Service Information Bulletin

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2 Description and Operation of the MY13 DD15 Asymmetrical Turbocharger (AT) Exhaust Gas Recirculation Valve Actuator

The Exhaust Gas Recirculation (EGR) system is controlled by the Motor Control Module (MCM2.1) via a CAN signal which controls the EGR valve actuator. The EGR valve actuator then opens and closes the EGR valve to achieve the desired flow through the EGR cooler where the high temperature gas is cooled and then directed through the mixing pipe where it is mixed with air from the Charge Air Cooler (CAC) and then directed to the cylinders.

On the DD15 with an asymmetrical turbocharger, the EGR actuator is located on the cylinder block as opposed to the turbo-compound model DD15, where the EGR actuator is mounted in a bracket on the exhaust manifold.
3 Removal of the MY13 DD15 (AT) Exhaust Gas Recirculation Valve Actuator

On the DD15 with an asymmetrical turbocharger, the Exhaust Gas Recirculation (EGR) actuator is located on the cylinder block as opposed to the turbo-compound model DD15, where the EGR actuator is mounted in a bracket on the exhaust manifold.

Remove as follows:

NOTICE: The clamping nut and actuator rod must remain installed to the actuator linkage when removing or installing the lock nut to avoid damage to the actuator valve gears.

1. Drain the coolant.
2. Disconnect the electrical harness connector from the EGR Valve actuator and unclip the actuator harness from the bracket. The gray tab slides out and then must be pressed in order to be released.
3. Remove the heat shield covering the hot pipe.
4. Remove the EGR pull rod. Refer to section "Removal of the MY13 DD15 Asymmetrical Turbocharger Exhaust Gas Recirculation Valve Actuator Pull Rod"

NOTICE: To prevent damage to the coolant inlet and outlet lines, hold the adaptor fittings with a wrench during line removal.

5. Loosen the coolant outlet line from the EGR actuator adaptor fitting and water manifold adaptor fitting. Discard seal rings.
6. Loosen the coolant inlet line from the EGR actuator and cylinder block adaptor fitting. Discard seal rings.

NOTICE: It may be easier to remove the coolant lines prior to removing the EGR actuator depending on the vehicle.

7. Remove the three bolts holding the EGR actuator to the cylinder block.
8. Carefully remove the EGR actuator.
4 Installation of the MY13 DD15 AT Exhaust Gas Recirculation Valve Actuator

On the DD15 with an asymmetrical turbocharger, the Exhaust Gas Recirculation (EGR) actuator is located on the cylinder block as opposed to the turbo-compound model DD15, where the EGR actuator is mounted in a bracket on the exhaust manifold.

Install as follows:

**NOTICE:** If reusing the original actuator bolts, always apply a small amount of copper-based anti-seize compound to the bolts. Although they were originally coated, it can burn off over time, making it necessary to reapply the anti-seize compound during reassembly.

**NOTICE:** Do not turn on the ignition power until all of the installation steps are completed.

1. Install the coolant fittings into the coolant passages on the EGR actuator. Torque to 35 N·m (25 lb·ft).
2. Loosely attach the coolant lines onto the EGR actuator in their respective positions.
3. Install the EGR actuator to the cylinder crankcase using three bolts. Torque to 30 N·m (22 lb·ft).
4. Connect the electrical harness connector to the EGR valve actuator. Secure the connector to the mounting bracket on the cylinder block.

**NOTICE:** To prevent damage to the coolant inlet and outlet lines, hold the adaptor fittings with a wrench while line is being set to the proper torque.

5. Install coolant line banjo fittings with new seals. Torque to 35 N·m (25 lb·ft).
6. Install the inlet and outlet coolant lines to the coolant collector and block. Torque to 35 N·m (25 lb·ft).

**NOTE:** The clamping nut and actuator rod must remain installed to the actuator linkage when removing or installing the lock nut to avoid damage to the actuator valve gears.

7. Install the EGR linkage. Refer to section "Installation of the MY13 DD15 Asymmetrical Turbocharger Exhaust Gas Recirculation Valve Actuator Pull Rod"
8. Install heat shield.
9. Fill the cooling system with coolant.

**WARNING: PERSONAL INJURY (eov84)**
To avoid injury before starting and running the engine, ensure the vehicle is parked on a level surface, parking brake is set, and the wheels are blocked.

**WARNING: ENGINE EXHAUST (i)(eov34)**
To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

10. Start the engine and allow the actuator to cycle completely. This will allow the system to learn the stops of the EGR valve.
11. Check for coolant and exhaust leaks.