Mercedes MBE4000 12.8 Litre Diesel EGR Cleaning Instructions

Always wear gloves and safety glasses when performing this service

EGR System Consists of:

- **Cold side EGR valve (after EGR cooler), which controls exhaust gases 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 items are critical for proper emissions management control and must be cleaned on a regular basis for optimum efficiency.

First steps before any service can be performed.

1. **Add TerraDiesel™ Fuel Injector Cleaner (201255) to the vehicle's fuel tank.**
2. **Remove the plastic engine cover and foam insulator.**
3. **If engine is hot, the EGR system must be cooled – see note in step 9**

Adapters Required:

201576
Intake

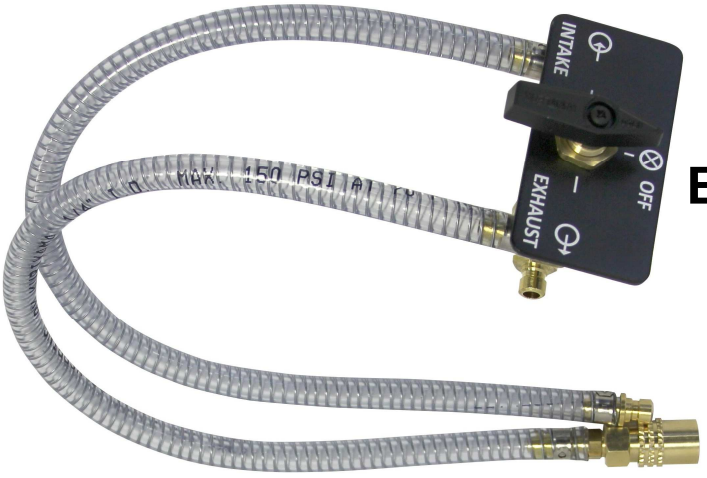
201577
Exhaust

201297 Hardware Kit

EGR Manual Opener Bracket

EGR Outlet Pipe Bracket

M8 x 20 LG (2)
M8 x 35 LG (2)



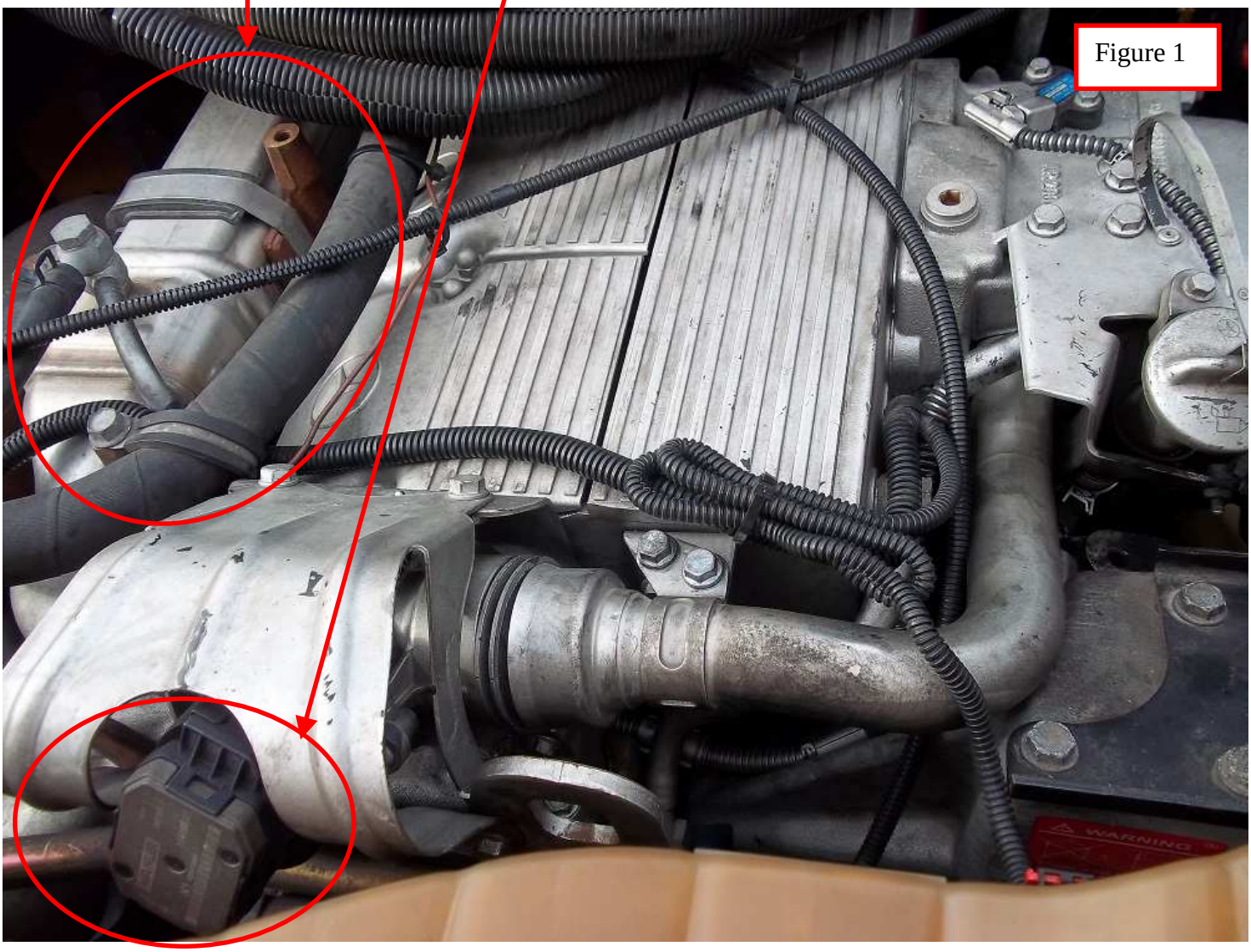
201399
EGR Manifold

Tool Required:

- **201170 – TerraDiesel™ EGR Cleaning Tool**

Locations of EGR components:

- **EGR cooler (Figure 1)**
- **EGR valve (Figure 1)**



4. Remove both the bolts securing the oil fill pipe and bracket (4 bolts). Remove the bolts securing the EGR cooler outlet pipe to the intake (2 bolts). Remove the bolts securing the EGR valve cover (4 bolts). Remove the bolts securing the EGR cooler outlet pipe bracket to the intake (2 bolts) (see Figure 2).

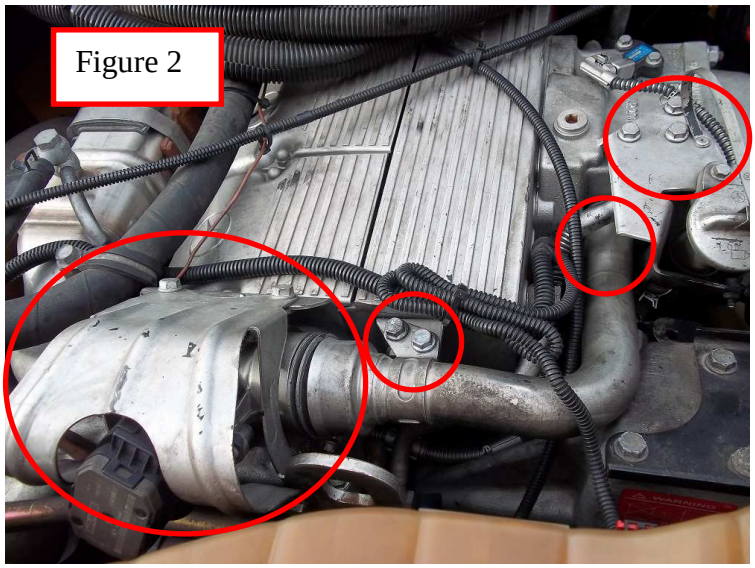


Figure 2

5. Rotate the EGR cooler pipe 90° upwards, install the EGR Outlet Pipe Bracket using the two 35mm bolts and nuts to secure the pipe (see Figure 3). Install the EGR Intake Adapter (201576) using the existing bolts and install the EGR Exhaust Adapter (201577) using the two 20mm bolts and nuts (see Figure 4).

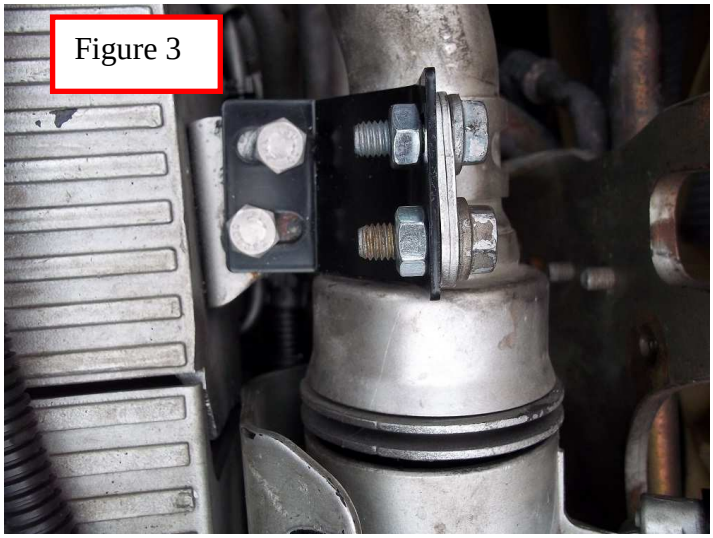


Figure 3

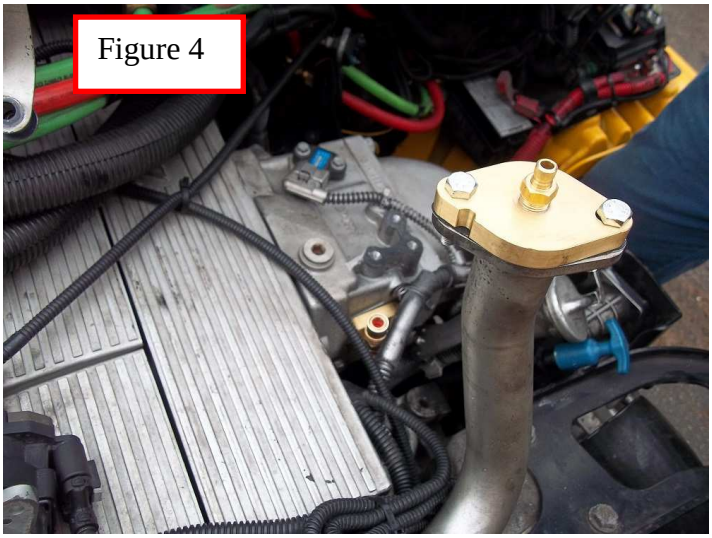


Figure 4

6. Remove the three screws securing the EGR valve and place the EGR valve loosely on top of the intake (see Figure 5&5a). Install the EGR Manual Opener Bracket by aligning the tab on the bracket in the slot where the EGR valve was positioned. Rotate the EGR valve bracket counterclockwise and secure using the existing three screws (see Figure 6&7). This will open the EGR flap inside the EGR cooler outlet pipe.

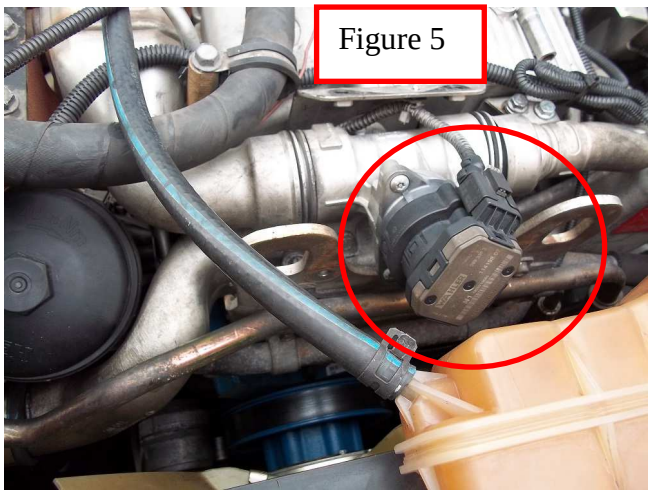


Figure 5


Figure 5a

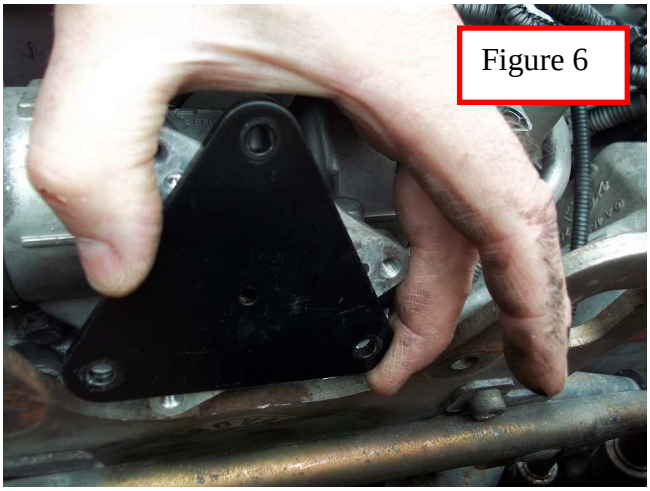


Figure 6

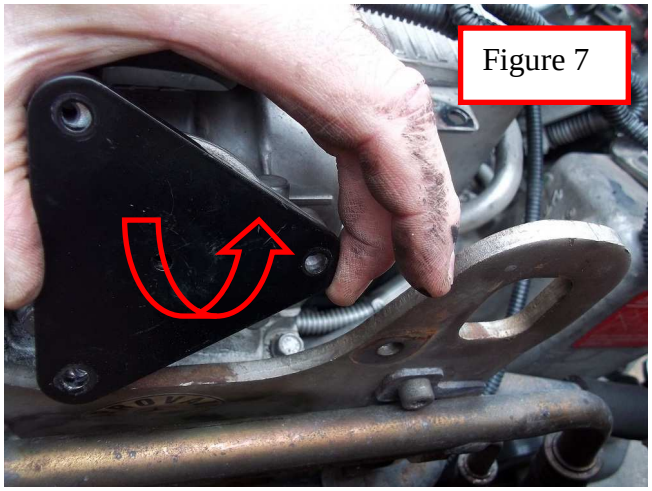


Figure 7

7. Attach the EGR Manifold (201399) to the EGR Intake Adapter and Exhaust Adapter (see Figure 8). Attach the EGR Cleaning tool (201170) to the EGR Manifold. Ensure that the air valve and fluid valve on the EGR Cleaning Tool are closed – see the EGR Cleaning tool user guide.

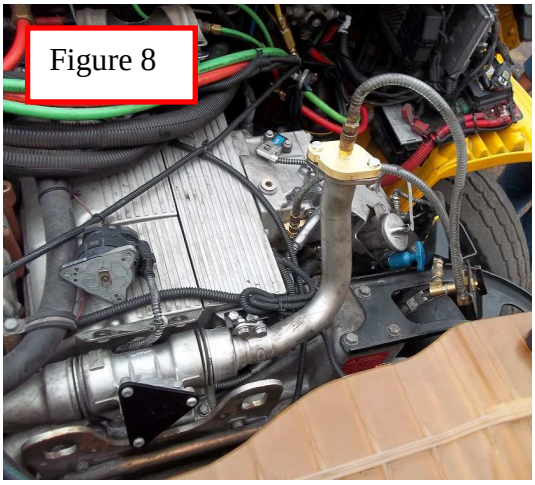


Figure 8

8. Unscrew fill cap and fill with 64oz (946mL) of EGR System Cleaner (201279 or 201280). For first application or severe coking, 128 oz. or more may be required.

   Note: When using 128 oz, use 64 oz on exhaust side first then use 64 oz on intake side. In between exhaust and intake cleaning, the air pressure must first be set to zero before adding the remaining 64 oz.

9. Reinstall the fill cap and hang the EGR Cleaning Tool from the hood latch. Connect shop air. Set the air pressure on the EGR Cleaning tool to 40-50 psi.

   NOTE: If engine is hot, the EGR cooler must be cooled before treatment can start. Before step 10 can proceed, open the EGR Cleaning Tool air valve, keeping the fluid valve closed, turn the EGR Manifold to exhaust and flush cooler with air for 2 minutes.

10. Start the vehicle engine. Set the EGR Manifold to exhaust.
11. Open the air valve on the EGR Cleaning Tool, adjust the regulator to maintain initial pressure and then open the fluid valve on the EGR Cleaning Tool.
12. After 1/4 of the fluid has been consumed, turn the fluid valve off and let the air flow for an additional 2 minutes to flush deposits into exhaust stream.
13. Repeat step 11-12 allowing another ¼ of the fluid to be consumed.
14. Set EGR Manifold to intake, open fluid valve and continue service until EGR Cleaning Tool is empty.

Note: At any time during the intake service you hear a diesel knock sound, turn the EGR Manifold to off for 2 minutes. After two minutes then turn the EGR Manifold to intake and continue service.

Let the vehicle operate for an additional 5 minutes and rev the engine several times to clear all residual fluid.

15. Turn the fluid and air valve on tool to the closed position. Turn the vehicle off. Detach shop air line and depressurize the tool by rotating the regulator knob counter clockwise.
16. Remove the adapters and reassemble the vehicle's components in the reverse order of removal.
17. Add one bottle of TerraDiesel™ Multi-function Fuel Treatment (201251) to the vehicle's fuel tank.
18. After service, reset any engine codes. The vehicle should then be set to run a manual regeneration cycle or 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 cleaning solution from the passages and cooler(s) and to combust any material that has reached the diesel oxidation catalyst (DOC) and diesel particulate filters (DPF).

<u>This should be done as soon as possible.</u>