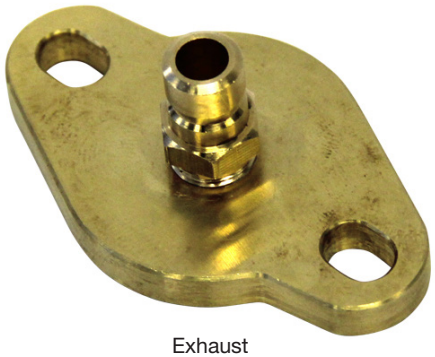
EEDF400-505 & EEDF400-502

Mercedes 3L 6-Cyl BlueTEC diesel engine (2012-2014) EGR Cleaning Instructions

Intake
EEDF400-505



Exhaust
EEDF400-502

WARNING: Wear gloves and safety goggles (User and bystanders) when performing this service

IMPORTANT: Immediately after a service, a forced regen must be completed. If a regen cannot be commanded via a scan tool (see OEM recommendations), the vehicle must be road tested at highway speeds for approximately 20-30 minutes. This is necessary to remove any remaining cleaning solution from the passages and cooler(s), and to combust any material that has reached the diesel particulate filters (DPF).
<u>This must be completed immediately after the service.</u>

EGR System Consists of:

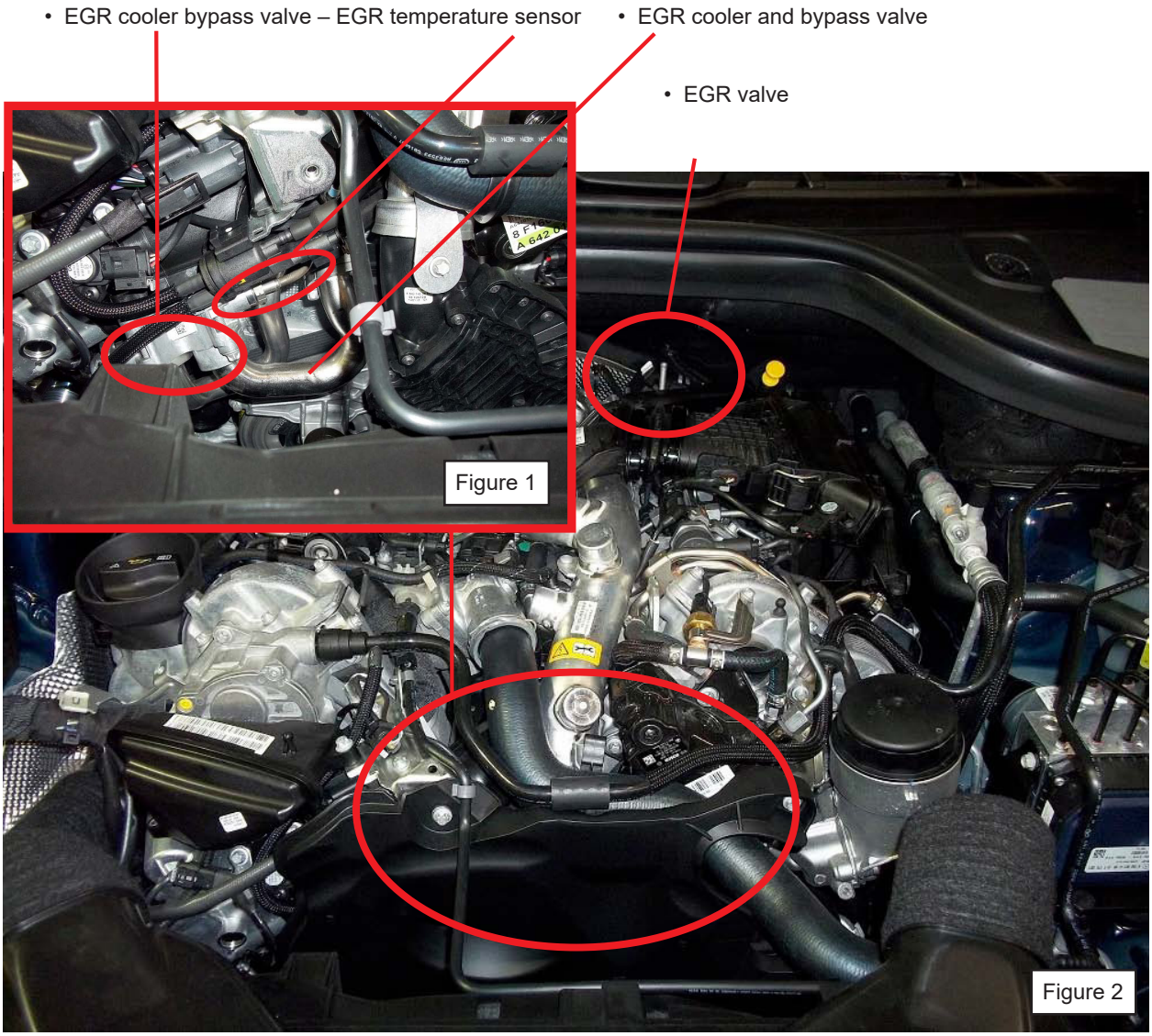
- Cold side EGR valve (after EGR cooler) controls exhaust gases for proper emissions control of Nox gases
- EGR cooler (controls temperature of exhaust gases to the air intake to the engine)
- EGR cooler bypass valve (controls exhaust flow temperature to the air intake from the exhaust through the EGR cooler)
- EGR temperature sensor (measures EGR cooler exhaust temperature and efficiency)
- Swirl flaps (control airflow under different engine speed and loads) located inside intake plenum

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 Blue-Point® Diesel Fuel Injector Cleaner (EEDF400-INJ) to the vehicle's fuel tank.
2. Remove the plastic engine cover.
3. If the engine is hot, the EGR cooler must be cooled – see note step 12.

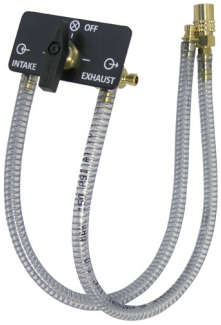
Locations of EGR components:



Tool & Manifold Required:

- EGR Tool (EEDF400)
- EGR Manifold (EEDF400M)

EEDF400M



EEDF400

4. Remove the two bolts securing the front engine cover along with the air intake snorkel (see figure 3).

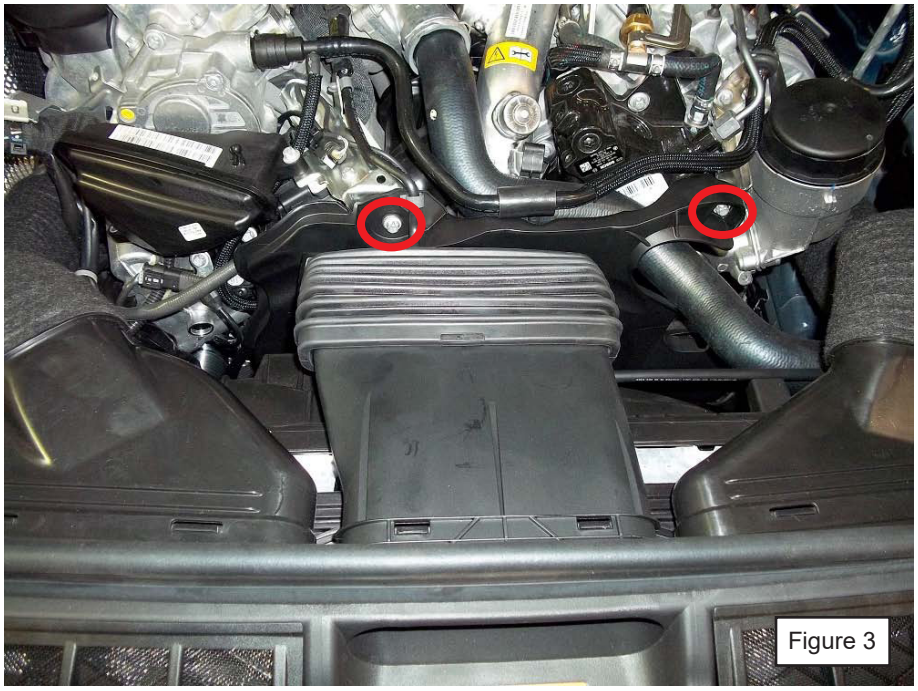


Figure 3

5. Remove EGR cooler outlet pipe with gasket by removing two bolts (see figure 4).
6. Then rotate and wiggle down pipe to remove.
7. Remove one bolt from EGR blend housing (see figure 4).

Figure 4

Quick Tip: Place the EGR cooler outlet pipe into a bucket/container and fill container with EGR fluid until submerged, this will aid in the dislodging of soot from the pipe while the EGR cleaning procedure is performed see step 21.

8. Install EGR Intake(EEDF400-505) and Exhaust(EEDF400-502) Adapters (see figure 6) in place of above EGR cooler outlet pipe.

   Note: Lubricate o-ring on EGR intake adapter see figure 5 before installation, this will aid in not pinching the o-ring when installing intake side adapter.

9. Reinstall bolt from EGR blend housing and tighten as per manufacture specification (see figure 6).

Figure 5

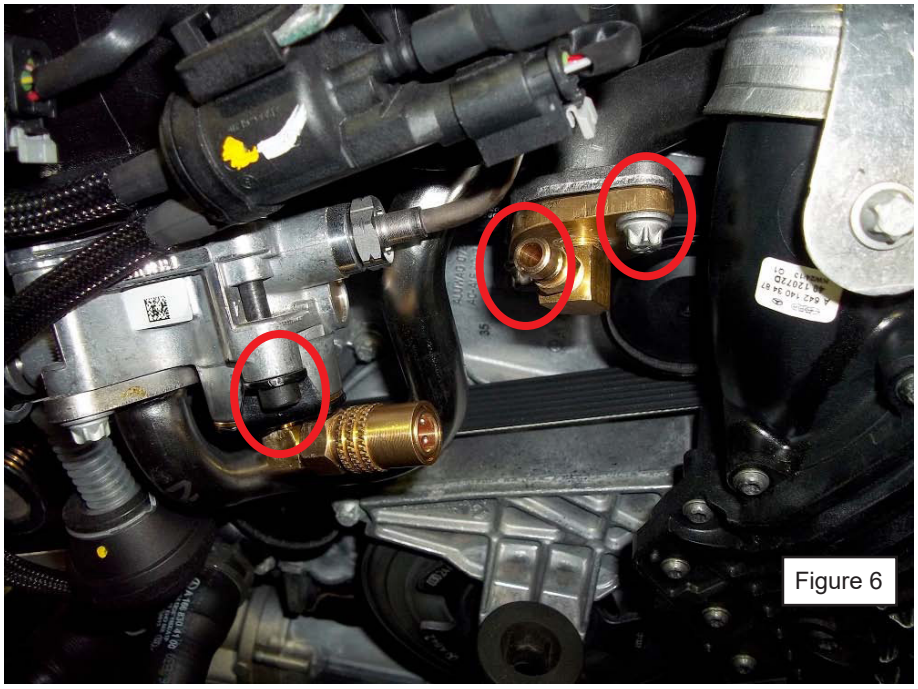


Figure 6

10. Attach EGR manifold (EEDF400M) to EGR adapters Intake and Exhaust Adapters. Attach EGR tool (EEDF400) to EGR manifold. Ensure air valve and fluid valve are closed – see EGR tool user guide.
11. Unscrew fill cap and fill with 32oz (946mL) of EGR and Induction System Cleaner (EEDF400-EGR). For first application or severe coking, 64 oz. may be required.
12. Reinstall the fill cap and hang tool from the hood latch. Connect shop air. Set air pressure on EGR tool to 40-45 psi.

    NOTE: If engine is hot, the EGR cooler must be cooled before treatment can start. Before step 12 can proceed, ignition must be on and using a scan tool, command the EGR open. Open EGR tool air valve, keeping the fluid valve closed, turn valve on the EGR manifold to exhaust and flush cooler with air for 2 minutes.

13. Start vehicle engine. Using the scan tool, command the EGR open.
14. Set valve on EGR Manifold to exhaust (see figure 7).

Figure 7

15. Open air valve on EGR tool, adjust regulator to maintain initial pressure, and then open the fluid valve on the EGR tool.
16. 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.
17. Repeat step 15-17 allowing another ¼ of the fluid to be consumed. Using a scan tool, command the EGR bypass valve to open (bypass valve will close after 30 seconds) then you must command to open again, due this through several times throughout this step.

18. Set valve on EGR manifold to intake (see figure 8).

Figure 8

19. Continue service until EGR tool is empty.

    Note: If at any time during the intake service you hear a diesel knock sound, turn manifold valve to off for 2 minutes. After two minutes then turn manifold valve 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.

20. Turn the fluid and air valve on tool to the closed position. Detach shop air line and depressurize the tool by rotating the regulator knob counter clockwise.
21. After EGR cooler outlet pipe has soaked for 15 minutes, clean the pipe using EGR cleaning fluid and a flexible 1" round brush (see figure 9) inside a bucket or waste container. Fluid can be saved to be used on other EGR components if required.


Figure 9

22. Remove adapters and reassemble vehicle components in the reverse order of removal.

    Note: When installing the EGR outlet pipe, lubricating the o-ring will aid in the assembly

23. Immediately after a service, a forced regen must be completed. If a regen cannot be commanded via a scan tool (see OEM recommendations), the vehicle must be road tested at highway speeds for approximately 20-30 minutes. This is necessary to remove any remaining cleaning solution from the passages and cooler(s), and to combust any material that has reached the diesel particulate filters (DPF).
    <u>This must be completed immediately after the service.</u>