



Service Information Bulletin

NUMBER: 2 12–09 Rev **S.M. REF.:** Listed in Table 1 **ENGINE:** All Detroit Diesel Engines **DATE:** November 2009

SUBJECT: FUEL DOSER INJECTOR VALVE

ADDITIONS, REVISIONS, OR UPDATES

| Publication Number | Platform | Section Title | Change | Page Number(s) |
|--------------------|----------------|--------------------------------|---|----------------|
| DDC-SVC-MAN-0002 | DD15 | 2.11 Fuel Doser Injector Valve | Doser injector valve removal and installation procedures have been added. | 2–46 |
| DDC-SVC-MAN-0050 | DD13 | 2.11 Fuel Doser Injector Valve | Doser injector valve removal and installation procedures have been added. | 2–76 |
| DDC-SVC-MAN-0005 | Series 60 | 2.11 Fuel Doser Injector Valve | Doser injector valve removal and installation procedures have been added. | 2–76 |
| DDC-SVC-MAN-0036 | EPA07 ATD | 3.4 Fuel Doser Injector Valve | Doser injector valve removal and installation procedures have been added. | 3–1 |
| DDC-SVC-MAN-0026 | EPA07 MBE 4000 | 2.15 Fuel Doser Injector Valve | Doser injector valve removal and installation procedures have been added. | 2–63 |
| DDC-SVC-MAN-0034 | EPA07 MBE 900 | 2.20 Fuel Doser Injector Valve | Doser injector valve removal and installation procedures have been added. | 2–57 |

NOTE: Page numbers are based on the most recent version of the individual publication and may be adjusted throughout the annual print cycle.

Table 1

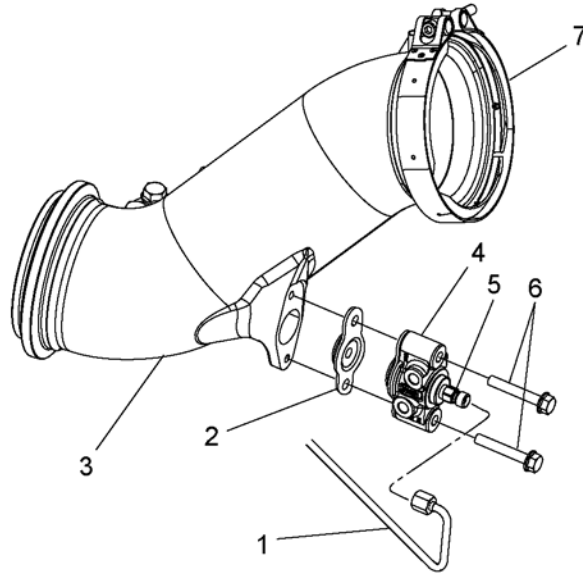
DD15 WORKSHOP MANUAL

NOTE:

The following information supports DDC-SVC-MAN-0002.

2.11 FUEL DOSER INJECTOR VALVE

The Fuel Doser Injector Valve is mounted in the exhaust pipe/elbow that is mounted to the turbocharger or APT. Fuel injected from the valve will atomize with the exhaust gas and combust across the Diesel Oxidation Catalyst (DOC) to create the heat required to regenerate the Diesel Particulate Filter (DPF).



d140034

- | | |
|---------------------------|------------------------------|
| 1. Fuel Doser Supply Line | 5. Fuel Doser Injector Valve |
| 2. Gasket and Shield | 6. Bolts |
| 3. Exhaust S-Pipe (elbow) | 7. Marmon Clamp |
| 4. Fuel Doser Housing | |

2.11.1 REMOVAL OF THE FUEL DOSER INJECTOR VALVE

Remove as follows:

1. Remove the protection cover for the fuel doser injector valve (if equipped).
2. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the fuel doser injector valve with a wrench when loosening the line.

NOTE:

Use care not to bend the fuel line during injection valve removal.

3. Remove the fuel doser injector valve from the fuel doser housing.

2.11.2 INSTALLATION OF THE FUEL DOSER INJECTOR VALVE

Install as follows:

1. Clean the doser housing injector valve seat with a suitable brush, taking care not to damage the seat.

NOTE:

Do not use a hard bristle brush as it could damage the seat.

2. Install the fuel doser injector valve into the fuel doser housing and torque to 20 N·m (14 lb·ft).
3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 18 N·m (13 lb·ft).
4. Install the protective cover (if equipped).

| |
|--|
|  WARNING: ENGINE EXHAUST |
| To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic. |

5. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

6. Using DDDL 7.X, command the Purge function.
7. Check for exhaust leaks.
8. Shut off the engine.

2.11.3 REMOVAL OF THE FUEL DOSER HOUSING

Remove as follows:

1. Drain the cooling system.
2. Remove the protective cover (if equipped).
3. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the injector valve with a wrench when loosening the line fitting.
4. Disconnect the lines for coolant in and coolant out from the doser housing.
5. Loosen two bolts and remove the fuel doser housing from the exhaust pipe.

2.11.4 INSTALLATION OF THE FUEL DOSER HOUSING

Install as follows:

1. Install the fuel doser housing to the exhaust pipe with two bolts . Torque the bolts to 34 N·m (25 lb·ft).
2. Connect the coolant feed and return lines using new seal rings. Torque the banjo bolts to 15 N·m (11 lb·ft).
3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 18 N·m (13 lb·ft).
4. Install the protective cover (if equipped).



5. Fill the cooling system.
6. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

7. Using DDDL 7.X, command the Purge function.
8. Check for exhaust leaks.
9. Shut off the engine.

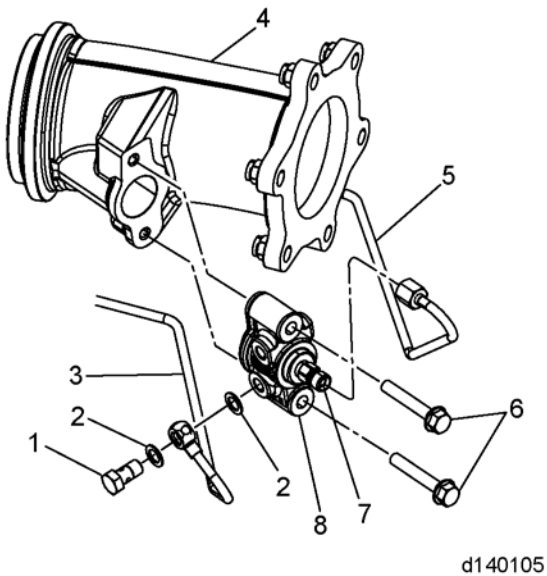
DD13 WORKSHOP MANUAL

NOTE:

The following information supports DDC-SVC-MAN-0050.

2.11 FUEL DOSER INJECTOR VALVE

The Fuel Doser Injector Valve is mounted in the exhaust pipe/elbow that is mounted to the turbocharger or APT. Fuel injected from the valve will atomize with the exhaust gas and combust across the Diesel Oxidation Catalyst (DOC) to create the heat required to regenerate the Diesel Particulate Filter (DPF).



d140105

- | | |
|-----------------|------------------------------|
| 1. Banjo Bolt | 5. Fuel Doser Supply Line |
| 2. Washer | 6. Bolts |
| 3. Coolant Line | 7. Fuel Doser Injector Valve |
| 4. Exhaust Pipe | 8. Doser Housing |

2.11.1 REMOVAL OF THE FUEL DOSER INJECTOR VALVE

Remove as follows:

1. Remove the protection cover for the fuel doser injector valve (if equipped).
2. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the fuel doser injector valve with a wrench when loosening the line.

NOTE:

Use care not to bend the fuel line during injection valve removal.

3. Remove the fuel doser injector valve from the housing.

2.11.2 INSTALLATION OF THE FUEL DOSER INJECTOR VALVE


Install as follows:

1. Clean the doser housing injector valve seat with a suitable brush, taking care not to damage the seat.

NOTE:

Do not use a hard bristle brush as it could damage the seat.

2. Install the fuel doser injector valve into the fuel doser housing and torque to 20 N·m (14 lb·ft).
3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 18 N·m (13 lb·ft).
4. Install the protective cover (if equipped).

| |
|--|
|  WARNING: ENGINE EXHAUST |
| To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic. |

5. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

6. Using DDDL 7.X, command the Purge function.
7. Check for exhaust leaks.
8. Shut off the engine.

2.11.3 REMOVAL OF THE FUEL DOSER HOUSING

Remove as follows:

1. Drain the cooling system.
2. Remove the protective cover (if equipped).
3. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the injector valve with a wrench when loosening the line fitting.
4. Disconnect the lines for coolant in and coolant out from the doser housing.
5. Loosen two bolts and remove the fuel doser housing from the exhaust pipe.

2.11.4 INSTALLATION OF THE FUEL DOSER HOUSING

Install as follows:

1. Install the fuel doser housing to the exhaust pipe with two bolts. Torque the bolts to 34 N·m (25 lb·ft).
2. Connect the coolant feed and return lines using new seal rings. Torque the banjo bolts to 15 N·m (11 lb·ft).
3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 18 N·m (13 lb·ft).
4. Install the protective cover (if equipped).



5. Fill the cooling system.
6. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

7. Using DDDL 7.X, command the Purge function.
8. Check for exhaust leaks.
9. Shut off the engine.

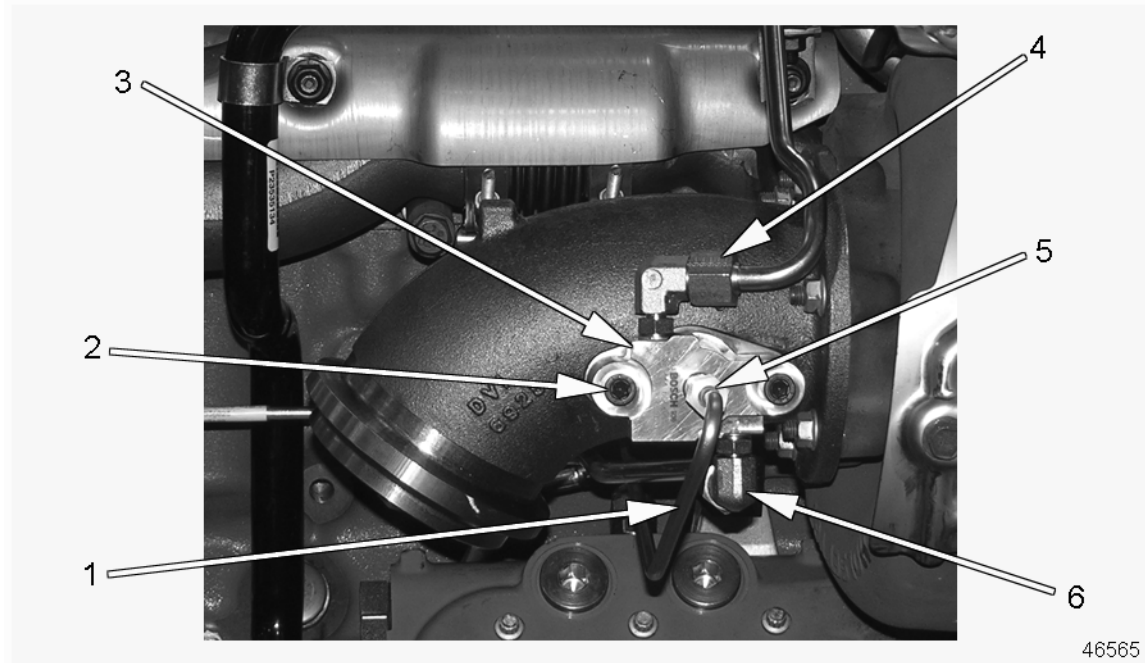
SERIES 60 WORKSHOP MANUAL

NOTE:

The following information supports DDC-SVC-MAN-0005.

2.11 FUEL DOSER INJECTOR VALVE

The Fuel Doser Injector Valve is mounted in the exhaust pipe/elbow that is mounted to the turbocharger. Fuel injected from the valve will atomize with the exhaust gas and combust across the Diesel Oxidation Catalyst (DOC) to create the heat required to regenerate the Diesel Particulate Filter (DPF).



- | | |
|---------------------------|---------------------|
| 1. Fuel Doser Supply Line | 4. Coolant Out |
| 2. Allen Screws (2) | 5. Injection Nozzle |
| 3. Fuel Doser Valve | 6. Coolant In |

Figure 1 Fuel Doser Valve and Related Parts (Right Side)

2.11.1 REMOVAL OF THE FUEL DOSER INJECTOR VALVE

Remove the fuel doser valve as follows:

1. Remove the protection cover for the fuel doser injector valve (if equipped).
2. Remove the bracket closest to fuel doser injector valve securing the fuel doser supply line.
3. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the fuel doser injector valve with a wrench when loosening the line.

NOTE:

Use care not to bend the fuel line during injection valve removal.

4. Remove the fuel doser injector valve from the housing.

2.11.2 INSTALLATION OF THE FUEL DOSER INJECTOR VALVE

Install the fuel doser injector valve as follows:

1. Clean the doser housing injector valve seat with a suitable brush, taking care not to damage the seat.

NOTE:

Do not use a hard bristle brush as it could damage the seat.

2. Install the fuel doser injector valve into the fuel doser housing and torque to 20 N·m (14 lb·ft).
3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 18 N·m (13 lb·ft).
4. Install the protective cover (if equipped).

| |
|--|
|  WARNING: ENGINE EXHAUST |
| To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic. |

5. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

6. Using DDDL 7.X, command the Purge function.
7. Check for exhaust leaks.
8. Shut off the engine.

2.11.3 REMOVAL OF THE FUEL DOSER HOUSING

Remove as follows:

1. Drain the cooling system.
2. Remove the bracket closest to fuel doser valve securing the fuel supply line.
3. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the injector valve with a wrench when loosening the line fitting.
4. Disconnect the lines for coolant in and coolant out from the doser housing.
5. Loosen two bolts and remove the fuel doser housing from the exhaust pipe.

2.11.4 INSTALLATION OF THE FUEL DOSER HOUSING

Install as follows:

1. Install the fuel doser housing to the exhaust pipe with two bolts. Torque the bolts to 34 N·m (25 lb·ft).
2. Install coolant 90 degree elbow in doser housing.
3. Connect the coolant feed and return lines. Torque to 30-36 N·m (22-26 lb·ft).
4. Torque the elbow jam nut to 22-28 N·m (16-20 lb·ft).
5. Install the bracket securing the fuel supply line.
6. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 16-20 N·m (12-14 lb·ft).
7. Install the protective cover (if equipped).

 **WARNING:**
ENGINE EXHAUST

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

8. Fill the cooling system.
9. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

10. Using DDDL 7.X, command the Purge function.
11. Check for exhaust leaks.
12. Shut off the engine.

AFTERTREATMENT SYSTEM TECHNICIAN GUIDE

NOTE:

The following information supports DDC-SVC-MAN-0036.

3.4 FUEL DOSER INJECTOR VALVE

The Fuel Doser Injector Valve is mounted in the exhaust pipe/elbow that is mounted to the turbocharger or APT. Fuel injected from the valve will atomize with the exhaust gas and combust across the Diesel Oxidation Catalyst (DOC) to create the heat required to regenerate the Diesel Particulate Filter (DPF).

3.4.1 REMOVAL OF FUEL DOSER INJECTOR VALVE

Remove as follows:

1. Remove the protection cover for the fuel doser injector valve (if equipped).
2. Remove the bracket closest to fuel doser injector valve securing the fuel doser supply line (if equipped).
3. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the fuel doser injector valve with a wrench when loosening the line.

NOTE:

Use care not to bend the fuel line during injection valve removal.

4. Remove the fuel doser injector valve from the housing.

3.4.2 INSTALLATION OF FUEL DOSER INJECTOR VALVE

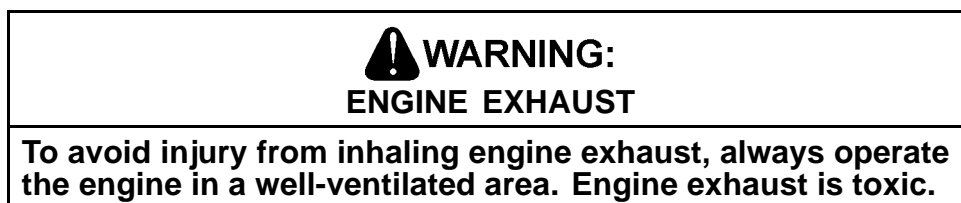
Install as follows:

1. Clean the doser housing injector valve seat with a suitable brush, taking care not to damage the seat.

NOTE:

Do not use a hard bristle brush as it could damage the seat.

2. Install the fuel doser injector valve into the fuel doser housing and torque to 20 N·m (14 lb·ft).
3. Install the fuel line onto the fuel doser injector valve and torque the line to 18 N·m (13 lb·ft). Hold the fuel doser injector valve with a wrench while torquing.
4. Install the protective cover (if equipped).



5. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

6. Using DDDL 7.X, command the Purge function.
7. Check for exhaust leaks.

8. Shut off the engine.

3.4.3 REMOVAL OF THE FUEL DOSER HOUSING

Remove as follows:

1. Drain the cooling system.
2. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the fuel doser injector valve with a wrench when loosening the line fitting (if equipped).
3. Remove the bracket closest to fuel doser injector valve securing the fuel doser supply line (if equipped).
4. Disconnect the lines for coolant in and coolant out from the doser housing.
5. Loosen two bolts and remove the fuel doser housing from the exhaust pipe.

3.4.4 INSTALLATION OF THE FUEL DOSER HOUSING

Each Detroit Diesel engine platform may have slight differences in this procedure. Refer to the table below:

| Publication Number | Platform | Section Title |
|--------------------|----------------|---|
| DDC-SVC-MAN-0050 | DD13 | Refer to section 2.11.4 "Installation of the Fuel Doser Housing." |
| DDC-SVC-MAN-0002 | DD15 | Refer to section 2.11.4 "Installation of the Fuel Doser Housing." |
| DDC-SVC-MAN-0005 | Series 60 | Refer to section 2.11.4 "Installation of the Fuel Doser Housing." |
| DDC-SVC-MAN-0026 | EPA07 MBE 4000 | Refer to section 2.15.4 "Installation of the Fuel Doser Housing." |
| DDC-SVC-MAN-0034 | EPA07 MBE 900 | Refer to section 2.20.4 "Installation of the Fuel Doser Housing." |

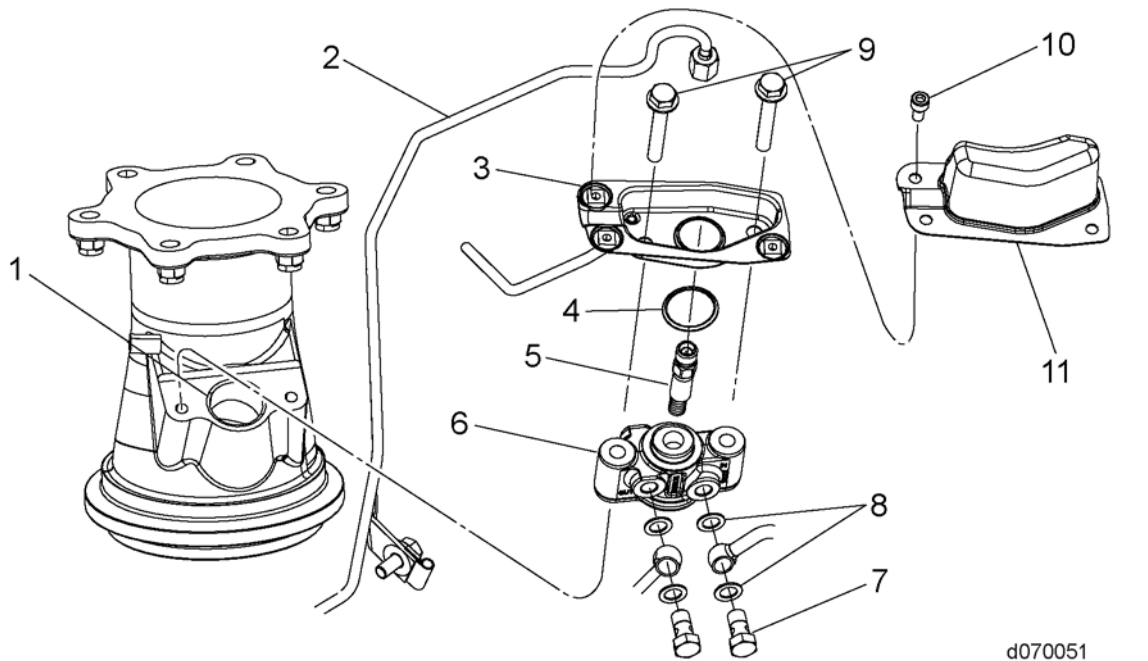
EPA07 MBE 4000 WORKSHOP MANUAL

NOTE:

The following information supports DDC-SVC-MAN-0026.

2.15 FUEL DOSER INJECTOR VALVE

The Fuel Doser Injector Valve is mounted in the exhaust pipe that is mounted to the turbocharger. Fuel injected from the valve will atomize with the exhaust gas and combust across the Diesel Oxidation Catalyst (DOC) to create the heat required to regenerate the Diesel Particulate Filter (DPF).



d070051

- | | |
|--|---|
| 1. Exhaust Pipe | 7. Banjo Bolts |
| 2. Fuel Doser Supply Line | 8. Washers |
| 3. Lower Fuel Doser Valve Spray Shield and Drain | 9. Bolts |
| 4. Seal | 10. Torx Head Screws (qty 3) |
| 5. Fuel Doser Injector Valve | 11. Upper Fuel Doser Valve Spray Shield |
| 6. Fuel Doser Housing | |

Figure 2 Fuel Doser Valve and Related Components

2.15.1 REMOVAL OF THE FUEL DOSER INJECTOR VALVE

Removal steps are as follows:

1. Remove the protection cover for the fuel doser injector valve (if equipped).
2. Remove the bracket securing the fuel doser supply line to the block.
3. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the fuel doser injector valve with a wrench when loosening the fuel doser supply line fitting.

NOTE:

Use care not to bend the fuel line during injection valve removal.

4. Remove the fuel doser injector valve from the housing.

2.15.2 INSTALLATION OF THE FUEL DOSER INJECTOR VALVE

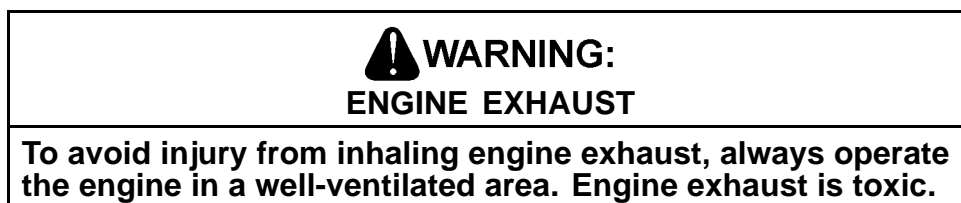
Installation steps are as follows:

1. Clean the doser housing injector valve seat with a suitable brush, taking care not to damage the seat.

NOTE:

Do not use a hard bristle brush as it could damage the seat.

2. Install the fuel doser injector valve into the fuel doser housing and torque to 20 N·m (14 lb·ft).
3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 18 N·m (13 lb·ft).
4. Install the protective cover (if equipped).



5. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

6. Using DDDL 7.X, command the Purge function.
7. Check for exhaust leaks.
8. Shut off the engine.

2.15.3 REMOVAL OF THE FUEL DOSER HOUSING

Remove as follows:

1. Drain the cooling system.
2. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the injector valve with a wrench when loosening the line fitting.
3. Disconnect the lines for coolant in and coolant out from the doser housing.
4. Loosen two bolts and remove the fuel doser housing from the exhaust pipe.

2.15.4 INSTALLATION OF THE FUEL DOSER HOUSING

Install as follows:

1. Install the fuel doser housing to the exhaust pipe with two bolts. Torque the bolts to 34 N·m (25 lb·ft).
2. Connect the coolant feed and return lines using new seal rings. Torque the banjo bolts to 15 N·m (11 lb·ft).

3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 16-20 N·m (12-14 lb·ft).
4. Install the protective cover (if equipped).

| |
|--|
|  WARNING: ENGINE EXHAUST |
| To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic. |

5. Fill the cooling system.
6. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

7. Using DDDL 7.X, command the Purge function.
8. Check for exhaust leaks.
9. Shut off the engine.

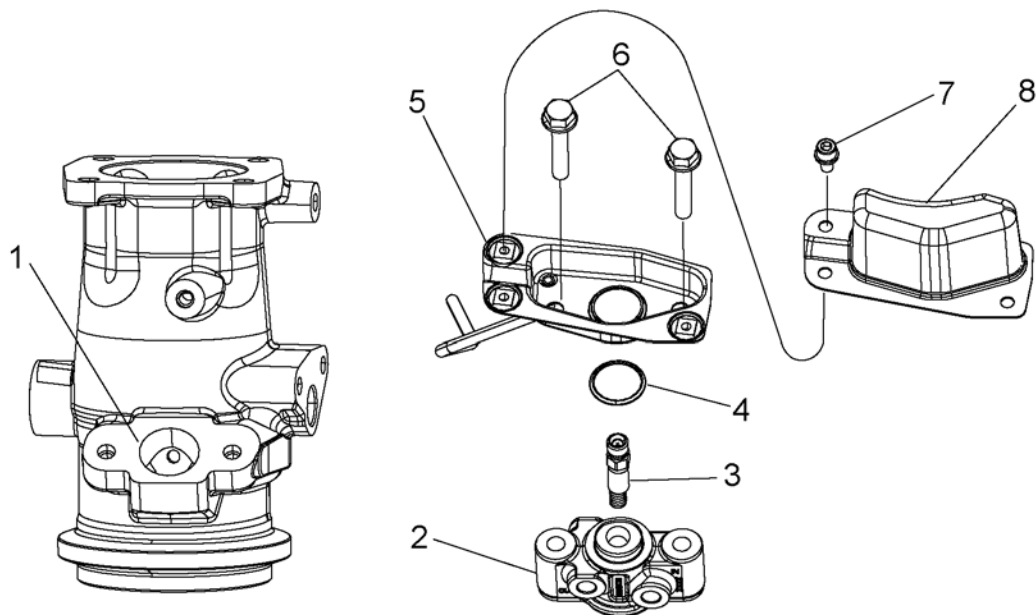
EPA07 MBE 900 WORKSHOP MANUAL

NOTE:

The following information supports DDC-SVC-MAN-0034.

2.20 FUEL DOSER INJECTOR VALVE

The Fuel Doser Injector Valve is mounted in the exhaust pipe/elbow that is mounted to the turbocharger. Fuel injected from the valve will atomize with the exhaust gas and combust across the Diesel Oxidation Catalyst (DOC) to create the heat required to regenerate the Diesel Particulate Filter (DPF).



d070052

- | | |
|------------------------------|--|
| 1. Exhaust Pipe | 5. Lower Fuel Doser Valve Spray Shield and Drain |
| 2. Fuel Doser Housing | 6. Bolts (qty 2) |
| 3. Fuel Doser Injector Valve | 7. Torx Head Screws (qty 3) |
| 4. O-ring | 8. Upper Fuel Doser Valve Spray Shield |

Figure 3 Fuel Doser Valve

2.20.1 REMOVAL OF THE FUEL DOSER INJECTOR VALVE

Removal steps are as follows:

1. Remove the upper fuel doser valve spray shield for the fuel doser injector valve (if equipped).
2. Remove the bracket securing the fuel doser supply line to the block.
3. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the fuel doser injector valve with a wrench when loosening the line.

NOTE:

Use care not to bend the fuel line during injection valve removal.

4. Remove the fuel doser injector valve from the housing.

2.20.2 INSTALLATION OF THE FUEL DOSER INJECTOR VALVE

Installation steps are as follows:

1. Clean the doser housing injector valve seat with a suitable brush, taking care not to damage the seat.

NOTE:

Do not use a hard bristle brush as it could damage the seat.

2. Install the fuel doser injector valve into the fuel doser housing and torque to 20 N·m (14 lb·ft).
3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 16-20 N·m (12-14 lb·ft).
4. Install the protective cover (if equipped).



5. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

6. Using DDDL 7.X, command the Purge function.
7. Check for exhaust leaks.
8. Shut off the engine.

2.20.3 REMOVAL OF THE FUEL DOSER HOUSING

Remove as follows:

1. Drain the cooling system.
2. Disconnect the fuel doser supply line from the fuel doser injector valve. Hold the injector valve with a wrench when loosening the line fitting.
3. Disconnect the lines for coolant in and coolant out from the doser housing.
4. Loosen two bolts and remove the fuel doser housing from the exhaust pipe.

2.20.4 INSTALLATION OF THE FUEL DOSER HOUSING

Install as follows:

1. Install the fuel doser housing to the exhaust pipe with two bolts. Torque the bolts to 34 N·m (25 lb·ft).
2. Connect the coolant feed and return lines using new seal rings. Torque the banjo bolts to 15 N·m (11 lb·ft).
3. Connect the fuel doser supply line to the fuel doser injector valve. Hold the fuel doser injector valve with a wrench while torquing. Torque to 16-20 N·m (12-14 lb·ft).
4. Install the protective cover (if equipped).



5. Fill the cooling system.
6. Start the engine.

NOTE:

It may take more than one purge attempt to completely purge all of the air from the fuel line.

7. Using DDDL 7.X, command the Purge function.
8. Check for exhaust leaks.
9. Shut off the engine.

ADDITIONAL SERVICE INFORMATION

Additional service information is available in *Power Service Literature*.

DETROIT DIESEL
CORPORATION



13400 Outer Drive, West / Detroit, Michigan 48239-4001
Telephone: 313-592-5000
www.detroitdiesel.com