

Ford 6.7L

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 EF576 EGR flange 2.64" bolt center
intake adaptor
PN E101-1657



BG EF577 EGR flange 2.64" bolt center
exhaust adaptor
PN E101-1658



BG EF399 EGR manifold
PN E101-1645

Tool required:

- BG 64 Diesel VIA[®] supply tool, PN E101-1642
- Scan Tool to operate the EGR valve

continued



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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 cooler bypass valve (controls Exhaust flow temperature to the air intake from the Exhaust through the EGR cooler)
- 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.

Location of EGR system components

EGR cooler bypass valve vacuum hose

EGR valve



EGR cooler outlet pipe with EGR temperature sensor



continued



EGR inspection

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.
3. Remove the EGR cooler outlet pipe to intake plenum (four screws). Leave the EGR cooler temperature sensor connected. It may be necessary to remove the air filter plenum for easier access to these components (Figure 1).



Figure 1

4. Install the BG EF576 intake and BG EF577 exhaust adaptors in place of the EGR cooler outlet pipe (Figures 2 & 3). Reinstall the air filter plenum and all its sensors. Attach BG EF399 manifold to the BG EF576 intake and BG EF577 exhaust adaptors. Ensure the exhaust adaptor is installed on the EGR side and the intake adaptor is installed on the intake side.



Figure 2

continued



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5. Attach the BG 64 Diesel VIA® supply tool to the BG EF399 manifold. Ensure that the air valve and the 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. Ignition must be on and, using a scan tool, command the EGR open. Open the supply tool air valve, keeping the fluid valve closed. Turn valve on 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 supply tool to 40–50 psi.
9. Start the vehicle engine. Using the scan tool, command the EGR open. Disconnect the EGR cooler bypass valve vacuum hose as this will close the EGR bypass valve (Figure 4).
10. Ensure the BG EF399 manifold is set to “EXHAUST” (Figure 5).



Figure 4



Figure 5

11. 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.
12. 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.
13. Repeat steps 11 and 12 and cycle the EGR cooler bypass valve by disconnecting and reconnecting the EGR cooler bypass valve vacuum hose (Figure 4) several times throughout this step. This will allow cleaning of the EGR cooler bypass port.

continued



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14. Turn the BG EF399 manifold to “INTAKE” (Figure 6). 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.



Figure 6

15. 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.
16. Repeat steps 7–15 using 32 oz. (946 mL) of BG Diesel EGR System Rinse, PN PD11.
17. 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.
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.**

