CAT® Lift Trucks

Service Manual

854 Diesel Engine
Troubleshooting

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

99739-69104

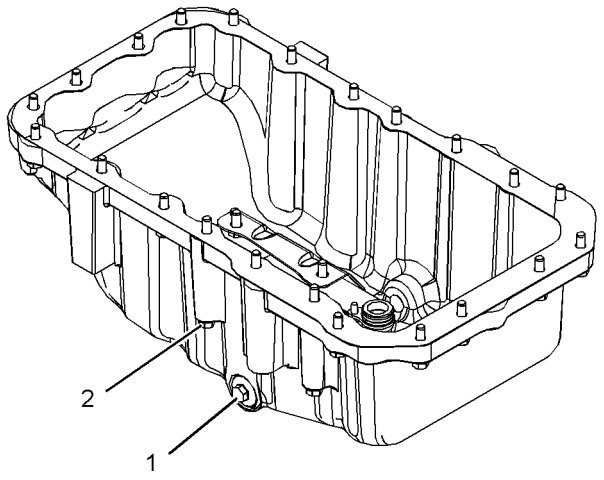

Illustration 39 g02906220

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

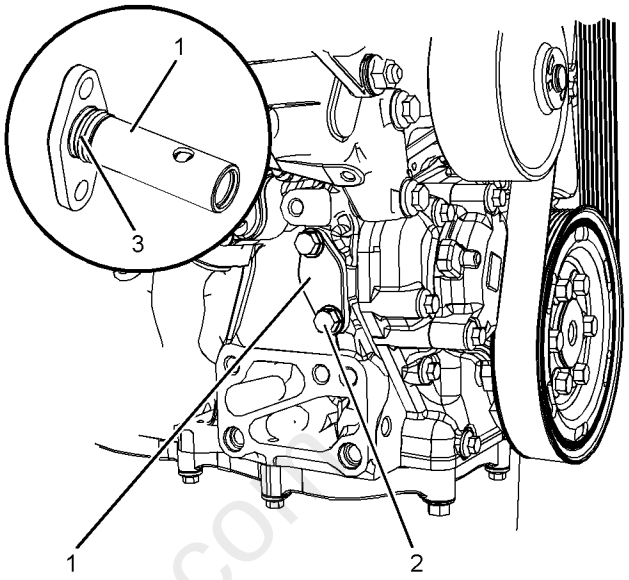

Illustration 157 g02953956

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.

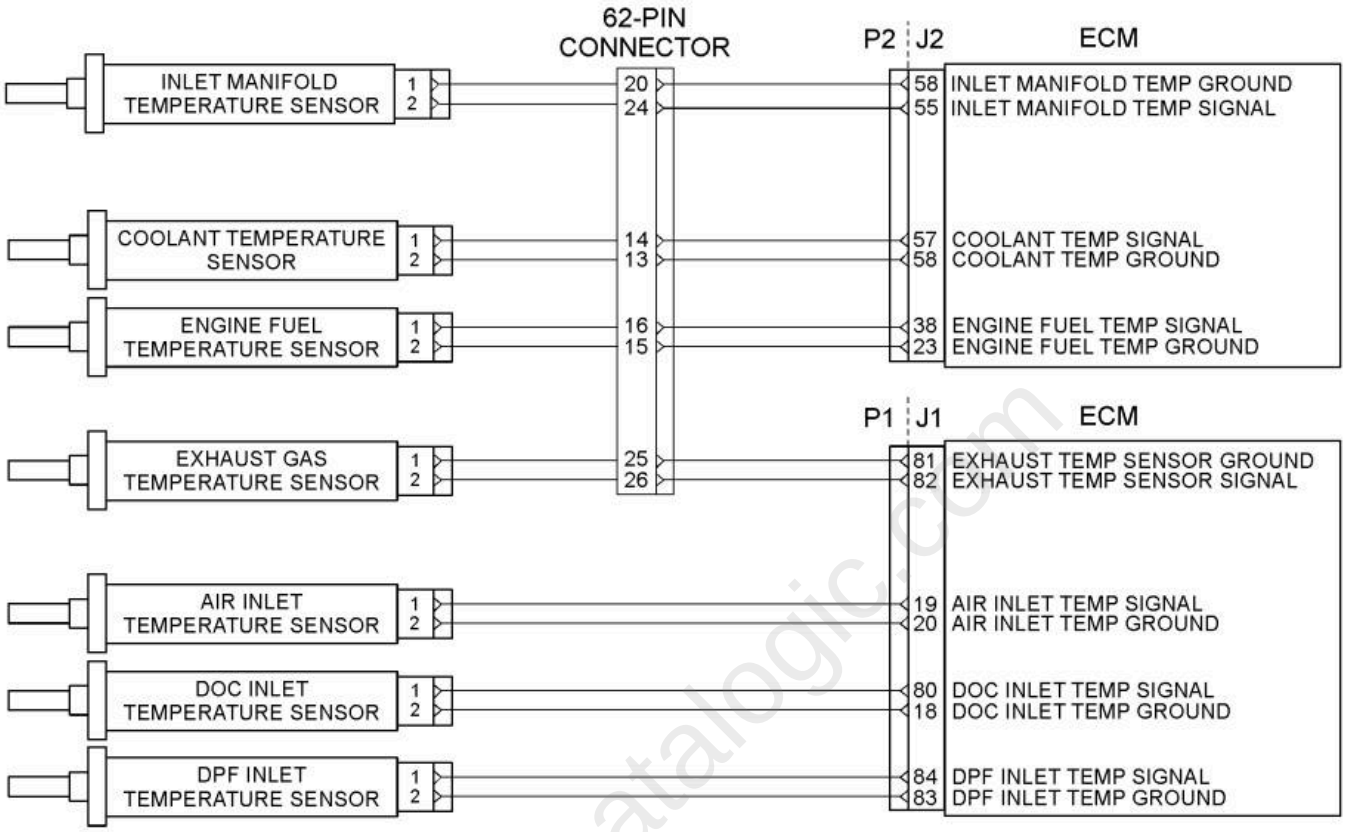

Illustration 39 g03360457

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:

Table 4

Indicator Operation					
During passive regeneration no indicator will be illuminated					
Aftertreatment Indicator	**Aftertreatment Indicator State**	**Warning Indicator**	**Warning Indicator State**	**Description**	**Action Required**
Regeneration Active indicator	On Solid	None	None	Regeneration is activated. The indicator will stay illuminated during regeneration.	None
			-		
DPF Indicator	On Solid	None	None	The indicator provides a general indication of the soot load. The indicator is off when the soot load is normal.	A regeneration is required. In automatic mode the ECM will decide when to allow the active regeneration. If the DPF indicator stays illuminated allow a manual regeneration without interruption. An uninterrupted active regeneration will reset the DPF indicator.
			-		
DPF Indicator	On Solid	Amber indicator	Flashing	The indicator indicates that the soot load has increased. The engine will derate.	A manual regeneration is required. Perform a manual regeneration, or a service regeneration will be required.
			-		
DPF Indicator	On Solid	Amber indicator	Flashing	The flashing warning indicator and red stop indicator indicates that the engine has continued to be operated while a regeneration is required. The engine will be derated and the engine should be shut down immediately.	**Once the engine enters into shutdown mode, you must contact your authorized Cat® lift truck dealer.** Your authorized Cat® lift truck dealer will need to perform a service level regeneration. **The DFP may need to be replaced.**
-	-	Red indicator (STOP)	On Solid		

Note: Amber or yellow warning indicator can be used as a diagnostic lamp. For more information refer to this Operation and Maintenance Manual, “Diagnostic Lamp”.

Regeneration Operation

Regeneration will require the following conditions:

Automatic Regeneration

In order for an automatic regeneration to take place the engine must be at operating temperature.

Turning the keyswitch to the OFF position during a regeneration will stop the regeneration. An interrupted regeneration will not remove the soot from the DPF and will waste fuel.

Full Version Available

Caterpillar DP55N1 Forklift Service and Operator Manual (99739-69104)

Caterpillar DP55N1 forklift service manual, covers hydraulics, mast, drive unit, wiring, and engine work in searchable PDF. Instant PDF download.