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2018 Ford F-550 Super Duty Service and Repair Manual

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PCM (powertrain control module)	P3452:00	Cylinder 7 Deactivation/Intake Valve Control Circuit High: No Sub Type Information	GO to Pinpoint Test KH

Global Customer Symptom Code (GCSC) Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: Diagnostic Methods

(100-00 General Information, Description and Operation).

Global Customer Symptom Code Chart

Customer Symptom	Action
Driving Performance > Lack/Loss of Power > Acceleration > Always	GO to Pinpoint Test KH
Driving Performance > Lack/Loss of Power > Cruise/ Steady Speed > Always	GO to Pinpoint Test KH
Driving Performance > Poor Fuel Economy > Combined > Loaded	GO to Pinpoint Test KH

Pinpoint Tests

PINPOINT TEST KH : CYLINDER DEACTIVATION

Normal Operation and Fault Conditions

Refer to the DTC (diagnostic trouble code) Fault Trigger Conditions.

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
PCM (powertrain control module) P3401:00	Cylinder 1 Deactivation/Intake Valve Control Circuit/Open: No Sub Type Information	Sets when the PCM (powertrain control module) detects a low or high voltage from the cylinder deactivation control cylinder 1 circuit is detected.
PCM (powertrain control module) P3402:00	Cylinder 1 Deactivation/Intake Valve Control Circuit Performance: No Sub Type Information	Sets when the PCM (powertrain control module) detects that the cylinder deactivation solenoid is not in the correct commanded state.

PCM (powertrain control module) P3443:00	Cylinder 6 Deactivation/Intake Valve Control Circuit Low: No Sub Type Information	Sets when the PCM (powertrain control module) detects a lower than expected voltage from the cylinder deactivation control cylinder 6 circuit is detected.
PCM (powertrain control module) P3444:00	Cylinder 6 Deactivation/Intake Valve Control Circuit High: No Sub Type Information	Sets when the PCM (powertrain control module) detects a higher than expected voltage from the cylinder deactivation control cylinder 6 circuit is detected.
PCM (powertrain control module) P3449:00	Cylinder 7 Deactivation/Intake Valve Control Circuit/Open: No Sub Type Information	Sets when the PCM (powertrain control module) detects a low or high voltage from the cylinder deactivation control cylinder 7circuit is detected.
PCM (powertrain control module) P3450:00	Cylinder 7 Deactivation/Intake Valve Control Circuit Performance: No Sub Type Information	Sets when the PCM (powertrain control module) detects that the cylinder deactivation solenoid is not in the correct commanded state.
PCM (powertrain control module) P3451:00	Cylinder 7 Deactivation/Intake Valve Control Circuit Low: No Sub Type Information	Sets when the PCM (powertrain control module) detects a lower than expected voltage from the cylinder deactivation control cylinder 7 circuit is detected.
PCM (powertrain control module) P3452:00	Cylinder 7 Deactivation/Intake Valve Control Circuit High: No Sub Type Information	Sets when the PCM (powertrain control module) detects a higher than expected voltage from the cylinder deactivation control cylinder 7 circuit is detected.

Possible Sources

- Cylinder deactivation solenoid circuitry concern
- Cylinder deactivation solenoid
- Cylinder deactivation rocker arm concerns
- Restricted oil passages

Pinpoint Test Steps available in the on-line Workshop Manual.

PCM (powertrain control module)	P0506:00	Idle Control System - RPM Lower Than Expected: No Sub Type Information	GO to Pinpoint Test HU
PCM (powertrain control module)	P0507:00	Idle Control System - RPM Higher Than Expected: No Sub Type Information	GO to Pinpoint Test HU
PCM (powertrain control module)	P050A:00	Cold Start Idle Control System Performance: No Sub Type Information	GO to Pinpoint Test HU
PCM (powertrain control module)	P050B:00	Cold Start Ignition Timing Performance: No Sub Type Information	GO to Pinpoint Test HU
PCM (powertrain control module)	P050E:00	Cold Start Engine Exhaust Temperature Too Low: No Sub Type Information	GO to Pinpoint Test HU
PCM (powertrain control module)	P115E:00	Throttle Actuator Control Throttle Body Air Flow Trim At Max Limit: No Sub Type Information	GO to Pinpoint Test HU

Global Customer Symptom Code (GCSC) Chart

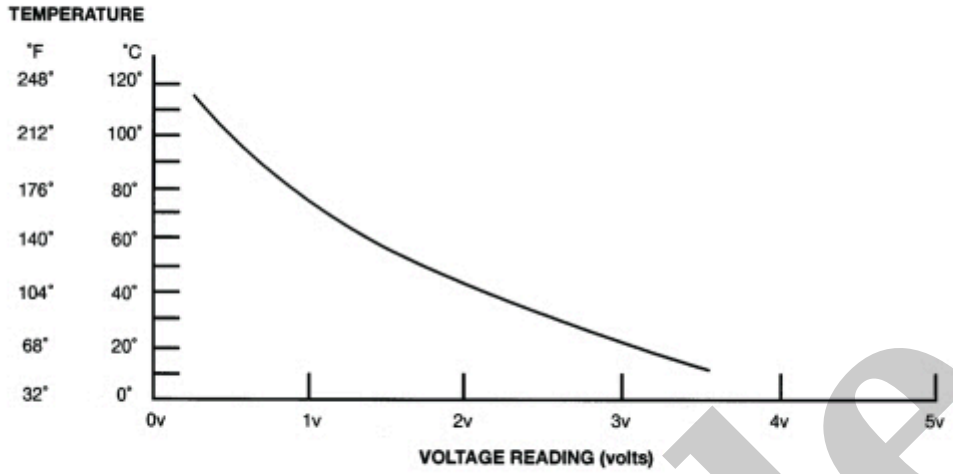
Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: Diagnostic Methods

(100-00 General Information, Description and Operation).

Global Customer Symptom Code Chart

Customer Symptom	Action
Start/Run/Move > Starting > No Crank > Always	GO to Pinpoint Test HU
Start/Run/Move > Starting > Slow Crank/Battery > Always	GO to Pinpoint Test HU
Start/Run/Move > Starting > Hard Start/Long Crank > Always	GO to Pinpoint Test HU
Start/Run/Move > Starting > Ready to Drive (hyb/EV) > Inoperative	GO to Pinpoint Test HU
Start/Run/Move > Starting > Auto Start/Stop > Inoperative	GO to Pinpoint Test HU



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Refer to the DTC (diagnostic trouble code) Fault Trigger Conditions.

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
PCM (powertrain control module) P0111:00	Intake Air Temperature Sensor 1 Circuit Range/Performance (Bank 1): No Sub Type Information	Sets when the PCM (powertrain control module) detects the IAT (intake air temperature) sensor value does not correlate with the CHT (cylinder head temperature) sensor value at ignition ON after a calibrated soak period (typically 6 to 8 hours).
PCM (powertrain control module) P0112:00	Intake Air Temperature Sensor 1 Circuit Low (Bank 1): No Sub Type Information	Sets when the PCM (powertrain control module) detects the IAT (intake air temperature) sensor signal is less than the self-test minimum. An IAT (intake air temperature) sensor PID (parameter identification) reading less than the self-test minimum with ignition ON engine OFF or during any engine operating mode indicates a concern is present.
PCM (powertrain	Intake Air Temperature Sensor 1 Circuit High (Bank	Sets when the PCM (powertrain control module) detects the IAT (intake air temperature) sensor signal is greater

module) P0506:00	Sub Type Information	first. If no other Diagnostic Trouble Codes (DTCs) are present, inspect the intake air system for air restrictions, vacuum leaks, and damage. If no concerns are present, clear the DTC (diagnostic trouble code) and carry out the KOER (key on, engine running) , self-test.
PCM (powertrain control module) P0507:00	Idle Control System - RPM Higher Than Expected: No Sub Type Information	Sets when the PCM (powertrain control module) detects the engine idle speed is greater than the desired RPM (revolutions per minute) . This DTC (diagnostic trouble code) may be accompanied by other Diagnostic Trouble Codes (DTCs). Diagnose other Diagnostic Trouble Codes (DTCs) first. If no other Diagnostic Trouble Codes (DTCs) are present, inspect the intake air system for air restrictions, vacuum leaks, and damage. If no concerns are present, clear the DTC (diagnostic trouble code) and carry out the KOER (key on, engine running) , self-test.
PCM (powertrain control module) P050A:00	Cold Start Idle Control System Performance: No Sub Type Information	Sets when the PCM (powertrain control module) detects the difference between desired and actual engine speed exceeds the calibrated threshold. Disregard the freeze frame data. Freeze frame data does not apply to the cold start monitor. This DTC (diagnostic trouble code) is informational only and may be accompanied by other Diagnostic Trouble Codes (DTCs). Diagnose other Diagnostic Trouble Codes (DTCs) first. If no other Diagnostic Trouble Codes (DTCs) are present, inspect the intake air system for air restrictions, vacuum leaks, and damage. If no concerns are present, clear the Diagnostic Trouble Codes (DTCs) and verify the engine coolant temperature is below 37.8°C (100°F). Allow the vehicle to soak for 2 to 3 hours if necessary for the engine coolant temperature to fall below 37.8°C (100°F). Start the engine without touching the accelerator pedal and allow the engine to idle for 6 minutes in park. If no Diagnostic Trouble Codes (DTCs) are present and the MIL (malfunction indicator lamp) is not illuminated after idling for 6 minutes, carry out the KOER (key on, engine running) , self-test to confirm that no Diagnostic Trouble Codes (DTCs) are present and the repair is complete.
PCM (powertrain control module) P050B:00	Cold Start Ignition Timing Performance 'A': No Sub Type Information	Sets when the PCM (powertrain control module) detects the difference between desired and commanded spark timing exceeds the calibrated threshold. Disregard the freeze frame data. Freeze frame data does not apply to the cold start monitor. This DTC (diagnostic trouble code) is informational only and may be accompanied by other Diagnostic Trouble Codes (DTCs). Diagnose other Diagnostic Trouble Codes (DTCs) first. If no other Diagnostic Trouble Codes (DTCs) are present, inspect the intake air system for air restrictions, vacuum leaks, and damage. If no concerns are present, clear the Diagnostic Trouble Codes (DTCs) and verify the engine

	Type Information	

Possible Sources

- Intake air system concern
- Exhaust system concern
- Air cleaner assembly (including air cleaner element) (9600)
- Air inlet tube (9F843)
- Clean air tube hose and resonator (9R504) and (9F593)
- Throttle body assembly (9E926)
- PCM (powertrain control module) (12A650)

Pinpoint Test Steps available in the on-line Workshop Manual.

PCM (powertrain control module)	P1104:00	Internal Control Module MAP Sensor Performance: No Sub Type Information	GO to Pinpoint Test DM
PCM (powertrain control module)	P2227:00	Barometric Pressure Sensor A Circuit Range/Performance: No Sub Type Information	GO to Pinpoint Test DO
PCM (powertrain control module)	P2228:00	Barometric Pressure Sensor A Circuit Low: No Sub Type Information	GO to Pinpoint Test DO
PCM (powertrain control module)	P2229:00	Barometric Pressure Sensor A Circuit High: No Sub Type Information	GO to Pinpoint Test DO

Global Customer Symptom Code (GCSC) Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

REFER to: Diagnostic Methods

(100-00 General Information, Description and Operation).

Global Customer Symptom Code Chart

Customer Symptom	Action
Driving Performance > Runs Rough > Acceleration > Always	GO to Pinpoint Test DM
Driving Performance > Runs Rough > Cruise/ Steady Speed > Always	GO to Pinpoint Test DM
Driving Performance > Runs Rough > Deceleration > Always	GO to Pinpoint Test DM
Driving Performance > Runs Rough > All Running Modes > Always	GO to Pinpoint Test DM
Driving Performance > Idle Quality > Fast > Always	GO to Pinpoint Test DM
Driving Performance > Idle Quality > Rolling > Always	GO to Pinpoint Test DM
Driving Performance > Idle Quality > Slow > Always	GO to Pinpoint Test DM
Driving Performance > Idle Quality > Slow Return > Always	GO to Pinpoint Test DM

		Trouble Codes (DTCs). Check for other Diagnostic Trouble Codes (DTCs) and diagnose those first.
PCM (powertrain control module) P0107:00	Manifold Absolute Pressure/Barometric Pressure Sensor Circuit Low: No Sub Type Information	Sets when the PCM (powertrain control module) detects the MAP (manifold absolute pressure) sensor operating voltage is below the minimum calibrated parameter of 0.024 volt.
PCM (powertrain control module) P0108:00	Manifold Absolute Pressure/Barometric Pressure Sensor Circuit High: No Sub Type Information	Sets when the PCM (powertrain control module) detects the MAP (manifold absolute pressure) sensor operating voltage is greater than the maximum allowable calibrated parameter of 4.96 volts.
PCM (powertrain control module) P0109:00	Manifold Absolute Pressure/Barometric Pressure Sensor Circuit Intermittent: No Sub Type Information	Sets when the PCM (powertrain control module) detects the MAP (manifold absolute pressure) sensor signal is intermittent.
PCM (powertrain control module) P1104:00	Internal Control Module MAP Sensor Performance: No Sub Type Information	Sets when the PCM (powertrain control module) detects the MAP (manifold absolute pressure) signal is not within a calibrated range. Check for other Diagnostic Trouble Codes (DTCs) and diagnose those first.

Possible Sources

- MAP (manifold absolute pressure) sensor circuitry concern
- MAPT (manifold absolute pressure and temperature) sensor circuitry concern
- MAP (manifold absolute pressure) sensor (9F479)
- MAPT (manifold absolute pressure and temperature) sensor (9F479)
- PCM (powertrain control module) (12A650)

Pinpoint Test Steps available in the on-line Workshop Manual.

PINPOINT TEST DO : BAROMETRIC PRESSURE (BARO) SENSOR

NOTE

		level, it should be disregarded if set outside the operational range.
PCM (powertrain control module) P2229:00	Barometric Pressure Sensor 'A' Circuit High: No Sub Type Information	Sets when the PCM (powertrain control module) detects the barometric pressure (BARO) reading is abnormally high indicating an extreme low altitude. When the BARO (barometric pressure) signal is greater than a calibrated threshold for greater than 100 ms, a concern is indicated. This DTC (diagnostic trouble code) is only operational between 1,000 feet below sea level to 15,000 feet above sea level, it should be disregarded if set outside the operational range.

Possible Sources

- BARO sensor
- PCM (powertrain control module) (12A650)

Pinpoint Test Steps available in the on-line Workshop Manual.