



Installation Instructions

18SP595 – Series 60[®] Installation Instructions for the Oil Circuit Kit on EGR Engines

Introduction

Detroit Diesel Corporation has introduced an oil circuit kit for improved oil flow supply to and from the turbocharger on certain Series 60 engines. The kit may be used on model year 2002, 2003, and 2004 EGR engines.

Key features of this kit include:

- A relocation of the turbocharger oil supply tube. Overall length is shorter, the line is block-fed, and it no longer requires a lower clamp.
- An increase in the turbocharger return tube diameter, which enhances flow.
- A thermostatically controlled bypass oil circuit with thermostat in the oil filter adaptor. This will improve oil supply to the turbocharger during cold ambient starting. (Oil cooler housing does not change.)

Associated kit hardware is listed in Table 1.

New Part Number	Quantity	Description
23534173	1	Oil Supply Tube (mid-set)
23534506	1	Adaptor Fitting (block)
23532213	1	Oil Drain Tube (mid-set)
23532326	2	O-rings, Drain Tube
23532171	1	Oil Drain Adaptor
23550752	2	Bolts, Adaptor
08929285	1	Gasket, Turbo Oil Drain
23533181	2	M14 Plug
23532700	1	Oil Filter Adaptor
23508392	3	Seal ring, Oil Cooler Elements
23532850	1	Seal ring, Oil Cooler-to-Block Interface
23506247	1	Gasket, Element to Housing
23524520	1	Oil Thermostat
08929289	1	Seal ring, Oil Cooler Housing-to-Block
23530714	1	Hose, Oil Cooler Housing-to-EGR Cooler
23517231	2	Rotor Clamps
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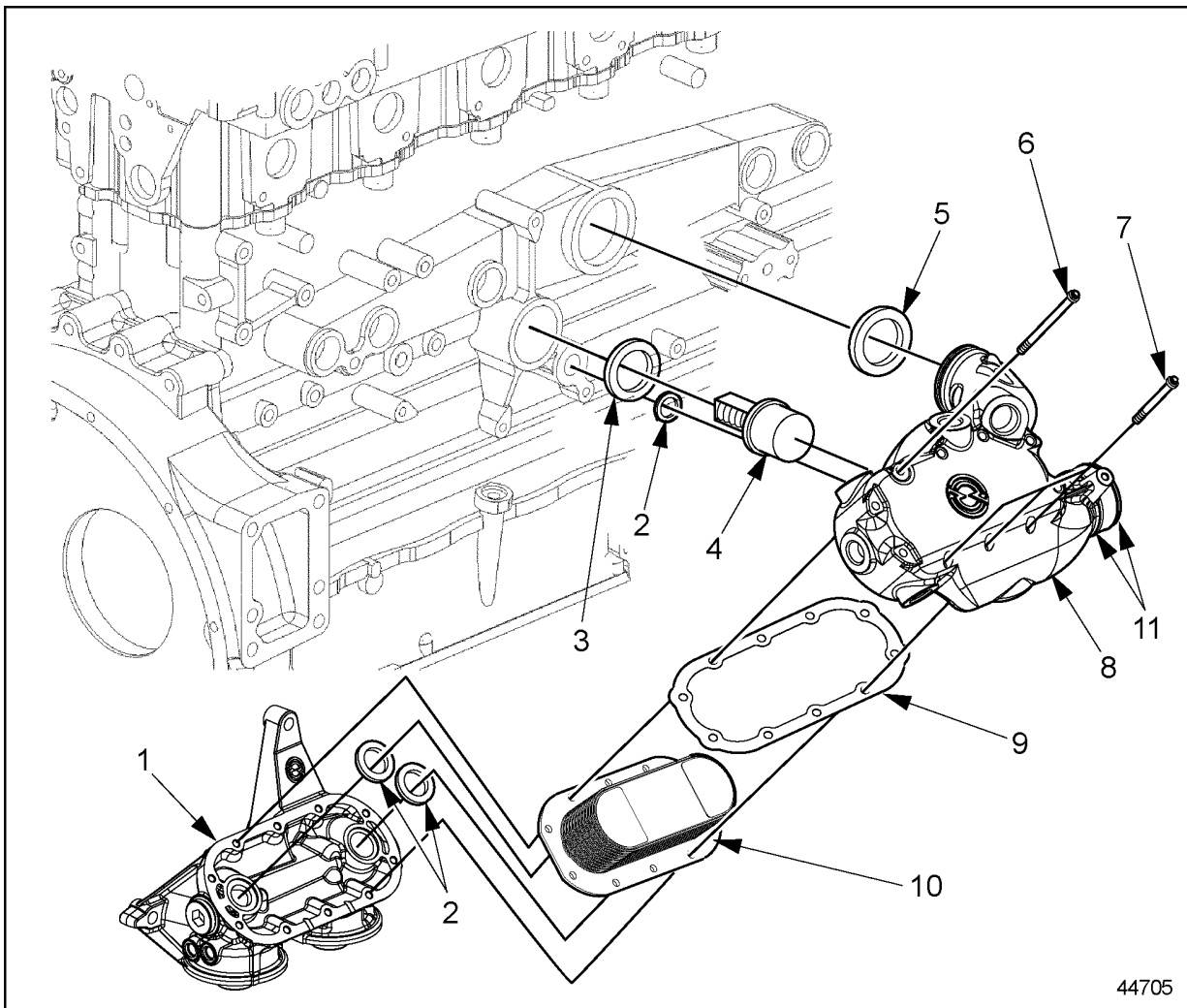
Table 1 Oil Circuit Kit P/N: 23534850 and Components (Turbo mid-setback [MSB] w/ Thermostat)

Installation

NOTE:

The current oil supply tube no longer needs to be fastened to the lower clamp used on the former line. Also, the oil supply tube provided in this kit must *not* be bent. Only the upper clamp needs to be used.

1. Remove the oil cooler housing and oil filter adaptor. The housing will be reused in the installation process, but a new adaptor is supplied in the oil circuit kit.
2. Install oil thermostat, P/N: 23524520, as shown in Figure 1.



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| 1. Oil Filter Adaptor, P/N: 23532700 | 7. Bolt, P/N: 23507182, reused |
| 2. Seal Ring, P/N: 23508392 | 8. Oil Cooler Housing, P/N: 23526054, reused |
| 3. Seal Ring, P/N: 23532850 | 9. Gasket, P/N: 23506247 |
| 4. Oil Thermostat, P/N: 23524520 | 10. Core Element, P/N: 23522416, reused |
| 5. Seal Ring, P/N: 08929289 | 11. Rotor Clamps, P/N: 23517231 |
| 6. Bolt, P/N: 23507183, reused | |

Figure 1 Oil Cooler and Housing Installation

3. Assemble oil filter adaptor, P/N: 23532700 with former oil cooler housing, using new gasket and new seal rings supplied in kit.
4. Install plugs into oil filter adaptor ports as follows: (See Figure 2)
 - a) **Pneumatic** EGR valve for 2002 and 2003 EGR engines:
 - Install the two P/N 23533181 plugs from the kit into ports A and B of the oil filter adaptor (P/N: 23532700) and torque to 22-26 N·m (16-19 lb-ft).
 - b) **Hydraulic** EGR valve for 2004 EGR engines:
 - Remove the EGR valve oil feed tube adaptor fitting from the original oil filter adaptor and install into port A of the new filter adaptor (P/N: 23532700) and torque to 32-36 N·m (24-27 lb-ft).
 - Install one P/N: 23533181 plug from the kit into port B of the oil filter adaptor (P/N: 23532700) and torque to 22-26 N·m (16-19 lb-ft).

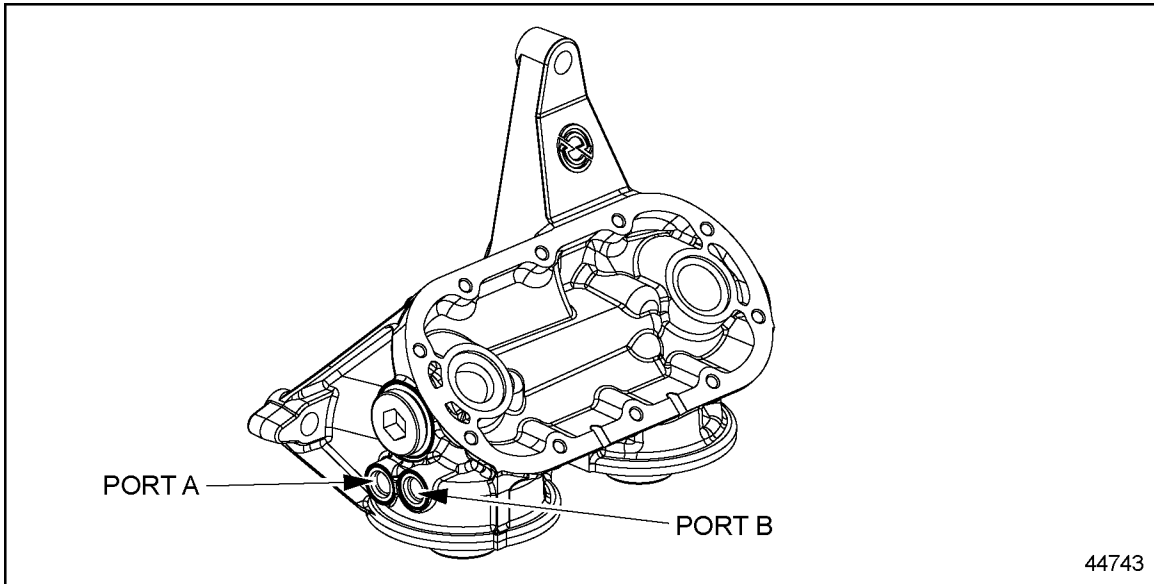
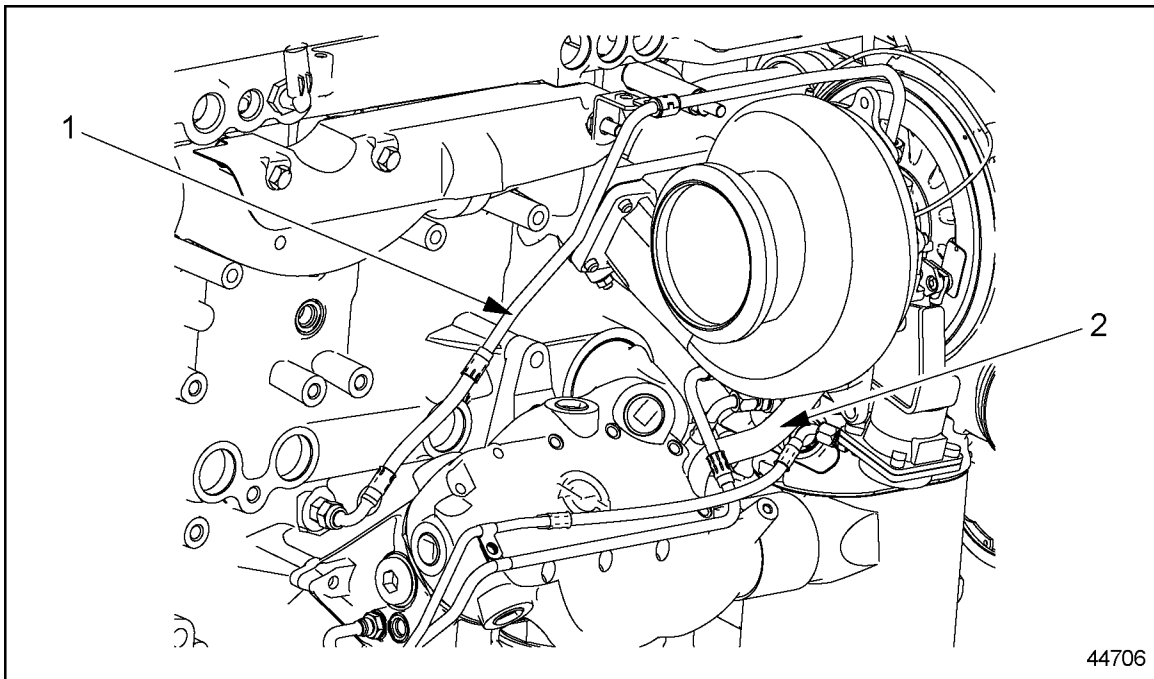


Figure 2 Oil Filter Adaptor Port Locations

5. Install oil cooler/filter housing assembly using seals supplied in kit.
6. Connect oil cooler housing to EGR cooler using cooler hose and two rotor clamps.
7. Remove former oil supply tube and lower bracket. Discard these items.
8. Reinstall lower bracket bolt.
9. Install oil supply tube, P/N: 23534173, provided in kit. See Figure 3. Use upper tube support bracket with rubber grommet.



1. Oil Supply Tube, P/N; 23534173

2. Oil Drain Tube, P/N: 23532213

Figure 3 Installing New Oil Supply Tube, P/N; 23534173

10. Torque the fitting into block at 24-31 N·m (18-23 lb·ft).
11. Torque the oil line nut to 38-43 N·m (28-32 lb·ft).
12. Remove former oil drain tube.
13. Install supplied drain tube, P/N: 23532213, using oil drain adaptor, gasket, o-rings, and bolts supplied in kit. See Figure 3. Torque bolts to 30-38 N·m (22-28 lb·ft).

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