CAT® Lift Trucks

Service Manual

1204F Diesel Engine
Troubleshooting

For use with DP100N2 - DP160N2
Chassis Service Manuals.

99799-67104

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Event Codes		
PDL Code and Description	**J1939 Code and Description**	**Troubleshooting Procedure**
E960 (2) High Aftertreatment #1 DEF Tank #1 Temperature	3031-16 Aftertreatment #1 DEF Tank Temperature : High - moderate severity (2)	Troubleshooting, "DEF Tank Temperature Is High"
E995 (2) High DPF #1 Soot Loading	3719-16 DPF #1 Soot Loading Percent : High - moderate severity (2)	Troubleshooting, "Diesel Particulate Filter Collects Excessive Soot"
E995 (3) High DPF #1 Soot Loading	3719-0 DPF #1 Soot Loading Percent : High - most severe (3)	Troubleshooting, "Diesel Particulate Filter Collects Excessive Soot"
E1014 (1) Low DPF #1 Intake Temperature	3242-17 Aftertreatment #1 DPF Intake Gas Temperature : Low - least severe (1)	Troubleshooting, "Diesel Particulate Filter Temperature Is Low"
E1014 (2) Low DPF #1 Intake Temperature	3242-18 Aftertreatment #1 DPF Intake Gas Temperature : Low - moderate severity (2)	Troubleshooting, "Diesel Particulate Filter Temperature Is Low"
E1044 (2) High Intake Manifold Pressure	102-16 Engine Intake Manifold #1 Pressure : High - moderate severity (2)	Troubleshooting, "Intake Manifold Air Pressure Is High"
E1045 (2) Low Intake Manifold Pressure	102-18 Engine Intake Manifold #1 Pressure : Low - moderate severity (2)	Troubleshooting, "Intake Manifold Air Pressure Is Low"
E1092 (1) High EGR Temperature	412-15 Engine Exhaust Gas Recirculation Temperature : High - least severe (1)	Troubleshooting, "NRS Exhaust Gas Temperature Is High"
E1092 (2) High EGR Temperature	412-16 Engine Exhaust Gas Recirculation Temperature : High - moderate severity (2)	Troubleshooting, "NRS Exhaust Gas Temperature Is High"
E1121 (2) EGR Valve Control Not Responding to Command	2791-7 Engine Exhaust Gas Recirculation (EGR) Valve Control : Not Responding Properly	Troubleshooting, "Motorized Valve - Test"
E1263 (2) Engine Exhaust Back Pressure Regulator Not Responding to Command	649-7 Engine Exhaust Back Pressure Regulator Control Command : Not Responding Properly	Troubleshooting, "Motorized Valve - Test"
E1264 (2) High Pressure Common Rail Fuel Pressure Relief Valve Active	5571-0 High Pressure Common Rail Fuel Pressure Relief Valve : High - most severe (3)	Troubleshooting, "Fuel Rail Pressure Problem"
E1309 (2) Low Aftertreatment #1 SCR Catalyst Conversion Efficiency	4364-18 Aftertreatment #1 SCR Catalyst Conversion Efficiency : Low - moderate severity (2)	Troubleshooting, "NOx Conversion Is Low"
E1319 (2) EGR Mass Flow Rate Not Responding	2659-7 Engine Exhaust Gas Recirculation (EGR) Mass Flow Rate : Not Responding Properly	Troubleshooting, "NRS Mass Flow Rate Problem"

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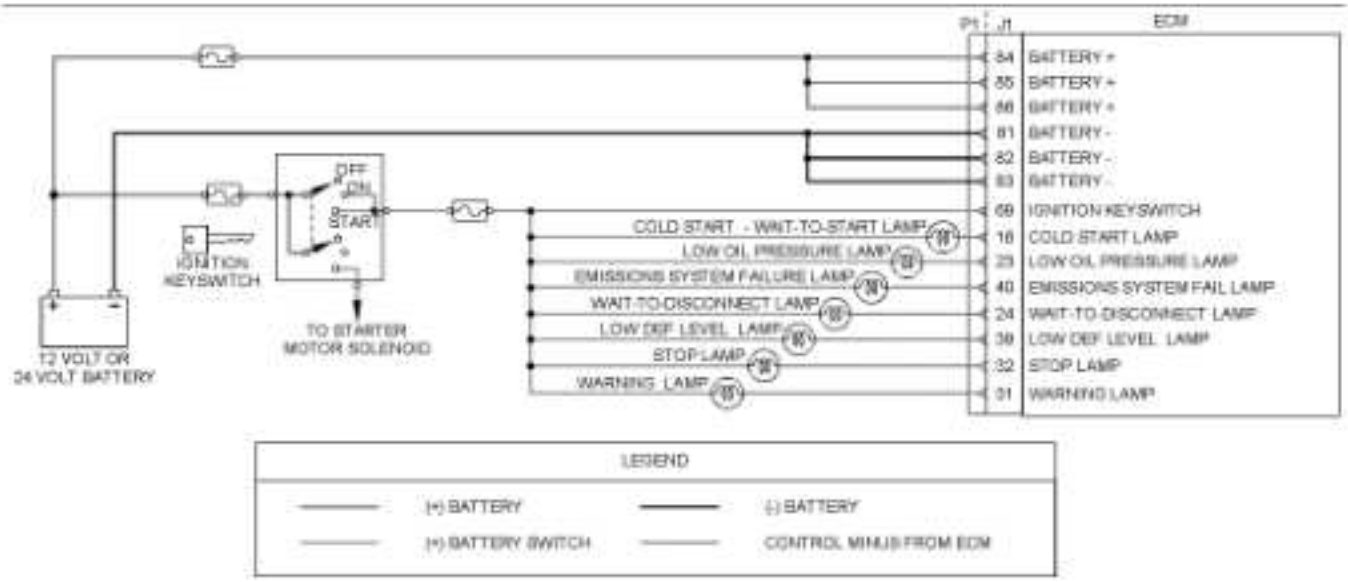


Illustration 99 g03712946

Typical schematic of the circuit for the indicator lamps

Not all connectors are shown. Refer to the appropriate Electrical Schematic.

Table 172

Troubleshooting Test Steps	Values	Results
1. Inspect Electrical Connectors and Wiring **A.** Turn the keyswitch to the OFF position. **B.** Check that the fuses are not blown. **C.** Thoroughly inspect the P1 connector and the lamp connections. Refer to Troubleshooting, "Electrical Connectors - Inspect" for details. **D.** Perform a 45 N (10 lb) pull test on each of the wires in the P1 connector that are associated with the indicator lamps. **E.** Check the screw for the ECM connector for the correct torque of 6 N·m (53 lb in). **F.** Check the harness for abrasions and for pinch points from the battery to the ECM.	Loose connection or damaged wire	**Result:** There is a fault in a connector or the wiring. **Repair:** Repair any faulty connectors or replace the wiring harness. Ensure that all of the seals are properly in place and ensure that the connectors are correctly coupled. Replace any blown fuses. Use the electronic service tool to verify that the repair eliminates the fault. **Result:** All connectors, pins, and sockets are correctly coupled and/or inserted. The harness is free of corrosion, abrasion, and pinch points. The fuses are not blown. Proceed to Test Step 2.
2. Inspect the Lamp **A.** Disconnect the lamp from the harness. Inspect the lamp in order to determine if the lamp has failed. **B.** Measure the resistance across the two terminals of the lamp.	Less than 2000 Ohms	**Result:** The lamp has greater than 2000 Ohms resistance. **Repair:** Replace the suspect lamp. Use the electronic service tool to verify that the repair eliminates the fault. **Result:** The lamp has less than 2000 Ohms resistance. Proceed to Test Step 3.

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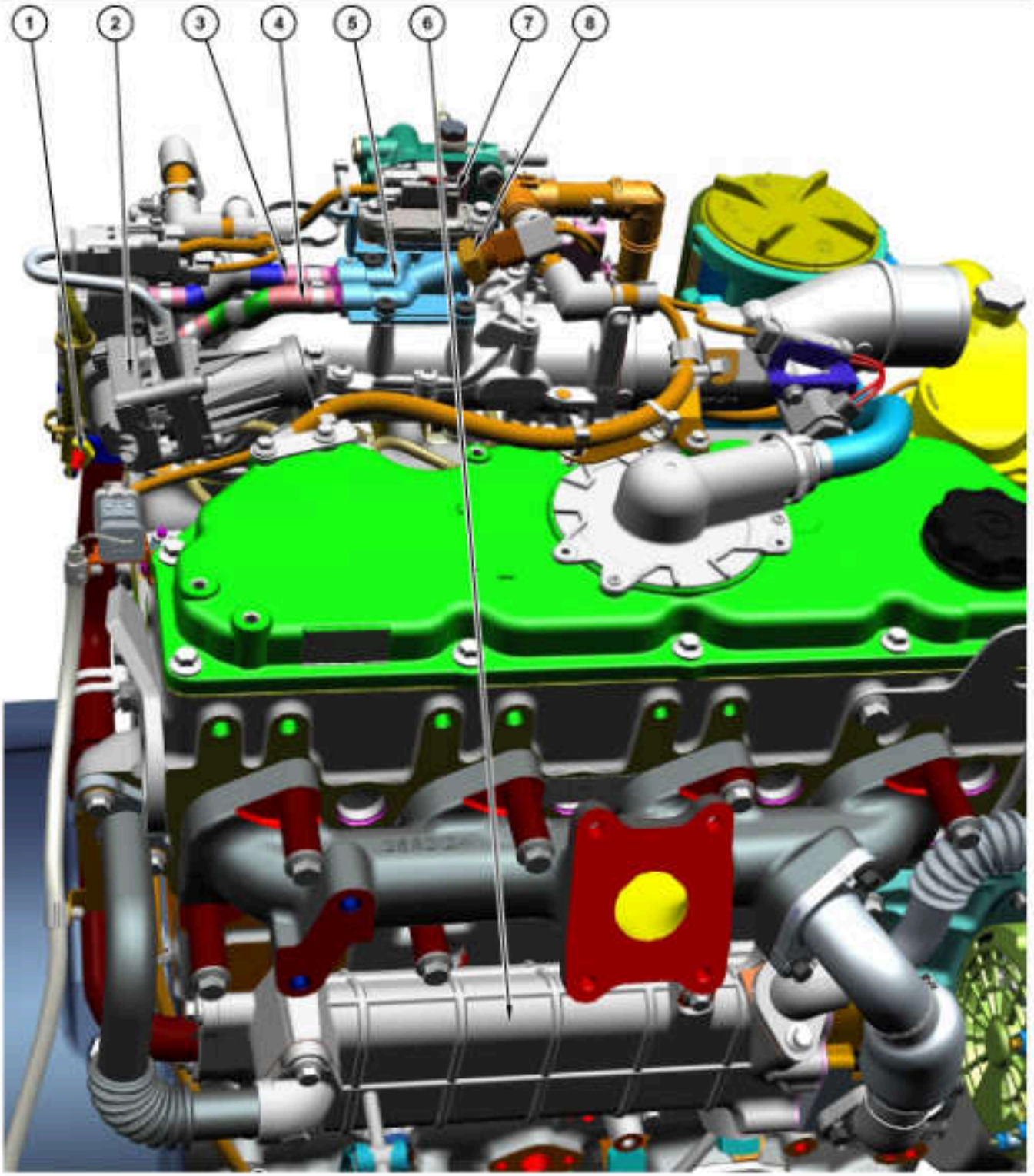


Illustration 67 g06155815

(1) NRS inlet temperature sensor
(2) NRS mixer
(3) Pipe for the NRS differential pressure sensor
(4) Pipe for the NRS inlet pressure sensor
(5) Manifold for the NRS pressure sensors
(6) NRS cooler
(7) NRS differential pressure sensor
(8) NRS inlet pressure sensor

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(Table 188, contd)

Troubleshooting Test Steps	Values	Results
B. Install a new barometric pressure sensor. **C.** Turn the keyswitch to the ON position. Do not start the engine. **Note:** Wait at least 10 seconds in order for the diagnostic codes to become active. **D.** Monitor the status parameter for the suspect sensor on the electronic service tool.		Use the electronic service tool to clear all logged codes. Return the unit to service. **Result:** Either a 3358-13 (3385-13) or 3563-13 (1785-13) code is active. Proceed to Test Step 4.

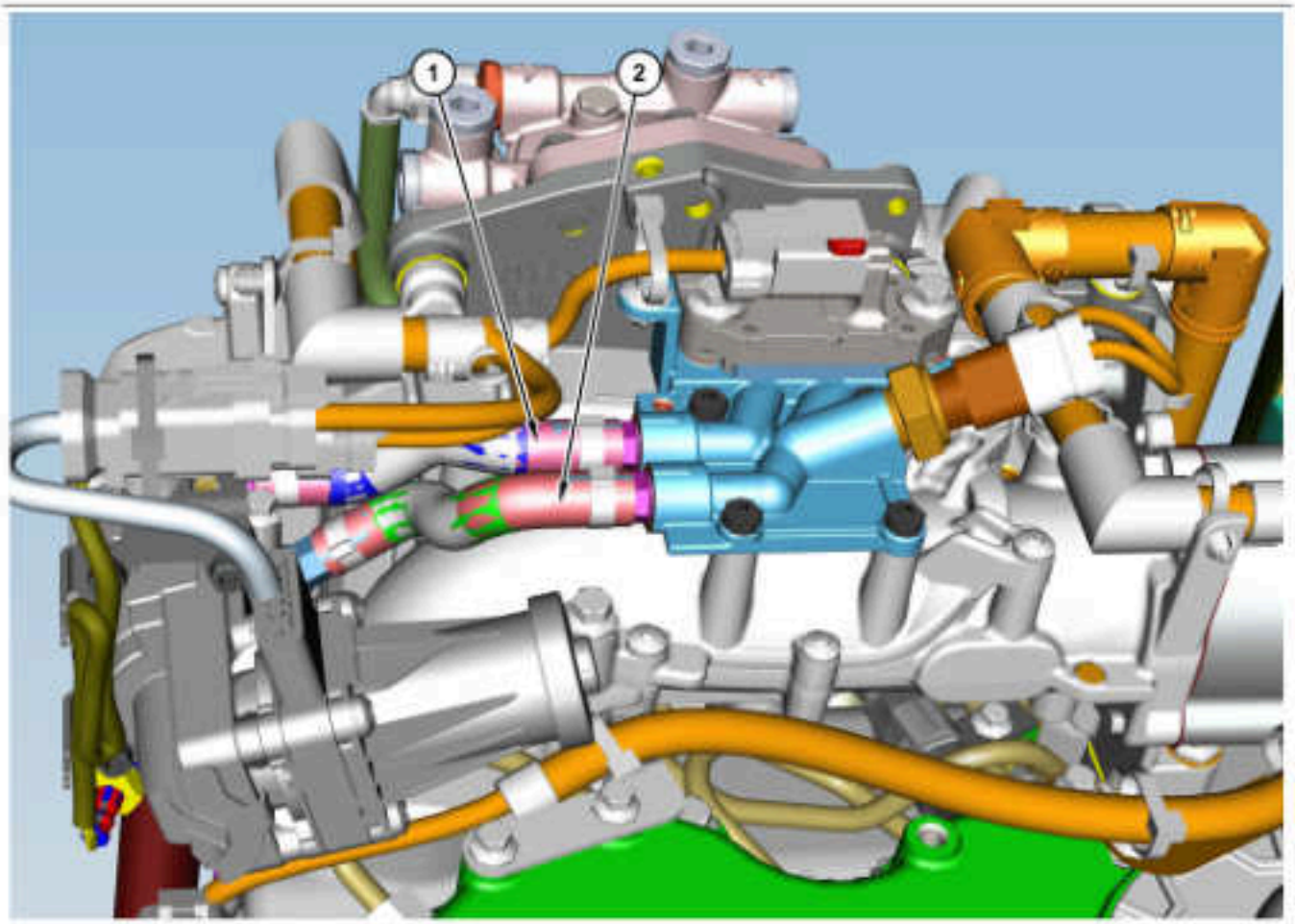


Illustration 110 g03724216

(1) Pipe for the NRS differential pressure sensor

(2) Pipe for the NRS inlet pressure sensor

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