

Detroit DD135, DD15, DD16 12.8L

BG Diesel EGR System Service Instructions



Wear safety goggles to protect your eyes.



Wear Nitrile®, Neoprene® or PVC gloves to protect your hands.



Wear a long-sleeved shirt to protect your arms.

IMPORTANT! Read product Safety Data Sheet before handling any BG product.

Adaptors required:

- BG EF631 EGR round 5 hole intake adaptor, PN E101-1668
- BG EF642 EGR round exhaust adaptor, PN E101-1673
- BG EF399 EGR manifold, PN E101-1645



BG EF631 EGR intake
adaptor, PN E101-1668



BG EF642 EGR exhaust
adaptor, PN E101-1673



BG EF399 EGR manifold,
PN E101-1645

Tools required:

- BG 64 Diesel VIA® supply tool, PN E101-1642

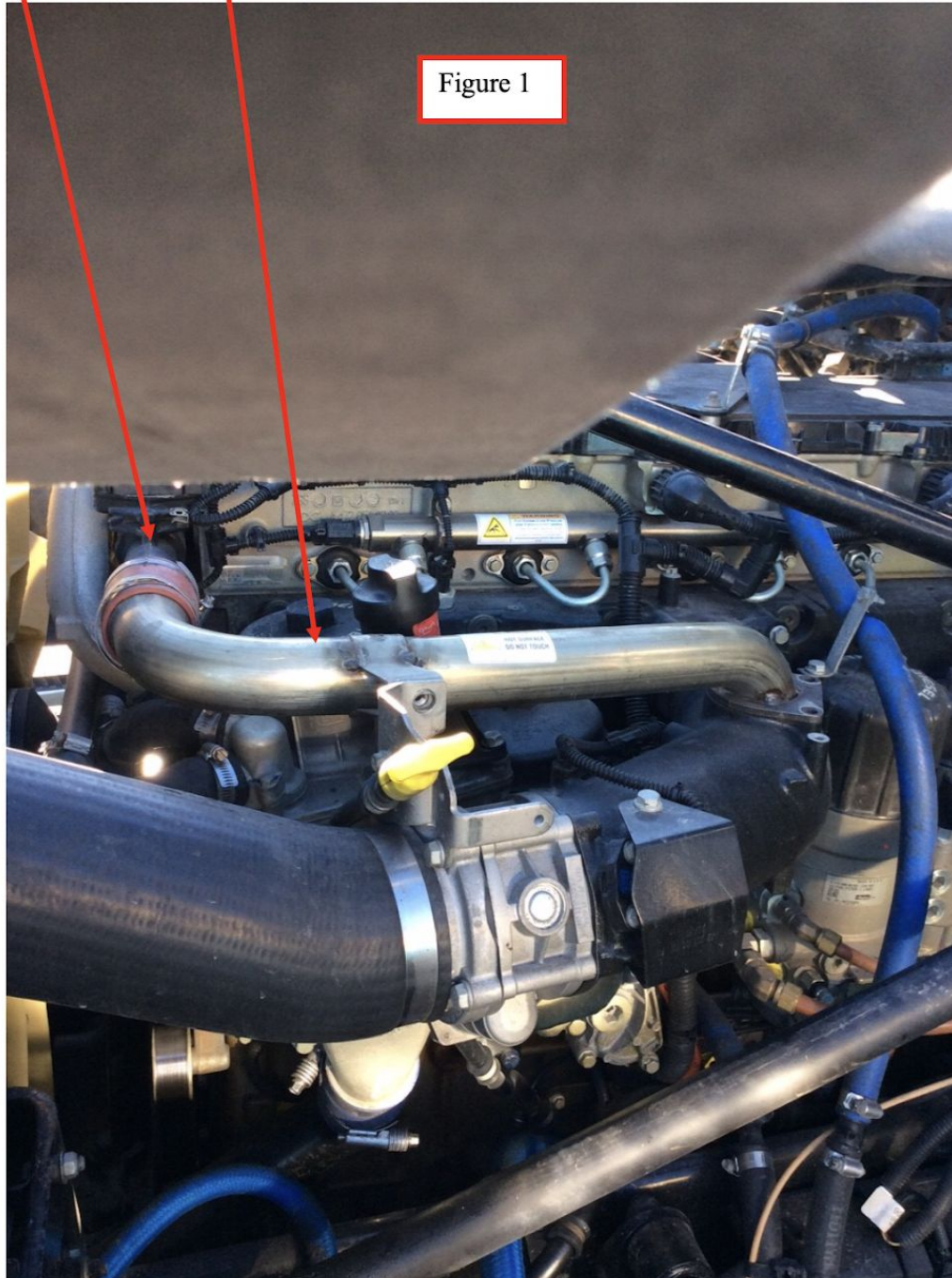
EGR system consists of:

- Cold side EGR valve (after EGR cooler) which allows for proper emissions control of No_x gases
- One EGR cooler (controls temperature of exhaust gases to the air intake to the engine via the EGR valve)
- EGR temperature sensor (measures EGR cooler exhaust temperature and efficiency)

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

Locations of EGR components:

- EGR valve (Figure 1)
 - EGR outlet pipe (Figure 1)
 - EGR cooler on opposite side of engine (not shown)

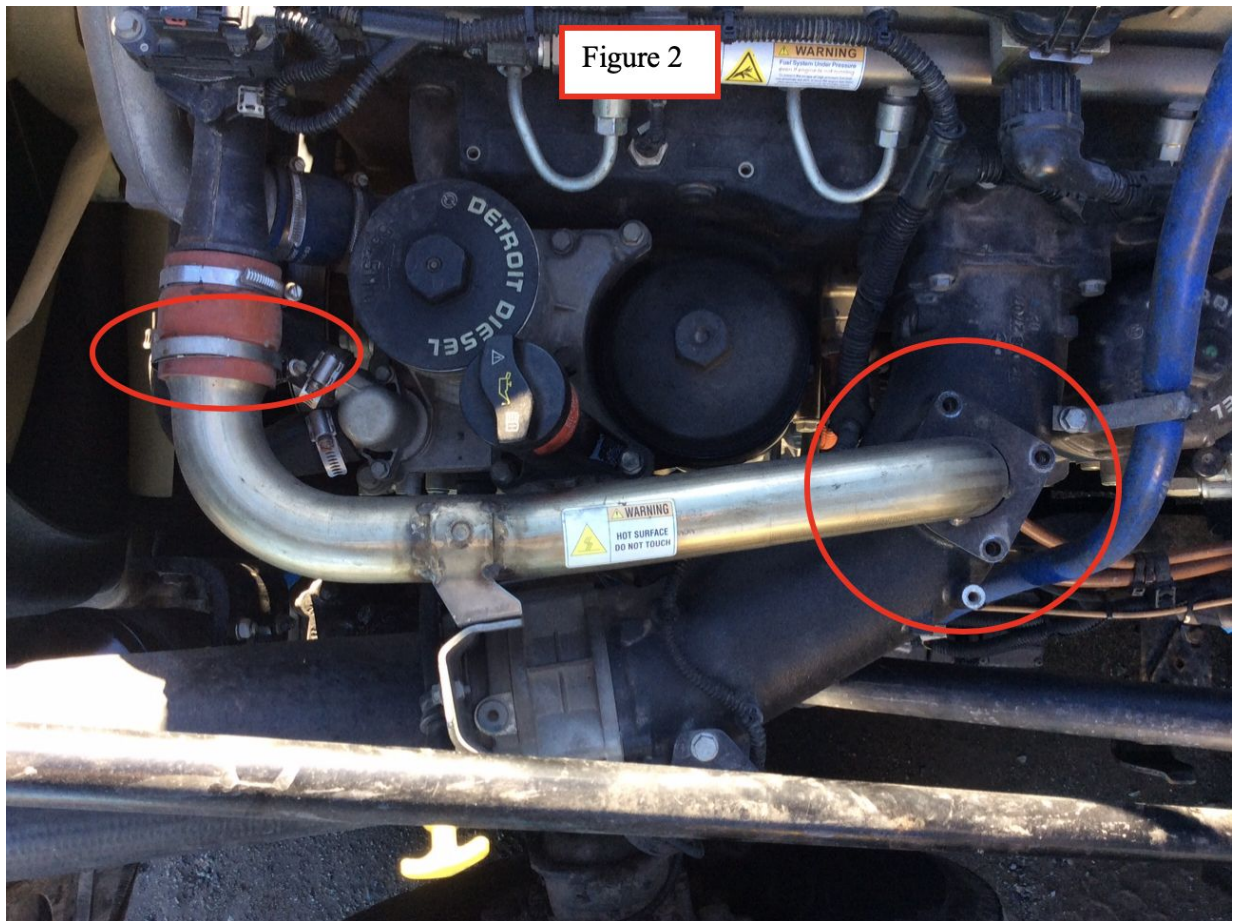


EGR Inspection

NOTE: Before starting the EGR cleaning service, inspect the EGR components for severe deposits or clogging. Manual cleaning may be required (by scraping, sucking, wiping, etc.) before performing the service.

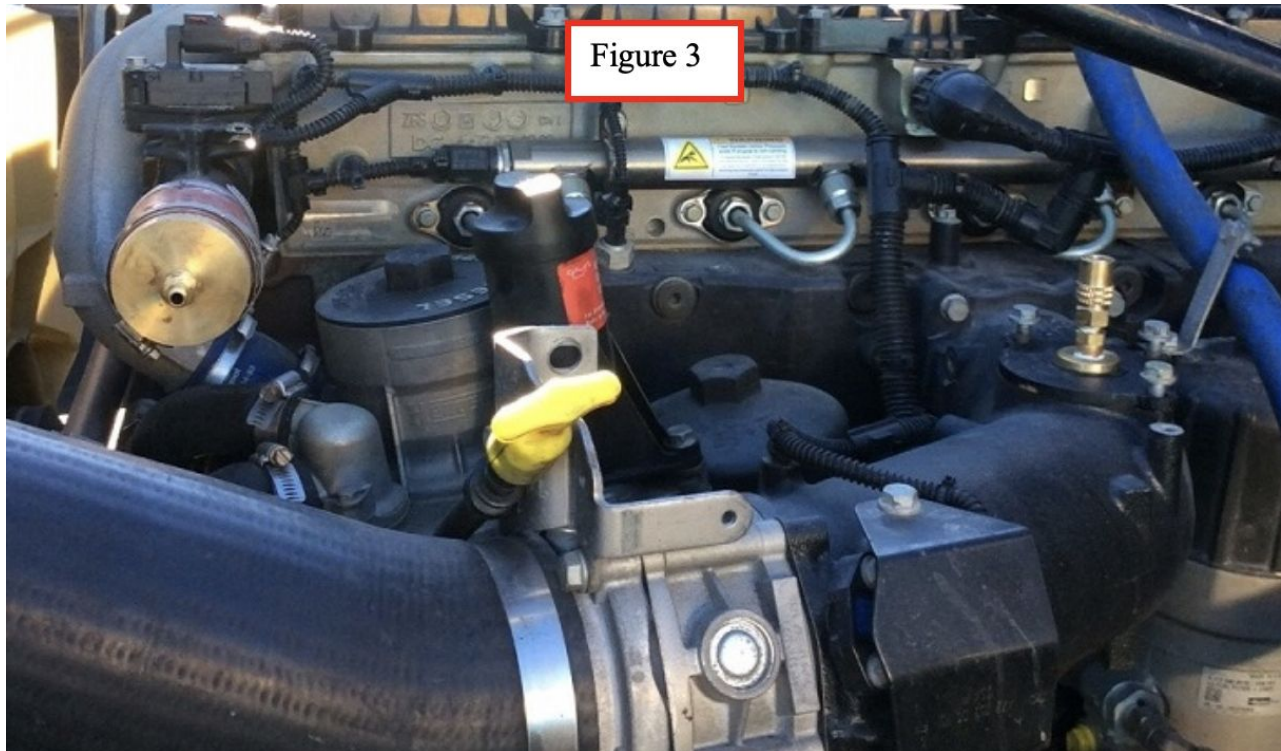
Service procedure

1. Add BG 245 Premium Diesel Fuel System Cleaner, PN 245, to vehicle's fuel tank.
2. Remove plastic engine cover and foam insulator.
3. Remove the three bolts on the EGR cooler outlet pipe (Figure 2). Loosen the clamp on the rubber hose. Remove the EGR cooler outlet pipe and set it aside. The gasket on the EGR cooler outlet pipe will be used in the following steps.



Quick Tip: Place the EGR cooler outlet pipe into a container and fill the container with BG Diesel EGR System Cleaner, PN PD10, until submerged. This will aid in the dislodging of soot from the pipe while the EGR cleaning procedure is performed.

4. Install the BG EF631 intake adaptor using the existing bolts and gasket (Figure 3). With the existing clamp, install the BG EF642 exhaust adaptor.



5. Attach the BG EF399 manifold to the BG EF631 intake and BG EF642 exhaust adaptors. Attach the BG 64 Diesel VIA® supply tool to the BG EF399 manifold. Ensure that the air valve and fluid valve on the supply tool are closed (see supply tool instructions).
6. If the engine is hot, the EGR cooler must be cooled before treatment can start. Start the engine, as this will open the EGR valve. Open the supply tool air valve, keeping the fluid valve closed. Turn the BG EF399 manifold to exhaust and flush EGR cooler with air for two minutes.
7. Unscrew fill cap and fill supply tool with 64 oz. (1.8 L) of BG Diesel EGR System Cleaner, PN PD10.
8. Reinstall the fill cap and hang supply tool from the hood latch. Connect shop air. Set air pressure on the supply tool to 40–50 psi.
9. Start the vehicle engine. Ensure the BG EF399 manifold is set to exhaust. The EGR valve will open when the engine is operating.
10. Open the air valve on the supply tool. Adjust the regulator to maintain the initial pressure of 40–50 psi. Then open the supply tool fluid valve.
11. After ¼ of the fluid has been dispensed, close the fluid valve and let the air flow for an additional two minutes to flush deposits into the exhaust stream.
12. Repeat steps 10 and 11.
13. Turn the BG EF399 manifold to intake. Open supply tool fluid valve and continue service until the supply tool is empty.

NOTE: If at any time during the intake service you hear a diesel knock sound, turn the BG EF399 manifold to off for two minutes. After two minutes, turn the BG EF399 manifold to intake and continue service.

14. When supply tool is empty, let the vehicle operate for an additional five minutes and rev the engine several times to clear all residual fluid.
15. Repeat steps 7–14 using 32 oz. (946 mL) of BG Diesel EGR System Rinse, PN PD11.

NOTE: For severe coking, it may be necessary to perform the service a second time to achieve desired results.

16. Turn the fluid and air valves on the supply tool to the closed position. Turn the vehicle off. Detach shop air line and depressurize the supply tool by rotating the regulator knob counterclockwise.
17. After the EGR cooler outlet pipe has soaked for 15 minutes, clean the pipe using the BG Diesel EGR System Cleaner. Fluid can be saved for use on other EGR components if required.
18. Remove adaptors and reassemble vehicle components in the reverse order of removal.
19. After service, reset any engine codes. The vehicle should then be set to run a manual regeneration cycle. If that is not possible, the vehicle should 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 residual fluid from the passages and cooler(s) and to combust any material that has reached the diesel oxidation catalyst (DOC) and diesel particulate filter (DPF). **This should be done as soon as possible after the service.**