



Installation Instructions

18SP632 – E3 Injector Washer and O-ring Seal Kit for Series 60[®] EGR DDEC[®] VI Engines

KIT DESCRIPTION

New service kit (P/N: 23537123) is now available for replacement of the E3 injector washer, O-rings, and injector hold-down clamp bolt on Series 60 EGR DDEC VI engines.

KIT CONTENTS

The new kit contains the following parts listed in Table 1.

Part Number	Quantity	Description
7200-0053	1	Upper Injector O-ring (Purple)
7200-0054	1	Lower Injector O-ring (Purple)
23535778	1	Injector Washer
8929393	1	Injector Hold-Down Clamp Bolt M10 1.5 x 70
18SP632	1	Instruction Sheet

Table 1 Contents for Service Kit (P/N: 23537123)

INSTALLATION PROCEDURE

Install the washers and O-rings as follows (see Figures 1 and 3):

1. Disconnect battery power before servicing the E3 injector to prevent failure of the DDEC VI MCM.
2. Remove the E3 injector and identify its cylinder position. Refer to the *Series 60 Service Manual* (6SE2007) for full procedures on the proper removal and installation of the E3 injector. Use tool J-47372 to remove the fuel injector.
3. Carefully clean (remove carbon, soot, etc.) the injector body and the injector sleeve in the cylinder head.

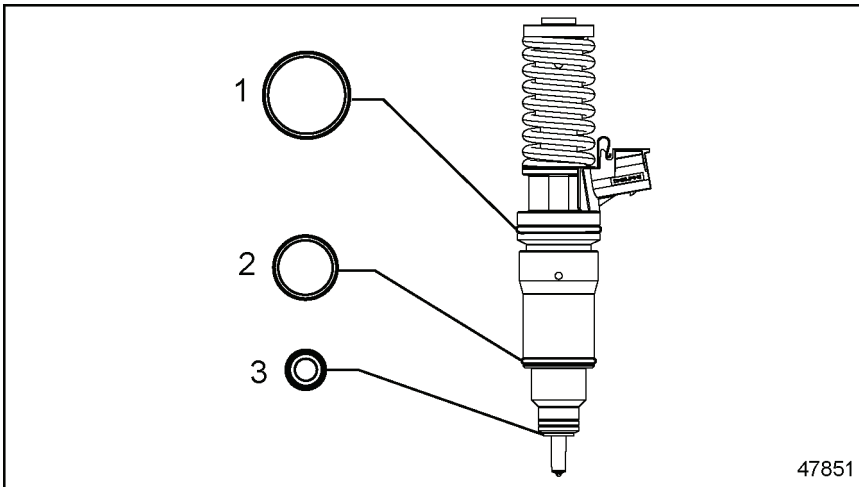
NOTICE:

Avoid cleaning (wire brushing, etc.) the injector tip spray holes to prevent damage and plugging.

NOTICE:

Take extra precautions when cleaning the injector sleeves in the cylinder head to ensure that debris does not enter into the fuel supply or return galleries. Do NOT use powered tools to clean the injector sleeves – use a hand brush such as J-47374 and a rag. Do NOT use compressed air to blow out debris in the sleeves.

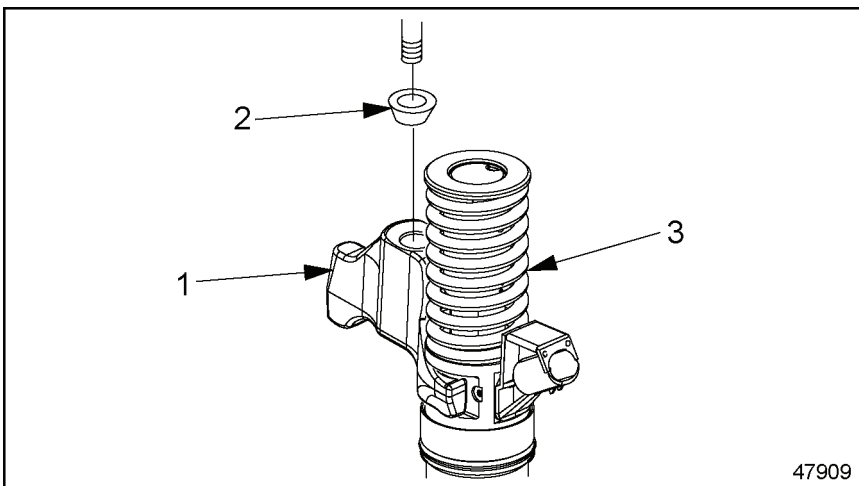
4. Replace the two O-rings on the injector by applying a thin coat of clean fuel to the injector O-rings and installing them in the injector nut ring grooves. Make sure the O-rings are properly seated. See Figure 1.
5. Replace the washer on the bottom of the injector with the new washer in the kit. See Figure 1.



1. Purple O-ring
2. Purple O-ring
3. Washer

Figure 1 Injector Washer and O-ring Installation

6. Install the injector and hold-down clamp as an assembly into its original cylinder position, taking care not to damage the O-rings. See Figure 3.
7. Install the injector hold-down clamp washer. The curved side of the washer fits into a corresponding curved cup in the injector hold-down clamp. See Figure 2.



1. Injector Hold-Down Clamp (Re-use From Engine)
2. Injector Hold-Down Clamp Washer (Re-use From Engine)
3. E3 Injector (Re-Use From Engine)

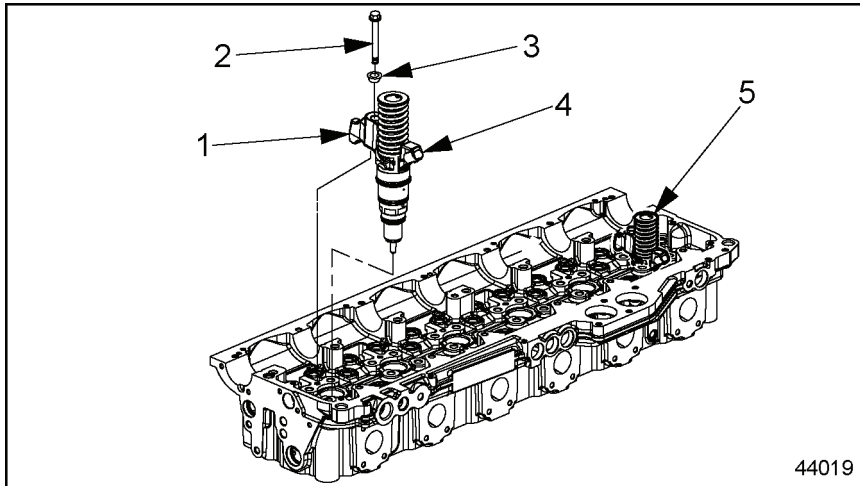
Figure 2 Injector Hold-Down Clamp Washer Installation

8. Replace the injector hold-down clamp bolt with the new bolt in the kit. Align the hold-down clamp over the retaining stud and install the new bolt into the injector clamp and torque using the procedure below. No additional torque of the bolt is necessary. See Figure 3.

- a. Torque the bolt to 50 N·m (37 lb-ft).
- b. Loosen the bolt 60 degrees (1/6 of a turn, or one bolt flat). Do not fully loosen the bolt.
- c. Torque the bolt to 35 N·m (26 lb-ft).
- d. Tighten the bolt 90 degrees (1/4 of a turn).

NOTICE:

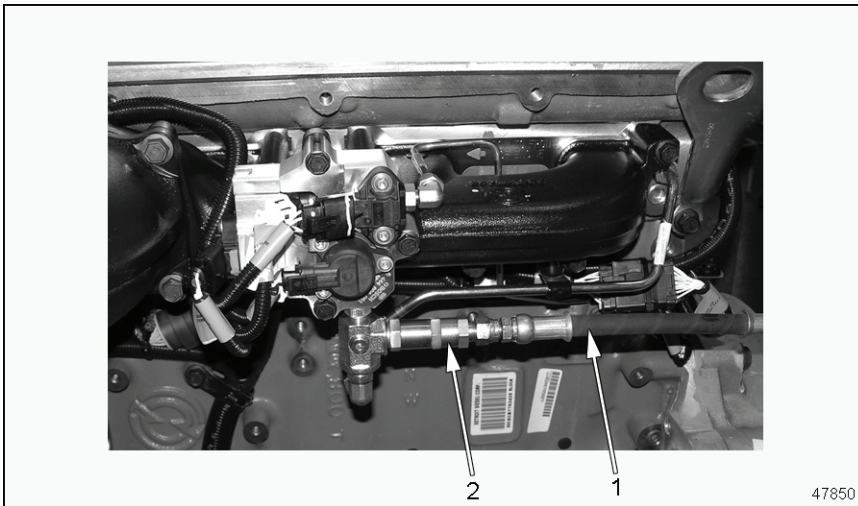
Injector O-ring seals, injector washers, and the injector hold-down clamp bolt are considered one-use items and cannot be reused. Any time an injector is removed, both injector O-ring seals, injector washer, and the injector hold-down clamp bolt must be replaced with new parts. Failure to replace O-ring seals, injector washer, and the injector hold-down clamp bolt can result in leakage.



- | | |
|---|-------------------------------------|
| 1. Injector Hold-Down Clamp (Re-use From Engine) | 4. E3 Injector (Re-Use From Engine) |
| 2. Bolt | 5. E3 Injector Installed |
| 3. Injector Hold-Down Clamp Washer (Re-use From Engine) | |

Figure 3 **Injector Hold-Down Clamp and Washer Installation**

9. Prime the fuel system.
10. Refer to the “General Information” section in the *Series 60 Service Manual* (6SE2007) for the necessary caution warnings before proceeding.
11. Flush the injectors and cylinder head fuel passages by removing the pressure regulator/check valve from the tee fitting in the Doser Block Assembly. See Figure 4.



1. Fuel Return Line
2. Pressure Regulator/ Check Valve

Figure 4 **Pressure Regulator/Check Valve**

12. Connect a fuel line to the tee fitting and route it to a separate container.
13. Disconnect the Engine Harness 120-pin connector from the DDEC VI MCM or remove the fuse/breaker in the vehicle that powers the MCM.
14. Reconnect battery power to allow use of the engine starter.
15. Using the starter, crank the engine three times for 15 seconds each time. Allow sufficient time between cranking periods to allow the starter to cool.

NOTE:

Fuel should be flowing out of the return line into the container.

16. Remove the fuel line from the tee fitting in the Doser Block Assembly.
17. Install the pressure regulator/check valve and torque to 23 N·m (17 lb·ft). See Figure 4.
18. Connect the Engine Harness to the MCM, or install the fuse/breaker in the vehicle that powers the MCM.
19. Complete any other required installation of components (i.e: valve cover, etc.).
20. Start the engine and verify the repairs.

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