Cruise Control

DTC Charts

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).

DTC Chart: Powertrain Control Module (PCM)

PCM DTC Chart

DTC	Description	Action
P0504	Brake Switch A / B Correlation	• For an inoperative cruise concern, GO to Pinpoint Test A • For a cruise disengage concern, GO to Pinpoint Test B
P0572	Brake Switch A Circuit Low	GO to Pinpoint Test B
P0573	Brake Switch A Circuit High	GO to Pinpoint Test B
P1703	Brake Switch Out Of Self-Test Range	GO to Pinpoint Test B
All other Diagnostic Trouble Codes (DTCs)	–	Refer to the appropriate section in Group 303 for the procedure.

PCM DTC Chart - 3.0L Diesel

DTC	Description	Action
P0504	Brake Switch A / B Correlation	• For an inoperative cruise concern, GO to Pinpoint Test A • For a cruise disengage concern, GO to Pinpoint Test B
P0565	Cruise Control ON Signal: No Sub Type Information	GO to Pinpoint Test A
P0567	Cruise Control RESUME Signal: No Sub Type Information	GO to Pinpoint Test A
P0568	Cruise Control SET Signal: No Sub Type Information	GO to Pinpoint Test A
P0569	Cruise Control COAST Signal: No Sub Type Information	GO to Pinpoint Test A
P0572	Brake Switch A Circuit Low	GO to Pinpoint Test B
P0573	Brake Switch A Circuit High	GO to Pinpoint Test B
P1703	Brake Switch Out Of Self-Test Range	GO to Pinpoint Test B
All other Diagnostic Trouble Codes (DTCs)	–	Refer to the appropriate section in Group 303 for the procedure.

DTC Chart: Steering Column Control Module (SCCM)

SCCM DTC Chart

DTC	Description	Action
B137F:09	Steering Wheel Left Switch Pack: Component Failure	GO to Pinpoint Test A

B137F:11	Steering Wheel Left Switch Pack: Circuit Short to Ground	GO to Pinpoint Test A
B137F:17	Steering Wheel Left Switch Pack: Circuit Voltage Above Threshold	GO to Pinpoint Test A
All other Diagnostic Trouble Codes (DTCs)	–	REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components, Diagnosis and Testing).

Symptom Chart(s)

Symptom Chart: Cruise Control

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).

Symptom Chart

Condition	Possible Sources	Actions
The cruise control is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
The cruise control indicator lamp is never/ always on	• Wiring, terminals and connectors • PCM • IPC	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).
The cruise control switch is inoperative/ does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test A

The cruise control does not disengage when the brake pedal is applied	Refer to the Pinpoint Test	GO to Pinpoint Test B
The cruise control cannot set above 100 kmh (65 mph), 110 kmh (70 mph), 120 kmh (75 mph), or 130 kmh (80 mph)	A MyKey® restricted key is in use and MyKey® max speed limiter is turned on	VERIFY a MyKey® restricted key is in use. With an admin key, VERIFY if MyKey® max speed limiter is turned on. REFER to the Owner's Literature. If necessary, VERIFY cruise control normal operation with an admin key.

Pinpoint Tests

The Cruise Control Is Inoperative

Refer to Wiring Diagrams Cell 31 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Steering Wheel and Column Electrical Components - System Operation and Component Description (211-05 Steering Wheel and Column Electrical Components, Description and Operation).

REFER to: Cruise Control - System Operation and Component Description (419-03A Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Action
B137F:09	Steering Wheel Left Switch Pack: Component Failure	A continuous and on-demand DTC that sets in the SCCM when one or more of the cruise control switches are stuck.

B137F:11	Steering Wheel Left Switch Pack: Circuit Short to Ground	A continuous and on-demand DTC that sets in the SCCM when the cruise control switch circuits are shorted to ground.
B137F:17	Steering Wheel Left Switch Pack: Circuit Voltage Above Threshold	A continuous and on-demand DTC that sets in the SCCM when the cruise control switch circuits are shorted to voltage.
P0505	Brake Switch A / B Correlation	A DTC that sets in the PCM when the PCM does not sense the correct sequence of the brake pedal input signals from the cruise control deactivator and stoplamp switches when the brake pedal is applied and released.
P0565	Cruise Control ON Signal: No Sub Type Information	A continuous and on-demand DTC that sets in the PCM when the cruise control switch signals are missing.
P0567	Cruise Control RESUME Signal: No Sub Type Information	A continuous and on-demand DTC that sets in the PCM when the cruise control switch signals are missing.
P0568	Cruise Control SET Signal: No Sub Type Information	A continuous and on-demand DTC that sets in the PCM when the cruise control switch signals are missing.
P0569	Cruise Control COAST Signal: No Sub Type Information	A continuous and on-demand DTC that sets in the PCM when the cruise control switch signals are missing.

Possible Sources

- Wiring, terminals or connectors
- Cruise control steering wheel switch
- TR sensor (if equipped)
- PCM
- SCCM
- BPP switch

PINPOINT TEST A : THE CRUISE CONTROL IS INOPERATIVE

A1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, perform the PCM self-test.
- Using a diagnostic scan tool, perform the SCCM self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	If PCM Diagnostic Trouble Codes (DTCs) were retrieved, REFER to the 3.0L Diesel PCM DTC Chart. If SCCM Diagnostic Trouble Codes (DTCs) B137F:09, B137F:11 or B137F:17 were retrieved, GO to A3 For all other SCCM Diagnostic Trouble Codes (DTCs), REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components, Diagnosis and Testing).
No	GO to A2

A2 CHECK THE STOPLAMP SWITCH (BOO1) AND (BOO2) PARAMETER IDENTIFICATIONS (PIDS)

- Using a diagnostic scan tool, view PCM Parameter Identifications (PIDs).
- Using the table, monitor the Parameter Identifications (PIDs) BOO1 (stoplamp switch) and BOO2 (cruise control deactivator switch) while applying and releasing the brake pedal.

Brake Pedal Position	BOO1 PID	BOO2 PID
Released	Off	Off
Applied	On	On

Do the PID values agree with the brake pedal position?

Yes	GO to A3
No	GO to Pinpoint Test B

A3 CHECK THE CRUISE CONTROL SWITCH PID (PARAMETER IDENTIFICATION)

- Using a diagnostic scan tool, view SCCM Parameter Identifications (PIDs).
- Using the table, press each cruise control switch while monitoring the cruise control switch PID.

Cruise Control Switch	PID Value
Cruise On (pressed/released)	On/Off
Cruise Off (pressed/released)	On/Off
Resume (pressed/released)	On/Off
Cancel (pressed/released)	On/Off
SET + (pressed/released)	On/Off
SET - (pressed/released)	On/Off

Does the PID value agree with the switch position?

Yes	GO to A4
No	If only one switch does not display the correct PID value, INSTALL a new LH switch. REFER to: Steering Wheel Multifunction Switch (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). If multiple switches do not display the correct PID value, GO to A5

A4 MONITOR THE PCM (POWERTRAIN CONTROL MODULE) TR (TRANSMISSION RANGE) PID (PARAMETER IDENTIFICATION)

- Using a diagnostic scan tool, view PCM Parameter Identifications (PIDs).
- Monitor the PCM PID TR.
- Select DRIVE.

Does the PID value agree with the TR selector lever position?

Yes	GO to A9
No	REFER to: External Controls (307-05 Automatic Transmission External Controls, Diagnosis and Testing).

A5 CHECK VOLTAGE TO THE CRUISE CONTROL SWITCHES

- Ignition OFF.
- Remove the driver airbag.
  REFER to: Driver Airbag (501-20B Supplemental Restraint System, Removal and Installation).
- Disconnect LH Steering Wheel Switch C2998.
- Ignition ON.

Is the voltage approximately 5 volts?

Yes	INSTALL a new LH steering wheel switch. REFER to: Steering Wheel Multifunction Switch (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
No	GO to A6

A6 CHECK THE STEERING WHEEL SWITCH HARNESS FOR AN OPEN

- Ignition OFF.
- Disconnect Clockspring C218B.

Are the resistances less than 3 ohms?

Yes	GO to A7
No	Install a new steering wheel. REFER to: Steering Wheel (211-04 Steering Column, Removal and Installation).

A7 CHECK THE CLOCKSPRING FOR AN OPEN

- Disconnect Clockspring C218D.

Are the resistances less than 3 ohms?

Yes	GO to A8
No	Install a new clockspring. REFER to: Clockspring (501-20B Supplemental Restraint System, Removal and Installation).

A8 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the SCCM connectors.
- Repair:
  - corrosion (install new connector or terminals - clean module pins)
  - damaged or bent pins - install new terminals/pins
  - pushed-out pins - install new pins as necessary
- Reconnect the SCCM connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

A9 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the PCM connectors.
- Repair:
  - corrosion (install new connector or terminals - clean module pins)
  - damaged or bent pins - install new terminals/pins
  - pushed-out pins - install new pins as necessary
- Reconnect the PCM connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new PCM. Refer to the appropriate section in Group 303 for the procedure.
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

P0504, P0572, P0573 OR P1703

Refer to Wiring Diagrams Cell 31 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Cruise Control - System Operation and Component Description (419-03A Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
P0504	Brake Switch A / B Correlation	A DTC that sets when the PCM does not sense the correct sequence of the brake pedal input signals from the cruise control deactivator and stoplamp switches when the brake pedal is applied and released.
P0572	Brake Switch A Circuit Low	A DTC that sets when the PCM detects an open in the stoplamp switch signal. The PCM monitors the vehicle speed, the engine speed, the engine torque and the stoplamp input during start and stop driving cycles. If the stoplamp switch input to the PCM is always off during start and stop driving cycles, this DTC sets in continuous memory.
P0573	Brake Switch A Circuit High	A DTC that sets when the PCM detects a short to voltage on the stoplamp switch signal. The PCM monitors the vehicle speed, the engine speed, the engine torque and the stoplamp switch input during start and stop driving cycles. If the stoplamp lamp switch input to the PCM is always on during start and stop driving cycles, this DTC sets in continuous memory.

P1703	Brake Switch Out Of Self - Test Range	A DTC that sets in the PCM during the self-test when the stoplamp switch input signal is high or does not cycle high and low.

Possible Sources

- Wiring, terminals or connectors
- Stoplamp switch
- PCM

PINPOINT TEST B : P0504, P0572, P0573 OR P1703

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

B1 CHECK THE OPERATION OF THE STOPLAMPS

- Operate the stoplamps.

Do the stoplamps and high mounted stoplamp operate correctly?

Yes	GO to B2
No	REFER to: Stoplamps (417-01 Exterior Lighting) .

B2 CHECK THE STOPLAMP SWITCH (BOO1) AND (BOO2) PARAMETER IDENTIFICATIONS (PIDS)

- Ignition ON.
- Using a diagnostic scan tool, view PCM Parameter Identifications (PIDs).
- Using the table, monitor the Parameter Identifications (PIDs) BOO1 (stoplamp switch) and BOO2 (cruise control deactivator switch) while applying and releasing the brake pedal.

Brake Pedal Position	BOO1 PID	BOO2 PID
Released	Off	Off

Applied lightly	On	Off
Applied firmly	On	On

Do the PID values agree with the brake pedal position?

Yes	GO to B8
No	For an incorrect BOO1 PID value, GO to B3 For an incorrect BOO2 PID value, GO to B4

B3 CHECK THE STOPLAMP SWITCH CIRCUIT

- Ignition OFF.
- Disconnect PCM.
- While applying and releasing the brake pedal, measure:

  Click to display connectors

  3.0L Diesel

Positive Lead	Measurement / Action	Negative Lead
C1233B-13		Ground

Is the voltage greater than 11 volts with the brake pedal applied and 0 volts with the brake pedal released?

Yes	GO to B8
No	REPAIR the circuit.

B4 CHECK THE CRUISE CONTROL DEACTIVATOR SWITCH FOR CORRECT OPERATION

- Ignition OFF.
- Disconnect PCM.
- While firmly applying and releasing the brake pedal, measure:

  Click to display connectors

  3.0L Diesel

Positive Lead	Measurement / Action	Negative Lead
C1233B-46	Ω	Ground

Is the resistance less than 3 ohms with the brake pedal released, and greater than 10,000 ohms with the brake pedal firmly applied?

Yes	GO to B8
No	GO to B5

B5 CHECK THE CRUISE CONTROL GROUND CIRCUIT FOR AN OPEN

- Disconnect BPP Switch C278.

Is the resistance less than 3 ohms?

Yes	GO to B6
No	REPAIR the circuit.

B6 CHECK THE CRUISE CONTROL SIGNAL CIRCUIT FOR A SHORT TO GROUND

Is the resistance greater than 10,000 ohms?

Yes	GO to B7
No	REPAIR the circuit.

B7 CHECK THE CRUISE CONTROL SIGNAL CIRCUIT FOR AN OPEN

- Measure:

  Click to display connectors

  3.0L Diesel

Positive Lead	Measurement / Action	Negative Lead
C1233B-46	Ω	Ground

Is the resistance less than 3 ohms?

Yes	INSTALL a new BPP switch. REFER to: Stoplamp Switch (417-01 Exterior Lighting, Removal and Installation).
No	REPAIR the signal circuit for an open.

B8 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the PCM connectors.
- Repair:
  - corrosion (install new connector or terminals - clean module pins)
  - damaged or bent pins - install new terminals/pins
  - pushed-out pins - install new pins as necessary
- Reconnect the PCM connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new PCM. Refer to the appropriate section in Group 303 for the procedure.
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.