

## 3-32. FUEL FILTER MAINTENANCE

This task covers:

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|---|---|
| <ul style="list-style-type: none"> <li>a. Removal</li> <li>b. Installation</li> </ul> | <ul style="list-style-type: none"> <li>c. Bleeding</li> </ul> |
|---|---|

### INITIAL SETUP:

**Tools**

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

**Materials/Parts**

Two lockwashers (Appendix G, Item 134)  
Sealing compound (Appendix C, Item 44)  
Fuel filter bleeder tool (Appendix D, Figure D-63)  
(optional)

**Manual References**

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

**Equipment Condition**

- Hood raised and secured (TM 9-2320-280-10).
- Engine access cover removed (para. 10-15).
- Fuel pressure transducer removed (para. 4-26).

**General Safety Instructions**

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

**a. Removal**

**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.

1. Loosen two hose clamps (2) and disconnect fuel inlet hose (1) and fuel outlet hose (13) from fuel filter (8).
2. Loosen hose clamp (9) and disconnect fuel filter drain hose (10) from fuel filter (8).
3. Pull back insulation to allow access to capscrews (3) and remove two capscrews (3), lockwashers (4), and fuel filter bracket (11) from body (12). Discard lockwashers (4).
4. Loosen capscrew (7) and remove fuel filter (8) from fuel filter bracket (11).
5. Remove three fittings (5) from fuel filter (8).

**b. Installation**

1. Apply sealing compound to threads of three fittings (5). Install three fittings (5) to fuel filter (8).
2. Install fuel filter (8) in fuel filter bracket (11) and tighten capscrew (7).
3. Install fuel filter bracket (11) on body (12) with two capscrews (3) and lockwashers (4). Tighten capscrews (3) to 15 lb-ft (20 N•m).
4. Connect drain hose (10) to fuel filter (8) and tighten clamp (9) to 10-20 lb-in. (1-2 N•m).
5. Connect fuel inlet hose (1) and fuel outlet hose (13) to fuel filter (8) with two hose clamps (2). Tighten clamps (2) to 10-20 lb-in. (1-2 N•m).

### 3-32. FUEL FILTER MAINTENANCE (Cont'd)

#### c. Bleeding

#### NOTE

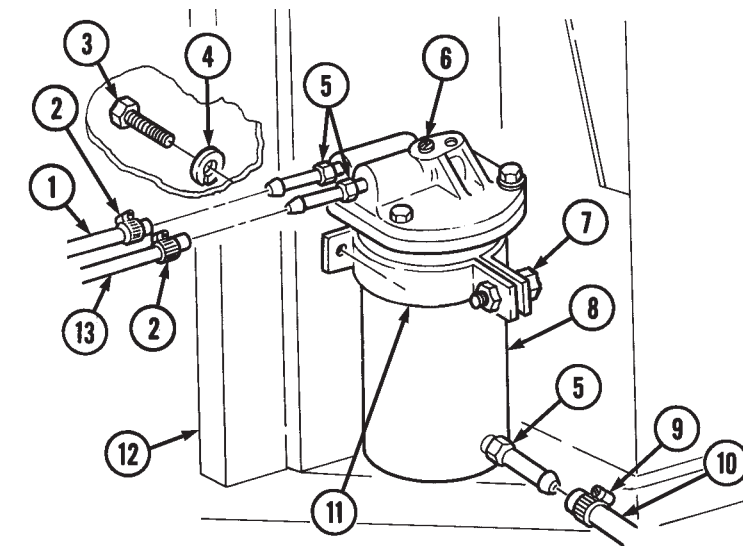
The bleeder tool described in 2, 3, and 5 is optional. The tool prevents fuel spilling on engine.

1. Install fuel pressure transducer (para. 4-26).
2. Remove fuel filter bleed screw (6) and install bleeder tool into the hole.
3. Place open end of bleeder tool hose in clean, clear container.
4. Disconnect lead 54A (14) from solenoid (15).

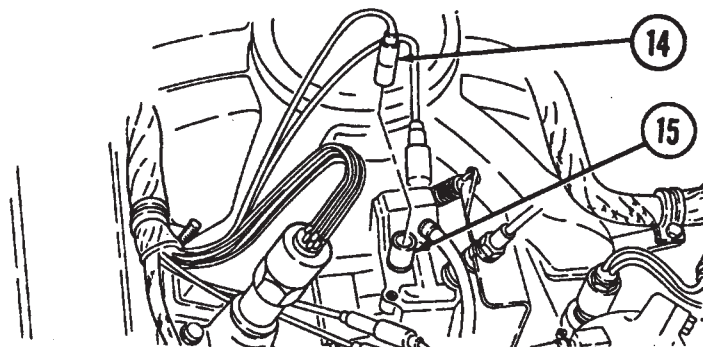
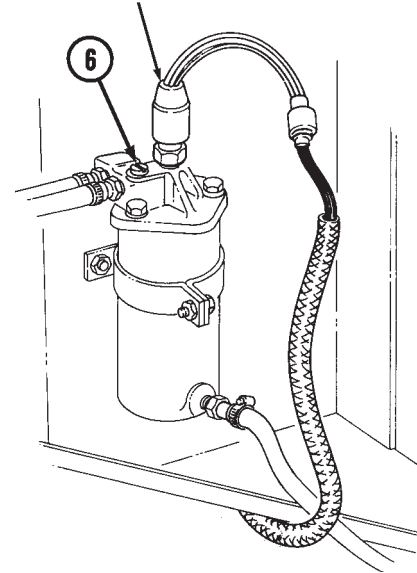
#### CAUTION

Do not operate starter continuously for more than 20 seconds, wait 10 to 15 seconds between periods of operation. Failure to do this will result in damage to the starter.

5. Crank engine and watch fuel. When air bubbles stop coming through the line, remove bleeder tool and replace bleed screw (6). Dispose of fuel in accordance with local SOP.
6. Tighten bleed screw (6) to 40-50 lb-in. (4-6 N·m).
7. Connect lead 54A (14) to fuel solenoid (15).



PRESSURE TRANSDUCER



- FOLLOW-ON TASKS:
- Start engine (TM 9-2320-280-10) and check for fuel leaks.
  - Lower and secure hood (TM 9-2320-280-10).
  - Install engine access cover (para. 10-15).

### 3-33. FUEL FILTER ELEMENT MAINTENANCE

This task covers:

- a. Element Removal
- b. Cleaning and Inspection
- c. Element Installation

#### INITIAL SETUP:

##### Tools

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

##### Materials/Parts

Filter element kit  
(Appendix G, Item 32)

##### Manual References

TM 9-2320-280-24P

##### Equipment Condition

Fuel pressure transducer removed (para. 4-26).

##### General Safety Instructions

- Do not perform this procedure near fire, flames, or sparks.
- Cleaning will be done in a well-ventilated area and a fire extinguisher will be kept nearby when solvent is used.

#### **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. Element Removal**

1. Loosen two hose clamps (2), and disconnect fuel inlet hose (1) and fuel outlet hose (15) from fuel filter cover (3).
2. Loosen hose clamp (7) and disconnect fuel filter drain hose (8) from filter housing (6).
3. Remove capscrew (9), nut (11), and filter housing (6) from fuel filter bracket (10).
4. Remove three capscrews (4) washers (5) and cover (3) from filter housing (6).
5. Remove O-ring seal (14) from filter housing (6). Discard O-ring seal (14).
6. Remove filter element (12) and separator (13) from filter housing (6).
7. Remove separator (13) from filter element (12). Discard filter element (12).

#### **b. Cleaning and Inspection**

#### **WARNING**

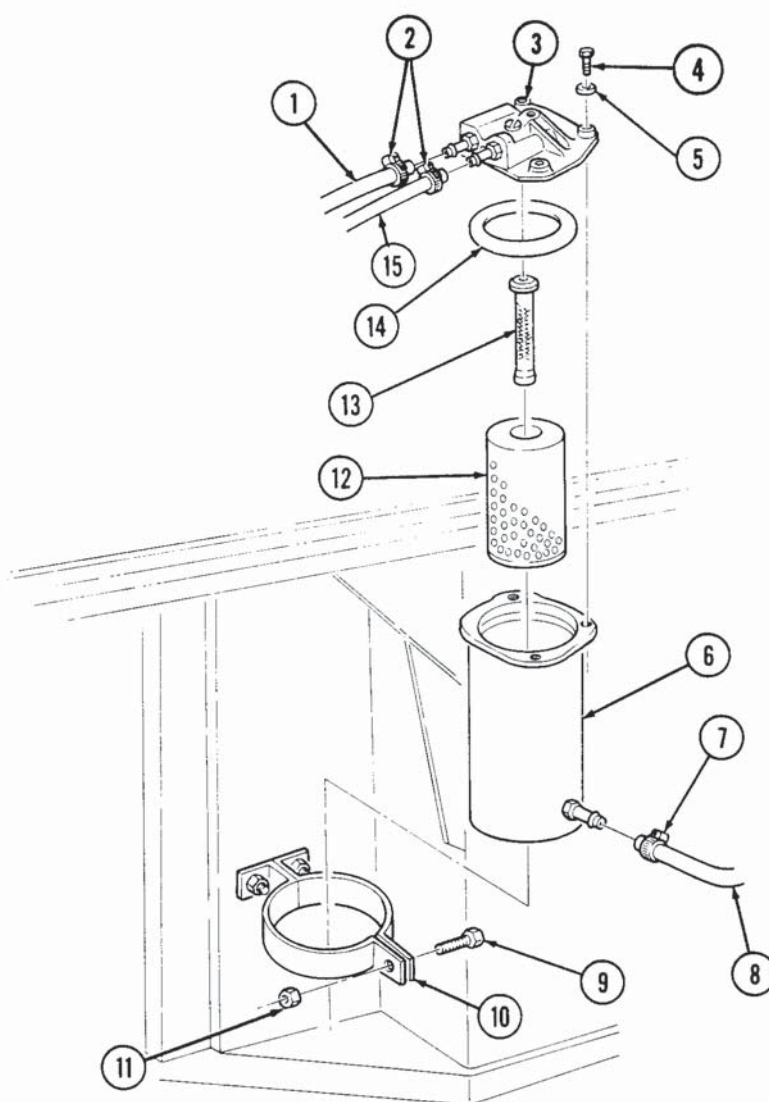
Drycleaning solvent is flammable and will not be used near an open flame. A fire extinguisher will be kept nearby when the solvent is used. Use only in well-ventilated places. Failure to do this may result in injury to personnel and/or damage to equipment.

1. Use drycleaning solvent to clean all metallic parts.
2. Inspect filter housing (6) and cover (3) for distortion or damage. Replace if damaged.
3. Inspect separator (13) for dirt, contamination, or damage. Replace if dirty, contaminated, or damaged.

### 3-33. FUEL FILTER ELEMENT MAINTENANCE (Cont'd)

#### c. Element Installation

1. Install filter element (12) into filter housing (6).
2. Install separator (13) on filter element (12).
3. Install O-ring seal (14) into filter housing (6).
4. Install cover (3) on filter housing (6) with three washers (5) and capscrews (4). Tighten capscrews (4) to 50-60 lb-in. (6-7 **N•m**).
5. Install filter housing (6) in fuel filter bracket (10) with capscrew (9) and nut (11).
6. Connect fuel filter drain hose (8) to filter housing (6) and tighten clamp (7) to 10-20 lb-in. (1-2 **N•m**).
7. Connect fuel inlet hose (1) and fuel outlet hose (15) to fuel filter cover (3) and tighten clamps (2) to 10-20 lb-in. (1-2 **N•m**).



FOLLOW-ON TASK: Bleed fuel filter (para. 3-32).

### 3-34. FUEL FILTER DRAIN HOSE AND VALVE REPLACEMENT

This task covers:

a. Removal

b. Installation

#### INITIAL SETUP:

**Tools**

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

**Personnel Required**

One mechanic  
One assistant

**Materials/Parts**

Plain-assembled nut (Appendix G, Item 201)

**Equipment Condition**

Hood raised and secured (TM 9-2320-280-10).

**Manual References**

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

**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.

**a. Removal**

**CAUTION**

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

**NOTE**

- For fuel filter drain valve replacement, perform steps 5 and 6 only.
  - Have drainage container ready to catch fuel.
1. Loosen clamp (2) and disconnect fuel filter drain hose (8) from fuel filter assembly (1).
  2. Loosen clamp (7) and disconnect drain hose (8) from fuel filter drain valve (6).
  3. Remove plain-assembled nut (5), capscrew (11), clamp (4), and drain hose (8) from cowl panel (3). Discard plain-assembled nut (5).
  4. Remove capscrew (10), drain hose (8), and clamp (9) from panel (3).
  5. Remove nut (13) and fuel filter drain valve (6) from bracket (12).

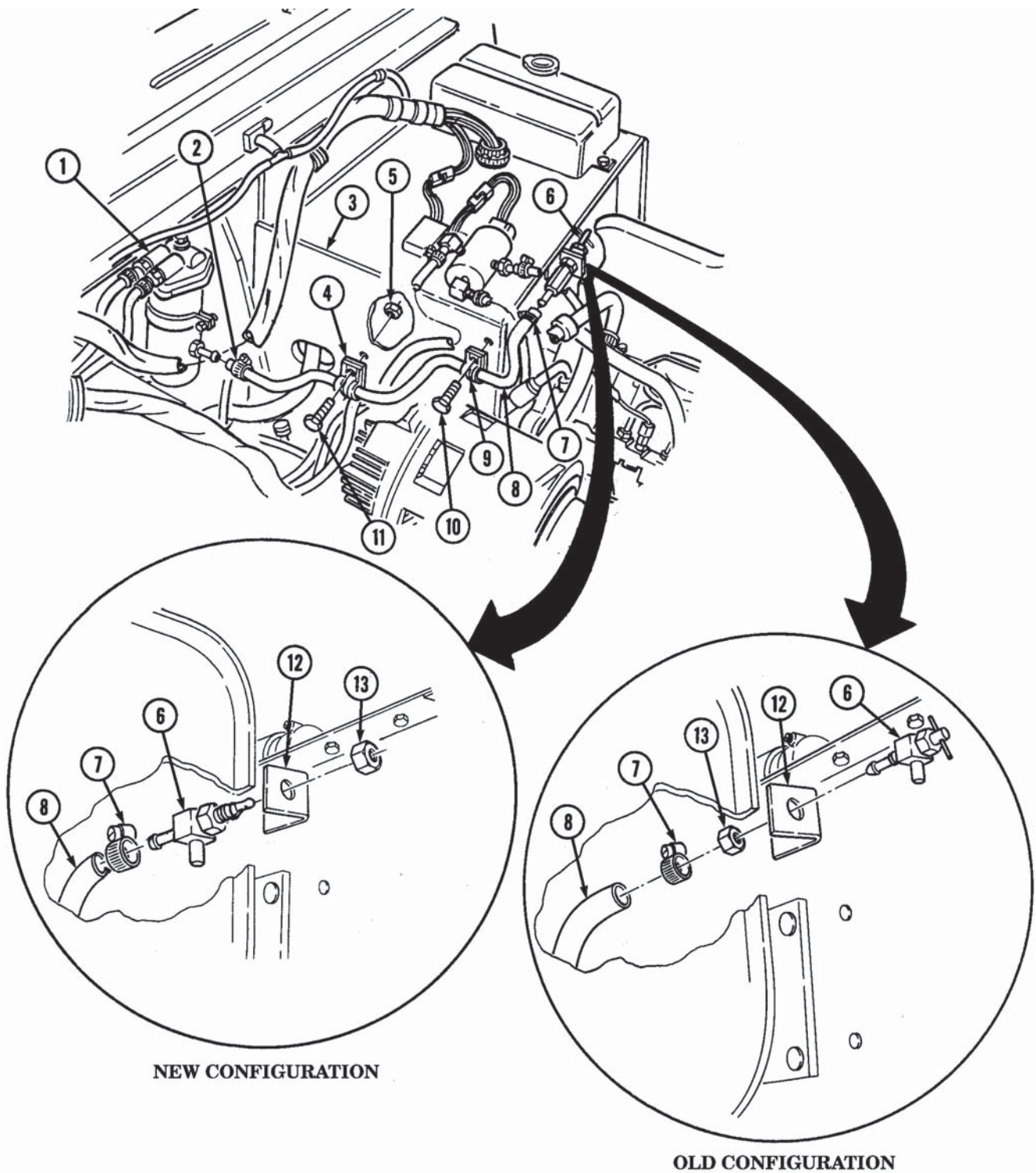
**b. Installation**

**NOTE**

For fuel filter drain valve replacement, perform steps 5 and 6 only.

1. Install drain hose (8) and clamp (4) to cowl panel (3) with capscrew (11) and plain-assembled nut (5).
2. Install clamp (9) and drain hose (8) to panel (3) with capscrew (10).
3. Connect drain hose (8) to fuel filter drain valve (6) with clamp (7).
4. Connect drain hose (8) to fuel filter assembly (1) with clamp (2).
5. Install fuel filter drain valve (6) to bracket (12) with nut (13).

**3-34. FUEL FILTER DRAIN HOSE AND VALVE REPLACEMENT (Cont'd)**



- FOLLOW-ON TASKS:**
- Start engine (TM 9-2320-280-10) and check for oil leaks.
  - Lower and secure hood (TM 9-2320-280-10).