

Mack MP7 (405-E)–MP8 (415-C) 2010–2015

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 EF646 EGR intake adaptor, PN E101-1674
- BG EF647 EGR exhaust adaptor, PN E101-1675
- BG EF399 EGR manifold, PN E101-1645



BG EF646 EGR intake adaptor, PN E101-1674



BG EF647 EGR exhaust adaptor, PN E101-1675



BG EF399 EGR manifold, PN E101-1645

Tools required:

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

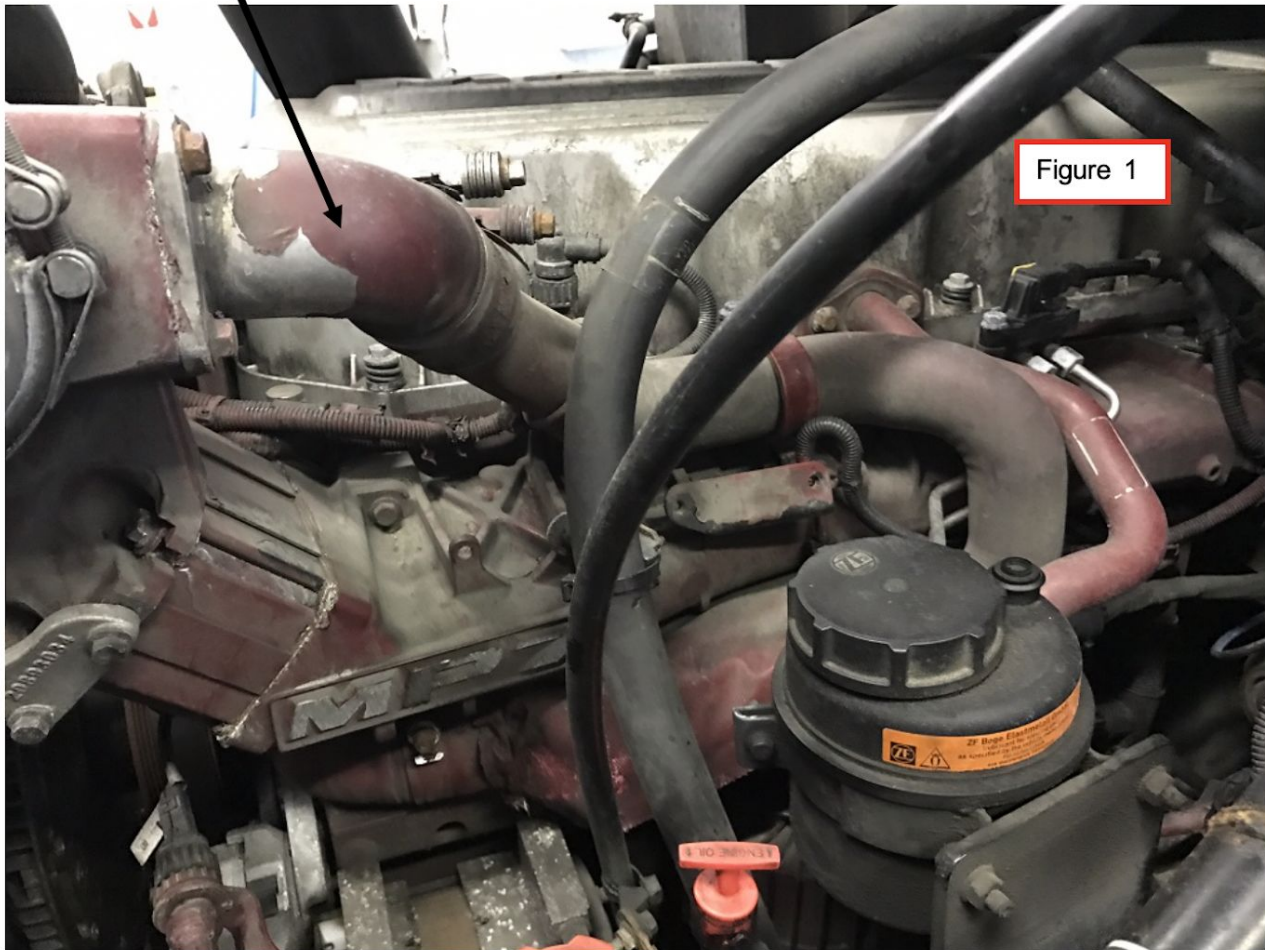
EGR system consists of:

- Hot side EGR valve (before EGR cooler), which allows for proper emissions control of No_x 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)

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

Locations of EGR components:

- EGR cooler outlet pipe to intake (Figure 1)
- EGR valve and cooler on right side



EGR Inspection

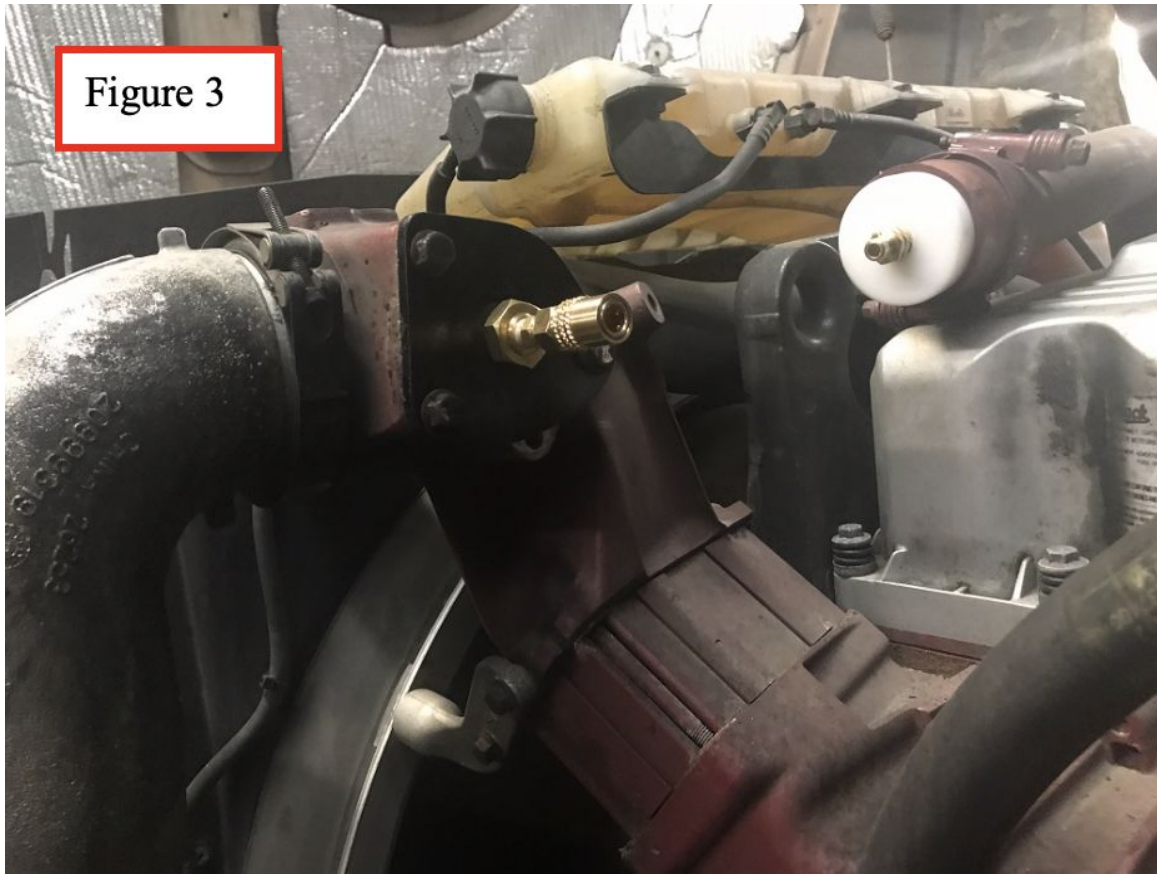
NOTE: Before starting the EGR cleaning service, inspect the EGR components for severe deposits or clogging. Manual cleaning may be required (by scraping, sucking, wiping, etc.) before performing the service.

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 (if applicable).
3. Loosen the clamps on the EGR cooler outlet pipe and remove the three bolts (MP7) or four bolts (MP8) securing this section of pipe (Figure 2). Remove the EGR cooler outlet pipe.



4. Install the BG EF646 intake adaptor and the BG EF647 exhaust adaptor using the existing bolts. Tighten the EGR cooler outlet pipe clamps (Figure 3).



5. Attach the BG EF399 manifold to the BG EF646 intake and BG EF647 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. Open the supply tool air valve, keeping the fluid valve closed. Turn the BG EF399 manifold to exhaust and flush the 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.
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 $\frac{1}{4}$ 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. Remove adaptors and reassemble vehicle components in the reverse order of removal.
18. 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.**