

3-35. FUEL INJECTION PUMP RETURN HOSE CHECK VALVE MAINTENANCE

This task covers:

- a. Removal
- b. Cleaning and Inspection

c. Installation

INITIAL SETUP:

Tools

General mechanic’s tool kit:
automotive (Appendix B, Item 1)

Manual References

TM 9-2320-280-10
TM 9-2320-280-24P

Equipment Condition

- Hood raised and secured (TM 9-2320-280-10).
- Air horn removed (para. 3-14).

General Safety Instructions

- Do not perform this procedure near fire, flames, or sparks.
- Compressed air used for cleaning purposes will not exceed 30 psi (207 kPa).

WARNING

Diesel fuel is highly flammable. Do not perform this procedure near fire, flames, or sparks. Severe injury or death will result.

CAUTION

Cover or plug all hoses and connections immediately after disconnection to prevent contamination. Remove all plugs prior to connection.

a. Removal

1. Loosen clamp (2) and disconnect hose (1) from injection pump check valve (3).
2. Remove check valve (3) from injection pump (4).

WARNING

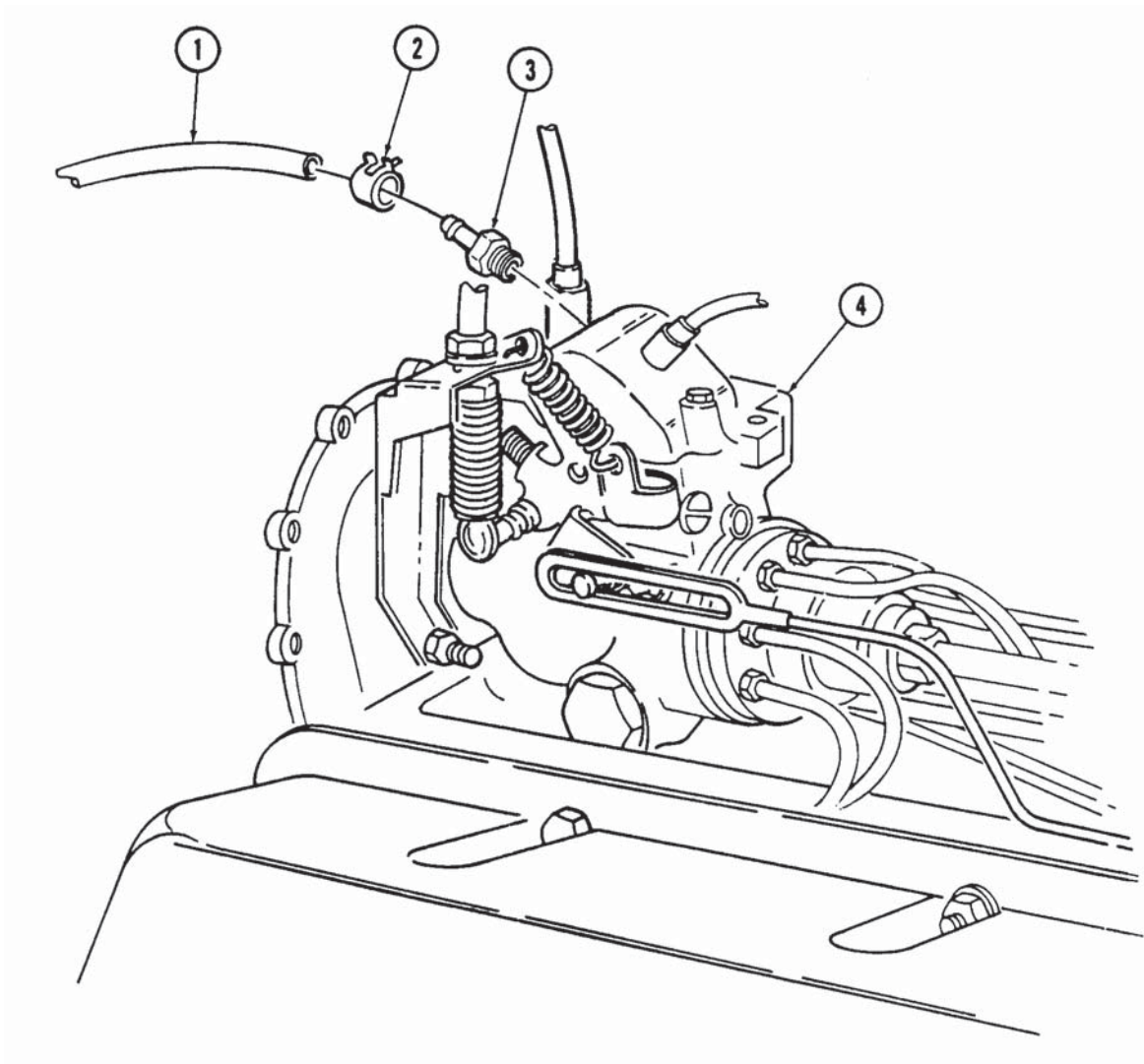
Compressed air used for cleaning purposes will not exceed 30 psi (207 kPa). Use only with effective chip guarding and personal protective equipment (goggles/shield, gloves, etc).

b. Cleaning and Inspection

Examine the lower end of the check valve (3) where the ball seats for evidence of debris. If debris is present, blow compressed air through the check valve. Replace check valve (3) if debris remains or if check valve (3) fails to function properly.

c. Installation

1. Install check valve (3) on injection pump (4).
2. Connect hose (1) on check valve (3) with clamp (2).

3-35. FUEL INJECTION PUMP RETURN HOSE CHECK VALVE MAINTENANCE (Cont'd)

FOLLOW-ON TASKS: • Install air horn assembly (para. 3-14).
• Lower and secure hood (TM 9-2320-280-10).

3-36. FUEL INJECTION RETURN HOSES REPLACEMENT

This task covers:

- | | |
|--------------------------------------|---------------------------------------|
| a. Fuel Drain Back Hose Removal | e. Nozzle to Nozzle Hose Removal |
| b. Fuel Drain Back Hose Installation | f. Nozzle to Nozzle Hose Installation |
| c. Tube to Nozzle Hose Removal | g. Nozzle Cap Removal |
| d. Tube to Nozzle Hose Installation | h. Nozzle Cap Installation |

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Appendix B, Item 1)

Manual References

TM 9-2320-280-10
TM 9-2320-280-24P

Equipment Condition

- Engine access cover removed (para. 10-15).
- Air horn removed (para. 3-14).

General Safety Instructions

Do not perform this procedure near fire, flames, or sparks.

WARNING

Diesel fuel is highly flammable. Do not perform this procedure near fire, flames, or sparks. Severe injury or death will result.

CAUTION

Cover or plug all hoses and connections immediately after disconnection to prevent contamination. Remove all plugs prior to connection.

NOTE

Have drainage container ready to catch fuel.

a. Fuel Drain Back Hose Removal

1. Loosen two clamps (2) and remove hose (3) from injection pump (4) and fuel drain back tube (1).
2. Remove two clamps (2) from hose (3).

b. Fuel Drain Back Hose Installation

1. Install two clamps (2) to hose (3).
2. Connect hose (3) to injection pump (4) and fuel drain back tube (1) with two clamps (2).

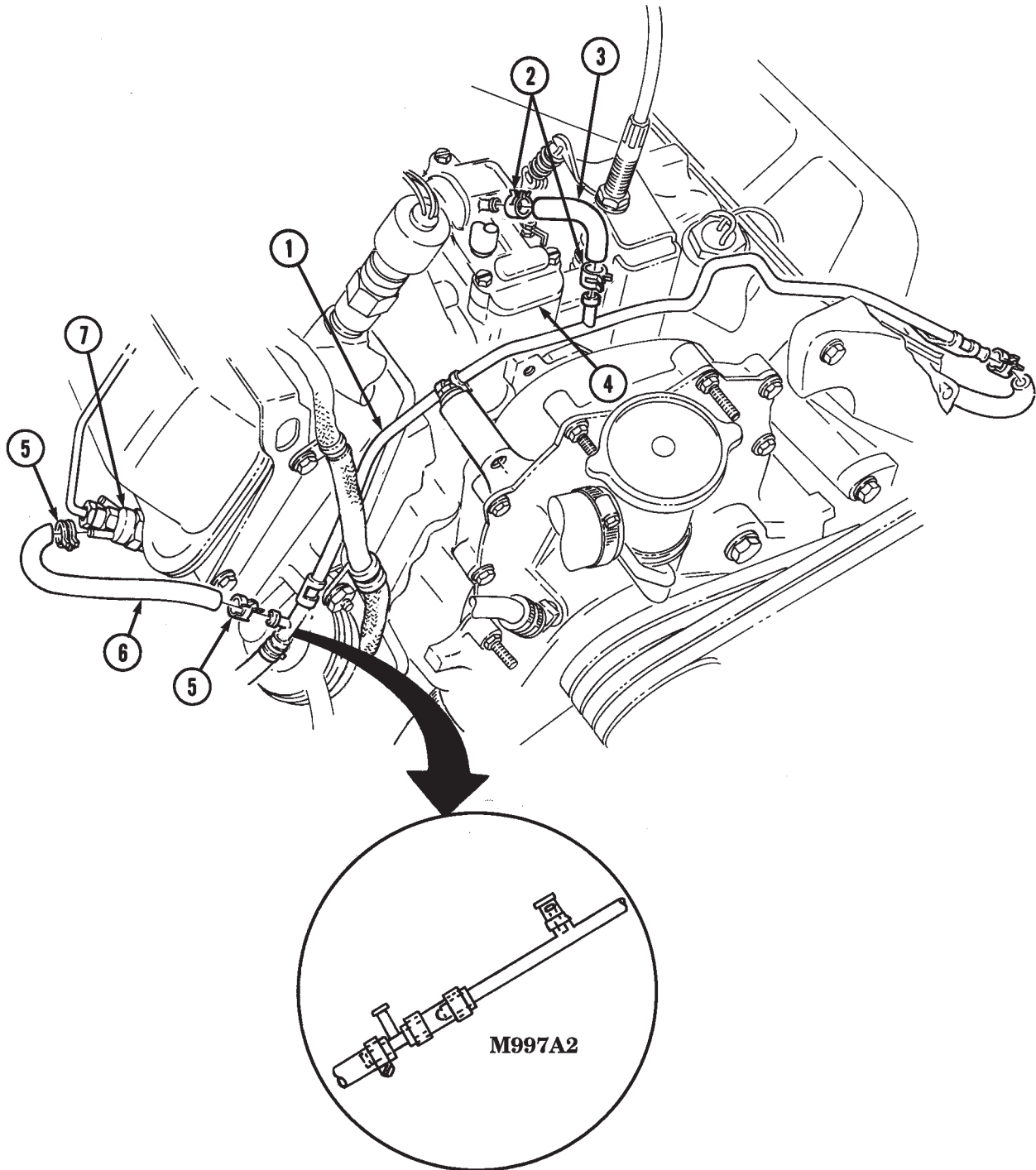
c. Tube to Nozzle Hose Removal

1. Loosen two clamps (5) and remove hose (6) from nozzle (7) and fuel drain back tube (1).
2. Remove two clamps (5) from hose (6).

d. Tube to Nozzle Hose Installation

1. Install two clamps (5) to hose (6).
2. Connect hose (6) to nozzle (7) and fuel drain back tube (1) with two clamps (5).

3-36. FUEL INJECTION RETURN HOSES REPLACEMENT(Cont'd)



3-36. FUEL INJECTION RETURN HOSES REPLACEMENT (Cont'd)

e. Nozzle to Nozzle Hose Removal

1. Loosen two clamps (5) and disconnect hose (6) from two nozzles (4).
2. Remove two clamps (5) from hose (6).

f. Nozzle to Nozzle Hose Installation

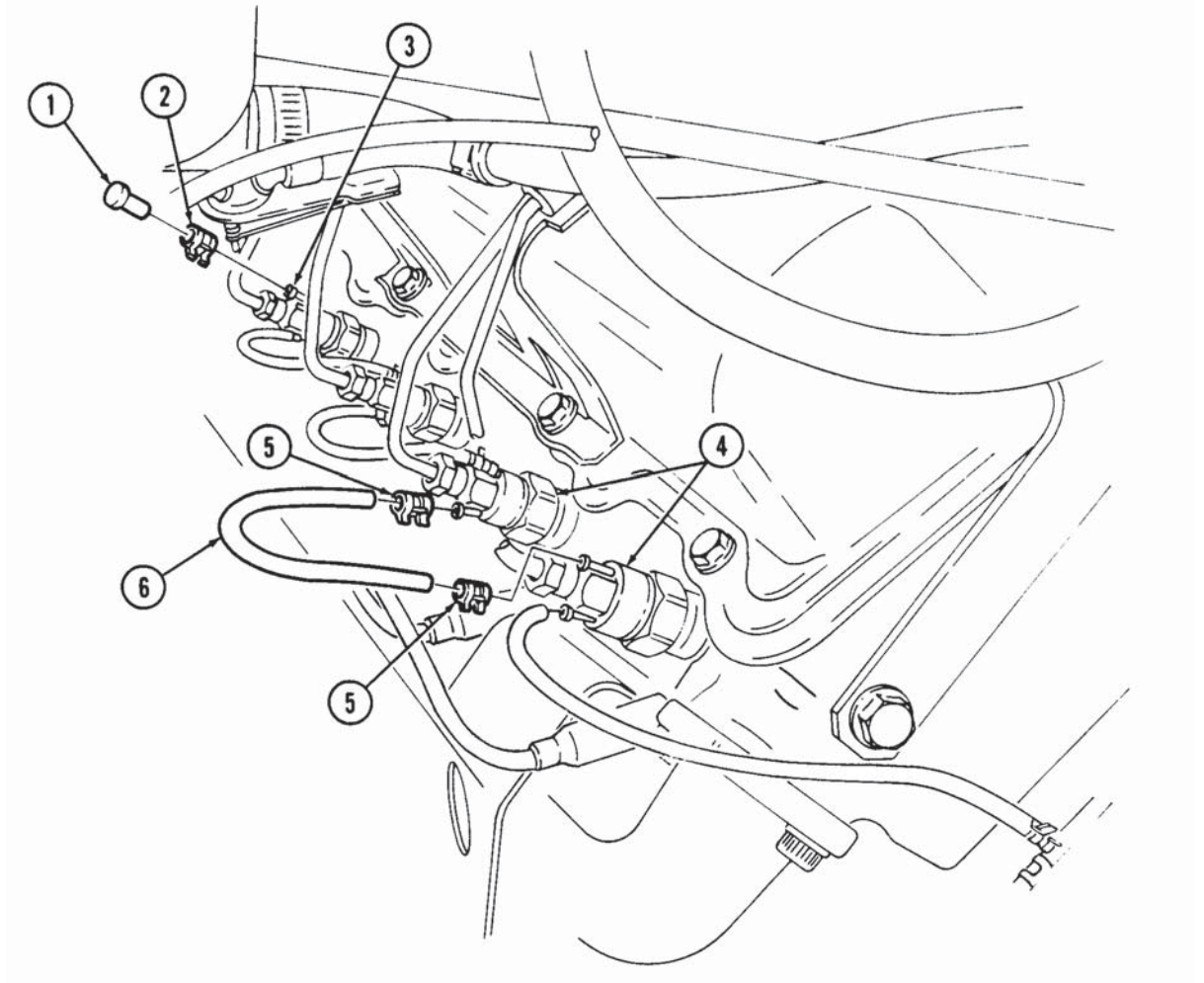
1. Install two clamps (5) to hose (6).
2. Connect hose (6) to two nozzles (4) with two clamps (5).

g. Nozzle Cap Removal

Loosen clamp (2) and remove cap (1) from rear nozzle nipple (3).

h. Nozzle Cap Installation

Install cap (1) on rear nozzle nipple (3) with clamp (2).

3-36. FUEL INJECTION RETURN REPLACEMENT (Cont'd)

FOLLOW-ON TASKS:

- Install air horn (para. 3-14).
- Install engine access cover (para. 10-15).
- Start engine (TM 9-2320-280-10) and check for fuel leaks.

3-37. FUEL DRAIN BACK TUBE REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Appendix B, Item 1)

Equipment Condition

Air horn removed (para. 3-14).

Materials/Parts

Lockwasher (Appendix G, Item 191)

General Safety Instructions

Do not perform this procedure near fire, flames, or sparks.

Manual References

TM 9-2320-280-10
TM 9-2320-280-24P

WARNING

Diesel fuel is highly flammable. Do not perform this procedure near fire, flames, or sparks. Severe injury or death will result.

a. Removal

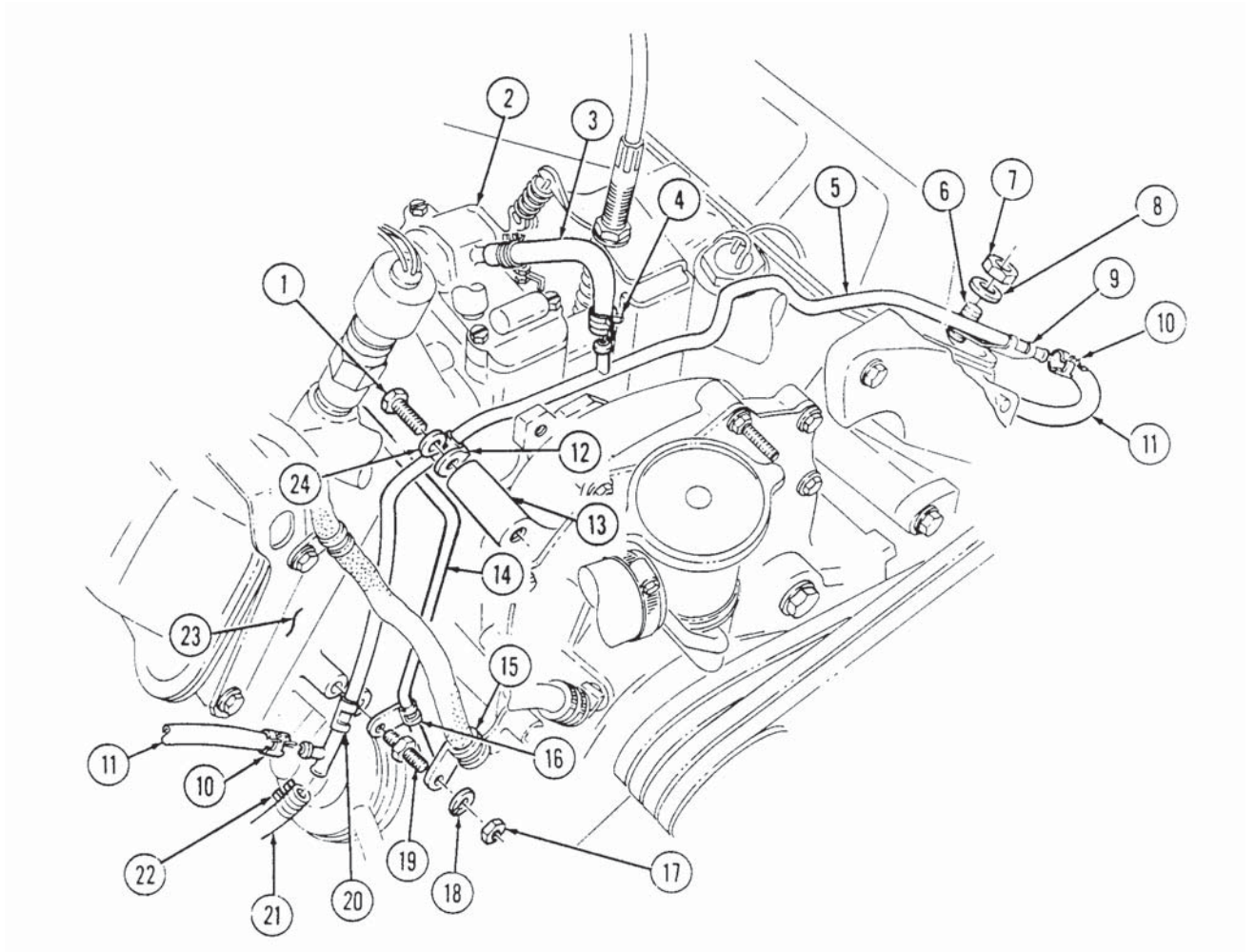
CAUTION

Cover or plug all hoses and connections immediately after disconnection to prevent contamination. Remove all plugs prior to reconnection.

1. Remove nut (17), lockwasher (18), and engine wiring harness clamp (15) from stud (19). Discard lockwasher (18).
2. Remove stud (19) fuel drain back tube (5), clamp (20) fuel supply line (14), and clamp (16) from cylinder head (23).
3. Loosen two clamps (10) and disconnect two hoses (11) from fuel drain back tube (5).
4. Loosen clamp (22) and disconnect fuel return hose (21) from fuel drain back tube (5).
5. Loosen clamp (4) and disconnect fuel drain back hose (3) from fuel drain back tube (5).
6. Remove nut (7), washer (8), clamp (9), and fuel drain back tube (5) from valve cover stud (6).
7. Remove capscrew (1), washer (24), and clamp (12) from front engine cover (13).
8. Remove drain back tube (5).

b. Installation

1. Position fuel drain back tube (5) in front of injection pump (2).
2. Connect fuel return hose (21) to fuel drain back tube (5) with clamp (22).
3. Connect two hoses (11) to fuel drain back tube (5) with two clamps (10).
4. Connect fuel drain back hose (3) to fuel drain back tube (5) with clamp (4).
5. Install fuel drain back tube (5) on valve cover stud (6) with clamp (9), washer (8), and nut (7). Tighten nut (7) to 13-20 lb-ft (18-27 N•m).
6. Install fuel drain back tube (5) on front engine cover (13) with clamp (12), washer (24), and capscrew (1). Tighten capscrew (1) to 40 lb-ft (54 N•m).
7. Install fuel supply line (14), clamp (16), fuel drain back tube (5), and clamp (20) on cylinder head (23) with stud (19).
8. Install wiring harness clamp (15) on stud (19) with lockwasher (18) and nut (17).

3-37. FUEL DRAIN BACK TUBE REPLACEMENT (Cont'd)

FOLLOW-ON TASKS: • Install air horn (para. 3-14).
• Start engine (TM 9-2320-280-10) and check for fuel leaks.

3-38. GLOW PLUG REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Appendix B, Item 1)

Manual References

TM 9-2320-280-10
TM 9-2320-280-24P

Special Tools

Socket, 3/8 in. (Appendix B, Item 155)

Equipment Condition

- Battery ground cable disconnected (para. 4-73).
- Hood raised and secured (TM 9-2320-280-10).

a. Removal

1. Disconnect electrical lead 575 (3) from glow plug (2).

NOTE

- If glow plug is damaged or broken, notify unit commander. Damaged or broken glow plugs are removed at DS maintenance.
- To help remove swollen glow plugs, fabricate tool as shown in appendix D, figure 63.1.
- Other tools can be used to aid in glow plug removal. This procedure pertains to tool in appendix D, figure 63.1.

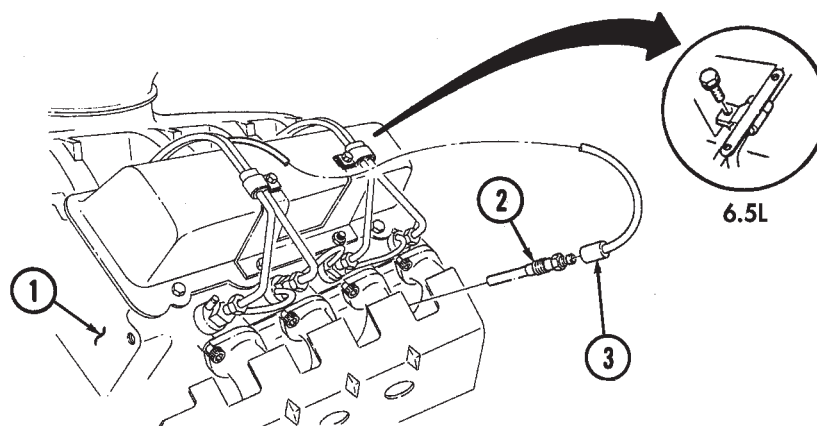
2. Insert forked end of glow plug tool behind hex-head of glow plug (2) and remove glow plug (2) from cylinder head (1).

b. Installation

NOTE

HMMWV glow plugs have bullet-shaped tips, not flat tips.

1. Install glow plug (2) in cylinder head (1). Tighten-glow plug (2) to 8-12 lb-ft (11-16 N•m).
2. Connect electrical lead 575 (3) to glow plug (2).



- FOLLOW-ON TASKS:
- Connect battery ground cable (para. 4-73).
 - Lower and secure hood (TM 9-2320-280-10).

3-39. RIGHT FUEL INJECTION LINES BRACKET REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Appendix B, Item 1)

Equipment Condition

- Engine access cover removed (para. 10-15).
- Air horn removed (para. 3-14).

Manual References

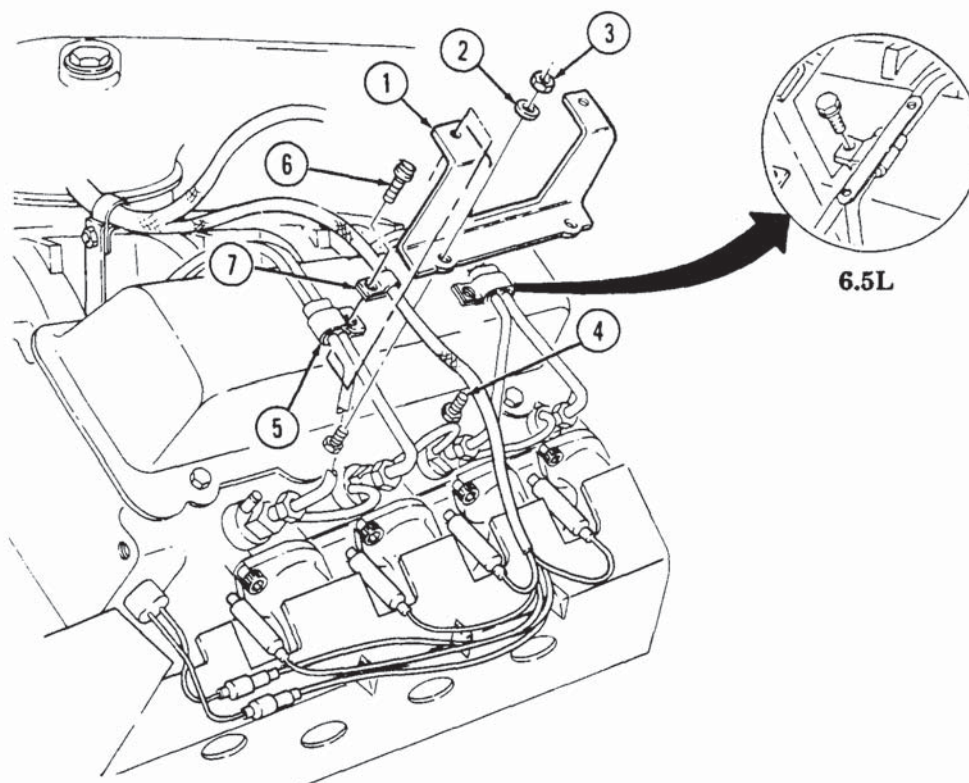
TM 9-2320-280-24P

a. Removal

1. Remove two screw-assembled washers (6), clamps (5), and clamp (7) from bracket (1).
2. Remove two clamps (5) and inspect for cracks or breaks. Replace if defective.
3. Remove two nuts (3), washers (2), and bracket (1) from valve cover studs (4).

b. Installation

1. Install bracket (1) to valve cover studs (4) with two washers (2) and nuts (3). Tighten nuts (3) to 13-20 lb-ft (18-27 N•m).
2. Install two clamps (5) and clamp (7) to bracket (1) with two screw-assembled washers (6). Tighten screw-assembled washers (6) to 3-4 lb-ft (4-5 N•m).



FOLLOW-ON TASKS: • Install air horn (para. 3-14).
• Install engine access cover (para. 10-15).

3-40. LEFT FUEL INJECTION LINES BRACKET REPLACEMENT

This task covers:

a. Removal

b. Installation

INITIAL SETUP:

Tools

General mechanic's tool kit:
automotive (Appendix B, Item 1)

Equipment Condition

- Hood raised and secured (TM 9-2320-280-10).
- Engine access cover removed (para. 10-15).

Manual References

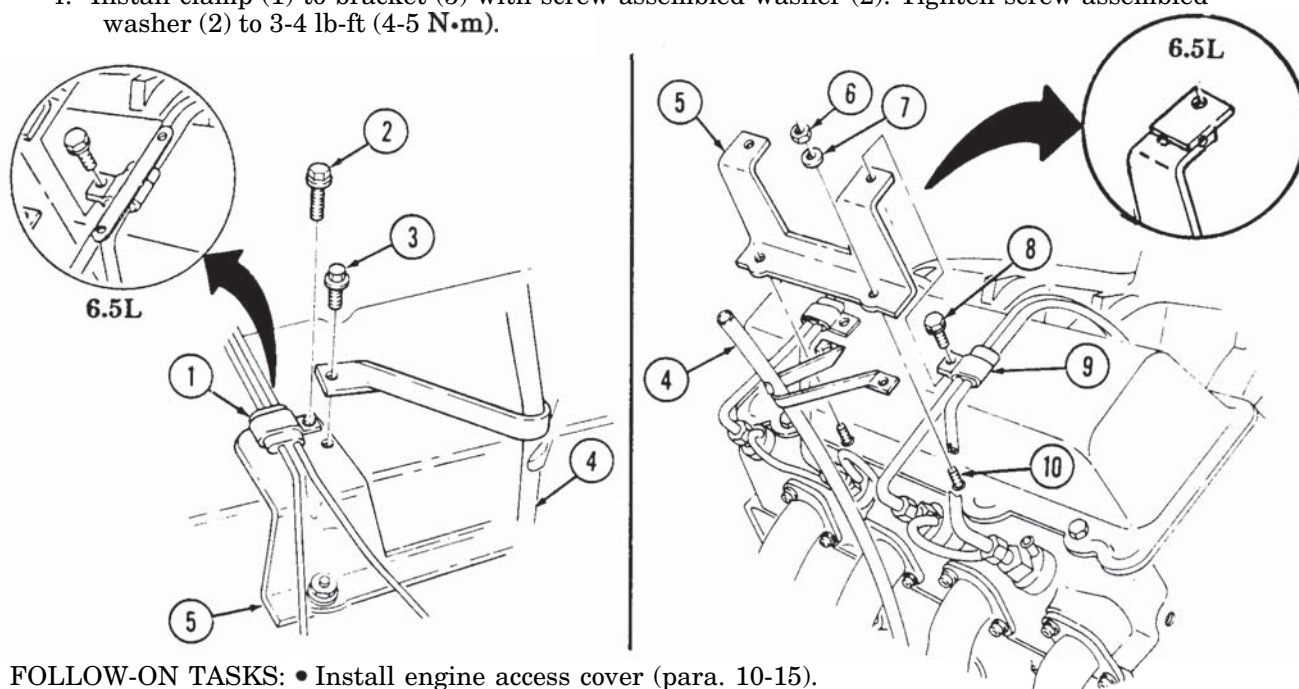
TM 9-2320-280-10
TM 9-2320-280-24P

a. Removal

1. Remove screw-assembled washer (2) and clamp (1) from bracket (5).
2. Remove screw-assembled washer (8) and clamp (9) from bracket (5).
3. Remove two screw-assembled washers (3) and oil dipstick tube (4) from bracket (5).
4. Remove two nuts (6), washers (7) and bracket (5) from valve cover studs (10).

b. Installation

1. Install bracket (5) to valve cover studs (10) with two washers (7) and nuts (6). Tighten nuts (6) to 13-20 lb-ft (18-27 N•m).
2. Secure oil dipstick tube (4) to bracket (5) with two screw-assembled washers (3). Tighten screw-assembled washers (3) to 3-4 lb-ft (4-5 N•m).
3. Install clamp (9) to bracket (5) with screw-assembled washer (8). Tighten screw-assembled washer (8) to 3-4 lb-ft (4-5 N•m).
4. Install clamp (1) to bracket (5) with screw-assembled washer (2). Tighten screw-assembled washer (2) to 3-4 lb-ft (4-5 N•m).



FOLLOW-ON TASKS: • Install engine access cover (para. 10-15).
• Lower and secure hood (TM 9-2320-280-10).