

# Mercedes MBE4000 12.8L

## BG DIESEL EGR SYSTEM SERVICE INSTRUCTIONS



Wear safety goggles to protect your eyes.



Wear Nitrile,<sup>®</sup> Neoprene<sup>®</sup> 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.

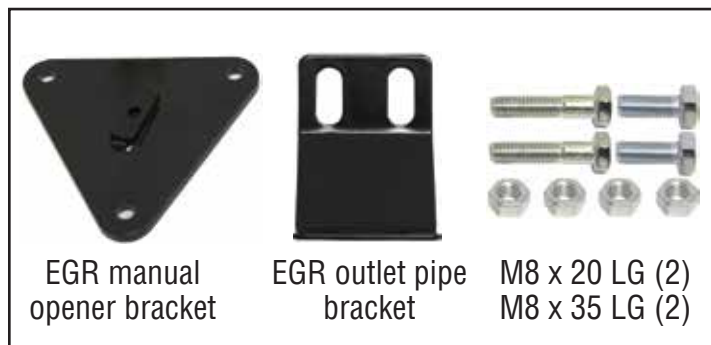
### Adaptors required:



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



EGR Mercedes MBE4000 bracket and fastener set  
PN E101-1893



BG EF399 EGR manifold  
PN E101-1645

### Tool required:

- BG 64 Diesel VIA<sup>®</sup> supply tool, PN E101-1642

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## Mercedes MBE4000 12.8L *continued*

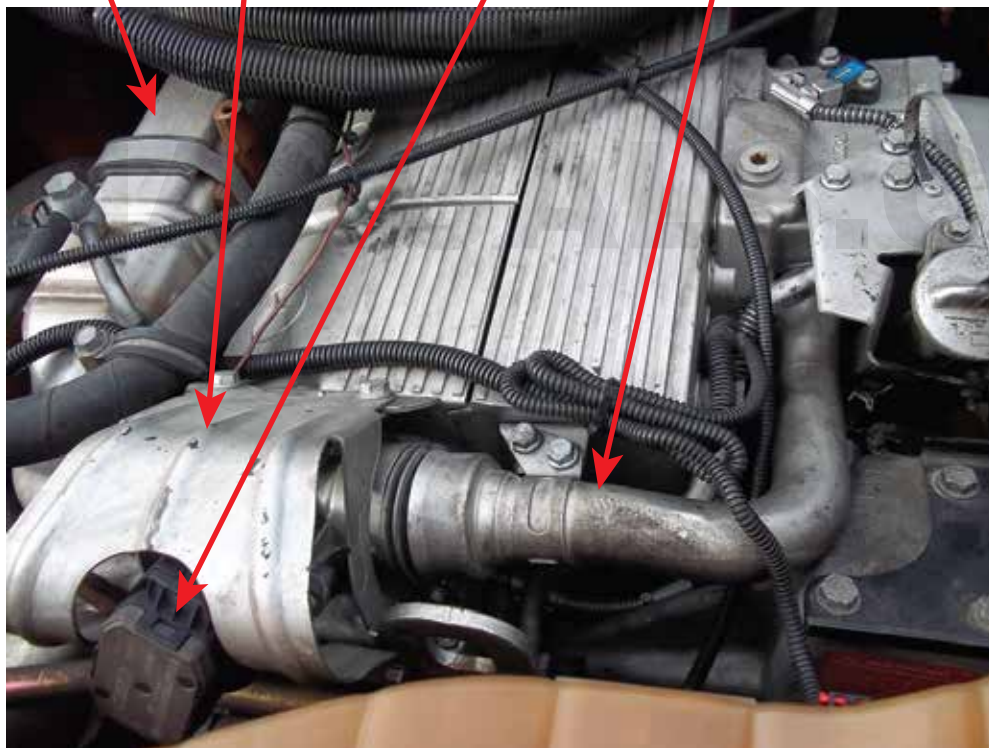
### EGR system consists of:

- Cold side EGR valve (after EGR cooler), which allows for proper emissions control of NO<sub>x</sub> 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.

### Location of EGR system components

EGR cooler      EGR valve cover      EGR valve      EGR cooler outlet pipe



*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 and foam insulator.
3. Remove the four bolts securing the oil fill pipe and bracket. Remove the two bolts securing the EGR cooler outlet pipe to the intake. Remove the four bolts securing the EGR valve cover. Remove the two bolts securing the EGR cooler outlet pipe bracket to the intake (Figure 1).



**Figure 1**

4. Rotate the EGR cooler outlet pipe 90° upwards. Install the BG EGR Outlet Pipe Bracket using the supplied 35mm bolts and nuts to secure the EGR cooler outlet pipe (Figure 2). Install the BG EF576 intake adaptor using the existing bolts. Install the BG EF577 exhaust adaptor using the supplied 20mm bolts and nuts (Figure 3).



**Figure 2**



**Figure 3**

*continued*



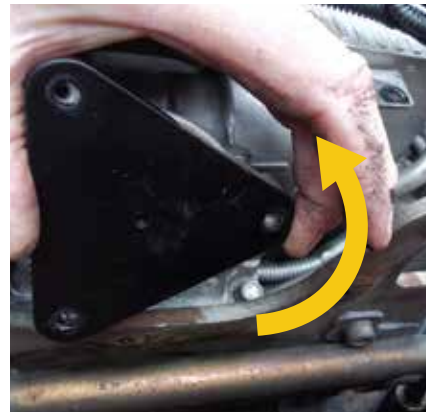
5. Remove the three screws securing the EGR valve. Place the EGR valve loosely on top of the intake (Figure 4).
6. Install the BG EGR Manual Opener Bracket by aligning the tab on the bracket in the slot where the EGR valve was positioned. Rotate the bracket counterclockwise and secure it using the existing three screws from the EGR valve (Figures 5 & 6). This will open the EGR flap inside the EGR cooler outlet pipe.



**Figure 4**



**Figure 5**



**Figure 6**

7. Attach the BG EF399 manifold to the BG EF576 intake and BG EF577 exhaust adaptors (Figure 7). 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).



**Figure 7**

8. 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.
9. Unscrew fill cap and fill supply tool with 64 oz. (1.8 L) of BG Diesel EGR System Cleaner, PN PD10.
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.

*continued*



11. Start the vehicle engine. Ensure the BG EF399 manifold is set to “EXHAUST” (Figure 8).



Figure 8

12. 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.
13. 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.
14. Repeat steps 12 and 13.
15. Turn the BG EF399 manifold to “INTAKE” (Figure 9). Open supply tool fluid valve and continue service until the 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 9

16. 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.
17. Repeat steps 9–16 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.**

18. 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.
19. Remove adaptors and reassemble vehicle components in the reverse order of removal.



20. 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.**

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