



VW (Engine Code ALH) 1.9L TDI 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 into the engine)**

These items are critical for proper emissions management control and must be cleaned on a regular basis for optimum efficiency.

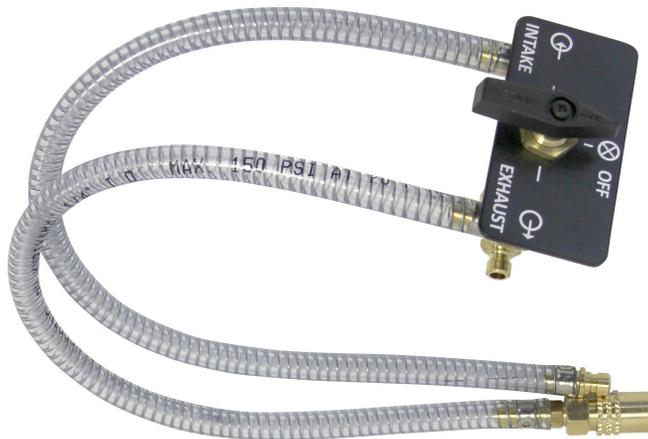
First steps before any service can be performed.

- 1. Add TerraDiesel™ Fuel Injector Cleaner (201255) to the vehicle's fuel tank.**
- 2. Remove the plastic engine cover.**
- 3. If the engine is hot, the EGR system must be cooled.**

Adapters Required:



**201399
EGR Manifold**

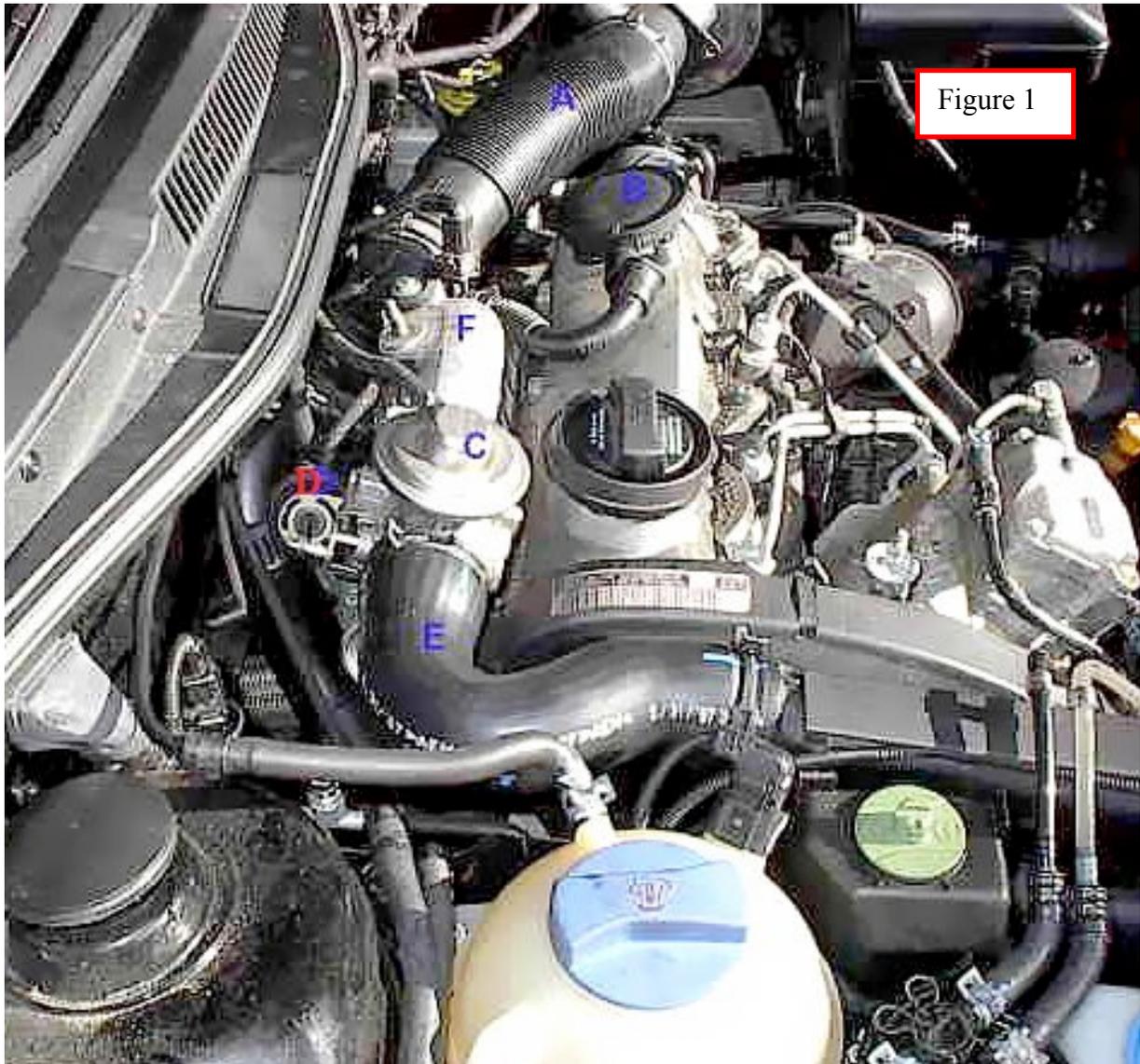


Tool Required:

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

Locations of EGR components:

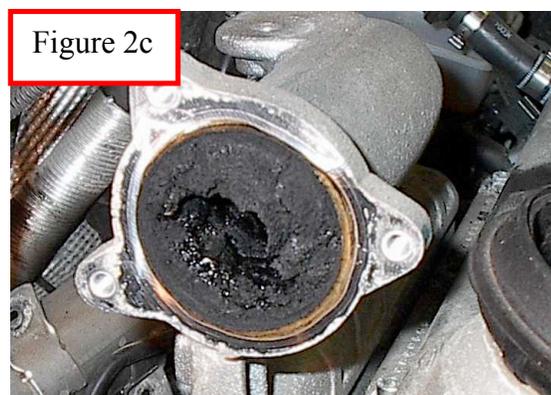
- EGR valve “C” (Figure 1)
- EGR inlet pipe “D” (Figure 1)
- EGR cooler “D” (Figure 1)
- EGR Air intake hose “E” (Figure 1)
- Air intake plenum “F” (Figure 1)



VW (Engine Code ALH) 1.9L TDI Diesel EGR Cleaning Instructions

EGR Inspection Procedure

NOTE: Before starting the EGR cleaning service, temporarily Remove Air intake hose (see Figure 1 item “E”). The EGR valve must be checked to see how clogged with soot it is (see Figure 2a inlet and 2b outlet). Check the inlet of the EGR valve, if very sooty; remove the four (4) EGR inlet pipe bolts. Next, remove EGR pipe and gaskets. Then unbolt the EGR valve from the intake plenum (3 bolts). If the EGR valve outlet is significantly clogged then we can expect that the intake plenum will be very clogged with soot as well (see Figure 2c). If both are really clogged then both the EGR valve and intake plenum must have as much soot removed (by scraping, sucking, wiping, etc.) as possible before the EGR service can start. Once cleaned as much as possible then install the EGR valve and start the EGR cleaning service, proceed to step 5. If the inlet to the EGR valve is not very sooty then proceed to step 4.



EGR Cleaning Procedure

1. Remove the air intake hose temporarily (see Figure 1 item “E”). Remove the 4 EGR inlet pipe bolts. Remove the EGR pipe and gaskets.
2. Install the EGR Intake Adapter (201527) and EGR Exhaust Adapter (201528) in its place (see Figure 3) using existing bolts and tighten hand tight. Reinstall the air intake hose for the EGR service.



3. Attach the EGR Manifold (201399) to the EGR intake and exhaust adapters. Attach the EGR Cleaning Tool (201170) to EGR Manifold. Ensure 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 EGR System Cleaner (201278, 201279 or 201280). For first application or severe coking, 64 oz. may be required.
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 engine is hot, the EGR system must be cooled before treatment can start. Before step 6 can proceed, ignition must be off for the EGR system to be cooled. Turn the EGR Manifold to exhaust, open canister air valve, close canister fluid valve and flush cooler with air for 2 minutes.

6. Start the vehicle engine. Set the EGR Manifold to exhaust (see Figure 4).



7. Open the air valve, adjust the regulator to maintain the initial pressure, and then open the fluid valve on the EGR Cleaning Tool.
8. After 1/4 of the fluid has been consumed, close the fluid valve and let the air flow for an additional 2 minutes to flush deposits into exhaust stream.
9. Raise the engine rpm to 1200 as this will open the EGR valve, turn the EGR Manifold to intake (see Figure 5), open fluid valve and continue service until another 1/4 of the fluid is consumed.



Quick Tip: To fully open EGR valve a hand vacuum pump the EGR Cleaning Tool can be used by connecting to the vacuum port on top of the EGR valve (see Figure 1 item "C").

NOTE: If 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.

10. Close the fluid valve and turn the Manifold to exhaust (see Figure 4) and let the air flow for an additional 2 minutes to cool off the exhaust stream.

11. Open fluid valve and continue service until another $\frac{1}{4}$ of the fluid is consumed.

12. Raise the engine rpm to 1200 as this will open the EGR valve, turn the EGR Manifold to intake (see Figure 5), open fluid valve and continue 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 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.

13. 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.

NOTE: Clean the EGR outlet pipe using the EGR cleaning fluid and a flexible 1" round brush inside a bucket or waste container. Fluid can be saved to be used on other EGR cooler outlet pipes.

14. Remove the EGR adapters and reassemble the vehicle's components in the reverse order of removal.

15. Add one bottle of TerraDiesel™ Multi-function Fuel Treatment (201250) to the vehicle's fuel tank.

16. 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.