



## EEDF400-576 & EEDF400-577 & EEDF400-385 & 98821336

### Cummins ISL 8.3/8.9 L Diesel EGR Cleaning Instructions



**WARNING:** Wear gloves and safety goggles (User and bystanders) when performing this service

**IMPORTANT:** A DPF Regeneration event is required after this service. Regeneration can be initiated for many engines using one of the following Snap-on Diagnostic Tools:

- EEHD184040 Pro-Link Ultra (Snap-on)
- EEHD186030 Pocket IQ2 (Blue-Point)

#### EGR System Consists of:

- Cold side EGR valve (after EGR cooler), which controls exhaust gases for proper emissions control of Nox gases
- EGR cooler (controls temperature of exhaust gases to the air intake to the engine)
- EGR temperature sensor (measures EGR cooler exhaust temperature and efficiency)
- Swirl flaps (control airflow under different engine speed and loads) – closed when engine is at idle and at low engine speeds – below 1250rpm

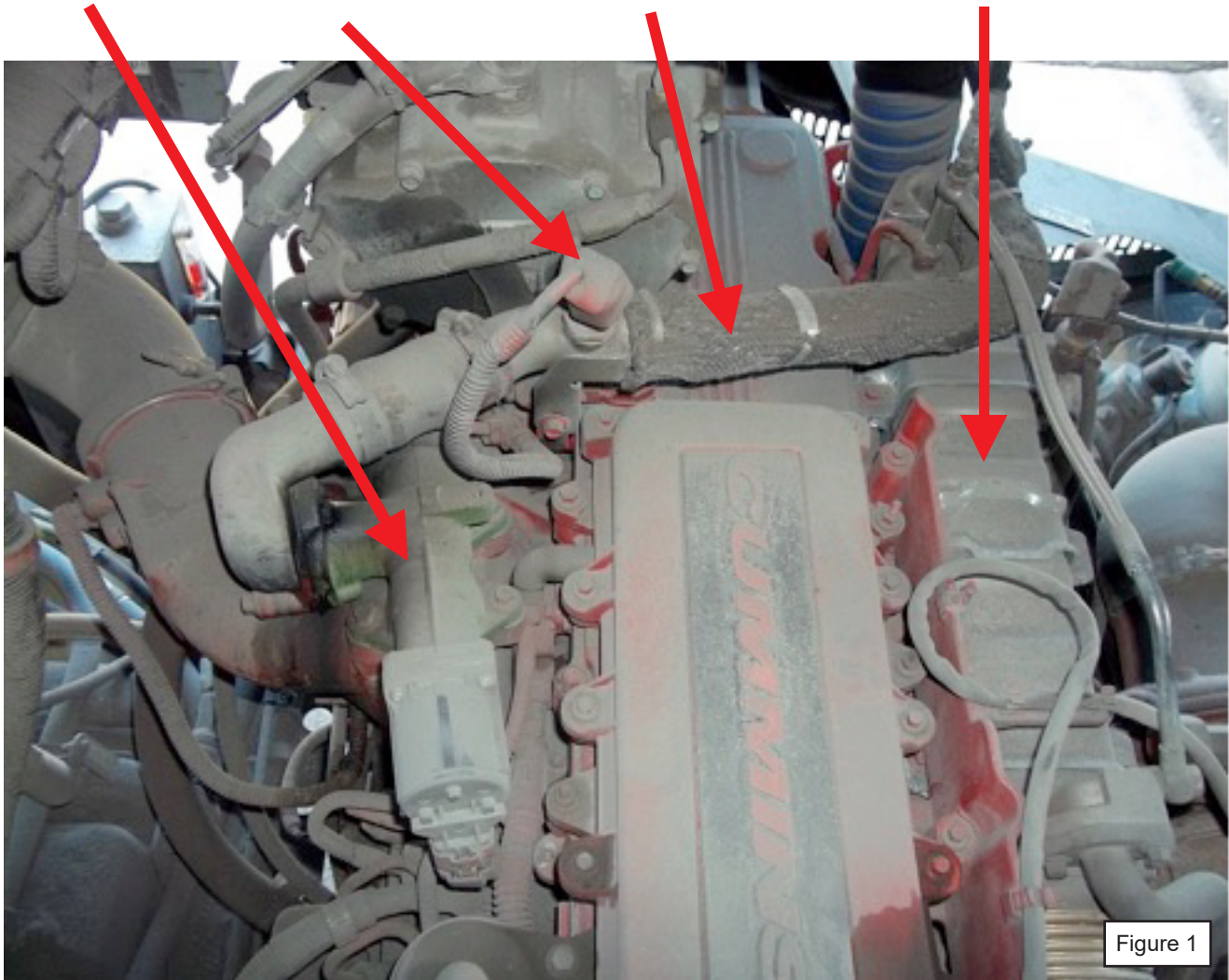
**These items are critical for proper emissions management control and must be cleaned on a regular basis for optimum efficiency.**

#### First steps before any service can be performed.

1. Add Blue-Point® Diesel Fuel Injector Cleaner (EEDF400-INJ) to the vehicle's fuel tank.
2. Remove the plastic engine cover.
3. If the engine is hot, the EGR cooler must be cooled – see step 9.

### Locations of EGR components:

- EGR valve
- EGR Temperature Sensor
- EGR Cooler outlet pipe
- EGR cooler

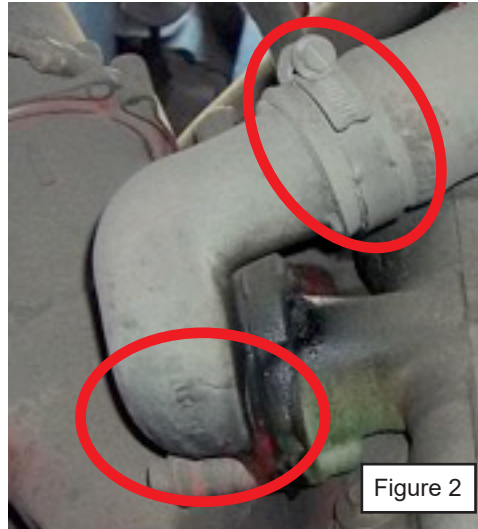


### Tool & Manifold Required:

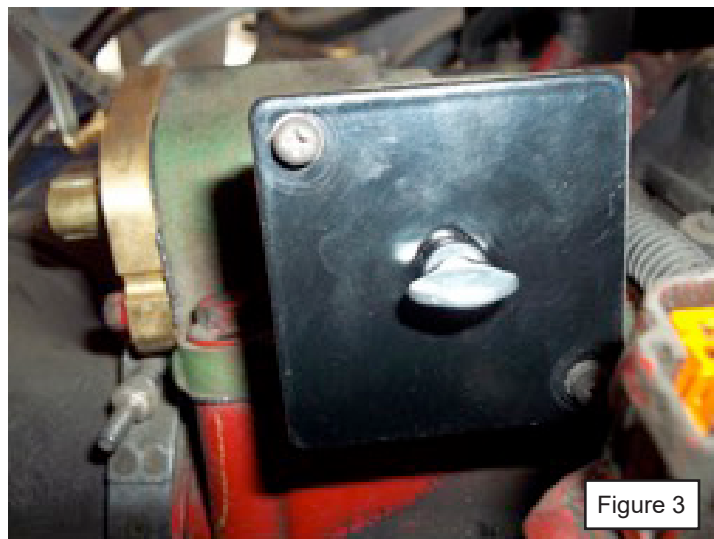
- EGR Tool (EEDF400)
- EGR Manifold (EEDF400M)



4. Remove both bolts on the EGR cooler outlet where connected at the EGR valve (see Figure 3). Loosen the clamp on the EGR cooler outlet pipe and rotate the EGR outlet cooler pipe 45°-90° towards front of engine bay (see Figure 2).



5. Turn the thumbscrew on the EGR Manual Opener (EEDF400-385) fully counterclockwise but do not remove it from the adapter. Remove the EGR valve solenoid (4 screws) and set it aside, install the EGR Manual Opener in its place using only two screws. Disconnect the EGR valve solenoid electrical connector. Rotate the thumb screw fully clockwise, the EGR valve is now open (see Figure 3).



6. Install the EGR Intake Adapter (EEDF400-576) using the two 20mm bolts (98821336) at the EGR valve and install the EGR Exhaust Adapter (EEDF400-577) using the two nuts and 60mm bolts supplied, on the EGR cooler outlet pipe. Tighten EGR cooler outlet pipe clamp (see Figure 4).

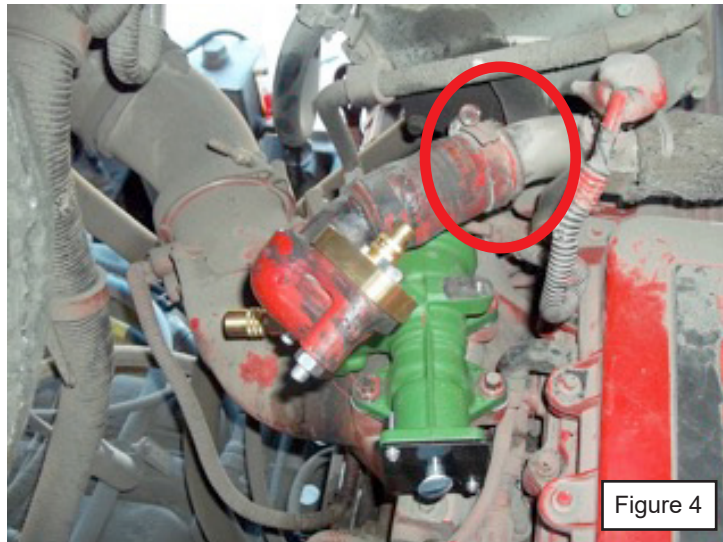


Figure 4

7. Attach the EGR Manifold (EEDF400M) to the EGR intake and exhaust adapters. Attach the EGR Tool (EEDF400) to the EGR Manifold. Ensure that the air valve and fluid valve are closed – see the EGR Tool user guide.
8. Unscrew the fill cap and fill with 64oz (1892mL) of EGR and Induction System Cleaner (EEDF400-EGR). For first application or severe coking, 128 oz. or more may be required.

**Note: When using 128 oz, use 64 oz on exhaust side first then use 64 oz on intake side. In between exhaust and intake cleaning the air pressure must first be set to zero before adding the remaining 64 oz.**

9. Reinstall the fill cap and hang the EGR Tool from the hood latch. Connect shop air. Set the air pressure on the EGR Tool to 40-50 psi.

**NOTE: If the engine is hot, the EGR cooler must be cooled before treatment can start. Before step 10 can proceed, open the EGR Tool air valve, keeping the fluid valve closed, turn the EGR Manifold to exhaust and flush cooler with air for 2 minutes.**

10. Start the vehicle engine. Set the EGR Manifold to exhaust.
11. Open the air valve on the EGR Tool, adjust regulator to maintain initial pressure and then open the fluid valve on the EGR Tool.
12. After 1/4 of the fluid has been consumed, turn the fluid valve off and let the air flow for an additional 2 minutes to flush deposits into exhaust stream.
13. Repeat steps 11-12 allowing another 1/4 of the fluid to be consumed.
14. Set the EGR Manifold to intake, open fluid valve and continue service until the EGR Tool is empty.

**Note: If at any time during the intake service you hear a diesel knock sound, turn the EGR Manifold to off for 2 minutes. After two minutes then turn the EGR Manifold to intake and continue service.**

**Let the vehicle operate for an additional 5 minutes and rev the engine several times to clear all residual fluid.**

15. Turn the fluid and air valve on the EGR Tool to the closed position. Turn the vehicle off. Detach shop air line and depressurize the EGR Tool by rotating the regulator knob counter clockwise.
16. Remove the adapters and reassemble vehicle components in the reverse order of removal.

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17. Otherwise the vehicle must be driven at highway speeds (or in the case of non-highway equipment operated under a load) for approximately 30 minutes. This is necessary to remove all of the cleaning solution from the passages and cooler(s) and to combust any material that has reached the diesel oxidation catalyst (DOC) and diesel particulate filters (DPF).

**This must be completed immediately after the service.**

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