EEDF400-621 & EEDF400-622

Cummins ISX14 Medium and Heavy Duty 15L Diesel EGR Cleaning Instructions

Intake
EEDF400-621

Exhaust
EEDF400-622

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) 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 cooler bypass valve (controls exhaust flowtemperature to the air intake from the exhaust through the EGR cooler) – Model year 2008 - Present
- EGR temperature sensor (measures EGR cooler Exhaust temperature and efficiency)

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.

Locations of EGR components:

- EGR Cooler (Right side of engine)
- EGR valve outlet hose
- EGR Temperature Sensor
- EGR valve outlet pipe
- EGR valve

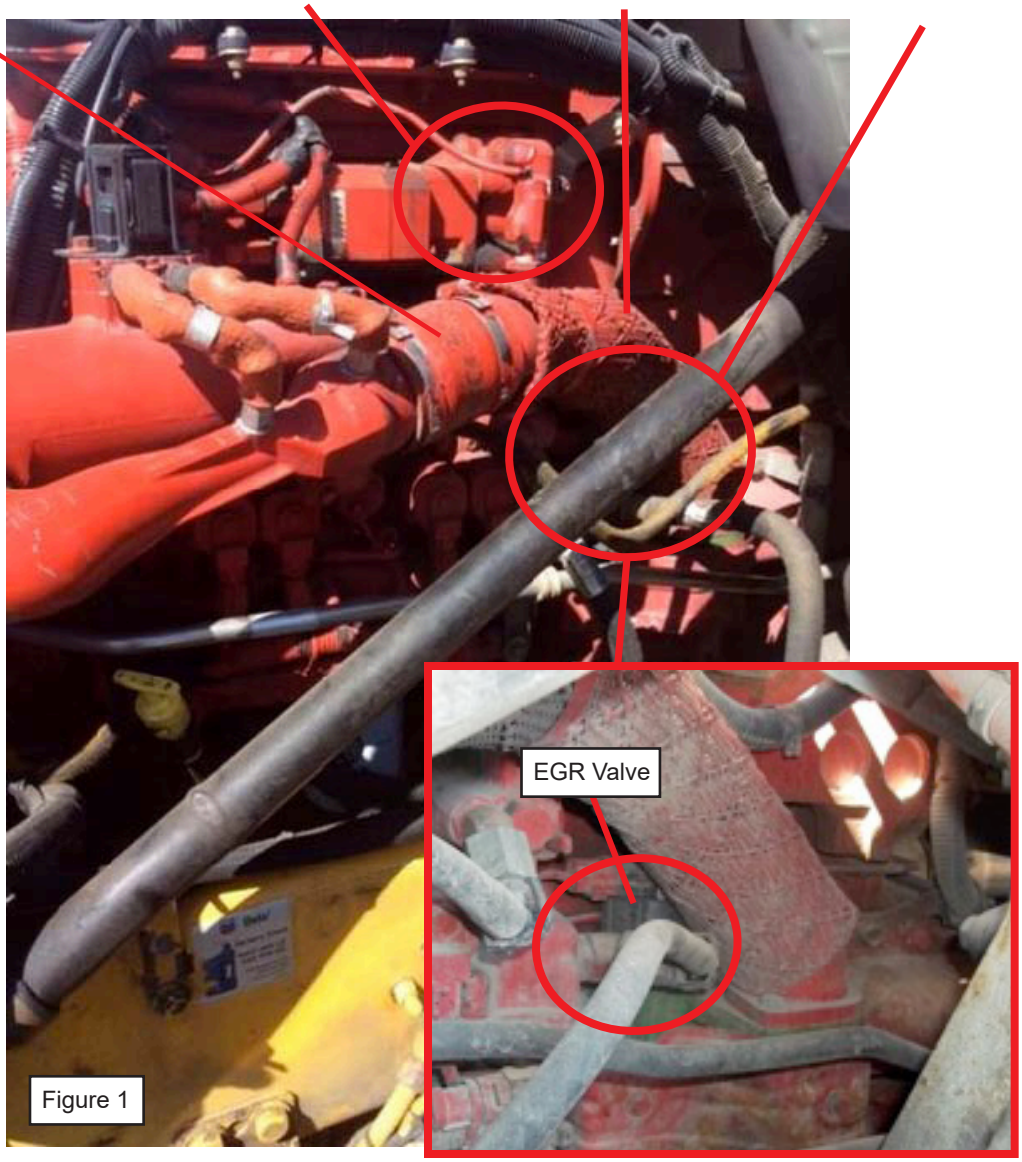

Figure 1

Tool & Manifold Required:

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

EEDF400M

EEDF400

4. Disconnect EGR temperature sensor electrical connector. Remove EGR temperature sensor from EGR valve outlet pipe and reconnect to electrical connector. Remove 2 bolts on the EGR valve outlet pipe (see Figure 2) and loosen 1 clamp on EGR valve outlet hose. Remove EGR valve outlet pipe and set aside. Location is on left side of engine bay.

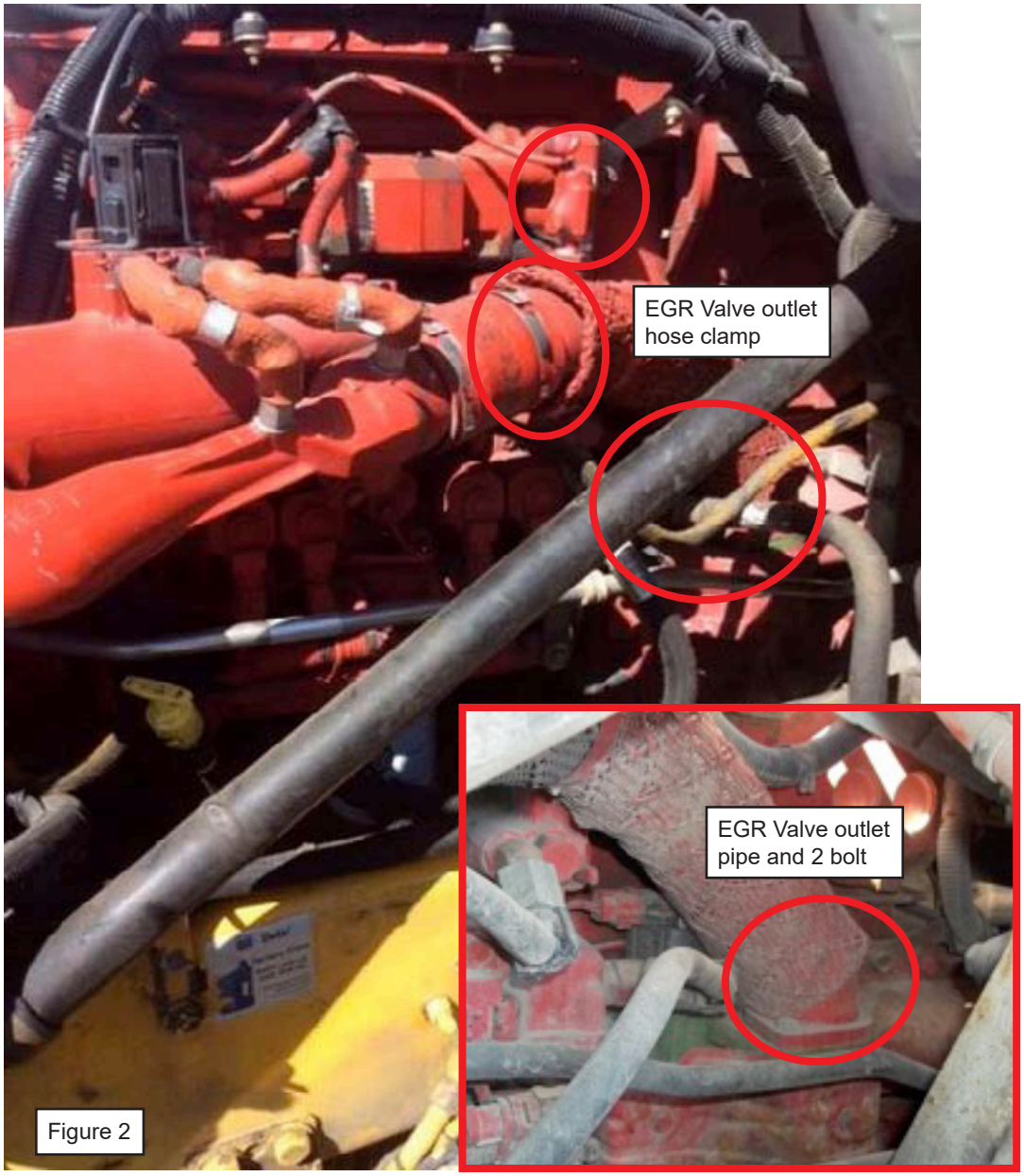

Figure 2

Quick Tip: Place the EGR valve outlet pipe into a bucket/container and pour EGR fluid into the outlet pipe, this will aid in the dislodging of soot from the pipe while the EGR cleaning procedure is performed see step 14.

5. Install EGR Intake adapter (EEDF400-621) into EGR Valve outlet hose using existing clamps (see figure 3) and EGR Exhaust adapter(EEDF400-622) using existing bolts (see figure 4).

Figure 3

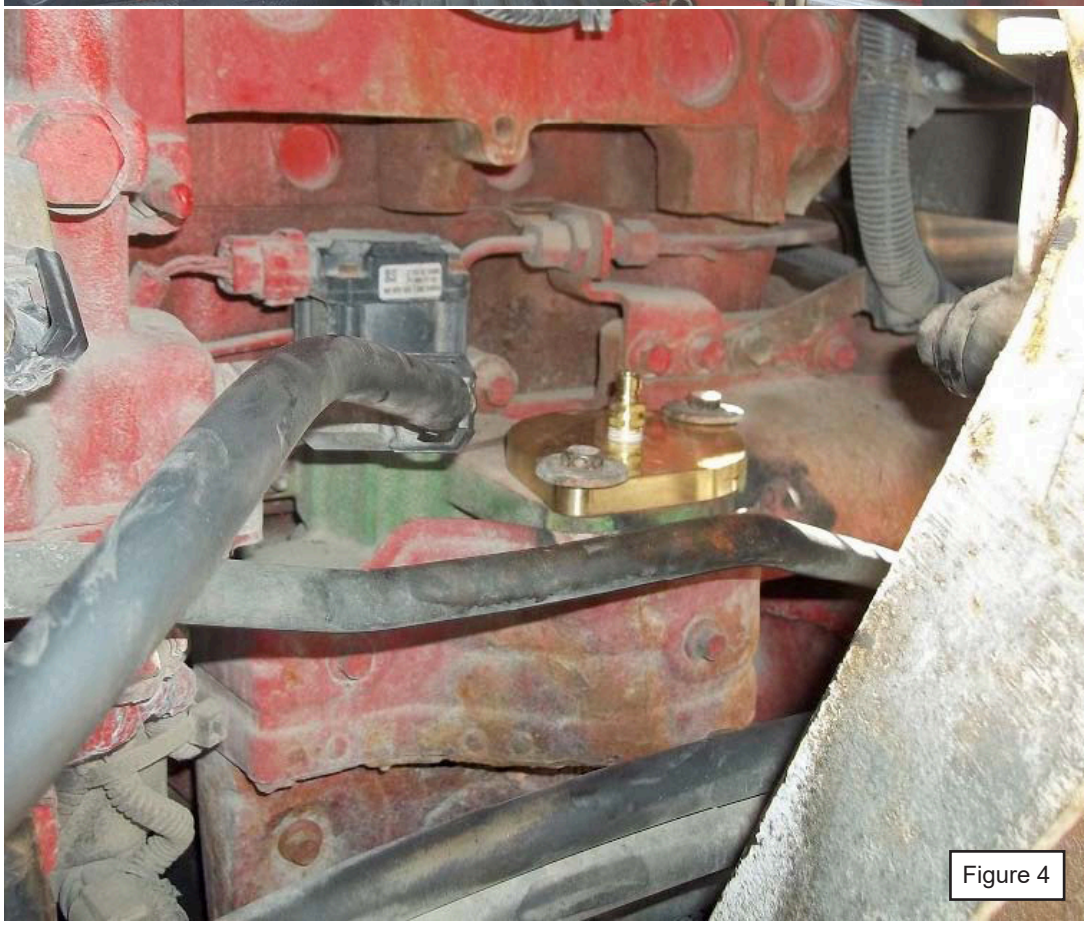

Figure 4

6. Attach EGR manifold (EEDF400M) to EGR intake and exhaust adapters. Attach EGR tool (EEDF400) to EGR Manifold. Ensure air valve and fluid valve are closed – see EGR tool user guide.

7. Unscrew 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.

8. Reinstall the fill cap and hang tool from the hood latch. Connect shop air. Set air pressure on EGR tool to 50-60 psi.

   NOTE: If engine is hot, the EGR cooler must be cooled before treatment can start. Before step 9 can proceed, start engine, open EGR tool air valve, keeping the fluid valve closed, turn valve on the EGR manifold to intake and flush cooler with air for 2 minutes.

9. Start vehicle engine. Set EGR manifold to exhaust. The EGR valve will open when the engine is operating.
10. Open air valve on EGR tool, adjust regulator to maintain initial pressure and then open the fluid valve on the EGR tool.

    NOTE: If no flow is observed then increase engine RPM to 1000 in order to open the EGR valve as engine may be cold.

11. After 32oz 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.
12. Set valve on EGR Manifold to intake, open fluid valve and continue service until EGR tool is empty.

    NOTE: At any time during the intake service you hear a diesel knock sound, turn manifold valve to off for 2 minutes. After 2 minutes, turn manifold valve 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.

13. Turn the fluid and air valve on tool to the closed position. Turn Vehicle off. Detach shop air line and depressurize the tool by rotating the regulator knob counter clockwise.
14. After EGR cooler outlet pipe has soaked for at least 15 minutes, clean the pipe using EGR cleaning fluid and a flexible 1” round brush inside a bucket or waste container. Fluid can be saved to be used on other EGR components if required.
15. Remove adapters and reassemble vehicle components in the reverse order of removal.

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16. 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.**