



DETROITTM
DEMAND PERFORMANCESM

18SP717 – DD13 EGR Actuator Replacement Service Kit (P/N: EA4731500394)

KIT DESCRIPTION

Service kit (P/N: EA4731500394) contains all the necessary components needed to replace the exhaust gas recirculation (EGR) actuator on the DD13 from an old to new style. Parts are not backwards compatible.

KIT CONTENTS

Service kit P/N: EA4731500394, shown in Table 1.

Part No.	Qty.	Description
EA4701500694	1	EGR Actuator
N910105008011	3	Bolt M8x20
A4711400724	1	EGR Actuator Lever
A0029903950	3	Nut
A4711402546	1	Pull Rod
A4712005351	1	Coolant Line
A4712005451	1	Coolant Line
A0029976571	2	Coolant Fitting
A0019950502	2	Pipe Clamp
18SP717	1	Installation Instructions

Table 1

Removal of the DD13 Exhaust Gas Recirculation Valve Actuator

 WARNING:
PERSONAL INJURY
To avoid injury, never remove any engine component while the engine is running.

Remove as follows:

1. Shut off the engine, apply the parking brake, chock the wheels, and perform any other applicable safety steps.
2. Disconnect the batteries. Refer to OEM guidelines.

 **CAUTION:**

ELECTRICAL SHOCK

To avoid injury from electrical shock, use care when connecting battery cables. The magnetic switch studs are at battery voltage.

 **WARNING:**

PERSONAL INJURY

To avoid injury from hot surfaces, wear protective gloves, or allow engine to cool before removing any component.

3. Open the hood.
4. Drain the coolant.
5. Remove the center exhaust manifold heat shield.
6. Remove the turbocharger heat shield.
7. Remove the EGR pull rod from the EGR valve lever.
8. Note the EGR hot pipe clamp orientation for proper re-installation
9. Remove the EGR hot pipe. Discard the clamps.
10. Remove the coolant line from the EGR valve actuator and cylinder block.
11. Remove the coolant line from the EGR valve actuator and water manifold.
12. Disconnect the EGR valve actuator electrical harness connector from the engine electrical harness.
13. Remove three bolts and two spacers from the EGR valve actuator and remove the actuator from the cylinder block.

Installation of the DD13 Exhaust Gas Recirculation Valve Actuator

Install as follows:

NOTICE:

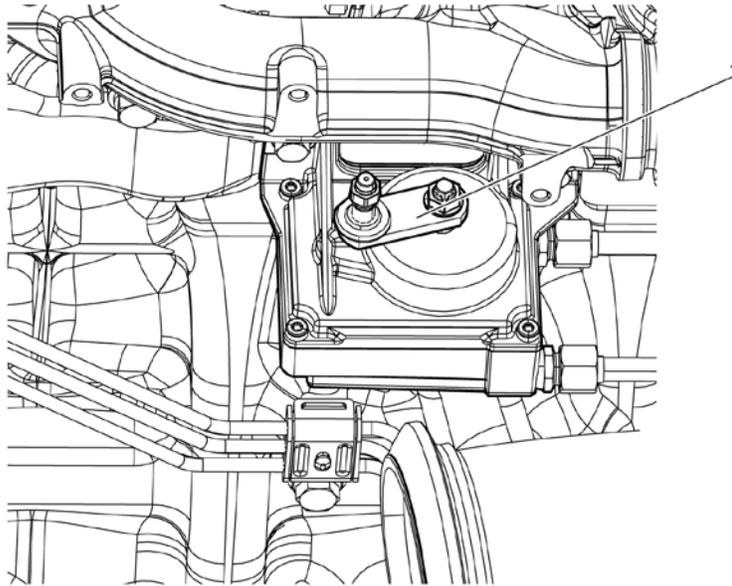
Do not turn on the ignition power until all of the installation steps are completed.

1. Install the EGR actuator (P/N: EA4701500694) with three bolts (P/N: N910105008011) to the cylinder block. Torque bolts to 30 N·m (22 lb·ft). Note: The two actuator spacers are no longer used.

NOTICE:

The EGR actuator shaft must be held still using a wrench when removing or installing the pull rod and lever clamping nuts to avoid damage to the EGR valve actuator internal end stops.

2. Install the EGR actuator lever (P/N: A4711400724) onto the EGR actuator using the orientation below. Torque nut to 25 N·m (18 lb·ft).



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3. Install two fittings (P/N: A0029976571) into the coolant ports on the EGR actuator. Torque fittings to 35 N·m (25 lb·ft).

NOTICE:

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

4. Install the coolant line to the EGR valve actuator and water manifold. Torque coolant line to EGR valve actuator to 35 N·m (25 lb·ft). Torque the coolant line on the water manifold to 35 N·m (26 lb·ft).
5. Install the coolant line to the EGR valve actuator and fitting on cylinder block. Torque coolant line to EGR valve actuator to 35 N·m (25 lb·ft). Torque coolant line to fitting on cylinder block 40 N·m (29 lb·ft).

NOTICE:

The EGR actuator shaft must be held still using a wrench when removing or installing the pull rod and lever clamping nuts to avoid damage to the EGR valve actuator internal end stops.

6. Position the EGR valve actuator pull rod (P/N: A4711402546) onto the actuator lever.
7. Apply a small amount of copper based, anti-seize compound to the threads on the clamping nut. Make sure that the anti-seize is applied only to the threads and does not get on the pull rod bearings.
8. Install nut (P/N: A0029903950) on the lever. Torque nut to 20 N·m (15 lb·ft).
9. Using clamps (P/N: A0019950502), install the EGR hot pipe in the same orientation as noted during removal. Torque to 12 N·m (9 lb·ft). Be sure the

- clamp bolt orientation does not interfere with the travel of EGR valve actuator pull rod.
10. Position the EGR valve actuator pull rod onto the EGR valve lever.
 11. Apply a small amount of copper based, anti-seize compound to the threads on the clamping nut. Make sure that the anti-seize is applied only to the threads and does not get on the pull rod bearings.
 12. Install nut (P/N: A0029903950) on the EGR valve lever. Torque nut to 20 N·m (15 lb·ft).
 13. Connect the EGR valve actuator to the engine wiring harness.
 14. Install the turbocharger heat shield.
 15. Install the center exhaust manifold heat shield.
 16. Fill the coolant system.
 17. Connect the batteries. Refer to OEM guidelines.
 18. For EPA 07 engines, turn the ignition key on in order to slow learn the EGR actuator.
 19. For EPA 10 engines, use DiagnosticLink® to perform the EGR Actuator Slow Learn Service Routine under the Actions » EGR menu.
 20. Close the hood.



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18SP717 1505 As technical advances continue, specifications will change. Printed in U.S.A.