

Cruise Control

Diagnostic Trouble Code (DTC) 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).

Diagnostic Trouble Code Chart

Module	DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
CCM	B142E:78	Forward Looking Sensor Horizontal Alignment: Alignment or Adjustment Incorrect	GO to Pinpoint Test E
CCM	B1432:78	Forward Looking Sensor Vertical Alignment: Alignment or Adjustment Incorrect	GO to Pinpoint Test E
CCM	B1433:54	Forward Looking Sensor Horizontal Alignment: Missing Calibration	GO to Pinpoint Test E
CCM	C1001:08	Vision System Camera: Bus Signal/Message Failure	GO to Pinpoint Test F
CCM	C1A67:96	Forward Looking Sensor: Component Internal Failure	GO to Pinpoint Test G
CCM	C1A67:97	Forward Looking Sensor: Component Or System Operation Obstructed Or Blocked	GO to Pinpoint Test H
CCM	C1A67:98	Forward Looking Sensor: Component or System Over Temperature	GO to Pinpoint Test I
CCM	U2100:00	Initial Configuration Not Complete: No Sub Type Information	GO to Pinpoint Test J
CCM	U2300:55	Central Configuration Not Complete: No Sub Type Information	GO to Pinpoint Test J
CCM	U3000:41	Control Module: General Checksum Failure	GO to Pinpoint Test K
CCM	U3000:42	Control Module: General Memory Failure	GO to Pinpoint Test K
CCM	U3000:44	Control Module: Data Memory Failure	GO to Pinpoint Test K
CCM	U3000:49	Control Module: Internal Electronic Failure	GO to Pinpoint Test K
CCM	U3002:62	Vehicle Identification Number: Signal Compare Failure	GO to Pinpoint Test L
CCM	U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test M
CCM	U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test N
PCM	P0504:00	Brake Switch A/B Correlation: No Sub Type Information	GO to Pinpoint Test C
PCM	P0572:00	Brake Switch A Circuit Low: No Sub Type Information	GO to Pinpoint Test C
PCM	P0573:00	Brake Switch A Circuit High: No Sub Type Information	GO to Pinpoint Test C
PCM	P0833:00	Clutch Pedal Switch "B" Circuit: No Sub Type Information	GO to Pinpoint Test D
PCM	P1703:00	Brake Switch Out Of Self - Test Range: No Sub Type Information	GO to Pinpoint Test C
PCM	P1935:00	Brake Switch/Sensor Signal: No Sub Type Information	GO to Pinpoint Test C
SCCM	B137F:09	Steering Wheel Left Switch Pack: Component Failure	GO to Pinpoint Test A
SCCM	B137F:11	Steering Wheel Left Switch Pack: Circuit Short to Ground	GO to Pinpoint Test A
SCCM	B137F:17	Steering Wheel Left Switch Pack: Circuit Voltage Above Threshold	GO to Pinpoint Test A
SECM	B137F:11	Steering Wheel Left Switch Pack: Circuit Short to Ground	GO to Pinpoint Test B
SECM	B137F:17	Steering Wheel Left Switch Pack: Circuit Voltage Above Threshold	GO to Pinpoint Test B
SECM	B137F:2A	Steering Wheel Left Switch Pack: Signal Stuck in Range	GO to Pinpoint Test B
SECM	B137F:4A	Steering Wheel Left Switch Pack: Incorrect Component Installed	GO to Pinpoint Test B
SECM	C2003:11	Steering Wheel Switch Left Module: Circuit Short to Ground	GO to Pinpoint Test B

Symptom Chart(s)

Symptom Chart: Adaptive 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 ACC is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
The cruise control switch is inoperative/does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test A
The ACC is inoperative - With Adaptive Steering	Refer to the Pinpoint Test	GO to Pinpoint Test B
The cruise control switch is inoperative/does not operate correctly - With Adaptive Steering	Refer to the Pinpoint Test	GO to Pinpoint Test B
The ACC does not function in rain or snow conditions	Refer to the Pinpoint Test	GO to Pinpoint Test H
ADAPTIVE CRUISE NOT AVAILABLE SENSOR BLOCKED SEE MANUAL message in the IPC message center	Refer to the Pinpoint Test	GO to Pinpoint Test H
The ACC indicator lamp is never/always on	Refer to the Pinpoint Test	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).
Unexpected ACC braking	Refer to the Pinpoint Test	GO to Pinpoint Test O
Late or lack of ACC braking	Refer to the Pinpoint Test	GO to Pinpoint Test O
ACC does not slow the vehicle down until too close to a lead vehicle, does not detect a lead vehicle or vehicle follows closer than the set gap value	Refer to the Pinpoint Test	GO to Pinpoint Test O
Collision warning alerts in high sensitivity setting occur on bridges	Refer to the Pinpoint Test	GO to Pinpoint Test O
Noise during ACC braking	Refer to the Pinpoint Test	GO to Pinpoint Test O

Pinpoint Tests

PINPOINT TEST A : THE ADAPTIVE CRUISE CONTROL IS INOPERATIVE

Refer to Wiring Diagrams Cell [31](#) for schematic and connector information.

Normal Operation and Fault Conditions

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® maximum speed limiter is turned on. With an administration key, verify if the MyKey® maximum speed limiter is turned on. For additional information, refer to the Owner's Literature.

REFER to: Cruise Control - System Operation and Component Description (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
SCCM B137F:09	Steering Wheel Left Switch Pack: Component Failures	A continuous and on-demand DTC that sets when one or more of the cruise control switches are stuck.
SCCM B137F:11	Steering Wheel Left Switch Pack: Circuit Short To Ground	A continuous and on-demand DTC that sets when the cruise control switch circuits are shorted to ground.
SCCM B137F:17	Steering Wheel Left Switch Pack: Circuit Voltage Above Threshold	A continuous and on-demand DTC that sets when the cruise control switch circuits are shorted to voltage.

Possible Sources

- Wiring, terminals or connectors
- Cruise control switch
- TR sensor
- BPP switch
- PCM
- BCM
- CCM
- SCCM

A1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCs)

- Ignition ON.
- Connect the diagnostic tool.
- Using a diagnostic scan tool, perform IPMA self-test.
- Using a diagnostic scan tool, perform PCM self-test.
- Using a diagnostic scan tool, perform SCCM self-test.
- Using a diagnostic scan tool, perform CCM self-test.

Are any DTCs recorded?

Yes	If IPMA DTCs were retrieved, DIAGNOSE those DTCs first. REFER to: Lane Keeping System (419-07 Lane Keeping System, Diagnosis and Testing). If PCM DTCs were retrieved, DIAGNOSE those DTCs first. REFER to the Master DTC Chart. If CCM DTCs were retrieved, DIAGNOSE those DTCs first. See the DTC Chart in this section. If SCCM DTC B137F:09, B137F:11 or B137F:17 is retrieved, GO to A4 For all other SCCM 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 FOR LOST COMMUNICATION DTCs

- Clear Continuous Memory Diagnostic Trouble Codes (CMDTCs) from all modules.
- Ignition OFF.
- Ignition ON.
- Wait at least 10 seconds. Retrieve CMDTCs from all modules.

Are any lost communication DTCs set in the CCM?

Yes	REFER to the Master DTC Chart.
No	GO to A3

A3 CHECK THE STOPLAMP SWITCH (BOO1) AND CRUISE CONTROL DEACTIVATOR SWITCH (BOO2) PARAMETER IDENTIFICATIONS (PIDS)

- Using a diagnostic scan tool, view PCM PIDs.
- Using the table, monitor the PIDs

Access the PCM and monitor the BOO1 (0) PID

(stoplamp switch) and

Access the PCM and monitor the BOO2 (0) PID

(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 A4
No	GO to Pinpoint Test C

A4 CHECK THE CRUISE CONTROL SWITCH PID (PARAMETER IDENTIFICATION)

- Using a diagnostic scan tool,

Access the SCCM and monitor the SC_ONOFF (0) PID

,

Access the SCCM and monitor the SC_CNCL_RESM (0) PID

,

Access the SCCM and monitor the SC_SET+ (0) PID

,

Access the SCCM and monitor the SC_SET- (0) PID

,

Access the SCCM and monitor the SC_GAPPLUS (0) PID

and

Access the SCCM and monitor the SC_GAPMINUS (0) PID

- Using the table, press each cruise control switch while monitoring the cruise control switch PID.

Cruise Control Switch	PID Value
ON/OFF (pressed/released)	On/Off
RES/CNCL (pressed/released)	On/Off
SET + (pressed/released)	On/Off
SET - (pressed/released)	On/Off
GAP + (pressed/released)	On/Off
GAP - (pressed/released)	On/Off

Does the PID value agree with the switch position?

Yes	If equipped with 6.2L or 7.3L, GO to A10 If equipped with 6.7L diesel, GO to A11
No	If only one switch does not display the correct PID value, INSTALL a new LH steering wheel 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

A5 CHECK THE CRUISE CONTROL SWITCH FOR VOLTAGE

- Ignition OFF.
- Remove the driver airbag.
REFER to: Driver Airbag (501-20B Supplemental Restraint System, Removal and Installation).
- Disconnect Steering Wheel Switch [C2490](#).
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2490-4		C2490-5
C2490-6		C2490-5
C2490-7		C2490-5

Is the voltage approximately 5 volts?

Yes	TURN the ignition off and WAIT one minute. INSTALL a new LH steering wheel switch. REFER to: Steering Wheel Multifunction Switch (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). INSTALL the driver airbag. REFER to: Driver Airbag (501-20B Supplemental Restraint System, Removal and Installation).
No	GO to A6

A6 CHECK THE STEERING WHEEL SWITCH HARNESS FOR AN OPEN

- Ignition OFF.
- Disconnect Clockspring [C218B](#).
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2490-4	Ω	C218B-15
C2490-5	Ω	C218B-8
C2490-6	Ω	C218B-6
C2490-7	Ω	C218B-7

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 STEERING WHEEL SWITCH HARNESS FOR A SHORT TO GROUND

- Measure:

STEERING WHEEL SWITCH LH	
--------------------------	---

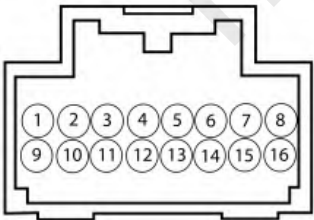
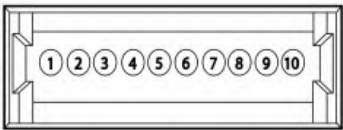
Positive Lead	Measurement / Action	Negative Lead
C2490-4	Ω	Ground
C2490-5	Ω	Ground
C2490-6	Ω	Ground
C2490-7	Ω	Ground

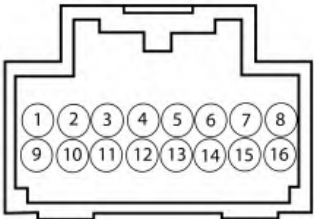
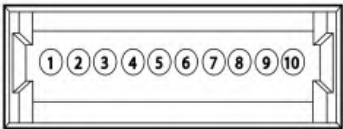
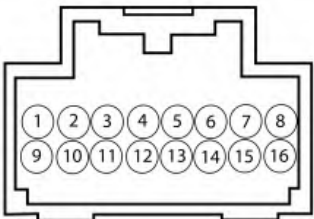
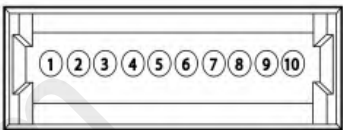
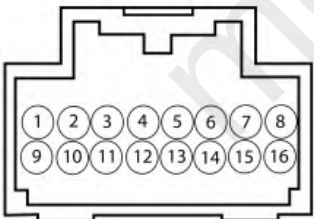
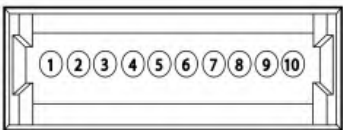
Are the resistances greater than 10,000 ohms?

Yes	GO to A8
No	Install a new steering wheel. REFER to: Steering Wheel (211-04 Steering Column, Removal and Installation).

A8 CHECK THE STEERING WHEEL SWITCH CIRCUITS THROUGH THE CLOCKSPrING FOR AN OPEN

- Disconnect Clockspring [C218G](#) .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E155137 C218B-6 (component side)	Ω	 E155657 C218G-5 (component side)

Positive Lead	Measurement / Action	Negative Lead
 E155137 C218B-7 (component side)	Ω	 E155657 C218G-7 (component side)
 E155137 C218B-15 (component side)	Ω	 E155657 C218G-8 (component side)
 E155137 C218B-8 (component side)	Ω	 E155657 C218G-9 (component side)

Are the resistances less than 3 ohms?

Yes	GO to A9
No	GO to A9
A9 CHECK FOR CORRECT SCIM (STEERING COLUMN CONTROL MODULE) OPERATION REFER to: Clockspring (501-20B Supplemental Restraint System, Removal and Installation).	

- Ignition OFF.
- Disconnect and inspect all 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 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.

A10 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all 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 service article instructions. If no service articles address this concern, Click here to access Guided Routine (PCM).
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.

A11 CHECK FOR CORRECT TCM (TRANSMISSION CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all TCM 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 TCM 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 service article instructions. If no service articles address this concern, INSTALL a new TCM. REFER to: Transmission Control Module (TCM) (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission “10R140, 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.

PINPOINT TEST B : THE CRUISE CONTROL IS INOPERATIVE - WITH ADAPTIVE STEERING

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
SECM C2003:11	Steering Wheel Switch Left Module: Circuit Short To Ground	A continuous memory DTC that sets when the cruise control switch circuits are shorted to ground.
SECM B137F:11	Steering Wheel Left Switch Pack: Circuit Short To Ground	A continuous memory DTC that sets when the cruise control switch circuits are shorted to ground.
SECM B137F:17	Steering Wheel Left Switch Pack: Circuit Voltage Above Threshold	A continuous memory DTC that sets when the cruise control switch circuits are shorted to voltage.
SECM B137F:2A	Steering Wheel Left Switch Pack: Stuck in Range	A continuous memory DTC that sets when a cruise control switch is stuck in position.
SECM B137F:4A	Steering Wheel Left Switch Pack: Incorrect Component Installed	A continuous memory DTC that sets when the SECM detects a switch is installed that does not correspond with the switch configuration in the module.

Possible Sources

- Wiring, terminals or connectors
- Cruise control switch
- PCM
- SASM
- SECM
- BPP switch

B1 PERFORM A NETWORK TEST

- Ignition ON.
- Connect the diagnostic tool.
- Using a diagnostic scan tool, perform the network test.

Does the SASM and SCCM communicate on the network?

Yes	GO to B2
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

B2 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCs)

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

Are any DTCs recorded?

Yes	If PCM DTCs were retrieved, REFER to the Master DTC Chart. If SECM DTC B137F:11, B137F:17, B137F:2A, B137F:4A or C2003:11 was retrieved, GO to B4 For all other SECM DTCs, REFER to: Adaptive Steering (211-02 Power Steering, Diagnosis and Testing).
No	GO to B3

B3 CHECK THE STOPLAMP SWITCH (BOO1) AND CRUISE CONTROL DEACTIVATOR SWITCH (BOO2) PARAMETER IDENTIFICATIONS (PIDS)

- Using a diagnostic scan tool, view PCM PIDs.
 - Using the table, monitor the PIDs
- Access the PCM and monitor the BOO1 (0) PID
(stoplamp switch) and
Access the PCM and monitor the BOO2 (0) PID
(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 B4
No	GO to Pinpoint Test C

B4 CHECK THE CRUISE CONTROL SWITCH

- Using a diagnostic scan tool, perform the SECM active test.
- Using the scan tool select and activate each cruise control switch while monitoring the IPC message center.

Does the message center agree with each switch selection?

Yes	If equipped with 6.2L or 7.3L, GO to B8 If equipped with 6.7L diesel, GO to B9
No	If one or more cruise control switch selections do not display on the IPC message center, GO to B5

B5 CHECK THE CRUISE CONTROL STEERING WHEEL SWITCH

- Ignition OFF.
- Remove the driver airbag.
REFER to: Driver Airbag (501-20B Supplemental Restraint System, Removal and Installation).
- Disconnect Steering Wheel Switch [C2490](#).
- Ignition ON.
- Measure

Positive Lead	Measurement / Action	Negative Lead
C2490-4		C2490-5
C2490-6		C2490-5
C2490-7		C2490-5

Is the voltage approximately 5 volts?

Yes	TURN the ignition off and WAIT one minute. INSTALL a new LH steering wheel switch. REFER to: Steering Wheel Multifunction Switch (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). INSTALL the driver airbag. REFER to: Driver Airbag (501-20B Supplemental Restraint System, Removal and Installation).
No	GO to B6

B6 CHECK THE STEERING WHEEL SWITCH HARNESS FOR AN OPEN

- Ignition OFF.
- Disconnect SECM [C2391B](#).
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2490-4	Ω	C2391B-10
C2490-5	Ω	C2391B-6
C2490-6	Ω	C2391B-3
C2490-7	Ω	C2391B-2

Are the resistances less than 3 ohms?

Yes	GO to B7
No	Install a new steering wheel. REFER to: Steering Wheel (211-04 Steering Column, Removal and Installation).

B7 CHECK THE STEERING WHEEL SWITCH HARNESS FOR A SHORT TO GROUND

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C2490-4	Ω	Ground
C2490-5	Ω	Ground
C2490-6	Ω	Ground
C2490-7	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	INSTALL a new SECM. REFER to: Steering Wheel - Vehicles With: Adaptive Steering (211-04 Steering Column, Removal and Installation).
No	Install a new steering wheel. REFER to: Steering Wheel (211-04 Steering Column, Removal and Installation).

B8 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all 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 service article instructions. If no service articles address this concern, Click here to access Guided Routine (PCM) .
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.

B9 CHECK FOR CORRECT TCM (TRANSMISSION CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all TCM 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 TCM 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 service article instructions. If no service articles address this concern, INSTALL a new TCM. REFER to: Transmission Control Module (TCM) (307-01B Automatic Transmission, Transfer Case and Power Transfer Unit - 10-Speed Automatic Transmission â€” 10R140, 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.

PINPOINT TEST C : P0504, P0572, P0573, P1703 OR P1935

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM P0504:00	Brake Switch "A"/"B" Correlation: No Sub Type Information	A DTC that sets when the PCM does not sense the correct sequence of the brake pedal input signal from both the cruise control deactivator and stoplamp switches when the brake pedal is pressed and released.
PCM P0572:00	Brake Switch "A" Circuit Low: No Sub Type Information	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.
PCM P0573:00	Brake Switch "A" Circuit High: No Sub Type Information	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.
PCM P1703:00	Brake Switch Out Of Self Test Range: No Sub Type Information	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.
PCM P1935:00	Brake Switch/Sensor Signal: No Sub Type Information	A DTC that sets when the PCM does not receive the brake switch input on the brake switch signal circuit to deactivate the cruise control.

Possible Sources

- Wiring, terminals or connectors
- Fuse 7 (10A)
- Stoplamp switch
- PCM

C1 CHECK THE OPERATION OF THE STOPLAMPS

- Ignition ON.
- Operate the stoplamps.

Do the stoplamps and high mounted stoplamp operate correctly?

Yes	GO to C2
No	REFER to: Stoplamps (417-01 Exterior Lighting, Diagnosis and Testing).

C2 CHECK THE STOPLAMP SWITCH (BOO1) AND CRUISE CONTROL DEACTIVATOR SWITCH (BOO2) PARAMETER IDENTIFICATIONS (PIDS)

- Connect the diagnostic tool.
- Using a diagnostic scan tool, view PCM PIDs.
- Using the table, monitor the PIDs

Access the PCM and monitor the BOO1 (0) PID

(stoplamp switch) and

Access the PCM and monitor the BOO2 (0) PID

(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 C8
No	For an incorrect BOO1 PID value, GO to C3 For an incorrect BOO2 PID value, GO to C4

C3 CHECK THE STOPLAMP SWITCH CIRCUIT

- Ignition OFF.
- Disconnect PCM [C175B](#) 6.2L or 7.3L .
- Disconnect PCM [C1232B](#) 6.7L Diesel.
- Ignition ON.
- While applying and releasing the brake pedal, measure:

6.2L or 7.3L

Positive Lead	Measurement / Action	Negative Lead
C175B-8		Ground

6.7L Diesel

Positive Lead	Measurement / Action	Negative Lead
C1232B-35		Ground

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

Yes	GO to C8
No	REPAIR the circuit.

C4 CHECK THE CRUISE CONTROL DEACTIVATOR SWITCH FOR CORRECT OPERATION

- Ignition OFF.
- Disconnect PCM [C175B](#) 6.2L or 7.3L .
- Disconnect [C1232B](#) 6.7L Diesel.
- While firmly applying and releasing the brake pedal, measure:

6.2L or 7.3L

Positive Lead	Measurement / Action	Negative Lead
C175B-23	Ω	Ground

6.7L Diesel

Positive Lead	Measurement / Action	Negative Lead
C1232B-52	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 C8
No	GO to C5

C5 CHECK THE CRUISE CONTROL DEACTIVATOR SWITCH GROUND CIRCUIT FOR AN OPEN

- Disconnect BPP switch [C278](#) .
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C278-3	Ω	Ground

Is the resistance less than 3 ohms?

Yes	GO to C6
No	REPAIR the circuit.

C6 CHECK THE CRUISE CONTROL DEACTIVATOR SWITCH SIGNAL CIRCUIT FOR A SHORT TO GROUND

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C278-2	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to C7
No	REPAIR the circuit.

C7 CHECK THE CRUISE CONTROL DEACTIVATOR SWITCH SIGNAL CIRCUIT FOR AN OPEN

- Connect a fused jumper wire:

Positive Lead	Measurement / Action	Negative Lead
C278-2		C278-3

- Measure:

6.2L or 7.3L

Positive Lead	Measurement / Action	Negative Lead
C175B-23	Ω	Ground

6.7L Diesel

Positive Lead	Measurement / Action	Negative Lead
C1232B-52	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.

C8 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all 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 service article instructions. If no service articles address this concern, Click here to access Guided Routine (PCM) .
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.

PINPOINT TEST D : P0833:00

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM P0833:00	Clutch Pedal Switch "B" Circuit: No Sub Type Information	This DTC sets when the PCM receives the vehicle speed input, indicating movement and does not detect the switching input signal from the CPP deactivator switch

Possible Sources

- Wiring, terminals or connectors
- CPP switch
- PCM

D1 CHECK THE CPP (CLUTCH PEDAL POSITION) SWITCH PID (PARAMETER IDENTIFICATION)

- Ignition ON.
- Connect the diagnostic tool.
- Using a diagnostic scan tool, view PCM Parameter Identifications (PIDs).
- Monitor the PCM CPP_TOP PID while applying and releasing the clutch pedal.

Does the PID value read NO with the clutch pedal applied and YES with the clutch pedal released?

Yes	GO to D4
No	If PID always read "YES", GO to D5 If PID always reads "NO", GO to D2

D2 CHECK THE CPP (CLUTCH PEDAL POSITION) TOP OF TRAVEL SWITCH SIGNAL CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect PCM [C175B](#).
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C175B-53	Ω	Ground

Is the resistance less than 3 ohms?

Yes	GO to D5
No	GO to D3

D3 CHECK THE CPP (CLUTCH PEDAL POSITION) TOP OF TRAVEL SWITCH SIGNAL CIRCUIT FOR A SHORT TO GROUND WITH THE SWITCH DISCONNECTED

- Disconnect CPP [C257](#).
- Connect:

Positive Lead	Measurement / Action	Negative Lead
C257-5		C257-6

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C175B-53	Ω	Ground

Is the resistance less than 3 ohms?

Yes	INSTALL a new CPP switch. REFER to: Clutch Pedal (308-02 Clutch Controls, Removal and Installation).
No	REPAIR the circuit.

D4 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

- Clear the Diagnostic Trouble Codes (DTCs). Repeat the PCM self-test.

Are any PCM DTCs recorded?

Yes	If DTC P0833:00 is recorded, GO to D5 If any other PCM DTCs are recorded, Refer to the appropriate section in Group 303 for the procedure. GO to D5
-----	---

D5 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.

PINPOINT TEST E : B142E:78, B1432:78 OR B1433:54

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM B142E:78	Forward Looking Sensor Horizontal Alignment: Alignment Or Adjustment Incorrect	Set by the CCM as a continuous memory and on-demand DTC if the CCM detects a misalignment of the radar due to the horizontal alignment angle being out of range.
CCM B1432:78	Forward Looking Sensor Vertical Alignment: Alignment Or Adjustment Incorrect	Set by the CCM as a continuous memory and on-demand DTC if the CCM detects a misalignment of the radar due to the vertical alignment angle being out of range.
CCM B1433:54	Forward Looking Sensor Alignment: Missing Calibration	Set by the CCM as a continuous memory and on-demand DTC if the CCM detects a misalignment of the radar due to the alignment angle being out of range.

Possible Sources

- CCM alignment
- CCM bracket
- CCM

NOTE: The CCM radar vertical and horizontal alignment procedure is located in General Procedures. The horizontal alignment for the CCM is a calibration check performed by the scan tool to insure the CCM radar is pointed straight. The scan tool identifies this as, Alignment Offset (

Access the CCM and monitor the ALGN_OFF (Deg) PID

) with a horizontal specification of +/- 3.0 degrees offset.

E1 INSPECT THE CCM (CRUISE CONTROL MODULE) BRACKET

- With the vehicle in NEUTRAL, position it on a hoist.
REFER to: Jacking and Lifting - Overview (100-02 Jacking and Lifting, Description and Operation).
- Remove the front bumper trim panel.
REFER to: Front Bumper (501-19 Bumpers, Removal and Installation).
- Inspect for damage to the CCM bracket and radar attachments to the bracket.

Is the CCM bracket or radar attachments to the bracket damaged?

Yes	REPAIR or INSTALL a new CCM bracket or radar attachments, as necessary. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Removal and Installation).
No	GO to E2

E2 PERFORM THE VERTICAL AND HORIZONTAL ALIGNMENT

- Perform the alignment procedures for the CCM.
REFER to: Cruise Control Radar Alignment (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, General Procedures).

Does the CCM align correctly?

Yes	The system is operating correctly at this time. The concern was caused by a misaligned sensor.
No	INSTALL a new CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Removal and Installation).

[PINPOINT TEST F : C1001:08](#)

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM C1001:08	Vision System Camera: Bus Signal/Message Failures	This continuous memory and on-demand DTC sets in the CCM when communication messages from the IPMA on the private CAN are missing.

Possible Sources

- Wiring, terminals or connectors
- Fuse 36 (15A)
- CCM
- IPMA

F1 PERFORM THE NETWORK TEST

- Ignition ON.
- Connect the diagnostic tool.
- Using a diagnostic scan tool, perform the network test.

Does the CCM and IPMA pass the network test?

Yes	DIAGNOSE all IPMA Diagnostic Trouble Codes (DTCs) first. REFER to: Lane Keeping System (419-07 Lane Keeping System, Diagnosis and Testing). If DTC C1001:08 is set, GO to F2
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

F2 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect CCM [C1582](#).
- Disconnect IPMA [C9224](#).
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1582-2		Ground
C1582-3		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to F3

F3 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1582-2	Ω	Ground
C1582-3	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to F4
No	REPAIR the circuit in question.

F4 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR A SHORT TOGETHER

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1582-2	Ω	C1582-3

Is the resistance greater than 10,000 ohms?

Yes	GO to F5
No	REPAIR the circuits.

F5 CHECK THE PRIVATE CAN (CONTROLLER AREA NETWORK) CIRCUITS FOR AN OPEN

- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1582-2	Ω	C9224-11
C1582-3	Ω	C9224-3

Are the resistances less than 3 ohms?

Yes	GO to F6
No	REPAIR the circuit in question.

F6 CHECK FOR CORRECT CCM (CRUISE CONTROL MODULE) OPERATION

- Disconnect and inspect the CCM 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 CCM 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 CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Removal and Installation). If the concern is still present, GO to F7
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.

F7 CHECK FOR CORRECT IPMA (IMAGE PROCESSING MODULE A) OPERATION

- Disconnect and inspect the IPMA 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 IPMA 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 IPMA. REFER to: Interior Rear View Mirror (501-09 Rear View Mirrors, 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.

PINPOINT TEST G : C1A67:96

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM C1A67:96	Forward Looking Sensor: Component Internal Failure	Sets when the CCM detects an internal failure or invalid radar data with the radar sensor.

Possible Sources

- CCM

G1 CHECK THE CCM (CRUISE CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

- Ignition ON.
- Connect the diagnostic tool.
- Clear Continuous Memory Diagnostic Trouble Codes (CMDTCs) from all modules.
- Ignition OFF.
- Ignition ON.
- Wait at least 10 seconds.
- Using a diagnostic scan tool, perform the CCM self-test.
- Check the CCM DTCs from the continuous and on-demand self-tests.

Is DTC C1A67:96 recorded?

Yes	GO to G2
No	The system is operating correctly at this time. The DTC may have been set due to an intermittent fault condition. CHECK the CCM connector and the HS-CAN2 bus wire for corrosion.

G2 CHECK FOR CORRECT CCM (CRUISE CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all CCM 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 CCM 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 service article instructions. If no service articles address this concern, INSTALL a new CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, 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.

PINPOINT TEST H : THE ADAPTIVE CRUISE CONTROL DOES NOT FUNCTION IN RAIN OR SNOW CONDITIONS

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM C1A6797	Forward Looking Sensor: Component Or System Operation Obstructed Or Blocked	Set by the CCM as a continuous memory and on-demand DTC if the CCM detects an obstruction or if the sensor is blocked. This DTC may also set when the CCM does not see a vehicle or object on the road for an extended period.

Possible Sources

- Front bumper
- Blockage or obstruction
- CCM mounting bracket
- CCM alignment
- CCM

NOTE: If a snow plow or similar equipment is installed on the front of the vehicle, this may obstruct the cruise control module radar sensor causing the adaptive cruise control to operate erratically. The adaptive cruise control should be disabled using the menu options when a snow plow or similar equipment is installed.

H1 INSPECT THE FRONT BUMPER FOR DAMAGE

- With the vehicle in NEUTRAL, position it on a hoist.
REFER to: Jacking and Lifting - Overview (100-02 Jacking and Lifting, Description and Operation).
- Inspect for damage on the front and back of the front bumper.

Is the front bumper or front bumper trim panel damaged?

Yes	REPAIR or INSTALL a new front bumper as necessary. If installing a new front bumper, REFER to: Front Bumper (501-19 Bumpers, Removal and Installation).
No	GO to H2

H2 INSPECT THE CCM (CRUISE CONTROL MODULE) AND FRONT BUMPER FOR DEBRIS, MOISTURE, SNOW OR ICE

- Inspect for debris, moisture, snow or ice on the front and back of the front bumper and sensor.

Is the CCM obstructed or blocked?

Yes	CLEAN the front bumper and radar sensor portion as necessary.
No	GO to H3

H3 INSPECT THE CCM (CRUISE CONTROL MODULE) BRACKET FOR CORRECT MOUNTING

- Inspect the CCM bracket for a loose connection or damage at the connection points.

Is the CCM bracket loose, bent or damaged?

Yes	Correctly INSTALL the bracket or INSTALL new grommets as necessary. ALIGN the sensor. REFER to: Cruise Control Radar Alignment (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, General Procedures).
No	GO to H4

H4 INSPECT THE CCM (CRUISE CONTROL MODULE) FOR EXTREME VERTICAL MISALIGNMENT

- Visually inspect the CCM for extreme vertical misalignment. The CCM plastic face should be perpendicular to the ground.

Is the CCM visually misaligned vertically?

Yes	PERFORM vertical alignment and horizontal alignment test procedures. REFER to: Cruise Control Radar Alignment (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, General Procedures).
No	GO to H5

H5 PERFORM HORIZONTAL AIM

- Ignition ON.
- Connect the diagnostic tool.
- Using a diagnostic scan tool, perform the CCM horizontal aim procedure.
- Using a diagnostic scan tool, perform the CCM self-test.

Does horizontal aim procedure finish successfully without setting DTC C1A67:97?

Yes	The system is operating normally at this time. This condition may have been caused by previous snow or water build up or driving on very sparse rural roads.
No	GO to H6

H6 CHECK FOR CORRECT CCM (CRUISE CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the CCM 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 CCM 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 CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, 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.

PINPOINT TEST I : C1A67:98

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM C1A67:98	Forward Looking Sensor: Component Or System Over Temperature	Sets when the CCM detects a temperature above its calibrated range. ACC is disabled and a message is sent to the IPC message center, "Pre-Collision Assist Not Available".

Possible Sources

- CCM

NOTE: This DTC may occur during extremely high ambient temperature. Allow the CCM to cool. The ACC system operation resumes after the CCM cools.

II CHECK THE CCM (CRUISE CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Connect the diagnostic tool.
- Clear Continuous Memory Diagnostic Trouble Codes (CMDTCs) from all modules.
- Ignition OFF.
- Ignition ON.
- Wait at least 10 seconds.
- Using a diagnostic scan tool, perform the CCM self-test.
- Check the CCM DTCs from the continuous and on-demand self-tests.

Is DTC C1A67:98 recorded?

Yes	GO to I2
No	The system is operating correctly at this time. The DTC may have been set due to an intermittent fault condition or the CCM may have cooled enough allowing the DTC to clear.

I2 CHECK FOR CORRECT CCM (CRUISE CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the CCM 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 CCM 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 CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, 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.

[PINPOINT TEST J : U2100:00 OR U2300:55](#)

Normal Operation and Fault Conditions

The CCM as well as all control modules that are programmable must have the correct As-Built data installed.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC sets when the CCM configuration has not been completed. CARRY OUT the PMI (when the original module is not available) for the module in question as directed by the diagnostic scan tool. REFER to: Module Configuration - System Operation and Component Description (418-01 Module Configuration, Description and Operation).
CCM U2300:55	Central Configuration: Not Configured	This DTC sets when the CCM configuration has not been completed. CARRY OUT the PMI (when the original module is not available) for the module in question as directed by the diagnostic scan tool. REFER to: Module Configuration - System Operation and Component Description (418-01 Module Configuration, Description and Operation).

Possible Sources

- Module Configuration not carried out
- CCM

J1 CONFIRM THE DTC (DIAGNOSTIC TROUBLE CODE) RESETS

- Check vehicle service history for recent service actions related to the CCM.
- Ignition ON.
- Connect the diagnostic tool.
- Using the diagnostic scan tool, clear the DTC.
- Wait 10 seconds.
- Using the diagnostic scan tool, perform the CCM self-test.

Is DTC U2100:00 or U2300:55 still present?

Yes	GO to J2
No	The system is operating correctly at this time. The DTC may have been falsely set by the CCM causing the signal to momentarily stop and set the DTC.

J2 INSTALL CCM (CRUISE CONTROL MODULE) PMI (PROGRAMMABLE MODULE INSTALLATION)

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Install CCM As-Built data from PTS following scan tool instructions.

Is DTC U2100:00 or U2300:55 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 CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Removal and Installation).
No	The system is operating correctly at this time.

[PINPOINT TEST K : U3000:41, U3000:42, U3000:44 OR U3000:49](#)

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM U3000:41	Control Module; General Checksum Failure	This DTC sets when the CCM start operation and all preconditions in test run / pass fail criteria are met and invalid checksum values are calculated. The instrument cluster displays "Pre-Collision Assist Not Available" and if the ACC system is turned on the instrument cluster displays "Cruise Not Available".
CCM U3000:42	Control Module; General Memory Failure	This DTC sets when the CCM start operation and all preconditions in test run / pass fail criteria are met and detects an internal memory failure. The instrument cluster displays "Pre-Collision Assist Not Available" and if the ACC system is turned on the instrument cluster displays "Cruise Not Available".
CCM U3000:44	Control Module; Data Memory Failure	This DTC sets when the CCM start operation and all preconditions in test run / pass fail criteria are met and detects a RAM memory failure. The instrument cluster displays "Pre-Collision Assist Not Available" and if the ACC system is turned on the instrument cluster displays "Cruise Not Available".
CCM U3000:49	Control Module; Internal Electronic Failure	This DTC sets when the CCM start operation and all preconditions in test run / pass fail criteria are met and detects an internal electronic failure. The instrument cluster displays "Pre-Collision Assist Not Available" and if the ACC system is turned on the instrument cluster displays "Cruise Not Available".

Possible Sources

- CCM

K1 CHECK THE CCM (CRUISE CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Connect the diagnostic tool.
- Using a diagnostic scan tool, CLEAR the CCM DTCs.
- Test the ACC system.
- Using a diagnostic scan tool, REPEAT the CCM self-test.

Is DTC U3000:41, U3000:42, U3000:44 or U3000:49 recorded?

Yes	GO to K2
No	The system is operating correctly at this time. The DTC may have been set due to an intermittent fault condition.

K2 CHECK FOR CORRECT CCM (CRUISE CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the CCM connector.
- 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 CCM connector. Make sure it seats and latches 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 article address this concern, INSTALL a new CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, 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.

PINPOINT TEST L : U3002:62

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM U3002:62	Vehicle Identification Number: Signal Compare Failure	This DTC sets when the stored VIN in the CCM does not match the VIN defined in the BCM. This may indicate that the original CCM is not installed in the vehicle or is not configured correctly. CARRY OUT the PMI (when the original module is not available) for the module in question as directed by the diagnostic scan tool.

Possible Sources

- VIN mismatch

Diagnostic steps are not provided for this symptom or DTC. REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

PINPOINT TEST M : U3003:16

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM U3003:16	Battery Voltage: Circuit Voltage Below Threshold	Set by the CCM as a continuous memory and on-demand DTC if the CCM detects low battery voltage below 9.5 volts for more than 500 ms.

Possible Sources

- Wiring, terminals and connectors
- Battery
- Generator
- CCM
- PCM

NOTE: Failure to disconnect the battery when instructed results in false resistance readings. Refer to Section 414-01.

M1 RECHECK THE CCM (CRUISE CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Connect the diagnostic tool.
- Using a diagnostic scan tool, perform the self-test.

Is DTC U3003:16 still present?

Yes	GO to M2
No	The system is operating correctly at this time. The DTC may have been set due to a previous low battery voltage condition.

M2 CHECK FOR CHARGING SYSTEM DIAGNOSTIC TROUBLE CODES (DTCS)

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

Are any charging system DTCs present in the PCM?

Yes	REFER to the Master DTC Chart.
No	GO to M3

M3 CHECK THE BATTERY CONDITION AND STATE OF CHARGE

- Check the battery condition and verify the battery is fully charged.
REFER to: Battery (414-01 Battery, Mounting and Cables, Diagnosis and Testing).

Is the battery OK and fully charged?

Yes	GO to M4
No	INSTALL a new battery. REFER to: Battery (414-01 Battery, Mounting and Cables, Removal and Installation).

M4 CHECK THE CCM (CRUISE CONTROL MODULE) VOLTAGE SUPPLY

- Ignition OFF.
- Disconnect CCM [C1582](#) .
- Ignition ON.
- Measure and record battery voltage at the battery.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1582-1		Ground

Is the voltage within 0.2 volt of the recorded battery voltage?

Yes	GO to M5
No	REPAIR the circuit.

M5 CHECK THE CCM (CRUISE CONTROL MODULE) GROUND CIRCUIT

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
C1582-4	Ω	Ground

Is the resistance less than 3 ohms?

Yes	GO to M6
No	REPAIR the circuit.

M6 CHECK FOR CORRECT CCM (CRUISE CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all CCM 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 CCM 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 service article instructions. If no service articles address this concern, INSTALL a new CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, 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.

PINPOINT TEST N : U3003:17

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 (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
CCM U3003:17	Battery Voltage: Circuit Voltage Above Threshold	Sets as a continuous memory and on-demand DTC if the CCM detects high battery voltage above 16.5 volts for 500 ms.

Possible Sources

- Generator
- CCM
- PCM

NOTE: DTC U3003:17 may be stored in the module memory due to past battery charging or vehicle jump starting events.

N1 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U3003:17, P0563:00 OR P0626:00 SET IN OTHER MODULES

- Ignition ON.
- Connect the diagnostic tool.
- Using a diagnostic scan tool, retrieve the Continuous Memory Diagnostic Trouble Codes (CMDTCs) from all modules.

Is DTC U3003:17, P0563:00 or P0626:00 set in more than one module?

Yes	REFER to the Master DTC Chart.
No	GO to N2

N2 CHECK THE BATTERY VOLTAGE

- Turn off all the interior/exterior lights and accessories.
- Start and run the engine at approximately 2,000 rpm for three minutes while monitoring the battery voltage.

Does the battery voltage rise to 15.5 volts or higher?

Yes	For 6.2L/7.3L, REFER to: Charging System - 6.7L Power Stroke Diesel (414-00 Charging System - General Information, Diagnosis and Testing). For 6.7L Diesel, REFER to: Charging System - 6.7L Power Stroke Diesel (414-00 Charging System - General Information, Diagnosis and Testing).
No	GO to N3

N3 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U3003:17

- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, clear the DTC Continuous Memory Diagnostic Trouble Codes (CMDTCs).
- Using a diagnostic scan tool, perform the CCM self-test.

Is DTC U3003:17 still present?

Yes	INSTALL a new CCM. REFER to: Cruise Control Module (CCM) (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, Removal and Installation).
No	The system is operating normally at this time. The DTC may have been set previously during battery charging or while jump starting the vehicle.

PINPOINT TEST O : ACC (ADAPTIVE CRUISE CONTROL) BRAKING CONCERNS

Normal Operation and Fault Conditions

The ACC system can occasionally detect and respond to out-of-path vehicles especially on curves, entry/exit ramps or when changing lanes.

Unexpected ACC Braking

- CHECK the CCM and front bumper cover for damage.
 - RETEST the ACC system.

Late Or Lack Of ACC Braking

- CHECK the CCM and front bumper cover for damage.
 - If no damage is observed, RETEST the ACC system.
- CHECK the radar attachments to the bracket for damage, loose grommets or attachments that have come free from the ball stud. This may cause the module to not point parallel to the ground.
- Incorrect alignment can cause delayed detection
 - If concerns are present, REPAIR attachments and CHECK for proper radar alignment. REFER to: Cruise Control Radar Alignment (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, General Procedures).
- If no damage is observed and bracket attachments are OK, RETEST the ACC system.

ACC Does Not Slow The Vehicle Down Until Too Close To A Lead Vehicle, Does Not Detect A Lead Vehicle Or Vehicle Follows Closer Than The Set Gap Value

- CHECK the CCM and front bumper cover for damage.
 - If no damage is observed, RETEST the ACC system.
- CHECK the radar attachments to the bracket for damage, loose grommets or attachments that have come free from the ball stud. This may cause the module to not point parallel to the ground.
- Incorrect alignment can cause delayed detection
 - If concerns are present, REPAIR attachments and CHECK for proper radar alignment. REFER to: Cruise Control Radar Alignment (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, General Procedures).
- If no damage is observed and bracket attachments are OK, RETEST the ACC system.

Collision Warning Alerts In High Sensitivity Setting Occur On Bridges

- CHECK the radar attachments to the bracket for damage, loose grommets or attachments that have come free from the ball stud. This may cause the module to not point parallel to the ground.
- Incorrect alignment can cause delayed detection
 - If concerns are present, REPAIR attachments and CHECK for proper radar alignment. REFER to: Cruise Control Radar Alignment (419-03B Cruise Control - Vehicles With: Adaptive Cruise Control, General Procedures).
- If no damage is observed and bracket attachments are OK, RETEST the ACC system.

Possible Sources

- Front bumper cover
- Blockage or obstruction
- CCM mounting bracket
- CCM alignment
- CCM

Diagnostic steps are not provided for this symptom or DTC. REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).