



## **Volvo D13 12.8L (GHG) Diesel EGR Cleaning Instructions**

**Always wear gloves and safety glasses  
when performing this service**

### **EGR System Consists of:**

- **Hot side the EGR valve (before the EGR cooler), which controls exhaust gases for proper emissions control of  $\text{No}_x$  gases**
- **EGR cooler (controls temperature of exhaust gases to the air intake to the engine)**
- **EGR temperature sensor (measures the 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 the engine is hot, the EGR system must be cooled.**

## Adapters Required:

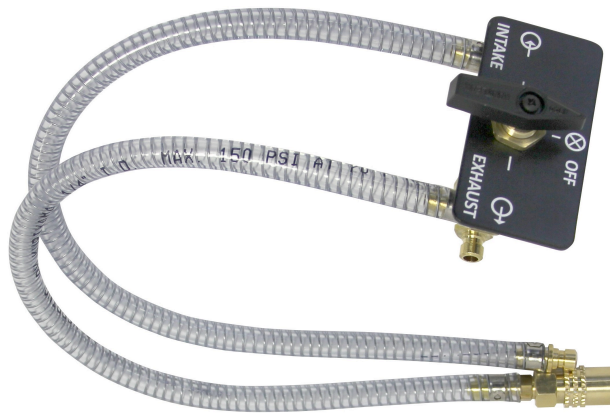
**201686  
Intake**



**201642  
Exhaust**



**201399  
EGR Manifold**

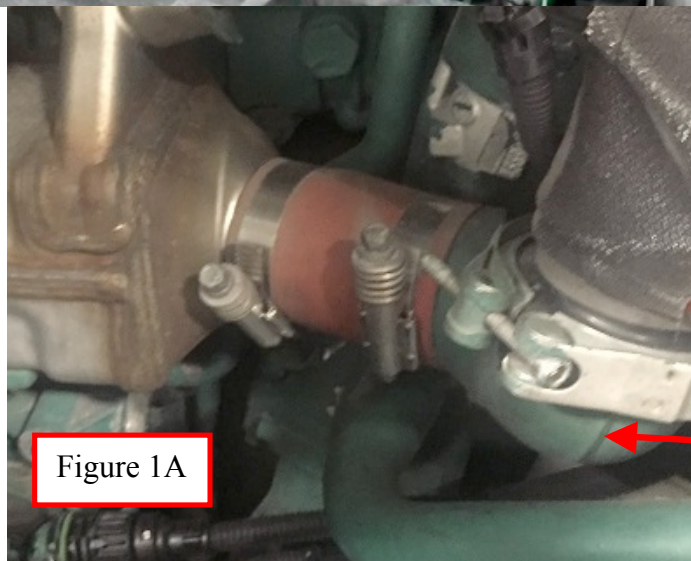
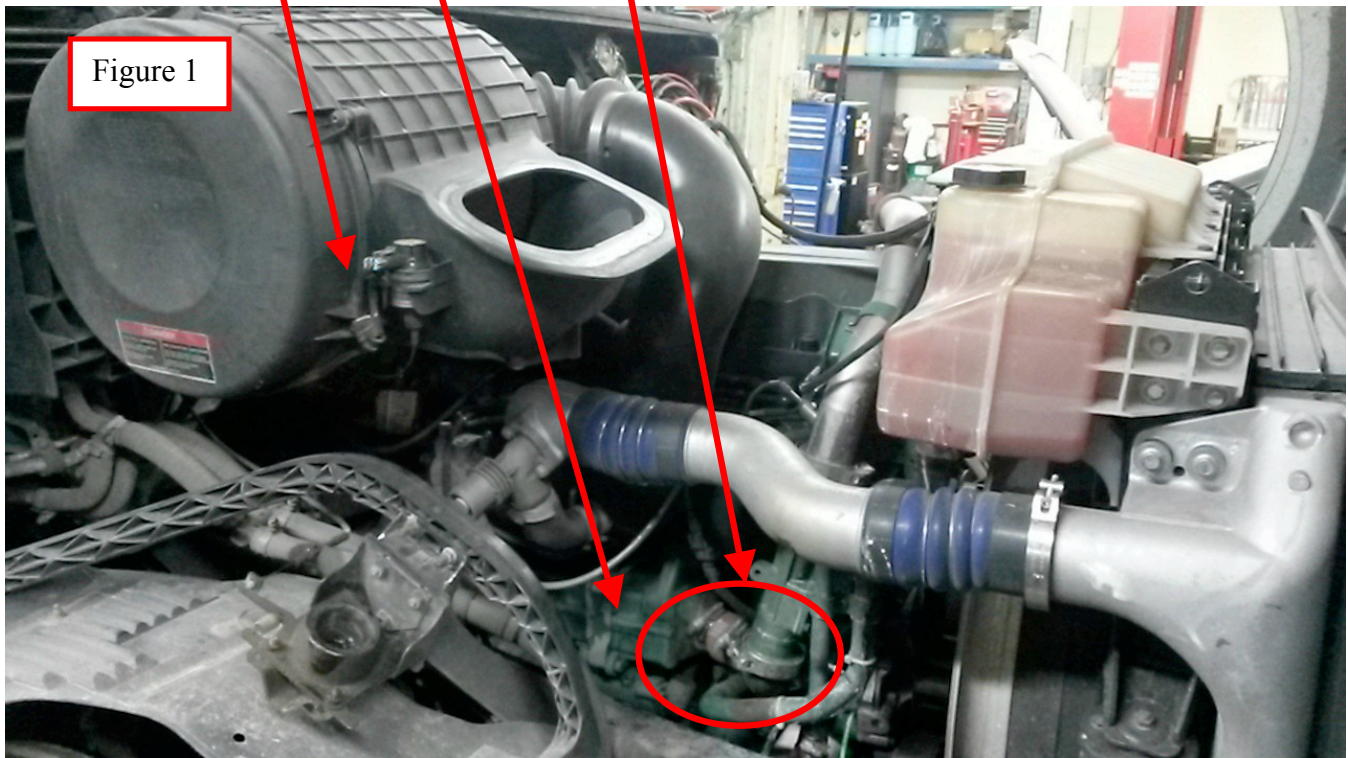


## Tools Required:

- **201170 – TerraDiesel™ the EGR Cleaning Tool**
- **Scan Tool to open the EGR valve**

## Locations of the EGR components:

- EGR valve ( behind air filter canister) (Figure 1)
- EGR Cooler (Figure 1)
- EGR cooler outlet pipe (Figure 1)

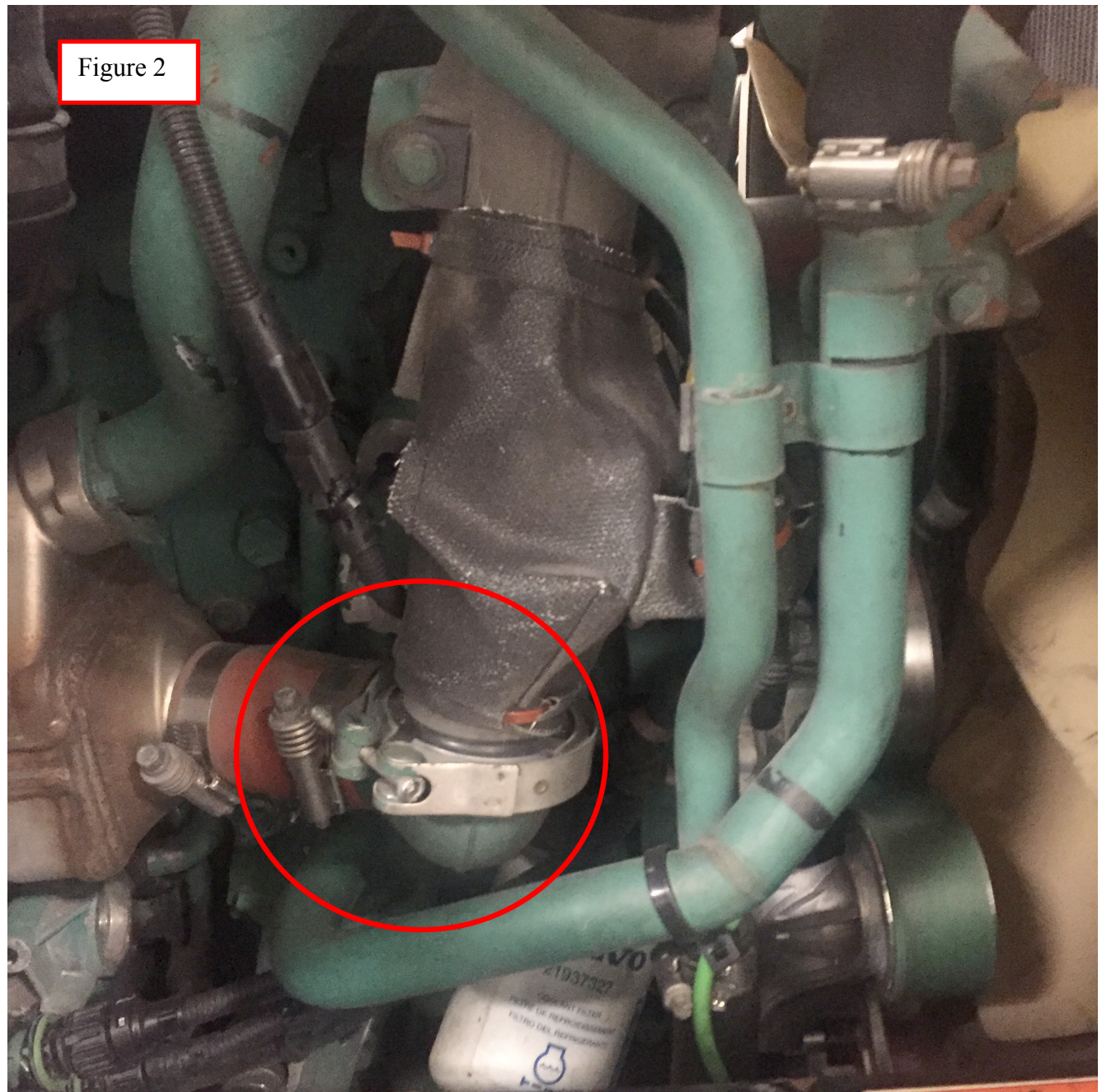


EGR Cooler  
Outlet Pipe

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EGR Cleaning Instructions**



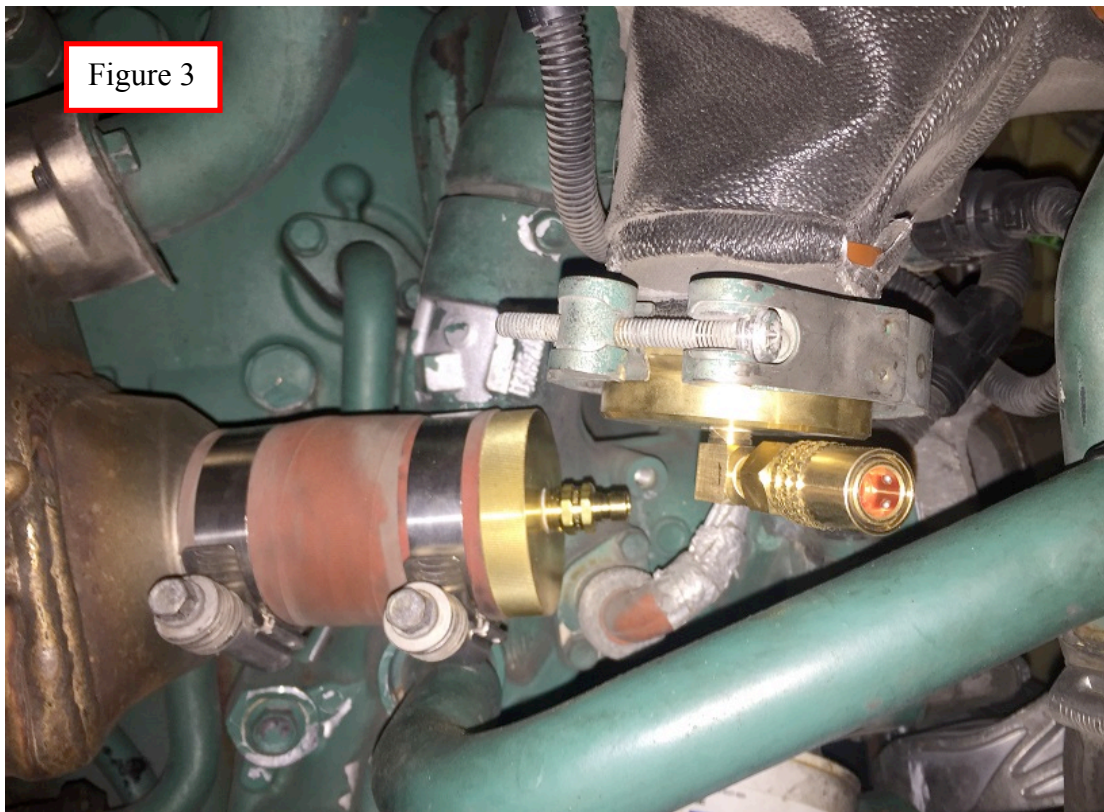
1. Remove the clamps on the EGR cooler outlet pipe (see Figure 2). Remove the EGR cooler outlet pipe and set aside. Location is on passenger side of engine bay.



**Quick Tip: Place the EGR cooler outlet pipe into a bucket/container and pour the EGR fluid into the outlet pipe, this will aid in the dislodging of soot from the pipe while the EGR cleaning procedure is performed.**



2. Install the EGR Intake Adapter (201686) using existing clamps and the EGR Exhaust Adapter (201642) using the existing clamps and gasket (see Figure 3).



3. Attach the EGR Manifold (201399) to the EGR intake and exhaust adapters. Attach the EGR Cleaning Tool (201170) to the EGR Manifold. Ensure that the air valve and fluid valve are closed – see the EGR Cleaning Tool user guide.
4. Unscrew the fill cap and fill with 32oz (946mL) of TerraDiesel™ the EGR System Cleaner (201278, 201279 or 201280). For first application or severe coking, 128 oz. may be required.

**NOTE: When using 128 oz, use 48 oz on exhaust side first then use 80 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.**

5. 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 the engine is hot, the EGR cooler must be cooled before treatment can start. Before step 6 can proceed, start the engine, open the EGR Cleaning Tool air valve, keeping the fluid valve closed, turn valve on the EGR Manifold to intake and flush cooler with air for two minutes. Scan tool required to open the EGR valve.**

6. Start the vehicle engine. Set the EGR manifold to exhaust. Using a scan tool, command the EGR valve to open when the engine is operating, this will need to be repeated every minute throughout the exhaust service.
7. Open the air valve on the EGR Cleaning Tool, adjust regulator to maintain initial pressure and then open the fluid valve on the EGR Cleaning Tool.

**NOTE: Some engines will need to increase the engine speed to just over 1000 rpm in order to keep the engine running otherwise it will shut off after 5 minutes of idling.**

8. After 24oz 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.
9. Set valve on the EGR Manifold to intake, open fluid valve and continue the service until the EGR Cleaning Tool is empty.

**NOTE: If at any time during the intake service you hear a diesel knock sound, turn the EGR Manifold valve to off for two minutes. After two minutes turn the EGR 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.**

10. Turn the fluid and air valve on the EGR Cleaning Tool to the closed position. Turn the vehicle off. Detach shop airline and depressurize the EGR Cleaning Tool by rotating the regulator knob counter clockwise.
11. After the EGR cooler outlet pipe has soaked for at least 15 minutes, clean the pipe using the EGR cleaning fluid and a flexible 2" round brush inside a bucket or waste container. Fluid can be saved to be used on other the EGR components if required.
12. Remove the EGR Adapters and reassemble the vehicle components in the reverse order of removal.
13. Add one bottle of TerraDiesel™ Multi-function Fuel Treatment (201250) to the vehicle's fuel tank.
14. 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).

**This should be done as soon as possible.**