

Disassembly and Assembly

2206F-E13TA Industrial Engine

PP3 (Engine)



Table of Contents

Disassembly and Assembly Section

Fuel Priming Pump - Remove and Install	5	Water Pump - Remove	93
Fuel Filter Base - Remove	8	Water Pump - Install	95
Fuel Filter Base - Disassemble	9	Water Pump - Disassemble	96
Fuel Filter Base - Assemble	9	Water Pump - Assemble	97
Fuel Filter Base - Install	10	Water Temperature Regulator Housing - Remove and Install	97
Fuel Transfer Pump - Remove and Install	11	Flywheel - Remove	101
Fuel Pressure Regulator - Remove and Install	12	Flywheel - Install	102
Exhaust Cooler (NRS) - Remove and Install	13	Crankshaft Rear Seal - Remove and Install	103
Electronic Unit Injector - Remove	15	Flywheel Housing - Remove and Install	104
Electronic Unit Injector - Install	16	Vibration Damper and Pulley - Remove and Install	106
Electronic Unit Injector Sleeve - Remove	18	Crankshaft Front Seal - Remove and Install	107
Electronic Unit Injector Sleeve - Install	19	Front Cover - Remove	108
Turbocharger - Remove	20	Front Cover - Install	109
Turbocharger - Install	21	Engine Support (Front) - Remove and Install	110
Solenoid Valve (Exhaust Balance) - Remove and Install	23	Gear Group (Front) - Remove	111
Air Control Valve - Remove and Install	24	Gear Group (Front) - Install	112
Exhaust Gas Valve (NRS) - Remove and Install	26	Housing (Front) - Remove	114
Exhaust Gas Valve (NRS) - Disassemble	27	Housing (Front) - Install	114
Exhaust Gas Valve (NRS) - Assemble	28	Front Plate - Remove	116
Clean Emissions Module - Remove and Install	29	Front Plate - Install	117
Diesel Exhaust Fluid Module - Disassemble	31	Crankcase Breather - Remove	118
Diesel Exhaust Fluid Module - Assemble	33	Crankcase Breather - Remove	119
Diesel Exhaust Fluid Lines - Remove and Install	35	Crankcase Breather - Install	120
Diesel Exhaust Fluid Pump - Remove and Install	38	Crankcase Breather - Install	120
DEF Injector and Mounting - Remove and Install	43	Valve Mechanism Cover - Remove and Install	121
Electronic Control (Diesel Exhaust Fluid) - Remove and Install	45	Valve Mechanism Cover Base - Remove and Install	122
Manifold (DEF Heater) - Remove and Install	46	Rocker Shaft and Pushrod - Remove	128
Solenoid Valve (DEF Heater Coolant) - Remove and Install	51	Rocker Shaft and Pushrod - Install	128
Flexible Exhaust Pipe - Remove and Install (Turbocharger to DPF Flexible Exhaust Pipe)	52	Rocker Shaft - Disassemble	129
Flexible Exhaust Pipe - Disassemble	61	Rocker Shaft - Assemble	130
Flexible Exhaust Pipe - Assemble	61	Cylinder Head - Remove	131
Exhaust Manifold - Remove and Install	63	Cylinder Head - Install	134
Exhaust Elbow - Remove and Install	64	Lifter Group - Remove	137
Catalyst (SCR) - Remove and Install	64	Lifter Group - Disassemble	138
Diesel Particulate Filter - Remove and Install	66	Lifter Group - Assemble	138
Inlet Module (Catalyst) - Remove and Install	67	Lifter Group - Install	139
Support and Mounting (CEM) - Remove and Install	69	Camshaft - Remove	140
Air Inlet Elbow - Remove and Install	70	Camshaft - Install	141
Inlet and Exhaust Valve Springs - Remove and Install	74	Camshaft Gear - Remove and Install	143
Inlet and Exhaust Valves - Remove and Install	76	Camshaft Bearings - Remove and Install	144
Inlet and Exhaust Valve Guides - Remove and Install	79	Engine Oil Pan - Remove and Install	146
Inlet and Exhaust Valve Seat Inserts - Remove and Install	80	Cylinder Liner - Remove	149
Engine Oil Filter Base - Remove	81	Cylinder Liner - Install	149
Engine Oil Filter Base - Disassemble	82	Piston Cooling Jets - Remove and Install	150
Engine Oil Filter Base - Assemble	83	Pistons and Connecting Rods - Remove	151
Engine Oil Filter Base - Install	85	Pistons and Connecting Rods - Disassemble	152
Engine Oil Cooler - Remove	86	Pistons and Connecting Rods - Assemble	153
Engine Oil Cooler - Install	87	Pistons and Connecting Rods - Install	154
Engine Oil Pump - Remove	89	Crankshaft Main Bearings - Remove (Crankshaft in position)	156
Engine Oil Pump - Disassemble	90	Crankshaft Main Bearings - Install (Crankshaft in position)	157
Engine Oil Pump - Assemble	91	Crankshaft - Remove	159
Engine Oil Pump - Install	92	Crankshaft - Install	161
		Crankshaft Gear - Remove and Install	163
		Bearing Clearance - Check	164
		Nitrogen Oxide Sensor - Remove and Install (Original Equipment Manufacture (OEM) Exhaust Pipe)	165
		Nitrogen Oxide Sensor - Remove and Install (Nitrogen Oxide Sensor for Flexible Exhaust Pipe)	167

Table of Contents

Atmospheric Pressure Sensor - Remove and Install	168
Camshaft Position Sensor - Remove and Install ..	169
Crankshaft Position Sensor - Remove and Install.	170
Coolant Temperature Sensor - Remove and Install	172
Engine Oil Pressure Sensor - Remove and Install	173
Fuel Pressure Sensor - Remove and Install.....	174
Fuel Temperature Sensor - Remove and Install ...	175
Pressure Sensor (DPF) - Remove and Install	176
Temperature Sensor (Cooled Exhaust Gas) - Remove and Install.....	177
Pressure Sensor (Cooled Exhaust Gas) - Remove and Install	178
Pressure Sensor (NRS Absolute) - Remove and Install	179
Boost Pressure Sensor - Remove and Install.....	180
Inlet Air Temperature Sensor - Remove and Install	180
Temperature Sensor - Remove and Install	181
Venturi Tube - Remove and Install	184
Alternator Belt - Remove and Install	185
Idler Pulley - Remove and Install (Grooved Idler Pulley)	187
Belt Tensioner - Remove and Install.....	188
Electronic Control Module - Remove and Install...	189
Electronic Control (Aftertreatment) - Remove and Install	191
Voltage Load Protection Module - Remove and Install	192
Alternator - Remove and Install	193
Electric Starting Motor - Remove and Install	195
Air Compressor - Remove and Install	196

Index Section

Index.....	198
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Disassembly and Assembly Section

i06173387

Fuel Priming Pump - Remove and Install

Removal Procedure

1. Turn the battery disconnect switch to the OFF position.
2. Turn the fuel supply to the OFF position.
3. Make temporary identification marks on plastic tube assemblies in order to show the correct position of the plastic tube assemblies.
4. Place a suitable container below the fuel filter base in order to catch any fuel that might be spilled.
5. Disconnect plastic tube assemblies from the fuel priming pump.
6. Use suitable plugs to plug the plastic tube assemblies. Use suitable caps to cap in order to cap the ports in the fuel priming pump.

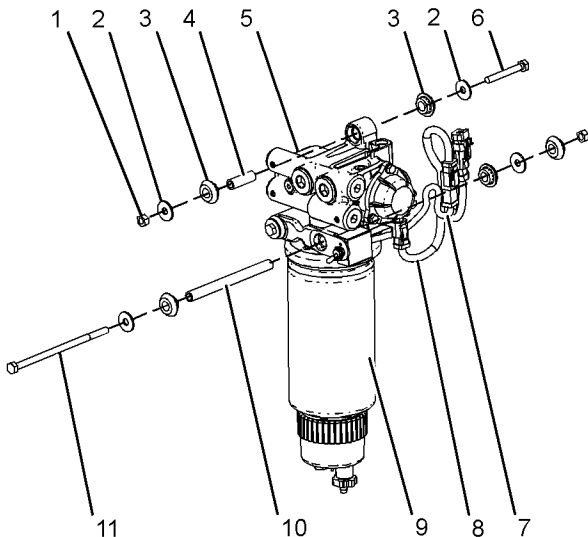


Illustration 1

g03838423

Typical example

7. Disconnect wiring harness (7) and wiring harness (8) from fuel priming pump (5).

8. Remove nuts (1). Remove bolt (6), bolts (11), washers (2), mounts (3), spacer (4), and spacers (10). Support fuel priming pump (5) as the bolts are removed.
9. Remove the filter element from fuel filter canister (9). Refer to Operation and Maintenance Manual, "Fuel System Primary Filter (Water Separator) Element - Replace" for the correct procedure.

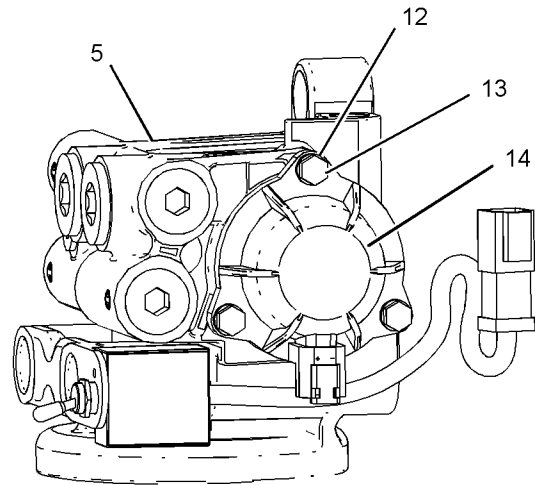


Illustration 2

g03838436

Typical example

10. Remove bolts (13), and washers (12) from cap (14).
11. Remove cap (14).

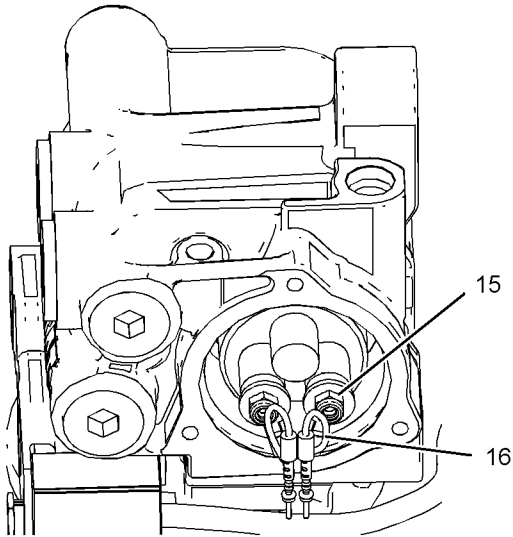


Illustration 3

g03840489

Typical example

12. Remove locknuts (15).

13. Make a note of the polarity of the wires. Remove wires (16) from the terminal studs.

Note: The polarity is designated by “+” and “-” signs around the terminal studs.

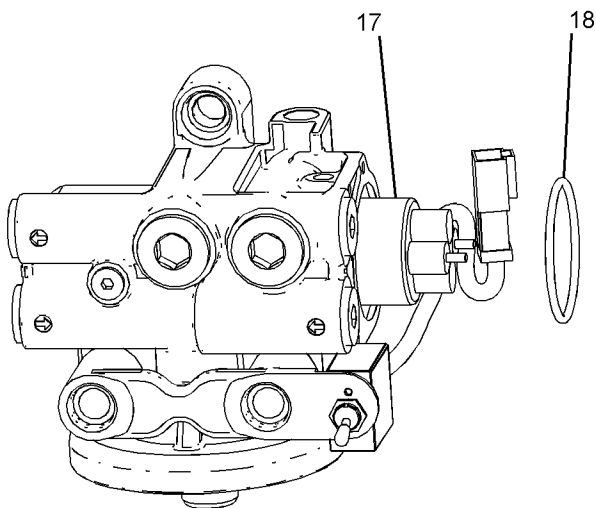


Illustration 4

g03840491

Typical example

14. Remove seal (18). Remove pump assembly (17).

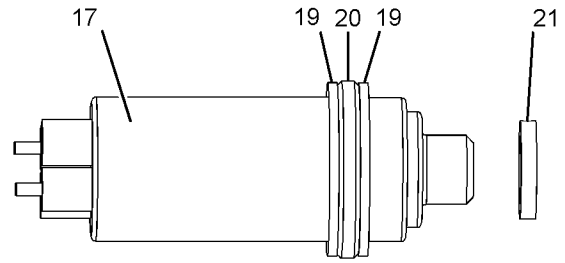


Illustration 5

g03840493

Typical example

15. Remove backup rings (19), seal (20), and seal (21) from the pump assembly (17).

Installation Procedure

1. Ensure that the components of the fuel priming pump are clean and free from damage. If necessary, replace the components of the fuel priming pump.

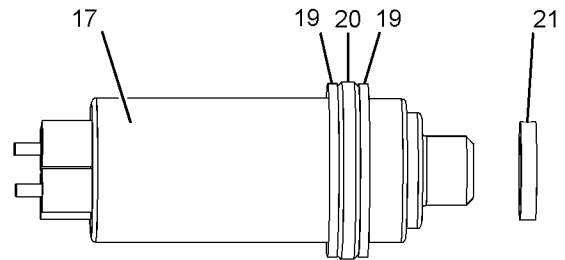


Illustration 6

g03840493

Typical example

2. Install new backup rings (12), seal (13), and seal (14) to the pump assembly.

3. Use the pump seal installer that is provided in the pump kit to press in the pump assembly (17).

Note: The outlet of the pump should be at the top center position.

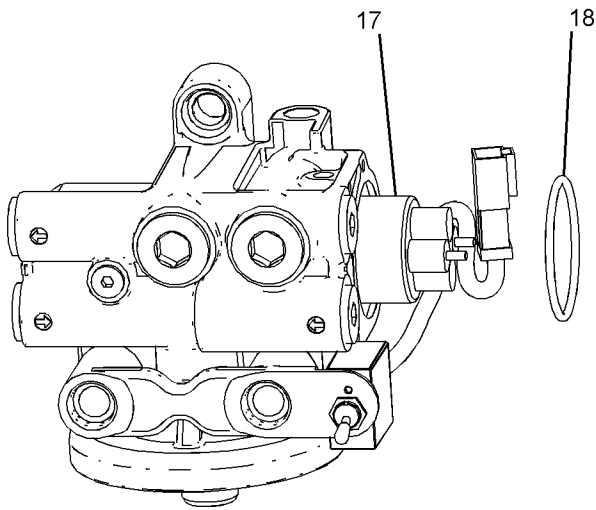


Illustration 7 g03840491
 Typical example

4. Install a new seal (18).

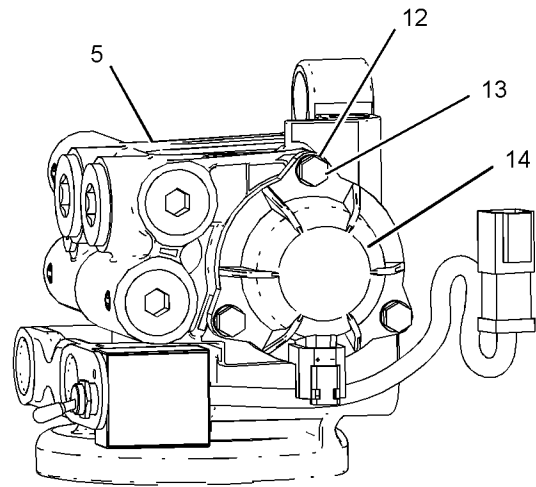


Illustration 9 g03838436
 Typical example

7. Install cap (14). Install washers (12), and bolts (13) to cap (14). Tighten the bolts to a torque of 12 N·m (106 lb in).

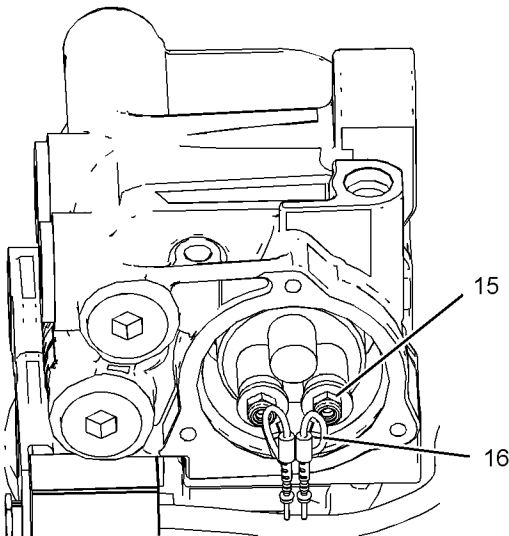


Illustration 8 g03840489
 Typical example

5. Connect wires (16) to the terminal studs.

Note: The polarity is designated by “+” and “-” signs around the terminal studs.

6. Install new locknuts (15). Tighten the locknuts to a torque of 1.3 N·m (12 lb in).

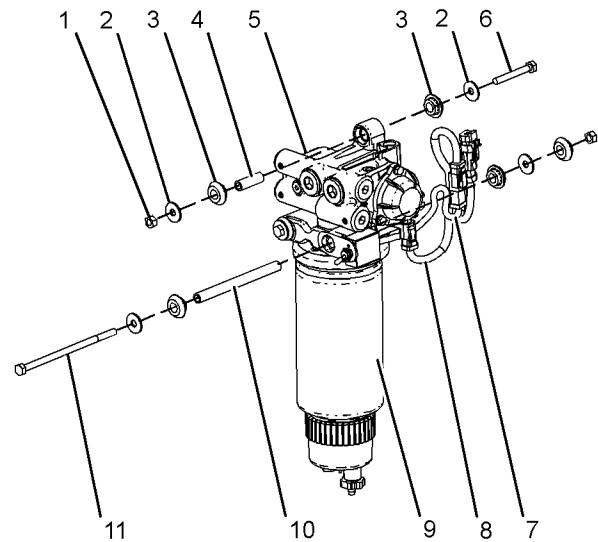


Illustration 10 g03838423
 Typical example

8. Install a new filter element to fuel filter canister (9). Refer to Operation and Maintenance Manual, “Fuel System Primary Filter (Water Separator) Element - Replace” for the correct procedure.

9. Position fuel priming pump (5) to the application. Install spacer (4) and spacers (10). Install mounts (3). Install spacers (2), bolt (6), bolts (11), and nuts (1). Tighten the bolts to a torque of 28 N·m (21 lb ft).
10. Connect wiring harness (7) and wiring harness (8) to fuel priming pump (5).
11. Remove the plugs from the plastic tube assemblies. Remove the caps from the ports in the fuel priming pump.
12. Connect plastic tube assemblies to the fuel priming pump.
13. Turn the fuel supply to the ON position.
14. Turn the battery disconnect switch to the ON position.

End By:

- a. Remove the air from the fuel system. Refer to Operation and Maintenance Manual, "Fuel System - Prime" for the correct procedure.

i06177778

Fuel Filter Base - Remove

Removal Procedure

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Dispose of all fluids according to local regulations and mandates.

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Turn the fuel supply to the "OFF" position.
2. Place a suitable container below the fuel filter base in order to drain the fuel.

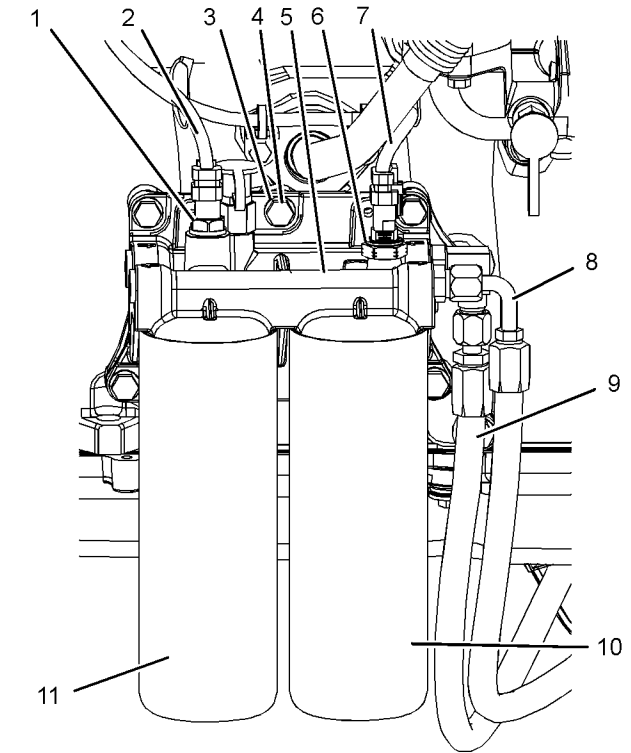


Illustration 11

g03838328

Typical example

Note: The fuel system has two secondary filters, both must be replaced.

3. Slide the locking tab into the unlocked position and disconnect harness assembly (2) from fuel temperature sensor (1).
4. Slide the locking tab into the unlocked position and disconnect harness assembly (7) from fuel pressure sensor (6).
5. Disconnect hose assembly (8). Disconnect hose assembly (9). Cap the hose assemblies.
6. Remove fuel filters (10) and (11). Refer to Operation and Maintenance Manual, "Fuel System Secondary Filter - Replace" for the correct procedure.
7. Remove bolts (4) and washers (3). Support the fuel filter base (5) as the bolts are removed. Remove fuel filter base (5).

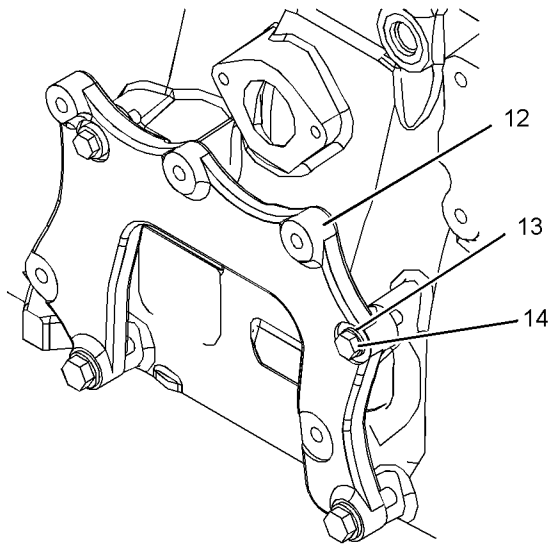


Illustration 12

g03838356

Typical example

8. If necessary, follow Step 8.a. through Step 8.b in order to remove bracket (12) from the cylinder block.
 - a. Remove bolts (14) and washers (13).
 - b. Remove bracket (12) from the cylinder block.

i06177781

Fuel Filter Base - Disassemble

Disassembly Procedure

Start By:

- a. Remove the fuel filter base. Refer to Disassembly and Assembly, "Fuel Filter Base - Remove".

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

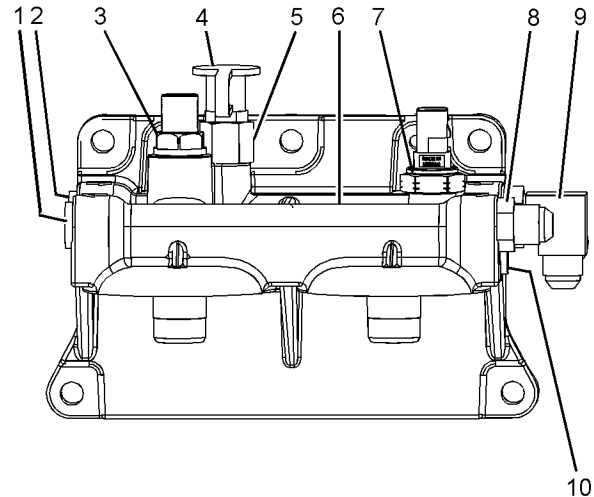


Illustration 13

g03844256

Typical example

1. Remove fuel temperature sensor (3) from fuel filter base (6). Refer to Disassembly and Assembly, "Fuel Temperature Sensor - Remove and Install" for the correct procedure.
2. Remove fuel pressure sensor (7) from fuel filter base (6). Refer to Disassembly and Assembly, "Fuel Temperature Sensor - Remove and Install" for the correct procedure.
3. Remove sampling valve (4) from adapter (5). Remove adapter (5) from fuel filter base (6). Remove the O-ring seal from adapter (5).
4. Remove adapter (8) from fuel filter base (6). Remove the O-ring seal from adapter (8).
5. Remove elbow (9) from fuel filter base (6). Remove the O-ring seal from elbow (9).
6. Remove plugs (1), (2) and (10) from fuel filter base (6). Remove the O-ring seals from the plugs.

i06177782

Fuel Filter Base - Assemble

Assembly Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Ensure that the fuel filter base is clean and free from damage. If necessary, replace the fuel filter base.

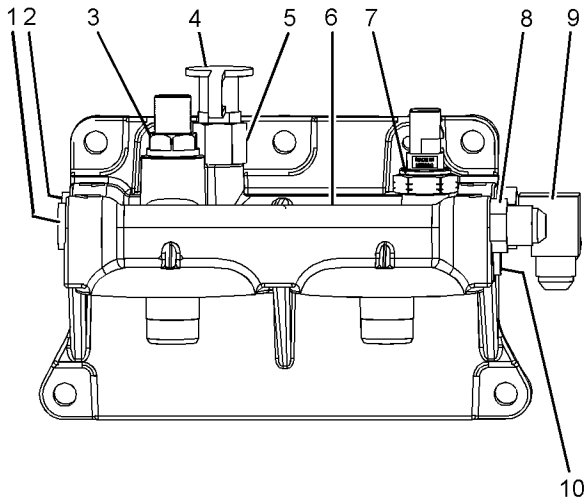


Illustration 14

g03844256

Typical example

2. Install new O-ring seals to plugs (1), (2), and (10). Install the plugs to fuel filter base (6). Tighten plug (2) to a torque of 55 N·m (41 lb ft). Tighten plugs (1) and (10) to a torque of 40 N·m (30 lb ft).
3. Install new O-ring seal to elbow (9). Install elbow (9) to fuel filter base (6). Tighten elbow to a torque of 40 N·m (30 lb ft).
4. Install new O-ring seal to adapter (8). Install adapter (8) to fuel filter base (6). Tighten adapter to a torque of 40 N·m (30 lb ft).
5. Install new O-ring seal to adapter (5). Install adapter (5) to fuel filter base (6). Tighten adapter (5) to a torque of 15 N·m (133 lb in). Install sampling valve (4) to adapter (5). Tighten sampling valve to a torque of 40 N·m (30 lb ft). Ensure that the cap is correctly seated.
6. Install fuel pressure sensor (7) to fuel filter base (6). Refer to Disassembly and Assembly, "Fuel Temperature Sensor - Remove and Install" for the correct procedure.
7. Install fuel temperature sensor (3) to fuel filter base (6). Refer to Disassembly and Assembly, "Fuel Temperature Sensor - Remove and Install" for the correct procedure.

End By:

- a. Install the fuel filter base. Refer to Disassembly and Assembly, "Fuel Filter Base - Install".

i06177784

Fuel Filter Base - Install

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Ensure that all components of the fuel filter base are free from wear or damage. If necessary, replace any component that is worn or damaged.

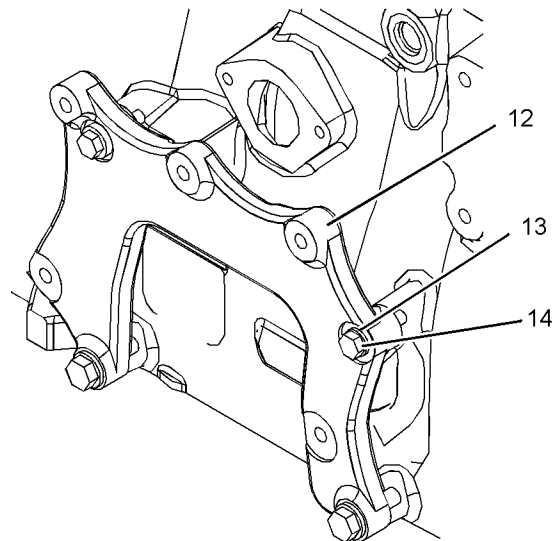


Illustration 15

g03838356

Typical example

2. If necessary, follow Step 2.a through Step 2.b to install bracket (12) to the cylinder block.
 - a. Position bracket (12) onto the cylinder block.
 - b. Install washers (13) to bolts (14). Install bolts (14) to bracket (12). Torque bolts to a torque of 55 N·m (41 lb ft).

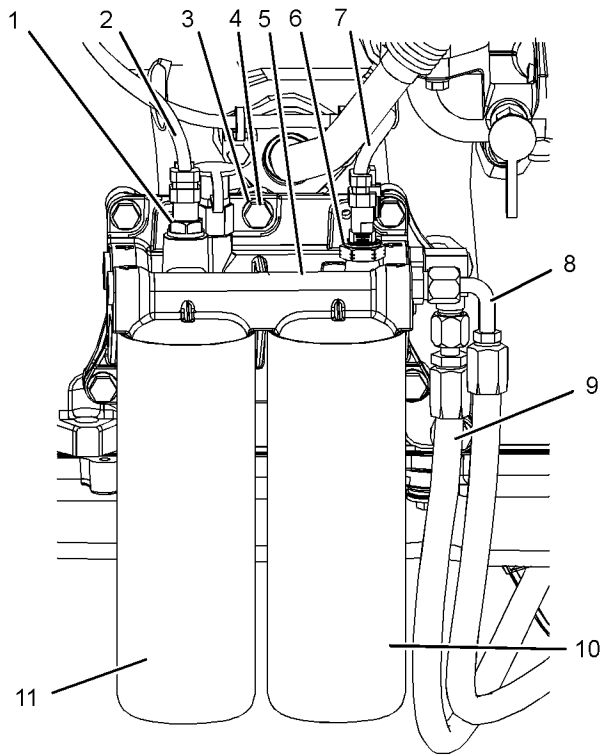


Illustration 16

g03838328

Typical example

3. Position fuel filter base (5) onto mounting bracket (12) and install washers (3) and install bolts (4). Tighten the bolts to a torque of 55 N·m (41 lb ft).
4. Install new fuel filters (10) and (11) to fuel filter base (5). Refer to Operation and Maintenance Manual, "Fuel Filter Secondary Filter - Replace" for more information.
5. Connect hose assemblies (8), (9).
6. Connect harness assembly (7) to fuel pressure sensor (6). Slide the locking tab into the locked position.
7. Connect harness assembly (2) to fuel temperature sensor (1). Slide the locking tab into the locked position.
8. Turn the fuel supply to the "ON" position.

9. Remove the air from the fuel system. Refer to Operation and Maintenance Manual, "Fuel System - Prime".

i06173363

Fuel Transfer Pump - Remove and Install

Removal Procedure

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Dispose of all fluids according to local regulations and mandates.

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Turn the fuel supply to the "OFF" position.
2. Place a suitable container below the fuel transfer pump in order to catch any fuel that might be spilled.

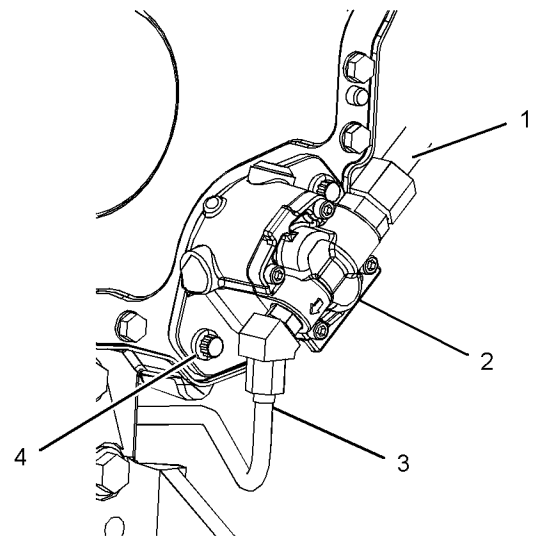


Illustration 17

g03838949

Typical example

3. Disconnect hose assemblies (1) and (3) from fuel transfer pump (2). Cap the hose assemblies.
4. Remove bolts (4) and remove fuel transfer pump (2).
5. Remove the O-ring seal from fuel transfer pump (2).

Installation Procedure

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Ensure that the fuel transfer pump is clean and free from damage.

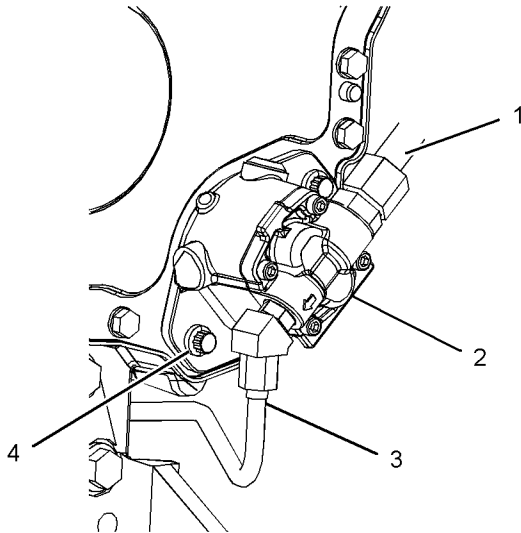


Illustration 18

g03838949

Typical example

2. Lubricate a new O-ring seal with clean engine oil. Install the O-ring seal to fuel transfer pump (2).
3. Position fuel transfer pump (2) to the front cover.

Note: Ensure that the splines on the shaft of the fuel transfer pump are correctly engaged.

4. Install bolts (4). Tighten the bolts to a torque of 55 N·m (41 lb ft).
5. Remove the caps from the hose assemblies. Connect hose assemblies (1) and (3) to fuel transfer pump (2).
6. Turn the fuel supply to the "ON" position.

7. Remove the air from the fuel system. Refer to Systems Operation and Maintenance Manual, "Fuel System - Prime".

i06173047

Fuel Pressure Regulator - Remove and Install

Removal Procedure

1. Turn the fuel supply to the "OFF" position.

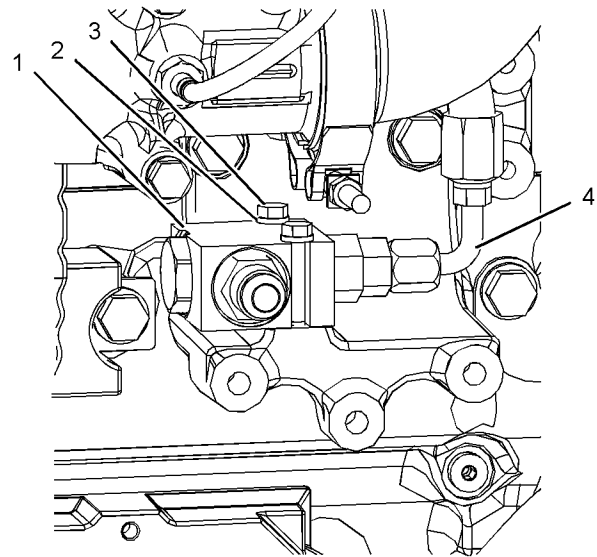


Illustration 19

g03840030

Typical example

2. Disconnect hose assembly (4). Remove bolts (3) and washers (2). Remove fuel pressure regulator (1).

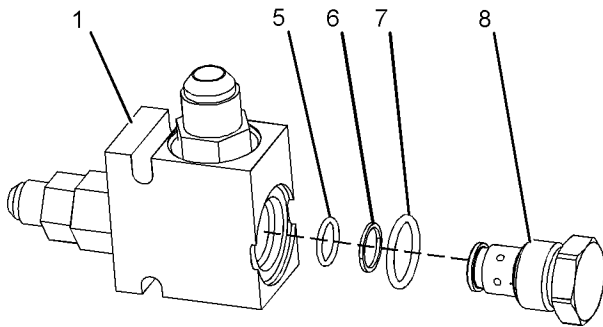


Illustration 20 g03840040

Typical example

3. Remove check valve (8) from fuel pressure regulator (1).
4. Remove O-ring seal (7). Remove O-ring seal (5) and backup ring (6).

Installation Procedure

1. Ensure that all components are clean and free from wear and damage. If necessary, replace any components that are worn or damaged.

2. Install new O-ring seal (5) and backup ring (6).
3. Install a new O-ring seal (7) to check valve (8).
4. Install check valve (8) to fuel pressure regulator (1). Tighten check valve (8) to a torque of 28 N·m (21 lb ft).
5. Position fuel pressure regulator (1) to engine.
6. Install washers (2) to bolts (3). Install bolts (3) to fuel pressure regulator (1). Tighten bolts to a torque of 12 N·m (106 lb in).
7. Connect hose assembly (4) to fuel pressure regulator (1).
8. Turn the fuel supply to the “ON” position.

i06175799

Exhaust Cooler (NRS) - Remove and Install

Removal Procedure

Table 1

Required Tools			
Tool	Part Number	Part Description	Qty
A	-	Rubber Lubricant	1

Start By:

- a. **Remove the exhaust elbow. Refer to Disassembly and Assembly, “Exhaust Elbow - Remove and Install” for the correct procedure.**

1. Drain the coolant from the cooling system into a suitable container for storage or disposal. Refer to Operation and Maintenance Manual, “Cooling System Coolant (ELC) - Change” for the correct procedure.

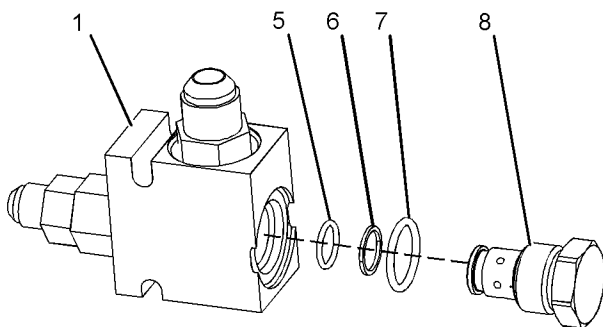


Illustration 21 g03840040

Typical example

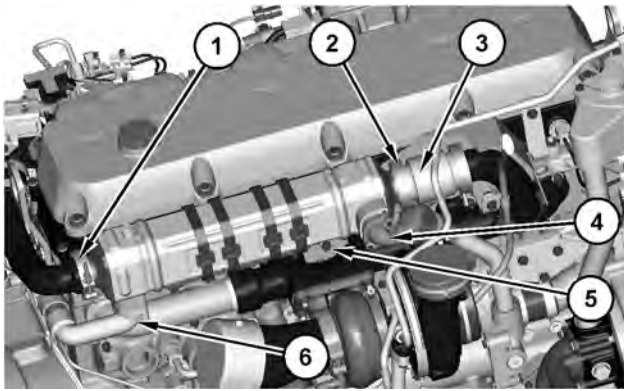


Illustration 22

g06009991

Typical example

2. Loosen clamp (1).
3. Loosen clamp assemblies (2) and remove bellows (3). Discard clamp assemblies (2) and bellows (3).
4. Remove the bolts and washers. Remove elbow (4). Remove the O-ring seal.
5. Remove the bolts and washers. Remove elbow (6). Remove the O-ring seal.
6. Remove bolts (5) and the washers from exhaust gas cooler (8).

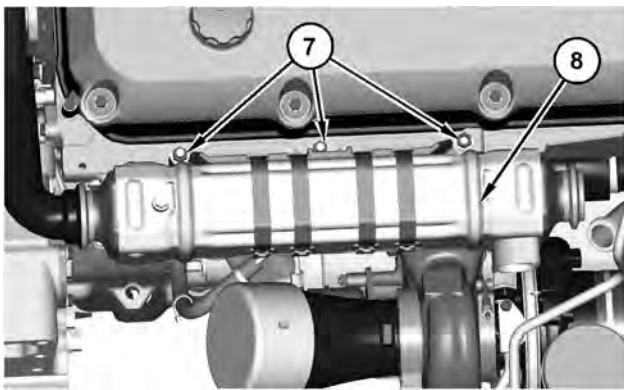


Illustration 23

g06009996

Typical example

7. Remove fasteners (7) and the washers. If necessary, remove heat shield.

Note: Make a note of the location of the various fasteners.

8. Remove exhaust gas cooler (8).

Installation Procedure

1. Ensure that all components are clean and free from wear and damage. If necessary, replace any components that are worn or damaged.

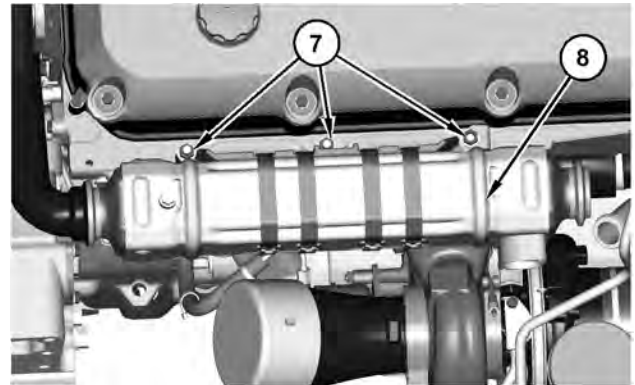


Illustration 24

g06009996

Typical example

2. Position exhaust gas cooler (8) to the engine. If necessary, position heat shield to the engine.
3. Install the washers and fasteners (7) to exhaust gas cooler (8). Tighten the fasteners finger tight.

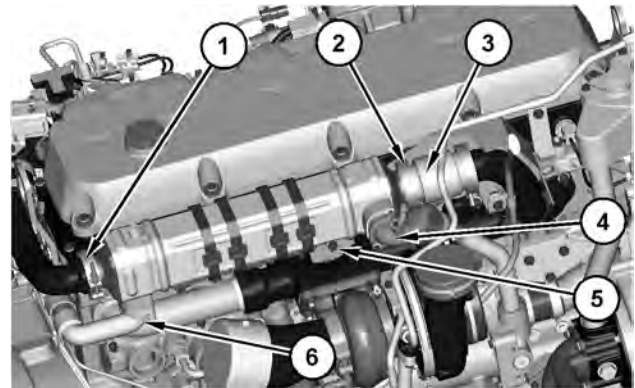


Illustration 25

g06009991

Typical example

4. Install the washers to bolts (5) Install bolts (5) exhaust gas cooler (8). Tighten the bolts finger tight.
5. Apply Tooling (A) to new O-ring seal. Install O-ring seal to elbow (6). Apply Tooling (A) to new O-ring seal. Apply Tooling (A) to the bore of elbow. Position elbow (6) to exhaust gas cooler (8). Install the washers and the bolts. Tighten the bolts finger tight.

6. Apply Tooling (A) to new O-ring seal. Install O-ring seal to elbow (4). Apply Tooling (A) to the bore of elbow. Position elbow (4) to exhaust gas cooler (8). Install the washers and the bolts. Tighten the bolts finger tight.
 7. Loosely assemble clamps (1) and (2) to bellows (3). Install bellows (3) to exhaust gas cooler (8) and the exhaust manifold.
- Note:** Ensure that the flow arrow is pointing towards the exhaust cooler. Total misalignment of the bellows is 1.50 mm (0.060 inch) lateral and 1.50 mm (0.060 inch) axial.
8. Tighten bolts (5) and fasteners (7) to a torque of 55 N·m (41 lb ft)
 9. Tighten the bolts for the elbow (4) to a torque of 12 N·m (106 lb in).
 10. Tighten the bolts for the elbow (6) to a torque of 28 N·m (21 lb ft).
 11. Tighten clamps (1) and (2) to a torque of 7.5 N·m (66 lb in).

i06175138

Electronic Unit Injector - Remove

Removal Procedure

Table 2

Required Tools			
Tool	Part Number	Part Description	Qty
A	27610288	Pry Bar	1

Start By:

- a. Remove the rocker shaft assemblies. Refer to Disassembly and Assembly, "Rocker Shaft and Pushrod - Remove" for the correct procedure.

NOTICE

Ensure that all adjustments and repairs that are carried out to the fuel system are performed by authorized personnel that have the correct training.

Before beginning ANY work on the fuel system, refer to Operation and Maintenance Manual, "General Hazard Information and High Pressure Fuel Lines" for safety information.

Refer to System Operation, Testing and Adjusting, "Cleanliness of Fuel System Components" for detailed information on the standards of cleanliness that must be observed during ALL work on the fuel system.

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Dispose of all fluids according to local regulations and mandates.

1. Turn the fuel supply to the OFF position.

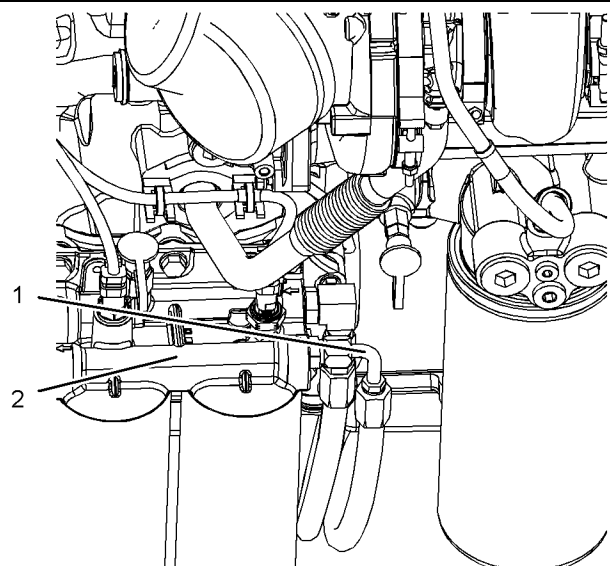


Illustration 26

g03867554

2. Disconnect hose (1) from fuel filter base (2) in order to drain fuel from the cylinder head.

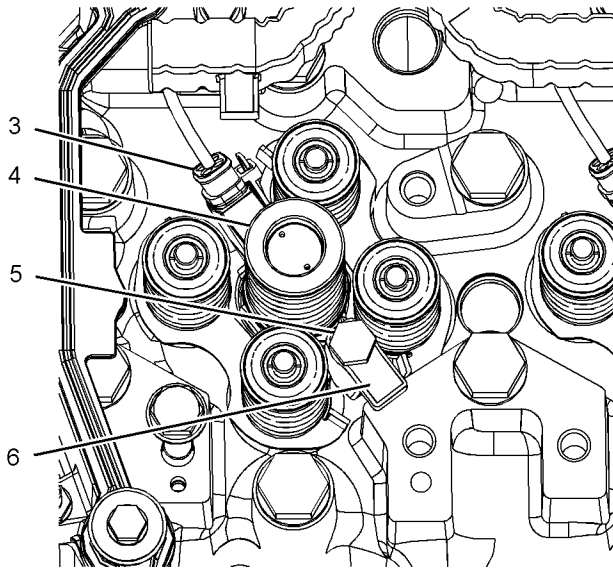


Illustration 27

g03867569

3. Disconnect harness assembly (3) from electronic unit injector (4).
 4. Remove bolt (5).
 5. Place an identification mark on electronic unit injector (4) for installation purposes.
- Note:** Each electronic unit injector must be reinstalled in the original location in the cylinder head.
6. Use Tooling (A) to pry beneath clamp (6) in order to remove electronic unit injector (4) and the clamp.

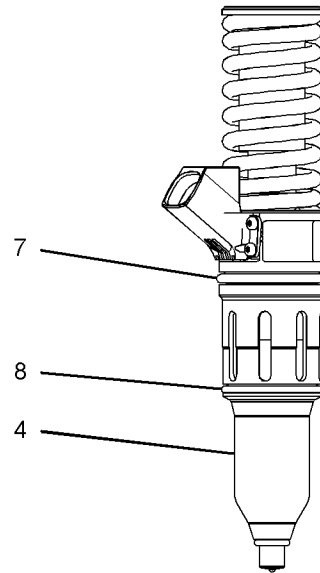


Illustration 28

g03867619

7. Remove O-ring seals (7) and (8) from electronic unit injector (4).

i06175146

Electronic Unit Injector - Install

Installation Procedure

Table 3

Required Tools			
Tool	Part Number	Part Description	Qty
B	GE50023	Tapered Brush	1
C	GE50024	Small Bore Brush	1
D	GE50028	Vacuum Pump	1
	GE50046	Fluid Sampling Bottle	1
	GE50030	Tube 7.9 mm (0.31 inch) OD	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

NOTICE

When a fuel injector group is serviced, the new fuel injector group's electronic injector code must be programmed into the engine's personality module software by using the calibration menu on the Electronic Service Tool. If the new fuel injector group's electronic code is not entered, the previous fuel injector group's characteristics are assumed.

If it is not possible to immediately reprogram the electronic injector code of the injector into the personality module software, the engine will not be severely harmed. The new electronic injector code should be reprogrammed as quickly as possible in order to optimize engine performance.

1. Use Tooling (B) and Tooling (C) in order to clean the carbon deposit from the inside of the electronic unit injector sleeve.
2. Use Tooling (D) in order to remove the fuel and oil from the cylinder bore. Evacuate as much fuel and oil as possible from the cylinder bore before installing the electronic unit injector. Several evacuations may be necessary.

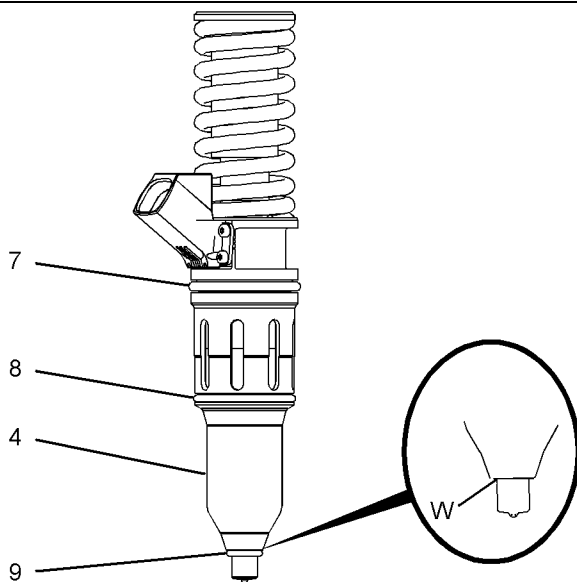


Illustration 29

g03867659

3. Ensure that seat area (W) on electronic unit injector (4) is clean and free of carbon.

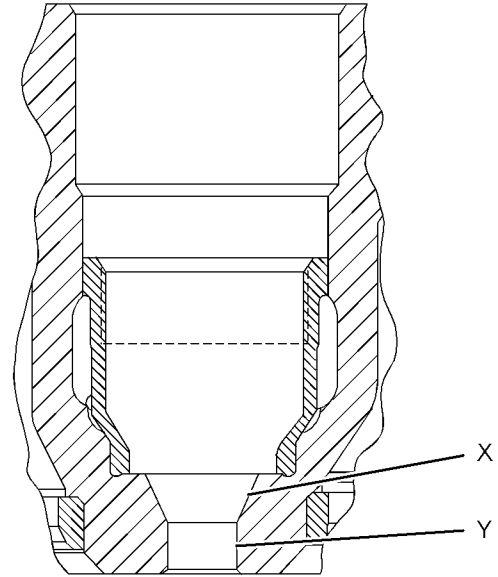


Illustration 30

g03868106

4. Use Tooling (B) to clean injector seating (X).
5. Use Tooling (C) to clean tip bore (Y).
6. Install new O-ring seals (7) and (8) to electronic unit injector (4). Lubricate the O-ring seals with clean engine oil.
7. Install a new O-ring seal (9) to electronic unit injector (4).

Note: O-ring seal (9) must be installed dry.

NOTICE

If a replacement electronic unit injector is installed, the calibration code must be programmed into the electronic control module. Refer to Troubleshooting Guide, "Injector Trim File" for more information.

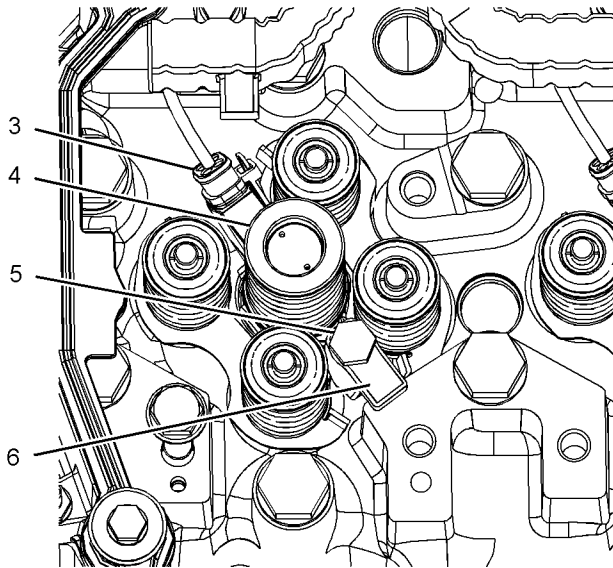


Illustration 31

g03867569

- 8. Install clamp (6) to electronic unit injector (4). Install the electronic unit injector into the original location in the cylinder head.
- 9. Install bolt (5). Tighten the bolt to a torque of 55 N·m (41 lb ft).
- 10. Connect harness connector (3) to electronic unit injector (4).

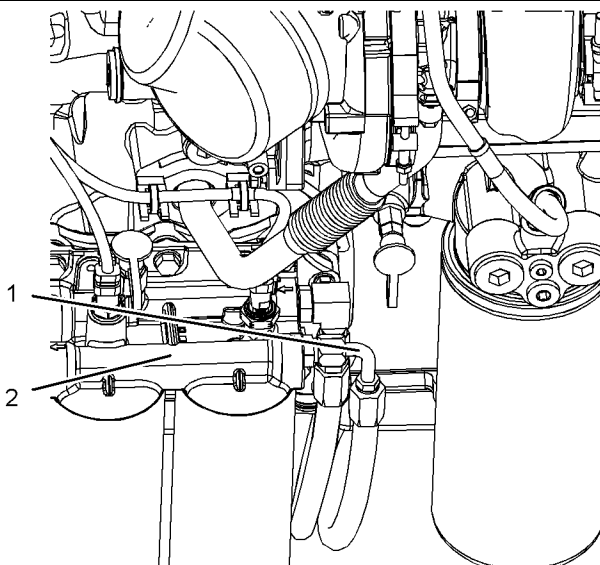


Illustration 32

g03867554

- 11. Connect hose (1) to fuel filter base (2).
- 12. Turn the fuel supply to the "ON" position.

- 13. Remove the air from the fuel system. Refer to Operation and Maintenance Manual, "Fuel System - Prime".

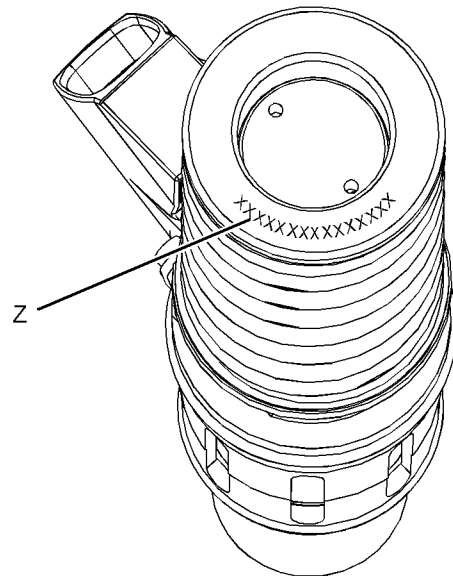


Illustration 33

g03868139

- 14. For any replacement electronic unit injectors, record the injector serial number (Z) located on top of electronic unit injector (3). The injector serial numbers will be used for downloading trim files for new or exchanged electronic unit injectors (3). Refer to Troubleshooting, "Injector Trim Calibration" for the correct procedure for injector trim calibration.

End By:

- a. Install the rocker shafts. Refer to Disassembly and Assembly, "Rocker Shaft and Pushrod - Install".

i06175127

Electronic Unit Injector Sleeve - Remove

Removal Procedure

Table 4

Required Tools			
Tool	Part Number	Part Description	Qty
A	GE50021	Injector Sleeve Tool	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Drain the coolant from the cooling system into a suitable container for storage or for disposal. Refer to Operation and Maintenance Manual, "Cooling System Coolant - Change".
2. Remove the electronic unit injectors. Refer to Disassembly and Assembly, "Electronic Unit Injector - Remove".

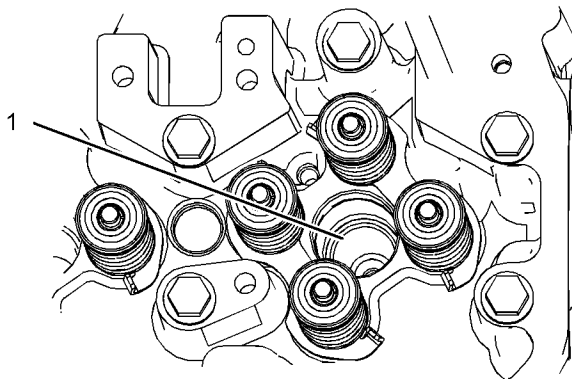


Illustration 34

g01391954

3. Install Tooling (A) into electronic unit injector sleeve (1).
4. Tighten the nut on Tooling (A) until electronic unit injector sleeve (1) is pulled free from the cylinder head.

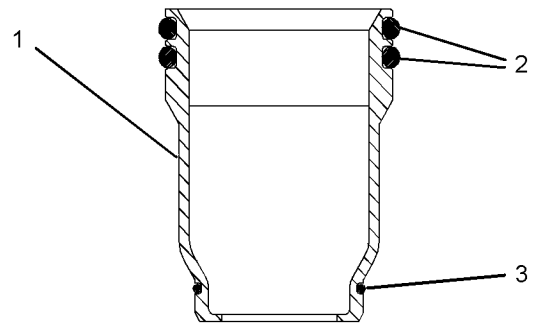


Illustration 35

g01393881

5. Remove O-ring seals (2) and O-ring seal (3) from electronic unit injector sleeve (1).

i06175132

Electronic Unit Injector Sleeve - Install

Installation Procedure

Table 5

Required Tools			
Tool	Part Number	Part Description	Qty
A	GE5 - 0021	Injector Sleeve Tool	1
B	GE5 - 0023	Tapered Brush	1
	GE5 - 0024	Small Bore Brush	1
	GE5 - 0022	End Brush	1
C	-	Retaining Compound	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Use Tooling (B) to clean the bore in the cylinder head for the electronic unit injector sleeve.

NOTICE

Ensure that the electronic unit injector sleeve and the cylinder head bore are completely free of oil, dirt, and sealant debris.

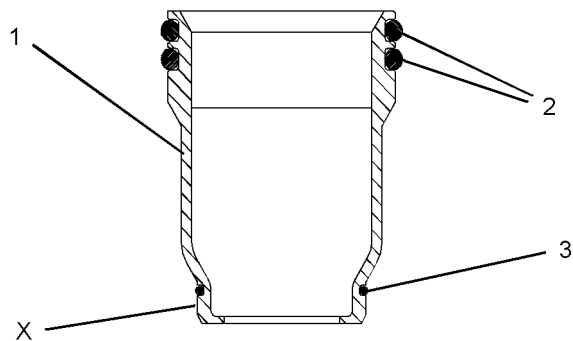


Illustration 36

g01043165

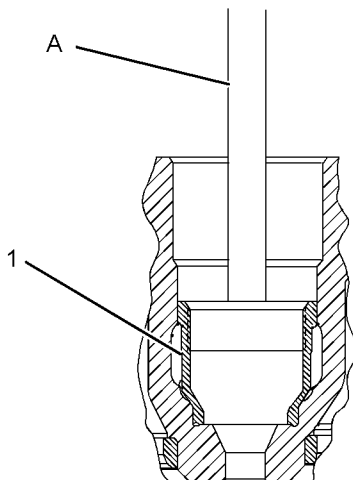


Illustration 37

g01393891

2. Install new O-ring seals (2) and (3) to electronic unit injector sleeve (1).
3. Install electronic unit injector sleeve (1) to Tooling (A).
4. Apply a small continuous bead of Tooling (C) to surface (X) of electronic unit injector sleeve (1).
5. Lubricate O-ring seals (2) with clean engine oil.
6. Position electronic unit injector sleeve (1) and Tooling (A) in the cylinder head. Use care not to damage O-ring seals (2) and (3).
7. Use Tooling (A) and a soft faced hammer to install electronic unit injector sleeve (1) to the cylinder head.

Note: Ensure that the electronic unit injector sleeve is properly seated in the cylinder head.

8. Install the electronic unit injectors. Refer to Disassembly and Assembly, "Electronic Unit Injector - Install".
9. Fill the cooling system with coolant. Refer to Operation and Maintenance, "Cooling System Coolant - Change".

i06175837

Turbocharger - Remove

Removal Procedure

Start By:

- a. Remove the flexible exhaust pipe. Refer to Disassembly and Assembly, "Flexible Exhaust Pipe - Remove and Install".

NOTICE

Care must be taken to ensure that fluids are contained during performance of inspection, maintenance, testing, adjusting and repair of the product. Be prepared to collect the fluid with suitable containers before opening any compartment or disassembling any component containing fluids.

Dispose of all fluids according to local regulations and mandates.

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Disconnect the air hoses from the turbocharger inlet and from the turbocharger outlet.

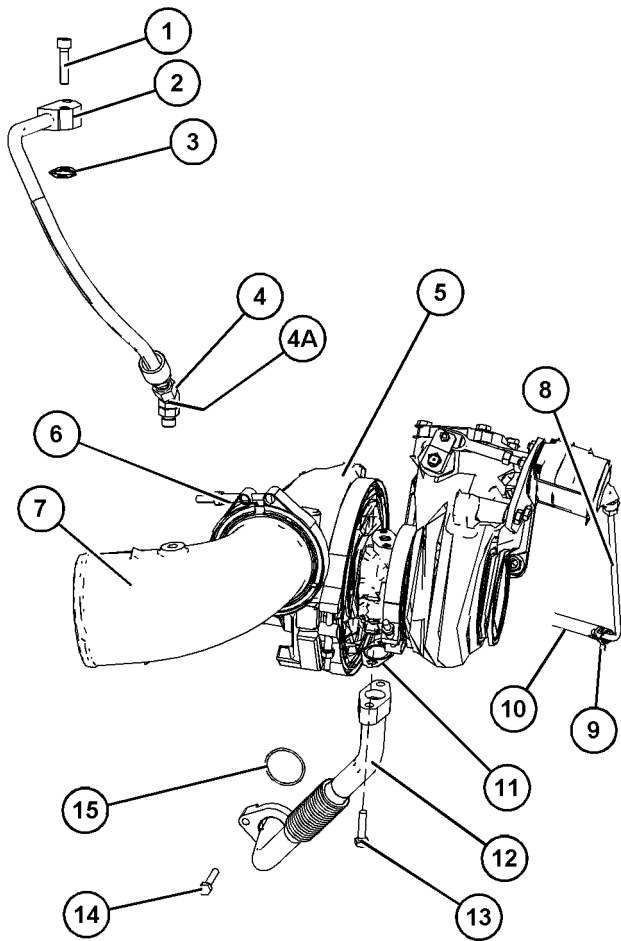


Illustration 38 g06005348

Typical example

2. Follow Steps 2.a through 2.c to remove the tube assembly for the oil feed to the turbocharger.
 - a. Loosen nut (4) and disconnect tube assembly (2) from the engine oil filter base. Remove O-ring (4A) (not shown).
 - b. Remove bolts (1).
 - c. Remove tube assembly (2) and joint (3) from turbocharger (5).
3. Follow Steps 3.a through 3.c to remove the tube assembly for the oil drain to the turbocharger.
 - a. Remove bolts (13) and (14).
 - b. Remove tube assembly (12).
 - c. Remove joint (11) and O-ring seal (15).
4. Slide clamp (9) along hose (10). Disconnect hose (10) from tube (8).

5. If necessary, loosen clamp (6) and remove elbow (7).
6. Attach a suitable lifting device to turbocharger (5). The weight of the turbocharger is approximately 32 kg (71 lb).

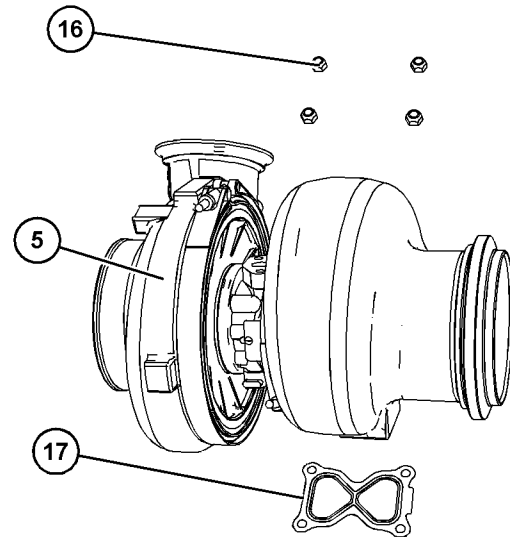


Illustration 39 g06005388

Typical example

7. Remove nuts (16). Use the lifting device to remove turbocharger (5) from the exhaust manifold.
8. Remove gasket (17).

i06175839

Turbocharger - Install

Installation Procedure

Table 6

Required Tools			
Tool	Part Number	Part Description	Qty
A	-	Anti-Seize Compound	1

NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Ensure that all mating surfaces are clean and free from damage.



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