

Mercedes 3.0L 2007-2011

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 EF591 EGR flange 2.0" tri-bolt intake adaptor
PN E101-1700



BG EF592 EGR round 1.58" inside exhaust adaptor
PN E101-1701



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 and intake swirl flaps

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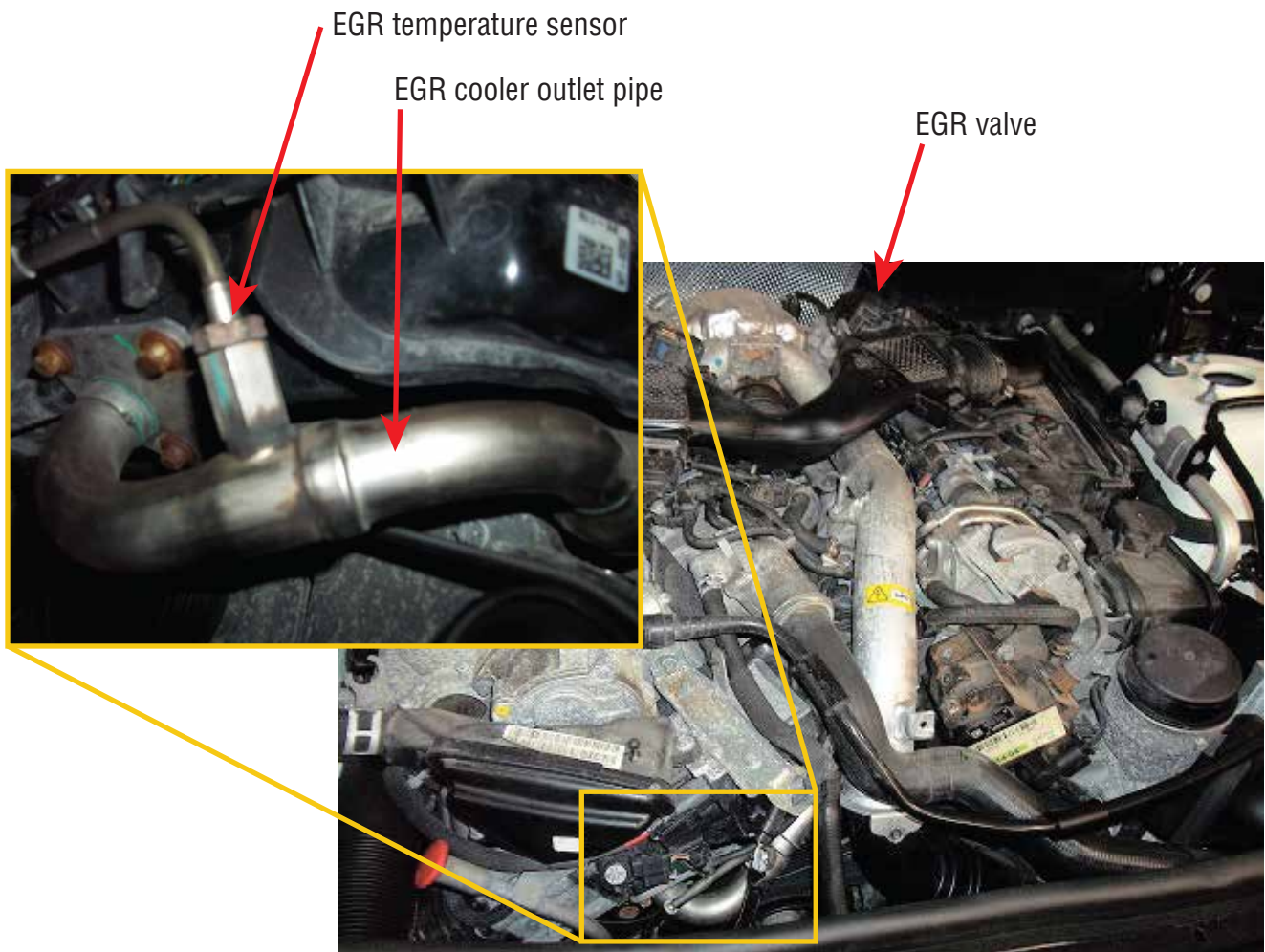


EGR system consists of:

- 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 temperature sensor (measures EGR cooler exhaust temperature and efficiency)
- Swirl flaps (control airflow under different engine speed and loads) located inside intake plenum

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



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 turbocharger air outlet pipe to provide access for removal of the EGR cooler outlet pipe (Figure 1). Be careful not to lose the O-ring at the turbocharger outlet



Figure 1

4. Remove the EGR cooler temperature sensor and place on top of the engine (Figure 2). Do not disconnect the EGR temperature wire connector. Remove the EGR cooler outlet pipe (three bolts).

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.



Figure 2

continued



Mercedes 3.0L 2007–2011 *continued*

5. Install the BG EF591 intake and BG EF592 exhaust adaptors in place of the EGR cooler outlet pipe (Figures 4 & 5).

Note: Lubricate O-ring on the EGR cooler outlet and BG EF591 intake adaptor before installation (Figure 3). This will avoid pinching the O-ring when installing BG EF592 exhaust adaptor. Remove one bolt from the air intake pipe to secure the BG EF592 exhaust adaptor bracket to the intake pipe (Figure 4).



Figure 3

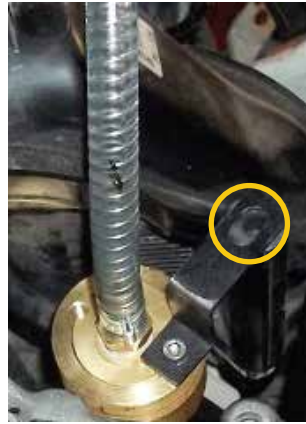


Figure 4



Figure 5

6. Reinstall the bolt from the air intake pipe and tighten per manufacturer specification (see Figure 6). Reinstall the turbocharger air outlet pipe removed in step 3.

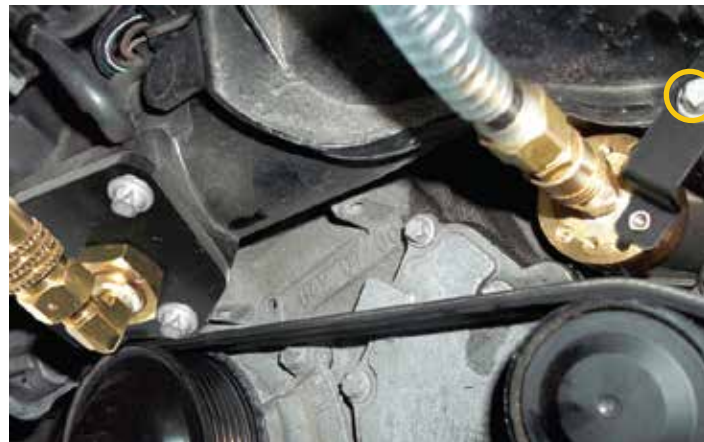


Figure 6

7. Attach the BG EF399 manifold to the BG EF591 intake and BG EF592 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).
8. 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 the BG EF399 manifold to exhaust and flush the EGR cooler with air for two minutes.
9. Unscrew fill cap and fill supply tool with 64 oz. (1.8 L) of BG Diesel EGR System Cleaner, PN PD10.

continued



Mercedes 3.0L 2007–2011 *continued*

10. Reinstall the fill cap and hang supply tool from the hood latch. Connect shop air. Set air pressure on the tool to 40–50 psi.
11. Start vehicle engine. Using the scan tool, command the EGR open.
12. Turn the BG EF399 manifold to “EXHAUST” (Figure 7).



Figure 7

13. 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.
14. 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.
15. Repeat step 12–14 to dispense another $\frac{1}{4}$ of the fluid.
16. Turn the BG EF399 manifold to “INTAKE” (Figure 8). Using the scan tool, command the intake swirl flaps to open and close several times throughout this step. 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 8

17. When the supply tool is empty, let the vehicle operate for an additional five minutes and rev the engine several times to clear all residual fluid.
18. Repeat steps 9–17 using 32 oz. (946 mL) of BG Diesel EGR System Rinse, PN PD11.



Mercedes 3.0L 2007–2011 *continued*

19. 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 counter-clockwise.
20. After the EGR cooler outlet pipe has soaked for 15 minutes, clean the pipe using BG Diesel EGR System Cleaner (Figure 9). The cleaner can be saved for use on other EGR components if required.



Figure 9

21. Remove adaptors and reassemble vehicle components in the reverse order of removal. Wipe off the EGR temperature sensor using the BG Diesel EGR System Cleaner before reinstalling.
Note: When installing the turbocharger outlet pipe, remember to place the O-ring on the turbocharger side first in order to avoid pinching the O-ring. Lubricating the O-ring will aid in the reassembly.
22. 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.**

