The installation procedure for the E3 injector has been revised.
INSTALLATION OF THE E3 ELECTRONIC UNIT INJECTOR

Install the E3 injector as follows:

1. If the fuel system is contaminated:
   [a] Drain the fuel tanks and refill with clean fuel. Refer to section 14.4.2.
   [b] Replace both filters with new, and clean the fuel/water separator, if equipped. Refer to section 2.5.2.
   [c] Inspect fuel injectors for damage and replace as required.

2. If the coolant system is contaminated with fuel, flush and reverse flush the system. Refer to section 14.4.4.

3. If the oil system is contaminated, change the engine oil and filters. Refer to section 3.5.

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**WARNING:**

**EYE INJURY**

To avoid injury from flying debris when using compressed air, wear adequate eye protection (face shield or safety goggles) and do not exceed 276 kPa (40 psi) air pressure.

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**NOTICE:**

Leftover fuel must be removed from the injector bore before injector installation. If fuel is trapped between the top of the injector hole tube and the lower injector O-ring seal, it may seep down to the injector hole tube seal ring, causing swelling and possible seal leakage.

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**NOTICE:**

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

4. Check to make sure the injector bore is thoroughly clean.
5. Install a new washer on the injector.

**NOTE:**
All external O-rings must be lubricated prior to installation into the cylinder head.

6. Apply a thin coat of clean fuel to the injector seal rings and install them in the injector nut ring grooves. Make sure the seals are properly seated see Figure 1, E3 Injector Seal Rings.

![Figure 1  E3 Injector Seal Rings](image)
7. Record the injector calibration code. See Figure 2.

![Figure 2 E3 Injector Calibration Code Location](image2)

8. Remove injector nozzle tip protector.

9. Install a new 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 3.

![Figure 3 E3 Injector](image3)
10. Replace the injector hold-down clamp bolt with a new bolt. Align the hold-down clamp over the retaining bolt hole 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 4.

[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) + 90 degrees (1/4 of a turn).

Figure 4  E3 Injector and Related Parts

1. Injector Hold-down Clamp  4. E3 Injector
2. Bolt  5. E3 Injector (Installed)
3. Washer
NOTE:
Ensure the injector wiring harness connector is installed into the lower rocker cover with the notch facing upwards. If the connector is installed incorrectly the mating connector cannot be installed. See Figure 5.

Figure 5  Injector Wiring Harness Connector

11. Install the E3 EUI harness plug into the injector connector using installer tool J–47408, making sure the locking tang clicks into place.
12. Before installing the rocker arm shaft, apply clean engine oil to the plunger area of the fuel injector. See Figure 6.

![Diagram of fuel injector components]

1. Follower/Rocker Interface
2. Plunger/Body Size 10 mm
3. Magnetic Coil of Module (42 Turns)
4. Nozzle Nuts/ O-rings
5. Spring Cage
6. Nozzle

Figure 6  E3 Injector Oil Hole Location

14. Install the Jake Brakes. Refer to section 1.27.
15. On DDEC VI engines, enter calibration codes recorded in step 7 with the proper cylinder location and enter calibration codes using DDDL 7.X service routine.
16. Bar the engine over a minimum of two complete revolutions.
17. Install the valve rocker cover. Refer to section 1.6.5.
18. For two-piece and three-piece valve rocker cover, refer to section 1.6.6.
19. Reconnect the vehicle battery power.
20. Prime the fuel system using J–47912.
21. Refer to the General Information section for necessary cautions and warnings.
22. 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.

23. Install any other components that were removed for this procedure.

24. Verify installation of E3 Electronic Unit Injector. Refer to section 12.6.
ADDITIONAL SERVICE INFORMATION

Additional service information is available in the Detroit Diesel Series 60 Service Manual, DDC-SVC-MAN-0005. The next revision to this manual will include the revised information.