



DD15™ Service Information

NUMBER: 08 DD15–9 **S.M. REF.:** 5.2.1 and 5.2.2 **ENGINE:** DD15 **DATE:** August 2008

SUBJECT: EXHAUST GAS RECIRCULATION (EGR) VALVE ACTUATOR

PUBLICATION: DDC-SVC-MAN-0002

The removal and installation section for the EGR Valve Actuator has been revised.

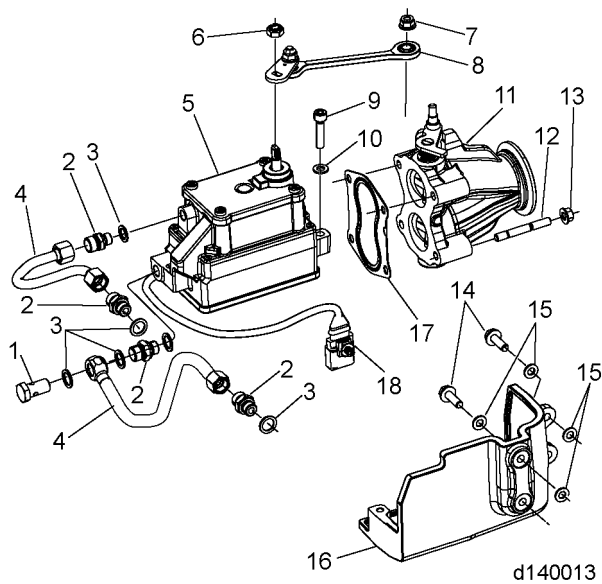
Section	Change
5.2.1 Removal of the EGR Valve Actuator	1. Drain the coolant. This has been added to the Removal of the EGR Valve Actuator procedures.
5.2.2 Installation of the EGR Valve Actuator	<ul style="list-style-type: none"><li data-bbox="873 814 1495 884">☐ The NOTICE, NOTE and new illustration have been added.<li data-bbox="873 898 1523 968">☐ NOTICE: Do not turn on the ignition power until all of the installation steps are completed.<li data-bbox="873 982 1458 1010">☐ NOTE: The dot on the actuator arm must face up.<li data-bbox="873 1024 1511 1052">☐ A new illustration showing the dot on the actuator arm.

Table 1 Manual Revisions

5.1 EXHAUST GAS RECIRCULATION (EGR) VALVE ACTUATOR

Exhaust Gas Recirculation (EGR) is controlled by an EGR valve and actuator. The EGR actuator opens and closes the valve to achieve the desired flow through the EGR cooler where high temperature gas is cooled and then directed through a mixing pipe where it is mixed with air from the Charge Air Cooler (CAC) and directed to the cylinders.

The Motor Control Module (MCM) actuates the EGR valve with a CAN signal.



- | | |
|-----------------------|--------------------|
| 1. Banjo Bolt | 10. Washer |
| 2. Fitting | 11. EGR Valve |
| 3. Seal Ring | 12. Stud |
| 4. Line | 13. Stud Nut |
| 5. EGR Valve Actuator | 14. Bolt |
| 6. Lock Nut | 15. Thermal Washer |
| 7. Clamping Nut | 16. Bracket |
| 8. Rod | 17. Gasket |
| 9. Bolt | 18. Harness Plug |

Figure 5–2 Exhaust Gas Recirculation Valve and Actuator

5.5.1 REMOVAL OF THE EGR VALVE ACTUATOR

Remove as follows:

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.

1. Drain the coolant.
2. Remove one nut connecting actuator to linkage and remove linkage from EGR valve.
3. Remove coolant line from the actuator and cylinder block.
4. Remove coolant line from the actuator and water manifold.
5. Disconnect actuator connector from sensor harness.
6. Remove three bolts and washers from actuator and remove actuator from bracket.
7. Remove four bolts and eight special thermal washers from actuator bracket and exhaust manifold and remove actuator bracket.

5.5.2 INSTALLATION OF EGR VALVE ACTUATOR

Install as follows:

NOTICE:
If reusing the original actuator bracket bolts, always apply a small amount of copper-based anti-seize compound to the bolts. The original coating will burn off and that makes it necessary to reapply the anti-seize compound.
NOTICE:
Ensure the bracket and exhaust manifold are at ambient temperature when the actuator bracket bolts are torqued.
NOTICE:
Do not turn on the ignition power until all of the installation steps are completed.

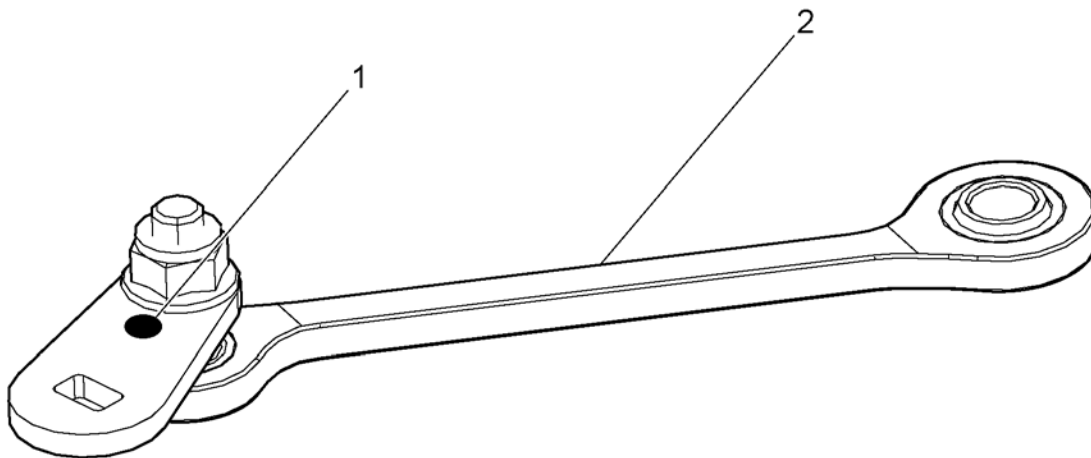
NOTE:

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.

1. Install the actuator bracket to the exhaust manifold using four bolts and eight special thermal washers. Apply a small amount of copper based anti-seize compound to the bolts and torque the bolts for the bracket to exhaust manifold to 30 N·m (22 lb·ft).
2. Install actuator onto bracket using three bolts and washers. Torque bolts to 20 N·m (15 lb·ft).

NOTE:

The actuator rod dot on the actuator rod must face up.



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1. Actuator Rod Dot

2. Actuator Rod

Figure 1 Actuator Arm

3. Install linkage onto actuator and secure with one nut. Tighten nut to 25 N·m (18 lb·ft).
4. Install the coolant line to the actuator and fitting on cylinder block. Tighten coolant line to actuator to 25 N·m (18 lb·ft). Tighten coolant line to fitting on cylinder block 40 N·m (29 lb·ft).

5. Install the coolant line to the actuator and water manifold. Tighten coolant line to 35 N·m (26 lb·ft).
6. Connect actuator to Engine Harness.
7. Fill the cooling system with coolant.

 **WARNING:**
ENGINE EXHAUST

To avoid injury from inhaling engine exhaust, always operate the engine in a well-ventilated area. Engine exhaust is toxic.

8. Start the engine and allow the actuator to cycle completely. This will allow the system to learn the stops of the EGR valve.
9. Check for leaks.

ADDITIONAL SERVICE INFORMATION

Additional service information is available in the Detroit Diesel *DD15 Workshop Manual*, DDC-SVC-MAN-0002. The next revision to this manual will include the revised information.

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