
CIRCUIT BREAKER REPLACEMENT, AUXILIARY (M1240/M1240A1)

Preconditions

Park vehicle
Engine OFF
Wheels chocked
Batteries disconnected (M1240/M1240A1)
(WP 0186)

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive

Materials/Parts

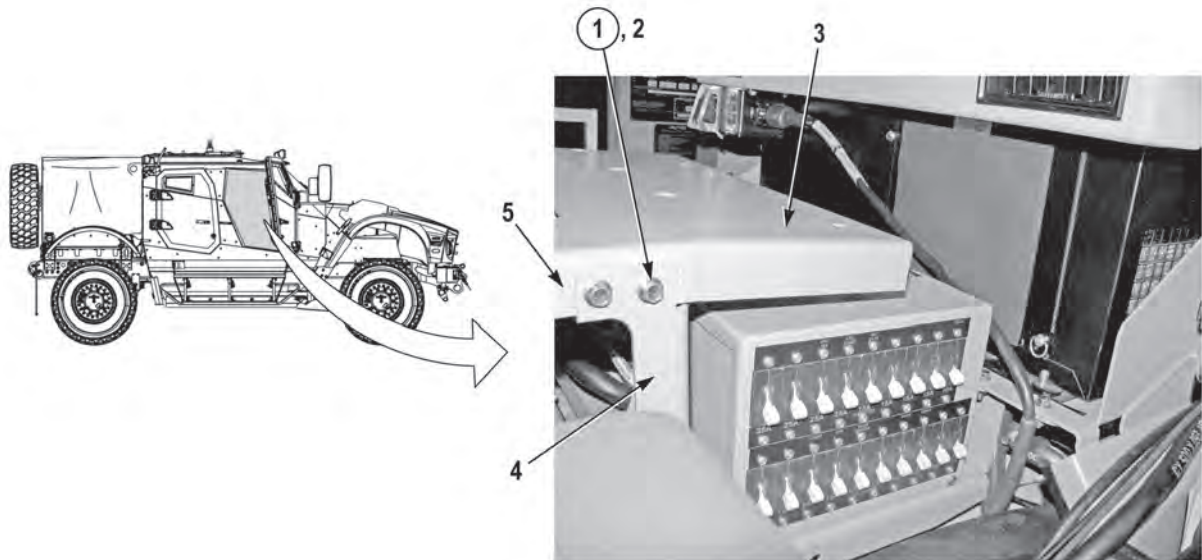
Locknut (2) (Item 1)
Locknut (2) (Item 6)

Materials/Parts (Continued)

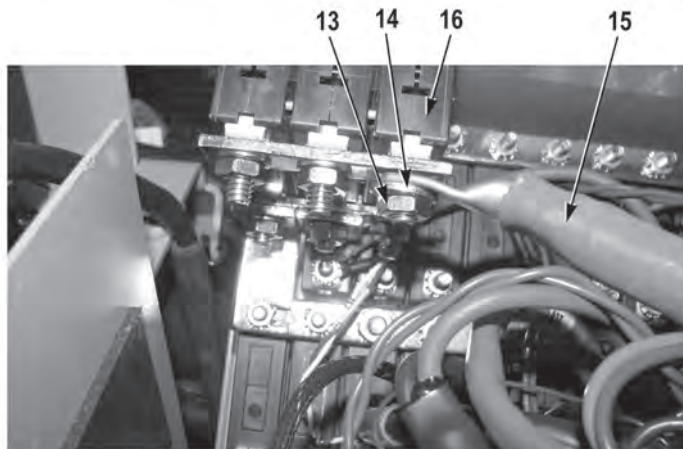
Lockwasher (2) (Item 18)
Lockwasher (2) (Item 22)
Lockwasher (8) (Item 27)
Lockwasher (Item 31)

Follow-On Maintenance

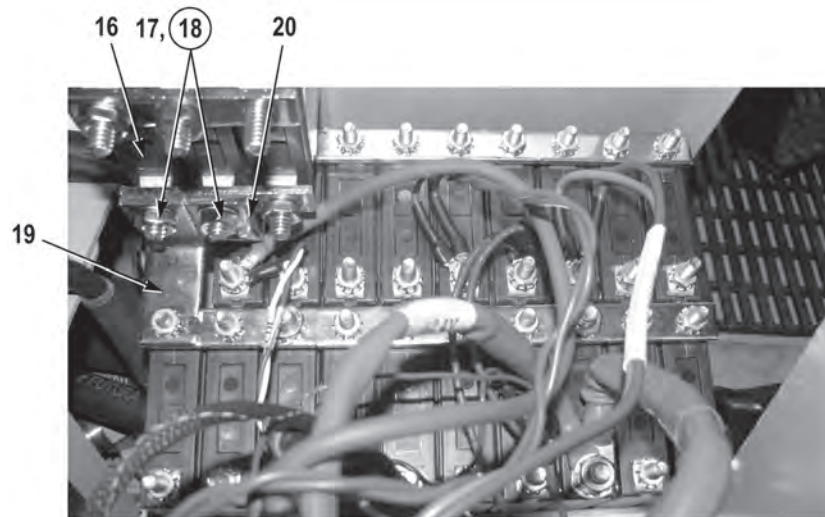
Connect batteries (M1240/M1240A1) (WP 0186)
Remove and stow wheel chocks

REMOVAL

1. Remove two locknuts (1), and screws (2) from front radio mount (3), bracket (4), and rear radio mount (5). Discard locknuts (1).



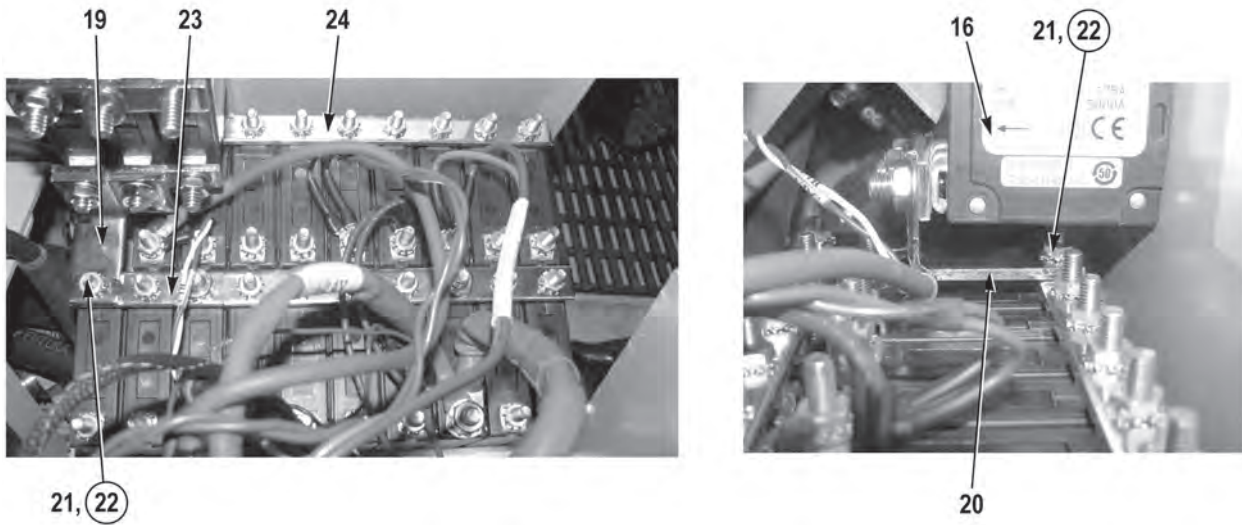
4. Remove nut (13), washer (14), and wire (15) from main circuit breaker (16).



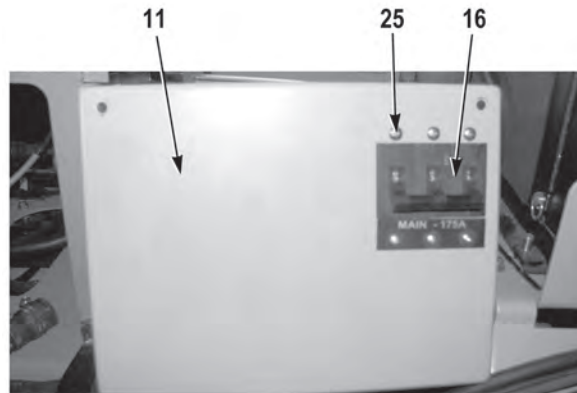
NOTE

If removing circuit breaker(s) on top row, main circuit breaker must first be removed.

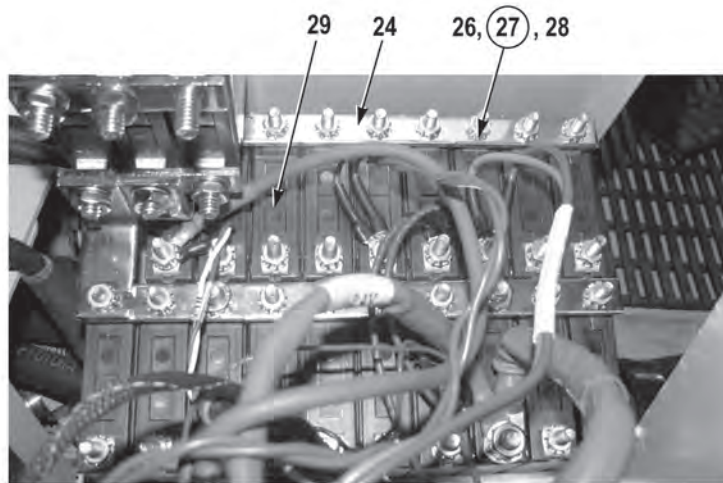
5. Remove two nuts (17) and lockwashers (18) from tie bar (19), tie bar (20), and main circuit breaker (16). Discard lockwashers (18).



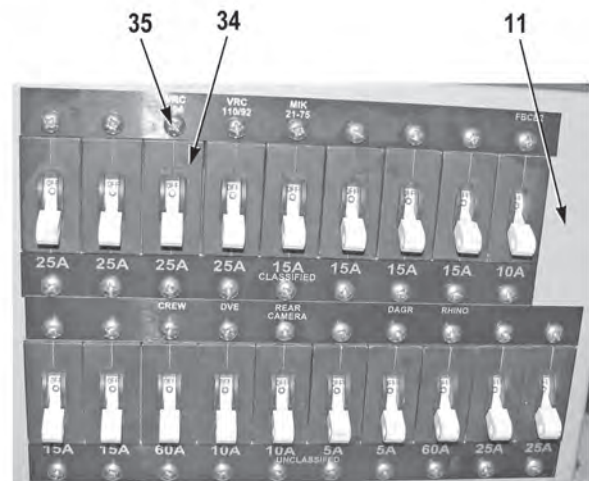
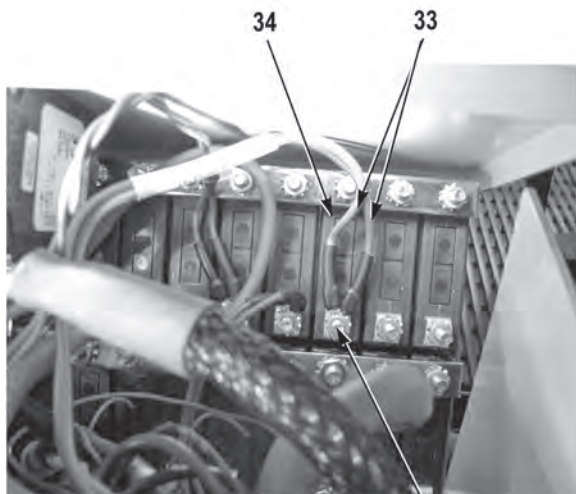
6. Remove two nuts (21), lockwashers (22), tie bar (19), and tie bar (20) from main circuit breaker (16), bus bar (23) and bus bar (24). Discard lockwashers (22).



7. Remove six screws (25) and main circuit breaker (16) from circuit breaker cover (11).



8. Remove eight nuts (26), lockwashers (27), bus bar (24), and nine washers (28) from nine circuit breakers (29). Discard lockwashers (27).



30, (31), 32

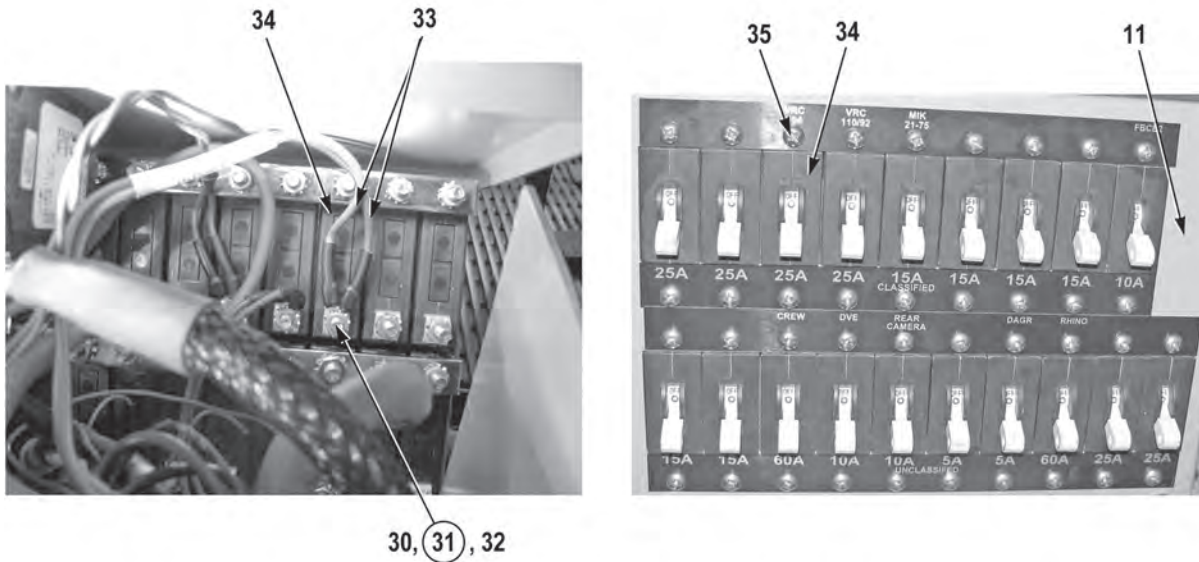
NOTE

All circuit breakers are removed the same way. Number of wires required to remove circuit breakers may vary, depending on equipment connected to circuit breakers.

9. Remove nut (30), lockwasher (31), washer (32), and two wires (33) from circuit breaker (34). Discard lockwasher (31).
10. Remove two screws (35) and circuit breaker (34) from circuit breaker cover (11).

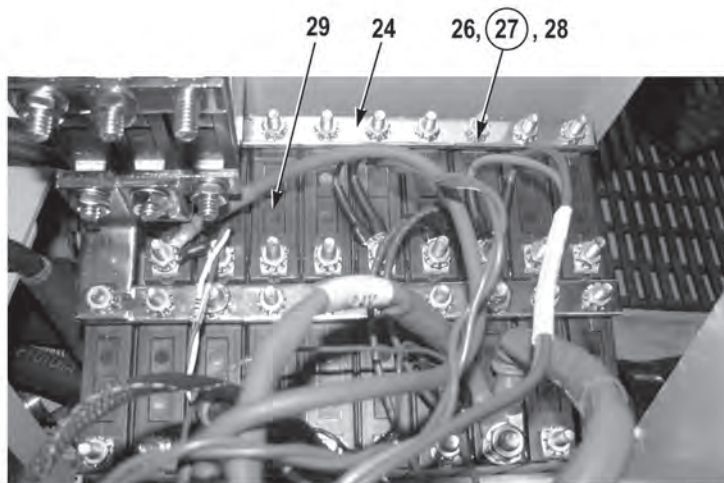
END OF TASK

INSTALLATION



30, (31), 32

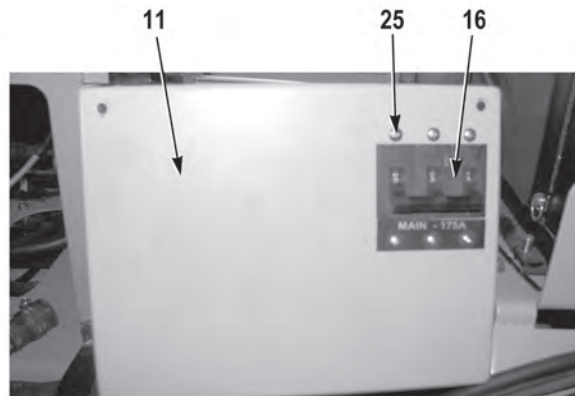
1. Install circuit breaker (34) on circuit breaker cover (11) with two screws (35).
2. Install two wires (33) on circuit breaker (34) with washers (32), new lockwashers (31), and nut (30).



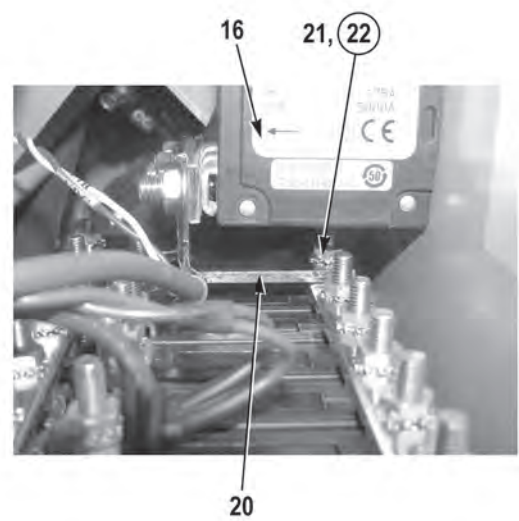
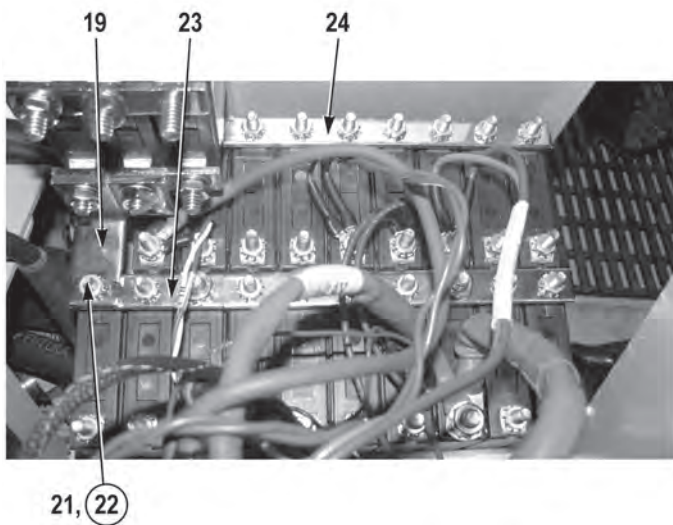
NOTE

All circuit breakers are removed the same way. Number of wires required to install circuit breakers may vary, depending on equipment connected to circuit breakers.

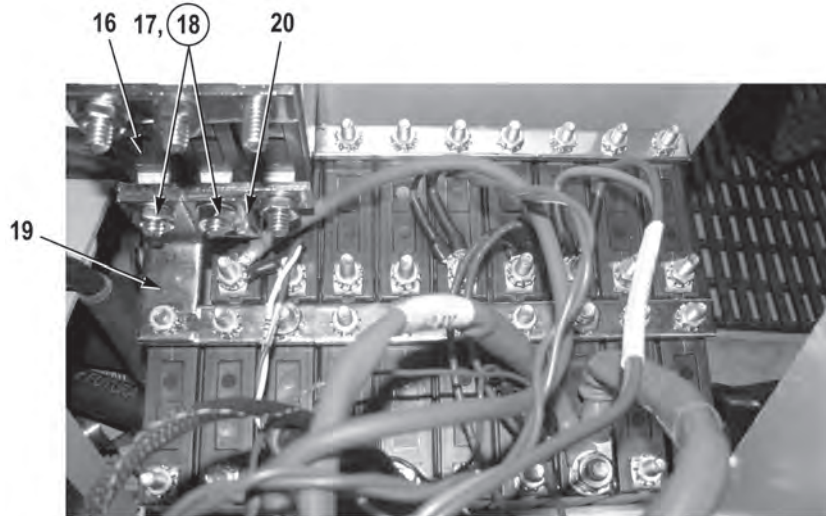
3. Position nine washers (28) on circuit breakers (29).
4. Install bus bar (24) on nine circuit breakers (29) with eight new lockwashers (27) and nuts (26).



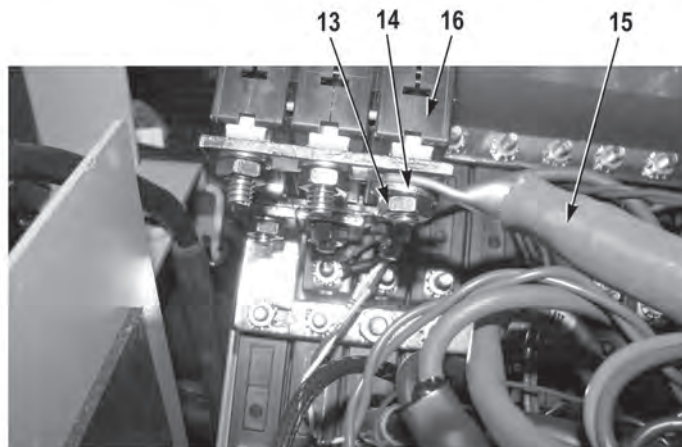
5. Install main circuit breaker (16) on circuit breaker cover (11) with six screws (25).



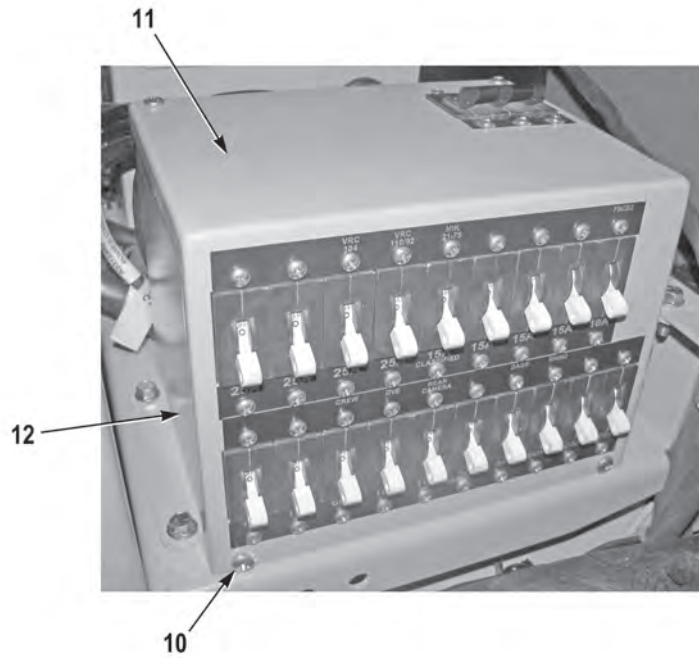
6. Install tie bar (20) and tie bar (19) on bus bar (24), bus bar (23), and main circuit breaker (16) with two new lockwashers (22) and nuts (21).



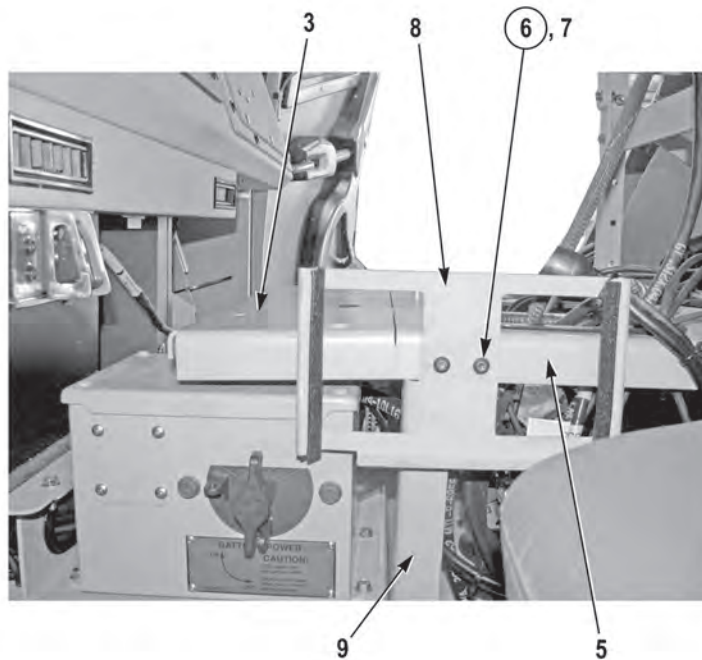
7. Secure tie bar (19) and tie bar (20) on main circuit breaker (16) with two new lockwashers (18) and nuts (17).



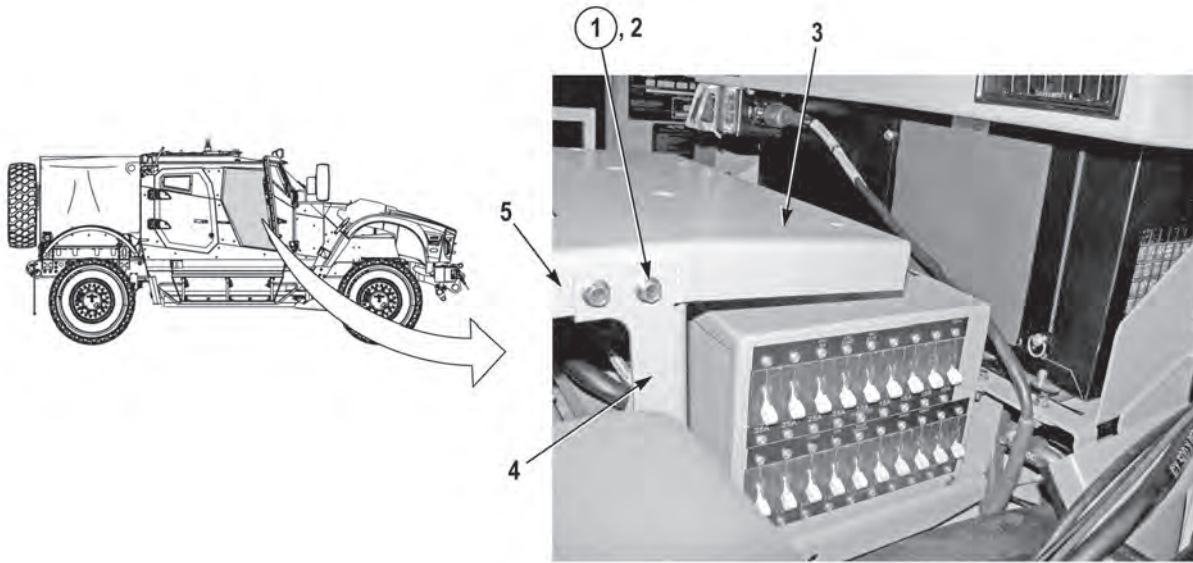
8. Install wire (15) on main circuit breaker (16) with washer (14) and nut (13).



9. Install circuit breaker cover (11) on breather case (12) with four screws (10).



10. Install front radio mount (3) and bracket (8) on rear radio mount (5) and bracket (9) with two screws (7) and new locknuts (6).



11. Install front radio mount (3) on bracket (4) and rear radio mount (5) with two screws (2) and new locknuts (1).
12. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

CIRCUIT BREAKER REPLACEMENT, DASH

Preconditions

Park vehicle
Engine OFF
Wheels chocked
Batteries disconnected (M1240/M1240A1)
(WP 0186)
Batteries disconnected (M1245) (WP 0187)

Materials/Parts

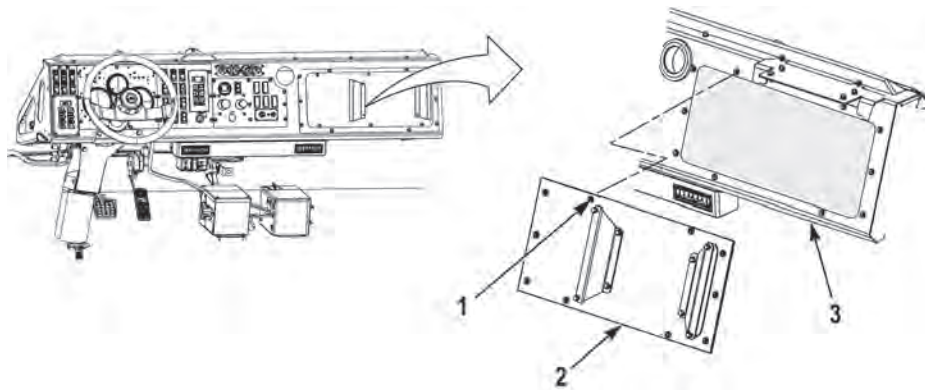
Lubricant, Connector, Nyogel, 760G

Follow-On Maintenance

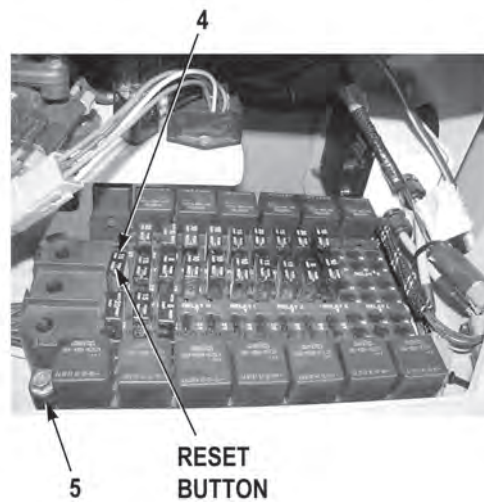
Connect batteries (M1240/M1240A1) (WP 0186)
Connect batteries (M1245) (WP 0187)
Remove and stow wheel chocks

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive

REMOVAL**NOTE**

- Manual and automatic reset circuit breakers are used. Both are removed the same way. Manual circuit breaker shown.
 - Note the amp and type of circuit breaker prior to removal to ensure proper installation.
 - Before performing replacement, depress and hold button on manual circuit breaker for 15 seconds, or wait 15 seconds for automatic circuit breaker to attempt reset.
1. Remove ten screws (1) and dash circuit breaker cover (2) from dash (3).



2. Remove circuit breaker (4) from circuit breaker panel (5).
3. Position circuit breaker (4) on clean work surface.

END OF TASK

INSTALLATION

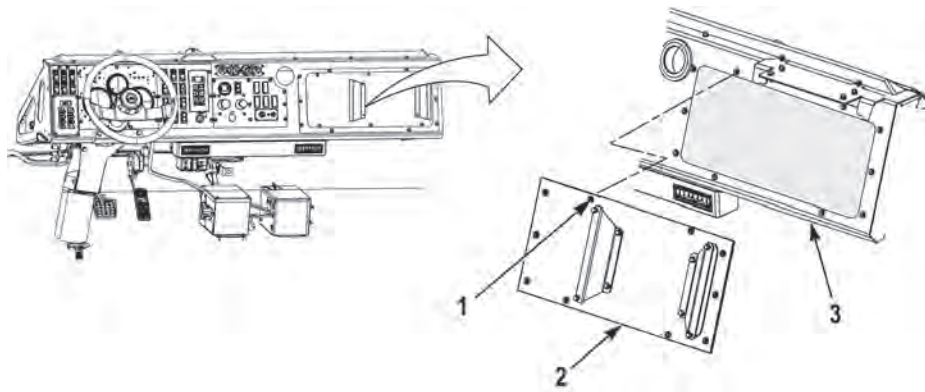
WARNING

Connector lubricant is harmful to skin. Prolonged or repeated contact with skin or contact with eyes may cause irritation. If eyes are contacted, rinse thoroughly and contact physician if irritation persists. If skin is contacted, wash thoroughly with soap and water. Failure to comply may result in injury or death to personnel.

NOTE

Manual and automatic reset circuit breakers are used. Both are installed the same way. Manual circuit breaker shown.

1. Apply connector lubricant, Nyogel 760G, to circuit breaker (4).
2. Install circuit breaker (4) on circuit breaker panel (5).

**NOTE**

Perform Step (3) only when installing manual circuit breakers.

3. Depress and hold reset button for 15 seconds.
4. Install dash circuit breaker cover (2) on dash (3) with ten screws (1).

END OF TASK

END OF WORK PACKAGE

CLEARANCE LIGHTS REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

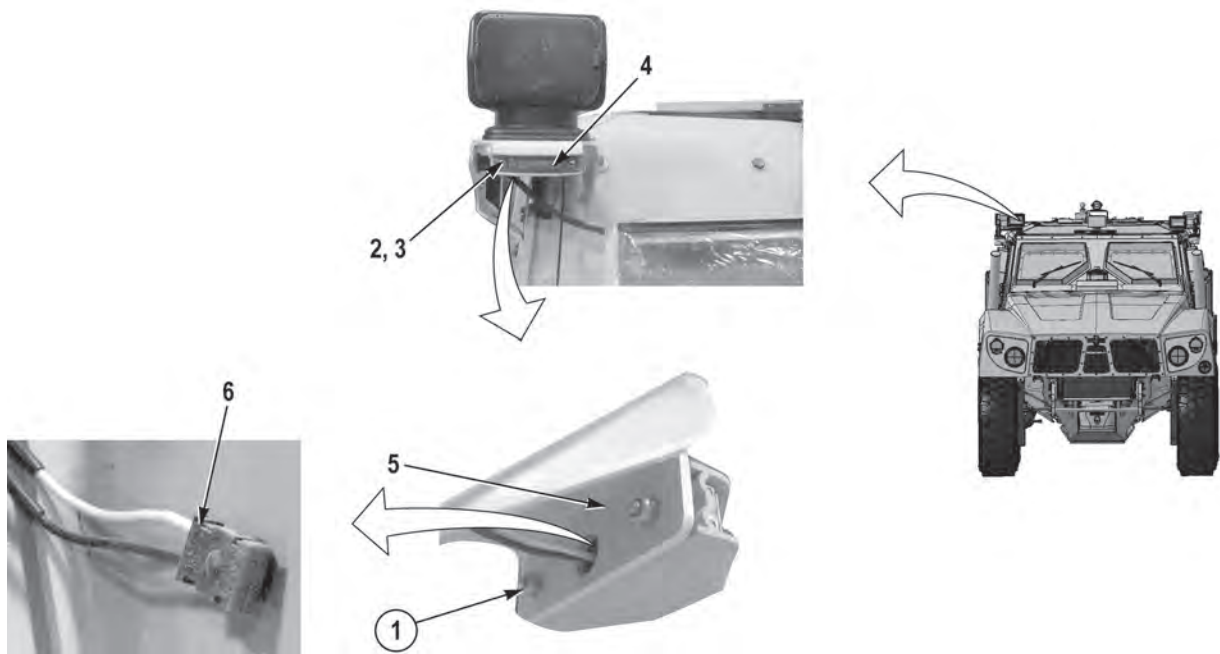
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Locknut (4) (Item 1)
 Locknut (2) (Item 1)
 Lockwasher (2) (Item 2)
 Ties, Cable

Follow-On Maintenance

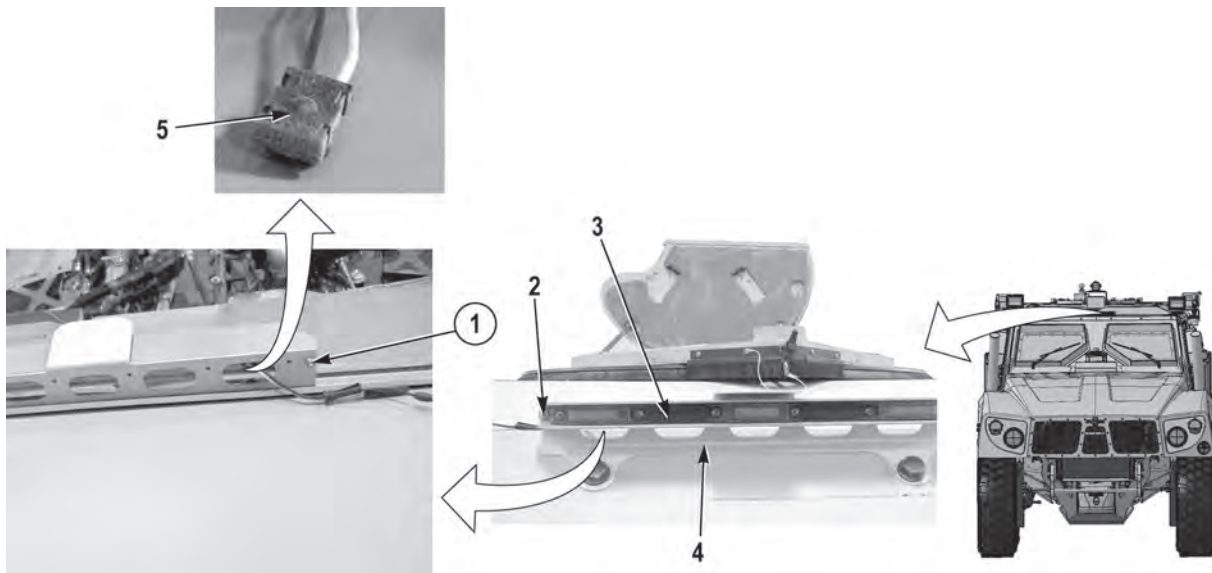
Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

SPOTLIGHT CLEARANCE LIGHTS REMOVAL**NOTE**

Driver side and passenger side clearance lights are removed the same way. Passenger side shown.

1. Remove two locknuts (1), screws (2), washers (3), and pull spotlight clearance light (4) away from bracket (5). Discard locknuts (1).
2. Disconnect connector (6) from spotlight clearance light (4) and remove spotlight clearance light (4) from vehicle.
3. Repeat Steps (1) and (2) for driver side.

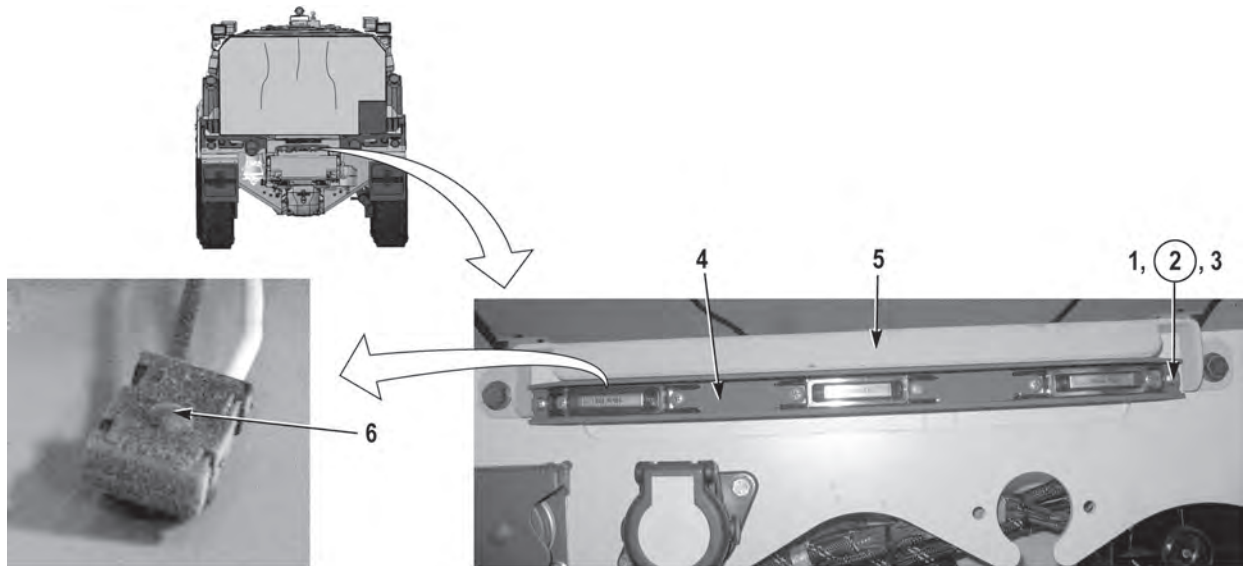
END OF TASK

CAPSULE CLEARANCE LIGHT ASSEMBLY REMOVAL**NOTE**

Remove cable ties as required.

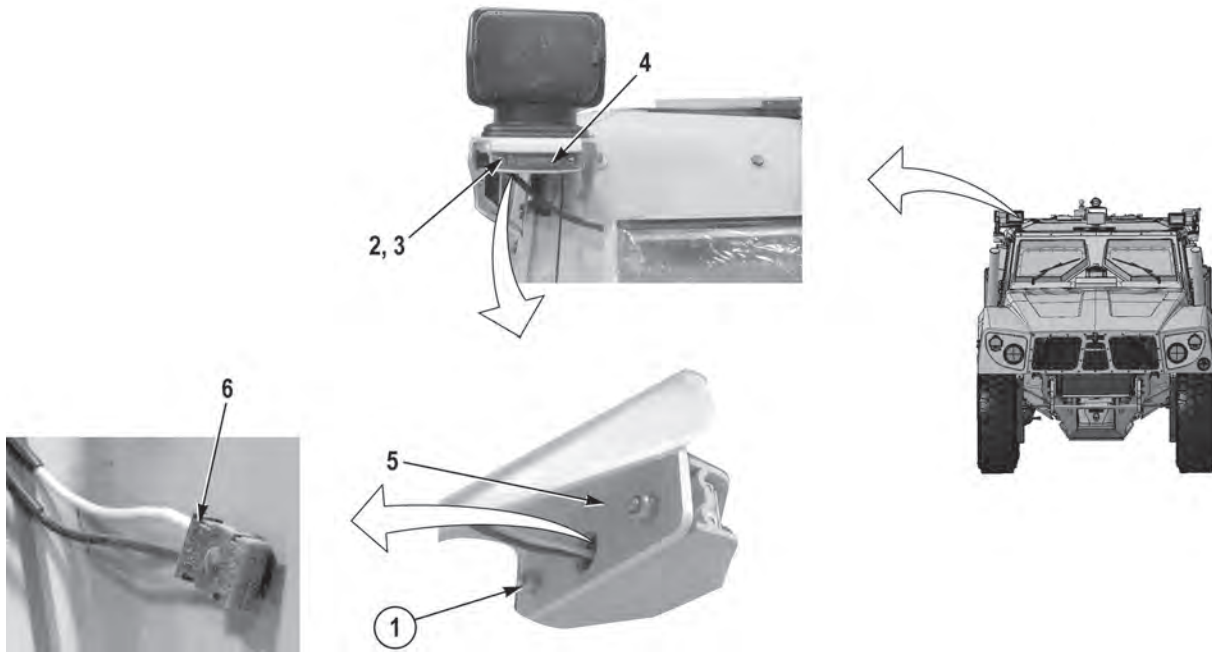
1. Remove two locknuts (1), screws (2), and pull capsule clearance light assembly (3) away from bracket (4). Discard locknuts (1).
2. Disconnect three connectors (5) from capsule clearance light assembly (3) and remove capsule clearance light assembly (3) from vehicle.

END OF TASK

REAR CLEARANCE LIGHT ASSEMBLY REMOVAL

1. Remove two nuts (1), lockwashers (2), screws (3), and pull rear clearance light assembly (4) from bracket (5). Discard lockwashers (2).
2. Disconnect three connectors (6) from spotlight clearance light assembly (4) and remove spotlight clearance light assembly (4) from vehicle.

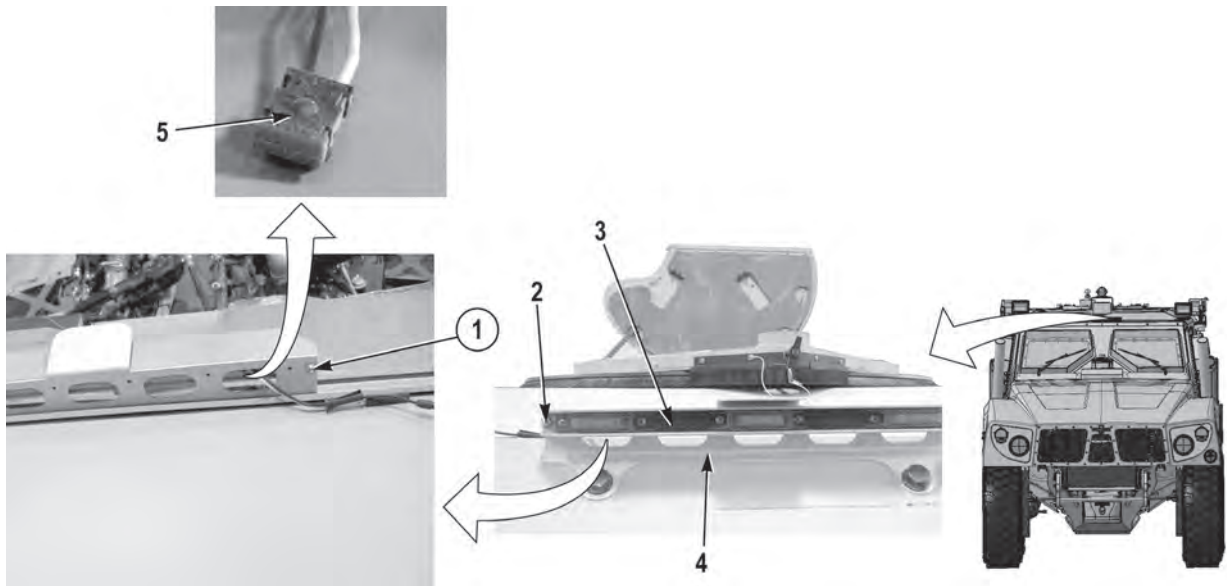
END OF TASK

SPOTLIGHT CLEARANCE LIGHTS INSTALLATION**NOTE**

Driver side and passenger side clearance lights are installed the same way. Passenger side shown.

1. Connect connector (6) to spotlight clearance light (4).
2. Install spotlight clearance light (4) on bracket (5) with two washers (3), screws (2), and new locknuts (1).
3. Repeat Steps (1) and (2) for driver side.
4. Perform all Follow-On Maintenance tasks.

END OF TASK

CAPSULE CLEARANCE LIGHT ASSEMBLY INSTALLATION

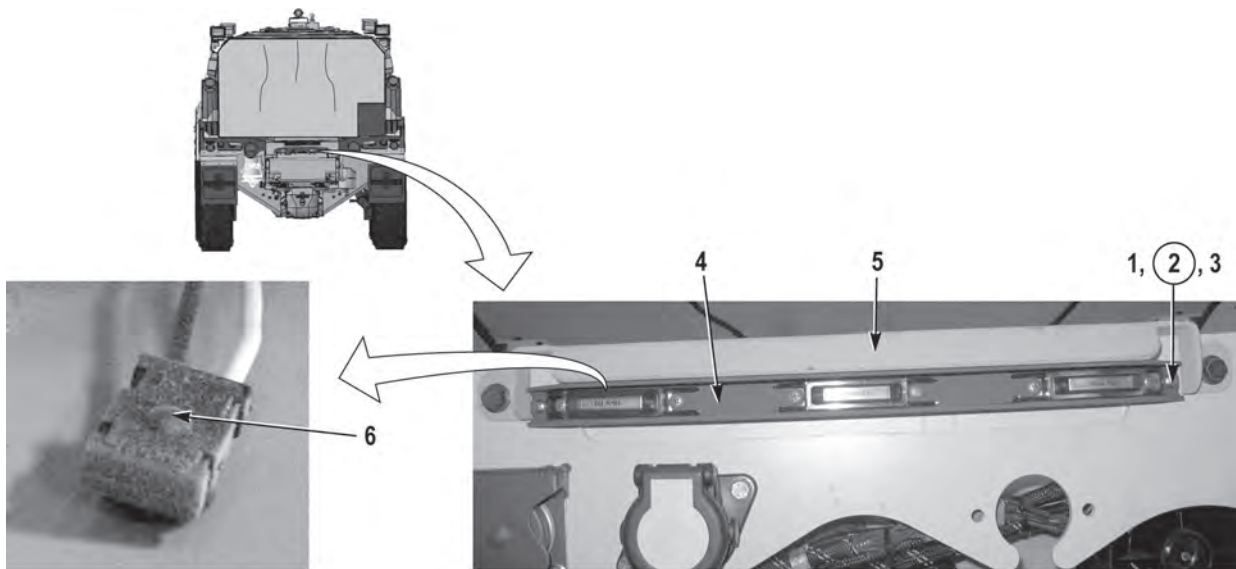
1. Connect three connectors (5) on capsule clearance light assembly (3).

NOTE

Install cable ties as required.

2. Install capsule clearance light assembly (3) on bracket (4) with two screws (2) and new locknuts (1).
3. Perform all Follow-On Maintenance tasks.

END OF TASK

REAR CLEARANCE LIGHT ASSEMBLY INSTALLATION

1. Connect three connectors (6) on rear clearance light assembly (4).
2. Install rear clearance light assembly (4) on bracket (5) with two screws (3), new lockwashers (2), and nuts (1).
3. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

DEICER CIRCUIT BREAKER REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Transmission dash panel removed (WP 0150)

Tools and Special Tools

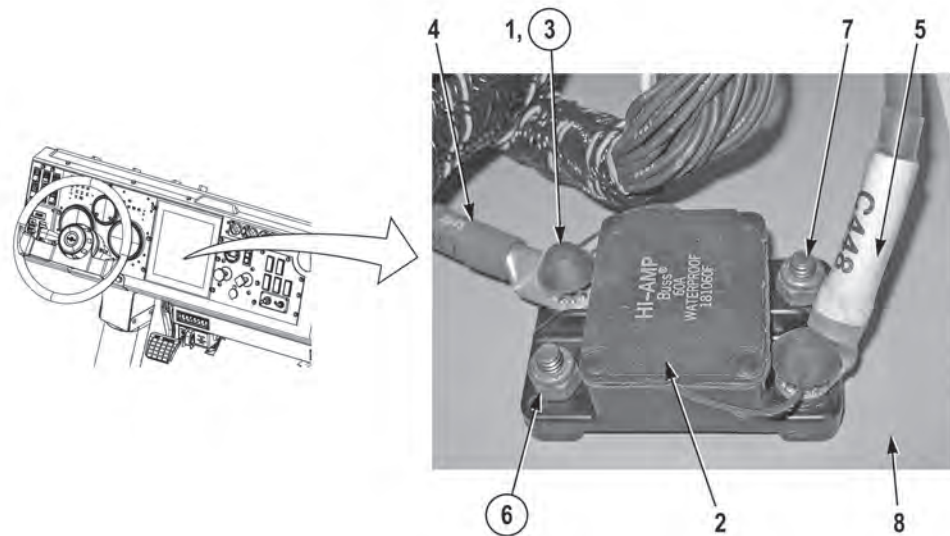
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Locknut (2) (Item 3)
 Locknut (2) (Item 6)
 Tags, Identification

Follow-On Maintenance

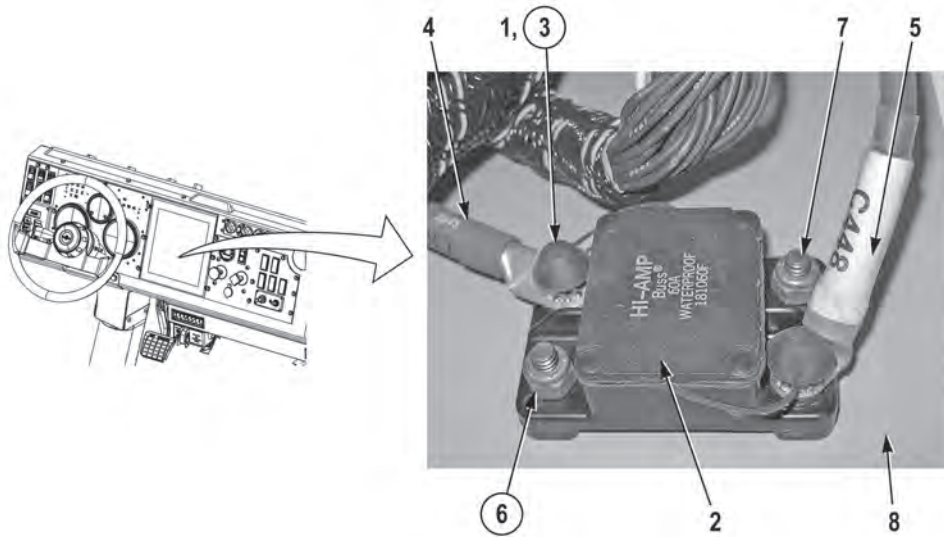
Install transmission dash panel (WP 0150)
 Remove and stow wheel chocks

REMOVAL**NOTE**

Tag and mark wires prior to removal to ensure proper installation.

1. Remove two rubber plugs (1) from deicer circuit breaker (2).
2. Remove two locknuts (3) and wires (4 and 5) from deicer circuit breaker (2). Discard locknuts (3).
3. Remove two locknuts (6), screws (7) and deicer circuit breaker (2) from dash assembly (8). Discard locknuts (6).

END OF TASK

INSTALLATION**NOTE**

Install wire connectors as noted prior to removal.

1. Install deicer circuit breaker (2) on dash assembly (8) with two screws (7) and new locknuts (6).
2. Install two wires (4 and 5) on deicer circuit breaker (2) with two new locknuts (3).
3. Install two rubber plugs (1) on deicer circuit breaker (2).
4. Perform all Follow-On Maintenance tasks.

END OF TASK**END OF WORK PACKAGE**

DIMMER REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

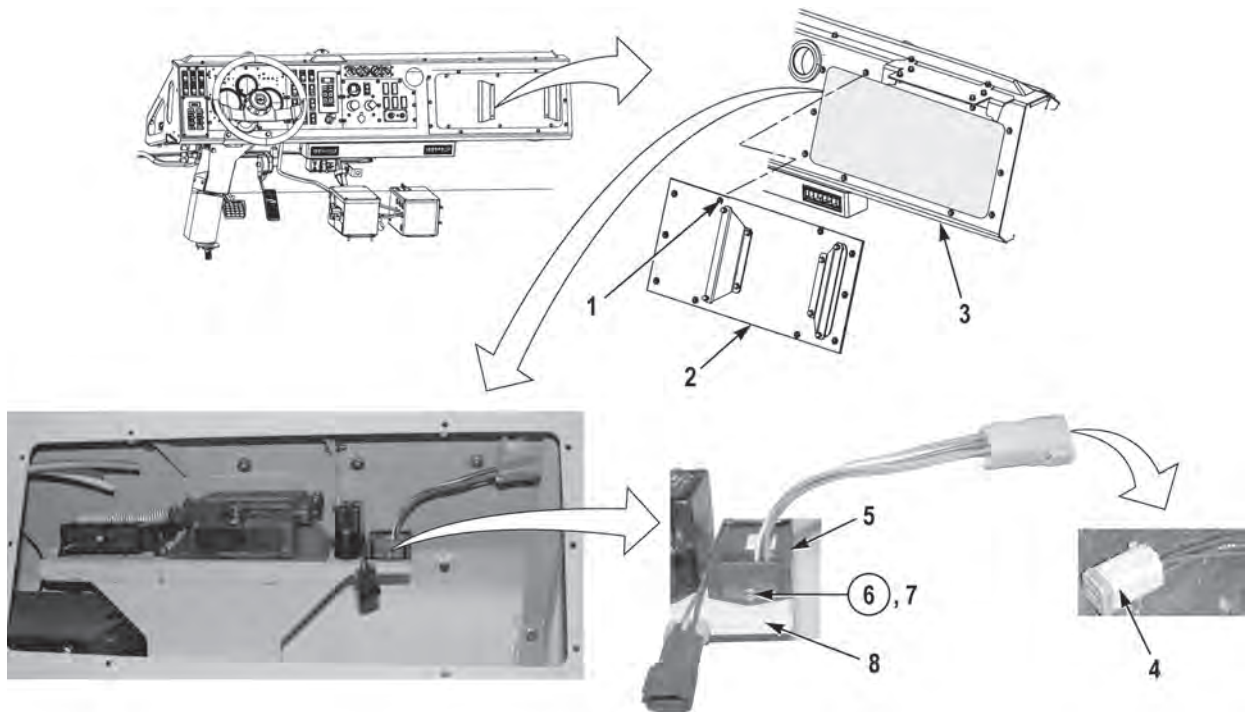
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Locknuts (2) (Item 6)
 Tags, Identification

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

REMOVAL

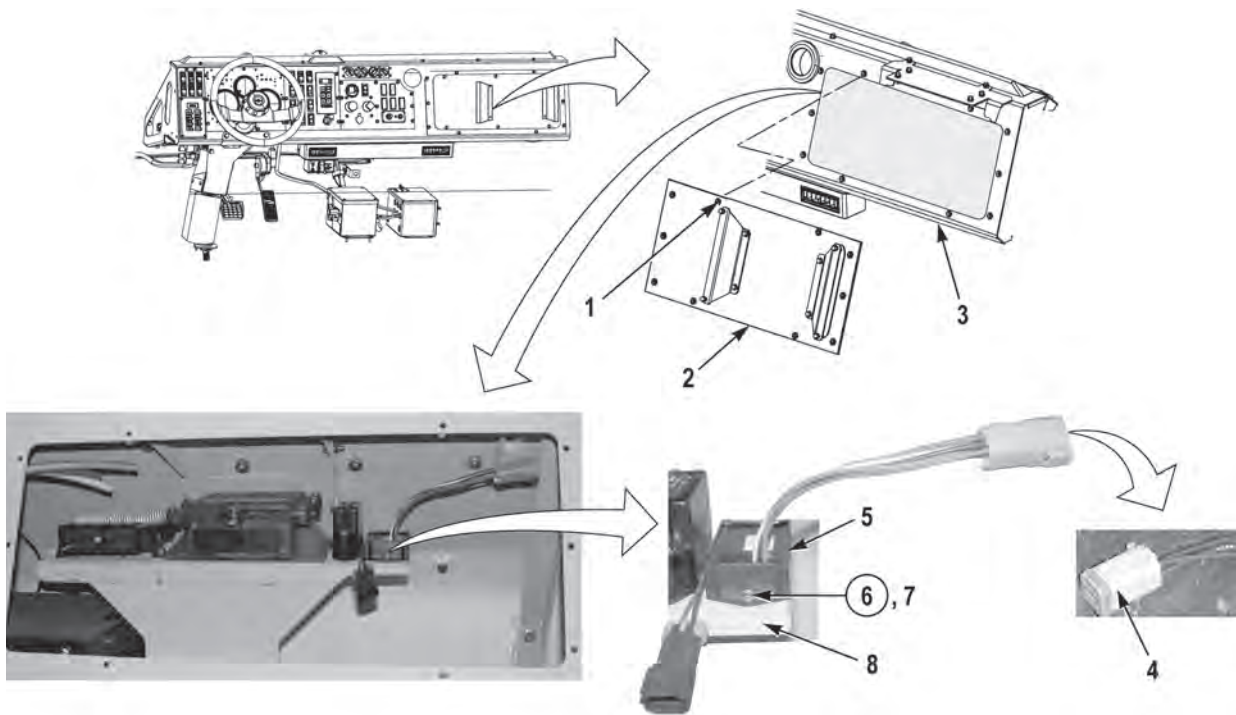
1. Remove ten screws (1) and dash circuit breaker cover (2) from dash (3).

NOTE

Tag and mark connectors prior to removal to ensure proper installation.

2. Disconnect connector (4) from dimmer (5).
3. Remove two locknuts (6), screws (7), and dimmer (5) from dash panel compartment tray (8). Discard locknuts (6).

END OF TASK

INSTALLATION

1. Install dimmer (5) on dash panel compartment tray (8) with two screws (7) and new locknuts (6).
2. Connect connector (4) to dimmer (5).
3. Install dash circuit breaker cover (2) on dash (3) with ten screws (1).
4. Perform all Follow-On Maintenance tasks.

END OF TASK**END OF WORK PACKAGE**

ELECTROMAGNETIC INTERFERENCE (EMI) FILTER REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Hood opened and secured
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

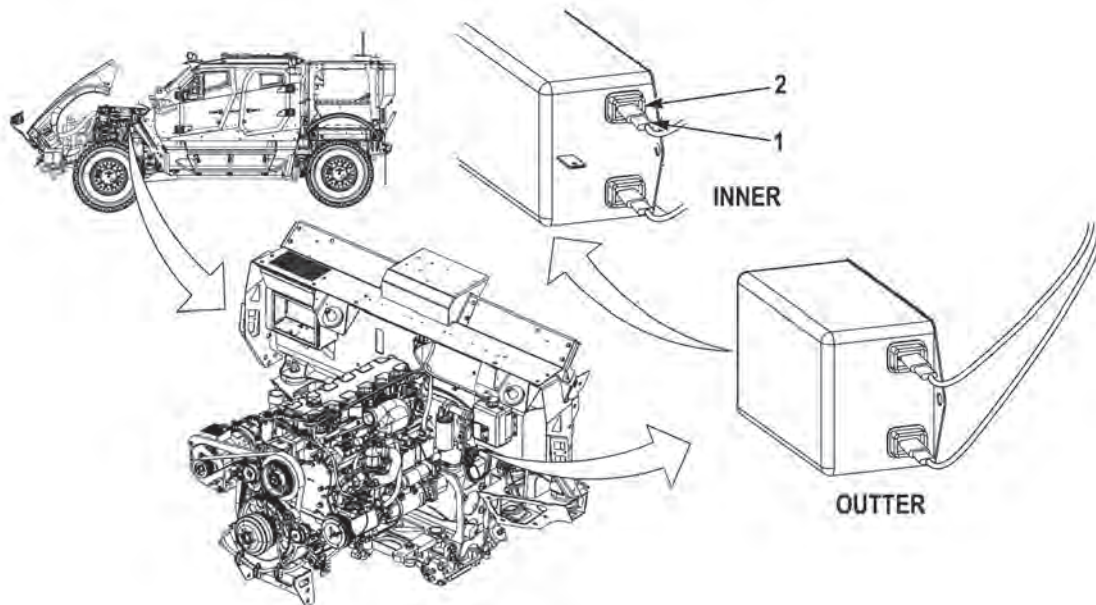
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Lockwasher (2) (Item 10)
 Compound, Sealing, Loctite 242
 Tags, Identification
 Ties, Cable

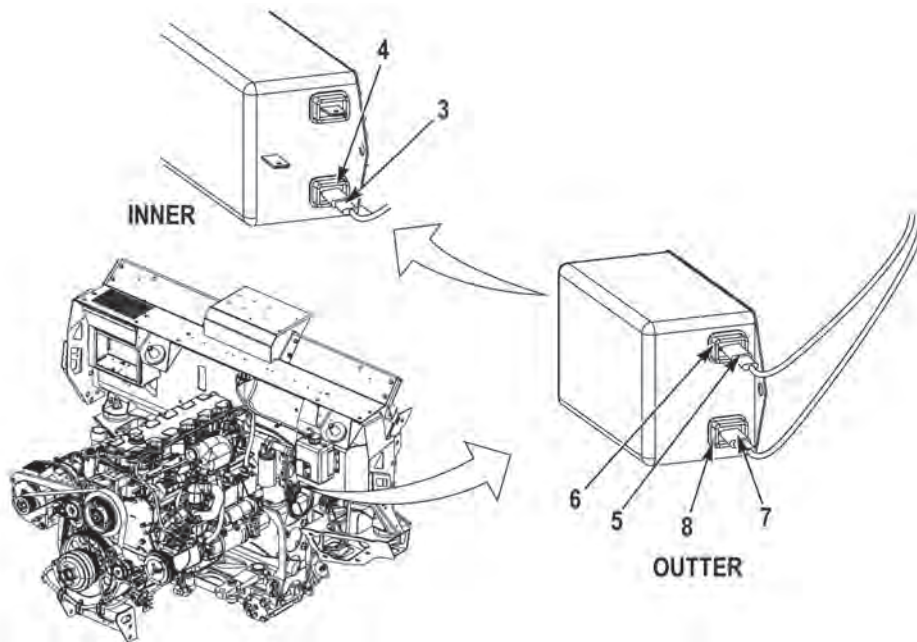
Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Close and secure hood
 Remove and stow wheel chocks

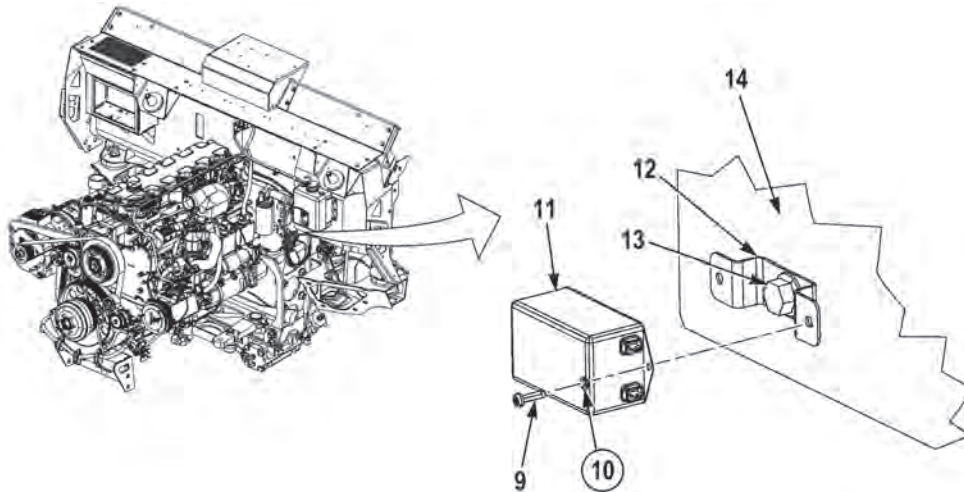
REMOVAL**NOTE**

- Tag and mark wires prior to removal to ensure proper installation.
- Remove cable ties as required.

1. Disconnect wire (1) from EMI filter positive line terminal (2).



2. Disconnect wire (3) from EMI filter negative line terminal (4).
3. Disconnect wire (5) from EMI filter positive load terminal (6).
4. Disconnect wire (7) from EMI filter negative load terminal (8).



5. Remove two screws (9), lockwashers (10), and EMI filter (11) from EMI filter mounting bracket (12). Discard lockwashers (10).

NOTE

Perform Step (6) if EMI filter mounting bracket needs to be removed.

6. Remove screw (13) and EMI filter mounting bracket (12) from firewall panel (14).

END OF TASK

INSTALLATION**WARNING**

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

NOTE

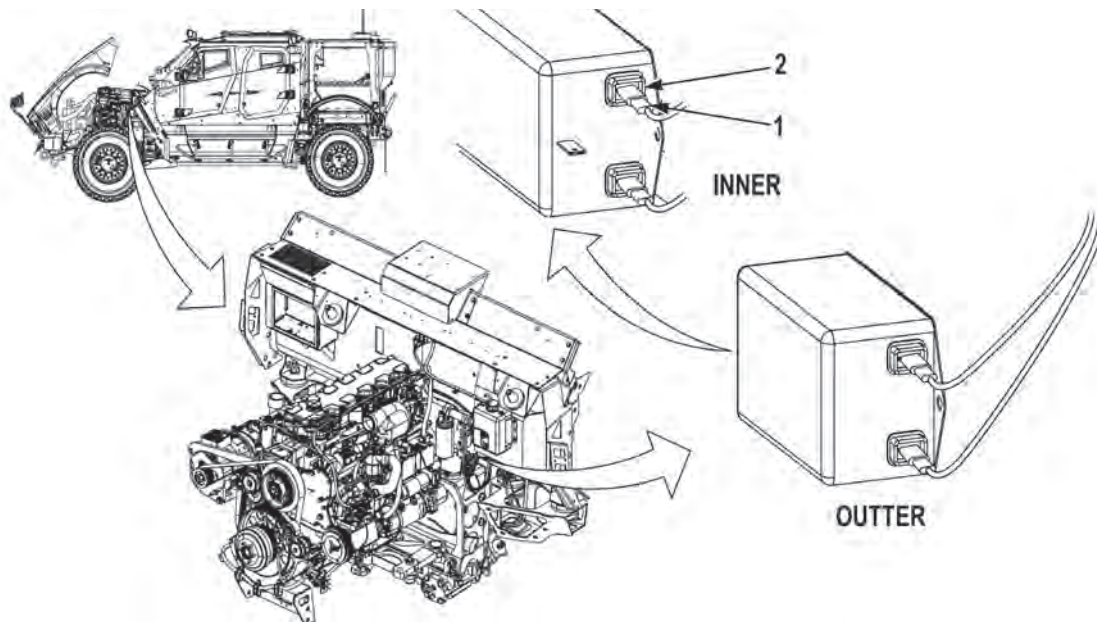
Perform Steps (1) and (2) if EMI filter mounting bracket was removed.

1. Apply sealing compound, Loctite 242, to threads of screw (13).
2. Install EMI filter mounting bracket (12) on firewall panel (14) with screw (13).
3. Install EMI filter (11) on EMI filter mounting bracket (12) with two new lockwashers (10) and screws (9).

NOTE

Install cable ties as required.

4. Connect wire (7) to EMI filter negative load terminal (8).
5. Connect wire (5) to EMI filter positive load terminal (6).
6. Connect wire (3) to EMI filter negative line terminal (4).



7. Connect wire (1) to EMI filter positive line terminal (2).
8. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

FLASHER REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

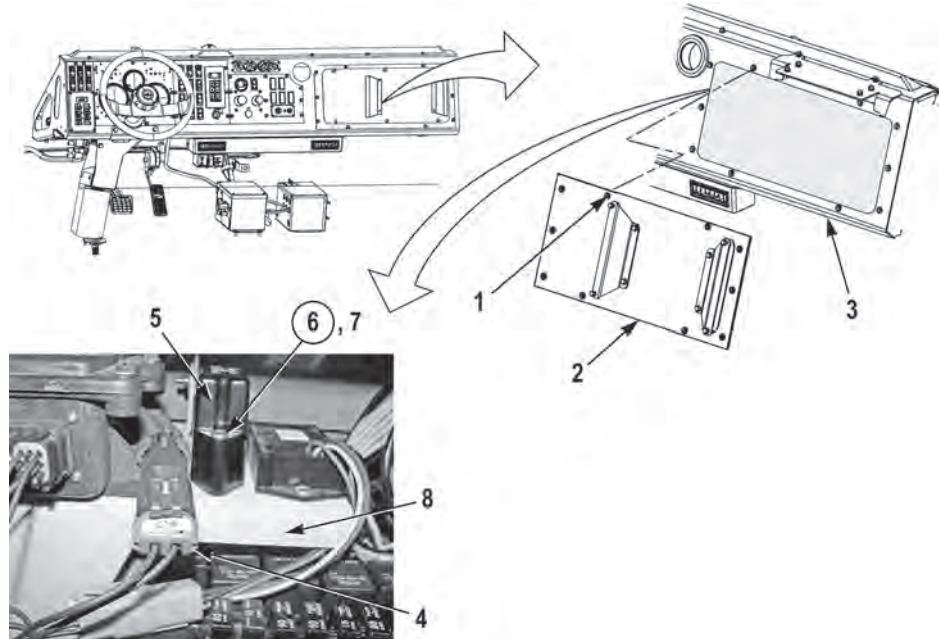
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Locknuts (2) (Item 6)
 Tags, Identification

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

REMOVAL

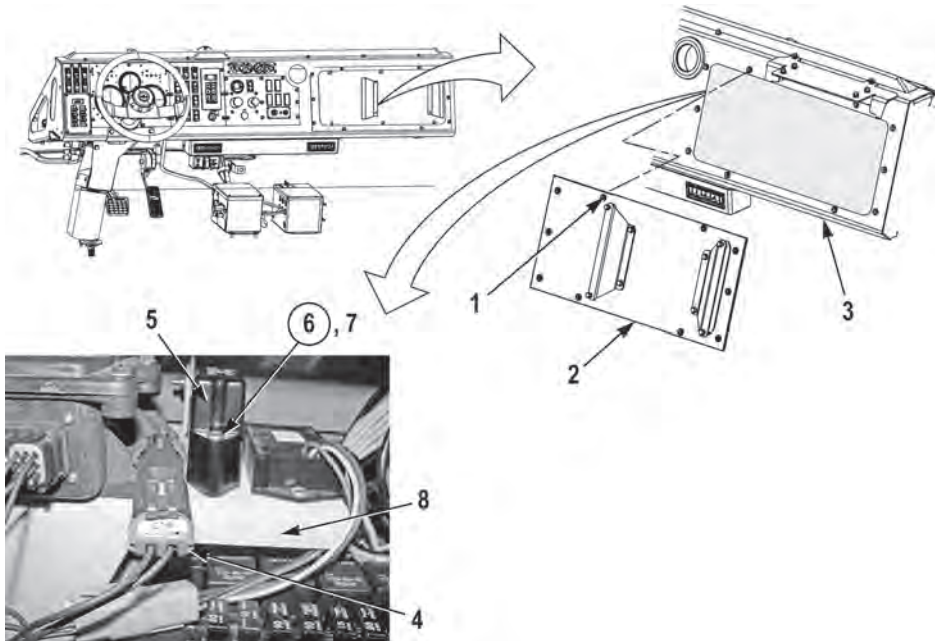
1. Remove ten screws (1) and dash circuit breaker cover (2) from dash (3).

NOTE

Tag and mark connectors prior to removal to ensure proper installation.

2. Disconnect connector (4) from flasher (5).
3. Remove two locknuts (6), screws (7), and flasher (5) from dash panel compartment tray (8). Discard locknuts (6).

END OF TASK

INSTALLATION

1. Install flasher (5) on dash panel compartment tray (8) with two screws (7) and new locknuts (6).
2. Connect connector (4) to flasher (5).
3. Install dash circuit breaker cover (2) on dash (3) with ten screws (1).
4. Perform all Follow-On Maintenance tasks.

END OF TASK**END OF WORK PACKAGE**

FRONT COMPOSITE LIGHT REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Hood opened and secured
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

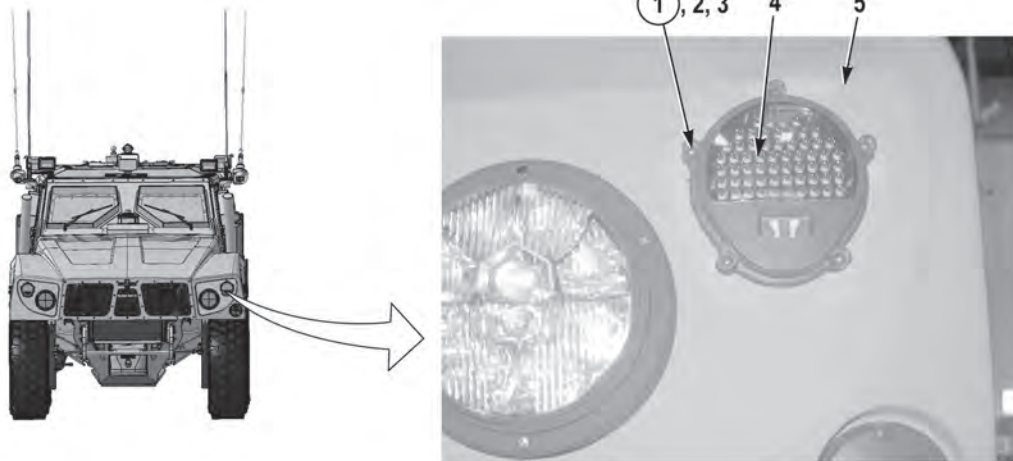
Tool Kit, General Mechanic's: Automotive

Materials/Parts

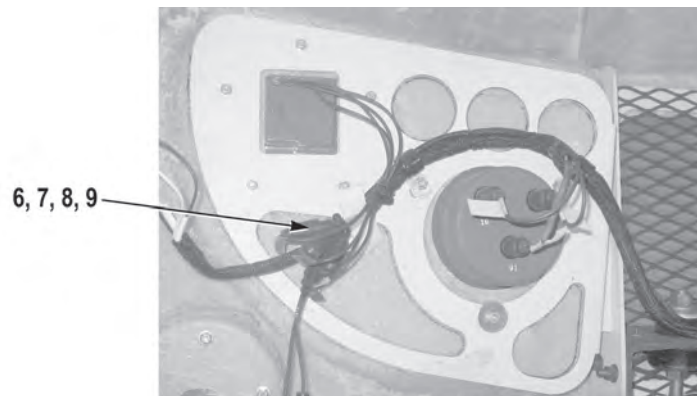
Locknut (5) (Item 1)
 Compound, Corrosion Preventive, Ultra Tef-Gel
 05SA2
 Lubricant, Connector, Nyogel 760G
 Tags, Identification
 Ties, Cable

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Close hood and secure
 Remove and stow wheel chocks

REMOVAL**NOTE**

- Both front composite lights are removed the same way. Driver side shown.
 - Remove cable ties as required.
 - Tag and mark wires prior to removal to ensure proper installation.
1. Remove five locknuts (1), washers (2), screws (3), and front composite light (4) from hood (5). Discard locknuts (1).



2. Disconnect four connectors (6, 7, 8, and 9).

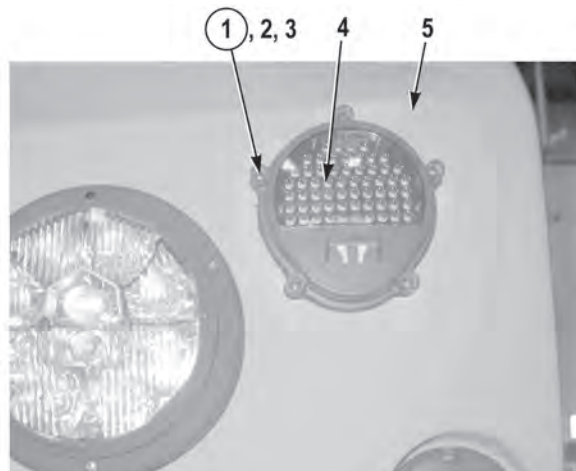
END OF TASK

INSTALLATION

NOTE

- Install wires as noted prior to removal.
- Install cable ties as required.

1. Connect four connectors (9, 8, 7, and 6).



NOTE

Both front composite lights are installed the same way. Driver side shown.

2. Install front composite light (4) on hood (5) with five screws (3), washers (2), and new locknuts (1).
3. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

HEADLIGHT REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Hood opened and secured
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Materials/Parts

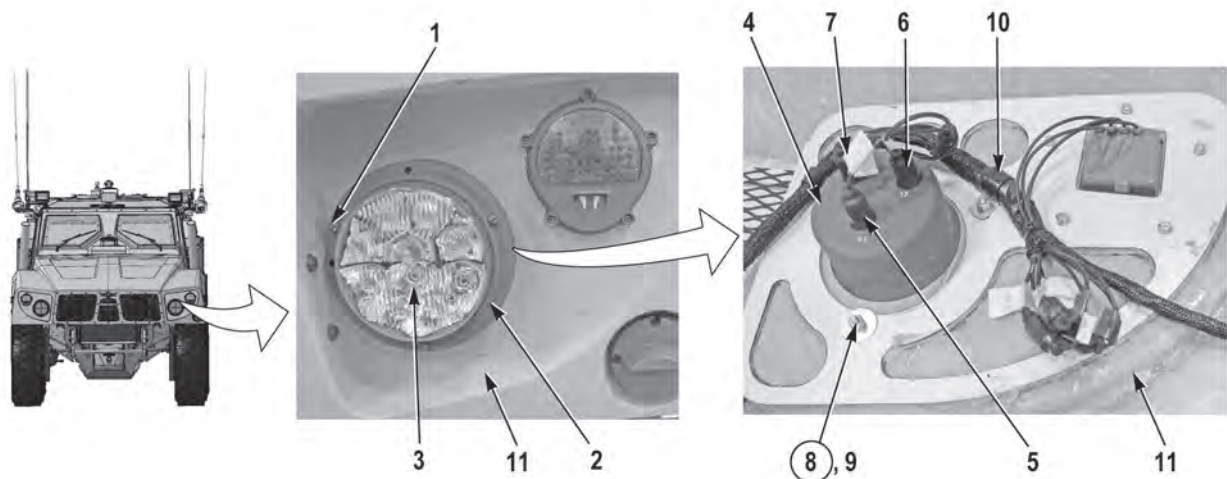
Locknut (3) (Item 8)
 Tags, Identification

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Close hood and secure
 Remove and stow wheel chocks

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive

REMOVAL**NOTE**

Both headlight lamps are removed the same way. Driver side shown.

1. Loosen three screws (1) and remove headlight retaining ring (2) and headlight (3) from headlight bracket (4).

NOTE

Tag and mark wires prior to removal to ensure proper installation.

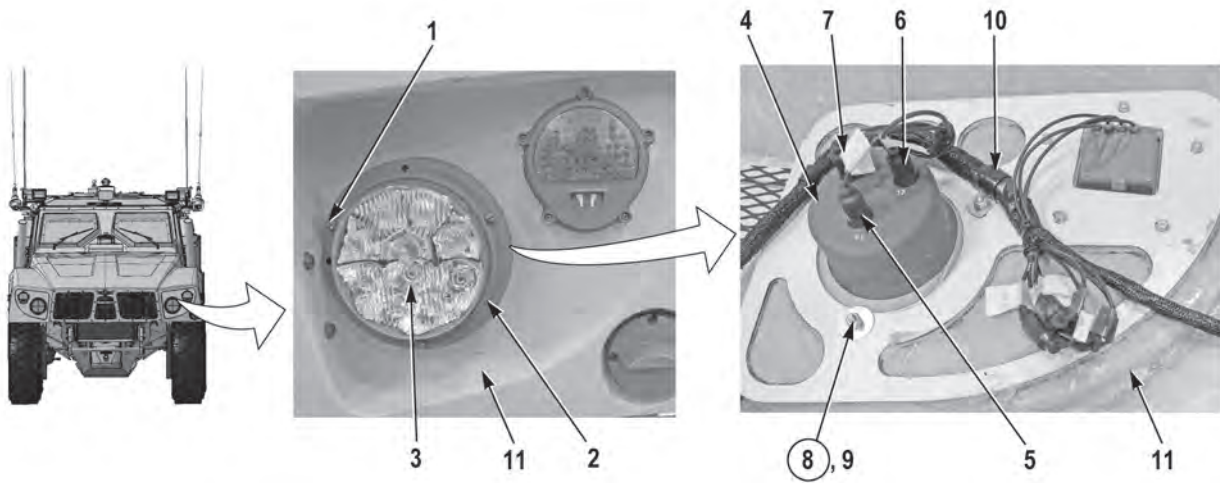
2. Disconnect three connectors (5, 6, and 7) from headlight bracket (4).

NOTE

Note position of cushion clips and washer prior to removal to ensure proper installation.

3. Remove three locknuts (8), washers (9), two cushion clips (10), and headlight bracket (4) from hood (11). Discard locknuts (8).

END OF TASK

INSTALLATION**NOTE**

- Both headlight lamps are installed the same way. Driver side shown.
- Install cushion clips and washer as noted prior to removal.

1. Install headlight bracket (4) and two cushion clips (10) on hood (11) with three washers (9) and new locknuts (8).
2. Connect three connectors (7, 6, and 5) to headlight bracket (4).
3. Install headlight (3) and headlight retaining ring (2) on headlight bracket (4) with three screws (1).
4. Perform all Follow-On Maintenance tasks.

END OF TASK**END OF WORK PACKAGE**

IGNITION RELAY REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Transmission dash panel removed (WP 0150)

Tools and Special Tools

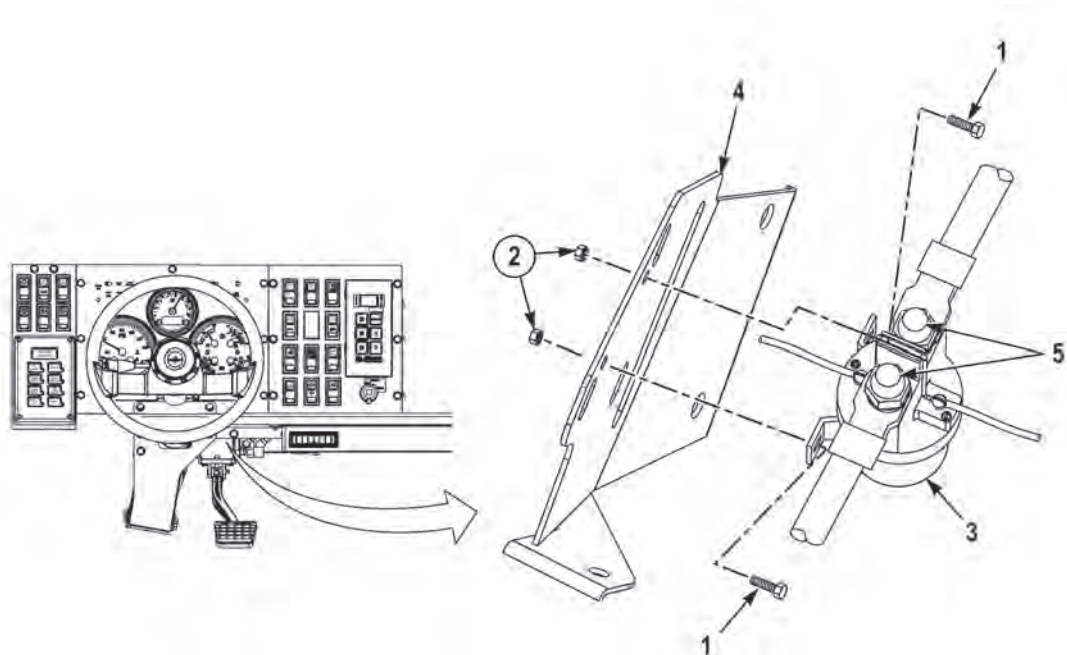
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Locknut (2) (Item 2)
 Tags, Identification

Follow-On Maintenance

Install transmission dash panel (WP 0150)
 Remove and stow wheel chocks

REMOVAL**CAUTION**

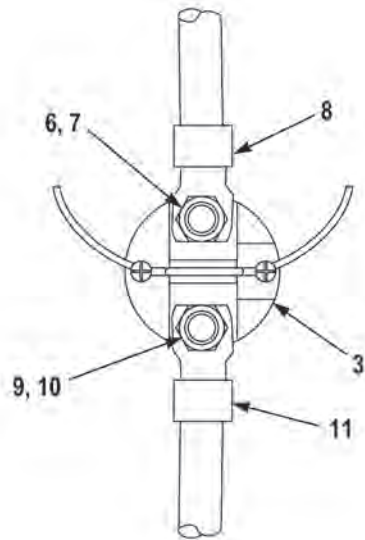
**Support ignition relay during removal to prevent relay from hanging by wires.
 Failure to comply may result in damage to equipment.**

1. Remove two screws (1), locknuts (2), and ignition relay (3) from steering column (4). Discard locknuts (2).

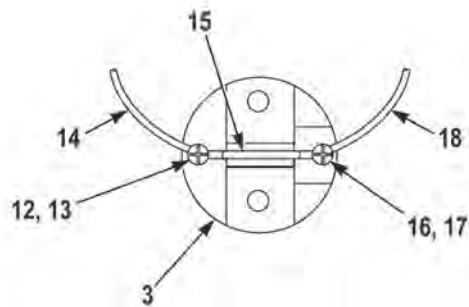
NOTE

Tag and mark wires prior to removal to ensure proper installation.

2. Remove two rubber caps (5) from ignition relay (3).



3. Remove nut (6), washer (7), and wire (8) from ignition relay (3).
4. Remove nut (9), washer (10), and wire (11) from ignition relay (3).



5. Remove screw (12), washer (13), and wire (14) from diode (15) and ignition relay (3).

NOTE

Note position of diode prior to removal to ensure proper installation.

6. Remove screw (16), washer (17), wire (18), and diode (15) from ignition relay (3).

END OF TASK

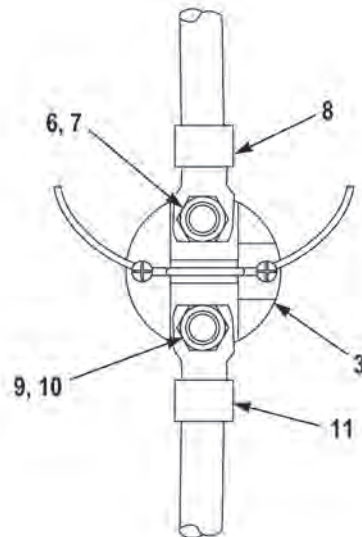
INSTALLATION**CAUTION**

Support ignition relay during installation to prevent relay from hanging by wires.
Failure to comply may result in damage to equipment.

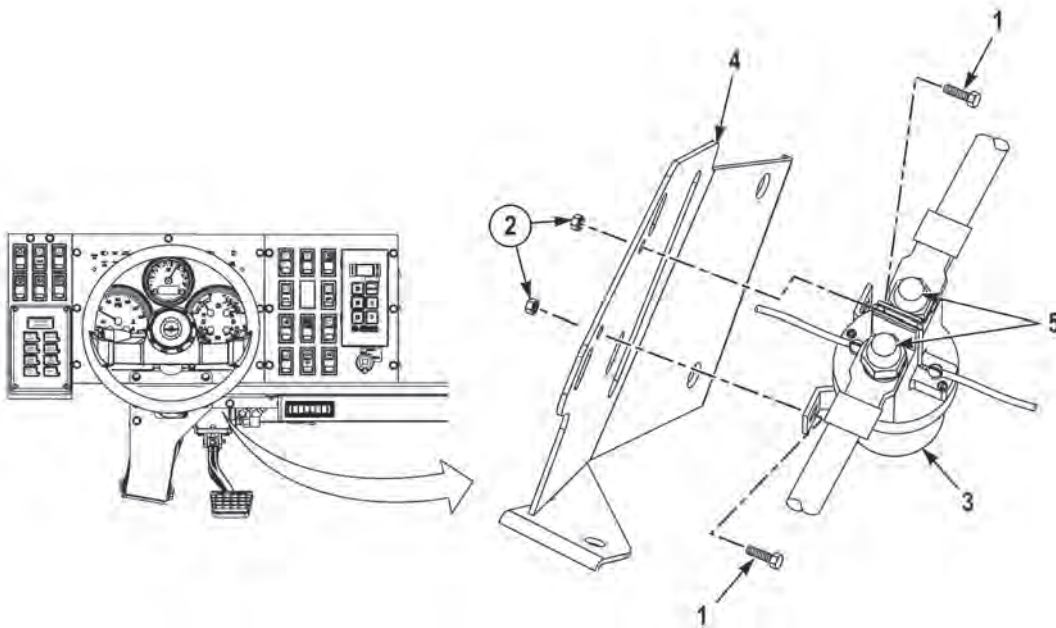
NOTE

Install diode as noted prior to removal.

1. Install diode (15) and wire (18) on ignition relay (3) with washer (17), and screw (16).
2. Install diode (15) and wire (14), on ignition relay (3) with washer (13), and screw (12).



3. Install wire (11) on ignition relay (3) with washer (10) and nut (9).
4. Install wire (8) on ignition relay (3) with washer (7) and nut (6).



5. Install two rubber caps (5) on ignition relay (3).
6. Install ignition relay (3) on steering column (4) with two new locknuts (2) and screws (1).
7. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

INFRARED (IR) LIGHT REPLACEMENT (M1245)

Preconditions

Park Vehicle
 Engine OFF
 Wheels Chocked
 Batteries Disconnected (WP 0187)

Tools and Special Tools

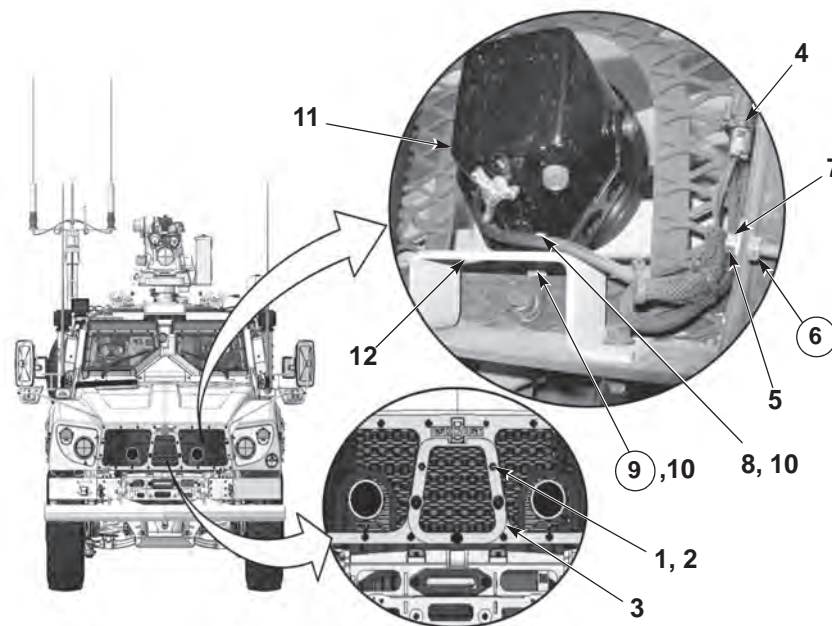
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Locknut (2) (Item 6)
 Locknut (2) (Item 9)

Follow-On Maintenance

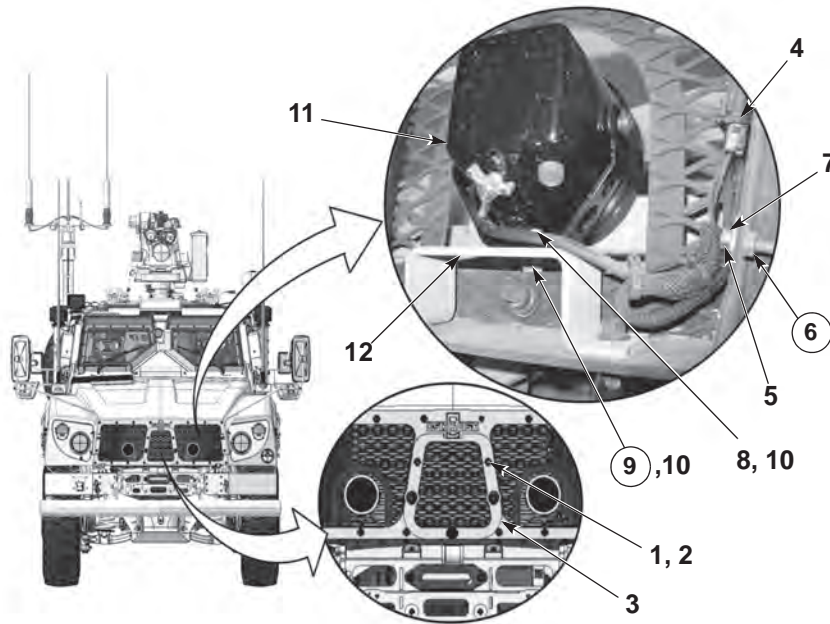
Batteries Disconnected (WP 0187)
 Remove and Stow Wheel Chocks

REMOVAL**NOTE**

Removal procedure is the same for both driver side and passenger side IR lights.

1. Remove three screws (1) and three washers (2) from the center grill plate (3).
2. Disconnect infrared (IR) light electrical connector (4).
3. Remove screw (5) and locknut (6) from cushion clip (7). Discard locknut.
4. Remove locknut (8), two washers (10), and screw (9). Discard locknuts.
5. Remove IR light assembly (11) from bracket (12).

END OF TASK

INSTALLATION

1. Position IR light assembly (11) from bracket (12).
2. Install two washers (10), screw (9), and locknut (8).
3. Install cushion clip (7), screw (5), and locknut (6).
4. Connect infrared (IR) light electrical connector (4).
5. Install center grill plate (3), three washers (2), and three screws (1).
6. Perform all Follow-On Maintenance Tasks.

END OF TASK**END OF WORK PACKAGE**

MK-44 RECEPTACLE REPLACEMENT (M1245)

Preconditions

Park Vehicle
 Engine OFF
 Wheels Chocked
 Batteries Disconnected (WP 0187)

Materials/Parts

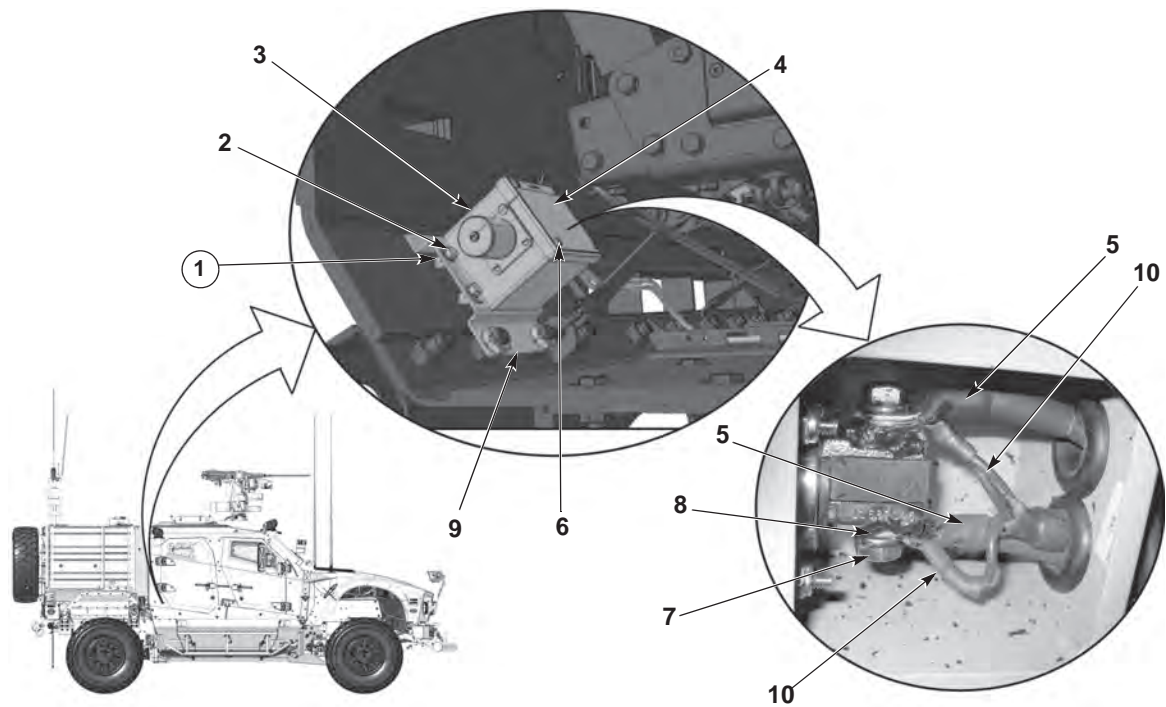
Locknut (4) (Item 1)

Follow-On Maintenance

Batteries Disconnected (WP 0187)
 Remove and Stow Wheel Chocks

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive

REMOVAL

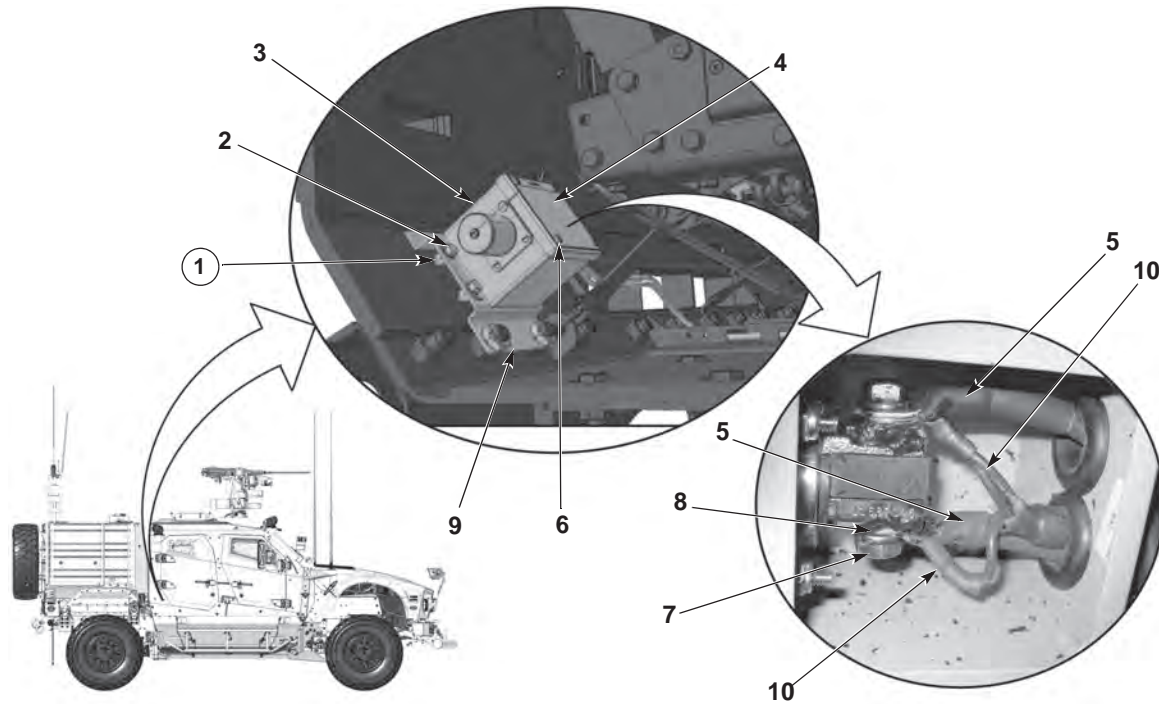
1. Remove four screws (6) and receptacle cover (4).

NOTE

Note position of power cables prior to removal to ensure proper installation.

2. Remove two screws (7) and two washers (8).
3. Disconnect power cables (5), cables (10), and remove from Mk-44 receptacle (3) through grommets.
4. Remove four locknuts (1) and four screws (2). Discard locknuts.
5. Remove Mk-44 receptacle (3) from bracket (9).

END OF TASK

INSTALLATION

1. Position Mk-44 receptacle (3) on bracket (9).
2. Install four screws (2) and four new locknuts (1).

NOTE

Install power cables as noted prior to removal.

3. Position power cables (5), cables (10) and install two washers (8) and two screws (7).
4. Install receptacle cover (4) and four screws (6).
5. Perform all Follow-On Maintenance Tasks.

END OF TASK

END OF WORK PACKAGE

NATO SLAVE RECEPTACLE REPLACEMENT (FOR VEHICLES WITH UPDATED SPARK OR M1245)

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Hood opened and secured
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive

Materials/Parts

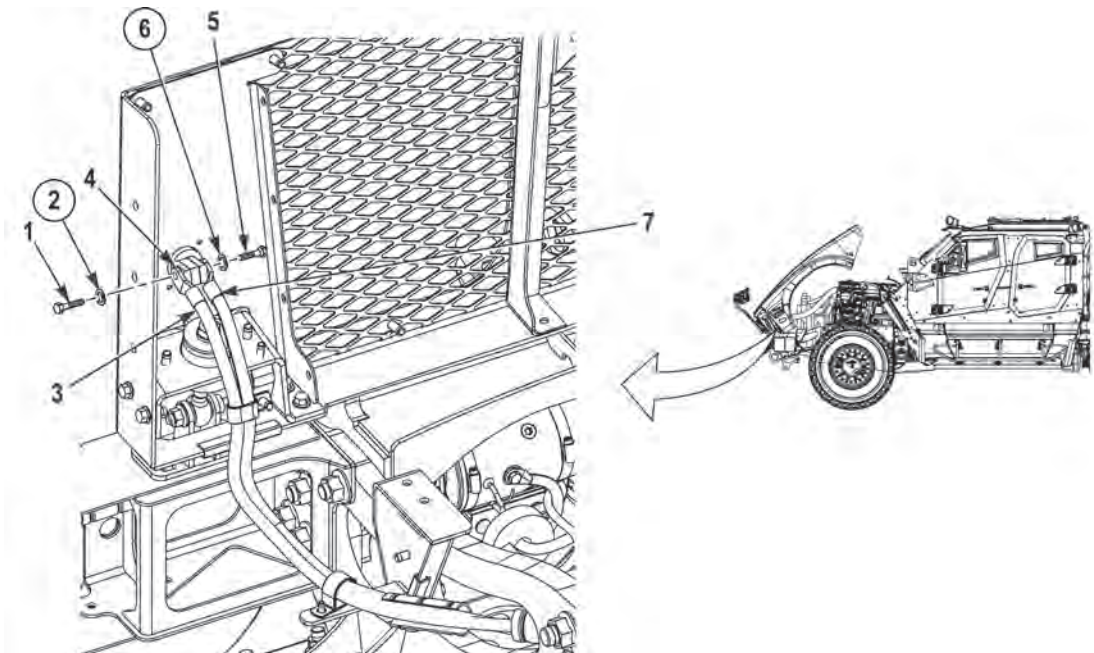
Lockwasher (2) (Item 2 and 6)

Material/Parts (continued)

Locknut (4) (Item 8)
 Gasket (Item 15)
 Sealant, RTV Electric
 Tags, Identification

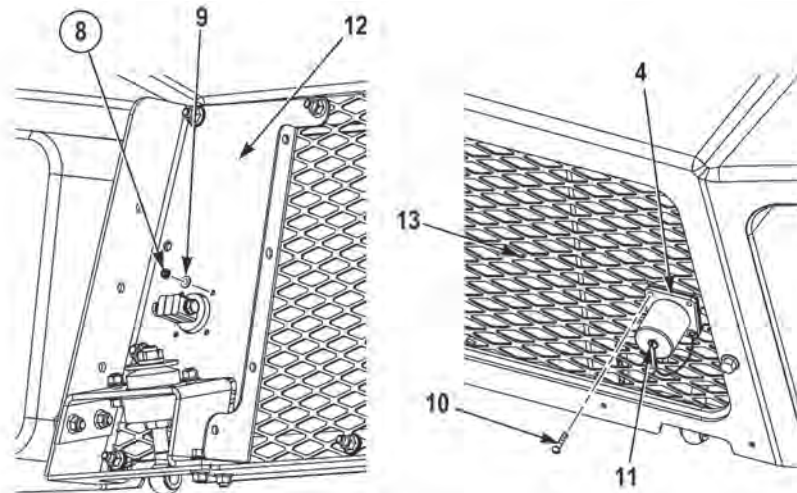
Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Close and secure hood
 Remove and stow wheel chocks

REMOVAL**NOTE**

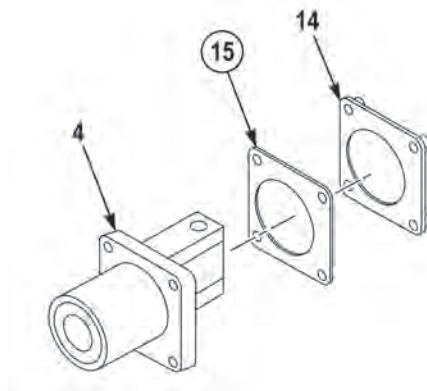
- Tag and mark cables prior to removal to ensure proper installation.
- NATO slave receptacle is marked with a + (positive) and a - (negative). Note position of cables prior to removal to ensure proper installation.

1. Remove screw (1), lockwasher (2), and cable (3) from negative terminal of NATO slave receptacle (4). Discard lockwasher (2).
2. Remove screw (5), lockwasher (6), and cable (7) from positive terminal of NATO slave receptacle (4). Discard lockwasher (6).



NOTE

- Note placement of lanyard prior to removal to ensure proper installation.
 - Note position of NATO slave receptacle prior to removal to ensure proper installation.
3. Remove four locknuts (8), washers (9), screws (10), lanyard (11), and NATO slave receptacle (4) from driver side grill panel (12) and grill (13). Discard locknuts (8).



4. Remove insulator (14) and gasket (15) from NATO slave receptacle (4). Discard gasket (15).

END OF TASK

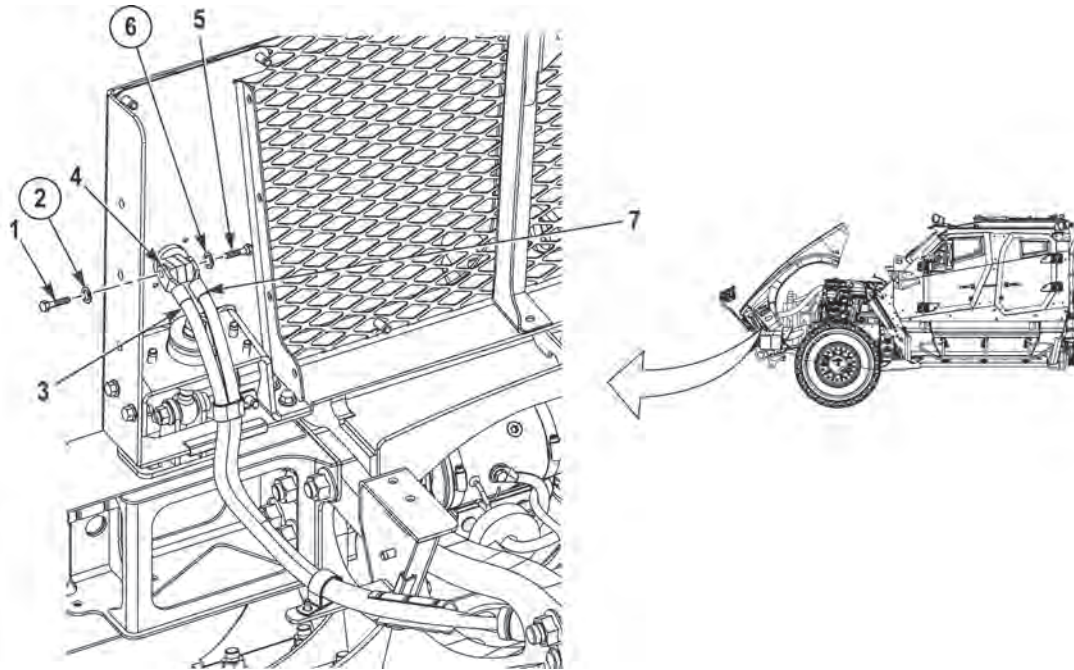
INSTALLATION

1. Install new gasket (15) and insulator (14) on NATO slave receptacle (4).

NOTE

- Install lanyard as noted prior to removal.
- Install NATO slave receptacle as noted prior to removal.

2. Install NATO slave receptacle (4) and lanyard (11) on grill (13) and driver side grill panel (12) with four screws (10), washers (9), and new locknuts (8).



CAUTION

Ensure cables are installed correctly on NATO slave receptacle. Terminal assembly is offset from center of receptacle. Positive terminal (red cable) is closest to the center of receptacle. Negative (black cable) is farther away from center of receptacle. Failure to comply may result in damage to equipment.

NOTE

Install cables as noted prior to removal.

3. Install cable (7) on positive terminal of NATO slave receptacle (4) with new lockwasher (6) and screw (5).
4. Install cable (3) on negative terminal of NATO slave receptacle (4) with new lockwasher (2) and screw (1).

WARNING

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

5. Apply sealant, RTV to two screws (5 and 1), lockwashers (6 and 2), and cables (7 and 3).
6. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

PARKING BRAKE STOPLIGHT SWITCH REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Air system drained
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Materials/Parts

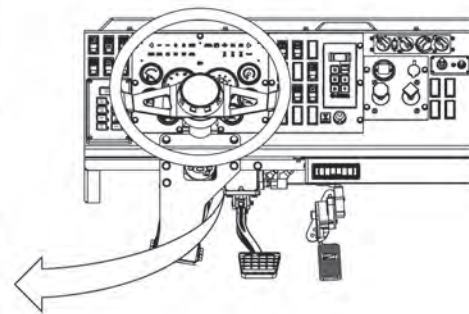
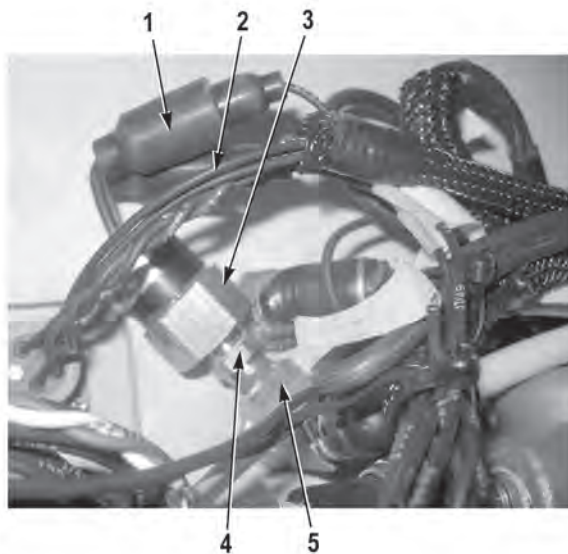
Compound, Sealing, Loctite 592
 Tags, Identification

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive

REMOVAL**WARNING**

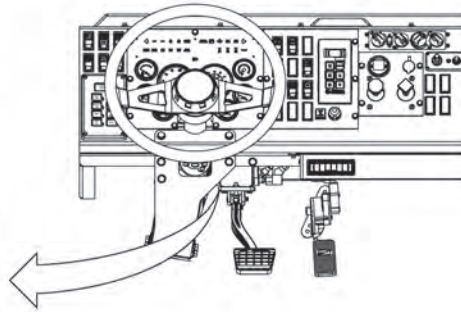
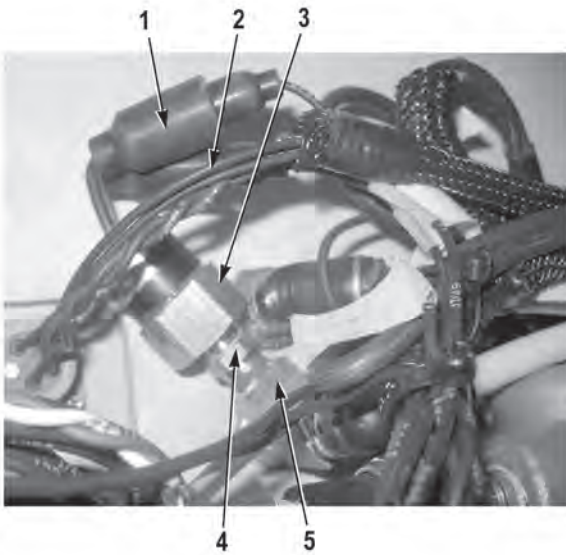
Ensure air system is drained prior to working on air system components. Failure to comply may result in injury or death to personnel.

NOTE

Tag and mark wires prior to removal to ensure proper installation.

1. Disconnect connector (1).
2. Disconnect connector (2).
3. Remove parking brake stoplight switch (3) from fitting (4).
4. Remove fitting (4) from fitting (5).

END OF TASK

INSTALLATION**WARNING**

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

1. Apply sealing compound, Loctite 592, to threads of fitting (4) and parking brake stoplight switch (3).
2. Install fitting (4) on fitting (5).
3. Install parking brake stoplight switch (3) on fitting (4).

NOTE

Install wires as noted prior to removal for proper installation.

4. Connect connector (2).
5. Connect connector (1).
6. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

PDU DECK BOX REPLACEMENT (M1245)

Preconditions

Park Vehicle
 Engine OFF
 Wheels Chocked
 Batteries Disconnected (WP 0187)

Tools and Special Tools

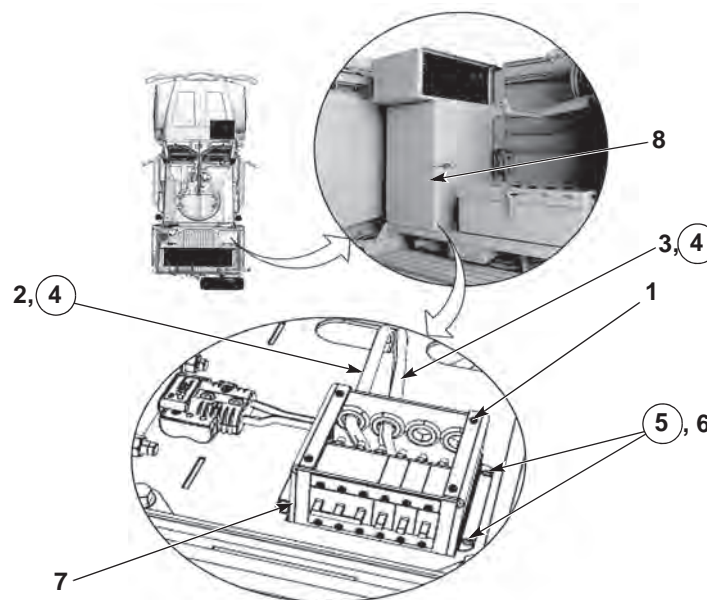
Tool Kit, General Mechanic's: Automotive
 Crowfoot Wrench, 7/16" - 3/8" Drive

Materials/Parts

Lockwasher (2) (Item 4)
 Locknut (4) (Item 5)
 Tags

Follow-On Maintenance

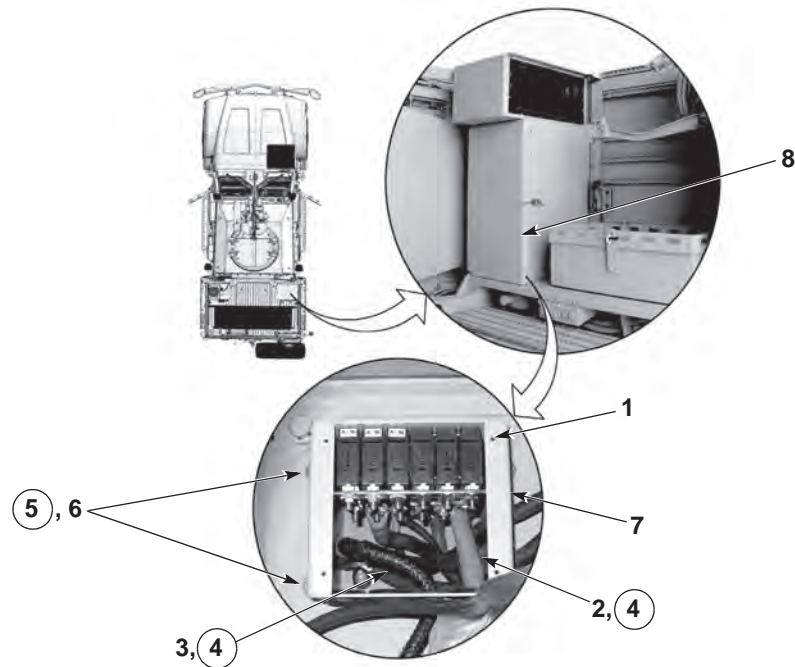
Batteries Disconnected (WP 0187)
 Remove and Stow Wheel Chocks

REMOVAL**NOTE**

- Tag and mark wires and cables and note all wire harness and cable routing prior to removal to ensure proper installation.
- Right side GFE cabinet may be removed for additional access to lockwashers and screws.

1. Remove four screws (1) and lift PDU cover off.
2. Disconnect cable 1141(2) and cable 1436 (3) from PDU (6) and route through PDU cable opening. Discard lockwashers (4).
3. Remove four locknuts (5) and four screws (6) from PDU (7). Discard locknuts (5).
4. Lift and remove PDU (7) from inside passenger side GFE cabinet (8).

END OF TASK

INSTALLATION

1. Install PDU (7) into passenger side GFE cabinet (8).
2. Install four screws (6) and four new locknuts (5), securing PDU (7) to passenger side GFE cabinet (8).

NOTE

Install cables as noted prior to removal.

3. Connect cable 1141 (2) and cable 1436 (3) to PDU (6) with two new lockwashers (4).
4. Install PDU cover and secure with four screws (1).
5. Perform all Follow-On Maintenance Tasks.

END OF TASK

END OF WORK PACKAGE

PRESSURE SWITCH REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Air system drained
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

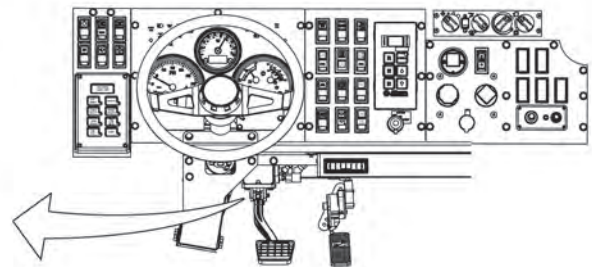
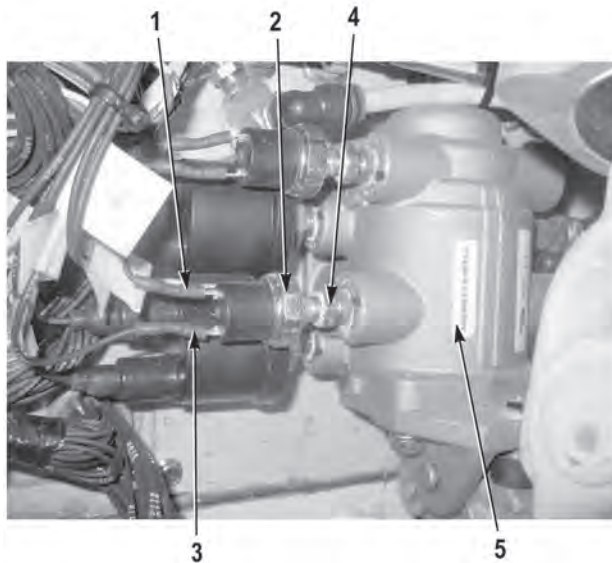
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Cap and Plug Set
 Compound, Sealing, Loctite 592
 Tags, Identification

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

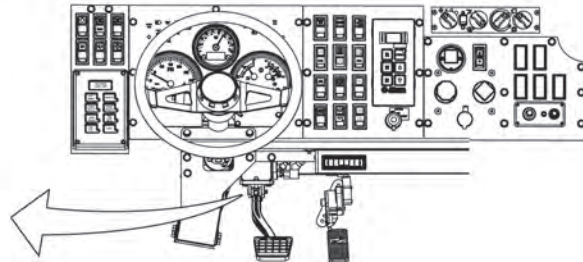
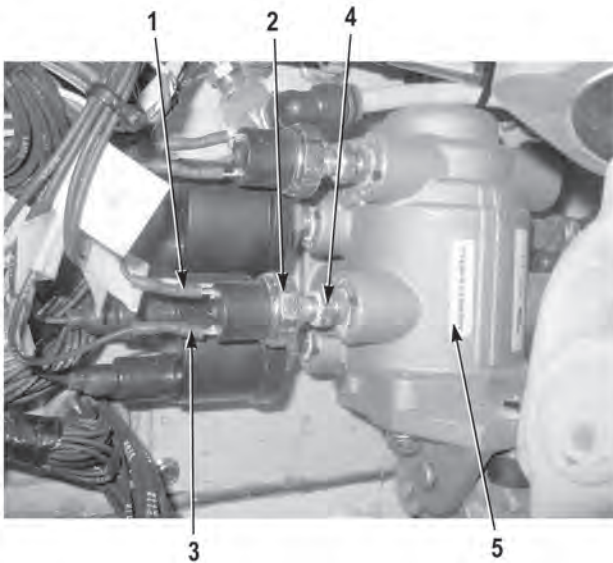
REMOVAL**WARNING**

Ensure air system is drained prior to working on air system components. Failure to comply may result in injury or death to personnel.

NOTE

- Both pressure switches are removed the same way.
- Tag and mark wires prior to removal to ensure proper installation.

1. Disconnect connector (1) from pressure switch (2).
2. Disconnect connector (3) from pressure switch (2).
3. Remove pressure switch (2) from fitting (4).



NOTE

Perform Step (4) if fitting is damaged.

4. Remove fitting (4) from treadle valve (5).

END OF TASK

INSTALLATION

WARNING

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

1. Apply sealing compound, Loctite 592, to threads of fitting (4) and pressure switch (2).

NOTE

Both pressure switches are installed the same way.

2. Install fitting (4) on treadle valve (5).
3. Install pressure switch (2) on fitting (4).

NOTE

Install wires as noted prior to removal.

4. Install connector (3) on pressure switch (2).
5. Install connector (1) on pressure switch (2).
6. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

REAR COMPOSITE LIGHT REPLACEMENT

Preconditions

Park vehicle
Engine OFF
Wheels chocked
Batteries disconnected (M1240/M1240A1)
(WP 0186)
Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

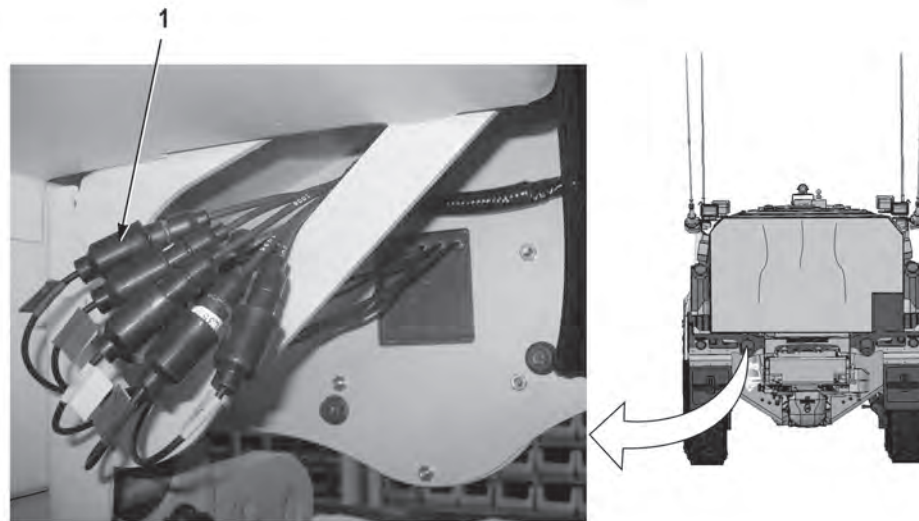
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Lockwasher (6) (Item 4)
Tags, Identification
Ties, Cable

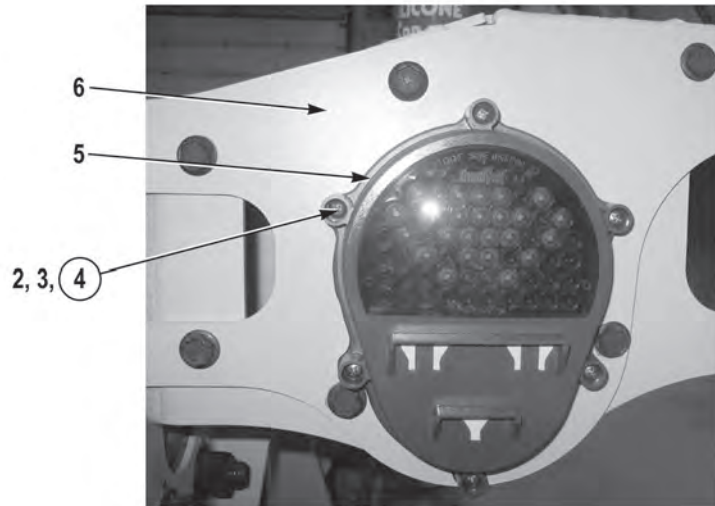
Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
Connect batteries (M1245) (WP 0187)
Remove and stow wheel chocks

REMOVAL**NOTE**

- Both rear composite lights are removed the same way. Driver side shown.
- Tag and mark wires prior to removal to ensure proper installation.
- Remove cable ties as required.

1. Disconnect five connectors (1).



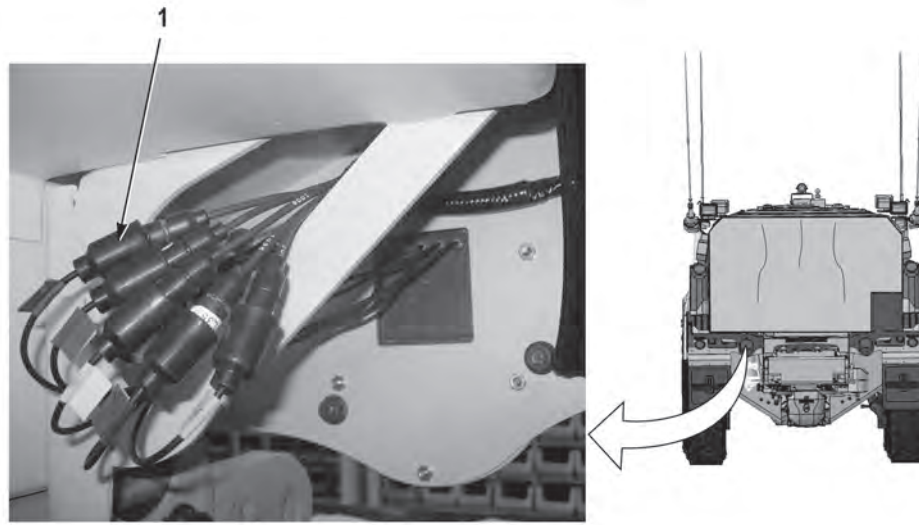
2. Remove six screws (2), nuts (3), lockwashers (4), and composite light (5) from bumper (6). Discard lockwashers (4).

END OF TASK

INSTALLATION

NOTE

- Both rear composite lights are installed the same way. Driver side shown.
 - Install wires as noted prior to removal.
 - Install cable ties as required.
1. Install composite light (5) on bumper (6) with six screws (2), new lockwashers (4), and nuts (3).



2. Connect five connectors (1).
3. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

REVERSE LIGHT REPLACEMENT (M1240/M1240A1)

Preconditions

Park vehicle
Engine OFF
Wheels chocked
Batteries disconnected (WP 0186)

Tools and Special Tools

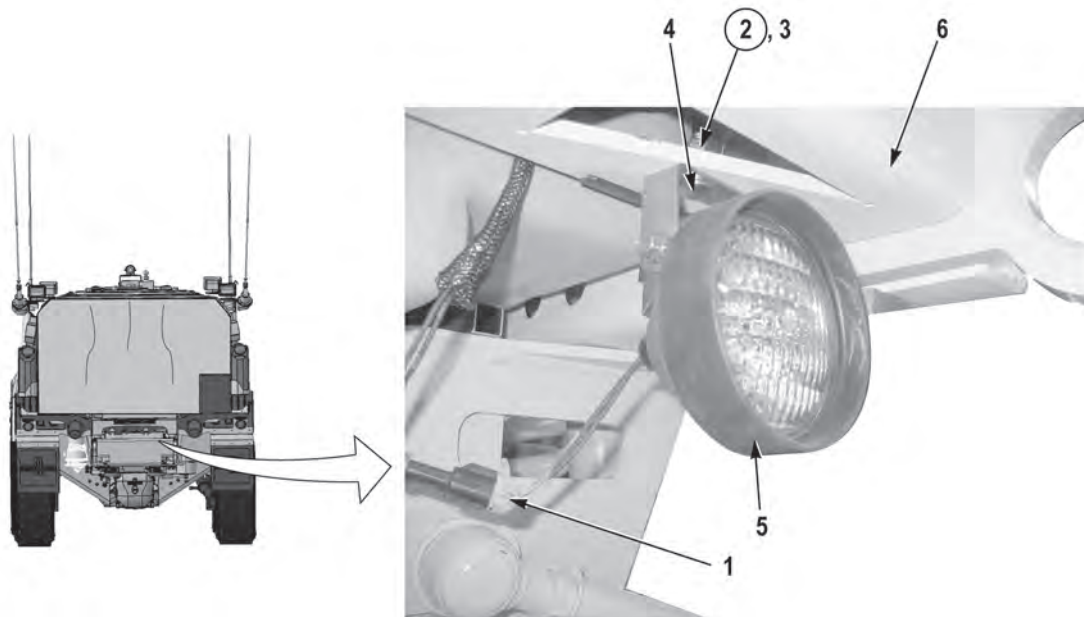
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Locknut (Item 2)
Lubricant, Connector, Nyogel 760G

Follow-On Maintenance

Connect batteries (WP 0186)
Remove and stow wheel chocks

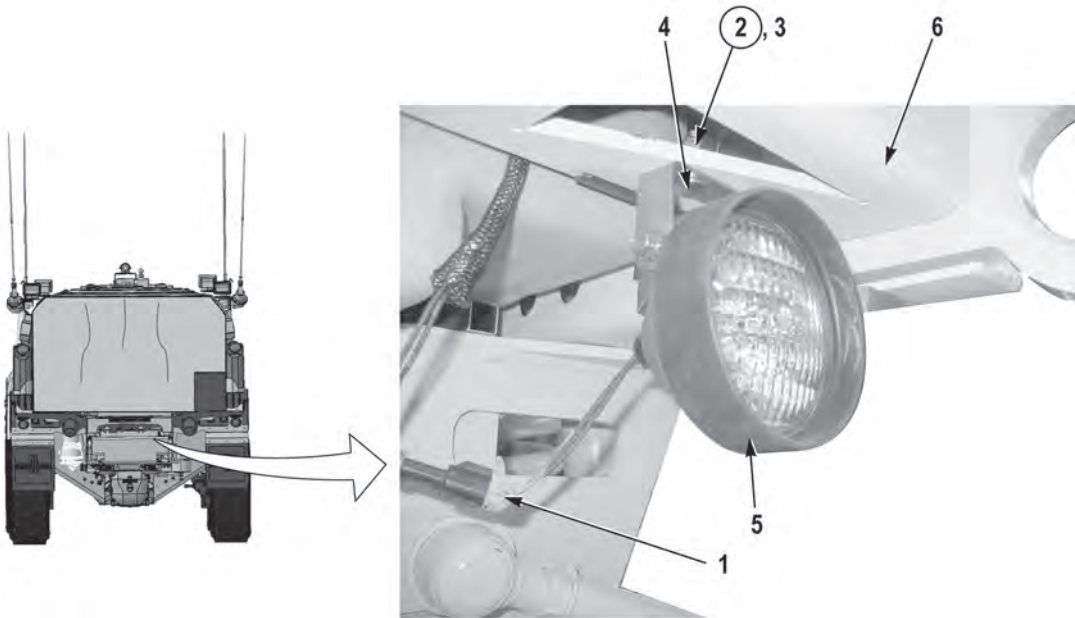
REMOVAL

1. Disconnect connector (1).
2. Remove locknut (2), washer (3), screw (4), and reverse light (5) from rear crossmember (6). Discard locknut (2).

END OF TASK

INSTALLATION**WARNING**

Connector lubricant is harmful to skin. Prolonged or repeated contact with skin or contact with eyes may cause irritation. If eyes are contacted, rinse thoroughly and contact physician if irritation persists. If skin is contacted, wash thoroughly with soap and water. Failure to comply may result in injury or death to personnel.



1. Install reverse light (5) on rear cross-member (6) with screw (4), washer (3), and new locknut (2).
2. Apply connector lubricant, Nyogel 760G, to connector (1).
3. Connect connector (1).
4. Perform all Follow-On Maintenance tasks.

END OF TASK**END OF WORK PACKAGE**

SPOTLIGHT CONTROLLER REPLACEMENT

Preconditions

Park vehicle
Engine OFF
Wheels chocked
Batteries disconnected (M1240/M1240A1)
(WP 0186)
Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

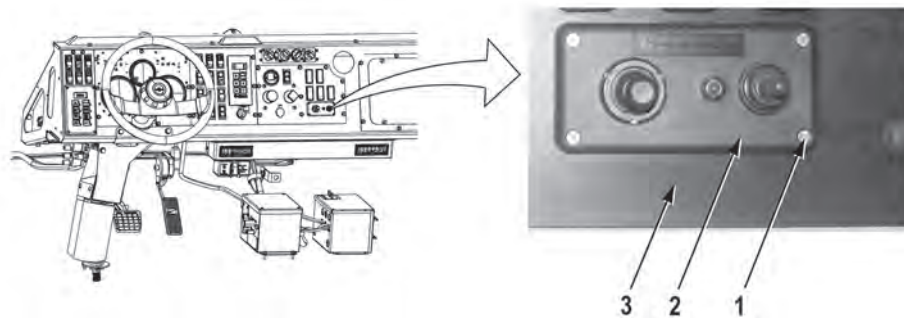
Tool Kit, General Mechanic's: Automotive

Materials/Parts

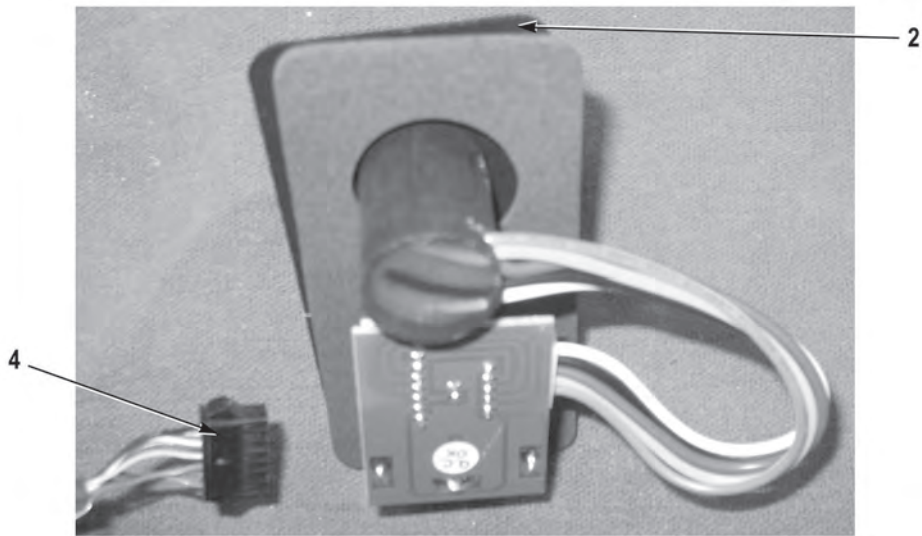
Compound, Sealing, Loctite 242
Lubricant, Connector, Nyogel 760G
Tags, Identification

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
Connect batteries (M1245) (WP 0187)
Remove and stow wheel chocks

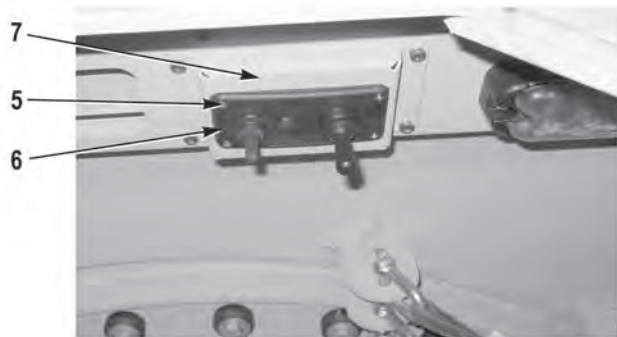
REMOVAL**NOTE**

- Perform Steps (1) and (2) to remove front spotlight controller.
 - Perform Steps (3) and (4) to remove rear spotlight controller.
1. Remove four screws (1) and front spotlight controller (2) from dash (3).

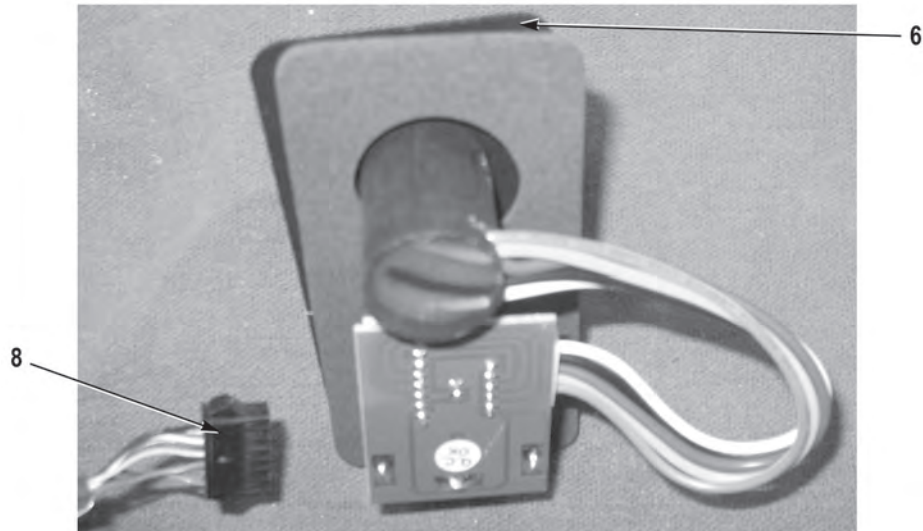
**NOTE**

Tag and mark wire connectors prior to removal to ensure proper installation.

2. Disconnect connector (4) from front spotlight controller (2).



3. Remove four screws (5) and rear spotlight controller (6) from bracket (7).



NOTE

Tag and mark wire connectors prior to removal to ensure proper installation.

4. Disconnect connector (8) from rear spotlight controller (6).

END OF TASK

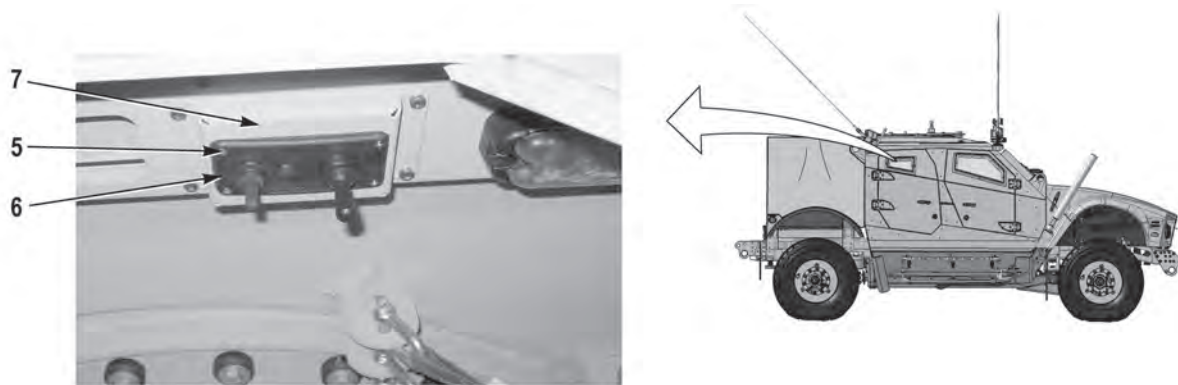
INSTALLATION

WARNING

Connector lubricant is harmful to skin. Prolonged or repeated contact with skin or contact with eyes may cause irritation. If eyes are contacted, rinse thoroughly and contact physician if irritation persists. If skin is contacted, wash thoroughly with soap and water. Failure to comply may result in injury or death to personnel.

NOTE

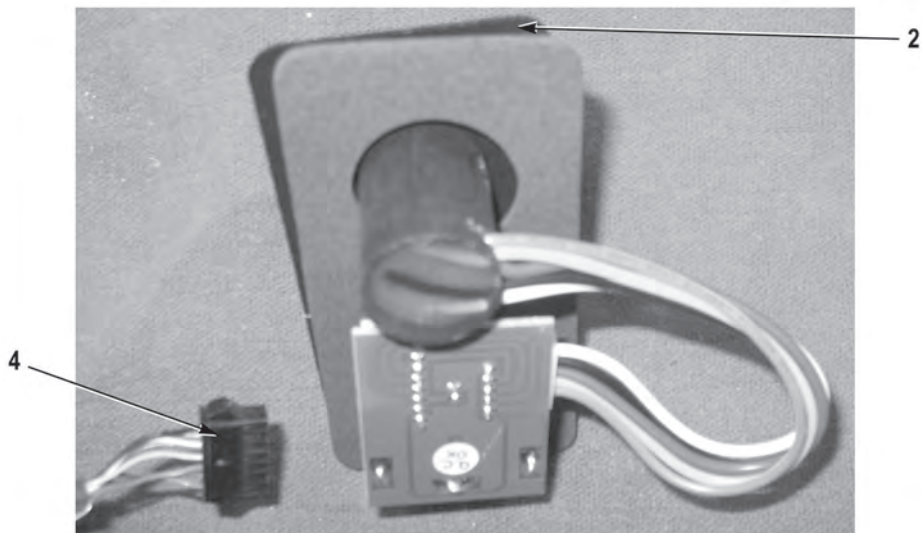
- Perform Steps (1) through (4) to install rear spotlight controller.
 - Perform Steps (5) through (8) to install front spotlight controller.
1. Apply connector lubricant, Nyogel 760G, to connector (8).
 2. Connect connector (8) to rear spotlight controller (6).



WARNING

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

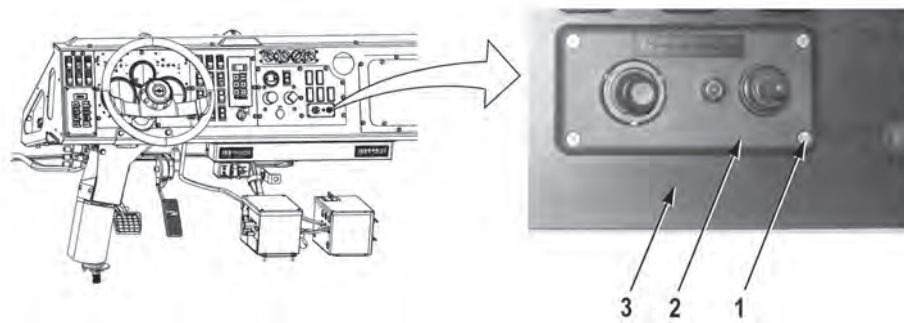
3. Apply sealing compound, Loctite 242, to threads of four screws (5).
4. Install rear spotlight controller (6) on bracket (7) with four screws (5).



WARNING

Connector lubricant is harmful to skin. Prolonged or repeated contact with skin or contact with eyes may cause irritation. If eyes are contacted, rinse thoroughly and contact physician if irritation persists. If skin is contacted, wash thoroughly with soap and water. Failure to comply may result in injury or death to personnel.

5. Apply connector lubricant, Nyogel 760G, to connector (4).
6. Connect connector (4) to front spotlight controller (2).



NOTE

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

7. Apply sealing compound, Loctite 242, to threads of four screws (1).
8. Install front spotlight controller (2) on dash (3) with four screws (1).
9. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

SPOTLIGHT REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

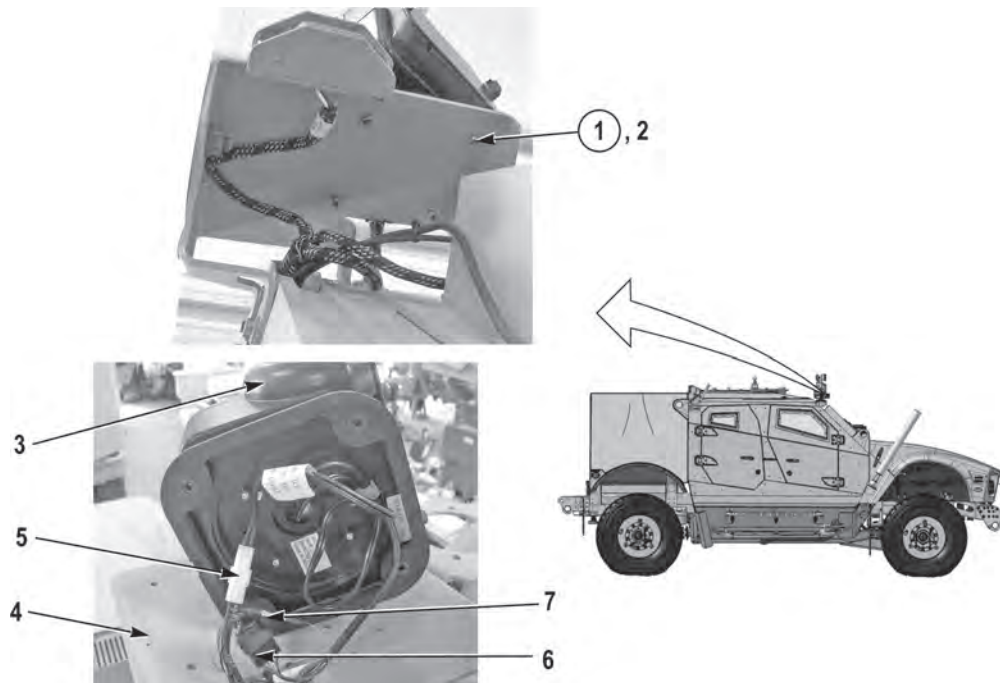
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Adhesive, RTV, Silicone
 Locknut (4) (Item 1)
 Tags, Identification
 Ties, Cable

Follow-On Maintenance

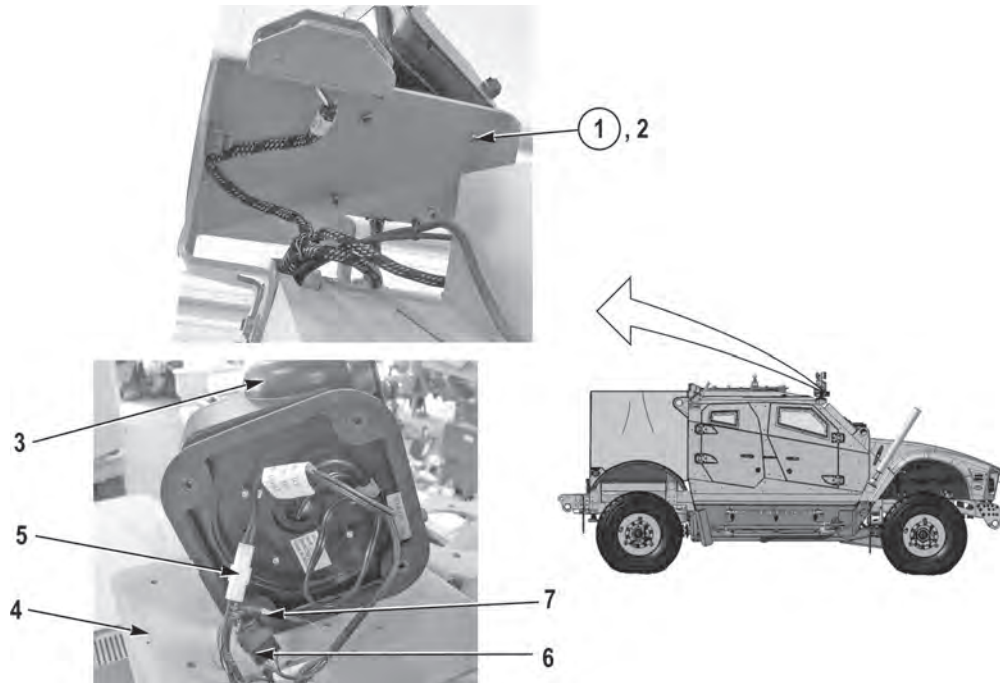
Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

REMOVAL**NOTE**

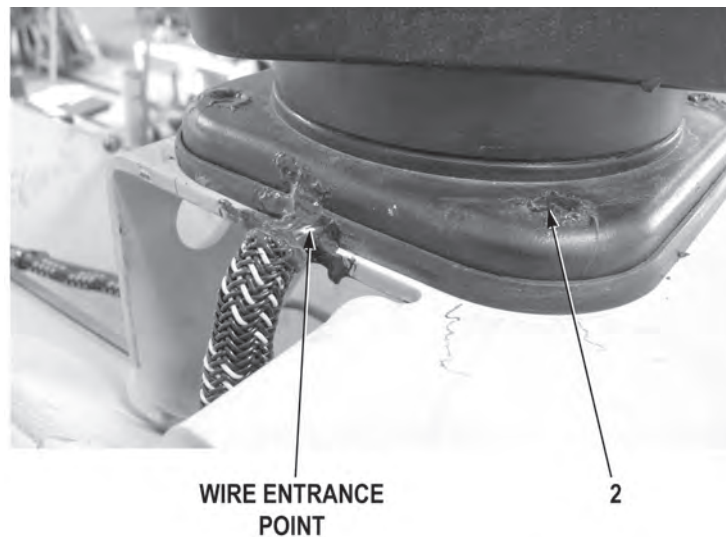
- All four spotlights are removed the same way. Passenger side front spotlight shown.
- Tag and mark wires prior to removal to ensure proper installation.
- Remove cable ties as required.

1. Remove four locknuts (1), screws (2), and spotlight (3) from bracket (4). Discard four locknuts (1).
2. Disconnect three connectors (5, 6, and 7).

END OF TASK

INSTALLATION

1. Connect three connectors (7, 6, and 5).
2. Install spotlight (3) on bracket (4) with four screws (2) and new locknuts (1).



3. Apply adhesive, RTV to heads of four screws (2) and wire entrance point.
4. Perform all Follow-On Maintenance tasks.

END OF TASK**END OF WORK PACKAGE**

STARTER REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)
 Power steering pump removed (WP 0276)

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive
 Wrench, Combination, 1-1/16 in.
 Wrench, Combination, 1-1/8 in.
 Wrench, Combination, 1-5/16 in.

Materials/Parts

Locknut (Item 10)

Materials/Parts (continued)

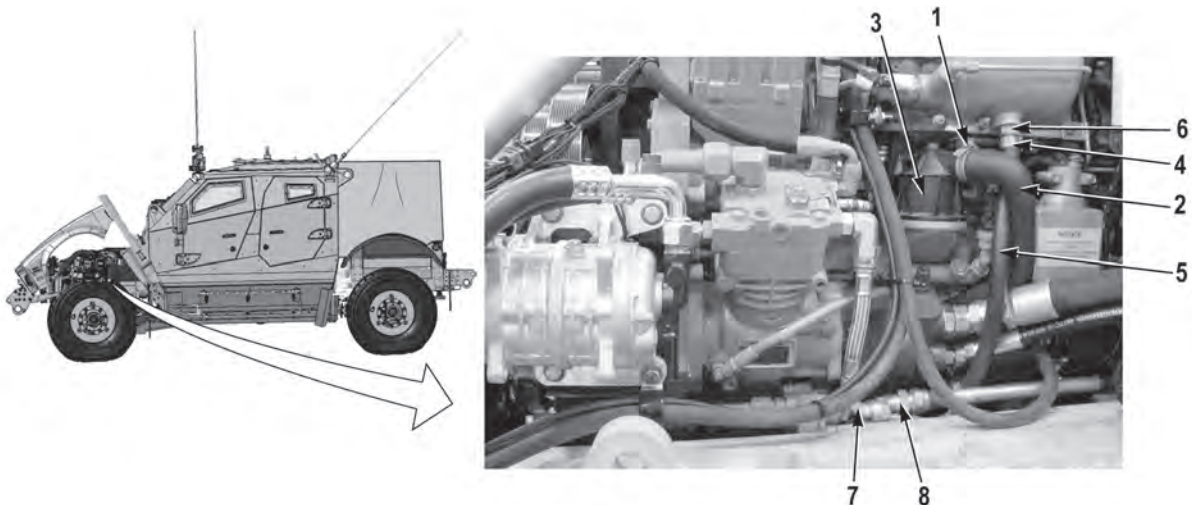
Locknut (2) (Item 45 and 49)
 Lockwasher (3) (Item 53)
 Cap and Plug Set
 Compound, Sealing, Loctite 592
 Compound, Sealing, Novagard 200-257
 Tags, Identification
 Ties, Cable

Personnel Required

Two

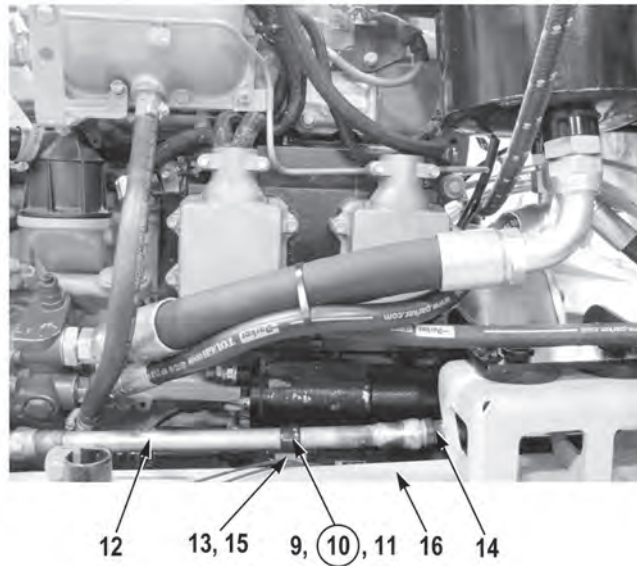
Follow-On Maintenance

Install power steering pump (WP 0276)
 Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

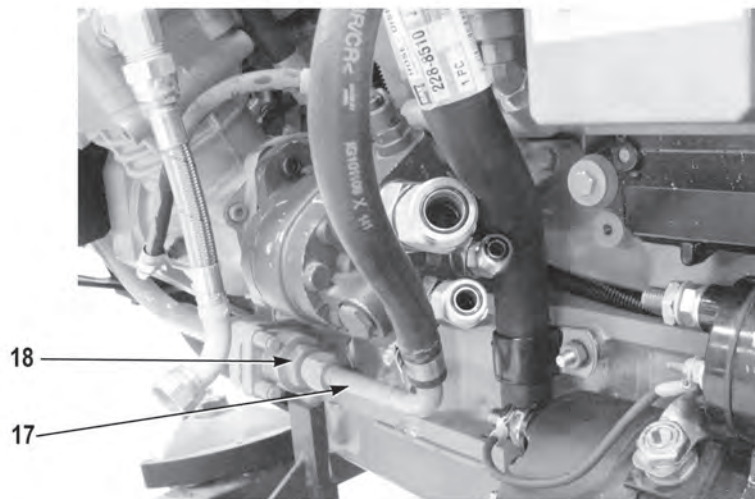
REMOVAL**NOTE**

- Tag and mark hoses and fittings prior to removal to ensure proper installation.
- Cap and plug hoses and fittings upon removal.
- Remove cable ties as required.
- Perform Steps (1) through (7) for vehicles with 90 degree compressor outlet fitting.

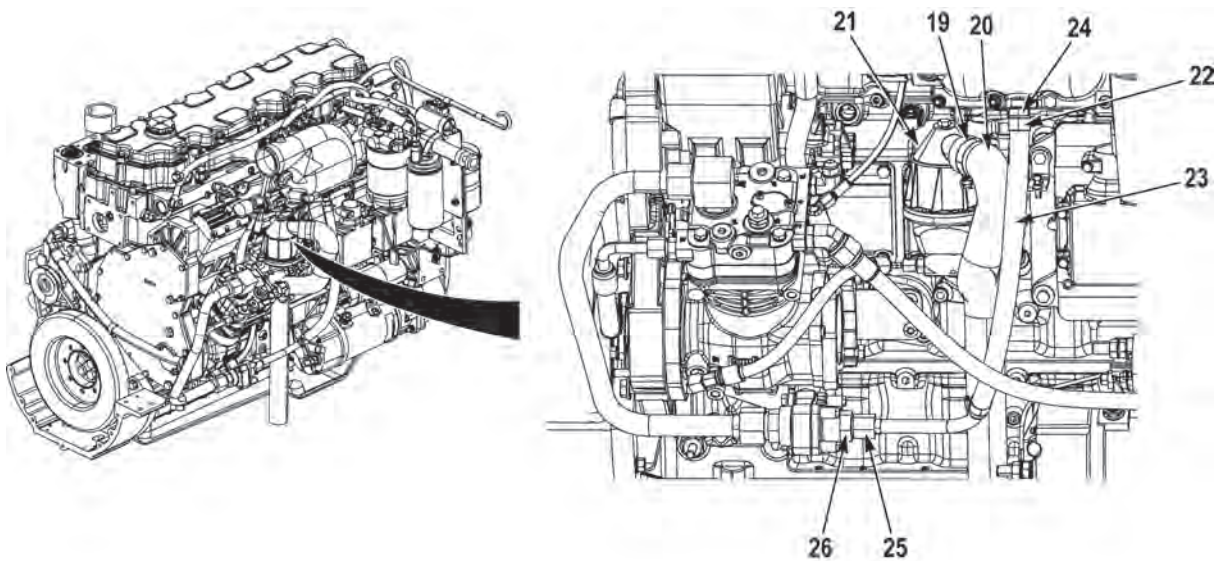
1. Remove clamp (1) and hose (2) from breather assembly (3).
2. Remove clamp (4) and hose (5) from fitting (6).
3. Remove hose (7) from fitting (8).



4. Remove screw (9), locknut (10), cushion clip (11), and tube (12) from bracket (13). Discard locknut (10).
5. Remove tube (12) from tube (14).
6. Remove screw (15) and bracket (13) from frame rail (16).



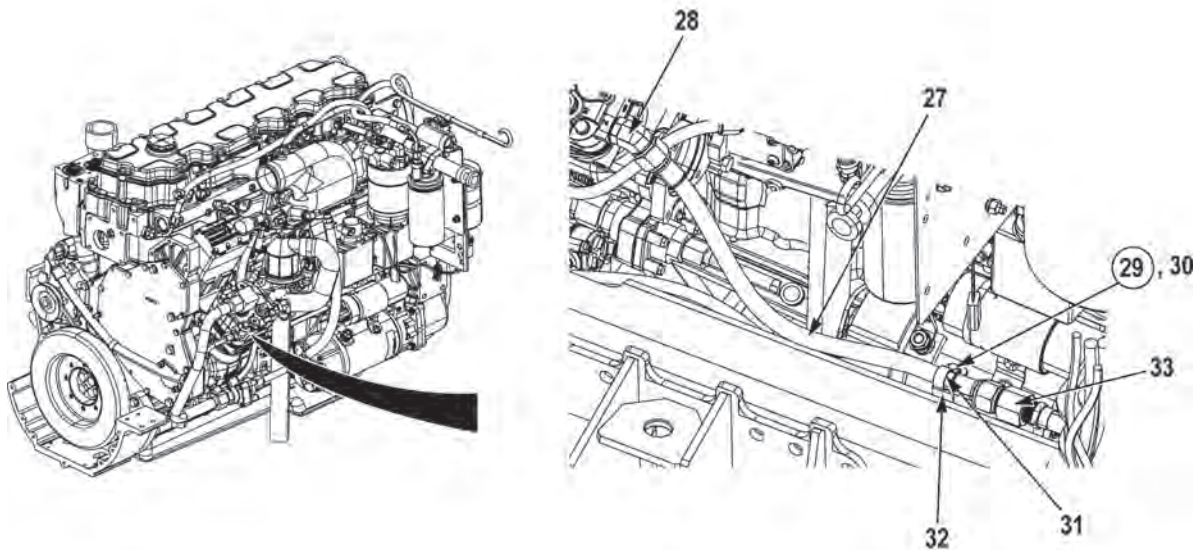
7. Remove tube (17) from fitting (18).



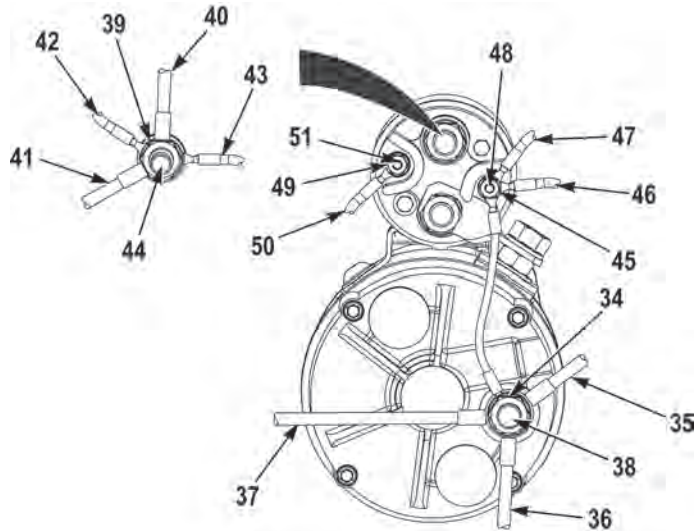
NOTE

Perform Steps (8) through (13) for vehicles with 45 degree compressor outlet fitting.

8. Remove clamp (19) and hose (20) from breather assembly (21).
9. Remove clamp (22) and hose (23) from fitting (24).
10. Remove tube (25) from fitting (26).

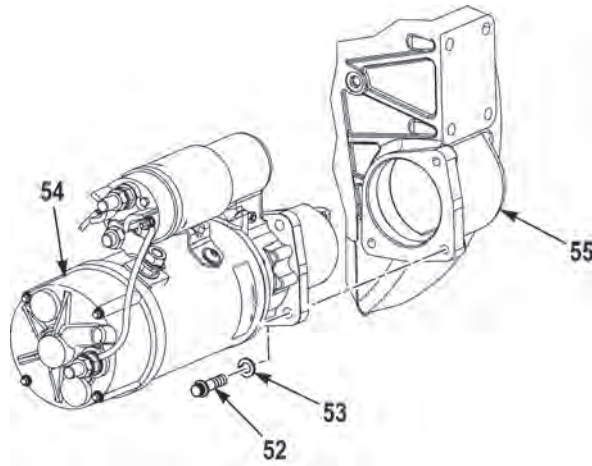


11. Remove hose (27) from fitting (28).
12. Remove locknut (29), screw (30), cushion clip (31), and hose (27) from standoff bracket (32). Discard locknut (29).
13. Remove hose (27) from fitting (33).



NOTE

- Tag and mark cables and wires prior to removal to ensure proper installation.
 - Ground wire going from ground stud to solenoid should remain with starter assembly.
14. Remove nut (34) and three cables (35, 36, and 37) from starter ground stud (38).
 15. Remove nut (39), two cables (40 and 41) and two wires (42 and 43) from solenoid stud (44).
 16. Remove locknut (45) and two wires (46 and 47) from solenoid stud (48). Discard locknut (45).
 17. Remove locknut (49) and wire (50) from solenoid stud (51). Discard locknut (49).

**WARNING**

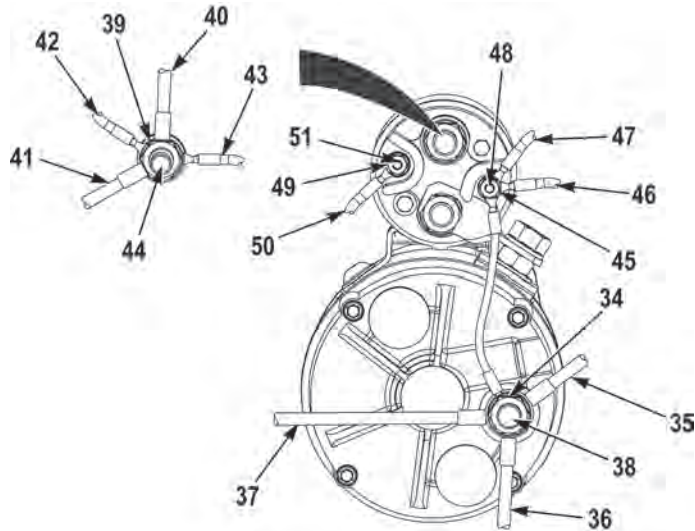
Starter weighs 50 lbs (23kg). Do not lift or move starter without the aid of an assistant. Failure to comply may result in injury to personnel.

18. With the aid of an assistant, remove three screws (52), lockwashers (53), and starter assembly (54) from engine (55). Discard lockwashers (53).

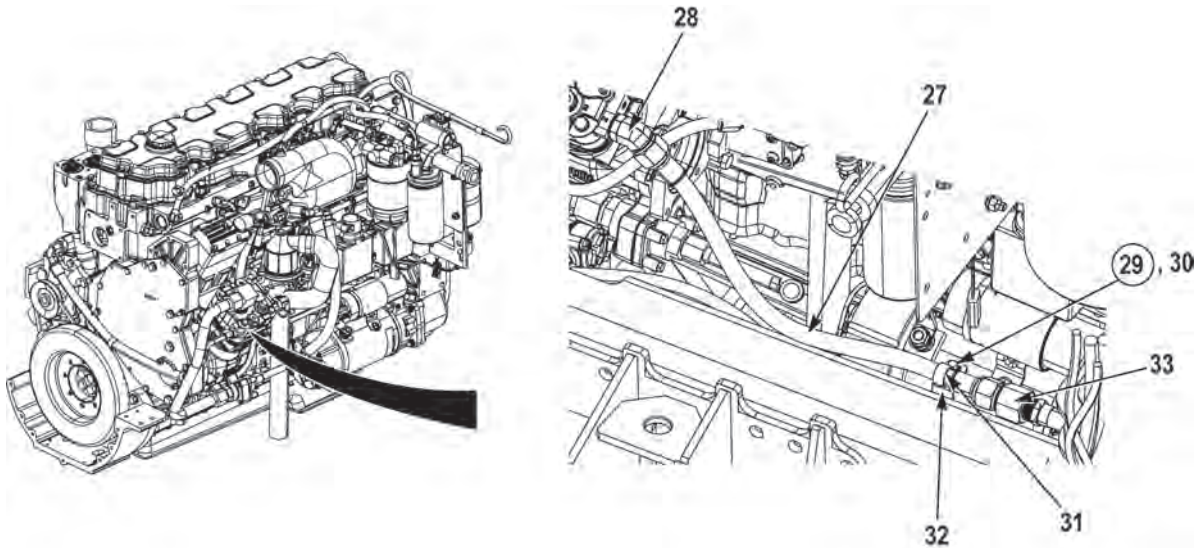
END OF TASK**INSTALLATION****WARNING**

Starter weighs 50 lbs (23kg). Do not lift or move starter without the aid of an assistant. Failure to comply may result in injury to personnel.

1. With the aid of an assistant, install starter assembly (54) on engine (55) with three new lockwashers (53) and screws (52).



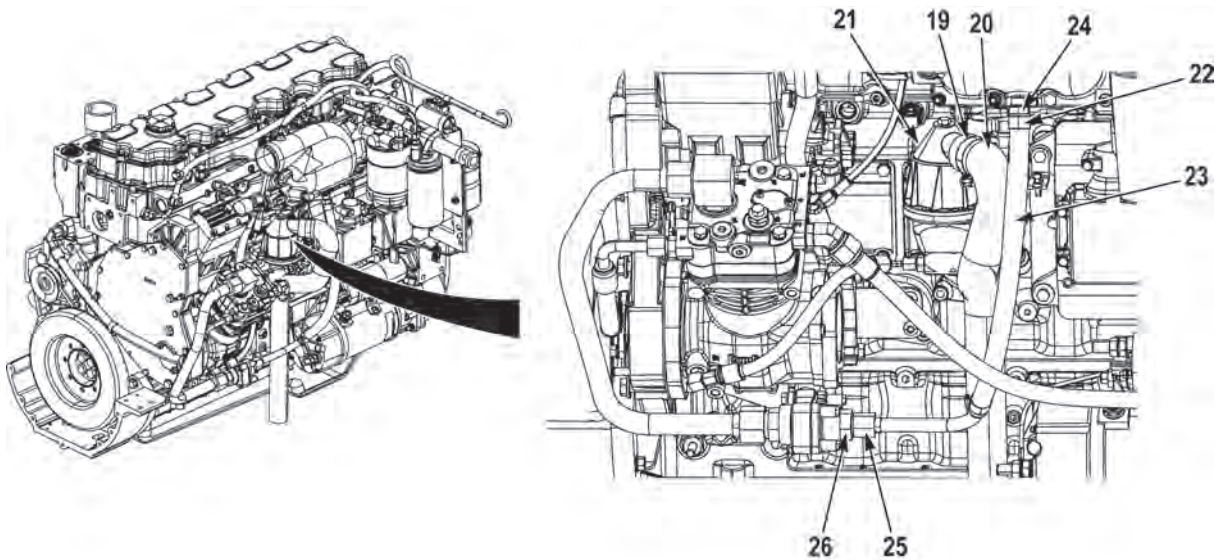
2. Install wire (50) on solenoid stud (51) with new locknut (49).
3. Install two wires (47 and 46) on solenoid stud (48) with new locknut (45).
4. Install two cables (41 and 40) and two wires (43 and 42) on solenoid stud (44) with nut (39).
5. Install three cables (37, 36, and 35) on starter ground stud (38) with nut (34).



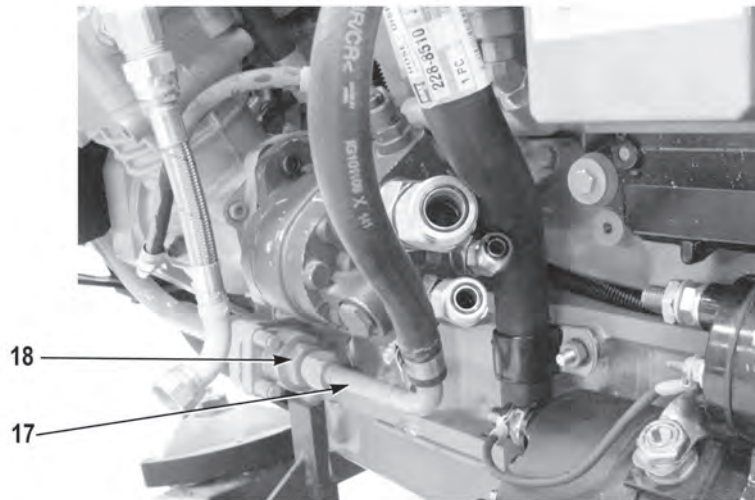
NOTE

Perform Steps (6) through (11) for vehicles with 45 degree compressor outlet fitting.

6. Install hose (27) on fitting (33).
7. Install hose (27) on standoff bracket (32) with cushion clip (31), screw (30), and locknut (29).
8. Install hose (27) on fitting (28).

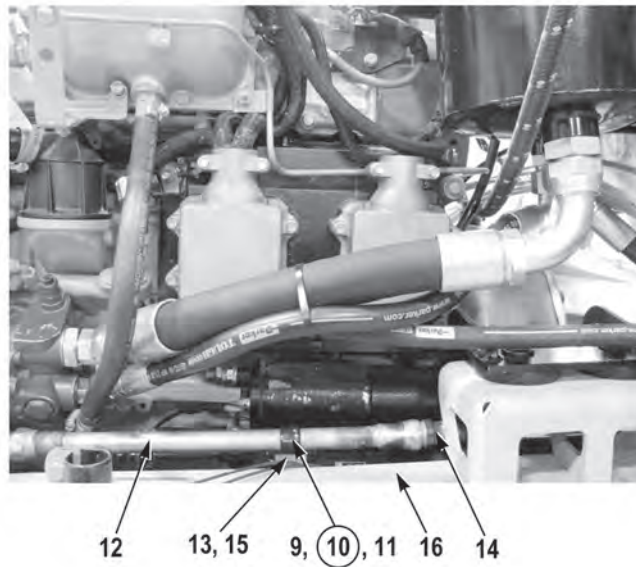


9. Install tube (25) on fitting (26).
10. Install hose (23) on fitting (24) with clamp (22).
11. Install hose (20) on breather assembly (21) with clamp (19).

**NOTE**

Perform Steps (12) through (18) for vehicles with 90 degree compressor outlet fitting.

12. Install tube (17) on fitting (18).

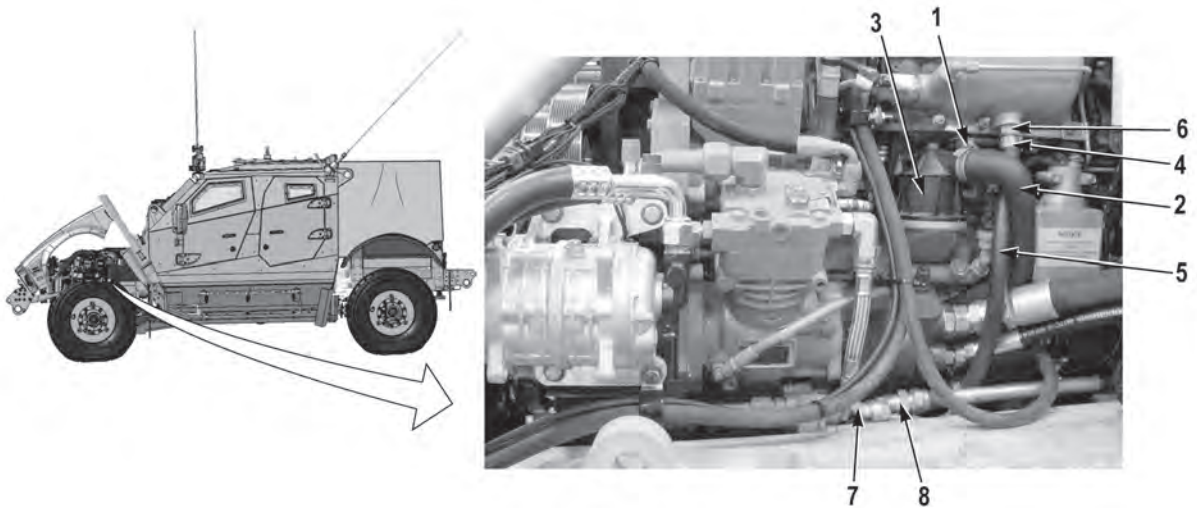


13. Install bracket (13) on frame rail (16) with screw (15).

WARNING

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

14. Apply sealing compound, Loctite 592, to threads of tube (14) and install tube (12) on tube (14).
15. Install cushion clip (11) and tube (12) on bracket (13) with screw (9) and new locknut (10).



16. Install hose (7) on fitting (8).
17. Install hose (5) on fitting (6) with clamp (4).
18. Install hose (2) on breather assembly (3) with clamp (1).
19. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

STOPLIGHT SWITCH REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Air system drained
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

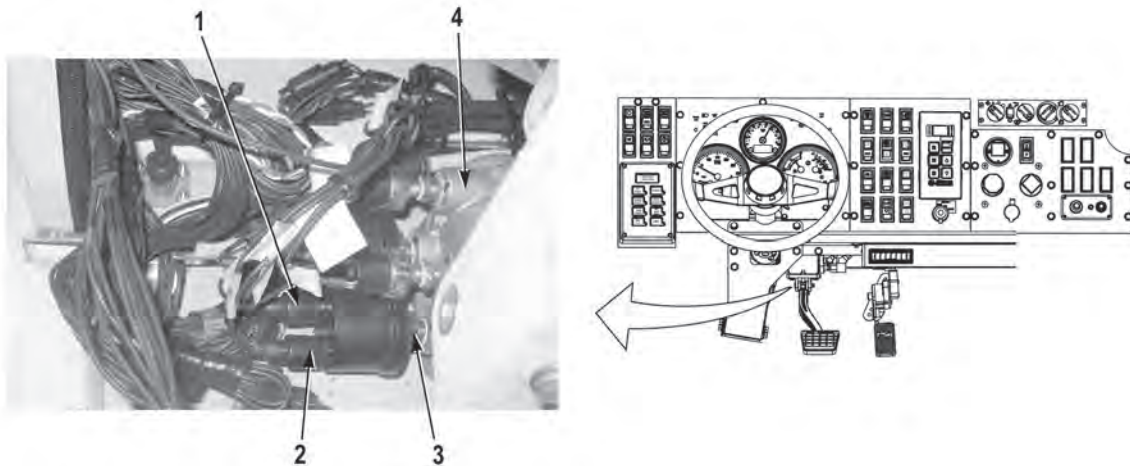
Tool Kit, General Mechanic's: Automotive

Materials/Parts

Compound, Sealing, Loctite 592
 Tags, Identification
 Ties, Cable

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

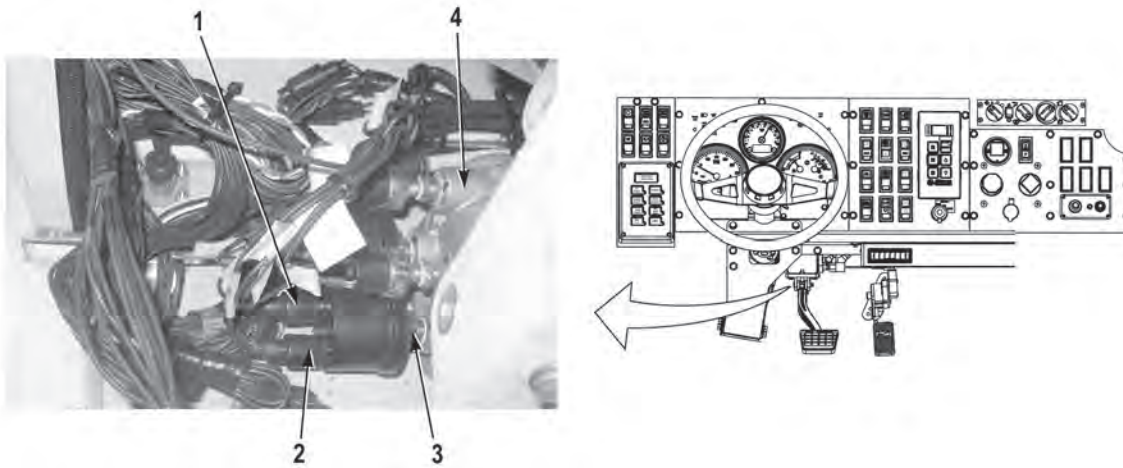
REMOVAL**WARNING**

Ensure air system is drained prior to working on air system components. Failure to comply may result in injury or death to personnel.

NOTE

- Tag and mark wires prior to removal to ensure proper installation.
 - Remove cable ties as required.
 - Both stoplight switches are removed the same way.
1. Disconnect connectors (1 and 2) from stoplight switch (3).
 2. Remove stoplight switch (3) from treadle valve (4).

END OF TASK

INSTALLATION**WARNING**

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

NOTE

- Install cable ties as required.
 - Both stoplight switches are installed the same way.
1. Apply sealing compound, Loctite 592, to stoplight switch (3).
 2. Install stoplight switch (3) on treadle valve (4).

NOTE

Install wires as noted prior to removal.

3. Connect connectors (1 and 2) on stoplight switch (3).
4. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

TRANSMISSION CONTROL MODULE (TCM) REPLACEMENT

Preconditions

Park vehicle
 Engine OFF
 Wheels chocked
 Batteries disconnected (M1240/M1240A1)
 (WP 0186)
 Batteries disconnected (M1245) (WP 0187)

Materials/Parts

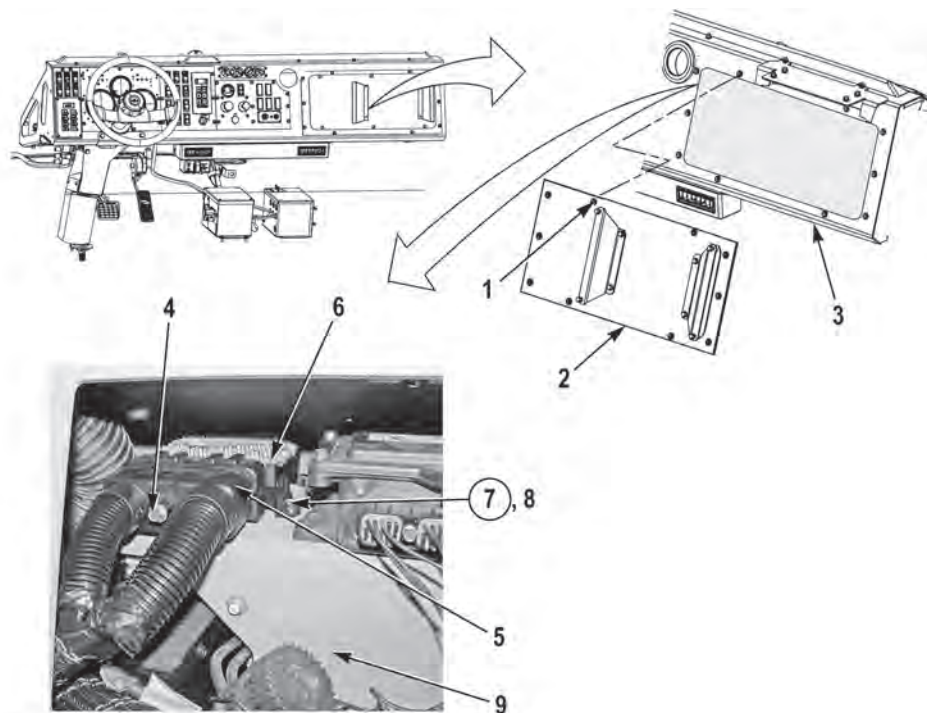
Locknut (2) (Item 7)
 Tags, Identification

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
 Connect batteries (M1245) (WP 0187)
 Remove and stow wheel chocks

Tools and Special Tools

Tool Kit, General Mechanic's: Automotive

REMOVAL

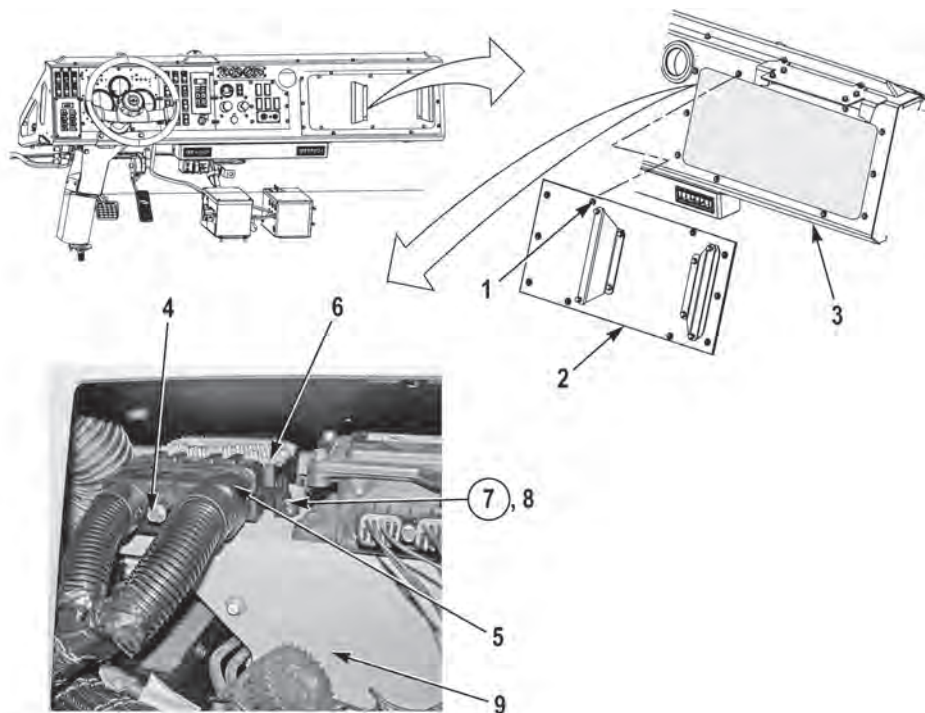
1. Remove ten screws (1) and dash circuit breaker cover (2) from dash (3).

NOTE

Tag and mark connector prior to removal to ensure proper installation.

2. Loosen screw (4) and disconnect connector (5) from transmission control module (6).
3. Remove two locknuts (7), screws (8), and transmission control module (6) from dash panel compartment tray (9). Discard locknuts (7).

END OF TASK

INSTALLATION

1. Install transmission control module (6) on dash panel compartment tray (9) with two screws (8) and new locknuts (7).
2. Connect connector (5) to transmission control module (6) and tighten screw (4).
3. Install dash circuit breaker cover (2) on dash (3) with ten screws (1).
4. Perform all Follow-On Maintenance tasks.

END OF TASK**END OF WORK PACKAGE**

VOLTAGE REGULATOR REPLACEMENT

Preconditions

Park vehicle
Engine OFF
Wheels chocked
Hood opened and secured
Batteries disconnected (M1240/M1240A1)
(WP 0186)
Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

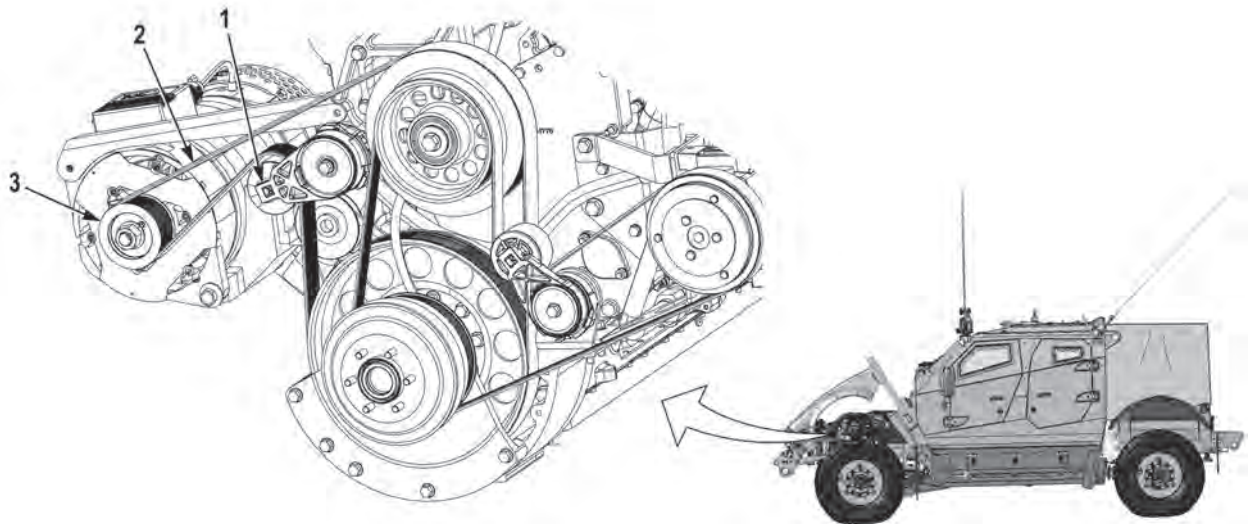
Lifting Device
Tool Kit, General Mechanic's: Automotive

Materials/Parts

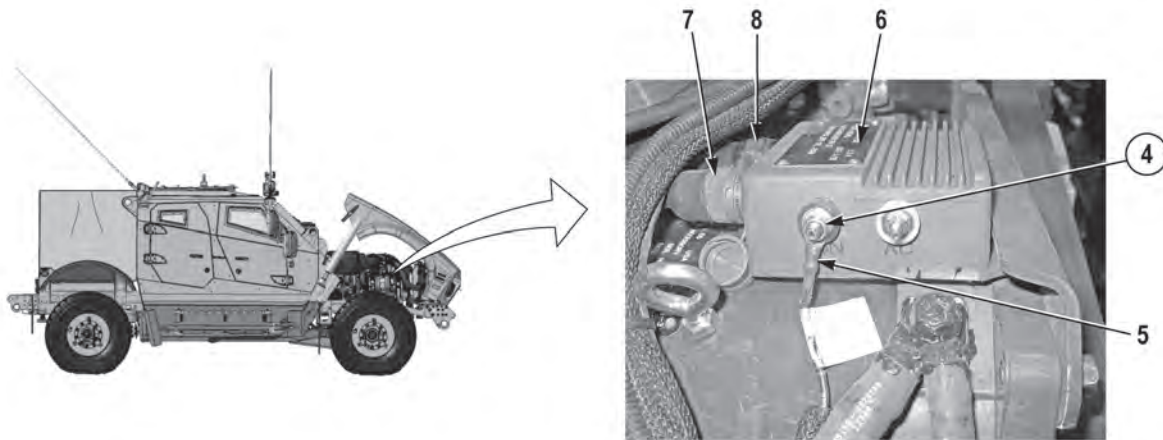
Locknut (Item 4)
Compound, Sealing, Novagard 200-257
Lubricant, Connector, Nyogel 760G
Tags, Identification
Ties, Cable

Follow-On Maintenance

Connect batteries (M1240/M1240A1) (WP 0186)
Connect batteries (M1245) (WP 0187)
Close and secure hood
Remove and stow wheel chocks

REMOVAL

1. Release tension of belt tensioner idler pulley (1) and remove belt (2) from tensioner idler pulley (1) and alternator pulley (3).

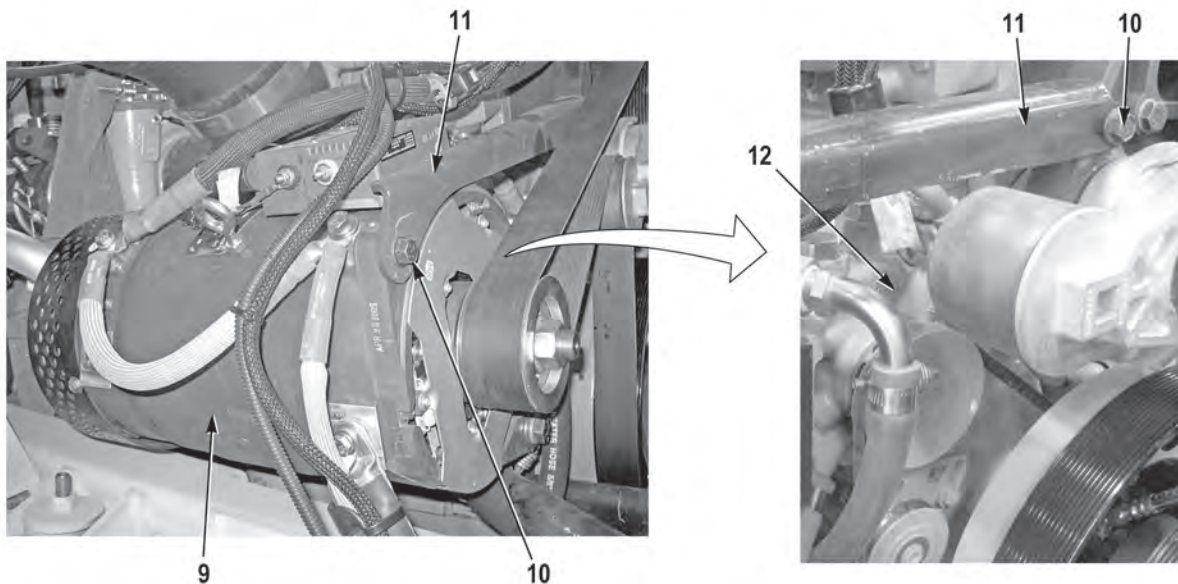


WARNING

Engine components become hot during normal operation. Allow engine to cool completely prior to performing this task. Failure to comply may result in injury to personnel.

NOTE

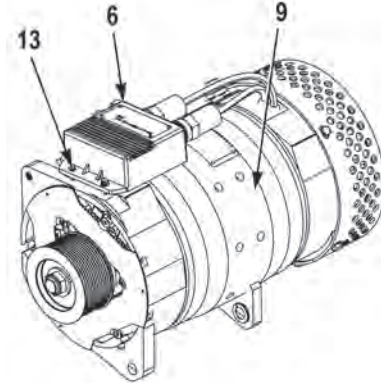
- Tag and mark wires and connectors prior to removal to ensure proper installation.
 - Remove cable ties as required.
2. Remove locknut (4) and wire (5) from voltage regulator (6). Discard locknut (4).
 3. Disconnect two connectors (7 and 8) from voltage regulator (6).



WARNING

Alternator weighs 115 lbs (52 kg). Support alternator with lifting device prior to removing support bracket. Failure to comply may result in injury to personnel.

4. Support alternator (9) with lifting device and remove two screws (10), and support bracket (11) from engine (12) and alternator (9).



5. Remove three screws (13) and voltage regulator (6) from alternator (9).

END OF TASK**INSTALLATION**

1. Install voltage regulator (6) on alternator (9) with three screws (13).
2. Install support bracket (11) on engine (12) and alternator (9) with two screws (10).
3. Remove lifting device from alternator (9).

WARNING

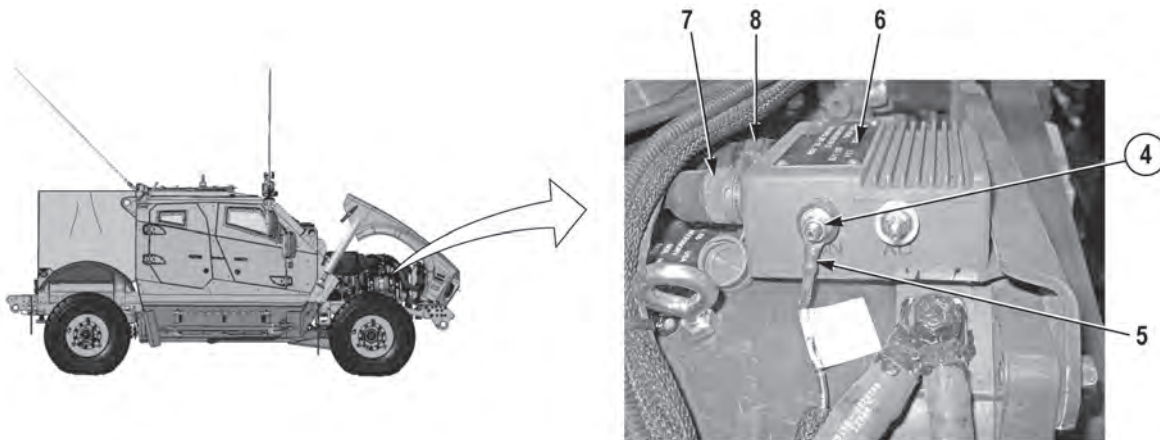
Connector lubricant is harmful to skin. Prolonged or repeated contact with skin or contact with eyes may cause irritation. If eyes are contacted, rinse thoroughly and contact physician if irritation persists. If skin is contacted, wash thoroughly with soap and water. Failure to comply may result in injury or death to personnel.

4. Apply connector lubricant, Nyogel 760G, to connectors (7 and 8) and connect two connectors (7 and 8) to voltage regulator (6).

NOTE

Install cable ties as required.

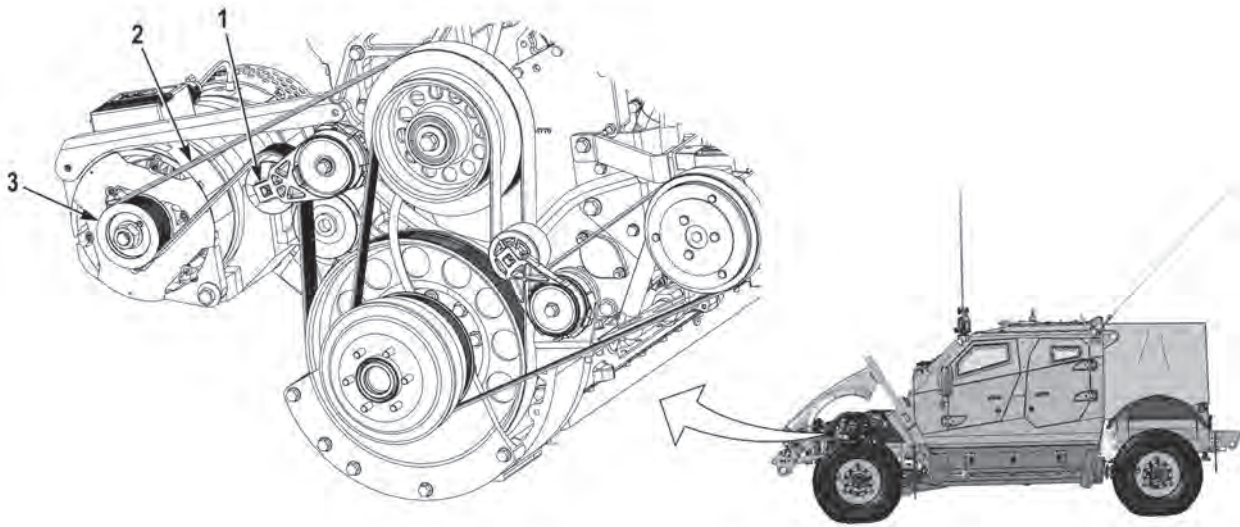
5. Install wire (5) on voltage regulator (6) with new locknut (4).



WARNING

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

6. Apply sealing compound, Novagard 200-257, to locknut (4) and wire (5).



7. Release tension of belt tensioner idler pulley (1) and install belt (2) on alternator pulley (3) and belt tensioner idler pulley (1).
8. Perform all Follow-On Maintenance tasks.

END OF TASK

END OF WORK PACKAGE

WIRING HARNESS REPAIR

Preconditions

Park vehicle
Engine OFF
Wheels chocked
Batteries disconnected (M1240/M1240A1)
(WP 0186)
Batteries disconnected (M1245) (WP 0187)

Tools and Special Tools

Crimping Tool, Terminal, Hand
(NSN 5120-01-481-2194)
Crimping Tool, Terminal, Hand
(NSN 5120-01-374-8936)
Crimping Tool, Terminal (NSN 5120-01-355-0844)
Extractor, Electrical Connector, Plug
Tool Kit, General Mechanic's: Automotive
Remover, Electrical Connector
(NSN 5120-01-394-0296)
Remover, Electrical Connector
(NSN 5120-01-374-8969)
Remover, Electrical Connector
(NSN 5120-01-015-2154)
Remover, Electrical Connector
(NSN 5120-01-353-2534)

Materials/Parts

Locknut (4) (Item 1)
Coating, Conformal, Sealant, 75297
Compound, Anti-Corrosion Spray, 2233850
Heatshrink, Sealed
Lubricant, Connector, Nyogel 760G
Tags, Identification
Ties, Cable

Follow-On Maintenance

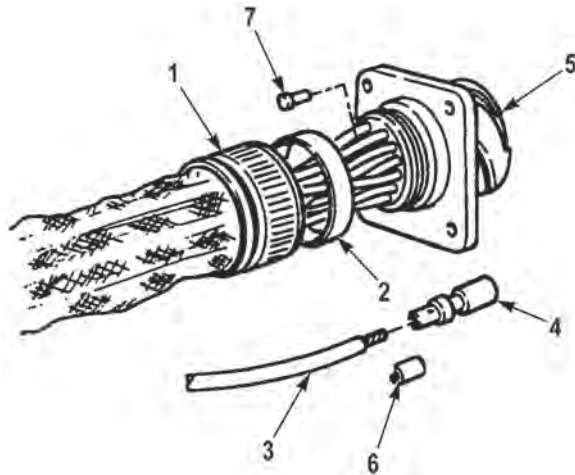
Connect batteries (M1240/M1240A1) (WP 0186)
Connect batteries (M1245) (WP 0187)
Remove and stow wheel chocks

TYPE 1 CONNECTOR REPAIR**CAUTION**

Terminals come in different styles and sizes. To prevent damage, be sure to use only the exact replacements. Do not attempt to modify terminal to fit. Failure to comply may result in damage to equipment.

NOTE

- All type 1 connectors are repaired the same way. Number of wires in connection may vary.
- Repeat procedure as necessary.
- Tag and mark wires prior to disassembly to ensure proper assembly.
- Remove cable ties and loosen cushion clips as required.

1. Disassembly

- Unscrew cover (1).
- Slide plastic sleeve (2) back.
- Remove wire (3) and terminal (4) from connector (5).

NOTE

Cut as close to damaged terminal as possible.

- Cut off terminal (4) at end of wire (3). Remove insulation (6) 0.25 in. (0.64 cm) from end of wire (3). Discard terminal (4).

2. Assembly

- a. Install terminal (4) on wire (3) and crimp in place.
- b. Install terminal (4) on connector (5).
- c. Install sealing plugs (7) in unused holes.
- d. Slide plastic sleeve (2) against connector (5).
- e. Install cover (1) on connector (5).

WARNING

Anti-corrosion compound is toxic. Use only in well-ventilated area. Use NIOSH/MSHA-approved respirator with dual organic vapor/mist and particulate cartridge. Do not get in eyes; wear chemical safety goggles and full face shield when using. Avoid contact with skin and wear rubber or plastic, solvent-resistant gloves. In case of contact, remove contaminated clothing and immediately wash area with soap and water. If eyes are contacted, flush eyes with large amounts of water for at least 15 minutes and get immediate medical attention. If swallowed, do not induce vomiting; contact a physician immediately. Failure to comply may result in injury or death to personnel.

- f. Apply anti-corrosion spray, 2233850, to cushion clips that were removed and installed.
- g. Perform all Follow-On Maintenance tasks.

END OF TASK

TYPE 2 CONNECTOR REPAIR

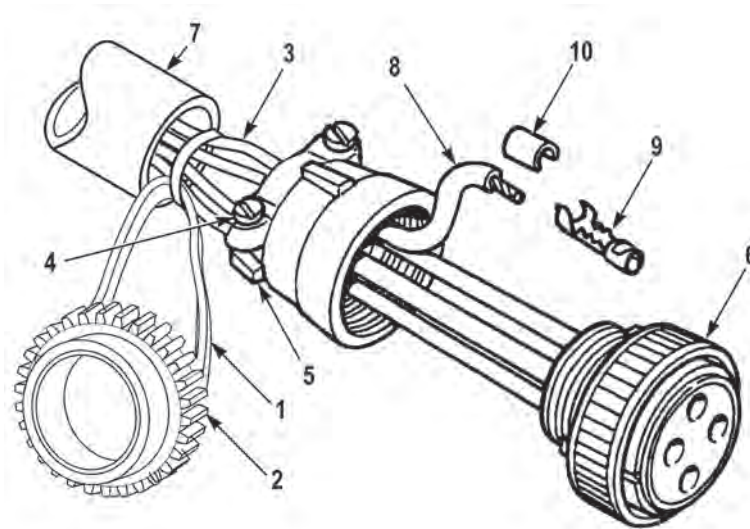
CAUTION

Terminals come in different styles and sizes. To prevent damage, be sure to use only the exact replacements. Do not attempt to modify terminal to fit. Failure to comply may result in damage to equipment.

NOTE

- All type 2 connectors are repaired the same way. Number of wires in connection may vary.
- Repeat procedure as necessary.
- Tag and mark wires prior to disassembly to ensure proper assembly.
- Remove cable ties and loosen cushion clips as required.

1. Disassembly



NOTE

- Some type 2 connectors have a dust cover attached to wire harness.
 - Perform Step (a) only if connecting wire harness has an attached dust cover.
- a. Remove dust cover retaining strap (1) and dust cover (2) from wire harness (3).
 - b. Remove two screws (4) and cable clamp (5) from connector (6).
 - c. Remove heat shrink (7).
 - d. Remove wire (8) and terminal (9) from connector (6).

NOTE

Cut as close to damaged terminal as possible.

- e. Cut off terminal (9) at end of wire (8). Remove insulation (10) 0.25 in. (0.64 cm) from end of wire (8). Discard terminal (9).

2. Assembly

- a. Install terminal (9) on wire (8) and crimp in place.
- b. Install terminal (9) in connector (6).
- c. Install cable clamp (5) on connector (6) with two screws (4).
- d. Install heat shrink (7) around wire harness (3).

NOTE

- Some type 2 connectors have a dust cover attached to wire harness.
 - Perform Step (e) only if wire harness previously had an attached dust cover.
- e. Install dust cover (2) with retaining strap (1) on wire harness (3).

WARNING

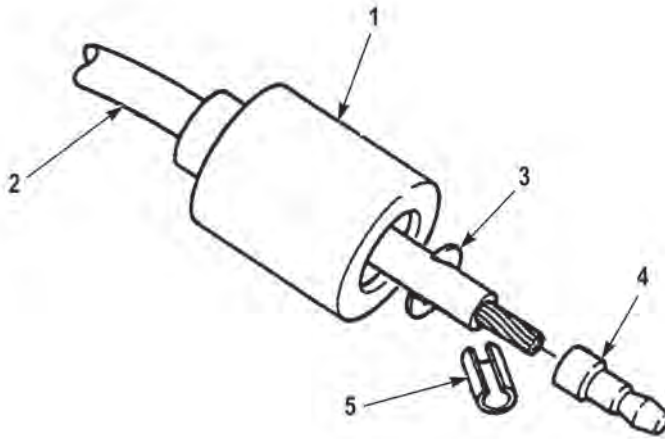
Anti-corrosion compound is toxic. Use only in well-ventilated area. Use NIOSH/MSHA-approved respirator with dual organic vapor/mist and particulate cartridge. Do not get in eyes; wear chemical safety goggles and full face shield when using. Avoid contact with skin and wear rubber or plastic, solvent-resistant gloves. In case of contact, remove contaminated clothing and immediately wash area with soap and water. If eyes are contacted, flush eyes with large amounts of water for at least 15 minutes and get immediate medical attention. If swallowed, do not induce vomiting; contact a physician immediately. Failure to comply may result in injury or death to personnel.

- f. Apply anti-corrosion spray, 2233850, to cushion clips that were removed and installed.
- g. Perform all Follow-On Maintenance tasks.

END OF TASK

TYPE 3 CONNECTOR REPAIR

1. Disassembly



NOTE

- Tag and mark wires prior to disassembly to ensure proper assembly.
- Repeat procedure as necessary.
- Remove cable ties and loosen cushion clips as required.

- a. Slide outer shell (1) back on wire (2).
- b. Remove C-washer (3) from wire (2).
- c. Cut terminal (4) from wire (2).
- d. Trim end of wire (2) as needed.
- e. Remove 0.375 in. (1.0 cm) of insulation (5) from end of wire (2).

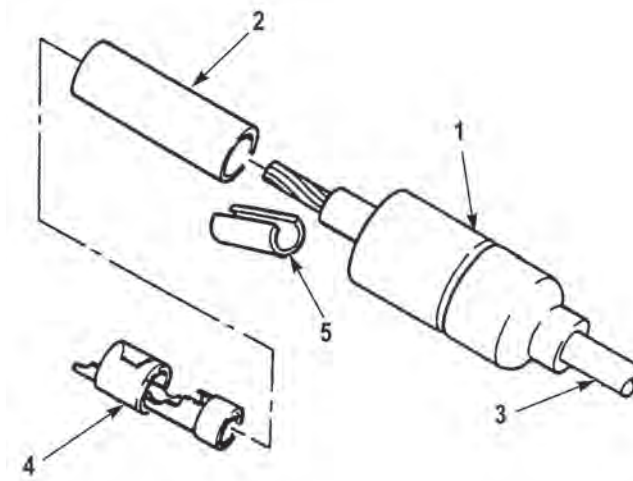
2. Assembly

- a. Install terminal (4) on wire (2).
- b. Install C-washer (3) on wire (2) just below terminal (4).
- c. Slide outer shell (1) over C-washer (3) and terminal (4).
- d. Be sure no bare wire (2) is visible outside of outer shell (1).

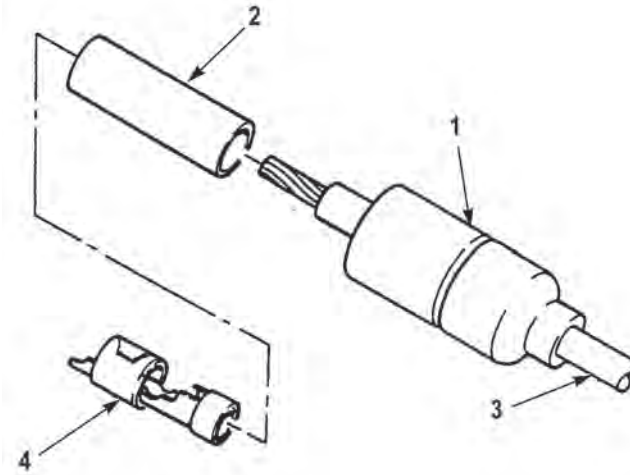
WARNING

Anti-corrosion compound is toxic. Use only in well-ventilated area. Use NIOSH/MSHA-approved respirator with dual organic vapor/mist and particulate cartridge. Do not get in eyes; wear chemical safety goggles and full face shield when using. Avoid contact with skin and wear rubber or plastic, solvent-resistant gloves. In case of contact, remove contaminated clothing and immediately wash area with soap and water. If eyes are contacted, flush eyes with large amounts of water for at least 15 minutes and get immediate medical attention. If swallowed, do not induce vomiting; contact a physician immediately. Failure to comply may result in injury or death to personnel.

- e. Apply anti-corrosion spray, 2233850, to cushion clips that were removed and installed.
- f. Perform all Follow-On Maintenance tasks.

END OF TASK**TYPE 4 CONNECTOR REPAIR****1. Disassembly****NOTE**

- Tag and mark wires prior to disassembly to ensure proper assembly.
 - Repeat procedure as necessary.
 - Remove cable ties and loosen cushion clips as required.
- a. Slide outer shell (1) and sleeve (2) back on wire (3).
 - b. Remove contact (4) from wire (3).
 - c. Trim end of wire (3) as needed to make an undamaged end.
 - d. Remove 0.25 in. (0.64 cm) of insulation (5) from end of wire (3).

Assembly

- a. Install sleeve (2) over end of wire (3).
- b. Install contact (4) over end of wire (3).
- c. Crimp contact (4) securely in place.
- d. Slide outer shell (1) over sleeve (2) and contact (4).
- e. Be sure no bare wire (3) shows outside of outer shell (1).

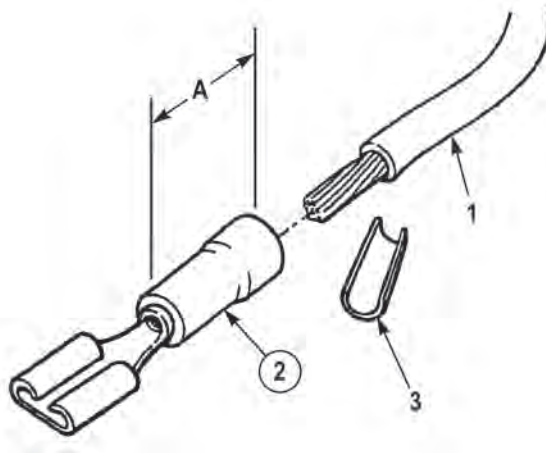
WARNING

Anti-corrosion compound is toxic. Use only in well-ventilated area. Use NIOSH/MSHA-approved respirator with dual organic vapor/mist and particulate cartridge. Do not get in eyes; wear chemical safety goggles and full face shield when using. Avoid contact with skin and wear rubber or plastic, solvent-resistant gloves. In case of contact, remove contaminated clothing and immediately wash area with soap and water. If eyes are contacted, flush eyes with large amounts of water for at least 15 minutes and get immediate medical attention. If swallowed, do not induce vomiting; contact a physician immediately. Failure to comply may result in injury or death to personnel.

- f. Apply anti-corrosion spray, 2233850, to cushion clips that were removed and installed.
- g. Perform all Follow-On Maintenance tasks.

END OF TASK

TYPE 5 CONNECTOR REPAIR



1. Disassembly

CAUTION

Terminals come in different styles and sizes. To prevent damage, be sure to use only the exact replacements. Do not attempt to modify terminal to fit. Failure to comply may result in damage to equipment.

NOTE

- Tag and mark wires prior to disassembly to ensure proper assembly.
 - Repeat procedure as necessary.
 - Remove cable ties and loosen cushion clips as required.
 - Cut as close to damaged terminal as possible.
- a. Cut wire (1) at end of terminal (2). Discard terminal (2).
 - b. Remove insulation (3) from wire (1) equal to dimension (A).

2. Assembly

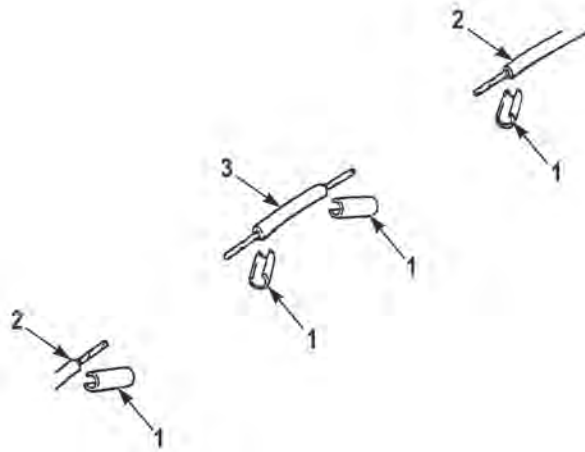
NOTE

All strands of wire must be inside terminal when installing wire.

- a. Install terminal (2) on wire (1) and crimp securely.
- b. Perform all Follow-On Maintenance tasks.

END OF TASK

3. TYPE 6 CONNECTOR REPAIR



4. Disassembly

NOTE

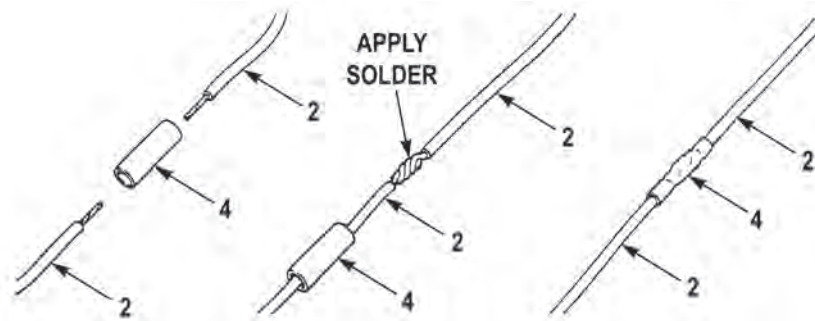
- Tag and mark wires prior to disassembly to ensure proper assembly.
 - Repeat procedure as necessary.
 - Remove cable ties and loosen cushion clips as required.
 - Replace original butt connectors with solder and heat shrink as described in Type 6 connector repair.
 - Perform Step (a) if repairing broken wire.
- a. Remove 0.75 in. (1.9 cm) of insulation (1) from both ends of wire (2).

NOTE

Perform Steps (b) through (d) if section of wire is being replaced.

- b. Measure distance of wire (2) being replaced.
- c. Cut section of new wire (3) 2 in. (5.08 cm) longer than distance of wire (2) being replaced.
- d. Remove 0.75 in. (1.9 cm) of insulation (1) from both ends of new wire (3).

5. Assembly



NOTE

Perform Steps (a) through (d) if repairing broken wire.

- a. Slide 3 in. (7.62 cm) piece of heat shrink tubing (4) over one end of wire (2).

WARNING

Allow solder to cool before handling. Failure to comply may result in injury to personnel.

NOTE

Solder must flow evenly onto both ends of wire.

- b. Twist two ends of wire (2) together and solder.
- c. Slide heat shrink tubing (4) over solder joint.

WARNING

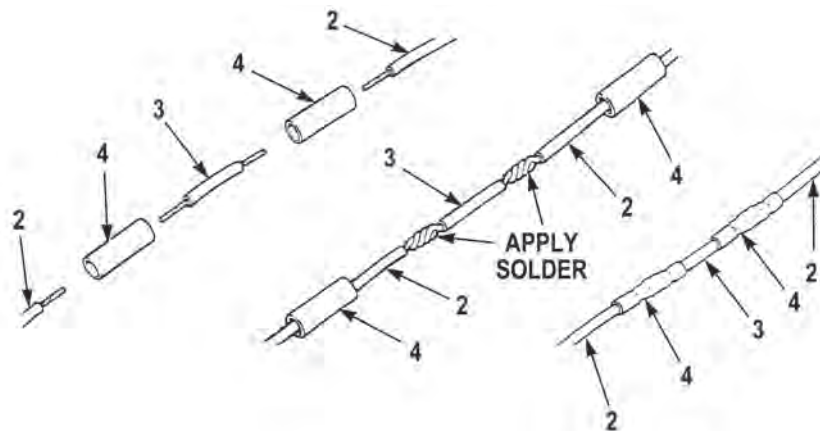
- **Never use open flame to apply heat to heat shrink tubing. Heat shrinking tubing may catch fire using open flame. Failure to comply may result in injury to personnel.**
- **Allow heat shrink tubing to cool before handling. Failure to comply may result in injury to personnel.**

CAUTION

Do not apply excessive heat to heat shrink tubing. Excessive heat may cause heat shrink tubing to split or melt. Failure to comply may result in damage to equipment.

NOTE

- Center solder joint in heat shrink tubing.
 - Allow heat shrink tubing to shrink until tight on solder joint and insulation of wire.
- d. Apply heat to heat shrink tubing (4) covering two wires (2).



NOTE

Perform Steps (e) through (h) if section of wire is being replaced.

- e. Slide two 3 in. (7.62 cm) pieces of heat shrink tubing (4) over both ends of wire (2).

WARNING

Allow solder to cool before handling. Failure to comply may result in injury to personnel.

NOTE

Solder must flow evenly onto both ends of wire.

- f. Twist two ends of wire (2) and new wire (3) together and solder.
g. Slide heat shrink tubing (4) over solder joints.

WARNING

- **Never use open flame to apply heat to heat shrink tubing. Heat shrinking tubing may catch fire using open flame. Failure to comply may result in injury to personnel.**
- **Allow heat shrink tubing to cool before handling. Failure to comply may result in injury to personnel.**

CAUTION

Do not apply excessive heat to heat shrink tubing. Excessive heat may cause heat shrink tubing to split or melt. Failure to comply may result in damage to equipment.

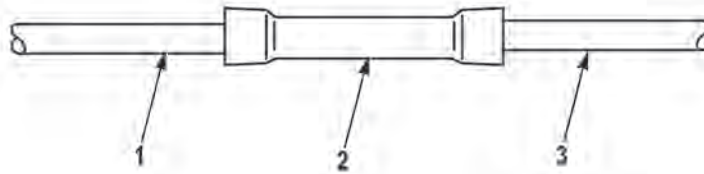
NOTE

- Center solder joints in heat shrink tubing.
 - Allow heat shrink tubing to shrink until tight on solder joint and insulation of wire.
- h. Apply heat to heat shrink tubing (4) covering solder joints, two wires (2 and 3).
i. Perform all Follow-On Maintenance tasks.

END OF TASK

TYPE 7 CONNECTOR REPAIR

1. Removal



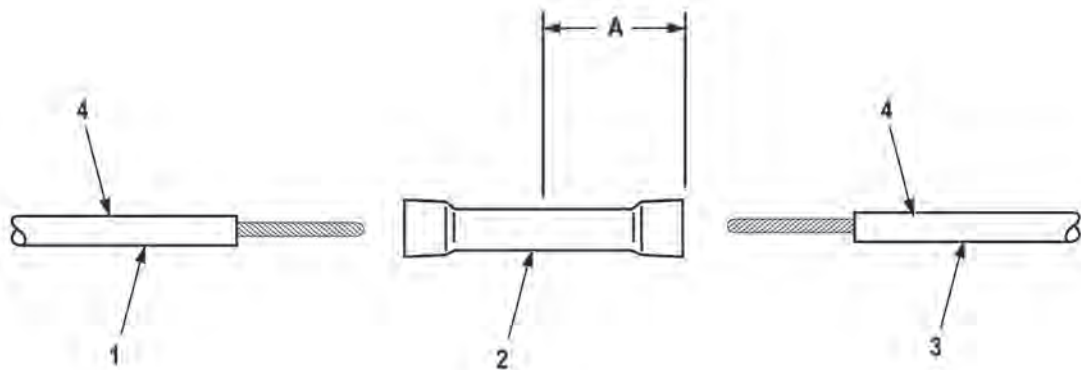
CAUTION

Butt splice connector sizes vary by wire diameter. To ensure secure repair, use only butt splice connector size specified for the wire being repaired. Do not modify butt splice connector to fit. Failure to comply may result in damage to equipment.

NOTE

- Tag and mark wires prior to repair to ensure proper assembly.
- Remove cable ties and loosen cushion clips as required.
- If replacing butt splice connector, cut wire as close to butt connector as possible.
 - a. Cut wire (1) as close to butt splice connector (2) as possible.
 - b. Cut wire (3) as close to butt splice connector (2) as possible.
 - c. Discard butt splice connector (2).

2. Installation



- a. Remove insulation (4) from two wires (1 and 3) equal to dimension (A).
- b. Install wire (1) in butt splice connector (2) until end of wire (1) is at middle of butt splice connector (2).
- c. Install wire (3) in opposite end of butt splice connector (2) until wire (3) touches wire (1).
- d. Crimp butt splice connector (2) on two wires (1 and 3) securely.
- e. Perform all Follow-On Maintenance tasks.

END OF TASK