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Service Information Bulletin

SUBJECT	DATE
High Pressure Fuel Rail Feed Lines - Two-Filter System	February 2014

Additions, Revisions, or Updates

Publication Number / Title	Platform	Section Title	Change
DDC-SVC-MAN-0082	DD Platform	Description and Operation of the High Pressure Fuel Rail Feed Lines and Related Parts - Two-Filter System	Updating procedures due to new permanent dampers on lines.
		Removal of the High Pressure Fuel Rail Feed Lines - Two-Filter System	
		Inspection of the High Pressure Fuel Rail Feed Lines - Two-Filter System	
		Installation of the High Pressure Fuel Rail Feed Lines - Two-Filter System	



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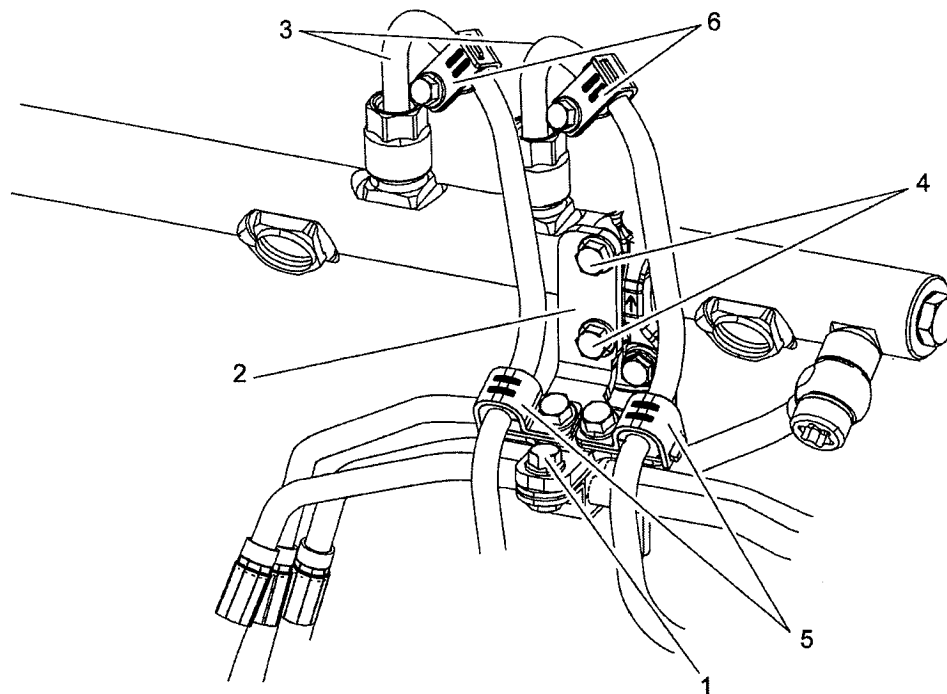
2 Description and Operation of the High Pressure Fuel Rail Feed Lines and Related Parts - Two-Filter System

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

NOTE: KM59 GEN1 fuel filter module return lines are secured to the module with banjo bolts.

NOTE: KM63 GEN2 fuel filter module return lines are secured to the module with a mounting plate attached to the PLV return line.

- Return lines P-clip mounting bolt is used to secure the return lines P-clip to the mounting bracket. This is a reusable bolt.
- Return lines P-clip is used to secure the return lines to the mounting bracket. This is a reusable P-clip.
- Mounting bracket is used to secure the high pressure fuel rail feed lines and return lines to rear rail clamp. This is a one-time-use component.
- High pressure fuel rail feed lines are used to transfer high pressure fuel from the high pressure fuel pump to the fuel rail. This is a one-time-use component.
- Vibration dampers are used to lower the vibration in the high pressure fuel rail feed lines. This is a one-time-use component.
- Mounting bracket bolts are used to secure the mounting bracket to the rear rail clamp. This is a one-time use component.
- P-clips are used to lower vibration and secure the high pressure fuel rail feed lines to the mounting bracket. This is a one-time-use component.

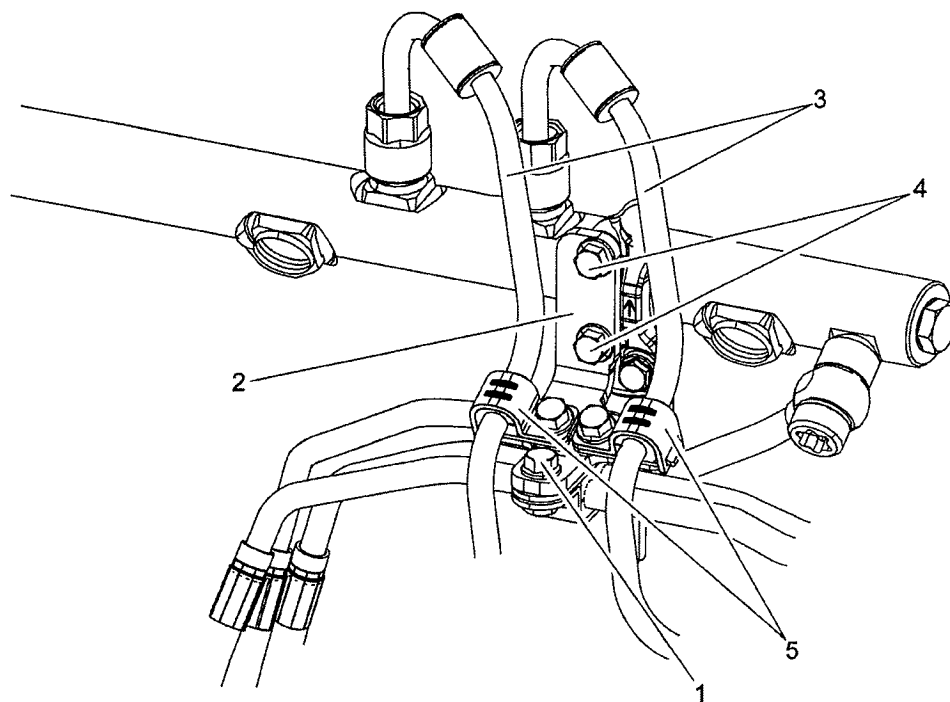


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1. Reusable Return Lines P-clip Bolt
2. Mounting Bracket
3. High Pressure Fuel Feed Lines

4. Mounting Bracket Bolts
5. P-clips and Bolts
6. Vibration Dampers and Bolts

Figure 1. KM59 GEN1 with Bolted Vibration Dampers High Pressure Fuel Rail Feed Lines and Related Parts

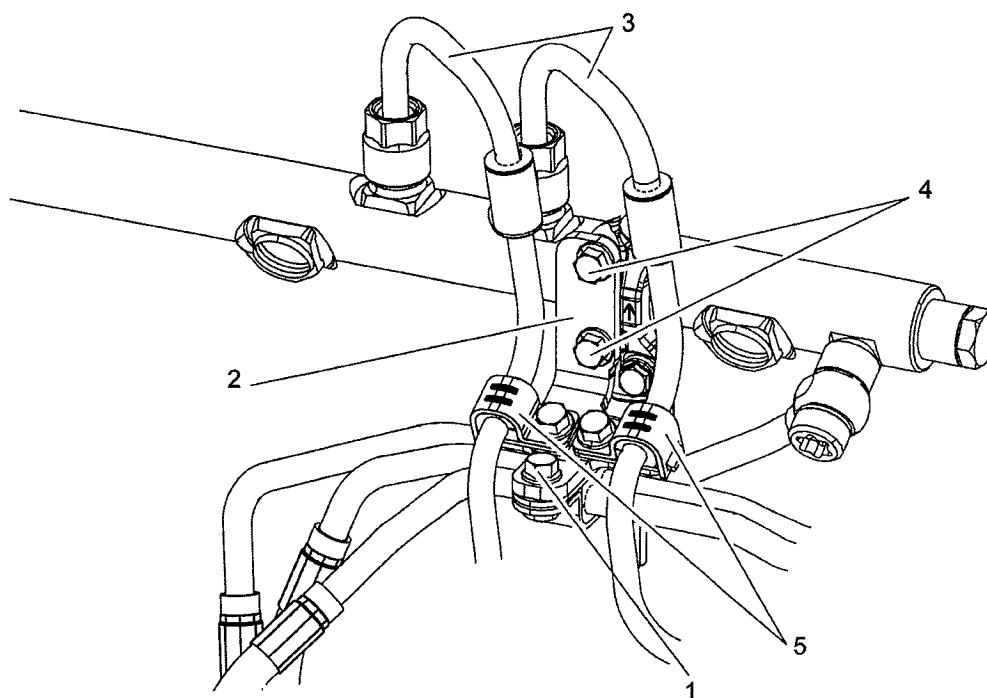


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- 1. Reusable Return Lines P-clip Bolt
- 2. Mounting Bracket
- 3. High Pressure Fuel Feed Lines

- 4. Mounting Bracket Bolts
- 5. P-clips and Bolts

Figure 2. KM59 GEN1 with Permanent Vibration Dampers High Pressure Fuel Rail Feed Lines and Related Parts



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- 1. Reusable Return Lines P-clip Bolt
- 2. Mounting Bracket
- 3. High Pressure Fuel Feed Lines

- 4. Mounting Bracket Bolts
- 5. P-clips and Bolts

Figure 3. KM63 GEN2 High Pressure Fuel Rail Feed Lines and Related Parts

3 Removal of the High Pressure Fuel Rail Feed Lines - Two-Filter System

Remove as follows:



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.

1. Disconnect batteries.

NOTE: Do not discard the return lines P-clip and bolt. They will be reused on the installation of the high pressure fuel rail feed lines.

2. Remove the return lines P-clip bolt (1) from the mounting bracket (2).

Table 1.

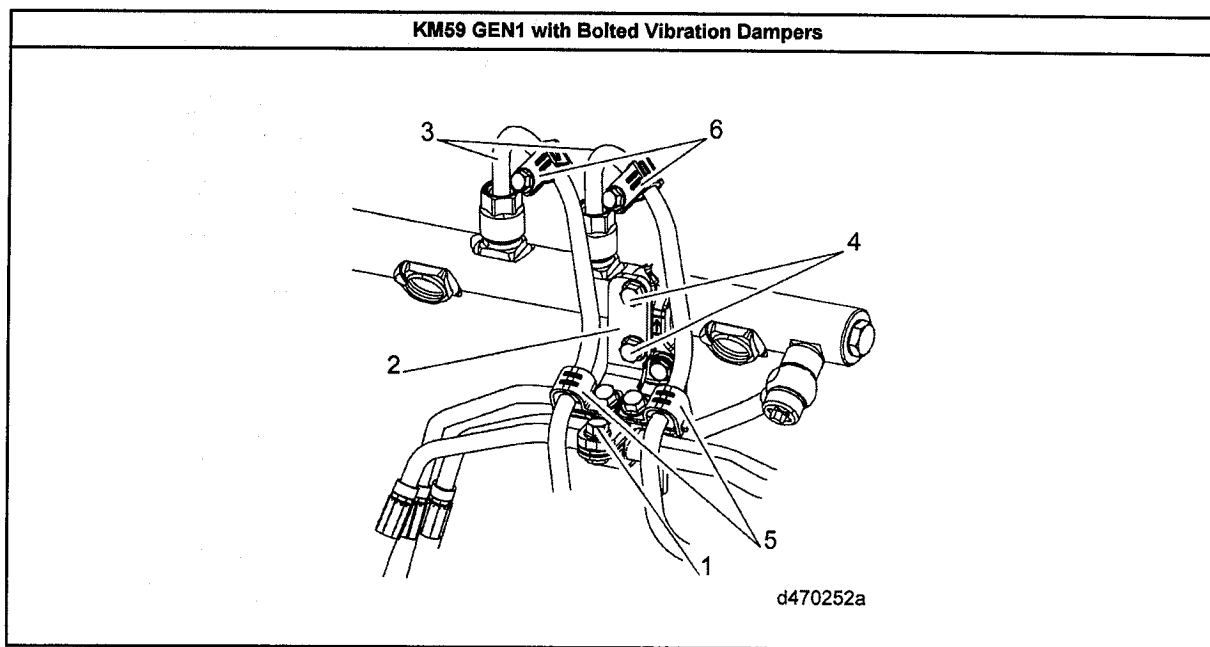


Table 2.

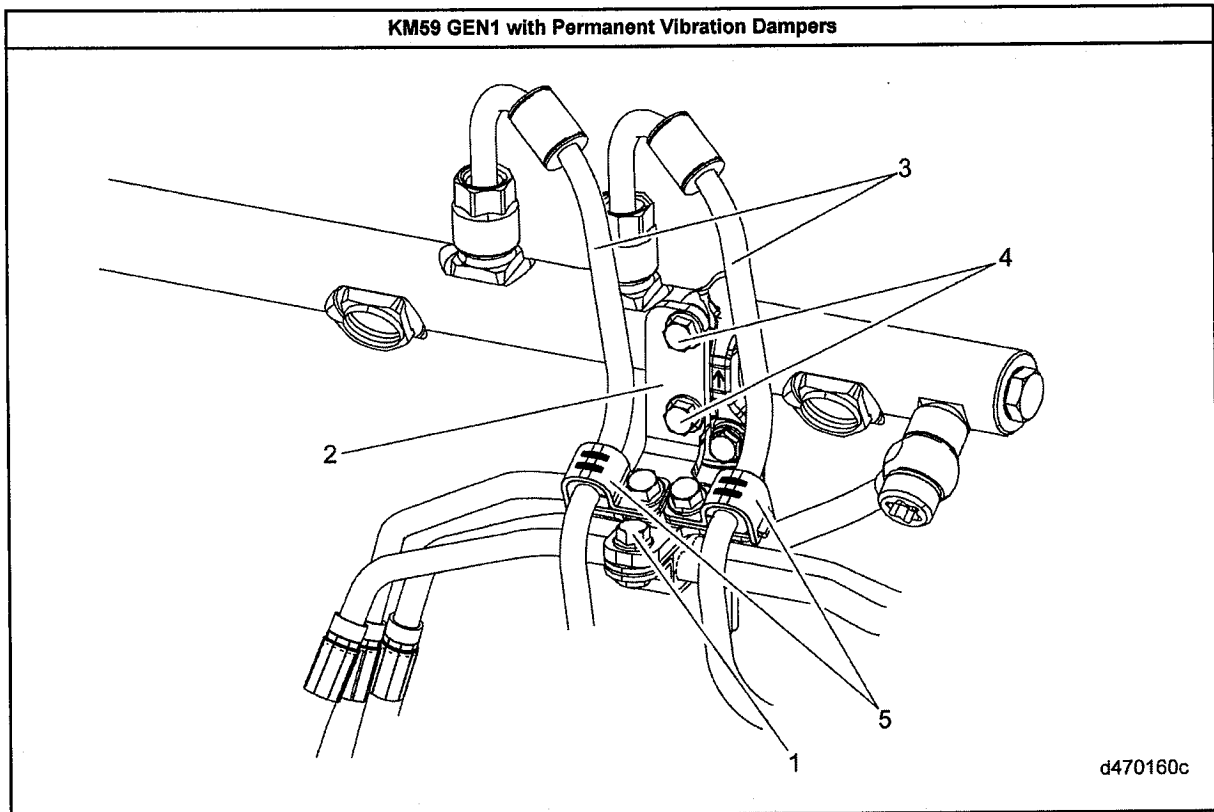
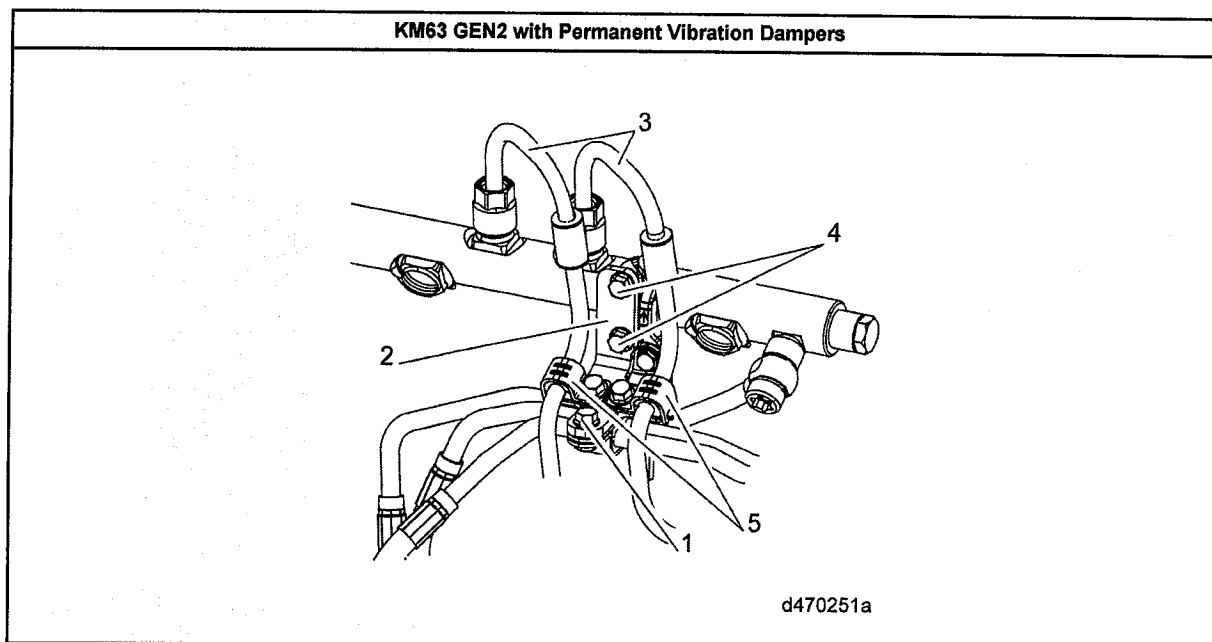


Table 3.



3. Remove and discard the two bolts and P-clips (5) from the mounting bracket (2). See illustrations above.
4. Remove and discard the mounting bracket bolts (4) from the fuel rail clamp and discard the mounting bracket (2). See illustrations above.

NOTE: For KM59 GEN1: When using tool J-48770 to remove the high pressure pump rail feed lines, hold the high pressure pump fitting with a 24mm wrench.

5. Using tool J-48770, remove and discard the high pressure pump rail feed lines (3) and vibration dampers from the fuel rail and high pressure fuel pump. See illustrations above.

4 Inspection of the High Pressure Fuel Rail Feed Lines – Two Filter System

Inspect as follows:



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.



WARNING: PERSONAL INJURY

All parts provided within this kit are single-use items and cannot be re-used. Re-use of hardware/component items may result in the failure of a high pressure fuel line, resulting in possible fire and/or personal injury.

NOTICE: Failure to follow these instructions will result in catastrophic damage to the engine and will not be covered under warranty.

NOTE: KM59 GEN1 fuel filter module return lines are secured to the module with banjo bolts.

NOTE: KM63 GEN2 fuel filter module return lines are secured to the module with a mounting plate attached to the PLV return line.

1. Inspect and verify the mounting bracket (2) and its attaching bolts (4), the two P-clips (5), and the high pressure fuel feed lines (3) with two vibration dampers are not missing or loose. Do not attempt to loosen, tighten or otherwise disturb any of the parts.

Table 4.

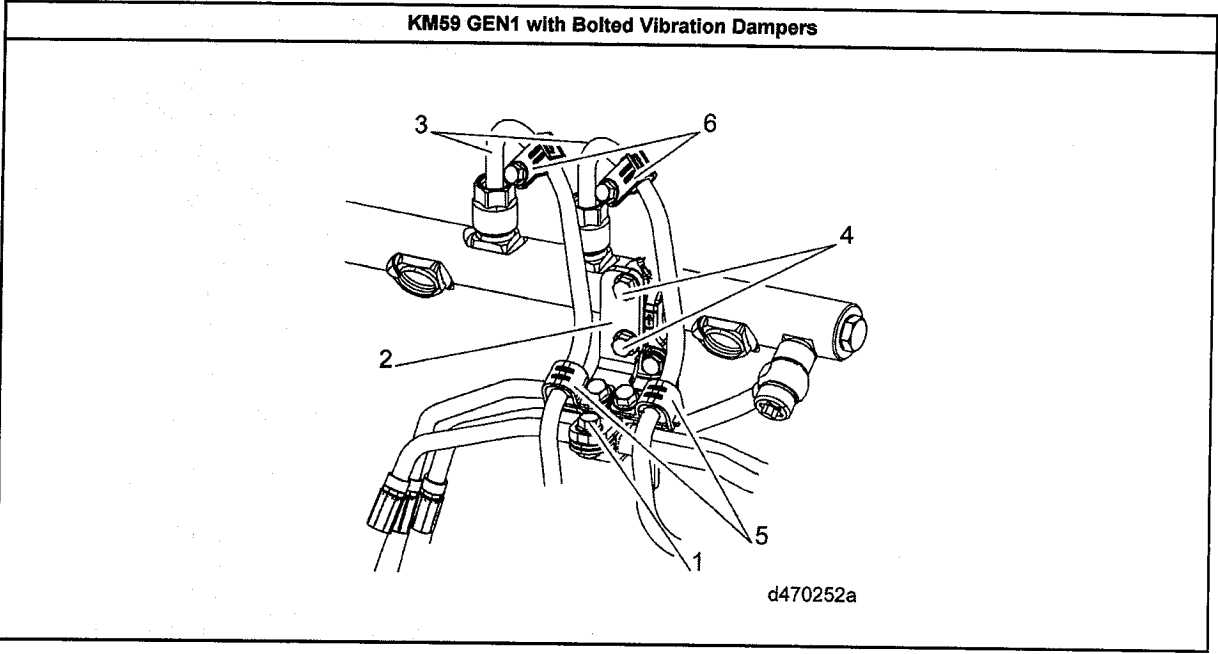


Table 5.

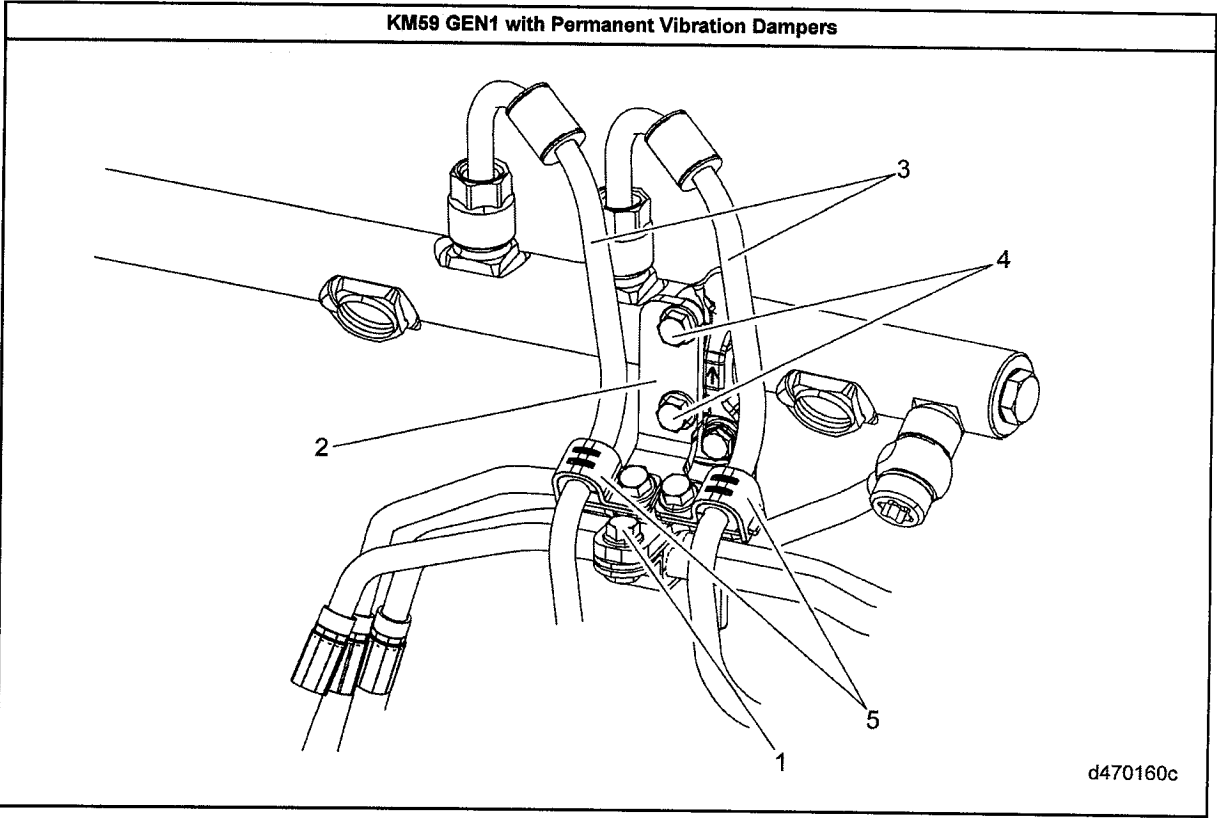
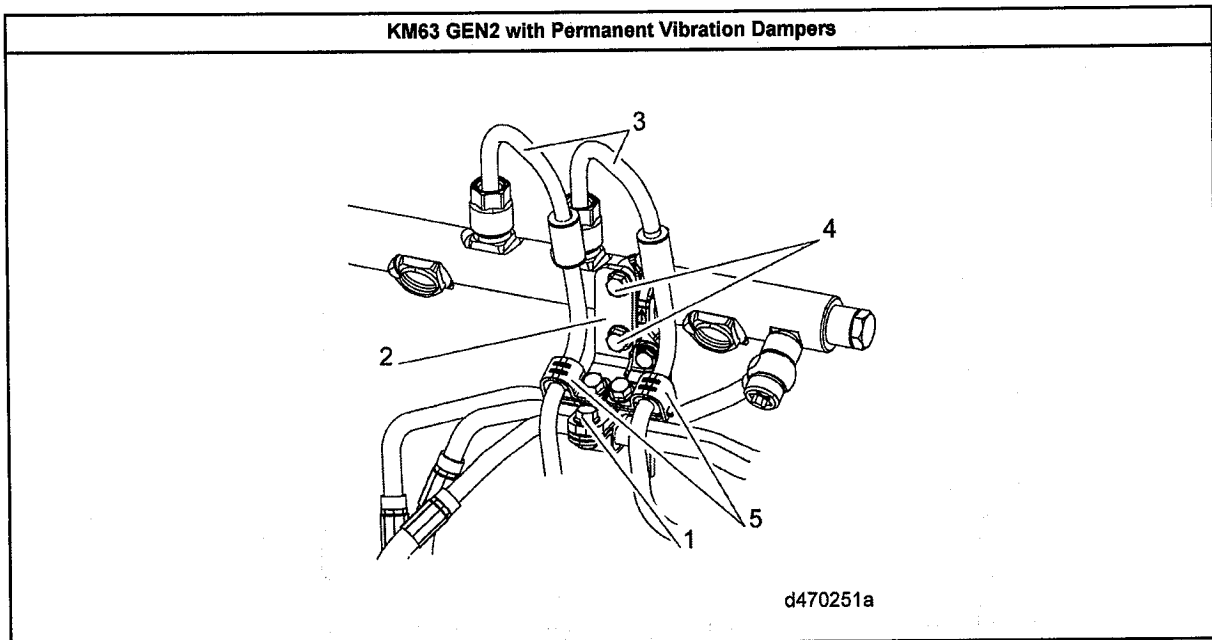


Table 6.



5 Installation of the High Pressure Fuel Rail Feed Lines - Two-Filter System

Install as follows:

NOTE: KM59 GEN1 fuel filter module return lines are secured to the module with banjo bolts.

NOTE: KM63 GEN2 fuel filter module return lines are secured to the module with a mounting plate attached to the PLV return line.

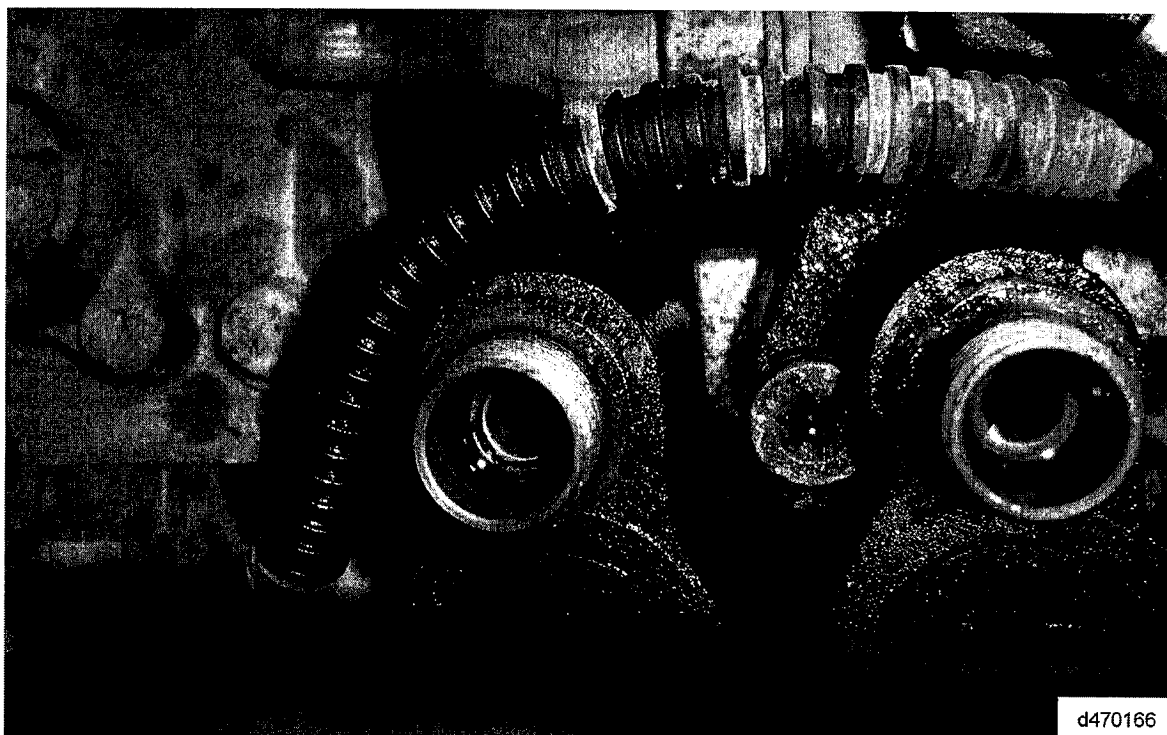
NOTE: DO NOT install bolts and fittings using power tools. All bolts and fittings **MUST** be installed using hand tools.



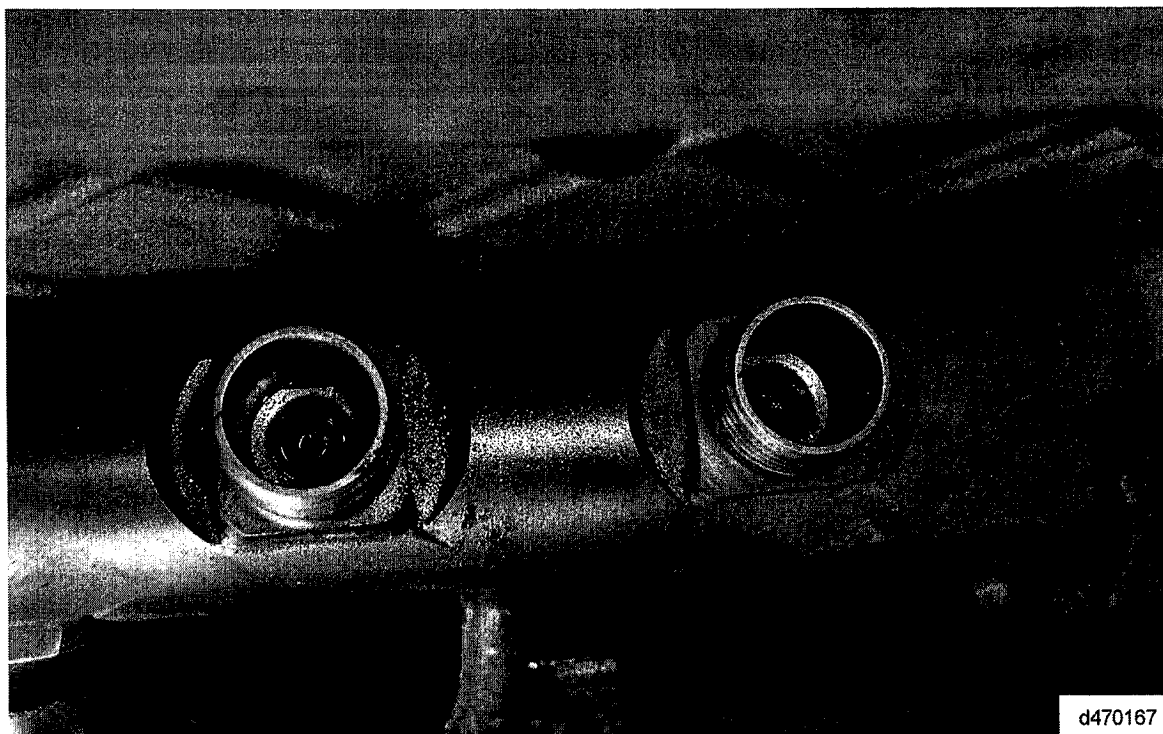
WARNING: PERSONAL INJURY

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.

1. Clean the sealing area inside the high pressure fuel pump fittings using a clean lint free cloth.
 - a. The illustration shown below is a KM59 GEN1 High Pressure Fuel Pump Fittings; KM63 GEN2 High Pressure Fuel Pump Fittings is similar.



2. Clean the sealing area inside the high pressure fuel rail using a clean lint free cloth.
 - a. The illustration shown below is a KM59 GEN1 High Pressure Fuel Rail; KM63 GEN2 High Pressure Fuel Rail is similar.



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3. Install the rear high pressure fuel line (3) to the fuel rail and the high pressure fuel pump. Hand-tighten the nuts.

Table 7.

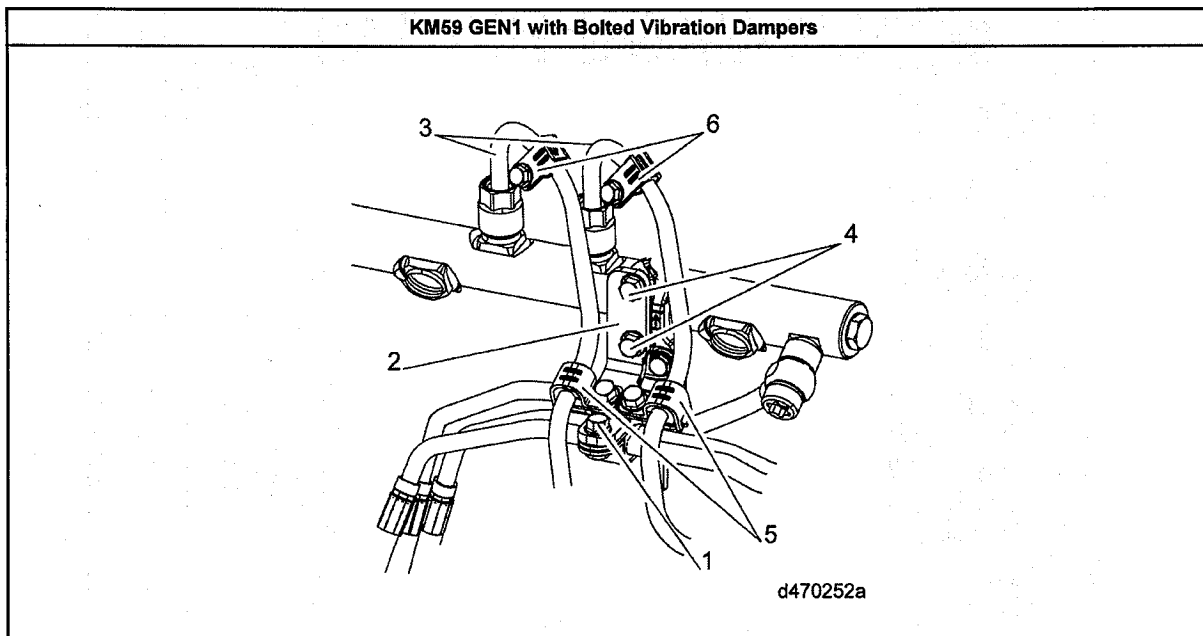


Table 8.

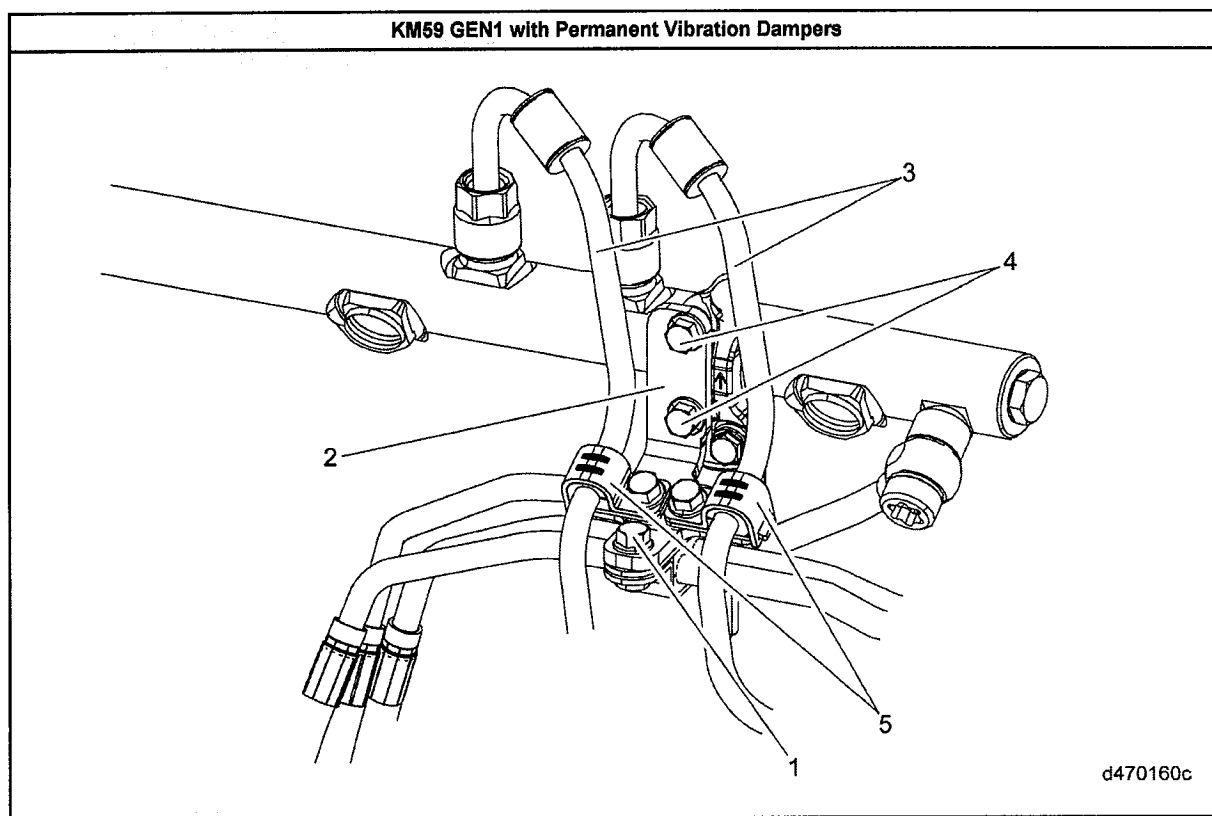
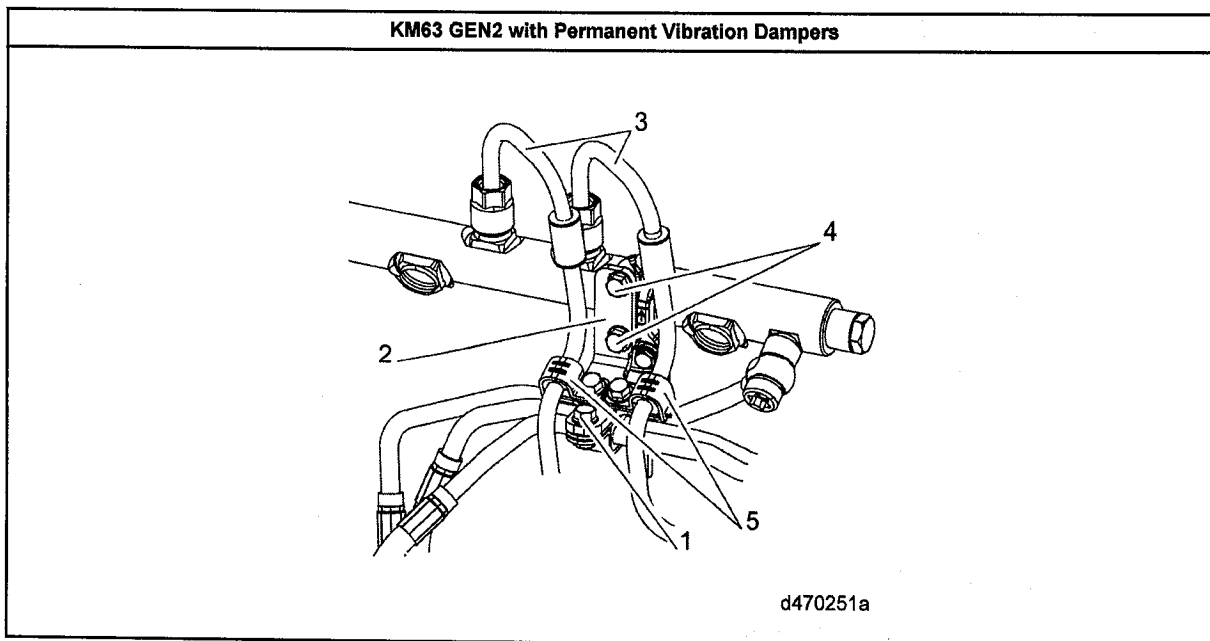


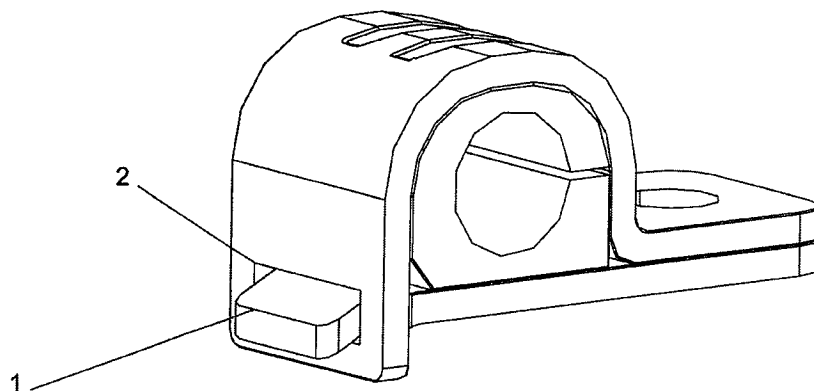
Table 9.



4. Using tool J-48770, torque the rear high pressure fuel line nuts to 40 N·m (30 lb·ft).
5. Install the front high pressure fuel line (3) (see illustrations above) to the fuel rail and the high pressure fuel pump. Hand-tighten the nuts.
6. Using tool J-48770, torque the front high pressure fuel line nuts to 40 N·m (30 lb·ft).
7. Install the new mounting bracket (2) and two new mounting bracket bolts (4) to the fuel rail clamp. Torque to 15 N·m (132 lb·in.). See illustrations above.

NOTICE: New P-clip MUST be installed on to the high pressure fuel rail feed lines with the lower P-clip plate inserted in to the P-clip window.

8. Install new P-clips on to the high pressure fuel rail feed lines with the lower P-clip plate (1) inserted in to the P-clip window (2).



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9. Install two new P-clips (5) and two new bolts to the high pressure fuel rail feed lines (3) and the mounting bracket (2). Torque to 15 N·m (132 lb·in.).

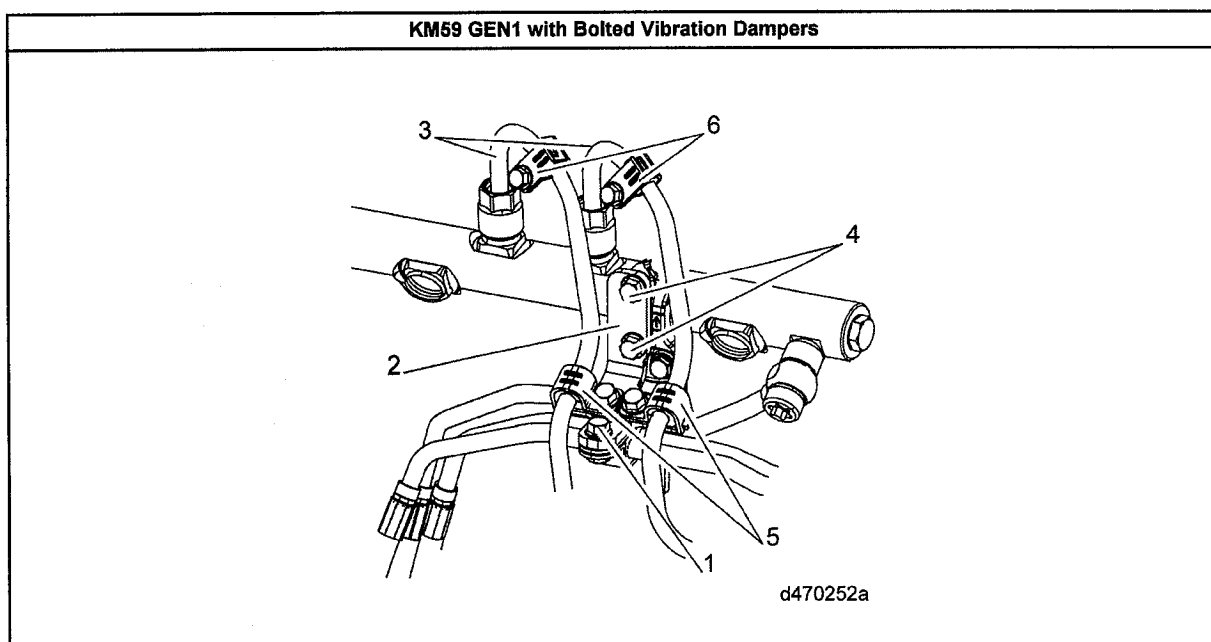
Table 10.

Table 11.

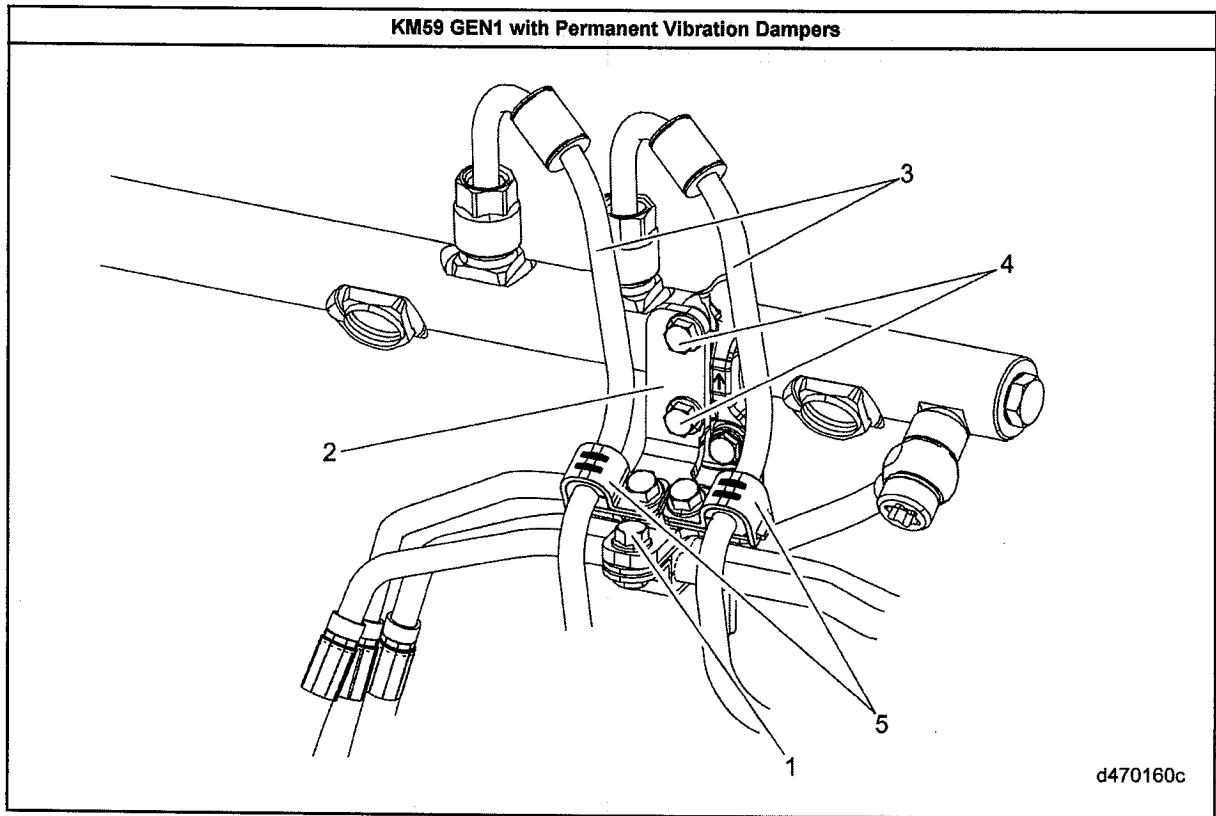
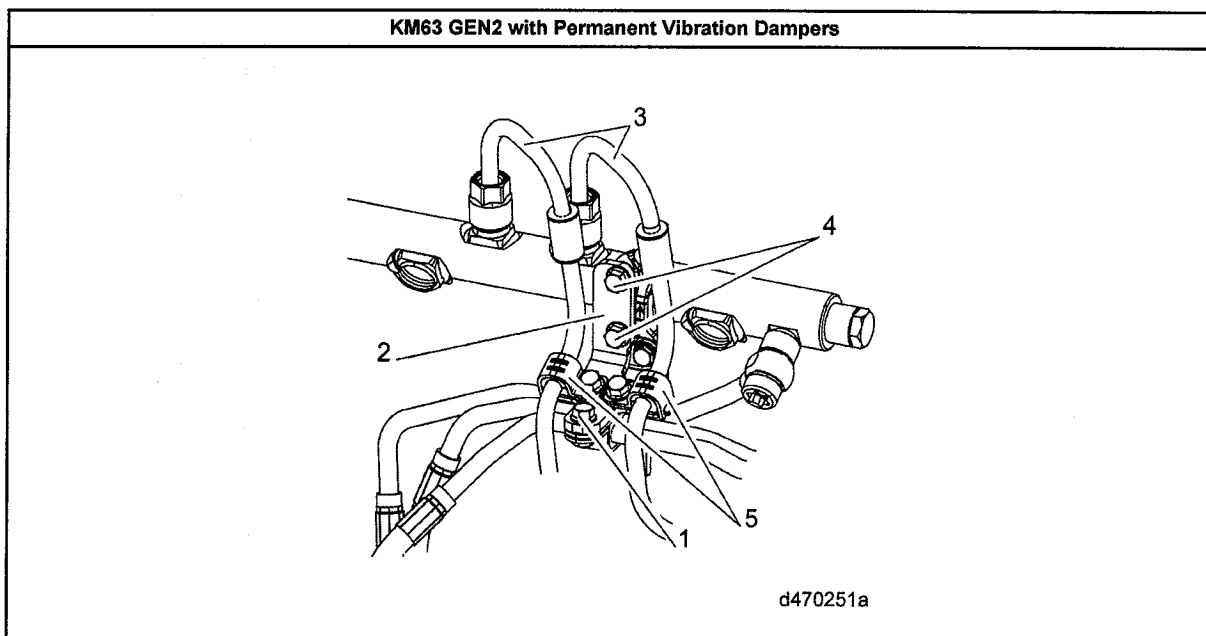


Table 12.



10. Reinstall the return lines P-clip (1). Torque to 15 N·m (132 lb·in.) See illustrations above.

NOTE: DO NOT use high pressure fuel lines without new vibration dampers and new bolts installed.



CAUTION: ELECTRICAL SHOCK

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

11. Connect the batteries.
12. Prime the fuel system. Refer to section "Priming the Fuel System Using ESOC 350 Fuel Priming Pump - Two-Filter System".
13. Perform the Rail Pressure Bleed-Off test to verify that there are no leaks.
Refer to section "Rail Pressure Bleed Off Test Using DDDL- Two-Filter Fuel System".
Refer to section "FIS Low Pressure Leak Test-Two-Filter Fuel System".
14. If there are leaks, find the leak and repair, as necessary.

