neck (2).



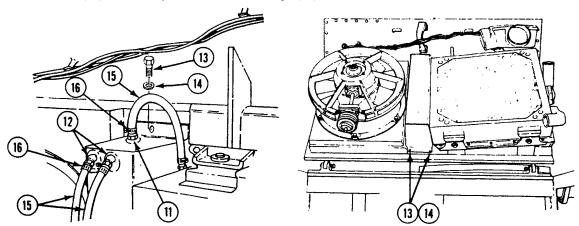




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 5. Apply thin coat of sealing compound (WP 0782 00, Item 60) to external threads of adapter (11) and two elbows (12).
- 6. Install adapter (11) and two elbows (12) in auxiliary tank.
- 7. Secure auxiliary tank to power plant grill with four screws (13) and washers (14). TIGHTEN SCREWS TO 264-288 LB-IN (30-33 N·M) TORQUE. Use torque wrench and socket wrench set.
- 8. Secure three hoses (15) to auxiliary tank with three clamps (16).



FOLLOW-THROUGH STEPS

- 1. Lower power plant grill (WP 0130 00).
- 2. Start engine (see your -10). Check for leaks.
- 3. Stop/shutdown engine (see your -10).

REPLACE AUXILIARY TANK TO COOLANT PUMP TUBE

0207 00

THIS WORK PACKAGE COVERS:

Removal (page 0207 00-1). Installation (page 0207 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 60)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

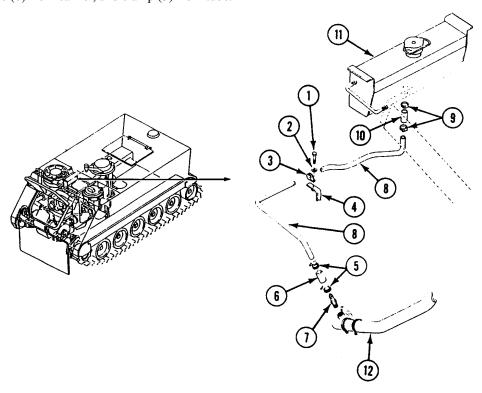
Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

Drain cooling system (WP 0193 00)

REMOVAL

- 1. Remove screw (1), washer (2), and clamp (3) from bracket (4).
- 2. Loosen two clamps (5). Disconnect hose (6) from adapter (7) and tube (8).
- 3. Loosen two clamps (9). Disconnect hose (10) from tube (8) and auxiliary tank (11).
- 4. Remove adapter (7) from oil cooler elbow (12).
- 5. Remove tube (8) from carrier, and clamp (3) from tube.



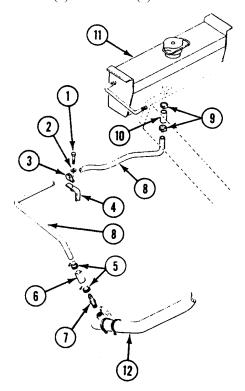
WARNING





Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 1. Apply a light, even coat of sealing compound to external threads of adapter (7).
- 2. Install adapter (7) in oil cooler elbow (12).
- 3. Install clamp (3) on tube (8).
- 4. Secure hose (10) to auxiliary tank (11) and to tube (8) with two clamps (9).
- 5. Secure hose (6) to tube (8) and adapter (7) with two clamps (5).
- 6. Secure clamp (3) to bracket (4) with screw (1) and washer (2).



FOLLOW-THROUGH STEPS

1. Fill cooling system (WP 0194 00).



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

- 2. Start engine (see your -10). Check for leaks.
- 3. Stop/shutdown engine (see your -10).
- 4. Close power plant front access door and raise trim vane (see your -10).

REPLACE AUXILIARY TANK TO RADIATOR TUBE

0208 00

THIS WORK PACKAGE COVERS:

Removal (page 0208 00-1). Installation (page 0208 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 60)

Personnel Required

Unit Mechanic

Equipment Condition

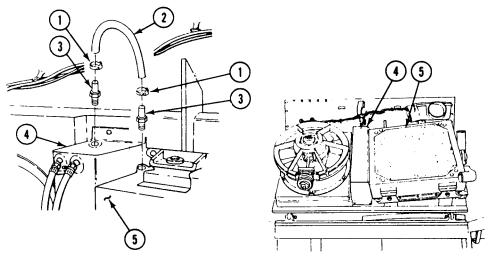
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Power plant grill raised (WP 0130 00)

REMOVAL

- 1. Remove two clamps (1) and hose (2) from two adapters (3).
- 2. Remove two adapters (3) from auxiliary tank (4) and radiator (5).



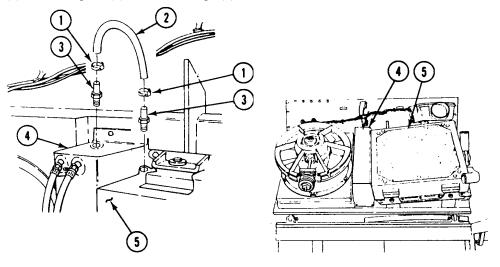
WARNING





Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 1. Apply a thin, even coat of sealing compound to external threads of two adapters (3).
- 2. Install two adapters (3) in auxiliary tank (4) and radiator (5).
- 3. Secure hose (2) to two adapters (3) with two clamps (1).



FOLLOW-THROUGH STEPS

1. Lower power plant grill (WP 0130 00).



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

- 2. Start engine (see your -10). Check for leaks.
- 3. Stop/shutdown engine (see your -10).
- 4. Close power plant door (see your -10).

REPLACE AUXILIARY TANK DEAERATION HOSES

0209 00

THIS WORK PACKAGE COVERS:

Removal (page 0209 00-1). Installation (page 0209 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

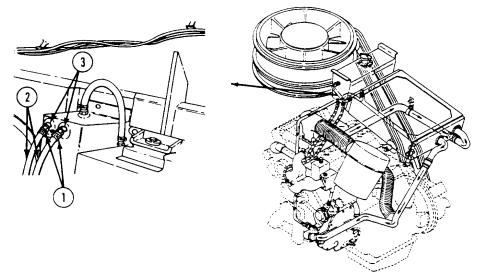
Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

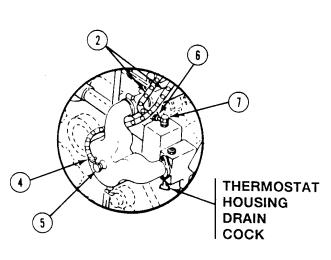
Coolant drained (WP 0193 00)

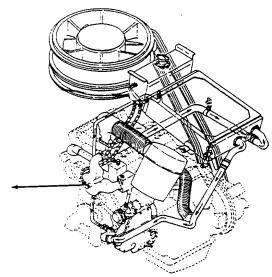
REMOVAL

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



2. Remove clamp (4) from elbow (5), and clamp (6) from elbow (7).



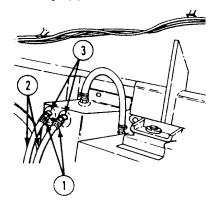


0209 00-1

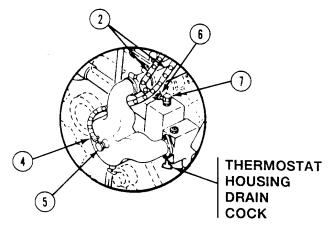
3. Remove two hoses from carrier.

INSTALLATION

1. Secure two hoses (2) to elbows (3) with clamps (1).



2. Secure two hoses (2) to elbows (5) and (7) with clamps (4) and (6).



FOLLOW-THROUGH STEPS



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

- 1. Fill cooling system (WP 0194 00).
- 2. Start engine (see your -10). Check for leaks.
- 3. Stop/shutdown engine (see your -10).
- 4. Close power plant front access door and raise trim vane (see your -10).

REPLACE COMBAT FILLER COVER AND LOCK

0210 00

THIS WORK PACKAGE COVERS:

Removal (page 0210 00-1). Installation (page 0210 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (M1068 and M577A2 only) Spring pin (3)

Personnel Required

Unit Mechanic

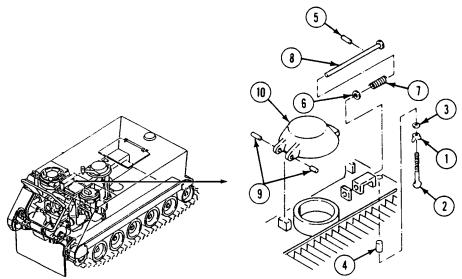
Equipment Condition

Engine stopped/shutdown (see your -10)

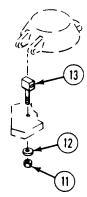
Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

REMOVAL

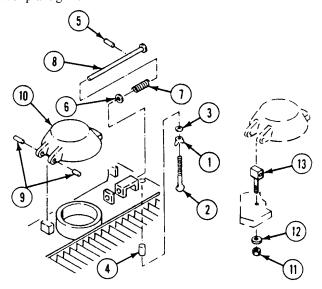
- 1. Loosen wing nut (1). Remove thumbscrew (2), washer (3), and spacer (4) from power plant grill.
- 2. Remove spring pin (5), washer (6), spring (7), and pin (8) from power plant grill. Discard spring pin.
- 3. Remove two spring pins (9) and cover (10) from power plant grill. Discard spring pins.



4. On M1068 and M577A2 only, remove locknut (11), washer (12), and rod end (13) from power plant grill. Discard locknut.



- 1. Secure cover (10) to power plant grill with two new spring pins (9).
- 2. Install pin (8) in power plant grill. Secure with spring (7), washer (6), and new spring pin (5).
- 3. Install wing nut (1), washer (3), and spacer (4) on thumbscrew (2).
- 4. On M1068 and M577A2 only, secure rod end (13) to power plant grill with washer (12) and new locknut (11).
- 5. Install thumbscrew (2) in power plant grill.



FOLLOW-THROUGH STEPS

1. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).

REPLACE FAN DRIVE BELTS

0211 00

THIS WORK PACKAGE COVERS:

Removal (page 0211 00-1). Installation (page 0211 00-2). Adjustment (page 0211 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (4)

Personnel Required

Unit Mechanic

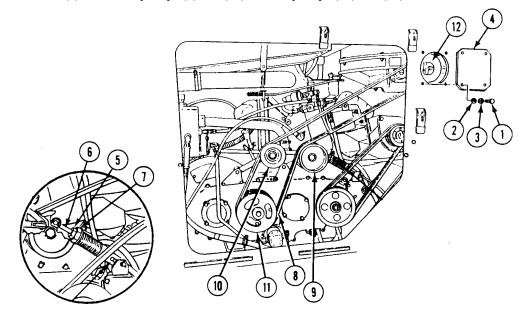
Equipment Condition

Engine stopped/shutdown (see your -10)

Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

REMOVAL

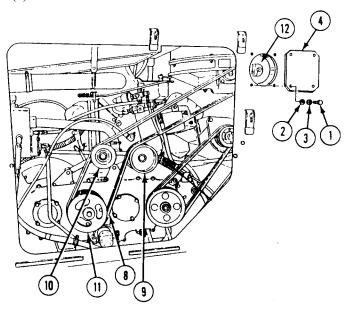
- 1. Remove four screws (1), flat washers (2), lockwashers (3), and fan pulley access cover (4) from power plant compartment rear bulkhead. Discard lockwashers.
- 2. Loosen locknut (5) that secures rod end (6) to adjusting nut (7).
- 3. Turn adjusting nut (7) counterclockwise to loosen drive belts (8).
- 4. Remove drive belts (8) from idler pulleys (9) and (10) and fan pulleys (11) and (12).



NOTE

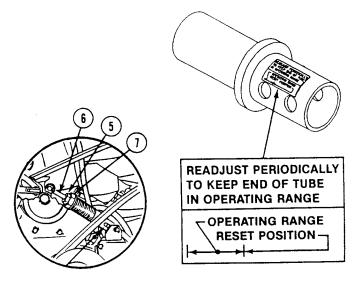
Fan drive belts are to be replaced in matched sets.

- 1. Install drive belts (8) on fan pulleys (11) and (12) and idler pulleys (9) and (10).
- 2. Install fan pulley access cover (4) on power plant compartment rear bulkhead. Secure with four screws (1), flat washers (2), and new lockwashers (3).



ADJUSTMENT

1. Loosen locknut (5), if necessary, and turn adjusting nut (7) left or right until lower end of rod (6) is within operating range. Tighten locknut.



FOLLOW-THROUGH STEPS

WARNING



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

- 1. Start engine (see your -10). Check for belt slippage.
- 2. Stop/shutdown engine (see your -10).
- 3. Check drive belts for proper tension (see your -10).
- 4. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).

REPLACE FAN DRIVE FIXED IDLER AND PULLEY

0212 00

THIS WORK PACKAGE COVERS:

Removal (page 0212 00-1). Installation (page 0212 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Snap Ring Pliers (WP 0780 00, Item 45) Torque Wrench (WP 0780 00, Item 104)

Materials/Parts

Cotter pin (2)

Personnel Required

Unit Mechanic

References

WPI02 II 100

Equipment Condition

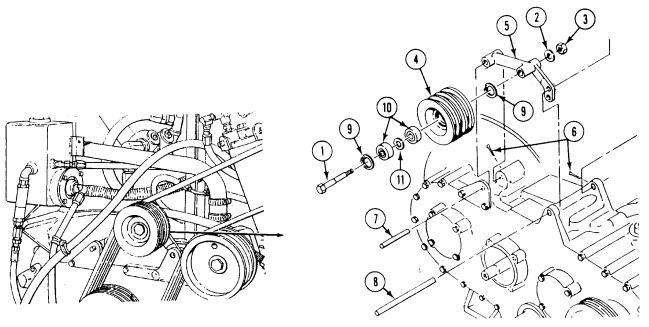
Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

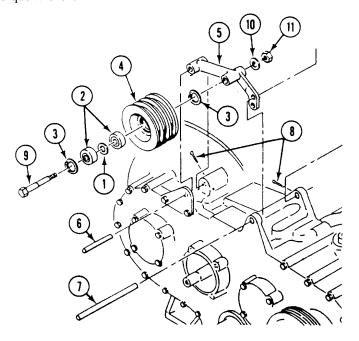
Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

REMOVAL

- 1. Remove fan drive belts (WP 0211 00).
- 2. Remove bolt (1), washer (2), nut (3), and idler pulley (4) from idler arm (5).
- 3. Remove two cotter pins (6), straight pins (7) and (8), and idler arm (5) from transfer gearcase. Discard cotter pins.
- 4. Remove two retaining rings (9), bearings (10), and spacer (11) from idler pulley (4).



- 1. Install spacer (1), two bearings (2), and retaining rings (3) in pulley (4). Use snap ring pliers.
- 2. Secure idler arm (5) to transfer gearcase with two straight pins (6) and (7) and new cotter pins (8).
- 3. Secure pulley (4) to idler arm (5) with screw (9), washer (10), and nut (11). TIGHTEN NUT TO 50-55 LB-FT (68-77 N·M) TORQUE. Use torque wrench.



4. Install and adjust fan drive belts (WP 0211 00).

FOLLOW-THROUGH STEPS



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

- 1. Start engine (see your -10). Check fixed idler pulley and fan drive belts for proper operation.
- 2. Stop/shutdown engine (see your -10).
- 3. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).

REPLACE FAN DRIVE ADJUSTABLE IDLER AND PULLEY

0213 00

THIS WORK PACKAGE COVERS:

Removal (page 0213 00-1). Installation (page 0213 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Snap Ring Pliers (WP 0780 00, Item 45) Torque Wrench (WP 0780 00, Item 104)

Materials/Parts

Cotter pin (4)

Personnel Required

Unit Mechanic

References

 $WP 102 \Pi 100$

Equipment Condition

Engine stopped/shutdown (see your -10)

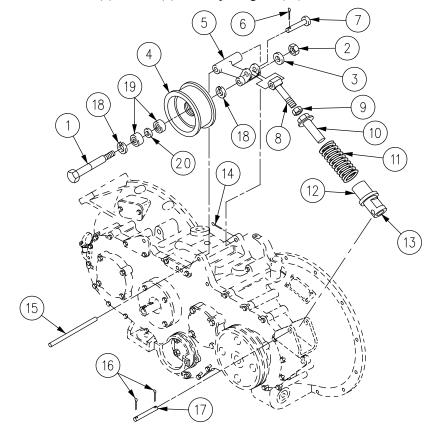
Carrier blocked (see your -10)

Ramp lowered (see your -10)

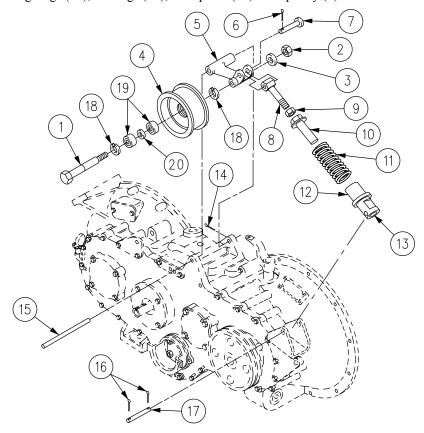
Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

REMOVAL

- 1. Remove fan drive belts (WP 0211 00).
- 2. Remove bolt (1), nut (2), washer (3), and fan idler pulley (4) from idler pulley arm (5).
- 3. Remove cotter pin (6), headed pin (7), and adjustable rod end (8) from idler pulley arm (5). Discard cotter pin.
- 4. Loosen nut (9). Remove rod end (8) and nut (9) from adjusting nut (10).

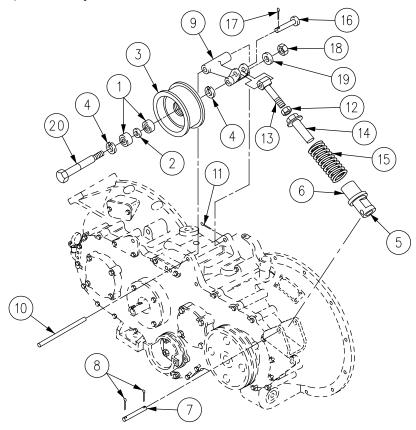


- 5. Remove nut (10) and spring (11) from adjusting sleeve (12).
- 6. Remove decal (13) from adjusting sleeve (12) only if replacement is required.
- 7. Remove cotter pin (14), straight pin (15), and arm (5) from transfer gearcase. Discard cotter pin.
- 8. Remove two cotter pins (16), straight pin (17), and sleeve (12) from transfer gearcase. Discard cotter pins.
- 9. Remove two retaining rings (18), bearings (19), and spacer (20) from pulley (4).



- 1. Install two bearings (1) and spacer (2) in pulley (3). Secure with two retaining rings (4). Use snap ring pliers.
- 2. Install new decal (5) (WP 0511 00) on adjusting sleeve (6) if required.
- 3. Secure sleeve (6) to transfer gearcase with straight pin (7) and two new cotter pins (8).
- 4. Secure idler pulley arm (9) to transfer gearcase with straight pin (10) and new cotter pin (11).
- 5. Install nut (12) on rod end (13).
- 6. Install adjusting nut (14) and spring (15) on sleeve (6).
- 7. Install rod end (13) in nut (14).
- 8. Secure rod end (13) to idler pulley arm (9) with pin (16) and new cotter pin (17).

9. Secure fan idler pulley (3) to arm (9) with nut (18), washer (19), and bolt (20). TIGHTEN NUT TO 50-55 LB-FT (68-75 N·M) TORQUE. Use torque wrench.



10. Install and adjust fan drive belts (WP 0211 00).

FOLLOW-THROUGH STEPS

WARNING



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

- 1. Start engine (see your -10). Check adjustable idler and fan drive belts for proper operation.
- 2. Raise and lock ramp (see your -10).
- 3. Engine stopped/shutdown (see your -10).
- 4. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).

REPLACE FAN DRIVE PULLEY AND ACCESS COVER

0214 00

THIS WORK PACKAGE COVERS:

Removal (page 0214 00-1). Installation (page 0214 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench Adapter (WP 0780 00, Item 8) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Lockwasher (4)

Personnel Required

Unit Mechanic

References

WPI02 II 100

Equipment Condition

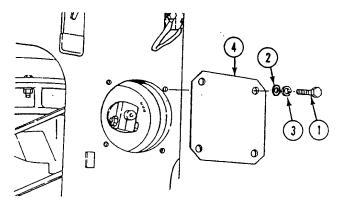
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

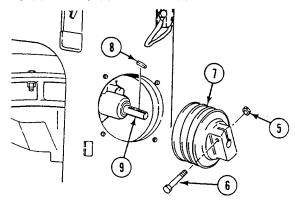
Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

REMOVAL

1. Remove four screws (1), flat washers (2), lockwashers (3), and fan pulley access cover (4) from power plant compartment rear bulkhead. Discard lockwashers.



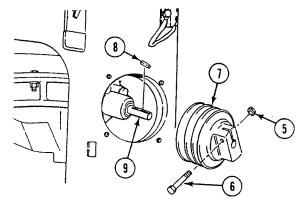
- 2. Remove fan drive belts (WP 0211 00).
- 3. Remove nut (5), screw (6), pulley (7), and key (8) from shaft (9).



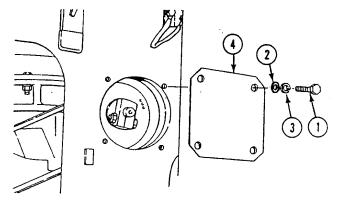
NOTE

Place pulley (7) on fan shaft (9) with the bolt and nut facing down as shown. Install key (8) making sure key is flush with ends of pulley and fan shaft. This will insure proper alignment and pulley balance.

- 1. Install key (8) and pulley (7) on fan shaft (9). Secure with screw (6) and nut (5) in pulley hub. Do not tighten nut (5) at this time.
- 2. Install and adjust fan drive belts (WP 0211 00).
- 3. Align groove of pulley (7) with grooves of idler pulley and fan drive pulley.
- 4. USING TORQUE WRENCH ADAPTER, TIGHTEN NUT (5) TO 300-360 LB-IN (34-41 N·M) TORQUE. Use torque wrench.



5. Secure cover (4) to power plant compartment rear bulkhead with four flat washers (2), new lockwashers (3), and screws (1).



FOLLOW-THROUGH STEPS

1. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).

REPLACE DRAIN CAP AND SIGHT GAUGE

0215 00

THIS WORK PACKAGE COVERS:

Removal (page 0215 00-1). Installation (page 0215 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Suitable container

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 106)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8) Non-electrical wire (WP 0782 00, Item 40) Packing (3)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

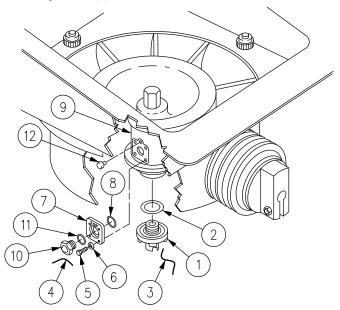
Carrier blocked (see your -10)

REMOVAL

NOTE

Carrier may have a flat sight glass or a bubble sight glass. To remove flat sight glass, perform REMOVAL Steps 1 - 2. To remove bubble sight glass, perform REMOVAL Steps 1 - 3.

- 1. Place suitable container under drain cap (1). Remove cap, packing (2), and lockwire (3), and drain oil. Discard wire and packing.
- 2. Remove lockwire (4), four screws (5), washers (6), cover (7), and packing (8) from fan gearbox (9). Discard lockwire and packing.
- 3. Remove sight glass (10) and packing (11) from cover (7). Discard packing.
- 4. Remove filler plug (12) from fan gearbox (9).



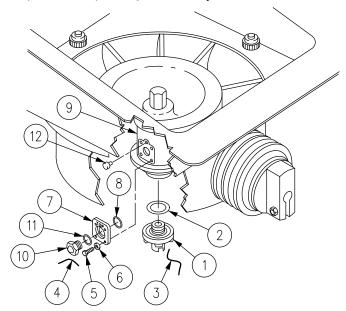
0215 00-1

- 1. Install new packing (2) in fan gearbox (9).
- 2. Install drain cap (1) on fan gearbox (9).
- 3. Install new lockwire (3) through drain cap (1) and fan gearbox (9). Twist lockwire.
- 4. Apply antiseize compound to threads of screws (5) and plug (12).
- 5. Fill fan gearbox with oil.
- 6. Install plug (12) in fan gearbox (9).

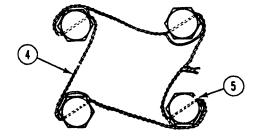
NOTE

Carrier may have a flat sight glass or a bubble sight glass. To install bubble sight glass, perform INSTALLATION Steps 7 - 9. To install flat sight glass, perform INSTALLATION Step 9.

- 7. Install new packing (11) on cover (7).
- 8. Apply a thin coat of antiseize compound to threads of sight glass (10) and install on cover (7).
- 9. Install new packing (8) and cover (7) on fan gearbox (9). Secure with four washers (6) and screws (5). TIGHTEN SCREWS TO 42-48 LB-IN (4.7-5.4 N·M) TORQUE. Use torque wrench.



10. Secure four screws (5) with new lockwire (4). Double twist lockwire as shown below.



FOLLOW-THROUGH STEPS

WARNING



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

- 1. Start engine and check fan for proper operation (see your -10).
- 2. Stop/shutdown engine (see your -10).
- 3. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).

REPLACE COOLING FAN ASSEMBLY

0216 00

THIS WORK PACKAGE COVERS:

Removal (page 0216 00-1). Installation (page 0216 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Endless Sling (WP 10780 100), Item 166)

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Socket Wrench Set (WP 0780 00, Item 96)

Torque Wrench (WP 0780 00, Item 102)

Lifting Device

Materials/Parts

Decal, if needed

Suitable container

Personnel Required

Unit Mechanic

References

WPI0120100 WP 0214 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Power plant grill raised (WP 0130 00)

REMOVAL

WARNING



Cooling fan is heavy and can cause back injury if handled improperly. Be sure to use a hoist or helper to remove cooling fan.

WARNING





Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as DAMAGED - DO NOT USE.

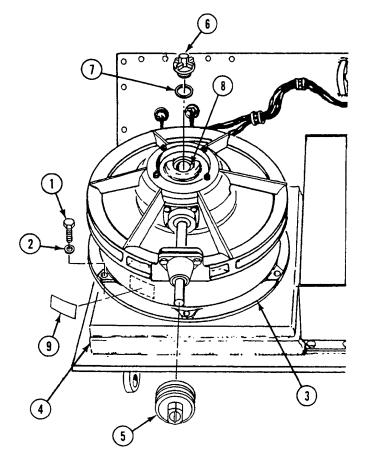
WARNING



Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

- 1. Attach sling and suitable lifting device of at least 150 lbs (45 kg) capacity to fan assembly.
- 2. Remove six screws (1) and washers (2) securing fan assembly (3) to power plant grill (4).
- 3. Lift fan assembly (3) from power plant grill (4) and place fan assembly on work bench or a flat wooden board.
- 4. Remove fan drive pulley (5) from fan assembly (3) (WP 0214 00).
- 5. Remove plug (6) and packing (7) from fan drive right angle gearbox (8). Use suitable container and drain gearbox (WP 0120 00).
- 6. If decal (9) is damaged or unreadable, remove it.

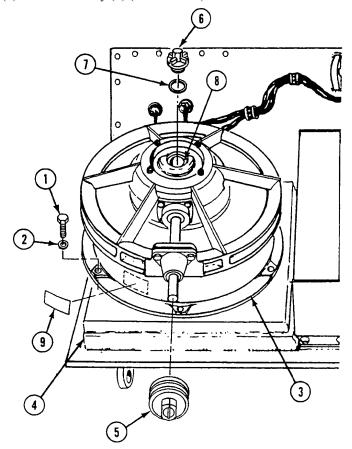






Cooling fan is heavy and can cause back injury if handled improperly. Be sure to use a hoist or helper to install cooling fan.

- 1. Fill fan drive right angle gearbox (8), if required (WP 0120 00).
- 2. Install packing (7) and plug (6) on fan drive right angle gearbox (8).
- 3. Install fan drive pulley (5) on fan assembly (3) (WP 0214 00).



WARNING





Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as DAMAGED - DO NOT USE.

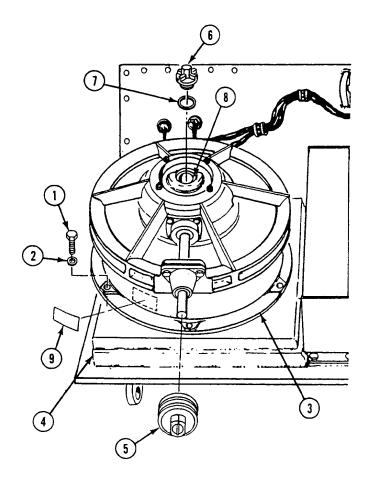
WARNING



Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

- 4. Attach sling and suitable lifting device of at least 150 lbs (45 kg) capacity to fan assembly. Lift fan assembly (3) and install on power plant grill (4).
- 5. Install six screws (1) and washers (2). TIGHTEN SCREWS TO 292-336 LB-IN (33-38 N·M) TORQUE. Use torque wrench and socket wrench set.
- 6. If removed, install new decal (9).



FOLLOW-THROUGH STEPS

1. Lower power plant grill (WP 0130 00).

REPLACE PULLEY DRIVE SHAFT, BEARING, AND HOUSING

0217 00

THIS WORK PACKAGE COVERS:

Removal (page 0217 00-1). Installation (page 0217 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Snap Ring Pliers (WP 0780 00, Item 45) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Key washer (3) Lockring Packing

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

Power plant rear access panel removed (WP 0431 00,

WP 0432 00, or WP 0433 00)

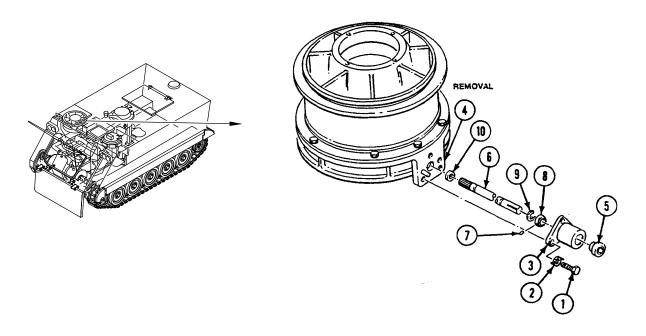
Fan drive belts removed (WP 0211 00)

Fan pulley access cover removed (WP 0214 00)

Fan pulley removed from fan drive shaft (WP 0214 00)

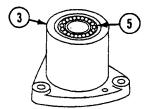
REMOVAL

- 1. Remove three screws (1), key washers (2), and housing (3) from support (4). Discard key washers.
- 2. Remove bearing (5) and drive shaft (6) from housing (3).
- 3. Loosen setscrew (7) in collar (8) and separate collar from bearing (5).
- 4. Remove drive shaft (6) from housing (3), bearing (5), and collar (8).
- 5. Remove lockring (9) and packing (10) from drive shaft (6). Discard packing and lockring.



6. Remove bearing (5) from housing (3) by tapping bearing on outer edge until the bearing rotates in the housing.

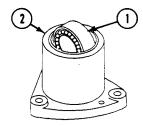
TAP BEARING EDGE TO REMOVE BEARING FROM HOUSING



INSTALLATION

1. Install bearing (1) in housing (2) and tap outer edge of bearing until seated in housing.

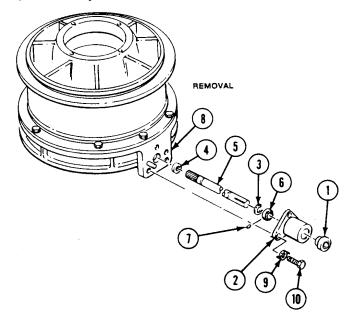
PLACE BEARING IN HOUSING. TAP EDGE DOWNWARD TO SEAT BEARING IN HOUSING



INSTALLATION

- 2. Install new lockring (3) and new packing (4) on drive shaft (5). Use snap ring pliers.
- 3. Slide collar (6), housing (2), and bearing (1) to lockring (3) on drive shaft (5).
- 4. Turn collar (6) onto bearing (1) to lock bearing to drive shaft (5). Tighten setscrew (7) in collar (6).
- 5. Align splines and install drive shaft (5) through support (8) opening into fan gearbox.

6. Secure housing (2) to support (8) with three new key washers (9) and screws (10). TIGHTEN SCREWS TO 300-360 LB-IN (34-41 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Install fan pulley (WP 0214 00).
- 2. Install fan drive belts (WP 0211 00).
- 3. Install fan pulley access cover (WP 0214 00).
- 4. Adjust fan drive belt tension (WP 0211 00).
- 5. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 6. Raise and lock ramp (see your -10).
- 7. Stop/shutdown engine (see your -10).

TM 9-2350-261-20-2

CHAPTER 9

UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM - POWER RECEPTACLES, GENERATOR, AND REGULATOR

WORK PACKAGE INDEX Title Sequence No. REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (ALL EXCEPT M577A2 AND REPLACE NATO AUXILIARY POWER (SLAVE) RECEPTACLE (M577A2 AND M1068 REPLACE MASTER SWITCH PANEL ASSEMBLY (LATE SLAVE RECEPTACLE) (ALL REPLACE MASTER SWITCH PANEL ASSEMBLY (EARLY SLAVE RECEPTACLE) (ALL REPLACE MASTER SWITCH PANEL ASSEMBLY (EARLY SLAVE RECEPTACLE) REPLACE MASTER SWITCH TO DISTRIBUTION BOX WIRE ASSEMBLY (CIRCUIT 49 REPLACE GENERATOR-REGULATOR CIRCUIT BREAKER (100 AMP GENERATOR REPLACE FUEL FILTER MOUNTING BRACKET (M577A2 AND M1068 WITH 200 AMP REPLACE MASTER SWITCH TO DISTRIBUTION BOX WIRE ASSEMBLY (CIRCUIT 49)

REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (ALL EXCEPT M577A2 AND M1068)

0218 00

THIS WORK PACKAGE COVERS:

Removal (page 0218 00-1). Installation (page 0218 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Grommet

Lockwasher (early model)

Lockwasher (late model) (2)

Locknut (early model) (4)

Locknut (early model) (8)

Locknut (late model) (4)

Locknut (late model) (8)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

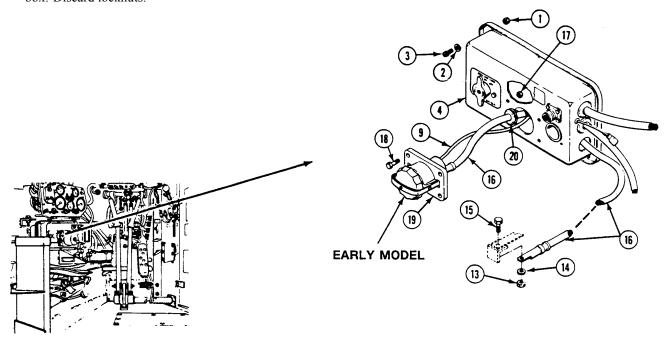
Battery ground lead disconnected (WP 0294 00)

REMOVAL

NOTE

Steps 1 - 5 tell you how to remove the early model slave receptacles. Steps 6 - 13 tell you how to remove the late model slave receptacles.

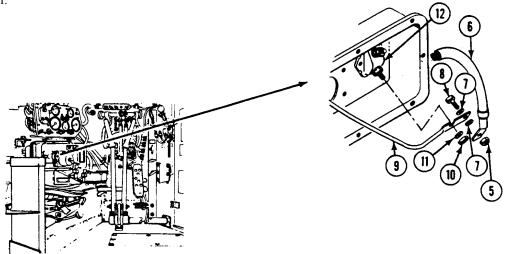
1. Remove eight locknuts (1), washers (2), and screws (3) from master switch panel (4). Pull panel away from distribution box. Discard locknuts.



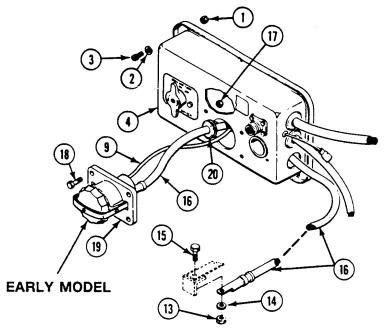
REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (ALL EXCEPT M577A2 AND M1068) — Continued

0218 00

- 2. Remove nut (5), circuit 49 lead (6), two washers (7), and screw (8) from terminal on circuit 50 lead (9).
- 3. Loosen nut (10) and lockwasher (11) on master switch (12). Remove lead (9) from master switch terminal. Discard lockwasher.



- 4. Remove nut (13), washer (14), screw (15), and ground lead (16) from instrument panel strut hull mount.
- 5. Remove four nuts (17), screws (18), receptacle (19), and grommet (20) from panel. Remove grommet from ground lead (16). Discard grommet.

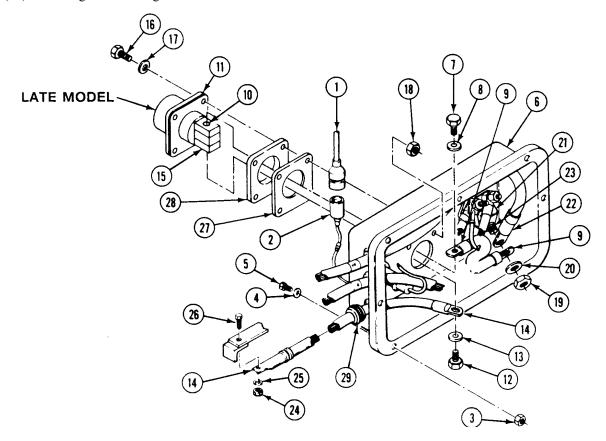


- 6. Disconnect circuit 37 lead (1) from connector (2).
- 7. Remove eight locknuts (3), washers (4), and screws (5) from master switch panel (6). Pull panel away from distribution box. Discard locknuts.
- 8. Remove screw (7), lockwasher (8), and circuit 50 lead (9) from positive post (10) of auxiliary power receptacle (11). Discard lockwasher.
- 9. Remove screw (12), lockwasher (13), and ground lead (14) from negative post (15) of receptacle (11). Discard lockwasher.

REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (ALL EXCEPT M577A2 AND M1068) — Continued

0218 00

- 10. Remove four screws (16), washers (17), locknuts (18), and auxiliary power receptacle (11) from master switch panel (6). Discard locknuts.
- 11. Remove nut (19) and washer (20) on master switch (21). Remove circuit 50 lead (9) and circuit 49 lead (22) from master switch terminal (23).
- 12. Remove nut (24), washer (25), screw (26), and ground lead (14) from instrument panel strut hull mount.
- 13. Remove gasket (27), insulator (28), and grommet (29) from master switch panel (6). Remove grommet from ground lead (14). Discard grommet and gasket.



0218 00

INSTALLATION

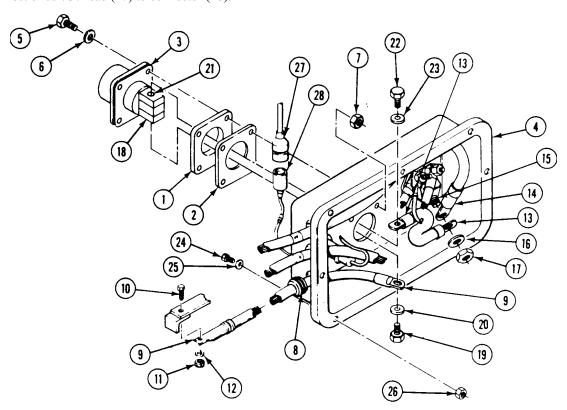
NOTE

Steps 1 - 8 tell you how to install the late model slave receptacles. Steps 9 - 14 tell you how to install the early model slave receptacles.

NOTE

Make sure protective cap retaining cord is attached to receptacle lower mount screw.

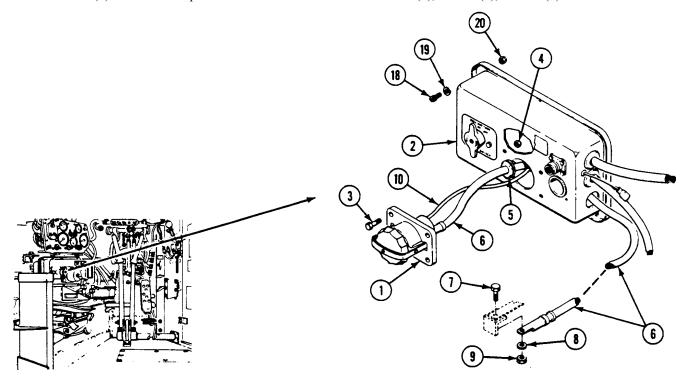
- 1. Install insulator (1), new gasket (2), and auxiliary power receptacle (3) in master switch panel (4). Secure with four screws (5), washers (6), and new locknuts (7).
- 2. Install new grommet (8) on ground lead (9). Route lead out of master switch panel (4). Install grommet in panel.
- 3. Place ground lead (9) on instrument panel strut hull mount. Secure with screw (10), washer (12), and nut (11).
- 4. Install circuit 50 lead (13) and circuit 49 lead (14) on terminal of master switch (15). Secure with washer (16) and nut (17).
- 5. Install ground lead (9) on negative post (18) of auxiliary power receptacle (3). Secure with screw (19) and new lockwasher (20).
- 6. Install circuit 50 lead (13) on positive post (21) of auxiliary power receptacle (3). Secure with screw (22) and new lockwasher (23).
- 7. Install master switch panel (4) on distribution box. Secure with eight screws (24), washers (25), and new locknuts (26).
- 8. Connect circuit 37 lead (27) to connector (28).



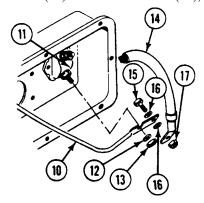
NOTE

Make sure protective cap retaining cord is attached to receptacle lower mount screw.

- 9. Install power receptacle (1) in master switch panel (2). Secure with four screws (3) and nuts (4).
- 10. Install new grommet (5) on ground lead (6). Route lead out of panel (2). Install grommet in panel.
- 11. Place lead (6) on instrument panel strut hull mount. Secure with screw (7), washer (8), and nut (9).



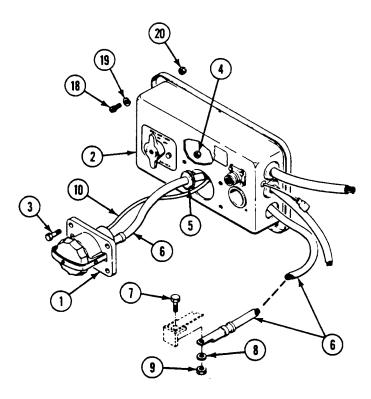
- 12. Install circuit 50 lead (10) on terminal of master switch (11). Secure with new lockwasher (12) and nut (13).
- 13. Place circuit 49 lead (14) on terminal on lead (10). Secure with screw (15), two washers (16), and nut (17).



REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (ALL EXCEPT M577A2 AND M1068) — Continued

0218 00

141 Place master switch panel (2) Ion distribution box (Secure with eight screws (18), washers (19), and new locknuts (20).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (WP 0294 00).

END OF TASK

REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (M577A2 AND M1068 ONLY)

0219 00

THIS WORK PACKAGE COVERS:

Removal (page 0219 00-1). Installation (page 0219 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Multimeter (WP 0780 00, Item 43)

Soldering Torch Kit (WP 0780 00, Item 70)

Materials/Parts

Solder, tin alloy (WP 0782 00, Item 71)

Adapter gasket (late model)

Bushing (late model)

Gasket (late model)

Lockwasher (early model) (7)

Lockwasher (early model) (1)

Lockwasher (early model) (4)

Lockwasher (late model) (11)

Lockwasher (late model) (1)

Lockwasher (late model) (4)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

REMOVAL

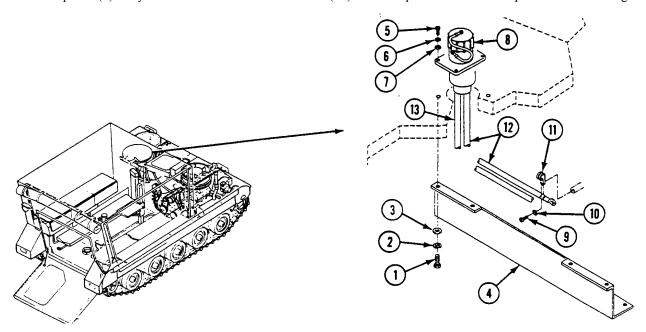
NOTE

Steps 1 - 4 tell you how to remove the early model slave receptacles. Steps 5 - 13 tell you how to remove the late model slave receptacles.

REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (M577A2 AND M1068 ONLY) — Continued

0219 00

- 1. Remove seven screws (1), lockwashers (2), washers (3), and guard (4) from hull interior. Discard lockwashers.
- 2. Remove four screws (5), lockwashers (6), and washers (7) from receptacle (8). Discard lockwashers.
- 3. Remove screw (9), washer (10), clamp (11), and circuit 50 lead (12) from hull weldnut.
- 4. Pull receptacle (8) away from hull. Unsolder circuit 6 lead (13) from receptacle. Remove receptacle. Use soldering torch.



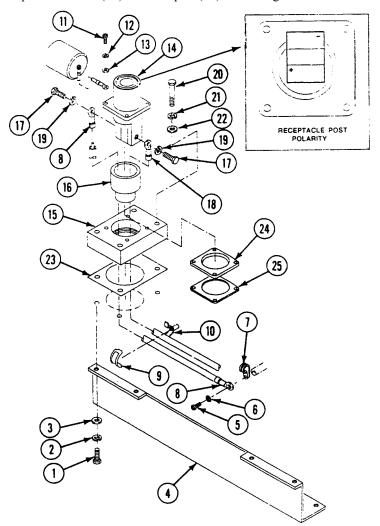
- 5. Remove seven screws (1), lockwashers (2), washers (3), and guard (4) from hull interior. Discard lockwashers.
- 6. Remove screw (5) and lockwasher (6) from clamp (7) securing ground lead (8) to hull. Discard lockwasher.
- 7. Remove clip (9) from wiring cradle (10) on hull. Free up ground lead (8) from cradle and clip.
- 8. Remove four screws (11), lockwashers (12), and washers (13) securing receptacle (14) to adapter (15) or hull. Discard lockwashers.
- 9. Push down on bushing (16) inserted into adapter (15) or hull. Pull receptacle (14) up far enough to expose screws (17), and leads (8) and (18) attached.
- 10. Remove screw (17), lockwasher (19), and circuit 6 lead (18) from positive (+) side of post on receptacle (14). Discard lockwasher.
- 11. Remove receptacle (14) and bushing (16) from hull. Remove screw (17), lockwasher (19), and ground lead (8) from negative (–) side of post on receptacle (14). Discard lockwasher and bushing.

0219 00

NOTE

Perform Step 12 only if receptacle is mounted on an adapter (15).

- 12. If adapter (15) is used, remove four screws (20), lockwashers (21), washers (22), adapter (15) with bushing (16), and gasket (23) from hull. Discard gasket, bushing, and lockwashers.
- 13. Remove gasket (24) and plate insulator (25) from adapter (15). Discard gasket.



REPLACE AUXILIARY POWER (SLAVE) RECEPTACLE (M577A2 AND M1068 ONLY) — Continued

0219 00

INSTALLATION

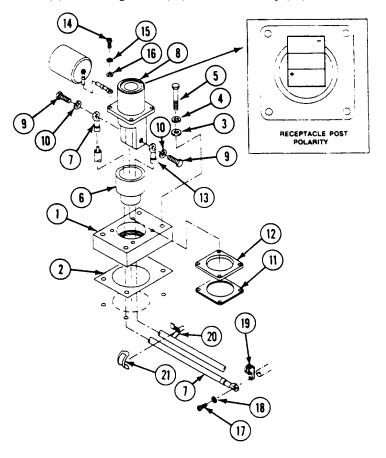
NOTE

Steps 1 - 8 tell you how to install the late model slave receptacles. Steps 9 - 11 tell you how to install the early model slave receptacles.

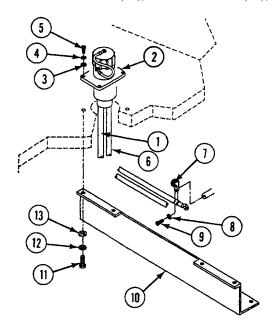
NOTE

Perform Step 1 only if receptacle is mounted on an adapter (1).

- 1. If adapter (1) is used, place new gasket (2) and adapter in hull. Secure with four washers (3), new lockwashers (4), and screws (5).
- 2. Install new bushing (6) in adapter (1) or in hull.
- 3. Connect ground lead (7) to negative (–) side of post on receptacle (8). Secure with screw (9) and new lockwasher (10).
- 4. Place plate insulator (11) and new gasket (12) on adapter (1) or hull.
- 5. Insert ground lead (7) into bushing (6) far enough to connect circuit 6 lead (13) to positive (+) side of post on receptacle (8). Secure with screw (9) and new lockwasher (10).
- 6. Secure receptacle (8) with plate insulator (11) and gasket (12) to adapter (1) or hull with four screws (14), new lockwashers (15), and washers (16).
- 7. Inside carrier, install ground lead (7) to hull. Secure with screw (17) and new lockwasher (18) in clamp (19).
- 8. Inside carrier, fit ground lead (7) into wiring cradle (20). Secure with clip (21).



- 9. Place circuit 6 lead (1) in solder well of receptacle (2) and solder lead. Use soldering torch.
- 10. Place receptacle (2) on hull. Secure with four washers (3), new lockwashers (4), and screws (5).
- 11. Place circuit 50 lead (6) and clamp (7) on hull weldnut. Secure with washer (8) and screw (9).
- 12. Install guard (10) on hull. Secure with seven screws (11), new lockwashers (12), and washers (13).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Check receptacle for electrical continuity. Use multimeter.

END OF TASK

REPLACE NATO AUXILIARY POWER (SLAVE) RECEPTACLE (M577A2 AND M1068 ONLY)

0220 00

THIS WORK PACKAGE COVERS:

Removal (page 0220 00-2). Installation (page 0220 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Gasket

Lockwasher (4)

Lockwasher (4)

Lockwasher (7)

Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

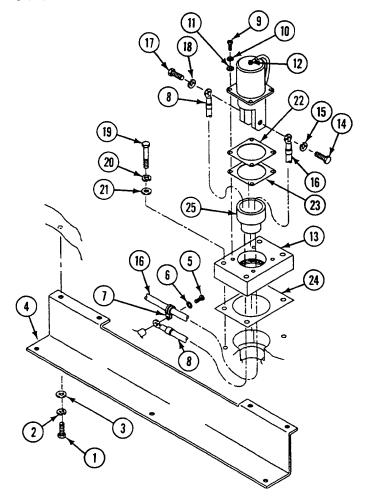
Battery ground lead disconnected (WP 0294 00)

REPLACE NATO AUXILIARY POWER (SLAVE) RECEPTACLE (M577A2 AND M1068 ONLY) — Continued

0220 00

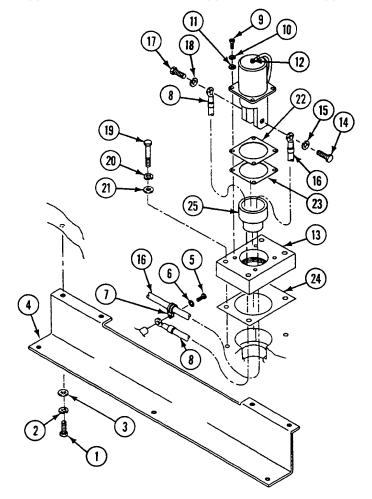
REMOVAL

- 1. Remove seven screws (1), lockwashers (2), washers (3), and harness protector (4) from hull. Discard lockwashers.
- 2. Remove screw (5), washer (6), clamp (7), and circuit 50 lead (8) from hull weldnut.
- 3. Remove four screws (9), lockwashers (10), and washers (11) from receptacle (12). Discard lockwashers.
- 4. Pull receptacle (12) and adapter (13) away from hull.
- 5. Remove screw (14), lockwasher (15), and circuit 6 lead (16) from positive terminal of receptacle (12). Discard lockwasher.
- 6. Remove screw (17), lockwasher (18), and circuit 50 lead (8) from negative terminal of receptacle (12). Discard lockwasher.
- 7. Remove four screws (19), lockwashers (20), and washers (21) from adapter (13). Discard lockwashers.
- 8. Remove receptacle (12), gasket (22), insulator (23), adapter (13), and gasket (24) from hull. Discard gaskets.
- 9. Remove insulator bushing (25) from hull.



INSTALLATION

- 1. Install insulator bushing (25) in adapter (13).
- 2. Install receptacle (12), new gasket (22), insulator (23), adapter (13), and new gasket (24).
- 3. Connect circuit 6 lead (16) to positive terminal of receptacle (12) with new lockwasher (15) and screw (14).
- 4. Connect circuit 50 lead (8) to negative terminal of receptacle (12) with new lockwasher (18) and screw (17).
- 5. Position new gasket (24) and adapter (13) on hull and secure with four screws (19), new lockwashers (20), and washers (21).
- 6. Align receptacle (12), new gasket (22), and insulator (23) with adapter (13). Install four screws (9), new lockwashers (10), and washers (11).
- 7. Place circuit 50 lead (8) and clamp (7) on hull weldnut. Secure with washer (6) and screw (5).
- 8. Position harness protector (4) and secure with seven screws (1), new lockwashers (2), and washers (3).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Check receptacle for electrical continuity. Use multimeter.

END OF TASK

REPLACE MASTER SWITCH ASSEMBLY

0221 00

THIS WORK PACKAGE COVERS:

Removal (page 0221 00-1). Installation (page 0221 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (3)

Locknut (2)

Locknut (8)

Personnel Required

Unit Mechanic

Equipment Condition

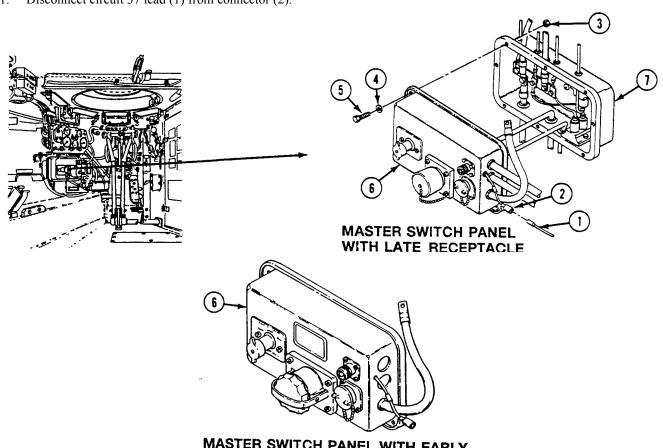
Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

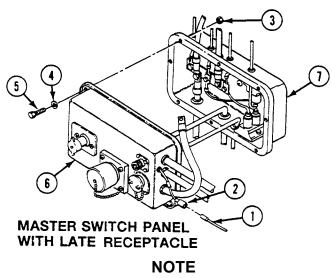
REMOVAL

1. Disconnect circuit 37 lead (1) from connector (2).



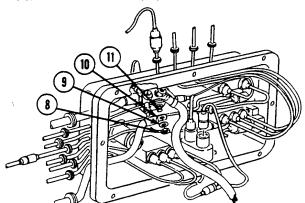
MASTER SWITCH PANEL WITH EARLY RECEPTACLE

2. Remove eight locknuts (3), washers (4), screws (5), and master switch panel (6) from distribution box (7). Discard locknuts.



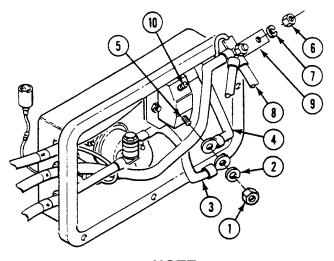
On M577A2 and M1068 carriers, do Step 3 then go to Step 5. On all other carriers, after Step 2 go to Step 4.

3. Remove nut (8), lockwasher (9), and circuit 49 lead (10) from master switch terminal (11). Discard lockwasher.



M577A2 AND M1068 MASTER SWITCH PANEL

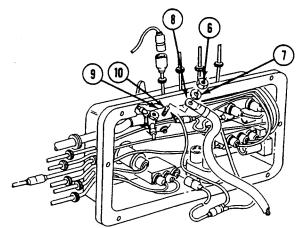
4. Remove nut (1), lockwasher (2), circuit 50 lead (3), and circuit 49 lead (4) from master switch terminal (5). Discard lockwasher.



NOTE

Carriers that have 100 amp generators do not have circuit 2A.

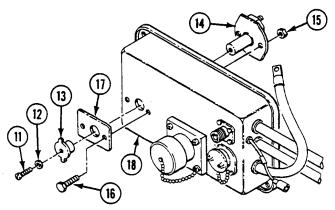
5. Remove nut (6), lockwasher (7), circuit 2A lead (8), and conductor bus (9) with attached leads from master switch terminal (10). Discard lockwasher.



M577A2 MASTER SWITCH PANEL

0221 00

- 6. Remove screw (11), washer (12), and knob (13) from master switch (14).
- 7. Remove two locknuts (15), screws (16), master switch (14), and nameplate (17) from master switch panel (18). Discard locknuts.

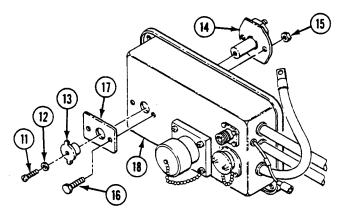


INSTALLATION

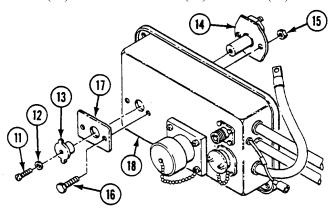
NOTE

Make sure nameplate is not installed upside down.

1. Align master switch (14) and nameplate (17) on master switch panel (18). Secure with two screws (16) and new locknuts (15).



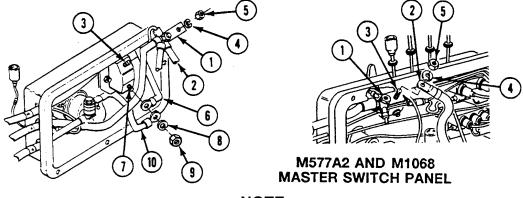
2. Place knob (13) on master switch (14). Secure with washer (12) and screw (11).



NOTE

Carriers that have 100 amp generators do not have circuit 2A.

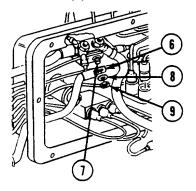
3. Install conductor bus (1) with attached leads and circuit 2A lead (2) on terminal (3). Secure with new lockwasher (4) and nut (5).



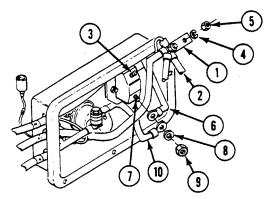
NOTE

On M577A2 and M1068 carriers, do Step 4 then go to Step 6. On all other carriers, after Step 3 go to Step 5.

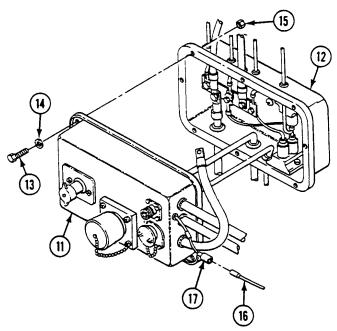
4. Install circuit 49 lead (6) on master switch terminal (7). Secure with new lockwasher (8) and nut (9).



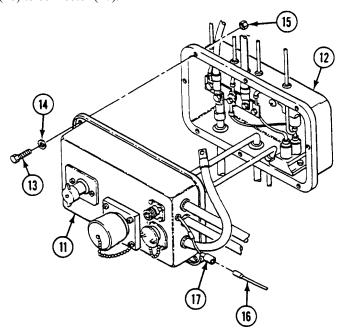
5. Install circuit 49 lead (6) and circuit 50 lead (10) on terminal (7). Secure with new lockwasher (8) and nut (9).



6. Install master switch panel (11) on distribution box (12). Secure with eight screws (13), washers (14), and new locknuts (15).



7. Connect circuit 37 lead (16) to connector (17).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- $3 \hspace{-0.5cm} \blacksquare \hspace{-0.5cm} \textbf{Master switch light } \hspace{-0.5cm} \textbf{should } \hspace{-0.5cm} \textbf{come } \hspace{-0.5cm} \textbf{on } \hspace{-0.5cm} \textbf{(see } \hspace{-0.5cm} \textbf{your } \hspace{-0.5cm} \blacksquare 10) \hspace{-0.5cm} \textbf{.}$
- 4. Turn MASTER SWITCH to OFF (see your -10).

END OF TASK

0222 00

THIS WORK PACKAGE COVERS:

Removal (page 0222 00-1). Installation (page 0222 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grommet (3)

Lockwasher (3)

Locknut

Locknut (8)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped

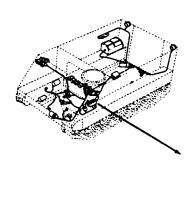
Carrier blocked (see your -10)

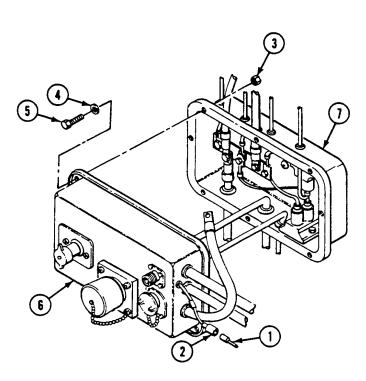
Battery ground lead disconnected (WP 0294 00)

Infrared power supply cable disconnected from master switch panel (WP 0291 00)

REMOVAL

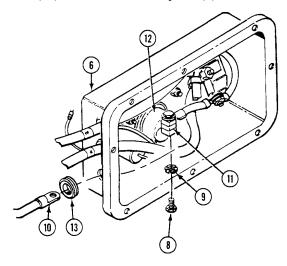
- 1. Disconnect circuit 37 lead (1) from connector (2).
- 2. Remove eight locknuts (3), washers (4), screws (5), and master switch panel (6) from distribution box (7). Discard locknuts.



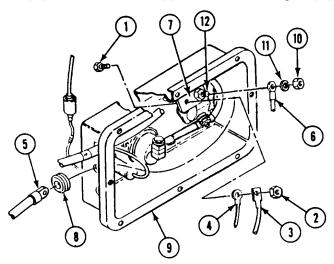


0222 00

3. Remove screw (8), lockwasher (9), and ground lead (10) from negative post (11) of auxiliary power receptacle (12). Remove ground lead and grommet (13) from master switch panel (6). Discard lockwasher and grommet.



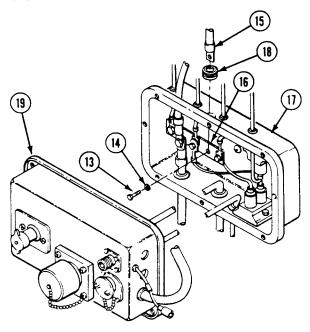
- 4. Remove screw (1), locknut (2), circuit 400 lead (3), circuit 2 lead (4), and circuit 6 lead (5) from conductor bus (7). Remove circuit 6 lead (5) and grommet (8) from master switch panel (9). Discard locknut and grommet.
- 5. Remove nut (10), lockwasher (11), and circuit 2A lead (6) from master switch post (12). Discard lockwasher.



6. Remove screw (13), lockwasher (14), and circuit 49 lead (15) from bus bar (16) of distribution box (17). Remove circuit 49 lead (15) and grommet (18) from distribution box (17). Discard lockwasher and grommet.

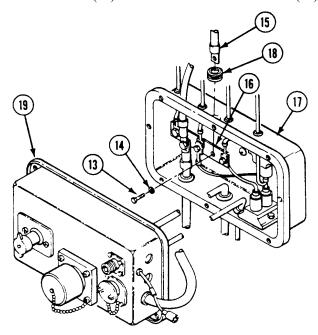
0222 00

7. Remove master switch panel (19) from carrier.



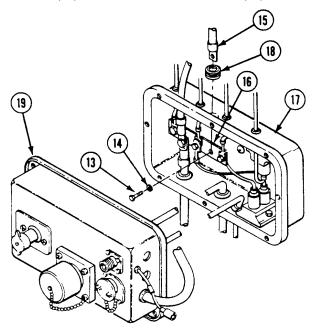
INSTALLATION

1. Install new grommet (18) on circuit 49 lead (15). Route lead into distribution box (17) and secure grommet.

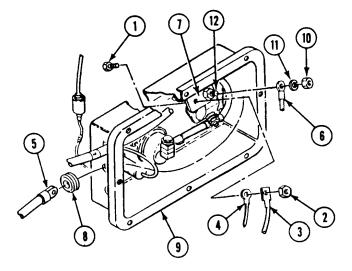


0222 00

2. Install circuit 49 lead (15) on bus bar (16). Secure with new lockwasher (14) and screw (13).

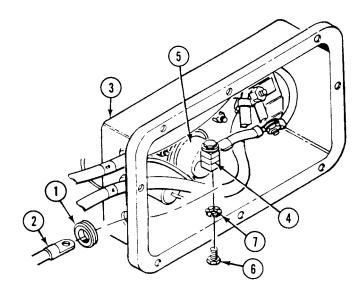


- 3. Install new grommet (8) on circuit 6 lead (5). Route lead into master switch panel (9) and secure grommet.
- 4. Install circuit 6 lead (5), circuit 2 lead (3), and circuit 400 lead (4) on conductor bus (7). Secure with screw (1) and new locknut (2).
- 5. Install circuit 2A lead (6) on master switch post (12). Secure with new lockwasher (11) and nut (10).

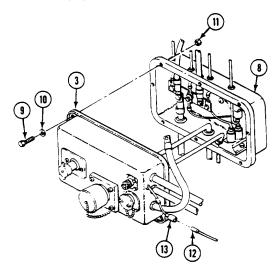


0222 00

- 6. Install new grommet (1) on ground lead (2). Route ground lead into master switch panel (3) and secure grommet.
- 7. Install ground lead (2) on negative post (4) of auxiliary power receptacle (5). Secure with screw (6) and new lockwasher (7).



- 8. Install master switch panel (3) on distribution box (8). Secure with eight screws (9), washers (10), and new locknuts (11).
- 9. Connect circuit 37 lead (12) to connector (13).



0222 00

FOLLOW-THROUGH STEPS

- 1. Connect infrared power supply cable to dummy connector (WP 0291 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON. Check for proper operation (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

END OF TASK

REPLACE MASTER SWITCH PANEL ASSEMBLY (EARLY SLAVE RECEPTACLE) (ALL EXCEPT M577A2)

0223 00

THIS WORK PACKAGE COVERS:

Removal (page 0223 00-1). Installation (page 0223 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grommet (2)

Lockwasher (3)

Locknut (2)

Locknut (8)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

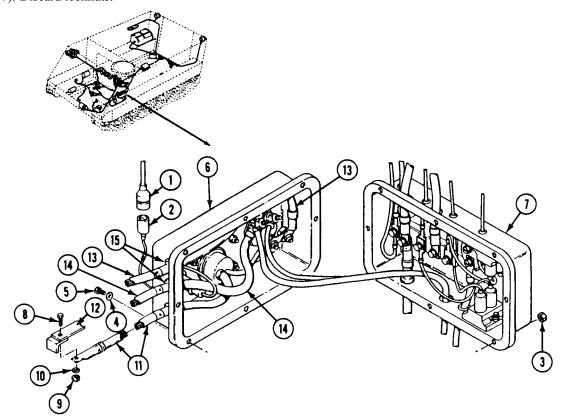
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Infrared power supply cable disconnected from master switch panel (WP 0291 00)

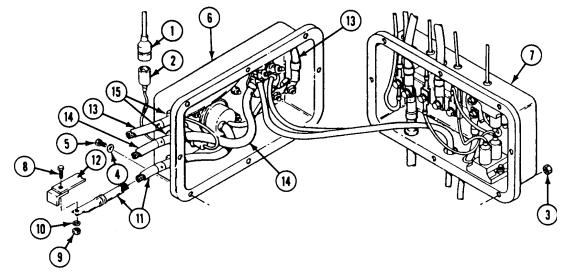
REMOVAL

- 1. Disconnect circuit 37 lead (1) from connector (2).
- 2. Remove eight locknuts (3), washers (4), and screws (5). Separate master switch panel assembly (6) from distribution box (7). Discard locknuts.



0223 00

- 3. Remove screw (8), locknut (9), washer (10), and ground lead (11) from instrument panel strut (12). Discard locknut.
- 4. Remove circuit 49 lead (13), circuit 6 lead (14), and two grommets (15) from master switch panel assembly (6). Discard grommets.

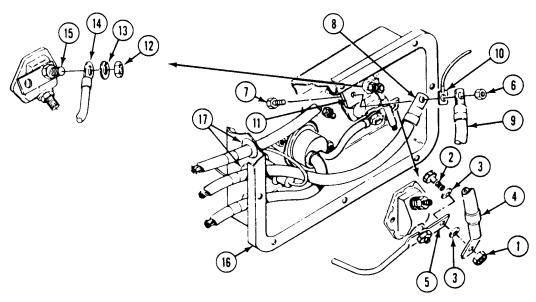


- 5. Remove nut (1), screw (2), two lockwashers (3), and circuit 49 lead (4) from auxiliary power receptacle lead (5). Discard lockwashers.
- 6. Remove locknut (6), screw (7), circuit 6 lead (8), circuit 2 lead (9), and circuit 400 lead (10) from bus bar (11). Discard locknut.

NOTE

For all carriers with 200 amp generator, do Step 7.

- 7. Remove nut (12), lockwasher (13), and circuit 2A lead (14) from master switch terminal (15). Discard lockwasher.
- 8. Remove master switch panel (16) from carrier.



0223 00

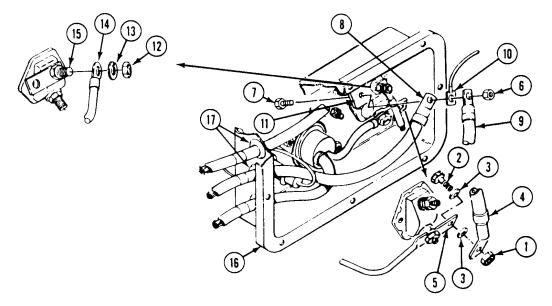
INSTALLATION

- 1. Install two new grommets (17) in master switch panel assembly (16).
- 2. Install circuit 49 lead (8) and circuit 6 lead (4) through two grommets (17) into master switch panel (16).

NOTE

For all carriers with 200 amp generator, do Step 3.

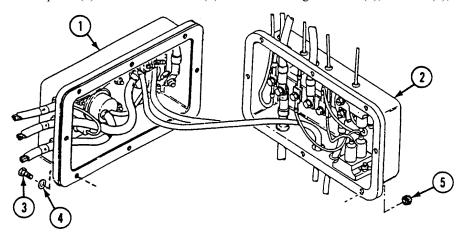
- 3. Install circuit 2A lead (14) on master switch terminal (15). Secure with new lockwasher (13) and nut (12).
- 4. Install circuit 6 lead (8), circuit 2 lead (9), and circuit 400 lead (10) on bus bar (11). Secure with screw (7) and new locknut (6).
- 5. Install circuit 49 lead (4) on auxiliary power receptacle lead (5). Secure with screw (2), nut (1), and two new lockwashers (3).



NOTE

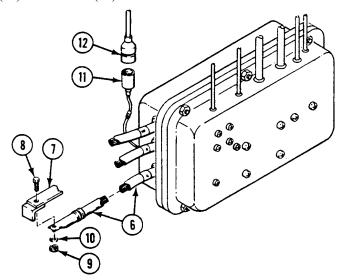
Check gasket on master switch panel flange for cracks or other damage. Replace gasket if damaged.

6. Install master switch panel (1) on distribution box (2). Secure with eight screws (3), washers (4), and new locknuts (5).



0223 00

- 7. Install ground lead (6) on instrument panel strut (7). Secure with screw (8), new locknut (9), and washer (10).
- 8. Connect circuit 37 lead (11) to connector (12).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Connect infrared power supply cable (WP 0291 00).
- 3. Start engine (see your -10). Check that master switch panel assembly works properly.
- 4. Stop/shutdown engine (see your -10).

END OF TASK

0224 00

THIS WORK PACKAGE COVERS:

Removal (page 0224 00-1). Installation (page 0224 00-5).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grommet (11)

Lockwasher

Locknut (8)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

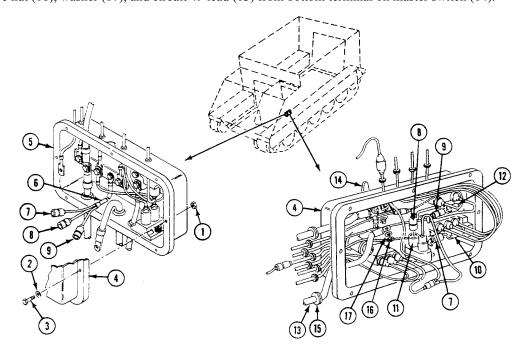
Battery ground lead disconnected (WP 0294 00)

REMOVAL

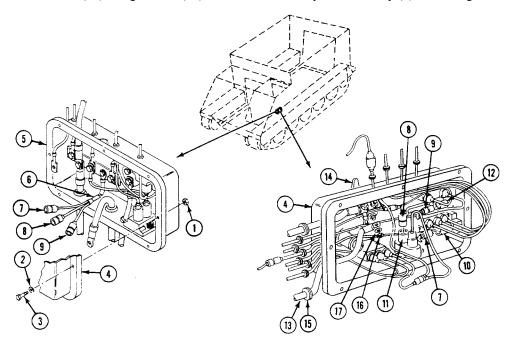
NOTE

Step 6 is for 200 amp generator system only. All other steps are common.

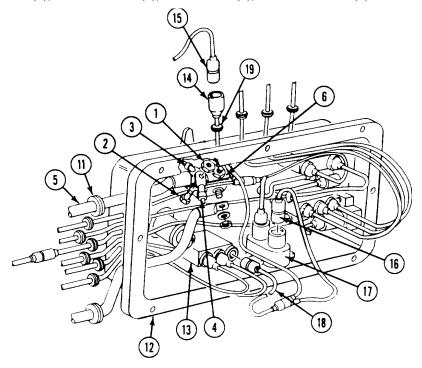
- 1. Remove eight locknuts (1), washers (2), and screws (3). Separate master switch panel assembly (4) from distribution box (5). Discard locknuts.
- 2. Disconnect wiring harness (6) leads (7), (8), and (9) from three circuit breakers (10), (11), and (12).
- 3. Remove nut (16), washer (17), and circuit 49 lead (13) from bottom terminal on master switch (14).



4. Remove circuit 49 lead (13) and grommet (15) from master switch panel assembly (4). Discard grommet.

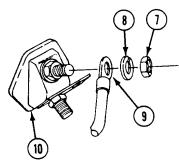


5. Remove nut (1), screw (2), circuit 400 lead (3), circuit 2 lead (4), and circuit 6 lead (5) from bus bar (6).

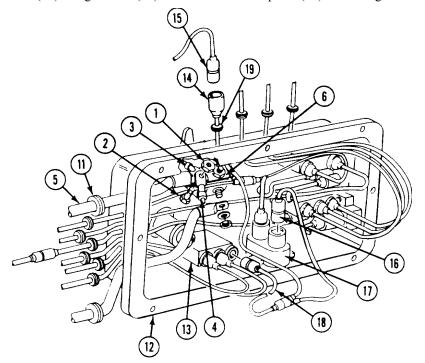


0224 00

6. For 200 amp generator system, remove nut (7), lockwasher (8), and circuit 2A lead (9) from top terminal on master switch (10). Discard lockwasher.

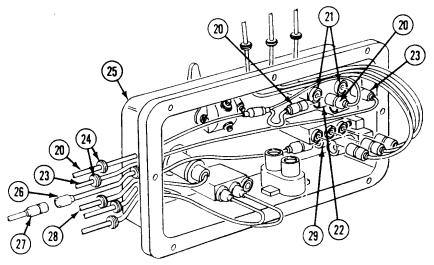


- 7. Remove circuit 6 lead (5) and grommet (11) from master switch panel (12). Discard grommet.
- 8. Disconnect wiring harness (14) from circuit 38E (15). Disconnect circuit 10 lead (16) from circuit breaker (17). Disconnect circuit 10 lead connector (18) from dome light switch (13).
- 9. Remove wiring harness (14) and grommet (19) from master switch panel (12). Discard grommet.

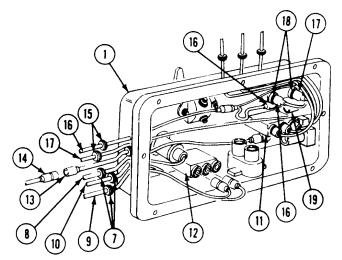


0224 00

- 10. Disconnect wiring harness (20) from blower switch (21) and circuit 37B on circuit breaker (22).
- 11. Disconnect circuit 59 lead (23) from blower switch (21).
- 12. Remove circuit 59 lead (23), wiring harness (20), and two grommets (24) from master switch panel assembly (25). Discard grommets.
- 13. Disconnect utility outlet lead (26) from circuit 37 lead (27).
- 14. Disconnect circuit 37A lead (28) from circuit 37A lead on circuit breaker (29).

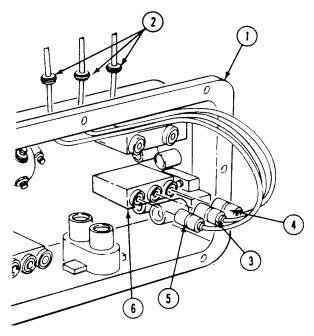


- 15. Disconnect circuits 38A lead (9) and 38 lead (10) from dome light switch (12).
- 16. Remove circuits 37A (8), 38 (10), 38A (9) leads and three grommets (7) from master switch panel (1). Discard grommets.



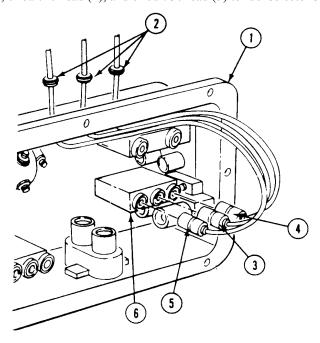
0224 00

- 17. Disconnect circuit 28 lead (3), circuit 29 lead (4), and circuit 30 lead (5) from fuel selector switch (6).
- 18. Remove circuit 28 lead (3), circuit 29 lead (4), and circuit 30 lead (5) and three grommets (2) from master switch panel (1). Discard grommets.
- 19. Remove master switch panel assembly (1) from carrier.



INSTALLATION

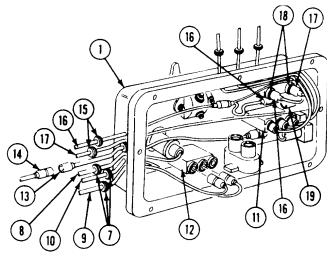
- 1. Install three new grommets (2) and circuit 28 lead (3), circuit 29 lead (4), and circuit 30 lead (5) in master switch panel (1).
- 2. Connect circuit 28 lead (3), circuit 29 lead (4), and circuit 30 lead (5) to fuel selector switch (6).



0224 00-5

0224 00

- 3. Install three new grommets (7) and circuit 37A lead (8), circuit 38 lead (9), circuit 38A lead (10) leads in master switch panel assembly (1).
- 4. Connect circuit 37A lead (8) to circuit breaker (11).
- 5. Connect circuit 38 lead (9) and circuit 38A lead (10) to dome light switch (12).
- 6. Connect utility outlet lead (13) to circuit 37 lead (14).
- 7. Install two new grommets (15), wiring harness (16), and circuit 59 lead (17) in master switch panel (1).
- 8. Connect wiring harness (16) to blower switch (18) and to circuit 37B lead on circuit breaker (19).
- 9. Connect circuit 59 lead (17) to blower switch (18).



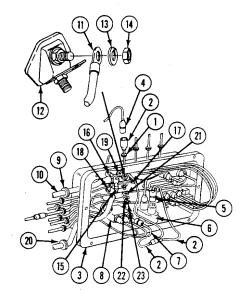
- 10. Install a new grommet (1) and wiring harness (2) in master switch panel (3).
- 11. Connect wiring harness (2) to circuit 38E lead (4). Connect circuit 10 lead (5) on circuit breaker (6). Connect circuit 10 lead (7) on dome light switch (8).
- 12. Install a new grommet (9) and circuit 6 lead (10) in master switch panel (3).

NOTE

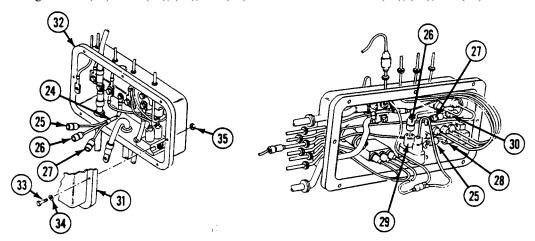
Step 6 is for 200 amp generator system only. All other steps are common.

- 13. For 200 amp generator system, install circuit 2A lead (11) on top terminal of master switch (12). Secure with new lockwasher (13) and nut (14).
- 14. Install circuit 6 lead (10), circuit 2 lead (15), and circuit 400 lead (16) on bus bar (17). Secure with screw (18) and nut (19).
- 15. Install new grommet (20) and circuit 49 lead (21) in master switch panel assembly (3).

16. Install circuit 49 lead (21) on bottom terminal of master switch (12). Secure with washer (22) and nut (23).



17. Connect wiring harness (24) leads (25), (26), and (27) to three circuit breakers (28), (29), and (30).

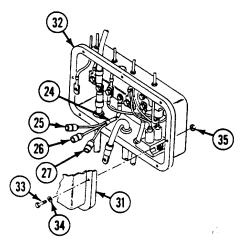


18. Replace gasket between master switch panel and distribution box, if damaged (WP 0266 00).

REPLACE MASTER SWITCH PANEL ASSEMBLY (EARLY SLAVE RECEPTACLE) (M577A2 AND M1068 ONLY) — Continued

0224 00

19. Install master switch panel (31) on distribution box (32). Secure with eight screws (33), washers (34), and new locknuts (35).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Start engine (see your -10). Check that master switch panel assembly is operable.
- 3. Stop/shutdown engine (see your -10).

0225 00

THIS WORK PACKAGE COVERS:

Removal (page 0225 00-1). Repair (page 0225 00-3). Installation (page 0225 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Multimeter (WP 0780 00, Item 43)

Materials/Parts

Grommet (2)

Locknut (2)

Locknut (8)

Personnel Required

Unit Mechanic

Equipment Condition

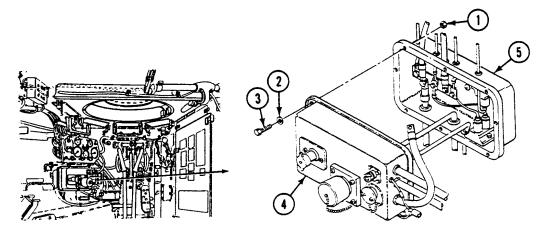
Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

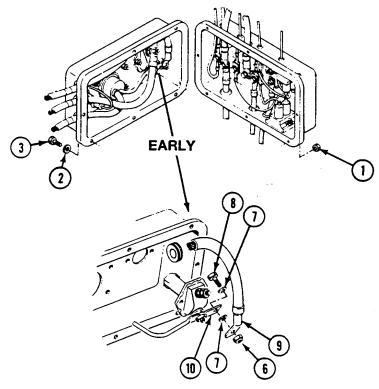
REMOVAL

1. Remove eight locknuts (1), washers (2), screws (3), and master switch panel (4) from distribution box (5). Discard locknuts.

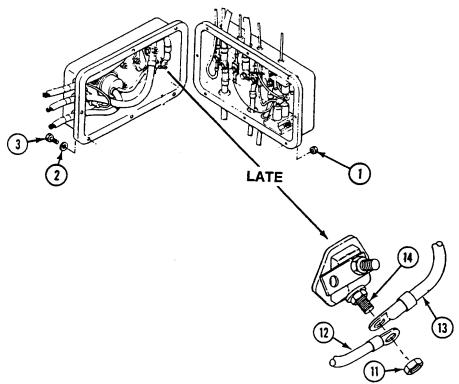


0225 00

2. Early slave receptacle only: remove locknut (6), two washers (7), screw (8), and circuit 49 lead (9) from circuit 50 lead terminal (10). Discard locknut.

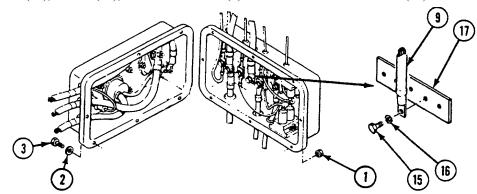


3. Late slave receptacle only: remove locknut (11), circuit 50 lead (12), and circuit 49 lead (13) from master switch terminal (14). Discard locknut.

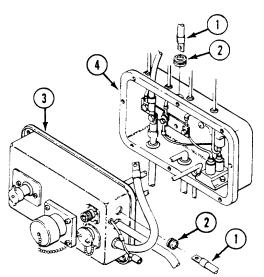


0225 00

4. Remove screw (15), washer (16), and circuit 49 lead (9) from distribution box bus bar (17).



5. Remove circuit 49 lead (1) with two grommets (2) from master switch panel (3) and distribution box (4). Discard grommets.



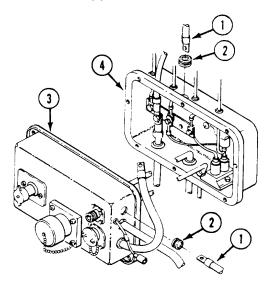
REPAIR

1. Check circuit 49 lead for continuity. Use multimeter. Replace bad lead.

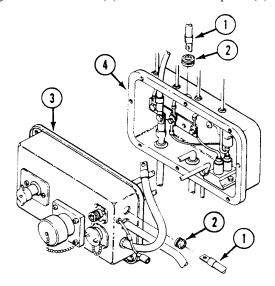
0225 00

INSTALLATION

1. Install two new grommets (2) on circuit 49 lead (1).

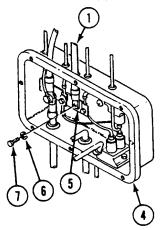


2. Route circuit 49 lead (1) through distribution box (4) and master switch panel (3). Install grommets (2) in box and panel.

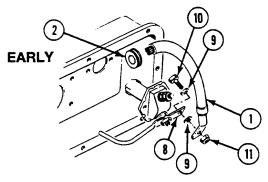


0225 00

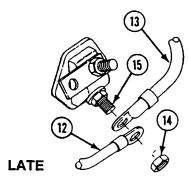
3. Install circuit 49 lead (1) on bus bar (5) of distribution box (4). Secure with new lockwasher (6) and screw (7).



4. Early slave receptacle only: install circuit 49 lead (1) on circuit 50 lead terminal lug (8). Secure with two washers (9), screw (10), and new locknut (11).

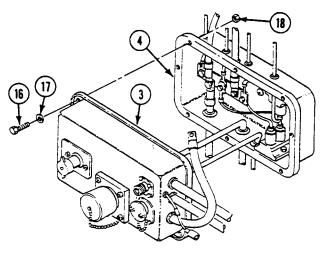


5. Late slave receptacle only: install circuit 50 lead (12), circuit 49 lead (13), and new locknut (14) on master switch terminal (15).



0225 00

6. Install master switch panel (3) on distribution box (4). Secure with eight screws (16), washers (17), and new locknuts (18).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Check that master switch on indicator fight comes on (see your =10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE GENERATOR DRIVE BELTS (100 AMP GEN ONLY)

0226 00

THIS WORK PACKAGE COVERS:

Removal (page 0226 00-1). Repair or Replacement (page 0226 00-2). Installation (page 0226 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

Equipment Condition

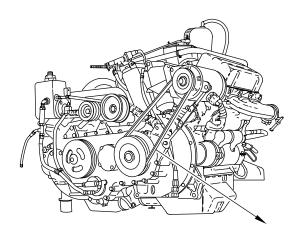
Engine stopped (see your -10)

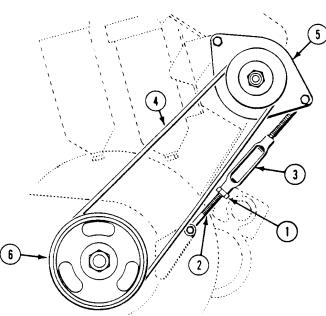
Carrier blocked (see your -10)

Power plant rear access panels removed (WP 0431 00, WP 0432 00, and WP 0433 00)

REMOVAL

- 1. Loosen locknut (1) on rod end (2).
- 2. Turn turnbuckle (3) to loosen two drive belts (4).
- 3. Remove two drive belts (4) from generator pulley (5) and drive pulley (6).





REPAIR OR REPLACEMENT

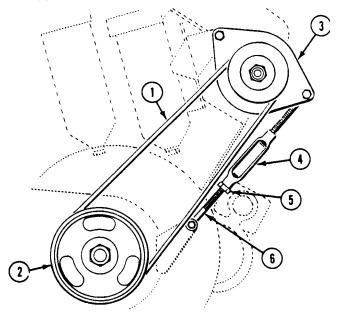
1. Inspect drive belts. If either belt is worn or damaged, discard both old belts and install new ones.

INSTALLATION

NOTE

When replacing drive belts, replace in matched sets only.

- 1. Install two new drive belts (1) on drive pulley (2) and generator pulley (3).
- 2. Turn turnbuckle (4) and tighten belt until belt deflection at midspan is 1/2 to 5/8 inch (13 to 16 mm) when 25 lbs (11 kg) of force is applied.
- 3. Tighten locknut (5) on rod end (6).



FOLLOW-THROUGH STEPS



Wearing loose clothing around moving parts can allow personnel to get caught and could result in injury or death. Tuck in loose clothing.

- 1. Start engine (see your -10).
- 2. Stop/shutdown engine (see your -10).
- 3. Install power plant rear access panels (WP 0431 00, WP 0432 00, and WP 0433 00).

0227 00

THIS WORK PACKAGE COVERS:

Removal (page 0227 00-1). Installation (page 0227 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench (WP 0780 00, Item 96)

Torque Wrench (WP 0780 00, Item 101)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Key washer (2)

Lockwasher

Locknut (6)

Locknut (3)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

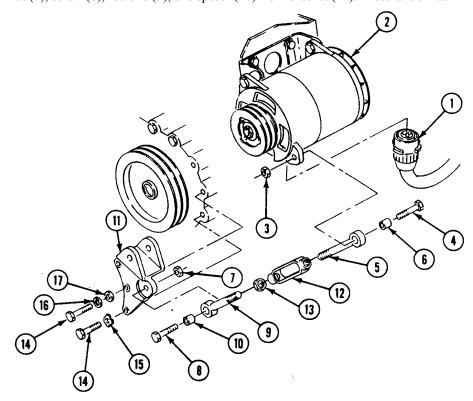
Battery ground lead disconnected (WP 0294 00)

Power plant rear access panels removed (WP 0431 00)

Generator drive belts removed (WP 0226 00)

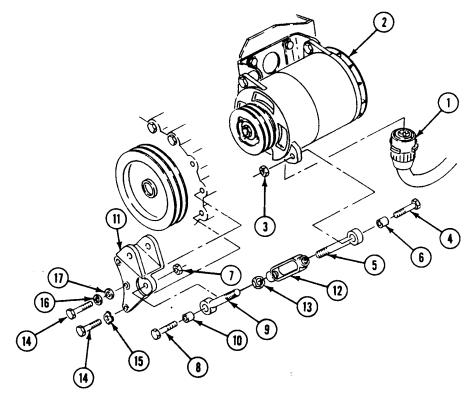
REMOVAL

- 1. Disconnect cable (1) from generator (2).
- 2. Remove locknut (3), screw (4), rod end (5), and spacer (6) from generator (2). Discard locknut.
- 3. Remove locknut (7), screw (8), rod end (9), and spacer (10) from bracket (11). Discard locknut.



0227 00

- 4. Remove two rod ends (5) and (9) from turnbuckle (12). Remove jam nut (13) from rod end (9).
- 5. Remove three screws (14), two key washers (15), lockwasher (16), washer (17), and bracket (11) from transfer gearcase. Discard key washers and lockwasher.



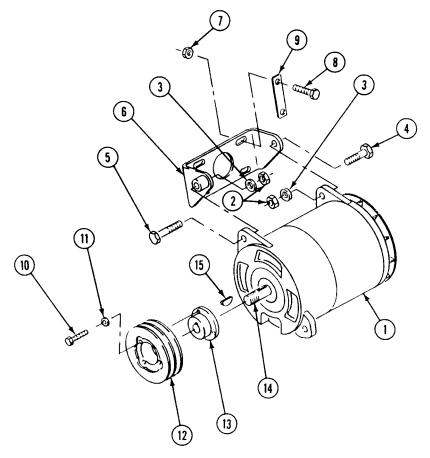
- 6. Support generator (1). Remove two locknuts (2), washers (3), screw (4), screw (5), and generator from mounting bracket (6).
- 7. Remove four locknuts (7), screws (8), two straps (9), and bracket (6) from engine. Discard locknuts.

0227 00

NOTE

If replacing generator, do Steps 8 - 10.

- 8. Remove three screws (10) and washers (11) securing pulley (12) and bushing (13) to generator shaft (14).
- 9. Use three screws (10) to separate pulley (12) and bushing (13). (Install three screws in three threaded holes of pulley. Tighten screws until you are able to separate pulley from bushing.)
- 10. Remove pulley (12) and bushing (13) from generator shaft (14). Remove key (15) from generator shaft.



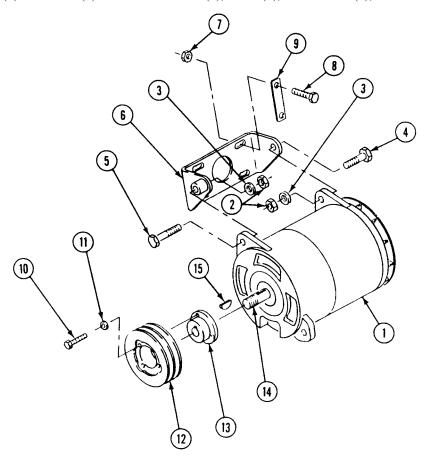
0227 00

INSTALLATION

NOTE

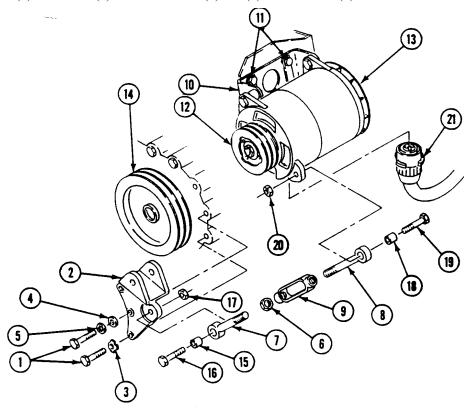
If installing new generator, begin with Step 1, but remove nut and washer from generator shaft before installing pulley. Nut and washer are not used. If not installing new generator go to Step 3.

- 1. Install key (15) in generator shaft (14).
- 2. Install bushing (13) and pulley (12) on generator shaft (14) with three washers (11) and screws (10). TORQUE SCREWS TO 73-79 LB-IN (8-9 N·M).
- 3. Place bracket (6) on engine. Secure with two straps (9), four screws (8), and new locknuts (7). Do not tighten.
- 4. Install generator (1) on bracket (6). Secure with screw (5), screw (4), two washers (3), and new locknuts (2).



0227 00

- 5. Coat threads of three screws (1) with antiseize compound.
- 6. Install bracket (2) on transfer gearcase. Secure with two new key washers (3), washer (4), new lockwasher (5), and three screws (1). Bend tabs on key washers.
- 7. Thread jam nut (6) on rod end (7). Install rod ends (7) and (8) in turnbuckle (9).

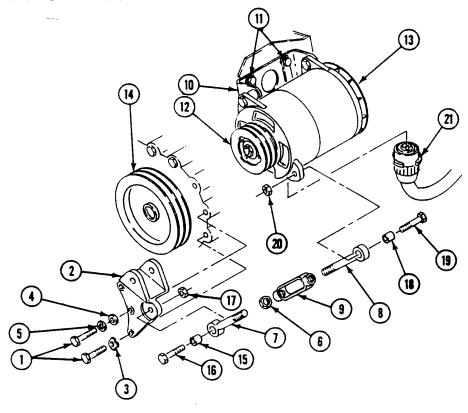


0227 00

NOTE

Use straight edge across face of both pulleys to assist in proper alignment.

- 8. To obtain correct alignment, adjust the position of the generator mounting bracket (11) before you tighten the screws in the slotted holes. Align pulley (12) on generator (13) with drive pulley (14) on transfer gearcase to within 1/8 inch (3.2 mm), then tighten screws (11).
- 9. Place spacer (15) and rod end (7) on bracket (2). Secure with screw (16) and new locknut (17).
- 10. Place spacer (18) and rod end (8) on generator (13). Secure with screw (19) and new locknut (20).
- 11. Connect cable (21) to generator (13).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Install generator drive belts (WP 0226 00).
- 3. Check generator output for proper operation.
- 4. Stop/shutdown engine (see your -10).
- 5. Install power plant rear access panels and support (WP 0431 00).

0228 00

THIS WORK PACKAGE COVERS:

Removal (page 0228 00-1). Installation (page 0228 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Socket Wrench Set (WP 0780 00, Item 96)

Torque Wrench (WP 0780 00, Item 102)

Wood Block, 2 inches x 4 inches x 3 feet

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Cotter pin (2)

Key washer (2)

Lockwasher (2)

Locknut (2)

Locknut (2)

Locknut

Personnel Required

Unit Mechanic

Helper (H)

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

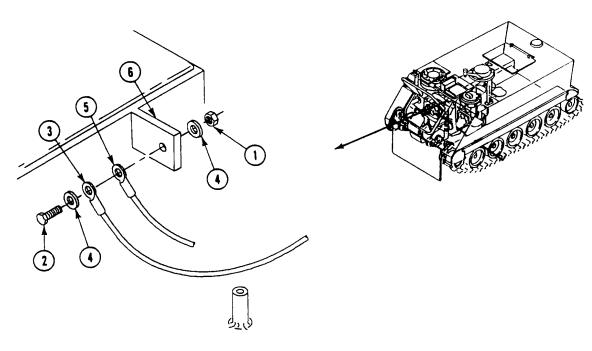
Power plant rear access panels removed (WP 0433 00)

Generator drive belts removed (WP 0234 00)

Fan drive belts removed (WP 0211 00)

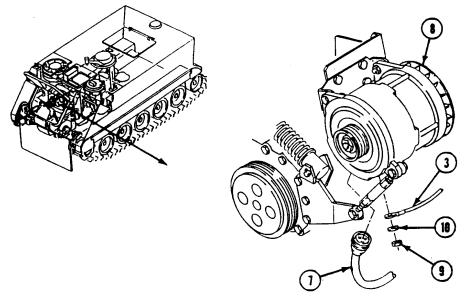
REMOVAL

1. Remove locknut (1), screw (2), generator ground lead (3), two washers (4), and starter ground lead (5) from bracket (6). Discard locknut.

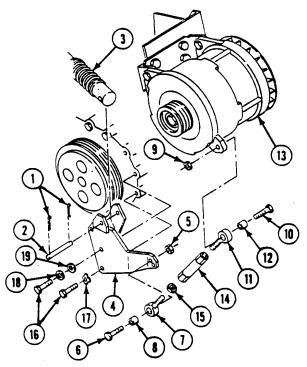


0228 00

2. Disconnect cable (7) from generator (8). Remove nut (9), lockwasher (10), and generator ground lead (3) from generator. Discard lockwasher.



- 3. Remove two cotter pins (1), pin (2), and fan drive tensioner (3) from bracket (4) on transfer gearcase. Discard cotter pins.
- 4. Remove locknut (5), screw (6), rod end (7), and spacer (8) from bracket (4). Discard locknut.
- 5. Remove locknut (9), screw (10), rod end (11), and spacer (12) from generator (13). Discard locknut.
- 6. Remove two rod ends (7) and (11) from turnbuckle (14). Remove jam nut (15) from rod end (7).
- 7. Remove three screws (16), two key washers (17), lockwasher (18), washer (19), and bracket (4) from transfer gearcase. Discard key washers and lockwasher.



0228 00

NOTE

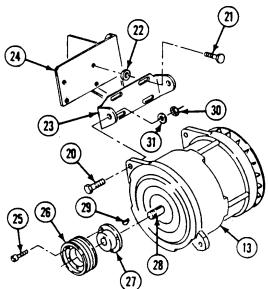
It may be necessary to loosen two screws (20) and swing generator up to remove lower screws (21) from generator mounting bracket.

- 8. Support generator with wood block and remove two lower screws (21) and washers (22), from generator from mounting bracket (23).
- 9. Remove two upper screws (21), washers (22), and generator mounting bracket (23) from fuel filter bracket (24).
- 10. Remove generator (13) and attached mounting bracket (23) from power plant compartment. Have helper assist.

NOTE

If replacing generator, do Steps 11 - 15.

- 11. Remove three screws (25) that secure pulley (26) and bushing (27) to generator shaft (28).
- 12. Install three screws (25) in threaded holes in pulley (26). Tighten screws until bushing (27) separates from pulley.
- 13. Remove pulley (26) and bushing (27) from generator shaft (28).
- 14. Remove key (29) from generator shaft (28).
- 15. Remove two locknuts (30), washers (31), and screws (20) from generator (13) and mounting bracket (23). Remove bracket from generator. Discard locknuts.



0228 00

INSTALLATION

NOTE

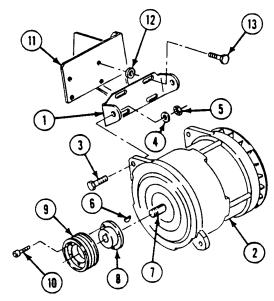
If installing new generator, begin with Step 1, but remove nut and washer from generator shaft before installing pulley. Nut and washer are not used. If not installing new generator go to Step 4.

- 1. Install generator mounting bracket (1) on generator (2). Secure with two screws (3), washers (4), and new locknuts (5). Do not tighten.
- 2. Install key (6) in generator shaft (7).

NOTE

Position pulley as close to the generator body as possible. Tighten three screws (10) alternately and progressively until they are pulled up tight.

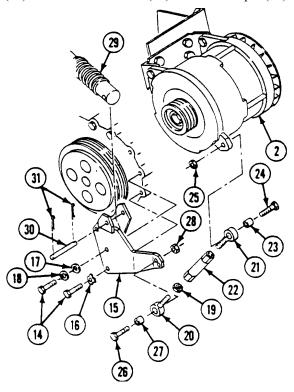
- 3. Install bushing (8) and pulley (9) on generator shaft (7) with three screws (10).
- 4. Place generator (2) and mounting bracket (1) on right side sponson in engine compartment.
- 5. Support generator (2) with 2-inch x 4-inch x 3-foot wood block and align slotted holes in generator mounting bracket (1) with holes in fuel filter bracket (11). Secure with four washers (12) and screws (13). Do not tighten screws.



- 6. Coat threads of three screws (14) with antiseize compound.
- 7. Install bracket (15) on transfer gearcase. Secure with two new key washers (16), washer (17), new lockwasher (18), and three screws (14). TIGHTEN SCREWS TO 144-192 LB-IN (16-22 N·M) TORQUE. Use torque wrench and socket wrench set. Bend tabs on key washers.
- 8. Place jam nut (19) on rod end (20). Install rod ends (20) and (21) in turnbuckle (22). Do not tighten jam nut.
- 9. Install turnbuckle rod end (21) on generator (2). Secure with spacer (23), screw (24), and new locknut (25).
- 10. Secure rod end (20) to bracket (15) with screw (26), spacer (27), and new locknut (28).

0228 00

11. Assemble fan drive tensioner (29) and install on bracket (15). Secure with pin (30) and two new cotter pins (31).

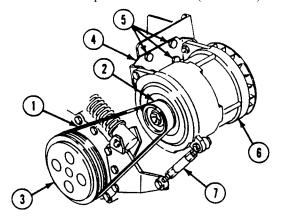


12. Place generator drive belt (1) on pulleys (2) and (3).

NOTE

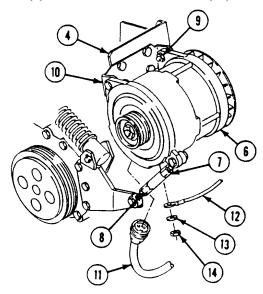
Use straight edge across face of both pulleys to assist in proper alignment.

- 13. To obtain correct alignment, adjust the position of the generator mounting bracket (4) before you tighten the screws (5) in the slotted holes. Align pulley (2) on generator (6), with drive pulley (3) on transfer gearcase, then tighten screws (5).
- 14. Turn turnbuckle (7) until belt deflection at midspan is 1/2-5/8 inch (13-16 mm) when force is applied.

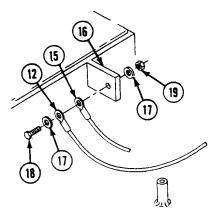


0228 00

- 15. Tighten jam nut (8) on turnbuckle (7). Tighten two nuts (9) on screws (10) that secure generator (6) to generator mounting bracket (4).
- 16. Connect cable (11) to generator (6).
- 17. Install ground lead (12) on generator (6). Secure with new lockwasher (13) and nut (14).



18. Install starter ground lead (15) and generator ground lead (12) on bracket (16). Secure with two washers (17), screw (18), and new locknut (19).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Install fan drive belts (WP 0211 00).
- 3. Install generator drive belts (WP 0234 00).
- 4. While engine is running, check to be sure that generator and linkage are installed correctly.
- 5. Check generator output for proper operation.
- 6. Stop/shutdown engine (see your -10).
- 7. Install power plant rear access panels and support (WP 0433 00).

ADJUST VOLTAGE REGULATOR (100/200 AMP GENERATOR)

0229 00

THIS WORK PACKAGE COVERS:

Adjustment (page 0229 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

References

TM 9-6140-200-14

Equipment Condition

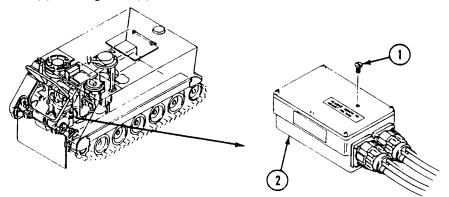
Engine stopped/shutdown (see your -10) Carrier blocked (see your -10)

ADJUSTMENT

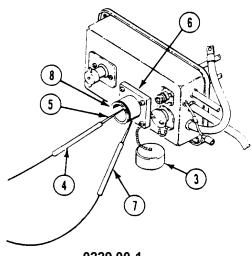
NOTE

Check batteries to make sure they are fully charged. See TM 9-6140-200-14.

Remove access screw (1) from regulator (2).



- 2. Start engine and allow to run for about 20 minutes with service headlights on (see your -10).
- Turn off service headlights (see your -10). 3.
- Set multimeter to read voltage on the 50 V dc scale. 4.
- Remove receptacle cap (3).

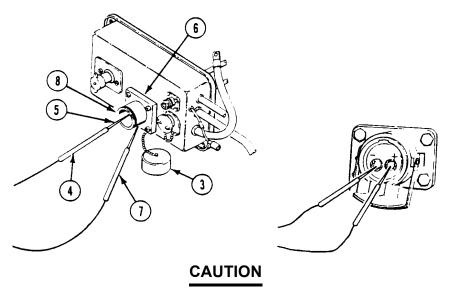


0229 00-1

NOTE

On carriers that have standard auxiliary power receptacles, touch red lead to positive and black lead to negative sockets in the receptacle.

6. Place red lead (4) in positive socket of NATO plug (5) on auxiliary power (slave) receptacle (6). Touch negative lead (7) to outside of NATO plug (8) on receptacle.



Battery can get overcharged and explode if the charging volts exceed 29. Adjust voltage regulator to 29 volts.

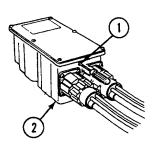
NOTE

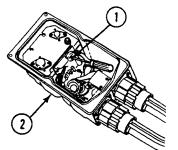
Do not force adjusting screw past stop. If regulator cannot be adjusted, replace bad regulator (WP 0230 00).

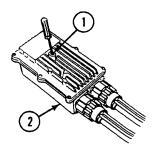
Use insulated cross-tip screw driver #1 to adjust voltage.

7. With engine operating at 900 to 1100 RPM, turn adjusting screw (1) in regulator (2) until proper voltage reading is achieved.

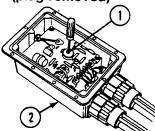
90° and above: 27 V dc 50° thru 89°: 28 V dc 49° and below: 29 V dc



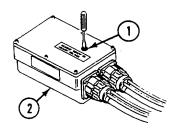




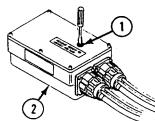
A. Vap-Air Model 26440001-03 (plug removed)



B. Vap—Air Model 26440001—04 (cover removed)



C. Leece-Neville Model 5027RC (plug removed)

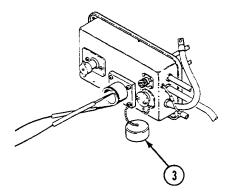


D. Leland Model 07639-CSV-2183-1 (cover removed)

E. Prestolite Model REG-4000 (plug removed)

F. C. E. Niehoff Model N3019 (plug removed)

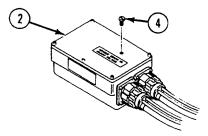
8. Install receptacle cap (3).



ADJUST VOLTAGE REGULATOR (100/200 AMP GENERATOR) — Continued

0229 00

9. Install access screw (4) on regulator (2).



FOLLOW-THROUGH STEPS

1. Stop engine (see your -10).

REPLACE REGULATOR ASSEMBLY (100/200 AMP GENERATOR)

0230 00

THIS WORK PACKAGE COVERS:

Removal (page 0230 00-1). Repair or Replacement (page 0230 00-2). Installation (page 0230 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (8)

Lockwasher (8)

Lockwasher

Personnel Required

Unit Mechanic

Equipment Condition

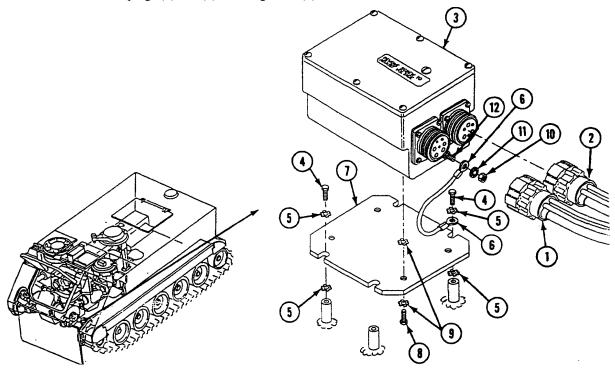
Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

REMOVAL

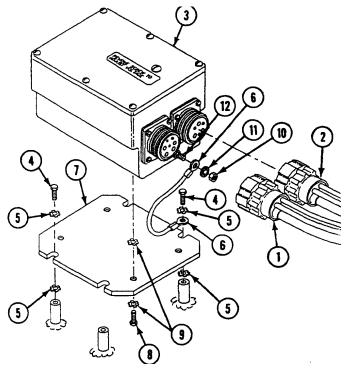
1. Disconnect two cannon plugs (1) and (2) from regulator (3).



NOTE

Ground lead is on 200 amp system only.

- 2. Remove four screws (4), eight lockwashers (5), ground strap (6), and mount plate (7) with attached regulator (3) from hull weldnuts. Discard lockwashers.
- 3. Remove four screws (8), eight lockwashers (9), and mount plate (7) from regulator (3). Discard lockwashers.
- 4. Remove nut (10), lockwasher (11), and other end of ground lead (6) from ground stud (12). Discard lockwasher.



REPAIR OR REPLACEMENT

1. Check cables. Replace worn or cracked cables and damaged connectors (WP 0312 00, WP 0313 00, or WP 0314 00).

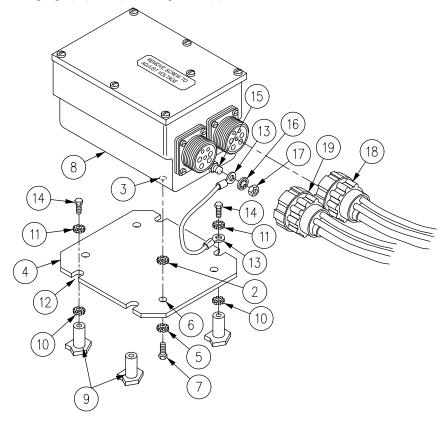
INSTALLATION

1. Place regulator (8) upside down and place four new lockwashers (2) on holes (3). Set mount plate (4) on regulator and place four more new lockwashers (5) on holes (6). Secure mount plate to regulator with four screws (7).

NOTE

Ground lead is on 200 amp system only.

- 2. Set regulator (8) and mount plate assembly (4) on hull weldnuts (9). Slide four new lockwashers (10) under mount plate (4) on hull weldnuts. Place four new lockwashers (11) on mount plate over holes (12). Slide end of ground lead (13) under lockwasher (11). Secure with four screws (14).
- 3. Place other end of ground lead (13) on ground stud (15). Secure with new lockwasher (16) and nut (17).
- 4. Connect two cannon plugs (18) and (19) to regulator (8).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- Adjust regulator voltage (WP 0229 00).

REPLACE GENERATOR-REGULATOR CIRCUIT BREAKER (100 AMP GENERATOR ONLY)

0231 00

THIS WORK PACKAGE COVERS:

Removal (page 0231 00-1). Repair or Replacement (page 0231 00-2). Installation (page 0231 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (5)

Locknut (8)

Locknut (3)

Personnel Required

Unit Mechanic

Equipment Condition

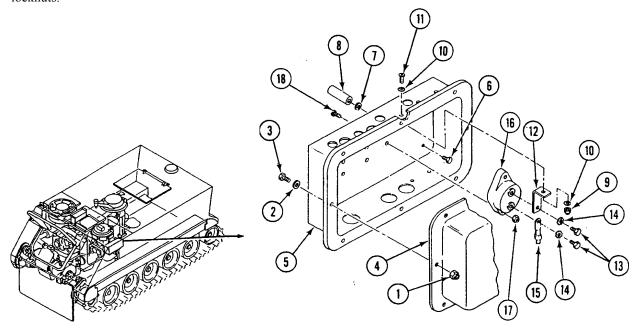
Engine stopped (see your -10)

Battery ground lead disconnected (WP 0294 00)

Carrier blocked (see your -10)

REMOVAL

1. Remove eight locknuts (1), washers (2), screws (3), and master switch panel (4) from distribution box (5). Discard locknuts



REPLACE GENERATOR-REGULATOR CIRCUIT BREAKER (100 AMP GENERATOR ONLY) — Continued

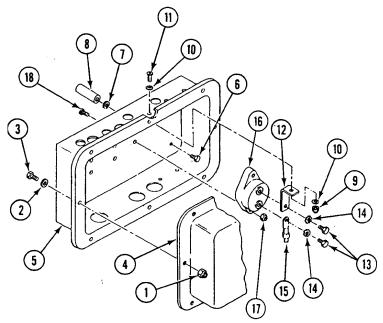
0231 00

- 2. Remove five screws (6), lockwashers (7), and distribution box (5) from hull mounts (8). Discard lockwashers.
- 3. Remove locknut (9), two washers (10), and screw (11) from terminal strip (12) and distribution box (5). Discard locknut.

NOTE

Some carriers have four lockwashers on circuit breaker.

- 4. Remove two screws (13), four/two lockwashers (14), terminal strip (12), and circuit 3 lead (15) from circuit breaker (16). Discard lockwashers.
- 5. Remove two locknuts (17), screws (18), and circuit breaker (16) from distribution box (5). Discard locknuts.



REPAIR OR REPLACEMENT

1. Check terminal strip. Replace circuit breaker that has cracked terminal strip.

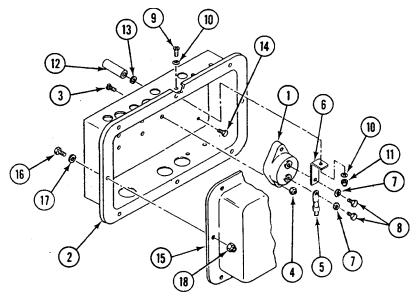
0231 00

INSTALLATION

NOTE

When installing a new generator-regulator circuit breaker, discard two of the four lockwashers supplied with circuit breaker.

- 1. Place circuit breaker (1) in distribution box (2). Secure with two screws (3) and new locknuts (4).
- 2. Place circuit 3 lead (5) and terminal strip (6) on circuit breaker (1). Secure with two new lockwashers (7) and two screws (8).
- 3. Align terminal strip (6) with hole in distribution box (2). Secure with screw (9), two washers (10), and new locknut (11).
- 4. Place distribution box (2) on hull mounts (12). Secure with five new lockwashers (13) and screws (14).
- 5. Place master switch panel (15) on distribution box (2). Secure with eight screws (16), washers (17), and new locknuts (18).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Start engine and check the generator-regulator circuit breaker. The BATT-GEN gauge should be in the green (see your -10).
- 3. Stop/shutdown engine (see your -10).

REPLACE GENERATOR FIELD SWITCH

0232 00

THIS WORK PACKAGE COVERS:

Removal (page 0232 00-1). Repair or Replacement (page 0232 00-1). Installation (page 0232 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 60)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Rear power plant access panel removed (see your -10)

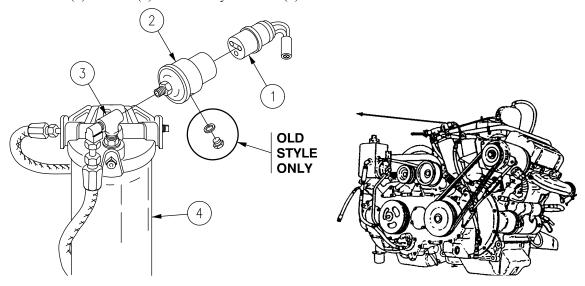
REMOVAL

1. Disconnect circuit 1A/1B lead (1) from generator field switch (2).

NOTE

Earlier switches may have a threaded pipe plug without a head or no plug at all. Discard the pipe plug with the switch. Do not reuse pipe plug because it can be installed too deeply and short out the new switch.

2. Remove switch (2) from tee (3) on secondary fuel filter (4).



REPAIR OR REPLACEMENT

1. Check circuit lead. Replace worn or cracked lead and damaged connector (WP 0312 00, WP 0313 00, or WP 0314 00).

INSTALLATION

WARNING





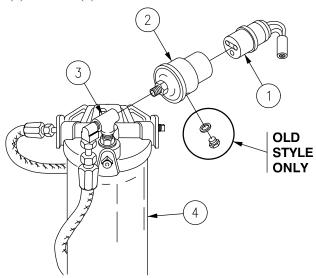
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

NOTE

New switches do not require pipe plug and washer. Earlier switches may have a threaded hole that should be sealed with a pipe plug and washer to prevent fuel from leaking out. If there is a pipe plug without a head, it can be installed too deep causing the switch to short out. Reuse old pipe plug and washer if you get an older style switch.

- 1. Coat threads of switch (2) with sealing compound.
- 2. Install switch (2) on tee (3) on secondary fuel filter (4).
- 3. Connect circuit 1A/1B lead (1) to switch (2).



FOLLOW-THROUGH STEPS

- 1. Check operation of field switch.
- 2. Install rear power plant access panel (see your -10).

REPLACE FUEL FILTER MOUNTING BRACKET (M577A2 AND M1068 WITH 200 AMP GENERATOR ONLY)

0233 00

THIS WORK PACKAGE COVERS:

Removal (page 0233 00-1). Installation (page 0233 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 104)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Locknut

Lockwasher (4)

Screw (4)

Personnel Required

Unit Mechanic

Equipment Condition

Carrier blocked (see your -10)

Engine stopped (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (WP 0294 00)

Power plant rear access panel removed (WP 0433 00)

Fan drive belts removed (WP 0211 00)

Primary fuel filter removed (WP 0172 00)

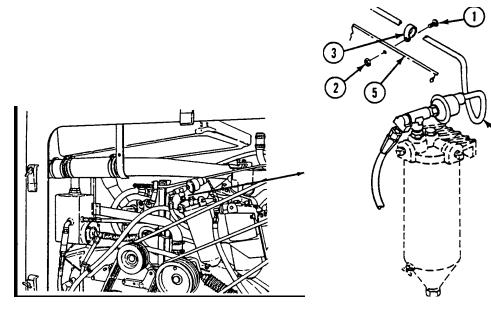
Secondary fuel filter removed (WP 0173 00)

Generator and mounting bracket removed

(WP 0227 00)

REMOVAL

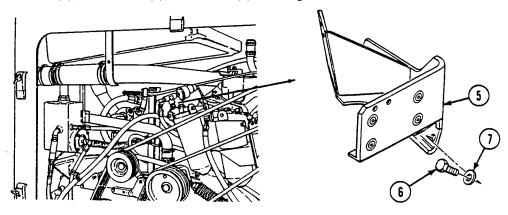
1. Remove screw (1), locknut (2), clamp (3), and field switch wire (4) from fuel filter mounting bracket (5). Discard locknut.



REPLACE FUEL FILTER MOUNTING BRACKET (M577A2 AND M1068 WITH 200 AMP GENERATOR ONLY) — Continued

0233 00

2. Remove four screws (6), lockwashers (7), and bracket (5) from engine. Discard lockwashers.

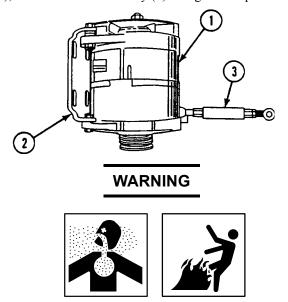


INSTALLATION

NOTE

Generator (1), with bracket (2) and turnbuckle assembly (3) attached, must be placed on right side sponson prior to installing new fuel filter mounting bracket due to space restrictions.

1. Place generator (1), bracket (2), and turnbuckle assembly (3) on right side sponson inside power plant compartment.



Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

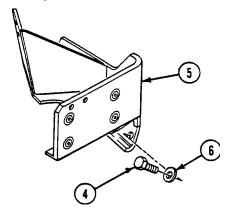
Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

2. Apply thin coat of sealing compound to threads of four new screws (4).

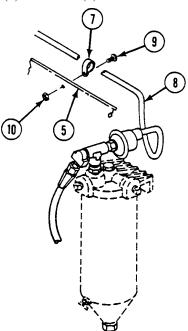
REPLACE FUEL FILTER MOUNTING BRACKET (M577A2 AND M1068 WITH 200 AMP GENERATOR ONLY) — Continued

0233 00

3. Install bracket (5) on engine. Secure with four new screws (4) and new lockwashers (6). TIGHTEN SCREWS TO 50-55 LB-FT (60-70 N·M) TORQUE. Use torque wrench.



4. Install clamp (7) with field switch wire (8) on bracket (5). Secure with screw (9) and new locknut (10).



FOLLOW-THROUGH STEPS

- 1. Install generator and mounting bracket (WP 0227 00).
- 2. Install secondary fuel filter (WP 0173 00).
- 3. Install primary fuel filter (WP 0172 00).
- 4. Install fan drive belts (WP 0211 00).
- 5. Install power plant rear access panel (WP 0433 00).
- 6. Connect battery ground lead (WP 0294 00).
- 7. Raise and lock ramp (see your -10).
- 8. Stop/shutdown engine (see your -10).

REPLACE GENERATOR DRIVE BELTS (200 AMP GENERATOR ONLY)

0234 00

THIS WORK PACKAGE COVERS:

Removal (page 0234 00-1). Installation (page 0234 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

Equipment Condition

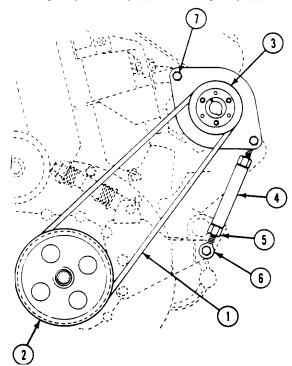
Engine stopped (see your -10)

Carrier blocked (see your -10)

Power plant rear access panels removed (WP 0431 00, WP 0432 00, and WP 0433 00)

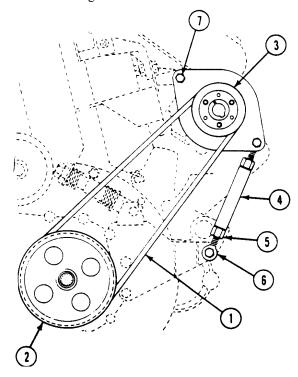
REMOVAL

- 1. Loosen jam nut (5) on rod end (6).
- 2. Loosen two screws (7) on generator mounting bracket.
- 3. Turn turnbuckle (4) to loosen drive belt (1).
- 4. Remove drive belt (1) from generator pulley assembly (3) and drive pulley (2).



INSTALLATION

- 1. Install new drive belt (1) on drive pulley (2) and generator pulley (3).
- 2. Turn turnbuckle (4) and tighten belt until belt deflection at midspan is 1/2 to 5/8 inch (13 to 16 mm) when force is applied.
- 3. Tighten locknut (5) on rod end (6).
- 4. Tighten two screws (7) on generator mounting bracket.



FOLLOW-THROUGH STEPS

WARNING



Wearing loose clothing around moving parts can allow personnel to get caught and could result in injury or death. Tuck in loose clothing.

- 1. Start engine (see your -10). Check that generator drive belts are installed properly.
- 2. Stop/shutdown engine (see your -10).
- 3. Install power plant rear access panels (WP 0431 00, WP 0432 00, and WP 0433 00).

REPLACE MASTER SWITCH TO DISTRIBUTION BOX WIRE ASSEMBLY (CIRCUIT 49) (M577A2 AND M1068 ONLY)

0235 00

THIS WORK PACKAGE COVERS:

Removal (page 0235 00-1). Repair or Replacement (page 0235 00-2). Installation (page 0235 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grommet (2)

Locknut (8)

Locknut

Lockwasher

Personnel Required

Unit Mechanic

Equipment Condition

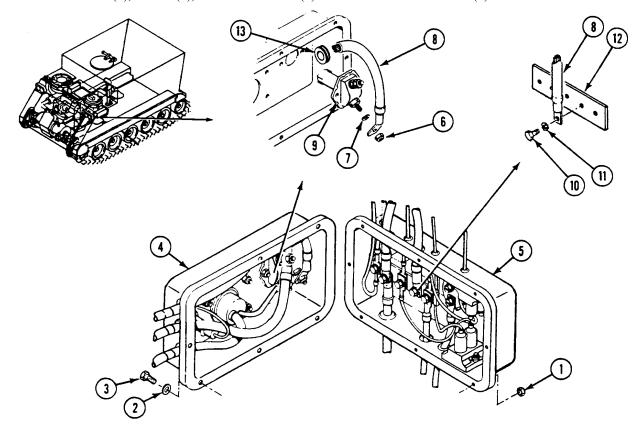
Engine stopped (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

REMOVAL

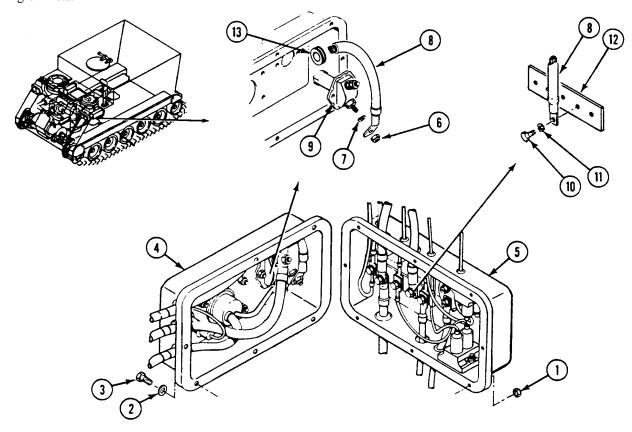
- 1. Remove eight locknuts (1), washers (2), screws (3), and master switch panel (4) from distribution box (5). Discard locknuts.
- 2. Remove locknut (6), washer (7), and circuit 49 lead (8) from master switch terminal (9). Discard locknut.



REPLACE MASTER SWITCH TO DISTRIBUTION BOX WIRE ASSEMBLY (CIRCUIT 49) (M577A2 AND M1068 ONLY) — Continued

0235 00

- 3. Remove screw (10), lockwasher (11), and circuit 49 lead (8) from distribution box bus bar (12). Discard lockwasher.
- 4. Remove circuit 49 lead (8) with two grommets (13) from master switch panel (4) and distribution box (5). Discard grommets.



REPAIR OR REPLACEMENT

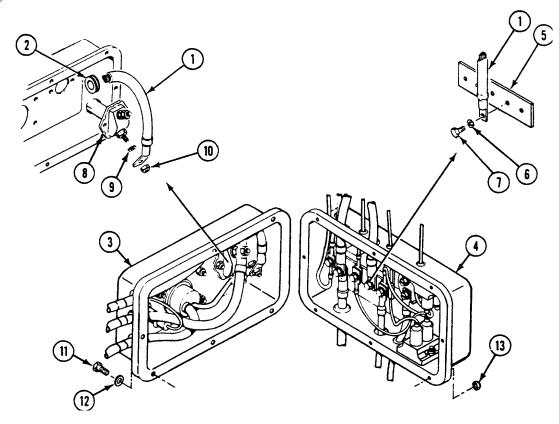
1. Check circuit 49 lead for continuity. Use multimeter. Replace bad lead.

INSTALLATION

- 1. Install two new grommets (2) on circuit 49 lead (1).
- 2. Route circuit 49 lead (1) through distribution box (4) and master switch panel (3). Install new grommets (2) in box and panel.
- 3. Install circuit 49 lead (1) on bus bar (5) of distribution box (3). Secure with new lockwasher (6) and screw (7).
- 4. Install circuit 49 lead (1) on master switch terminal (8). Secure with washer (9) and new locknut (10).

0235 00

5. Install master switch panel (3) on distribution box (4). Secure with eight screws (11), washers (12), and new locknuts (13).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Check that circuit 49 lead is operational. Master switch light should come on (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

TM 9-2350-261-20-2

CHAPTER 10

UNIT MAINTENANCE INSTRUCTIONS FOR STARTER SYSTEM

WORK PACKAGE INDEX	
Title	Sequence No
REPLACE STARTER	
DEDI ACE CTADTED CDOIND LEADS	0227.00

REPLACE STARTER 0236 00

THIS WORK PACKAGE COVERS:

Removal (page 0236 00-1).

Cleaning (page 0236 00-2).

Installation (page 0236 00-2).

Alternate Removal (page 0236 00-4).

Clean, Inspect, and Repair (page 0236 00-5).

Alternate Installation (page 0236 00-5).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Rod Ground (2) (WP 0780 00, Item 61)

Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Gasket

Lockwasher (3)

Lockwasher (4)

Personnel Required

Unit Mechanic

Helper (H)

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Power plant removed (WP 0131 00) (if rods are not

available)

Door opened and right side exhaust pipe removed

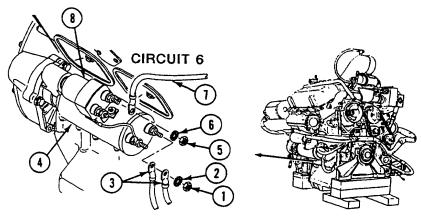
(WP 0189 00) (if rods are not available)

REMOVAL

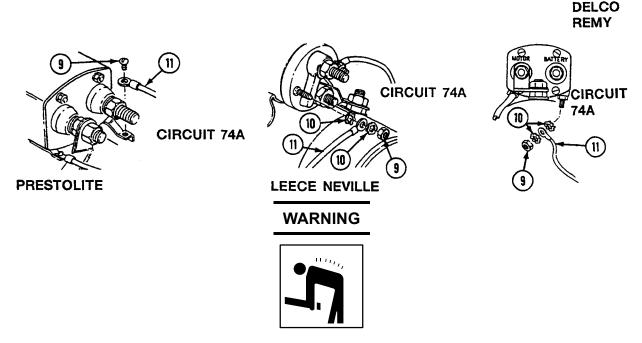
NOTE

If power plant is in carrier and steel rods are available, go to ALTERNATE REMOVAL Step 1. A helper is needed.

- 1. Remove nut (1), lockwasher (2), and two ground leads (3) from terminal on starter (4). Discard lockwasher.
- 2. Remove nut (5), lockwasher (6), and circuit 6 lead (7) from terminal on starter solenoid (8). Discard lockwasher.

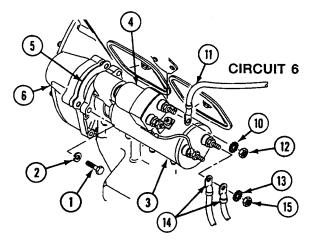


3. Remove nut (9) (screw on Prestolite), two lockwashers (10) (Delco and Leece Neville only), and circuit 74A lead (11) from terminal on solenoid. Discard lockwashers.



Avoid injury. Get an assistant to help you lift the starter or use a hoist. Starter weighs about 75 pounds (34 kg).

4. Remove three bolts (1), lockwashers (2), starter (3) with solenoid (4), and gasket (5) (if installed) from engine (6). Discard lockwashers.



CLEANING

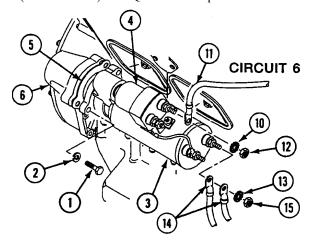
1. Check starter drive teeth. Remove burrs. Replace starter that has damaged teeth or teeth worn beyond original shape.

INSTALLATION

NOTE

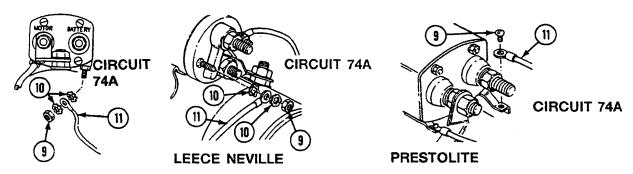
Check that starter-to-engine housing gasket is in place. Gasket is necessary to keep water out of starter.

- 1. Install gasket (5) on engine (6).
- 2. Place starter (3) with solenoid (4) on engine (6). Secure with three new lockwashers (2) and three bolts (1). TIGHTEN SCREWS TO 137-147 LB-FT (186-199 N·M) TORQUE. Use torque wrench.

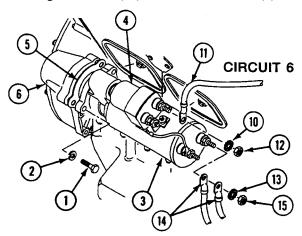


3. Install two new lockwashers (10) (Delco and Leece Neville only) and circuit 74A lead (11) on terminal of starter solenoid. Secure with nut (9) (screw on Prestolite).





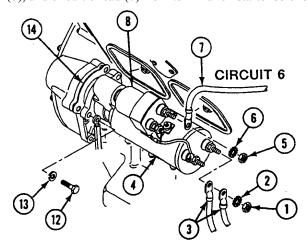
- 4. Install new lockwasher (10) and circuit 6 lead (11) on terminal of solenoid (4). Secure with nut (12).
- 5. Install new lockwasher (13) and two ground leads (14) on terminal of starter (3). Secure with nut (15).



6. Go to FOLLOW-THROUGH Steps 1 - 4.

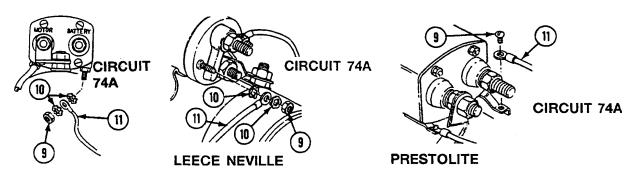
ALTERNATE REMOVAL

- 1. Lower trim vane (see your -10).
- 2. Open power plant front access door (see your -10).
- 3. Remove exhaust pipe (WP 0189 00).
- 4. Remove nut (1), lockwasher (2), and two ground leads (3) from terminal on starter (4). Discard lockwasher.
- 5. Remove nut (5), lockwasher (6), and circuit 6 lead (7) from terminal on starter solenoid (8). Discard lockwasher.



6. Remove nut (9) (screw on Prestolite), two lockwashers (10) (Delco and Leece Neville only), and circuit 74A lead (11) from terminal on solenoid. Discard lockwashers.

DELCO REMY

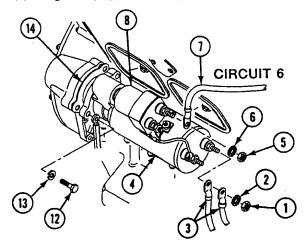


 $7 ext{ } ext{ } ext{ } ext{Remove engine low pressure } ext{ } ext{oil } ext{switch } ext{(WP 0316 00)} ext{.}$



Avoid injury. Get an assistant to help you lift the starter or use a hoist. Starter weighs about 75 pounds (34 kg).

- 8. Remove two of three bolts (12) and lockwashers (13). Discard lockwashers.
- 9. Thread two steel rods into bolt holes.
- 10. Remove third bolt (12) and lockwasher (13). Discard lockwasher.
- 11. Slide starter (4) with solenoid (8) and gasket (14), if installed, down bars so it can be removed. Discard gasket.

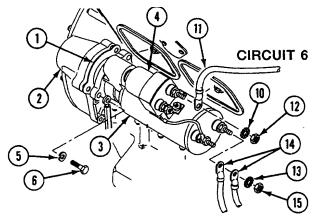


CLEAN, INSPECT, AND REPAIR

1. Check starter drive teeth. Remove burrs. Replace starter that has damaged teeth or teeth worn beyond original shape.

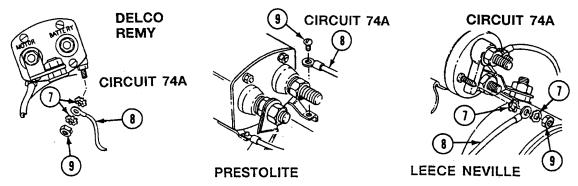
ALTERNATE INSTALLATION

- 1. Install new gasket (1) on engine (2).
- 2. Slide starter (3) with solenoid (4) on steel rods up to the flywheel. Secure with one new lockwasher (5) and bolt (6) to hold in place.
- 3. Remove two steel rods from threaded holes and install remaining two new lockwashers (5) and bolts (6). TIGHTEN ALL THREE BOLTS TO 137-147 LB-FT (186–200 N·M) TORQUE. Use torque wrench.

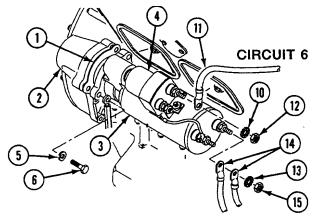


0236 00

4. Install two new lockwashers (7) (Delco and Leece Neville only) and circuit 75A lead (8) on terminal of starter solenoid. Secure with nut (9) (screw on Prestolite).



- 5. Install new lockwasher (10) and circuit 6 lead (11) on terminal of solenoid (4). Secure with nut (12).
- 6. Install new lockwasher (13) and two ground leads (14) on terminal of starter (3). Secure with nut (15).



- 7. Install exhaust pipe (WP 0189 00).
- 8. Close power plant front access door (see your -10).
- 9. Raise trim vane (see your -10).

FOLLOW-THROUGH STEPS

- 1. Install power plant (WP 0131 00), if removed.
- 2. Connect battery ground lead (WP 0294 00).
- 3. Start engine. Check that starter is operable (see your -10).
- 4. Stop/shutdown engine (see your -10).

REPLACE STARTER GROUND LEADS

0237 00

THIS WORK PACKAGE COVERS:

Removal (page 0237 00-1). Cleaning (page 0237 00-2). Installation (page 0237 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Power plant front access door open (see your -10)

Battery ground lead disconnected (WP 0294 00)

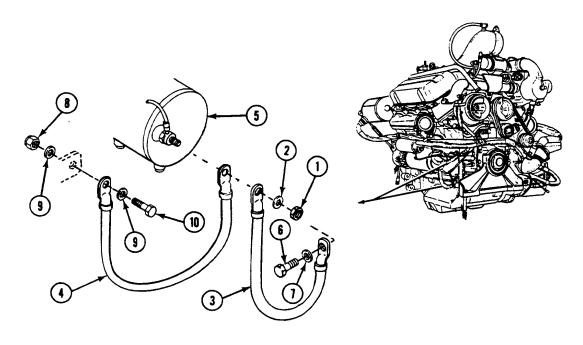
REMOVAL

1. Remove nut (1), washer (2), short ground lead (3), and long ground lead (4) from starter (5).

NOTE

Some carrier hull grounds may have star washers. Discard star washers and assemble ground leads with flat washers as instructed in the installation steps.

- 2. Remove screw (6), washer (7), and short lead (3) from engine block. Remove lead from carrier.
- 3. Remove locknut (8), long lead (4), two washers (9), and screw (10) from hull mount. Remove lead from carrier. Discard locknut.

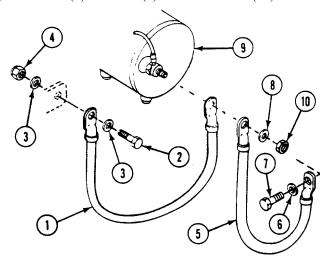


CLEANING

- 1. Remove paint, dirt, and corrosion from electrical contact areas on hull grounds.
- 2. Check leads. Replace leads that are worn or have cracked insulation.
- 3. Check lead connectors. Replace cracked or damaged connectors (WP 0312 00).

INSTALLATION

- 1. Place long ground lead (1) on hull mount. Secure with screw (2), two washers (3), and new locknut (4).
- 2. Place short ground lead (5) on engine block. Secure with washer (6) and screw (7).
- 3. Place lead (1) and lead (5) and washer (8) on starter (9). Secure with nut (10).



FOLLOW-THROUGH STEPS

- 1. Close power plant front access door (see your -10).
- 2. Raise trim vane (see your -10).
- 3. Connect battery ground lead (WP 0294 00).
- 4. Start engine to check that starter ground leads are operable. Stop/shutdown engine (see your -10).

TM 9-2350-261-20-2

CHAPTER 11

UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM - INSTRUMENT AND WARNING LIGHT PANELS

WORK PACKAGE INDEX	
<u>Title</u>	Sequence No.
REPLACE INSTRUMENT PANEL MOUNTS AND GROUND LEADS	0238 00
REPLACE CIRCUIT BREAKER	0239 00
REPLACE PANEL AND INDICATOR LIGHTS	0240 00
REPLACE INSTRUMENT PANEL ON-OFF SWITCHES	0241 00
REPLACE MAIN LIGHT SWITCH	0242 00
REPLACE ENGINE START SWITCH	0243 00
REPLACE INSTRUMENT PANEL GAUGES	0244 00
REPLACE INSTRUMENT PANEL TACHOMETER	0245 00
REPLACE TACHOMETER CABLE AND ADAPTER	0246 00
REPLACE SPEEDOMETER	0247 00
REPLACE SPEEDOMETER CABLE AND ADAPTER	0248 00
REPAIR SPEEDOMETER CABLE	0249 00
REPLACE FUEL SELECT SWITCH TO GAUGE LEAD (M981 AND M1064 ONLY)	0250 00
REPLACE WARNING PANEL LIGHTS	0251 00
REPLACE HORN SWITCH	0252 00
REPLACE WARNING LIGHT PANEL ASSEMBLY	0253 00

REPLACE INSTRUMENT PANEL MOUNTS AND GROUND LEADS

0238 00

THIS WORK PACKAGE COVERS:

Removal (page 0238 00-1). Installation (page 0238 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (4) Locknut (4)

Personnel Required

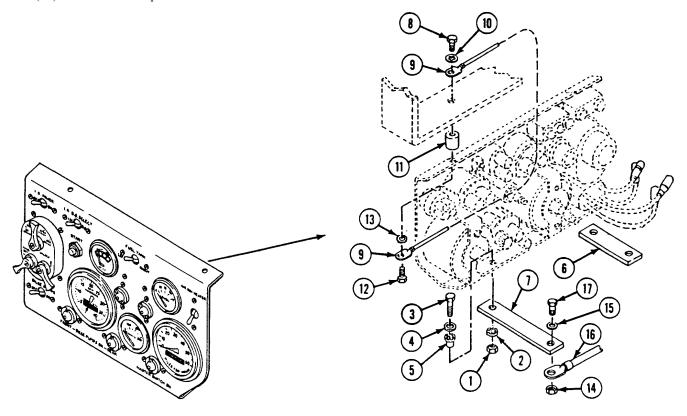
Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)
Battery ground lead disconnected (WP 0294 00)

REMOVAL

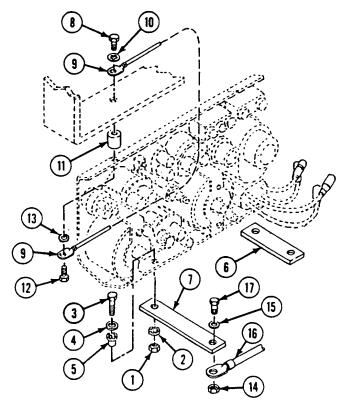
- 1. Remove two locknuts (1), bottom mounts (2), screws (3), flat washers (4), and top mounts (5) from two struts (6) and (7) and instrument panel. Discard locknuts.
- 2. Support instrument panel and remove two bolts (8), ground lead (9), and two lockwashers (10) from two resilient mounts (11) and upper support bracket. Discard lockwashers.
- 3. Tip instrument panel forward and remove two bolts (12), ground lead (9), two lockwashers (13), and resilient mounts (11) from instrument panel. Discard lockwashers.



NOTE

Ground lead (16) is not installed on the M577A2 or M1068 instrument panel strut.

4. Remove two locknuts (14), washers (15), auxiliary power receptacle ground lead (16), two screws (17), short strut (6), and long strut (7) from hull mounts. Discard locknuts.



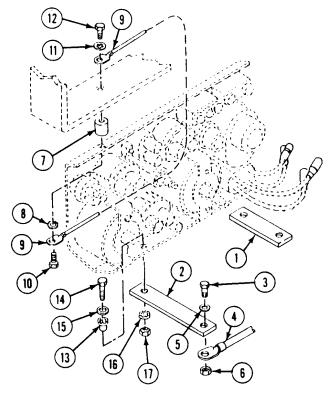
INSTALLATION

NOTE

Ground lead (4) is not installed on the M1068 or M577A2 instrument panel strut.

- 1. Place two struts (1) and (2) on hull mounts. Secure with two screws (3), ground lead (4), two washers (5), and new locknuts (6).
- 2. Place two resilient mounts (7) on instrument panel. Secure with two new lockwashers (8), ground lead (9), and two bolts (10).
- 3 Alignmounts (7) with upper support bracket and secure with two new lockwashers (11), ground lead (9), and two bolts (12).

4. Place two top mounts (13) between struts (1) and (2) and instrument panel. Secure instrument panel to struts with two screws (14), flat washers (15), bottom mounts (16) and new locknuts (17).



FOLLOW THROUGH STEPS

1. Connect battery ground lead (WP 0294 00).

REPLACE CIRCUIT BREAKER

0239 00

THIS WORK PACKAGE COVERS:

Removal (page 0239 00-1). Installation (page 0239 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

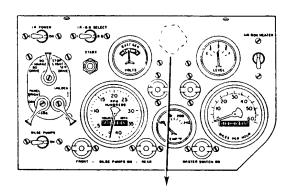
Carrier blocked (see your -10)

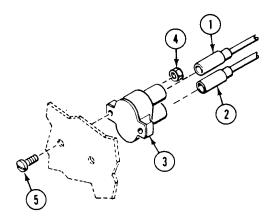
Battery ground lead disconnected (WP 0294 00)

Instrument panel removed (WP 0238 00)

REMOVAL

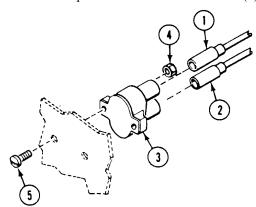
- 1. Disconnect circuit 10 lead (1) and circuit 27 lead (2) from circuit breaker (3).
- 2. Remove two locknuts (4), screws (5), and circuit breaker (3) from rear of instrument panel. Discard locknuts.





INSTALLATION

1. Place circuit breaker (3) on rear of instrument panel. Secure with two screws (5) and new locknuts (4).



2. Connect circuit 27 lead (2) and circuit 10 lead (1) to circuit breaker (3).

FOLLOW-THROUGH STEPS

- 1. Install instrument panel (WP 0238 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON, light should come on for proper installation of circuit breaker (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE PANEL AND INDICATOR LIGHTS

0240 00

THIS WORK PACKAGE COVERS:

Removal (page 0240 00-1). Installation (page 0240 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Light bulb (as needed)

Lockwasher (2)

Preformed packing (as needed)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

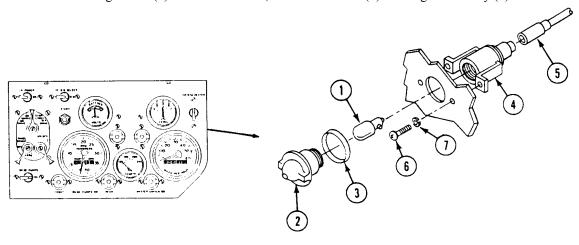
MASTER SWITCH to OFF (see your = 10)

REMOVAL

NOTE

There are two panel lights and three indicator lights on the instrument panel. Remove all lights the same way except for the number of leads.

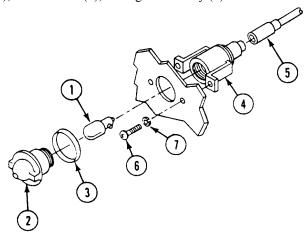
- 1. Remove light bulb (1).
 - a. Turn lens (2) counterclockwise. Remove lens (2) and preformed packing (3) from light assembly (4). Discard packing if damaged.
 - b. Push in and turn light bulb (1) counterclockwise, and remove bulb (1) from light assembly (4).



NOTE

Do not disconnect more than one light at a time. Mark each lead to make sure you reconnect to correct contacts. See wiring diagrams at the end of this manual.

- 2. If required, remove light assembly (4).
 - a. Disconnect circuit lead (5) from light assembly (4).
 - b. Remove two screws (6), lockwashers (7), and light assembly (4) from instrument panel. Discard lockwashers.

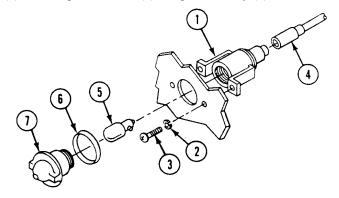


INSTALLATION

NOTE

Make sure circuit leads are connected to correct lights. See wiring diagrams at the end of this manual.

- 1. If removed, install light assembly (1).
 - a. Place light assembly (1) on rear of instrument panel. Secure with two new lockwashers (2) and screws (3).
 - b. Connect circuit lead (4) to light assembly (1).
- 2. Install light bulb (5).
 - a. Install light bulb (5) in light assembly (1). Push and turn light bulb clockwise to secure.
 - b. Install new packing (6), if damaged, and lens (7) in light assembly (1). Turn lens clockwise to secure.



REPLACE PANEL AND INDICATOR LIGHTS — Continued

0240 00

FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Turn PANEL LIGHTS SWITCH to ON, or BILGE PUMPS SWITCH to ON, as needed, to check for proper installation of light assembly (see your -10).
- 3. Turn all panel switches OFF (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE INSTRUMENT PANEL ON-OFF SWITCHES

0241 00

THIS WORK PACKAGE COVERS:

Removal (page 0241 00-1). Installation (page 0241 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (10)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

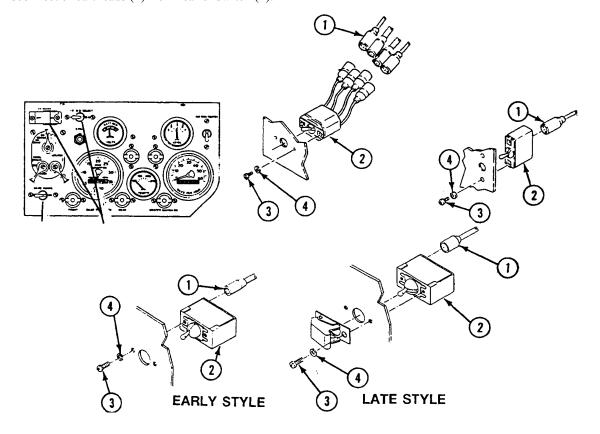
REMOVAL

NOTE

There are four toggle switches on the instrument panel of all M113A2 FOV, except the M981, which has five switches. Replace all toggle switches the same way, except for number of circuit leads.

Do not disconnect more than one switch at a time. Mark each circuit lead to make sure you reconnect to correct contacts. See applicable wiring diagram at end of this manual.

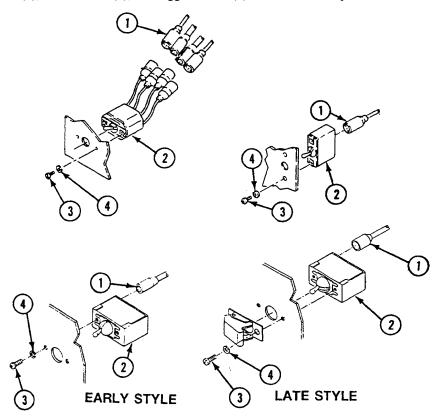
1. Disconnect circuit leads (1) from rear of switch (2).



NOTE

If switch has guard, remove with REMOVAL Step 2, install with INSTALLATION Step 1.

2. Remove two screws (3), lockwashers (4), and toggle switch (2) from instrument panel. Discard lockwashers.



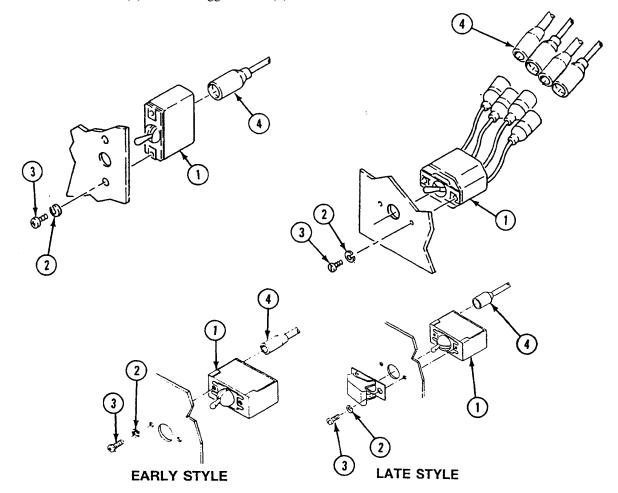
INSTALLATION

1. Place toggle switch (1) on rear of instrument panel. Secure with two new lockwashers (2) and screws (3).

NOTE

Make sure circuit leads are connected to correct switches. See applicable wiring diagram at the end of this manual.

2. Connect circuit leads (4) to rear of toggle switch (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Check for proper operation of switch.
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE MAIN LIGHT SWITCH

0242 00

THIS WORK PACKAGE COVERS:

Removal (page 0242 00-1). Installation (page 0242 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

Equipment Condition

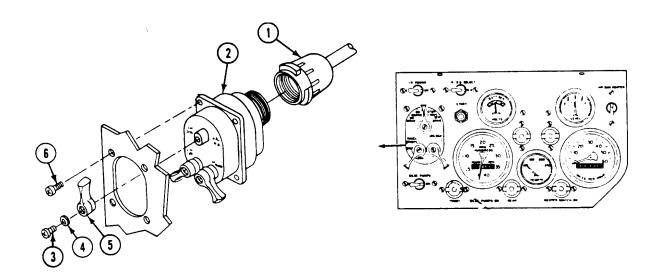
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

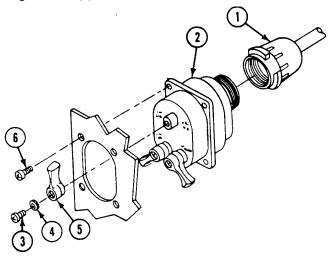
Battery ground lead disconnected (WP 0294 00).

Instrument panel removed (WP 0238 00)

- 1. Disconnect cable (1) from main light switch (2).
- 2. Remove screw (3), washer (4), and switch lever (5) from light switch (2).
- 3. Remove four screws (6) and light switch (2) from instrument panel.



- 1. Place main light switch (2) in rear of instrument panel. Secure with four screws (6).
- 2. Place switch lever (5) on light switch (2). Secure with washer (4) and screw (3).
- 3. Connect cable (1) to rear of light switch (2).



FOLLOW-THROUGH STEPS

- 1. Install instrument panel (WP 0238 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON (see your -10).
- 4. Check for proper operation of switch.
- 5. Turn MASTER SWITCH to OFF (see your -10).

REPLACE ENGINE START SWITCH

0243 00

THIS WORK PACKAGE COVERS:

Removal (page 0243 00-1). Installation (page 0243 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

Equipment Condition

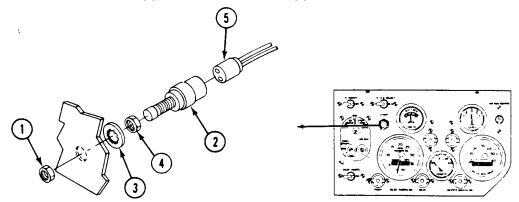
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

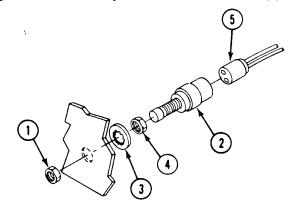
Battery ground lead disconnected (WP 0294 00)

Instrument panel removed (WP 0238 00)

- 1. Remove nut (1) and start switch (2) from instrument panel.
- 2. Remove lockwasher (3) and nut (4) from start switch (2).
- 3. Disconnect circuit 14/74 connector (5) from rear of start switch (2).



- 1. Connect circuit 14/74 connector (5) to rear of start switch (2).
- 2. Install nut (4) and new lockwasher (3) on start switch (2).
- 3. Install start switch (2) through rear of instrument panel. Secure with two nuts (1) and (4).



FOLLOW-THROUGH STEPS

- 1. Install instrument panel (WP 0238 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON (see your -10).
- 4. Crank engine to check for proper installation of starter switch (see your -10).
- 5. Turn MASTER SWITCH to OFF (see your -10).

REPLACE INSTRUMENT PANEL GAUGES

0244 00

THIS WORK PACKAGE COVERS:

Removal (page 0244 00-1). Installation (page 0244 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Instrument panel removed (WP 0238 00)

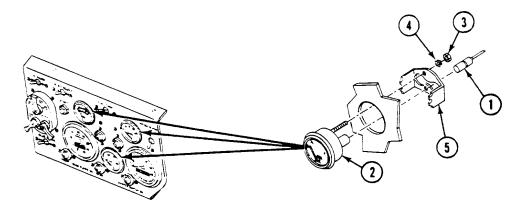
REMOVAL

NOTE

There are three gauges on the instrument panel. Except for the number of leads, remove all gauges the same way.

Do not disconnect more than one gauge at a time. Mark each lead to make sure you reconnect to correct contacts. See wiring diagrams at the end of this manual.

- 1. Disconnect circuit leads (1) from rear of gauge (2).
- 2. Remove two nuts (3), lockwashers (4), and bracket (5) from rear of gauge (2). Discard lockwashers.
- 3. Remove gauge (2) from front of instrument panel.



1. Install gauge (2) in front of instrument panel.

NOTE

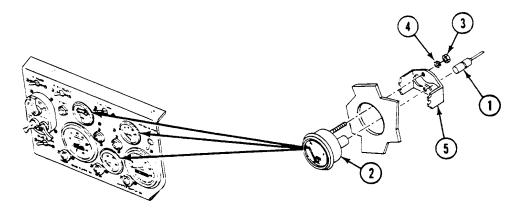
Check front of instrument panel to make sure gauge is aligned correctly before tightening nuts.

2. Install bracket (5) on rear of gauge, and secure with two new lockwashers (4) and nuts (3).

CAUTION

Make sure circuit leads are connected to correct gauges. See wiring diagrams at the end of this manual.

3. Connect circuit leads (1) to rear of gauge (2).



FOLLOW-THROUGH STEPS

- 1. Install instrument panel (WP 0238 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON (see your -10).
- 4. Check fuel gauge and battery generator gauge for proper operation (see your -10).
- 5. Start engine to check operation of coolant temperature gauge (see your -10).
- 6. Stop/shutdown engine(see your -10).

REPLACE INSTRUMENT PANEL TACHOMETER

0245 00

THIS WORK PACKAGE COVERS:

Removal (page 0245 00-1). Installation (page 0245 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (2)

Personnel Required

Unit Mechanic

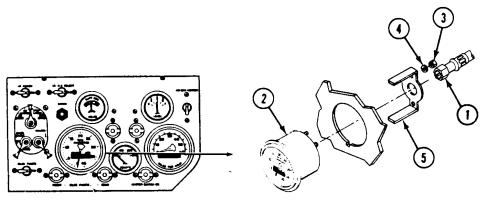
Equipment Condition

Engine stopped/shutdown (see your -10)

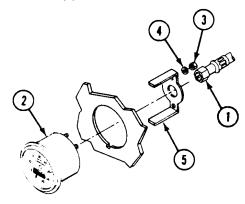
Carrier blocked (see your -10)

Instrument panel removed (WP 0238 00)

- 1. Disconnect tachometer cable (1) from rear of tachometer (2)
- 2. Remove two nuts (3), lockwashers (4), and bracket (5) from rear of tachometer (2). Discard lockwashers.
- 3. Remove tachometer (2) from front of instrument panel.



- 1. Install tachometer (2) in front of instrument panel.
- 2. Install bracket (5) on rear of tachometer (2) and secure with two new lockwashers (4) and nuts (3).
- 3. Connect tachometer cable (1) to tachometer (2).



FOLLOW-THROUGH STEPS

- 1. Install instrument panel (WP 0238 00).
- 2. Start engine (see your -10)).
- 3. Check tachometer (see your -10).
- 4. Stop/shutdown engine (see your -10).

REPLACE TACHOMETER CABLE AND ADAPTER

0246 00

THIS WORK PACKAGE COVERS:

Removal (page 0246 00-1). Installation (page 0246 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cable to tachometer gasket

Grommet

Lockwasher (5)

Locknut

Personnel Required

Unit Mechanic

References

WPI0120100

Equipment Condition

Engine stopped/shutdown (see your -10)

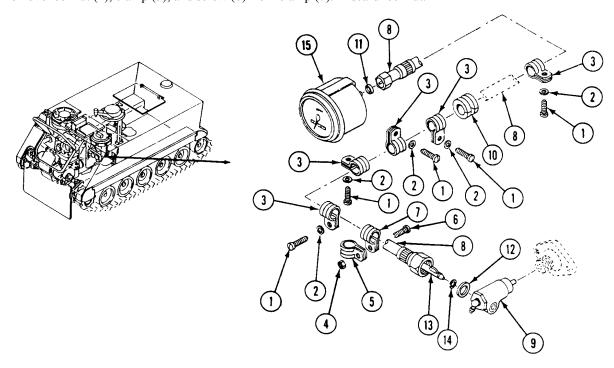
Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

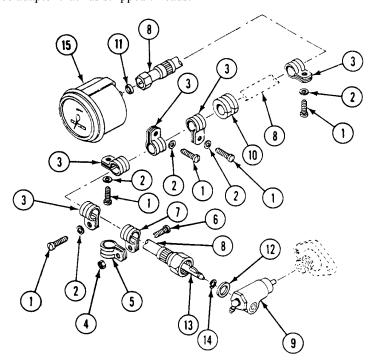
Driver's power plant access panel removed (WP 0430 00)

Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

- 1. Remove five screws (1), lockwashers (2), and clamps (3) from driver's compartment and power plant compartment bulkhead weldnuts. Discard lockwashers.
- 2. Remove locknut (4), clamp (5), and screw (6) from clamp (7). Discard locknut.



- 3. Disconnect tachometer cable (8) from right angle adapter (9) and tachometer (15). Remove cable (8) with clamps and grommet (10) attached from carrier.
- 4. Remove grommet (10) and gasket (11) from cable (8). Discard grommet and gasket.
- 5. Pull flexible drive shaft (13) part way out of adapter end of cable (8). Remove slotted washer (14) and flat washer (12) from drive shaft. Remove drive shaft (13) from cable.
- 6. Loosen nut and remove right angle adapter (9) from engine adapter.
- 7. Check adapter. Replace adapter that has stripped threads.



- 1. Place adapter (1) on engine adapter, and secure with nut.
- 2. Coat flexible drive shaft (2) with grease and install in cable (3) (WP 0120 00).

NOTE

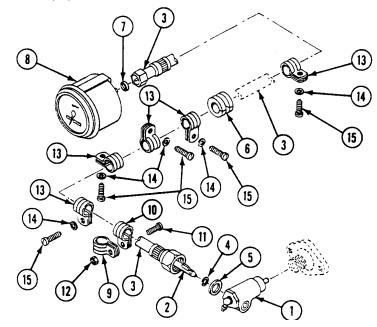
Install keyed end of drive shaft (2) in tachometer end of cable (3). If cable (3) is being replaced, remove all clamps and install them on new cable.

- 3. Pull drive shaft (2) part way out of adapter end of cable (3), install slotted washer (4) and flat washer (5) on shaft.
- 4. Install new grommet (6) on cable (3). Route cable through power plant and driver's compartment.
- 5. Install new gasket (7) in cable. Install cable on tachometer (8) and right angle drive adapter (1).

NOTE

Place cable at tachometer connection as close to carrier wall as possible to obtain maximum bend. All other cables and leads should be in front of the tachometer cable.

- 6. Align clamp (9) with clamp (10) and secure with screw (11) and new locknut (12).
- 7. Align seven cable clamps (13) with power plant and driver's compartment bulkhead weldnuts. Secure with seven new lockwashers (14) and screws (15).



FOLLOW-THROUGH STEPS

- 1. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 2. Install driver's power plant access panel (WP 0430 00).
- 3. Close power plant front access door and raise trim vane (see your -10).
- 4. Start engine to check for proper installation of tachometer cable and adapter (see your -10).
- 5. Stop/shutdown engine (see your -10).

REPLACE SPEEDOMETER

0247 00

THIS WORK PACKAGE COVERS:

Removal (page 0247 00-1). Installation (page 0247 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (2)

Personnel Required

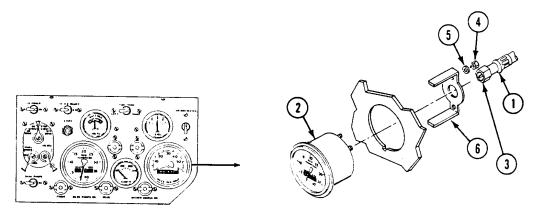
Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

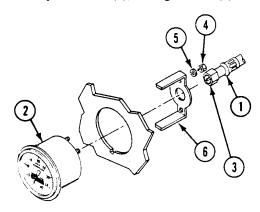
- 1. Disconnect speedometer cable (1) from rear of speedometer (2) by loosening nut (3).
- 2. Remove two nuts (4), lockwashers (5), and bracket (6) from rear of speedometer (2). Discard lockwashers.
- 3. Remove speedometer (2) from front of instrument panel.



0247 00

INSTALLATION

- 1. Install speedometer (2) in front of instrument panel.
- 2. Install bracket (6) on rear of speedometer (2) and secure with two new lockwashers (5) and nuts (4).
- 3. Connect speedometer cable (1) to rear of speedometer (2), and tighten nut (3).



FOLLOW-THROUGH STEPS

- 1. Road test carrier (WP 0120 00) to check for proper installation of speedometer.
- 2. Stop/shutdown engine (see your -10).

REPLACE SPEEDOMETER CABLE AND ADAPTER

0248 00

THIS WORK PACKAGE COVERS:

Removal (page 0248 00-1). Installation (page 0248 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Personnel Required
Unit Mechanic

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

References

WPI0120100

Materials/Parts

Gasket Grommet

Key washer (4) Lockwasher (2)

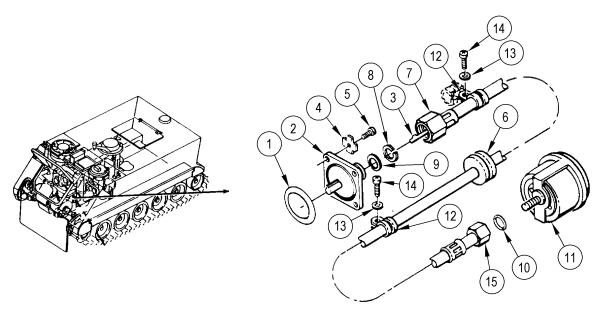
Preformed packing

Equipment Condition

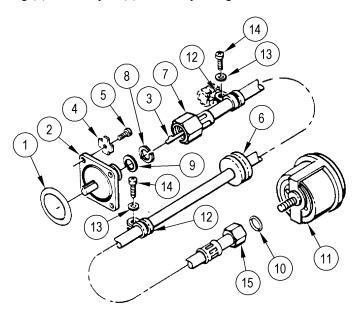
Engine stopped (see your -10) Carrier blocked (see your -10) Trim vane lowered (see your -10)

Power plant front door open (see your -10) Hull front access cover removed (WP 0429 00)

- 1. Remove two screws (14), lockwashers (13), and clamps (12) from bulkhead weldnut. Discard lockwashers.
- 2. Disconnect speedometer cable (7) from final drive adapter (2). Remove slotted washer (8) and flat washer (9).
- 3. Remove speedometer (11) from cable (15). Remove cable (15) from carrier with clamps (12) and grommet (6) attached.



- 4. Remove grommet (6) and gasket (10) from cable (15). Discard grommet and gasket.
- 5. Straighten four key washers (4). Remove four screws (5), key washers (4), and final drive adapter (2) from final drive. Discard key washers.
- 6. Remove preformed packing (1) from adapter (2). Discard packing.



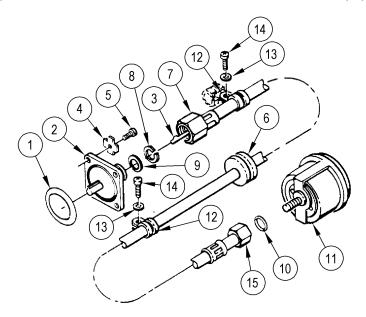
- 1. Place new preformed packing (1) on new final drive adapter (2).
- 2. Grease speedometer shaft (3) (WP 0120 00).
- 3. Place adapter (2) on final drive, and secure with four new key washers (4) and screws (5). Bend keys on washers.

NOTE

Remove clamps and install new cable.

- 4. Install new grommet (6) on new cable (7) and route cable through driver's compartment bulkhead.
- 5. Install grommet (6) in bulkhead.
- 6. Install slotted washer (8) and flat washer (9) on speedometer cable (7) and final drive adapter (2).
- 7. Install speedometer cable (15) with new gasket (10) on speedometer (11).

8. Align two clamps (12) with bulkhead weldnuts and secure with two new lockwashers (13) and screws (14).



FOLLOW-THROUGH STEPS

- 1. Install hull front access cover (WP 0429 00).
- 2. Close power plant front door (see your -10).
- 3. Raise trim vane (see your -10).

REPAIR SPEEDOMETER CABLE

0249 00

THIS WORK PACKAGE COVERS:

Disassembly (page 10249 100+1)... Assembly (page 10249 100+2)...

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cable core

Gasket

Personnel Required

Unit Mechanic

References

WPI0120100

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

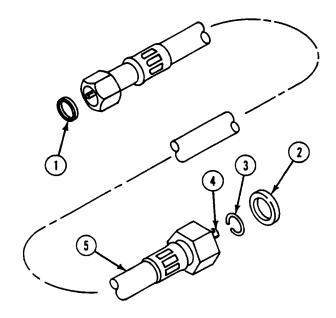
Power plant access door open (see your -10)

Hull front access cover removed (WP 0429 00)

Speedometer cable assembly removed (WP 0248 00)

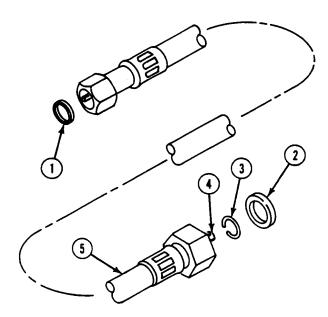
DISASSEMBLY

1. Remove gasket (1), flat washer (2), slotted washer (3), and cable core (4) from cable housing (5). Discard gasket and cable core.



ASSEMBLY

- 1. Coat cable core (4) with grease (WP 0120 00).
- 2. Push new cable core (4) into cable housing (5).
- 3. Install new gasket (1) and flat washer (2) in cable housing (5).
- 4. Install slotted washer (3) on cable core (4) at final drive adapter end.



FOLLOW-THROUGH STEPS

- 1. Install speedometer cable assembly (WP 0248 00).
- 2. Install hull front access cover (WP 0429 00).
- 3. Close power plant access door (see your -10).
- 4. Raise trim vane (see your -10).

REPLACE FUEL SELECT SWITCH TO GAUGE LEAD (M981 AND M1064 ONLY)

0250 00

THIS WORK PACKAGE COVERS:

Removal (page 0250 00-1). Inspection-Acceptance and Rejection Criteria (page 0250 00-1). Installation (page 0250 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

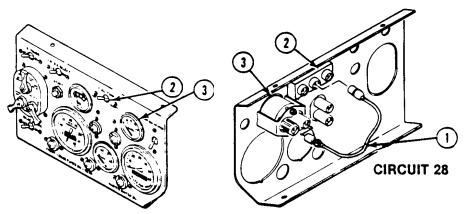
Unit Mechanic

Equipment Condition

Engine shutdown (see your -10)
Carrier blocked (see your -10)
Battery ground lead disconnected (WP 0294 00)
Instrument panel partially removed (WP 0238 00)

REMOVAL

- 1. Disconnect circuit 28 lead (1) from fuel select switch (2).
- 2. Disconnect circuit 28 lead (1) from fuel gauge (3). Remove lead.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

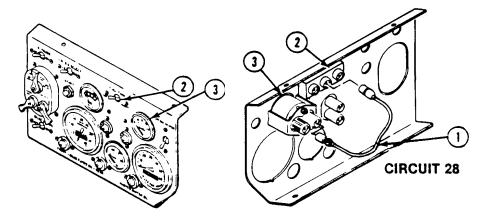
- 1. Check lead for continuity. Use multimeter. Replace bad lead.
- 2. Check lead and connectors. Look for worn or frayed lead and damaged connectors. Repair bad parts (see Chapter 14).

REPLACE FUEL SELECT SWITCH TO GAUGE LEAD (M981 AND M1064 ONLY) — Continued

0250 00

INSTALLATION

- 1. Connect circuit 28 lead (1) to fuel gauge (3).
- 2. Connect circuit 28 lead (1) to fuel select switch (2).



FOLLOW-THROUGH STEPS

- 1. Install instrument panel (WP 0238 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH or BATTERY SWITCH to ON (see your -10).
- 4. Look for fuel gauge movement to check for proper installation of fuel select switch to fuel gauge lead.
- 5. Turn MASTER SWITCH or BATTERY SWITCH to OFF (see your -10).

REPLACE WARNING PANEL LIGHTS

0251 00

THIS WORK PACKAGE COVERS:

Removal (page 0251 00-1). Clean, Inspect, and Repair (page 0251 00-2). Installation (page 0251 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Light bulbs, as needed Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

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

REMOVAL

NOTE

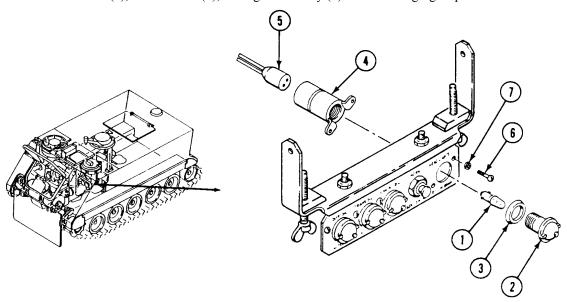
There are four lights on warning panel. Remove all lights the same way.

- 1. Remove light bulb (1).
 - a. Turn lens (2) counterclockwise. Remove lens and gasket (3) from light assembly (4).
 - b. Push in and turn light bulb (1) counterclockwise and remove bulb from light assembly (4).

NOTE

Do not disconnect more than one light at a time. Mark each lead to make sure you reconnect to correct contacts. See wiring diagrams at the end of this manual.

- 2. Remove light assembly (4).
 - a. Disconnect circuit lead (5) from light assembly (4).
 - b. Remove two screws (6), lockwashers (7), and light assembly (4) from warning lights panel. Discard lockwashers.



CLEAN, INSPECT, AND REPAIR

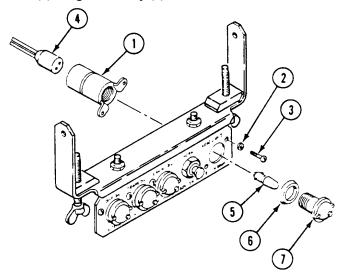
- 1. Check light bulb. Replace bad light bulb.
- 2. Check light assembly. Replace bad light assembly.

INSTALLATION

CAUTION

Make sure circuit leads are connected to correct lights. See wiring diagrams at the end of this manual.

- 1. Install light assembly (1).
 - a. Place light assembly (1) on rear of warning light panel. Secure with two new lockwashers (2) and screws (3).
 - b. Connect circuit lead (4) to light assembly (1).
- 2. Install light bulb (5).
 - a. Install light bulb (5) in light assembly (1). Push and turn light bulb clockwise to secure.
 - b. Install gasket (6) and lens (7) in light assembly (1). Turn lens clockwise to secure.



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Check differential oil high temperature warning light. It should be OFF. It will come on when you ground circuit 328 lead.
- 3. Check engine low oil pressure indicator. It should be ON.
- 4. Check transmission high oil temperature indicator. It should be OFF. It will come on when you ground circuit lead 327.
- 5. Turn MASTER SWITCH to OFF (see your -10).

REPLACE HORN SWITCH

0252 00

THIS WORK PACKAGE COVERS:

Removal (page 0252 00-1). Installation (page 0252 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Equipment Condition

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

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

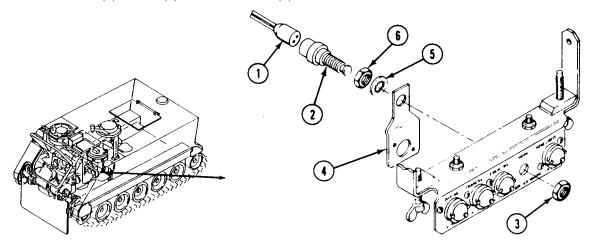
Unit Mechanic

REMOVAL

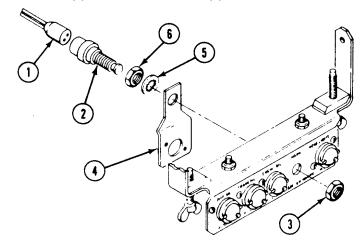
NOTE

Two nuts and lockwashers come with new switch.

- 1. Disconnect circuit 25/25A connector (1) from rear of horn switch (2).
- 2. Remove nut (3) and horn switch (2) from warning light panel.
- 3. Remove lockwasher (5) and nut (6) from horn switch (2). Discard lockwasher.



- 1. Install nut (6) and new lockwasher (5) on horn switch (2).
- 2. Install horn switch through rear of warning light panel. Secure with nut (3).
- 3. Connect circuit 25/25A connector (1) to rear of horn switch (2).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Press horn switch to check for proper installation (see your -10).
- 3. Turn MASTER SWITCH to OFF (see your -10).

REPLACE WARNING LIGHT PANEL ASSEMBLY

0253 00

THIS WORK PACKAGE COVERS:

Removal (page 0253 00-1). Installation (page 0253 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (2)

Personnel Required

Unit Mechanic

Equipment Condition

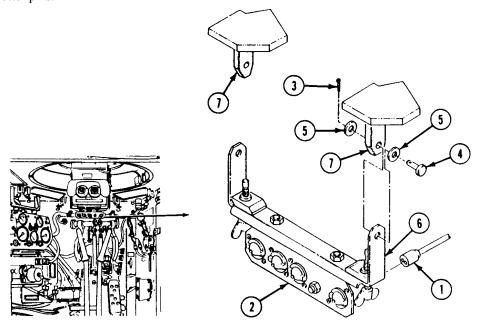
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Horn switch removed (WP 0252 00)

Warning panel lights removed (WP 0251 00)

- 1. Disconnect five connectors (1) from warning light panel (2).
- 2. Remove two cotter pins (3), straight pins (4), washers (5), and panel (2) with mount bracket (6) from hull mounts (7). Discard cotter pins.

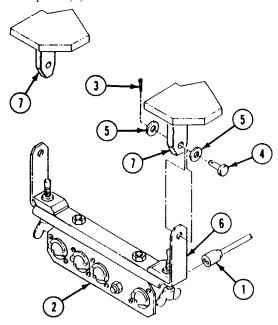


1. Position mount bracket (6) on hull mounts (7). Secure with two straight pins (4), washers (5), and new cotter pins (3).

NOTE

Be sure to connect leads to their correct lights. See wiring diagrams at the end of this manual.

2. Install five connectors (1) on rear of panel (2).



FOLLOW-THROUGH STEPS

- 1. Install horn switch (WP 0252 00).
- 2. Install warning panel lights (WP 0251 00).

REPLACE WARNING LIGHT PANEL

0254 00

THIS WORK PACKAGE COVERS:

Removal (page 0254 00-1). Installation (page 0254 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

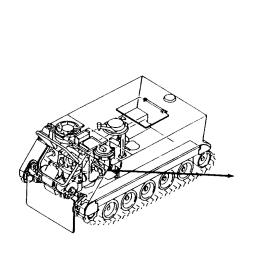
Carrier blocked (see your -10)

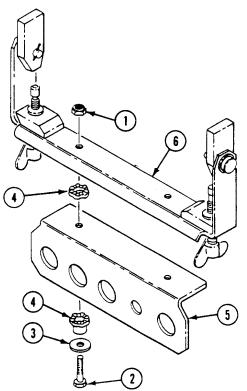
Panel warning lights removed (WP 0251 00)

Horn switch removed (WP 0252 00)

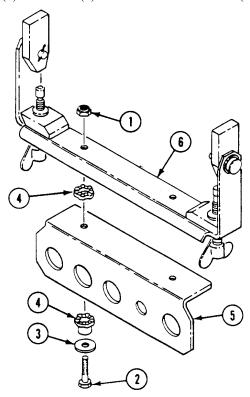
REMOVAL

1. Remove two locknuts (1), screws (2), washers (3), and four mounts (4) from panel (5) and bracket (6). Remove panel from bracket. Discard locknuts.





1. Install four mounts (4) and panel (5) on bracket (6). Secure with two washers (3), screws (2), and new locknuts (1).



FOLLOW-THROUGH STEPS

- 1. Install horn switch (WP 0252 00).
- 2. Install panel warning lights (WP 0251 00).

TM 9-2350-261-20-2

CHAPTER 12

UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM - HORN AND LIGHTING SYSTEM

WORK PACKAGE INDEX Title Sequence No. REPLACE BLACKOUT HEADLIGHT.......0260 00 REPLACE DISTRIBUTION BOX ASSEMBLY FOR 200 AMP GENERATOR SYSTEM REPLACE DISTRIBUTION BOX ASSEMBLY FOR 100 AMP GENERATOR SYSTEM REPLACE DISTRIBUTION BOX ASSEMBLY FOR 100 AMP GENERATOR SYSTEM REPLACE DISTRIBUTION BOX ASSEMBLY FOR 100 AMP GENERATOR SYSTEM REPLACE DISTRIBUTION BOX ASSEMBLY FOR 200 AMP GENERATOR SYSTEM REPLACE DISTRIBUTION BOX ASSEMBLY FOR 200 AMP GENERATOR SYSTEM REPLACE STOPLIGHT/TAILLIGHT AND GUARDS (M981 AND M1064 ONLY).......0272 00 REPLACE MASTER SWITCH PANEL LEAD ASSEMBLY TO DOME LIGHTS (M577A2 REPLACE REAR DOME LIGHT SWITCH (M577A2 AND M1068 ONLY)......0279 00 REPLACE TENT LIGHT ASSEMBLY (M577A2 ONLY).......0284 00

TM 9-2350-261-20-2

CHAPTER 12

UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM - HORN AND LIGHTING SYSTEM

WORK PACKAGE INDEX (Continued)

<u>Title</u>	Sequence No.
REPLACE HEADLIGHT HIGH BEAM SELECTOR SWITCH	0285 00
REPLACE RIGHT HEADLIGHT WIRING HARNESS	0286 00
REPLACE REAR MAIN WIRING HARNESS (M577A2 AND M1068 ONLY)	0287 00
REPLACE REAR MAIN WIRING HARNESS (M1064 ONLY)	0288 00
REPLACE REAR MAIN WIRING HARNESS (M113A2, M901A1, AND M1059 ONLY)	0289 00
REPLACE STOPLIGHT SWITCH AND BRACKET	0290 00
REPLACE TUBE TYPE INFRARED POWER SUPPLY	0291 00
REPLACE INFRARED POWER SUPPLY SHOCK MOUNT BRACKETS	0292 00
REPLACE SOLID STATE INFRARED POWER SUPPLY	0293 00

REPLACE HORN AND GROUND LEAD

0255 00

THIS WORK PACKAGE COVERS:

Removal (page 0255 00-1). Installation (page 0255 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (2)

Lockwasher

Locknut

Personnel Required

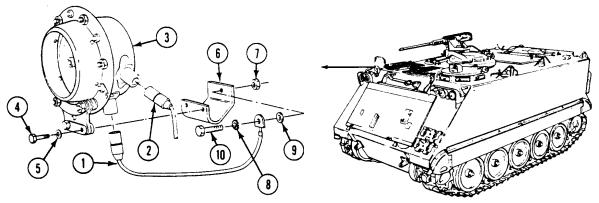
Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

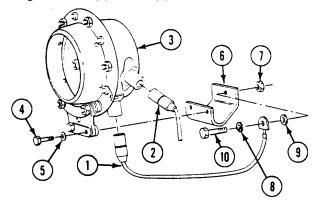
- 1. Disconnect ground lead (1) and circuit 25 lead (2) from horn (3).
- 2. Remove two screws (4), lockwashers (5), and horn (3) from hull bracket (6). Discard lockwashers.
- 3. Remove locknut (7), lockwasher (8), ground lead (1), washer (9), and screw (10) from bracket (6). Discard lockwasher and locknut.



0255 00

INSTALLATION

- 1. Install ground lead (1) on bracket (6). Secure with screw (10), washer (9), new lockwasher (8), and new locknut (7).
- 2. Install horn (3) on bracket (6). Secure with two new lockwashers (5) and screws (4).
- 3. Connect circuit 25 lead (2) and ground lead (1) to horn (3).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10). Press horn button to check that horn works.
- 2. Turn MASTER SWITCH to OFF (see your -10).

REPLACE SERVICE AND INFRARED HEADLIGHTS

0256 00

THIS WORK PACKAGE COVERS:

Removal (page 0256 00-1). Installation (page 0256 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

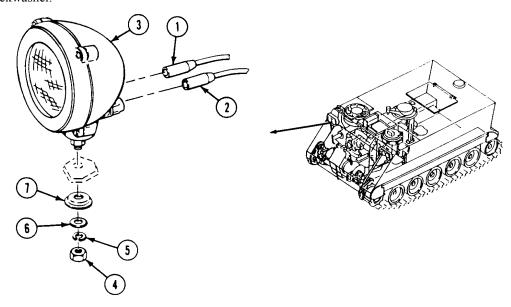
Carrier blocked (see your -10)

REMOVAL

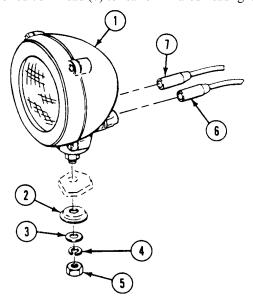
NOTE

Except for circuit leads, service headlight and infrared headlight are replaced the same way.

- 1. Disconnect circuit 17 lead (1) and circuit 18 lead (2) from rear of service headlight (3).
- 2. Disconnect circuit 514 lead (1) and circuit 515 lead (2) from rear of infrared headlight (3).
- 3. Remove nut (4), lockwasher (5), small bevel washer (6), large bevel washer (7), and headlight (3) from hull bracket. Discard lockwasher.



- Place headlight (1) and large bevel washer (2) on hull bracket. Secure with small bevel washer (3), new lockwasher (4), and nut (5).
- 2. Connect circuit 18 lead (6) and circuit 17 lead (7) to rear of service headlight (1).
- 3. Connect circuit 515 lead (6) and circuit 514 lead (7) to rear of infrared headlight (1).



FOLLOW-THROUGH STEPS

Turn MASTER SWITCH to ON (see your -10).





Looking directly at infrared headlights may burn your eyes. Do not look directly into infrared headlight.

- 2. Turn on service headlights to check that they work properly (see your -10).
- Turn infrared headlights on (see your -10) and hold hand near lens. Heat means headlight is working. 3.
- 4. Turn all switches OFF on instrument panel (see your -10).
- Turn MASTER SWITCH to OFF (see your -10). 5.

REPAIR SERVICE AND INFRARED HEADLIGHTS

0257 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0257 00-1). Clean, Inspect, and Repair (page 0257 00-2). Assembly (page 0257 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Lockwasher

Preformed packing

Preformed packing

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

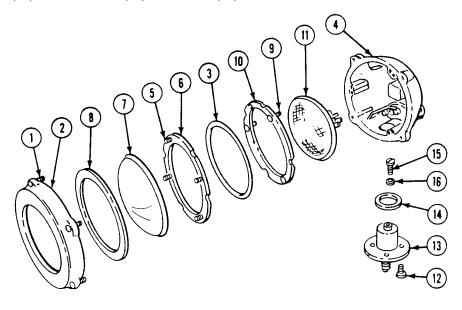
Service and/or infrared headlight removed (WP 0256 00)

DISASSEMBLY

NOTE

Repair of service headlight and infrared headlight is the same. Service headlight has clear lens and infrared headlight has dark red lens.

- 1. Loosen four screws (1). Remove door (2) and preformed packing (3) from headlight body (4). Discard packing.
- 2. Loosen four screws (5). Remove retainer plate (6), lens (7), and gasket (8) from door (2). Discard gasket.
- 3. Loosen three screws (9). Remove retainer plate (10) from body (4). Pull lamp unit (11) from body. Disconnect lamp unit from plug.
- 4. Remove four screws (12), resilient mount (13), and preformed packing (14) from body (4). Discard preformed packing.
- 5. Remove screw (15) and lockwasher (16) from mount (13). Discard lockwasher.



CLEAN, INSPECT, AND REPAIR

- 1. Check lens. Replace cracked or chipped lens.
- 2. Check lamp unit. See troubleshooting (WP 0031 00 or WP 0032 00). Replace bad lamp unit.
- 3. Check door, body, and retainer plates. Replace headlight if any part is missing or damaged (WP 0256 00).

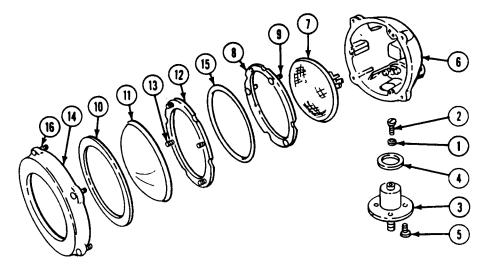
ASSEMBLY

1. Install new lockwasher (1) and screw (2) in mount (3).

CAUTION

Use care when tightening four mount screws (5). Do not overtighten. Overtightening the screws will strip the housing threads.

- 2. Install new preformed packing (4), mount (3), and four screws (5) in body (6).
- 3. Connect lamp unit (7) to plug in lamp body (6) with word FOG at the bottom.
- 4. Install lamp unit (7), retainer plate (8), and three screws (9) in body (6).
- 5. Install new gasket (10), lens (11), retainer plate (12), and four screws (13) in door (14).
- 6. Install new preformed packing (15), door (14), and four screws (16) on body (6).



FOLLOW-THROUGH STEPS

1. Install service and/or infrared headlight (WP 0256 00).

REPLACE BLACKOUT MARKER LIGHT

0258 00

THIS WORK PACKAGE COVERS:

Removal (page 0258 00-1). Installation (page 0258 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher Locknut

Personnel Required

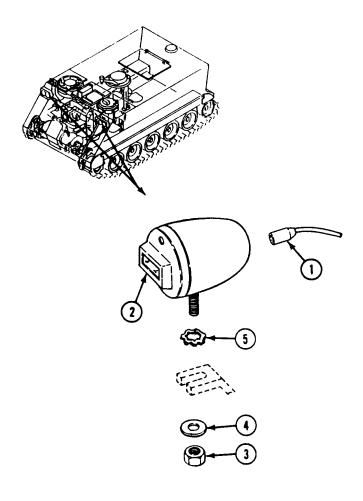
Unit Mechanic

Equipment Condition

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

REMOVAL

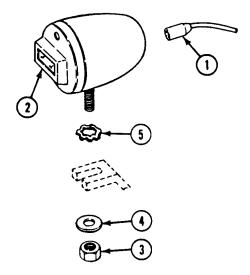
- 1. Disconnect circuit 20 lead (1) from rear of blackout marker light (2).
- 2. Remove locknut (3), washer (4), lockwasher (5), and marker light (2) from hull bracket. Discard lockwasher and locknut.



0258 00

INSTALLATION

- 1. Install blackout marker light (2), new lockwasher (5), washer (4), and new locknut (3) on hull bracket.
- 2. Connect circuit 20 lead (1) to rear of marker light (2).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Turn blackout marker light switch on to check that light is operable (see your -10).
- 3. Turn all switches OFF (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPAIR BLACKOUT MARKER LIGHT

0259 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0259 00-1). Clean, Inspect, and Repair (page 0259 00-1). Assembly (page 0259 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Light bulb, as needed

Personnel Required

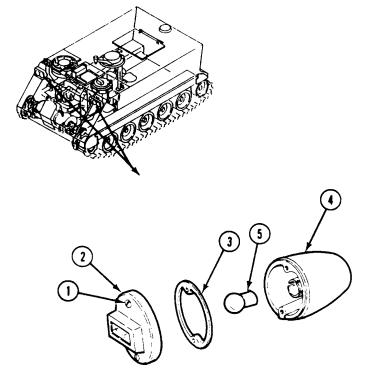
Unit Mechanic

Equipment Condition

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

DISASSEMBLY

- 1. Loosen two screws (1). Remove door (2) and gasket (3) from light body (4). Discard gasket.
- 2. Push in on bulb (5) and turn counterclockwise. Remove bulb from body (4).

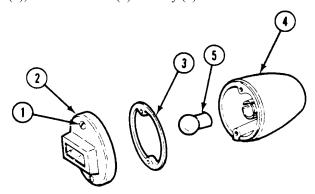


CLEAN, INSPECT, AND REPAIR

- 1. Check lens in door. Replace blackout marker door assembly if lens is cracked or chipped.
- 2. Check bulb. Use multimeter. Replace bad bulb.
- 3. Check body. Replace blackout marker light if any part is missing or damaged (WP 0258 00).

ASSEMBLY

- 1. Place bulb (5) in light body (4). Push in on bulb and turn clockwise to secure.
- 2. Install new gasket (3), door (2), and two screws (1) on body (4).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Turn blackout marker light switch ON to check that light operates properly (see your -10).
- 3. Turn all switches OFF on instrument panel (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE BLACKOUT HEADLIGHT

0260 00

THIS WORK PACKAGE COVERS:

Removal (page 0260 00-1). Clean, Inspect, and Repair (page 0260 00-1). Installation (page 0260 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher

Personnel Required

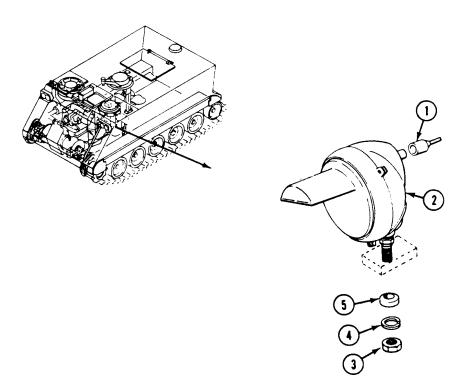
Unit Mechanic

Equipment Condition

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

REMOVAL

- 1. Disconnect circuit 19 lead (1) from rear of blackout headlight (2).
- 2. Remove nut (3), lockwasher (4), finishing washer (5), and blackout headlight (2) from hull bracket. Discard lockwasher.

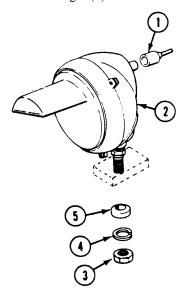


CLEAN, INSPECT, AND REPAIR

1. Check lead and connector. Replace frayed, broken, or cracked parts (WP 0312 00).

INSTALLATION

- 1. Install blackout headlight (2), finishing washer (5), new lockwasher (4), and nut (3) on hull bracket.
- 2. Connect circuit 19 lead (1) to rear of blackout headlight (2).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Turn blackout headlight switch ON to check that headlight operates properly (see your -10).
- 3. Turn all switches to OFF (see your -10).

REPAIR BLACKOUT HEADLIGHT

0261 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0261 00-1). Cleaning (page 0261 00-1). Assembly (page 0261 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lamp unit

Retaining clip (3)

Personnel Required

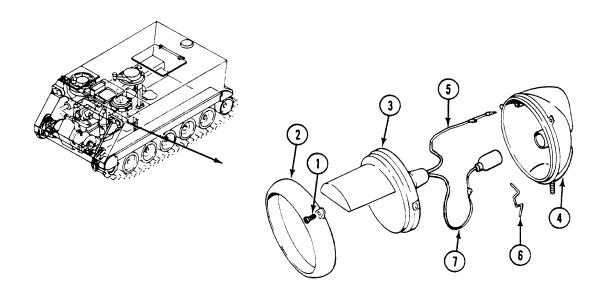
Unit Mechanic

Equipment Condition

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

DISASSEMBLY

- 1. Loosen three screws (1). Pull retainer (2) with lamp unit (3) away from light housing (4).
- 2. Disconnect ground lead (5) and positive lead (7) from housing (4).
- 3. Remove three retaining clips (6) and lamp unit (3) from retainer (2). Discard lamp unit and clips.

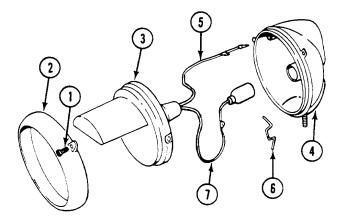


CLEANING

1. Check retainer and housing; replace blackout headlight if any part is missing or damaged (WP 0260 00).

ASSEMBLY

- 1. Install new lamp unit (3) in retainer (2). Secure with three new retaining clips (6).
- 2. Connect positive lead (7) and ground lead (5) to light housing (4).
- 3. Install retainer (2) with lamp unit (3) and three screws (1) on housing (4).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Turn blackout headlight switch ON to check that headlight operates properly (see your -10).
- 3. Turn all switches to OFF (see your -10).

REPLACE HEADLIGHT GUARD

0262 00

THIS WORK PACKAGE COVERS:

Removal (page 0262 00-1). Installation (page 0262 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (8)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

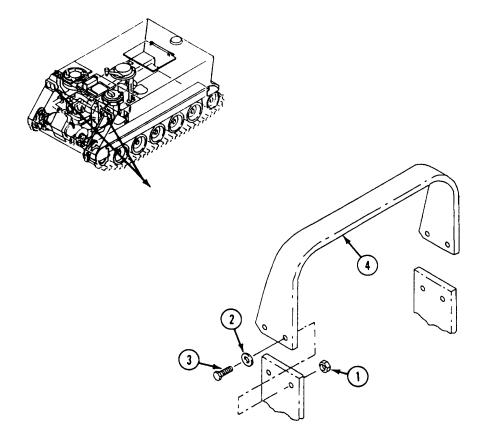
Carrier blocked (see your -10)

REMOVAL

NOTE

 $\label{lem:condition} Procedures \ for remove \ and \ line tall \ head \ light \ guard \ are \ the \ lisamel for \ right \ and \ left \ sides \ loft \ the \ carrier.$

1. Remove four locknuts (1), washers (2), screws (3), and headlight guard (4) from hull mount. Discard locknuts.



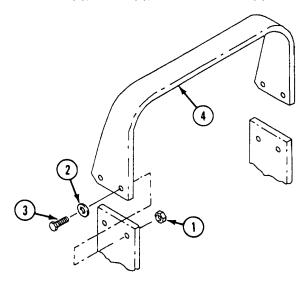
0262 00

INSTALLATION

NOTE

Procedures to remove and install headlight guard are the same for right and left sides of the carrier.

1. Install headlight guard (4), four washers (2), screws (3), and new locknuts (1) on hull mount.



REPLACE LEFT STOPLIGHT/TAILLIGHT

0263 00

THIS WORK PACKAGE COVERS:

Removal (page 0263 00-1). Installation (page 0263 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Lockwasher (6)

Personnel Required

Unit Mechanic

Equipment Condition

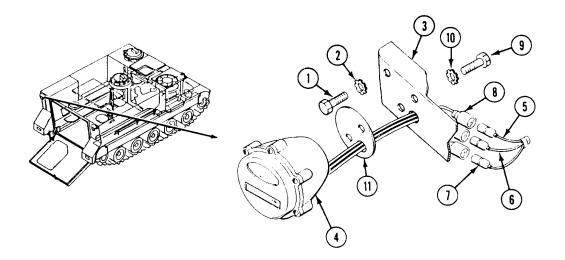
Engine stopped/shutdown (see your -10)

Battery ground lead disconnected (WP 0294 00)

Carrier blocked (see your -10)

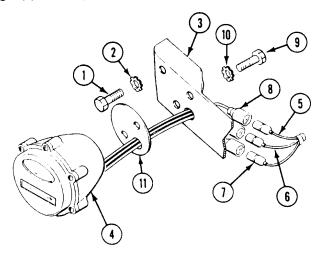
REMOVAL

- 1. Remove four screws (1) and lockwashers (2). Pull guard (3), with stoplight/taillight (4) attached, away from hull. Discard lockwashers.
- 2. Disconnect circuit 21 lead (5), circuit 22 lead (6), and circuit 24 lead (7) from taillight leads (8).
- 3. Remove two screws (9), lockwashers (10), taillight (4), and gasket (11) from guard (3). Discard gasket and lockwashers.



INSTALLATION

- 1. Place new gasket (11) and taillight (4) on guard (3). Secure with two new lockwashers (10) and screws (9).
- 2. Connect circuit 24 lead (7), circuit 22 lead (6), and circuit 21 lead (5) to taillight leads (8).
- 3. Place guard (3), with taillight (4) attached, on hull. Secure with four new lockwashers (2) and screws (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON. Operate main light switches to check that left stoplight/taillight is operable. Turn all switches OFF (see your -10).

REPAIR LEFT/RIGHT STOPLIGHT/TAILLIGHT

0264 00

THIS WORK PACKAGE COVERS:

Removal (page 0264 00-1). Clean, Inspect, and Repair (page 0264 00-1). Installation (page 0264 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Preformed packing

Personnel Required

Unit Mechanic

Equipment Condition

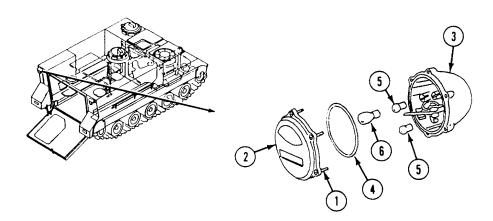
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

REMOVAL

- 1. Loosen six screws (1). Remove retainer (2) from light housing (3).
- 2. Remove preformed packing (4) from retainer (2). Discard packing.
- 3. Push in on two small bulbs (5) and one large bulb (6). Turn each bulb counterclockwise and remove from light housing (3).



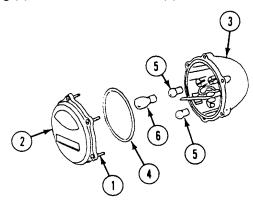
CLEAN, INSPECT, AND REPAIR

1. Check retainer and housing, replace stoplight/taillight if any part is missing or damaged (WP 0263 00 or WP 0265 00).

0264 00

INSTALLATION

- 1. Install two small bulbs (5) and one large bulb (6) in light housing (3). Push in and turn clockwise to secure.
- 2. Place new preformed packing (4) on retainer (2).
- 3. Place retainer (2) on light housing (3). Secure with six screws (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON. Operate main light switches to check that left stoplight/taillight is operable. Turn all switches OFF (see your -10).

REPLACE RIGHT STOPLIGHT/TAILLIGHT

0265 00

THIS WORK PACKAGE COVERS:

Removal (page 0265 00-1). Installation (page 0265 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

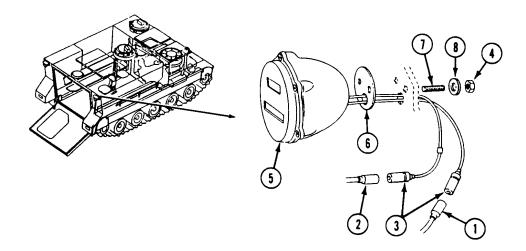
Engine stopped/shutdown (see your -10)

Battery ground lead disconnected (WP 0294 00)

Carrier blocked (see your -10)

REMOVAL

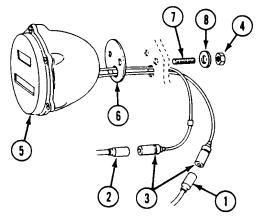
- 1. Disconnect circuit 23 lead (1) and circuit 24 lead (2) from stoplight/taillight leads (3).
- 2. Remove two nuts (4), two lockwashers (8), stoplight/taillight (5), and gasket (6) from carrier hull. Discard gasket and lockwashers.
- 3. If needed, remove two studs (7) from rear of stoplight/taillight (5).



0265 00

INSTALLATION

- 1. If removed, install two studs (7) in rear of stoplight/taillight (5).
- 2. Place new gasket (6) and stoplight/taillight (5) on carrier hull. Secure with two new lockwashers (8) and two nuts (4).
- 3. Connect circuit 24 lead (2) and circuit 23 lead (1) to stoplight/taillight leads (3).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON. Operate main light switches to check that left stoplight/taillight is operable. Turn all switches OFF (see your -10).

0266 00

THIS WORK PACKAGE COVERS:

Removal (page 0266 00-1). Installation (page 0266 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66)

Gasket

Grommet (9)

Lockwasher (5)

Lockwasher (5)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

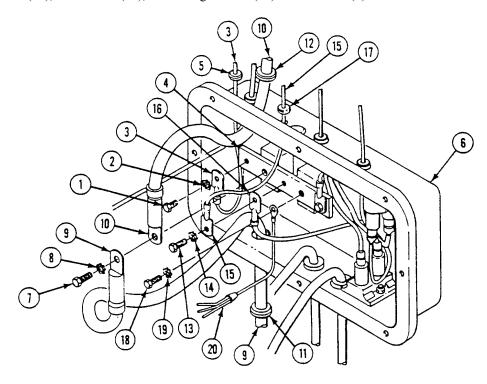
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Master switch panel assembly removed (WP 0224 00)

REMOVAL

- 1. Remove screw (1), lockwasher (2), and circuit 415 lead (3) from bus bar (4). Remove circuit 415 lead and grommet (5) from distribution box (6). Discard grommet and lockwasher.
- 2. Remove screw (7), lockwasher (8), circuit 6 lead (9), and circuit 49 lead (10) from bus bar (4). Remove circuit 6 lead, circuit 49 lead, and two grommets (11) and (12) from distribution box (6). Discard grommets and lockwasher.
- 3. Remove screw (13), lockwasher (14), circuit 10, 14, 15, and 27E lead (15), and circuit 450A lead (16) from bus bar (4). Remove circuit 10, 14, 15, and 27E lead and grommet (17) from distribution box (6). Discard grommet and lockwasher.
- 4. Remove screw (18), lockwasher (19), and wiring harness (20) from bus bar (4). Discard lockwasher.



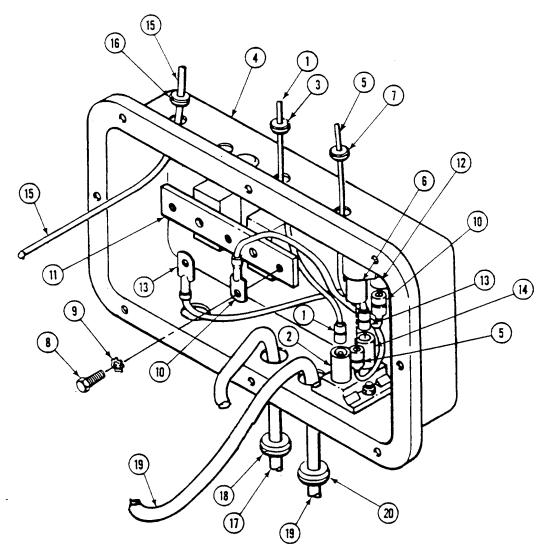
0266 00

- 5. Disconnect circuit 450 lead (1) from circuit breaker (2). Remove circuit 450 lead and grommet (3) from distribution box (4). Discard grommet.
- 6. Disconnect circuit 450B lead (5) from circuit breaker (6). Remove circuit 450B lead and grommet (7) from distribution box (4). Discard grommet.

NOTE

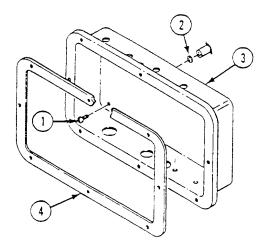
If bilge pump circuit breakers must be removed, see WP 0327 00 for removal. If bilge pump circuit breakers are not to be removed, go to Step 10.

- 7. Remove screw (8), lockwasher (9), and circuit 450C lead (10) from bus bar (11). Discard lockwasher.
- 8. Disconnect circuit 450C lead (10) from circuit breaker (12). Remove circuit 450C lead from distribution box (4).
- 9. Disconnect circuit 450A lead (13) from circuit breaker (14). Remove circuit 450A lead from distribution box (4).
- 10. Remove circuit 400 lead (15) and grommet (16) from distribution box (4). Discard grommet.
- 11. Remove circuit 2 lead (17) and grommet (18) from distribution box (4). Discard grommet.
- 12. Remove circuit 2A lead (19) and grommet (20) from distribution box (4). Discard grommet.



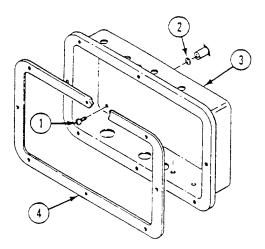
0266 00

- 13. Remove five screws (1), lockwashers (2), and distribution box (3) from hull. Discard lockwashers.
- 14. Remove gasket (4) from distribution box (3). Discard gasket.



INSTALLATION

1. Install distribution box (3) on hull. Secure with five new lockwashers (2) and screws (1). Retain new gasket (4) for later installation.



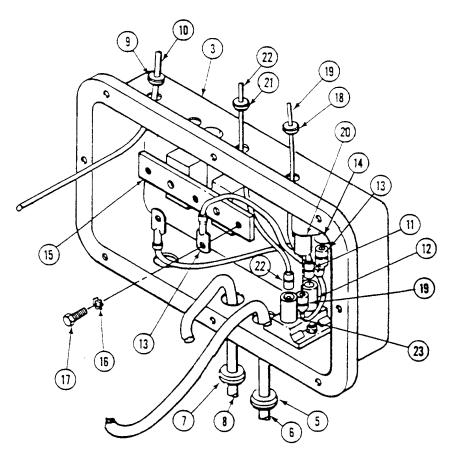
0266 00

- 2. Install new grommet (5) and circuit 2A lead (6) in distribution box (3).
- 3. Install new grommet (7) and circuit 2 lead (8) in distribution box (3).
- 4. Install new grommet (9) and circuit 400 lead (10) in distribution box (3).

NOTE

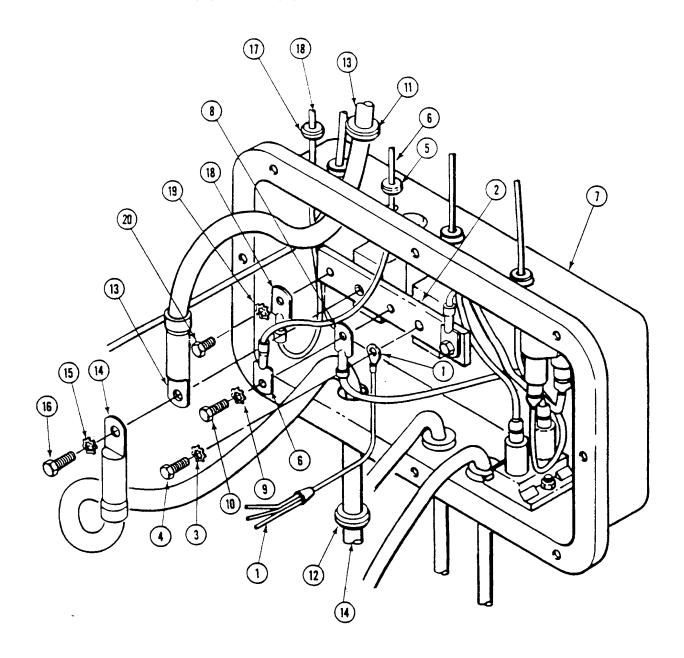
If bilge pump circuit breakers were removed, see WP 0327 00 for installation. If bilge pump circuit breakers were not removed, go to Step 8.

- 5. Connect circuit 450A lead (11) to circuit breaker (12).
- 6. Connect circuit 450C lead (13) to circuit breaker (14).
- 7. Install circuit 450C lead (13) on bus bar (15). Secure with new lockwasher (16) and screw (17).
- 8. Install new grommet (18) and circuit 450B lead (19) in distribution box (3). Connect circuit 450B lead to circuit breaker (20).
- 9. Install new grommet (21) and circuit 450 lead (22) in distribution box (3). Connect circuit 450 lead to circuit breaker (23).



0266 00

- 10. Install wiring harness (1) on bus bar (2). Secure with new lockwasher (3) and screw (4).
- 11. Install new grommet (5) and circuit 10, 14, 15, and 27E lead (6) in distribution box (7). Install circuit 10, 14, 15, and 27E lead (6) and circuit 450A lead (8) on bus bar (2). Secure with new lockwasher (9) and screw (10).
- 12. Install two new grommets (11) and (12), circuit 49 lead (13), and circuit 6 lead (14) in distribution box (7). Install circuit 49 lead (13) and circuit 6 lead (14) on bus bar (2). Secure with new lockwasher (15) and screw (16).
- 13. Install new grommet (17) and circuit 415 lead (18) in distribution box (7). Install circuit 415 lead (18) on bus bar (2). Secure with new lockwasher (19) and screw (20).



0266 00

WARNING

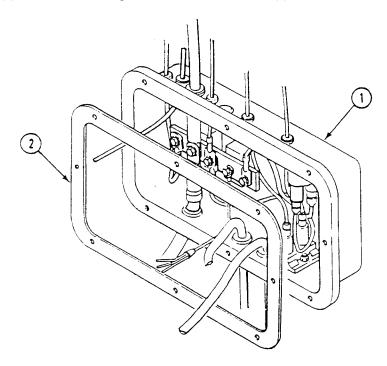




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 14. Apply one coat of adhesive to cleaned mounting surface of distribution box (1) and one side of new gasket (2).
- 15. Install new gasket (2) on coated mounting surface of distribution box (1).



FOLLOW-THROUGH STEPS

- 1. Install master switch panel (WP 0224 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Start engine (see your -10). Check that distribution box is operable.
- 4. Stop engine (see your -10).

0267 00

THIS WORK PACKAGE COVERS:

Removal (page 0267 00-1). Installation (page 0267 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66)

Gasket

Grommet (9)

Lockwasher (5)

Lockwasher (5)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

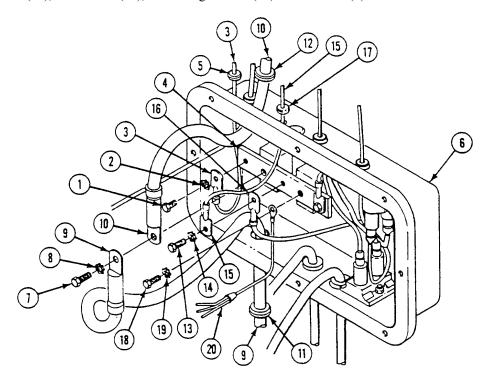
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Master switch panel assembly removed (WP 0224 00)

REMOVAL

- 1. Remove screw (1), lockwasher (2), and circuit 415 lead (3) from bus bar (4). Remove circuit 415 lead and grommet (5) from distribution box (6). Discard grommet and lockwasher.
- 2. Remove screw (7), lockwasher (8), circuit 6 lead (9), and circuit 49 lead (10) from bus bar (4). Remove circuit 6 lead, circuit 49 lead, and two grommets (11) and (12) from distribution box (6). Discard grommets and lockwasher.
- 3. Remove screw (13), lockwasher (14), circuit 10, 14, 15, and 27E lead (15), and circuit 450A lead (16) from bus bar (4). Remove circuit 10, 14, 15, and 27E lead and grommet (17) from distribution box (6). Discard grommet and lockwasher.
- 4. Remove screw (18), lockwasher (19), and wiring harness (20) from bus bar (4). Discard lockwasher.



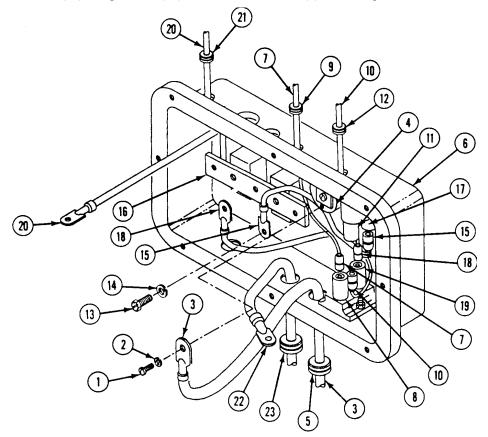
0267 00

- 5. Remove screw (1), lockwasher (2), and circuit 3 lead (3) from circuit breaker (4). Remove circuit 3 lead and grommet (5) from distribution box (6). Discard grommet and lockwasher.
- 6. Disconnect circuit 450 lead (7) from circuit breaker (8). Remove circuit 450 lead and grommet (9) from distribution box (6). Discard grommet.
- 7. Disconnect circuit 450B lead (10) from circuit breaker (11). Remove circuit 450B lead and grommet (12) from distribution box (6). Discard grommet.

NOTE

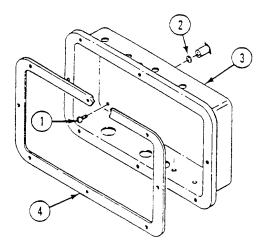
If bilge pump circuit breakers must be removed, see WP 0327 00 for removal. If bilge pump circuit breakers are not to be removed, go to Step 11.

- 8. Remove screw (13), lockwasher (14), and circuit 450C lead (15) from bus bar (16). Discard lockwasher.
- 9. Disconnect circuit 450C lead (15) from circuit breaker (17).
- 10. Disconnect circuit 450A lead (18) from circuit breaker (19).
- 11. Remove circuit 400 lead (20) and grommet (21) from distribution box (6). Discard grommet.
- 12. Remove circuit 2 lead (22) and grommet (23) from distribution box (6). Discard grommet.



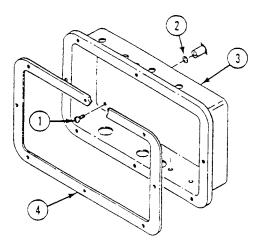
0267 00

- 13. Remove five screws (1), lockwashers (2), and distribution box (3) from hull. Discard lockwashers.
- 14. Remove gasket (4) from distribution box (3). Discard gasket.



INSTALLATION

1. Install distribution box (3) on hull. Secure with five new lockwashers (2) and screws (1).



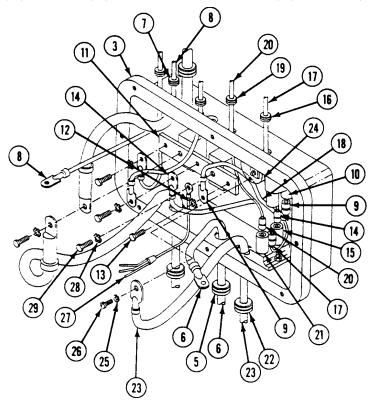
0267 00

- 2. Install new grommet (5) and circuit 2A lead (6) in distribution box (3).
- 3. Install new grommet (7) and circuit 2 lead (8) in distribution box (3).

NOTE

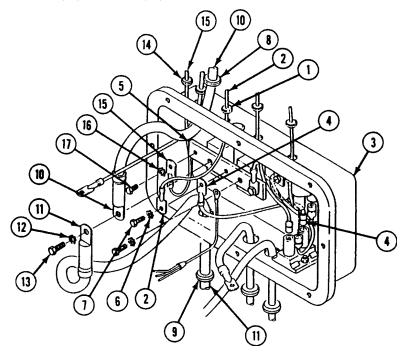
If bilge pump circuit breakers were removed, see WP 0327 00 for installation. If bilge pump circuit breakers were not removed, go to Step 7.

- 4. Connect circuit 450C lead (9) to circuit breaker (10).
- 5. Install circuit 450C lead (9) on bus bar (11). Secure with new lockwasher (12) and screw (13).
- 6. Connect circuit 450A lead (14) to circuit breaker (15).
- 7. Install new grommet (16) and circuit 450B lead (17) in distribution box (3). Connect circuit 450B lead to circuit breaker (18).
- 8. Install new grommet (19) and circuit 450 lead (20) in distribution box (3). Connect circuit 450 lead to circuit breaker (21).
- 9. Install new grommet (22) and circuit 3 lead (23) in distribution box (3). Install circuit 3 lead on circuit breaker (24). Secure with new lockwasher (25) and screw (26).
- 10. Install wiring harness (27) on bus bar (11). Secure with new lockwasher (28) and screw (29).



0267 00

- 11. Install new grommet (1) and circuit 10, 14, 15, and 27E lead (2) in distribution box (3). Install circuit 10, 14, 15, and 27E lead (2) and circuit 450A lead (4) on bus bar (5). Secure with new lockwasher (6) and screw (7).
- 12. Install two new grommets (8) and (9), circuit 49 lead (10), and circuit 6 lead (11) in distribution box (3). Install circuit 49 lead (10) and circuit 6 lead (11) on bus bar (5). Secure with new lockwasher (12) and screw (13).
- 13. Install new grommet (14) and circuit 415 lead (15) in distribution box (3). Install circuit 415 lead (15) on bus bar (5). Secure with new lockwasher (16) and screw (17).



0267 00

WARNING

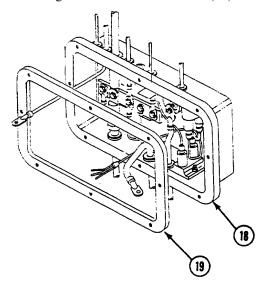




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 14. Apply one coat of adhesive to cleaned mounting surface of distribution box (18) and one side of new gasket (19).
- 15. Install new gasket (19) on coated mounting surface of distribution box (18).



FOLLOW-THROUGH STEPS

- 1. Install master switch panel (WP 0224 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Start engine (see your -10). Check that distribution box works properly.
- 4. Stop engine (see your -10).

0268 00

THIS WORK PACKAGE COVERS:

Removal (page 0268 00-1). Installation (page 0268 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66)

Gasket

Grommet (8)

Lockwasher (5)

Lockwasher (5)

Personnel Required

Unit Mechanic

Equipment Condition

Engine shutdown (see your -10)

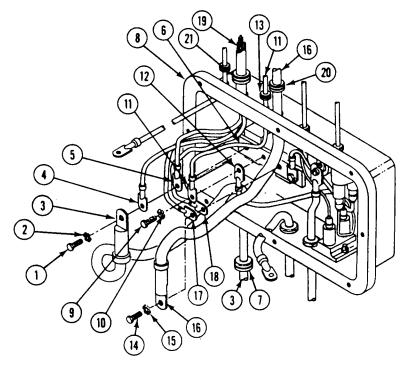
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Master switch panel assembly removed (WP 0222 00)

REMOVAL

- 1. Remove screw (1), lockwasher (2), circuit 6 lead (3), and cable assembly W8 leads (4) and (5) from bus bar (6). Remove circuit 6 lead (3) and grommet (7) from distribution box (8). Discard grommet and lockwasher.
- 2. Remove screw (9), lockwasher (10), circuit 10, 14, 15, and 27E lead (11), and circuit 450A lead (12) from bus bar (6). Remove circuit 10, 14, 15, and 27E lead (11) and grommet (13) from distribution box (8). Discard grommet and lockwasher.
- 3. Remove screw (14), lockwasher (15), circuit 49 lead (16), and cable assembly W8 leads (17) and (18) from bus bar (6). Remove circuit 49 lead (16), cable assembly W8 lead (19), and two grommets (20) and (21) from distribution box (8). Discard grommets and lockwasher.



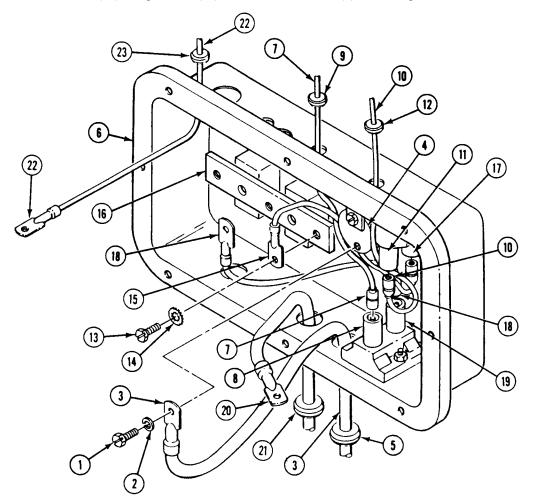
0268 00

- 4. Remove screw (1), lockwasher (2), and circuit 3 lead (3) from circuit breaker (4). Remove circuit 3 lead (3) and grommet (5) from distribution box (6). Discard grommet and lockwasher.
- 5. Remove circuit 450 lead (7) from circuit breaker (8). Remove circuit 450 lead (7) and grommet (9) from distribution box (6). Discard grommet.
- 6. Disconnect circuit 450B lead (10) from circuit breaker (11). Remove circuit 450B lead (10) and grommet (12) from distribution box (6). Discard grommet.

NOTE

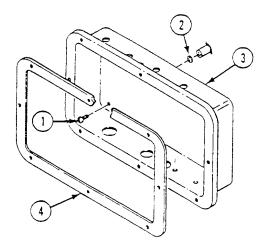
If bilge pump circuit breakers must be removed, see WP 0327 00 for removal. If bilge pump circuit breakers are not to be removed, go to Step 10.

- 7. Remove screw (13), lockwasher (14), and circuit 450C lead (15) from bus bar (16). Discard lockwasher.
- 8. Disconnect circuit 450C lead (15) from circuit breaker (17). Remove circuit 450C lead (15) from distribution box (6).
- 9. Disconnect circuit 450A lead (18) from circuit breaker (19). Remove circuit 450A lead (18) from distribution box (6).
- 10. Remove circuit 2 lead (20) and grommet (21) from distribution box (6). Discard grommet.
- 11. Remove circuit 400 lead (22) and grommet (23) from distribution box (6). Discard grommet.



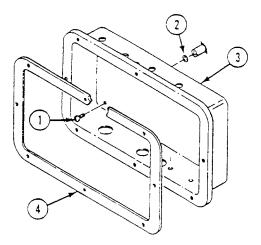
0268 00

- 12. Remove five screws (1), lockwashers (2), and distribution box (3) from hull. Discard lockwashers.
- 13. Remove gasket (4) from distribution box (3). Discard gasket.



INSTALLATION

1. Install distribution box (3) on hull. Secure with five screws (1) and new lockwashers (2).



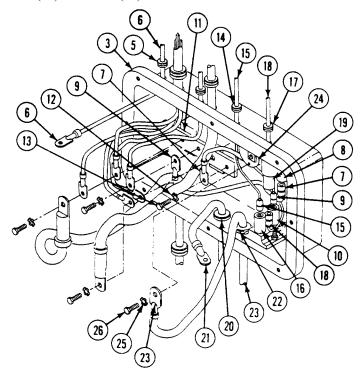
0268 00

2. Install new grommet (5) and circuit 400 lead (6) in distribution box (3).

NOTE

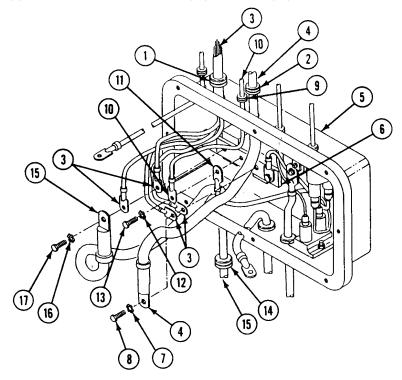
If bilge pump circuit breakers were removed, see WP 0327 00 for installation. If bilge pump circuit breakers were not removed, go to Step 6.

- 3. Connect circuit 450C lead (7) to circuit breaker (8).
- 4. Connect circuit 450A lead (9) to circuit breaker (10).
- 5. Install circuit 450C lead (7) on bus bar (11). Secure with new lockwasher (12) and screw (13).
- 6. Install grommet (14) and circuit 450 lead (15) in distribution box (3). Connect circuit 450 lead to circuit breaker (16).
- 7. Install new grommet (17) and circuit 450B lead (18) in distribution box (3). Connect circuit 450B lead to circuit breaker (19).
- 8. Install new grommet (20) and circuit 2 lead (21) in distribution box (3).
- 9. Install new grommet (22) and circuit 3 lead (23) in distribution box (3). Install circuit 3 lead on circuit breaker (24). Secure with new lockwasher (25) and screw (26).



0268 00

- 10. Install two new grommets (1) and (2), cable assembly W8 lead (3), and circuit 49 lead (4) in distribution box (5). Install circuit 49 lead and cable assembly W8 lead on bus bar (6). Secure with new lockwasher (7) and screw (8).
- 11. Install new grommet (9) and circuit 10, 14, 15, and 27E lead (10) in distribution box (5). Install circuit 10, 14, 15, and 27E lead and circuit 450A lead (11) on bus bar (6). Secure with new lockwasher (12) and screw (13).
- 12. Install new grommet (14) and circuit 6 lead (15) in distribution box (5). Install circuit 6 lead and cable assembly W8 leads (3) on bus bar (6). Secure with new lockwasher (16) and screw (17).



0268 00

WARNING

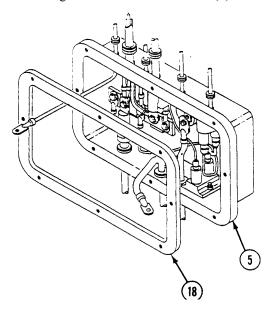




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 13. Apply one coat of adhesive to cleaned mounting surface of distribution box (5) and one side of new gasket (18).
- 14. Install new gasket (18) on coated mounting surface of distribution box (5).



FOLLOW-THROUGH STEPS

- 1. Install master switch panel (WP 0222 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Start engine (see your -10). Check that distribution box operates properly.
- 4. Shutdown engine (see your -10).

0269 00

THIS WORK PACKAGE COVERS:

Removal (page 0269 00-1). Installation (page 0269 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66)

Gasket

Grommet (8)

Lockwasher (6)

Lockwasher (5)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

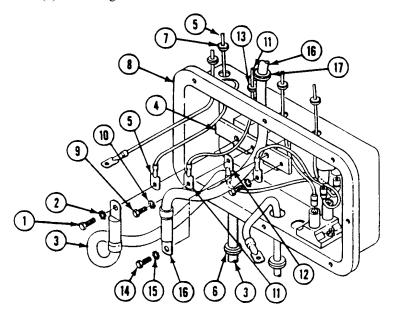
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Master switch panel assembly removed (WP 0222 00)

REMOVAL

- 1. For M113A2 and M1059 carriers, remove screw (1), lockwasher (2), circuit 6 lead (3), and circuit 6L lead (5) from bus bar (4). Remove circuit 6 lead, circuit 6L lead, and two grommets (6) and (7) from distribution box (8). Discard grommets and lockwasher.
- 2. For M1064 carriers, remove screw (1), lockwasher (2), and circuit 6 lead (3) from bus bar (4). Remove circuit 6 lead and grommet (6) from distribution box (8). Discard grommet and lockwasher.
- 3. Remove screw (9), lockwasher (10), circuit 10, 14, 15, and 27E lead (11), and circuit 450A lead (12) from bus bar (4). Remove circuit 10, 14, 15, and 27E lead and grommet (13) from distribution box (8). Discard grommet and lockwasher.
- 4. Remove screw (14), lockwasher (15), and circuit 49 lead (16) from bus bar (4). Remove circuit 49 lead and grommet (17) from distribution box (8). Discard grommet and lockwasher.

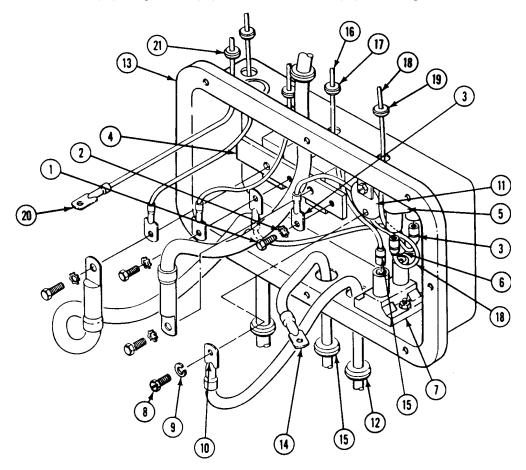


0269 00

NOTE

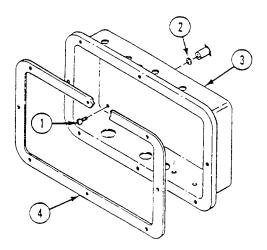
If bilge pump circuit breakers must be removed, see WP 0327 00 for removal. If bilge pump circuit breakers are not to be removed, go to Step 8.

- 5. Remove screw (1), lockwasher (2), and circuit 450C lead (3) from bus bar (4). Discard lockwasher.
- 6. Disconnect circuit 450C lead (3) from circuit breaker (5).
- 7. Remove circuit 450A lead (6) from circuit breaker (7).
- 8. Remove screw (8), lockwasher (9), and circuit 3 lead (10) from circuit breaker (11). Remove circuit 3 lead and grommet (12) from distribution box (13). Discard grommet and lockwasher.
- 9. Remove circuit 2 lead (14) and grommet (15) from distribution box (13). Discard grommet.
- 10. Remove circuit 450 lead (16) from circuit breaker (7). Remove circuit 450 lead and grommet (17) from distribution box (13). Discard grommet.
- 11. Disconnect circuit 450B lead (18) from circuit breaker (5). Remove circuit 450B lead and grommet (19) from distribution box (13). Discard grommet.
- 12. Remove circuit 400 lead (20) and grommet (21) from distribution box (13). Discard grommet.



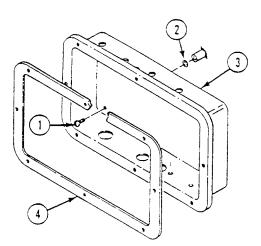
0269 00

- 13. Remove five screws (1), lockwashers (2), and distribution box (3) from hull. Discard lockwashers.
- 14. Remove gasket (4) from distribution box (3). Discard gasket.



INSTALLATION

1. Install distribution box (3) on hull. Secure with five screws (1) and new lockwashers (2).



0269 00

- 2. Install new grommet (5) and circuit 400 lead (6) in distribution box (3).
- 3. Install new grommet (7) and circuit 450B lead (8) in distribution box (3). Connect circuit 450B lead to circuit breaker (9).

NOTE

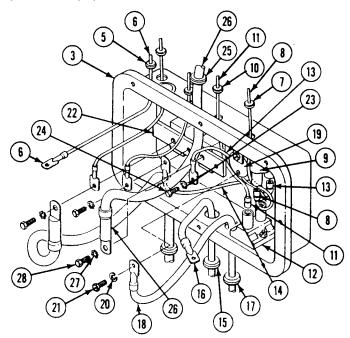
If bilge pump circuit breakers were removed, see WP 0327 00 for installation.

4. Install new grommet (10) and circuit 450 lead (11) in distribution box (3). Connect circuit 450 lead to circuit breaker (12).

NOTE

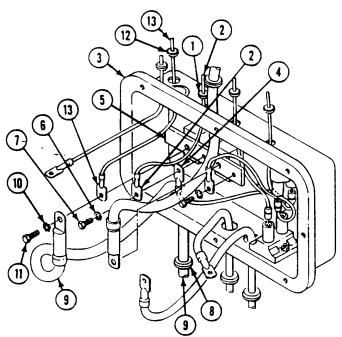
If bilge pump circuit breakers were not removed, go to Step 7.

- 5. Connect circuit 450C lead (13) to circuit breaker (9).
- 6. Connect circuit 450A lead (14) to circuit breaker (12).
- 7. Install new grommet (15) and circuit 2 lead (16) in distribution box (3).
- 8. Install new grommet (17) and circuit 3 lead (18) in distribution box (3). Install circuit 3 lead on circuit breaker (19). Secure with new lockwasher (20) and screw (21).
- 9. Install circuit 450C lead (13) on bus bar (22). Secure with new lockwasher (23) and screw (24).
- 10. Install new grommet (25) and circuit 49 lead (26) in distribution box (3). Install circuit 49 lead on bus bar (22). Secure with new lockwasher (27) and screw (28).



0269 00

- 11. Install new grommet (1) and circuit 10, 14, 15, and 27E lead (2) in distribution box (3). Install circuit 10, 14, 15, and 27E lead and circuit 450A lead (4) on bus bar (5). Secure with new lockwasher (6) and screw (7).
- 12. For M1064 carriers, install new grommet (8) and circuit 6 lead (9) in distribution box (3). Install circuit 6 lead on bus bar (5). Secure with new lockwasher (10) and screw (11).
- 13. For M113A2 and M1059 carriers, install two new grommets (8) and (12), circuit 6 lead (9), and circuit 6L lead (13) in distribution box (3). Install circuit 6 lead and circuit 6L lead on bus bar (5). Secure with new lockwasher (10) and screw (11).



0269 00

WARNING

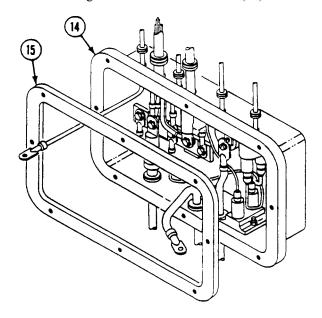




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 14. Apply one coat of adhesive to cleaned mounting surface of distribution box (14) and one side of new gasket (15).
- 15. Install new gasket (15) on coated mounting surface of distribution box (14).



FOLLOW-THROUGH STEPS

- 1. Install master switch panel assembly (WP 0222 00).
- 2. Connect battery ground strap (WP 0294 00).
- 3. Start engine (see your -10). Check that distribution box operates properly.
- 4. Stop engine (see your -10).

0270 00

THIS WORK PACKAGE COVERS:

Removal (page 0270 00-1). Installation (page 0270 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66)

Gasket

Grommet (8)

Lockwasher (6)

Lockwasher (5)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

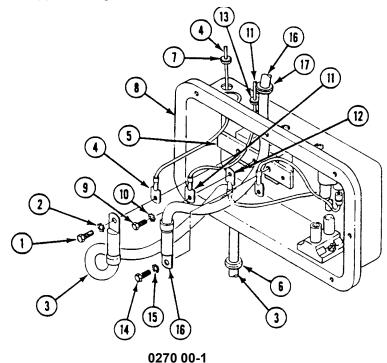
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Master switch panel assembly removed (WP 0222 00)

REMOVAL

- 1. For M113A2 carrier, remove screw (1), lockwasher (2), circuit 6 lead (3), and circuit 6L lead (4) from bus bar (5). Remove circuit 6 lead, circuit 6L lead, and two grommets (6) and (7) from distribution box (8). Discard grommets and lockwasher.
- 2. For M1064 carrier, remove screw (1), lockwasher (2) and circuit 6 lead (3) from bus bar (5). Remove circuit 6 lead and grommet (6) from distribution box (8). Discard grommet and lockwasher.
- 3. Remove screw (9), lockwasher (10), circuit 10, 14, 15, and 27E lead (11), and circuit 450A lead (12) from bus bar (5). Remove circuit 10, 14, 15, and 27E lead and grommet (13) from distribution box (8). Discard grommet and lockwasher.
- 4. Remove screw (14), lockwasher (15), and circuit 49 lead (16) from bus bar (5). Remove circuit 49 lead and grommet (17) from distribution box (8). Discard grommet and lockwasher.

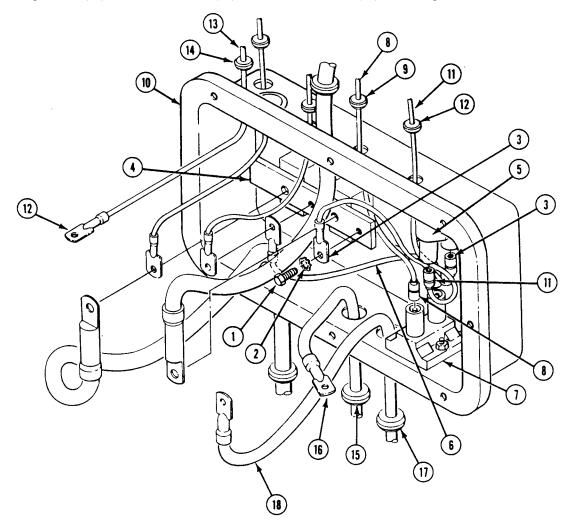


0270 00

NOTE

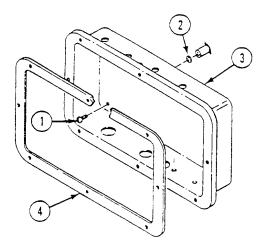
If bilge pump circuit breakers must be removed, see WP 0327 00 for removal. If bilge pump circuit breakers are not to be removed, go to Step 8.

- 5. Remove screw (1), lockwasher (2), and circuit 450C lead (3) from bus bar (4). Discard lockwasher.
- 6. Disconnect circuit 450C lead (3) from circuit breaker (5).
- 7. Remove circuit 450A lead (6) from circuit breaker (7).
- 8. Remove circuit 450 lead (8) from circuit breaker (7). Remove circuit 450 lead and grommet (9) from distribution box (10). Discard grommet.
- 9. Disconnect circuit 450B lead (11) from circuit breaker (5). Remove circuit 450B lead and grommet (12) from distribution box (10). Discard grommet.
- 10. Remove circuit 400 lead (13) and grommet (14) from distribution box (10). Discard grommet.
- 11. Remove grommet (15) and circuit 2 lead (16) from distribution box (10). Discard grommet.
- 12. Remove grommet (17) and circuit 2A lead (18) from distribution box (10). Discard grommet.



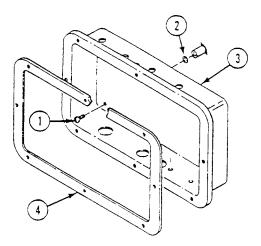
0270 00

- 13. Remove five screws (1), lockwashers (2), and distribution box (3) from hull. Discard lockwashers.
- 14. Remove gasket (4) from distribution box (3). Discard gasket.



INSTALLATION

1. Install distribution box (3) on hull. Secure with five screws (1) and new lockwashers (2).



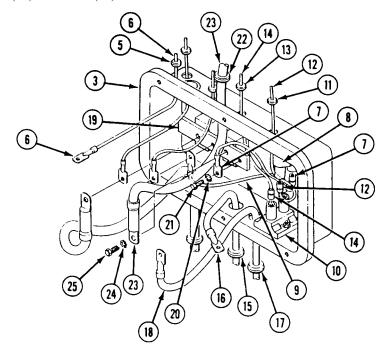
0270 00

2. Install new grommet (5) and circuit 400 lead (6) in distribution box (3).

NOTE

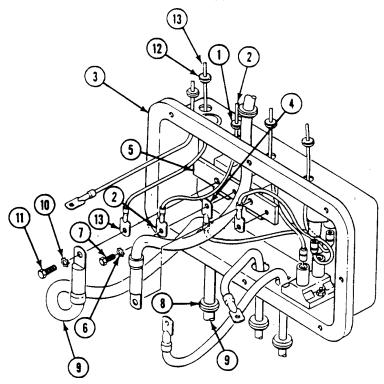
If bilge pump circuit breakers were removed, see WP 0327 00 for installation. If bilge pump circuit breakers were not removed, go to Step 5.

- 3. Connect circuit 450C lead (7) to circuit breaker (8).
- 4. Connect circuit 450A lead (9) to circuit breaker (10).
- 5. Install new grommet (11) and circuit 450B lead (12) in distribution box (3). Connect circuit 450B lead to circuit breaker (8).
- 6. Install grommet (13) and circuit 450 lead (14) in distribution box (3). Connect circuit 450 lead to circuit breaker (10).
- 7. Install new grommet (15) and circuit 2 lead (16) in distribution box (3).
- 8. Install new grommet (17) and circuit 2A lead (18) in distribution box (3).
- 9. Install circuit 450C lead (7) on bus bar (19). Secure with new lockwasher (20) and screw (21).
- 10. Install new grommet (22) and circuit 49 lead (23) in distribution box (3). Install circuit 49 lead on bus bar (19). Secure with new lockwasher (24) and screw (25).



0270 00

- 11. Install new grommet (1) and circuit 10, 14, 15, and 27E lead (2) in distribution box (3). Install circuit 10, 14, 15, and 27E lead and circuit 450A lead (4) on bus bar (5). Secure with new lockwasher (6) and screw (7).
- 12. For M1064 carrier, install new grommet (8) and circuit 6 lead (9) in distribution box (3). Install circuit 6 lead on bus bar (5). Secure with new lockwasher (10) and screw (11).
- 13. For M113A2 carrier, install two new grommets (8) and (12), circuit 6 lead (9), and circuit 6L lead (13) in distribution box (3). Install circuit 6 lead and circuit 6L lead on bus bar (5). Secure with new lockwasher (10) and screw (11).



0270 00

WARNING

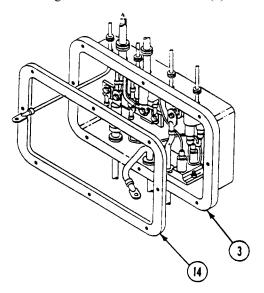




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 14. Apply one coat of adhesive to cleaned mounting surface of distribution box (3) and one side of new gasket (14).
- 15. Install new gasket (14) on coated mounting surface of distribution box (3).



FOLLOW-THROUGH STEPS

- 1. Install master switch panel assembly (WP 0222 00).
- 2. Connect battery ground strap (WP 0294 00).
- 3. Start engine (see your -10). Check that distribution box operates properly.
- 4. Stop engine (see your -10).

0271 00

THIS WORK PACKAGE COVERS:

Removal (page 0271 00-1). Installation (page 0271 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66)

Gasket

Grommet (8)

Lockwasher (4)

Lockwasher (5)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

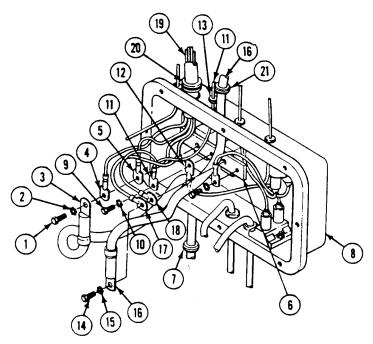
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Master switch panel assembly removed (WP 0222 00)

REMOVAL

- 1. Remove screw (1), lockwasher (2), circuit 6 lead (3), and cable assembly W8 leads (4) and (5) from bus bar (6). Remove circuit 6 lead and grommet (7) from distribution box (8). Discard grommet and lockwasher.
- 2. Remove screw (9), lockwasher (10), circuit 10, 14, 15, and 27E lead (11), and circuit 450A lead (12) from bus bar (6). Remove circuit 10, 14, 15, and 27E lead and grommet (13) from distribution box (8). Discard grommet and lockwasher.
- 3. Remove screw (14), lockwasher (15), circuit 49 lead (16), and cable assembly W8 leads (17) and (18) from bus bar (6). Remove circuit 49 lead, cable assembly W8 lead (19), and two grommets (20) and (21) from distribution box (8). Discard grommets and lockwasher.



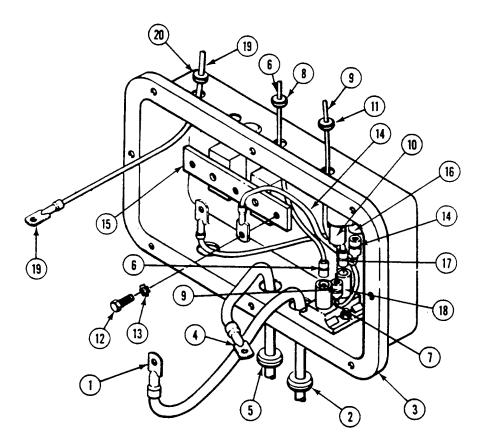
0271 00

- 4. Remove circuit 2A lead (1) and grommet (2) from distribution box (3). Discard grommet.
- 5. Remove circuit 2 lead (4) and grommet (5) from distribution box (3). Discard grommet.
- 6. Disconnect circuit 450 lead (6) from circuit breaker (7). Remove circuit 450 lead and grommet (8) from distribution box (3). Discard grommet.
- 7. Disconnect circuit 450B lead (9) from circuit breaker (10). Remove circuit 450B lead and grommet (11) from distribution box (3). Discard grommet.

NOTE

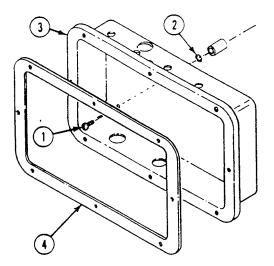
If bilge pump circuit breakers are to be removed, see WP 0327 00 for removal. If the bilge pump circuit breakers are not to be removed, go to Step 11.

- 8. Remove screw (12), lockwasher (13), and circuit 450C lead (14) from bus bar (15). Discard lockwasher.
- 9. Disconnect circuit 450C lead (14) from circuit breaker (16). Remove circuit 450C lead from distribution box (3).
- 10. Disconnect circuit 450A lead (17) from circuit breaker (18). Remove circuit 450A lead from distribution box (3).
- 11. Remove circuit 400 lead (19) and grommet (20) from distribution box (3). Discard grommet.



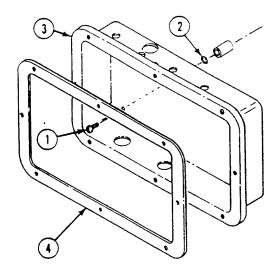
0271 00

- 12. Remove five screws (1), lockwashers (2), and distribution box (3) from hull. Discard lockwashers.
- 13. Remove gasket (4) from distribution box (3). Discard gasket.



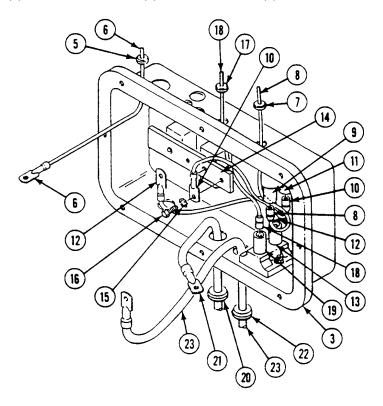
INSTALLATION

1. Install distribution box (3) on hull. Secure with five screws (1) and new lockwashers (2).



0271 00

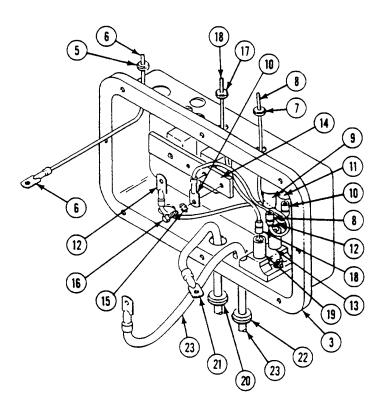
- 2. Install new grommet (5) and circuit 400 lead (6) in distribution box (3).
- 3. Install new grommet (7) and circuit 450B lead (8) in distribution box (3). Connect circuit 450B lead to circuit breaker (9).



NOTE

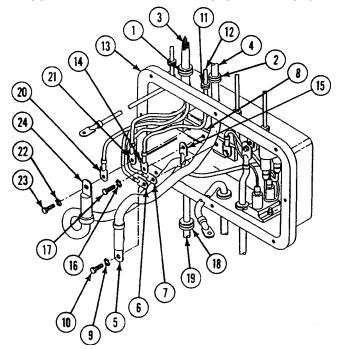
If bilge pump circuit breakers were removed, see WP 0327 00 for installation. If the bilge pump circuit breakers were not removed, go to Step 7.

- 4. Connect circuit 450C lead (10) to circuit breaker (11).
- 5. Connect circuit 450A lead (12) to circuit breaker (13).
- 6. Install 450C lead (10) on bus bar (14). Secure with new lockwasher (15) and screw (16).
- 7. Install new grommet (17) and circuit 450 lead (18) in distribution box (3). Connect circuit 450 lead to circuit breaker (19)
- 8. Install new grommet (20) and circuit 2 lead (21) in distribution box (3).
- 9. Install new grommet (22) and circuit 2A lead (23) in distribution box (3).



0271 00

- 10. Install two new grommets (1) and (2), cable assembly W8 lead (3), and circuit 49 lead (4). Install circuit 49 lead (5) and cable assembly W8 leads (6) and (7) on bus bar (8). Secure with new lockwasher (9) and screw (10).
- 11. Install new grommet (11) and circuit 10, 14, 15, and 27E lead (12) in distribution box (13). Install circuit 10, 14, 15, and 27E lead (14) and circuit 450A lead (15) on bus bar (8). Secure with new lockwasher (16) and screw (17).
- 12. Install new grommet (18) and circuit 6 lead (24) in distribution box (13). Install circuit 6 lead and cable assembly W8 leads (20) and (21) on bus bar (8). Secure with new lockwasher (22) and screw (23).



0271 00

WARNING

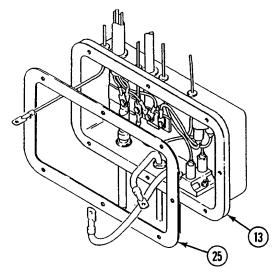




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 13. Apply one coat of adhesive to cleaned mounting surface of distribution box (13) and to one side of new gasket (25).
- 14. Install new gasket (25) on coated mounting surface of distribution box (13).



FOLLOW-THROUGH STEPS

- 1. Install master switch panel (WP 0222 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Start engine (see your -10). Check that distribution box works properly (see your -10).
- 4. Shutdown engine (see your -10).

REPLACE STOPLIGHT/TAILLIGHT AND GUARDS (M981 AND M1064 ONLY)

0272 00

THIS WORK PACKAGE COVERS:

Removal (page 0272 00-1). Installation (page 0272 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Lockwasher (8)

Lockwasher (6)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

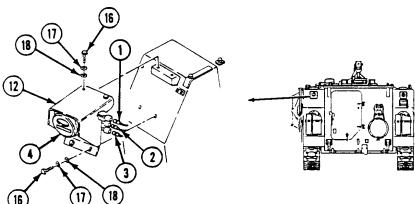
REMOVAL

NOTE

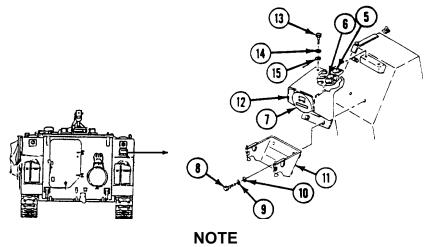
Except for number of circuit leads and cable reel holder assembly (M1064), left and right stoplight/taillights and guards are removed and installed the same way.

Leads must be tagged so you will know how to install them.

1. On left stoplight/taillight, disconnect circuit 21 lead (1), circuit 22 lead (2), and circuit 24 lead (3) from stoplight/taillight (4).

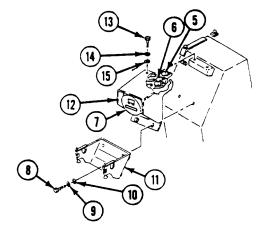


2. On right stoplight/taillight, disconnect circuit 24 lead (5) and circuit 23 lead (6) from stoplight/taillight (7).

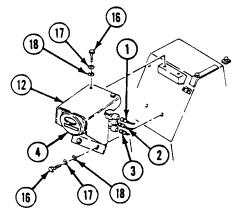


Do Step 3 for M1064 or Step 4 for M981.

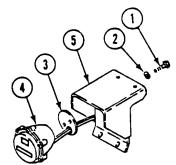
- 3. Remove two screws (8), lockwashers (9), washers (10), and holder assembly (11) from right external fuel tank and guard (12). Discard lockwashers.
- 4. Remove two screws (8), lockwashers (9), and washers (10) from right external fuel tank and guard (12). Discard lockwashers.
- 5. Remove two screws (13), lockwashers (14), washers (15), and guard (12) with stoplight/taillight (7) from right external fuel tank. Discard lockwashers.



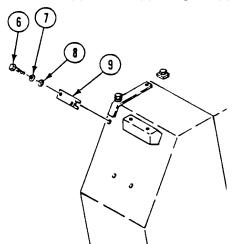
6. Remove four screws (16), lockwashers (17), washers (18), and guard (12) with stoplight/taillight (4) from left external fuel tank. Discard lockwashers.



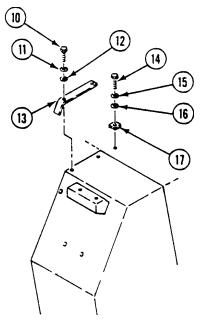
7. Remove two screws (1), lockwashers (2), gasket (3), and stoplight/taillight (4) from guard (5). Discard lockwashers and gasket.



8. If needed, remove two screws (6), lockwashers (7), washers (8), and guard (9) from fuel tank.

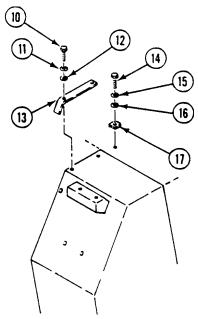


- 9. If needed, remove two screws (10), lockwashers (11), and washers (12), and bracket (13) from fuel tank. Discard lockwashers.
- 10. If needed, remove screw (14), lockwasher (15), washer (16), and guard (17) from carrier top deck. Discard lockwasher.

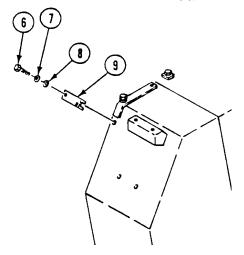


INSTALLATION

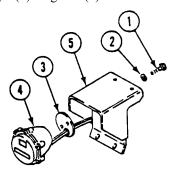
- 1. If removed, place guard (17) on top deck. Secure with washer (16), new lockwasher (15), and screw (14).
- 2. If removed, place bracket (13) on fuel tank. Secure with two washers (12), new lockwashers (11), and screws (10).



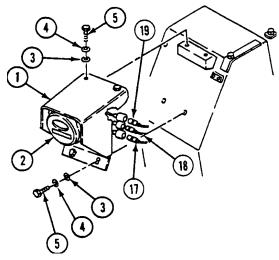
3. If removed, place guard (9) on fuel tank. Secure with two washers (8), new lockwashers (7), and screws (6).



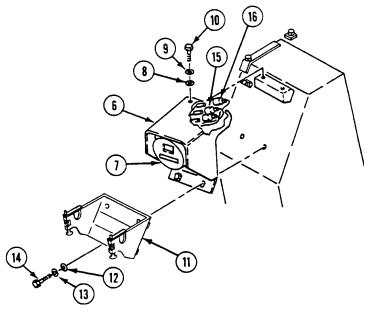
4. Place new gasket (3) and stoplight/taillight (4) on guard (5). Secure with two new lockwashers (2) and screws (1).



5. Place guard (1) with stoplight/taillight (2) on left fuel tank. Secure with four washers (3), new lockwashers (4), and screws (5).



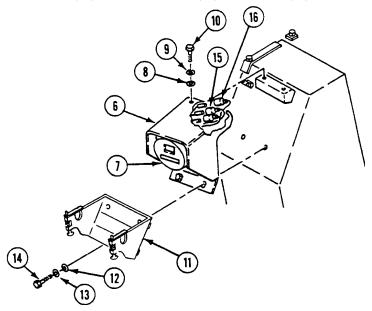
6. Place guard (6) with stoplight/taillight (7) on right fuel tank. Secure with two washers (8), new lockwashers (9), and screws (10).



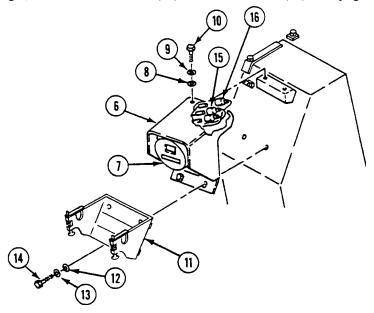
NOTE

Do Step 7 for M1064 or Step 8 for M981.

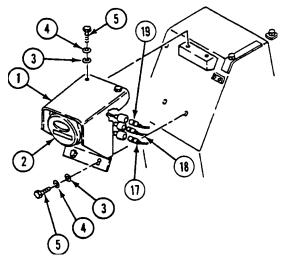
- 7. Place holder assembly (11) on right fuel tank. Secure holder assembly and guard (6) with two washers (12), new lockwashers (13), and screws (14).
- 8. Secure guard (6) with two washers (12), new lockwashers (13), and screws (14).



9. On right stoplight/taillight, connect circuit 23 lead (15) and circuit 24 lead (16) to stoplight/taillight (7).



10. On left stoplight/taillight, connect circuit 24 lead (17), circuit 22 lead (18) and circuit 21 lead (19) to stoplight/taillight (2).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Operate main light switches to check that left and right stoplight/taillights are operable (see your -10).
- 3. Turn all switches OFF (see your -10).

REPLACE DOME LIGHT (ALL EXCEPT M577A2 AND M1068)

0273 00

THIS WORK PACKAGE COVERS:

Removal (page 0273 00-1). Installation (page 0273 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (4)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

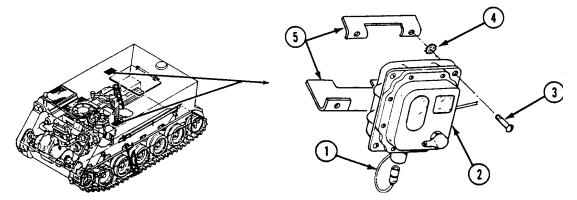
Battery ground lead disconnected (WP 0294 00)

REMOVAL

NOTE

Remove and install all dome lights the same way.

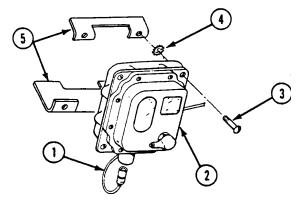
- 1. Disconnect circuit 38 lead (1) from rear of dome light (2).
- 2. Remove four screws (3), lockwashers (4), and dome light (2) from two mount brackets (5). Discard lockwashers.



0273 00

INSTALLATION

- 1. Place dome light (2) on two mount brackets (5). Slide four new lockwashers (4), one at a time, between dome light and mount bracket (5) and secure with screws (3).
- 2. Connect circuit 38 lead (1) to rear of dome light (2).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Check that dome light operates properly (see your -10).
- 4. Turn all switches OFF (see your -10).

REPAIR DOME LIGHT (ALL EXCEPT M577A2 AND M1068)

0274 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0274 00-1). Clean, Inspect, and Repair (page 0274 00-2). Assembly (page 0274 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher

Seal

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

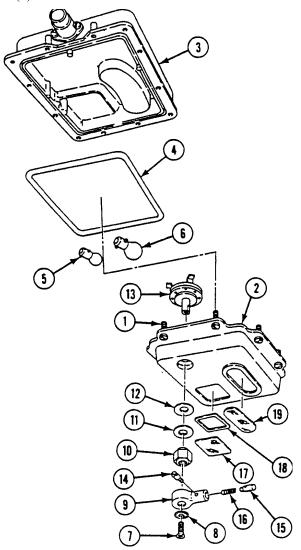
Carrier blocked (see your -10) Dome light removed (WP 0273 00)

DISASSEMBLY

NOTE

If dome light retainer mounting screw separates from retainer, replace retaining clip.

- 1. Remove eight screws (1) and retainer (2) from dome light body (3).
- 2. Remove seal (4) from retainer (2). Discard seal.
- 3. Push in on light bulb (5) and blackout bulb (6), and turn counterclockwise. Remove two bulbs.
- 4. Remove screw (7), lockwasher (8), and knob (9) from retainer (2). Discard lockwasher.
- 5. Remove nut (10), washer (11), gasket (12), and switch (13) from retainer (2).
- 6. Remove setscrew (14), plunger (15), and plunger (16) from knob (9).
- 7. Remove lens (17) and gasket (18) from retainer (2).
- 8. Remove lens (19) from retainer (2).

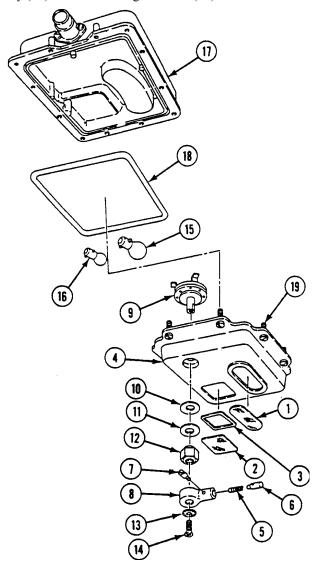


CLEAN, INSPECT, AND REPAIR

- 1. Check all light bulbs for damage and replace where needed.
- 2. Check lenses, gaskets, and all other parts for damage. Replace all damaged parts.

ASSEMBLY

- 1. Install lens (1) and lens (2) with gasket (3) on retainer (4).
- 2. Install plunger (5) with plunger (6) in knob (8) and secure with setscrew (7).
- 3. Install switch (9) through retainer (4). Install gasket (10) and washer (11) on switch and secure with nut (12).
- 4. Install knob (8), new lockwasher (13), and screw (14) on switch (9).
- 5. Install blackout bulb (15) and light bulb (16) in light body (17). Push in and turn bulbs clockwise to secure.
- 6. Install new seal (18) on retainer (4).
- 7. Place retainer (4) on light body (17). Secure with eight screws (19).



FOLLOW-THROUGH STEPS

- 1. Install dome light (WP 0260 00).
- 2. Turn MASTER SWITCH to ON (see your -10). Check dome lights for proper operation.
- 3. Turn MASTER SWITCH to OFF (see your -10).

REPLACE DOME LIGHT (M577A2 AND M1068 ONLY)

0275 00

THIS WORK PACKAGE COVERS:

Removal (page 0275 00-1). Installation (page 0275 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Personnel Required

Unit Mechanic

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Equipment Condition

Engine stopped/shutdown (see your -10)

Materials/Parts

Lockwasher (4)

REMOVAL

NOTE

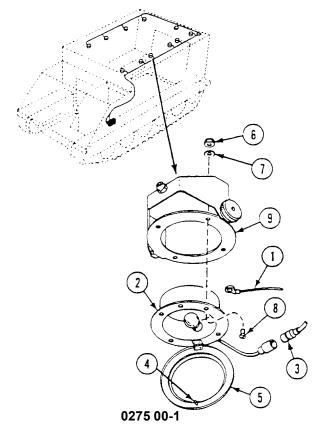
There are nine dome lights and two blackout lights in the M577A2 and M1068. Remove and install all lights the same way.

- 1. Disconnect ground lead (1) from dome light (2).
- 2. Disconnect lead (3) from dome light (2).

NOTE

Disconnect circuit 38C lead from dome lights or circuit 38B lead from blackout lights.

- 3. Loosen screw (4). Lower door (5) on dome light (2).
- 4. Remove four nuts (6), lockwashers (7), screws (8), and light (2) from mount (9). Discard lockwashers.



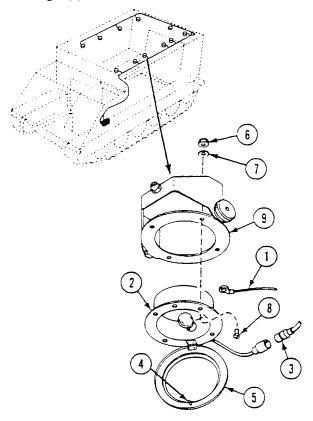
INSTALLATION

- 1. Place light (2) on mount (9). Secure with four screws (8), new lockwashers (7), and nuts (6).
- 2. Close door (5) on light (2). Secure with screw (4).
- 3. Connect lead (3) to light (2).

NOTE

Connect circuit 38C lead to dome lights or circuit 38B lead to blackout lights.

4. Connect ground lead (1) to dome light (2).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Operate dome light or blackout light to check that light operates properly (see your -10).
- 3. Turn all switches OFF (see your -10).

REPAIR DOME LIGHT AND MOUNT (M577A2 AND M1068 ONLY)

0276 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0276 00-1). Clean, Inspect, and Repair (page 0276 00-2). Assembly (page 0276 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing Compound (WP 0782 00, Item 66)

Locknut (6)

Personnel Required

Unit Mechanic

Equipment Condition

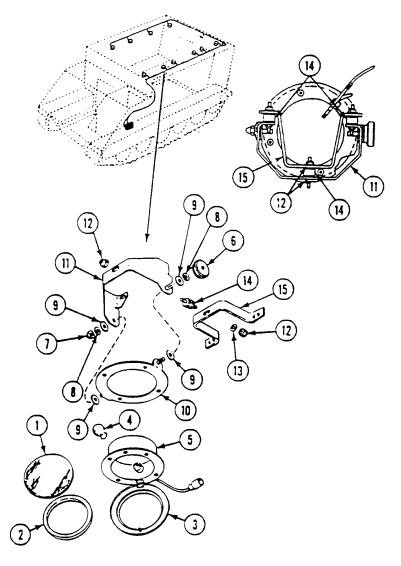
Engine stopped/shutdown (see your -10) Dome light removed (WP 0275 00)

DISASSEMBLY

NOTE

Disassemble and assemble dome lights and blackout lights the same way. Lens in dome light is clear. Lens in blackout light is dark (nine dome lights, two blackout lights).

- 1. To disassemble dome light, do the following:
 - a. Remove lens (1) and seal (2) from light door (3).
 - b. Push in and turn lamp (4) counterclockwise. Remove lamp from light body (5).
- 2. To disassemble dome light mount, do the following:
 - a. Remove knob (6), nut (7), two small washers (8), two large gaskets (9), and mount plate (10) from bracket (11).
 - b. Remove two large gaskets (9) from plate (10).
 - c. Remove six locknuts (12), three washers (13), mount (14), and bracket (11) from hull mounts (15). Discard locknuts.



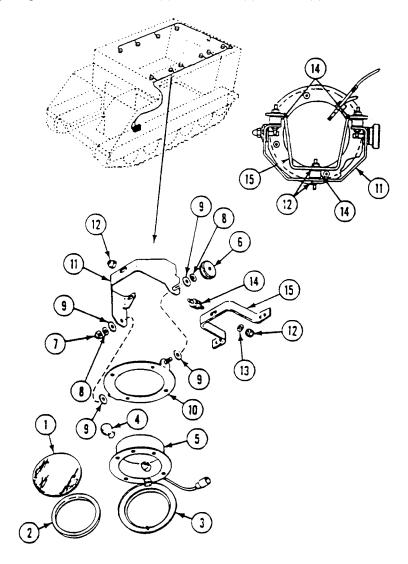
CLEAN, INSPECT, AND REPAIR

- 1. Check lamp. Replace burned-out or cracked lamp.
- 2. Check lens. Replace cracked or chipped lens.
- 3. Check seal and mounts. Replace cut, cracked, or hard seal and mounts.
- 4. Check plate and bracket. Replace any cracked or deformed parts.

5. Check threaded parts. Remove burrs. Replace parts that have stripped threads.

ASSEMBLY

- 1. To assemble dome light mount, do the following:
 - a. Install three mounts (14) between bracket (11) and hull mount (15). Secure with six new locknuts (12) and three washers (13).
 - b. Place two large gaskets (9) on mount plate (10). Install plate on bracket (11). Secure with two large gaskets (9), small washers (8), nut (7), and knob (6).
- 2. To assemble dome light, do the following:
 - a. Install lamp (4) in light body (5). Push in and turn clockwise to secure lamp.
 - b. Apply sealing compound to inside of door (3). Install seal (2) and lens (1) on door.



FOLLOW-THROUGH STEPS

1. Install dome light (WP 0275 00).

REPLACE MASTER SWITCH PANEL LEAD ASSEMBLY TO DOME LIGHTS (M577A2 AND M1068 ONLY)

0277 00

THIS WORK PACKAGE COVERS:

Removal (page 0277 00-1). Installation (page 0277 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Grommet

Locknut (8)

Personnel Required

Unit Mechanic

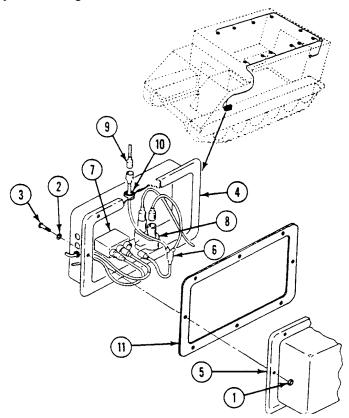
Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

- 1. Remove eight locknuts (1), washers (2), screws (3), and master switch panel (4) from distribution box (5). Discard locknuts.
- 2. Disconnect lead assembly (6) from front dome light switch (7), circuit breaker (8), and circuit 38E lead (9).
- 3. Pull lead assembly (6) with grommet (10) from master switch panel (4). Discard grommet.
- 4. Inspect gasket (11). Replace if damaged.

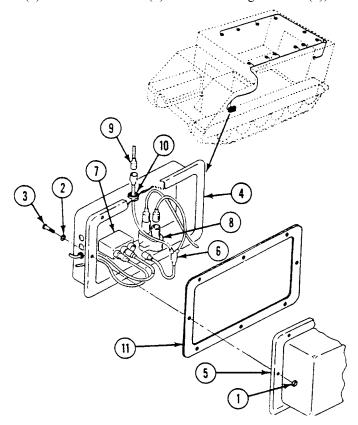


REPLACE MASTER SWITCH PANEL LEAD ASSEMBLY TO DOME LIGHTS (M577A2 AND M1068 ONLY) — Continued

0277 00

INSTALLATION

- 1. Place new grommet (10) on branch of lead assembly (6) that connects to circuit 38E lead (9).
- 2. Install lead assembly (6) with grommet (10) in master switch panel (4).
- 3. Connect lead assembly (6) to circuit 38E lead (9), circuit breaker (8), and front dome light switch (7).
- 4. Place master switch panel (4) on distribution box (5). Secure with eight screws (3), washers (2), and new locknuts (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Operate dome lights to check that lights operate properly (see your -10).
- 4. Turn all switches OFF (see your -10).

REPLACE FRONT DOME LIGHT SWITCH (M577A2 AND M1068 ONLY)

0278 00

THIS WORK PACKAGE COVERS:

Removal (page 0278 00-1). Installation (page 0278 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Locknut (8)

Personnel Required

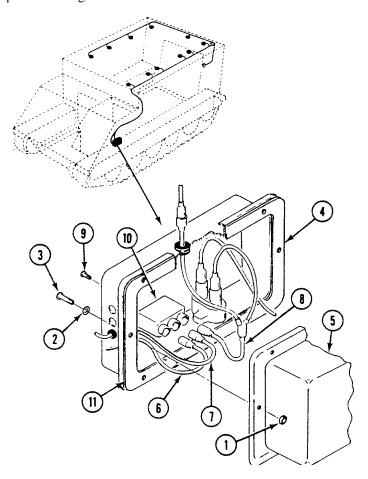
Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

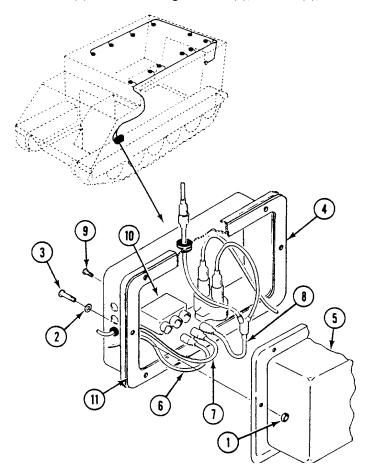
Battery ground lead disconnected (WP 0294 00)

- 1. Remove eight locknuts (1), washers (2), screws (3), and master switch panel (4) from distribution box (5). Discard locknuts.
- 2. Disconnect circuit 38 lead (6), circuit 38A lead (7), and circuit 10 lead (8) from rear of front dome light switch (10).
- 3. Remove two screws (9) and switch (10) from master switch panel (4).
- 4. Inspect gasket (11). Replace if damaged.



INSTALLATION

- 1. Place switch (10) in master switch panel (4). Secure with two screws (9).
- 2. Connect circuit 10 lead (8), circuit 38A lead (7), and circuit 38 lead (6) to rear of dome light switch (10).
- 3. Place panel (4) on distribution box (5). Secure with eight screws (3), washers (2), and new locknuts (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Turn on front dome light switch to check that switch is operable. Dome light should come on.
- 4. Turn all switches OFF (see your -10).

REPLACE REAR DOME LIGHT SWITCH (M577A2 AND M1068 ONLY)

0279 00

THIS WORK PACKAGE COVERS:

Removal (page 0279 00-1). Installation (page 0279 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

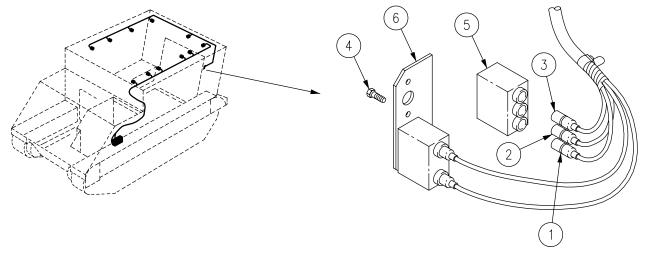
Personnel Required

Unit Mechanic

Equipment Condition

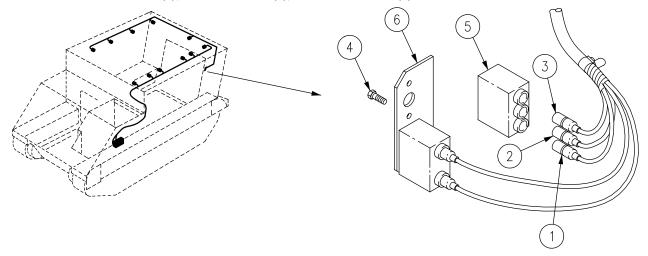
Engine stopped/shutdown (see your -10)
Battery ground lead disconnected (WP 0294 00)

- 1. Disconnect circuit 38 lead (1), circuit 38A lead (2), and circuit 38E lead (3) from back of rear dome light switch (5).
- 2. Remove two screws (4) and switch (5) from hull bracket (6).



INSTALLATION

- 1. Place switch (5) on hull bracket (6). Secure with two screws (4).
- 2. Connect circuit 38E lead (3), circuit 38A lead (2), and circuit 38 lead (1) to back of switch.



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Turn REAR DOME LIGHT SWITCH to ON (see your -10). Check that switch operates properly. Dome light should come on.
- 4. Turn all switches OFF (see your -10).

REPLACE DOME LIGHT CIRCUIT BREAKER (M577A2 AND M1068 ONLY)

0280 00

THIS WORK PACKAGE COVERS:

Removal (page 0280 00-1). Installation (page 0280 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Personnel Required
Unit Mechanic

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Equipment Condition

Engine stopped/shutdown (see your -10)

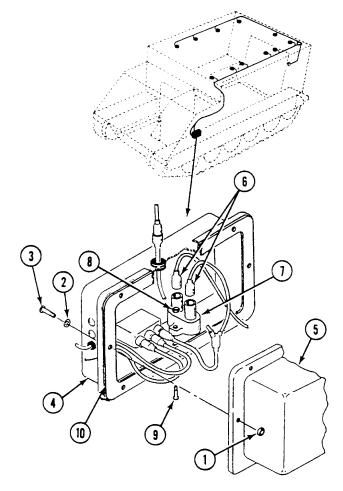
Battery ground lead disconnected (WP 0294 00)

Materials/Parts

Gasket

Locknut (8)

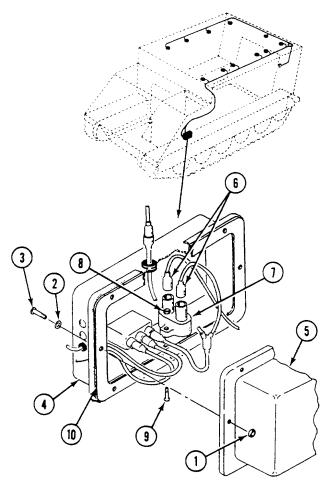
- 1. Remove eight locknuts (1), washers (2), screws (3), and master switch panel (4) from distribution box (5). Discard locknuts.
- 2. Disconnect two circuit 10 leads (6) from circuit breaker (7).
- 3. Remove two nuts (8), screws (9), and circuit breaker (7) from master switch panel (4).
- 4. Inspect gasket (10). Replace if damaged.



0280 00-1

INSTALLATION

- 1. Place circuit breaker (7) in master switch panel (4). Secure with two screws (9) and nuts (8).
- 2. Connect two circuit 10 leads (6) to circuit breaker (7).
- 3. Place master switch panel (4) on distribution box (5). Secure with eight screws (3), washers (2), and new locknuts (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Operate dome lights to check that circuit breaker is operable (see your -10).
- 4. Turn all switches OFF (see your -10).

REPLACE DOME BLACKOUT LIGHT BYPASS SWITCH (M577A2 AND M1068 ONLY)

0281 00

THIS WORK PACKAGE COVERS:

Removal (page 0281 00-1). Installation (page 0281 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

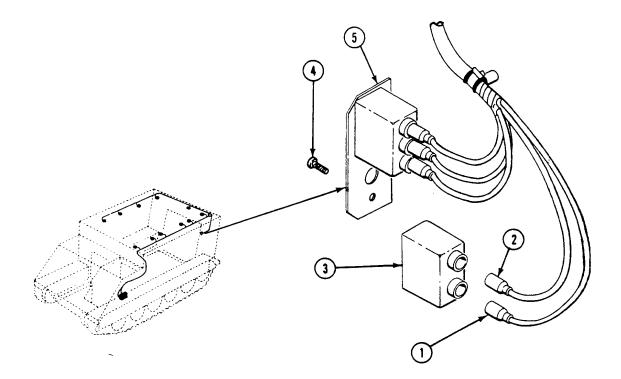
Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

- 1. Disconnect circuit 38B lead (1) and circuit 38E lead (2) from rear of bypass switch (3).
- 2. Remove two screws (4) and switch (3) from hull bracket (5).

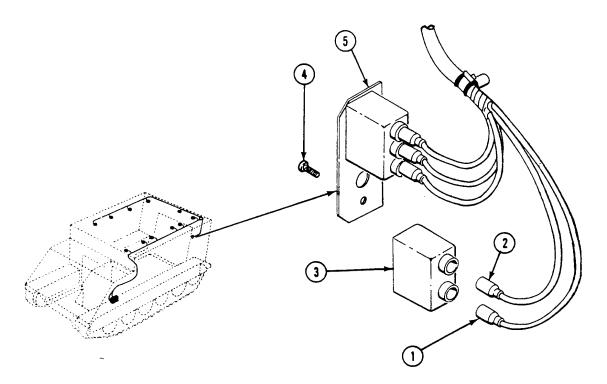


REPLACE DOME BLACKOUT LIGHT BYPASS SWITCH (M577A2 AND M1068 ONLY) — Continued

0281 00

INSTALLATION

- 1. Place switch (3) on hull bracket (5). Secure with two screws (4).
- 2. Connect circuit 38E lead (2) and circuit 38B lead (1) to rear of bypass switch (3).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Operate dome lights and bypass switch to check that switch operates properly (see your -10).
- 3. Turn all switches OFF (see your -10).

REPLACE ADMITTANCE BUZZER AND SWITCH (M577A2 AND M1068 ONLY)

0282 00

THIS WORK PACKAGE COVERS:

Removal (page 0282 00-1). Clean, Inspect, and Repair (page 0282 00-2). Installation (page 0282 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Lockwasher (3)

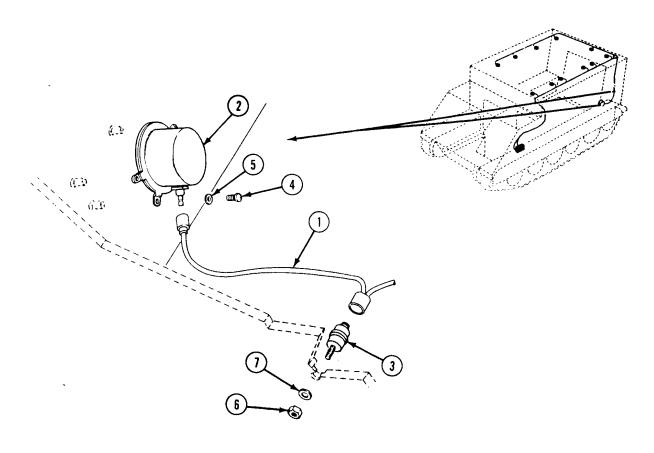
Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)
Battery ground lead disconnected (WP 0294 00)

- 1. Disconnect circuit 509 lead (1) from buzzer (2) and buzzer switch (3).
- 2. Remove three screws (4), lockwashers (5) and buzzer (2) from weldnuts on left bulkhead. Discard lockwashers.
- 3. Remove nut (6), gasket (7), and buzzer switch (3) from rear bulkhead. Discard gasket.



REPLACE ADMITTANCE BUZZER AND SWITCH (M577A2 AND M1068 ONLY) — Continued

0282 00

CLEAN, INSPECT, AND REPAIR

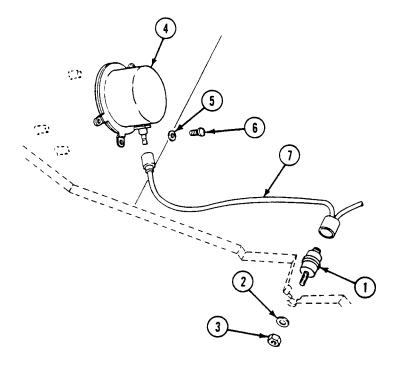
1. Check buzzer and switch. See troubleshooting (WP 0044 00). Replace bad switch.

INSTALLATION

NOTE

Switch comes with two nuts and two washers. When installing new switch, remove and discard one lockwasher and one nut before installation.

- 1. Install buzzer switch (1) in rear bulkhead. Secure with new gasket (2) and nut (3).
- 2. Place buzzer (4) on weldnuts on left bulkhead. Secure with three screws (5) and new lockwashers (6).
- 3. Connect circuit 509 lead (7) to buzzer (4) and buzzer switch (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Operate buzzer switch to check that buzzer and switch operate properly (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE RAMP DOOR SWITCH AND MOUNT (M577A2 AND M1068 ONLY)

0283 00

THIS WORK PACKAGE COVERS:

Removal (page 0283 00-1). Clean, Inspect, and Repair (page 0283 00-2) Installation (page 0283 00-2). Adjustment (page 0283 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (4) Locknut

Personnel Required

Unit Mechanic

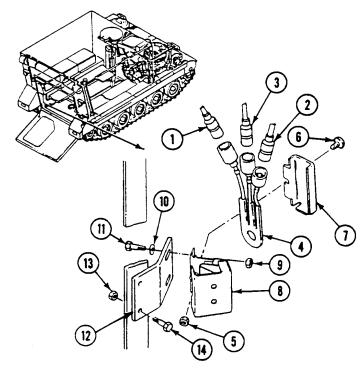
References

See your -10 WP 0294 00

Equipment Condition

Engine stopped/shutdown (see your -10)
Battery ground lead disconnected (WP 0294 00)
Carrier blocked (see your -10)

- 1. Disconnect circuit 38 lead (1), circuit 38B lead (2), and circuit 38C lead (3) from switch (4).
- 2. Remove locknut (5), screw (6), and retainer (7) from actuator (8). Discard locknut.
- 3. Remove switch (4) from actuator (8).
- 4. Remove two locknuts (9), washers (10), screws (11), and actuator (8) from bracket (12). Discard locknuts.
- 5. Remove two locknuts (13), screws (14), and bracket (12) from hull. Discard locknuts.



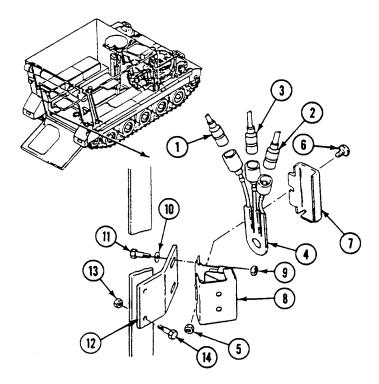
0283 00-1

CLEAN, INSPECT, AND REPAIR

1. Check for cracks or other damage to switch. If damaged, replace switch.

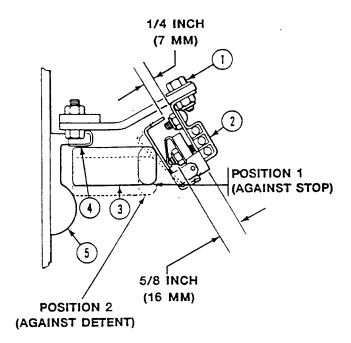
INSTALLATION

- 1. Place bracket (12) on hull. Secure with two screws (14) and new locknuts (13).
- 2. Place actuator (8) on bracket (12). Secure with two screws (11), washers (10), and new locknuts (9). Do not tighten screws.
- 3. Place switch (4) on actuator (8). Secure with retainer (7), screw (6), and new locknut (5).
- 4. Connect circuit 38C lead (3), circuit 38B lead (2), and circuit 38 lead (1) to ramp door switch (4).



ADJUSTMENT

- 1. ☐ Connect battery ground flead (WP 0294 00).
- 2. Raise and lock ramp (see your -10).
- 3. Loosen two screws (1) and slide switch (2) as far as possible from hull.
- 4. Lock ramp door handle (3) against stop (4) (see Position 1 Against Stop).
- 5. Slide switch (2) against handle (3) to get approximately 1/4 inch (7 mm) clearance. Tighten screws (1).
- 6. Move handle (3) against detent (5) (see Position 2 Against Detent). Clearance should be approximately 5/8 inch (16 mm). From this setting, check switch for proper function. Interior lights (white) should come on and blue light should be off. When handle (3) is in first position (see illustration) interior lights (white) should be off and blue lights should be on. Do Steps 3 6 and make adjustments until the switch function produces the correct result as stated herein.



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Turn on dome lights and open ramp access door. All dome lights should go off and blackout lights should come on.
- 3. Turn all switches OFF (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE TENT LIGHT ASSEMBLY (M577A2 ONLY)

0284 00

THIS WORK PACKAGE COVERS:

Removal (page 0284 00-1). Installation (page 0284 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Incandescent lamp

Personnel Required

Unit Mechanic

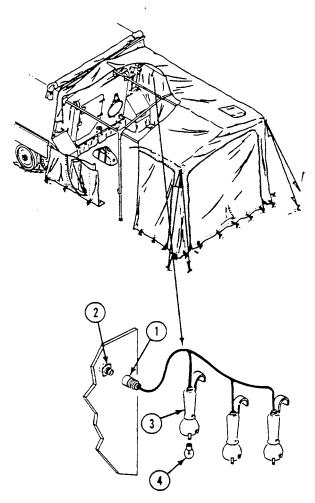
Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

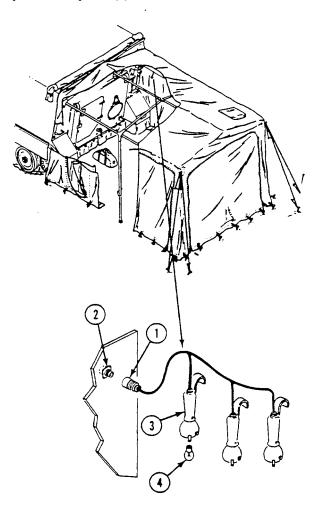
Battery ground lead disconnected (WP 0294 00)

- 1. Remove connector (1) from utility outlet receptacle (2) on rear bulkhead.
- 2. Remove light assembly (3) from tent supports.
- 3. Push in on lamp (4) and turn counterclockwise. Remove lamp from light assembly. Discard lamp.



INSTALLATION

- 1. Install new lamp (4) in light assembly (3). Push in and turn clockwise to secure lamp.
- 2. Hang light assembly (3) on tent supports.
- 3. Install connector (1) on utility outlet receptacle (2).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Check that tent lamps operate properly (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE HEADLIGHT HIGH BEAM SELECTOR SWITCH

0285 00

THIS WORK PACKAGE COVERS:

Removal (page 0285 00-1). Installation (page 0285 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (2)

Personnel Required

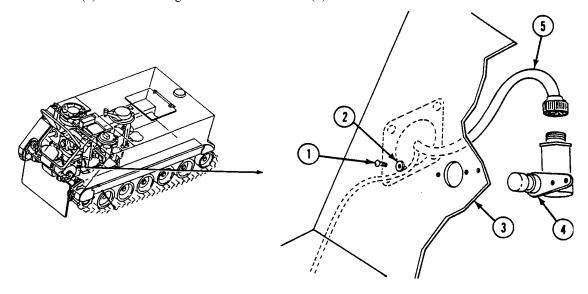
Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

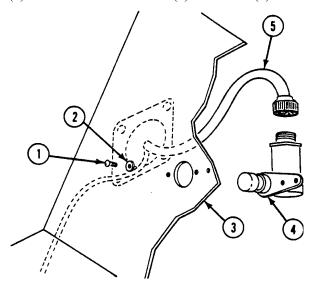
Carrier blocked (see your -10)

- 1. From driver's compartment, remove two screws (1) and lockwashers (2) from bracket (3). Discard lockwashers.
- 2. Remove switch (4) from bracket (3).
- 3. Disconnect cable (5) from rear of light beam selector switch (4).



INSTALLATION

- 1. Connect cable (5) to rear of switch (4).
- 2. Install switch (4) in bracket (3).
- 3. Secure switch (4) to bracket (3) with two new lockwashers (2) and screws (1).



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON (see your -10).
- 2. Turn on service headlights and operate beam selector switch to check that switch operates properly (see your -10).
- 3. Turn all switches OFF (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE RIGHT HEADLIGHT WIRING HARNESS

0286 00

THIS WORK PACKAGE COVERS:

Removal (page 0286 00-1). Inspect and Repair (page 0286 00-3). Installation (page 0286 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43) Electrical Tool Kit (WP 0780 00, Item 80) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Insulation tape (WP 0782 00, Item 35) Lockwasher (4) Terminal (6)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

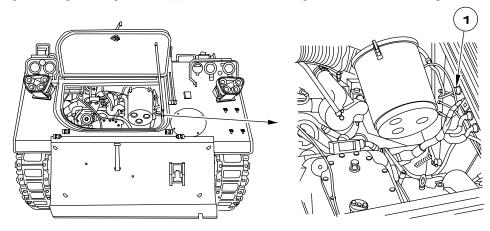
Power plant front access door open (see your -10)

Power plant grill raised (WP 0130 00)

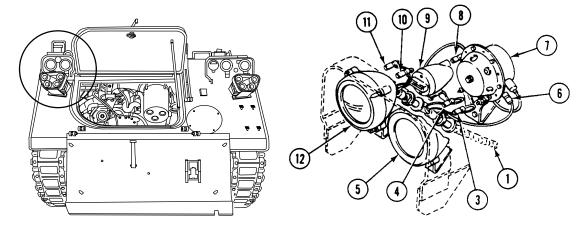
Battery ground strap disconnected (WP 0294 00)

REMOVAL

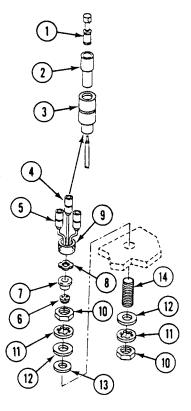
1. Disconnect right headlight wiring harness (1) from front main wiring harness at driver's compartment bulkhead.



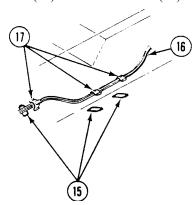
- 2. Disconnect circuits 514 and 515 leads (3) and (4) from right infrared headlight (5).
- 3. Disconnect circuit 25 lead (6) from horn (7).
- 4. Disconnect circuit 20 lead (8) from right blackout marker light (9).
- 5. Disconnect circuits 17 and 18 leads (10) and (11) from right service headlight (12).



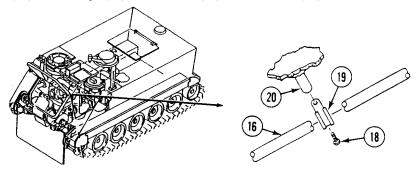
- 6. Remove six terminals (1), insulators (2), and connectors (3) from six leads disconnected in Steps 1 5. Discard terminals. Remove tape from lead 17 (4) and 18 (5).
- 7. Remove bushing (6), retainer (7), and spring washer (8) from coupling (9).
- 8. Remove four nuts (10), lockwashers (11), washers (12), and two washers (13) from hull bushing (14). Discard lockwashers.



9. Remove three cradle clips (15) and harness (16) from three cradles (17).



10. Remove two screws (18), two clamps (19), and harness (16) from weldnut (20).



INSPECT AND REPAIR

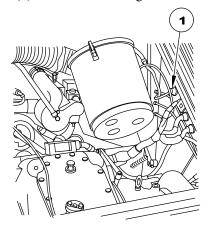
- 1. Check leads for continuity. Replace bad leads.
- 2. Check harness for damage. Repair damaged terminals (WP 0312 00).
- 3. Check for damaged connectors. If connectors are damaged, turn in to direct support maintenance.

INSTALLATION

NOTE

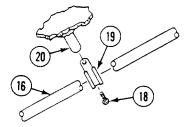
New harness assembly comes with hull bushing assemblies installed.

1. Connect right headlight wiring harness (1) to front main wiring harness at driver's compartment bulkhead.

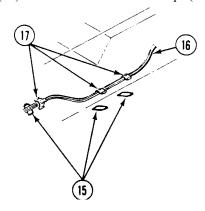


0286 00-3

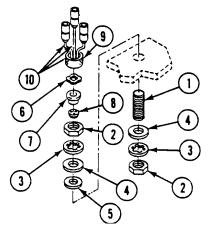
2. Install clamp (19) on harness (16). Secure clamp to hull weldnut (20) with screw (18).



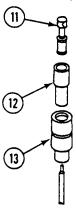
3. Install harness (16) on three cradles (17). Secure with three cradle clips (15).



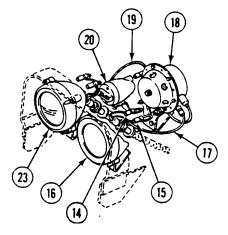
- 4. Thread two bushings (1) into hull. Secure with four nuts (2), new lockwashers (3), washers (4), and two washers (5). Do not tighten nuts.
- 5. Install spring washer (6), retainer (7), and bushing (8) into coupling (9).
- 6 Locate Service headlight and blackout marker high fibushing hole in hull. Slowly slide connector leads 17, 18, and 20 (10) through hole. Do not damage wiring fleads.
- 7. Locate second bushing hole in hull. Slowly slide connector leads 25, 514, and 515 (10) through hole. Do not damage wiring leads.



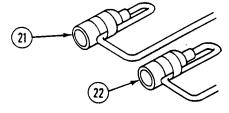
8. Crimp six new terminals (11), insulators (12), and connectors (13) on six leads.



- 9. Connect leads 514 (14) and 515 (15) to infrared headlights (16).
- 10. Connect lead 25 (17) to horn (18).
- 11. Connect lead 20 (19) to blackout marker light (20).



12. Bend and tape leads 17 and 18 (21) and (22) as shown. Connect leads to service headlights.



FOLLOW-THROUGH STEPS

- 1. Lower power plant grill (WP 0130 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Close power plant front access door (see your -10).
- 4. Raise trim vane (see your -10).

REPLACE REAR MAIN WIRING HARNESS (M577A2 AND M1068 ONLY)

0287 00

THIS WORK PACKAGE COVERS:

Removal (page 0287 00-1). Inspection and Repair (page 0287 00-16) Installation (page 0287 00-16).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Grommet (12)

Lockwasher, as needed

Non-electrical wire, as needed (WP 10782100, Item 40)

Locknut (8)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

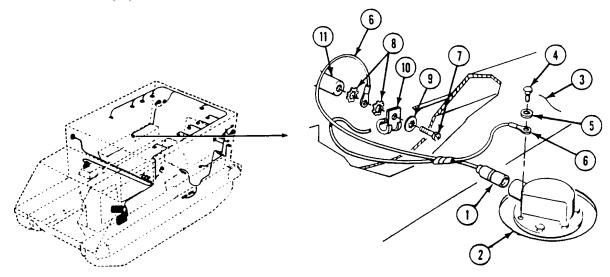
FAX removed (TM 11-7010-256-12&P)

Access to batteries (see your -10)

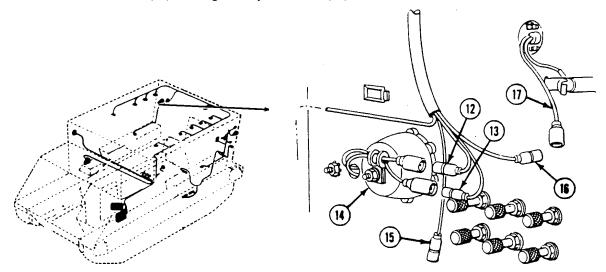
Battery ground lead disconnected (WP 0294 00)

Rear floor plate removed (WP 0436 00)

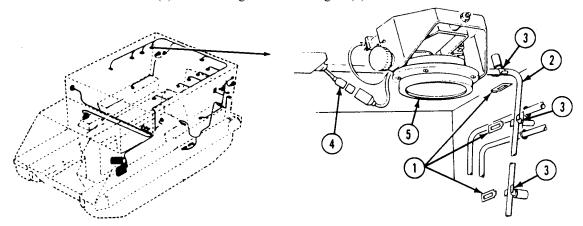
- 1. Disconnect circuit 29 lead (1) from right fuel quantity sending unit (2).
- 2. Remove lockwire (3), screw (4), lockwasher (5), and ground lead (6) from sending unit (2). Discard lockwire and lockwasher.
- 3. Remove three screws (7), two lockwashers (8), flat washer (9), ground lead (6), three clamps (10), and circuit 29 lead (1) from three weldnuts (11). Discard lockwashers.



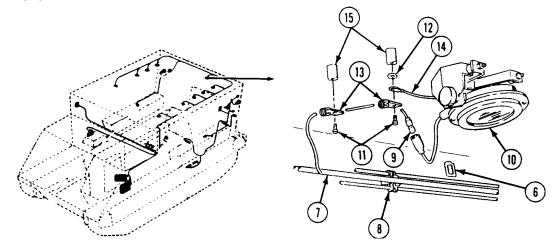
- 4. Disconnect circuit 23 lead (12) and circuit 24 lead (13) from right taillight (14).
- 5. If NBC unit is installed, disconnect circuit 415 lead (15) from NBC unit switch.
- 6. Disconnect circuit 37A lead (16) from right utility outlet lead (17).



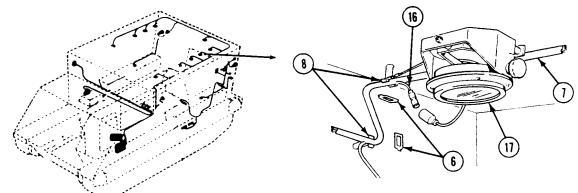
- 7. Remove eight cradle clips (1) and rear main wiring harness (2) from eight cradles (3).
- 8. Disconnect four circuit 38 leads (4) from four right side dome lights (5).



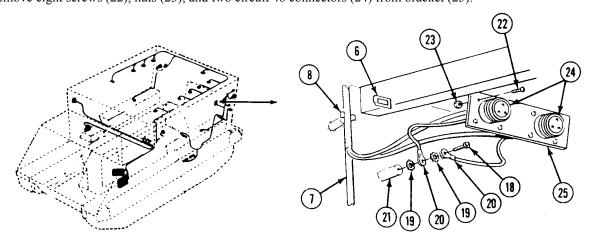
- 9. Remove 16 cradle clips (6) and rear main wiring harness (7) from 16 cradles (8).
- 10. Disconnect circuit 38B lead (9) from rear blackout dome light (10).
- 11. Remove two screws (11), one lockwasher (12), two clamps (13), circuit 38B lead (9), and ground lead (14) from two weldnuts (15). Discard lockwasher.



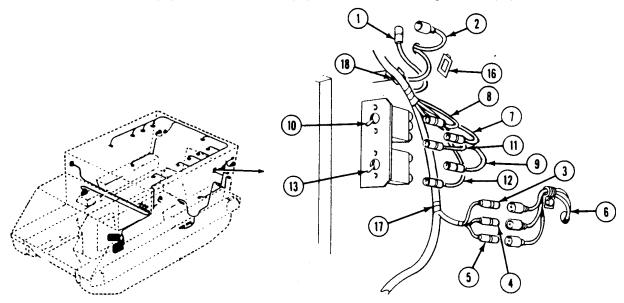
12. Disconnect four circuit 38C leads (16) from four left side dome lights (17).



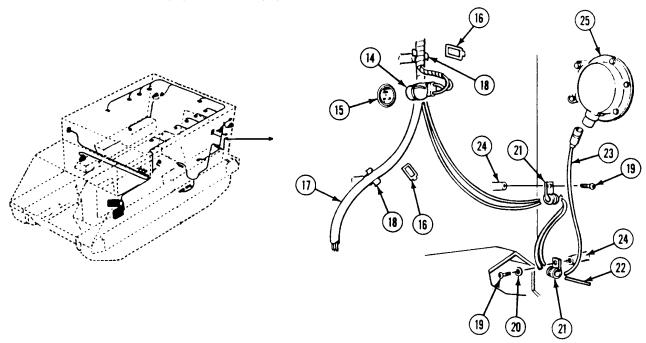
- 13. Remove screw (18), two lockwashers (19), and ground leads (20) from weldnut (21). Discard lockwashers.
- 14. Remove eight screws (22), nuts (23), and two circuit 48 connectors (24) from bracket (25).



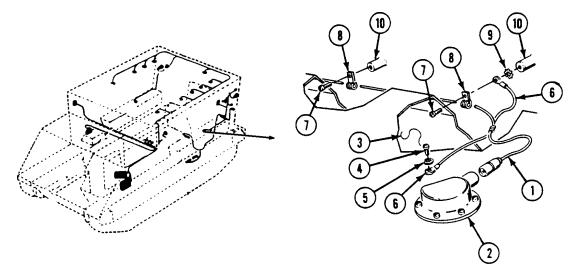
- 15. Disconnect circuit 37B lead (1) from left utility outlet lead (2).
- 16. Disconnect circuit 21 lead (3), circuit 22 lead (4), and circuit 24 lead (5) from left taillight leads (6).
- 17. Disconnect circuit 38 lead (7), circuit 38A lead (8), and circuit 38E lead (9) from dome light switch (10).
- 18. Disconnect circuit 38C lead (11) and circuit 38E lead (12) from blackout dome light switch (13).



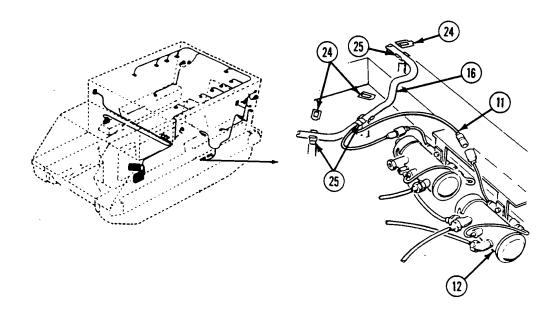
- 19. Disconnect circuit 509 and 509A connector (14) from buzzer switch (15).
- 20. Remove seven cradle clips (16) and main rear wiring harness (17) from seven cradles (18).
- 21. Remove two screws (19), one lockwasher (20), two clamps (21), circuit 30 lead (22) and circuit 509 lead (23) from two weldnuts (24). Discard lockwasher.
- 22. Disconnect circuit 509 lead (23) from buzzer (25).



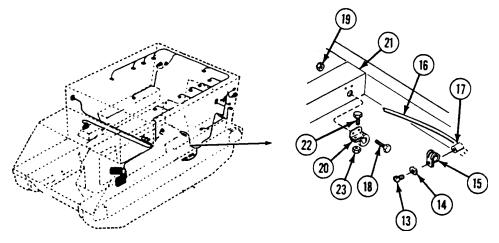
- 23. Disconnect circuit 30 lead (1) from left fuel quantity sending unit (2).
- 24. Remove lockwire (3), one screw (4), lockwasher (5), and ground lead (6) from sending unit (2). Discard lockwire and lockwasher.
- 25. Remove two screws (7), clamps (8), lockwashers (9), circuit 30 lead (1), and ground lead (6) from two weldnuts (10). Discard lockwashers.



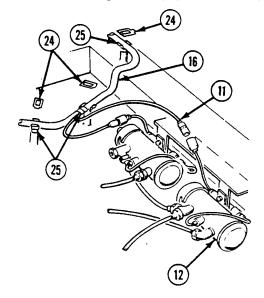
26. Disconnect circuit 402 lead (11) from personnel heater fuel pump (12).



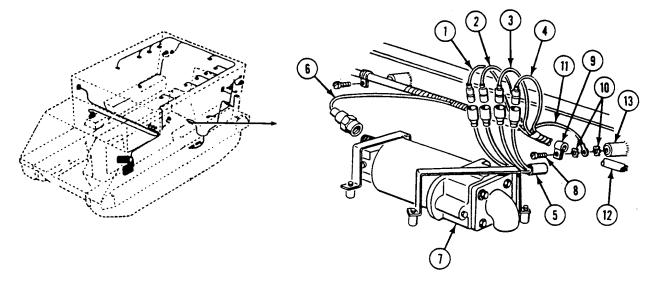
- 27. Remove screw (13), lockwasher (14), clamp (15), and rear main wiring harness (16) from weldnut (17). Discard lockwasher.
- 28. Remove two screws (18), nuts (19), clamp (20), and rear main wiring harness (16) from floor transverse beam (21).
- 29. Remove screw (22), nut (23), and clamp (20) from rear main wiring harness (16).



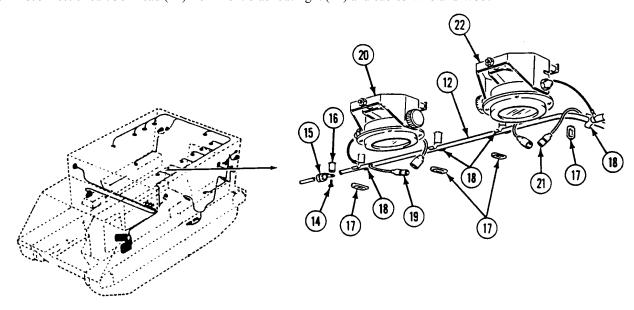
30. Remove three cradle clips (24) and rear main wiring harness (16) from cradles (25).



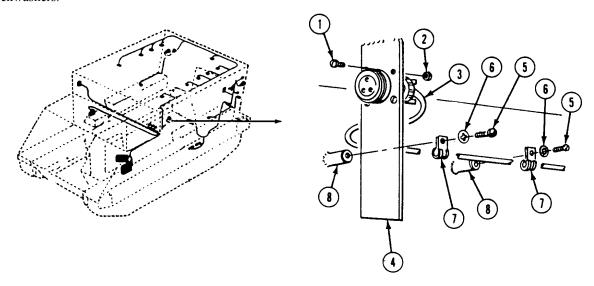
- 31. Disconnect circuit 21 lead (1), circuit 22 lead (2), circuit 23 lead (3), and circuit 24 lead (4) from trailer wiring harness (5).
- 32. Disconnect circuit 451 lead (6) from rear bilge pump (7).
- 33. Remove screw (8), clamp (9), two lockwashers (10), trailer wiring harness ground lead (11), and wiring harness (12) from weldnut (13). Discard lockwashers.
- 34. Pull circuit 21 lead (1), circuit 22 lead (2), circuit 23 lead (3), circuit 24 lead (4) and circuit 451 lead (6) through opening in transverse beam.



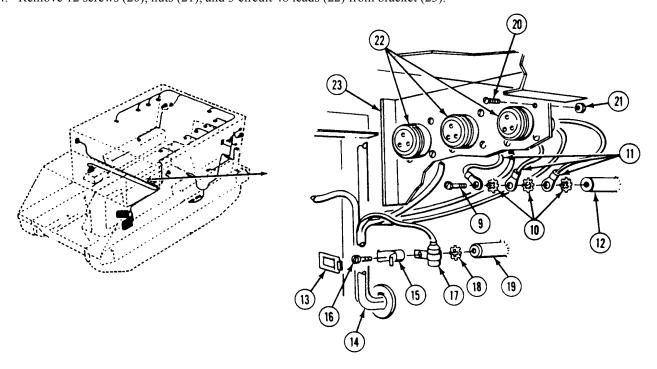
- 35. Remove two screws (14), clamps (15), and wiring harness (12) from two weldnuts (16).
- 36. Remove eight cradle clips (17) and wiring harness (12) from eight cradles (18).
- 37. Disconnect circuit 38C lead (19) from left dome light (20).
- 38. Disconnect circuit 38B lead (21) from front blackout light (22) and cables W28 and W35.



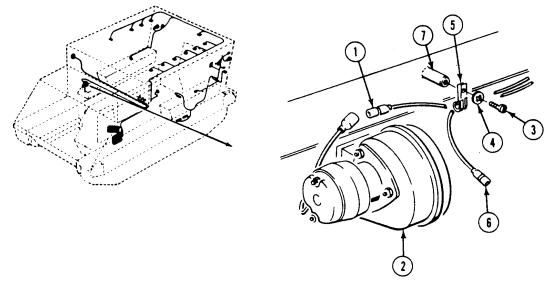
- 39. Remove four screws (1), nuts (2), and circuit 48A lead (3) from bracket (4).
- 40. Remove two screws (5), lockwashers (6), clamps (7), and circuit 48A lead (3) from two weldnuts (8). Discard lockwashers.



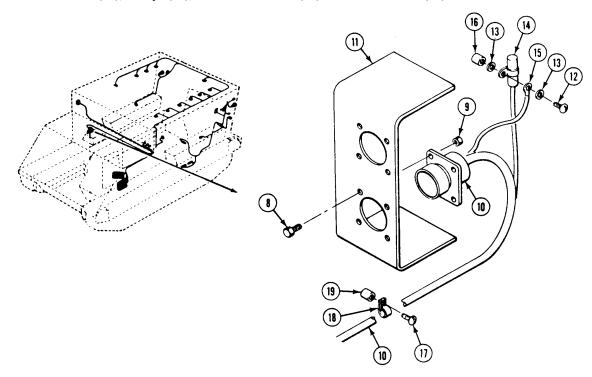
- 41. Remove screw (9), three lockwashers (10), and ground leads (11) from weldnut (12). Discard lockwashers.
- 42. Remove cradle clip (13) and rear main wiring harness (14) from cradle (15).
- 43. Remove screw (16), cradle (15), circuit 48C capacitor (17), and lockwasher (18) from weldnut (19). Discard lockwasher.
- 44. Remove 12 screws (20), nuts (21), and 3 circuit 48 leads (22) from bracket (23).



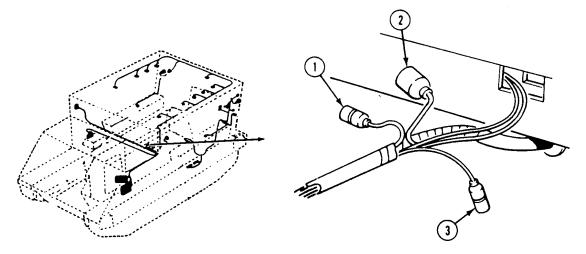
- 45. Disconnect circuit 59 lead (1) from blower (2).
- 46. Remove screw (3), lockwasher (4), clamp (5), circuit 59 lead (1), and circuit 415 lead (6) from weldnut (7). Discard lockwasher.
- 47. If NBC unit is installed, disconnect circuit 415 lead (6) from NBC unit.



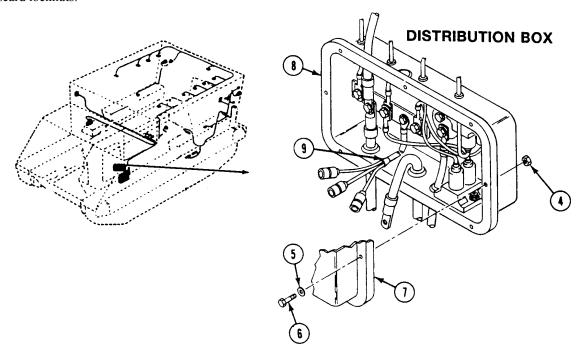
- 48. Remove four screws (8), nuts (9), and circuit 48 (10) from bracket (11).
- 49. Remove screw (12), two lockwashers (13), circuit 48 capacitor (14), and ground lead (15) from weldnut (16). Discard lockwashers.
- 50. Remove six screws (17), clamps (18), and circuit 48 lead (10) from six weldnuts (19).



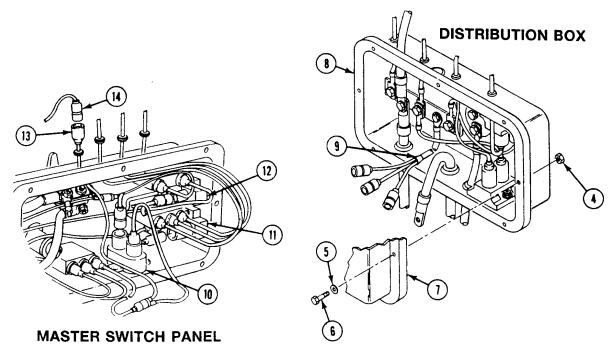
- 51. Disconnect circuit 400 lead (1) from personnel heater control box.
- 52. Disconnect circuit 402 lead (2) from personnel heater wiring harness.
- 53. If NBC unit is installed, disconnect circuit 415 lead (3) from NBC unit.



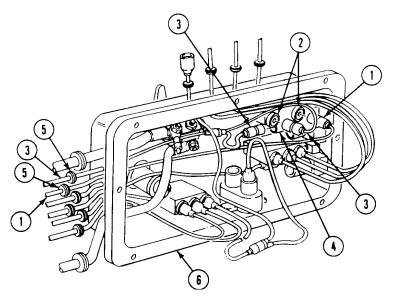
54. Remove eight locknuts (4), washers (5), and screws (6). Separate master switch panel (7) from distribution box (8). Discard locknuts.



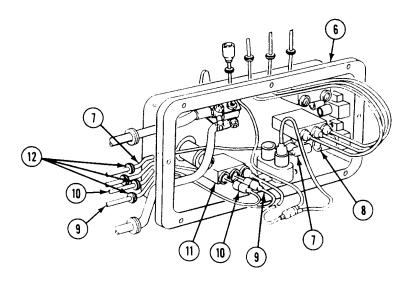
- 55. Disconnect wiring harness (9) from circuit 10 on three circuit breakers (10), (11), and (12) in master switch panel (7).
- 56. Disconnect wiring harness (13) from circuit 38E lead (14).



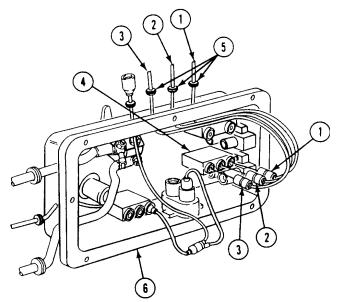
- 57. Disconnect circuit 59 lead (1) from blower switch (2).
- 58. Disconnect circuit 37B lead (3) from blower switch (2) and circuit breaker (4).
- 59. Remove circuit 59 lead (1) and circuit 37B lead (3) and two grommets (5) from master switch panel (6). Discard grommets.



- 60. Disconnect circuit 37A lead (7) from circuit breaker (8).
- 61. Disconnect circuit 38 lead (9) and circuit 38A lead (10) from dome light switch (11).
- 62. Remove circuit 37A lead (7), circuit 38 lead (9), circuit 38A lead (10), and three grommets (12) from master switch panel (6). Discard grommets.

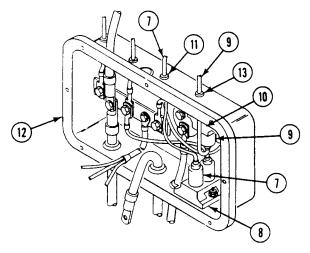


- 63. Disconnect circuit 28 lead (1), circuit 29 lead (2), and circuit 30 lead (3) from fuel selector switch (4).
- 64. Remove circuit 28 lead (1), circuit 29 lead (2), circuit 30 lead (3), and three grommets (5) from master switch panel (6). Discard grommets.



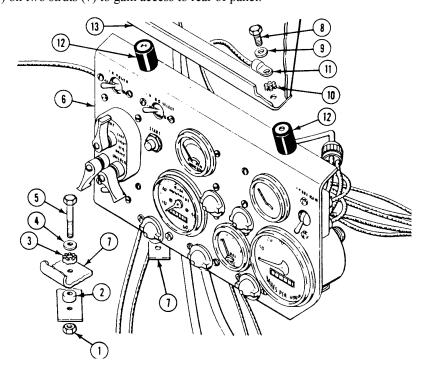
MASTER SWITCH PANEL

- 65. Disconnect circuit 450 lead (7) from circuit breaker (8).
- 66. Disconnect circuit 450B lead (9) from circuit breaker (10).
- 67. Remove circuit 450 lead (7) and grommet (11) from distribution box (12). Discard grommet.
- 68. Remove circuit 450B lead (9) and grommet (13) from distribution box (12). Discard grommet.

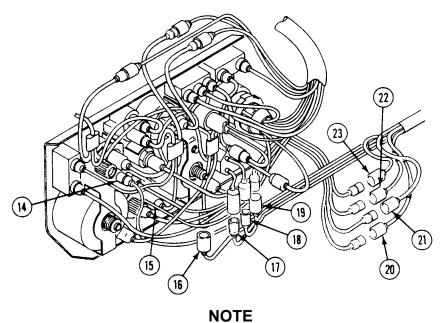


DISTRIBUTION BOX

- 69. Remove two nuts (1), mounts (2) and (3), flat washers (4), and screws (5) that secure instrument panel (6) to two struts (7).
- 70. Support panel (6). Remove two screws (8), flat washers (9), one lockwasher (10), and ground lead (11) from two mounts (12) and upper support (13). Discard lockwasher.
- 71. Support panel (6) on two struts (7) to gain access to rear of panel.

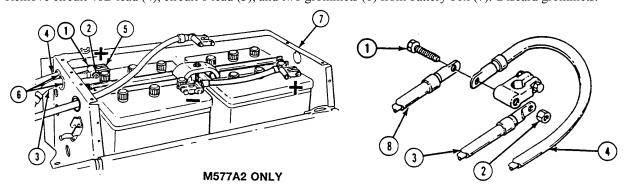


- 72. Disconnect circuit 28 lead (14) from fuel gauge.
- 73. Disconnect circuit 451B lead (15) from rear bilge pump ON indicator light.
- 74. Disconnect circuit 38 lead (16) from instrument panel wiring harness.
- 75. Disconnect circuit 450 lead (17), circuit 450B lead (18), and circuit 451A lead (19) from bilge pump switch.
- 76. Disconnect circuit 21 lead (20), circuit 22 lead (21), circuit 23 lead (22), and circuit 24 lead (23) from front main wiring harness.



Do Steps 77 - 78 for M577A2 only.

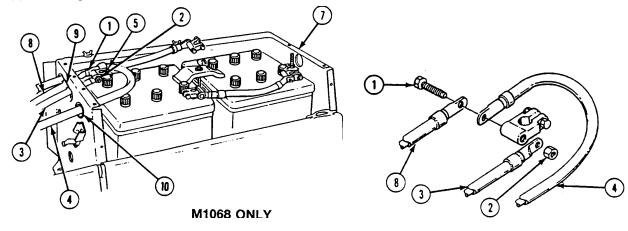
- 77. Remove screw (1), nut (2), circuit 6 lead (3), and circuit 48B lead (4) from terminal (5).
- 78. Remove circuit 48B lead (4), circuit 6 lead (3), and two grommets (6) from battery box (7). Discard grommets.



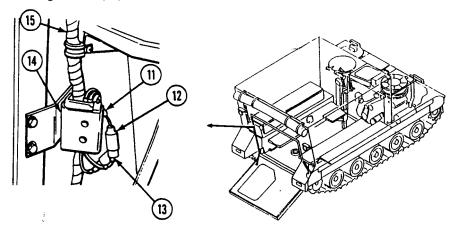
NOTE

Do Steps 79 - 80 for M1068 only.

- 79. Remove screw (1), nut (2), circuit 6 lead (3), circuit lead 48B (4), and circuit 31 lead (8) from terminal (5).
- 80. Remove circuit 6 lead (3), circuit 48B lead (4), circuit 31 lead (8), grommet (9), and grommet (10) from battery box (7). Discard grommets.



- 81. Disconnect circuit 38 lead (11), circuit 38B lead (12), and circuit 38C lead (13) from door switch (14).
- 82. Remove rear main wiring harness (15) from carrier.

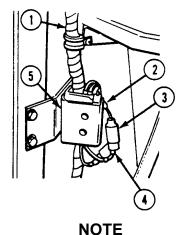


INSPECTION AND REPAIR

Inspect for damaged connectors and terminals. Repair as needed (WP 0312 00).

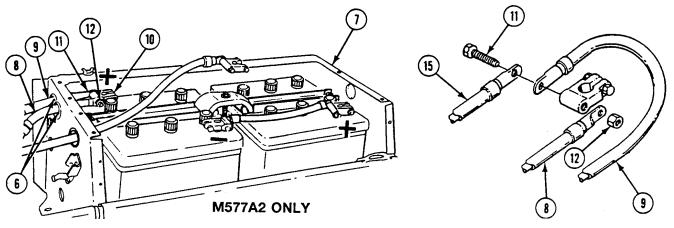
INSTALLATION

- Install main rear wiring harness (1) in carrier. 1.
- Connect circuit 38 lead (2), circuit 38B lead (3), and circuit 38C lead (4) to ramp door switch (5). 2.



Do Steps 3 - 4 for M577A2 only.

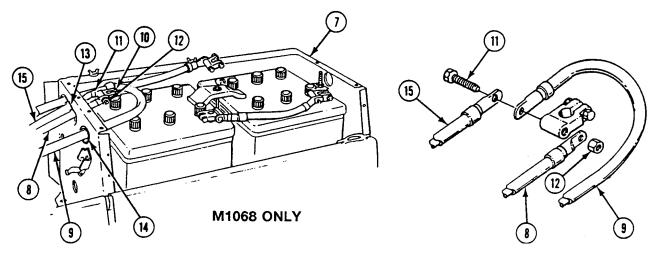
- Install two new grommets (6) in battery box (7). 3.
- Install circuit 6 lead (8) and circuit 48B lead (9) through two new grommets (6). Connect leads to terminal (10) with 4. screw (11) and nut (12).



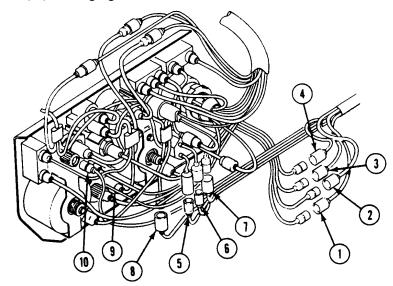
NOTE

Do Steps 5 - 8 for M1068 only.

- 5. Install new grommet (13) and new grommet (14) in battery box (7).
- 6. Install circuit 6 lead (8) and circuit 31 lead (15) through grommet (13).
- 7. Install circuit 48B lead (9) through grommet (14).
- 8. Connect circuit 6 lead (8), circuit 48B lead (9), and circuit 31 lead (15) to terminal (10) with screw (11) and nut (12).

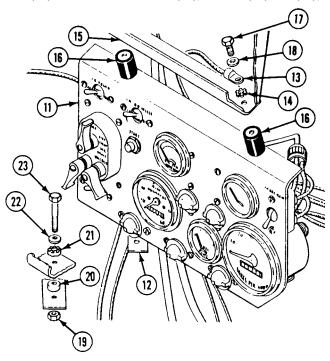


- 9. Connect circuit 21 lead (1), circuit 22 lead (2), circuit 23 lead (3), and circuit 24 lead (4) to front main wiring harness.
- 10. Connect circuit 450 lead (5), circuit 450B lead (6), and circuit 451A lead (7) to bilge pump switch.
- 11. Connect circuit 38 lead (8) to instrument panel wiring harness.
- 12. Connect circuit 451B lead (9) to rear bilge pump ON indicator light.
- 13. Connect circuit 28 lead (10) to fuel gauge.

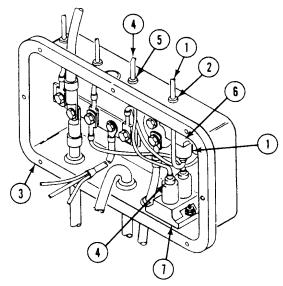


•

- 14. Support instrument panel (11) on two struts (12).
- 15. Install ground lead (13) and new lockwasher (14) on upper support (15). Install panel (11) with two mounts (16) on support. Secure with two screws (17) and flat washers (18).
- 16. Install panel (11) on two struts (12). Secure with two nuts (19), mounts (20) and (21), flat washers (22), and screws (23).

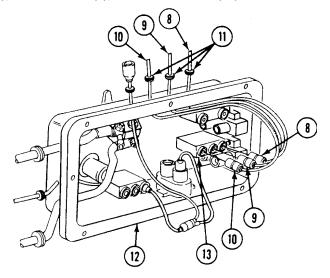


- 17. Install circuit 450B lead (1) and new grommet (2) in distribution box (3).
- 18. Install circuit 450 lead (4) and new grommet (5) in distribution box (3).
- 19. Connect circuit 450B lead (1) to circuit breaker (6).
- 20. Connect circuit 450 lead (4) to circuit breaker (7).



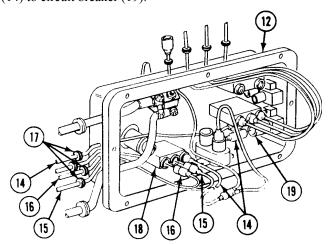
DISTRIBUTION BOX

- 21. Install circuit 28 lead (8), circuit 29 lead (9), circuit 30 lead (10), and three new grommets (11) in master switch panel (12).
- 22. Connect circuit 28 lead (8), circuit 29 lead (9), and circuit 30 lead (10) to fuel selector switch (13).



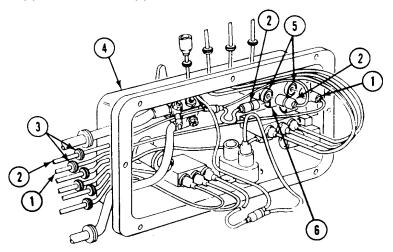
MASTER SWITCH PANEL

- 23. Install circuit 37A lead (14), circuit 38 lead (15), circuit 38A lead (16), and three new grommets (17) in master switch panel (12).
- 24. Connect circuit 38 lead (15) and circuit 38A lead (16) to dome light switch (18).
- 25. Connect circuit 37A lead (14) to circuit breaker (19).



MASTER SWITCH PANEL

- 26. Install circuit 59 lead (1) and circuit 37B lead (2) and two grommets (3) in master switch panel (4).
- 27. Connect circuit 37B lead (2) to blower switch (5) and circuit breaker (6).
- 28. Connect circuit 59 lead (1) to blower switch (5).



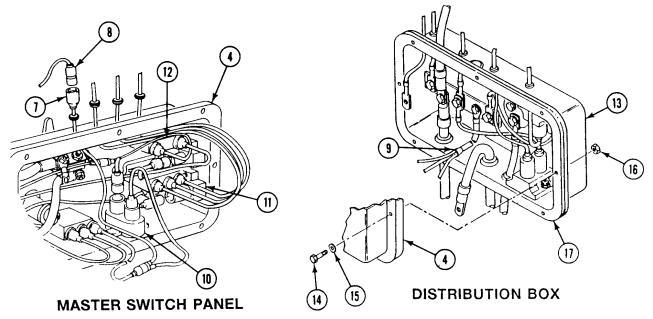
MASTER SWITCH PANEL

- 29. Connect wiring harness (7) to circuit 38E lead (8).
- 30. Connect wiring harness (9) to circuit 10 on three circuit breakers (10), (11), and (12) in master switch panel (4).

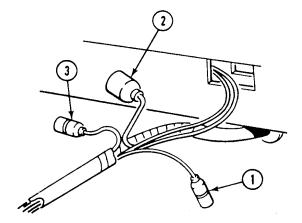
NOTE

Inspect gasket (17). Replace if damaged.

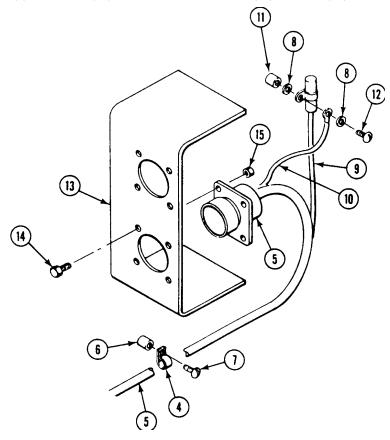
31. Install master switch panel (4) and gasket (17) on distribution box (13). Secure with eight screws (14), washers (15), and new locknuts (16).



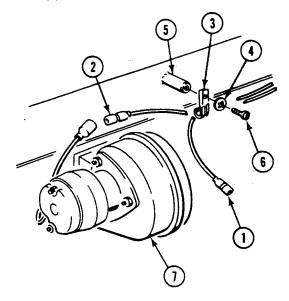
- 32. If NBC unit is installed, connect circuit 415 lead (1) to NBC unit.
- 33. Connect circuit 402 lead (2) to personnel heater wiring harness.
- 34. Connect circuit 400 lead (3) to personnel heater control box.



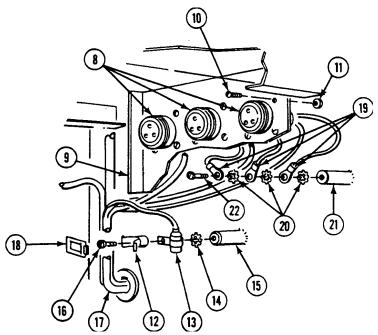
- 35. Install six clamps (4) on circuit 48 lead (5) on six weldnuts (6). Secure clamps with six screws (7).
- 36. Install two new lockwashers (8), circuit 48 capacitor (9), and ground lead (10) on weldnut (11). Secure with screw (12).
- 37. Install circuit 48 lead (5) on bracket (13). Secure with four screws (14) and nuts (15).



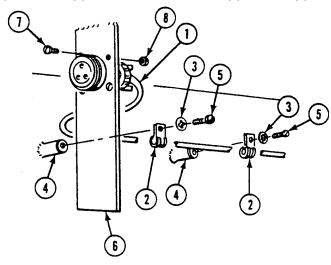
- 38. Install circuit 415 lead (1), circuit 59 lead (2), clamp (3), and new lockwasher (4) on weldnut (5). Secure with screw (6).
- 39. If NBC unit is installed, connect circuit 415 lead (1) to NBC unit.
- 40. Connect circuit 59 lead (2) to blower (7).



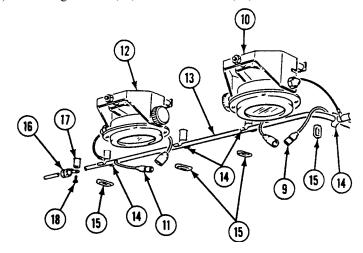
- 41. Install three circuit 48 leads (8) on bracket (9). Secure with 12 screws (10) and nuts (11).
- 42. Install cradle (12), circuit 48C capacitor (13), and new lockwasher (14) on weldnut (15). Secure with screw (16).
- 43. Install rear main wiring harness (17) on cradle (12). Secure with cradle clip (18).
- 44. Install three ground leads (19) and new lockwashers (20) on weldnut (21). Secure with screw (22).



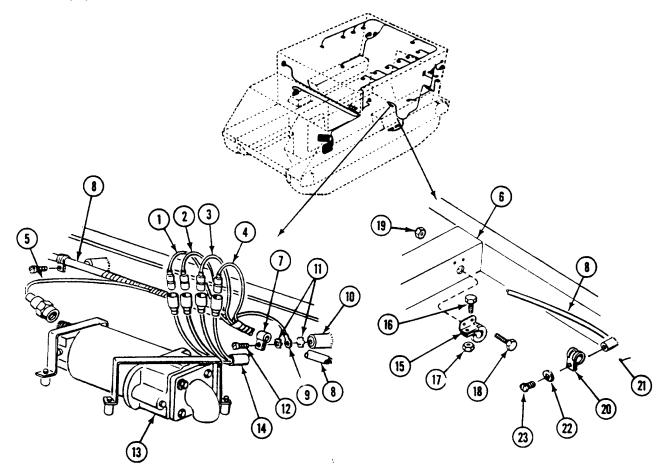
- 45. Install circuit 48A lead (1) in two clamps (2). Secure clamps with two screws (5) and new lockwashers (3) on two weldnuts (4).
- 46. Install circuit 48A lead (1) on bracket (6). Secure with four screws (7) and nuts (8).



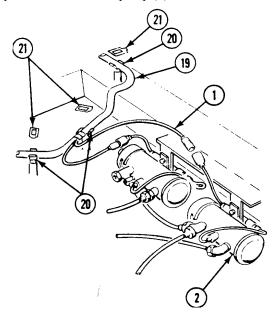
- 47. Connect circuit 38B lead (9) to front blackout light (10) and cables W28 and W25.
- 48. Connect circuit 38C lead (11) to left dome light (12).
- 49. Install wiring harness (13) on eight cradles (14). Secure with eight cradle clips (15).
- 50. Install two clamps (16) and wiring harness (13) on two weldnuts (17). Secure with two screws (18).



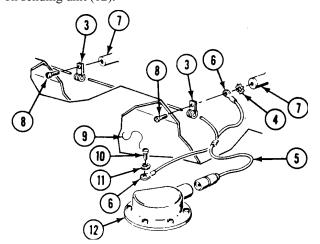
- 51. Pull circuit 21 lead (1), circuit 22 lead (2), circuit 23 lead (3), circuit 24 lead (4), and circuit 451 lead (5) through opening in floor transverse beam (6).
- 52. Install clamp (7), two new lockwashers (11), trailer wiring harness ground lead (9), and rear main wiring harness (8) on weldnut (10). Secure with screw (12).
- 53. Connect circuit 451 lead (5) to rear bilge pump (13).
- 54. Connect circuit 21 lead (1), circuit 22 lead (2), circuit 23 lead (3), and circuit 24 lead (4) to trailer wiring harness (14).
- 55. Install clamp (15) on wiring harness (8). Secure clamp with screw (16) and nut (17).
- 56. Install clamp (15) and wiring harness (8) on transverse beam (6). Secure with two screws (18) and nuts (19).
- 57. Install clamp (20) on rear main wiring harness (8). Secure clamp on weldnut (21) with new lockwasher (22) and screw (23).



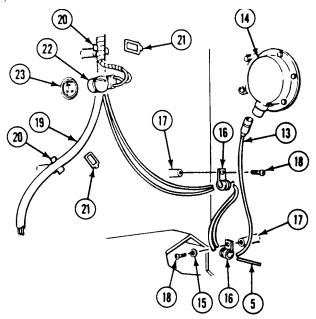
58. Connect circuit 402 lead (1) to personnel heater fuel pump (2).



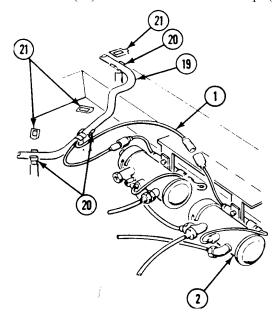
- 59. Install two clamps (3), one new lockwasher (4), circuit 30 lead (5), and ground lead (6) on two weldnuts (7). Secure with two screws (8).
- 60. Install new lockwire (9), one screw (10), new lockwasher (11), and ground lead (6) on left fuel quantity sending unit (12).
- 61. Connect circuit 30 lead (5) on sending unit (12).



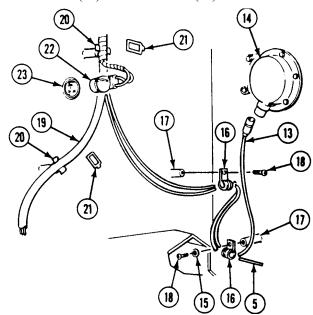
- 62. Connect circuit 509 lead (13) to buzzer (14).
- 63. Install one new lockwasher (15), two clamps (16), and circuits 30 and 509 leads (5) and (13) on two weldnuts (17). Secure with two screws (18).



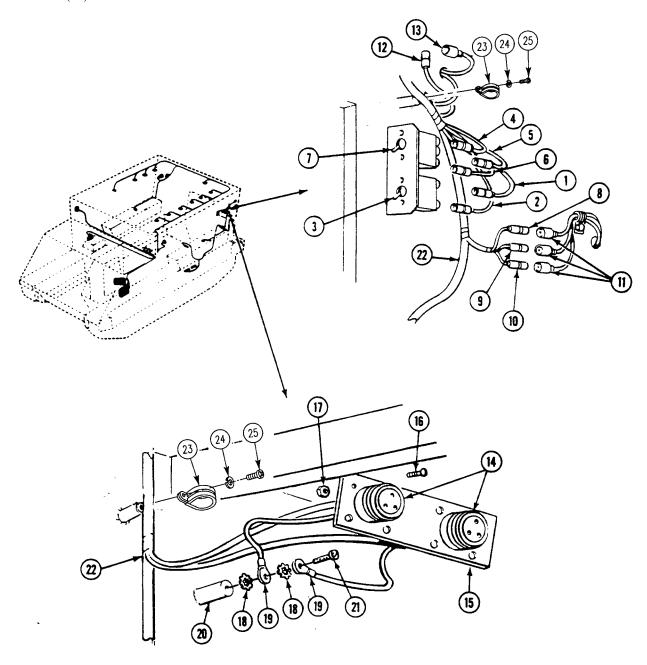
64. Install wiring harness (19) on seven cradles (20). Secure with seven cradle clips (21).



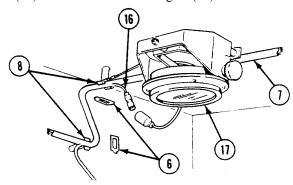
65. Connect circuit 509 and 509A connector (22) to buzzer switch (23).



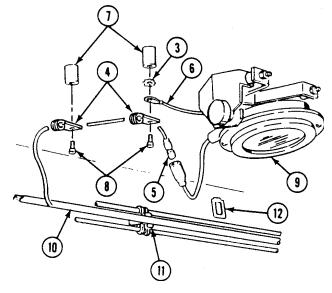
- 66. Connect circuit 38C lead (1) and circuit 38E lead (2) to blackout dome light switch (3).
- 67. Connect circuit 38 lead (4), circuit 38A lead (5), and circuit 38E lead (6) to dome light switch (7).
- 68. Connect circuit 21 lead (8), circuit 22 lead (9), and circuit 24 lead (10) to left taillight leads (11).
- 69. Connect circuit 37B lead (12) to left utility outlet lead (13).
- 70. Install two circuit 48 connectors (14) on bracket (15). Secure with eight screws (16) and nuts (17).
- 71. Install two new lockwashers (18) and ground leads (19) on weldnut (20). Secure with screw (21).
- 72. Install rear main wiring harness (22) on seven weldnuts. Secure with seven clamps (23) with new lockwashers (24) and screws (25).



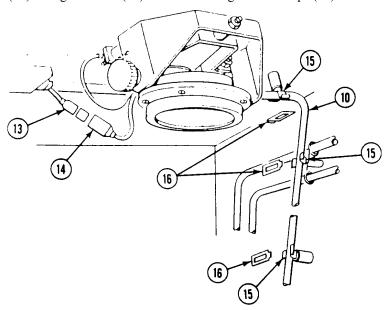
73. Connect four circuit 38C leads (16) to four left side dome lights (17).



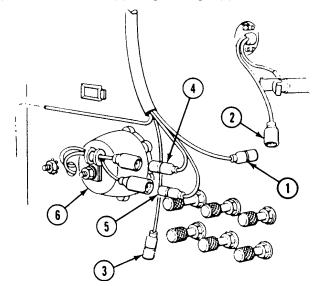
- 74. Install one new lockwasher (3), two clamps (4), circuit 38B lead (5), and ground lead (6) on two weldnuts (7). Secure with two screws (8).
- 75. Connect circuit 38B lead (5) to rear blackout dome light (9).
- 76. Install rear main wiring harness (10) on 16 cradles (11). Secure with 16 cradle clips (12).



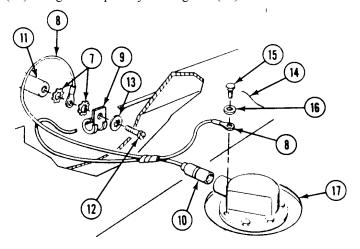
- 77. Connect four circuit 38C leads (13) to four right side dome lights (14).
- 78. Install wiring harness (10) on eight cradles (15). Secure with eight cradle clips (16).



- 79. Connect circuit 37A lead (1) to right utility outlet lead (2).
- 80. If NBC unit is installed, connect circuit 415 lead (3) to NBC unit switch.
- 81. Connect circuit 23 lead (4) and circuit 24 lead (5) to right taillight (6).



- 82. Install two new lockwashers (7), ground lead (8), three clamps (9), and circuit 29 lead (10) on three weldnuts (11). Secure with three screws (12) and flat washers (13).
- 83. Install new lockwire (14), one screw (15), new lockwasher (16), and ground lead (8) on right fuel quantity sending unit (17).
- 84. Connect circuit 29 lead (10) on right fuel quantity sending unit (17).



FOLLOW-THROUGH STEPS

- 1. Install rear floor plate (WP 0436 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Install FAX. See TM 11-7010-256-12&P.
- 4. Install battery access cover (see your -10).
- 5. Turn MASTER SWITCH to ON (see your -10). Check that electrical system works properly.
- 6. Start engine (see your -10).
- 7. Raise and lock ramp (see your -10).
- 8. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE REAR MAIN WIRING HARNESS (M1064 ONLY)

0288 00

THIS WORK PACKAGE COVERS:

Removal (page 0288 00-1). Inspect and Repair (page 0288 00-13). Installation (page 0288 00-13).

INITIAL SETUP:

Mainte ance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Multimeter (WP 0780 00, Item 43)

Materials/Parts

Fibrous twine (WP 0782 00, Item 72) Insulation tape (WP 0782 00, Item 35)

Grommet (4) Locknut (21) Lockwasher (37) Personnel Required

Unit Mechanic

Equipment Condition

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

Battery ground lead disconnected (WP 0294 00)

Ramp lowered (see your -10)

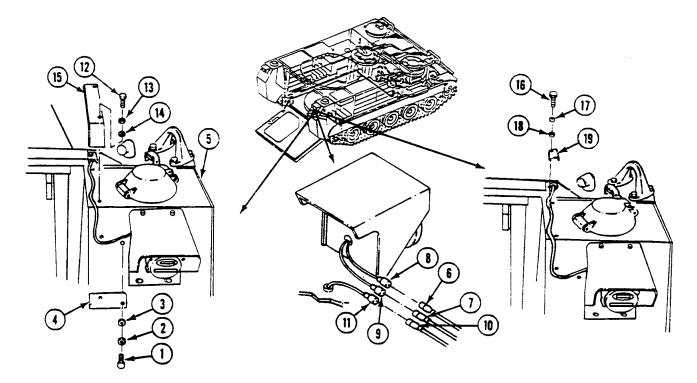
Rear floor plate removed (WP 0437 00)

REMOVAL

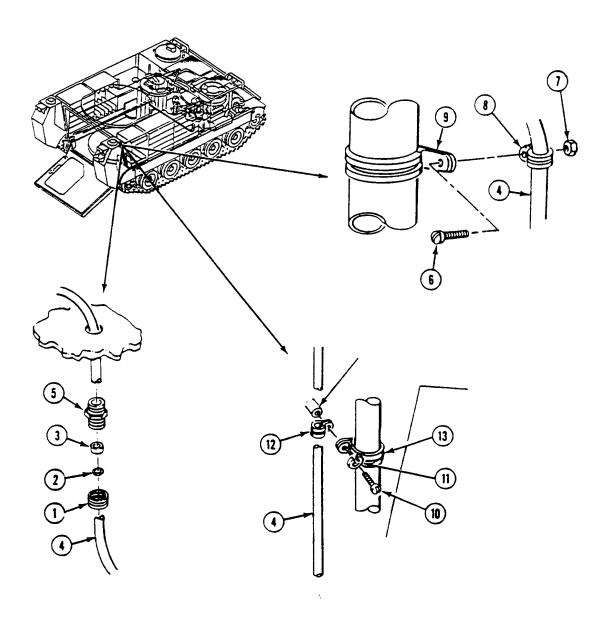
NOTE

Tag leads before removal.

- 1. Remove two screws (1), lockwashers (2), washers (3), and harness guard (4) from top of right fuel tank (5). Discard lockwashers.
- 2. Disconnect circuit 23 and 24 leads (6) and (7) from right taillight leads (8) and (9).
- 3. Disconnect circuit 31 lead (10) from fuel transmitter lead (11) on right fuel tank (5).
- 4. Remove two screws (12), lockwashers (13), washers (14), and harness bracket (15) from top of right fuel tank (5). Discard lockwashers.
- 5. Remove screw (16), lockwasher (17), washer (18), and harness guard (19) from top of rear hull. Discard lockwasher.



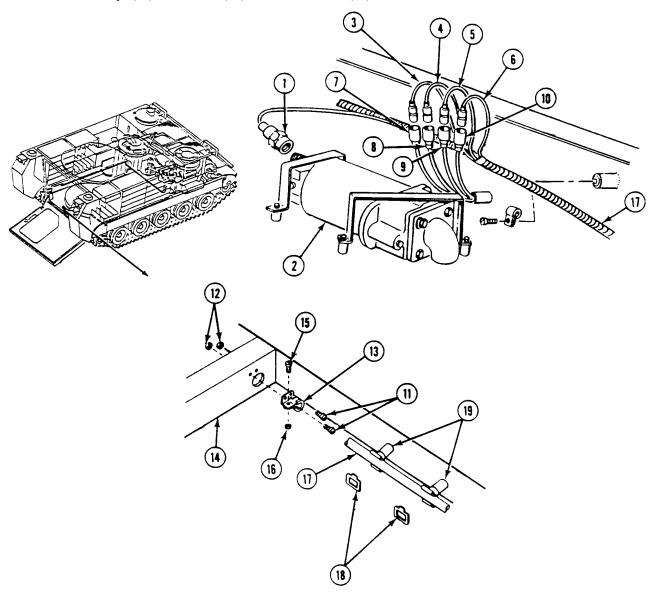
- 6. Remove nut (1), washer (2), and rubber bushing (3) around harness (4) from connector (5).
- 7. Remove connector (5) from hull.
- 8. Pull harness (4) through hole in hull top. Leave connector (5), rubber bushing (3), washer (2), and nut (1) on harness.
- 9. Remove screw (6), locknut (7), clamp (8), and harness (4) from upper bilge tube clamp (9). Discard locknut.
- 10. Remove two screws (10), lockwashers (11), clamps (12), and harness (4) from two lower bilge tube clamps (13). Discard lockwashers.



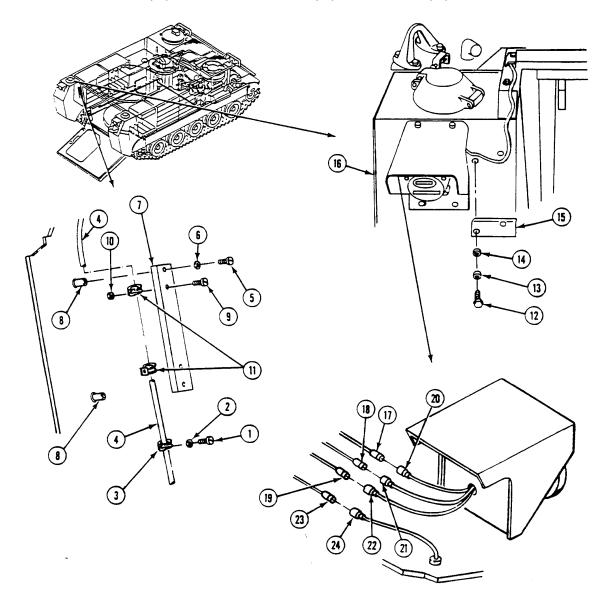
NOTE

Tag leads before removal.

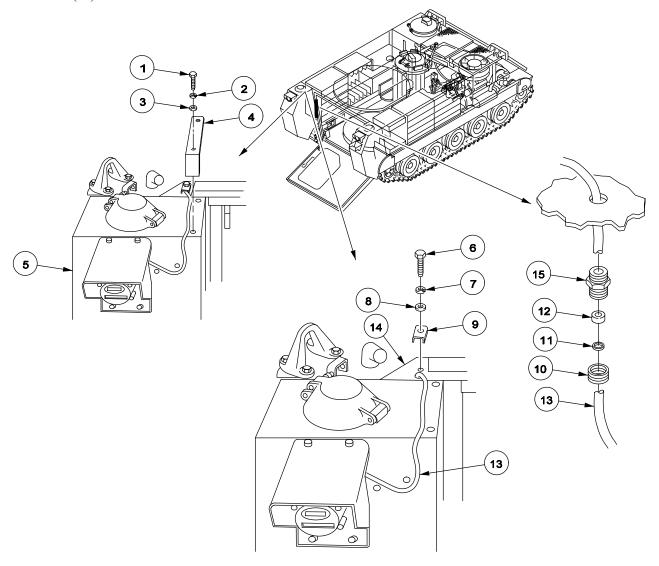
- 11. Disconnect circuit 451 lead (1) from rear bilge pump (2).
- 12. Disconnect circuit 21 (3), 22 (4), 23 (5), and 24 (6) leads from trailer wiring harness leads (7), (8), (9), and (10).
- 13. Remove two screws (11), locknuts (12), and clamp (13) from floor beam (14). Discard locknuts.
- 14. Remove screw (15), locknut (16), and clamp (13) from harness (17). Discard locknut.
- 15. Remove three clips (18) and harness (17) from three cradles (19).



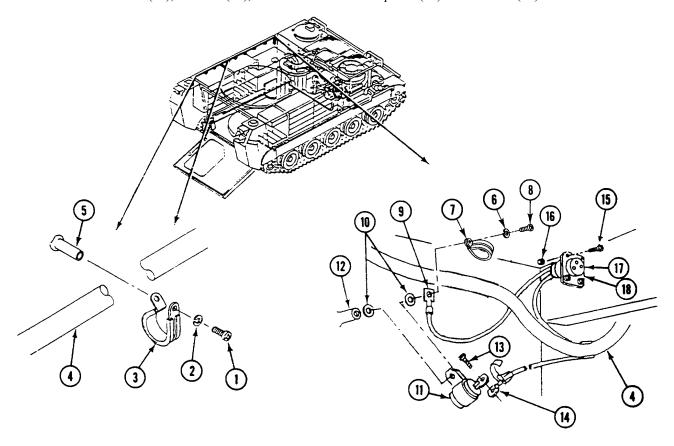
- 16. Remove screw (1), lockwasher (2), clamp (3), and harness (4) from rear hull plate. Discard lockwasher.
- 17. Remove two screws (5), lockwashers (6), and guard (7) from two weldnuts (8) on rear hull plate. Discard lockwashers.
- 18. Remove two screws (9), locknuts (10), clamps (11), and harness (4) from guard (7). Discard locknuts.
- 19. Remove two screws (12), lockwashers (13), washers (14), and harness guard (15) from top of left fuel tank (16). Discard lockwashers.
- 20. Disconnect circuit 21 lead (17), 22 lead (18), and 24 lead (19) from left taillight leads (20), (21), and (22).
- 21. Disconnect circuit 30 lead (23) from fuel transmitter lead (24) on left fuel tank (16).



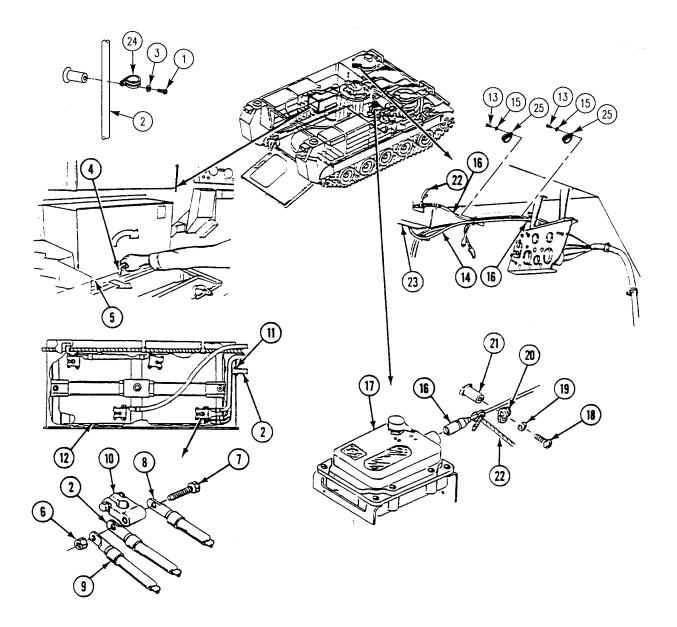
- 22. Remove two screws (1), lockwashers (2), washers (3), and harness bracket (4) from top of left fuel tank (5). Discard lockwashers.
- 23. Remove screw (6), lockwasher (7), washer (8), and harness guard (9) from top of rear hull. Discard lockwasher.
- 24. Pull harness (13) through hole in rear plate (14).
- 25. Remove nut (10), washer (11), and rubber bushing (12) around harness (13) from connector (15).
- 26. Remove connector (15) from hull.
- 27. Pull harness (13) through hole in hull top. Leave connector (15), rubber bushing (12), washer (11), and nut (10) on harness (13).



- 28. Open top ammo rack (see your -10).
- 29. Remove 11 screws (1), lockwashers (2), clamps (3), and harness (4) from weldnuts (5) on left hull plate. Discard lockwashers.
- 30. Remove screw (8), lockwasher (6), clamp (7), harness (4), ground lead (9), two lockwashers (10), and capacitor (11) from weldnut (12). Discard lockwashers.
- 31. Remove tape, screw (13), and circuit 48 lead (14) from capacitor (11).
- 32. Remove four screws (15), locknuts (16), and circuit 48 radio receptacle (17) from bracket (18). Discard locknuts.



- 33. Remove two screws (1), lockwashers (3), clamps (24), and circuit 48 lead (2) from weldnuts. Discard lockwashers.
- 34. Lower left crew seat backrest. Turn handle (4) clockwise and pull battery drawer (5) out.
- 35. Remove nut (6), screw (7), circuit 6 lead (8), circuit 6P lead (9), and circuit 48 lead (2) from battery terminal (10).
- 36. Remove circuit 48 lead (2) from grommet (11) in battery box (12). Remove and discard grommet.
- 37. Remove two screws (13), lockwashers (15), four clamps (25), and circuit 48 lead (16) from weldnuts. Discard lockwashers.

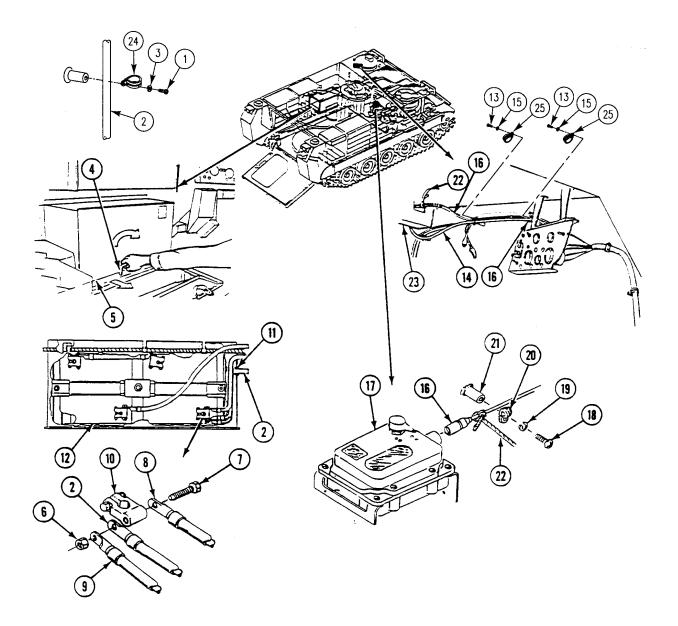


38. Disconnect circuit 38 lead (16) from dome light (17).

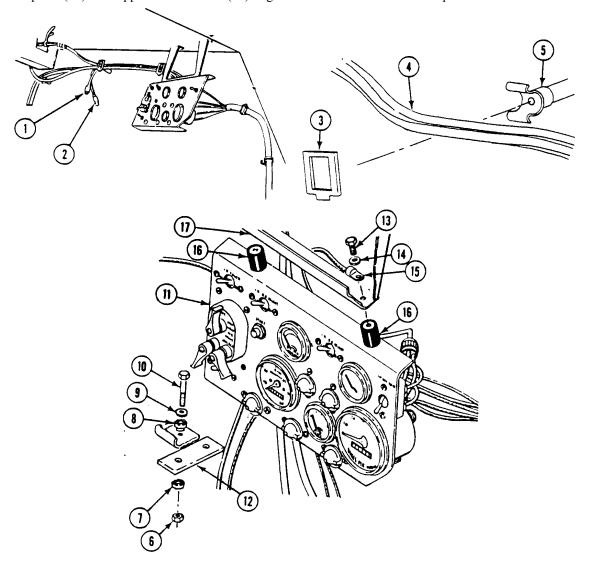
NOTE

If needed, remove personnel heater for access.

- 39. Remove three screws (18), lockwashers (19), clamps (20), and circuit 38 lead (16) from three weldnuts (21). Discard lockwashers.
- 40. Attach twine (22) to circuit 38 lead (16). Pull lead through transverse beam (23) into driver's compartment. Remove twine from lead and leave it in transverse beam.



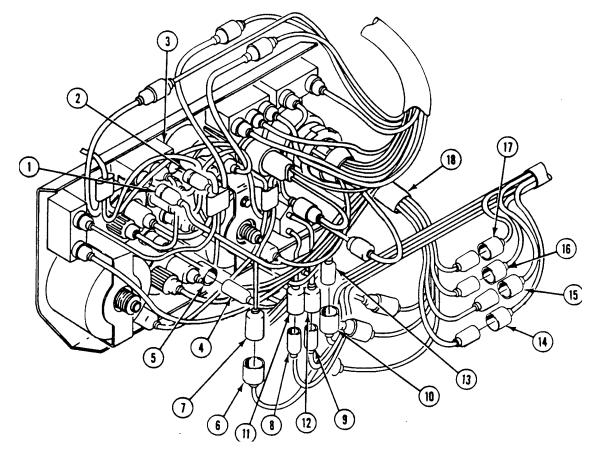
- 41. If personnel heater is installed, disconnect circuit 400 lead (1) from heater control box lead.
- 42. If engine coolant heater is installed, disconnect circuit 400A lead (2) from engine coolant heater control box lead.
- 43. Remove clip (3) and harness (4) from cradle (5).
- 44. Remove two locknuts (6), mounts (7) and (8), washers (9), and screws (10) that secure instrument panel (11) to two struts (12). Discard locknuts.
- 45. Support panel (11). Remove two screws (13), one internal tooth lockwasher (14), and ground lead (15) from two panel mounts (16) and bracket (17). Discard lockwasher.
- 46. Lower panel (11) and support on two struts (12) to gain access to rear of instrument panel.



NOTE

Tag leads before removal.

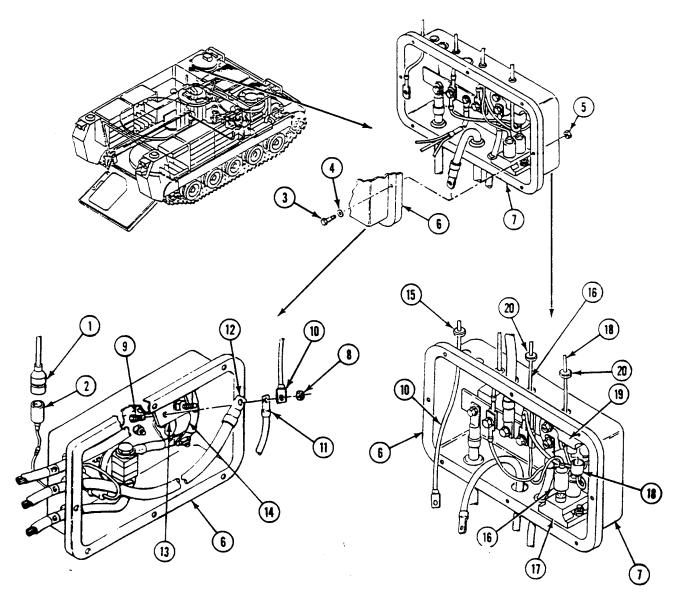
- 47. Disconnect circuit 30 (1) and 31 (2) leads from fuel gauge switch (3).
- 48. Disconnect circuit 451B lead (4) from REAR BILGE PUMP ON indicator light (5).
- 49. Disconnect circuit 38 lead (6) from instrument panel wiring harness (7).
- 50. Disconnect circuit 450 (8), 450B (9), and 451A (10) leads from bilge pumps switch leads (11), (12), and (13).
- 51. Disconnect circuit 21 (14), 22 (15), 23 (16), and 24 (17) leads from front main wiring harness (18).



NOTE

The 200 amp and 100 amp distribution boxes are similar. Removal of most lead wires are the same. 200 amp is shown. Do Step 52 for 200 amp only.

- 52. Disconnect circuit 37 lead (1) from master switch panel lead (2).
- 53. Remove eight screws (3), washers (4), and locknuts (5) from master switch panel (6). Separate panel from distribution box (7). Discard locknuts.
- 54. Remove locknut (8), screw (9), circuit 400 (10), circuit 2 (11), and circuit 6 (12) leads from bus bar (13) on master switch (14). Discard locknut.
- 55. Remove circuit 400 lead (10) and grommet (15) from distribution box (7). Discard grommet.
- 56. Disconnect circuit 450 lead (16) from lower circuit breaker (17).
- 57. Disconnect circuit 450B lead (18) from upper circuit breaker (19).
- 58. Remove circuit 450 (16) and 450B (18) leads and two grommets (20) from distribution box (7). Discard grommets.



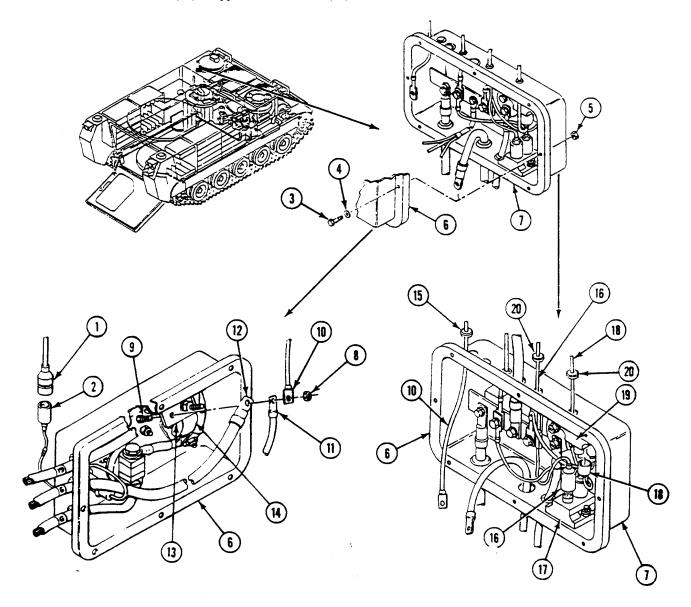
59. Remove harness from carrier.

INSPECT AND REPAIR

1. Inspect for damaged connectors and terminals. Repair as needed (WP 0312 00).

INSTALLATION

- 1. Install harness in carrier.
- 2. Install circuit 450 (16) and 450B (18) leads and two new grommets (20) in distribution box (7).
- 3. Connect circuit 450B lead (18) to upper circuit breaker (19).

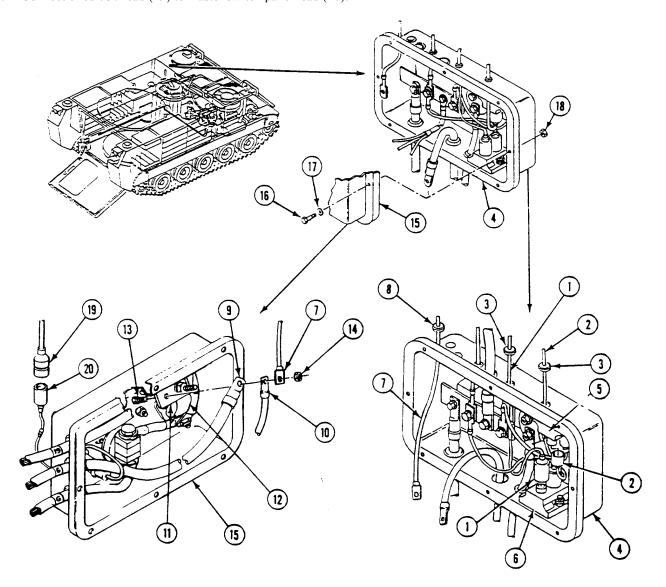


- 4. Connect circuit 450 lead (1) to lower circuit breaker (6).
- 5. Install circuit 400 lead (7) and new grommet (8) in distribution box (4).
- 6. Install circuit 6 (9), circuit 2 (10), and circuit 400 (7) leads on bus bar (11) on master switch (12). Secure with screw (13) and new locknut (14).

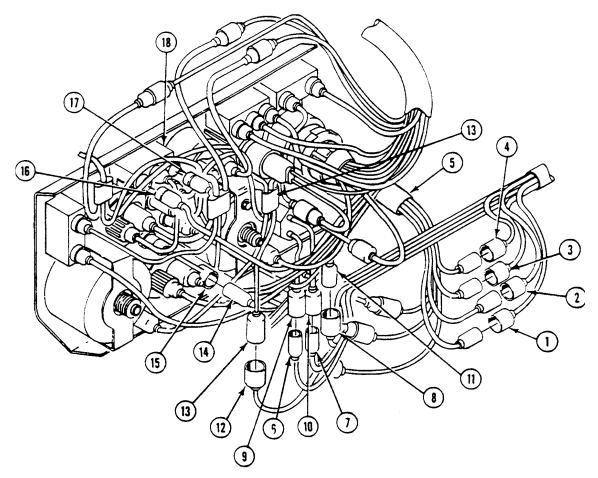
NOTE

Inspect gasket on distribution box. Replace if damaged.

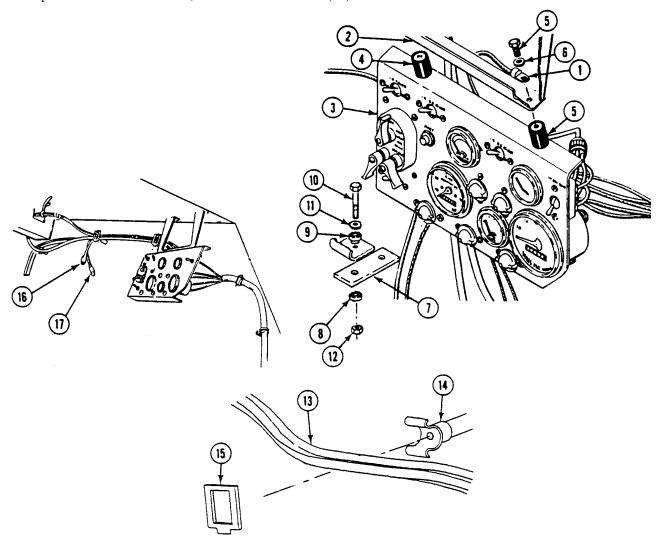
- 7. Install master switch panel (15) on distribution box (4). Secure with eight screws (16), washers (17), and new locknuts (18).
- 8. Connect circuit 37 lead (19) to master switch panel lead (20).



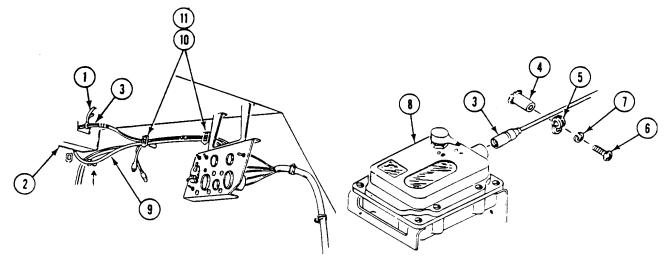
- 9. Connect circuit 21 (1), 22 (2), 23 (3), and 24 (4) leads to front main wiring harness (5).
- 10. Connect circuit 450 (6), 450B (7), and 451A (8) leads to bilge pumps switch leads (9), (10), and (11).
- 11. Connect circuit 38 lead (12) to instrument panel wiring harness (13).
- 12. Connect circuit 451B lead (14) to REAR BILGE PUMP ON indicator light (15).
- 13. Connect circuit 30 (16) and 31 (17) leads to fuel gauge switch (18).



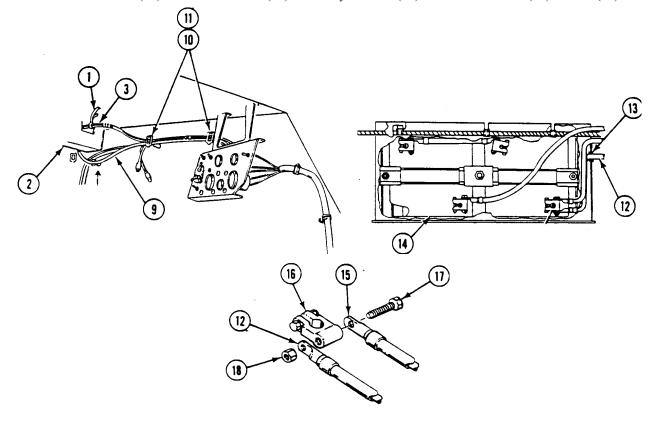
- 14. Position ground lead (1) at forward hole of bracket (2). Secure instrument panel (3) to bracket (2) with two panel mounts (4), screws (5), and new internal tooth lockwasher (6).
- 15. Secure panel (3) to two struts (7) with two mounts (8) and (9), screws (10), washers (11), and new locknuts (12).
- 16. Secure harness (13) to cradle (14) with clip (15).
- 17. If engine coolant heater is installed, connect circuit 400A lead (16) to engine coolant heater control box lead.
- 18. If personnel heater is installed, connect circuit 400 lead (17) to heater control box lead.



- 19. Attach twine (1) that was left in transverse beam (2) to circuit 38 lead (3). Pull lead through transverse beam into personnel compartment. Remove twine from lead.
- 20. Secure circuit 38 lead (3) to three weldnuts (4) on transverse beam with three clamps (5), screws (6), and new lockwashers (7).
- 21. Connect circuit 38 lead (3) to dome light (8).

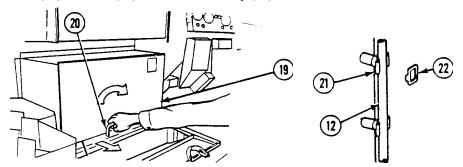


- 22. Install harness (9) in two cradles (10) and secure with clips (11).
- 23. Install circuit 48 lead (12) and new grommet (13) in battery box (14).
- 24. Install circuit 6 lead (15) and circuit 48 lead (12) on battery terminal (16). Secure with screw (17) and nut (18).

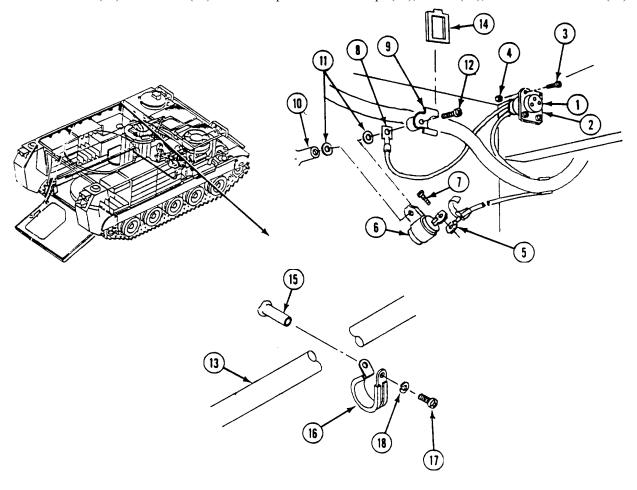


0288 00-17

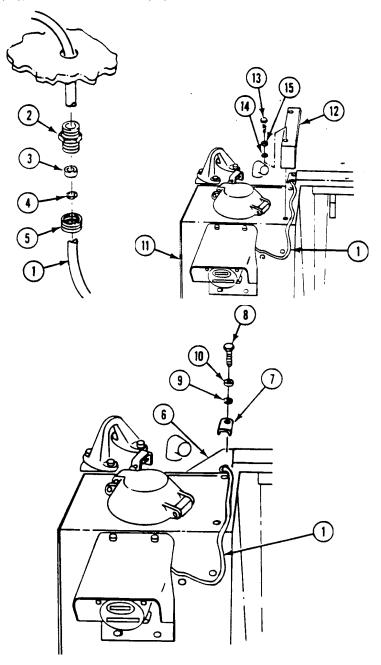
- 25. Push battery drawer (19) in and turn handle (20) counterclockwise to lock drawer. Raise left crew seat backrest.
- 26. Install circuit 48 lead (12) in cradle (21) and secure with clip (22).



- 27. Install circuit 48 radio receptacle (1) on bracket (2). Secure with four screws (3) and new locknuts (4).
- 28. Connect circuit 48 lead (5) to capacitor (6). Secure with screw (7) and tape.
- 29. Install capacitor (6), ground lead (8), and cradle (9) on weldnut (10) with two new lockwashers (11) and screw (12).
- 30. Install harness (13) in cradle (9) and secure with clip (14).
- 31. Secure harness (13) to weldnuts (15) on left hull plate with 11 clamps (16), screws (17), and new lockwashers (18).

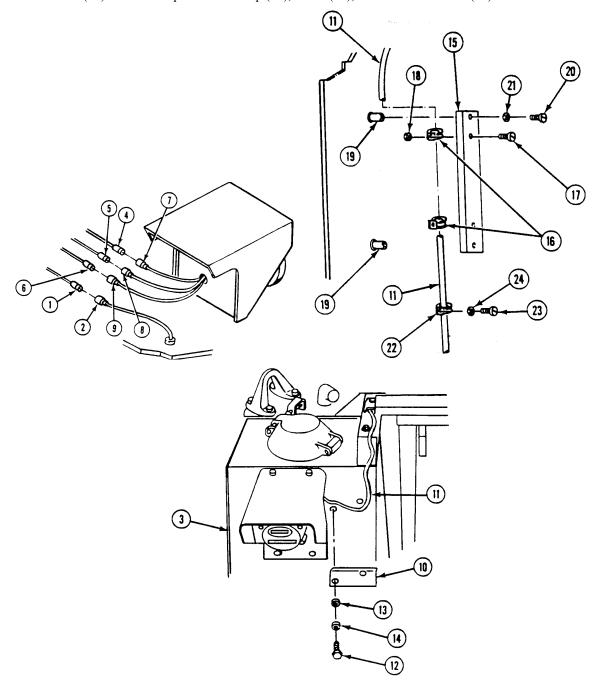


- 32. Close top ammo rack (see your -10).
- 33. Insert harness left side branch (1) through hole in hull top.
- 34. Install connector (2) in hull.
- 35. Secure harness (1) in connector (2) with rubber bushing (3), washer (4), and nut (5).
- 36. Insert harness (1) through hole in rear plate (6).
- 37. Install harness guard (7) on top of rear hull. Secure with screw (8), washer (9), and new lockwasher (10).
- 38. Route harness (1) along top of left fuel tank (11) and install harness bracket (12) over harness (1). Secure with two screws (13), washers (14), and new lockwashers (15).

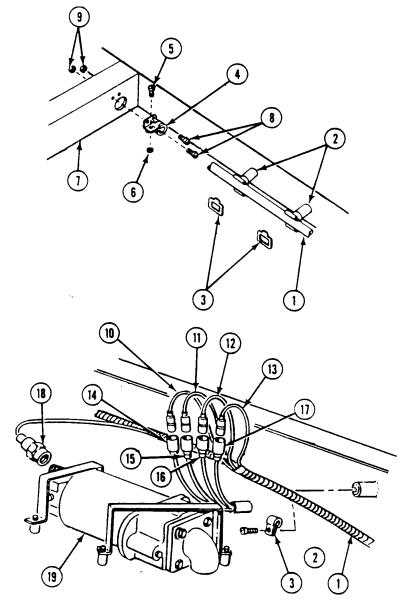


0288 00-19

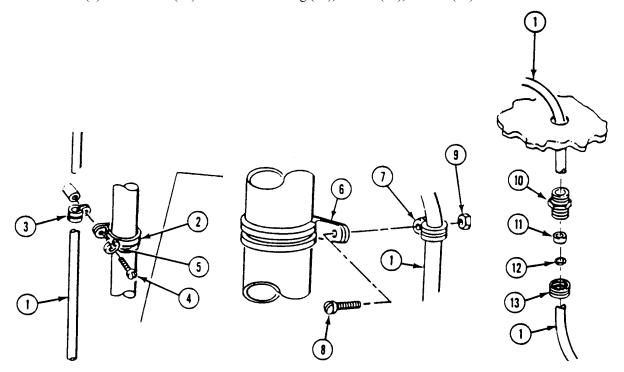
- 39. Connect circuit 30 lead (1) to fuel transmitter lead (2) on left fuel tank (3).
- 40. Connect circuit 21 (4), 22 (5), and 24 (6) leads to left taillight leads (7), (8), and (9).
- 41. Install harness guard (10) over harness (11) on left fuel tank (3). Secure with two screws (12), washers (13), and new lockwashers (14).
- 42. Secure harness (11) to guard (15) with two clamps (16), screws (17), and new locknuts (18).
- 43. Install guard (15) on two weldnuts (19) on rear hull plate. Secure with two screws (20) and new lockwashers (21).
- 44. Secure harness (11) on rear hull plate with clamp (22), screw (23), and new lockwasher (24).



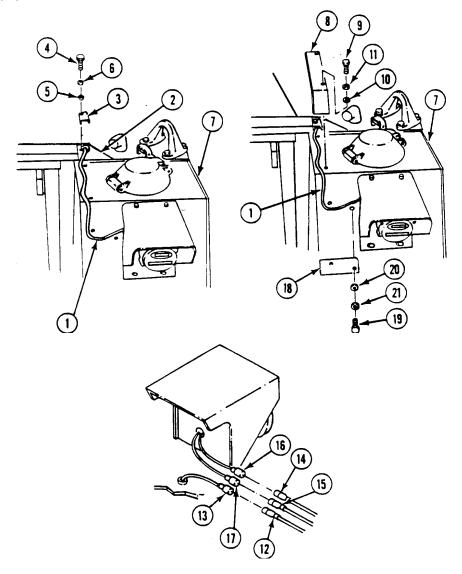
- 45. Install harness (1) in three cradles (2) and secure with three clips (3).
- 46. Install clamp (4) on harness (1) with screw (5) and new locknut (6).
- 47. Secure clamp (4) to floor beam (7) with two screws (8) and new locknuts (9).
- 48. Connect circuit 21 (10), 22 (11), 23 (12), and 24 (13) leads to four trailer wiring harness leads (14), (15), (16), and (17).
- 49. Connect circuit 451 lead (18) to rear bilge pump (19).



- 50. Secure harness (1) to two lower bilge tube clamps (2) with two clamps (3), screws (4), and new lockwashers (5).
- 51. Secure harness (1) to upper bilge tube clamp (6) with clamp (7), screw (8), and new locknut (9).
- 52. Insert harness right side branch (1) through hole in hull top.
- 53. Install connector (10) in hull.
- 54. Secure harness (1) in connector (10) with rubber bushing (11), washer (12), and nut (13).



- 55. Insert harness (1) through hole in rear plate (2).
- 56. Install harness guard (3) on top of rear hull. Secure with screw (4), washer (5), and new lockwasher (6).
- 57. Route harness (1) along top of right fuel tank (7) and install harness bracket (8) over harness. Secure with two screws (9), washers (10), and new lockwashers (11).
- 58. Connect circuit 31 lead (12) to fuel transmitter lead (13) on right fuel tank (7).
- 59. Connect circuit 23 (14) and 24 (15) leads to right taillight leads (16) and (17).
- 60. Install harness guard (18) over harness (1) on right fuel tank (7). Secure with two screws (19), washers (20), and new lockwashers (21).



REPLACE REAR MAIN WIRING HARNESS (M1064 ONLY) — Continued

FOLLOW-THROUGH STEPS

- 1. Install rear floor plate (WP 0437 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON and start engine (see your -10).
- 4. Check that electrical system works properly (see your -10).
- 5. Raise and lock ramp (see your -10).
- 6. Stop engine (see your -10).

END OF TASK

0289 00

THIS WORK PACKAGE COVERS:

Removal (page 0289 00-1). Installation (page 0289 00-10).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Grommet (3)

Locknut (8)

Lockwasher (AR)

Terminal (3)

Tie strap (AR)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Ramp lowered (see your -10)

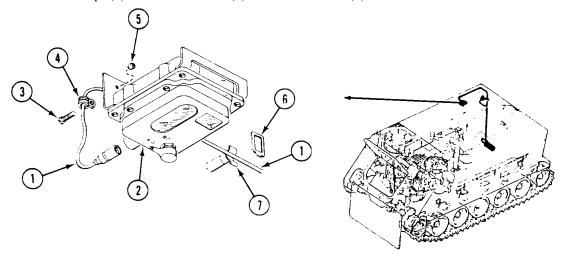
Rear floor plate removed (WP 0436 00)

Smoke generator fog oil tank module removed (M1059

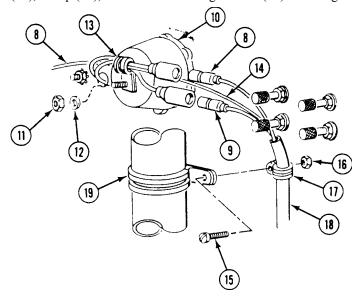
Only) (WP 0695 00)

REMOVAL

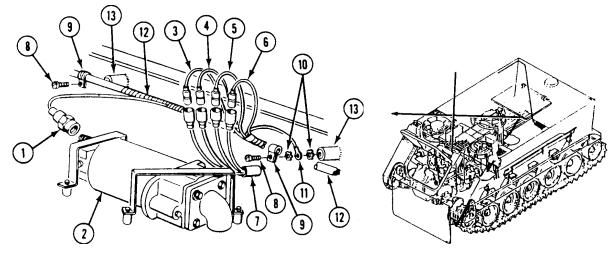
- 1. Disconnect circuit 38 lead (1) from rear dome light (2).
- 2. Remove screw (3), clamp (4), nut (5), and circuit 38 lead (1) from rear dome light (2).
- 3. Remove three cradle clips (6) and circuit 38 lead (1) from three cradles (7).



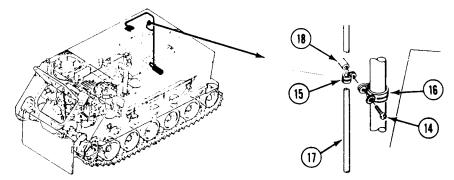
- 4. Disconnect circuit 23 lead (8) and circuit 24 lead (9) from right taillight (10).
- 5. Remove nut (11), washer (12), clamp (13), and circuit 38 lead (14), circuit 23 lead (8), and circuit 24 lead (9) from right taillight (10).
- 6. Remove screw (15), nut (16), clamp (17), and rear main wiring harness (18) from bilge tube clamp (19).



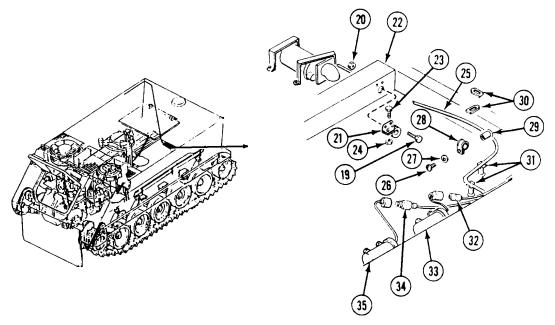
- 7. Disconnect circuit 451 lead (1) from rear bilge pump (2).
- 8. Disconnect circuit 21 lead (3), circuit 22 lead (4), circuit 23 lead (5), and circuit 24 lead (6) from trailer wiring harness (7).
- 9. Remove two screws (8), clamps (9), washers (10), circuit 90 lead (11), and wiring harness (12) from two weldnuts (13).



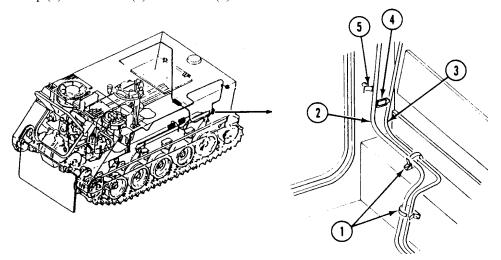
10. Remove screw (14), clamp (15), bilge tube clamp (16), and wiring harness (17) from weldnut (18).



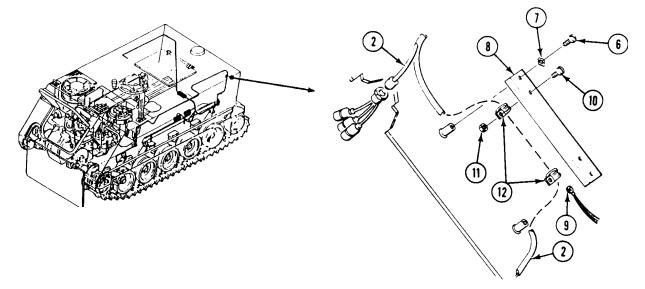
- 11. Remove two screws (19), nuts (20), and clamp (21) from floor transverse beam (22).
- 12. Remove screw (23), nut (24), and clamp (21) from circuit 451 lead (25).
- 13. Remove screw (26), lockwasher (27), clamp (28), and circuit 451 lead (25) from weldnut (29). Discard lockwasher.
- 14. Remove two cradle clips (30) and circuit 451 lead (25) from two cradles (31).
- 15. If personnel heater is installed, disconnect circuit 402 lead (32) from personnel heater fuel pump (33).
- 16. If engine coolant heater is installed, disconnect circuit 402A lead (34) from engine coolant heater fuel pump (35).



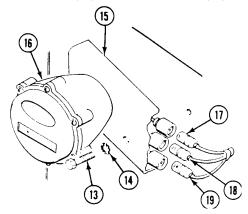
- 17. Remove two tie straps (1) and rear main wiring harness (2) from fuel tube (3). Discard tie straps.
- 18. Remove cradle clip (4) and harness (2) from cradle (5).



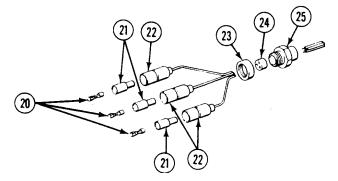
- 19. Remove two screws (6), lockwashers (7), guard (8), and ground strap (9) from hull. Discard lockwashers.
- 20. Remove two screws (10), nuts (11), clamps (12), and wiring harness (2) from guard (8).



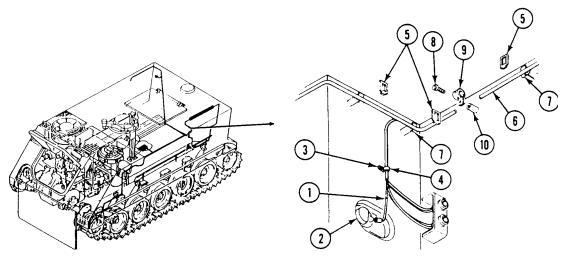
- 21. Remove four screws (13), lockwashers (14), guard (15), and left taillight (16) from hull. Discard lockwashers.
- 22. Disconnect circuit 21 lead (17), circuit 22 lead (18), and circuit 24 lead (19) from left taillight (16).



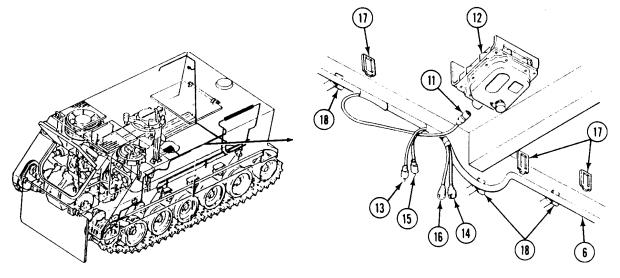
- 23. Remove three terminals (20), insulators (21), and connectors (22) from three leads (17), (18), and (19). Discard terminals.
- 24. Remove nut (23) and bushing (24) from connector (25).
- 25. Pull leads through connector (25).



- 26. Disconnect circuit 28 lead (1) from fuel quantity sending unit (2).
- 27. Remove screw (3) and circuit 28 lead (1) from clamp (4).
- 28. Remove two cradle clips (5) and rear main wiring harness (6) from two cradles (7).
- 29. Remove screw (8), clamp (9), and wiring harness (6) from weldnut (10).

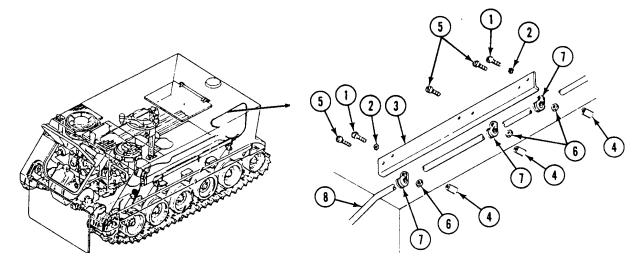


- 30. Disconnect circuit 38 lead (11) from front dome light (12).
- 31. If personnel heater is installed, disconnect circuit 402 lead (13) from personnel heater wiring harness and circuit 400 lead (14) from personnel heater control box.
- 32. If engine coolant heater is installed, disconnect circuit 402A lead (15) from engine coolant heater wiring harness and circuit 400A lead (16) from engine coolant heater control box.
- 33. Remove seven cradle clips (17) and wiring harness (6) from seven cradles (18).

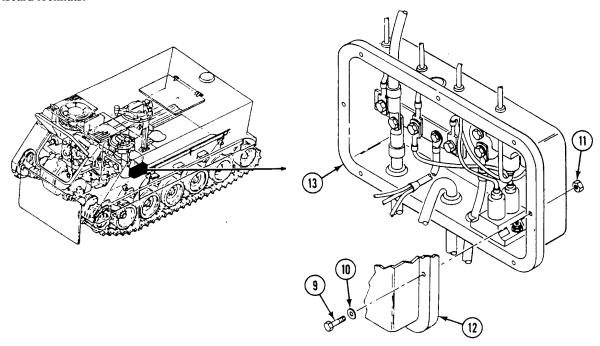


0289 00

- 34. Remove two screws (1), lockwashers (2), and guard (3) from two weldnuts (4). Discard lockwashers.
- 35. Remove three screws (5), nuts (6), clamps (7), and wiring harness (8) from guard (3).

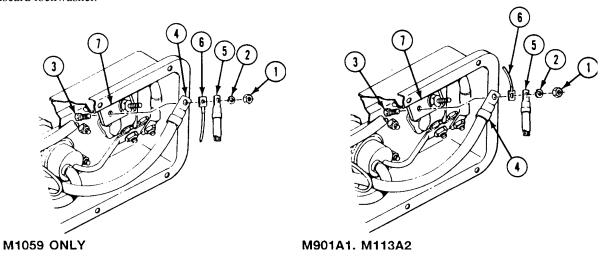


36. Remove eight screws (9), washers (10), and locknuts (11). Separate master switch panel (12) from distribution box (13). Discard locknuts.

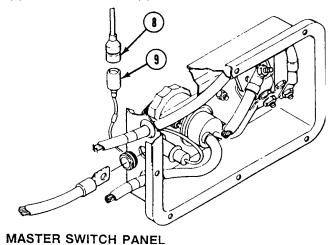


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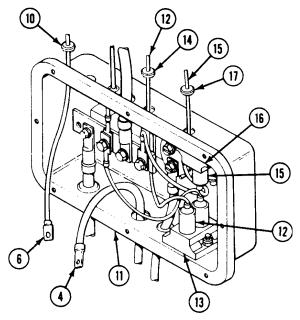
37. Remove nut (1), lockwasher (2), screw (3), circuit 6 lead (4), circuit 2 lead (5), circuit 400 lead (6) from bus bar (7). Discard lockwasher.



38. Disconnect circuit 38 lead (8) from circuit 37 lead (9).



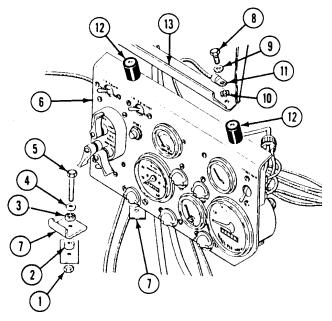
- 39. Remove circuit 400 lead (6) and grommet (10) from distribution box (11). Discard grommet.
- 40. Disconnect circuit 450 lead (12) from circuit breaker (13).
- 41. Remove circuit 450 lead (12) and grommet (14) from distribution box (11). Discard grommet.
- 42. Disconnect circuit 450B lead (15) from circuit breaker (16).
- 43. Remove circuit 450B lead (15) and grommet (17) from distribution box (11). Discard grommet.



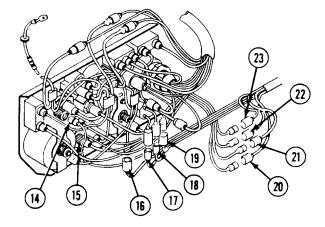
DISTRIBUTION BOX

0289 00

- 44. Remove two nuts (1), mounts (2) and (3), flat washers (4), and screws (5) that secure instrument panel (6) to two struts (7).
- 45. Support panel (6). Remove two screws (8), flat washers (9), one lockwasher (10), and ground lead (11) from two mounts (12) and upper support (13). Discard lockwasher.
- 46. Support panel (6) on two struts (7) to gain access to rear of panel.



- 47. Disconnect circuit 28 lead (14) from fuel gauge.
- 48. Disconnect circuit 451B lead (15) from rear BILGE PUMP ON indicator light.
- 49. Disconnect circuit 38 lead (16) from instrument panel wiring harness.
- 50. Disconnect circuit 450 lead (17), 450B lead (18), and 451A lead (19) from BILGE PUMP SWITCH.
- 51. Disconnect circuit 21 lead (20), circuit 22 lead (21), circuit 23 lead (22), and circuit 24 lead (23) from front main wiring harness.

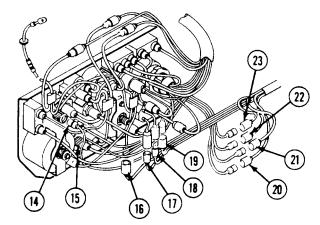


52. Remove rear main wiring harness from carrier (all carriers with inside fuel tanks).

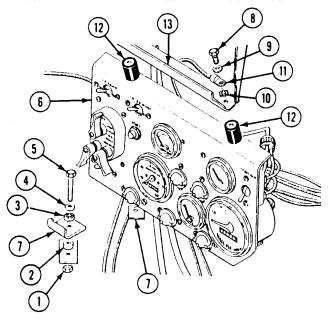
0289 00

INSTALLATION

- 1. Install rear main wiring harness in carrier.
- 2. Connect circuit 24 lead (23), circuit 23 lead (22), circuit 22 lead (21), and circuit 21 lead (20) to front main wiring harness.
- 3. Connect circuit 451A lead (19), 450B lead (18), and 450 lead (17) to BILGE PUMP SWITCH.
- 4. Connect circuit 38 lead (16) to instrument panel wiring harness.
- 5. Connect circuit 451B lead (15) to rear BILGE PUMP ON indicator light.
- 6. Connect circuit 28 lead (14) to fuel gauge.

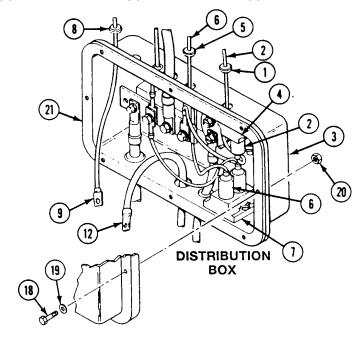


- 7. Support instrument panel (6) on two struts (7).
- 8. Install ground lead (11) and new lockwasher (10) on upper support (13). Install panel (6) with two mounts (12) on support (13). Secure with two screws (8) and flat washers (9).
- 9. Install panel (6) on two struts (7). Secure with two nuts (1), mounts (2) and (3), flat washers (4), and screws (5).

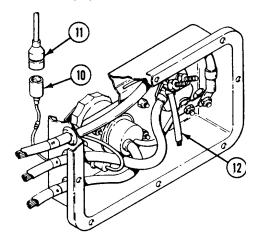


0289 00

- 10. Install new grommet (1) and circuit 450B lead (2) in distribution box (3).
- 11. Connect circuit 450B lead (2) to circuit breaker (4).
- 12. Install new grommet (5) and circuit 450 lead (6) in distribution box (3).
- 13. Connect circuit 450 lead (6) to circuit breaker (7).
- 14. Install new grommet (8) and circuit 400 lead (9) in distribution box (3).



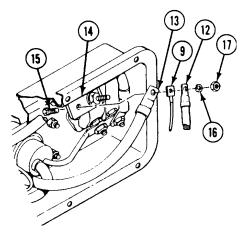
15. Connect circuit 37 lead (10) to circuit 38 lead (11).



MASTER SWITCH PANEL

0289 00

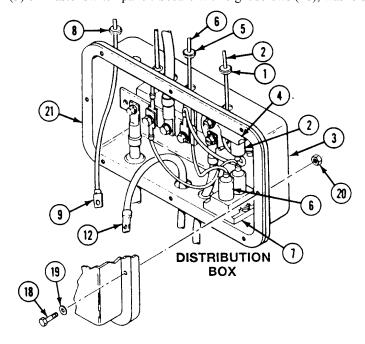
16. Install circuit 400 lead (9), circuit 2 lead (12), and circuit 6 lead (13) on bus bar (14). Secure with screw (15), new lockwasher (16), and nut (17).



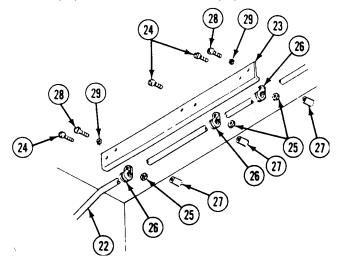
NOTE

Inspect gasket (21). Replace if damaged.

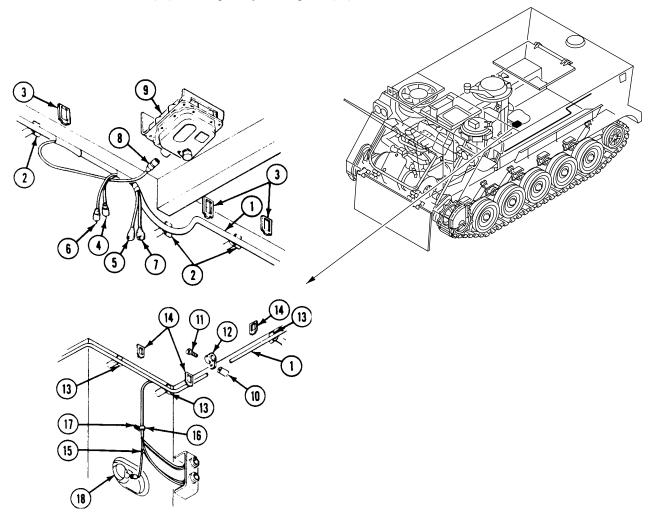
17. Install distribution box (3) on master switch panel. Secure with eight screws (18), washers (19), and new locknuts (20).



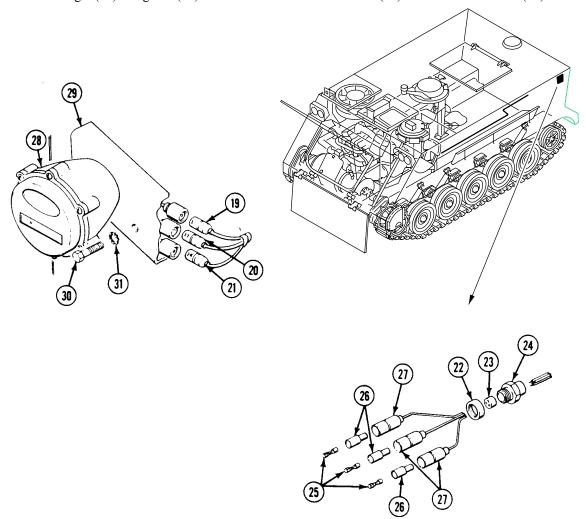
- 18. Install rear main wiring harness (22) on guard (23). Secure with three screws (24), nuts (25), and clamps (26).
- 19. Install guard (23) on two weldnuts (27). Secure with two screws (28) and new lockwashers (29).



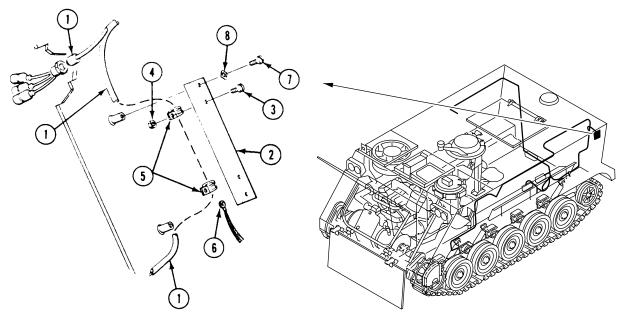
- 20. Install rear main wiring harness (1) on seven cradles (2). Secure with seven cradle clips (3).
- 21. If engine coolant heater is installed, connect circuit 402A lead (4) to engine coolant heater wiring harness and circuit 400A lead (5) to engine coolant heater control box.
- 22. If personnel heater is installed, connect circuit 402 lead (6) to personnel heater wiring harness and circuit 400 lead (7) to personnel heater control box.
- 23. Connect circuit 38 lead (8) to front dome light (9).
- 24. Install wiring harness (1) on weldnut (10). Secure with screw (11) and clamp (12).
- 25. Install wiring harness (1) on two cradles (13). Secure with two cradle clips (14).
- 26. Install circuit 28 lead (15) in clamp (16). Secure with screw (17).
- 27. Connect circuit 28 lead (15) to fuel quantity sending unit (18).



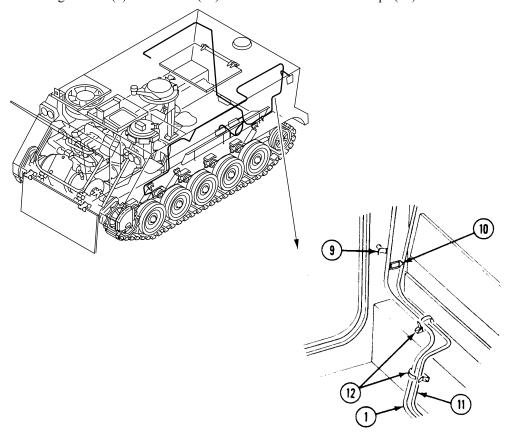
- 28. Install lead (19), lead (20), and lead (21) through nut (22), bushing (23), and connector (24). Tighten nut on connector.
- 29. Install three new terminals (25), insulators (26), and connectors (27) on the ends of three leads installed in Step 28.
- 30. Connect circuit 24 lead (21), circuit 22 lead (20), and circuit 21 lead (19) to left taillight (28).
- 31. Install left taillight (28) and guard (29) on hull. Secure with four screws (30) and new lockwashers (31).



- 32. Install rear main wiring harness (1) on guard (2). Secure with two screws (3), nuts (4), and clamps (5).
- 33. Install guard (2) and ground strap (6) on hull. Secure with two screws (7) and new lockwashers (8).



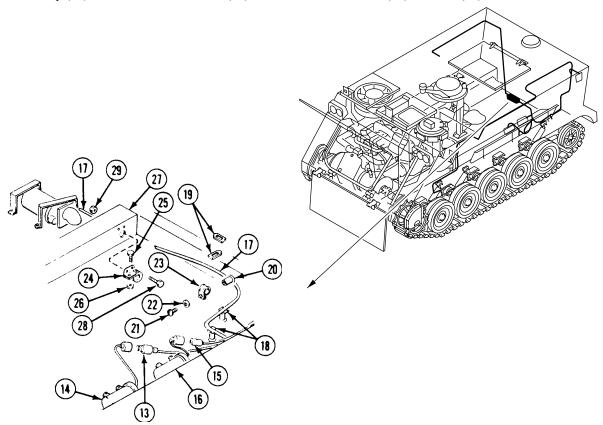
- 34. Install wiring harness (1) on cradle (9). Secure with cradle clip (10).
- 35. Install wiring harness (1) on fuel tube (11). Secure with two new tie straps (12).



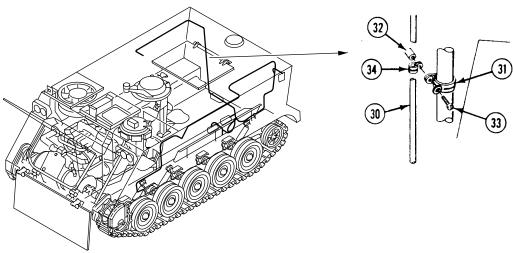
0289 00-17

0289 00

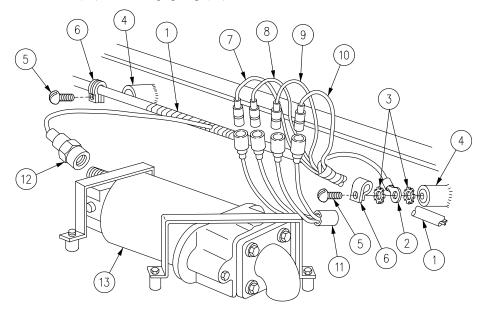
- 36. If engine coolant heater is installed, connect circuit 402A lead (13) to engine coolant heater fuel pump (14).
- 37. If personnel heater is installed, connect circuit 402 lead (15) to personnel heater fuel pump (16).
- 38. Install circuit 451 lead (17) on two cradles (18). Secure with two cradle clips (19).
- 39. Install circuit 451 lead (17) on weldnut (20). Secure with screw (21), new lockwasher (22), and clamp (23).
- 40. Install clamp (24) on circuit 451 lead (17). Secure with screw (25) and nut (26).
- 41. Install clamp (24) on floor transverse beam (27). Secure with two screws (28) and nuts (29).



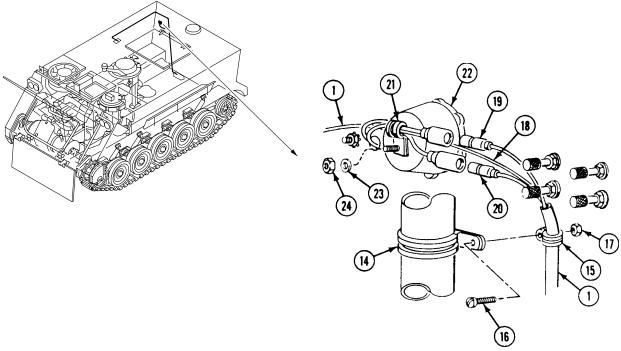
42. Install wiring harness (30) and bilge tube clamp (31) on weldnut (32). Secure with screw (33) and clamp (34).



- 43. Install rear main wiring harness (1), circuit 90 lead (2), and two washers (3) on two weldnuts (4). Secure with two screws (5) and clamps (6).
- 44. Connect circuit 21 lead (7), circuit 22 lead (8), circuit 23 lead (9), and circuit 24 lead (10) to trailer wiring harness (11).
- 45. Connect circuit 451 lead (12) to rear bilge pump (13).

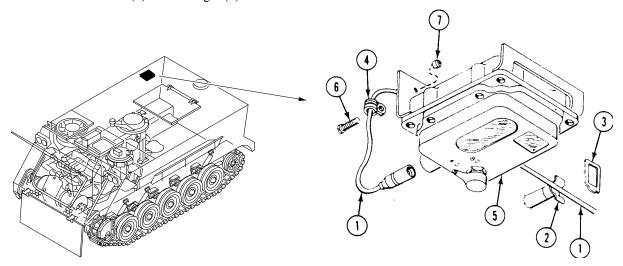


- 46. Install wiring harness (1) on bilge tube clamp (14). Secure with clamp (15), screw (16), and nut (17).
- 47. Route circuit 38 lead (18), circuit 23 lead (19), and circuit 24 lead (20) through clamp (21). Secure clamp to taillight (22) with washer (23) and nut (24).
- 48. Connect circuit 23 lead (19) and circuit 24 lead (20) to right taillight (22) female connectors.



0289 00

- 49. Install circuit 38 lead (1) on three cradles (2). Secure with three cradle clips (3).
- 50. Install clamp (4) on rear dome light (5). Secure with screw (6) and nut (7).
- 51. Connect circuit 38 lead (1) to dome light (5).



FOLLOW-THROUGH STEPS

- 1.□ Install rear floor plate (WP 0436 00).
- 2. ☐ Connect battery ground lead (WP 0294 00).
- 3 Install smoke generator fogoil tank module (M1059 Only) (WP 0695 00).
- 4. Turn MASTER POWER SWITCH to ON (see your -10). Check that electrical system works properly.
- 5. Raise and lock ramp (see your -10).
- 6. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE STOPLIGHT SWITCH AND BRACKET

0290 00

THIS WORK PACKAGE COVERS:

Removal (page 0290 00-1). Installation (page 0290 00-2). Adjustment (page 0290 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (2)

Personnel Required

Unit Mechanic

References

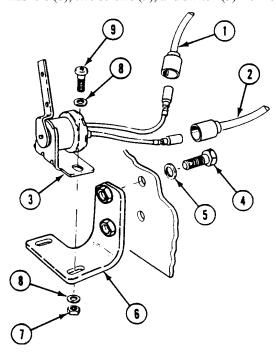
See your -10 WP 0294 00

Equipment Condition

Engine stopped/shutdown (see your -10)
Battery ground lead disconnected (WP 0294 00)
Trim vane lowered and power plant front access door open (see your -10)

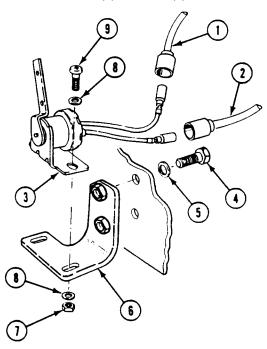
REMOVAL

- 1. Disconnect circuit 75A lead (1) and circuit 75B lead (2) from switch (3).
- 2. From driver's compartment, remove two screws (4) and washers (5) from driver's bulkhead and bracket (6).
- 3. From power plant compartment, remove bracket (6) with switch (3) attached.
- 4. Remove two locknuts (7), four washers (8), two screws (9), and switch (3) from bracket (6). Discard locknuts.



INSTALLATION

- 1. Place switch (3) on bracket (6). Secure with two screws (9), four washers (8), and two new locknuts (7).
- 2. Align bracket (6), with switch (3) attached, to driver's compartment bulkhead. Secure with two washers (5) and screws (4).
- 3. Connect circuit 75B lead (2) and circuit 75A lead (1) to switch (3).



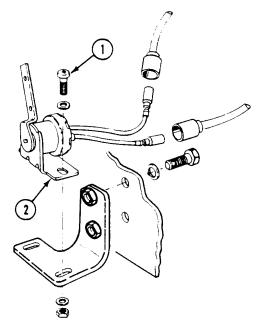
ADJUSTMENT

NOTE

If movement of switch is not enough to adjust switch, bend tab on steering levers to get correct adjustment.

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).

- 3. Loosen two screws (1) on switch (2).
- 4. Pull both steering levers back to first notch and lock levers (see your -10).
- 5. Place switch (2) against steering levers so that stoplight switch comes on.
- 6. Release steering levers (see your -10). Stoplights should go out.
- 7. Tighten two screws (1) on switch (2).



FOLLOW-THROUGH STEPS

- 1. Turn all switches OFF (see your -10).
- 2. Close power plant front access door and raise trim vane (see your -10).

REPLACE TUBE TYPE INFRARED POWER SUPPLY

0291 00

THIS WORK PACKAGE COVERS:

Removal (page 0291 00-1). Test and Inspection (page 0291 00-2). Installation (page 0291 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (4)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

REMOVAL

WARNING



High voltage in the M19 periscope can cause serious injury or death. Voltage could exceed 16,000 volts. To avoid accidents, observe the following:

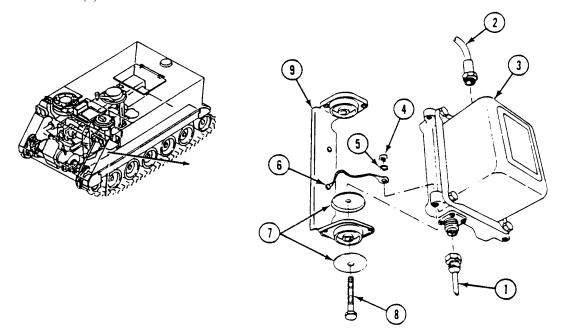
Always connect power cable to periscope before turning MASTER SWITCH and infrared (I.R.) POWER switch to ON.

Before disconnecting power cable from M19 periscope, always wait at least two minutes after turning infrared (I.R.) POWER switch and MASTER SWITCH OFF.

Do not disconnect power cable until image disappears from periscope screen.

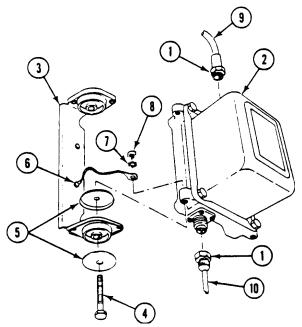
Never touch end of power cable, or allow it to contact metal surfaces.

- 1. Disconnect circuit 516A lead (1) and circuit 517 lead (2) from power supply (3).
- 2. Remove four nuts (4), four lockwashers (5), ground lead (6), eight washers (7), four screws (8), and power supply (3) from two mounts (9). Discard lockwashers.



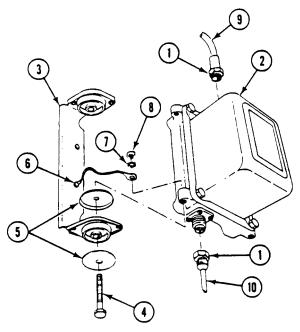
TEST AND INSPECTION

1. Check circuit lead connectors (1). Replace connectors that have bent or missing contact pins (WP 0313 00).



INSTALLATION

- 1. Install power supply (2) on two mounts (3). Secure with four screws (4), eight washers (5), ground lead (6), four new lockwashers (7), and nuts (8).
- 2. Connect circuit 517 lead (9) and circuit 516A lead (10) to power supply (2).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Install and operate M19 periscope to check that infrared power supply is operable (see your -10).
- 4. Turn all infrared periscope switches off (see your -10).
- 5. Turn MASTER SWITCH to OFF (see your -10).
- 6. Stow periscope (see your -10).

REPLACE INFRARED POWER SUPPLY SHOCK MOUNT BRACKETS

0292 00

THIS WORK PACKAGE COVERS:

Removal (page 0292 00-1). Test and Inspection (page 0292 00-1). Installation (page 0292 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

General Mechanic's Tool Kit (

Materials/Parts

Lockwasher (8)

Personnel Required

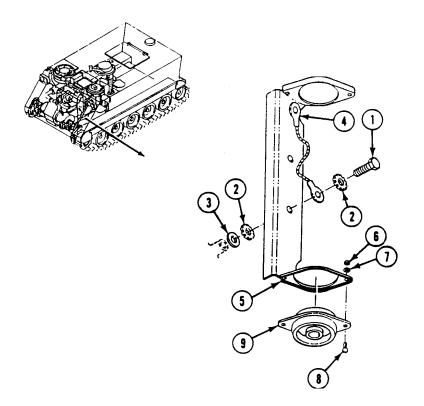
Unit Mechanic

Equipment Condition

Infrared power supply removed (WP 0291 00)

REMOVAL

- 1. Remove four screws (1), eight lockwashers (2), four flat washers (3), ground strap (4), and two brackets (5) from hull. Discard lockwashers.
- 2. Remove eight nuts (6), washers (7), screws (8), and four mounts (9) from two brackets (5).



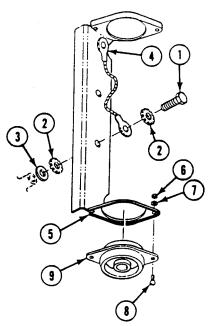
TEST AND INSPECTION

1. Check ground lead. Replace frayed, broken, or cracked parts (WP 0312 00).

0292 00

INSTALLATION

- 1. Install four mounts (9) in two brackets (5). Secure with eight screws (8), washers (7), and nuts (6).
- 2. Install two brackets (5) on hull. Secure with eight new lockwashers (2), four flat washers (3), ground strap (4), and four screws (1).



FOLLOW-THROUGH STEPS

1. Install infrared power supply (WP 0291 00).

REPLACE SOLID STATE INFRARED POWER SUPPLY

0293 00

THIS WORK PACKAGE COVERS:

Removal (page 0293 00-1). Test and Inspection (page 0293 00-2). Installation (page 0293 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (8)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

REMOVAL

WARNING



High voltage in the M19 periscope can cause serious injury or death. Voltage could exceed 16,000 volts. To avoid accidents, observe the following:

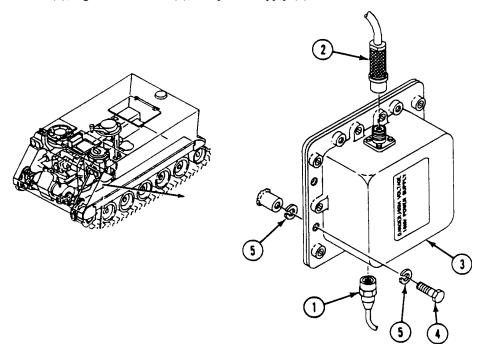
Always connect power cable to periscope before turning MASTER SWITCH and infrared (I.R.) POWER switch to ON.

Before disconnecting power cable from M19 periscope, always wait at least two minutes after turning infrared (I.R.) POWER switch and MASTER SWITCH OFF.

Do not disconnect power cable until image disappears from periscope screen.

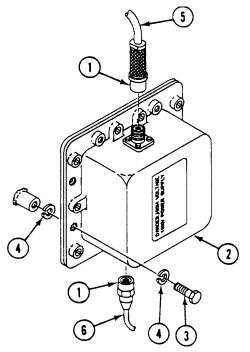
Never touch end of power cable, or allow it to contact metal surfaces.

- 1. Disconnect circuit 516A lead (1) and circuit 517 lead (2) from power supply (3).
- 2. Remove four screws (4), eight lockwashers (5), and power supply (3) from four weldnuts. Discard lockwashers.



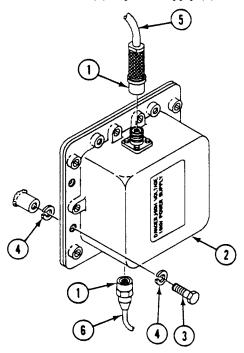
TEST AND INSPECTION

1. Check connectors (1). Replace connectors that have bent or missing contact pins (WP 0313 00).



INSTALLATION

- 1. Place power supply (2) on four weldnuts. Secure with four screws (3) and eight lockwashers (4) on weldnuts.
- 2. Connect circuit 517 lead (5) and circuit 516A lead (6) to power supply (2).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Install and operate M19 periscope to check that infrared power supply is operable (see your -10).
- 4. Turn all infrared periscope switches off (see your -10).
- 5. Turn MASTER SWITCH to OFF (see your -10).
- 6. Stow periscope (see your -10).

TM 9-2350-261-20-2

CHAPTER 13

UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM - BATTERIES

WORK PACKAGE INDEX

Title	Sequence No.
—— DISCONNECT/CONNECT BATTERY GROUND LEAD	
REPLACE BATTERY COVER AND GROUND LEAD (M113A2, M901A1, AND M1059)	
REMOVE/INSTALL BATTERY ACCESS COVER (M577A2 ONLY)	
REMOVE/INSTALL BATTERY ACCESS COVER (M1068 ONLY)	
REMOVE/INSTALL BATTERY LEADS (M1068 ONLY)	0298 00
REMOVE/INSTALL BATTERY LEADS (M577A2 ONLY)	
REPLACE BATTERY LEADS (M1064 ONLY)	0300 00
REPLACE CIRCUIT 6 LEAD (ALL EXCEPT M577A2 AND M1068)	0301 00
REPLACE BATTERIES AND RETAINERS (ALL EXCEPT M1064)	0302 00
REPLACE BATTERIES AND RETAINERS (M1064 ONLY)	0303 00
REPAIR BATTERY BOX COVER (M113A2, M901A1, AND M1059 ONLY)	0304 00
REPAIR BATTERY BOX	0305 00
REPAIR BATTERY DRAWER (M1064 ONLY)	0306 00
REPLACE BATTERY TO RADIO HARNESS (M1059, M901A1, AND M113A2 ONLY)	0307 00
REPLACE BATTERY DRAWER INSULATION AND HEAT EXCHANGER (M1064 ONLY)	0308 00
REPLACE BATTERY BOX INSULATION AND HEAT EXCHANGER (M577A2 AND M1068 ONLY)	0309 00
REPLACE BATTERY BOX INSULATION AND HEAT EXCHANGER (M113A2, M901A1, AND M1059 ONLY)	0310 00

DISCONNECT/CONNECT BATTERY GROUND LEAD

0294 00

THIS WORK PACKAGE COVERS:

Disconnect (page 0294 00-1). Connect (page 0294 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Battery Terminal Puller (WP 0780 00, Item 47) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grease (WP 0782 00, Item 24)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

All radios and heaters OFF (see your -10)

Battery access (see your -10)

Battery access cover removed (M1068 Only) (WP 0297 00)

DISCONNECT

WARNING



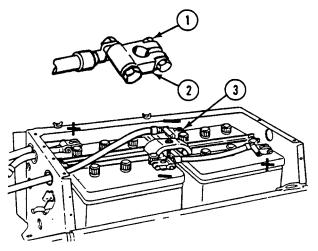
Gas from batteries can explode. Ventilate compartment before you disconnect or connect battery cables. Battery acid can burn or blind you. Do not get acid on your skin or eyes. ALWAYS disconnect ground lead (circuit 7) first and connect it last.

WARNING



Battery posts and cables touched by metal objects can short circuit and burn you. Do not wear jewelry, necklaces, or watches when working on the electrical system. Keep tools away from posts, wires, and terminals.

1. Loosen nut (1) and remove circuit 7 ground lead and terminal lug (2) from battery post (3). Use battery terminal puller.

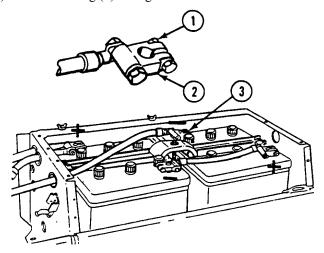


CONNECT

CAUTION

Battery cells can be damaged if the batteries are connected incorrectly. Be sure batteries are connected correctly.

- 1. Position circuit 7 ground lead and terminal lug (2) on battery post (3) and tighten nut (1).
- 2. Coat top of battery post (3) and terminal lug (2) with grease.



FOLLOW-THROUGH STEPS

- 1. Secure battery (see your -10).
- 2. Start engine (see your -10).
- 3. Raise and lock ramp (see your -10).
- 4. Stop/shutdown engine (see your -10).

REPLACE BATTERY COVER AND GROUND LEAD (M113A2, M901A1, AND M1059)

0295 00

THIS WORK PACKAGE COVERS:

Removal (page 0295 00-1). Clean, Inspect, and Repair (page 0295 00-3). Installation (page 0295 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Battery Terminal Cleaner (WP 0780 00, Item 12) Battery Terminal Puller (WP 0780 00, Item 47) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grease (WP 0782 00, Item 9)
Sodium bicarbonate (WP 0782 00, Item 70)
Grommet

Personnel Required

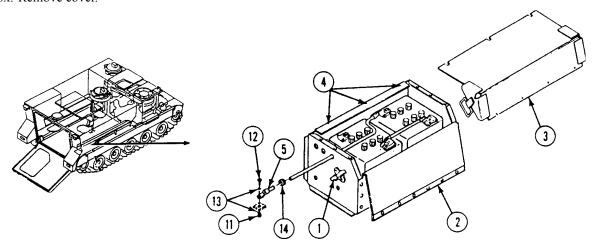
Unit Mechanic

Equipment Condition

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

REMOVAL

1. Release two latches (1) on side of battery box (2). Lift and slide cover (3) from three grommets (4) on rear of battery box. Remove cover.



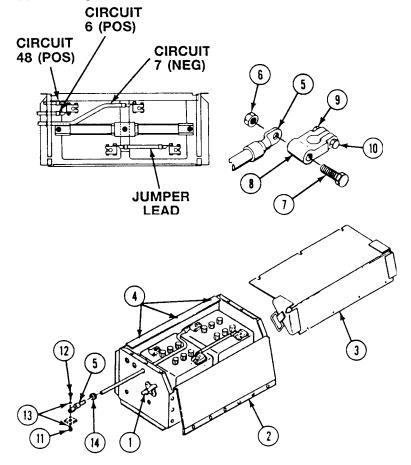
0295 00

WARNING



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

- 2. Remove circuit 7 lead (5) as follows:
 - a. Remove nut (6) and circuit 7 lead (5) from screw (7) on terminal lug (8).
 - b. Loosen nut (9) from screw (10) and remove terminal lug (8) from battery post. Use battery terminal puller.
 - c. Remove nut (11), screw (12), two washers (13), and lead (5) from hull mount. Remove lead and grommet (14) from battery box (2). Discard grommet.



REPLACE BATTERY COVER AND GROUND LEAD (M113A2, M901A1, AND M1059) — Continued

0295 00

3. Remove two nuts (1) and jumper lead (2) from two screws (3) on two terminal lugs (4).

WARNING

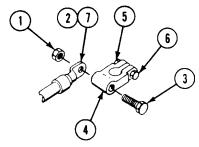


Battery posts and cables touched by metal objects can short circuit and burn you. Do not wear jewelry, necklaces, or watches when working on the electrical system. Keep tools away from posts, wires, and terminals.

CAUTION

Do not start carriers while batteries are disconnected. Starting engine with outside power while batteries are disconnected will damage electrical components in the regulator.

4. Loose two nuts (5) on two screws (6) and remove terminal lugs (4) from battery posts. Use battery terminal puller.



CLEAN, INSPECT, AND REPAIR

- 1. Clean battery terminal adapters, battery posts, grounding bracket on hull, and lead connectors with brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush parts with clean water. Dry with clean cloth.
- 2. Clean terminals, lugs, and posts with terminal cleaner.
- 3. Check leads. Replace worn leads and damaged connectors (WP 0312 00).

REPLACE BATTERY COVER AND GROUND LEAD (M113A2, M901A1, AND M1059) — Continued

0295 00

INSTALLATION

CAUTION

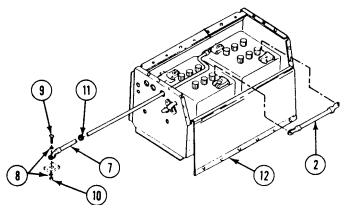
Battery cells can be damaged if the batteries are hooked up incorrectly. Make sure batteries are hooked up correctly.

- 1. Place two terminal lugs (4) on battery posts. Secure with two screws (6) and nuts (5).
- 2. Place jumper lead (2) on two screws (3) of two terminal lugs (4). Secure with two nuts (1).

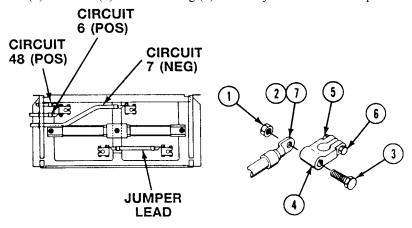
NOTE

Install circuits 6 and 48 positive leads before installing circuit 7 ground lead.

- 3. Install circuit 7 lead (7) as follows:
 - a. Place lead (7) on hull mount. Secure with two washers (8), screw (9), and nut (10).
 - b. Install new grommet (11) in battery box (12). Route circuit lead 7 (7) through grommet into battery box.



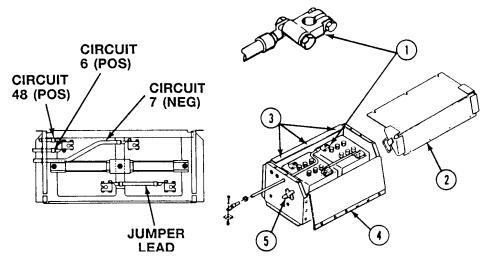
c. Place circuit 7 lead (7) on screw (3) in terminal lug (4) of battery closest to the ramp door. Secure with nut (1).



REPLACE BATTERY COVER AND GROUND LEAD (M113A2, M901A1, AND M1059) — Continued

0295 00

- 4. Coat tops of four battery terminal lugs (1) with grease.
- 5. Slide battery cover (2) onto three grommets (3) on battery box (4). Secure cover to battery box with two latches (5) on side of box.



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON. Check BATT-GEN gauge on instrument panel. Gauge should read in BATT green or yellow zone (see your -10).
- 2. Start engine. Raise and lock ramp (see your -10).
- 3. Stop/shutdown engine (see your -10).

REMOVE/INSTALL BATTERY ACCESS COVER (M577A2 ONLY)

0296 00

THIS WORK PACKAGE COVERS:

Removal (page 0296 00-1). Installation (page 0296 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Nonmetallic bumper (5)

Personnel Required

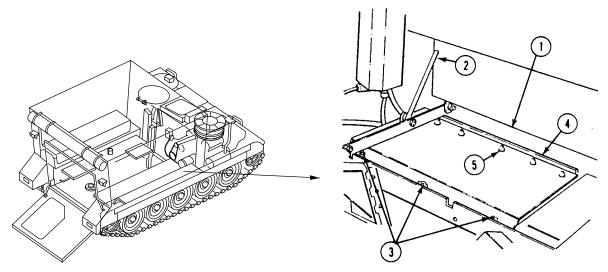
Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

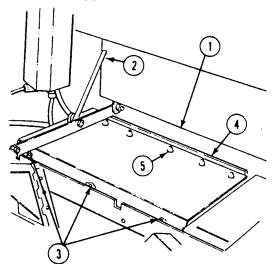
REMOVAL

- 1. Raise right forward table (1). Secure with support rod (2) and remove three wing nuts (3).
- 2. Lift and slide cover (4) from battery box.
- 3. Remove five nonmetallic bumpers (5) from cover. Discard bumpers.



INSTALLATION

- 1. Install five new nonmetallic bumpers (5) in battery box cover (4).
- 2. Slide cover (4) onto battery box. Secure with three wing nuts (3).
- 3. Lower support rod (2) and right forward table (1).



REMOVE/INSTALL BATTERY ACCESS COVER (M1068 ONLY)

0297 00

THIS WORK PACKAGE COVERS:

Removal (page 0297 00-1). Installation (page 0297 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

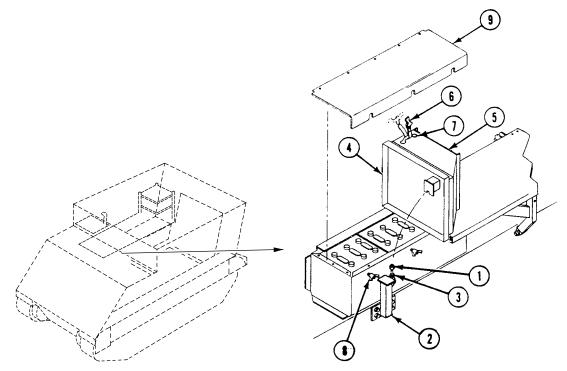
Unit Mechanic

Equipment Condition

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

REMOVAL

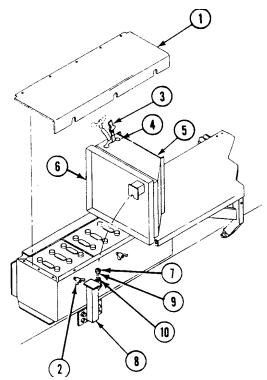
- 1. Loosen nut (1) on FAX hinged base extension support (2). Pivot bolt (3) to free extension base.
- 2. Raise FAX hinged base extension (4) and secure to FAX mount assembly (5) with web strap (6) in slot (7).
- 3. Loosen three wing nuts (8) and remove battery box cover (9).



0297 00

INSTALLATION

- 1. Install battery box cover (1) and tighten three wing nuts (2).
- 2. Remove web strap (3) from slot (4) on FAX mount assembly (5) and lower FAX hinged base extension (6).
- 3. Tighten nut (7) on FAX hinge base extension support (8). Secure with bolt (9), lockwashers (10), and nut (7). Tighten securely.



REMOVE/INSTALL BATTERY LEADS (M1068 ONLY)

0298 00

THIS WORK PACKAGE COVERS:

Removal (page 0298 00-1). Clean, Inspect, and Repair (page 0298 00-3). Installation (page 0298 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Battery Terminal Cleaner (WP 0780 00, Item 12) Battery Terminal Puller (WP 0780 00, Item 47) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grease (WP 0782 00, Item 24)
Sodium bicarbonāte (WP 0782 00, Item 70)
Grommet (2)

REMOVAL

Personnel Required

Unit Mechanic

Equipment Condition

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

Battery access cover removed (WP 0297 00)
Battery ground lead disconnected (WP 0294 00)

WARNING



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

WARNING

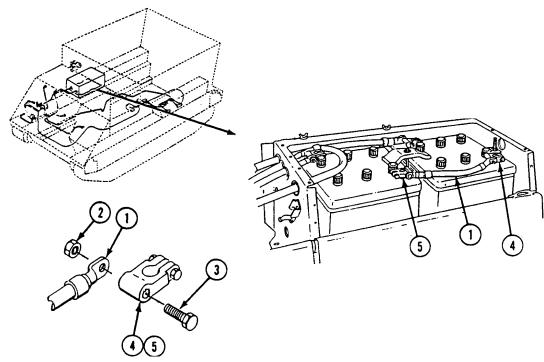


Electrical current can burn you. Disconnect battery ground lead before you start task.

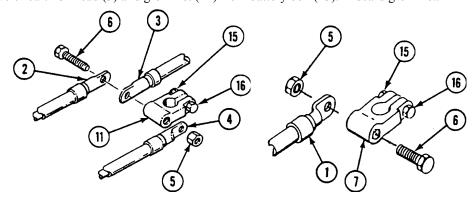
CAUTION

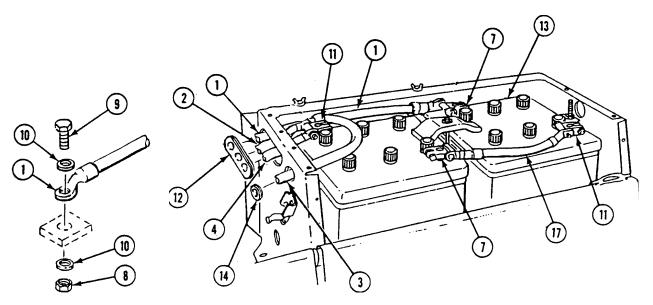
Do not start carriers without batteries installed. Starting engine with outside power will cause damage to electrical components in the regulator.

- 1. Remove jumper lead (1) as follows:
 - a. Remove nut (2), jumper lead (1), and screw (3) from battery positive terminal (4).
 - b. Remove nut (2), jumper lead (1), and screw (3) from battery negative terminal (5).

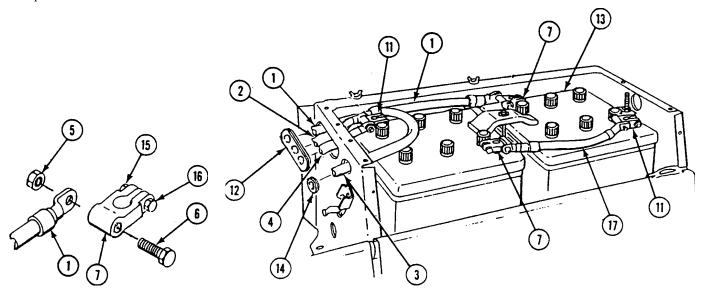


- 2. Remove circuit lead (1), circuit lead (2), circuit lead (3), and circuit lead (4) as follows:
 - a. Remove nut (5), circuit lead 7 (1), and screw (6) from battery negative terminal (7).
 - b. Remove nut (8), screw (9), two washers (10), and circuit lead 7 (1) from hull mount.
 - c. Remove nut (5), screw (6), circuit 31 lead (2), circuit 48B lead (3), and circuit 6 lead (4) from battery positive terminal (11).
 - d. Remove circuit 7 lead (1), circuit 31 lead (2), circuit 6 lead (4), and three-hole grommet (12) from battery box (13). Discard grommet.
 - e. Remove circuit 48B lead (3) and grommet (14) from battery box (13). Discard grommet.





3. Remove four nuts (15), screws (16), and four battery terminals (7) and (11) from battery box (13). Use battery terminal puller.



CLEAN, INSPECT, AND REPAIR

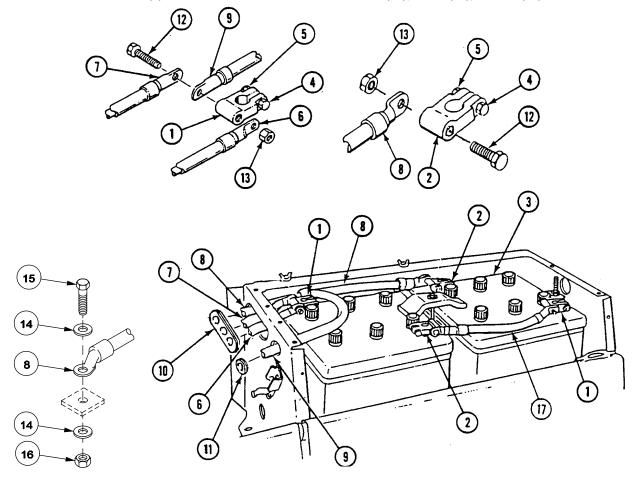
- 1. Clean battery terminals, battery posts, grounding brackets on hull, and lead connectors with brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush parts with clean water. Dry with clean cloth.
- 2. Clean battery terminals and posts with battery terminal cleaner.
- 3. Check battery cover. Remove dents. Repair cracks. Replace cover damaged beyond repair.
- 4. Check leads. Replace worn leads and damaged connectors (WP 0312 00).

INSTALLATION

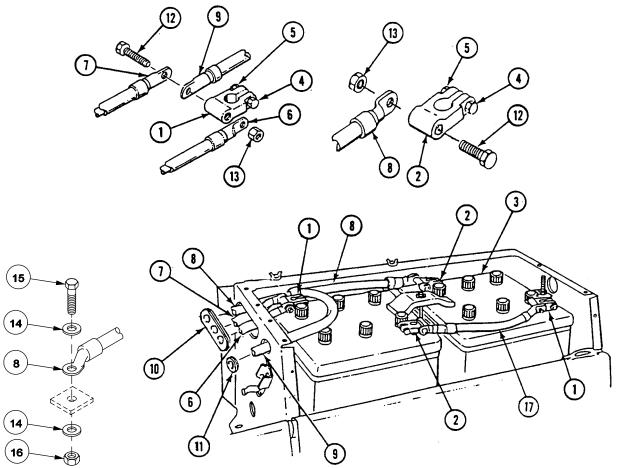
CAUTION

Battery cells can be damaged if battery is hooked up incorrectly. Make sure battery is hooked up correctly.

- 1. Install four battery terminals (1) and (2) in battery box (3). Secure with four screws (4) and nuts (5).
- 2. Install circuit lead (6), circuit lead (7), circuit lead (8), and circuit lead (9) as follows:
 - a. Install two new grommets (10) and (11) in battery box (3).
 - b. Route circuit 6 lead (6), circuit 31 lead (7), and circuit 7 lead (8) through three-hole grommet (10) into battery box (3).
 - c. Route circuit 48B lead (9) through grommet (11) into battery box (3).
 - d. Install circuit 48B lead (9), circuit 31 lead (7), and circuit 6 lead (6) on battery positive terminal (1). Secure with screw (12) and nut (13).
 - e. Install circuit 7 lead (8) on battery negative terminal (2). Secure with screw (12) and nut (13).
 - f. Install circuit 7 lead (8) on hull mount. Secure with two washers (14), screw (15), and nut (16).



- 3. Install jumper lead (17) as follows:
 - a. Install jumper lead (17) on battery negative terminal (2). Secure with screw (12) and nut (13).
 - b. Install jumper lead (17) on battery positive terminal (1). Secure with screw (12) and nut (13).
- 4. Coat tops of four battery terminals (1) and (2) with grease.



FOLLOW-THROUGH STEPS

- 1. Install battery access cover (WP 0297 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON. Check BATT-GEN gauge on instrument panel. Gauge should read in BATT green or yellow zone (see your -10).
- 4. Start engine (see your -10).
- 5. Raise and lock ramp (see your -10).
- 6. Turn MASTER SWITCH to OFF (see your -10).

REMOVE/INSTALL BATTERY LEADS (M577A2 ONLY)

0299 00

THIS WORK PACKAGE COVERS:

Removal (page 0299 00-1). Clean, Inspect, and Repair (page 0299 00-2). Installation (page 0299 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Battery Terminal Cleaner (WP 0780 00, Item 12) Battery Terminal Puller (WP 0780 00, Item 47) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grease (WP 0782 00, Item 24)
Sodium bicarbonāte (WP 0782 00, Item 70)
Grommet (3)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)
Carrier blocked (see your -10)
Ramp lowered (see your -10)
Battery access cover removed (WP 0297 00)

REMOVAL

WARNING



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

WARNING

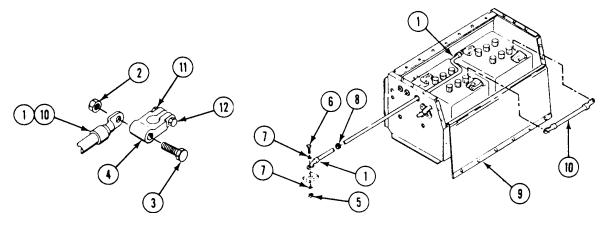


Electrical current can burn you. Disconnect battery ground lead before you start task.

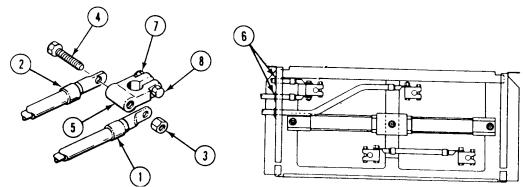
CAUTION

Do not start carriers without batteries installed. Starting engine with outside power will cause damage to electrical components in the regulator.

- 1. Remove circuit 7 lead (1) as follows:
 - a. Remove nut (2) and circuit 7 lead (1) from screw (3) on battery terminal lug (4).
 - b. Remove nut (5), screw (6), two washers (7), and lead (1) from hull mount. Remove lead and grommet (8) from battery box (9). Discard grommet.
- 2. Remove two nuts (2) and jumper lead (10) from two screws (3) on two terminal lugs (4).
- 3. Loosen nut (11) from screw (12) and remove terminal lug (4) from battery post. Use battery terminal puller.



- 4. Remove circuit 6 lead (1) and circuit 48B lead (2) as follows:
 - a. Remove nut (3), circuit 6 lead (1), screw (4), and circuit 48B lead (2) from battery terminal lug (5).
 - b. Remove circuit lead 6 (1) and circuit lead 48B (2) and two grommets (6) from battery box. Discard grommets.
 - c. Loosen nut (7) on screw (8) and remove terminal lug (5). Use battery terminal puller.



CLEAN, INSPECT, AND REPAIR

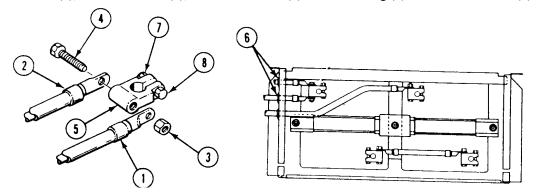
- 1. Clean battery terminal lugs, battery posts, grounding bracket on hull, and lead connectors with brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush parts with clean water. Dry with clean cloth.
- 2. Clean battery terminals and posts with battery terminal cleaner.
- 3. Check battery cover. Remove dents. Repair cracks. Replace cover damaged beyond repair.
- 4. Check leads. Replace worn leads and damaged connectors (WP 0312 00).

INSTALLATION

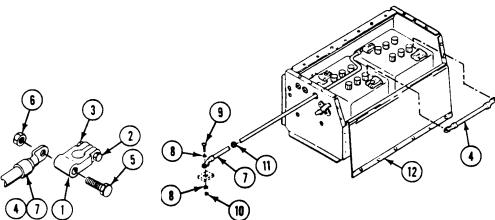
CAUTION

Battery cells can be damaged if the battery is hooked up incorrectly. Make sure battery is hooked up correctly.

- 1. Install circuit 6 lead (1) and circuit 48B lead (2) as follows:
 - a. Install terminal lug (5) on positive (+) battery post. Secure with screw (8) and nut (7).
 - b. Install two new grommets (6) in battery box. Route circuit 6 lead (1) and 48B (2) through grommets into battery box.
 - c. Install screw (4), circuit 48B lead (2), and circuit 6 lead (1) on terminal lug (5) and secure with nut (3).



- 2. Place terminal lug (1) on battery post. Secure with screw (2) and nut (3).
- 3. Place jumper lead (4) on two screws (5) of two terminal lugs (1). Secure with two nuts (6).
- 4. Install circuit 7 lead (7) as follows:
 - a. Place lead (7) on hull mount. Secure with two washers (8), screw (9), and nut (10).
 - b. Install new grommet (11) in battery box (12). Route lead (7) through grommet into battery box.
 - c. Place lead (7) on screw (5) of terminal adapter (1) and secure with nut (6).



5. Coat tops of four battery terminal lugs with grease.

REMOVE/INSTALL BATTERY LEADS (M577A2 ONLY) — Continued

0299 00

FOLLOW-THROUGH STEPS

- 1. Install battery access cover (WP 0297 00).
- 2. Turn MASTER SWITCH to ON. Check BATT-GEN gauge on instrument panel. Gauge should read in BATT green or yellow zone (see your -10).
- 3. Start engine (see your -10).
- 4. Raise and lock ramp (see your -10).
- 5. Stop/shutdown engine (see your -10).

REPLACE BATTERY LEADS (M1064 ONLY)

0300 00

THIS WORK PACKAGE COVERS:

Removal (page 0300 00-1). Clean, Inspect, and Repair (page 0300 00-3). Installation (page 0300 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Battery Terminal Cleaner (WP 0780 00, Item 12) Battery Terminal Puller (WP 0780 00, Item 47) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grease (WP 0782 00, Item 24) Sodium bicarbonate (WP 0782 00, Item 70) Grommet (2)

Personnel Required

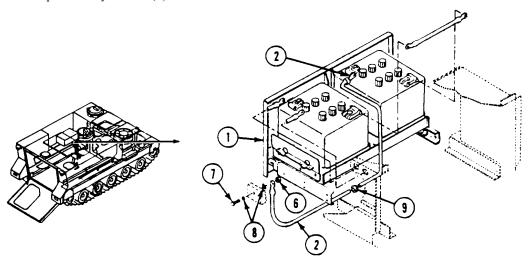
Unit Mechanic

Equipment Condition

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

REMOVAL

1. Turn handle and pull battery drawer (1) out.



WARNING

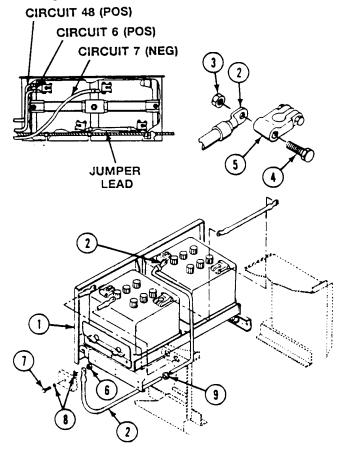


Gas from batteries can explode. Ventilate compartment before you disconnect or connect battery cables. Battery acid can burn or blind you. Do not get acid on your skin or eyes. ALWAYS disconnect ground lead (circuit 7) first and connect it last.

NOTE

Use battery terminal puller to remove terminal lugs and leads from battery post.

- 2. Remove circuit 7 lead (2) as follows:
 - a. Remove nut (3) and circuit 7 lead (2) from screw (4) on terminal lugs (5).
 - b. Remove nut (6), screw (7), two washers (8), and lead (2) from hull mount. Remove lead and grommet (9) from battery compartment. Discard grommet.



WARNING



Battery posts and cables touched by metal objects can short circuit and burn you. Do not wear jewelry, necklaces, or watches when working on the electrical system. Keep tools away from posts, wires, and terminals.

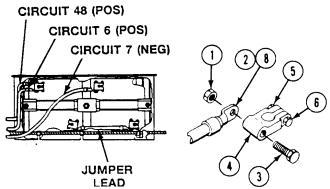
CAUTION

Do not start carriers while batteries are disconnected. Starting engine with outside power while batteries are disconnected will damage electrical components in the regulator.

NOTE

Circuit 6 and 48 positive leads are removed from terminal lugs the same way as the circuit 7 lead.

- 3. Remove two nuts (1) and jumper lead (2) from two screws (3) on two terminal lugs (4).
- 4. Loosen nut (5) on screw (6) and remove terminal lugs (4) from battery post.



CLEAN, INSPECT, AND REPAIR

- 1. Clean battery terminal lugs, battery posts, grounding bracket on hull, and lead connectors with brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush parts with clean water. Dry with clean cloth.
- 2. Clean terminals and posts with terminal cleaner.
- 3. Check leads. Replace worn leads and damaged connectors (WP 0312 00).

INSTALLATION

- 1. Place terminal lugs (4) on battery (7). Secure with screw (6) and nut (5).
- 2. Place jumper lead (2) on two screws (3) of terminal lugs (4). Secure with two nuts (1).

NOTE

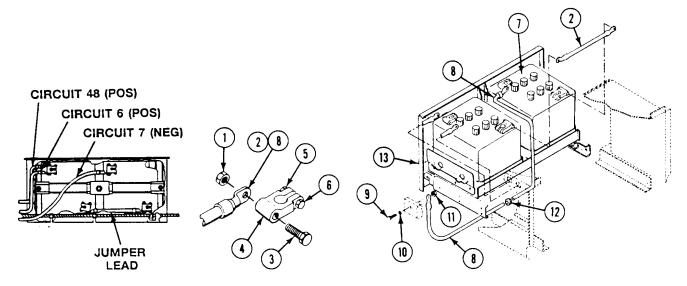
Install circuit 6 and 48 positive leads before installing circuit 7 ground lead. Instructions for installation are the same.

- 3. Install circuit 7 lead (8) as follows:
 - a. Place lead (8) on hull mount. Secure with screw (9), two washers (10), and nut (11).
 - b. Install new grommet (12) in battery compartment. Route lead (8) through grommet into battery compartment.
 - e. Place lead (8) on screw (3) on terminal lug (4) and secure with nut (1).
- 4. Coat tops of four battery terminal lugs with grease.

CAUTION

Battery cells can be damaged if the batteries are hooked up incorrectly. Make sure batteries are hooked up correctly.

5. Push in drawer (13) and turn handle to secure.



FOLLOW-THROUGH STEPS

- 1. Turn MASTER SWITCH to ON. Check BATT- GEN gauge on instrument panel. Gauge should read in green or yellow zone (see your -10).
- 2. Start engine (see your -10).
- 3. Raise and lock ramp (see your -10).
- 4. Stop/shutdown engine (see your -10).

REPLACE CIRCUIT 6 LEAD (ALL EXCEPT M577A2 AND M1068)

0301 00

THIS WORK PACKAGE COVERS:

Removal (page 0301 00-1). Clean, Inspect, and Repair (page 0301 00-2). Installation (page 0301 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Battery Terminal Cleaner (WP 0780 00, Item 12) Battery Terminal Puller (WP 0780 00, Item 47) General Mechanic's Tool Kit (WP 0780 00, Item 29) Multimeter (WP 0780 00, Item 43)

Materials/Parts

Grommet (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (WP 0294 00)

Battery box cover removed (WP 0295 00)

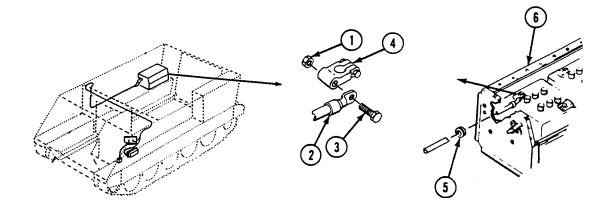
REMOVAL

WARNING

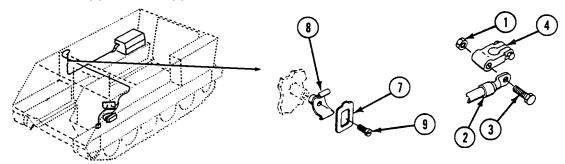


Gas from batteries can explode. Ventilate compartment before you disconnect or connect battery cables. Battery acid can burn or blind you. Do not get acid on your skin or eyes. ALWAYS disconnect ground lead (circuit 7) first and connect it last.

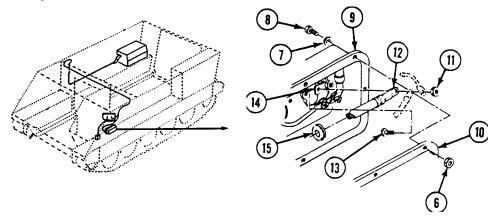
- 1. Remove nut (1), circuit 6 lead (2), and screw (3) from terminal lug (4).
- 2. Remove lead (2) and grommet (5) from battery box (6). Discard grommet.



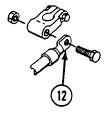
- 3. On M113A2 and M901A1 carriers, remove five clips (7) from cradles (8). Remove lead (2) from cradles.
- 4. Remove five screws (9) and cradles (8) from hull weldnuts.



- 5. Remove eight nuts (6), washers (7), screws (8), and master switch panel (9) from distribution box (10).
- 6. Remove nut (11), lead (12), and screw (13) from master switch bus bar (14). Remove lead and grommet (15) from panel (9). Discard grommet.



7. Pull lead (12) from hull support channel. Remove lead from carrier.



CLEAN, INSPECT, AND REPAIR



Battery posts and cables touched by metal objects can short circuit, and burn you. Do not wear jewelry, necklaces, or watches when working on the electrical system. Keep tools away from posts, wires, and terminals.

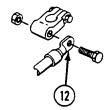
CAUTION

Do not start carriers while batteries are disconnected. Starting engine with outside power will damage electrical components in the regulator.

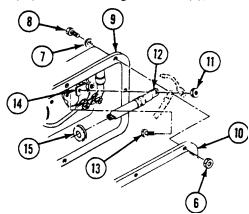
- 1. Clean lead terminals and mating surfaces with terminal cleaner.
- 2. Check leads. Replace worn leads and damaged connectors (WP 0312 00).

INSTALLATION

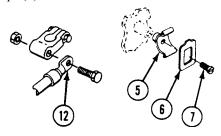
1. Route circuit 6 lead (12) through hull support channel.



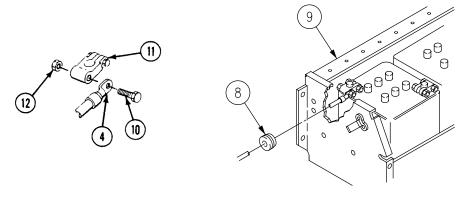
- 2. Install new grommet (15) on lead (12). Install lead and grommet in master switch panel (9).
- 3. Place lead (12) on master switch bus bar (14). Secure with screw (13) and nut (11).
- 4. Place panel (9) on distribution box (10). Secure with eight washers (7), screws (8), and nuts (6).



5. On M113A2 and M901A1 carriers, install five cradles (5) on hull weldnuts. Secure with five screws (7). Place lead (12) in five cradles and secure with clips (6).



- 6. Install new grommet (8) on lead (4). Install lead and grommet in battery box (9).
- 7. Install screw (10) and lead (4) on battery terminal lug (11). Secure with nut (12).



FOLLOW-THROUGH STEPS

- 1. Install battery box cover (WP 0295 00).
- 2. Connect battery ground strap (WP 0294 00).
- 3. Turn MASTER SWITCH to ON (see your -10). Check that circuit 6 lead is installed correctly. Master switch light should come on.
- 4. Raise and lock ramp (see your -10).
- 5. Stop/shutdown engine (see your -10).

REPLACE BATTERIES AND RETAINERS (ALL EXCEPT M1064)

0302 00

THIS WORK PACKAGE COVERS:

Removal (page 0302 00-1). Clean and Inspect (page 0302 00-3). Installation (page 0302 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Epoxy coating kit (WP 0782 00, Item 21) Sodium bicarbonate (WP 0782 00, Item 70)

Personnel Required

Unit Mechanic Helper (H)

References

TM 9-6140-200-14

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

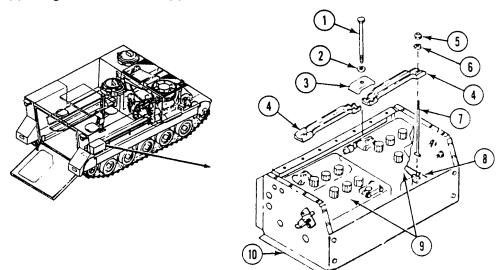
Ramp lowered (see your -10)

Battery ground lead disconnected (WP 0294 00)

Battery terminal lugs removed (WP 0300 00)

REMOVAL

- 1. Remove bolt (1), washer (2), and clamp (3) from two retainers (4).
- 2. Remove two nuts (5), washers (6), and retainers (4) from two bolts (7).
- 3. Turn bolts (7) to align with slot in frame (8). Remove bolts from frame.



WARNING



Electrolyte and battery corrosion can cause injury to you. Wear safety goggles and gloves. If electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush immediately with large amounts of cold water. In case of eye or skin contact, see a doctor immediately.

WARNING



Battery is heavy and can cause back injury if handled improperly. Be sure to have helper assist you to remove and replace battery. Battery weighs about 75 lb (34 kg).

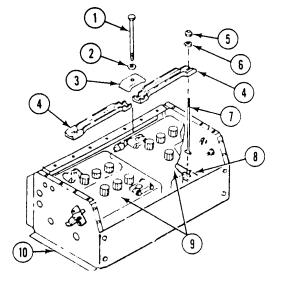
CAUTION

Be careful. Do not hit side of carrier. You could crack the case. Set battery down gently on a board.

NOTE

On newer models, there are screws and washers securing the front plate to the battery box.

4. Remove batteries (9) from battery box (10). Lift battery by carrying handles built into each battery.



CLEAN AND INSPECT





Battery posts and cables touched by metal objects can short circuit and burn you. Do not wear jewelry, necklaces, or watches when working on the electrical system. Keep tools away from posts, wires, and terminals.

- 1. Clean battery with nonmetallic brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush battery with clean water. Dry with clean cloth.
- 2. Clean retainers and parts by soaking in mixture of sodium bicarbonate and water. Dry parts and apply coating.
- 3. See TM 9-6140-200-14 to service batteries.

INSTALLATION

WARNING

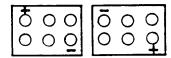


Battery is heavy and can cause back injury if handled improperly. Be sure to have helper assist you to remove and replace battery. Battery weighs about 75 lb (34 kg).

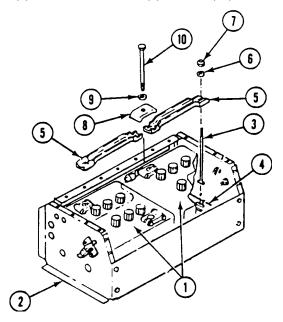
CAUTION

Place batteries with positive (+) and negative (-) terminals as shown in diagram below. Damage to components will occur if batteries are hooked up wrong.

1. Place batteries (1) in battery box (2).



- 2. Install two bolts (3) in slots of battery frame (4). Turn bolts to secure.
- 3. Install two retainers (5) on two bolts (3). Secure with two washers (6) and nuts (7).
- 4. Place clamp (8) on two retainers (5). Secure with washer (9) and bolt (10).



FOLLOW-THROUGH STEPS

- 1. Install battery terminal lugs (WP 0300 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON to check that batteries are installed correctly. Master switch on light should come on (see your -10).
- 4. Raise and lock ramp (see your -10).
- 5. Stop/shutdown engine (see your -10).

REPLACE BATTERIES AND RETAINERS (M1064 ONLY)

0303 00

THIS WORK PACKAGE COVERS:

Removal (page 0303 00-1). Clean and Inspect (page 0303 00-3). Installation (page 0303 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Battery Terminal Cleaner (WP 0780 00, Item 12) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Epoxy coating kit (WP 0782 00, Item 21) Sodium bicarbonate (WP 0782 00, Item 70) Wiping rag (WP 0782 00, Item 76)

Personnel Required

Unit Mechanic Helper (H)

References

TM 9-6140-200-14

Equipment Condition

Engine stopped (see your -10)

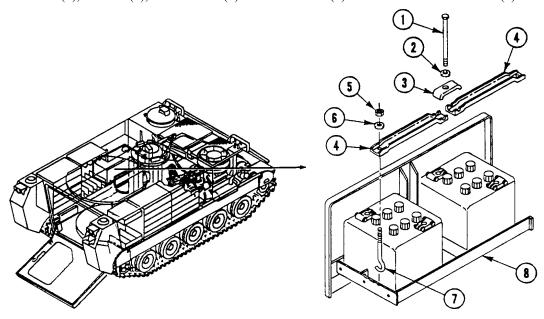
Battery leads disconnected (WP 0294 00) and terminal lugs removed (WP 0300 00)

REMOVAL

CAUTION

Do not start carriers while batteries are disconnected. Starting engine with outside power while batteries are disconnected will damage electrical components in the regulator.

- 1. Remove bolt (1), washer (2), and clamp (3) from two retainers (4).
- 2. Remove two nuts (5), washers (6), and retainers (4) from two hooks (7). Remove hooks from frame (8).



WARNING



Electrolyte and battery corrosion can cause injury to you. Wear safety goggles and gloves. If electrolyte or battery corrosion contacts the eyes, skin, or clothing, flush with large amounts of cold water and see a doctor immediately.

WARNING

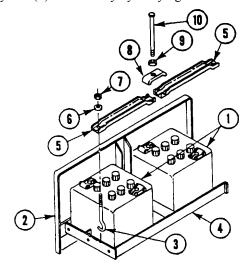


Battery is heavy and can cause back injury if handled improperly. Be sure to have helper assist to remove battery. Battery weighs about 75 lb (34 kg).

CAUTION

Be careful. Do not hit side of carrier. You could crack the case. Set battery down gently on a board.

3. Remove batteries (1) from battery box (2). Lift battery by carrying handles built into each battery.



CLEAN AND INSPECT





Battery posts and cables touched by metal objects can short circuit and burn you. Do not wear jewelry, necklaces, or watches when working on the electrical system. Keep tools away from posts, wires, and terminals.

- 1. Clean battery with nonmetallic brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush battery with clean water. Dry with clean cloth.
- 2. Clean retainers and parts by soaking in mixture of sodium bicarbonate and water. Dry parts and apply epoxy coating.
- 3. See TM 9-6140-200-14 to service batteries.

INSTALLATION

WARNING

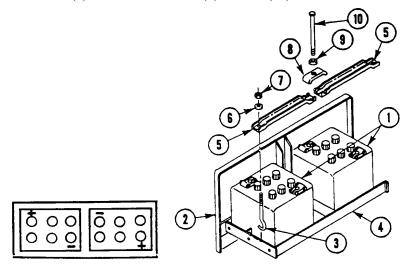


Battery is heavy and can cause back injury if handled improperly. Be sure to have helper assist to install battery. Battery weighs about 75 lb (34 kg).

CAUTION

Place batteries with positive (+) and negative (-) terminals as shown in diagram. Damage to components will occur if batteries are hooked up wrong.

- 1. Place batteries (1) in battery box (2).
- 2. Place hooks (3) in battery frame (4).
- 3. Place two retainers (5) on two hooks (3). Secure with two washers (6) and nuts (7).
- 4. Place clamp (8) on two retainers (5). Secure with washer (9) and bolt (10).



FOLLOW-THROUGH STEPS

- 1. Install terminal lugs (WP 0300 00) and connect battery leads (WP 0294 00).
- 2. Turn MASTER SWITCH to ON to check that battery is installed correctly. Master switch on light should come on (see your -10).
- 3. Start engine (see your -10).
- 4. Raise and lock ramp (see your -10).
- 5. Stop engine (see your -10).

REPAIR BATTERY BOX COVER (M113A2, M901A1, AND M1059 ONLY)

0304 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0304 00-1). Clean and Inspect (page 0304 00-1). Assembly (page 0304 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Epoxy coating kit (WP 0782 00, Item 21) Sodium bicarbonate (WP 0782 00, Item 70) Locknut (4)

Personnel Required

Unit Mechanic

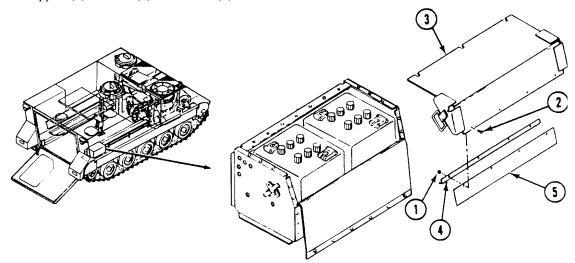
Equipment Condition

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

Battery box cover removed (WP 0295 00)

DISASSEMBLY

- Remove four locknuts (1) and screws (2) from battery box cover (3). Discard locknuts.
- Remove support (4) and seal (5) from cover (3).

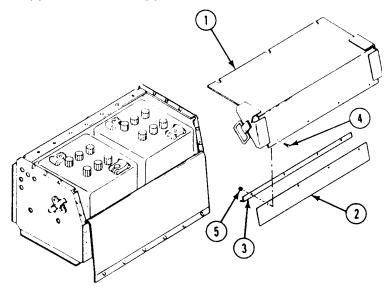


CLEAN AND INSPECT

- Clean battery box by soaking in mixture of sodium bicarbonate and water. After foaming stops, flush with clean water and dry with clean cloth.
- Inspect cover for dents and cracks. If damaged beyond repair, install new cover.
- Inspect seal for cuts, tears, and loss of resilience. If seal is unserviceable, install new seal.

ASSEMBLY

- 1. Apply epoxy coating to battery box cover (1).
- 2. Place seal (2) and support (3) on cover (1).
- 3. Secure with four screws (4) and new locknuts (5).



FOLLOW-THROUGH STEPS

- 1. Install battery box cover (WP 0295 00).
- 2. Start engine (see your -10).
- 3. Raise and lock ramp (see your -10).
- 4. Stop/shutdown engine (see your -10).

REPAIR BATTERY BOX

0305 00

THIS WORK PACKAGE COVERS:

Disassembly (page 10305 100+1). Clean and Inspect (page 0305 00-2). Assembly (page 10305 100+3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench Set (WP 0780 00, Item 96) Torque Wrench (WP 0780 00, Item 101)

Materials/Parts

Epoxy coating kit (WP 0782 00, Item 21) Sodium bicarbonate (WP 0782 00, Item 70) Locknut[[3]]

Locknut (4)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)
Battery box cover and leads removed (WP 0295 00)
Batteries and retainers removed (WP 0302 00)
Ramp lowered (see your -10)

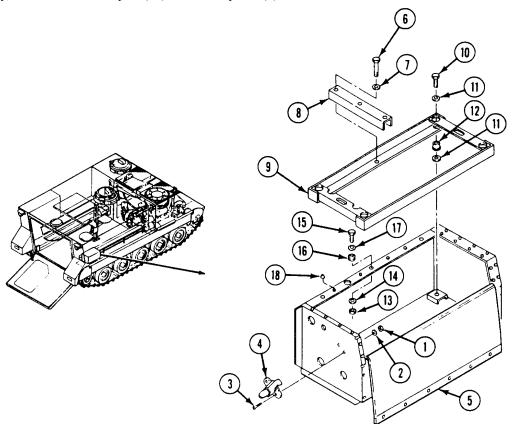
DISASSEMBLY

NOTE

Repair of the M577A2 battery box is limited to replacement of the channel divider and battery box cover rubber bumpers. The steps below are for all other carriers.

0305 00-1

- 1. Remove four locknuts (1), washers (2), screws (3), and two latches (4) from side of battery box (5). Discard locknuts.
- 2. Remove two screws (6), washers (7), and channel divider (8) from battery frame (9).
- 3. Remove four screws (10), eight washers (11), and battery frame (9) from battery box (5). Remove four resilient mounts (12) from frame.
- 4. Remove three locknuts (13), washers (14), screws (15), grommets (16), and washers (17) from battery box (5). Discard locknuts.
- 5. If necessary, remove rubber bumpers (18) from battery box (5).

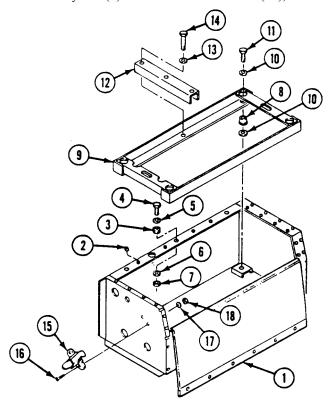


CLEAN AND INSPECT

- 1. Inspect resilient mounts, bumpers, and grommets for cuts, cracks, tears, and loss of resilience. If parts are hard, brittle, cut, cracked, or torn, install new parts.
- 2. Clean battery box with brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush with clean water and dry with clean cloth.
- 3. Inspect battery box for dents and cracks. If damaged beyond repair, notify direct support maintenance.
- 4. Inspect frame and divider channel for dents and cracks. If damaged beyond repair, install new part.

ASSEMBLY

- 1. Apply epoxy coating to battery box (1).
- 2. If removed, install battery box cover rubber bumpers (2) on battery box (1).
- 3. Install three grommets (3) on battery box (1). Secure with three screws (4), washers (5), washers (6), and new locknuts (7).
- 4. Install four resilient mounts (8) in frame (9). Place frame in battery box (1) and secure with eight washers (10) and four screws (11). TIGHTEN SCREWS TO 120–192 LB-IN (14-22 N·M) TORQUE. Use torque wrench and socket.
- 5. Place channel divider (12) in battery frame (9). Secure with two washers (13) and screws (14). TIGHTEN SCREWS TO 84–120 LB-IN (11–14 N·M) TORQUE. Use torque wrench and socket.
- 6. Place two latches (15) on side of battery box (1). Secure with four screws (16), washers (17), and new locknuts (18).



FOLLOW-THROUGH STEPS

- 1. Install batteries and retainers (WP 0302 00).
- 2. Install battery leads and box cover (WP 0295 00).
- 3. Start engine (see your -10).
- 4. Raise and lock ramp (see your -10).
- 5. Stop/shutdown engine (see your -10).

REPAIR BATTERY DRAWER (M1064 ONLY)

0306 00

THIS WORK PACKAGE COVERS:

Disassembly (page 10306 100+1). Clean and Inspect (page 0306 00-3). Assembly (page 10306 100+3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Epoxy coating kit (WP 0782 00, Item 21)

Grease (WP 0782 00, Item 24)

Sodium bicarbonate (WP 0782 00, Item 70)

Locknut (18)

Locknut (8)

Locknut (4)

Locknut (2)

Locknut

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

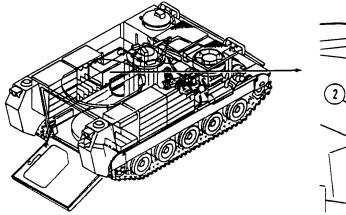
Carrier blocked (see your -10)

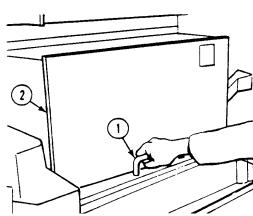
Battery leads removed (WP 0300 00)

Batteries and retainers removed (WP 0303 00)

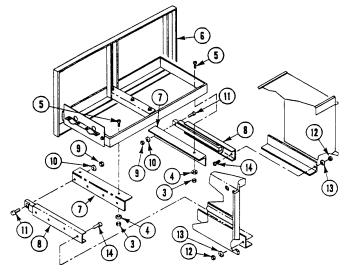
DISASSEMBLY

1. Lower the left crew seat backrest, turn handle (1) and pull drawer (2) out.

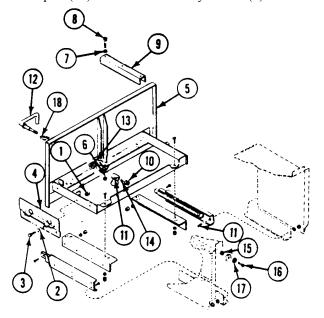




- 2. Remove eight locknuts (3), washers (4), screws (5), and battery drawer (6) from two angles (7). Discard locknuts.
- 3. Extend two slide assemblies (8) to stops. Remove eight locknuts (9), washers (10), screws (11), and two angles (7) from slide assemblies. Discard locknuts.
- 4. Extend two slide assemblies (8) to stops. Remove 10 locknuts (12), washers (13), screws (14), and slide assemblies from hull mounts. Discard locknuts.



- 5. Remove three locknuts (1), washers (2), screws (3), and plate (4) from side of battery drawer (5). Discard locknuts.
- 6. Remove two locknuts (6), washers (7), screws (8), and channel divider (9) from battery drawer (5). Discard locknuts.
- 7. Remove locknut (10), cam (11), handle (12), and washer (13) from battery drawer (5). Remove key (14) from handle. Discard locknut.
- 8. If needed, remove locknut (15), screw (16), and wear plate (17) from hull mount.
- 9. If needed, remove two rubber bumpers (18) from front of battery drawer (5).

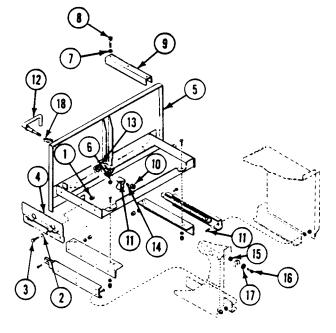


CLEAN AND INSPECT

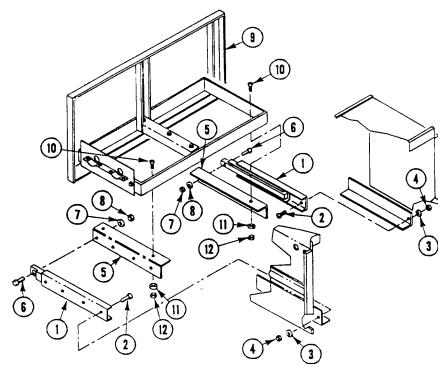
- 1. Inspect slide assemblies. If the slide binds or has damaged stops, install a new slide.
- 2. Clean drawer and parts by soaking in a solution of sodium bicarbonate and water. After foaming stops, flush with clean water and dry with clean cloth.
- 3. Inspect battery drawer for dents and cracks. If damaged beyond repair, install new drawer.

ASSEMBLY

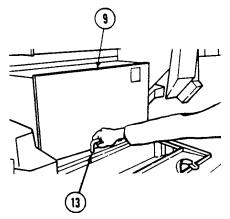
- 1. Apply epoxy coating to inside surface of battery drawer (5).
- 2. If removed, install rubber bumpers (18) in battery drawer (5).
- 3. If removed, place wear plate (17) on hull mount. Secure with screw (16) and new locknut (15).
- 4. Install washer (13) and handle (12) in battery drawer (5). Insert key (14) in handle and install cam (11). Secure with new locknut (10).
- 5. Place channel divider (9) in battery drawer (5). Secure with two screws (8), washers (7), and new locknuts (6).
- 6. Place plate (4) on side of drawer (5). Secure with three screws (3), washers (2), and new locknuts (1).



- 7. Coat all bearing surfaces of two slide assemblies (1) with grease.
- 8. Place two slide assemblies (1) on hull mounts. Extend slide stops. Secure with 10 screws (2), washers (3), and new locknuts (4).
- 9. Extend two slide assemblies (1) to stops. Align two angles (5) with holes in slides. Secure with eight screws (6), washers (7), and new locknuts (8).
- 10. Align battery drawer (9) with holes in two angles (5). Secure with eight screws (10), washers (11), and new locknuts (12).



11. Close drawer (9), turn handle (13) on drawer (9) to secure, and raise left crew seat backrest.



REPAIR BATTERY DRAWER (M1064 ONLY) — Continued

0306 00

FOLLOW-THROUGH STEPS

- 1. Install batteries and retainers (WP 0303 00).
- 2. Install battery leads (WP 0300 00).
- 3. Raise and lock ramp (see your -10).
- 4. Stop engine (see your -10).

REPLACE BATTERY TO RADIO HARNESS (M1059, M901A1, AND M113A2 ONLY)

0307 00

THIS WORK PACKAGE COVERS:

Removal (page 0307 00-1). Installation (page 0307 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (8)

Lockwasher (2)

Rope, 12 ft. (4 m)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

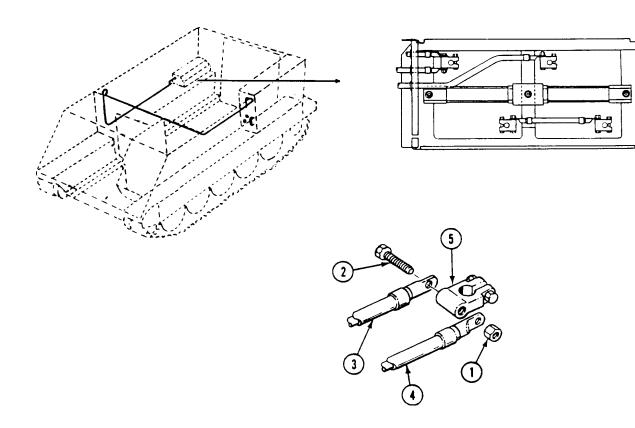
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

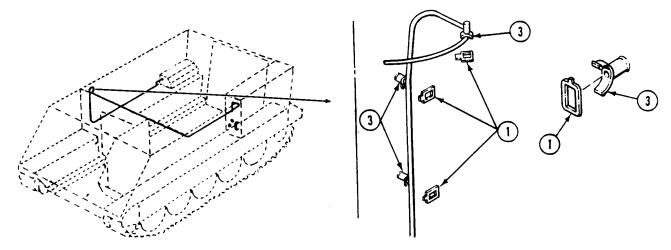
Personnel heater removed (WP 0619 00)

REMOVAL

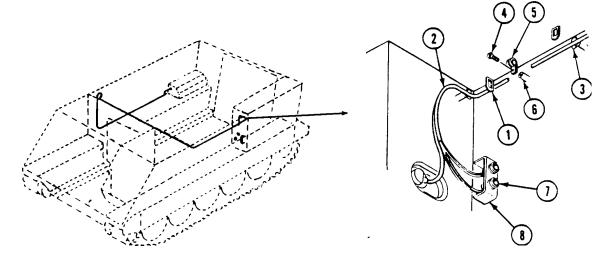
1. Remove nut (1), screw (2), circuit 48 harness (3), and circuit 6 lead (4) from battery terminal (5).



2. Remove ten clips (1) that secure circuit 48 harness to ten cradles (3).



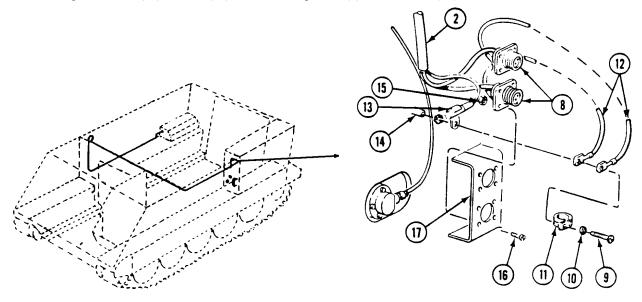
- 3. Remove screw (4), clamp (5), and harness (2) from weldnut (6).
- 4. Remove cap assembly (7) from receptacle (8).



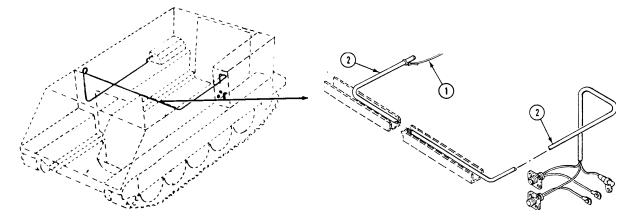
REPLACE BATTERY TO RADIO HARNESS (M1059, M901A1, AND M113A2 ONLY) — Continued

0307 00

- 5. Remove screw (9), two lockwashers (10), clamp (11), two ground leads (12), and capacitor (13) from weldnut (14). Discard lockwashers.
- 6. Remove eight locknuts (15), screws (16), and two receptacles (8) from bracket (17). Discard locknuts.



- 7. Attach a 12 foot (4 m) rope (1) to the battery end of circuit 48 lead (2). Pull harness through the transverse beam from the receptacle end.
- 8. Do not pull rope out of transverse beam. Leave some rope hanging out of beam at right side of carrier. Untie rope from harness (2).

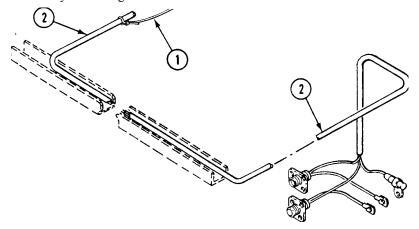


REPLACE BATTERY TO RADIO HARNESS (M1059, M901A1, AND M113A2 ONLY) — Continued

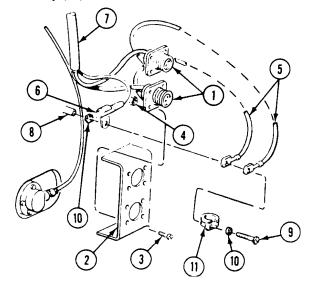
0307 00

INSTALLATION

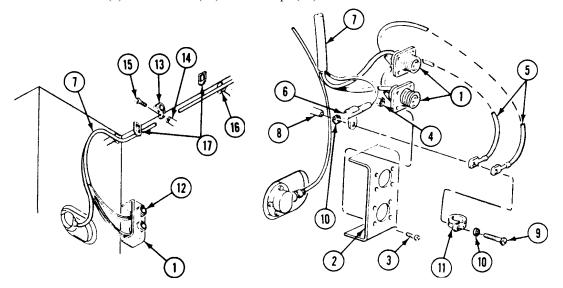
- 1. Tie rope (1), retained in transverse beam, to circuit 48 harness (2) at battery end.
- 2. Pull rope (1) and harness (2) through the transverse beam until harness can be grasped at the right side of carrier.
- 3. Pull harness (2) to the battery box on right side of carrier.



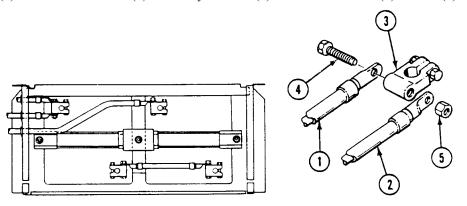
- 4. Install two receptacles (1) on bracket (2). Secure with eight screws (3) and new locknuts (4).
- 5. Install two ground leads (5), one capacitor (6), and circuit 48 harness (7) on weldnut (8). Secure with screw (9), two new lockwashers (10), and one clamp (11).



- 6. Install cap assembly (12) on receptacle (1).
- 7. Secure clamp (13) and harness (7) to weldnut (14) with screw (15).
- 8. Secure circuit 48 harness (7) to 10 cradles (16) with 10 clips (17).



9. Install harness (1) and circuit 6 harness (2) on battery terminal (3). Secure with screw (4) and nut (5).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Install personnel heater (WP 0619 00).

REPLACE BATTERY DRAWER INSULATION AND HEAT EXCHANGER (M1064 ONLY)

0308 00

THIS WORK PACKAGE COVERS:

Removal (page 0308 00-1). Clean, Inspect, and Repair (page 0308 00-3). Installation (page 0308 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66) Sodium bicarbonate (WP 0782 00, Item 70)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

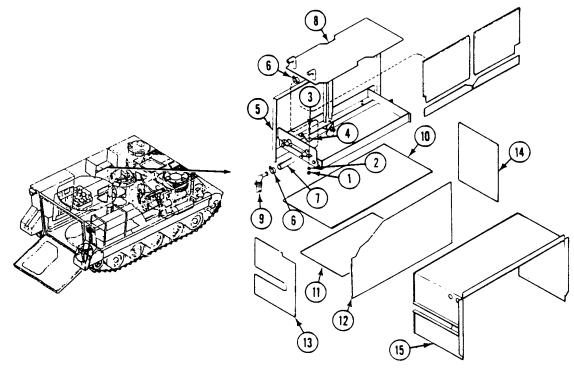
Batteries removed (WP 0303 00)

Carrier cooling system drained (WP 0193 00)

Coolant heater system drained (WP 0639 00)

REMOVAL

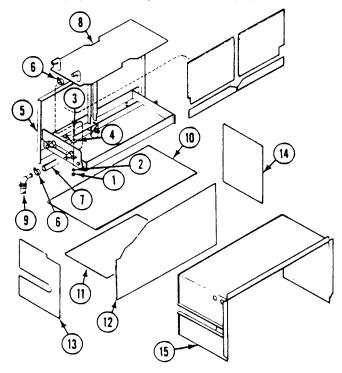
- 1. Remove four nuts (1), washers (2), screws (3), and two brackets (4) from battery drawer (5).
- 2. Loosen four clamps (6). Remove two hoses (7) from heat exchanger (8) and two elbows (9). Remove clamps from hoses.



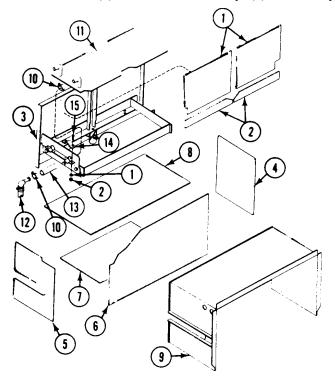
REPLACE BATTERY DRAWER INSULATION AND HEAT EXCHANGER (M1064 ONLY) — Continued

0308 00

- 3. Remove battery drawer (WP 0306 00).
- 4. Remove heat exchanger (8) from battery drawer (5).
- 5. If damaged, remove top insulation sheet (10), bottom insulation sheet (11), rear insulation sheet (12), right insulation sheet (13), and left insulation sheet (14) from battery drawer shield (15).



6. If damaged, remove two installation sheets (1) and two insulation strips (2) from battery drawer (3).



0308 00-2

REPLACE BATTERY DRAWER INSULATION AND HEAT EXCHANGER (M1064 ONLY) — Continued

0308 00

CLEAN, INSPECT, AND REPAIR

- 1. Clean heat exchanger plate with brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush with clean water and dry.
- 2. Check heat exchanger. Replace bent or cracked heat exchanger.
- 3. Check insulation. Replace loose, missing, or damaged strip or sheets.

REPLACE BATTERY DRAWER INSULATION AND HEAT EXCHANGER (M1064 ONLY) — Continued

0308 00

INSTALLATION

WARNING

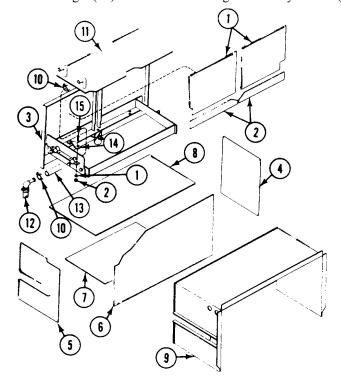




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

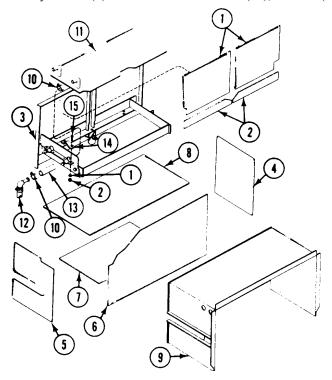
Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply adhesive on insulation sheets. Wait 10-20 seconds until adhesive becomes tacky.
- 2. If removed, install two insulation strips (2) and two insulation sheets (1) on battery drawer (3).
- 3. If removed, install left insulation sheet (4), right insulation sheet (5), rear insulation sheet (6), bottom insulation sheet (7), and top insulation sheet (8) in battery drawer shield (9).
- 4. Place two clamps (10) on heat exchanger (11). Install heat exchanger in battery drawer (3).



0308 00

- 5. Install battery drawer (WP 0306 00).
- 6. Place two clamps (10) on two elbows (12). Install two hoses (13) on two elbows (12) and heat exchanger (11). Secure with four clamps.
- 7. Place two brackets (14) on battery drawer (3). Secure with four screws (15), washers (1), and nuts (2).



FOLLOW-THROUGH STEPS

- 1. Install batteries (WP 0303 00).
- 2. Fill carrier cooling system (WP 0194 00).
- 3. Fill coolant heater system (WP 0639 00).
- 4. Start coolant heater (see your -10). Check heat exchanger for leaks. Turn heater off.
- 5. Raise and lock ramp (see your -10).
- 6. Stop/shutdown engine (see your -10).

0309 00

THIS WORK PACKAGE COVERS:

Removal (page 0309 00-1). Clean, Inspect, and Repair (page 0309 00-3). Installation (page 0309 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66) Sodium bicarbonate (WP 0782 00, Item 70) Grommet (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

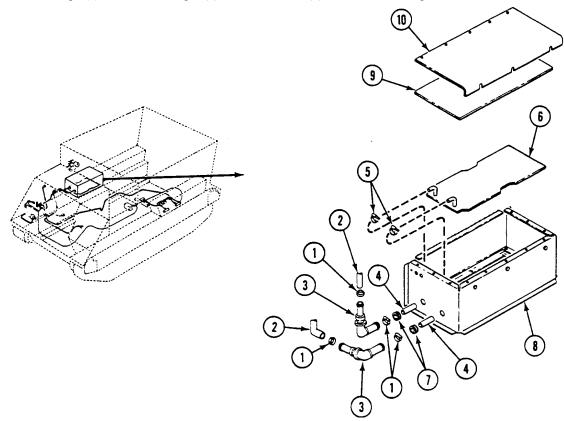
Carrier cooling system drained (WP 0193 00)

Coolant heater system drained (WP 0639 00)

Batteries removed (WP 0303 00)

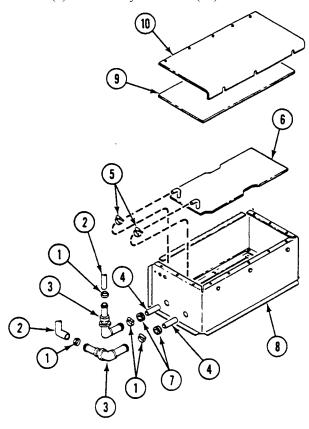
REMOVAL

- 1. Loosen four clamps (1). Remove two hoses (2) from two elbows (3). Remove two elbows from two short hoses (4). Remove clamps.
- 2. Loosen two clamps (5) on heat exchanger (6). Remove hoses (4) from heat exchanger.



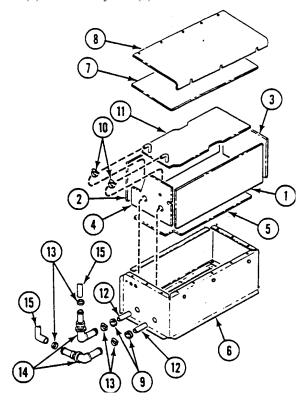
0309 00

- 3. Remove heat exchanger (6) and two grommets (7) from battery box (8). Discard grommets.
- 4. If damaged, remove insulation sheet (9) from battery box cover (10).



0309 00

5. If damaged, remove front insulation sheet (1), rear insulation sheet (2), right insulation sheet (3), left insulation sheet (4), and bottom insulation sheet (5) from battery box (6).



CLEAN, INSPECT, AND REPAIR

- 1. Clean heat exchanger plate with brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush with clean water and dry.
- 2. Check heat exchanger. Replace bent or cracked heat exchanger.
- 3. Check insulation. Replace loose, missing, or damaged strip or sheets.

0309 00

INSTALLATION

WARNING

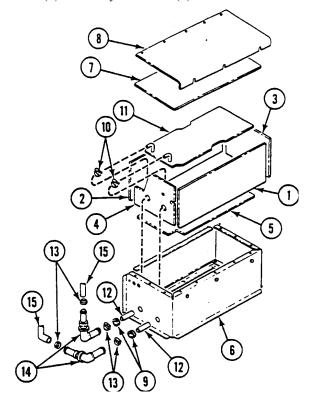




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

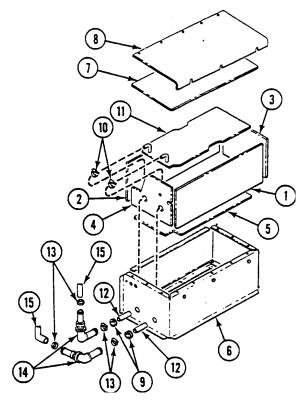
Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply adhesive to insulation sheets. Wait 10 to 20 seconds until adhesive becomes tacky.
- 2. If removed, install bottom insulation sheet (5), left insulation sheet (4), right insulation sheet (3), rear insulation sheet (2), and front insulation sheet (1) in battery box (6).
- 3. If removed, install insulation sheet (7) on battery box cover (8).



0309 00

- 4. Place two clamps (10) on heat exchanger (11). Install heat exchanger in battery box (6).
- 5. Install two short hoses (12) on heat exchanger (11). Secure with two clamps (10).
- 6. Place four clamps (13) on two elbows (14). Install elbows in hoses (12). Install hoses (15) on elbows. Secure all those hoses with clamps (13).



FOLLOW-THROUGH STEPS

- 1. Install batteries (WP 0302 00).
- 2. Fill carrier cooling system (WP 0194 00).
- 3. Fill coolant heater system (WP 0639 00).
- 4. Start coolant heater (see your -10). Check for leaks.
- 5. Raise and lock ramp (see your -10).
- 6. Turn MASTER SWITCH to OFF (see your -10).

REPLACE BATTERY BOX INSULATION AND HEAT EXCHANGER (M113A2, M901A1, AND M1059 ONLY)

0310 00

THIS WORK PACKAGE COVERS:

Removal (page 0310 00-1). Clean, Inspect, and Repair (page 0310 00-2). Installation (page 0310 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 66) Sodium bicarbonate (WP 0782 00, Item 70) Grommet (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

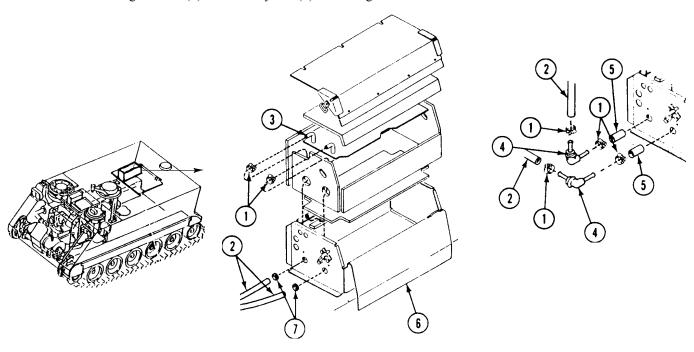
Batteries removed (WP 0303 00)

Carrier cooling system drained (WP 0193 00)

Coolant heater system drained (WP 0639 00)

REMOVAL

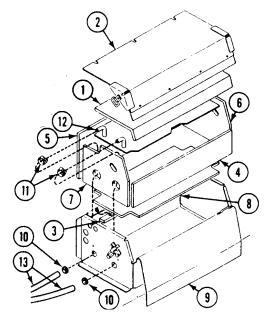
- 1. Loosen two clamps (1) on two hoses (2). Remove hoses from heat exchanger (3). Remove clamps from hoses.
- 2. Remove heat exchanger (3) from battery box (6). Remove clamps from heat exchanger.
- 3. Remove two grommets (7) from battery box (6). Discard grommets.



REPLACE BATTERY BOX INSULATION AND HEAT EXCHANGER (M113A2, M901A1, AND M1059 ONLY) — Continued

0310 00

- 4. If damaged, remove two insulation sheets (1) from battery box cover (2).
- 5. If damaged, remove insulation strip (3), front insulation sheet (4), rear insulation sheet (5), right insulation sheet (6), left insulation sheet (7), and bottom insulation sheet (8) from battery box (9).



CLEAN, INSPECT, AND REPAIR

- 1. Clean heat exchanger plate with brush dipped in mixture of sodium bicarbonate and water. After foaming stops, flush with clean water and dry.
- 2. Check heat exchanger. Replace bent or cracked heat exchanger.
- 3. Check insulation. Replace loose, missing, or damaged strip or sheets.

REPLACE BATTERY BOX INSULATION AND HEAT EXCHANGER (M113A2, M901A1, AND M1059 ONLY) — Continued

0310 00

INSTALLATION

WARNING

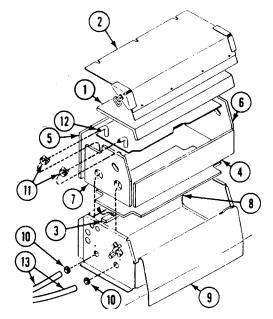




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply sealing compound on insulation sheets. Wait 10 to 20 seconds until sealing compound becomes tacky.
- 2. If removed, install bottom insulation sheet (8), left insulation sheet (7), right insulation sheet (6), rear insulation sheet (5), front insulation sheet (4), and insulation strip (3) in battery box (9).
- 3. If removed, install insulation sheet (1) on battery box cover (2).
- 4. Install two new grommets (10) in battery box (9).
- 5. Install two clamps (11) on heat exchanger (12). Install heat exchanger in battery box (9).
- 6. Install two hoses (13) on heat exchanger (12). Secure with two clamps (11).



REPLACE BATTERY BOX INSULATION AND HEAT EXCHANGER (M113A2, M901A1, AND M1059 ONLY) — Continued

0310 00

FOLLOW-THROUGH STEPS

- 1. Fill carrier cooling system (WP 0194 00).
- 2. Fill coolant heater system (WP 0639 00).
- 3. Start coolant heater (see your -10). Check heat exchanger for leaks. Turn heater off.
- 4. Raise and lock ramp (see your -10).
- 5. Stop/shutdown engine (see your -10).

TM 9-2350-261-20-2

CHAPTER 14

UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM - WIRING HARNESS, RECEPTACLE, AND CABLE REPAIR

WORK PACKAGE INDEX	
<u>Title</u>	Sequence No.
MULTIPLE PIN AND SOCKET IDENTIFICATION	0311 00
REPAIR WIRING HARNESS	0312 00
REPAIR RECEPTACLE	0313 00
REPAIR CABLE ASSEMBLY	0314 00
REPAIR INTERVEHICLE POWER CABLE (M577A2 AND M1068 ONLY)	0315 00

MULTIPLE PIN AND SOCKET IDENTIFICATION

0311 00

THIS WORK PACKAGE COVERS:

Inspection-Acceptance and Rejection Criteria (page 0311 00-1).

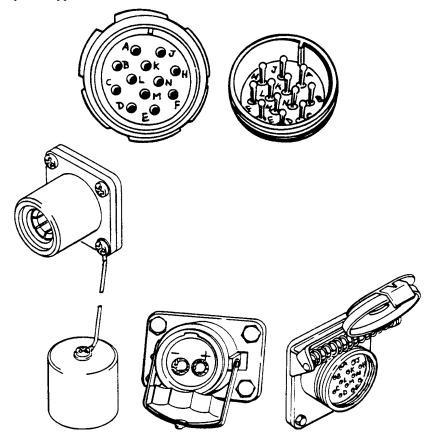
INITIAL SETUP:

Maintenance Level

Unit

INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

- 1. It is important to identify the correct pins and sockets for repair when troubleshooting electrical connectors and receptacles.
- 2. Letters or other markings are stamped next to each pin and corresponding socket to ensure proper identification.
- 3. Following are examples of typical connectors found in carriers.



REPAIR WIRING HARNESS

031200

THIS WORK PACKAGE COVERS:

Disassembly (page 103 12 100+1)... Assembly (page 103 12 100+4)...

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43)

Electrical Tool Kit (WP 0780 00, Item 80)

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Hacksaw Blade (WP 0780 00, Item 13)

Hacksaw Frame (WP 0780 00, Item 26)

Heater Gun (WP 0780 00, Item 34)

Soldering Gun (WP 0780 00, Item 33)

Materials/Parts

Insulation sleeving (WP 0782 00, Item 30)

Insulation sleeving (WP 0782 00, Item 31)

Insulation sleeving (WP 0782 00, Item 32)

Insulation sleeving (WP 0782 00, Item 33)

Insulation sleeving (WP 0782 00, Item 34)

Solder (WP 0782 00, Item 71)

Personnel Required

Unit Mechanic

Equipment Condition

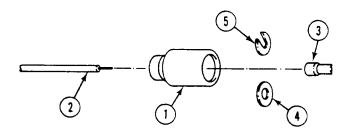
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

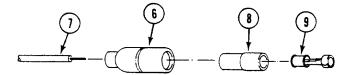
Battery ground lead disconnected (WP 0294 00)

DISASSEMBLY

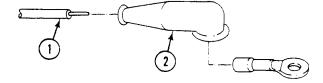
- 1. Remove male connector from harness lead.
 - a. Slide shell (1) back on lead (2).
 - b. Clip contact pin (3) from lead (2). Discard pin.
 - c. Remove washer (4) or slotted washer (5) and shell (1) from lead (2).



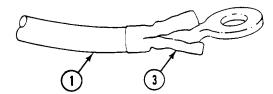
- 2. Remove female connector from harness lead.
 - a. Slide shell (6) back on lead (7).
 - b. Slide sleeve (8) back from contact socket (9).
 - c. Clip socket (9) from lead (7). Discard socket.
 - d. Remove sleeve (8) and shell (6) from lead (7).



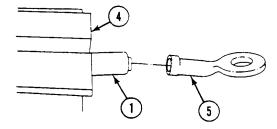
- 3. Remove terminal connector from harness lead.
 - a. If lead (1) has nipple (2), slide nipple back on lead.



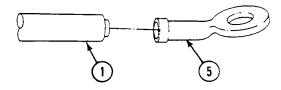
b. If lead (1) has insulated sleeving (3), cut and discard sleeving from lead.



c. If lead (1) is of large diameter, place in vise (4). Cut lead with hacksaw as close as possible to terminal (5). Discard terminal.



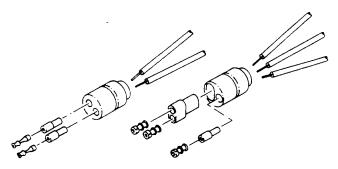
d. If lead (1) is of small diameter, cut lead as close as possible to terminal (5). Discard terminal.



NOTE

Unit Maintenance can only repair multi-pin plugs with up to three sockets. For plugs with more than three sockets, notify your supervisor.

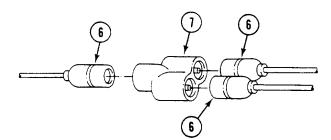
4. Remove multiple connectors the same way as single connectors. Be sure to tag leads to ensure correct installation. See DISASSEMBLY Steps 1 = 12.



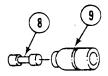
NOTE

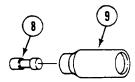
For wiring harness repair, it may be necessary to remove Y-type adapters and dummy plugs.

- 5. Remove Y-type adapter or dummy plug from harness lead.
 - a. Pull harness leads (6) from Y-type adapter (7). Remove adapter.



b. Pull dummy plug (8) from male or female connector (9).





ASSEMBLY

NOTE

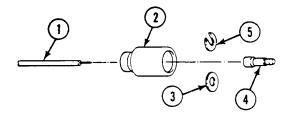
If replacing lead, cut new wire from bulk supply. Measure original length, gauge, and type of wire.

- 1. Install male connector on harness lead.
 - a. Strip insulation from lead (1) to uncover just enough wire to fill contact pin well.
 - b. Slide shell (2) and washer (3), if removed, over lead (1).

CAUTION

Crimping lower part of pin may damage pin and it will not hold lead. Crimp only middle part of contact pin with correct size die.

- c. Insert lead (1) into new pin (4) and crimp.
- d. If removed, place slotted washer (5) on lead (1) under pin (4) and pull shell (2) over washer (3) or (5) and pin.

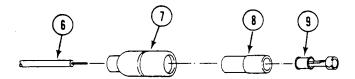


- 2. Install female connector on harness lead.
 - a. Strip insulation from lead (6) to uncover just enough wire to fill contact socket well.
 - b. Slide shell (7) and sleeve (8) over lead (6).

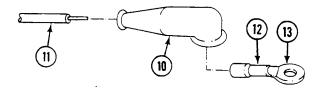
CAUTION

Crimping lower part of pin may damage pin and it will not hold lead. Crimp only middle part of contact pin with correct size die.

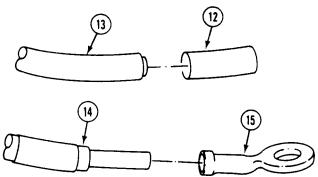
- c. Insert lead (6) in new socket (9) and crimp or solder.
- d. Slide sleeve (8) and shell (7) over socket (9).



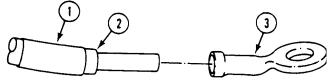
- 3. Install terminal connector on harness lead.
 - a. If nipple (10) was removed from lead (11), strip insulation from lead to uncover just enough wire to fill barrel (12) of terminal (13). Slide nipple over lead.



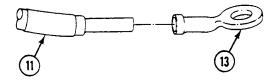
b. If insulated sleeving (12) was removed from lead (13), slide new insulated sleeving on lead. Strip insulation from lead to same length as crimp (14) on terminal (15).



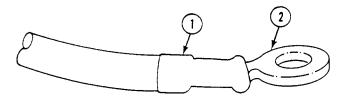
c. If large diameter lead (1), fill crimp (2) on terminal (3) with solder. Use soldering gun. Insert lead into melted solder in crimp. Allow to cool.



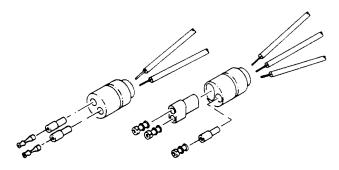
d. If lead (11) is small diameter, position terminal (13) on lead. Crimp terminal on lead.



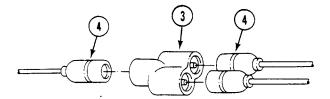
e. Heat shrink insulated sleeving (1) on terminal (2) and leads.



4 Install multiple connectors the same way as single connectors. See ASSEMBLY Steps 1 = 12.



- 5. If removed, install Y-type adapters and dummy plugs.
 - a. Install Y-type adapter (3) on harness leads (4).



b. Install dummy plugs (5) in male or female connector (6).



FOLLOW-THROUGH STEPS

- 1. Use multimeter to perform continuity check before connecting batteries.
- 2. Connect battery ground lead (WP 0294 00).

REPAIR RECEPTACLE 0313 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0313 00+1). Clean, Inspect, and Repair (page 0313 00-2). Assembly (page 0313 00+2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43) Electrical Tool Kit (WP 0780 00, Item 80) General Mechanic's Tool Kit (WP 0780 00, Item 29) Soldering Gun (WP 0780 00, Item 33)

Materials/Parts

Insulation sleeving (WP 0782 00, Item 31) Insulation sleeving (WP 0782 00, Item 32) Insulation sleeving (WP 0782 00, Item 33) Insulation sleeving (WP 0782 00, Item 34) Solder (WP 0782 00, Item 71)

Insulation sleeving (WP 0782 00, Item 30)

Personnel Required

Unit Mechanic

Equipment Condition

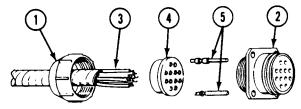
Engine stopped/shutdown (see your -10)
Battery ground lead disconnected (WP 0294 00)
Carrier blocked (see your -10)

DISASSEMBLY

NOTE

Use same procedure for repairing single or multiple lead, and male or female receptacle.

- 1. Loosen nut (1) from receptacle (2). Slide nut back on leads (3).
- 2. Remove grommet (4) with contacts (5) from rear of receptacle.
- 3. Push leads (3) into grommet (4) until contacts (5) are fully exposed on other side of grommet. Remove grommet and nut (1) from leads.



4. Clip or desolder leads from contacts. Use soldering gun. Discard contacts.

CLEAN, INSPECT, AND REPAIR

- 1. Check wire leads. Look for damaged insulation or broken wires. If wire leads have been taped together, remove tape. Scrape wire lead covering with your thumbnail to see if covering peels off. Replace bad leads.
- 2. Check contact pins, contact sockets, and terminals. Replace burned, bent, or broken parts.
- 3. Check shells, sleeves, and nipples. Replace cut, torn, or damaged parts.

ASSEMBLY

NOTE

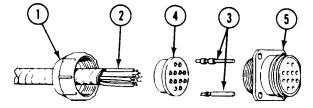
If replacing lead, cut new wire from bulk supply. Measure original length, gauge, and type of wire.

- 1. Slide nut (1) over leads (2).
- 2. Strip insulation from leads (2) to expose just enough wire to fill holes in contacts (3).
- 3. Push leads (2) through grommet (4) and insert in new contacts (3). Solder leads (2) in contacts (3). Use soldering gun.

NOTE

Make sure leads pass through proper lettered holes in grommet.

4. Align and install grommet (4) in receptacle (5). Secure with nut (1).



FOLLOW-THROUGH STEPS

- 1. Use multimeter to perform continuity check before connecting batteries.
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON to check for proper receptacle repair.
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPAIR CABLE ASSEMBLY

0314 00

THIS WORK PACKAGE COVERS:

Disassembly (page 103 14 100+1). Clean, Inspect, and Repair (page 0314 00-2). Assembly (page 103 14 100+2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43) Electrical Tool Kit (WP 0780 00, Item 80) General Mechanic's Tool Kit (WP 0780 00, Item 29) Soldering Gun (WP 0780 00, Item 33)

Materials/Parts

Insulation sleeving (WP 0782 00, Item 30) Insulation sleeving (WP 0782 00, Item 31) Insulation sleeving (WP 0782 00, Item 32) Insulation sleeving (WP 0782 00, Item 33) Insulation sleeving (WP 0782 00, Item 34) Solder (WP 0782 00, Item 71)

Personnel Required

Unit Mechanic

Equipment Condition

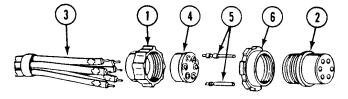
Engine stopped/shutdown (see your -10)
Battery ground lead disconnected (WP 0294 00)
Carrier blocked (see your -10)

DISASSEMBLY

NOTE

Use same procedure for repairing single or multiple lead, and male or female receptacle.

- 1. Loosen retaining nut (1) from plug (2). Slide nut back on cable (3).
- 2. Remove grommet (4) with contacts (5) from rear of plug (2).
- 3. Remove plug (2) and coupling nut (6) from cable (3).
- 4. Push leads of cable (3) into grommet (4) until contacts (5) are fully exposed on other side of grommet. Clip or desolder leads from contacts. Use soldering gun. Discard contacts.
- 5. Remove grommet (4) and retaining nut (1) from cable (3).



CLEAN, INSPECT, AND REPAIR

- 1. Check wire leads. Look for damaged insulation or broken wires. If wire leads have been taped together, remove tape. Scrape wire lead covering with your thumbnail to see if covering peels off. Replace bad leads.
- 2. Check contact pins, contact sockets, and terminals. Replace burned, bent, or broken parts.
- 3. Check shells, sleeves, and nipples. Replace cut, torn, or damaged parts.

ASSEMBLY

NOTE

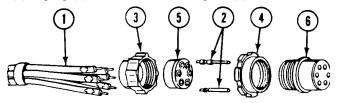
If replacing lead, cut new wire from bulk supply. Measure original length, gauge, and type of wire.

- 1. Strip insulation from leads of cable (1) to expose just enough wire to fill holes in contacts (2).
- 2. Slide retaining nut (3) and coupling nut (4) on cable (1).
- 3. Push leads of cable (1) through grommet (5) and insert in new contacts (2).

NOTE

Make sure leads pass through proper lettered holes in grommet.

- 4. Solder leads of cable (1) in contacts (2) and press contacts into grommet (5). Use soldering gun.
- 5. Align and install grommet (5) in plug (6). Secure with retaining nut (3).



FOLLOW-THROUGH STEPS

- 1. Use multimeter to perform continuity check before connecting batteries.
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON to check for proper cable repair.
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPAIR INTERVEHICLE POWER CABLE (M577A2 AND M1068 ONLY)

0315 00

THIS WORK PACKAGE COVERS:

Disassembly (page 103 15 100+1)... Assembly (page 103 15 100+2)...

INITIAL SETUP:

Maintenance Level

Unit

Personnel Required

Unit Mechanic

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Solder Torch Kit (WP 0780 00, Item 70)

Equipment Condition

Power cable removed from carrier (see your -10)

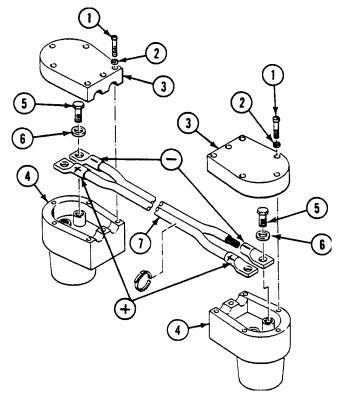
DISASSEMBLY

1 Remove 12 Screws (1), washers (2), and cover (3) from connector (4).

NOTE

Note cable polarity position before removing from connector.

- 2. Remove four screws (5), washers (6), and two cables (7) from two connectors (4).
- 3. Remove four terminals, two (-) and two (+), from cables (7). Use soldering torch.



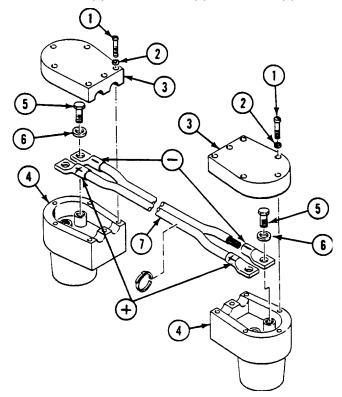
ASSEMBLY

1. Install four terminals, two (-) and two (+), on cables (7). Use soldering torch.

CAUTION

Do not switch cable polarity when securing cables to connectors.

- 2. Secure two cables (7) to two connectors (4) with four screws (5) and washers (6).
- 3. Secure [two covers (3) [to [two connectors (4) with 112 screws (1) and washers (2)]



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CHAPTER 15

UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM - POWER PLANT WIRING HARNESS AND RELATED COMPONENTS

WORK PACKAGE INDEX

<u>Title</u>	Sequence No.
REPLACE ENGINE LOW OIL PRESSURE SWITCH	
REPLACE ENGINE COOLANT TEMPERATURE SWITCH	
REPLACE DIFFERENTIAL HIGH OIL TEMPERATURE SWITCH	
REPLACE DIFFERENTIAL SWITCH LEAD	
REPLACE TRANSMISSION HIGH OIL TEMPERATURE SWITCH	
REPLACE POWER PLANT WIRING HARNESS	0321 00

REPLACE ENGINE LOW OIL PRESSURE SWITCH

0316 00

THIS WORK PACKAGE COVERS:

Removal (page 0316 00-1). Installation (page 0316 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 60)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

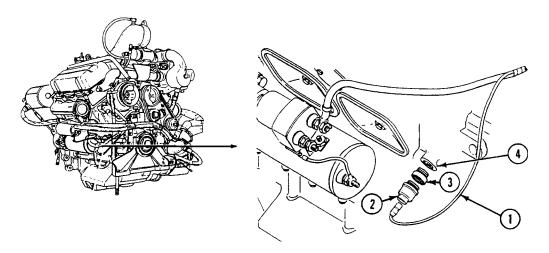
Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Trim vane lowered and power plant front access door open (see your -10)

REMOVAL

- 1. Disconnect circuit 34 lead (1) from engine oil pressure switch (2).
- 2. Remove switch (2) from bushing (3).
- 3. If needed, remove bushing (3) from engine block (4).



INSTALLATION

WARNING

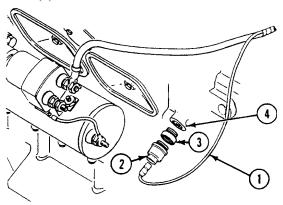




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. If removed, coat threads of bushing (3) with sealing compound.
- 2. Install bushing (3) in engine block (4).
- 3. Install switch (2) in bushing (3).
- 4. Connect circuit 34 lead (1) to switch (2).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON and observe low oil pressure warning light. Light should go on (see your -10).
- 3. Start engine and check for oil leaks at engine low oil pressure switch. Low oil pressure warning light should go out after engine is started. Stop engine (see your -10).
- 4. Turn MASTER SWITCH to OFF (see your -10).
- 5. Close power plant front access door, and raise trim vane (see your -10).

REPLACE ENGINE COOLANT TEMPERATURE SWITCH

0317 00

THIS WORK PACKAGE COVERS:

Removal (page 0317 00-1). Installation (page 0317 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 60)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

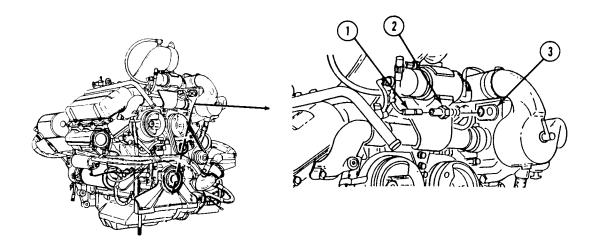
Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

Coolant level drained to below thermostat housing (WP 0193 00)

REMOVAL

- 1. Disconnect circuit 33 lead (1) from engine coolant temperature switch (2).
- 2. Remove switch (2) from thermostat housing (3).



INSTALLATION

WARNING

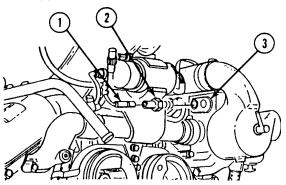




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Coat threads of switch (2) with sealing compound.
- 2. Install switch (2) in thermostat housing (3).
- 3. Connect circuit 33 lead (1) to switch (2).



FOLLOW-THROUGH STEPS

- 1. Refill cooling system (WP 0194 00).
- 2. Start engine (see your -10). Check for coolant leaks at engine coolant temperature switch (WP 0050 00).
- 3. Stop/shutdown engine (see your -10).
- 4. Close power plant front access door and raise trim vane (see your -10).

REPLACE DIFFERENTIAL HIGH OIL TEMPERATURE SWITCH

0318 00

THIS WORK PACKAGE COVERS:

Removal (page 0318 00-1). Installation (page 0318 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 60)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

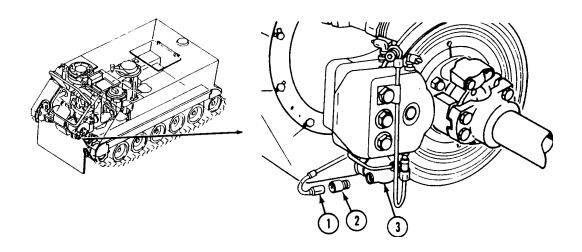
Carrier blocked (see your -10)

Differential drained (WP 0120 00)

Trim vane lowered and power plant front access door open (see your -10)

REMOVAL

- 1. Disconnect circuit 328 lead (1) from differential high oil temperature switch (2).
- 2. Remove switch (2) from tee (3).



WARNING

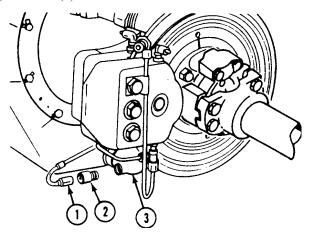




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Coat threads of switch (2) with sealing compound.
- 2. Install switch (2) in tee (3). Tighten switch.
- 3. Connect circuit 328 lead (1) to switch (2).



FOLLOW-THROUGH STEPS

- 1. Refill differential (WP 0120 00).
- 2. Start engine (see your -10). Check for oil leaks at differential high oil temperature switch.
- 3. Stop/shutdown engine (see your -10).
- 4. Close power plant front access door and raise trim vane (see your -10).

REPLACE DIFFERENTIAL SWITCH LEAD

0319 00

THIS WORK PACKAGE COVERS:

Removal (page 0319 00-1). Installation (page 0319 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Self-locking nut

Personnel Required

Unit Mechanic

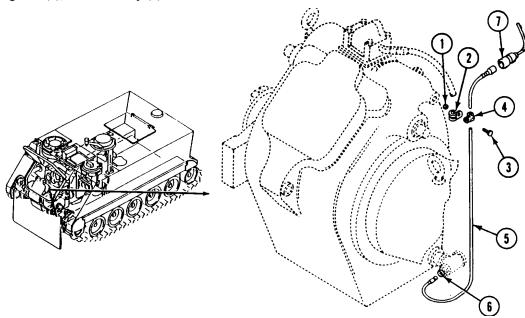
Equipment Condition

Engine stopped/shutdown (see your -10)

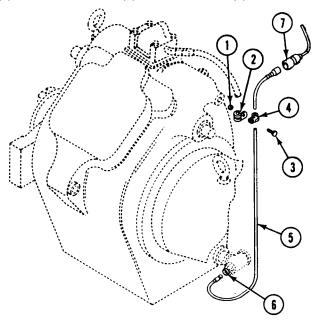
Trim vane lowered and power plant front access door open (see your -10)

REMOVAL

- 1. Remove locknut (1), clamp (2), and screw (3) from clamp (4). Discard locknut.
- 2. Disconnect circuit 328 lead (5) from differential high oil temperature switch (6) and power plant wiring harness (7). Remove lead.
- 3. If replacing lead (5), remove clamp (2) from lead.



- 1. If removed, install clamp (2) on lead (5).
- 2. Route lead (5) along differential and connect lead to power plant wiring harness (7) and switch (6).
- 3. Place clamp (2) on clamp (4). Secure with screw (3) and new locknut (1).



FOLLOW-THROUGH STEPS

1. Close power plant front access door and raise trim vane (see your -10).

REPLACE TRANSMISSION HIGH OIL TEMPERATURE SWITCH

0320 00

THIS WORK PACKAGE COVERS:

Removal (page 0320 00-1). Clean, Inspect, and Repair (page 0320 00-1). Installation (page 0320 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench Set (WP 0780 00, Item 96) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Sealing compound (WP 0782 00, Item 60)

Personnel Required

Unit Mechanic

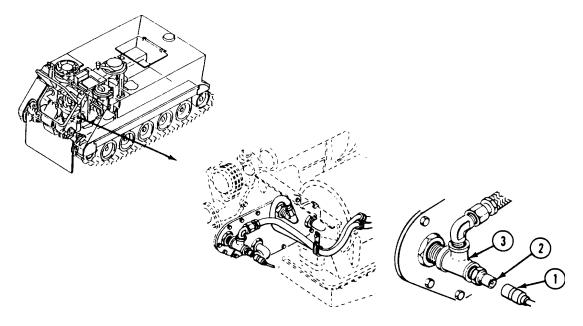
Equipment Condition

Engine stopped/shutdown (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

REMOVAL

- 1. Disconnect circuit 327 lead (1) from transmission high oil temperature switch (2).
- 2. Remove switch (2) from tee (3).



CLEAN, INSPECT, AND REPAIR

1. Check threads on switch. Remove burrs. Replace switch that has stripped threads.

WARNING

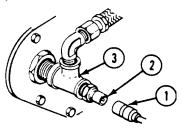




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Coat threads of switch (2) with sealing compound.
- 2. Install switch (2) in tee (3). TIGHTEN SWITCH TO 240–264 LB-IN (27–34 N·M) TORQUE. Use torque wrench.
- 3. Connect circuit 327 lead (1) to switch (2).



FOLLOW-THROUGH STEPS

WARNING



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

- 1. Start engine to check for oil leaks at transmission high oil temperature switch. Stop/shutdown engine (see your -10).
- 2. Close power plant front access door and raise trim vane (see your -10).

REPLACE POWER PLANT WIRING HARNESS

0321 00

THIS WORK PACKAGE COVERS:

Removal (page 0321 00-1). Installation (page 0321 00-5).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (4)

Personnel Required

Unit Mechanic

Equipment Condition

Ramp lowered (see your -10)

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Power plant rear access panel removed (WP 0431 00,

WP 0432 00, or WP 0433 00)

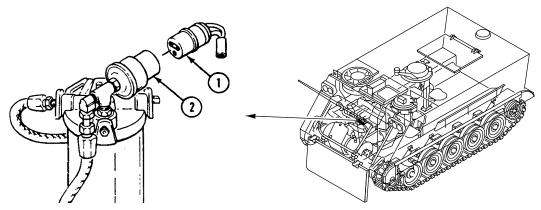
Power plant bottom access cover removed (WP 0434 00)

Trim vane lowered and power plant front access door

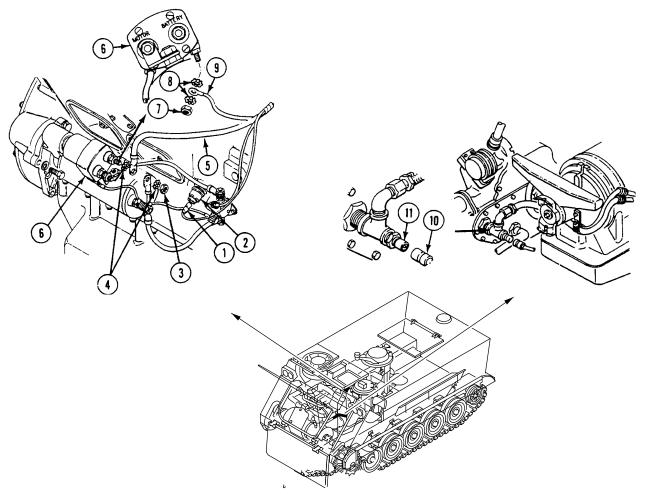
open (see your -10)

REMOVAL

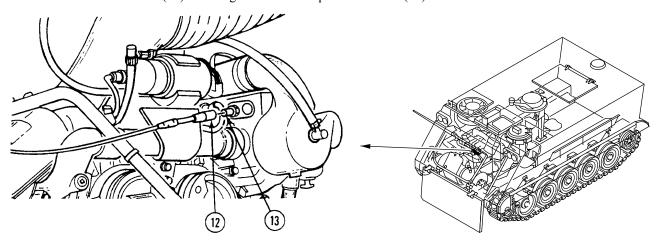
1. Disconnect circuit 1B lead (1) from generator field switch (2) on secondary fuel filter.



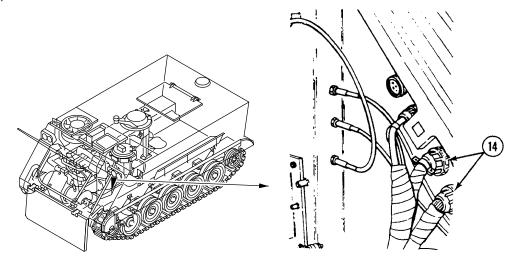
- 2. Disconnect circuit 34 lead (1) from engine low oil pressure switch (2).
- 3. Remove nut (3), two lockwashers (4), and circuit 6 lead (5) from starter solenoid (6). Discard lockwashers.
- 4. Remove nut (7), two lockwashers (8), and circuit 74A lead (9) from solenoid (6). Discard lockwashers.
- 5. Disconnect circuit 327 lead (10) from transmission high oil temperature switch (11).



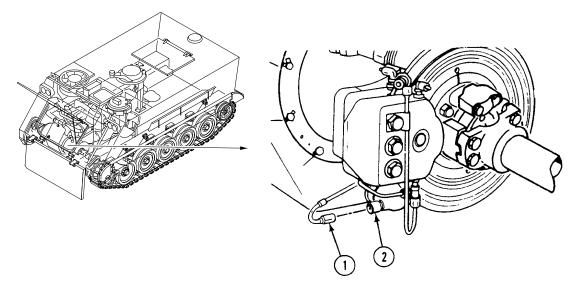
6. Disconnect circuit 33 lead (12) from engine coolant temperature switch (13).



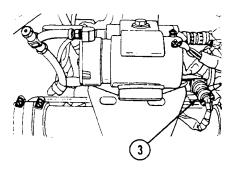
7. Disconnect three power plant wiring harness connectors (14) from main wiring harness at driver's compartment bulkhead.



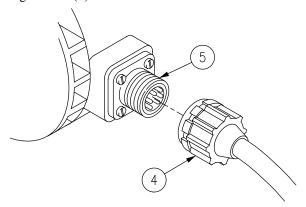
8. Disconnect circuit 328 lead (1) from differential high oil temperature switch (2).



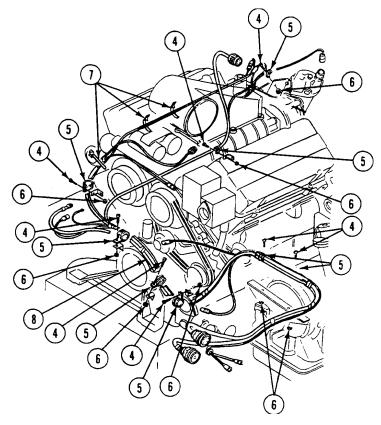
9. Disconnect circuit 406-406A lead (3) from air box heater wiring harness.



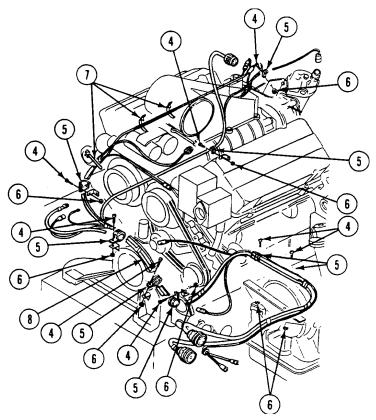
10. Disconnect connector (4) from generator (5).



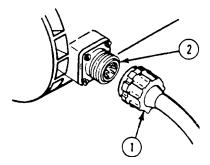
11. Remove 11 screws (4), eight clamps (5), eight nuts (6), three straps (7), and power plant wiring harness (8) from power plant.



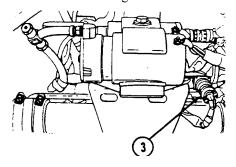
1. Install power plant wiring harness (8) on power plant. Secure with three straps (7), eight nuts (6), eight clamps (5), and 11 screws (4).



2. Connect circuit 1, 2, 3, and 3A lead (1) to generator (2).

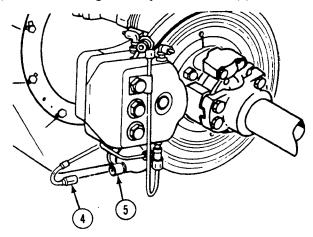


3. Connect circuit 406-406A lead (3) to air box heater wiring harness.

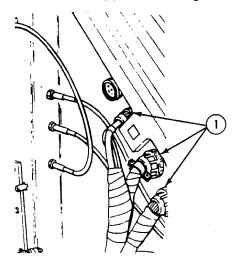


0321 00-5

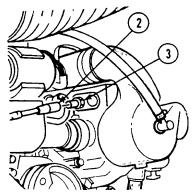
4. Connect circuit 328 lead (4) to differential high oil temperature switch (5).



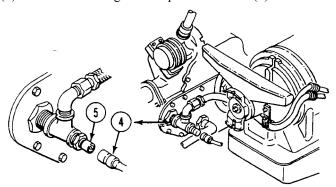
5. Connect three power plant wiring harness connectors (1) to main wiring harness at driver's compartment bulkhead.



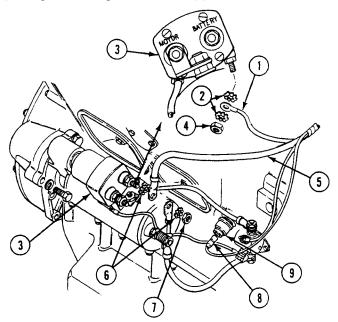
6. Connect circuit 33 lead (2) to engine coolant temperature switch (3).



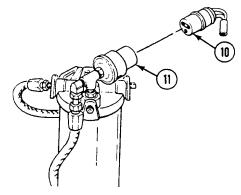
7. Connect circuit 327 lead (4) to transmission high oil temperature switch (5).



- 8. Install circuit 74A lead (1) and two new lockwashers (2) on starter solenoid (3). Secure with nut (4).
- 9. Install circuit 6 lead (5) and two new lockwashers (6) on solenoid (3). Secure with nut (7).
- 10. Connect circuit 34 lead (8) to engine low oil pressure switch (9).



11. Connect circuit 1B lead (10) to generator field switch (11) on secondary fuel filter.



REPLACE POWER PLANT WIRING HARNESS — Continued

0321 00

FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 3. Start engine (see your -10). Check that power plant wiring harness operates properly.
- 4. Raise and lock ramp (see your -10).
- 5. Stop/shutdown engine (see your -10).
- 6. Close power plant front access door and raise trim vane (see your -10).
- 7. Install power plant bottom access cover (WP 0434 00).

TM 9-2350-261-20-2

CHAPTER 16

UNIT MAINTENANCE INSTRUCTIONS FOR ELECTRICAL SYSTEM - BILGE PUMP, WIRING, AND RELATED COMPONENTS

WORK PACKAGE INDEX			
<u>Title</u>	Sequence No.		
REPLACE FRONT BILGE PUMP AND STRAINER	0322 00		
REPLACE FRONT BILGE PUMP PIPES	0323 00		
REPLACE FRONT BILGE VALVE			
REPLACE REAR BILGE PUMP AND STRAINER	0325 00		
REPLACE REAR BILGE PUMP PIPES	0326 00		
REPLACE BILGE PUMP CIRCUIT BREAKERS	0327 00		

REPLACE FRONT BILGE PUMP AND STRAINER

0322 00

THIS WORK PACKAGE COVERS:

Removal (page 0322 00-1). Installation (page 0322 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Adjustable Wrench (WP 0780 00, Item 87) General Mechanic's Tool Kit (WP 0780 00, Item 29) Pipe Wrench (WP 0780 00, Item 93)

Materials/Parts

Adhesive (WP 0782 00, Item 66)

Sealing compound (WP 0782 00, Item 60)

Cushion (3)

Key washer (3)

Lockwasher (5)

Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Hull front access cover removed (WP 0429 00)

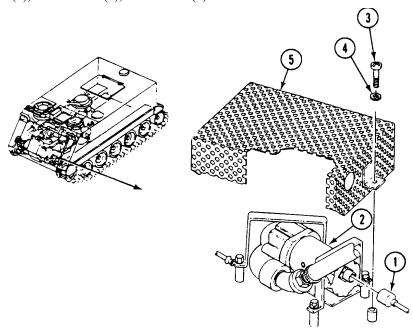
Battery ground lead disconnected (WP 0294 00)

REMOVAL

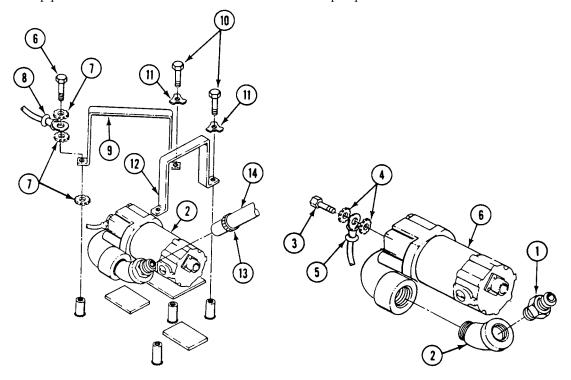
NOTE

If only strainer is to be replaced, do REMOVAL Steps 1 - 2 and INSTALLATION Steps 9 - 10.

- 1. Disconnect lead (1) from bilge pump (2).
- 2. Remove two screws (3), lockwashers (4), and strainer (5) from hull weldnuts. Discard lockwashers.



- 3. Remove screw (6), three lockwashers (7), and ground lead (8) from strap (9). Discard lockwashers.
- 4. Remove three screws (10), key washers (11), and two straps (9) and (12). Discard key washers.
- 5. Loosen clamp (13). Remove hose (14) from pump (2).
- 6. Remove adapter (1), elbow (2), screw (3), two lockwashers (4), and ground lead (5) from pump (6). Use adjustable wrench and pipe wrench. Discard lockwashers. Reinstall screw in pump.



WARNING

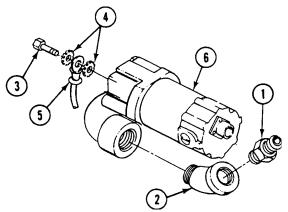




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Remove screw (3) and washer from new pump (6). Discard washer.
- 2. Install ground lead (5) on pump (6). Secure with two new lockwashers (4) and screw (3).
- 3. Apply sealing compound to external threads of elbow (2) and adapter (1).
- 4. Install elbow (2) and adapter (1) on pump (6). Use pipe wrench and adjustable wrench.

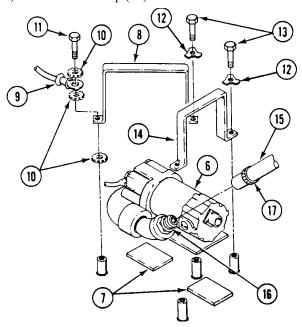


- 5. Cement new cushion (7) on bottom of pump (6) with adhesive.
- 6. Install pump (6) in carrier.

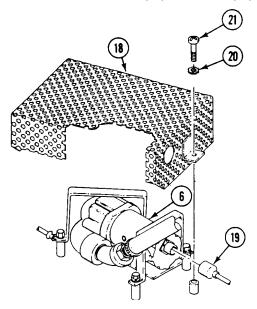
NOTE

Do not tighten strap screws until all four are installed.

- 7. Install strap (8) and ground lead (9) on hull weldnuts. Secure with three new lockwashers (10), screw (11), new key washer (12), and screw (13). Bend tabs on key washer.
- 8. Install strap (14) on hull weldnuts. Secure with two screws (13) and new key washers (12). Bend tabs on key washers.
- 9. Slide hose (15) on adapter (16). Secure with clamp (17).



- 10. Install strainer (18) on hull weldnuts.
- 11. Connect lead (19) to bilge pump (6).
- 12. Secure strainer (18) to hull weldnuts with two lockwashers (20) and screws (21).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Install hull front access cover (WP 0429 00).
- 3. Raise trim vane (see your -10).

REPLACE FRONT BILGE PUMP PIPES

0323 00

THIS WORK PACKAGE COVERS:

Removal (page 0323 00-1). Installation (page 0323 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 106) Socket Wrench (WP 0780 00, Item 95)

Materials/Parts

Gasket

Grommet

Locknut (4)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

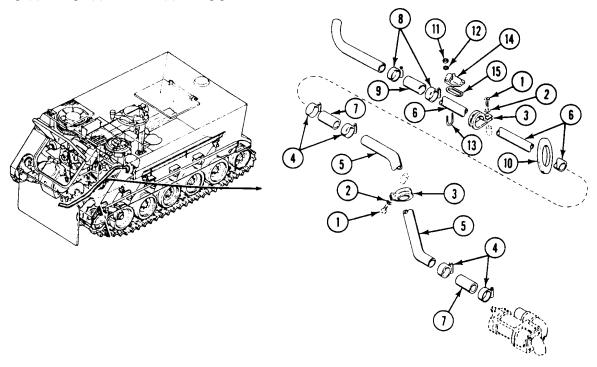
Power plant front access door open (see your -10)

Hull front access cover removed (WP 0429 00)

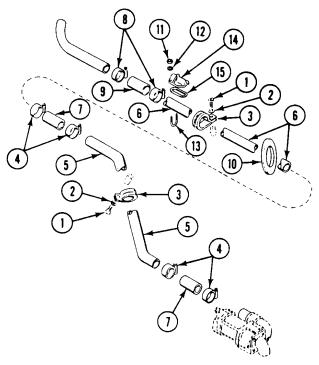
Front bilge pump strainer removed (WP 0322 00, Steps 1 - 2)

REMOVAL

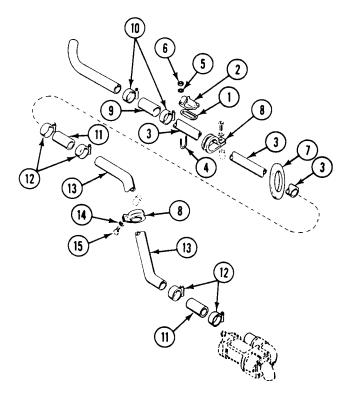
- 1. Remove two screws (1), washers (2), and clamps (3) from two bulkhead weldnuts.
- 2. Loosen four clamps (4). Remove lower pipe (5) from upper pipe (6) and bilge pump. Remove clamp (3), clamps (4), and two hoses (7) from pipe (5).
- 3. Loosen two clamps (8). Slide pipe (6) from discharge outlet and remove pipe from driver's compartment. Remove clamp (3), clamps (8), and hose (9) from pipe.



- 4. Remove grommet (10) from driver's compartment bulkhead. Discard grommet.
- 5. Remove four locknuts (11), washers (12), two U-bolts (13), sight glass (14), and gasket (15) from pipe (6). Discard gasket and locknuts.



- 1. Remove backing from new gasket (1). Install gasket, sticky side down, and sight glass (2) on upper pipe (3). Secure with two U-bolts (4), four washers (5), and new locknuts (6). TIGHTEN NUTS TO 12 LB-IN (1 N·M) TORQUE. Use torque wrench and socket wrench set.
- 2. Install new grommet (7) in driver's compartment bulkhead.
- 3. Install clamp (8), hose (9), and two clamps (10) on upper pipe (3).
- 4. Slide pipe (3) through grommet (7) and install upper end on discharge outlet. Secure with two clamps (10).
- 5. Install clamp (8), two hoses (11), and four clamps (12) on lower pipe (13). Secure hoses to pipe with two clamps.
- 6. Slide pipe (13) on upper pipe (3) and bilge pump. Secure with four clamps (12).
- 7. Align two clamps (8) with two bulkhead weldnuts. Secure with two washers (14) and screws (15).



FOLLOW-THROUGH STEPS

- 1. Install front bilge pump strainer (WP 0322 00, Steps 9 12).
- 2. Turn MASTER SWITCH to ON (see your -10). Operate bilge pump and check for leaks. Turn all switches OFF (see your -10).
- 3. Install hull front access cover (WP 0429 00).
- 4. Close power plant front access door (see your -10).
- 5. Raise trim vane (see your -10).

REPLACE FRONT BILGE VALVE

0324 00

THIS WORK PACKAGE COVERS:

Removal (page 0324 00-1). Inspection-Acceptance and Rejection Criteria (page 0324 00-1). Installation (page 0324 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

Unit Mechanic

Materials/Parts

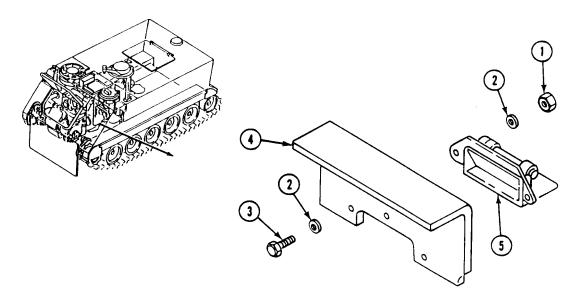
Locknut (3)

Equipment Condition

Engine stopped/shutdown (see your -10)
Ramp lowered (see your -10)
Driver's rear floor plate removed (WP 0439 00)
Personnel heater floor duct removed (WP 0617 00)
Left front floor plate removed (WP 0437 00,
WP 0438 00, and WP 0441 00)

REMOVAL

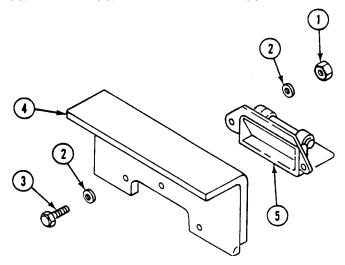
- 1. Remove three locknuts (1), six washers (2), and three screws (3) from hull cross beam (4). Discard locknuts.
- 2. Remove valve (5) from beam. Inspect valve.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check valve, housing, and fittings for cracks, leaks, and wear. Replace if needed.

- 1. Install valve (5) on hull cross beam (4).
- 2. Secure with three screws (3), six washers (2), and three new locknuts (1).



FOLLOW-THROUGH STEPS

- 1. Check for freedom of movement of valve after installation.
- 2. Install left front floor plate (WP 0437 00, WP 0438 00, and WP 0441 00).
- 3. Install personnel heater floor duct (WP 0617 00).
- 4. Install driver's rear floor plate (WP 0439 00).
- 5. Raise and lock ramp (see your -10).
- 6. Stop/shutdown engine (see your -10).

REPLACE REAR BILGE PUMP AND STRAINER

0325 00

THIS WORK PACKAGE COVERS:

Removal (page 0325 00-1). Inspection-Acceptance and Rejection Criteria (page 0325 00-3). Installation (page 0325 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Adjustable Wrench (WP 0780 00, Item 87) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cleaning compound (WP 0782 00, Item 16)
Sealing compound (Adhesive) (WP 0782 00, Item 66)
Key washer (3)

Locknut

Lockwasher (5)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

Battery ground lead disconnected (WP 0294 00)

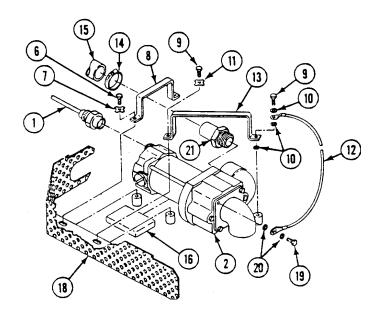
Rear floor plate removed (WP 0436 00, WP 0437 00,

WP 0438 00, WP 0440 00, or WP 0441 00)

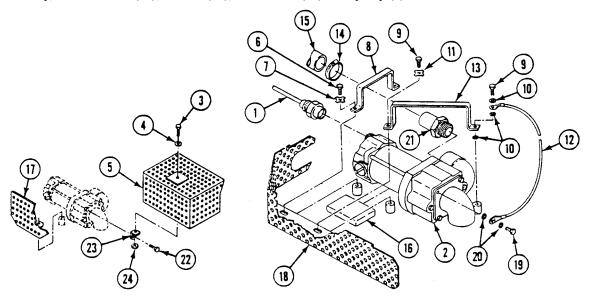
Smoke generator fog oil tank module removed (M1059 Only) (WP 0695 00)

REMOVAL

1. Disconnect circuit 451 lead (1) from rear bilge pump (2).

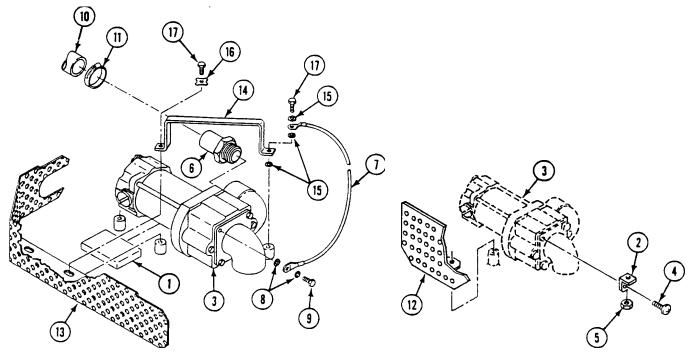


- 2. On M1064 only, remove screw (3), washer (4), and strainer (5) from pump (2).
- 3. Remove two screws (6), key washers (7), and bracket (8) from hull weldnuts. Discard key washers.
- 4. Remove two screws (9), three lockwashers (10), key washer (11), ground lead (12), and bracket (13) from hull weldnuts. Discard lockwashers and key washer.
- 5. Loosen clamp (14). Remove pump (2) from hose (15) and cushion (16).
- 6. Remove strainer (17) (M1064) or strainer (18) (all other carriers) from hull weldnuts.
- 7. Remove screw (19), two lockwashers (20), ground lead (12), and adapter (21) from pump (2). Use adjustable wrench. Discard lockwashers.
- 8. M1064 only, remove screw (22), locknut (24), and bracket (23) from pump (2). Discard locknut.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

- 1. Clean pump and strainers with cleaning compound.
- 2. Check cushion (1). Replace cushion that shows loss of resiliency.
- 3. Check bracket (2) for damage. Replace as needed.



- 1. M1064 only, place bracket (2) on new pump (3). Secure with screw (4) and new locknut(5).
- 2. Install adapter (6) in pump (3). Use adjustable wrench. Place ground lead (7) on pump. Secure with two new lockwashers (8) and screw (9).

WARNING

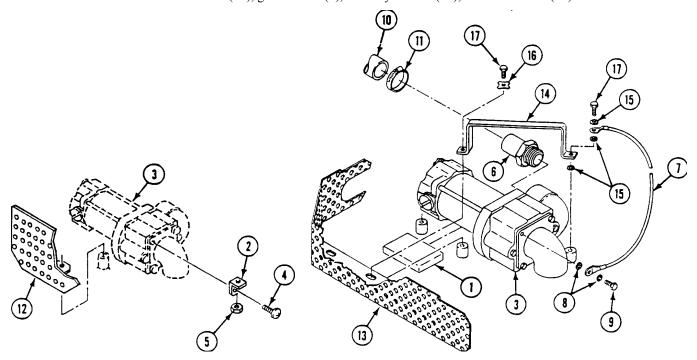




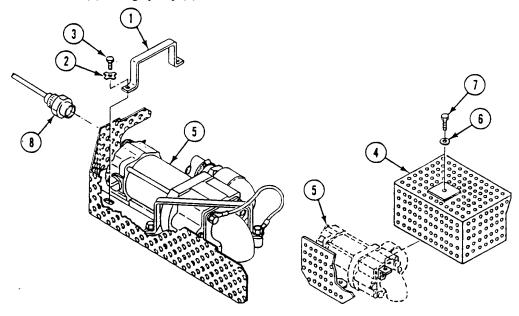
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 3. Secure cushion (1) to pump (3) with adhesive.
- 4. Install pump (3) in carrier. Slide hose (10) on adapter (6) and secure with clamp (11).
- 5. Place strainer (12) (M1064 only) or strainer (13) (all other carriers) on hull weldnuts.
- 6. Install bracket (14) on weldnuts.
- 7. Secure with three new lockwashers (15), ground lead (7), new key washer (16), and two screws (17).



- 8. Install bracket (1) on weldnuts. Secure with two new key washers (2) and screws (3).
- 9. On M1064, place strainer (4) on pump (5). Secure with washer (6) and screw (7).
- 10. Connect circuit 451 lead (8) to bilge pump (5).



FOLLOW-THROUGH STEPS

- 1. Install smoke generator fog oil tank module (M1059 Only) (WP 0695 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3 Turn MASTER SWITCH to ON (see your-10).
- 4 Turn BILGE PUMP switch ON (see your -10) and check pump
- 5 Turn BILGEPUMP switch OFF (see your-10).
- 6. Raise and lock ramp (see your -10).
- 7. Stop/shutdown engine (see your -10).
- 8. Install rear floor plates (WP 0436 00, WP 0437 00, WP 0438 00, WP 0440 00, or WP 0441 00).

REPLACE REAR BILGE PUMP PIPES

0326 00

THIS WORK PACKAGE COVERS:

Removal (page 0326 00-1). Installation (page 0326 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

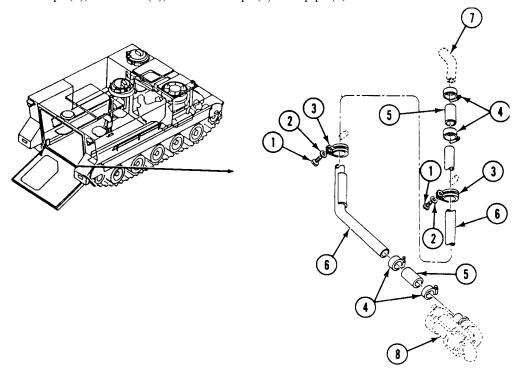
Ramp lowered (see your -10)

Rear floor plate removed (WP 0436 00)

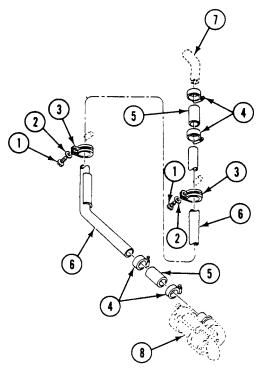
Remove smoke generator fog oil tank module (M1059 Only) (WP 0695 00)

REMOVAL

- 1. Remove two screws (1), lockwashers (2), and clamps (3) from two bulkhead weldnuts. Discard lockwashers.
- 2. Loosen four clamps (4) and slide two hoses (5) back on pipe (6). Remove pipe from carrier.
- 3. Remove four clamps (4), two hoses (5), and two clamps (3) from pipe (6).



- 1. Install two clamps (3), hoses (5), and four clamps (4) on pipe (6).
- 2. Install pipe (6) in carrier and slide hoses (5) onto discharge tube (7) and bilge pump (8). Secure with four clamps (4).
- 3. Align two clamps (3) with bulkhead weldnuts. Secure with two new lockwashers (2) and screws (1).



FOLLOW-THROUGH STEPS

- 1. Install smoke generator fog oil tank module (M1059 Only) (WP 0695 00).
- 2. Turn MASTER SWITCH to ON (see your-10).
- 3. Turn rear BILGE PUMPISWITCH ON (see your-10). Check pipe for leaks.
- $4.\Box$ Turn BILGE PUMP SWITCH OFF (see Four-10).
- 5. Turn MASTER SWITCH to OFF (see your-10).
- 6. Install rear floor plate (WP 0436 00).

REPLACE BILGE PUMP CIRCUIT BREAKERS

0327 00

THIS WORK PACKAGE COVERS:

Removal (page 0327 00-1). Installation (page 0327 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Locknut (8)

Locknut (4)

Personnel Required

Unit Mechanic

Equipment Condition

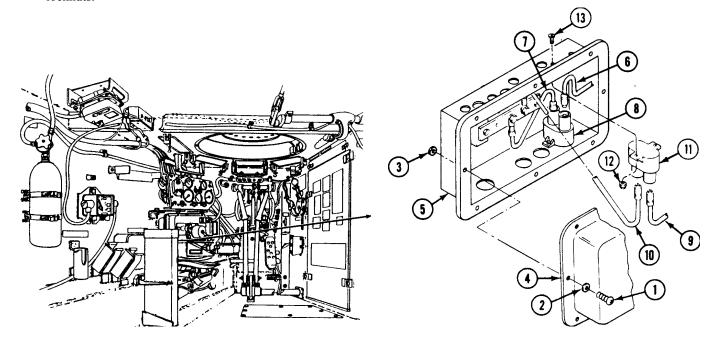
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

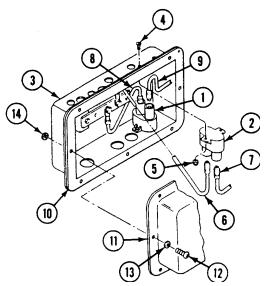
Battery ground lead disconnected (WP 0294 00)

REMOVAL

- 1. Remove eight screws (1), washers (2), and locknuts (3) from master switch panel (4) and distribution box (5). Remove master switch panel from distribution box. Discard locknuts.
- 2. Disconnect circuit 450 lead (6) and circuit 450A lead (7) from front bilge pump circuit breaker (8).
- 3. Disconnect circuit 450B lead (9) and circuit 450C lead (10) from rear bilge pump circuit breaker (11).
- 4. Remove four locknuts (12), screws (13), and two circuit breakers (8) and (11) from distribution box (5). Discard locknuts.



- 1. Install two circuit breakers (1) and (2) in distribution box (3). Secure with four screws (4) and new locknuts (5).
- 2. Connect circuit 450C lead (6) and circuit 450B lead (7) to top bilge pump circuit breaker (2).
- 3. Connect circuit 450A lead (8) and circuit 450 lead (9) to bottom bilge pump circuit breaker (1).
- 4. Inspect gasket (10). Replace if damaged.
- 5. Place master switch panel (11) on distribution box (3). Secure with eight screws (12), washers (13), and new locknuts (14).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Turn on bilge pump switches (see your -10).
- 4. Turn all switches OFF (see your -10).

TM 9-2350-261-20-2

CHAPTER 17

UNIT MAINTENANCE INSTRUCTIONS FOR TRAILER HARNESS, RECEPTACLES, BLOWER, SWITCHES, AND VENTILATION SYSTEM

WORK PACKAGE INDEX

<u>Title</u>	Sequence No.
REPLACE TRAILER HARNESS	0328 00
REPLACE UTILITY OUTLET RECEPTACLE (ALL EXCEPT M577A2 AND M1068)	0329 00
REPLACE LEAD ASSEMBLY, UTILITY OUTLET (M577A2 AND M1068 ONLY)	0330 00
REPLACE TELEPOSTS AND COVER	0331 00
REPLACE REAR UTILITY OUTLET RECEPTACLES (M577A2 AND M1068 ONLY)	0332 00
REPLACE REAR UTILITY RECEPTACLE CIRCUIT BREAKERS (M577A2 AND M1068 ONLY)	0333 00
REPLACE RADIAC WIRING HARNESS (M113A2, M577A2, AND M1068 ONLY)	0334 00
REPLACE COMPARTMENT BLOWER (M577A2 AND M1068 ONLY)	0335 00
REPLACE BLOWER SWITCH (M577A2 AND M1068 ONLY)	0336 00
REPLACE FUEL QUANTITY SELECTOR SWITCH (M577A2 AND M1068 ONLY)	0337 00

REPLACE TRAILER HARNESS

0328 00

THIS WORK PACKAGE COVERS:

Removal (page 0328 00-1). Inspection-Acceptance and Rejection Criteria (page 0328 00-2). Installation (page 0328 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket

Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

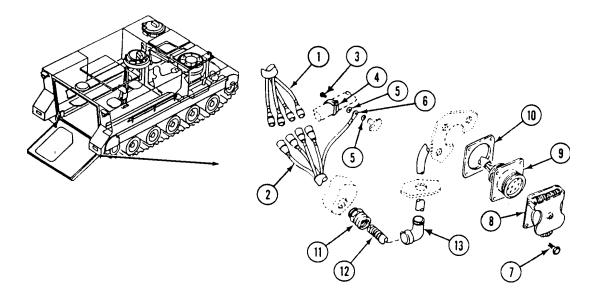
Carrier blocked (see your -10)

Ramp raised (see your -10)

Rear floor plates removed (WP 0436 00)

Battery ground lead disconnected (WP 0294 00)

- 1. Disconnect rear wiring harness circuit 21, 22, 23, and 24 leads (1) from trailer wiring harness circuit 21, 22, 23, and 24 leads (2).
- 2. Remove shell connectors from leads (2) (WP 0314 00).
- 3. Remove screw (3), clamp (4), two lockwashers (5), and circuit 90 lead (6) from hull weldnut. Discard lockwashers.
- 4. Remove four screws (7) and receptacle cover (8) from ramp. Carefully remove receptacle (9) with attached leads (2) and gasket (10) from ramp. Discard gasket.
- 5. If needed, remove connector (11) from rear bulkhead.
- 6. If needed, remove spring (12) and elbow (13) from ramp.

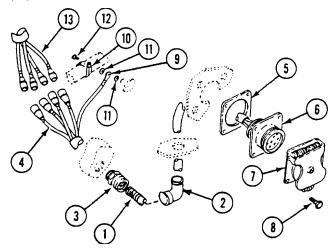


INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check receptacle. Repair or replace cracked or broken receptacle (WP 0313 00).

INSTALLATION

- 1. If removed, install spring (1) and elbow (2) in ramp.
- 2. If removed, install connector (3) in rear bulkhead.
- 3. Route leads (4) through new gasket (5), and out through elbow (2).
- 4. Install gasket (5), receptacle (6), and cover (7) on ramp. Secure with four screws (8).
- 5. Route leads (4) through spring (1) and connector (3).
- 6. Install circuit 90 lead (9) between clamp (10) and weldnut on hull. Secure with two new lockwashers (11) and screw (12).
- 7. Install shell connectors on leads (4) (WP 0314 00).
- 8. Connect leads (4) to leads (13).



FOLLOW-THROUGH STEPS

- 1. Install rear floor plates (WP 0436 00).
- 2. Connect battery ground lead (WP 0294 00).

REPLACE UTILITY OUTLET RECEPTACLE (ALL EXCEPT M577A2 AND M1068)

0329 00

THIS WORK PACKAGE COVERS:

Removal (page 0329 00-1). Inspection-Acceptance and Rejection Criteria (page 0329 00-2). Installation (page 0329 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 42) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (8)

Lockwasher (2)

Personnel Required

Unit Mechanic

Equipment Condition

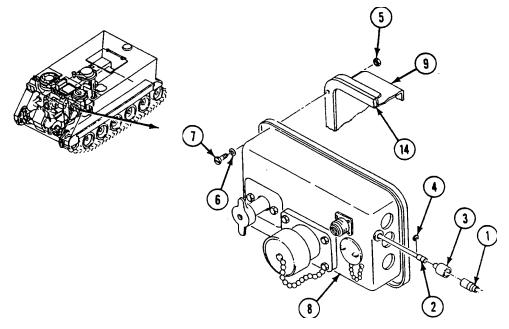
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

Warning light panel assembly removed (WP 0253 00)

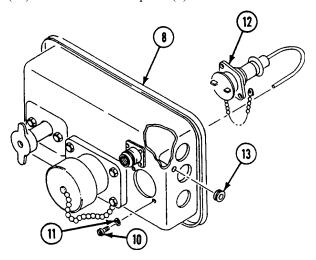
- 1. Disconnect circuit 37 lead (1) from utility outlet receptacle lead (2).
- 2. Slide shell connector (3) down lead (2). Remove slotted washer (4) from lead. Remove shell connector from lead.
- 3. Remove eight locknuts (5), washers (6), screws (7), and master switch panel (8) from distribution box (9). Discard locknuts.



REPLACE UTILITY OUTLET RECEPTACLE (ALL EXCEPT M577A2 AND M1068) — Continued

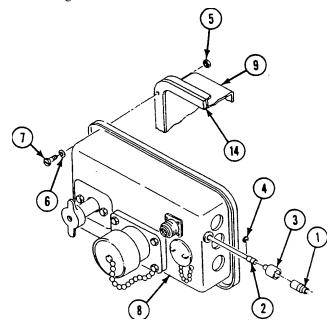
0329 00

- 4. Remove two screws (10), lockwashers (11), and receptacle (12) from master switch panel (8). Discard lockwashers.
- 5. If needed, remove grommet (13) from master switch panel (8).



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

- 1. Check connectors. Replace cracked or broken connector (WP 0312 00).
- 2. Inspect gasket (14). Replace if damaged.



REPLACE UTILITY OUTLET RECEPTACLE (ALL EXCEPT M577A2 AND M1068) — Continued

0329 00

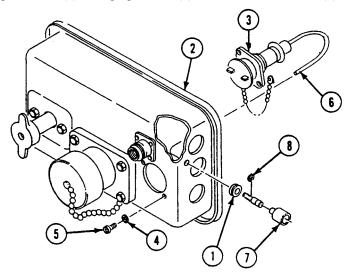
INSTALLATION

1. If removed, install new grommet (1) from master switch panel (2).

NOTE

Make sure receptacle cover retaining chain is installed on lower screw.

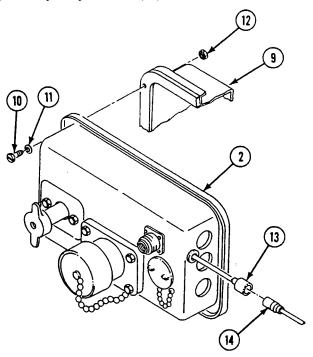
- 2. Place utility outlet receptacle (3) on rear of master switch panel (2). Secure with two new lockwashers (4) and screws (5).
- 3. Route utility outlet receptacle lead (6) through grommet (1). Install shell connector (7) and slotted washer (8).



REPLACE UTILITY OUTLET RECEPTACLE (ALL EXCEPT M577A2 AND M1068) — Continued

0329 00

- 4. Install master switch panel (2) on distribution box (9). Secure with eight screws (10), washers (11), and new locknuts (12).
- 5. Connect circuit 37 lead (13) to utility receptacle lead (14).



FOLLOW-THROUGH STEPS

- 1. Install warning light panel assembly (WP 0253 00).
- 2. Connect battery ground lead (WP 0294 00).
- 3. Turn MASTER SWITCH to ON (see your -10) to check that receptacle is installed properly. Use multimeter.
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE LEAD ASSEMBLY, UTILITY OUTLET (M577A2 AND M1068 ONLY)

0330 00

THIS WORK PACKAGE COVERS:

Removal (page 0330 00-1). Inspection-Acceptance and Rejection Criteria (page 0330 00-2). Installation (page 0330 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43)

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

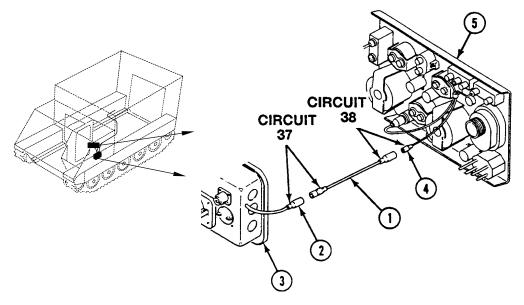
Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Battery ground leads disconnected (WP 0294 00)

- 1. Disconnect lead assembly (1) from circuit 37 lead (2) at master switch panel (3).
- 2. Disconnect lead assembly (1) from circuit 38 lead (4) at instrument panel (5). Remove lead assembly.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

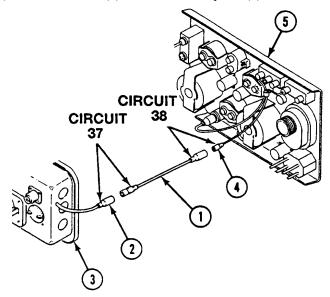
- 1. Check lead continuity. Use digital multimeter. Replace bad lead.
- 2. Check connectors. Replace cracked or broken connectors (WP 0312 00).

INSTALLATION

NOTE

Lead assembly (1) is banded as circuit 37 at master switch panel and circuit 38 at instrument panel. Make sure it is installed properly.

- 1. Connect lead assembly (1) to circuit 38 lead (4) at instrument panel (5).
- 2. Connect lead assembly (1) to circuit 37 lead (2) at master switch panel (3).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground leads (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Turn MASTER SWITCH to OFF (see your -10).

REPLACE TELEPOSTS AND COVER

0331 00

THIS WORK PACKAGE COVERS:

Removal (page 0331 00-1). Installation (page 0331 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Gasket (8)

Personnel Required

Unit Mechanic

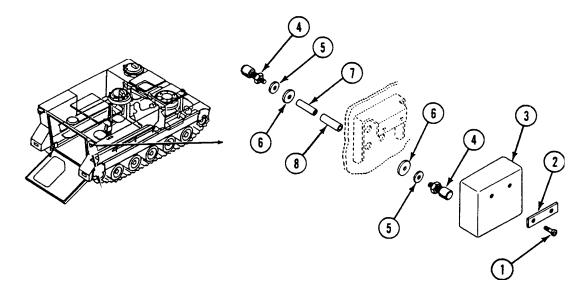
Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

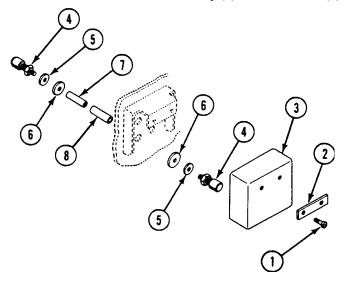
Ramp lowered (see your -10)

- 1. Remove two screws (1), retainer strip (2), and rubber shield (3) from hull mount.
- 2. Remove eight teleposts (4), washers (5), and gaskets (6) from four posts (7). Discard gaskets.
- 3. Remove four posts (7) and insulators (8) from hull.



INSTALLATION

- 1. Install four insulators (8) and posts (7) in hull.
- 2. Install eight new gaskets (6), washers (5), and teleposts (4) on each end of four posts (7).
- 3. Install rubber shield (3) on hull mount. Secure with retainer strip (2) and two screws (1).



FOLLOW-THROUGH STEPS

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

REPLACE REAR UTILITY OUTLET RECEPTACLES (M577A2 AND M1068 ONLY)

0332 00

THIS WORK PACKAGE COVERS:

Removal (page 0332 00-1). Inspection-Acceptance and Rejection Criteria (page 0332 00-2). Installation (page 0332 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (5) Receptacle gasket

Personnel Required

Unit Mechanic

Equipment Condition

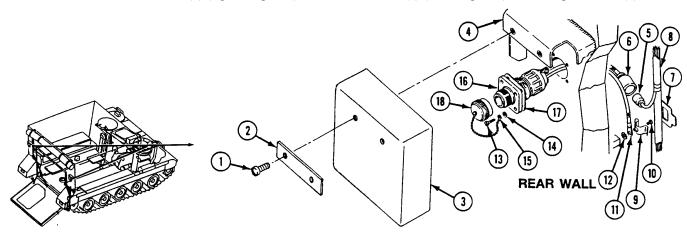
Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

Carrier blocked (see your -10)

Battery ground lead disconnected (WP 0294 00)

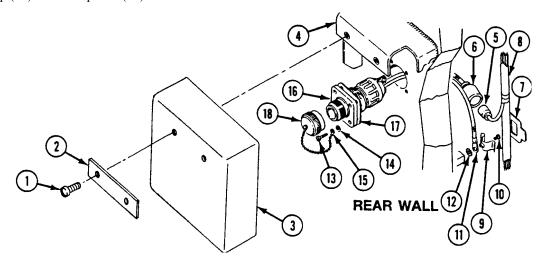
- 1. Remove two screws (1), retainer strip (2), and rubber shield (3) from hull mount (4).
- 2. Disconnect circuit 37A lead (5) (right receptacle) or circuit 37B lead (5) (left receptacle) from receptacle lead (6).



REPLACE REAR UTILITY OUTLET RECEPTACLES (M577A2 AND M1068 ONLY) — Continued

0332 00

- 3. Remove clip (7) and rear main wiring harness (8) from cradle (9).
- 4. Remove screw (10), cradle (9), ground lead (11), and lockwasher (12) from hull weldnut. Discard lockwasher.
- 5. Remove four screws (13), lockwashers (14), chain (15), receptacle (16), and gasket (17) from rear bulkhead. Discard gasket and lockwashers.
- 6. Remove cap (18) from receptacle (16).

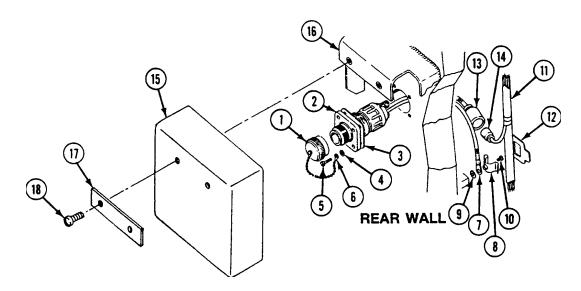


INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

- 1. Check leads. Replace frayed, cracked, or broken leads (WP 0312 00).
- 2. Check connectors. Replace cracked or broken connectors (WP 0312 00).

INSTALLATION

- 1. Install cap (1) on receptacle (2).
- 2. Place new gasket (3) and receptacle (2) on rear bulkhead. Secure with four new lockwashers (4) and screws (5) with chain (6) under head of one screw.
- 3. Install ground lead (7) and cradle (8) on hull weldnut. Secure with new lockwasher (9) and screw (10).
- 4. Place rear main wiring harness (11) in cradle (8). Secure with clip (12).
- 5. Connect receptacle lead (13) to circuit 37A lead (14) (right receptacle) or circuit 37B lead (14) (left receptacle).
- 6. Install rubber shield (15) on hull mount (16). Secure with retainer strip (17) and two screws (18).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Start engine. Raise and lock ramp (see your -10).
- 4. Stop engine (see your -10).

REPLACE REAR UTILITY RECEPTACLE CIRCUIT BREAKERS (M577A2 AND M1068 ONLY)

0333 00

THIS WORK PACKAGE COVERS:

Removal (page 0333 00-1). Inspection-Acceptance and Rejection Criteria (page 0333 00-2). Installation (page 0333 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (8)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

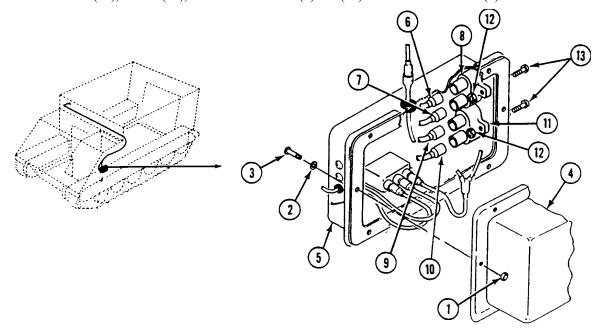
Battery ground lead disconnected (WP 0294 00)

REMOVAL

NOTE

If you want to remove only the left circuit breaker, skip Step 3. If you want to remove only the right circuit breaker, skip Step 2.

- 1. Remove eight locknuts (1), washers (2), screws (3), and panel (4) from distribution box (5). Discard locknuts.
- 2. Disconnect circuit 10 lead (6) and circuit 37A lead (7) from left circuit breaker (8).
- 3. Disconnect circuit 37B lead (9) and circuit 10 lead (10) from right circuit breaker (11).
- 4. Remove four nuts (12), screws (13), and circuit breakers (8) and (11) from distribution box (5).



REPLACE REAR UTILITY RECEPTACLE CIRCUIT BREAKERS (M577A2 AND M1068 ONLY) — Continued

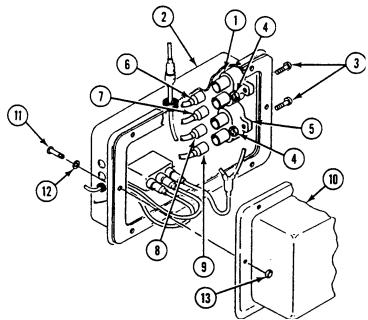
0333 00

INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

- 1. Clean leads. Replace frayed, cracked, or broken leads (WP 0312 00).
- 2. Clean connectors. Replace cracked or broken connectors (WP 0312 00).
- 3. Inspect gasket on flange of distribution box. Replace if damaged.

INSTALLATION

- 1. Place circuit breaker (1) in distribution box (2). Secure with two screws (3) and nuts (4).
- 2. Place circuit breaker (5) in distribution box (2). Secure with two screws (3) and nuts (4).
- 3. Connect circuit 10 lead (6) and circuit 37A lead (7) to circuit breaker (1).
- 4. Connect circuit 37B lead (8) and circuit 10 lead (9) to circuit breaker (5).
- 5. Place panel (10) on distribution box (2). Secure with eight screws (11), washers (12), and new locknuts (13).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Check for power at utility outlet receptacles (WP 0044 00).
- 4. Turn MASTER SWITCH to OFF (see your -10).

REPLACE RADIAC WIRING HARNESS (M113A2, M577A2, AND M1068 ONLY)

0334 00

THIS WORK PACKAGE COVERS:

Removal (page 0334 00-1). Installation (page 0334 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Rope, 12 ft. (4 m)

Personnel Required

Unit Mechanic

References

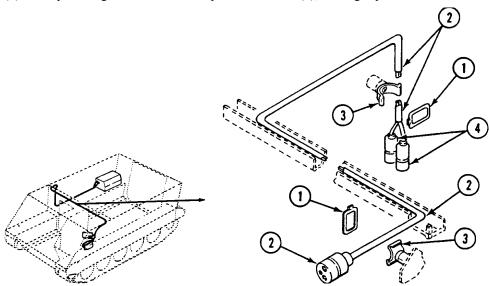
WPI0312100

Equipment Condition

Engine stopped/shutdown (see your -10)

Battery ground lead disconnected (WP 0294 00).

- 1. Remove four clips (1) and RADIAC harness (2) from four cradles (3).
- 2. Remove electrical connector(s) (4) from end of harness (2) (WP 0312 00).
- 3. Tie 12 ft. (4 m) rope to harness (2).
- 4. Pull harness (2) and rope through channel. Until rope from harness (2), leaving rope in channel.

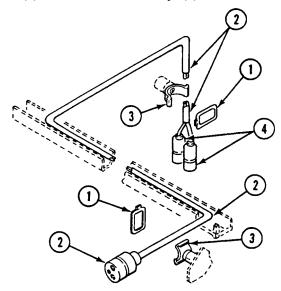


REPLACE RADIAC WIRING HARNESS (M113A2, M577A2, AND M1068 ONLY) — Continued

0334 00

INSTALLATION

- 1. Tie rope to end of wiring harness (2).
- 2. Pull rope and harness (2) through channel. Remove rope.
- 3. Install connectors (4) on harness (2) (WP 0312 00).
- 4. Install harness (2) on four cradles (3) and secure with four clips (1).



FOLLOW-THROUGH STEPS

1. Connect battery ground lead (WP 0294 00).

REPLACE COMPARTMENT BLOWER (M577A2 AND M1068 ONLY)

0335 00

THIS WORK PACKAGE COVERS:

Removal (page 0335 00-1). Inspection-Acceptance and Rejection Criteria (page 0335 00-2). Installation (page 0335 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (6)

Locknut (3)

Personnel Required

Unit Mechanic

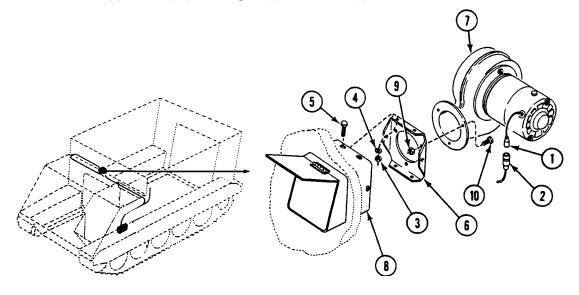
Equipment Condition

Engine stopped (see your -10)

Battery ground lead disconnected (WP 0294 00)

Power plant rear access panel removed (WP 0433 00)

- 1. Disconnect blower lead (1) from circuit 59 lead (2).
- 2. Remove six locknuts (3), washers (4), screws (5), and adapter (6) with blower (7) attached, from flapper valve (8). Discard locknuts.
- 3. Remove three locknuts (9), screws (10), and adapter (6) from blower (7). Discard locknuts.

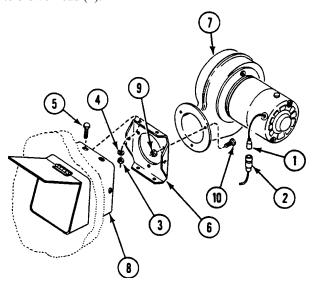


INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check adapter (6). Replace cracked adapter.

INSTALLATION

- 1. Place adapter (6) on blower (7). Secure with three screws (10) and new locknuts (9).
- 2. Place adapter (6), with blower (7) attached, on flapper valve (8). Secure with six screws (5), washers (4), and new locknuts (3).
- 3. Connect circuit 59 lead (2) to blower lead (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. ☐ Check that blower operates properly (see your ☐10).
- 4. Turn all switches OFF (see your -10).
- 5. Install power plant rear access panel (WP 0433 00).

REPLACE BLOWER SWITCH (M577A2 AND M1068 ONLY)

0336 00

THIS WORK PACKAGE COVERS:

Removal (page 0336 00-1). Installation (page 0336 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (8)

Personnel Required

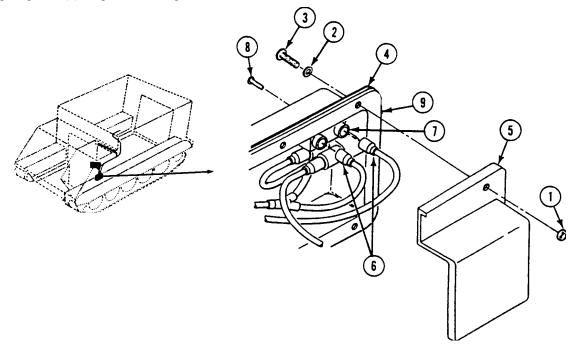
Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Battery ground lead disconnected (WP 0294 00)

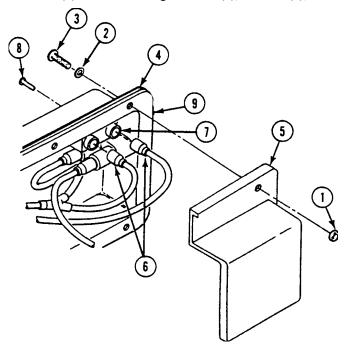
- 1. Remove eight locknuts (1), washers (2), screws (3), and master switch panel (4) from distribution box (5). Discard locknuts.
- 2. Disconnect two circuit 59 leads (6) from rear of blower switch (7).
- 3. Remove two screws (8) and switch (7) from panel (4).
- 4. Inspect gasket (9). Replace if damaged.



0336 00

INSTALLATION

- 1. Place switch (7) on rear of master switch panel (4). Secure with two screws (8).
- 2. Connect two circuit 59 leads (6) to rear of switch (7).
- 3. Place panel (4) on distribution box (5). Secure with eight screws (3), washers (2), and new locknuts (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Check that blower operates properly (see your -10).
- 4. Turn all switches OFF (see your -10).

REPLACE FUEL QUANTITY SELECTOR SWITCH (M577A2 AND M1068 ONLY)

0337 00

THIS WORK PACKAGE COVERS:

Removal (page 0337 00-1). Installation (page 0337 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (8)

Personnel Required

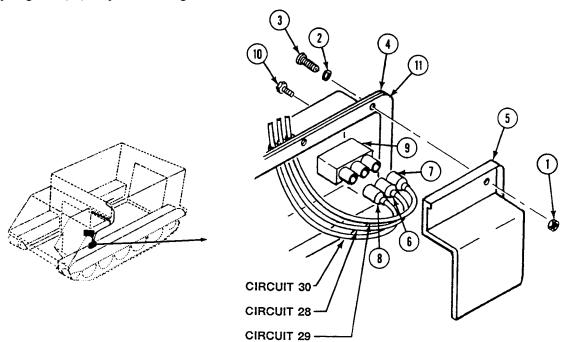
Unit Mechanic

Equipment Condition

Engine stopped (see your -10)

Battery ground lead disconnected (WP 0294 00)

- 1. Remove eight locknuts (1), washers (2), screws (3), and master switch panel (4) from distribution box (5). Discard locknuts.
- 2. Disconnect circuit 28 (6), circuit 29 (7), and circuit 30 (8) leads from rear of fuel quantity selector switch (9).
- 3. Remove two screws (10) and switch (9) from panel (4).
- 4. Inspect gasket (11). Replace if damaged.

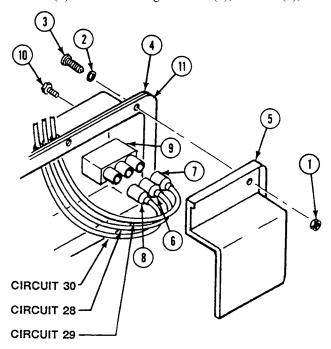


REPLACE FUEL QUANTITY SELECTOR SWITCH (M577A2 AND M1068 ONLY) — Continued

0337 00

INSTALLATION

- 1. Place switch (9) on rear of master switch panel (4). Secure with two screws (10).
- 2. Connect circuit 30 (8), circuit 29 (7), and circuit 28 (6) leads to rear of switch (9).
- 3. Place panel (4) on distribution box (5). Secure with eight screws (3), washers (2), and new locknuts (1).



FOLLOW-THROUGH STEPS

- 1. Connect battery ground lead (WP 0294 00).
- 2. Turn MASTER SWITCH to ON (see your -10).
- 3. Check for fuel quantity readings on both tanks (see your -10).
- 4. Turn all switches OFF (see your -10).

TM 9-2350-261-20-2

CHAPTER 18

UNIT MAINTENANCE INSTRUCTIONS FOR TRANSMISSION AND RELATED COMPONENTS

WORK PACKAGE INDEX			
<u>Title</u>	Sequence No.		
REPLACE TRANSMISSION TO OIL COOLER HOSE AND FITTINGS	0338 00		
REPLACE OIL COOLER TO TRANSMISSION HOSE AND FITTINGS	0339 00		

REPLACE TRANSMISSION TO OIL COOLER HOSE AND FITTINGS

0338 00

THIS WORK PACKAGE COVERS:

Removal (page 0338 00-1). Clean, Inspect, and Repair (page 0338 00-2). Installation (page 0338 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Suitable container

General Mechanic's Tool Kit (WP 0780 00, Item 29) Adjustable Wrench (WP 0780 00, Item 86) Pipe Wrench (WP 0780 00, Item 93)

Materials/Parts

Cleaning compound (WP 0782 00, Item 16)
Sealing compound (WP 0782 00, Item 65)
Key washer
Locknut
Preformed packing

Personnel Required

Unit Mechanic

References

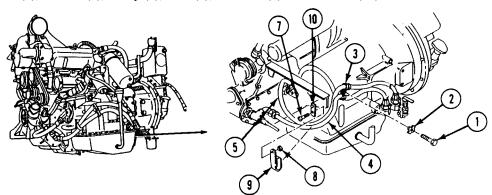
See your -10 WP 0120 00

Equipment Condition

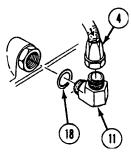
Power plant removed (WP 0131 00)

REMOVAL

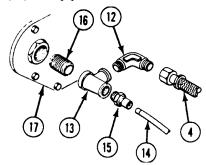
- 1. Remove screw (1), key washer (2), two clamps (3), hose (4), and hose (5) from transmission. Discard key washer.
- 2. Remove screw (7), locknut (8), clamp (9), hose (4), and hose (5) from bracket (10). Discard locknut.



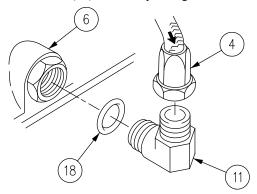
3. Disconnect hose (4) from elbow (11). Place hose through hull access opening. Drain oil from cooler and hose into container.



- 4. Disconnect hose (4) from elbow (12).
- 5. Remove elbow (12) from tee (13).
- 6. Disconnect circuit 327 lead (14) from transmission high oil temperature switch (15).
- 7. Remove switch (15) from tee (13).
- 8. Remove tee (13) from bushing (16).
- 9. Remove bushing (16) from oil cooler (17). Use pipe wrench.



- 10. Loosen jamnut and remove elbow (11) from transmission (6).
- 11. Remove preformed packing (18) from elbow (11). Discard packing.



CLEAN, INSPECT, AND REPAIR

- 1. Clean hose and fittings with cleaning compound.
- 2. Check hose. Replace broken, twisted, or worn hose.
- 3. Check fittings. Replace fittings that are cracked or have stripped threads.

INSTALLATION

WARNING

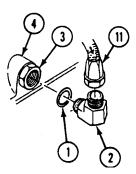




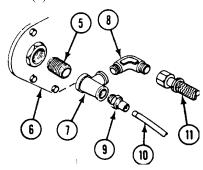
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply a thin, even coat of sealing compound to external threads of fittings before installation.
- 2. Install new preformed packing (1) on elbow (2). Tighten jamnut (3). Use adjustable wrench.
- 3. Install elbow (2) in transmission (4).

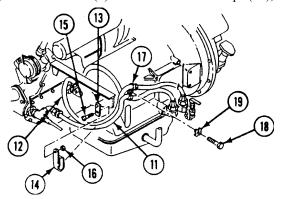


- 4. Install bushing (5) in oil cooler (6). Use pipe wrench.
- 5. Install tee (7) on bushing (5).
- 6. Install elbow (8) on tee (7).
- 7. Install transmission high oil temperature switch (9) in tee (7).
- 8. Connect circuit 327 lead (10) to switch (9).
- 9. Connect hose (11) to elbow (2) and elbow (8).



0338 00

- 10. Install hose (11) and hose (12) on bracket (13). Secure with clamp (14), screw (15), and new locknut (16).
- 11. Install hose (11) and hose (12) on transmission (4). Secure with two clamps (17), screw (18), and new key washer (19).



12. Check transmission oil level (WP 0120 00).

WARNING



Carbon monoxide is poisonous and can kill you. Do not idle engine with bottom access cover and power plant access panels off unless there is ADEQUATE VENTILATION.

13. Start engine (see your -10). Check for leaks.

FOLLOW-THROUGH STEPS

- 1. Power plant installed (WP 0131 00).
- 2. Fill transmission with oil (WP 0120 00).
- 3. Start engine and check for leaks (see your -10).
- 4. Stop engine (see your -10).

REPLACE OIL COOLER TO TRANSMISSION HOSE AND FITTINGS

0339 00

THIS WORK PACKAGE COVERS:

Removal (page 0339 00-1). Clean, Inspect, and Repair (page 0339 00-2). Installation (page 0339 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Adjustable Wrench (WP 0780 00, Item 86) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cleaning compound (WP 0782 00, Item 16) Sealing compound (WP 0782 00, Item 65) Wiping rag (WP 0782 00, Item 76)

Key washer

Locknut

Preformed packing

Suitable container

Personnel Required

Unit Mechanic

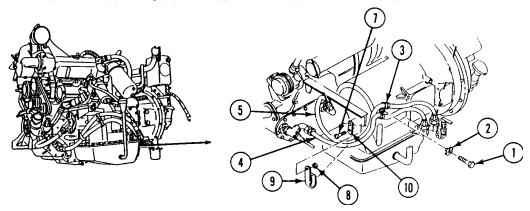
References

See your -10 WPI0120100

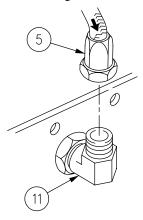
Equipment Condition

Power plant removed (WP 0131 00)

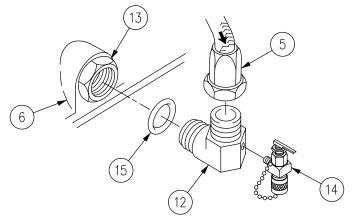
- 1. Remove screw (1), key washer (2), two clamps (3), hose (4), and hose (5) from transmission. Discard key washer.
- 2. Remove screw (7), locknut (8), clamp (9), hose (4), and hose (5) from bracket (10). Discard locknut.



3. Disconnect hose (5) from elbow (11). Place hose through hull access opening. Drain oil from cooler into a container.



- 4. Disconnect hose (5) from elbow (12).
- 5. Loosen jamnut (13) and remove elbow (12) from transmission (6). Use adjustable wrench.
- 6. Remove valve (14) from elbow (12).
- 7. Remove preformed packing (15) from elbow (12). Discard packing.



CLEAN, INSPECT, AND REPAIR

- 1. Clean hose and fitting with cleaning compound.
- 2. Check hose. Replace broken, twisted, or worn hose.
- 3. Check fitting. Replace fitting that is cracked or has stripped threads.

INSTALLATION

WARNING

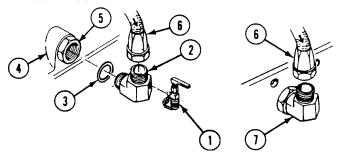




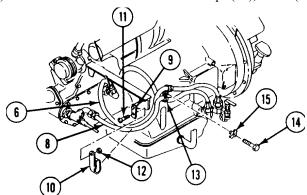
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply a thin, even coat of sealing compound to cleansed external threads of fittings before installation.
- 2. Install valve (1) in elbow (2).
- 3. Install new preformed packing (3) on elbow (2).
- 4. Install elbow (2) in transmission (4). Tighten jamnut (5) on elbow (2). Use adjustable wrench.
- 5. Connect hose (6) to two elbows (2) and (7).



- 6. Install hose (6) and hose (8) on bracket (9). Secure with clamp (10), screw (11), and new locknut (12).
- 7. Install hose (6) and hose (8) on transmission. Secure with two clamps (13), screw (14), and new key washer (15).



8. Check transmission oil level (WP 0120 00).

WARNING



Carbon monoxide is poisonous and can kill you. Do not idle engine with bottom access cover and power plant access panels off unless there is ADEQUATE VENTILATION.

9. Start engine (see your -10). Check for leaks.

FOLLOW-THROUGH STEPS

1. Power plant installed (WP 0131 00).

REPLACE TRANSMISSION VENT AND FILLER TUBE

0340 00

THIS WORK PACKAGE COVERS:

Removal (page 0340 00-1). Clean, Inspect, and Repair (page 0340 00-2). Installation (page 0340 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8) Cleaning compound (WP 0782 00, Item 16) Sealing compound (WP 0782 00, Item 65) Tab washer

Personnel Required

Unit Mechanic

References

See your -10 WP 0120 00

Equipment Condition

Engine stopped/shutdown (see your -10)
Driver's power plant access panel removed
(WP 0430 00)

Trim vane lowered (see your -10)

Power plant front access door open (see your -10)

Air cleaner element and container removed

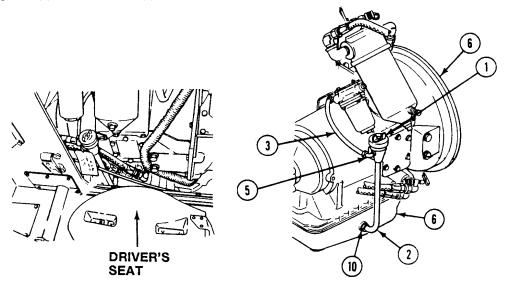
(WP 0185 00)

Carrier blocked (see your -10)

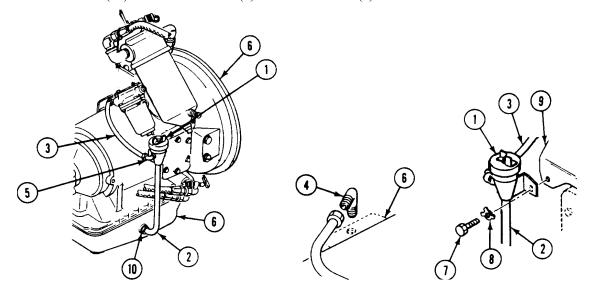
Hull bottom access cover removed (WP 0434 00)

REMOVAL

- 1. Drain transmission (WP 0120 00).
- 2. Remove dipstick (1) from filler tube (2).



- 3. Disconnect and remove vent tube (3) from elbow (4) and elbow (5).
- 4. Remove elbow (4) from transmission (6).
- 5. Remove elbow (5) from filler tube (2).
- 6. Remove screw (7), tab washer (8), and filler tube (2) from engine oil filter bracket (9). Discard tab washer.
- 7. Loosen filler tube nut (10). Remove filler tube (2) from transmission (6).



CLEAN, INSPECT, AND REPAIR

- 1. Clean parts with cleaning compound.
- 2. Check vent tube, filler tube, and dipstick. Replace cracked or bent tubes or dipstick.
- 3. Check fittings. Replace fittings that are cracked or have stripped threads.

INSTALLATION





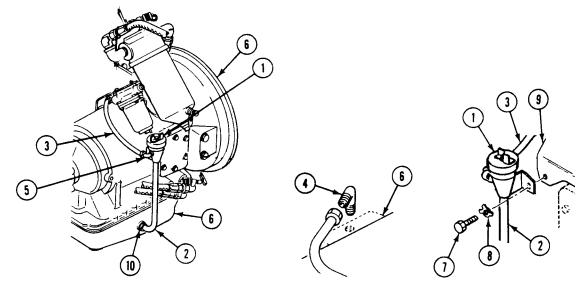


Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply a light coat of sealing compound to cleaned threads of fittings before installation.
- 2. Install filler tube (2) in transmission (6). Tighten filler tube nut (10) finger tight.
- 3. Place filler tube (2) against engine oil filter bracket (9).
- 4. Apply antiseize compound to threads of screw (7). Secure filler tube (2) to bracket (9) with screw (7) and new tab washer (8).

- 5. Tighten tube filler nut (10).
- 6. Install elbow (4) in transmission (6).
- 7. Install elbow (5) in filler tube (2).
- 8. Connect vent tube (3) in filler tube (2).
- 9. Install dipstick (1) in filler tube (2).



- 10. Fill transmission with oil (WP 0120 00).
- 11. Start engine (see your -10). Check for leaks.

FOLLOW-THROUGH STEPS

- 1. Stop/shutdown engine (see your -10).
- 2. Install driver's power plant access panel (WP 0430 00).
- 3. Install air cleaner element and container (WP 0185 00).
- 4. Close power plant front access door (see your -10).
- 5. Raise trim vane (see your -10).
- 6. Install hull bottom access cover (WP 0434 00).

REPLACE TRANSMISSION OIL FILTER AND DRAIN

0341 00

THIS WORK PACKAGE COVERS:

Removal (page 0341 00-1). Clean, Inspect, and Repair (page 0341 00-2). Installation (page 0341 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cleaning compound (WP 0782 00, Item 16)

Gasket

Oil filter parts kit

Suitable container

Personnel Required

Unit Mechanic

References

WPI0120100

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Driver's power plant access panel removed

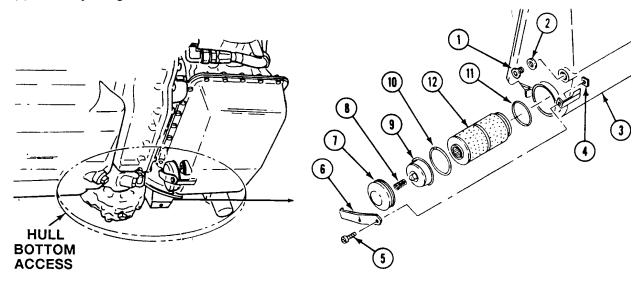
(WP 0430 00)

Hull bottom access cover removed (WP 0434 00)

Differential oil pump hose disconnected (WP 0354 00)

REMOVAL

- 1. Drain transmission (WP 0120 00).
- 2. Remove drain plug (1) and gasket (2) from transmission (3). Discard gasket.
- 3. Remove nut (4), screw (5), strap (6), and cover (7) from transmission (3).
- 4. Remove spring (8), retainer (9), preformed packing (10), preformed packing (11), and element (12) from transmission (3). Discard packings and element.

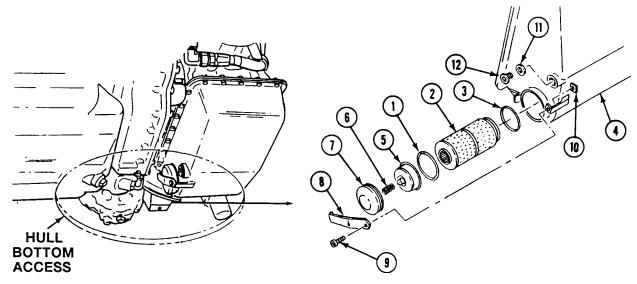


CLEAN, INSPECT, AND REPAIR

- 1. Clean transmission oil filter element cavity with cleaning compound.
- 2. Check cover and strap. Replace or repair cover or strap that is cracked or bent.
- 3. Check plug and screw. Replace plug or screw that has stripped threads.

INSTALLATION

- 1. Install new preformed packing (1), new element (2), and new preformed packing (3) in transmission (4).
- 2. Install retainer (5), spring (6), cover (7), and strap (8) on transmission (4). Secure with screw (9) and nut (10).
- 3. Install new gasket (11) and drain plug (12) in transmission (4).



4. Fill transmission with oil (WP 0120 00)

FOLLOW-THROUGH STEPS

WARNING



Carbon monoxide is poisonous and can kill you. Do not idle engine with bottom access cover and power plant access panels off unless there is ADEQUATE VENTILATION.

- 1. Connect differential oil pump hose (WP 0354 00).
- 2. Start engine (see your -10). Check for leaks.
- 3. Stop/shutdown engine (see your -10).
- 4. Install hull bottom access cover (WP 0434 00).
- 5. Install driver's power plant access panel (WP 0430 00).

TM 9-2350-261-20-2

CHAPTER 19

UNIT MAINTENANCE INSTRUCTIONS FOR TRANSFER GEARCASE AND RELATED COMPONENTS

WORK PACKAGE INDEX	
<u>Title</u>	Sequence No.
REPLACE TRANSFER GEARCASE RESILIENT MOUNT	0342 00
REPLACE TRANSFER GEARCASE OIL LEVEL DIPSTICK, TUBE, AND GUIDE	0343 00
REPLACE TRANSFER GEARCASE OIL FILLER	0344 00

REPLACE TRANSFER GEARCASE RESILIENT MOUNT

0342 00

THIS WORK PACKAGE COVERS:

Removal (page 0342 00-1). Clean, Inspect, and Repair (page 0342 00-2). Installation (page 0342 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Remover and Replacer (WP 0780 00, Item 56)

Materials/Parts

Cleaning compound (WP 0782 00, Item 16)

Personnel Required

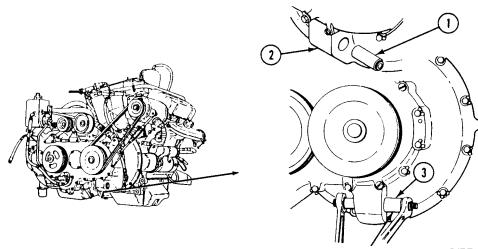
Unit Mechanic

Equipment Condition

Power plant removed (WP 0131 00)

REMOVAL

1. Remove mount (1) from transfer gearcase (2) using remover and replacer tool (3).



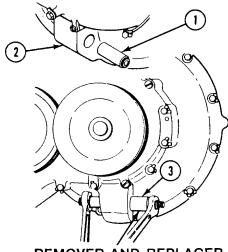
REMOVER AND REPLACER (5120-00-740-3346)

CLEAN, INSPECT, AND REPAIR

- 1. Clean mount with cleaning compound.
- 2. Check mounts. Replace mount that is cracked, bent, or worn.

INSTALLATION

1. Use remover and replacer tool to install mount (1) in transfer gearcase (2).



REMOVER AND REPLACER (5120-00-740-3346)

FOLLOW-THROUGH STEPS

1. Install power plant in carrier (WP 0131 00).

REPLACE TRANSFER GEARCASE OIL LEVEL DIPSTICK, TUBE, AND GUIDE

0343 00

THIS WORK PACKAGE COVERS:

Removal (page 0343 00-1). Clean, Inspect, and Repair (page 0343 00-2). Installation (page 0343 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Preformed packing

Personnel Required

Unit Mechanic

Equipment Condition

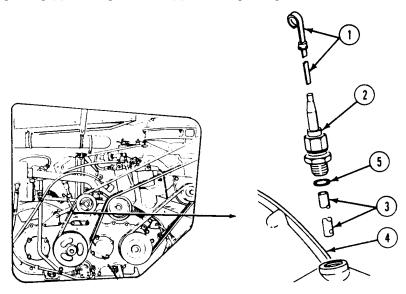
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Power plant rear access panels removed (WP 0431 00, WP 0432 00, or WP 0433 00)

REMOVAL

- 1. Remove dipstick (1) from dipstick tube (2).
- 2. Remove dipstick tube (2) and guide (3) from transfer gearcase (4).
- 3. Remove preformed packing (5) from dipstick tube (2). Discard packing.



REPLACE TRANSFER GEARCASE OIL LEVEL DIPSTICK, TUBE, AND GUIDE — Continued

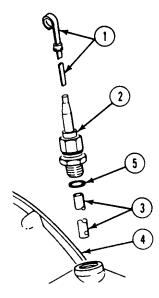
0343 00

CLEAN, INSPECT, AND REPAIR

- 1. Check dipstick. Replace dipstick that is bent or worn.
- 2. Check dipstick tube. Replace tube that is cracked or has stripped threads.
- 3. Check dipstick guide. Replace guide that is cracked or worn.

INSTALLATION

- 1. Position new preformed packing (5) on dipstick tube (2).
- 2. Install dipstick tube (2) and guide (3) in transfer gearcase (4).
- 3. Install dipstick (1) in dipstick tube (2).



FOLLOW-THROUGH STEPS

1. Install power plant rear access panels (WP 0431 00, WP 0432 00, or WP 0433 00).

REPLACE TRANSFER GEARCASE OIL FILLER

0344 00

THIS WORK PACKAGE COVERS:

Removal (page 0344 00-1). Clean, Inspect, and Repair (page 0344 00-2). Installation (page 0344 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cleaning compound (WP 0782 00, Item 16) Sealing compound (WP 0782 00, Item 64) Oil filler rivet

Personnel Required

Unit Mechanic

Equipment Condition

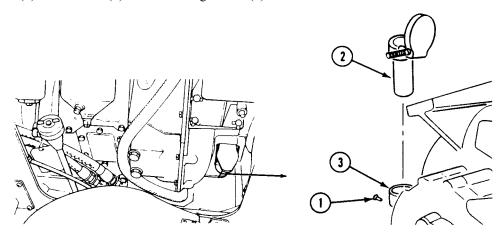
Engine stopped/shutdown (see your -10)
Driver's power plant access panel removed
(WP 0430 00)

Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

Carrier blocked (see your -10)

REMOVAL

1. Remove rivet (1) and oil filler (2) from transfer gearcase (3). Discard rivet.



CLEAN, INSPECT, AND REPAIR

- 1. Clean oil filler with cleaning compound.
- 2. Check oil filler. Repair damaged oil filler (WP 0345 00).

INSTALLATION

WARNING

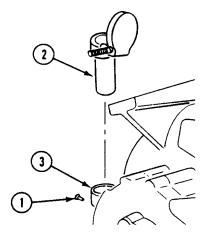




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply a thin, even coat of sealing compound to cleaned base of oil filler (2).
- 2. Install oil filler (2) in transfer gearcase (3) and secure with new rivet (1).



FOLLOW-THROUGH STEPS

- 1. Install power plant rear access panels (WP 0431 00, WP 0432 00, or WP 0433 00).
- 2. Install driver's power plant access panel (WP 0430 00).

DISASSEMBLE/ASSEMBLE TRANSFER GEARCASE OIL FILLER

0345 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0345 00-1). Clean, Inspect, and Repair (page 0345 00-2). Assembly (page 0345 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Preformed packing

Personnel Required

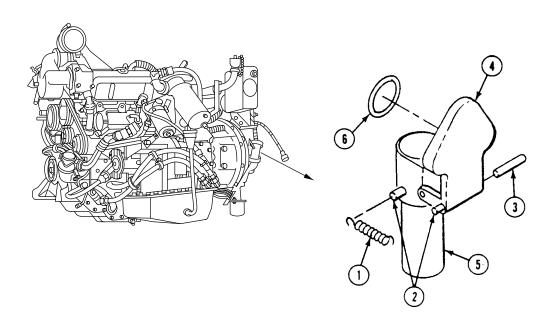
Unit Mechanic

Equipment Condition

Filler assembly removed from carrier (WP 0344 00)

DISASSEMBLY

- 1. Remove spring (1) from two posts (2).
- 2. Remove pin (3) from cap (4).
- 3. Remove cap (4) from body (5)
- 4. Remove preformed packing (6) from cap (4). Discard packing.



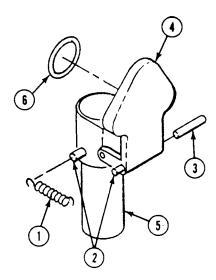
0345 00

CLEAN, INSPECT, AND REPAIR

1. Check fittings and mounting for cracks and wear. Replace as needed.

ASSEMBLY

- 1. Install new preformed packing (6) in cap (4).
- 2. Install cap (4) on body (5).
- 3. Install pin (3) on cap (4).
- 4. Install spring (1) on two posts (2).



FOLLOW-THROUGH STEPS

1. Install filler assembly in transfer gearcase (WP 0344 00).

REPLACE TRANSFER GEARCASE LIFTING EYEBOLT, COVER, AND PLUG

0346 00

THIS WORK PACKAGE COVERS:

Removal (page 0346 00-1). Inspect and Replace (page 0346 00-2). Installation (page 0346 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Preformed packing

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

Power plant rear access panels removed (WP 0431 00, WP 0432 00, or WP 0433 00)

Carrier blocked (see your -10)

Power plant bottom access panel removed

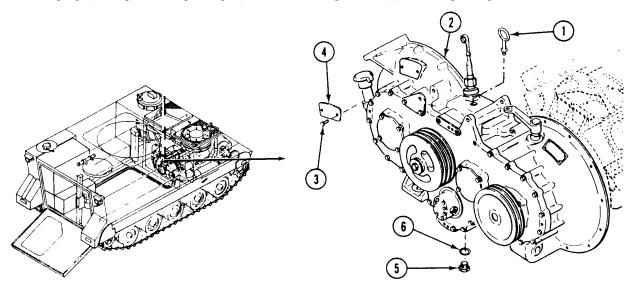
(WP 0434 00)

Suitable container placed under hull opening to catch oil

Transfer gearcase drained into container (WP 0120 00)

REMOVAL

- 1. Remove eyebolt (1) from transfer gearcase (2).
- 2. Remove two screws (3) and cover (4) from gearcase (2).
- 3. Remove plug (5) and preformed packing (6) from bottom of gearcase (2). Discard packing.

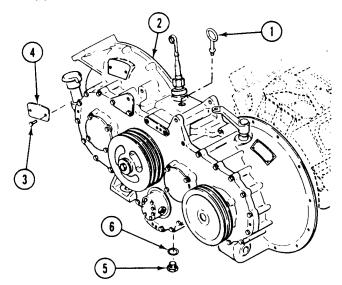


INSPECT AND REPLACE

1. Check fittings and housing for cracks and damage. Replace as needed.

INSTALLATION

- 1. Install new preformed packing (6) and plug (5) in gearcase (2).
- 2. Install cover (4) and two screws (3) in gearcase (2).
- 3. Install eyebolt (1) in gearcase (2).



FOLLOW-THROUGH STEPS

1. Make sure transfer gearcase drain plug is secure. Remove container from under hull opening.

WARNING



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

- 2. Install power plant bottom access cover (WP 0434 00).
- 3. Fill transfer gearcase with oil (WP 0120 00).
- 4. Start engine (see your -10). Check for leaks.
- 5. Stop/shutdown engine (see your -10).
- 6. Install power plant rear access panels (WP 0431 00, WP 0432 00, or WP 0433 00).
- 7. Raise and lock ramp (see your -10).

TM 9-2350-261-20-2

CHAPTER 20

UNIT MAINTENANCE INSTRUCTIONS FOR DRIVE SHAFTS, UNIVERSAL JOINTS, AND FINAL DRIVE

WORK PACKAGE INDEX			
<u>Title</u>	Sequence No.		
REPLACE TRANSMISSION TO DIFFERENTIAL SHAFT	0347 00		
REPLACE LEFT FINAL DRIVE SHAFT	0348 00		
REPLACE RIGHT FINAL DRIVE SHAFT	0349 00		
REPLACE FINAL DRIVE	0350 00		
REPLACE FINAL DRIVE PINION OIL SEAL	0351 00		
REPLACE FINAL DRIVE FILLER TUBE AND DIPSTICK	0352 00		

REPLACE TRANSMISSION TO DIFFERENTIAL SHAFT

0347 00

THIS WORK PACKAGE COVERS:

Removal (page 0347 00-1). Clean, Inspect, and Repair (page 0347 00-2). Installation (page 0347 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)
Torque Wrench Adapter, 7C U-Joint
(WP 0780 00, Item 6)
Torque Wrench Adapter, 6C U-Joint
(WP 0780 00, Item 7)
Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Cleaning compound (WP 0782 00, Item 16) Screw (16)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

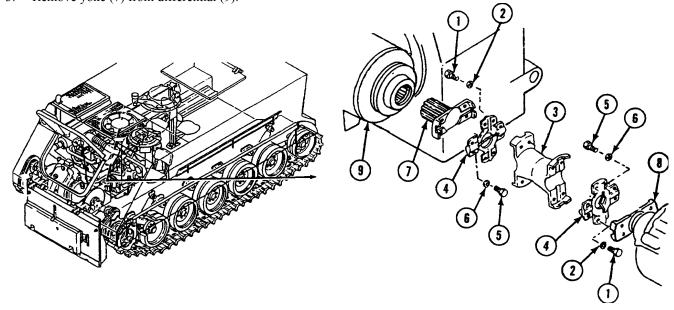
Power plant front access door open (see your -10)

REMOVAL

NOTE

Place gear range selector in neutral position. Set or release differential steering brakes as required to rotate or lock shaft during removal or installation (see your -10).

- 1. Remove eight screws (1), flat washers (2), and shaft (3) from two universal joints (4). Discard screws.
- 2. Remove eight screws (5), flat washers (6), and two universal joints (4) from differential yoke (7) and transmission yoke (8). Discard screws.
- 3. Remove yoke (7) from differential (9).



CLEAN, INSPECT, AND REPAIR

1. Clean shaft, universal joints, yoke, screw mounting holes, and attaching hardware with cleaning compound.

CAUTION

Early failure due to wear will occur if you wash lubricant out of universal joint bearings.

- 2. Inspect shaft and universal joints for wear, deep scratches, grooves, and cracks. Remove minor scratches and grooves. Replace part if damage cannot be repaired.
- 3. Inspect yoke for chipped, worn, and burred splines. Remove minor scratches and burrs. Replace yoke if damage cannot be repaired.
- 4. Clean mounting surfaces of shaft to ensure correct torque.

INSTALLATION

CAUTION

Transmission or differential damage could result if universal joint and shaft are not aligned properly.

1. Install yoke (1) in differential (2).

NOTE

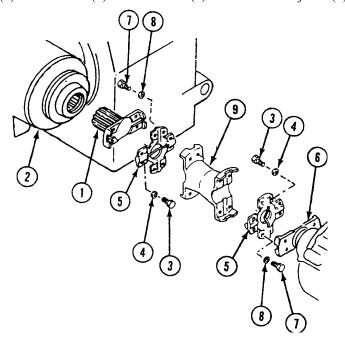
New style universal joints do not have lubrication fittings.

2. Install eight new screws (3) with washers (4) to secure universal joints (5) on transmission yoke (6) and differential yoke (1).

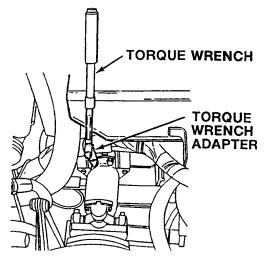
NOTE

Screws and washers must be clean, dry, and free of lubricants and paint.

3. Install eight new screws (7) with washers (8) to secure shaft (9) to two universal joints (5).



4. TIGHTEN SCREWS TO 86 TO 94 LB-FT (117-128 N·M) TORQUE. Use torque wrench and adapter. Loosen and retighten to correct torque. See WP 0120 00 for torque wrench reading with adapter.



FOLLOW-THROUGH STEPS

- 1. Close power plant front access door (see your -10).
- 2. Raise trim vane (see your -10).
- 3. Road test carrier (WP 0120 00) to check transmission-to-differential shaft.
- 4. Stop/shutdown engine (see your -10).

REPLACE LEFT FINAL DRIVE SHAFT

0348 00

THIS WORK PACKAGE COVERS:

Removal (page 0348 00-1). Installation (page 0348 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Torque Wrench (WP 0780 00, Item 103)

Torque Wrench Adapter (WP 0780 00, Item 8)

Vise (WP 0780 00, Item 83)

Materials/Parts

Locknut (4)

Screw (16)

Personnel Required

Unit Mechanic

Helper (H)

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Power plant front access door open (see your -10)

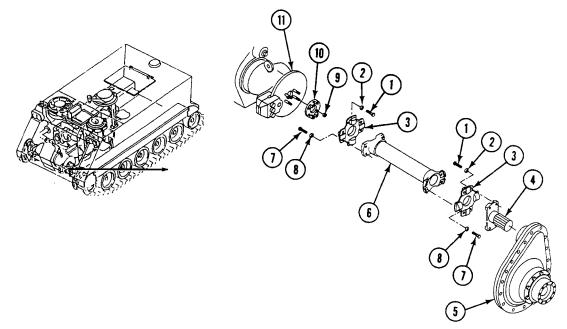
Hull front access cover removed (WP 0429 00)

REMOVAL

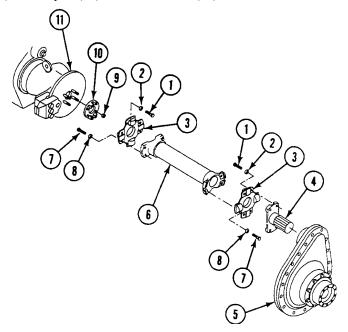
NOTE

Loosen accessible screws only enough to relieve torque. Move carrier to gain access to remaining screws.

- 1. Remove eight screws (1) and washers (2) from universal joints (3). Pry universal joints loose and slide yoke (4) into final drive (5). Discard screws.
- 2. Remove propeller shaft (6) with universal joints (3) from carrier.
- 3. Position propeller shaft (6) in vise. Remove eight screws (7) and washers (8) from universal joints (3) and shaft. Discard screws.



- 4. Remove yoke (4) from final drive (5).
- 5. Remove four locknuts (9) and adapter (10) from differential (11). Discard locknuts.



INSTALLATION

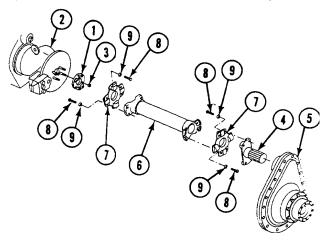
- 1. Secure adapter (1) to differential (2) with four new locknuts (3). TIGHTEN NUTS TO 75–80 LB-FT (102-108 N·M) TORQUE. Use torque wrench.
- 2. Install yoke (4) in final drive (5).

NOTE

When using torque wrench with torque wrench adapter, torque value must be corrected. Procedure for converting torque value is in WP 0120 00.

3. Position propeller shaft (6) in vise and install universal joints (7) with eight new screws (8) and washers (9). TIGHTEN SCREWS TO 35–40 LB-FT (47–54 N·M) TORQUE. Use torque wrench and torque wrench adapter. LOOSEN SCREWS, THEN TIGHTEN AGAIN TO 35–40 LB-FT (47–54 N·M) TORQUE.

4. Position propeller shaft (6) with universal joints (7) and secure to differential (2) and final drive (5) with eight new screws (8) and washers (9). TIGHTEN SCREWS TO 35–40 LB-FT (47–54 N·M) TORQUE. Use torque wrench and adapter. LOOSEN SCREWS, THEN TIGHTEN AGAIN TO 35–40 LB-FT (47–54 N·M) TORQUE.



FOLLOW-THROUGH STEPS

- 1. Install hull front access cover (WP 0429 00).
- 2. Close power plant front access door (see your -10).
- 3. Raise trim vane (see your -10).

REPLACE RIGHT FINAL DRIVE SHAFT

0349 00

THIS WORK PACKAGE COVERS:

Removal (page 0349 00-1). Installation (page 0349 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench Adapter (WP 0780 00, Item 8) Torque Wrench (WP 0780 00, Item 103) Vise (WP 0780 00, Item 83)

Materials/Parts

Locknut (4) Screw (16)

Personnel Required

Unit Mechanic

Equipment Condition

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

Trim vane lowered (see your -10)

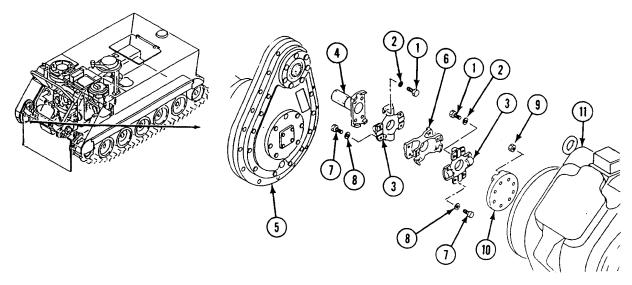
Power plant front access door open (see your -10)

REMOVAL

NOTE

Place gear range selector in neutral position. Set or release differential steering brakes as required to rotate or lock drive shaft during removal and installation.

- 1. Remove eight screws (1) and washers (2) from universal joints (3). Pry universal joints loose and slide yoke (4) into final drive (5). Discard screws.
- 2. Remove propeller shaft (6) with universal joints (3) from carrier.
- 3. Position propeller shaft (6) in vise. Remove eight screws (7) and washers (8) from universal joints and shaft. Discard screws.
- 4. Remove yoke (4) from final drive (5).
- 5. Remove four locknuts (9) and adapter (10) from differential (11). Discard locknuts.



INSTALLATION

- 1. Install yoke (4) in final drive (5).
- 2. Secure adapter (10) to differential (11) with four new locknuts (9). TIGHTEN NUTS TO 75-80 LB-FT (102-108 N·M) TORQUE. Use torque wrench.

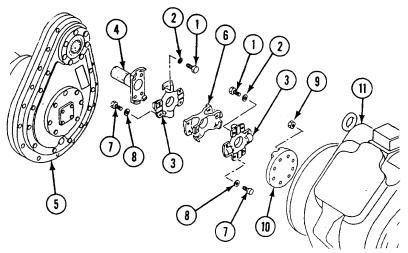
CAUTION

Final drive or differential damage could result if universal joints and shaft are not aligned right. Align and tighten all screws to correct torque.

NOTE

Screws and washers must be clean, dry, and free of lubricants and paint. Washers must be 5/32-inch (4 mm) hardened flat steel only.

- 3. Position propeller shaft (6) in vise and install universal joints (3) with eight new screws (7) and washers (8). TIGHTEN SCREWS TO 35-40 LB-FT (47-54 N·M) TORQUE. Use torque wrench and adapter. LOOSEN SCREWS AND TIGHTEN AGAIN TO 35-40 LB-FT (47-54 N·M) TORQUE.
- 4. Position propeller shaft (6) with universal joints (3) and secure to differential adapter (10) and final drive yoke (4) with eight new screws (1) and washers (2). TIGHTEN SCREWS TO 35-40 LB-FT (47-54 N·M) TORQUE. Use torque wrench and adapter. LOOSEN SCREWS AND TIGHTEN AGAIN TO 35-40 LB-FT (47-54 N·M) TORQUE.



FOLLOW-THROUGH STEPS

- 1. Close power plant front access door (see your -10).
- 2. Raise trim vane (see your -10).
- 3. Road test carrier (WP 0120 00) to check right final drive shaft.
- 4. Stop/shutdown engine (see your -10).

REPLACE FINAL DRIVE

0350 00

THIS WORK PACKAGE COVERS:

Removal (page 0350 00-1).

Clean, Inspect, and Repair (page 0350 00-3).

Installation (page 0350 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Lifting Bar (WP 0780 00, Item 11)

Torque Wrench (WP 0780 00, Item 102)

Lifting Device

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Cleaning compound (WP 0782 00, Item 16)

Personnel Required

Unit Mechanic

References

WPI0120100

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Power plant front access door opened (see your -10)

Right or left drive shaft removed (WP 0348 00 or WP 0349 00)

Track cover removed (WP 0365 00)

Track removed from drive sprocket (WP 0366 00)

Trim vane lowered (see your -10)

Track drive sprocket removed from final drive (WP 0382 00)

REMOVAL

- 1. If left final drive is to be removed, remove hull front access cover (WP 0429 00). Remove left final drive speedometer cable and adapter (WP 0248 00).
- 2. Drain final drive (WP 0120 00).

WARNING



The final drive is heavy and can cause back injury if handled improperly. Be sure to use a hoist or a helper to remove final drive.

WARNING





Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as DAMAGED - DO NOT USE.

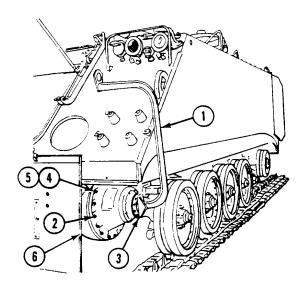
WARNING



Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

- 3. Secure lifting bar (1) to final drive (2) with two sprocket mounting screws (3).
- 4. Attach suitable lifting device of at least 165 lb (75 kg) capacity to lifting bar (1).
- 5. Remove 17 screws (4), washers (5), and final drive (2) from hull (6).



CLEAN, INSPECT, AND REPAIR

- 1. Replace final drive that shows cracks or leaks other than differential oil seal leak. Leaking pinion oil seal can be replaced (WP 0351 00).
- Check mounting surfaces and internal spline for breaks, nicks, deep scratches, and burrs. Repair minor damage. Replace final drive if damage cannot be repaired.

INSTALLATION

- 1 Check final drive drain plug for tightness.
- 2. If left final drive is to be replaced, remove speedometer shaft adapter from old final drive and install it in new final drive (WP 0347 00).
- 3. ☐ Fill final drive with oil (WP 0120 00).





The final drive is heavy and can cause back injury if handled improperly. Be sure to use a hoist or a helper to remove final drive.

WARNING





Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as DAMAGED - DO NOT USE.

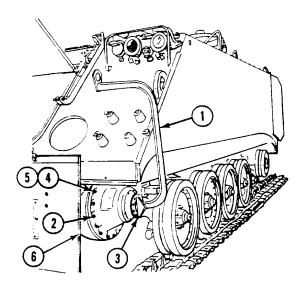
WARNING



Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

- 4. Secure lifting bar (1) to final drive (2) with two sprocket mounting screws (3).
- 5. Attach lifting device of at least 165 lb (75 kg) capacity to lifting bar (1) and position final drive (2) on hull (6).
- 6. Apply antiseize compound to threads of 17 screws (5).
- 7. Secure final drive (2) to hull (6) with 17 screws (5) and washers (4). TIGHTEN SCREWS TO 75-85 LB-FT (102-115 N·M) TORQUE. Use torque wrench.
- 8. Remove two screws (3) and lifting bar (1) from final drive (2).



FOLLOW-THROUGH STEPS

- 1. ☐ Install rightfor left drive shaft (WP 0348 00 for WP 0349 00) ☐
- 2. Install drive sprocket on final drive (WP 0382 00).
- 3. Install track on drive sprocket (WP 0366 00).
- 4. Install track cover (WP 0365 00).
- 5. Install speedometer cable on adapter (left ffinal drive only) (WP 0248 00).
- 6. Install hull front access cover (left final drive only) (WP 0429 00).
- 7. Close power plant front access door (see your -10).
- 8. Raise trim vane (see your -10).
- 9. Road test carrier (WP 0120 00) to check final drive.
- 10. Stop/shutdown engine (see your -10).

REPLACE FINAL DRIVE PINION OIL SEAL

0351 00

THIS WORK PACKAGE COVERS:

Removal (page 0351 00-1). Inspect and Repair (page 0351 00-2). Installation (page 0351 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench Set (WP 0780 00, Item 96) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Lock bolt (3)

Antiseize compound (WP 0782 00, Item 8) Sealing compound (WP 0782 00, Item 60) Gasket Lock bolt[[4]]

Personnel Required

Unit Mechanic

Equipment Condition

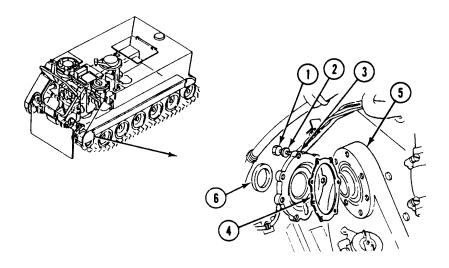
Engine stopped/shutdown (see your -10)
Carrier blocked (see your -10)
Trim vane lowered (see your -10)
Power plant front access door opened (see your -10)
Right drive shaft removed (WP 0349 00)
Left drive shaft removed (WP 0348 00)

Hull front access cover removed (left final drive only) (WP 0429 00)

REMOVAL

Seal

- 1. Remove seven lock bolts (1), washers (2), cover (3), and gasket (4) from final drive (5). Discard gasket and lock bolts.
- 2. Remove seal (6) from cover (3). Discard seal.



IINSPECT AND REPAIR

1. Check fittings and housing for cracks, leaks, damage, or wear. Replace as needed.

INSTALLATION

WARNING

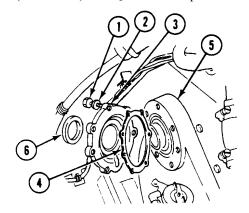




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply sealing compound to new seal (6). Install in cover (3) flush with surface of cover.
- 2. Apply a light coat of antiseize compound to threads of seven new lock bolts (1).
- 3. Install new gasket (4) and cover (3) on final drive (5). Secure with seven new lock bolts (1) and washers (2). TIGHTEN LOCK BOLTS TO 252-300 LB-IN (28-34 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Install left drive shaft (WP 0348 00).
- 2. Install right drive shaft (WP 0349 00).
- 3. Install hull front access cover (left final drive only) (WP 0429 00).
- 4. Close power plant front access door (see your -10).
- 5. Raise trim vane (see your -10).
- 6. Remove blocks used to keep carrier from moving (see your -10).
- 7. Road test carrier (WP 0120 00) to check final drive. Check for leaks around seal.
- 8. Stop/shutdown engine (see your -10).

REPLACE FINAL DRIVE FILLER TUBE AND DIPSTICK

0352 00

THIS WORK PACKAGE COVERS:

Removal (page 0352 00-1). Inspect and Repair (page 0352 00-2). Installation (page 0352 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8) Sealing compound (WP 0782 00, Item 60) Key washer Preformed packing

Personnel Required

Unit Mechanic

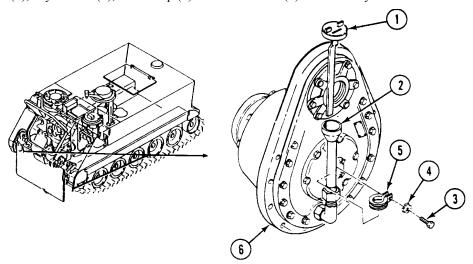
Equipment Condition

Trim vane lowered (see your -10)

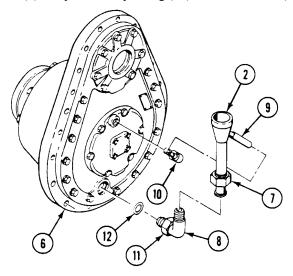
Power plant front access door open (see your -10)

Final drive removed (WP 0350 00)

- 1. Turn dipstick (1) counterclockwise and remove from oil filler tube (2).
- 2. Remove screw (3), key washer (4), and clamp (5) from final drive (6). Discard key washer.



- 3. Remove nut (7) from elbow (8).
- 4. Remove vent tube (9) from elbow (10).
- 5. Remove filler tube (2) and vent tube (9) from final drive (6).
- 6. Remove elbow (10) from final drive (6).
- 7. Loosen nut (11). Remove elbow (8) and preformed packing (12) from final drive (6). Discard packing.



INSPECT AND REPAIR

1. Check parts and housing for cracks, damage, and wear. Replace as needed.

INSTALLATION

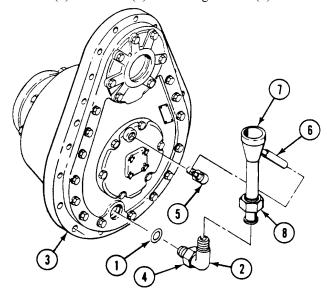
WARNING



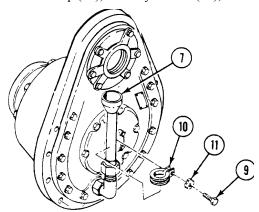


Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 1. Install new preformed packing (1) and elbow (2) in final drive (3). Secure with nut (4).
- 2. Apply a light coat of sealing compound to threads of elbow (5).
- 3. Install elbow (5) in final drive (3).
- 4. Install vent tube (6) on elbow (5).
- 5. Connect filler tube (7) to vent tube (6) and elbow (2). Do not tighten nut (8).

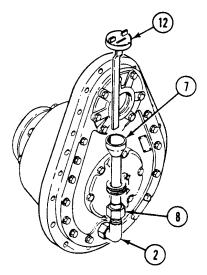


- 6. Apply a light coat of antiseize compound to threads of screw (9).
- 7. Secure filler tube (7) to final drive with clamp (10), new key washer (11), and screw (9).



0352 00

- 8. Tighten nut (8) to secure filler tube (7) to elbow (2).
- 9. Install dipstick (12) in filler tube (7) and turn clockwise to lock.



FOLLOW-THROUGH STEPS

- 1. Install final drive (WP 0350 00).
- 2. Close power plant front access door (see your -10).
- 3. Raise trim vane (see your -10).

TM 9-2350-261-20-2

CHAPTER 21

UNIT MAINTENANCE INSTRUCTIONS FOR DIFFERENTIAL RELATED COMPONENTS

WORK PACKAGE INDEX

<u>Title</u>	Sequence No.
DIFFERENTIAL OIL FLOW DIAGRAM	0353 00
REPLACE DIFFERENTIAL OIL PUMP	0354 00
REPLACE DIFFERENTIAL OIL FILTER AND FITTINGS	0355 00
REPLACE DIFFERENTIAL OIL FILTER ELEMENT	0356 00
REPLACE DIFFERENTIAL OIL LEVEL DIPSTICK AND BREATHER	0357 00
REPLACE DIFFERENTIAL OIL PUMP TO DIFFERENTIAL HOSE AND FITTINGS	0358 00
REPLACE DIFFERENTIAL GEARBOX TO DIFFERENTIAL HOSE AND FITTINGS	0359 00
REPLACE DIFFERENTIAL TO OIL COOLER HOSE AND FITTINGS	0360 00
REPLACE DIFFERENTIAL OIL FILTER TO PUMP HOSE AND FITTINGS	0361 00
DIFFERENTIAL BRAKES ADJUSTMENT	0362 00
REPLACE DIFFERENTIAL AND MOUNTS	0363 00
REPLACE DIFFERENTIAL GASKET	

DIFFERENTIAL OIL FLOW DIAGRAM

0353 00

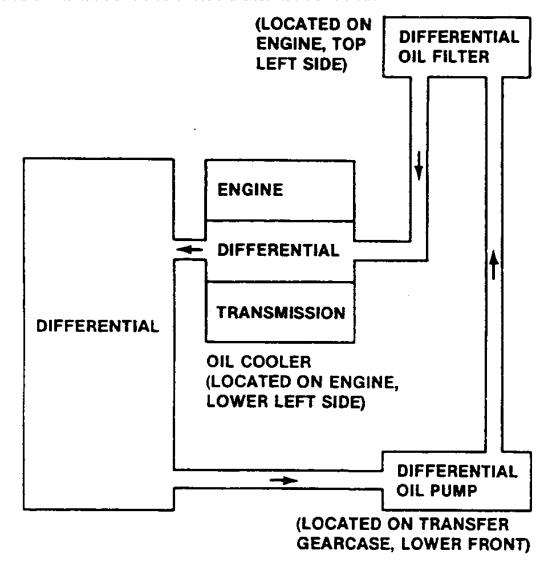
THIS WORK PACKAGE COVERS:

INITIAL SETUP:

Maintenance Level

Unit

Differential oil is picked up from bottom of the differential by the differential oil pump. The pump forces the oil through the differential oil filter to the differential oil cooler and back to the differential.



REPLACE DIFFERENTIAL OIL PUMP

0354 00

THIS WORK PACKAGE COVERS:

Removal (page 0354 00-1).

Inspection-Acceptance and Rejection Criteria (page 0354 00-3).

Installation (page 0354 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Torque Wrench (WP 10780 100), Item 1103)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Oil (WP 0782 00, Item 19)

Cotter pin

Gasket

Key washer (2)

Packings (3)

Suitable container

Personnel Required

Unit Mechanic

Helper (H)

References

WPI0120100

Equipment Condition

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

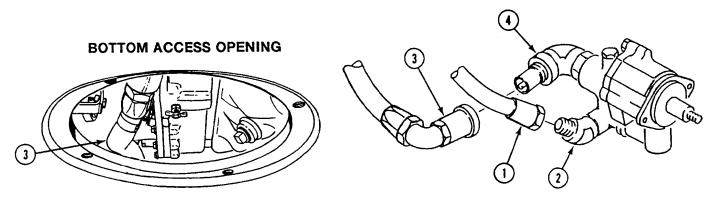
Carrier blocked (see your -10)

Power plan bottom access cover removed (WP 0434 00)

Ramp hydraulic pump removed (WP 0588 00)

Power plant rear access panel removed (WP 0431 00).

- 1. Position container under transfer gearcase and drain oil (WP 0120 00).
- 2. Disconnect oil inlet hose (1) from elbow (2).
- 3. Disconnect oil inlet hose (3) from quick disconnect coupling half (4).

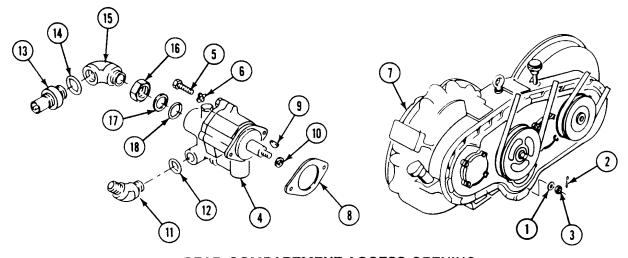


0354 00

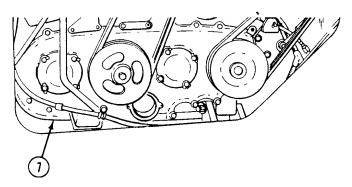
NOTE

Two washers (1) are the maximum used. If two washers are removed, two will be installed.

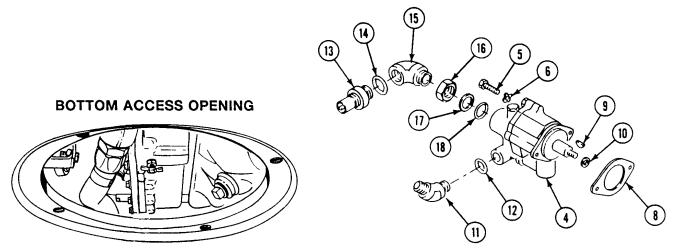
- 4. Remove cotter pin (2), nut (3), and washer(s) (1) from differential oil pump (4). Discard cotter pin.
- 5. Remove two screws (5), key washers (6), and oil pump (4) from transfer gearcase (7). Discard key washers.



REAR COMPARTMENT ACCESS OPENING



- 6. Remove gasket (8) from oil pump (4). Discard gasket.
- 7. Remove key (9) and retainer (10) from oil pump (4).
- 8. Remove elbow (11) and packing (12) from oil pump (4). Discard packing.
- 9. Remove quick disconnect coupling half (13) and packing (14) from elbow (15). Discard packing.
- 10. Remove elbow (15), nut (16), retainer (17), and packing (18) from oil pump (4). Discard packing.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check fittings, hardware, hoses and housing for leaks, cracks, damage and wear. Replace if needed.

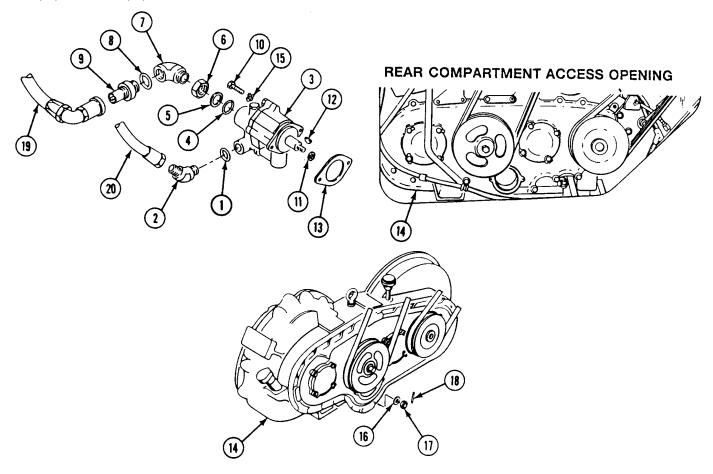
0354 00

INSTALLATION

NOTE

If a new oil pump is being installed, use fittings from old pump.

- 1. Install new packing (1) and elbow (2) in pump (3).
- 2. Install new packing (4), retainer (5), nut (6), and elbow (7) in pump (3). Tighten nut (6).
- 3. Install new packing (8) and quick disconnect coupling half (9) in elbow.
- 4. Apply a thin, even coat of antiseize compound to cleaned external threads of two screws (10) before installation.
- 5. Fill pump (3) with oil.
- 6. Install retainer (11) and key (12) on pump (3).
- 7. Install new gasket (13) on pump (3).
- 8. Align key (12) in keyway of secondary drive gear. Secure pump (3) to transfer gearcase (14) with two new key washers (15) and screws (10).

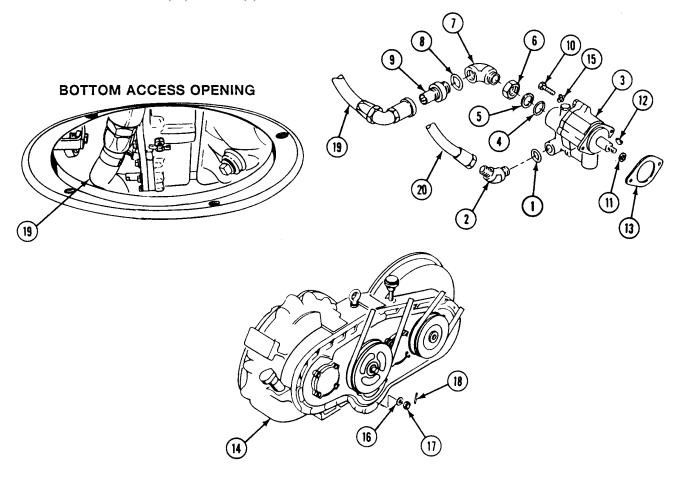


- 9. TIGHTEN TWO SCREWS (10) TO 35–40 LB-FT (47-54 N·M). Use torque wrench.
- 10. Secure pump (3) to secondary drive gear with washer (16), nut (17), and new cotter pin (18).

NOTE

Two washers (16) are the maximum used. If two washers were removed, two will be installed.

- 11. Install washer(s) (16), to secure pump to drive gear.
- 12. Connect oil inlet hose (19) to quick disconnect coupling (9).
- 13. Connect oil outlet hose (20) to elbow (2).



FOLLOW-THROUGH STEPS

1. Install ramp hydraulic pump (WP 0588 00).





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

- 2. Fill transfer gearcase (WP 0120 00).
- 3. Start engine and raise ramp. Check that pump operates properly. Check for oil leaks (see your -10).
- 4. Stop/shutdown engine (see your -10).
- 5. Install power plant rear access panel (WP 0431 00).
- 6. Install power plant bottom access cover (WP 0434 00).

REPLACE DIFFERENTIAL OIL FILTER AND FITTINGS

0355 00

THIS WORK PACKAGE COVERS:

Removal (page 0355 00-1). Inspection-Acceptance and Rejection Criteria (page 0355 00-2). Installation (page 0355 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Adjustable Wrench WP 0780 00, Item 87 General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 65)

Locknut (2)

Lockwasher (2)

Suitable container

Personnel Required

Unit Mechanic

References

See your -10 WPI0120100

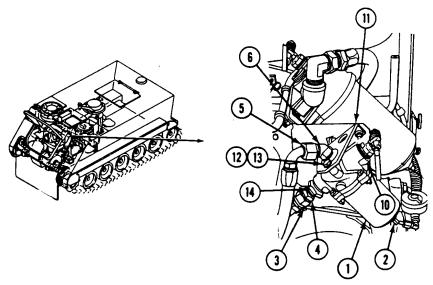
Equipment Condition

Engine stopped (see your -10)

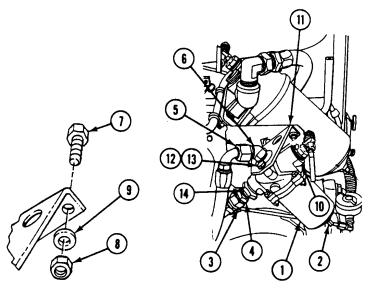
Carrier blocked (see your -10)

Driver's power plant access panel removed (WP 0430 00)

- 1. Place container under differential oil filter (1). Remove drain plug (2) to drain oil.
- 2. Disconnect inlet oil hose (3) from adapter (4).
- 3. Disconnect outlet hose (5) from elbow (6). Use adjustable wrench.



- 4. Remove two screws (7), locknuts (8), and washers (9). Remove filter (1) with oil filter head (10) and bracket (11) from engine. Discard locknuts.
- 5. Remove two screws (12), lockwashers (13), and bracket (11) from filter head (10). Discard lockwashers.
- 6. Remove adapter (4) from bushing(14).
- 7. Remove bushing (14) from oil filter head (10).
- 8. Remove elbow (6) from head (10).



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check fittings, hardware and hoses for cracks, damage and wear. Replace if needed.

INSTALLATION



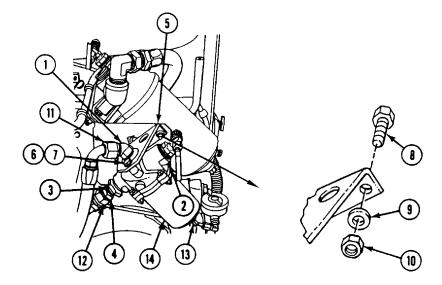




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 1. Apply a thin, even coat of sealing compound to cleaned external threads of all fittings before installation.
- 2. Install elbow (1) in oil filter head (2).
- 3. Install bushing (3) in head (2).
- 4. Install adapter (4) in bushing(3).
- 5. Install bracket (5) on head (2). Secure with two screws (6) and new lockwashers (7).
- 6. Install filter head (2) with bracket (5) on engine. Secure with two screws (8), washers (9), and new locknuts.

- 7. Connect outlet hose (11) to elbow (1). Use adjustable wrench.
- 8. Connect inlet hose (12) to adapter (4).
- 9. Install drain plug (13) in oil filter (14).



10. Check differential oil level (WP 0120 00). Add oil as needed.





Carbon monoxide is poisonous and can kill you. DO NOT idle engine with power plant panel off unless there is VERY GOOD AIR FLOW.

11. Start engine (see your -10). Check for leaks.

FOLLOW-THROUGH STEPS

- 1. Engine stopped/shutdown (see your -10).
- 2. Install driver's power plant access panel (WP 0430 00).

REPLACE DIFFERENTIAL OIL FILTER ELEMENT

0356 00

THIS WORK PACKAGE COVERS:

Removal (page 0356 00-1). Installation (page 0356 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (4)

Preformed packing

Personnel Required

Unit Mechanic

References

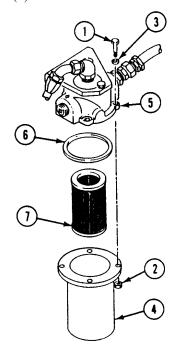
See your -10 WPI0120100

Equipment Condition

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

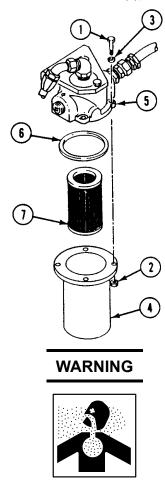
Driver's power plant access panel removed (WP 0430 00)

- 1 Remove four screws (1), locknuts (2), washers (3), and container (4) from filter flead (5). Discard locknuts.
- 2. Remove preformed packing (6) from filter head (5). Discard packing.
- 3. Remove filter element (7) from container (4).



INSTALLATION

- 1. Install new filter element (7) in container (4).
- 2. Install new packing (6) in filter head (5).
- 3. Install container (4) on filter head (5). Secure with four screws (1), washers (3), and new locknuts (2).



Carbon monoxide is poisonous and can kill you. Do not idle engine with power plant panel off unless there is VERY GOOD AIR FLOW.

- 4. Start engine (see your -10). Check for oil leaks.
- 5. Check differential oil level (WP 0120 00). Add oil if needed.

FOLLOW-THROUGH STEPS

- 1. Install driver's power plant access panel (WP 0430 00).
- 2. Engine stopped (see your -10).

REPLACE DIFFERENTIAL OIL LEVEL DIPSTICK AND BREATHER

0357 00

THIS WORK PACKAGE COVERS:

Removal (page 0357 00-1). Inspection-Acceptance and Rejection Criteria (page 0357 00-2). Installation (page 0357 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Personnel Required

Unit Mechanic

Equipment Condition

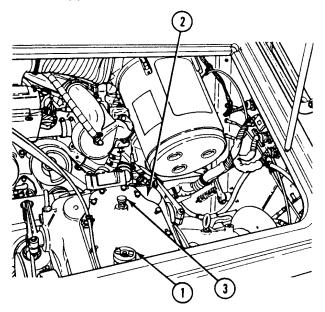
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Power plant front access door open (see your -10)

- 1. Remove dipstick (1) from differential (2).
- 2. Remove breather (3) from differential (2).

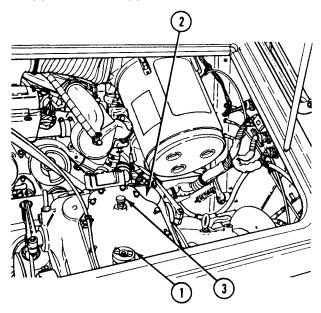


INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check parts and housing for cracks, wear, and damage. Replace if needed.

INSTALLATION

- 1. Apply a thin, even coat of antiseize compound to cleaned external threads of breather before installation.
- 2. Install breather (3) and dipstick (1) in differential (2).



FOLLOW-THROUGH STEPS

- 1. Close power plant front access door (see your -10).
- 2. Raise trim vane (see your -10).

REPLACE DIFFERENTIAL OIL PUMP TO DIFFERENTIAL HOSE AND FITTINGS

0358 00

THIS WORK PACKAGE COVERS:

Removal (page 0358 00-1). Inspection-Acceptance and Rejection Criteria (page 0358 00-2). Installation (page 0358 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Pipe Wrench (WP 0780 00, Item 93)

Materials/Parts

Sealing compound (WP 0782 00, Item 65)

Locknut

Preformed packing (2)

Suitable Container

Personnel Required

Unit Mechanic

References

See your -10 WP 0120 00 WP 0318 00

Equipment Condition

Engine stopped/shutdown (see your -10)

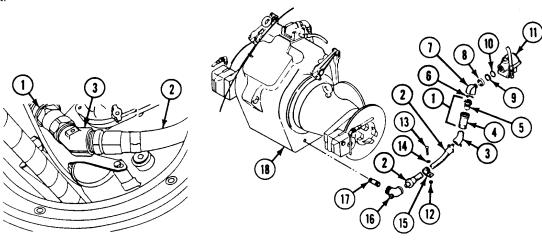
Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Power plant front access door open (see your -10)

Hull bottom access cover removed (WP 0434 00)

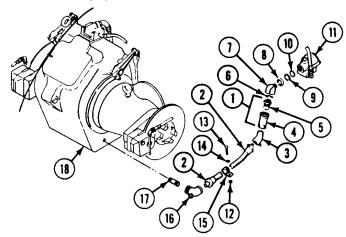
- 1. Drain differential oil into suitable container (WP 0120 00).
- 2. Remove differential high oil temperature switch (WP 0318 00).
- 3. Disconnect differential oil hose quick disconnect coupling (1).
- 4. Disconnect differential oil hose (2) from elbow (3).
- 5. Remove elbow (3) from quick disconnect coupling half (4).
- 6. Remove quick disconnect coupling half (5) and preformed packing (6) from elbow (7). Discard packing.
- 7. Remove elbow (7), nut (8), retainer (9), and preformed packing (10) from differential oil pump (11). Discard packing.
- 8. Remove locknut (12), screw (13), washer (14), clamp (15), and differential oil hose (2) from hull crossbeam. Discard locknut.



REPLACE DIFFERENTIAL OIL PUMP TO DIFFERENTIAL HOSE AND FITTINGS — Continued

0358 00

- 9. Disconnect hose (2) from tee (16).
- 10. Remove tee (16) from bushing (17).
- 11. Remove bushing (17) from differential (18).



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check fittings, hardware, hoses and pump housing for leaks, cracks, damage and wear. Replace as needed.

INSTALLATION

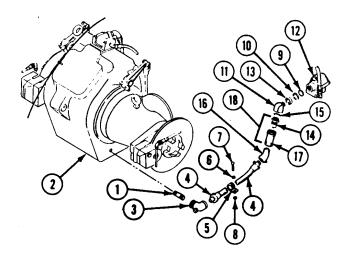
WARNING



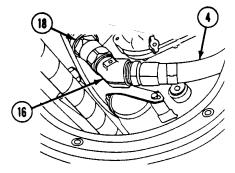


Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 1. Apply a thin, even coat of sealing compound to cleaned threads of fittings before installation.
- 2. Install bushing (1) in differential (2).
- 3. Install tee (3) on bushing (1).
- 4. Connect differential oil hose (4) to tee (3).
- 5. Secure hose (4) to hull crossbeam with clamp (5), washer (6), screw (7), and new locknut (8).
- 6. Install new preformed packing (9), retainer (10), and elbow (11), in differential oil pump (12). Secure with nut (13).
- 7. Install quick disconnect half (14) and new packing (15) in elbow (11).
- 8. Install elbow (16) in quick disconnect half (17).



- 9. Connect hose (4) to elbow (16).
- 10. Connect oil hose quick disconnect coupling (18).



- 11. Install differential high oil temperature switch (WP 0318 00).
- 12. Fill differential with oil (WP 0120 00).



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

13. Start engine (see your -10). Check for oil leaks.

FOLLOW-THROUGH STEPS

- 1. Engine stopped/shutdown (see your -10).
- 2. Install hull bottom access cover (WP 0434 00).
- 3. Close power plant front access door (see your -10).
- 4. Raise trim vane (see your -10).

REPLACE DIFFERENTIAL GEARBOX TO DIFFERENTIAL HOSE AND FITTINGS

0359 00

THIS WORK PACKAGE COVERS:

Removal (page 0359 00-1). Inspection-Acceptance and Rejection Criteria (page 0359 00-2). Installation (page 0359 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8) Sealing compound (WP 0782 00, Item 65) Locknut

Personnel Required

Unit Mechanic

References

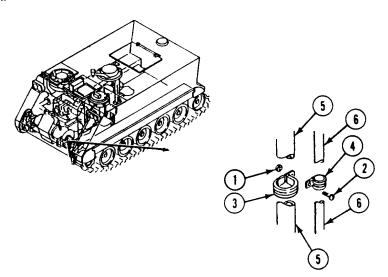
See your -10 WPI0120100

Equipment Condition

Engine stopped (see your -10)
Carrier blocked (see your -10)
Trim vane lowered (see your -10)
Power plant front access door open (see your -10)

REMOVAL

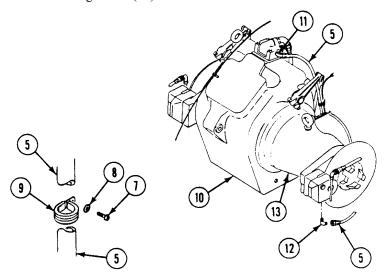
1. Remove locknut (1), screw (2), and two clamps (3) and (4). Separate differential oil hose (5) from circuit 328 lead (6). Discard locknut.



REPLACE DIFFERENTIAL GEARBOX TO DIFFERENTIAL HOSE AND FITTINGS — Continued

0359 00

- 2. Remove screw (7), washer (8), clamp (9), and oil hose (5) from differential (10).
- 3. Disconnect oil hose (5) from two elbows (11) and (12).
- 4. Remove elbow (11) from differential (10).
- 5. Remove elbow (12) from differential gearbox (13).



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check fittings, hardware, hoses and differential housing for leaks, cracks, wear and damage. Replace as needed.

INSTALLATION

WARNING





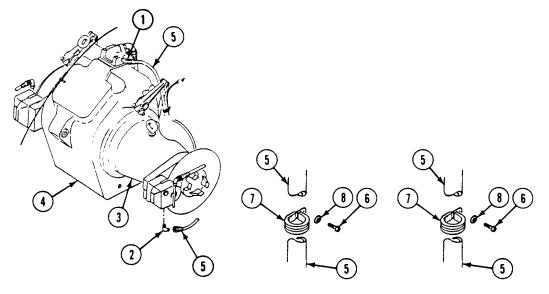
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 1. Apply a thin, even coat of sealing compound to cleaned external threads of elbows (1) and (2).
- 2. Install elbow (2) in differential gearbox (3).
- 3. Install elbow (1) in differential (4).
- 4. Connect differential oil hose (5) to elbows (1) and (2).
- 5. Apply antiseize compound to external threads of screw (6).

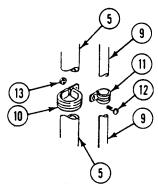
REPLACE DIFFERENTIAL GEARBOX TO DIFFERENTIAL HOSE AND FITTINGS — Continued

0359 00

6. Install oil hose (5) on differential (3) with clamp (7) and washer (8). Secure with screw (6). TIGHTEN SCREW (6) TO 252-300 LB-IN (28-34 N·M) TORQUE. Use torque wrench.



7. Install circuit 328 lead (9) and oil hose (5) together with two clamps (10) and (11), and secure with screw (12) and new locknut (13).



8. Check differential oil level (WP 0120 00). Add oil if needed.



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

9. Start engine (see your -10). Check for leaks.

REPLACE DIFFERENTIAL GEARBOX TO DIFFERENTIAL HOSE AND FITTINGS — Continued

0359 00

FOLLOW-THROUGH STEPS

- 1. Engine stopped (see your -10).
- 2. Close power plant front access door (see your -10).
- 3. Raise trim vane (see your -10).

REPLACE DIFFERENTIAL TO OIL COOLER HOSE AND FITTINGS

0360 00

THIS WORK PACKAGE COVERS:

Removal (page 0360 00-1). Inspection-Acceptance and Rejection Criteria (page 0360 00-2). Installation (page 0360 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Adjustable Wrench (WP 0780 00, Item 87)

Materials/Parts

Primer N (WP 0782 00, Item 58) Sealing compound (WP 0782 00, Item 60) Suitable container

Personnel Required

Unit Mechanic

References

See your -10 WPI0120100

Equipment Condition

Engine stopped/shutdown (see your -10)

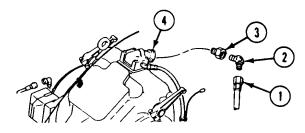
Carrier blocked (see your -10)

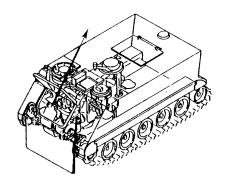
Hull bottom access cover removed (WP 0434 00)

Trim vane lowered and power plant front access door open (see your -10)

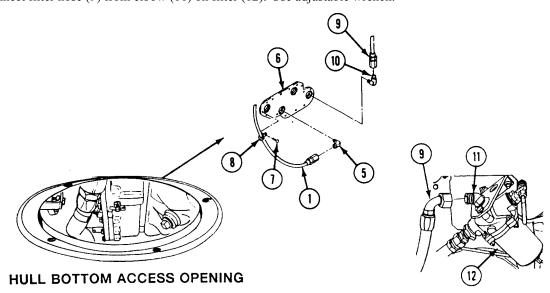
Driver's power plant access panel removed (WP 0430 00)

- 1. Drain oil from differential (WP 0120 00). Use suitable container.
- 2. Disconnect oil hose (1) from elbow (2) at differential.
- 3. Remove elbow (2) and adapter (3) from elbow (4).
- 4. If needed, remove elbow (4) from differential.





- 5. Disconnect oil hose (1) from elbow (5) at oil cooler (6).
- 6. Remove elbow (5) from oil cooler (6).
- 7. Remove screw (7) and clamp (8) from oil cooler (6).
- 8. Remove hose (1) from carrier.
- 9. Disconnect oil filter hose (9) from elbow (10).
- 10. Remove elbow (10) from oil cooler (6).
- 11. Disconnect filter hose (9) from elbow (11) on filter (12). Use adjustable wrench.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Clean hoses, fittings, hardware, and differential housing for leaks, cracks, and wear. Replace as needed.

INSTALLATION

- 1. Install oil filter hose (1) in carrier.
- 2. Connect filter hose (1) to elbow (2) on filter (3). Use adjustable wrench.



Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 3. Apply a thin coat of primer N and sealing compound only to threads of elbow (4) that are being installed into cooler (5).
- 4. Install elbow (4) in oil cooler (5).
- 5. Connect filter hose (1) to elbow (4).

- 6. Install hose (6) in carrier.
- 7. Install clamp (7) on hose (6). Secure clamp (7) to oil cooler (5) with screw (8).

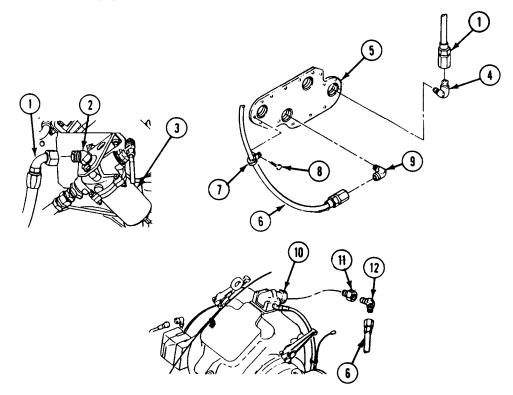
WARNING





Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 8. Apply a thin coat of primer N and sealing compound only to threads of elbow (9) that are being installed into cooler (5).
- 9. Install elbow (9) at oil cooler(5).
- 10. Connect oil hose (6) to elbow (9) at oil cooler (5).
- 11. If removed, install elbow (10) in differential.



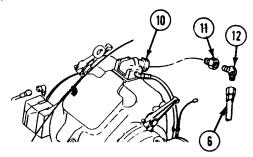
WARNING





Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

- 12. Apply a thin coat of primer N and sealing compound to external threads of adapter (11).
- 13. Install adapter (11) in elbow (10).



WARNING

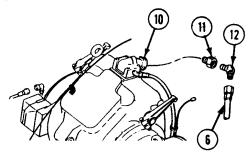




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 14. Apply a thin coat of primer N and sealing compound only to threads of elbow (12) that are being installed into adapter (11).
- 15. Install elbow (12) in adapter (11).
- 16. Connect oil hose (6) to elbow (12) at differential.



- 17. Fill differential (WP 0120 00).
- 18. Start engine (see your -10). Check for oil leaks.

FOLLOW-THROUGH STEPS

- 1. Stop/shutdown engine (see your -10).
- 2. Install driver's power plant access panel (WP 0430 00).
- 3. Install hull bottom access cover (WP 0434 00).
- 4. Close power plant front access door and raise trim vane (see your -10).

REPLACE DIFFERENTIAL OIL FILTER TO PUMP HOSE AND FITTINGS

0361 00

THIS WORK PACKAGE COVERS:

Removal (page 0361 00-1). Inspection-Acceptance and Rejection Criteria (page 0361 00-2). Installation (page 0361 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Sealing compound (WP 0782 00, Item 65) Preformed packing

Personnel Required

Unit Mechanic

References

See your -10 WPI0120100

Equipment Condition

Engine stopped/shutdown (see your -10)

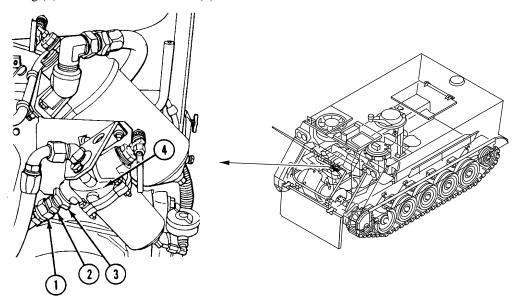
Carrier blocked (see your -10)

Driver's power plant access panel removed (WP 0430 00)

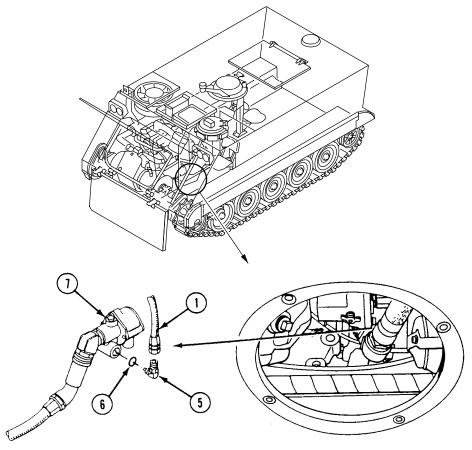
Hull bottom access cover removed (WP 0434 00)

REMOVAL

- 1. Disconnect differential oil filter hose (1) from adapter (2).
- 2. Remove adapter (2) from bushing (3).
- 3. Remove bushing (3) from differential oil filter (4).



- 4. Disconnect differential oil filter hose (1) from elbow (5).
- 5. Remove elbow (5) and preformed packing (6) from differential oil pump (7). Discard packing.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check fittings, hardware, housing and hoses for leaks, cracks, damage and wear. Replace as needed.

INSTALLATION

WARNING



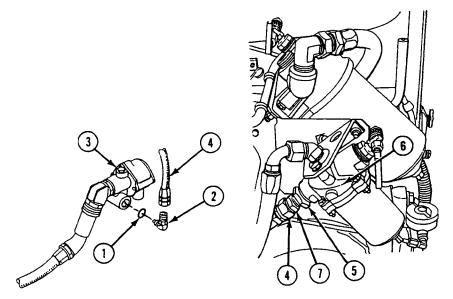


Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 1. Apply a thin, even coat of sealing compound to cleaned external threads of fittings before installation.
- 2. Install new preformed packing (1) and elbow (2) in differential oil pump (3).

- 3. Connect differential oil filter hose (4) to elbow(2).
- 4. Install bushing (5) in differential oil filter (6).
- 5. Install adapter (7) in bushing (5).
- 6. Connect filter hose (4) to adapter (7).



7. Check differential oil level (WP 0120 00)



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

8. Start engine (see your -10). Check for leaks.

FOLLOW-THROUGH STEPS

- 1. Engine stopped/shutdown (see your -10).
- 2. Install driver's power plant access panel (WP 0430 00).
- 3. Install hull bottom access cover (WP 0434 00).

DIFFERENTIAL BRAKES ADJUSTMENT

0362 00

THIS WORK PACKAGE COVERS:

Adjustment (page 0362 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Weighing Scale (WP 0780 00, Item 63)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Personnel Required

Unit Mechanic

References

WP 0387 00 WP 0388 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

ADJUSTMENT

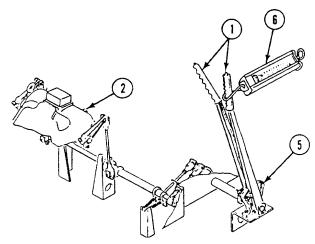
NOTE

Do not try to adjust steering linkage to compensate for brake lining wear. Uneven steering lever pull will result.

Adjust differential brakes only when differential is cool. You cannot get a good adjustment if differential is hot.

Check steering lever pawl adjustment () and steering brake linkage adjustment () before making differential brake adjustment.

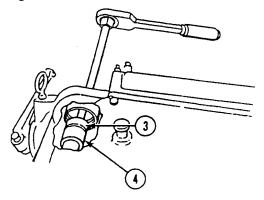
- 1. Place two differential steering levers (1) in full forward released position.
- 2. Remove two access plugs (2) from differential housing.



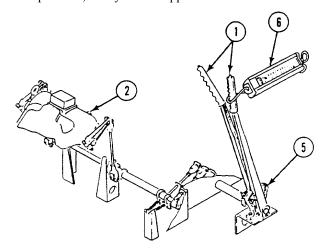
CAUTION

Make sure socket is taped to extension to prevent socket from falling into the differential.

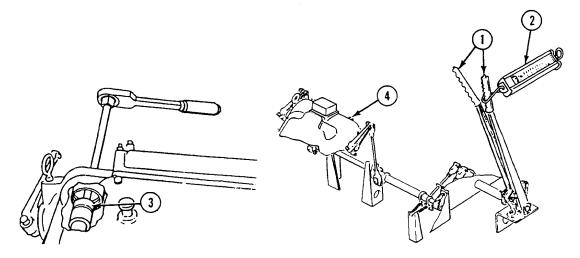
3. Insert socket (3) through differential access holes. Turn each differential brake band adjusting nut (4) one detent at a time. Turn left to tighten band or right to loosen.



- 4. Place steering levers (1) in second notch from front of quadrants (5).
- 5. Using a strap or rope, attach dial scale (6) to center of steering lever hand grip.
- 6. Pull back on both steering levers (1) very hard to ensure brake adjusting nut is on the bottom of cam.
- 7. Pull dial scale rearward.
- 8. A pull of 10-30 pounds (4.5-14 kg) on dial scale (6) should cause steering lever handle button to pop up. Steering lever (1) will then move forward to release position.
- 9. Repeat adjustment procedure until you get correct release pressure.
- 10. If adjustment cannot be obtained, notify direct support maintenance.
- 11. If you cannot get correct release pressure, notify direct support maintenance.



- 12. Remove socket (3) through differential access hole.
- 13. Apply a thin, even coat of antiseize compound to threads of two access plugs (4).
- 14. Install two access plugs (4) in differential housing.



FOLLOW-THROUGH STEPS

- 1. Close power plant front access door and raise trim vane (see your -10).
- 2. Operate carrier (see your -10). Check that steering brakes are operable.

REPLACE DIFFERENTIAL AND MOUNTS

0363 00

THIS WORK PACKAGE COVERS:

Removal (page 0363 00-1). Installation (page 0363 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Remover and Replacer (WP 0780 00, Item 56) Sling (WP 0780 00, Item 68)

Lifting Device

Materials/Parts

Locknut

Personnel Required

Unit Mechanic Helper (H)

Equipment Condition

Engine stopped/shutdown (see your -10)

Power plant access door open (see your -10)

Carrier blocked (see your -10)

Battery ground leads disconnected (WP 0294 00)

Air cleaner housing removed (WP 0185 00)

Radiator outlet coolant tube removed (WP 0199 00)

Exhaust pipe removed (WP 0189 00)

Deaeration elbow removed (WP 0200 00)

Transmission to differential shaft removed

(WP 0347 00)

Left final drive shaft removed (WP 0348 00)

Right drive shaft removed (WP 0349 00)

Differential oil pump hose disconnected at differential (WP 0358 00)

Differential oil cooler hose disconnected at differential (WP 0360 00)

Differential brake linkage removed (WP 0393 00)

Differential steering brake levers removed

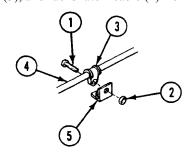
(WP 0394 00)

Fuel shutoff cable disconnected from engine

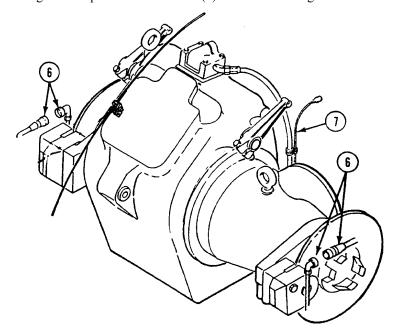
(WP 0403 00)

REMOVAL

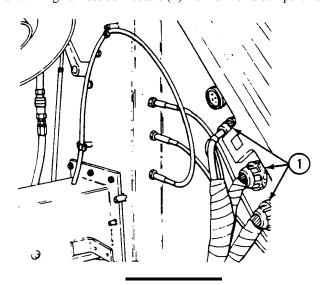
1. Remove screw (1), locknut (2), clamp (3), and fuel shutoff cable (4) from bracket (5). Discard locknut.



- 2. Disconnect two pivot steer hydraulic hoses at two quick disconnect couplings (6).
- 3. Disconnect differential high oil temperature switch lead (7) from main wiring harness.



4. Disconnect three power plant wiring harness connectors (1) from driver's compartment bulkhead.



WARNING



The differential is heavy. Have helper help you and use a lifting device.

WARNING





Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as DAMAGED - DO NOT USE.

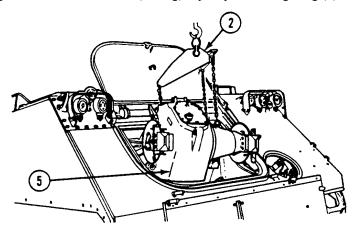
WARNING



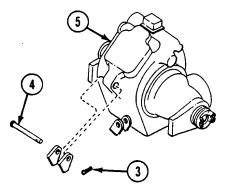
Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

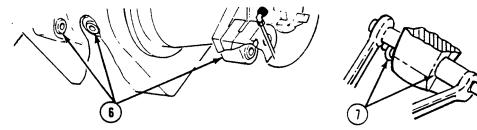
5. Attach a suitable lifting device of at least 500 lb (227 kg) capacity and lifting sling (2) to two differential lifting eyes.



- 6. Remove three retaining clips (3) and three pins (4) from differential hull mounts.
- 7. Remove differential (5) from carrier.

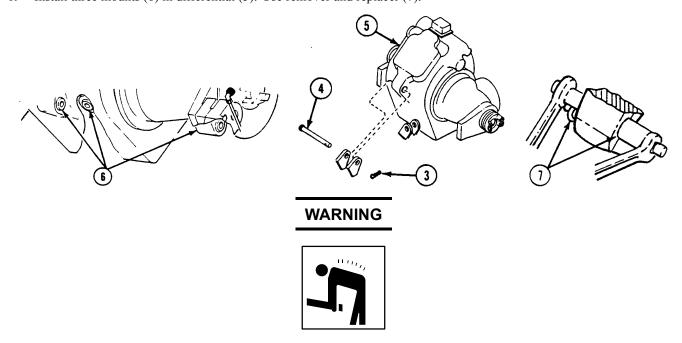


8. Remove three mounts (6) from differential, using remover and replacer (7).



INSTALLATION

1. Install three mounts (6) in differential (5). Use remover and replacer (7).



The differential is heavy. Have helper help you and use a lifting device.

WARNING





Damaged slings can fail when loaded. Breaking slings can strike and injure personnel. Suspended load can fall and crush personnel.

Inspect all slings before use. Do not use damaged slings. Clearly mark all damaged slings as DAMAGED - DO NOT USE.

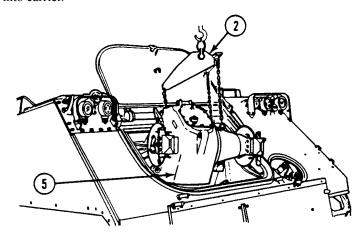
WARNING



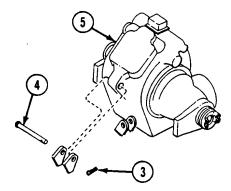
Hanging loads, heavy parts, and overhead equipment can fall unexpectedly and kill or injure you.

Stay clear of hanging loads, heavy parts, and overhead equipment. Use correct lifting devices. Always have helper guide heavy parts and equipment.

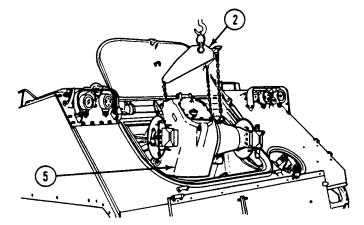
- 2. Attach a suitable lifting device of at least 500 lb (227 kg) capacity and lifting sling (2) to two differential lifting eyes.
- 3. Lower differential (5) into carrier.



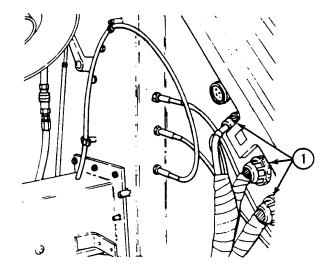
4. Install three pins (4) through differential and hull mounts. Secure with three retaining clips (3).



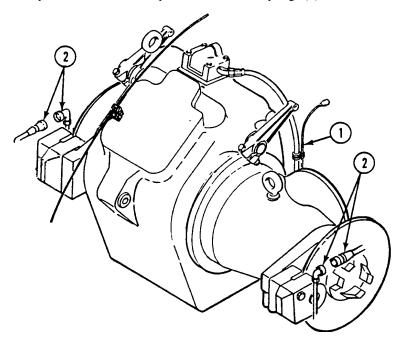
5. Remove lifting sling (2) from differential (5).



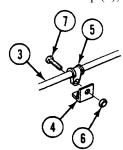
6. Connect three power plant wiring harness connectors (1) at driver's compartment bulkhead.



- 7. Connect differential high oil temperature switch lead (1) to main wiring harness.
- 8. Connect two pivot steer hydraulic hoses to two quick disconnect couplings (2).



9. Install fuel shutoff cable (3) on bracket (4). Secure with clamp (5), new locknut (6), and screw (7).



FOLLOW-THROUGH STEPS

- 1. Install differential steering brake levers (WP 0394 00).
- 2. Connect differential oil cooler hose (WP 0360 00).
- 3. Connect differential oil pump hose (WP 0358 00).
- 4. Fill differential with oil (WP 0120 00).
- 5. Install right final drive shaft (WP 0349 00).
- 6. Install left final drive shaft (WP 0348 00).
- 7. Install differential brake linkage (WP 0393 00).
- 8. Install transmission to differential shaft (WP 0347 00).
- 9. Install deaeration elbow (WP 0200 00).
- 10. Install exhaust pipe (WP 0189 00).
- 11. Install radiator outlet coolant tube (WP 0199 00).
- 12. Fill cooling system (WP 0194 00).

REPLACE DIFFERENTIAL AND MOUNTS — Continued

0363 00

- 13. Install air cleaner housing (WP 0185 00).
- 14. Connect fuel shutoff cable to engine and adjust cable (WP 0403 00).
- 15. Close power plant front access door (see your -10).
- 16. Raise trim vane (see your -10).
- 17. Connect battery ground cable (WP 0294 00).
- 18. Operate carrier (see your -10). Check that differential is operable.
- 19. Engine stopped/shutdown (see your -10).

REPLACE DIFFERENTIAL GASKET

0364 00

THIS WORK PACKAGE COVERS:

Removal (page 0364 00-1). Installation (page 0364 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket (WP 0780 00, Item 96)

Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Cleaning compound (WP 0782 00, Item 16)

Wiping rag (WP 0782 00, Item 76)

Gasket

Key washer (14)

Personnel Required

Unit Mechanic

Equipment Condition

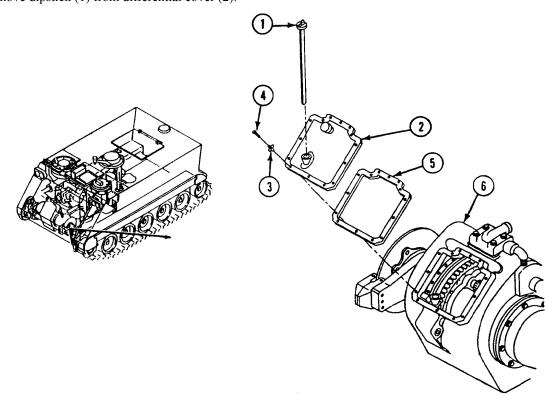
Engine stopped (see your -10)

Carrier blocked (see your -10)

Front power plant engine access door open (see your -10)

REMOVAL

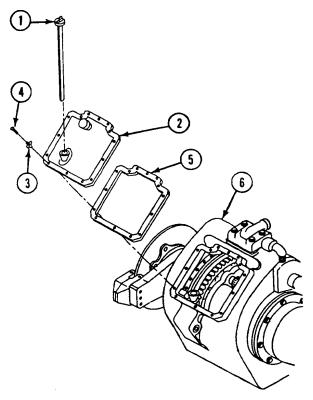
1. Remove dipstick (1) from differential cover (2).



NOTE

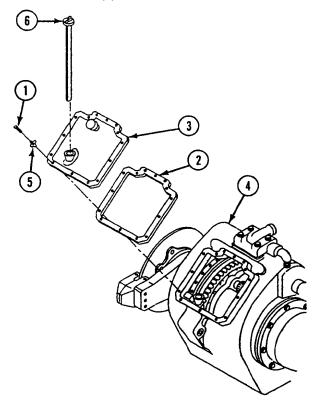
Damage to differential may occur if dirt or debris falls into it while cover is off. Before differential cover is removed, all dirt and debris must be removed from around it and power plant door.

- 2. Remove all dirt and debris from around and above differential cover (2).
- 3. Straighten tabs on 14 key washers (3).
- 4. Remove 14 screws (4), key washers (3), differential cover (2), and gasket (5) from differential gearbox (6). Discard gasket and key washers.



INSTALLATION

- 1. Clean threads of 14 screws (1) with cleaning compound.
- 2. Apply light coat of antiseize compound to threads of 14 screws (1).
- 3. Place new gasket (2) and new differential cover (3) on differential gearbox (4).
- 4. Secure differential cover (3) in place with 14 new key washers (5) and screws (1). TIGHTEN SCREWS TO 252-300 LB-IN (29-34 N·M) TORQUE. Use torque wrench. Bend tabs on key washers.
- 5. Install dipstick (6) through differential cover (3).



FOLLOW-THROUGH STEPS

- 1. Check oil level in differential gearbox (WP 0120 00).
- 2. Close front power plant engine access door (see your -10).

TM 9-2350-261-20-2

CHAPTER 22

UNIT MAINTENANCE INSTRUCTIONS FOR TRACKS AND SUSPENSION

WORK PACKAGE INDEX

mid.	G N
Title	Sequence No.
REPLACE TRACK COVERS	0365 00
REPLACE T130 TRACK	0366 00
REPLACE T150 TRACK	0367 00
REPLACE T130 TRACK SHOE AND PAD ASSEMBLY	0368 00
REPLACE T150 TRACK SHOE ASSEMBLY	0369 00
REPLACE T150 TRACK SHOE PAD ASSEMBLY	0370 00
REPLACE T130 ROAD WHEEL	0371 00
REPLACE T150 ROAD WHEEL	0372 00
REPLACE ROAD WHEEL HUB	0373 00
REPLACE ROAD WHEEL SUPPORT ARM, BEARINGS, AND SEALS	0374 00
REPLACE IDLER WHEEL	0375 00
REPLACE IDLER WHEEL ARM BEARINGS AND SEALS	
REPLACE IDLER WHEEL ARM ASSEMBLY	0377 00
REPLACE TRACK TENSION ADJUSTER AND MOUNT	0378 00
REPLACE SHOCK ABSORBER	
REPLACE SHOCK ABSORBER PIN	0380 00
REPLACE SHOCK ABSORBER MOUNT	
REPLACE T130 SPROCKET WHEEL ASSEMBLY	0382 00
REVERSE T150 SPROCKET WHEEL AND TRACK ASSEMBLIES	0383 00
REPAIR T150 SPROCKET WHEEL AND TRACK ASSEMBLIES	
REPLACE TORSION BAR	0385 00
PEDLACE TORSION RAR ANCHOR	0386.00

REPLACE TRACK COVERS

0365 00

THIS WORK PACKAGE COVERS:

Removal (page 0365 00-1). Installation (page 0365 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Personnel Required

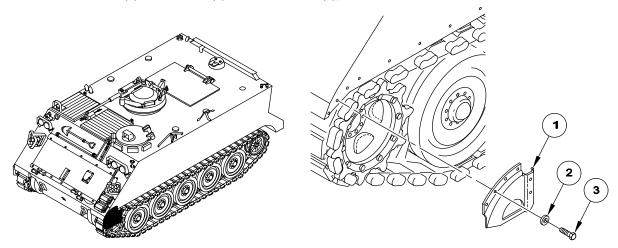
Unit Mechanic

Equipment Condition

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

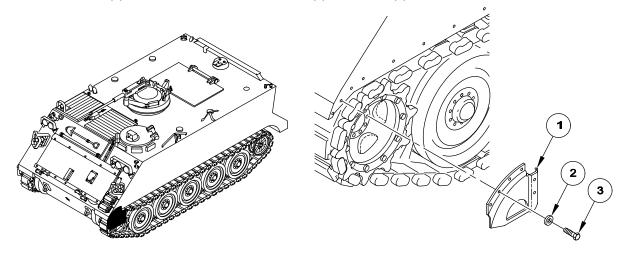
REMOVAL

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



INSTALLATION

1. Place front cover (1) on hull. Secure with four washers (2) and screws (3).



REPLACE T130 TRACK

0366 00

THIS WORK PACKAGE COVERS:

Removal (page 0366 00-1). Clean, Inspect, and Repair (page 0366 00-2). Installation (page 0366 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Drive Pin Punch (WP 0780 00, Item 51) General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 104) Track and Sprocket Gauge (WP 0780 00, Item 28) Track Fixture (2) (WP 0780 00, Item 25)

Personnel Required

Unit Mechanic Helper (H)

References

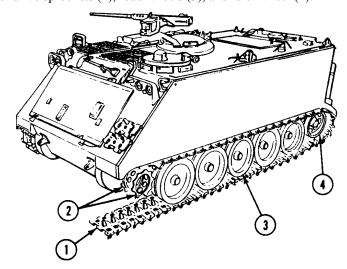
See your -10

Equipment Condition

Engine stopped/shutdown (see your -10) Carrier blocked (see your -10) Track cover removed (WP 0365 00)

REMOVAL

- 1. Relieve tension and break track (see your -10).
- 2. Remove blocks used to keep carrier from moving (see your -10).
- 3. Start engine (see your -10). Place range selector in R position. Slowly back carrier (see your -10).
- 4. (H): Guide track (1) over drive sprockets (2), road wheels (3), and idler wheel (4).

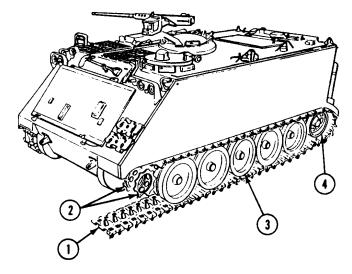


WARNING



Failure to lock steering levers and block the road wheels can allow the carrier to move and could result in injury or death. Always lock steering levers and block road wheels before working on the carrier.

5. After carrier clears track (1), lock steering lever (see your -10). Place range selector in N position. Stop engine (see your -10).



6. Block carrier (see your -10).

CLEAN, INSPECT, AND REPAIR

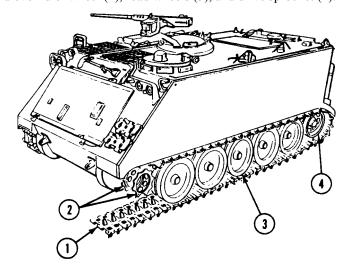
NOTE

Make sure track pads point toward carrier.

1. Check for damage, wear, and cracks. Replace as needed.

INSTALLATION

- 1. (H): Lay track (1) out flat in front of carrier so that track guides are aligned between first pair of road wheels (3).
- 2. Remove blocks used to keep carrier from moving (see your -10).
- 3. Start engine (see your -10). Place range selector in 1 DRIVE. Slowly drive carrier forward (see your -10).
- 4. (H): Pull track (1) up and over idler wheel (4), road wheels (3), and drive sprocket (2).



- 5. Stop carrier when hub of first road wheel is directly over third track shoe from the end of the track.
- 6. Place range selector in N. Stop engine (see your -10).



Failure to lock steering levers and block the road wheels can allow the carrier to move and could result in injury or death. Always lock steering levers and block road wheels before working on the carrier.

- 7. Block carrier (see your -10).
- 8. Join track (see your -10). TORQUE TRACK PIN NUT TO 115-135 LB-FT (156-183 N·M). Use torque wrench.
- 9. Adjust tension (see your -10).

FOLLOW-THROUGH STEPS

- 1. Install track cover (WP 0365 00).
- 2. Road test carrier to check that track is installed properly (WP 0120 00).
- 3. Stop/shutdown engine (see your -10).

REPLACE T150 TRACK

0367 00

THIS WORK PACKAGE COVERS:

Removal (page 0367 00-1). Installation (page 0367 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench (WP 0780 00, Item 97) Tool, Track Pin Alignment (WP 0780 00, Item 82)

Torque Wrench (WP 0780 00, Item 105)

Personnel Required

Unit Mechanic

Helper (H)

References

See your -10

Equipment Condition

Engine stopped (see your -10) Carrier blocked (see your -10) Track covers removed (WP 0365 00)

REMOVAL

NOTE

The procedure for replacing left and right track assemblies is the same.

- Break track (see your -10).
- Unblock carrier (see your -10).
- 3. Drive carrier off one side of track (see your -10).

WARNING



Failure to lock steering levers and block the road wheels can allow the carrier to move and could result in injury or death. Always lock steering levers and block road wheels before working on the carrier.

Block carrier (see your -10).

INSTALLATION

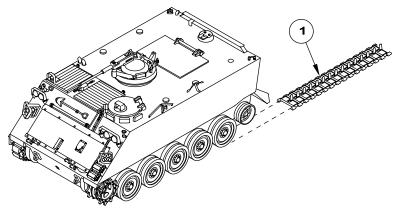
NOTE

Track assembly can be installed from the front of the carrier or from the rear. There is an advantage installing it from the rear of the carrier; when the end of the track assembly gets to the final drive sprockets, the drive sprockets will assist in pushing the track toward the idler wheel with some guiding by a helper over the road wheels. Moving the carrier forward over the track means the helper will have to use more force to move the track, as the idler wheel will not provide any moving force like the final drive sprockets will.

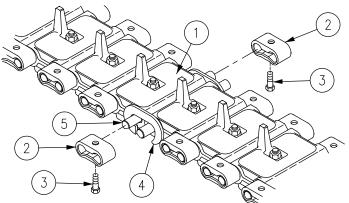
NOTE

A complete track assembly consists of 63 track shoes on the left side and 64 track shoes on the right side. A flat, level surface about 50 feet (15.24 m) long is needed to assemble track sections.

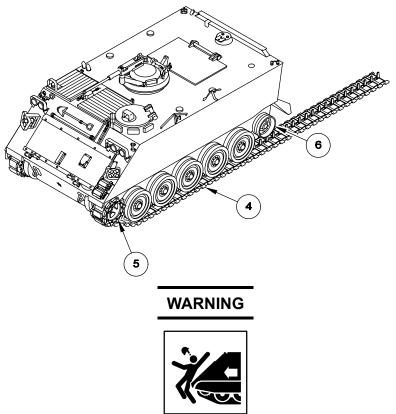
1. Position track shoe assemblies (1) in a line in back of the carrier. Align track guides of track shoe assemblies between first pair of road wheels.



- 2. Remove non-mating end connectors (2) from each track shoe assembly (1).
- 3. Position track shoe assemblies (1) so that connecting track shoes are approximately 2 inches (50.8 mm) off the ground.
- 4. Connect track shoe assemblies (1).
 - a. Install two track pin alignment tools (4) over track shoe pins (5).
 - b. Install two end connectors (2) on track shoe pins (5). Remove track pin alignment tool (4) before driving end connectors flush with pin ends.
 - c. Drive end connectors (2) flush with pin ends and install bolts (3) on each end connector.



- 5. Repeat step 4 until a complete track has been connected in a line.
- 6. Unblock carrier (see your -10).
- 7. (H): Drive carrier backward until track (4) positions on sprockets (5).
- 8. (H): Drive carrier backward until track (4) is over idler wheels (6).



Failure to lock steering levers and block the road wheels can allow the carrier to move and could result in injury or death. Always lock steering levers and block road wheels before working on the carrier.

- 9. Join track (see your -10).
- 10. TIGHTEN ALL END CONNECTOR BOLTS (3) TO 400–430 LB-FT (543–583 N·M) TORQUE. Use torque wrench.
- 11. Adjust track tension (see your -10).

FOLLOW-THROUGH STEPS

- 1. Install track cover (WP 0365 00)
- 2. Unblock carrier (see your -10).
- 3. Road test carrier to check that track is installed correctly (see your -10).

REPLACE T130 TRACK SHOE AND PAD ASSEMBLY

0368 00

THIS WORK PACKAGE COVERS:

Replacement (page 0368 00-1). Removal (page 0368 00-2). Installation (page 0368 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 103)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Condition

Carrier on level ground

Carrier positioned with track pad accessible

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

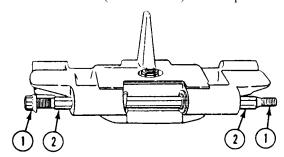
REPLACEMENT

1. See your -10 for instructions on replacing the track shoe.

NOTE

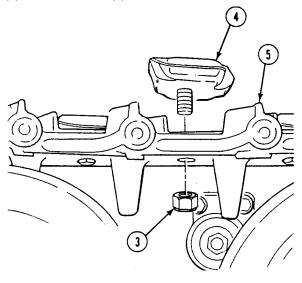
Track shoe pin should not be extending outside of shoe.

2. Tighten either locknut (1) on track shoe pin (2) until approximately 1-2 threads extend through locknut. TIGHTEN OPPOSITE LOCKNUT (1) TO 115-135 LB-FT (155-183 N·M). Use torque wrench.



REMOVAL

1. Remove locknut (3) and pad (4) from track shoe (5). Discard locknut.

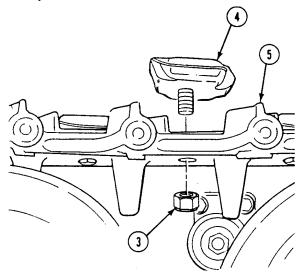


INSTALLATION

NOTE

Your carrier might have either T130 or T130E1 track, or a mixture of both. A T130E1 track pad is about 4-3/4 inches (12 cm) long. A T130 track pad is about 5-3/4 inches (14.6 cm) long.

1. Install track shoe pad (4) in track shoe (5). Secure with new locknut (3). TIGHTEN LOCKNUT TO 135-155 LB-FT (183-210 N·M) TORQUE. Use torque wrench.



REPLACE T150 TRACK SHOE ASSEMBLY

0369 00

THIS WORK PACKAGE COVERS:

Removal (page 0369 00-1). Installation (page 0369 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench (WP 0780 00, Item 97)

Tool, Track Pin Alignment (WP 0780 00, Item 82)

Torque Wrench (WP 0780 00, Item 105)

Personnel Required

Unit Mechanic

Helper (H)

References

See your -10

Equipment Condition

Drive carrier (see your -10). Move carrier to reach damaged track shoe. Have helper guide you.

Stop carrier (see your -10)

Block carrier (see your -10)

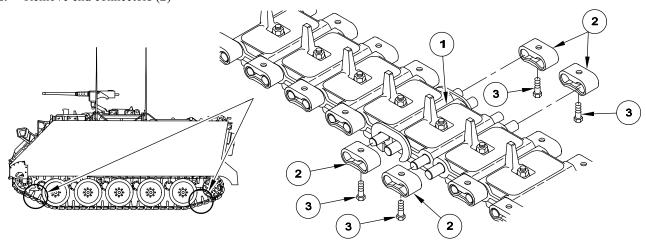
Break track (see your -10)

REMOVAL

NOTE

Track shoes should be removed between drive sprocket and first road wheel or idler wheel and the fifth road wheel.

- 1. Remove four bolts (3), end connectors (2), and track shoe (1) from track.
- 2. Remove end connectors (2)



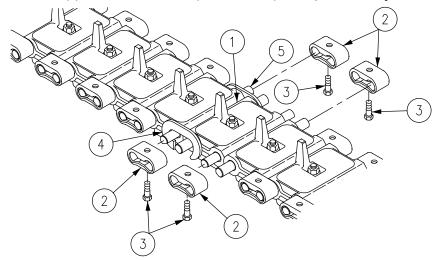
0369 00

INSTALLATION

NOTE

Position track shoes at a slight angle to mount end connectors on both pins.

- 1. Install track shoe (1) on track. Have helper assist.
 - a. Install two track pin alignment tools (4) over track shoe pins (5).
 - b. Install four end connectors (2) on track shoe pins (5). Remove track pin alignment tool (4) before driving end connectors flush with pin ends.
 - c. Drive end connectors (2) flush with pin ends and install bolts (3) on each end connector.
- 2. Join track (see your-10).
- 3. TIGHTEN FOUR BOLTS (3) TO 400–430 LB-FT (543–583 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Adjust track tension (see your -10).
- 2. Unblock carrier (see your -10).
- 3. Road test carrier to check that track is installed correctly (see your -10).

REPLACE T150 TRACK SHOE PAD ASSEMBLY

0370 00

THIS WORK PACKAGE COVERS:

Removal (page 0370 00-1). Installation (page 0370 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Locknut

Personnel Required

Unit Mechanic

Helper (H)

References

See your -10

Equipment Condition

Engine stopped (see your -10)

REMOVAL

NOTE

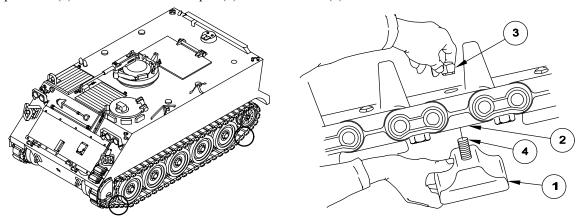
Left/right track shoe pads are removed and installed the same way.

- 1. Start engine (see your -10).
- 2. Drive carrier (see your -10). Move carrier to reach damaged track shoe pad. Have a helper guide you.
- 3. Stop engine (see your -10).
- 4. Block carrier (see your -10).

NOTE

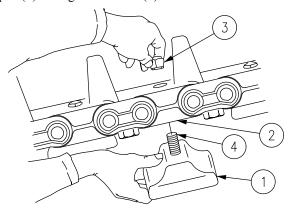
Track shoe pads should be removed between drive sprocket and first road wheel or idler wheel and fifth road wheel.

- 5. Remove locknut (3) from stud (4). Discard locknut.
- 6. Tap on stud (4) and remove track shoe pad (1) from track shoe (2).



INSTALLATION

1. Install stud (4) of track shoe pad (1) through track shoe (2) from under track and install new locknut (3) on stud.



2. TIGHTEN LOCKNUT (3) TO 120–150 LB-FT (162–293 N·M) TORQUE. Use torque wrench.

FOLLOW-THROUGH STEPS

- 1. Unblock carrier (see your -10).
- 2. Road test carrier to check that track shoe pad is installed correctly (see your -10).

REPLACE T130 ROAD WHEEL

0371 00

THIS WORK PACKAGE COVERS:

Removal (page 0371 00-1). Installation (page 0371 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Road Wheel Lifter (WP 0780 00, Item 38) Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Locknut, per wheel (8)

Personnel Required

Unit Mechanic Helper (H)

References

See your -10

Equipment Condition

Carrier on level surface

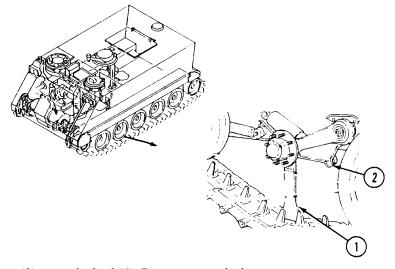
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

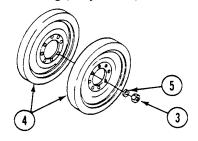
Release track tension (see your -10)

REMOVAL

1. (H): Place lifter (1) under road wheel arm (2). Keep lower tips of lifter in track link just rearward of wheel being removed.



- 2. Loosen eight locknuts (3) on road wheel (4). Do not remove locknuts.
- 3. Remove blocks used to keep carrier from moving (see your -10).



WARNING



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

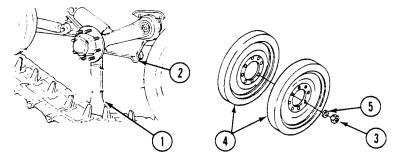
4. Start engine (see your -10). Place gear selector in R position. Slowly back carrier until lifter (1) is vertical and road wheel (4) clears ground.

WARNING



Failure to lock steering levers and block the road wheels can allow the carrier to move and could result in injury or death. Always lock steering levers and block road wheels before working on the carrier.

- 5. Stop engine and lock steering levers (see your -10).
- 6. Block carrier (see your -10).
- 7. Remove eight locknuts (3) and washers (5) from road wheel (4). Discard locknuts.
- 8. Lift track with bar until track clears road wheel (4). Remove two road wheels.



INSTALLATION

- 1. Lift track assembly with bar. Place two road wheels (1) on road wheel arm (2). Secure loosely with eight washers (3) and new locknuts (4).
- 2. Remove blocks used to keep carrier from moving (see your -10).





You can be hurt if road wheel lifter slips while road arm is being lowered. Stand clear.

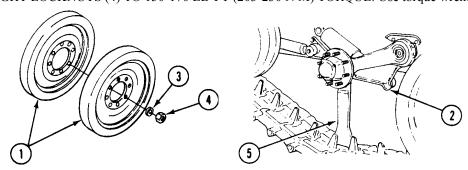
3. Start engine (see your -10). Place range selector in RANGE 1. Slowly drive carrier forward off lifter (5). Remove lifter.

WARNING



Failure to lock steering levers and block the road wheels can allow the carrier to move and could result in injury or death. Always lock steering levers and block road wheels before working on the carrier.

- 4. Block carrier (see your -10).
- 5. TIGHTEN EIGHT LOCKNUTS (4) TO 150-170 LB-FT (203-230 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Adjust track tension (see your -10).
- 2. Road test carrier to check that road wheel is installed properly (WP 0120 00).

REPLACE T150 ROAD WHEEL

0372 00

THIS WORK PACKAGE COVERS:

Inspection (page 0372 00-1) Removal (page 0372 00-1). Installation (page 0372 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Road Wheel Lifter Assembly (WP 0780 00, Item 39) Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Locknut, per wheel (8)

Personnel Required

Unit Mechanic

Helper (H) (2)

References

See your -10 TM 9-2530-200-24

Equipment Condition

Carrier on firm level surface Engine stopped (see your -10)

Carrier blocked (see your -10)

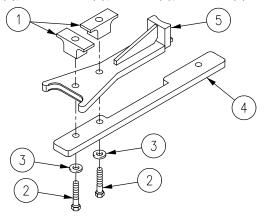
Break track (only if doing roadwheel number 1 or 5) (see your -10).

INSPECTION

1. Check road wheels. See TM 9-2530-200-24. Replace wheel if Trubber has separated from it. Replace wheel if damage causes noise or vibration when carrier is moving.

REMOVAL

1. Remove two T-nuts (1), screws (2), flat washers (3), retainer (4), and lifter (5) from road wheel lifter assembly.



2. Loosen eight locknuts (7) on road wheel (9). Do not remove nuts.

WARNING



Position retainer stops inside of end connectors to prevent the lifter from slipping off and causing injury and/or death to personnel.

- 3. Install retainer (4), two flat washers (3), screws (2) and T-nuts (1) on inside of track assembly.
- 4. Place lifter (5) under road wheel arm (6). Keep lower tips of lifter in track link just rearward of wheel being removed.
- 5. Unblock carrier (see your -10)).

WARNING



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

6. Start engine (see your -10). Place gear selector in R. Slowly back carrier until lifter (5) is vertical and road wheel (9) clears ground.

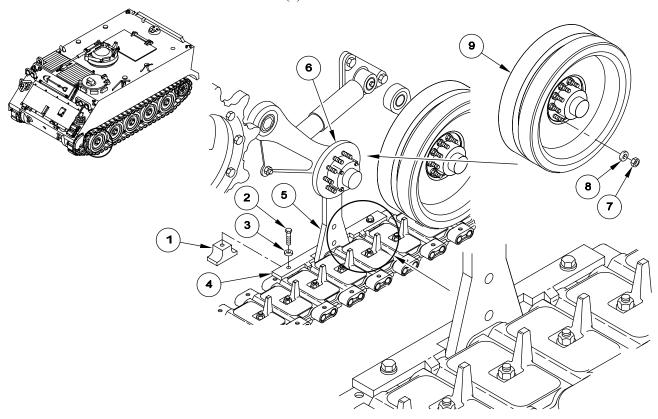
WARNING



Failure to lock steering levers and block the road wheels can allow the carrier to move and could result in injury or death. Always lock steering levers and block road wheels before working on the carrier.

7. Block carrier (see your -10).

- 8. Remove eight locknuts (7) and washers (8) from road wheel (9). Discard locknuts.
- 9. Lift track with bar until track clears road wheel (9). Remove two road wheels.



INSTALLATION

- 1. Lift track assembly with bar. Place two road wheels (1) on road wheel arm (2). Secure loosely with eight washers (3) and new locknuts (4).
- 2. Unblock carrier (see your -10).





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

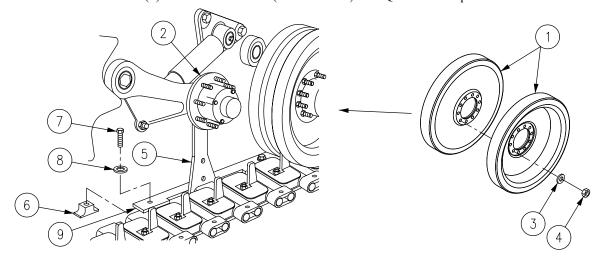
3. Start engine (see your -10). Place range selector in RANGE 1. Slowly drive carrier forward off lifter (5). Remove lifter.

WARNING

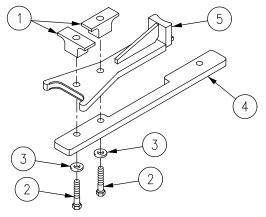


Failure to lock steering levers and block the road wheels can allow the carrier to move and could result in injury or death. Always lock steering levers and block road wheels before working on the carrier.

- 4. Remove two T-nuts (6), screws (7), flat washers (8), and retainer (9) from lifter (5) and remove road wheel lifter assembly from track.
- 5. Block carrier (see your -10).
- 6. TIGHTEN EIGHT NUTS (4) TO 150-170 LB-FT (203-230 N·M) TORQUE. Use torque wrench.



7. Assemble road wheel lifter assembly by installing retainer (4), two flat washers (3), screws (2), and T-nuts (1) on road wheel lifter (5).



FOLLOW-THROUGH STEPS

- 1. Join track if roadwheel number 1 or 5 was replaced (see your -10).
- 2. Adjust track tension (see your -10).
- 3. Unblock carrier (see your -10).
- 4. Road test carrier to check that road wheel is installed correctly (see your -10).

REPLACE ROAD WHEEL HUB

0373 00

THIS WORK PACKAGE COVERS:

Removal (page 0373 00-1). Clean, Inspect, and Replace (page 0373 00-2). Installation (page 0373 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Replacer (WP 0780 00, Item 57) Ring Spacer (WP 0780 00, Item 71) Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Grease (WP 0782 00, Item 24) Sealing compound (WP 0782 00, Item 61) Cotter pin

Hub cap gasket Hub-to-arm seal

Inner bearing (as needed)
Inner bearing cup (as needed)

Materials/Parts

Outer bearing (as needed)
Outer bearing cup (as needed)
Ribbed shoulder bolt (as needed)

Personnel Required

Unit Mechanic

References

TM 9-214 WPI0120100

Equipment Condition

Carrier on level surface

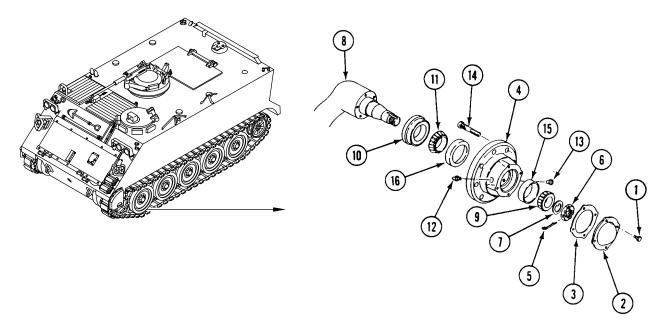
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

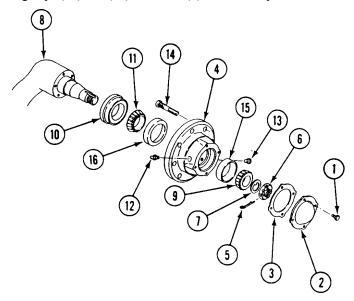
Road wheel removed (WP 0371 00) (T130) or (WP 0372 00) (T150)

REMOVAL

- 1. Remove four screws (1), hub cap (2), and gasket (3) from road wheel hub (4). Discard gasket.
- 2. Remove cotter pin (5), nut (6), and washer (7) from road wheel support arm (8). Discard cotter pin.
- 3. Remove outer bearing (9) and hub (4) from road wheel support arm (8). Remove seal (10) and inner bearing (11) from hub (4). Discard seal.



- 4. Remove grease fitting (12) and relief valve (13) from hub (4).
- 5. If damaged, remove bolt(s) (14) from hub (4). Discard bolt(s).
- 6. If damaged, remove bearing cups (15) and (16) from hub (4). Discard cups.



CLEAN, INSPECT, AND REPLACE

- 1. Check fittings and relief valve for wear and damage. Replace if needed.
- 2. Inspect bearings. See TM 9-214. Replace if needed.

INSTALLATION

CAUTION

Bearings must be replaced as assemblies. Do not mix cups and bearings.

- 1. If removed, install new bearing cups (1) and (2) in hub (3). Use replacer.
- 2. If removed, install new bolts (4) in road wheel hub (3).

WARNING

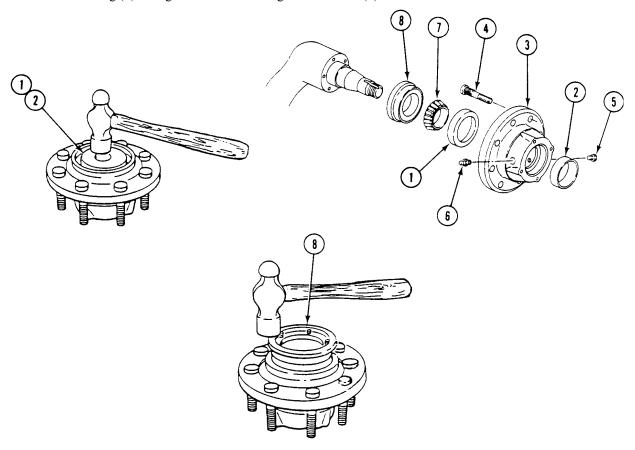




Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 3. Apply a light coat of sealing compound to threads of relief valve (5) and lubrication fitting (6). Install valve and fitting in hub (3).
- 4. Pack inner bearing (7) with grease. Install bearing in rear of hub (3).



WARNING

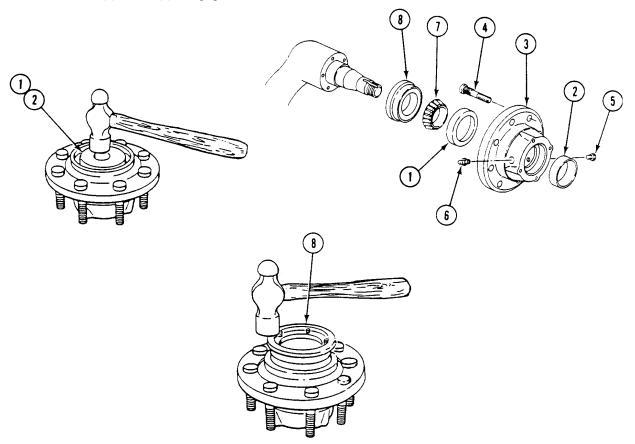




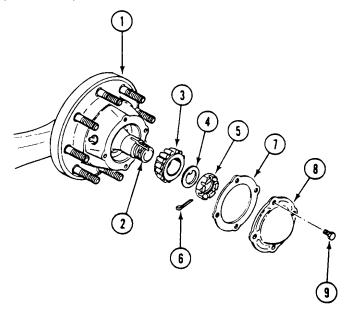
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 5. Apply a light coat of sealing compound to external surface of new seal (8).
- 6. Install new seal (8) in hub (3) using spacer.



- 7. Place hub (1) on road wheel support arm (2). Completely pack cavity in hub with grease.
- 8. Pack outer bearing (3) with grease. Install in hub (1).
- 9. Install washer (4) and nut (5) on support arm (2). Tighten nut to adjust bearing as follows:
 - a. TIGHTEN NUT (5) TO 140-150 LB-FT (190-203 N·M) TORQUE. Use torque wrench.
 - b. Back off nut (5) until there is no torque.
 - c. TIGHTEN NUT (5) TO 70-75 LB-FT (95-102 N·M) TORQUE. Use torque wrench.
 - d. Back off nut to align nearest cotter pin hole in nut with cotter pin hole in support arm (2).
- 10. Install new cotter pin (6) in support arm (2).
- 11. Install new gasket (7), hub cap (8), and four screws (9) in hub (1).
- 12. Fill hub (1) with grease (WP 0120 00).



FOLLOW-THROUGH STEPS

- 1. Install road wheel (WP 0371 00) (T130) or (WP 0372 00) (T150).
- 2. Road test carrier to check that hub is installed properly (WP 0120 00).
- 3. Check track tension (see your -10).

REPLACE ROAD WHEEL SUPPORT ARM, BEARINGS, AND SEALS

0374 00

THIS WORK PACKAGE COVERS:

Removal (page 0374 00-1). Clean, Inspect, and Replace (page 0374 00-3). Installation (page 0374 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Replacer (WP 0780 00, Item 57)

Socket Wrench Set (WP 0780 00, Item 96)

Torque Wrench (WP 0780 00, Item 102)

Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Grease (WP 0782 00, Item 24)

Sealing compound (WP 0782 00, Item 61)

Bearing (2)

Inner seal

Key washer (3)

Outer seal

Packing

Retainer gasket

Personnel Required

Unit Mechanic

References

TM 9-214

Equipment Condition

Carrier on level surface

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Road wheel removed (WP 0371 00) (T130) or

(WP 0372 00) (T150)

Road wheel hub removed (WP 0371 00)

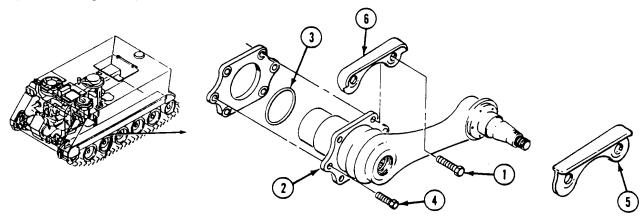
Shock absorber removed from first, second, or fifth road

wheel (WP 0379 00)

Torsion bar removed (WP 0385 00)

REMOVAL

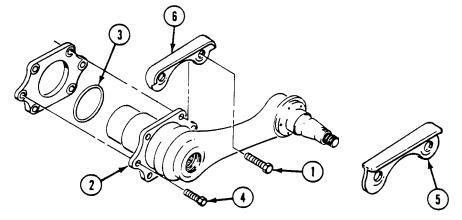
- 1. Remove six screws (1), road wheel arm assembly (2) (number one and two positions) and packing (3).
- 2. Remove two screws (1), four screws (4), road wheel support arm assembly (2), packing (3), and guard (5) from hull (number three position).



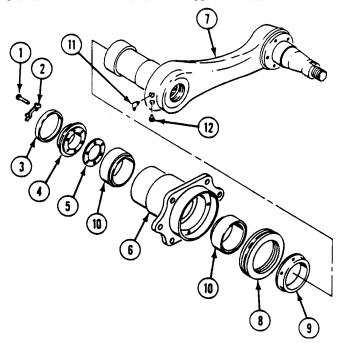
NOTE

Guard (5) used as support arm position three, is different from guard (6), used at support arm positions four and five. Do not interchange guards.

- 3. Remove two screws (1), four screws (4), road wheel support arm assembly (2), packing (3), and guard (6) from hull (number four and five positions). Discard packing.
- 4. Remove six screws (1) (number one position), five screws (number two, three, four, and five positions), road wheel support arm assembly (2), and packing (3) from hull.



- 5. Remove six screws (1), three washers (2), seal (3), retainer (4), and gasket (5) from housing (6). Discard washers, seal and gasket.
- 6. Remove support arm (7), seal (8), and spacer (9) from housing (6). Discard seal.
- 7. If needed, remove two bearings (10) from housing (6).
- 8. Remove lubrication fitting (11) and relief valve (12) from support arm (7).



CLEAN, INSPECT, AND REPLACE

- 1. Check fittings and relief valve for wear and damage. Replace if needed.
- 2. Inspect bearings. See TM 9-214. Replace if needed.

INSTALLATION

1. If removed, install two bearings (10) in housing (6). Use replacer.

WARNING





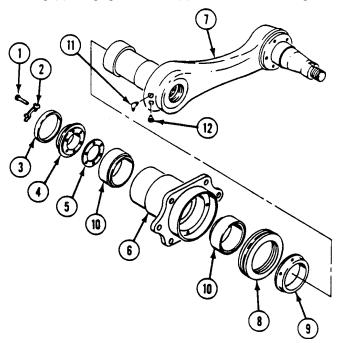
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

NOTE

Make sure shoulders on bearings point toward center of housing.

- 2. Coat threads of relief valve (12) and lubrication fitting (11) with sealing compound. Install valve and fitting in support arm (7).
- 3. Put light coat of grease on bearing surface of support arm (7) and cork-rubber face of new seal (8). Place spacer (9) and seal (8), with pins facing housing (6), on shaft of support arm.
- 4. Install support arm (7) in housing (6). Align pins on seal (8) with holes in housing.



WARNING

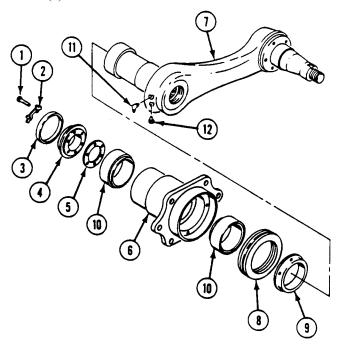




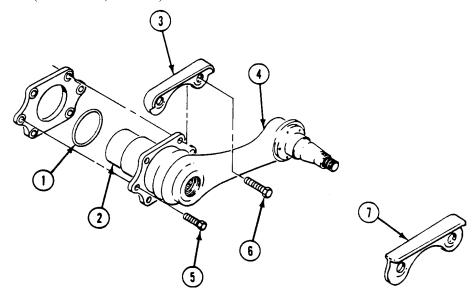
Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 5. Put light coat of sealing compound on outer surface of new seal (3).
- 6. Install new gasket (5), retainer (4), and seal (3) in rear of housing (6). Use replacer. Secure with three new washers (2) and six screws (1). Do not tighten screws at this time.
- 7. Fill support arm housing (6) with grease until grease appears around retainer (4).
- 8. TIGHTEN SIX SCREWS (1) TO 168–228 LB-IN (19-26 N·M) TORQUE. Use torque wrench (WP 0780 00, Item 102). Bend tabs on new washers (2).



- 9. Install new packing (1) on assembly (2).
- 10. Secure guard (3), packing (1), and assembled road wheel support arm assembly (4) to hull (number four and five positions) with four screws (5) and two screws (6). TIGHTEN SIX SCREWS TO 130-140 LB-FT (176-190 N·M) TORQUE. Use torque wrench (WP 0780 00, Item 103).
- 11. Secure guard (7), packing (1) and assembled road wheel support arm assembly (4) to hull (number three position) with four screws (5) and two screws (6). TIGHTEN SIX SCREWS TO 130-140 LB-FT (176-190 N·M) TORQUE. Use torque wrench (WP 0780 00, Item 103).
- 12. Secure assembled road wheel support arm (4) to hull (number one position) with six screws (6). TIGHTEN SIX SCREWS TO 130-140 LB-FT (176-190 N·M) TORQUE. Use torque wrench (WP 0780 00, Item 103).
- 13. Secure assembled road wheel support arm (4) to hull (number two, three, four, and five positions) with five screws (5). Use six screws (number one position). TIGHTEN SIX SCREWS TO 130-140 LB-FT (176-190 N·M) TORQUE. Use torque wrench (WP 0780 00, Item 103).



FOLLOW-THROUGH STEPS

- 1. Install torsion bar (WP 0385 00).
- 2. If removed, install shock absorber (WP 0379 00).
- 3. Install road wheel hub (WP 0371 00).
- 4. Install road wheel (WP 0371 00) (T130) or (WP 0372 00) (T150).
- 5. Lube road wheel supports (WP 0120 00).
- 6. Road test carrier to check that arm is in stalled p ro perly (WP 0120 00).

REPLACE IDLER WHEEL

0375 00

THIS WORK PACKAGE COVERS:

Removal (page 0375 00-1). Installation (page 0375 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque wrench (WP 0780 00, Item 103)

Materials/Parts

Locknut (8)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Condition

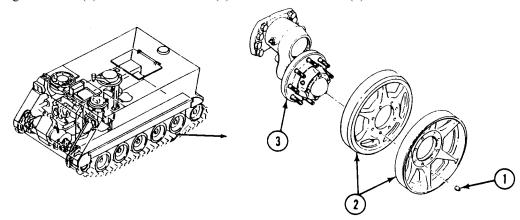
Carrier on level surface

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

REMOVAL

- 1. Loosen idler wheel locknuts (1).
- 2. Disconnect track (see your -10).
- 3. Remove track from idler wheels (2).
- 4. Remove eight locknuts (1) and two idler wheels (2) from idler wheel hub (3). Discard locknuts.



0375 00

INSTALLATION

NOTE

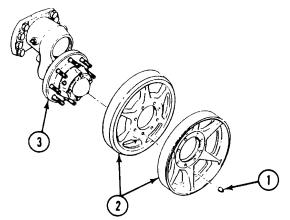
Inboard and outboard idler wheels are different. Do not mix them up. Inboard wheel (marked 11669373) is 3-1/4 inches (83 mm) wide. Outboard wheel (marked 10907799) is 3-1/8 inches (79 mm) wide.

1. Place two idler wheels (2) on idler wheel hub (3).

NOTE

Install inboard and outboard idler wheel in the right order. Make sure spokes do not line up.

2. Secure two wheels (2) to hub (3) with eight new locknuts (1). TIGHTEN LOCKNUTS TO 150-170 LB-FT (203-230 N·M) TORQUE. Use torque wrench.



- 3. Install track over idler wheels.
- 4. Connect track and adjust tension (see your -10).

FOLLOW-THROUGH STEPS

- 1 Road test carrier to check that idler wheel is installed properly (WP 0120 00).
- 2. Stop/shutdown engine (see your -10). □

REPLACE IDLER WHEEL ARM BEARINGS AND SEALS

0376 00

THIS WORK PACKAGE COVERS:

Removal (page 0376 00-1). Clean, Inspect, and Replace (page 0376 00-2). Installation (page 0376 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Replacer (WP 0780 00, Item 57) Spacer Ring (WP 0780 00, Item 71) Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Key washer

Sealing compound (WP 0782 00, Item 60) Bolt, as needed Cotter pin Gasket

Personnel Required

Unit Mechanic

References

TM 9-214 WPI0120100

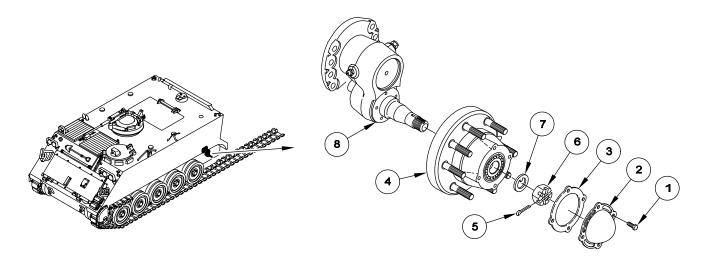
Equipment Condition

Carrier on level surface
Engine stopped (see your -10)
Carrier blocked (see your -10)
Track disconnected (see your -10)
Idler wheel removed (WP 0375 00)

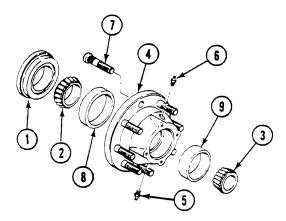
REMOVAL

Seal

- 1. Remove four screws (1), hub cap (2), and gasket (3) from idler wheel hub (4). Discard gasket.
- 2. Remove cotter pin (5), nut (6), key washer (7), and hub (4) from idler wheel arm (8). Discard cotter pin and key washer.



- 3. Remove seal (1), inner bearing (2), and outer bearing (3) from hub (4). Discard seal.
- 4. Remove grease fitting (5) and relief valve (6) from hub (4).
- 5. If damaged, remove bolt(s) (7) from hub (4). Discard damaged bolt(s).
- 6. If damaged, remove bearing cups (8) and (9) from hub (4).



CLEAN, INSPECT, AND REPLACE

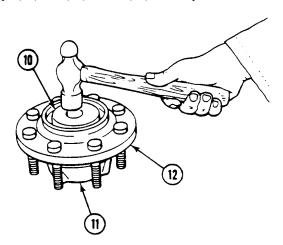
NOTE

Bearings and cups are replaced as a set.

1. Clean and check bearings. See TM 9-214. Replace bad bearings and cups.

INSTALLATION

1. If removed, install bearing cups (10) and (11) in hub (12). Use replacer.



2. If removed, install new bolt(s) (13) in hub (12).

WARNING





Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

- 3. Apply light coat of sealing compound to threads of relief valve (14) and grease fitting (15). Install valve and fitting in hub (12).
- 4. Pack inner bearing (16) with grease. Install bearing in rear of hub (12).

WARNING

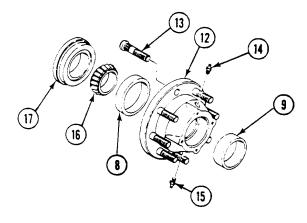




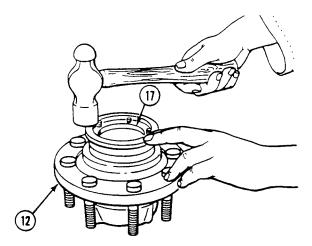
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Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

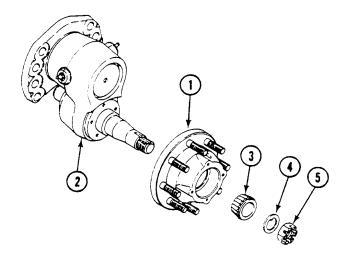
5. Apply light coat of sealing compound to outer surface of new seal (17).



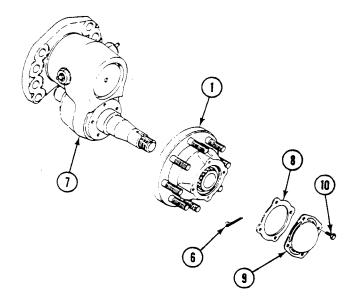
6. Install seal (17) in hub (12). Use spacer ring.



- 7. Place hub (1) on idler wheel arm (2). Completely pack cavity in hub with grease.
- 8. Pack outer bearing (3) with grease. Install bearing in hub (1).
- 9. Install new key washer (4) and nut (5) on arm (2). Tighten nut to adjust bearings as follows:
 - a. TIGHTEN NUT (5) TO 140-150 LB-FT (190-203 N·M) TORQUE. Use torque wrench.
 - b. Back off nut (5) until there is no torque.
 - c. TIGHTEN NUT (5) TO 70-75 LB-FT (95-102 N·M) TORQUE. Use torque wrench.
 - d. Back off nut (5) to align nearest cotter pin hole in nut with cotter pin hole in arm (2).



- 10. Install new cotter pin (6) in arm (7).
- 11. Install new gasket (8), hub cap (9), and four screws (10) in hub (1).
- 12. Fill hub (1) with grease (WP 0120 00).



FOLLOW-THROUGH STEPS

- 1. Install idler wheel (WP 0375 00).
- 2. Connect track and adjust tension (see your -10).
- 3. Road test carrier to check that idler wheel hub is installed right (WP 0120 00).

REPLACE IDLER WHEEL ARM ASSEMBLY

0377 00

THIS WORK PACKAGE COVERS:

Removal (page 0377 00-2). Clean, Inspect, and Replace (page 0377 00-2). Installation (page 0377 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Grease (WP 0782 00, Item 24) Sealing compound (WP 0782 00, Item 69)

Dueferme due eleine

Preformed packing

Seal

Personnel Required

Unit Mechanic

References

WP 0120 00

Equipment Condition

Carrier on level surface

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)
Track disconnected (see your -10)
Idler wheel removed (WP 0375 00)
Road wheel hub removed (WP 0373 00)

Track tension adjuster disconnected from idler wheel

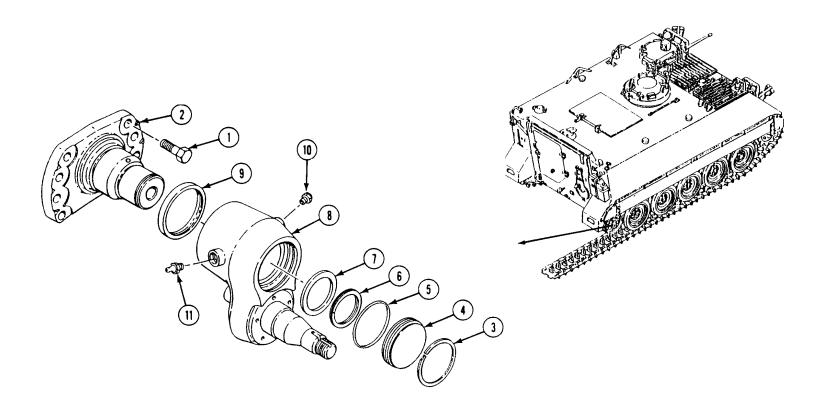
arm (WP 0378 00)

REPLACE IDLER WHEEL ARM ASSEMBLY — Continued

0377 00

REMOVAL

- 1. Remove eight screws (1) and idler wheel assembly (2) from hull.
- 2. Remove retaining ring (3) and access cover (4) from idler wheel assembly (2).
- 3. Remove preformed packing (5), retaining ring (6), and spacer (7) from idler wheel assembly (2). Discard preformed packing.
- 4. Remove idler arm (8) and seal (9) from idler wheel assembly (2). Discard seal.
- 5. Remove safety relief valve (10) and fitting (11) from idler arm (8).



CLEAN, INSPECT, AND REPLACE

- 1. Check fittings and safety relief valve for wear and damage. Replace if needed.
- 2. Clean and check retaining rings and spacer for damage. Replace if needed.

INSTALLATION

WARNING





Adhesive, primer, sealant compounds, and isopropyl alcohol are toxic and flammable. These compounds are toxic to eyes, skin, and respiratory tract. Continued exposure can make you dizzy and irritate your eyes and throat.

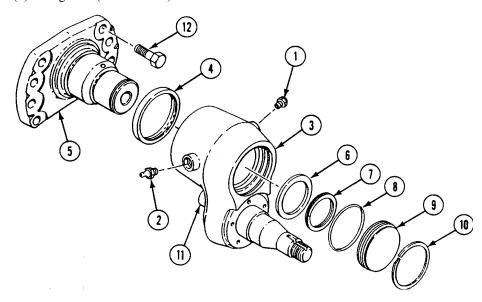
Always use in well ventilated areas, away from heat, sparks, and flames. Do not breathe fumes. Do not allow into contact with skin and eyes. Use goggles or face shield and protective gloves.

. Apply light coat of sealing compound on threads of safety relief valve (1) and fitting (2).

NOTE

Install grease fitting on the forward side of idler arm (WP 0120 00).

- 2. Install safety relief valve (1) and fitting (2) in idler arm (3).
- 3. Install new seal (4) and idler arm (3) on idler wheel assembly (5).
- 4. Install spacer (6), retaining ring (7), and new preformed packing (8) in idler arm (3).
- 5. Install access cover (9) and retaining ring (10) in idler arm (3).
- 6. Place track tension adjuster on shaft (11) at rear of idler arm (3). Align idler wheel assembly (5) with holes on hull. Secure with eight screws (12). TIGHTEN SCREWS TO 315-325 LB-FT (427-441 N·M) TORQUE. Use torque wrench.
- 7. Fill idler arm (3) with grease (WP 0120 00).



REPLACE IDLER WHEEL ARM ASSEMBLY — Continued

0377 00

FOLLOW-THROUGH STEPS

- 1. Connect track tension adjuster to idler arm (WP 0378 00).
- 2. Install road wheel hub (WP 0373 00).
- 3. Install idler wheel (WP 0375 00).
- 4. Connect track and adjust tension (see your -10).
- 5. Road test carrier to check that idler wheel arm is installed right (WP 0120 00).
- 6. Stop/shutdown engine (see your -10).

REPLACE TRACK TENSION ADJUSTER AND MOUNT

0378 00

THIS WORK PACKAGE COVERS:

Removal (page 0378 00-1). Clean, Inspect, and Replace (page 0378 00-2). Installation (page 0378 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque wrench adapter (WP 0780 00, Item 7) Torque wrench (WP 0780 00, Item 103)

Personnel Required

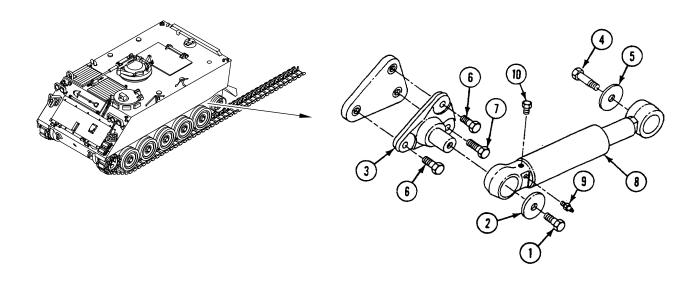
Unit Mechanic

Equipment Condition

Carrier on level surface Engine stopped/shutdown (see your -10) Carrier blocked (see your -10) Track disconnected (see your -10)

REMOVAL

- 1. Remove screw (1) and washer (2) from mount (3).
- 2. Remove screw (4) and washer (5) from shaft on idler arm.
- 3. Remove two screws (6) from mount (3). Loosen screw (7). Rotate mount and remove screw.
- 4. Pull track adjuster (8) down. Remove mount (3) from adjuster.
- 5. Remove adjuster (8) from shaft on idler arm.
- 6. Remove grease fitting (9) and relief valve (10) from adjuster (8).



CLEAN, INSPECT, AND REPLACE

1. Checking fittings and relief valve for wear and damage. Replace if needed.

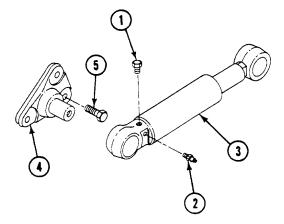
INSTALLATION

1. Install relief valve (1) and grease fitting (2) in track tension adjuster (3).

NOTE

Grease fitting and relief valve of track tension adjuster should be toward front of carrier. Make sure grease fitting is pointing out.

- 2. Place track adjuster (3) on shaft of idler arm.
- 3. Install mount (4) in front of adjuster (3). Raise adjuster and mount. Align hole in mount with hole in hull for screw (5).
- 4. Install screw (5) in mount (4). Tighten until snug.

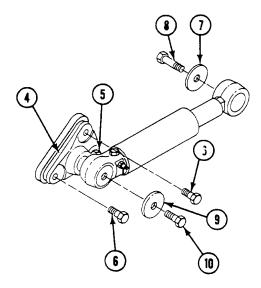


5. Rotate mount (4). Install two screws (6).

NOTE

When using torque wrench with torque wrench adapter, torque value must be corrected. Procedure for Converting forque value is in WP 0120 00.

- 6. TIGHTEN SCREW (5) AND TWO SCREWS (6) TO 130-140 LB-FT (176-190 N·M) TORQUE. Use torque wrench and adapter.
- 7. Install washer (7) and screw (8) in shaft idler arm. TIGHTEN SCREW TO 130-140 LB-FT (176-190 N·M) TORQUE. Use torque wrench.
- 8. Install washer (9) and screw (10) on mount (4). TIGHTEN SCREW TO 130-140 LB-FT (176-190 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Connect and adjust track (see your -10).
- 2. Road test carrier to check that adjuster is installed properly (WP 0120 00).

REPLACE SHOCK ABSORBER

0379 00

THIS WORK PACKAGE COVERS:

Removal (page 0379 00-1). Installation (page 0379 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Shock Remover (WP 0780 00, Item 54) Torque Wrench (WP 0780 00, Item 104)

Materials/Parts

Cotter pin (2)

Inner seal (2)

Outer seal (2)

Personnel Required

Unit Mechanic

Equipment Condition

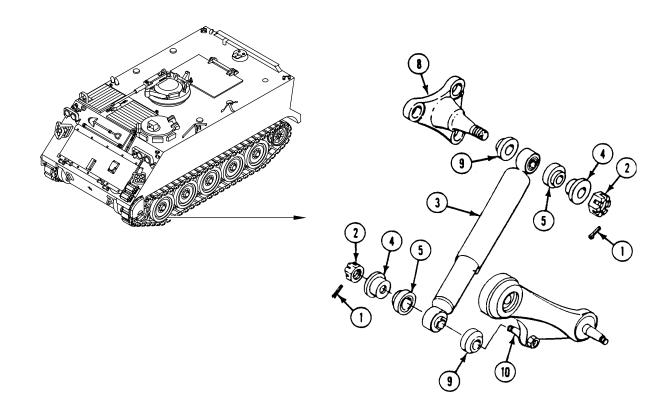
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

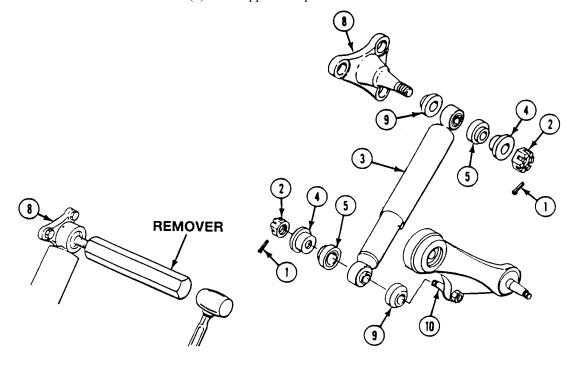
Remove road wheel for respective shock absorber (WP 0371 00)

REMOVAL

- 1. Remove two cotter pins (1) and nuts (2) securing shock absorber (3) to hull mount and road arm. Discard cotter pins.
- 2. Remove two shoulder washers (4) and outer seals (5) from both ends of shock absorber (3). Discard outer seals.



- 3. Position remover on hull mounting bracket (8). Hit remover with heavy hammer to loosen upper end of shock absorber (3). Remove remover. Remove shock absorber and inner seal (9) from hull mounting bracket. Discard seal.
- 4. Position remover on support arm pin (10). Hit remover with heavy hammer to loosen lower end of shock absorber (3). Remove shock absorber and inner seal (9) from support arm pin. Discard seal.



INSTALLATION

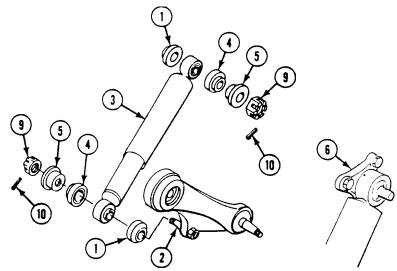
1. Install new inner seal (1) on support arm pin (2).

NOTE

Exercise new shock absorber to the fully extended position and move shock absorber back and forth several times until resistance can be felt throughout the entire length of the stroke.

Make sure shock absorber is installed with large end of bearings installed first.

- 2. Install shock absorber (3), new outer seal (4), and shoulder washer (5) on support arm pin (2).
- 3. Install new inner seal (1), shock absorber (3), new outer seal (4), and shoulder washer (5) on hull bracket (6).
- 4. Secure shock absorber (3) with two nuts (9).
- 5. TIGHTEN TWO NUTS (9) TO 60-80 LB-FT (81-109 N/M) TORQUE. Use for que wrench Secure with new cotter pins (10).



FOLLOW-THROUGH STEPS

- 1. ☐ Install road wheel (WP 0371 00).
- $2. \ \square \ \ Road \texttt{Test Carrier} \texttt{To Check} \texttt{That Shock} \texttt{ absorber} \texttt{Is linstalled} \texttt{ properly} \texttt{(WP 0120 00)}.$

REPLACE SHOCK ABSORBER PIN

0380 00

THIS WORK PACKAGE COVERS:

Removal (page 0380 00-1). Installation (page 0380 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench Set (WP 0780 00, Item 97) Torque Wrench (WP 0780 00, Item 105)

Materials/Parts

Locknut Wood blocks

Personnel Required

Unit Mechanic

Equipment Condition

Carrier on level surface

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

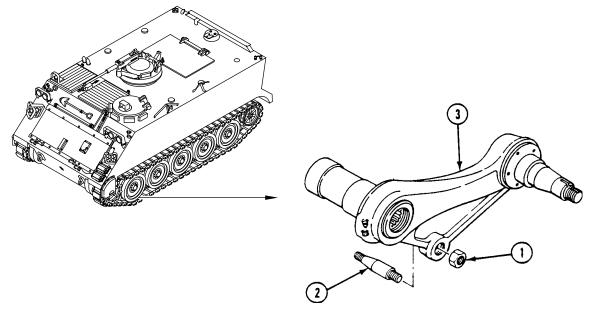
Respective road wheel removed (WP 0371 00)

Respective road wheel support arm removed

(WP 0374 00)

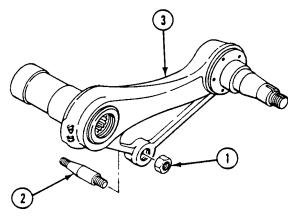
REMOVAL

- 1. Remove locknut (1) from pin (2). Discard locknut.
- 2. Place road wheel support arm (3) on wood blocks. Drive out pin (2) with a wood block and hammer.



INSTALLATION

1. Install pin (2) in road wheel support arm (3). Secure with new locknut (1). TIGHTEN LOCKNUT TO 210-230 LB-FT (283-310 N·M). Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Install road wheel support arm (WP 0374 00).
- 2. Install road wheel (WP 0371 00).
- 3. Road test carrier to check that shock absorber pin is installed properly (WP 0120 00).

REPLACE SHOCK ABSORBER MOUNT

0381 00

THIS WORK PACKAGE COVERS:

Removal (page 0381 00-1). Installation (page 0381 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 103)

Personnel Required

Unit Mechanic

Equipment Condition

Carrier on level surface

Engine stopped/shutdown (see your -10)

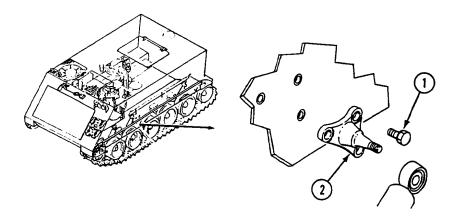
Carrier blocked (see your -10)

Respective road wheel removed (WP 0371 00)

Respective shock absorber removed (WP 0379 00)

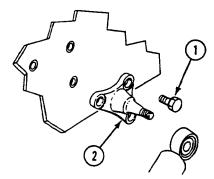
REMOVAL

- 1. Remove three screws (1) from shock absorber mount (2).
- 2. Remove mount (2) from hull.



INSTALLATION

- 1. Install mount (2) on hull.
- 2. Install three screws (1). TIGHTEN SCREWS TO 130-140 LB-FT (176-190 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Install shock absorber (WP 0379 00).
- 2. Install road wheel (WP 0371 00).

REPLACE T130 SPROCKET WHEEL ASSEMBLY

0382 00

THIS WORK PACKAGE COVERS:

Removal (page 0382 00-1). Clean, Inspect, and Replace (page 0382 00-2). Installation (page 0382 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench Set (WP 0780 00, Item 97) Torque Wrench (WP 0780 00, Item 105)

Materials/Parts

Lock bolts (20) Lock bolts (10)

Personnel Required

Unit Mechanic

References

TM 9-2350-261-24P

Equipment Condition

Carrier on level surface Engine stopped/shutdown (see your -10) Carrier blocked (see your -10) Track cover removed (WP 0365 00)

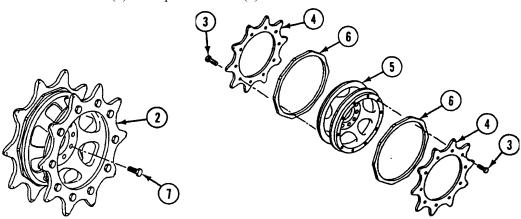
Track disconnected (see your -10)

REMOVAL

NOTE

The following maintenance procedure applies to one sprocket wheel assembly only. You will have one or two sprocket wheel assembly configurations. The oldest configuration uses a shorter bolt. Refer to TM 9-2350-261-24P for proper replacement part numbers.

- 1. Remove track from sprocket wheel assembly (2).
- 2. Remove ten lock bolts (7) and sprocket wheel assembly (2) from carrier. Discard lock bolts.
- 3. Remove 20 lock bolts (3) and two sprockets (4) from sprocket wheel (5). Discard lock bolts.
- 4. Remove two rubber cushions (6) from sprocket wheel (5).



5. If needed, repeat Steps 1 - 4 for other sprocket wheel assembly.

CLEAN, INSPECT, AND REPLACE

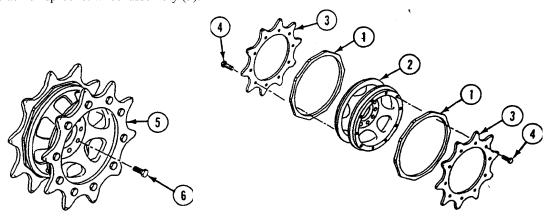
1. Check cushions and sprockets for wear and damage. Replace if needed.

INSTALLATION

NOTE

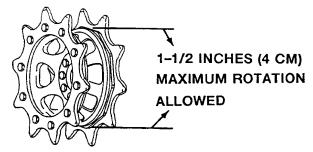
Make sure you use matching sprockets. New longer life sprockets are thicker and have one wear indicator on both sides of the sprocket teeth. Use as a set when replacing them on a sprocket wheel.

- 1. Place two cushions (1) on sprocket wheel (2). Center short flat areas between mounting holes in sprocket wheel rim. Press on cushion until firmly seated against flange of sprocket wheel.
- 2. Place two sprockets (3) on sprocket wheel (2). Secure with 20 new lock bolts (4). TIGHTEN LOCK BOLTS TO 110-115 LB-FT (149-156 N·M) TORQUE. Use torque wrench.
- 3. Install sprocket wheel assembly (5) on carrier. Secure with ten new lock bolts (6). TIGHTEN LOCK BOLTS TO 170-195 LB-FT (231-264 N·M) TORQUE. Use torque wrench.
- 4. Mark sprockets (3) and cushions (1) for rotation check after road test.
- 5. Place track on sprocket wheel assembly (5).



FOLLOW-THROUGH STEPS

- 1. Connect track and adjust tension (see your -10).
- 2. Install track cover (WP 0365 00).
- 3. Road test carrier to check that sprocket wheel assembly is installed properly (WP 0120 00).
- 4. After road test, check rotation of cushion with respect to sprockets. Measure from the outer edge of the cushion. Replace cushion that rotates beyond 1 1/2 inches (4 cm) of initial position.



REVERSE T150 SPROCKET WHEEL AND TRACK ASSEMBLIES

0383 00

THIS WORK PACKAGE COVERS:

Removal (page 0383 00-1). Installation (page 0383 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench (WP 0780 00, Item 97)

Torque Wrench (WP 0780 00, Item 105)

Materials/Parts

Self-locking screws (10)

Personnel Required

Unit Mechanic Helper (H)

Equipment Condition

Carrier on level surface

Engine stopped (see your -10)

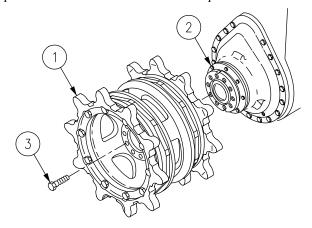
Carrier unblocked (see your -10)

Track disconnected (see your -10)

Carrier driven completely off tracks (see your -10)

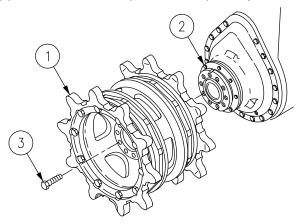
REMOVAL

1. Remove ten self-locking screws (3) and sprocket wheel assembly (1) from final drive (2). Lower sprocket wheel assembly to the ground. Repeat for other side of carrier. Have helper assist.

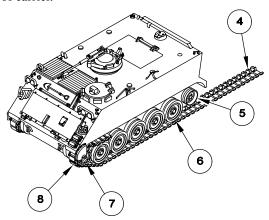


INSTALLATION

- 1. Move sprocket wheel assembly (1) to opposite side of carrier. Install sprocket wheel assembly (1) on final drive (2). Secure with ten self-locking screws (3). Repeat for other side of carrier. Have helper assist.
- 2. TIGHTEN TEN SCREWS (3) TO 170–190 LB-FT (231–258 N·M) TORQUE. Use torque wrench.

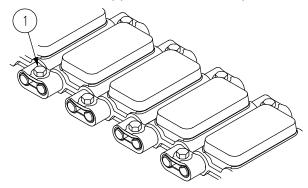


- 3. Reverse track direction. Use towing vehicle.
- 4. Align tracks in back of carrier. Tow disabled carrier onto tracks. Use towing vehicle.
- 5. Install tracks (8) on carrier.
 - a. (H): Notify driver in tow vehicle to stop when seven track shoes (4) have passed the fifth road wheel (6). Using a crowbar, position track (8) on sprockets (7). Notify driver to start carrier engine and slowly drive forward.
 - b. (H): Use crowbar to guide track (8) until over idler wheels (5). Notify driver to stop when three track shoes (4) remain before set of road wheels (6).
 - c. (H): Repeat for other side of carrier.



FOLLOW-THROUGH STEPS

- 1. Join track (see your -10).
- 2. TIGHTEN TWO END CONNECTOR BOLTS (1) TO 400–430 LB-FT (529–579 N·M) TORQUE. Use torque wrench.



 $3 \square Adjust \text{ track tension (see your } -10) \square$

4. Road test carrier to check that sprocket wheel and track assemblies are installed correctly (WP 0120 00).

REPAIR T150 SPROCKET WHEEL AND TRACK ASSEMBLIES

0384 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0384 00-1). Assembly (page 0384 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Socket Wrench (WP 0780 00, Item 97)

Torque Wrench (WP 0780 00, Item 103)

Torque Wrench (WP 0780 00, Item 105)

Materials/Parts

Self-locking screws (10)

Self-locking screws (20)

Personnel Required

Unit Mechanic

Helper (H)

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

Track cover removed (WP 0365 00)

Track broken between sprocket or fifth road wheel (see

your -10)

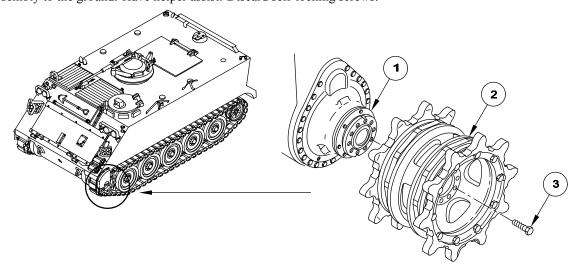
Track removed from drive sprockets (WP 0367 00)

DISASSEMBLY

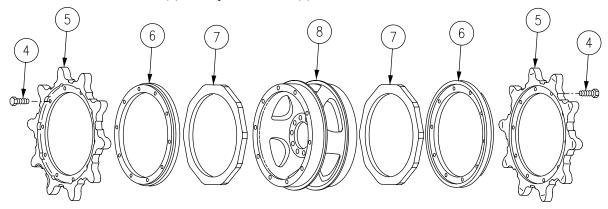
NOTE

Procedures for repairing left and right sprocket wheel assemblies are the same. Make sure you use matching sprockets. New longer life sprockets are thicker and have a wear indicator on both sides of the sprocket teeth. Use a set when replacing sprockets on a sprocket wheel.

1. Remove ten self-locking screws (3) and sprocket wheel assembly (2) from final drive (1). Lower sprocket wheel assembly to the ground. Have helper assist. Discard self-locking screws.



- 2. Remove 20 self-locking screws (4) two sprockets (5), and rings (6) from sprocket wheel (8). Discard self-locking screws.
- 3. Remove two rubber cushions (7) from sprocket wheel (8).

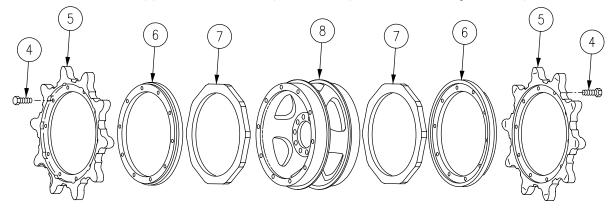


ASSEMBLY

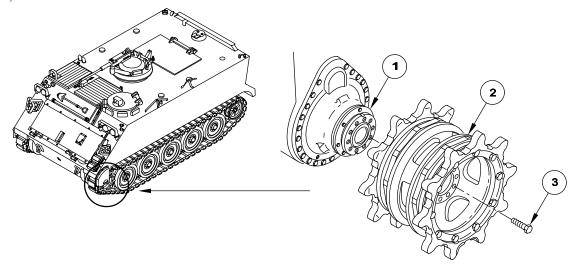
NOTE

Procedures for repairing left and right sprocket wheel assemblies are the same. Make sure you use matching sprockets. New longer life sprockets are thicker and have a wear indicator on both sides of the sprocket teeth. Use a set when replacing sprockets on a sprocket wheel.

- 1. Place two rubber cushions (7) on sprocket wheel (8). Center short flat areas between mounting holes in sprocket wheel rim. Press on rubber cushions until firmly seated against flange of carriers.
- 2. Install two rings (6), two sprockets (5), and 20 new self-locking screws (4) on sprocket wheel (8)
- $3 \hspace{-0.05cm} \square \hspace{-0.05cm} TIGHTEN \hspace{-0.05cm} \square \hspace{-0.05cm} OSCREWS \hspace{-0.05cm} \square \hspace{$

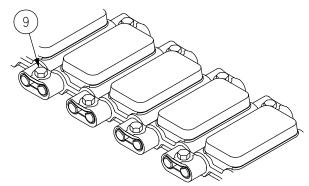


- 4. Place sprocket wheel assembly (2) on final drive (1). Secure with ten new self-locking screws (3). Have helper assist.
- 5. TIGHTEN TEN SCREWS (3) TO 170–190 LB-FT (231–258 N⋅M) TORQUE. Use torque wrench (WP 0780 00, Item 105).



FOLLOW-THROUGH STEPS

- 1. Install track on drive sprockets (WP 0367 00).
- 2. ☐ Join Track (see your -10).
- 3 III TIGHTEN TWO END CONNECTOR BOLTS (9) TO 400–430 ILB-FT (543–583 N·M) TORQUE. Use ftorque wrench (WP 0780 00, Item 105).



- 4. Adjust track tension (see your -10).
- 5. Install track cover (WP 0365 00).
- 6. Road test carrier to check that drive sprocket and cushion are installed correctly (see your -10).

REPLACE TORSION BAR

0385 00

THIS WORK PACKAGE COVERS:

Removal (page 0385 00-2). Installation (page 0385 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Adapter (WP 0780 00, Item 9)

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Puller (WP 0780 00, Item 49)

Road Wheel Lifter (T130) (WP 0780 00, Item 38)

Road Wheel Lifter (T150) (WP 0780 00, Item 39)

Socket Head Cap Screw (WP 0780 00, Item 64)

Socket Wrench Attachment (WP 0780 00, Item 99)

Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Grease (WP 0782 00, Item 24)

Personnel Required

Unit Mechanic

Helper (H)

References

WPI0120100

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier on level surface

Carrier blocked (see your -10)

Road wheel removed (WP 0371 00) (T130) or (WP 0372 00) (T150)

Shock absorber removed from second or fifth road wheel (WP 0379 00)

Remove power plant for first torsion bar, right side only (WP 0131 00)

Driver's front floor plate removed for first torsion bar, left side only (WP 0439 00)

Power plant rear access panel removed for second torsion bar, right side only (see your -10)

Driver's rear floor plate removed for second torsion bar, left side only (WP 0439 00)

Floor plates removed for third and fourth torsion bar (WP 0436 00)

Mortar turntable tread plates open (M1064 Only) for fifth torsion bar (see your -10)

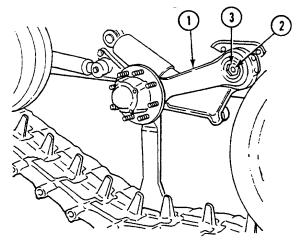
REMOVAL

WARNING

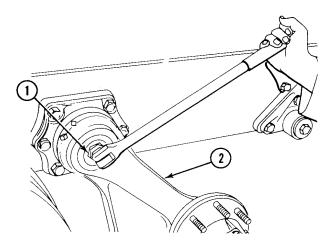


If road wheel lifter slips while lowering road arm, it could injure you. Stand clear before you lower road arm.

- 1. With road wheel removed and road arm raised on lifter, start engine (see your -10). Place range selector in 1. Slowly drive carrier forward off lifter so that road wheel support arm (1) hangs freely.
- 2. Remove screw (2) from plug (3).



3. Remove plug (1) from road wheel support arm (2). Use socket wrench attachment.



NOTE

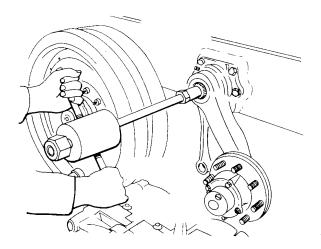
Special socket head cap screw is used with adapter.

4. Thread special screw through adapter.

NOTE

Screw is installed with head inside adapter.

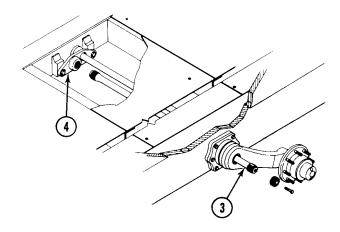
5. Thread adapter on puller, then thread adapter with screw into torsion bar.



CAUTION

When removing or installing torsion bars, the index or missing tooth on the anchor end of torsion bar must align with index on spline in road wheel arm, to allow bar to pass through.

- 6. Pull torsion bar (3) from torsion bar anchor (4). Use slide hammer on puller.
- 7. Remove puller and adapter from torsion bar.
- 8. If torsion bar (3) is broken, remove as follows:
 - a. Remove road wheel end of torsion bar in the same way as unbroken torsion bar.
 - b. Pull or drive end of broken bar from its splined seat in torsion bar anchor (4).



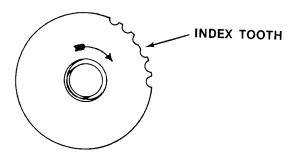
INSTALLATION

CAUTION

When removing or installing torsion bars, the index or missing tooth on the anchor end of torsion bar must align with index on spline in road wheel arm, to allow bar to pass through.

CAUTION

Align index or missing tooth on end of torsion bar with index on road wheel arm and torsion bar anchor before installing.



CAUTION

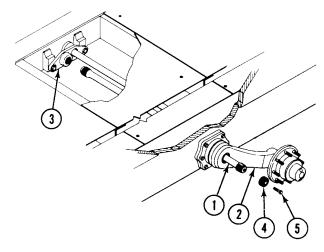
Handle torsion bar with care. Do not tear or cut wrapping.

NOTE

Left and right torsion bars are not interchangeable. To determine correct bar, place arrow on end of torsion bar outboard, with arrow at top. Arrow must point toward front of carrier.

- 1. Thread puller with adapter and screw into torsion bar.
- 2. Install torsion bar (1) through road wheel arm (2) and anchor (3). (H): Guide torsion bar into anchor to ensure proper alignment. Use slide hammer on puller to seat torsion bar.
- 3. Remove puller and adapter from torsion bar.
- 4. Put a light coat of grease on threads of plug (4) (WP 0120 00). Install plug in road wheel arm (2).
- 5. TIGHTEN PLUG (4) TO 50-75 LB-FT (68-102 N·M) TORQUE. Use torque wrench and socket wrench attachment.

6. Install screw (5) in plug (4).



NOTE

You may need to jack carrier, to raise road arm, before positioning road wheel lifter.

7. Position road wheel lifter (WP 0371 00) (T130) or (WP 0372 00) (T150).

FOLLOW-THROUGH STEPS

- 1. Install floor plates for third and fourth torsion bars (WP 0436 00).
- 2. Install driver's rear floor plate for second torsion bar, left side only (WP 0439 00).
- 3. Install power plant rear access panel for second torsion bar, right side only (see your -10).
- 4. Install driver's front floor plate for first torsion bar, left side only (WP 0439 00).
- 5. Install power plant for first torsion bar, right side only (WP 0131 00).
- 6. If removed, install shock absorber (WP 0379 00).
- 7. Install road wheel (WP 0371 00) (T130) or (WP 0372 00) (T150).
- 8 Road test carrier to check that torsion bar is installed properly (WP 0120 00).
- 9. ☐ Stop/shutdown engine (see your -10).

REPLACE TORSION BAR ANCHOR

0386 00

THIS WORK PACKAGE COVERS:

Removal (page 0386 00-2). Clean, Inspect, and Replace (page 0386 00-2). Installation (page 0386 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench Set (WP 0780 00, Item 97) Torque Wrench (WP 0780 00, Item 105)

Materials/Parts

Cotter pin (2) Preformed packing

Personnel Required

Unit Mechanic

Equipment Condition

Carrier on level surface

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Road wheel removed (WP 0371 00) (T130) or

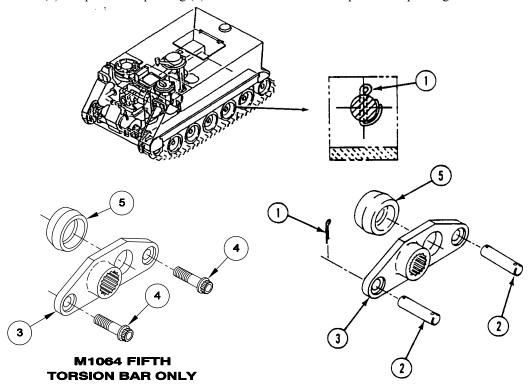
(WP 0372 00) (T150)

Torsion bar removed (WP 0385 00)

Power plant removed for second torsion bar, right side only (WP 0131 00)

REMOVAL

- 1. Remove two cotter pins (1) and pins (2) from torsion bar anchor (3). Discard cotter pins.
- 2. Remove two screws (4) from anchor (3) on fifth torsion bar anchors (M1064 only).
- 3. Remove anchor (3) and preformed packing (5) from hull mount. Discard preformed packing.



CLEAN, INSPECT, AND REPLACE

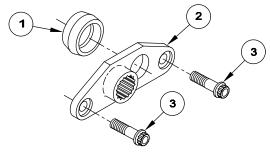
1. Check torsion bar anchor and pins for wear and damage. Replace if needed.

INSTALLATION

NOTE

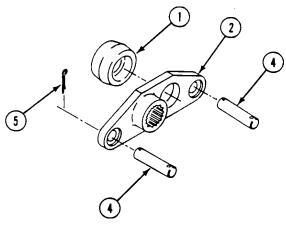
Preformed packing (1) is installed on third, fourth, and fifth anchor on all carriers.

- 1. Place new preformed packing (1) and torsion bar anchor (2) on hull mount.
- 2. Install two screws (3) in anchor (2) on fifth torsion bar anchor (M1064 only). TIGHTEN SCREWS TO 320-330 LB-FT (434-447 N·M) TORQUE. Use torque wrench.



M1064 FIFTH TORSION BAR ONLY

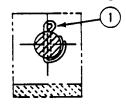
3. On all other carriers and torsion bar positions, install two pins (4) in anchor (2). Secure pins with two new cotter pins (5). Bend pins as shown.



NOTE

Cotter pins must not prevent 360 degree rotation of anchor pins.

4. Bend cotter pins (1) so they allow 360 degree rotation of anchor pins.



FOLLOW-THROUGH STEPS

- 1. Install torsion bar (WP 0385 00).
- 2. Install power plant for second torsion bar anchor, right side only (WP 0131 00).
- 3. Install road wheel (WP 0371 00) (T130) or (WP 0372 00) (T150).
- 4. Road test carrier to check that torsion bar anchor is installed properly (WP 0120 00).
- $5.\Box$ Stop/shutdown engine (see your -10).

TM 9-2350-261-20-2

CHAPTER 23

UNIT MAINTENANCE INSTRUCTIONS FOR DRIVER'S CONTROLS

WORK PACKAGE INDEX

Title	Sequence No.
ADJUST STEERING LINKAGE	0387 00
ADJUST BRAKE LOCKING PAWL	0388 00
REPAIR LEFT/RIGHT STEERING LEVERS	0389 00
REPLACE STEERING LEVERS CROSS-SHAFTS AND BEARINGS	0390 00
REPLACE STEERING LEVERS CROSS-SHAFT LINKS	0391 00
REPLACE DIFFERENTIAL CROSS-SHAFTS AND BEARINGS	0392 00
REPLACE DIFFERENTIAL CROSS-SHAFT LINKS	0393 00
REPLACE DIFFERENTIAL STEERING BRAKE LEVERS	0394 00
REPLACE LOWER ACCELERATOR PEDAL	0395 00
REPLACE UPPER ACCELERATOR PEDAL ASSEMBLY	0396 00
REPLACE TRANSMISSION AND LOWER ACCELERATOR LINKAGE	0397 00
REPAIR TRANSMISSION AND LOWER ACCELERATOR LINKAGE	0398 00
REPLACE UPPER ACCELERATOR LINKAGE	0399 00
REPAIR UPPER ACCELERATOR LINKAGE	0400 00
ADJUST ACCELERATOR AND TRANSMISSION THROTTLE VALVE LINKAGE	0401 00
REPLACE HAND THROTTLE	0402 00
REPLACE FUEL CUTOFF CONTROL CABLE ASSEMBLY	0403 00
REPLACE TRANSMISSION RANGE SELECTOR	0404 00
REPAIR TRANSMISSION RANGE SELECTOR	0405 00
REPLACE NEUTRAL START SWITCH	0406 00
REPLACE RANGE SELECTOR LINKAGE	0407 00
REPLACE ENGINE POWER DISCONNECT	0408 00
BLEED PIVOT STEER SYSTEM	0409 00
REPLACE PIVOT STEER HANDLES AND LINKS	0410 00
REPLACE PIVOT STEER BELLCRANKS AND BRACKETS	0411 00
REPLACE PIVOT STEER MASTER CYLINDERS AND HOSES	0412 00
REPLACE/REPAIR PIVOT STEER BRAKES, HOSES, TUBES, AND FITTINGS	0413 00
REPLACE PIVOT STEER BRAKE DISK	0414 00
ADILIST PIVOT STEER LINK AGE	0415.00

ADJUST STEERING LINKAGE

0387 00

THIS WORK PACKAGE COVERS:

Adjustment (page 0387 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (2)

Screw 3/8-16 x 2-1/2 (2)

Personnel Required

Unit Mechanic

Helper (H)

References

WP 0185 00

WP 0390 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Trim vane lowered (see your -10)

Power plant front access door open (see your -10)

Driver's power plant access cover removed

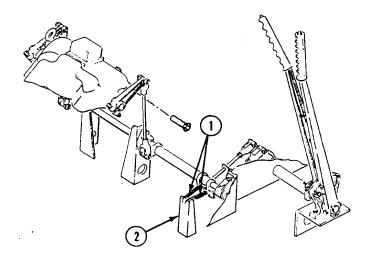
(WP 0430 00)

ADJUSTMENT

NOTE

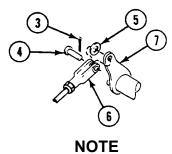
In most cases, adjustment of differential brake linkage is necessary only when a component of the control linkage has been repaired or replaced.

- 1. Remove air cleaner housing and element (WP 0185 00).
- 2. Unlock and release steering levers. Disconnect two return springs (1) from bracket (2).



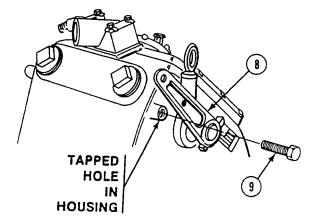
3. Remove cross-shaft access covers (WP 0390 00).

4. Remove two cotter pins (3), clevis pins (4), and washers (5) from two clevises (6) and steering lever cross-shaft (7). Discard cotter pins.

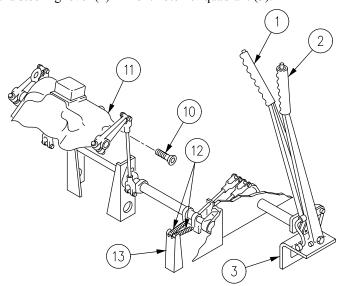


If holes in differential brake levers will not align with tapped holes in differential housing, loosen adjustment by turning brake adjusting nut to left until holes align. Re-adjust differential brakes (WP 0362 00).

5. Align holes in differential brake levers (8) with tapped holes in differential housing. Secure with two screws (9).



6. Lock steering lever (1) and steering lever (2) in front notch of quadrant (3).

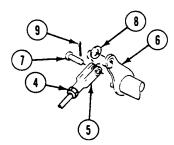


7. Loosen two jamnuts (4) and turn two clevises (5) until clevis holes align with steering lever cross-shaft (6) holes.

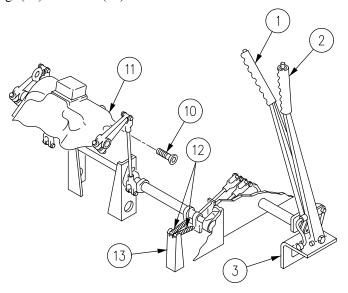
NOTE

Before installing clevis pin through clevis and cross shaft levers, ensure stoplight switch lever is on proper side of linkage tab (the side toward front of carrier); then check and adjust stoplight switch if necessary (WP 0290 00).

- 8. Install clevises (5) to steering cross-shaft (6). Secure with two clevis pins (7), washers (8), and new cotter pins (9).
- 9. Tighten two jamnuts (4).



- 10. Remove two screws (10) from differential brake levers (11). Release steering lever to full forward position.
- 11. Connect two return springs (12) to bracket (13).



- 12. Install linkage access covers (WP 0390 00).
- 13. Install air cleaner housing and element (WP 0185 00).

FOLLOW-THROUGH STEPS

- 1. Perform differential brake adjustment (WP 0362 00).
- 2. Close power plant front access door and raise trim vane (see your -10).
- 3. Install driver's power plant access cover (WP 0430 00).
- 4. Raise and lock ramp (see your -10).
- 5. Unlock steering levers. Operate carrier to check that steering brakes operate properly.
- 6. Stop/shutdown engine (see your -10).

ADJUST BRAKE LOCKING PAWL

0388 00

THIS WORK PACKAGE COVERS:

Adjustment (page 0388 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Drill Set (WP 0780 00, Item 23)

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (2)

Locknut (2)

Spring pin (4)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door

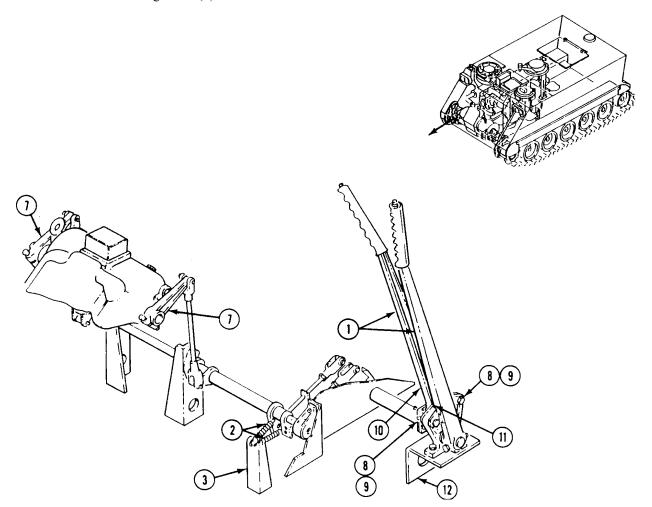
open (see your -10)

Driver's seat removed (WP 0478 00)

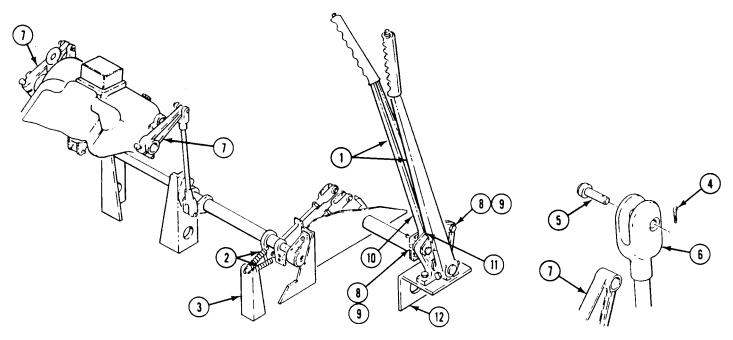
Remove air cleaner housing and element (WP 0185 00)

ADJUSTMENT

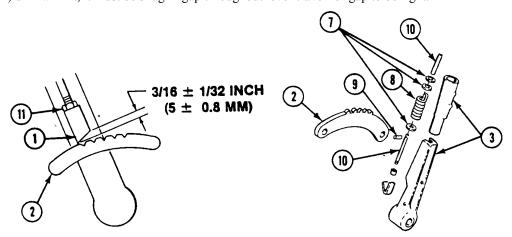
1. Unlock both steering levers (1).



- 2. Disconnect two return springs (2) from bracket (3).
- 3. Remove two cotter pins (4) and two clevis pins (5) from two clevises (6) and differential brake levers (7). Discard cotter pins.
- 4. Remove two screws (8), locknuts (9), two quadrants (10), and stops (11) from bracket (12). Discard locknuts.
- 5. Place quadrants (10) and stops (11) on bracket (12). Install screws (8) and new locknuts (9); push down on quadrants while screws and locknuts are tightened.



6. Check gap between pawls (1) and top of quadrants (2) while moving steering levers (3) from front to back. Use 5/32, 3/16. and 7/32 inch (4, 5, and 6 mm) diameter drill bit shanks to check gap. Clearance should be between 5/32 (4 mm) and 7/32 (6 mm). If 5/32 or 3/16 inch (4 and 5 mm) drills will fit but 7/32 inch (6 mm) drill will not, gap is right. If 7/32 inch (6 mm) drill will fit, it must be snug in gap throughout lever travel for gap to be right.

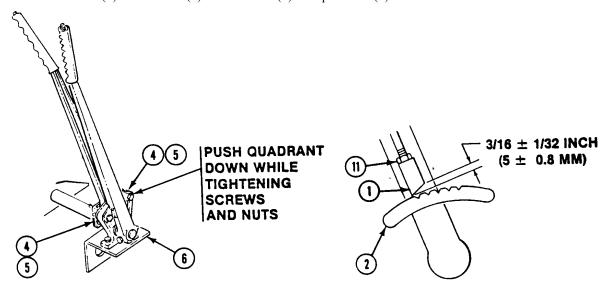


7. If gap is wrong, do Steps 8 - 16 while referring to pawl adjustment chart. If gap is correct, go to Step 17.

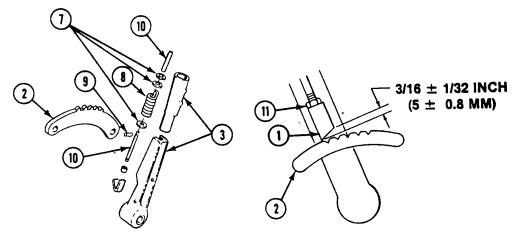
PAWL ADJUSTMENT CHART

GAP	BETW	ON DRILL BITS TO ME EEN PAWL AND QUAI	DRANT
,	4		В
DRILL DIA IN	METRIC DIA MM		MOVE
1/32	0.8	•	5 FULL TURNS
1/16	2		4 FULL TURNS
3/32	2		3 FULL TURNS
1/8	3		2 FULL TURNS
5/32	4		1 FULL TURN
3/16	5		0 TURNS
7/32	6		BACK 1 FULL TURN

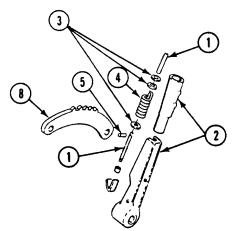
- 8. Loosen front quadrant screw (4) and locknut (5) that secure quadrants (2) to bracket (6).
- 9. Remove rear screw (4) and locknut (5) from bracket (6) and quadrants (2).



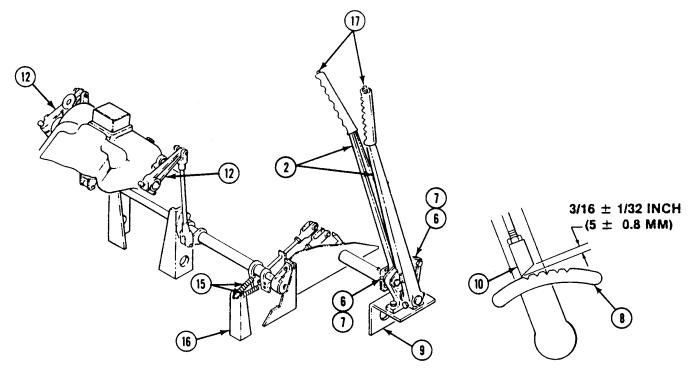
- 10. Remove three washers (7), spring (8), and two spring pins (9) from plunger rod (10), and remove rod from steering lever (3). Discard spring pins.
- 11. Loosen pawl jamnuts (11) to adjust pawl (1) to quadrant clearance.
- 12. Set clearance between 5/32 inch (4 mm) and 7/32 inch (6 mm). Then tighten jamnuts (11). One complete turn will move pawl (1) 1/32 inch (0.8 mm).



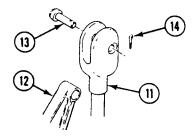
13. Place plunger rods (1) back in steering levers (2). Secure each rod with three washers (3), spring (4), and two new spring pins (5).



- 14. Install rear screw (6) and locknut (7) in quadrants (8) and bracket (9).
- 15. Push quadrants (8) completely down. Tighten two screws (6) and locknuts (7).
- 16. Check gap between pawls (10) and quadrants (8) while moving steering levers (2) as in Step 6.



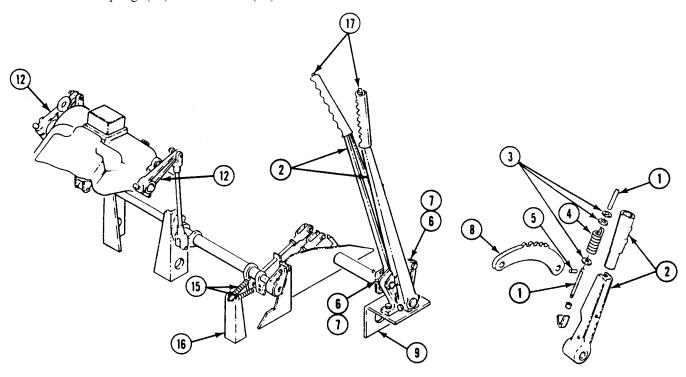
17. Install two clevises (11) to two differential brake levers (12). Secure with two clevis pins (13) and new cotter pins (14).



CAUTION

Make sure button (17) on top of steering levers (2) works freely. Pawl (9) must fully engage quadrant with steering lever back and button pressed. Button must pop up and pawl disengage from quadrant with slight pull on steering lever. Plunger rods (1) must move freely without binding.

18. Connect two springs (15) to hull bracket (16).



FOLLOW-THROUGH STEPS

- 1. Install air cleaner housing and element (WP 0185 00).
- 2. Close power plant front access door and raise trim vane (see your -10).
- 3. Install driver's seat (WP 0478 00).
- 4. Operate carrier (see your -10). Check that steering brakes operate properly.

REPAIR LEFT/RIGHT STEERING LEVERS

0389 00

THIS WORK PACKAGE COVERS:

Removal (page 0389 00-1) Clean, Inspect, and Replace (page 0389 00-3). Installation (page 0389 00-4)

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Snap Ring Pliers (WP 0780 00, Item 45) Socket Wrench Set (WP 0780 00, Item 96) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Locknut (2)

Locknut (2)

Locknut (2)

Spring pin (3)

Personnel Required

Unit Mechanic

Equipment Condition

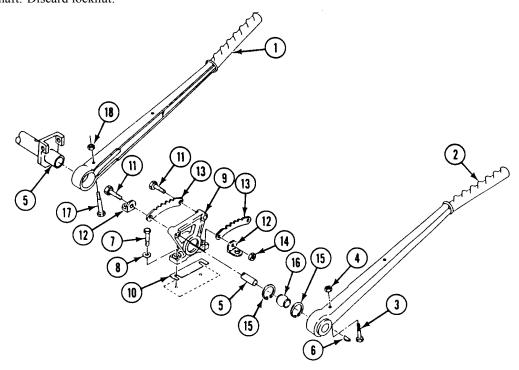
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Driver's seat removed (WP 0478 00)

REMOVAL

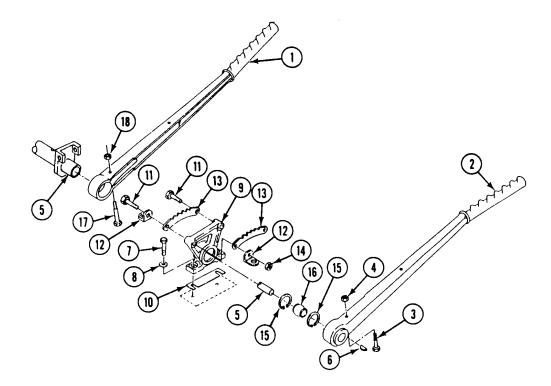
- 1. Place right steering lever (1) and left steering lever (2) full forward, in released position.
- 2. Remove screw (3), locknut (4), and left steering lever (2) from cross-shaft (5). Remove woodruff key (6) from cross-shaft. Discard locknut.



NOTE

The same number of shims removed will be installed.

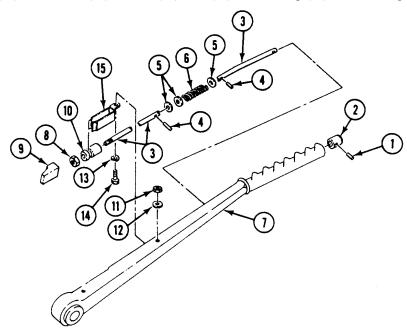
- 3. Remove two screws (7), washers (8), bracket (9), and shims (10) from driver's floor plate.
- 4. Remove bracket (9) from cross-shaft (5).
- 5. Remove two screws (11), two stop levers (12), two quadrants (13) and two locknuts (14) from bracket (9). Discard locknuts.
- 6. Remove two retaining rings (15), one bearing (16) from inside bracket (9).
- 7. Remove screw (17), locknut (18), and right steering lever (1) from cross-shaft (5). Discard locknut.



NOTE

Both right and left steering levers, in this section are removed and installed the same way.

- 8. Remove spring pin (1) from plunger (2). Remove plunger from rod (3). Discard spring pin.
- 9. Remove two spring pins (4) from rod (3). Discard spring pins.
- 10. Remove rod (3), three washers (5), and spring (6) from lever arm (7).
- 11. Remove nut (8), pawl (9), and nut sleeve (10) from rod (3).
- 12. Remove locknut (11), flat washer (12), washer (13), bolt (14), and rod clip (15) from steering lever (7). Discard locknut.

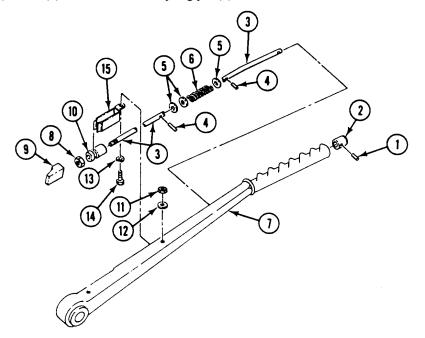


CLEAN, INSPECT, AND REPLACE

- 1. Check lever arm, button, and spring. Replace cracked or broken parts.
- 2. Check all threads. Replace parts with stripped threads.
- 3. Check pawl. Replace nicked or worn pawl.
- 4. Check bearing, bracket, retaining rings, and quadrants for wear or damage. Replace all damaged parts.

INSTALLATION

- 1. Install rod clip (15) on steering lever (7). Secure with bolt (14), flat washer (12), washer (13), and new locknut (11).
- 2. Install nut sleeve (10), nut (8), and pawl (9) on rod (3).
- 3. Install three washers (5) and spring (6) on rod (3).
- 4. Install parts assembled in Steps 2 3 on steering lever (7). Secure with two new spring pins (4).
- 5. Install plunger (2) in rod (3). Secure with new spring pin (1).

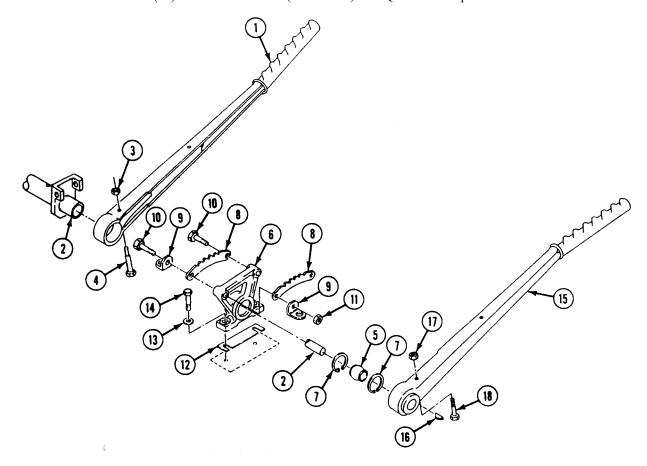


- 6. Install right steering lever (1) on cross-shaft (2). Secure with new locknut (3), and screw (4).
- 7. Install bearing (5) in bracket (6) and secure with two retaining rings (7). Use snap ring pliers.
- 8. Install two quadrants (8) and stop levers (9) on bracket (6) with two screws (10) and new locknuts (11).

NOTE

The same number of shims removed will be installed.

- 9. Install bracket (6) on cross-shaft (2). Install shims (12) between bracket (6) and driver's floor plate. Secure with two washers (13) and screws (14).
- 10. Install left steering lever (15) on cross-shaft (2). Secure with woodruff key (16), new locknut (17), and screw (18).
- 11. TIGHTEN LOCKNUT (17) TO 204-240 LB-IN (23-27 N·M) TORQUE. Use torque wrench.



REPAIR LEFT/RIGHT STEERING LEVERS — Continued

0389 00

FOLLOW-THROUGH STEPS

- 1. Adjust brake locking pawl (WP 0388 00).
- 2. Install driver's seat (WP 0478 00).
- 3. Operate carrier (see your -10). Check that steering levers operate properly.

REPLACE STEERING LEVERS CROSS-SHAFTS AND BEARINGS

0390 00

THIS WORK PACKAGE COVERS:

Removal (page 0390 00-1). Installation (page 0390 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Snap Ring Pliers (WP 0780 00, Item 45)

Materials/Parts

Cotter pin (2)

Gasket

Locknut (2)

Locknut (2)

Locknut (5)

Spring pin (3)

Tapered pin (2)

Personnel Required

Unit Mechanic

References

WP 0120 00

WP 0387 00

WP 0388 00

WP 0389 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Trim vane lowered and power plant front access door

open (see your -10)

Driver's power plant access panel removed

(WP 0430 00)

Air cleaner housing and element removed

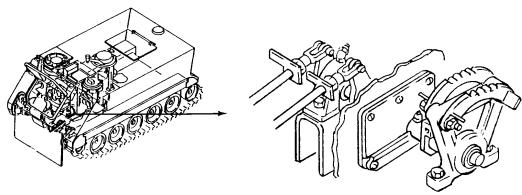
(WP 0185 00)

Oil can bracket removed (WP 0524 00)

Driver's seat removed (WP 0478 00)

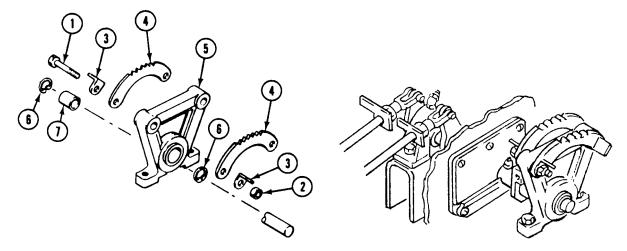
REMOVAL

- 1. Disconnect two return springs (WP 0387 00).
- 2. Remove steering levers, bracket, and shim (WP 0389 00).

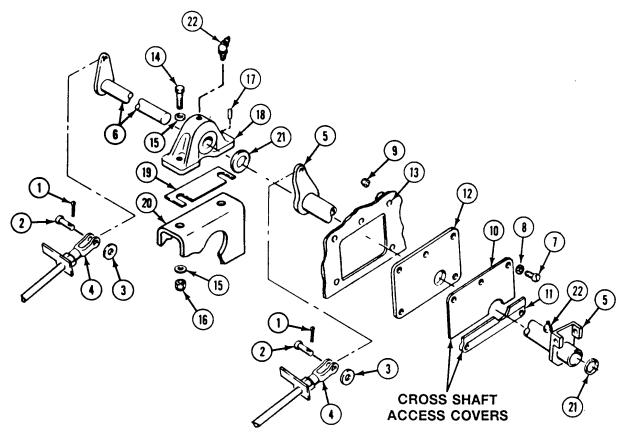


0390 00

- 3. Remove two screws (1), locknuts (2), stops (3), and quadrants (4) from bracket (5). Discard locknuts.
- 4. Remove two retaining rings (6) and bearing (7) from bracket (5).



- 5. Remove two cotter pins (1), clevis pins (2), and washers (3) that secure two clevises (4) to cross shaft (5) and cross shaft (6). Discard cotter pins.
- 6. Remove five screws (7), washers (8), and locknuts (9) that secure cover (10), cover (11), and gasket (12) to five press nuts (13) in power plant compartment bulkhead. Discard gasket and locknuts.
- 7. Remove two screws (14), washers (15), locknuts (16), tapered pins (17), arm bearing (18), and shim (19) from bracket (20). Discard tapered pins and locknuts.
- 8. Remove cross-shaft (5), cross-shaft (6), and arm bearing (18) as a unit through power plant compartment bulkhead.
- 9. Separate cross-shaft (5), cross-shaft (6), arm bearing (18), and two thrust washers (21).
- 10. Remove lubrication fittings (22) from arm bearing (18) and cross-shaft (5).

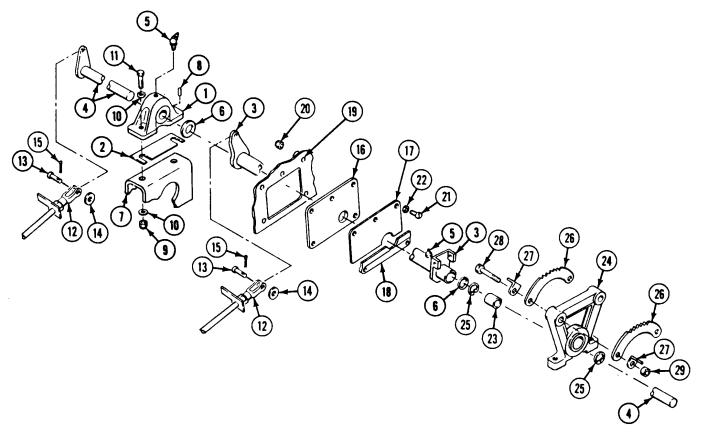


INSTALLATION

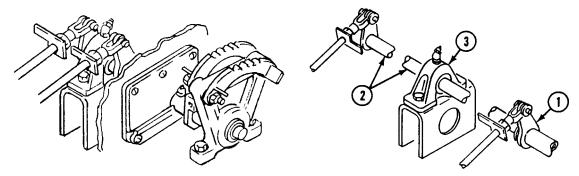
NOTE

If arm bearing (1) is to be replaced, use shim (2) as a template to locate and drill two .250-.252 inch (6 mm) holes in base of new bearing before installation. If there is no shim, make template from old bearing.

- 1. Assemble cross-shaft (3), cross-shaft (4), arm bearing (1), lube fittings (5), and two thrust washers (6) as a unit. Install through power plant compartment bulkhead opening.
- 2. Place shim (2) and bearing (1) on bracket (7). Secure with two new tapered pins (8), new locknuts (9), washers (10), and screws (11).
- 3. Install two clevises (12) on cross-shaft (3) and cross-shaft (4). Secure with two clevis pins (13), washers (14) and new cotter pins (15).
- 4. Install new gasket (16), cover (17), and cover (18) on five press nuts (19) in power plant compartment bulkhead. Secure with five new locknuts (20), screws (21), and washers (22).
- 5. Install bearing (23) in bracket (24). Secure with two retaining rings (25). Use snap ring pliers.
- 6. Install two quadrants (26) and stops (27) on bracket (24). Secure with two screws (28) and new locknuts (29).



- 7. Install steering levers, bracket, and shim (WP 0389 00).
- 8. Adjust brake locking pawl (WP 0388 00).
- 9. Lubricate cross-shaft (1), cross-shaft (2), and arm bearing (3) (WP 0120 00).



10. Connect two return springs (WP 0387 00).

FOLLOW-THROUGH STEPS

- 1. Install oil can bracket (WP 0524 00).
- 2. Install air cleaner housing and element (WP 0185 00).
- 3. Close power plant front access door and raise trim vane (see your -10).
- 4. Install driver's power plant access panel (WP 0430 00).
- 5. Install driver's seat (WP 0478 00).
- 6. Raise and lock ramp (see your -10).
- 7. Operate carrier (see your -10). Check that steering operates properly.
- 8. Stop/shutdown engine (see your -10).

REPLACE STEERING LEVERS CROSS-SHAFT LINKS

0391 00

THIS WORK PACKAGE COVERS:

Removal (page 0391 00-1). Clean, Inspect, and Replace (page 0391 00-2). Installation (page 0391 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (4)

Personnel Required

Unit Mechanic

References

WP 0290 00

WP 0387 00

WP 0390 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

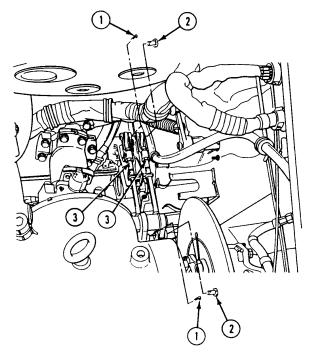
Driver's power plant access panel removed (WP 0430 00)

Brakes released, steering levers full forward (see your -10)

Air cleaner housing and element removed (WP 0185 00) Oil can bracket removed (WP 0524 00)

REMOVAL

- 1. Disconnect two return springs (WP 0387 00).
- 2. Remove cross-shaft cover from power plant compartment bulkhead (WP 0390 00).
- 3. Remove four cotter pins (1), clevis pins (2), and two links (3) from steering levers and differential cross-shafts. Discard cotter pins.

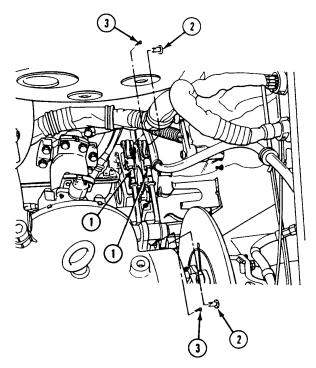


CLEAN, INSPECT, AND REPLACE

- 1. Check links. Replace links with cracks, breaks, or stripped threads.
- 2. Check link clevises. Replace link clevises with cracks or worn mounting holes.
- 3. Check clevis pins. Replace worn or grooved clevis pins.
- 4. Check stop light tangs. Replace links with cracked or broken tangs.

INSTALLATION

1. Install two links (1) on steering levers and differential cross-shafts. Secure with four clevis pins (2) and four new cotter pins (3).



- 2. Adjust linkage (WP 0387 00).
- 3. Adjust stoplight switch (WP 0290 00).
- 4. Connect two return springs (WP 0387 00).
- 5. Install cross-shaft covers on power plant compartment bulkhead (WP 0390 00).

FOLLOW-THROUGH STEPS

- 1. Install oil can bracket (WP 0524 00).
- 2. Install air cleaner housing and element (WP 0185 00).
- 3. Install driver's power plant access panel (WP 0430 00).
- 4. Close power plant front access door and raise trim vane (see your -10).
- 5. Operate carrier (see your -10). Check that steering operates properly.

REPLACE DIFFERENTIAL CROSS-SHAFTS AND BEARINGS

0392 00

THIS WORK PACKAGE COVERS:

Removal (page 0392 00-2). Clean, Inspect, and Repair (page 0392 00-3). Installation (page 0392 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Snap Ring Pliers (WP 0780 00, Item 45)

Materials/Parts

Cotter pin (4) Locknut (3) Locknut (4)

Personnel Required

Unit Mechanic Helper (H) References

WP 0120 00 WP 0387 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door

open (see your -10)

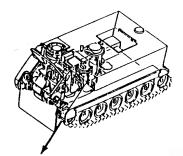
Air cleaner housing and element removed

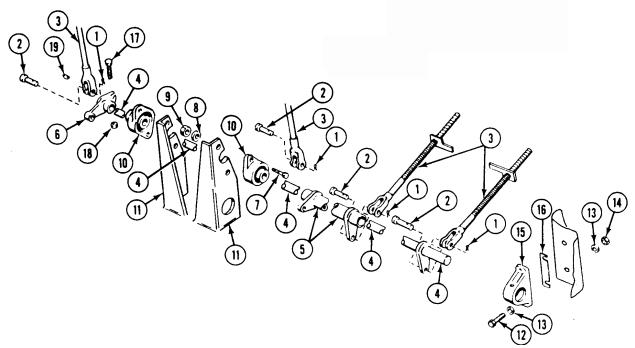
(WP 0185 00)

Oil can bracket removed (WP 0524 00)

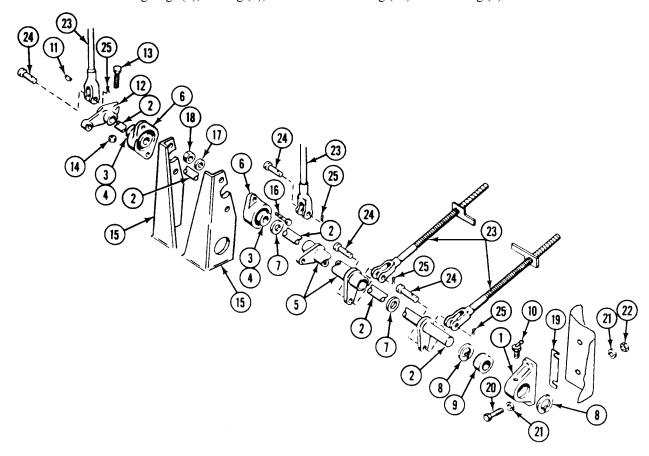
REMOVAL

- 1. Disconnect two return springs (WP 0387 00).
- 2. Remove four cotter pins (1), clevis pins (2), and links (3) from differential and steering lever cross-shaft (4), cross-shaft (5), and link arm (6). Discard cotter pin.
- 3. Remove four screws (7), washers (8), and locknuts (9) that secure two bearings (10) to two brackets (11). Discard locknuts.
- 4. Remove two screws (12), four washers (13), and two locknuts (14) that secure bearing (15) and shim (16) to driver's compartment bulkhead. Discard locknuts.
- 5. Remove differential and steering cross-shaft (4), cross-shaft (5), bearing (10), bearing (15), and link arm (6) from power plant compartment as a unit.
- 6. Remove screw (17), locknut (18), and link arm (6) from cross-shaft (4). Remove woodruff key (19) from cross-shaft. Discard locknut.





- 7. Remove bearing (1) from cross-shaft (2).
- 8. Loosen four set screws (3) in two bearing collars (4).
- 9. Separate cross-shaft (2), cross-shaft (5), two bearings (6), and two thrust washers (7).
- 10. Remove two retaining rings (8), bearing (9), and lubrication fitting (10) from bearing (1).

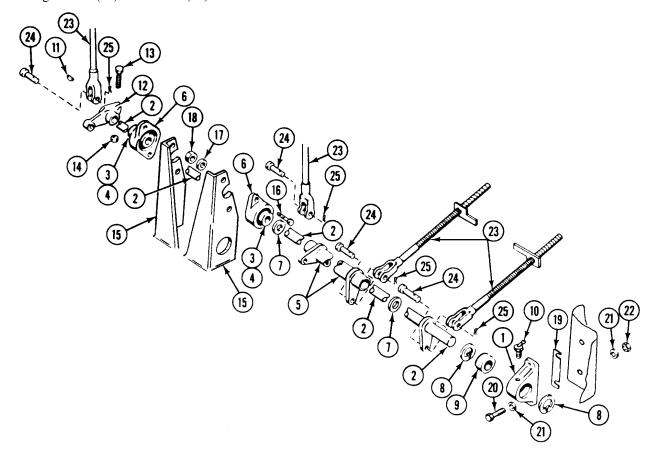


CLEAN, INSPECT, AND REPAIR

- 1. Check links. Replace links with cracks, breaks, or stripped threads.
- 2. Check bearings, retaining rings, and fittings for cracks or wear. Replace damaged parts.

INSTALLATION

- 1. Install bearing (9) in bearing (1). Secure with two retaining rings (8).
- 2. Install lubrication fitting (10) in bearing (1).
- 3. Assemble cross-shaft (2), cross-shaft (5), two bearings (6), two thrust washers (7), bearing (1), woodruff key (11), and link arm (12).
- 4. Install screw (13) and new locknut (14) in link arm (12). Do not tighten nut.
- 5. Place cross-shaft (2), cross-shaft (5), two bearings (6), and bearing (1) as a unit on two brackets (15).
- 6. Install two bearings (6) on two brackets (15). Secure with four screws (16), washers (17), and new locknuts (18).
- 7. Install bearing (1) and shim (19) to driver's compartment bulkhead. Secure with two screws (20), four washers (21), and two new locknuts (22).
- 8. Install four links (23) to cross-shaft (2), cross-shaft (5), and link arm (12). Secure with four clevis pins (24) and new cotter pins (25).
- 9. Tighten four set screws (3) in two bearing collars (4).
- 10. Tighten nut (14) on link arm (12).



REPLACE DIFFERENTIAL CROSS-SHAFTS AND BEARINGS — Continued

0392 00

- 11. Lubricate bearing (WP 0120 00).
- 12. Connect two return springs (WP 0387 00).

FOLLOW-THROUGH STEPS

- 1. Install oil can bracket (WP 0524 00).
- 2. Install air cleaner housing and element (WP 0185 00).
- 3. Close power plant front access door and raise trim vane (see your -10).
- 4. Operate carrier (see your -10). Check that differential cross-shafts and bearings operate properly.

REPLACE DIFFERENTIAL CROSS-SHAFT LINKS

0393 00

THIS WORK PACKAGE COVERS:

Removal (page 0393 00-1). Clean, Inspect, and Repair (page 0393 00-2). Installation (page 0393 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (4)

Personnel Required

Unit Mechanic

References

WPI0387100

Equipment Condition

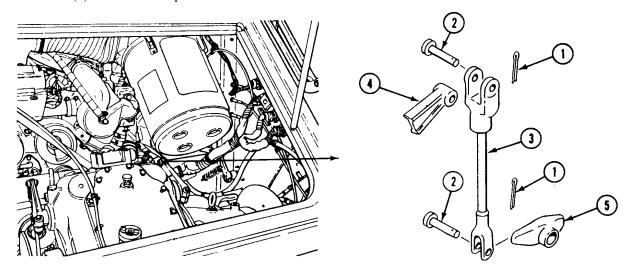
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

REMOVAL

- 1. Disconnect two return springs (WP 0387 00).
- 2. Remove four cotter pins (1), clevis pins (2), and two links (3) from differential steering levers (4) and differential cross-shafts (5). Discard cotter pins.

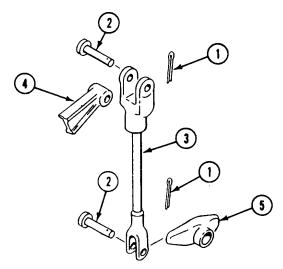


CLEAN, INSPECT, AND REPAIR

- 1. Check link rods. Replace cracked, bent, or broken links.
- 2. Check link clevises. Replace links with cracked or worn mounting holes.
- 3. Check clevis pins. Replace worn or grooved clevis pins.
- 4. Check springs. Replace cracked or worn springs.

INSTALLATION

1. Install two links (3) to differential steering levers (4) and differential cross-shafts (5). Secure with four clevis pins (2) and new cotter pins (1).



- 2. Adjust linkage (WP 0387 00).
- 3. Connect two return springs (WP 0387 00).

FOLLOW-THROUGH STEPS

- 1. Close power plant front access door and raise trim vane (see your -10).
- 2. Operate steering levers to check that differential cross-shaft links operate properly.

REPLACE DIFFERENTIAL STEERING BRAKE LEVERS

0394 00

THIS WORK PACKAGE COVERS:

Removal (page 0394 00-1). Clean, Inspect, and Repair (page 0394 00-2). Installation (page 0394 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Socket Wrench Set (WP 0780 00, Item 96) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Locknut (2)

Personnel Required

Unit Mechanic

References

WP 0387 00 WP 0393 00

Equipment Condition

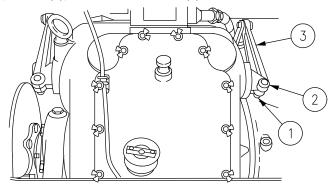
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

REMOVAL

- 1. Disconnect two return springs (WP 0387 00).
- 2. Disconnect two differential links (WP 0393 00).
- 3. Remove two locknuts (1), screws (2), and two brake levers (3) from differential brake lever shafts. Discard locknuts.

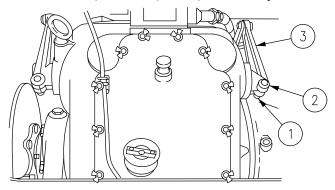


CLEAN, INSPECT, AND REPAIR

- 1. Check levers. Replace levers with cracked or worn clevis pin holes.
- 2. Check levers. Replace levers with damaged or chipped splines.

INSTALLATION

- 1. Install two levers (3) on differential brake lever shafts. Secure with two screws (2) and new locknuts (1).
- 2. TIGHTEN NUTS (1) TO 360-420 LB-IN (41-48 N·M) TORQUE. Use torque wrench.



- 3. Connect two differential links (WP 0393 00).
- 4. Adjust linkage (WP 0387 00).
- 5. Connect two return springs (WP 0387 00).

FOLLOW-THROUGH STEPS

- 1. Close power plant front access door and raise trim vane (see your -10).
- 2. Operate steering levers to check that differential steering brake levers operate properly.

REPLACE LOWER ACCELERATOR PEDAL

0395 00

THIS WORK PACKAGE COVERS:

Removal (page 0395 00-1). Inspection-Acceptance and Rejection Criteria (page 0395 00-1). Installation (page 0395 00-2). Adjustment (page 0395 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (2)

Personnel Required

Unit Mechanic

References

See your -10

Equipment Condition

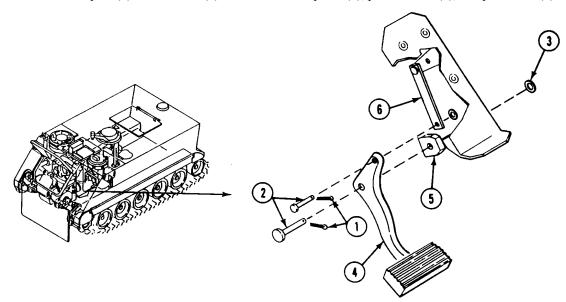
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Driver's seat removed (WP 0478 00)

REMOVAL

- 1. Remove two cotter pins (1) from headed pins (2). Discard cotter pins.
- 2. Remove two headed pins (2) and washers (3) from accelerator pedal (4), pedal mount (5), and pedal link (6).

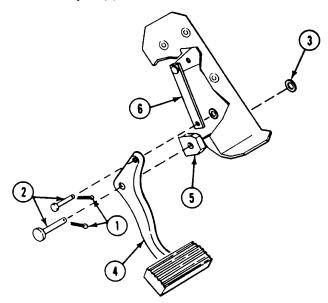


INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check pins, pedal mount, and pedal link. Replace parts that are cracked or have worn pivot holes.

INSTALLATION

- 1. Connect accelerator pedal (4) to pedal mount (5) and pedal link (6) with headed pins (2) and washers (3).
- 2. Secure headed pins (2) with new cotter pins (1).



ADJUSTMENT

 $1.\Box$ Startlengine (see your $\Box 10$). Adjust accelerator pedal, liftneeded (WP $\Box 040100$).

FOLLOW-THROUGH STEPS

- 1. Install driver's seat (WP 0478 00).
- 2. Raise and lock ramp (see your -10).
- 3. Stop/shutdown engine (see your -10).

REPLACE UPPER ACCELERATOR PEDAL ASSEMBLY

0396 00

THIS WORK PACKAGE COVERS:

Removal (page 0396 00-1). Inspection-Acceptance and Rejection Criteria (page 0396 00-2). Installation (page 0396 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Weighing Scale (WP 0780 00, Item 63)

Materials/Parts

Locknut

Locknut (2)

Personnel Required

Unit Mechanic

References

WP 0401 00

Equipment Condition

Carrier blocked (see your -10)

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

Trim vane lowered and power plant front access door opened (see your -10)

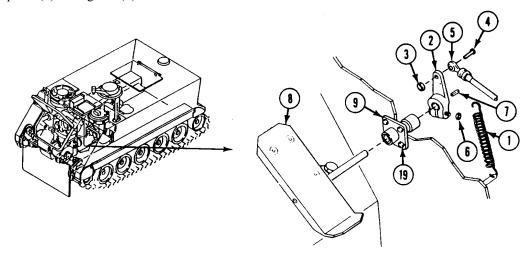
Driver's power plant access panel removed (WP 0430 00)

Driver's seat removed (WP 0478 00)

Remove lower accelerator pedal (WP 0395 00)

REMOVAL

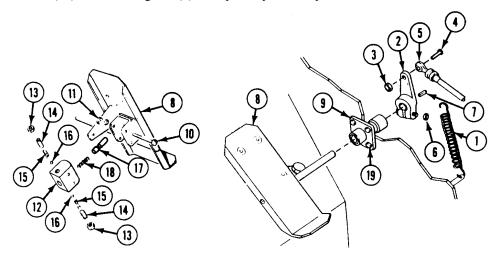
- 1. Disconnect return spring (1) from bellcrank (2).
- 2. Remove locknut (3), screw (4), and link (5) from bellcrank (2). Discard locknut.
- 3. Loosen locknut (6). Remove bellcrank (2) and woodruff key (7) from pedal assembly (8).
- 4. Remove pedal (8) from guide (9).



CAUTION

Detent plunger and spring will fall out if detent block is turned over during removal.

- 5. Remove two screws (10), locknuts (11), and pedal detent block (12) from pedal(8). Discard locknuts.
- 6. Remove two nuts (13) and set screws (14) from detent block (12). Then turn detent block (12) to allow two springs (15) and ball bearings (16) to slide out.
- 7. Remove plunger (17) and spring (18) from detent block (12).
- 8. Remove four screws (19) and remove guide (9) from power plant compartment.

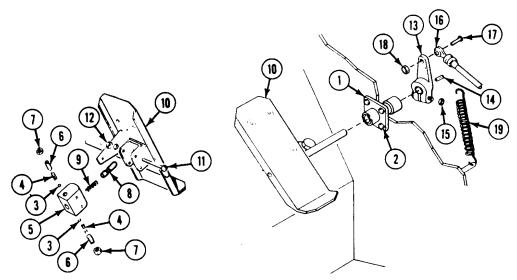


INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check pins, pedal mount, and pedal link. Replace parts that are cracked or have worn pivot holes.

INSTALLATION

- 1. Install guide (1) on power plant compartment. Secure with four screws (2).
- 2. Install two ball bearings (3) and springs (4) in pedal detent block (5). Secure with two set screws (6).
- 3. Install two nuts (7) on two set screws (6).
- 4. Install plunger (8) and spring (9) in pedal detent block (5).
- 5. Install pedal detent block (5) on pedal (10). Secure with two screws (11) and locknuts (12).
- 6. Use spring scale to adjust detent plunger (WP 0401 00). Use pressure to 35-40 pounds (16-18 kg).
- 7. Install pedal assembly (10) in guide (1).
- 8. Place bellcrank (13) and woodruff key (14) on pedal assembly (10) shaft. Tighten nut (15).
- 9. Install link (16) on bellcrank (13). Secure with screw (17) and new locknut (18).
- 10. Connect return spring (19) to bellcrank (13).



FOLLOW-THROUGH STEPS

- 1. Install lower accelerator pedal (WP 0395 00).
- 2. Install driver's power plant access panel (WP 0430 00).
- 3. Install driver's seat (WP 0478 00).
- 4. Close power plant front access door and raise trim vane (see your -10).
- 5. Raise and lock ramp (see your -10).
- 6. Start engine (see your -10)
- 7. Check that upper accelerator pedal operates properly.
- 8. Stop/shutdown engine.

REPLACE TRANSMISSION AND LOWER ACCELERATOR LINKAGE

0397 00

THIS WORK PACKAGE COVERS:

Removal (page 0397 00-1). Inspection-Acceptance and Rejection Criteria (page 0397 00-4). Installation (page 0397 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grease (WP 0782 00, Item 24)

Key washer (2)

Locknut (7)

Personnel Required

Unit Mechanic

Helper (H)

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

Driver's power plant access panel removed (WP 0430 00)

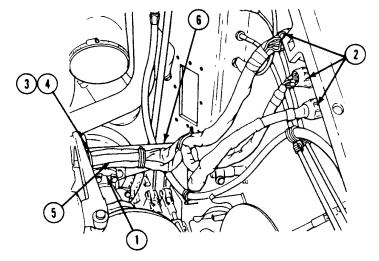
Hull bottom access cover removed (WP 0434 00)

Air control valve removed (WP 0187 00)

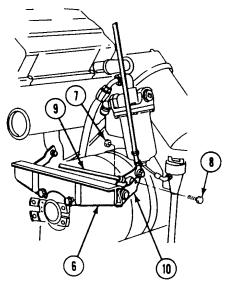
Air cleaner housing and element removed (WP 0185 00)

REMOVAL

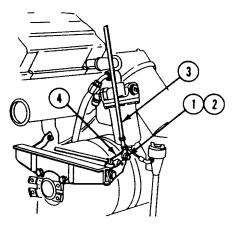
- 1. Rotate transmission drive shaft (1) so mounting flanges are in vertical position.
- 2. Disconnect three wiring harness connectors (2) at driver's compartment bulkhead.
- 3. Remove two screws (3), clamps (4), and wiring harness (5) from transmission cross-shaft bracket (6).



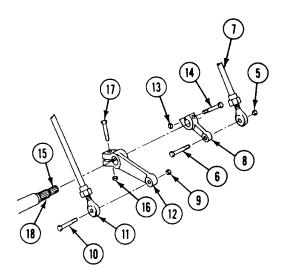
4. Remove locknut (7) and screw (8). Disconnect accelerator link (9) from accelerator cross-shaft bracket (10). Discard locknut.



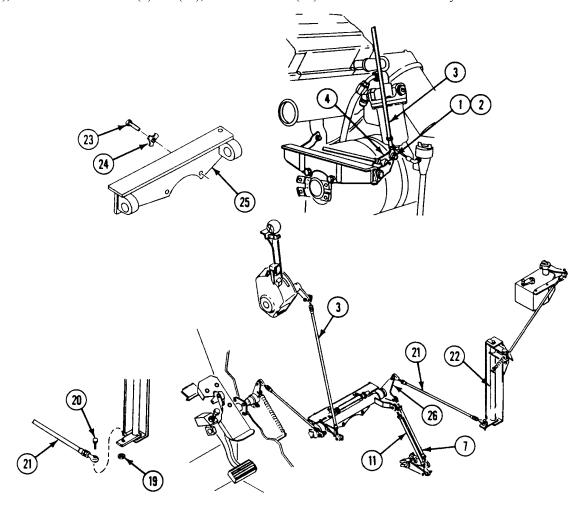
5. Remove locknut (1) and screw (2). Disconnect transmission range selector to cross-shaft link (3) from transmission arm (4). Discard locknut.



- 6. Remove locknut (5) and screw (6). Disconnect throttle valve link (7) from throttle valve lever (8). Discard locknut.
- 7. Remove locknut (9) and screw (10). Disconnect range selector link (11) from range selector lever (12). Discard locknut.
- 8. Remove locknut (13) and screw (14). Remove throttle valve lever (8) from transmission shaft (15). Discard locknut.
- 9. Remove locknut (16) and screw (17). Remove range selector lever (12) from transmission shaft (18). Discard locknut.



- 10. Remove locknut (19) and screw (20). Disconnect throttle link (21) from vertical transfer shaft (22). Discard locknut.
- 11. Remove two screws (23), key washers (24), transmission cross-shaft bracket (25), accelerator cross-shaft (4), bellcrank (26), two transmission links (7) and (11), and throttle link (21) from carrier. Discard key washers.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

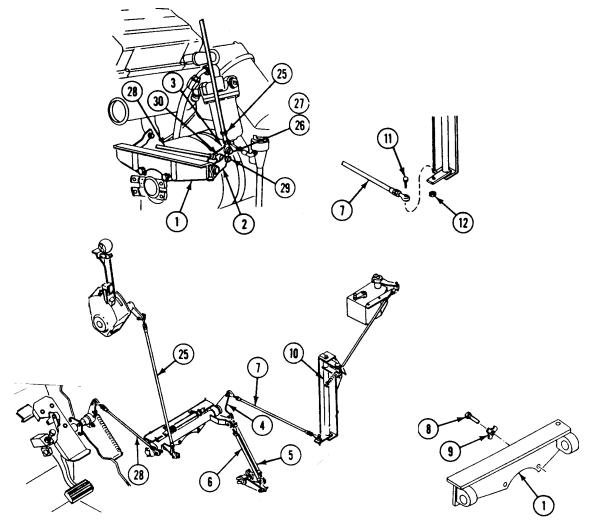
1. Check links, shafts, and brackets for wear and damage. Replace if needed.

INSTALLATION

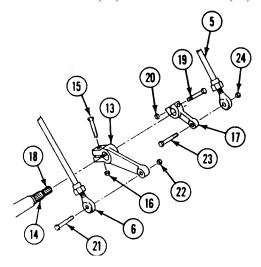
NOTE

Lubricate connecting link rod-end bearings before installation. Use GAA grease.

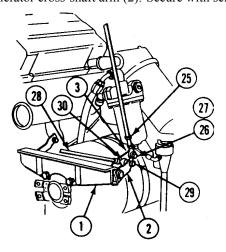
- 1. Place transmission cross-shaft bracket (1), accelerator cross-shaft (2), transmission cross-shaft (3), bellcrank (4), two transmission arm links (5) and (6), and throttle link (7) on transmission as a unit. Secure with two screws (8) and two new key washers (9).
- 2. Install throttle link (7) on vertical transfer shaft (10). Secure with screw (11) and new locknut (12).



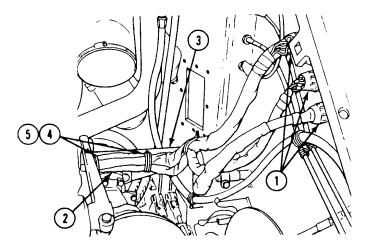
- 3. Install range selector lever (13) on transmission shaft (14) with off-set of lever toward transmission and clamp-screw hole aligned with flat on shaft. Secure with screw (15) and new locknut (16).
- 4. Install throttle valve lever (17) on transmission shaft (18) with off-set side of lever away from transmission and clamp-screw hole aligned with flat on shaft. Secure with screw (19) and new locknut (20).
- 5. Install range selector link (6) on transmission arm (13). Secure with screw (21) and new locknut (22).
- 6. Install throttle valve link (5) on transmission arm (17). Secure with screw (23) and new locknut (24).



- 7. Install transmission range selector to cross-shaft link (25) on transmission arm (3). Secure with screw (26) and new locknut (27).
- 8. Install accelerator link (28) on accelerator cross-shaft arm (2). Secure with screw (29) and new locknut (30).



- 9. Connect three wiring harness connectors (1) to receptacles on driver's compartment bulkhead.
- 10. Install wiring harness (2) on transmission cross-shaft bracket (3). Secure with two clamps (4) and screws (5).



FOLLOW-THROUGH STEPS

- 1. Adjust transmission cross-shaft linkage (WP 0401 00).
- 2. Install hull bottom access cover (WP 0434 00).
- 3. Install air control valve (WP 0187 00).
- 4. Install air cleaner housing and element (WP 0185 00).
- 5. Install driver's power plant access panel (WP 0430 00).
- 6. Close power plant front access door and raise trim vane (see your -10).
- 7. Operate carrier (see your -10). Check that transmission cross-shaft linkage operates properly.

REPAIR TRANSMISSION AND LOWER ACCELERATOR LINKAGE

0398 00

THIS WORK PACKAGE COVERS:

Disassembly page 0398 00-1. Inspection-Acceptance and Rejection Criteria (page 0398 00-2). Assembly (page 0398 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grease (WP 0782 00, Item 24)

Locknut (4)

Personnel Required

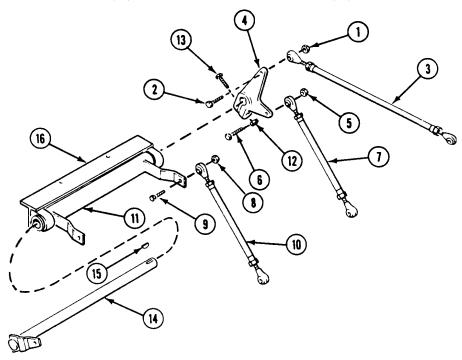
Unit Mechanic

Equipment Condition

Transmission and lower accelerator linkage removed (WP 0323 00)

DISASSEMBLY

- 1. Remove locknut (1), screw (2), and throttle link (3) from bellcrank (4). Discard locknut.
- 2. Remove locknut (5), screw (6), and throttle valve link (7) from bellcrank (4). Discard locknut.
- 3. Remove locknut (8), screw (9), and transmission shifting link (10) from transmission cross-shaft (11). Discard locknut.
- 4. Remove locknut (12), screw (13), and bellcrank (4) from accelerator cross-shaft (14). Discard locknut.
- 5. Remove woodruff key (15) from accelerator cross-shaft (14).
- 6. Remove accelerator cross-shaft (14) from transmission cross-shaft (11).
- 7. Separate transmission cross-shaft (11) from accelerator cross-shaft bracket (16).



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

Check links, shafts, and brackets for wear and damage. Replace if needed.

ASSEMBLY

NOTE

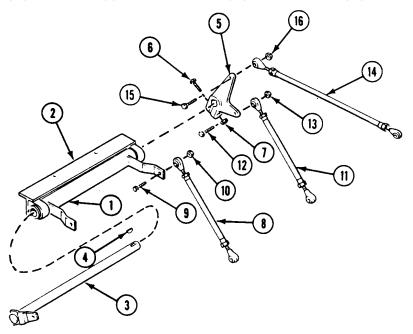
Lubricate connecting link rod-end bearings before installations. Use GAA grease.

- 1. Install transmission cross-shaft (1) in transmission cross-shaft bracket (2).
- 2. Install accelerator cross-shaft (3) in transmission cross-shaft (1).
- 3. Install woodruff key (4) in accelerator cross-shaft (3).
- 4. Install bellcrank (5) on accelerator cross-shaft (3). Secure with screw (6) and new locknut (7).
- 5. Install transmission shifting link (8) on transmission cross-shaft (1). Secure with screw (9) and new locknut (10).
- 6. Install throttle valve link (11) on bellcrank (5). Secure with screw (12) and new locknut(13).

NOTE

If any links were replaced or link ends turned, then adjust linkage (WP 0401 00).

7. Install throttle link (14) on bellcrank (5). Secure with screw (15) and new locknut (16).



FOLLOW-THROUGH STEPS

1. Install transmission and lower accelerator linkage (WP 0323 00).

REPLACE UPPER ACCELERATOR LINKAGE

0399 00

THIS WORK PACKAGE COVERS:

Removal (page 0399 00-1). Installation (page 0399 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Screwdriver Set (WP 0780 00, Item 65) Socket Wrench Set (WP 0780 00, Item 96) Torque Wrench (WP 0780 00, Item 102)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Grease (WP 0782 00, Item 24)

Cotter pin (2)

Locknut (3)

Lockwasher (3)

Personnel Required

Unit Mechanic

References

WP 0401 00 WP 0120 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

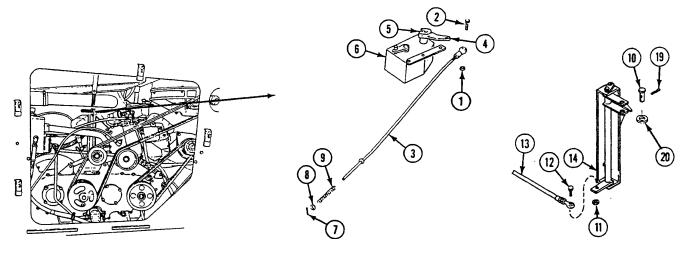
Ramp lowered (see your -10)

Power plant rear access panel removed (WP 0431 00,

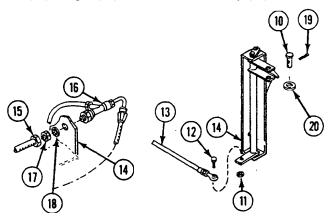
WP 0432 00, or WP 0433 00)

REMOVAL

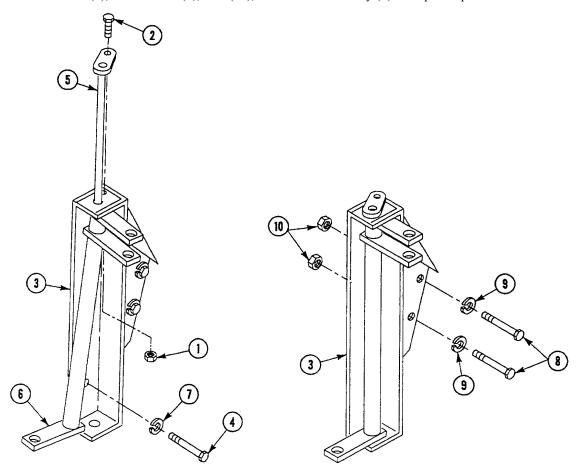
- 1. Remove locknut (1) and screw (2). Disconnect throttle link (3) from governor throttle arm (4). Discard locknut.
- 2. Loosen screw (5). Remove governor throttle arm (4) from governor (6).
- 3. Remove cotter pin (7), washer (8), spring (9), and throttle link (3) from pin (10). Discard cotter pin.
- 4. Remove locknut (11) and screw (12). Disconnect throttle link (13) from bracket assembly (14). Discard locknut.



- 5. Disconnect fuel hose (15) from tee (16).
- 6. Remove nut (17) and washer (18) that secure tee (16) to bracket assembly (14).
- 7. Remove cotter pin (19), washer (20) and pin (10) from bracket assembly (14). Discard cotter pin.



- 8. Remove locknut (1) and screw (2) from bracket assembly (3). Use cross-tip screwdriver. Discard locknut.
- 9. Before removing screw (4), raise inner transfer shaft (5) high enough to tilt the outer transfer shaft (6).
- 10. Remove screw (4) and lockwasher (7) from bracket assembly (3). Discard lockwasher.
- 11. Remove two screws (8), lockwashers (9), nuts (10), and bracket assembly (3) from power plant. Discard lockwashers.



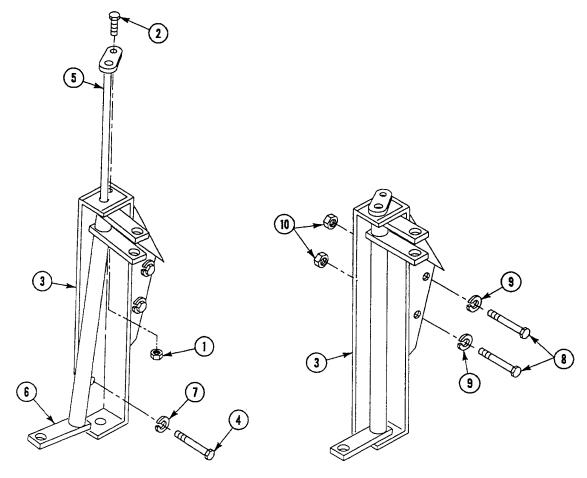
0399 00

INSTALLATION

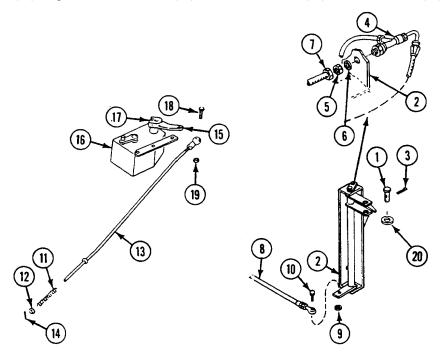
NOTE

Lubricate rod end bearings before assembling. Use GAA grease (WP 0120 00).

- 1. Apply thin coat of antiseize compound to cleaned threads of three screws (4) and (8).
- 2. Install bracket assembly (3) on power plant. Secure with two screws (8), new lockwashers (9), and nuts (10). TIGHTEN SCREWS TO 300-324 LB-IN (34-37 N·M) TORQUE. Use torque wrench and socket wrench set.
- 3. Install screw (4) and new lockwasher (7) in bottom hole of bracket assembly (3). TIGHTEN SCREW TO 264-288 LB-IN (30-33 N·M) TORQUE. Use torque wrench and socket wrench set.
- 4. Position inner transfer shaft (5) and outer transfer shaft (6) in bracket assembly (3). Secure with screw (2) and new locknut (1). Use cross-tip screwdriver.



- 5. Install pin (1) and washer (20) on bracket assembly (2). Secure with new cotter pin (3).
- 6. Install tee (4) on bracket assembly (2). Secure with nut (5) and washer (6).
- 7. Connect fuel line (7) to tee (4).
- 8. Install throttle link (8) on bracket assembly (2). Secure with new locknut (9) and screw (10).
- 9. Install spring (11) and washer (12) on throttle link (13). Insert throttle link through pin (1) and secure with new cotter pin (14).
- 10. Install governor throttle arm (15) on governor (16). Tighten screw (17).
- 11. Install throttle link (13) on governor throttle arm (15). Secure with screw (18) and new locknut (19).



12. Adjust accelerator and transmission throttle valve linkage (WP 0401 00).

FOLLOW-THROUGH STEPS



Wearing loose clothing around moving parts can allow personnel to get caught and cause injury or death. Tuck in loose clothing.

- 1. Start engine (see your -10). Check that upper accelerator linkage operates properly. Stop/shutdown engine (see your -10).
- 2. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 3. Raise and lock ramp (see your -10).
- 4. Stop/shutdown engine (see your -10).

REPAIR UPPER ACCELERATOR LINKAGE

0400 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0400 00-1). Inspection-Acceptance and Rejection Criteria (page 0400 00-2). Assembly (page 0400 00-2)

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Grease (WP 0782 00, Item 24)

Locknut

Personnel Required

Unit Mechanic

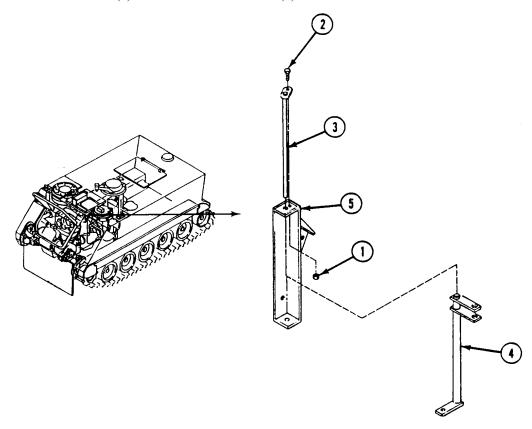
Equipment Condition

Engine stopped/shutdown (see your -10)

Upper accelerator linkage removed from carrier (WP 0399 00)

DISASSEMBLY

- 1. Remove locknut (1), screw (2), and inner transfer shaft (3) from outer transfer shaft (4). Discard locknut.
- 2. Remove outer transfer shaft (4) from transfer shaft bracket (5).



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

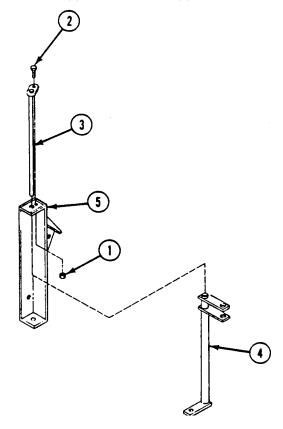
1. Check links, shafts, and brackets for wear and damage. Replace if needed.

ASSEMBLY

NOTE

Lubricate bearing surfaces of shafts before assembly. Use GAA grease.

- 1. Place outer transfer shaft (4) in transfer shaft bracket (5).
- 2. Insert inner transfer shaft (3) into outer transfer shaft (4).
- 3. Secure shaft (3) to bracket (5) with screw (2) and new locknut (1).



FOLLOW-THROUGH STEPS

1. Install upper accelerator linkage (WP 0399 00).

ADJUST ACCELERATOR AND TRANSMISSION THROTTLE VALVE LINKAGE

0401 00

THIS WORK PACKAGE COVERS:

Adjust Governor Linkage (page 0401 00-2).

Adjust Throttle Valve Linkage (page 0401 00-4).

Adjust Idle Stop (page 0401 00-6).

Adjust Upper Accelerator Pedal Detent Stop (page 0401 00-7).

Adjust Upper Accelerator Pedal Toe Stop (page 0401 00-8).

Adjust Upper Accelerator Detent Plunger (page 0401 00-9).

Check Operation (page 0401 00-9).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Weighing Scale (WP 0780 00, Item 63)

Personnel Required

Unit Mechanic

References

See your -10

WP 0396 00

WP 0430 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

Driver's power plant access panel removed

(WP 0430 00)

Power plant rear access panel removed (WP 0431 00 or

WP 0433 00)

ADJUST ACCELERATOR AND TRANSMISSION THROTTLE VALVE LINKAGE — Continued

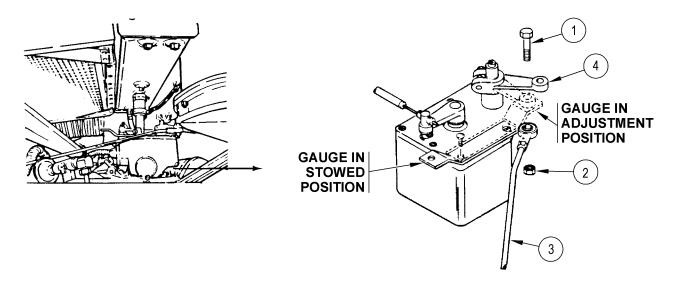
0401 00

ADJUST GOVERNOR LINKAGE

NOTE

Before accelerator and governor throttle arm linkage adjustments can be made, engine governor idle speed must be correct. Start engine (see your -10). Check idle speed on tachometer. If rengine Idle within range Iof Io50-700 RPM, notify your supervisor to have the engine governor idle speed and engine no-load speed set.

1. Remove screw (1), locknut (2), and throttle link (3) from governor throttle arm (4).



ADJUST ACCELERATOR AND TRANSMISSION THROTTLE VALVE LINKAGE — Continued

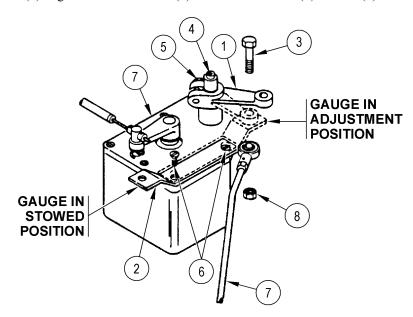
0401 00

2. Remove two screws (6) and gauge (2) from governor (7).

NOTE

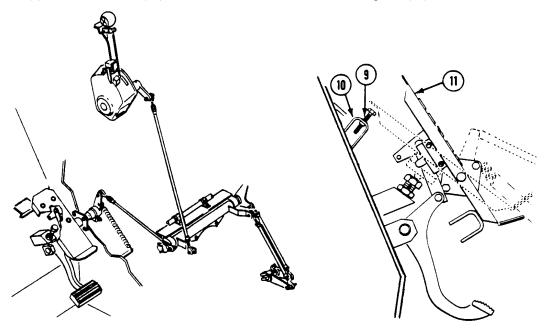
Gauge (2) is identified as part number 12269180 (NSN 5340-01-086-3243).

- 3. Install gauge (2) in adjustment position on governor (7). Secure with two screws (6).
- 4. Loosen screw (5) that secures governor throttle arm (1) to governor shaft (4).
- 5. Align hole in governor throttle arm (1) with hole in gauge (2). Insert screw (3) through throttle arm and gauge.
- 6. Insert 3/16 inch (5 mm) key socket head screw in plug on top of governor shaft (4). Turn to the right to rotate governor shaft (4) to full throttle position and hold.
- 7. Tighten screw (5) that secures throttle arm (1) to governor shaft (4).
- 8. Remove screw (3) inserted in Step 5 above.
- 9. Remove two screws (6) that secure gauge (2) to governor (7) and return gauge to stowed position. Secure gauge with two screws (6).
- 10. Connect throttle link (7) to governor throttle arm (1). Secure with screw (3) and nut (8).

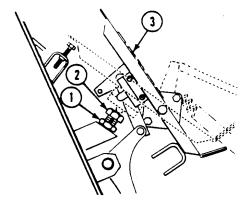


ADJUST THROTTLE VALVE LINKAGE

1. Turn screw (9) into floor bracket (10) to allow free movement of accelerator pedal (11).



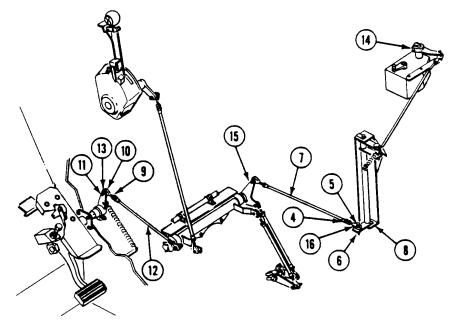
2. Loosen locknut (1). Turn detent stop screw (2) in to allow free movement of accelerator pedal (3).



ADJUST ACCELERATOR AND TRANSMISSION THROTTLE VALVE LINKAGE — Continued

0401 00

- 3. Loosen locknut (4). Remove screw (5), nut (6), and throttle link (7) from outer transfer shaft (8).
- 4. Loosen locknut (9). Remove screw (10), nut (11), and accelerator pedal link (12) from bellcrank (13).
- 5. Place governor throttle arm (14) and bellcrank (15) in full throttle position.
- 6. Align holes in throttle link (7) and outer transfer shaft (8) so screw (5) will pass through freely. Shorten throttle link (7) by turning bearing end (16) 11 turns to the right.
- 7. Install throttle link (7) on outer transfer shaft (8). Secure with screw (5) and nut (6). Tighten locknut (4) on link (7).
- 8. Adjust idle stop. See ADJUST IDLE STOP Steps 1 5.

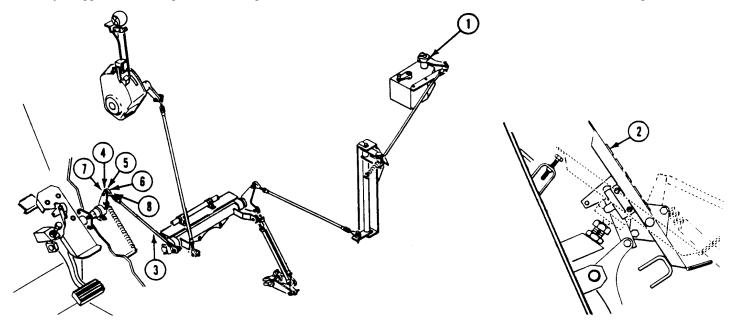


ADJUST ACCELERATOR AND TRANSMISSION THROTTLE VALVE LINKAGE — Continued

0401 00

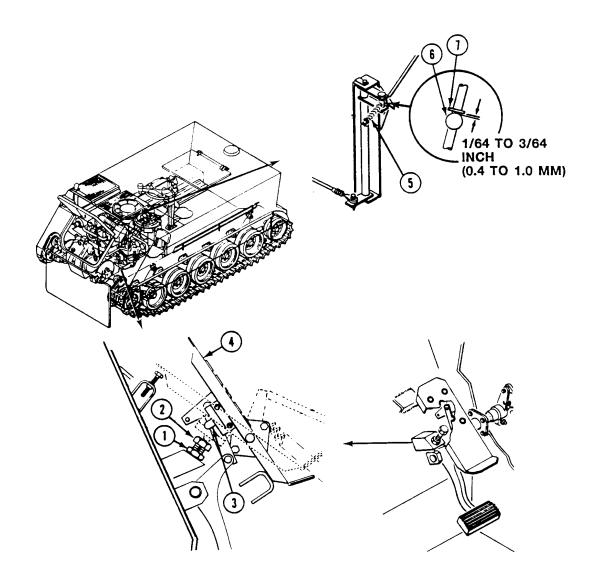
ADJUST IDLE STOP

- 1. Place throttle arm (1) at idle position and upper accelerator pedal (2) against heel stop.
- 2. Align holes in accelerator pedal link (3) and bellcrank (4) so screw (5) will pass through freely.
- 3. Lengthen accelerator pedal link (3) by turning bearing end (6) one turn to the left.
- 4. Install accelerator pedal link (3) on bellcrank (4). Secure with screw (5) and nut (7).
- 5. Tighten locknut (8) on accelerator pedal link (3).
- 6. Adjust upper accelerator pedal detent stop. See ADJUST UPPER ACCELERATOR PEDAL DETENT STOP Steps 1 2.



ADJUST UPPER ACCELERATOR PEDAL DETENT STOP

- 1. Loosen locknut (1). Adjust stop screw (2) so detent plunger (3) will contact stop screw at full throttle position.
- 2. With pedal (4) in full throttle position, travel spring (5) should be compressed so a gap of 1/64 to 3/64 inch (0.4 to 1.0 mm) exists between pivot pin (6) and rod stop (7).
- 3. Adjust upper accelerator pedal toe stop. See ADJUST UPPER ACCELERATOR PEDAL TOE STOP Steps 1 4.

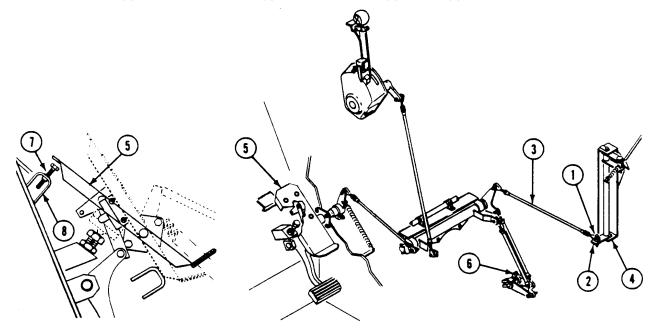


ADJUST ACCELERATOR AND TRANSMISSION THROTTLE VALVE LINKAGE — Continued

0401 00

ADJUST UPPER ACCELERATOR PEDAL TOE STOP

- 1. Remove screw (1), nut (2), and throttle link (3) from outer transfer shaft (4).
- 2. Depress upper accelerator pedal (5) until transmission arm (6) is in full open position.
- 3. Adjust toe stop screw (7) in floor bracket (8) to 1/16 inch (2 mm) space between upper accelerator pedal (5) and screw.
- 4. Install throttle link (3) on outer transfer shaft (4). Secure with screw (1) and nut (2).



- 5. Adjust detent plunger if necessary. See ADJUST UPPER ACCELERATOR DETENT PLUNGER Steps 1 2.
- 6. Check operation of accelerator controls and transmission shift points. See CHECK OPERATION Steps 1 10.

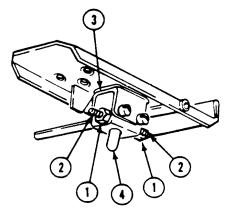
0401 00

ADJUST UPPER ACCELERATOR DETENT PLUNGER

NOTE

Detent plunger is factory lubricated and adjusted for a force of 35 to 40 pounds to push plunger through detent. If lubrication or repair is required, see REPLACE UPPER ACCELERATOR PEDAL ASSEMBLY (WP 0396 00). If adjustment only is required, do the following steps.

- 1. Remove upper accelerator pedal (WP 0396 00).
- 2. Loosen two locknuts (1). Turn two set screws (2) in detent block (3) to right to increase spring pressure on plunger (4), or to left to decrease pressure. Use scale to test for 35 to 40 pounds (16 to 18 kg) force required to push plunger (4) through detent.



- 3. Install upper accelerator pedal (WP 0396 00).
- 4. Check operation of accelerator controls and transmission shift points. See CHECK OPERATION Steps 1 10.

CHECK OPERATION



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

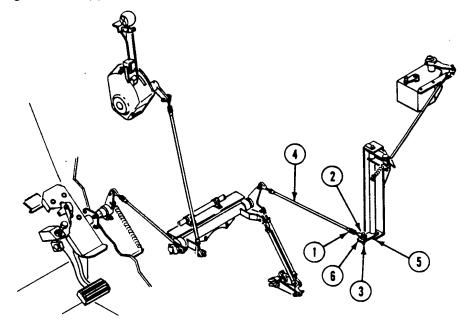
- 1. Install power plant rear access panel (WP 0431 00 or WP 0433 00).
- 2. Install driver's power plant access panel (WP 0430 00).
- 3. Close power plant front access door and raise trim vane (see your -10).
- 4. Raise and lock ramp (see your -10).
- 5. Operate carrier until engine and transmission are at normal operating temperatures (see your -10).
- 6. With transmission range selector in 1 3 or 2 3 range and foot pedal held at full throttle position (detent plunger contacting detent screw but not compressing detent plunger), upshift from second lockup to third converter should occur at engine speed of 2640 to 2800 RPM.
- 7. If engine speed is not within specified range, park carrier and stop engine.

WARNING



Adjusting accelerator linkage while the engine is running can cause your arm to be badly injured. Do not adjust accelerator linkage with the engine running.

- 8. Remove driver's and rear power plant access panels (WP 0430 00, WP 0431 00, WP 0432 00, or WP 0433 00).
- 9. Loosen locknut (1). Remove screw (2) and nut (3) from throttle link (4) and transfer shaft (5). To decrease engine RPM at shift point, shorten throttle link (4) by turning rod end (6) to the right. To increase engine RPM at shift point, lengthen throttle link (4) by turning rod end (6) to the left. Attach throttle link (4) to transfer shaft (5) with screw (2) and nut (3). Tighten locknut(1).



- 10. Readjust accelerator pedal stops by repeating the following procedures:
 - a. Adjust Idle Stop.
 - b. Adjust Upper Accelerator Pedal Detent Stop.
 - c. Adjust Upper Accelerator Pedal Toe Stop.
 - d. Repeat Check Operation.

FOLLOW-THROUGH STEPS

1. Engine stopped/shutdown (see your -10).

REPLACE HAND THROTTLE

0402 00

THIS WORK PACKAGE COVERS:

Removal (page 0402 00-2). Installation (page 0402 00-3). Adjustment (page 0402 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin Grommet Locknut

Personnel Required Unit Mechanic

Lockwasher

References

See your -10

Equipment Condition

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

Power plant front access door opened (see your -10)

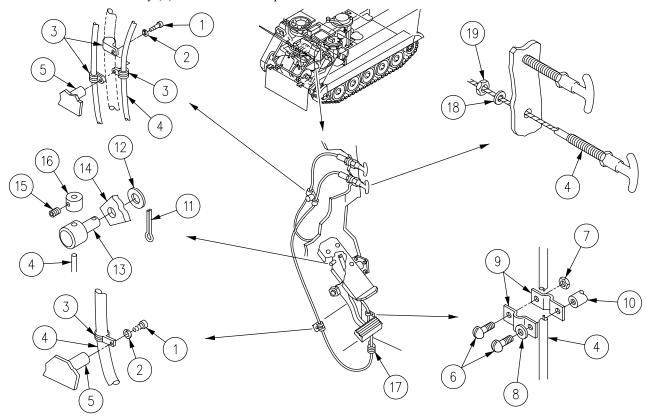
Driver's power plant access panel removed

(see your -10)

0402 00

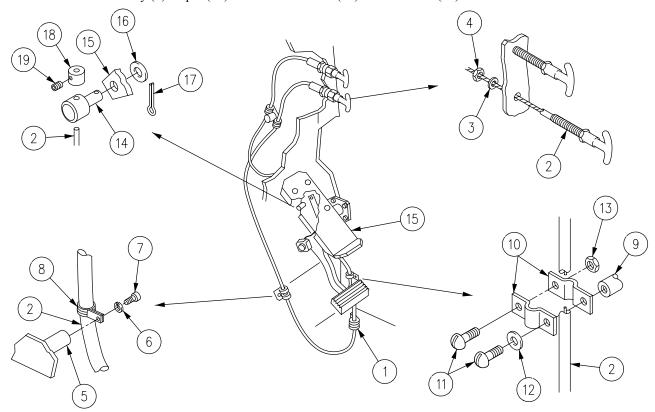
REMOVAL

- 1. Remove two screws (1), washers (2), and four clamps (3) that secure throttle control cable assembly (4) to two weldnuts (5).
- 2. Remove two screws (6), locknut (7), lockwasher (8), two straps (9), and cable assembly (4) from weldnut (10). Discard locknut and lockwasher.
- 3. Remove cotter pin (11) and washer (12). Disconnect pin (1B) from accelerator pedal assembly (14). Discard cotter pin.
- 4. Loosen set screw (15). Remove collar (16) and pin (13) from cable assembly (4).
- 5. Pull cable assembly (4) through grommet (17) in driver's floor plate and out through power plant front access door opening. Discard grommet.
- 6. Remove nut (18) and washer (19) that secure cable assembly (4) to driver's compartment bulkhead.
- 7. Remove cable assembly (4) from driver's compartment.



INSTALLATION

- 1. Install new grommet (1) in driver's floor plate.
- 2. Feed cable assembly (2) through mounting hole in driver's compartment bulkhead to power plant front access door opening.
- 3. Slide washer (3) and nut (4) on cable assembly (2). Secure to driver's compartment bulkhead.
- 4. Install cable assembly (2) on two weldnuts (5). Secure with two washers (6), screws (7), and four clamps (8).
- 5. Install cable assembly (2) on weldnut (9). Secure with two straps (10), screws (11), new lockwasher (12), and new locknut (13).
- 6. Install pin (14) on accelerator pedal assembly (15). Secure with washer (16) and new cotter pin (17).
- 7. Install cable assembly (2) on pin (14). Secure with collar (18) and set screw (19).



ADJUSTMENT

- 1. Loosen set screw (19). Push control cable assembly (2) handle full forward.
- 2. Place pedal assembly (15) in full closed throttle position (see your -10). Tighten set screw (19) in collar (18).

FOLLOW-THROUGH STEPS

- 1. Start engine (see your -10). Using the pedal, check that hand throttle operates properly.
- 2. Stop/shutdown engine (see your -10)
- 3. Close power plant front access door (see your -10).
- 4. Raise trim vane (see your -10).
- 5. Install driver's power plant access panel (see your -10).

REPLACE FUEL CUTOFF CONTROL CABLE ASSEMBLY

0403 00

THIS WORK PACKAGE COVERS:

Removal (page 0403 00-1). Installation (page 0403 00-4). Adjustment (page 0403 00-5).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin

Locknut (3)

Personnel Required

Unit Mechanic Helper (H)

Equipment Condition

Engine stopped/shutdown (see your -10)

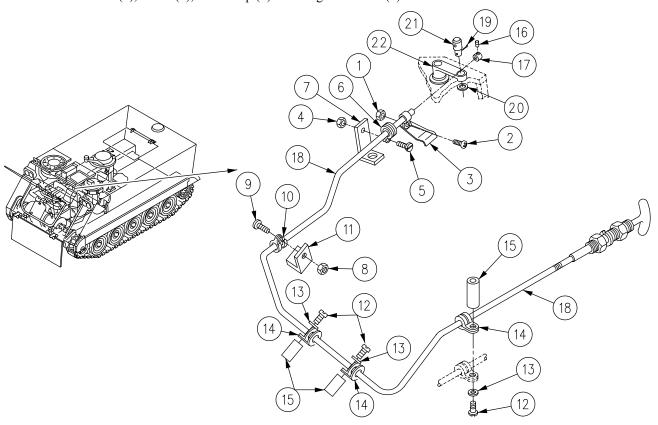
Carrier blocked (see your -10)

Trim vane lowered and power plant front access door open (see your -10)

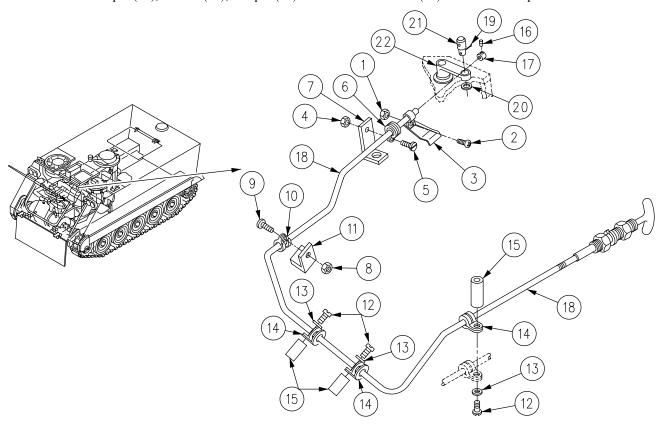
Power plant rear access panel removed (WP 0431 00, WP 0432 00, or WP 0433 00)

REMOVAL

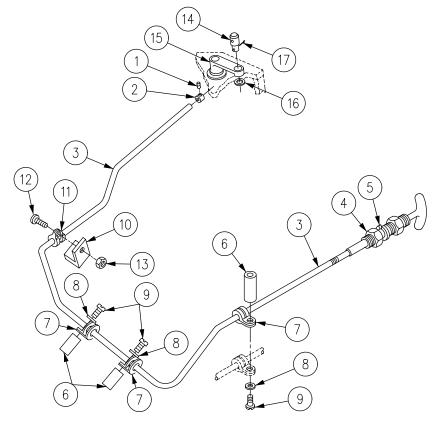
- 1. Remove locknut (1) and screw (2) from engine bracket (3). Discard locknut.
- 2. Remove locknut (4), screw (5), and clamp (6) from engine bracket (7). Discard locknut.



- 3. Remove locknut (8), screw (9), and clamp (10) from differential bracket (11). Discard locknut.
- 4. Remove three screws (12), washers (13), and clamps (14) from three weldnuts (15).
- 5. Loosen set screw (16). Remove front collar (17) from control assembly (18).
- 6. Remove cotter pin (19), washer (20), and pin (21) from control fuel arm (22). Discard cotter pin.



- 7. Loosen set screw (1). Remove rear collar (2) from control assembly (3).
- 8. Remove control assembly out of power plant compartment through power plant front access door.
- 9. Remove nut (4) and washer (5) from control assembly (3) at driver's compartment bulkhead.
- 10. Remove control assembly from driver's compartment.



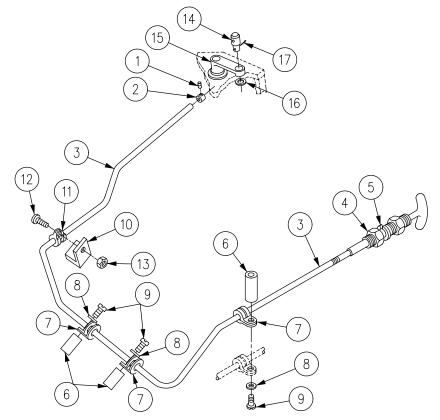
INSTALLATION

- 1. Feed control assembly (3) through mounting hole in driver's compartment bulkhead to power plant front access door opening.
- 2. Slide washer (5) and nut (4) onto control assembly (3). Secure control assembly to driver's compartment bulkhead.
- 3. Install control assembly (3) on three weldnuts (6). Secure with three clamps (7), washers (8) and screws (9).

CAUTION

Contact between the fuel shutoff cable and radiator coolant lines during operation of the carrier may cause melting of the plastic case on the fuel shutoff cable.

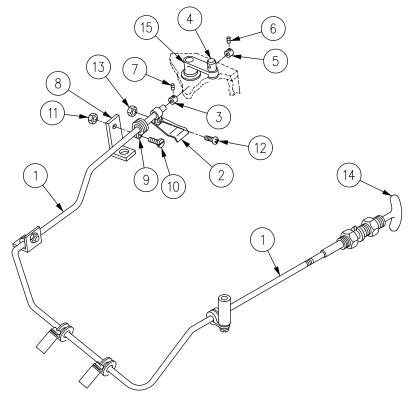
- 4. Remove slack from fuel shutoff cable so that it does not touch the auxiliary radiator tube.
- 5. Install control assembly (3) on differential bracket (10). Secure with clamp (11), screw (12), and new locknut (13).
- 6. Install pin (14) on fuel control arm (15). Secure with washer (16) and new cotter pin (17).



- 7. Insert control assembly (1) through engine bracket (2).
- 8. Install rear collar (3) on control assembly (1).
- 9. Insert control assembly (1) through pin (4).
- 10. Install front collar (5) on control assembly (1) with two set screws (6) and (7).
- 11. Secure collars (3) and (5) on control assembly (1) with two set screws (6) and (7).
- 12. Install control assembly (1) on engine bracket (8). Secure with clamp (9), screw (10), and new locknut (11).
- 13. Install control assembly (1) on engine bracket (2). Secure with screw (12) and new locknut (13).

ADJUSTMENT

- 1. Loosen two set screws (6) and (7) in collars (3) and (5).
- 2. Pull control assembly handle (14) to full out position.
- 3. Rotate fuel control arm (15) to full clockwise position.
- 4. Place two collars (3) and (5) on each side of pin (4). Secure with two set screws (6) and (7).



FOLLOW-THROUGH STEPS

- 1. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 2. Start your engine (see your -10). Check that fuel shutoff cable operates properly.
- 3. Close power plant front access door and raise trim vane (see your -10).
- 4. Raise and lock ramp (see your -10).
- 5. Stop/shutdown engine (see your -10).

REPLACE TRANSMISSION RANGE SELECTOR

0404 00

THIS WORK PACKAGE COVERS:

Removal (page 0404 00-1). Installation (page 0404 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut

Spring pin

Personnel Required

Unit Mechanic

Helper (H)

Equipment Condition

Engine stopped (see your -10)

Carrier blocked (see your -10)

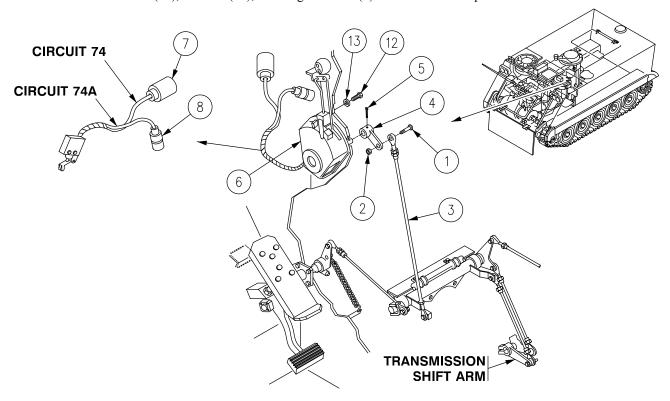
Trim vane lowered and power plant front access door open (see your -10)

Driver's power plant access panel removed (WP 0430 00)

Air cleaner housing and element removed (WP 0185 00)

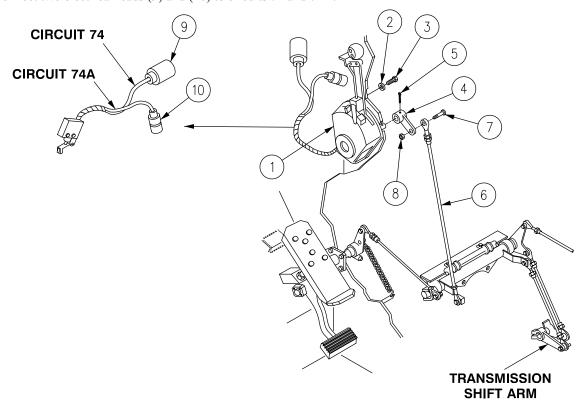
REMOVAL

- 1. Remove screw (1) and locknut (2). Discard locknut.
- 2. Disconnect link (3) from arm (4).
- 3. Remove spring pin (5) and arm (4) from range selector (6). Discard spring pin.
- 4. Disconnect two electrical leads (7) and (8) from circuits 74 and 74A.
- 5. Remove three screws (12), washers (13), and range selector (6) from driver's compartment bulkhead.



INSTALLATION

- 1. Place range selector (1) on driver's compartment bulkhead. Secure with three washers (2) and screws (3).
- 2. Install arm (4) on range selector (1). Secure with new spring pin (5).
- 3. Install link (6) on arm (4). Secure with screw (7) and new locknut (8).
- 4. Connect two electrical leads (9) and (10) to circuits 74 and 74A.



FOLLOW-THROUGH STEPS

- 1. Install air cleaner housing and element (WP 0185 00).
- 2. Install driver's power plant access panel (WP 0430 00)
- 3. Close power plant front access door and raise trim vane (see your -10).
- 4. Operate carrier to check that transmission range selector operates properly.
- 5. Stop/shutdown engine (see your -10).

REPAIR TRANSMISSION RANGE SELECTOR

0405 00

THIS WORK PACKAGE COVERS:

Disassembly (page 0405 00-1). Clean, Inspect, and Repair (page 0405 00-3). Assembly (page 0405 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (4)

Lockwasher (2)

Spring pin (2)

Personnel Required

Unit Mechanic

Helper (H)

References

WP 0404 00

WP 0406 00

WPI0407100

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Trim vane lowered and power plant front access door

open (see your -10)

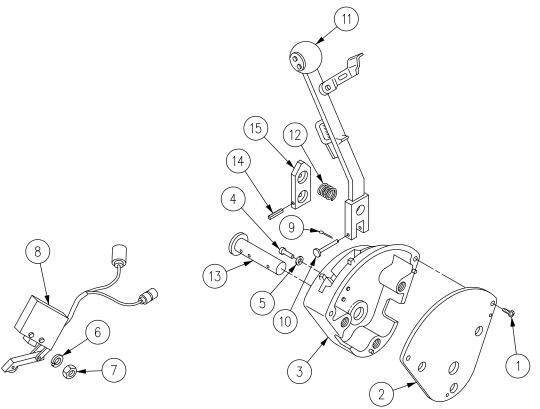
Driver's power plant access panel removed

(WP 0430 00)

Range selector removed from carrier (WP 0404 00)

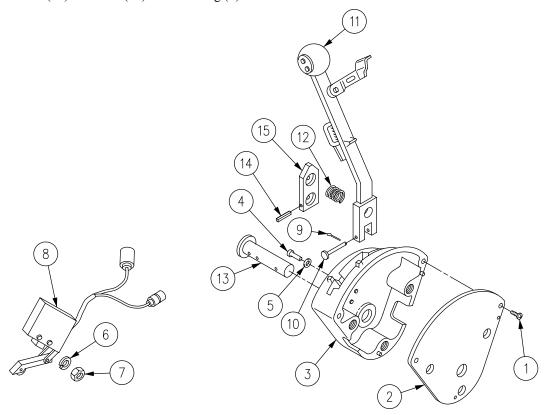
DISASSEMBLY

- 1. Remove two screws (1) and cover (2) from housing (3).
- 2. Remove two screws (4), washers (5), lockwashers (6), nuts (7), and neutral start switch (8) from housing (3). Discard lockwashers.

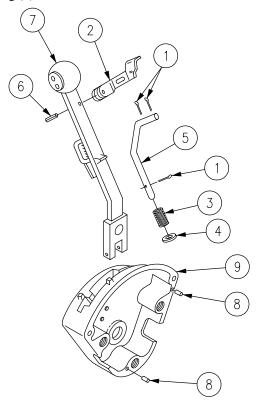


0405 00-1

- 3. Remove cotter pin (9), pin (10), control lever assembly (11), and spring (12) from shaft (13). Discard cotter pin.
- 4. Remove spring pin (14) that secures cam (15) and shaft (13). Discard spring pin.
- 5. Remove cam (15) and shaft (13) from housing (3).



- 6. Remove three cotter pins (1), lock (2), spring (3), and washer (4) from control rod (5). Discard cotter pins.
- 7. Remove spring pin (6) and lock (2) from control lever (7). Discard spring pin.
- 8. Remove two pins (8) from housing (9).



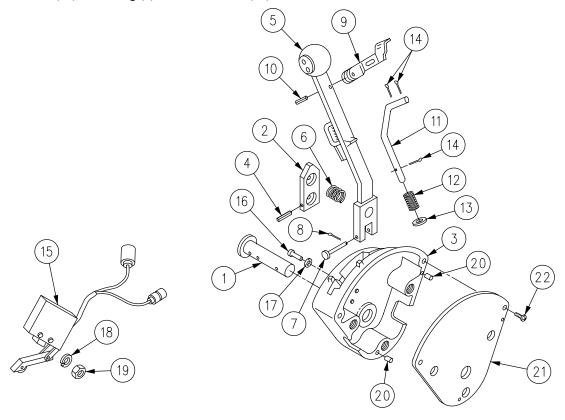
CLEAN, INSPECT, AND REPAIR

- 1. Clean range selector parts with dry cloth.
- 2. Check neutral parts switch leads and connectors. Replace bad leads or connectors (WP 0312 00).
- 3. Test neutral start switch (WP 0406 00). Replace bad switch.
- 4. Check springs. Replace broken or weak springs.
- 5. Check control rod, cam, and shaft. Replace cracked or worn parts.

REPAIR TRANSMISSION RANGE SELECTOR — Continued

ASSEMBLY

- 1. Install shaft (1) and cam (2) in housing (3). Secure cam to shaft with new spring pin (4).
- 2. Install control lever assembly (5) and spring (6) in housing (3). Secure control lever to shaft (1) with pin (7) and new cotter pin (8).
- 3. Install lock (9) on control lever (5). Secure with new spring pin (10).
- 4. Install control rod (11), spring (12), and washer (13) in control lever (5).
- 5. Secure rod (11) to lock (5) and lever (5) with three new cotter pins (14).
- 6. Install neutral start switch (15) in housing (3). Secure with two screws (16), washers (17), new lockwashers (18), and nuts (19).
- 7. Install two pins (20) in housing (3).
- 8. Secure cover (21) to housing (3) with two screws (22).



- 9. Install range selector in carrier (WP 0404 00).
- 101 Adjust range selector linkage (WP 0407 00).
- 11. Adjust neutral start switch (WP 0406 00).

REPAIR TRANSMISSION RANGE SELECTOR — Continued

0405 00

FOLLOW-THROUGH STEPS

- 1. Install driver's power plant access panel (WP 0430 00).
- 2. Close power plant front access door and raise trim vane (see your -10).
- 3. Raise and lock ramp (see your -10).
- 4. Operate carrier (see your -10). Check that transmission range selector works properly.
- 5. Stop/shutdown engine (see your -10).

REPLACE NEUTRAL START SWITCH

0406 00

THIS WORK PACKAGE COVERS:

Removal (page 0406 00-1). Clean, Inspect, and Replace (page 0406 00-2). Installation (page 0406 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

Digital Multimeter (WP 0780 00, Item 43) General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Lockwasher (2)

Personnel Required

Unit Mechanic

References

WP 0009 00

Equipment Condition

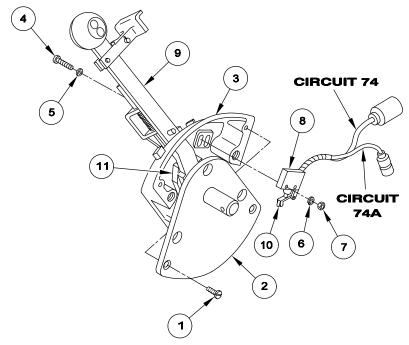
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Transmission range selector removed from carrier (WP 0405 00)

REMOVAL

- 1. Remove two screws (1) and cover (2) from housing (3).
- 2. Remove two screws (4), washers (5), lockwashers (6), nuts (7), and neutral start switch (8) from housing (3). Discard lockwashers.



0406 00-1

0406 00

CLEAN, INSPECT, AND REPLACE

- 1. Clean switch with a clean, dry cloth.
- 2. Check neutral start switch (WP 0009 00).
- 3. Check switch. Replace switch that has worn or damaged arm or roller.
- 4. Check switch leads. Replace damaged leads (WP 0312 00) or switch.

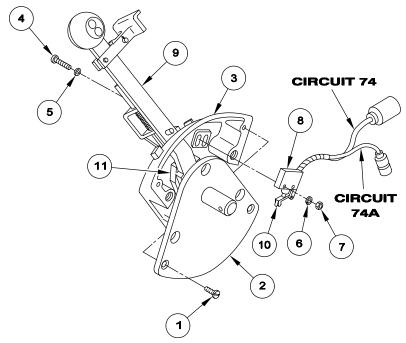
INSTALLATION

- 1. Install neutral start switch (8) on housing (3). Secure with two screws (4), washers (5), new lockwashers (6), and nuts (7). Do not tighten nuts.
- 2. Place selector (9) in neutral.
- 3. Slide neutral start switch (8) and attaching screws (4) up or down in elongated holes in housing (3) to set switch adjustment. Moving switch (8) down moves lever (10) closer to actuating cam (11). This increases selector (9) travel with switch actuated.
- 4. Adjust neutral start switch (8) so that electrical continuity is maintained as follows, use digital multimeter:
 - a. Neutral start switch (8) must maintain electrical continuity between circuits 74 and 74A at the N position.

NOTE

Switch must break electrical continuity between circuits 74 and 74A before reaching R or 2–3 position when shifting from N position.

- 5. When adjustment is correct, tighten two nuts (7).
- 6. Secure cover (2) to housing (3) with two screws (1).



REPLACE NEUTRAL START SWITCH — Continued

0406 00

FOLLOW-THROUGH STEPS

- 1. Install range selector in carrier (WP 0405 00).
- 2. Start engine (see your -10). Check that neutral start switch operates properly.
- 3. Stop/shutdown engine (see your -10).

REPLACE RANGE SELECTOR LINKAGE

0407 00

THIS WORK PACKAGE COVERS:

Removal (page 0407 00-1). Clean, Inspect, and Repair (page 0407 00-2). Installation (page 0407 00-3). Adjustment (page 0407 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Locknut (2)

Spring pin

Personnel Required

Unit Mechanic

References

WP 0404 00

Equipment Condition

Engine stopped/shutdown (see your -10)

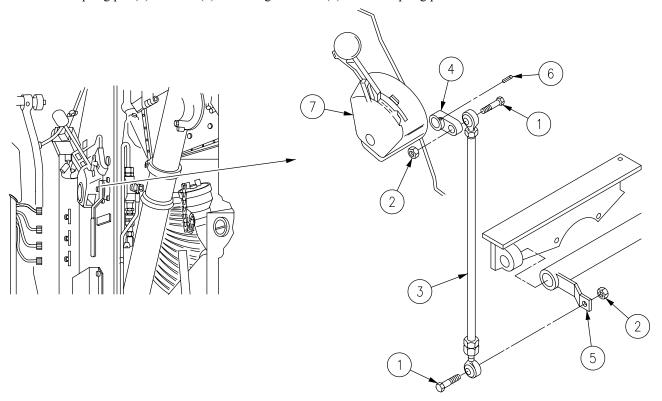
Carrier blocked (see your -10)

Air cleaner housing and element removed (WP 0185 00)

Aircontrol valve removed (WP 0187 00)

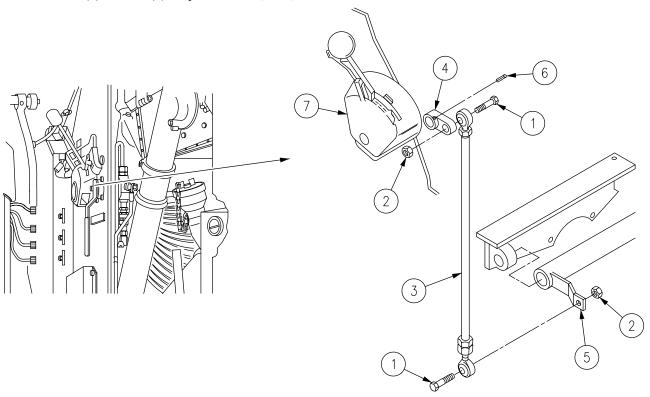
REMOVAL

- 1. Remove two screws (1), locknuts (2), and range selector link (3) from arm (4) and transmission cross-shaft (5). Discard locknuts.
- 2. Remove spring pin (6) and arm (4) from range selector (7). Discard spring pin.



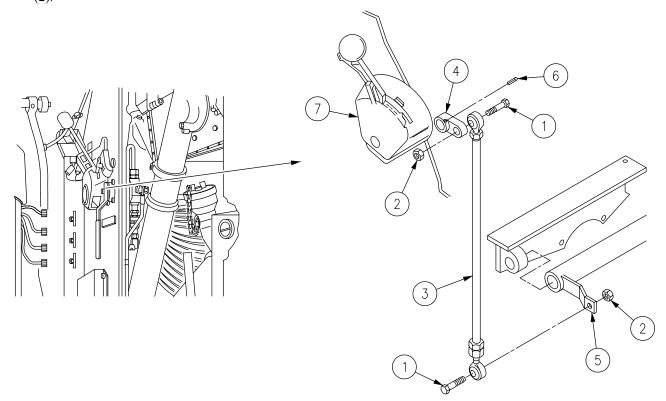
CLEAN, INSPECT, AND REPAIR

1. Checkarm (4) and link (3). Replace cracked, Bent, or worn arm or Tink.



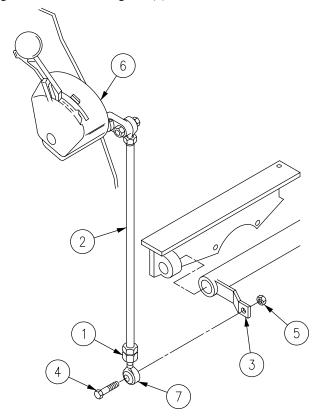
INSTALLATION

- 1. Secure arm (4) on range selector (7) with new spring pin (6).
- 2. Install range selector link (3) on arm (4) and transmission cross-shaft (5). Secure with two screws (1) and new locknuts (2).



ADJUSTMENT

- 1. Loosen locknut (1) on range selector link (2) at transmission cross-shaft (3) end.
- 2. Remove screw (4) and locknut (5) that secure range selector link (2) to cross-shaft (3).
- 3. Place range selector (6) in neutral position.
- 4. Pull transmission shift arm (WP 0404 00) to end of travel, then back one detent to place transmission in neutral.
- 5. Adjust range selector link bearing end (7) to free pin fit at transmission cross-shaft (3).
- 6. Check all range selector positions. Readjust range selector link bearing end (7), if needed, to obtain positive transmission detents in all positions.
- 7. Install range selector link (2) on transmission cross-shaft (3). Secure with screw (4) and new locknut (5).
- 8. Tighten locknut (1) on range selector link bearing end (7).



REPLACE RANGE SELECTOR LINKAGE — Continued

0407 00

FOLLOW-THROUGH STEPS

- 1. Install air control valve (WP 0187 00).
- 2. Install air cleaner housing and element (WP 0185 00)
- 3. Operate carrier (see your -10). Check that range selector linkage operates properly.
- 4. Stop/shutdown engine (see your -10).

REPLACE ENGINE POWER DISCONNECT

0408 00

THIS WORK PACKAGE COVERS:

Removal (page 0408 00-1). Installation (page 0408 00-2). Adjustment (page 0408 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque wrench (WP 0780 00, Item 102)

Materials/Parts

Antiseize compound (WP 0782 00, Item 8)

Cotter pin

Locknut (2)

Tab washer (2)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown and ramp lowered (see your -10)

Carrier blocked (see your -10)

Trim vane lowered (see your -10)

Power plant rear access panel removed (WP 0431 00,

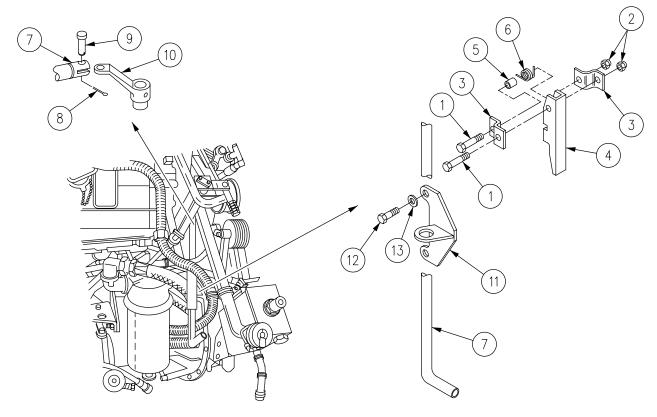
WP 0432 00, or WP 0433 00)

Driver's power plant access panel removed

(WP 0430 00)

REMOVAL

- 1. Remove two screws (1), locknuts (2), supports (3), one lock (4), bushing (5) and spring (6) from lever (7). Discard locknuts.
- 2. Remove cotter pin (8) and pin (9) that secures lever (7) to arm (10). Discard cotter pin.
- 3. Remove lever (7) from guide (11).
- 4. Remove two screws (12), tab washers (13), and guide (11) from transmission housing. Discard tab washers.

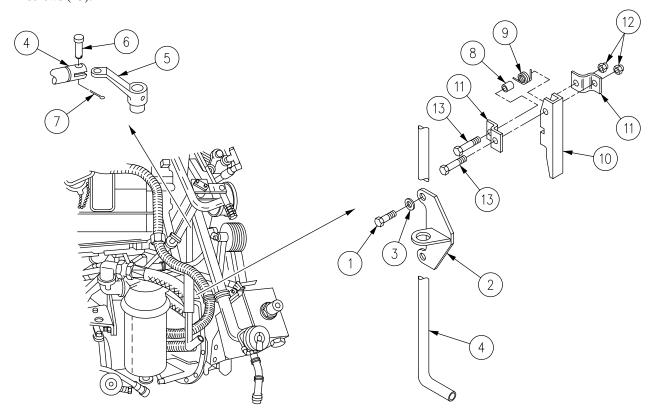


0408 00-1

0408 00

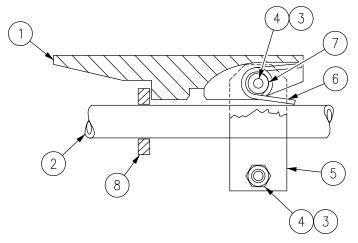
INSTALLATION

- 1. Apply a light coat of antiseize compound to threads of screws (1).
- 2. Install guide (2) on transmission housing. Secure with two screws (1) and new tab washers (3). TIGHTEN SCREWS TO 253\pm 300\pm 84\pm (28\pm 34\pm 41\pm 40)\pm TORQUE\pm 10\seta ftorque\pm ench.
- 3. Insert lever (4) through guide (2). Secure to arm (5) with pin (6) and new cotter pin (7)
- 4. Install bushing (8), spring (9), lock (10) and two supports (11) on lever (4). Secure with two new locknuts (12) and screws (13).



ADJUSTMENT

- 1. Lift lock (1) on control lever (2). Push lever in as far as it will go. This disconnects engine from the rest of power plant.
- 2. Loosen two screws (3) and nuts (4) that secure two supports (5), lock (1), spring (6), and bushing (7) to lever (2).
- 3. Move two supports (5) until the clearance between lock (1) and guide (8) is 1/32–3/32 in (0.8 mm-2.4 mm).
- 4. Tighten two screws (3) and locknuts (4).



FOLLOW-THROUGH STEPS



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

- 1. Check engine disconnect operation. Push control lever in. Then start engine (see your -10). Fan and fan belts should not work. Stop engine. Pull out control lever. Then start engine (see your -10). Fan and fan belts should operate properly.
- 2. Install power plant rear access panel (WP 0431 00, WP 0432 00, or WP 0433 00).
- 3. Install drive's power plant access panel (WP 0430 00).
- 4. Raise and lock ramp (see your -10).
- 5. Stop/shutdown engine (see your -10).

BLEED PIVOT STEER SYSTEM

0409 00

THIS WORK PACKAGE COVERS:

Servicing (page 0409 00-1). Test and Inspection (page 0409 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

FRH hydraulic fluid (WP 0782 00, Item 27)

Personnel Required

Unit Mechanic

Helper (H)

References

See your -10

Equipment Condition

Engine stopped/shutdown (see your -10)

Ramp lowered (see your -10)

Carrier blocked (see your -10)

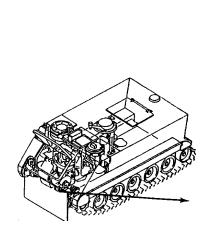
Trim vane lowered and power plant front access door open (see your -10)

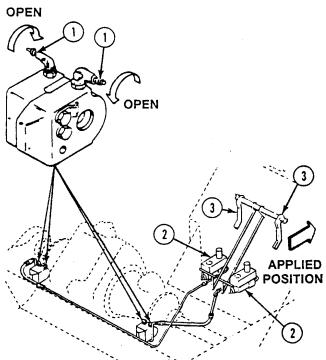
SERVICING

NOTE

Bleed one side of system (two caliper halves) at a time. Keep master cylinder full during bleeding.

- 1. Attach a short hose and container to bleeder valves (1) (one valve at a time).
- 2. Remove master cylinder cap (2). Fill cylinder with FRH hydraulic fluid (see your -10).
- 3. Open bleeder valves (1).
- 4. Move handle (3) until fluid coming out of bleeder valves (1) is free of air.
- 5. Hold handle (3) back in applied position (as shown) and close bleeder valves (1).





0409 00-1

BLEED PIVOT STEER SYSTEM — Continued

0409 00

6. After bleeding, add FRH hydraulic fluid only as needed. Fluid level should be within 1/2-3/4-in (13-9 mm) from top of cylinder. Do not overfill (WP 0120 00).

TEST AND INSPECTION

1. Pull control handle to applied position and hold it there. If handle continues to move after applied position is reached, master cylinder, hose, tube, or connection is bad. Repair or replace bad parts (WP 0412 00).

FOLLOW-THROUGH STEPS

- 1. Close power plant front access door and raise trim vane (see your -10).
- 2. Raise and lock ramp (see your -10).
- 3. Operate carrier (see your -10). Check that pivot steer system operates properly.
- 4. Stop/shutdown engine (see your -10).

REPLACE PIVOT STEER HANDLES AND LINKS

0410 00

THIS WORK PACKAGE COVERS:

Removal (page 0410 00-1). Inspection-Acceptance and Rejection Criteria (page 0410 00-2). Installation (page 0410 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (4)

Locknut (4)

Personnel Required

Unit Mechanic

References

WP 0415 00

Equipment Condition

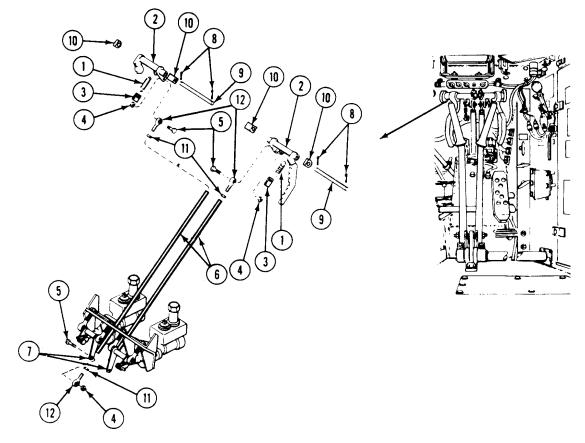
Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

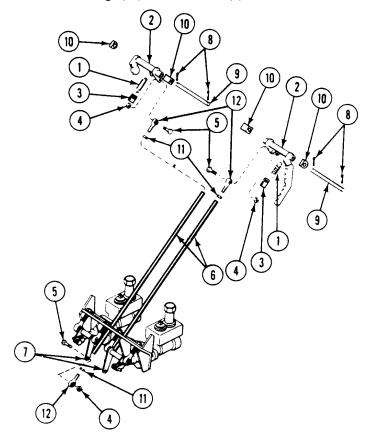
Driver's seat removed (WP 0478 00)

REMOVAL

- 1. Disconnect two springs (1) from two control handles (2) and brackets (3).
- 2. Remove four locknuts (4), screws (5), and two links (6) from two bellcranks (7) and control handles (2). Discard locknuts.



- 3. Remove four cotter pins (8), two shafts (9), and two control handles (2) from four mounts (10) Discard cotter pins.
- 4. Remove four nuts (11) and rod end bearings (12) from two links (6).

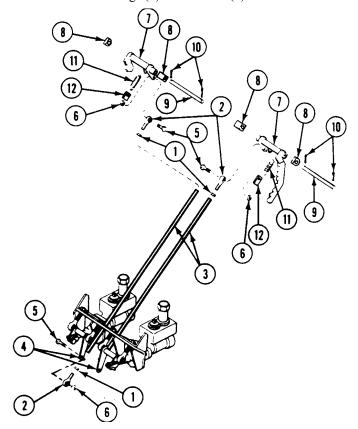


INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check all parts for cracks, wear, and damage. Replace if needed.

INSTALLATION

- 1. Install four nuts (1) on rod end bearings (2).
- 2. Install four rod end bearings (2) in two links (3). Do not tighten nuts.
- 3. Install two links (3) on bellcranks (4). Secure with four screws (5) and new locknuts (6).
- 4. Place two handles (7) in four mounts (8). Secure with two shafts (9) and four new cotter pins (10).
- 5. Install two links (3) on handles (7). Secure with two screws (5) and nuts (6).
- 6. Attach two springs (11) to handles (7) and brackets (12).
- 7. Adjust pivot steer linkage (WP 0415 00).
- 8. Tighten four nuts (1) that secure rod end bearings (2) to two links (3).



REPLACE PIVOT STEER HANDLES AND LINKS — Continued

0410 00

FOLLOW-THROUGH STEPS

- 1. Install driver's seat (WP 0478 00).
- 2. Operate carrier (see your -10). Check that pivot steer system operates properly.
- 3. Adjust pivot steering links (WP 0415 00).
- 4. Engine stopped/shutdown (see your -10).

REPLACE PIVOT STEER BELLCRANKS AND BRACKETS

0411 00

THIS WORK PACKAGE COVERS:

Removal (page 0411 00-1). Inspection-Acceptance and Rejection Criteria (page 0411 00-2). Installation (page 0411 00-3).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

Cotter pin (2)

Locknut (10)

Personnel Required

Unit Mechanic

References

WP 0415 00

Equipment Condition

Engine stopped/shutdown (see your -10)

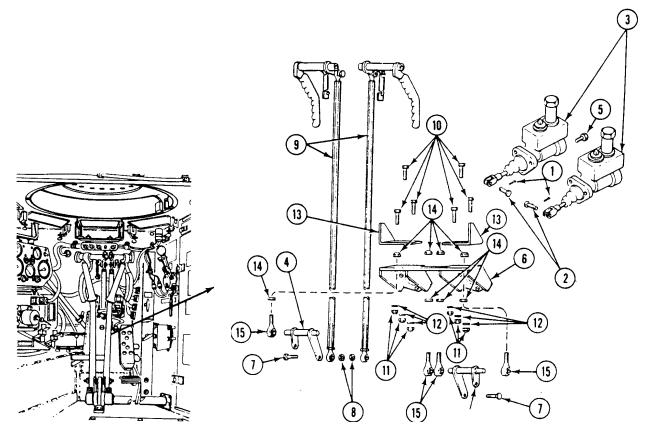
Carrier blocked (see your -10)

Ramp lowered (see your -10)

Driver's seat removed (WP 0478 00)

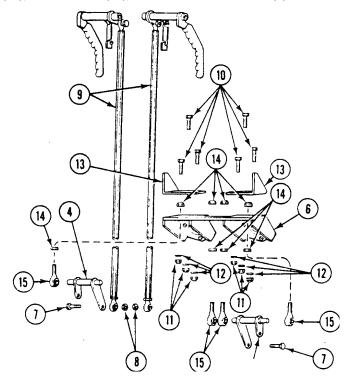
REMOVAL

- 1. Remove two cotter pins (1) and clevis pins (2) that secure two master cylinders (3) to levers and shafts (4). Discard cotter pins.
- 2. Remove six screws (5). Pull two master cylinders (3) away from mount (6) as far as possible.
- 3. Remove two screws (7), locknuts (8), and links (9) from levers and shafts (4). Discard locknuts.



0411 00-1

- 4. Remove six screws (10), nuts (11), washers (12), and mount (6) from two brackets (13).
- 5. Remove eight locknuts (14), four rod ends (15), and two levers and shafts (4) from mount (6). Discard locknuts.

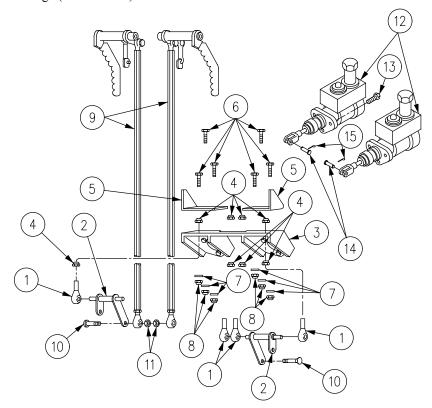


INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check all parts for cracks, wear and damage. Replace if needed.

INSTALLATION

- 1. Install four rod ends (1) on ends of levers and shafts (2).
- 2. Secure four rod ends (1) to mount (3) with eight new locknuts (4).
- 3. Install mount (3) on two brackets (5). Secure with six screws (6), washers (7), and nuts (8).
- 4. Install two links (9) to levers and shafts (2). Secure with two screws (10) and nuts (11).
- 5. Install two master cylinders (12) on mount (3). Secure with six screws (13).
- 6. Install two master cylinders (12) to levers and shafts (2). Secure with two clevis pins (14) and new cotter pins (15).
- 7. Adjust pivot steer linkage (WP 0415 00).



REPLACE PIVOT STEER BELLCRANKS AND BRACKETS — Continued

0411 00

FOLLOW-THROUGH STEPS

- 1. Install driver's seat (WP 0478 00).
- 2. Start engine (see your -10).
- 3. Raise and lock ramp (see your -10).
- 4. Operate carrier (see your -10). Check that pivot steer system operates properly.
- 5. Stop/shutdown engine (see your -10).

REPLACE PIVOT STEER MASTER CYLINDERS AND HOSES

0412 00

THIS WORK PACKAGE COVERS:

Removal (page 0412 00-1). Installation (page 0412 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

FRH hydraulic fluid (WP 0782 00, Item 27)

Cotter pin (2)

Locknut (3)

Preformed packing (2)

Personnel Required

Unit Mechanic

References

WP 0409 00

Equipment Condition

Engine stopped/shutdown (see your -10)

Carrier blocked (see your -10)

Ramp lowered (see your -10)

Driver's seat removed (WP 0478 00)

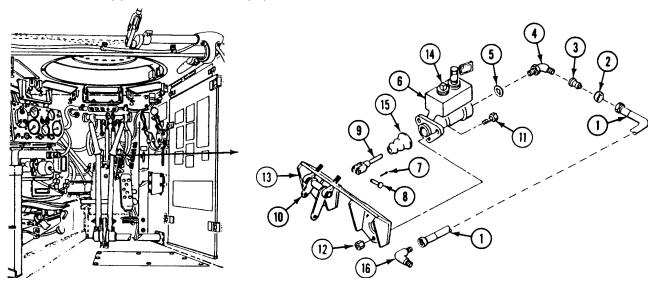
Pivot steer system drained (WP 0409 00)

REMOVAL

NOTE

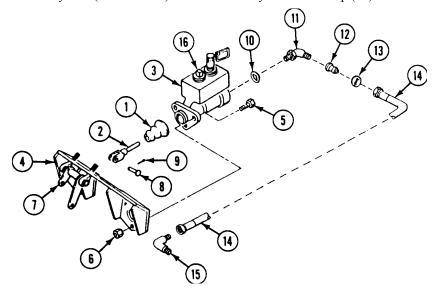
Both master cylinders are removed and installed in the same way.

- 1. Remove hose (1), nut (2), and adapter (3) from elbow (4).
- 2. Remove elbow (4) and preformed packing (5) from master cylinder (6). Discard packing.
- 3. Remove cotter pin (7) and clevis pin (8). Disconnect clevis (9) from levers and shaft (10). Discard cotter pin.
- 4. Remove three screws (11), locknuts (12), and master cylinder (6) from support (13). Discard locknuts.
- 5. Remove master cylinder filler cap (14). Empty master cylinder (6).
- 6. Remove clevis (9) and bellows (15) from master cylinder (6).
- 7. Disconnect hose (1) from bulkhead elbow (16).



INSTALLATION

- 1. Install bellows (1) and clevis (2) in master cylinder (3).
- 2. Place master cylinder (3) on support (4). Secure with three screws (5) and new locknuts (6).
- 3. Install clevis (2) to levers and shaft (7). Secure with clevis pin (8) and new cotter pin (9).
- 4. Install new preformed packing (10) and elbow (11) in master cylinder (3).
- 5. Secure adapter (12), nut (13), and hose (14) to elbow (11).
- 6. Connect hose (14) to bulkhead elbow (15).
- 7. Bleed and fill pivot steer system (WP 0409 00). Install master cylinder filler cap (16).



FOLLOW-THROUGH STEPS

- 1. Install driver's seat (WP 0478 00).
- 2. Start engine (see your -10). Check for hydraulic leaks.
- 3. Raise and lock ramp (see your -10).
- 4. Operate carrier to check that brake system operates properly.
- 5. Stop/shutdown engine (see your -10).

REPLACE/REPAIR PIVOT STEER BRAKES, HOSES, TUBES, AND FITTINGS

0413 00

THIS WORK PACKAGE COVERS:

Removal (page 0413 00-2). Inspection-Acceptance and Rejection Criteria (page 0413 00-3). Installation (page 0413 00-4).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Torque Wrench (WP 0780 00, Item 104)

Materials/Parts

FRH hydraulic fluid (WP 0782 00, Item 27)

Packing (8)

Personnel Required

Unit Mechanic

References

WP 0120 00

WP 0409 00

Equipment Condition

Engine stopped/shutdown (see your -10)

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

Trim vane lowered and power plant front access door

open (see your -10)

Hull front access cover removed (WP 0457 00)

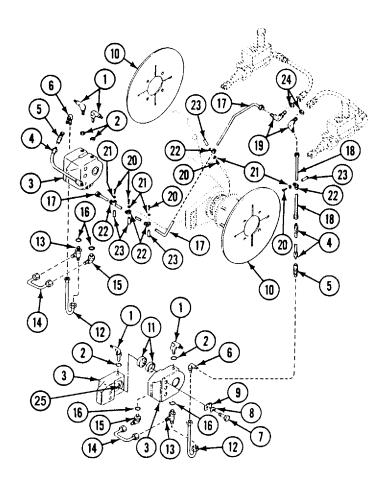
Pivot steer system drained (WP 0409 00)

$\label{eq:repair_pivot_steer_brakes} \textbf{REPLACE}/\textbf{REPAIR_PIVOT_STEER_BRAKES}, \textbf{HOSES}, \textbf{TUBES}, \textbf{AND} \\ \textbf{FITTINGS} \leftarrow \textbf{Continued}$

0413 00

REMOVAL

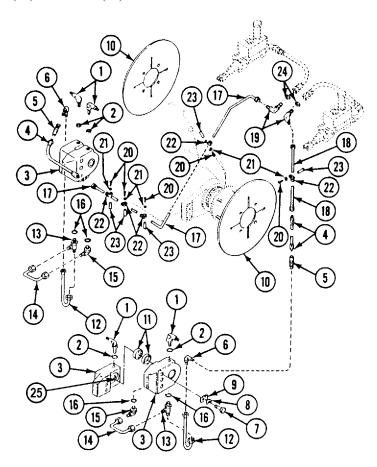
1. Remove four elbows (1) (with bleeder valves) and packings (2) from two pivot steer brakes (3). Discard packings.



REPLACE/REPAIR PIVOT STEER BRAKES, HOSES, TUBES, AND FITTINGS — Continued

0413 00

- 2. Disconnect two hoses (4) from quick disconnect couplings (5).
- 3. Remove two couplings (5) from two elbows (6).
- 4. Remove six screws (7), washers (8), two clips (9), and two pivot steer brakes (3) from two pivot steer disks (10).
- 5. Remove brake linings (11) from each pivot steer brake half (3).
- 6. Remove two elbows (6), tubes (12), tees (13), tubes (14), elbows (15), and four packings (16) from two pivot steer brakes (3). Discard packings.
- 7. Remove two hoses (4) from tubes (17) and (18).
- 8. Disconnect tubes (17) and (18) from elbows (19).
- 9. Remove five screws (20), washers (21), clamps (22), and tubes (17) and (18) from five weldnuts (23).
- 10. Remove two nuts (24) and elbows (19) from bulkhead.



INSPECTION-ACCEPTANCE AND REJECTION CRITERIA

1. Check all parts for cracks, wear, and damage. Replace if needed.

REPLACE/REPAIR PIVOT STEER BRAKES, HOSES, TUBES, AND FITTINGS — Continued

0413 00

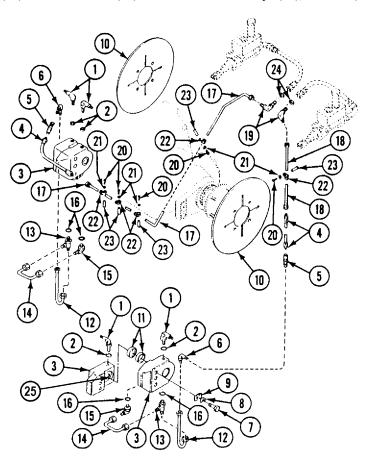
INSTALLATION

- 1. Install four new packings (16), two elbows (15), and tees (13) in pivot steer brakes (3).
- 2. Connect two tubes (14) to tees (13) and elbows (15).
- 3. Connect two tubes (12) to tees (13).
- 4. Install two elbows (6) in tubes (12).
- 5. Install four elbows (1) (with bleeder valves) and four new packings (2) in pivot steer brakes (3).

CAUTION

Do not scratch brake cylinder walls when pushing brake pistons to bottom of cylinders.

- 6. Using a suitable tool, push brake pistons (25) into pivot steer brake halves (3) until pistons bottom out.
- 7. Install one brake lining (11) in each pivot steer brake half (3).
- 8. Place two brakes (3) on pivot steer disks (10). Secure with six screws (7), washers (8), and two clips (9).
- 9. TIGHTEN SIX SCREWS (7) TO 100-110 LB-FT (136-149 N·M) TORQUE. Use torque wrench.
- 10. Connect two hoses (4) and quick disconnect couplings (5) to elbows (6).
- 11. Install two elbows (19) in bulkhead. Secure with two nuts (24).
- 12. Connect two tubes (17) and (18) to elbows (19) and hoses (4).
- 13. Install two tubes (17) and (18) to five weldnuts (23). Secure with five clamps (22), washers (21), and screws (20).



REPLACE/REPAIR PIVOT STEER BRAKES, HOSES, TUBES, AND FITTINGS — Continued

0413 00

- 14. Fill pivot steer system (WP 0120 00).
- 15. Bleed pivot steer system (WP 0409 00).

FOLLOW-THROUGH STEPS

- 1. Close power plant front access door and raise trim vane (see your -10).
- 2. Install hull front access cover (WP 0457 00).
- 3. Start engine (see your -10). Check for hydraulic leaks.
- 4. Raise and lock ramp (see your -10).
- 5. Unblock carrier and operate carrier (see your -10). Check that pivot steer system operates properly.
- 6. Stop/shutdown engine (see your -10).

END OF TASK

REPLACE PIVOT STEER BRAKE DISK

0414 00

THIS WORK PACKAGE COVERS:

Removal (page 0414 00-1). Installation (page 0414 00-2).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29) Torque Wrench (WP 0780 00, Item 103)

Materials/Parts

Locknut (4)

Personnel Required

Unit Mechanic

Equipment Condition

Engine stopped/shutdown (see your -10)
Drive shaft removed (WP 0348 00)
Brākes removed (WP 04 13 00)

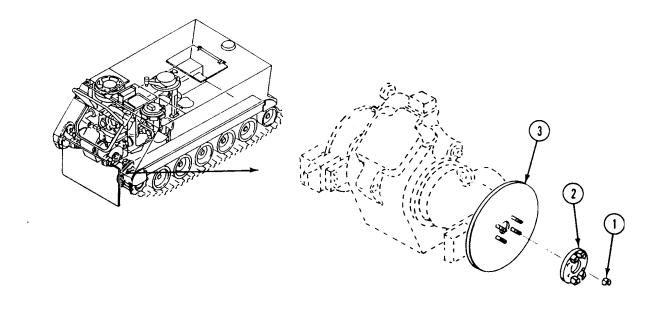
Carrier blocked (see your -10)

REMOVAL

NOTE

Left and right brake disks are removed and installed in the same manner.

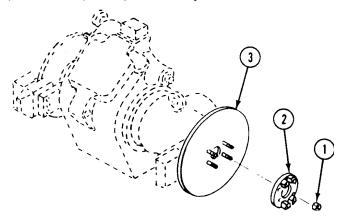
1. Remove four locknuts(1), adapter (2), and brake disk (3) from differential output shaft. Discard locknuts.



0414 00

INSTALLATION

1. Install new brake disk (3) and adapter (2) on differential output shaft. Secure with four new locknuts (1). TIGHTEN NUTS TO 75-80 LB-FT (102-108 N·M) TORQUE. Use torque wrench.



FOLLOW-THROUGH STEPS

- 1. Install drive shaft (WP 0348 00).
- 2.

 Install brakes (WP 0413 00).

END OF TASK

ADJUST PIVOT STEER LINKAGE

0415 00

THIS WORK PACKAGE COVERS:

Adjustment (page 0415 00-1).

INITIAL SETUP:

Maintenance Level

Unit

Tools and Special Tools

General Mechanic's Tool Kit (WP 0780 00, Item 29)

Materials/Parts

FRH hydraulic fluid (WP 0782 00, Item 27) Locknut (2)

Personnel Required

Unit Mechanic

References

WP 0120 00

Equipment Condition

Engine stopped/shutdown (see your -10)

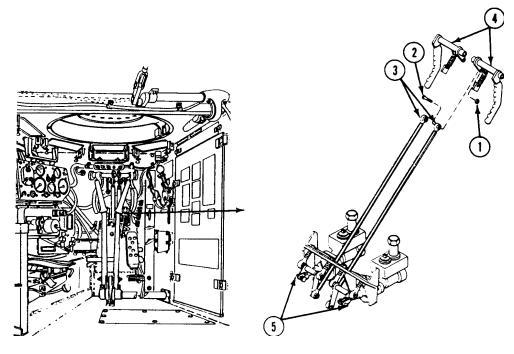
Carrier blocked (see your -10)

Ramp lowered (see your -10)

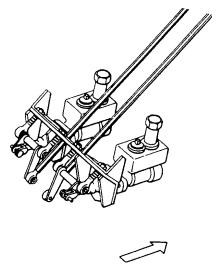
Driver's seat removed (WP 0478 00)

ADJUSTMENT

- 1. Remove two locknuts (1), screws (2), and rod end bearings (3) from two control handles (4). Discard locknuts.
- 2. Push two control handles (4) forward to full release position.
- 3. Move two master cylinder clevises (5) until contact with master cylinder internal piston is made.



4. Pull master cylinder piston all the way in.

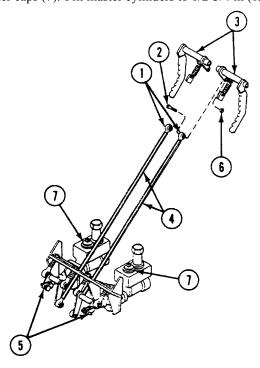


- 5. Turn two rod end bearings (1) until two screws (2) pass freely through two rod end bearings and two control handles (3).
- 6. Turn two rod end bearings (1) one turn to the left to lengthen two rods (4). Obtain 1/32 in (0.8 mm) clearance between master cylinder clevises (5) and master cylinder internal piston.
- 7. Install two rod end bearing (1) on control handles (3). Secure with two screws (2) and new locknuts (6).
- 8. Tighten locknuts (6) on rod end bearings (1).

CAUTION

Use FRH hydraulic fluid only (WP 0120 00).

9. Remove two master cylinder filler caps (7). Fill master cylinders to 1/2-3/4 in (13-19 mm) from top. Install filler caps.



ADJUST PIVOT STEER LINKAGE — Continued

0415 00

FOLLOW-THROUGH STEPS

- 1. Install driver's seat (WP 0441 00).
- 2. Raise and lock ramp (see your -10).
- 3. Operate carrier (see your -10). Check that pivot steer system operates properly. Check for hydraulic leaks.
- 4. Stop/shutdown engine (see your -10).

END OF TASK

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Use Part II (reverse) for Repair Parts and Special Tools Lists (RPSTL) and Supply Catalogs/Supply Manuals SC/SM).

Date

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PART I - ALL PUBLICATIONS (EXCEPT RPSTL AND SC/SM) AND BLANK FORMS

PUBLICATION/FORM NUMBER DATE TITLE 26 AUGUST 2005 Unit Maintenance Manual for TM 9-2350-261-20-2 M113A2, M577A2, M1064, M1068, M1059, and M901A1 **PAGE FIGURE TABLE** RECOMMENDED CHANGES AND REASON **ITEM PARA** LINE NO. 0052 00-4 Inspection Step 1 WP reference should be (WP 0003 00) *Reference to line numbers within the paragraph or subparagraph.

TYPED, GRADE OR TITLE

EXTENSION

TELEPHONE EXCHANGE/AUTOVON, PLUS

TO: (Forward direct to addressee listed in publication)	FROM: (Act	tivity and loca Zip Code)	tion) (Include	Date
PART II – REPAIR PART	S AND SPECIAL TOO	OL LISTS AND SU	PPLY CATALOGS/S	SUPPLY MANUALS
PUBLICATION/FORM NUMBER TM 9-2350-261-20-2	DATE 26 AUG	GUST 2005		ce Manual for M113A2, M577A2, M1059, and M901A1
PAGE NO. NO. LINE NATIONAL STOC NUMBER	REFERENCE NO.	FIGURE ITEM NO. NO		RECOMMENDED ACTION
	rks or recommendational blank sheets ma	ay be used if mo	e space is needed	
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PUBLIC	ATION/FO		MBER 50-261-20-2	DATE 26 AL	JGUST 200	5	TITLE Unit Maintenanc M1064, M1068,		113A2, M577A2, 001A1
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMM	IENDED ACTION
P/	ART III – F	REMARI	KS (Any general remark	s or recommenda	ations, or su	ggestion	ns for improvemer.	nt of publications	s and blank forms.
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PUBLIC	ATION/FO		MBER 50-261-20-2	DATE 26 AL	JGUST 200	5	TITLE Unit Maintenanc M1064, M1068,		113A2, M577A2, 001A1
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PUBLIC	ATION/FO		MBER 50-261-20-2	DATE 26 A	UGUST 20	005	TITLE Unit Maintenand M1064, M1068,		113A2, M577A2, 901A1
PAGE NO.	COLM NO.	LINE NO.	NATIONAL STOCK NUMBER	REFERENCE NO.	FIGURE NO.	ITEM NO.	TOTAL NO. OF MAJOR ITEMS SUPPORTED	RECOMM	IENDED ACTION
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By Order of the Secretary of the Army:

PETER J. SCHOOMAKER General, United States Army Chief of Staff

Official:

SANDRA R. RILEY

Administrative Assistant to the

Secretary of the Army

0520001

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THE METRIC SYSTEM AND EQUIVALENTS

LINEAR MEASURE

- 1 Centimeter = 10 Millimeters = 0.01 Meters = 0.3937 Inches
- 1 Meter = 100 Centimeters = 1000 Millimeters = 39.37 Inches
- 1 Kilometer = 1000 Meters = 0.621 Miles

WEIGHTS

- 1 Gram = 0.001 Kilograms = 1000 Milligrams = 0.035 Ounces
- 1 Kilogram = 1000 Grams = 2.2 Lb.
- 1 Metric Ton = 1000 Kilograms = 1 Megagram = 1.1 Short Tons

LIQUID MEASURE

- 1 Milliliter = 0.001 Liters = 0.0338 Fluid Ounces
- 1 Liter = 1000 Milliliters = 33.82 Fluid Ounces

TO CHANGE	то	MULTIPLY BY
Inches	Centimeters	2.540
Feet	Meters	0.305
Yards	Meters	0.914
Miles	Kilometers	1.609
Square Inches	Square Centimeters	6.451
Square Feet		
Square Yards	Square Meters	0.836
Square Miles	Square Kilometers	2.590
Acres	Square Hectometers .	0.405
Cubic Feet	Cubic Meters	0.028
Cubic Yards	Cubic Meters	0.765
Fluid Ounces	Millimeters	29.573
Pints	Liters	0.473
Quarts	Liters	0.946
Gallons	Liters	3.785
Ounces	Grams	28.349
Pounds	Kilograms	0.454
Short Tons	Metric Tons	0.907
Pound-Feet	Newton-Meters	1.356
Pounds per Square Inch	Kilopascals	6.895
Miles per Gallon	Kilometers per Liter	0.425
Miles per Hour		
TO CHANGE	TO	MULTIPLY BY
TO CHANGE Centimeters	. •	
	Inches	0.394
Centimeters	Inches	0.394
Centimeters Meters	Inches	0.394 3.280 1.094
Meters Kilometers Square Centimeters	Inches	
Centimeters Meters Meters Kilometers	Inches	
Meters Kilometers Square Centimeters	Inches	0.394 3.280 1.094 0.621 0.155
Centimeters	Inches	0.394 3.280 1.094 0.621 0.155 10.764
Centimeters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386
Centimeters Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471
Centimeters Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315
Centimeters Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308
Centimeters Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Cubic Meters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034
Centimeters Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Square Hectometers Cubic Meters Milliliters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034
Meters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113
Meters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057 0.264 0.035
Centimeters Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057 0.264 0.035
Meters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057 0.264 0.035 2.205
Centimeters Meters Meters Kilometers Square Centimeters Square Meters Square Meters Square Kilometers Cubic Meters Cubic Meters Milliliters Liters Liters Liters Grams Kilograms	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057 0.264 0.035 2.205
Meters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057 0.264 0.035 2.205 1.102 0.738 ch 0.145
Meters	Inches	0.394 3.280 1.094 0.621 0.155 10.764 1.196 0.386 2.471 35.315 1.308 0.034 2.113 1.057 0.264 0.035 2.205 1.102 0.738 ich 0.145

SQUARE MEASURE

1 Sq. Centimeter = 100 Sq. Millimeters = 0.155 Sq. Inches

1 Sq. Meter = 10,000 Sq. Centimeters = 10.76 Sq. Feet

1 Sq. Kilometer = 1,000 Sq. Meters = 0.386 Sq. Miles

CUBIC MEASURE

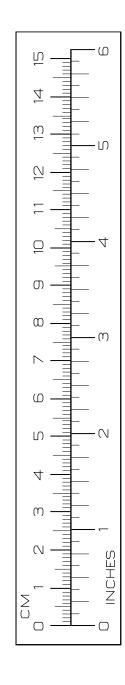
1 Cu. Centimeter = 1000 Cu. Millimeters = 0.06 Cu. Inches 1 Cu. Meter = 1,000,000 Cu. Centimeters = 35.31 Cu. Feet

TEMPERATURE

5/9 (°F - 32) = °C

212° Fahrenheit is equivalent to 100° Celsius 90° Fahrenheit is equivalent to 32.2° Celsius 32° Fahrenheit is equivalent to 0° Celsius

(9/5 x °C) + 32 = °F



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