



# Service Manual

## 854 Diesel Engine Troubleshooting

|                |                |              |                |
|----------------|----------------|--------------|----------------|
| <b>DP40N1</b>  | AT12C-00011-up | <b>DP70N</b> | AT20D-10011-up |
| <b>DP45N1</b>  | AT19E-50011-up |              |                |
| <b>DP50CN1</b> | AT19E-80011-up |              |                |
| <b>DP50N1</b>  | AT28D-50011-up |              |                |
| <b>DP55N1</b>  | AT28D-80011-up |              |                |
| <b>DP40NB</b>  | CT12D-00011-up |              |                |
| <b>DP45NB</b>  | CT19F-50001-up |              |                |
| <b>DP50CNB</b> | CT19F-80001-up |              |                |
| <b>DP50NB</b>  | CT28E-50001-up |              |                |
| <b>DP55NB</b>  | CT28E-80001-up |              |                |

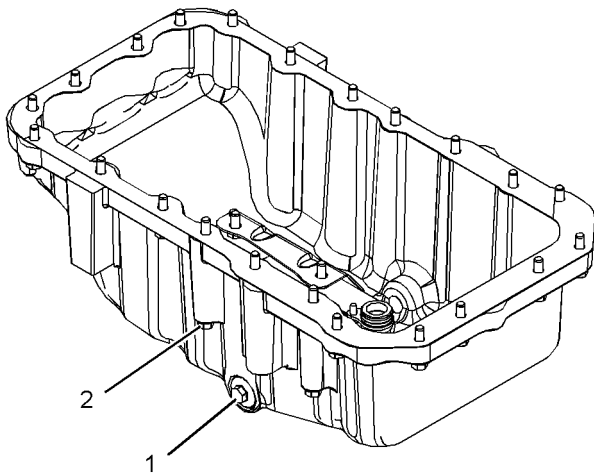


Illustration 39

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**Typical example**

(1) Tighten the drain plug to the following torque.  
.....50 N·m (37 lb ft)

Tighten the fasteners (2) in sequence that is shown in illustration 40 . Tighten the M8 fasteners to an initial torque of 7.5 N·m (66 lb in). Tighten the M10 fasteners to an initial torque of 13.5 N·m (10 lb ft).

Tighten the fasteners (2) in sequence that is shown in illustration 40 . Tighten the M8 fasteners to a final torque of 25 N·m (18 lb ft). Tighten the M10 fasteners to a final torque of 45 N·m (33 lb ft).

7. Position bracket (9) onto engine oil cooler (3). Install bolt (8) to bracket (9). Tighten the bolt to a torque of 15 N·m (133 lb in).
8. Install boost pressure chamber cover (4). Refer to Disassembly and Assembly, "Turbocharger - Install" for the correct procedure.
9. If necessary, install the turbo charger oil drain tube assembly. Refer to Disassembly and Assembly, "Turbocharger - Install" for the correct procedure.
10. Install a new O-ring seal (7) (not shown) to tube assembly (5).
11. Install tube assembly (5) to engine oil cooler (3).
12. Install bolts (6) to tube assembly (5). Tighten the bolts to a torque of 25 N·m (221 lb in).
13. Connect the coolant hoses to tube assembly (5).
14. Install the Alternator. Refer to Disassembly and Assembly, "Alternator - Install" for the correct procedure.
15. Fill the cooling system to the correct level. Refer to Operation and Maintenance Manual, "Cooling System Coolant - Change" for the correct procedure.
16. If the engine oil was drained during the engine oil cooler removal procedure, refill the lubrication system. Refer to Operation and Maintenance Manual, "Engine Oil and Filter - Change" for the correct procedure.
17. Check the level of the engine lubricating oil. Refer to Operation and Maintenance Manual, "Engine Oil Level - Check" for the correct procedure.

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## Engine Oil Relief Valve - Remove and Install

### Removal Procedure

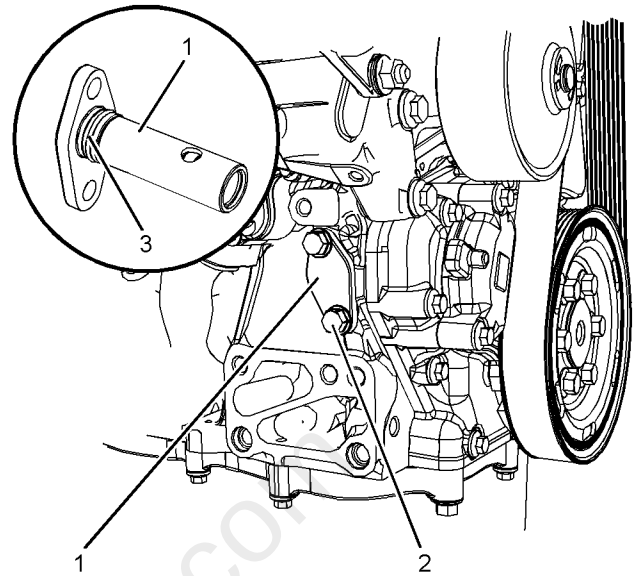


Illustration 157

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1. Remove bolts (2) from engine oil relief valve (1).
2. Remove engine oil relief valve (1) from the cylinder block.
3. Remove O-ring seal (3) from engine oil relief valve (1).

### Installation Procedure

#### NOTICE

Keep all parts clean from contaminants.

Contaminants may cause rapid wear and shortened component life.

1. Check all components for wear and damage. If necessary, replace any components that are worn or damaged.

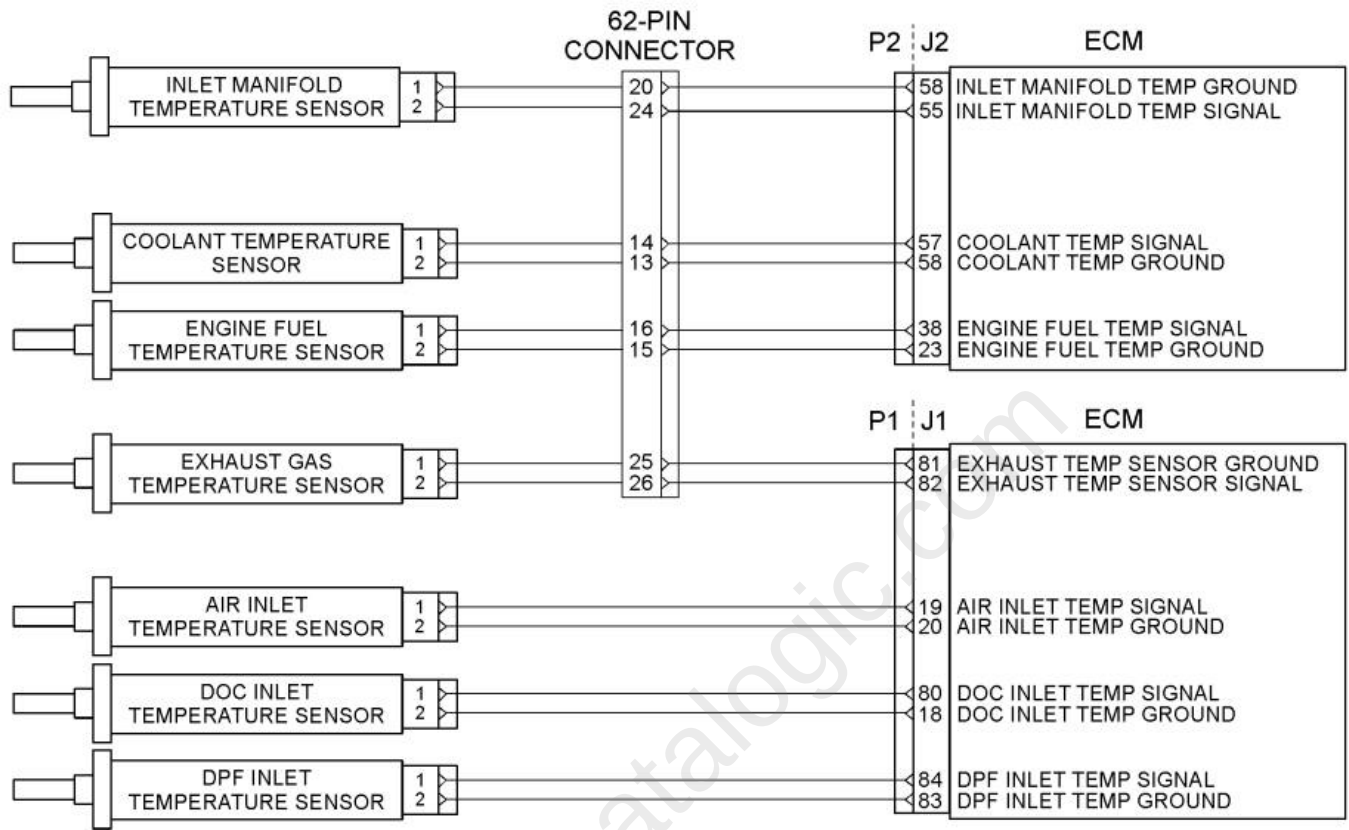


Illustration 39

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Schematic for the temperature sensors for the 854F-E34T (model JS) engine and 854F-E34T (model JT) engine

The air inlet temperature sensor and the coolant temperature sensor are passive sensors. Each sensor provides a temperature input to the ECM. The ECM controls following operations:

- Fuel delivery
- Injection timing

The sensors are also used for engine monitoring.

- All sensors
- The control valve for the fuel injection pump
- The solenoid for the wastegate
- Diagnostic connector
- Electronic unit injectors

The glow plugs are powered directly from the battery.

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## Power Sources

### Introduction

The engine supplies power to the ECM. The ECM powers the following components:

## Full Version Available

### Caterpillar DP50N1 Forklift Service and Operator Manual (99739-69104)

Caterpillar DP50N1 forklift service manual, covers hydraulics, mast, drive unit, wiring, and engine. Searchable PDF download.

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