

Grundig

1. Introduction

Overview of EGR Delete

The Exhaust Gas Recirculation (EGR) system reduces nitrogen oxide (NOx) emissions by recirculating a portion of the engine's exhaust gas back into the intake. While it's effective for emissions control, the EGR system can lead to carbon buildup and other contaminants in the engine over time, ultimately affecting performance.

Performing an EGR delete on your 6.7L PowerStroke engine can significantly improve its performance. Removing the EGR system helps improve airflow, boost horsepower, and may even increase fuel efficiency. However, keep in mind that this modification is intended for off-road and racing use only. It is important to note that EGR delete kits are not compliant with on-road emissions regulations.

If you don't have any engineering or mechanical experience, asking a skilled person for help is recommended. You are also recommended to watch video tutorials online for visual guidance.

2. Tools and Materials Needed

Required Tools

To successfully perform the EGR delete on your 6.7L Powerstroke engine, you will need the following tools:

- Wrenches and Sockets: Various sizes, including 7mm and 8mm.
- Pliers: To handle clamps and small components.
- Sawzall: Useful for cutting any stubborn parts, if needed.
- Screwdrivers: Both flathead and Phillips.
- Penetrating Fluid: To loosen stuck bolts.
- Drain Pails: For coolant drainage.
- Safety Equipment: Gloves, safety glasses, and other protective gear.

Having the correct tools ready ensures a smoother and quicker process. Make sure to gather all necessary equipment before starting.

EGR Delete Kit Components

The EGR Delete Kit includes several components required for the EGR removal and replacement process. Here's what you'll find in the kit:

- 2 X Coolant Hose
- 2 X Block Off Plate
- 1 X Metallic color Gasket
- 1 X Black Gasket
- 3 X Long silver Screws
- 1 X Short silver Screw
- 2 X Short black Screws
- 1 X Hose Sleeve
- 1 X Copper Column
- 5 X Locking Nuts
- 2 X Hose Clamps
- 1 X Stator
- 4 X Zip-Ties

Understanding the function of each component will make the installation process easier. Lay out all parts beforehand to familiarize yourself with them.

3. Preparation

Pre-Installation Steps

Before starting the EGR delete process on your 6.7L Powerstroke, it's important to follow these preparatory steps to ensure safety and proper vehicle setup.

Safety Precautions:

- Wear gloves and safety glasses to protect yourself.
- Ensure the vehicle is parked on a flat surface and engage the parking brake.

Disconnecting the Negative Battery Terminals:

This step prevents electrical shorts or accidental engine starts.

- Disconnect both negative battery terminals using the appropriate wrench.

Raising the Truck:

- Use ramps or a hydraulic jack to elevate the front of the truck.
- Position the drain pails beneath the radiators to catch any coolant during drainage.

With these preparations in place, you can begin the EGR delete process safely and efficiently.

4. Draining Coolant and Removing Stock Components

Draining the Coolant

The first step in the EGR delete process is draining the coolant from the engine. This prevents any mess when working on the engine.

- **Locate the Drain Plugs:** The 6.7L Powerstroke has two radiators, each with its own drain plug. Place drain pails under the radiators.
- **Open the Drain Plugs:** Use pliers to twist the plugs about 180 degrees and remove them. Be gentle as the plugs can break easily.
- **Remove the Caps:** Remove the caps from the coolant reservoir and radiators to speed up the draining process.

Draining the coolant fully is essential to prevent any spills when you begin working on the EGR system.

Removing the Air Intake System

Next, remove the air intake system to access the EGR components.

- **Unbolt the Air Intake Box:** Use a 7mm or 8mm socket to remove the two bolts securing the intake box.
- **Disconnect the Mass Airflow Sensor:** Unplug the sensor carefully.
- **Remove the Intake Pipe:** Loosen the intake pipe clamp with a socket and gently remove the pipe.
- **Clear the Area:** Remove any additional hoses or components connected to the air intake system.

Once the air intake system is removed, you'll have more space to work on the EGR components.

5. EGR Removal Process

Accessing the EGR System

With the air intake system out of the way, you can now access the EGR components.

- **Remove Coolant Lines:** Use pliers to remove the clamps and disconnect the coolant lines from the EGR cooler.
- **Disconnect Wiring Harnesses and Sensors:** Unplug any sensors and wiring connected to the EGR system.
- **Unbolt Brackets and Heat Shields:** Remove any brackets or heat shields obstructing the EGR cooler.

By clearing space around the EGR system, you'll have easier access to remove the cooler and related components.

Removing the EGR Cooler

Now, remove the EGR cooler carefully to avoid damaging other engine parts.

- **Unbolt the EGR Cooler:** Typically, there are six bolts securing the EGR cooler. Use the appropriate socket to remove them.
- **Handle Stubborn Bolts:** If bolts are stuck, use penetrating fluid and a Sawzall to cut any obstructing parts, if necessary.
- **Remove the EGR Cooler:** Once the bolts are removed, carefully pull the cooler out.

Successfully removing the EGR cooler is a critical step in the EGR delete process.

6. Installing the EGR Delete Kit

Installing the Blocker Plates

Now that the EGR cooler is removed, it's time to install the blocker plates.

- **Prepare the Blocker Plates:** Lay out the blocker plates included in the kit and ensure the gaskets are ready for reuse.
- **Install the Blocker Plates:** Position the first plate where the EGR cooler was, secure it with the provided bolts, and tighten them properly.
- **Repeat the Process:** Install the second plate on the exhaust side, ensuring a secure and leak-free fit.

Double-check to ensure both plates are properly aligned and installed.

Reassembly and Final Checks

With the blocker plates in place, begin reassembling the truck.

- **Reinstall the Air Intake System:** Reattach the air intake pipe and box, and reconnect the mass airflow sensor.
- **Reconnect Electrical Components:** Reconnect the wiring harnesses and sensors.
- **Add Coolant:** Refill the coolant reservoir and radiators.
- **Reconnect Battery Terminals:** Reconnect the negative battery terminals.

Once everything is secured, double-check for any leaks or loose components.

Conclusion

By following these steps, your 6.7L Powerstroke will benefit from improved performance, reduced engine temperature, and enhanced longevity. Always ensure proper installation and safety measures to ensure optimal results.