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Service Information Bulletin

SUBJECT	DATE
Removal and Installation of the Camshaft Housing	February 2013

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0081	EPA07/10/ GHG14 DD Platform	Removal of the Camshaft Housing	Corrected fuel component nomenclature. Corrected procedure references. Added installation procedure steps. Added new fuel warnings.
		Installation of the Camshaft Housing	



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2 Removal of the Camshaft Housing

Remove as follows:

1. Steam clean the engine.
2. Remove the rocker shaft/engine brake and camshaft assemblies. Refer to section "Removal of Camshaft and Rocker Shaft/Engine Brake Assembly".



WARNING: PERSONAL INJURY

To prevent the escape of high pressure fuel that can penetrate skin, ensure the engine has been shut down for a minimum of 10 minutes before servicing any component within the high pressure circuit. Residual high fuel pressure may be present within the circuit.



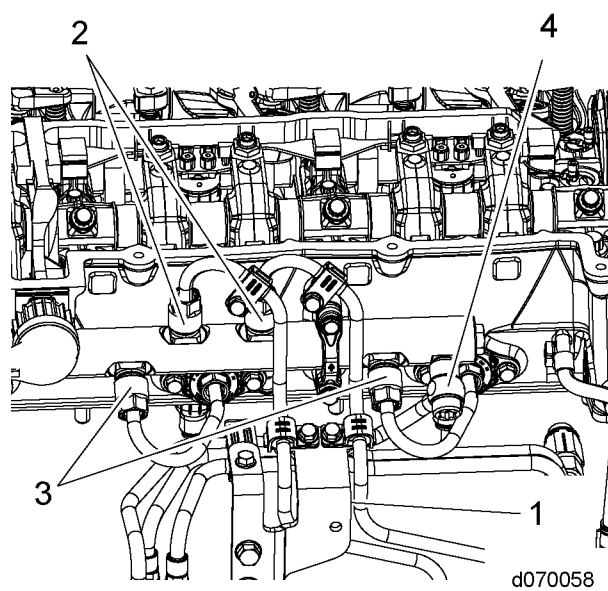
WARNING: PERSONAL INJURY

All parts provided within this kit must be installed in the proper locations, and **MUST** be fastened to the specified torque. Failure to properly torque hardware/components will result in failure of a high pressure fuel feed line, resulting in possible fire and/or personal injury.

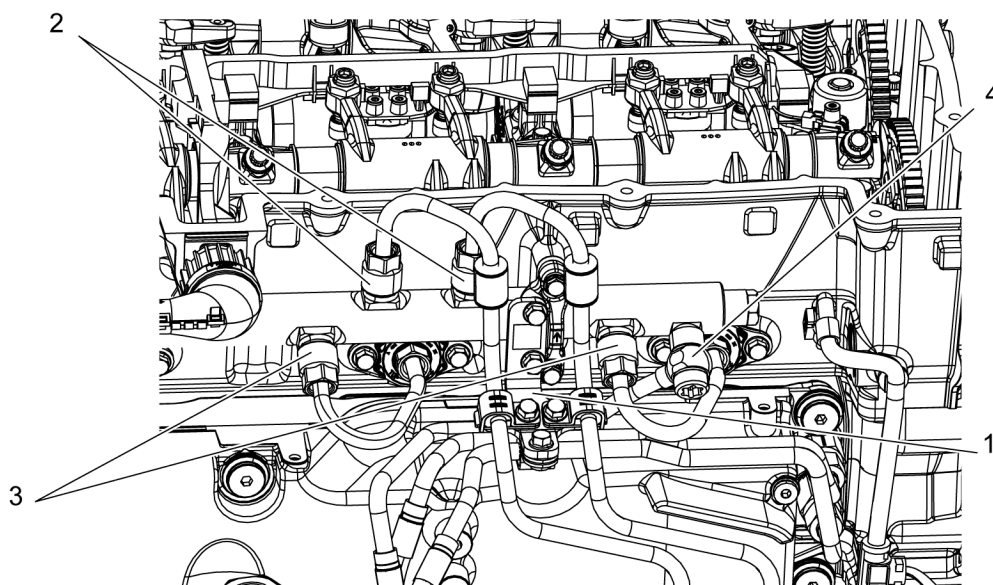
NOTICE: The high pressure fuel rail feed lines, P-clips, vibration dampers, mounting bracket and hardware are one-time use components and **MUST** be replaced any time they are loosened or removed.

NOTICE: Engine size/model year specific service kits, containing all of the necessary parts to replace the high pressure fuel rail feed lines have been released. Refer to TS letter 12 TS-9 for the high pressure fuel line kit numbers to repair these engines.

3. Remove and discard the high pressure fuel rail feed lines (2).
For the three-filter fuel system, Refer to section "Removal of the High Pressure Fuel Rail Feed Lines - Three-Filter System".
For the two-filter fuel system, Refer to section "Removal of the High Pressure Fuel Rail Feed Lines - Two-Filter System".
4. Remove the high pressure fuel injector lines (3).
For the three-filter fuel system, Refer to section "Removal of the High Pressure Fuel Injector Lines - Three-Filter System".
For the two-filter fuel system, Refer to section "Removal of the High Pressure Fuel Injector Lines - Two-Filter System".
5. Remove the PLV banjo bolt (4) from the fuel rail. Discard the PLV banjo bolt sealing washers.
 - a. Three-filter fuel system shown below.

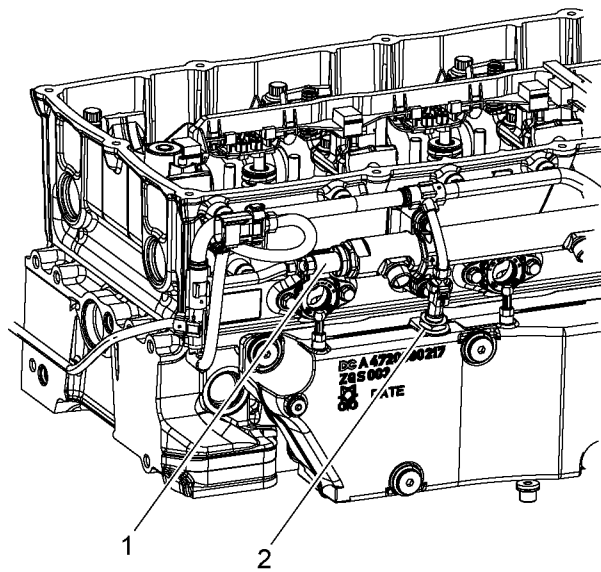


b. Two-filter KM63 GEN2 fuel system shown below, two-filter KM59 GEN1 fuel system similar.



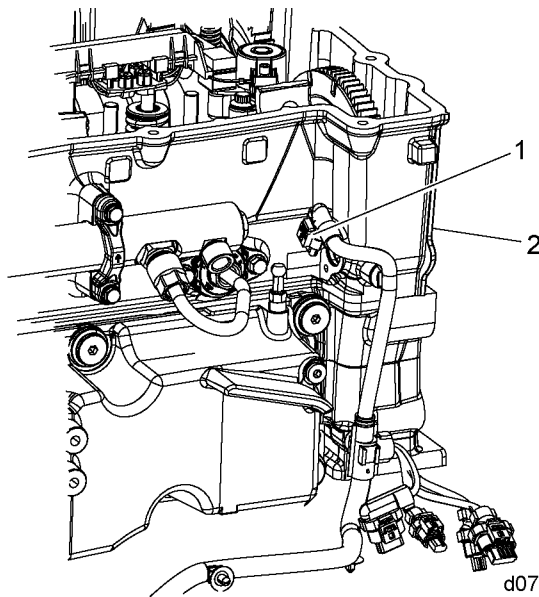
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6. Disconnect the fuel rail pressure sensor (1) and intake manifold temperature sensor (2).



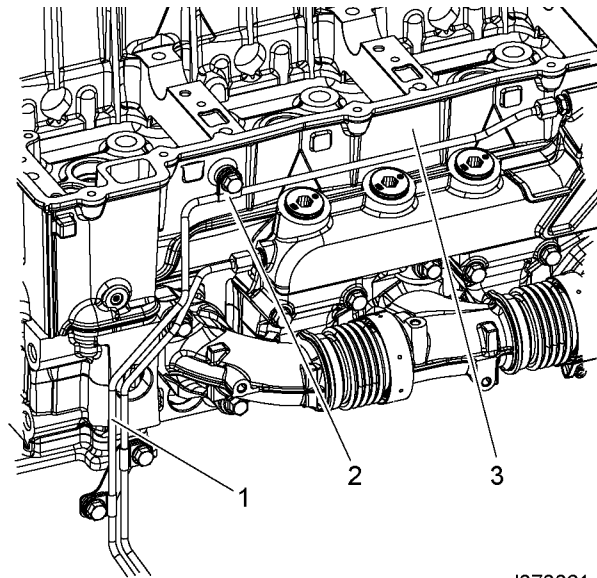
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7. Disconnect the camshaft position sensor (1) from the camshaft housing (2).



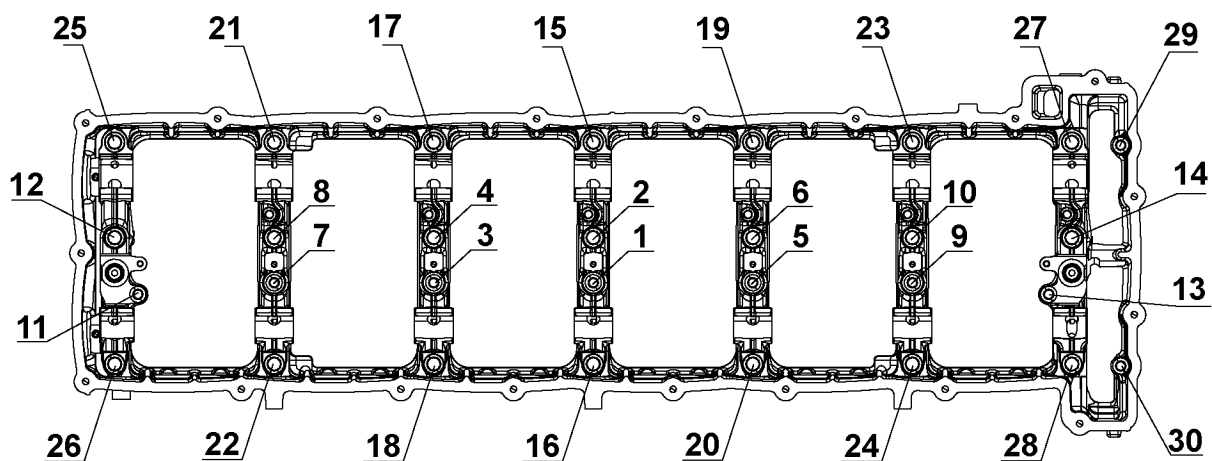
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8. Unclip all of the electrical wiring harness attaching points from the camshaft housing.
9. Remove the bolt and the P-clip (2) securing the doser coolant line (1) to the camshaft housing (3).



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10. Remove the remaining two bolts (29 and 30) securing the camshaft housing to the cylinder head.



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WARNING: PERSONAL INJURY

To avoid injury when removing or installing a heavy engine component, ensure the component is properly supported and securely attached to an adequate lifting device to prevent the component from falling.

11. Attach a lifting device to the camshaft housing and lift the camshaft housing off of the cylinder head.

3 Installation of the Camshaft Housing

Install as follows:

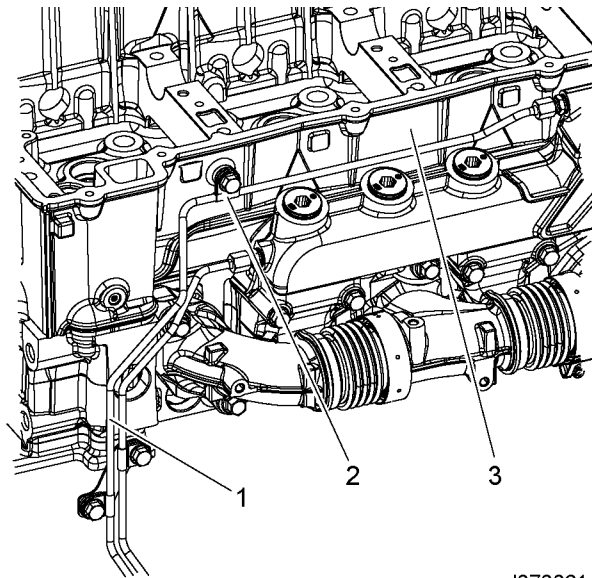
1. Install a new seal into the camshaft housing.



WARNING: PERSONAL INJURY

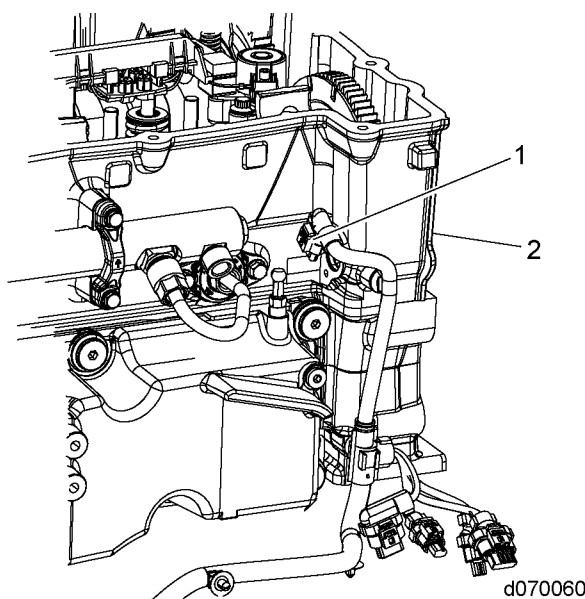
To avoid injury when removing or installing a heavy engine component, ensure the component is properly supported and securely attached to an adequate lifting device to prevent the component from falling.

2. Using an appropriate lifting device, install camshaft housing onto the cylinder head.
3. Install the bolt (2) and the P-clip securing the doser coolant line (1) to the camshaft housing (3). Torque 30 N·m (22 lb·ft).

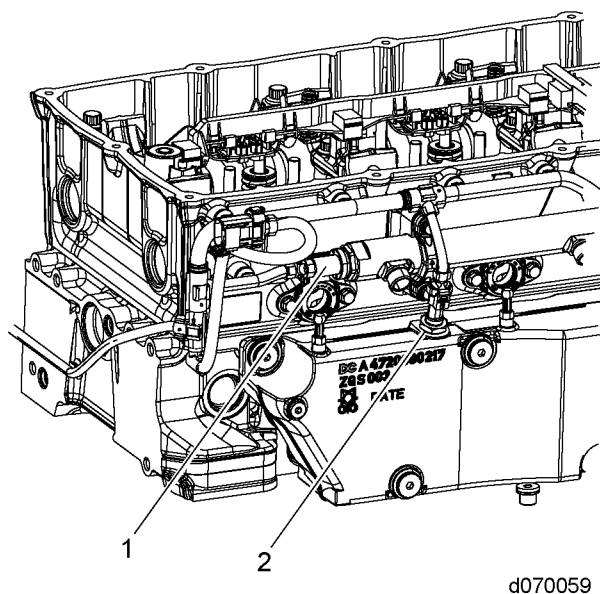


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4. Clip all of the electrical wiring harness attaching points on to the camshaft housing.
5. Connect the camshaft position sensor (1) on to the camshaft housing (2).



6. Connect the fuel rail pressure sensor (1) and intake manifold temperature sensor (2).



7. Install the PLV banjo bolt (4) with new sealing washers. Torque to 30 to 32 N·m (22 to 24 lb·ft).
 8. Install the high pressure fuel injector lines (3).
 For the three-filter fuel system, Refer to section "Installation of the High Pressure Fuel Injector Lines - Three-Filter System".
 For the two-filter fuel system, Refer to section "Installation of the High Pressure Fuel Injector Lines - Two-Filter System".



WARNING: PERSONAL INJURY

All hardware/components must be installed in the proper locations, and **MUST** be fastened to the specified torque. Failure to properly torque hardware/components will result in failure of a high pressure fuel feed line, resulting in possible fire and/or personal injury.

NOTICE: The high pressure fuel rail feed lines, P-clips, vibration dampers, mounting bracket and hardware are one-time use components and **MUST** be replaced any time they are loosened or removed.

NOTICE: Engine size/model year specific service kits, containing all of the necessary parts to replace the high pressure fuel rail feed lines have been released. Refer to TS letter 12 TS-9 for the high pressure fuel line kit numbers to repair these engines.

9. Install the high pressure fuel rail feed lines (2).

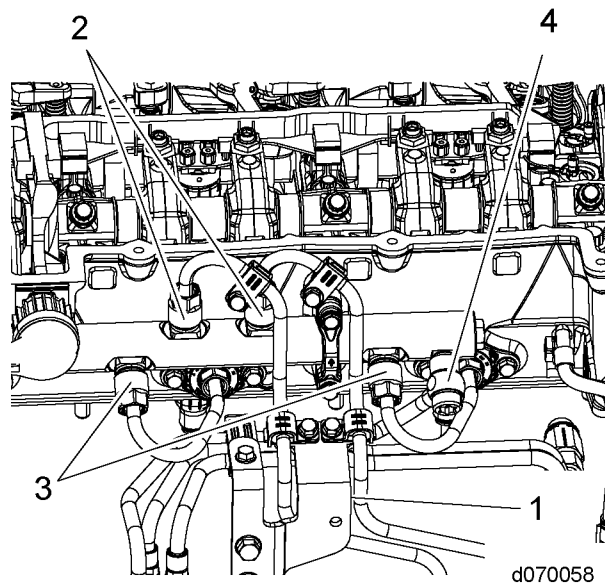
For the DD13 three-filter fuel system, Refer to section "Installation of the DD13 High Pressure Fuel Rail Feed Lines - Three-Filter System".

For the DD13 two-filter fuel system, Refer to section "Installation of the High Pressure Fuel Rail Feed Lines - Two-Filter System".

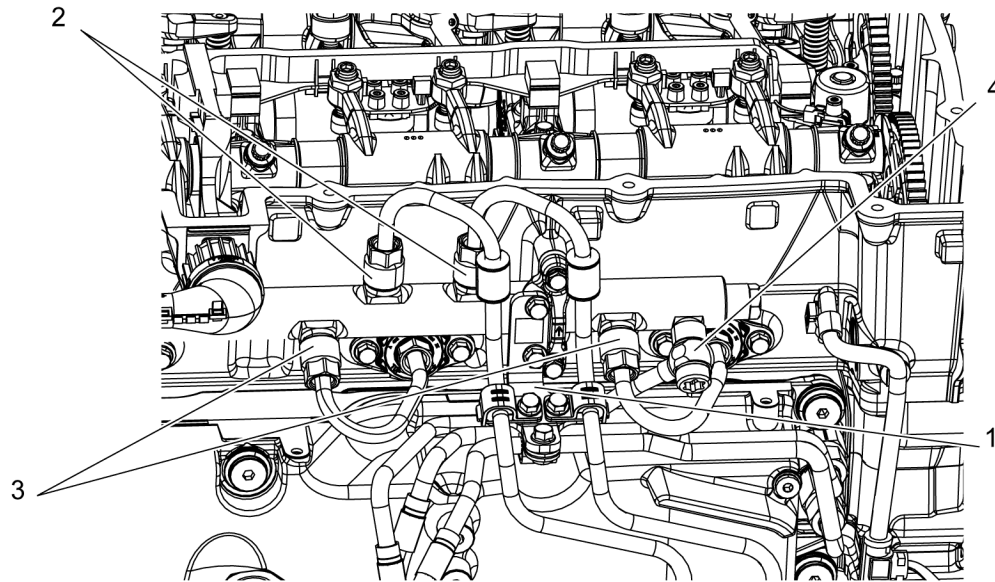
For the DD15/16 three-filter fuel system, Refer to section "Installation of the DD15 and DD16 High Pressure Fuel Rail Feed Lines - Three-Filter System".

For the DD15/16 two-filter fuel system, Refer to section "Installation of the High Pressure Fuel Rail Feed Lines - Two-Filter System".

a. Three-filter fuel system shown below.



b. Two-filter KM63 GEN2 fuel system shown below; two-filter KM59 GEN1 fuel system is similar



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10. Install the rocker shaft/engine brake and camshaft assemblies. Refer to section "Installation of the Camshaft and Rocker Shaft/Engine Brake Assembly".
11. Prime the fuel system.
For the three-filter fuel system, Refer to section "Priming the Fuel System Using ESOC 350 Fuel Priming Pump - Three-Filter System".
For the two-filter fuel system, Refer to section "Priming the Fuel System Using ESOC 350 Fuel Priming Pump - Two-Filter System".