



Installation Instructions

18SP554—Install Steel Fuel Line Kit on Series 60 On-Highway Engine

Introduction

This service kit is intended for use on a Detroit Diesel Series 60® truck or coach engine with an air compressor-driven fuel pump. The kit includes the items listed in Table 1.

Part No.	Quantity			Description
	A	B	C	
23530608	*			Kit, Steel Fuel Line – Dual Filter Usage (Parts Listed In Quantity Column A)
23530609		*		Kit, Steel Fuel Line – Single Filter Usage (Parts Listed In Quantity Column B)
23530610			*	Kit, Steel Fuel Line – No Filter Usage (Parts Listed In Quantity Column C)
23530324	1	1	1	– Tube, Fuel Supply to Cylinder Head (Approx. 31.13 in. L.)
MAGP0130	1			– Hose Assembly, Fuel Supply (No. 6 X 15.4 LG G&P)
MAGU0177		1		– Hose Assembly, Fuel Supply (No. 6 X 20.0 in. L. (LG G&U)
MAGP0070			1	– Hose Assembly, Fuel Supply (No. 6 X 9.4 in. L. (LG G&P)
11503454	1	1	1	– Bolt, M10 1.5 X 20.0 mm L.
11504986	1			– Bolt, M8 1.25 X 14.0 mm L.
23520334	2	2	2	– Clip, .375 in. Dia. X .750 in. X .500 in.
18SP554	1	1	1	– Installation Instructions

Table 1. Service Kit Parts Lists

Preparing for Kit Installation

Installation of this kit requires removal of the existing flexible fuel line at the rear of the engine as follows:



CAUTION:

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



CAUTION:

To avoid injury from accidental engine start-up while servicing the engine, disconnect/disable the starting system.

1. With the engine at ambient temperature (cool to the touch) and the starting system disconnected/disabled, disconnect the flexible fuel supply line between the fuel inlet elbow at the rear of the cylinder head and the secondary fuel filter head or the fuel pump outlet, depending on application. *Leave all other fuel lines in place and do not remove the fuel inlet elbow from the cylinder head.*
2. Discard the flexible fuel supply hose, hose clips, bracket(s) and all fasteners used to secure the hose, clips and bracket(s) to the engine with this exception: If you are installing kit 23530609 (single filter) or kit 23530610 (no filter), retain one (1) 11504986 bolt (M8 1.25 X 14 mm). This will be used to clip the steel tube to the left-rear corner of the block. See Figure 2 or see Figure 3.

Installation of Kit

Install the kit as follows:

NOTE:

The fuel inlet elbow at the rear of the cylinder head *must* be oriented to the 7:00 position, as viewed from the rear. The elbow *must* be aligned correctly to eliminate stress on the steel fuel supply tube after installation.

NOTICE:

Do not use the fuel supply tube as a handle to rotate the elbow into position, since this may damage the elbow and/or tube threads.

1. Install the steel fuel supply tube loosely onto the cylinder head fuel inlet elbow and connect the open end of the tube to the fuel supply hose included in the kit. See Figure 4, see Figure 5 or see Figure 6.
2. If you are installing kit 23530608 (dual filter) or kit 23530609 (single filter), connect the free end of the fuel supply hose to the fuel outlet shut-off valve on the secondary filter head. See Figure 4 or see Figure 5.

NOTE:

For dual filter engines, the fuel shut-off valve at the rear of the secondary fuel filter adaptor must be moved to the forward (left) side of the adaptor, as required. See Figure 4.

3. If you are installing kit 23530610 (no filter), connect the free end of the fuel supply hose to the fuel pump outlet. See Figure 6.
4. Torque all steel tube and flexible hose connector fittings to 30 N•m +/- 3 N•m (22 lb-ft +/- 2 lb-ft).

5. Secure the steel fuel supply tube to the block with P-clips, keeping the following in mind:

■ Using the M8 1.25 X 14.0 mm L. bolt, fasten the vertical section of the tube to the block at the bolthole location just behind the top-left flywheel housing mounting bolt. Install the P-clip with the bulge facing the block. Torque bolt to 30 - 38 N•m (22 - 28 lb-ft). See Figure 4, see Figure 5, or see Figure 6.

■ Using the M10 1.5 X 20.0 mm L. bolt, fasten the horizontal section of the tube to the bolthole in the middle of the block. Install the P-clip with the bulge down and facing away from the block. Torque the bolt to 58 - 70 N•m (43 - 52 lb-ft). See Figure 4, see Figure 5, or see Figure 6.

6. Refer to the *Series 60 Service Manual*, 6SE483, and prime the fuel system.

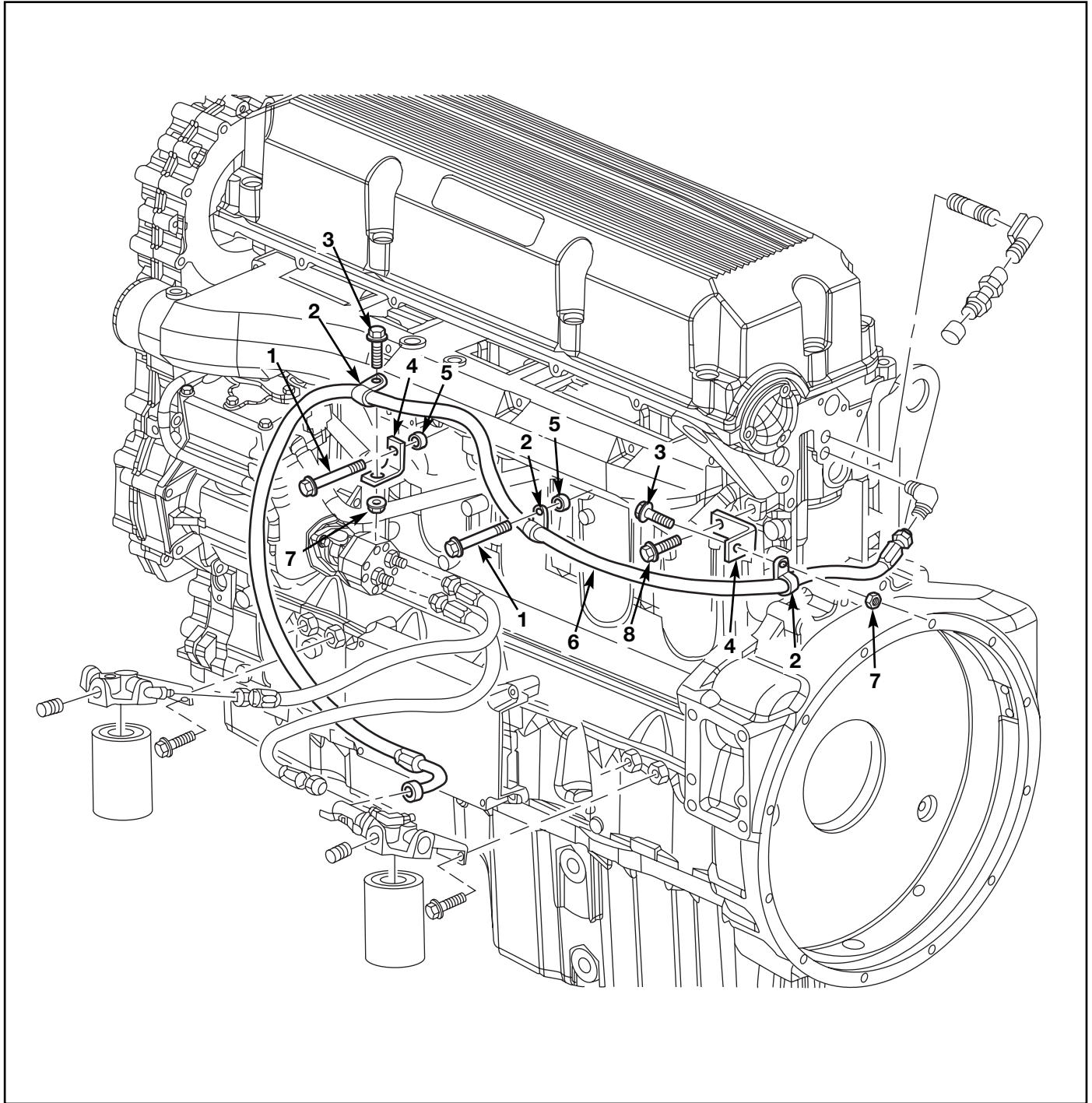


CAUTION:

Diesel engine exhaust and some of its constituents are known to the State of California to cause cancer, birth defects, and other reproductive harm.

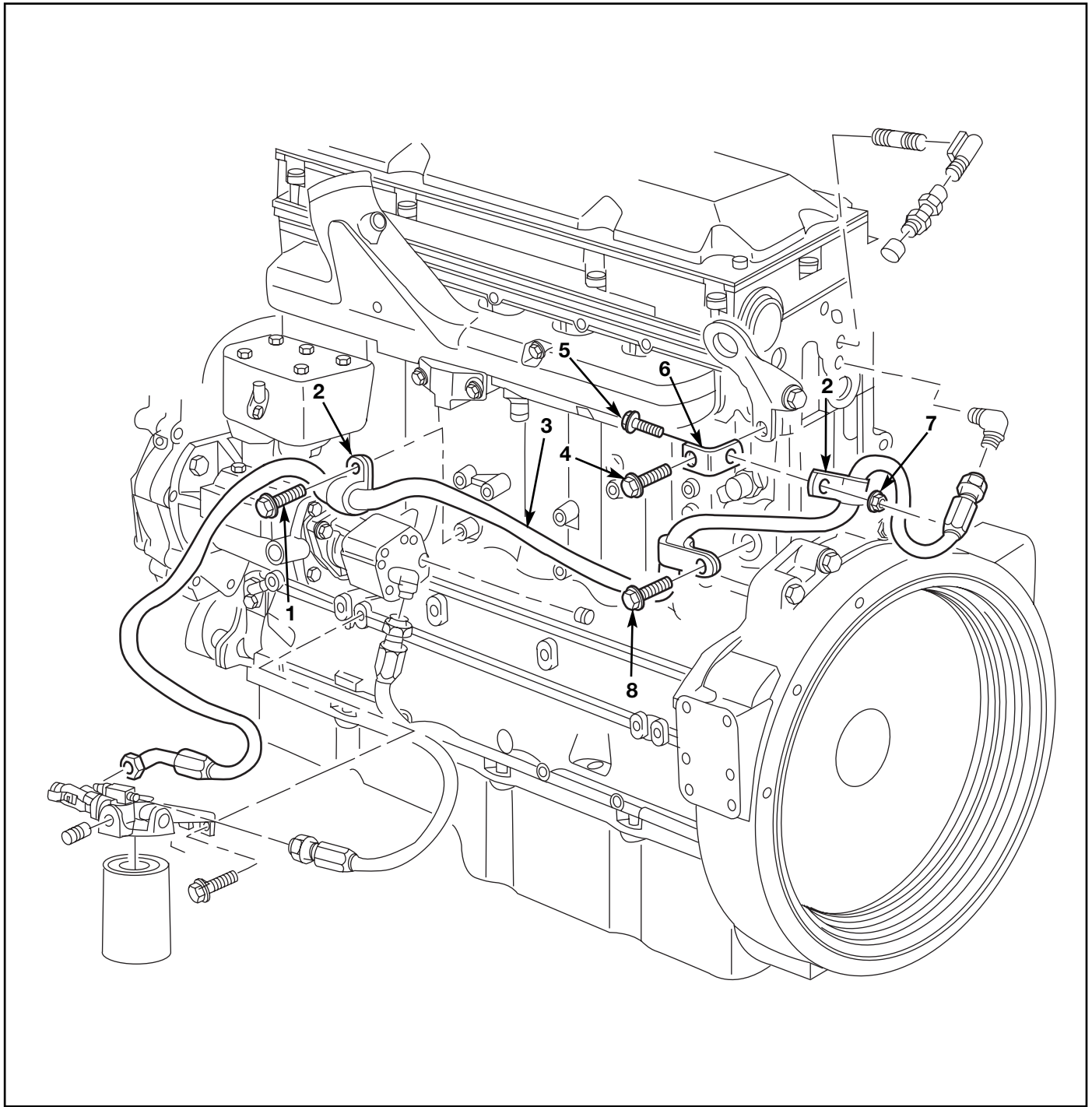
- Always start and operate the engine in a well-ventilated area.
- If operating an engine in an enclosed area, vent the engine to the outside.
- Do not modify or tamper with the exhaust system or emission control system.

7. Reconnect starting power, start the engine, and check for leaks.



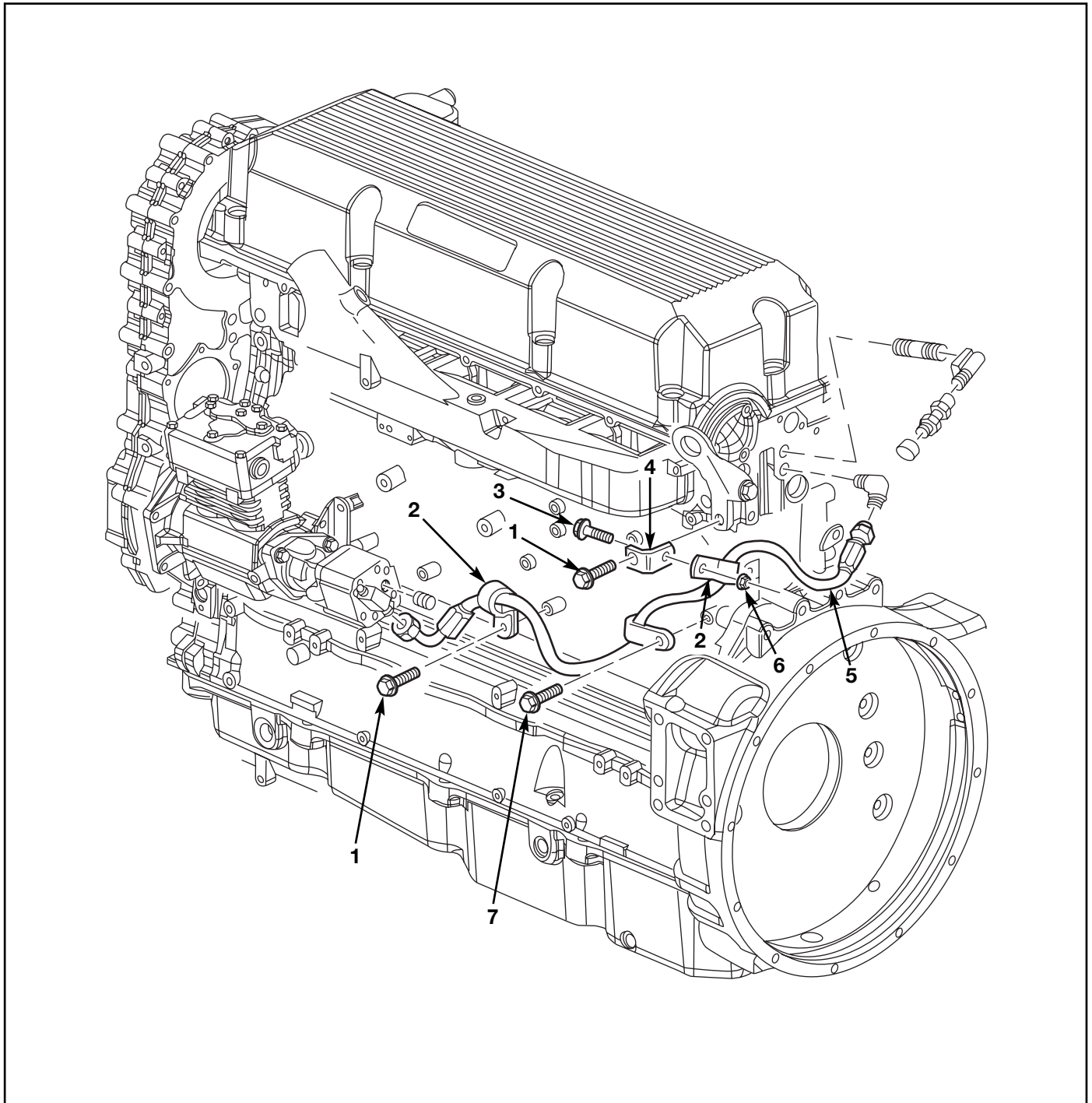
- | | |
|--|-----------------------------------|
| 1. Bolt, Bracket or Clip-to-Block (Long) | 6. Hose, Flexible Fuel Supply |
| 2. Clip, Hose | 7. Nut |
| 3. Bolt, Clip-to-Bracket | 8. Bolt, Bracket-to-Block (Short) |
| 4. Bracket, Clip Mounting | |
| 5. Spacer | |

Figure 1. Remove These Parts Before Installing Kit 23530608



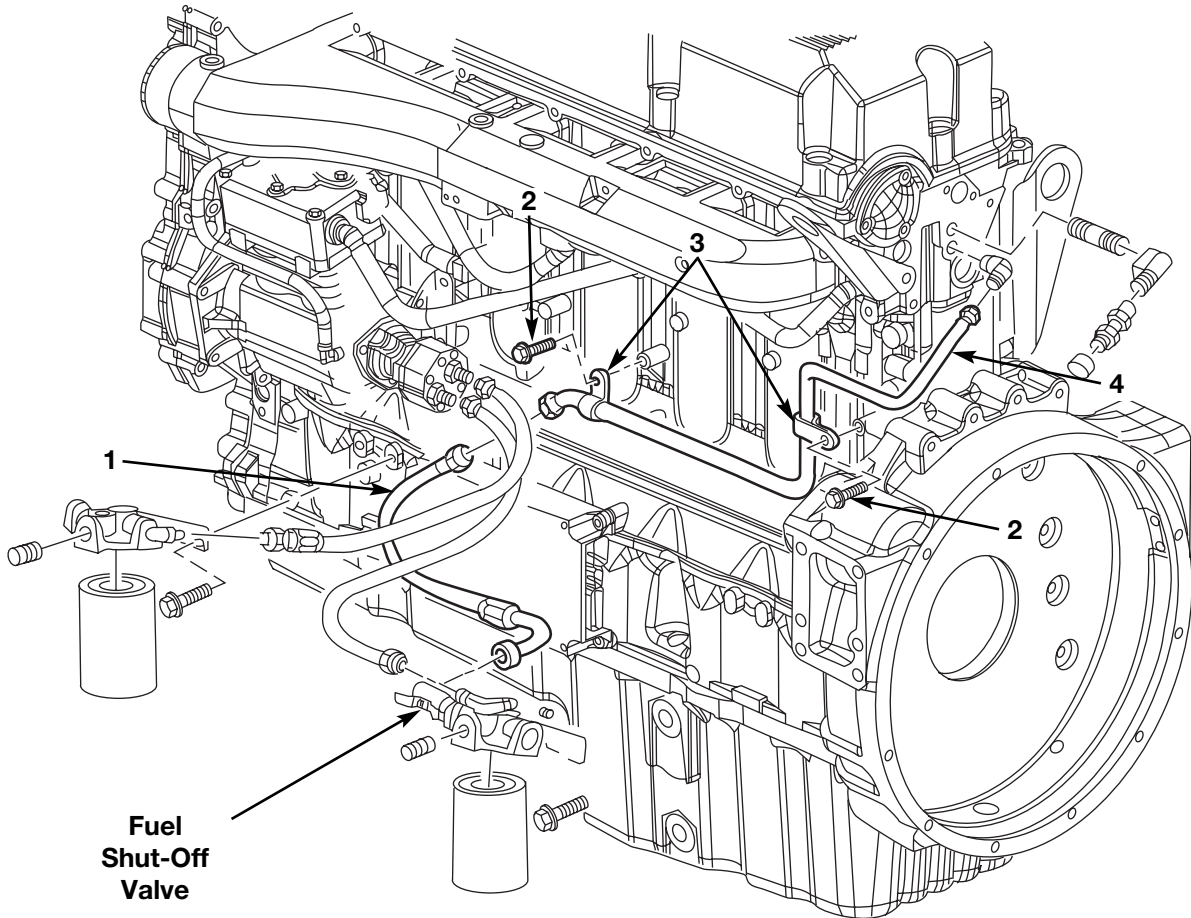
- | | |
|-------------------------------|---|
| 1. Bolt, Clip-to-Block | 5. Bolt, Clip-to-Bracket |
| 2. Clip, Hose | 6. Bracket, Clip Mounting |
| 3. Hose, Flexible Fuel Supply | 7. Nut, Clip-to-Bracket |
| 4. Bolt, Bracket-to-Block | 8. Bolt, Clip-to-Block (retain for reuse) |

Figure 2. Remove These Parts Before Installing Kit 23530609



- | | |
|-----------------------------------|---|
| 1. Bolt, Bracket or Clip-to-Block | 5. Hose, Flexible Fuel Supply |
| 2. Clip, Hose | 6. Nut, Clip-to-Bracket |
| 3. Bolt, Clip-to-Bracket | 7. Bolt, Clip-to-Block (retain for reuse) |
| 4. Bracket, Clip Mounting | |

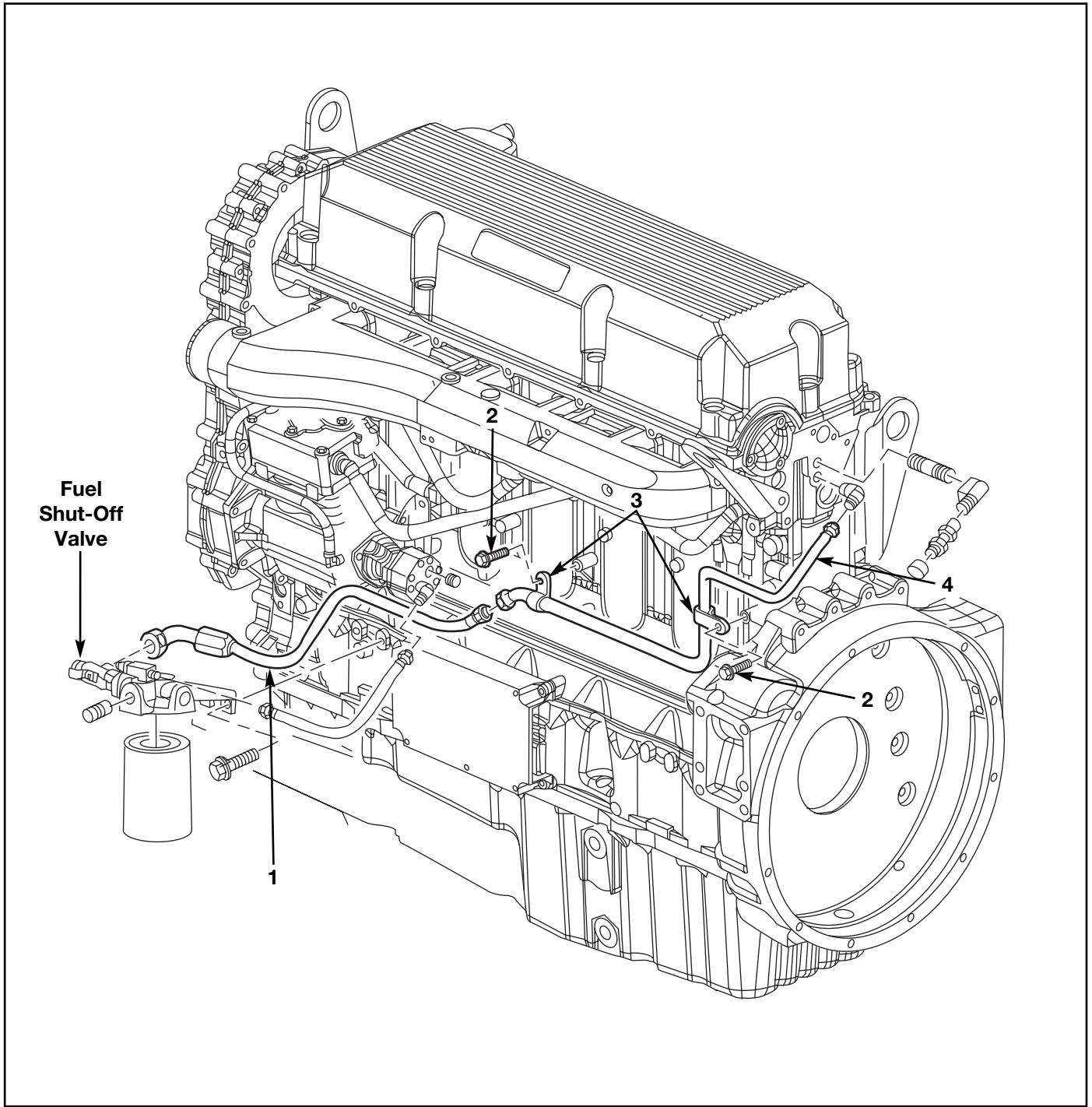
Figure 3. Remove These Parts Before Installing Kit 23530610



- 1. Hose, Flexible Fuel Supply
- 2. Bolt, Clip-to-Block
- 3. Clip, Hose

- 4. Fuel Supply Line, Steel

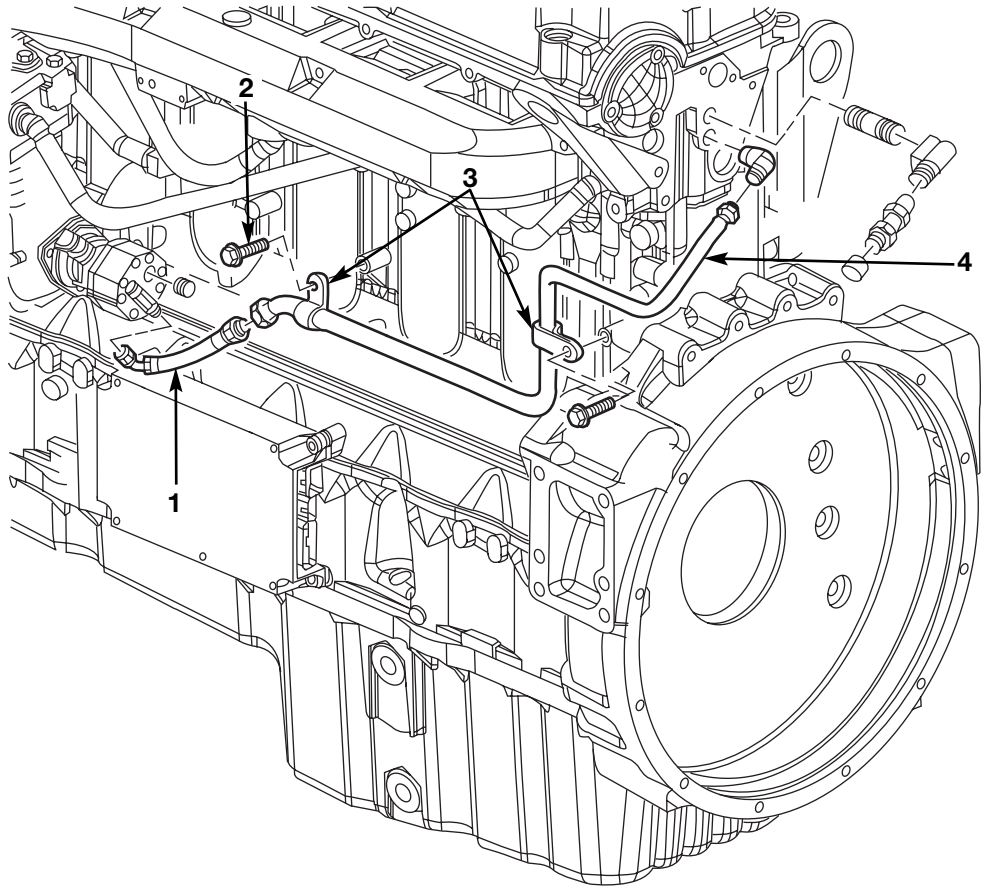
Figure 4. Installation of Kit 23530608



- 1. Hose, Flexible Fuel Supply
- 2. Bolt, Clip-to-Block
- 3. Clip, Hose

- 4. Fuel Supply Line, Steel

Figure 5. Installation of Kit 23530609



- 1. Hose, Flexible Fuel Supply
- 2. Bolt, Clip-to-Block

- 3. Clip, Hose
- 4. Fuel Supply Line, Steel

Figure 6. Installation of Kit 23530610

Specifications subject to change without notice.

DETROIT DIESEL



13400 Outer Drive, West, Detroit, Michigan 48239-4001
Telephone: 313-592-5000
www.detroitdiesel.com

18SP554 Page 9 of 9