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2018 Ford Focus Service and Repair Manual

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PCM (powertrain control module)	P0505:00	Idle Control System: No Sub Type Information	GO to Pinpoint Test HU
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
PCM (powertrain control module)	P1548:00	Engine Air Filter Restriction: No Sub Type Information	GO to Pinpoint Test HU

Global Customer Symptom Code (GCSC) Chart

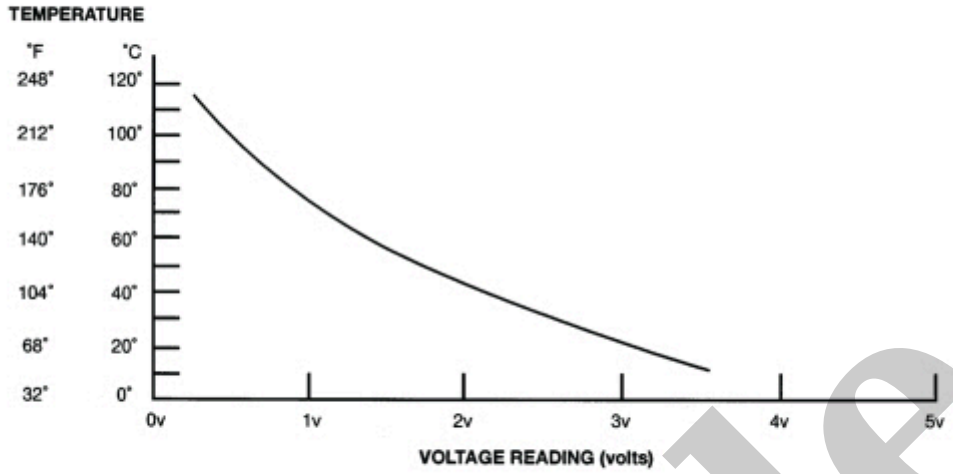
Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.

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



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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 CAC (charge air cooler) temperature sensor value or the IAT2 (intake air temperature 2) sensor value at ignition ON after a calibrated soak period (typically 6 to 8 hours). If the IAT2 (intake air temperature 2) sensor is not present, the ECT (engine coolant temperature) sensor value is used for the rationality test. This DTC (diagnostic trouble code) also sets if the IAT (intake air temperature) sensor value exceeds the maximum calibrated temperature threshold while driving.
PCM (powertrain control	Intake Air Temperature Sensor 1 Circuit Low	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

		present, clear the DTC (diagnostic trouble code) and carry out the KOER (key on, engine running) , self-test.
PCM (powertrain control module) P0506:00	Idle Control System - RPM Lower Than Expected: No Sub Type Information	Sets when the PCM (powertrain control module) detects the engine idle speed is less 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) 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	Cold Start Ignition Timing	Sets when the PCM (powertrain control module) detects the difference between desired and commanded spark timing exceeds the calibrated

PCM (powertrain control module) P115E:00	Throttle Actuator Control Throttle Body Air Flow Trim at Max Limit: No Sub Type Information	Sets when the PCM (powertrain control module) detects the maximum allowed compensation is reached and is no longer able to compensate for buildup. Install a new throttle body. Refer to the appropriate 303-04 section, Fuel Charging and Controls.
PCM (powertrain control module) P1548:00	Engine Air Filter Restriction: No Sub Type Information	Sets when the PCM (powertrain control module) detects the airflow is out of range at various engine speeds and during WOT (wide open throttle) operation when compared to the calibrated value. If this DTC (diagnostic trouble code) sets, inspect the intake air system and replace the air filter if no restrictions are found. Refer to the appropriate 303-12 section, Intake Air Distribution and Filtering for air filter replacement.

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)	P0097:00	Intake Air Temperature Sensor 2 Circuit Low (Bank 1): No Sub Type Information	GO to Pinpoint Test DN
PCM (powertrain control module)	P0098:00	Intake Air Temperature Sensor 2 Circuit High (Bank 1): No Sub Type Information	GO to Pinpoint Test DN
PCM (powertrain control module)	P00CE:00	Intake Air Temperature Measurement System - Multiple Sensor Correlation (Bank 1): No Sub Type Information	GO to Pinpoint Test DN
PCM (powertrain control module)	P0106:00	Manifold Absolute Pressure/Barometric Pressure Sensor Circuit Range/Performance: No Sub Type Information	GO to Pinpoint Test DM
PCM (powertrain control module)	P0107:00	Manifold Absolute Pressure/Barometric Pressure Sensor Circuit Low: No Sub Type Information	GO to Pinpoint Test DM
PCM (powertrain control module)	P0108:00	Manifold Absolute Pressure/Barometric Pressure Sensor Circuit High: No Sub Type Information	GO to Pinpoint Test DM
PCM (powertrain control module)	P0109:00	Manifold Absolute Pressure/Barometric Pressure Sensor Circuit Intermittent: No Sub Type Information	GO to Pinpoint Test DM
PCM (powertrain control module)	P0235:00	Turbocharger/Supercharger Boost Sensor A Circuit: No Sub Type Information	GO to Pinpoint Test DM
PCM (powertrain control module)	P0236:00	Turbocharger/Supercharger Boost Sensor A Circuit Range/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

Driving Performance > Stalls/Quits > Acceleration > Always	GO to Pinpoint Test DM
Driving Performance > Stalls/Quits > Cruise/ Steady Speed > Always	GO to Pinpoint Test DM
Driving Performance > Hesitates/Stumble > Cruise/ Steady Speed > Always	GO to Pinpoint Test DM
Driving Performance > Engine Surge > At Idle > Always	GO to Pinpoint Test DM
Driving Performance > Engine Surge > Acceleration > Always	GO to Pinpoint Test DM
Driving Performance > Engine Surge > Cruise/ Steady Speed > Always	GO to Pinpoint Test DM
Driving Performance > Engine Surge > Deceleration > Always	GO to Pinpoint Test DM

Pinpoint Tests

PINPOINT TEST DM : MANIFOLD PRESSURE SENSORS

NOTE

Refer to the appropriate Wiring Diagrams Cell for schematic and connector information

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) P0106:00	Manifold Absolute Pressure/Barometric Pressure Sensor Circuit Range/Performance: No Sub Type Information	Sets when the PCM (powertrain control module) detects the MAP PID (parameter identification) does not correlate with the BARO or the TCBP PID (parameter identification) . This DTC (diagnostic trouble code) may be accompanied by other Diagnostic Trouble Codes (DTCs). Check for other Diagnostic Trouble Codes (DTCs) and diagnose those first.
PCM (powertrain	Manifold Absolute Pressure/Barometric Pressure	Sets when the PCM (powertrain control module) detects the MAP (manifold absolute pressure)

- Turbocharger boost pressure/ CAC (charge air cooler) temperature sensor circuitry concern
- MAP (manifold absolute pressure) / IAT2 (intake air temperature 2) sensor (9F479)
- Turbocharger boost pressure / CAC (charge air cooler) temperature sensor (9F479)
- PCM (powertrain control module) (12A650)

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

PINPOINT TEST DN : PRESSURE AND TEMPERATURE SENSORS

NOTE

Refer to the appropriate Wiring Diagrams Cell for schematic and connector information

Normal Operation and Fault Conditions

Voltage values calculated for VREF equals 5 volts. These values can vary by 15% due to sensor and VREF variations.

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) P007A:00	Charge Air Cooler Temperature Sensor Circuit (Bank 1): No Sub Type Information	This DTC sets when the charge air cooler temperature (CACT) sensor value is not within the expected range.
PCM (powertrain control module) P007B:00	Charge Air Cooler Temperature Sensor Circuit Range/Performance (Bank 1): No Sub Type Information	Sets when the PCM (powertrain control module) detects the CAC (charge air cooler) temperature sensor value does not correlate with the IAT (intake air temperature) sensor value or the IAT2 (intake air temperature 2) sensor value at ignition ON after a calibrated soak period (typically 6 to 8 hours). This DTC (diagnostic trouble code) also sets if the CAC (charge air cooler) temperature sensor value exceeds the maximum calibrated temperature threshold while driving. Check temperature values while engine is at ambient temperature, cold soak the engine for a minimum of 6 hours if necessary. Check airflow through

PCM (powertrain control module) P00CE:00	Intake Air Temperature Measurement System - Multiple Sensor Correlation (Bank 1): No Sub Type Information	Sets when the PCM (powertrain control module) detects the charge air cooler (CAC) temperature, IAT (intake air temperature) and the IAT2 (intake air temperature 2) PIDs are each greater than 16.67°C (30°F) different from each other at start up or that each sensor is out of the calibrated range at engine start up after a soak period of at least 6 hours when a block heater is not used. Compare all sensor readings to the ambient temperature to determine which sensor is reading correctly. This DTC (diagnostic trouble code) may be accompanied by other Diagnostic Trouble Codes (DTCs). Check for other Diagnostic Trouble Codes (DTCs) and diagnose those first.
PCM (powertrain control module) U066D:00	Lost Communication With Charge Air Cooler Temperature Sensor Bank 1: No Sub Type Information	This DTC sets when the PCM no longer receives a signal from the charge air cooler temperature (CACT) sensor.

Possible Sources

- IAT (intake air temperature) sensor circuitry concern
- MAP (manifold absolute pressure) / IAT2 (intake air temperature 2) sensor circuitry concern
- Turbocharger boost pressure/ CAC (charge air cooler) temperature sensor circuitry concern
- IAT (intake air temperature) sensor
- MAP (manifold absolute pressure) / IAT2 (intake air temperature 2) sensor (9F479)
- Turbocharger boost pressure/ CAC (charge air cooler) 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

Refer to the appropriate Wiring Diagrams Cell for schematic and connector information

Normal Operation and Fault Conditions

		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.
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.