

Cummins 6.7 Litre 2500/3500 Diesel EGR System

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

EGR System Consists of:

- **Cold side EGR valve (after EGR cooler) 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 cooler bypass valve (controls exhaust flow temperature to the air intake from the exhaust through the EGR cooler) – Model year 2008 - Present**
- **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.**
3. **If engine is hot, the EGR cooler must be cooled – see note in step 9.**

Adapters Required:

**201571
Intake**



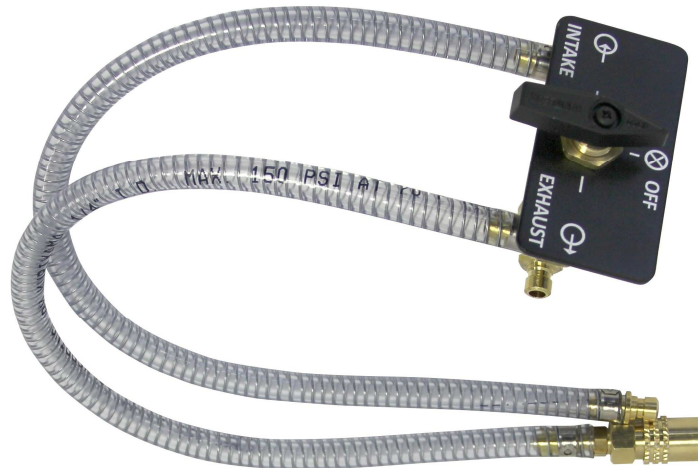
**201572
Exhaust**



**201385
EGR Manual Opener**



**201399
EGR Manifold**



Tools Required:

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

Locations of EGR components:

- EGR cooler bypass valve and actuator (Figure 1)
- EGR cooler outlet pipe (Figure 1)
 - EGR valve (Figure 1)



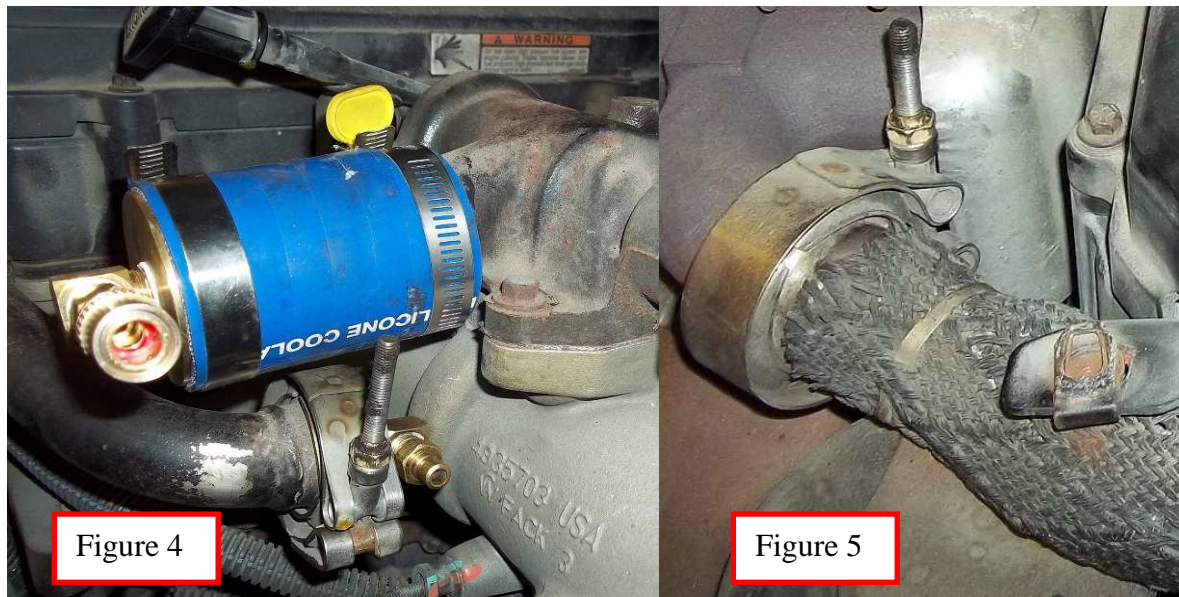
Cummins 6.7 Liter Engine EGR Adapter Instructions

- Loosen the clamp on the EGR cooler outlet pipe and fully loosen and remove the clamp at the inlet to the EGR valve, remove the gasket and set aside and rotate the EGR outlet cooler pipe downwards (see Figure 2 and 3).



- Install the EGR Intake Adapter (201571) and EGR Exhaust Adapter (201572) and reinstall the EGR outlet cooler pipe valve clamp and tighten at both ends (see Figure 4 and 5).

Note: Lubricate o-ring on the EGR Exhaust Adapter before installing onto the EGR cooler outlet pipe, this will aid in the installation of EGR Exhaust Adapter



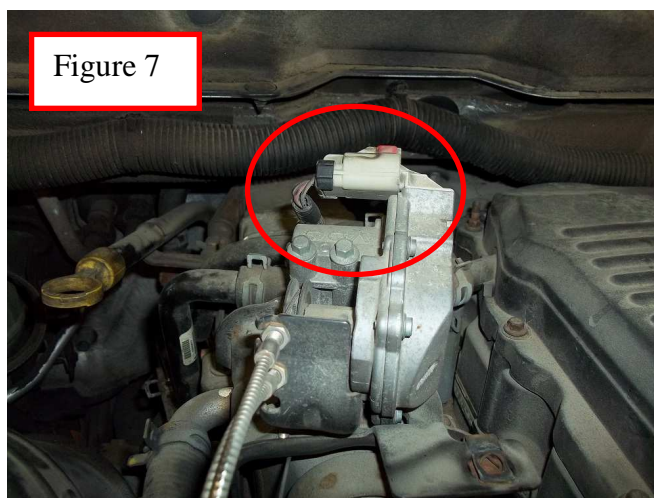
6. Turn the thumbscrew on the EGR Manual Opener (201385) fully counterclockwise but do not remove it from the adapter. Remove the EGR valve solenoid (4 screws) and set it aside, install the EGR Manual Opener in its place using only two screws. Disconnect the EGR valve solenoid electrical connector. Rotate the thumbscrew fully clockwise, the EGR valve is now open (see Figure 6). Alternately, a scan Tool can be used to command the solenoid valve open and removal of the solenoid is not required, however the EGR valve solenoid electrical connector must be connected.



7. Attach the EGR Manifold (201399) to the EGR intake and exhaust adapters. Attach the EGR Cleaning Tool to the EGR Manifold. Ensure that the air valve and fluid valve are closed – see the EGR Cleaning Tool user guide.
8. Unscrew the fill cap and fill with 32 oz (946 mL) of EGR System Cleaner (201279 or 201280). For first application or severe coking, 64 oz. may be required.
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.

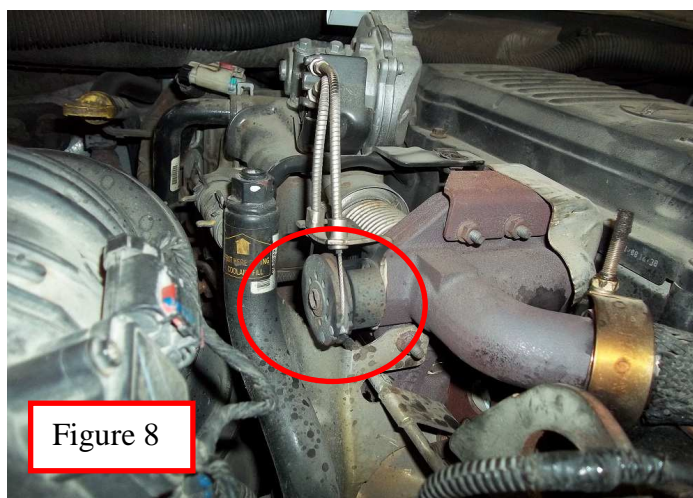
10. Start the vehicle engine.
11. Disconnect the EGR cooler bypass valve actuator electrical connector 2008-present, this will close the EGR bypass valve (see Figure 7). If the vehicle does not have the EGR cooler bypass valve then skip this step and note in step 15.



12. Set the EGR Manifold to exhaust.
13. Open Air valve, adjust regulator to maintain initial pressure, and then open the fluid valve on the Tool.
14. After 1/4 of the fluid has been consumed, turn the fluid valve closed and let the air flow for an additional 2 minutes to flush deposits into exhaust stream.
15. Repeat step 14-15 allowing another 1/4 of the fluid to be consumed.

Note: During this step unplug and reconnect the EGR bypass valve actuator electrical connector several times through out this step. If the vehicle engine is too hot it may be necessary to manually cycle (counter clockwise) the EGR cooler bypass valve (see Figure 8). The EGR cooler bypass valve actuator electrical connector must stay disconnected.

Alternately a scan Tool can be used to cycle the EGR cooler bypass valve several times during this step. Reconnect the EGR cooler bypass valve actuators electrical connector. This will allow cleaning of the EGR cooler bypass port.



16. Turn the EGR Manifold to intake, open fluid valve and continue service until the EGR Cleaning Tool is empty (see Figure 9).

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.



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

17. Turn the fluid and air valve on the EGR Cleaning Tool to the closed position. Turn the vehicle off. Detach shop air line and depressurize the Tool by rotating the regulator knob counter clockwise.
18. Remove adapters and reassemble the vehicle's components in the reverse order of removal.
19. Add one bottle of TerraDiesel™ Multi-function Fuel Treatment (201251) to the vehicle's fuel tank.
20. After service, reset any engine codes and perform a road test to clear any residual fluid from the system. Vehicle may go through Regen cycle during road test.