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Service Information Bulletin

SUBJECT	DATE
EGR Actuator Slow Learn	April 2013

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0083	DD Platform	Installation of the DD13 Exhaust Gas Recirculation Valve Actuator Pull Rod	Final step adds "Run the 'EGR Actuator Slow Learn' procedure in DDDL or DDRS."
		Installation of the DD15 and DD16 Exhaust Gas Recirculation Valve Actuator Pull Rod	
		Installation of the GHG14 DD15 AT Exhaust Gas Recirculation Valve Actuator Pull Rod	
		Installation of the DD13 Exhaust Gas Recirculation Valve Actuator	
DDC-SVC-MAN-0083	DD Platform	Installation of the GHG14 DD15 AT Exhaust Gas Recirculation Valve Actuator	Step 10 now says to "Run the 'EGR Actuator Slow Learn' procedure in DDDL or DDRS."
		Installation of the DD15 and DD16 Exhaust Gas Recirculation Valve Actuator	
DDC-SVC-MAN-0083	DD Platform	Installation of the GHG14 DD15 AT Exhaust Gas Recirculation Valve/Hot Pipe	Final step adds "Run the 'EGR Actuator Slow Learn' procedure in DDDL or DDRS."
		Installation of the DD15 and DD16 Exhaust Gas Recirculation Valve	



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2 Installation of the DD13 Exhaust Gas Recirculation Valve Actuator Pull Rod

Install as follows:

NOTE: If installing a new style Exhaust Gas Recirculation (EGR) valve actuator pull rod, the end with the off-center bearing is attached at the EGR valve actuator and the part number is facing away from the engine.

1. Install the EGR actuator valve pull rod on the EGR valve linkage stud and the EGR valve actuator linkage.

NOTICE: Ensure the nut used to attach the pull rod to the linkage has a 12mm hexagon pattern. A larger 13mm hexagon pattern nut will cause damage to the pull rod bearing.

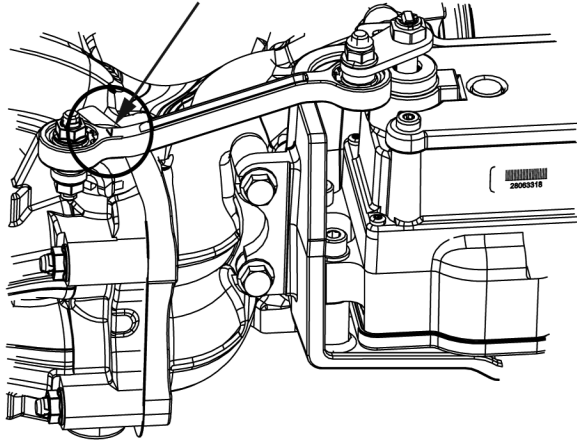
2. With the EGR valve actuator pull rod installed on the EGR valve and the EGR valve actuator, apply a small amount of copper-based anti-seize compound to the nut threads. Install and torque to 20 N·m (15 lb·ft).
3. Run the “EGR Actuator Slow Learn” procedure in DDDL or DDRS.

3 Installation of the DD15 and DD16 Exhaust Gas Recirculation Valve Actuator Pull Rod

Install as follows:

NOTE: Install with the "V" cast into the EGR valve actuator pull rod facing UP and toward the EGR Valve. Also be sure that the part number faces outward.

1. Install the pull rod onto both the EGR valve and the EGR valve actuator.



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NOTICE: Ensure the nut used to attach the pull rod to the linkage has a 12mm hexagon pattern. A larger 13mm hexagon pattern nut will cause damage to the pull rod bearing.

2. Install the nuts and hand tighten.
3. Hold the EGR valve actuator pull rod so that when torquing the nut the pull rod will not come into contact with the stops.
4. Torque the nuts to 20 N·m (15 lb·ft).
5. Run the "EGR Actuator Slow Learn" procedure in DDDL or DDRS.

4 Installation of the GHG14 DD15 AT Exhaust Gas Recirculation Valve Actuator Pull Rod

Install as follows:

NOTE: If installing an Exhaust Gas Recirculation (EGR) valve actuator pull rod, the “V” stamped on the rod is attached at the EGR valve and the part number is on top.

1. Install the EGR actuator valve pull rod on the EGR valve linkage stud with the spacer between the pull rod and the linkage.
2. Install the EGR pull rod to the EGR valve actuator lever stud.

NOTICE: Ensure the nut used to attach the pull rod to the linkage has a 12mm hexagon pattern. A larger 13mm hexagon pattern nut will cause damage to the pull rod bearing.

3. With the EGR valve actuator pull rod installed on the EGR valve and the EGR valve actuator, apply a small amount of copper-based anti-seize compound to the nut threads. Install and torque to 20 N·m (15 lb·ft).
4. Run the “EGR Actuator Slow Learn” procedure in DDDL or DDRS.

5 Installation of the DD13 Exhaust Gas Recirculation Valve Actuator

Install as follows:

NOTICE: If reusing the original Exhaust Gas Recirculation (EGR) valve 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.

1. Install the EGR valve actuator to cylinder block with the bolts and two spacers. Torque bolts to 30 N·m (22 lb·ft).
2. Install the EGR valve actuator rod onto the actuator, apply a small amount of copper based anti-seize compound to the nut threads and tighten. Torque nut to 20 N·m (15 lb·ft).
3. Install the coolant line to the EGR valve actuator and fitting on cylinder block. Tighten coolant line to EGR valve actuator to 25 N·m (18 lb·ft). Tighten coolant line to fitting on cylinder block 40 N·m (29 lb·ft).
4. Install the coolant line to the EGR valve actuator and water manifold. Tighten coolant line to 35 N·m (26 lb·ft).
5. Connect the EGR valve actuator to the engine wiring harness.
6. Fill the coolant system.
7. Run the “EGR Actuator Slow Learn” procedure in DDDL or DDRS.

6 Installation of the DD15 and DD16 Exhaust Gas Recirculation 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.

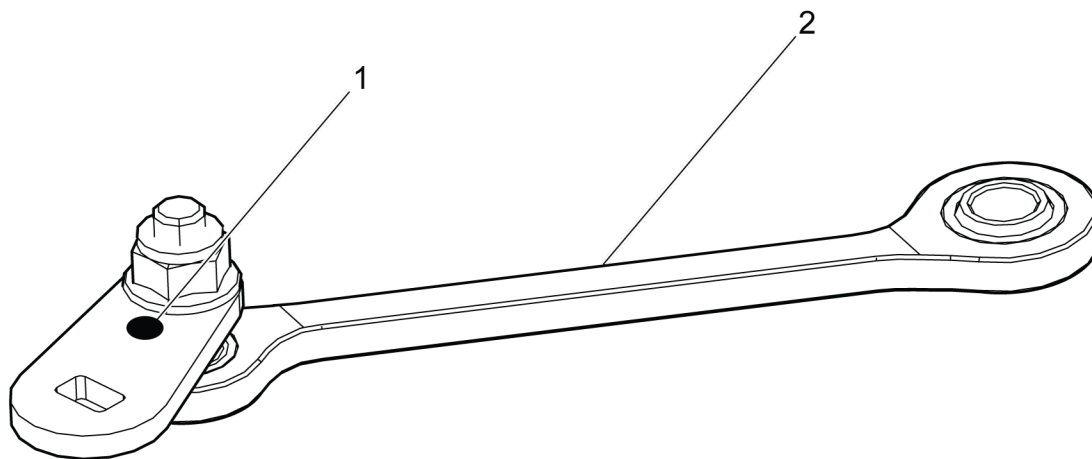
NOTICE: Do not turn on the ignition power until all of the installation steps are completed.

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).

NOTE: The dot (1) on the actuator rod lever (2) must face up.

2. Install actuator onto bracket using three bolts and washers. Torque bolts to 20 N·m (15 lb·ft).



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3. Install linkage onto actuator and secure with one nut. Tighten nut to 25 N·m (18 lb·ft).

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

4. If removed, install coolant inlet adaptor fitting to cylinder block. Torque fitting to 35 N·m (26 lb·ft).
5. Install the coolant inlet line to the actuator and adaptor fitting on cylinder block. Tighten the coolant inlet line banjo bolt to 25 N·m (18 lb·ft); torque the coolant inlet line at adaptor fitting to 40 N·m (30 lb·ft).
6. If removed, install coolant outlet adaptor fittings to EGR valve actuator and water manifold. Torque actuator adaptor fitting to 25 N·m (18 lb·ft); torque water manifold fitting to 35 N·m (26 lb·ft).

7. Install the coolant outlet line to the actuator adaptor fitting and water manifold adaptor fitting. Torque the coolant outlet line to 35 N·m (26 lb·ft).
8. Connect the electrical harness connector to the EGR valve actuator.
9. Fill the cooling system with coolant. Refer to section "Cooling System Fill Procedure".
10. Run the "EGR Actuator Slow Learn" procedure in DDDL or DDRS.



WARNING: PERSONAL INJURY

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

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

11. Start the engine and check for leaks

7 Installation of the GHG14 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 GHG14 DD15 AT Exhaust Gas Recirculation Valve Actuator Pull Rod"
8. Install heat shield.
9. Fill the cooling system with coolant.



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WARNING: ENGINE EXHAUST

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

10. Run the "EGR Actuator Slow Learn" procedure in DDDL or DDRS.
11. Start the engine and check for coolant and exhaust leaks.

8 Installation of the GHG14 DD15 AT Exhaust Gas Recirculation Valve/Hot Pipe

Install as follows:

NOTICE: Be sure not to bend or damage the Exhaust Gas Recirculation (EGR) valve lever during handling and installation.

1. Install the EGR valve/hot pipe to the EGR cooler inlet and exhaust manifold outlet using two new sealing gaskets (if originally equipped). Orient the pipe with the lever side attaching to the exhaust manifold outlet.
2. Install new exhaust clamps in the same orientation as noted in removal. Torque to 12 N·m (9 lb·ft).
3. Gently tap each of the clamps to ensure they are properly seated. Re-torque the clamps to 12 N·m (9 lb·ft).
4. After installing the EGR valve/hot pipe, sweep the EGR valve lever by hand to verify it does not make contact with the clamps. If contact is made, rotate the clamps as needed to gain clearance.
5. Install the EGR pull rod. Refer to section "Installation of the GHG14 DD15 AT Exhaust Gas Recirculation Valve Actuator Pull Rod".
6. Run the "EGR Actuator Slow Learn" procedure in DDDL or DDRS.

9 Installation of the DD15 and DD16 Exhaust Gas Recirculation Valve

Install as follows:

1. Install a new Exhaust Gas Recirculation (EGR) valve gasket.
2. Install the EGR valve.

NOTE: The four nuts must be lubricated with high-temp, copper-based anti-seize compound, or NEW copper coated nuts must be used for installation.

3. Install the four nuts and torque to 35 N·m (26 lb·ft).
4. Install the EGR actuator linkage and torque the nut to 20 N·m (15 lb·ft).
5. Install the new EGR hot pipe gaskets (if applicable) and then install the EGR hot pipe to the EGR cooler and EGR valve with new spherical clamps. Refer to section "Installation of the Exhaust Gas Recirculation Hot Pipe"
6. Run the "EGR Actuator Slow Learn" procedure in DDDL or DDRS.