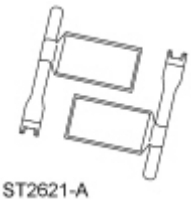
Speed Control

Special Tool(s)

 ST1137-A	73III Automotive Meter 105-R0057 or equivalent
 ST2834-A	Vehicle Communication Module (VCM) and Integrated Diagnostic System (IDS) software with appropriate hardware, or equivalent scan tool
 ST2621-A	Diagnostic Tool, Restraint System (2 required) 418-F395
 ST2574-A	Flex Probe Kit 105-R025C or equivalent

Principles of Operation

NOTE: The Smart Junction Box (SJB) is also known as the Generic Electronic Module (GEM).

The speed control system is controlled by the PCM. The speed control system is designed to maintain a selected vehicle speed between 48 km/h (30 mph) and the maximum limited vehicle speed. The speed control system is controlled by the steering wheel mounted switches (ON, OFF, SET+, SET-, and RES), the stoplamp switch, the clutch pedal speed control deactivator switch (manual transmission), and the speed control deactivator switch. The steering wheel mounted switches are hardwired to the PCM through the clockspring.

The speed control functions include:

- turning the speed control system on.
- setting and maintaining the desired vehicle speed.
- accelerating the vehicle speed.
- decelerating the vehicle speed.
- turning the vehicle speed control system off.
- cancelling the speed control.

Pressing and releasing the ON switch turns the speed control system on. Pressing and releasing the SET+ or SET- switch while the vehicle is traveling at the desired speed activates the speed control system.

Tapping the SET+ or the SET- switch while in the set mode increases or decreases the maintained vehicle speed by 1.6 km/h (1 mph) per tap, respectively. If either button is pressed and held, the vehicle speed

continues to accelerate (SET+) or decelerate (SET-) until the button is released.

Pressing and releasing the OFF switch, or switching the ignition switch to the OFF position, turns the speed control system off. Applying the brake pedal puts the speed control system into the standby mode. Pressing the RES (resume) button when the speed control system is in the standby mode causes the vehicle to accelerate to the last set speed. The RES button does not function if the OFF button is pressed or if the current vehicle speed is below the minimum operational speed.

The clutch pedal speed control deactivator switch is used on vehicles equipped with a manual transmission. When the clutch pedal is applied with the vehicle speed control system engaged, the normally closed switch opens and signals the PCM to deactivate the speed control.

The speed control deactivator switch is provided as an additional safety feature. When the brake pedal is applied, an electrical signal from the stoplamp switch is sent to the SJB , which then sends a message to the PCM to deactivate the speed control system. Under increased brake pedal effort, the speed control deactivator switch opens and removes the voltage signal from the PCM input circuit, deactivating the speed control system.

Whenever the speed control system is engaged and active, a speed control icon on the Instrument Cluster (IC) is illuminated.

The inputs to the PCM are:

- Output Shaft Speed (OSS) sensor
- Transmission Range (TR) sensor
- Speed control switch
- Clutch pedal speed control deactivator switch (manual transmission)
- Speed control deactivator switch
- Accelerator pedal position sensor
- SJB

The outputs of the PCM for the speed control system are:

- Speed control indicator lamp
- Throttle command

The speed control system throttle position is completely controlled by the PCM through the electronically controlled throttle body. Speed control electronics are contained entirely within the PCM.

When the speed control system is active, the PCM corrects for deviations in the actual vehicle speed by proportionally moving the throttle plate. The PCM modulates the throttle to minimize error between actual, and desired vehicle speed.

The PCM strategy uses the throttle control for smooth accelerations.

The PCM sends a message over the High Speed Controller Area Network (HS-CAN) to the IC whenever the speed control telltale should be turned on or off.

In the event of an OFF command or a deactivation request from any source, the speed control system carries out a deactivation and immediately returns the throttle to the idle position.

The speed control system provides self-diagnostics. The speed control is disabled anytime an error is detected in the system. No IC telltale or message center messages are displayed when faults occur. Fault codes are logged by the PCM.

An electronically controlled throttle system fault also causes the speed control system to be disabled and a warning telltale (wrench light) or a message center message is displayed.

Additionally, the following conditions cause the speed control system to deactivate:

- Transmission gear selector in a position other than D or OD (automatic transmission)
- Vehicle clutch pedal is applied (manual transmission)

- Speed control set speed is over-ridden with the accelerator pedal for a period longer than 5 minutes
- Vehicle speed loss from set speed of greater than 16 km/h (10 mph) occurs
- Vehicle speed falls below the minimum allowable limit of 48 km/h (30 mph)
- Parking brake is applied
- Speed control switch is pressed or stuck for longer than 2 minutes

Inspection and Verification

1. Verify the customer concern.

2. Visually inspect for obvious signs of mechanical or electrical damage.

Visual Inspection Chart

Mechanical	Electrical
• Throttle body	• Bussed Electrical Center (BEC) fuse 47 (15A) • Wiring, terminals or connectors • Speed control switch • Clutch pedal speed control deactivator switch (manual transmission) • Speed control deactivator switch • Stoplamp switch • PCM

3. If an obvious cause for an observed or reported concern is found, correct the cause (if possible) before proceeding to the next step.

4. Verify the speedometer operates correctly without speed control by test driving the vehicle. If the speedometer does not operate correctly, refer to Section 413-01 .

5. Verify the stoplamps operate correctly with the ignition switch in the ON position. If the stoplamps do not operate correctly, refer to Section 417-01 .

6. **NOTE:** Make sure to use the latest scan tool software release.

   If the cause is not visually evident, connect the scan tool to the Data Link Connector (DLC).

7. **NOTE:** The Vehicle Communication Module (VCM) LED prove-out confirms power and ground from the DLC are provided to the VCM .

   If the scan tool does not communicate with the VCM :
   - Check the VCM connection to the vehicle.
   - Check the scan tool connection to the VCM .
   - Refer to Section 418-00 , No Power To The Scan Tool, to diagnose no communication with the scan tool.

8. If the scan tool does not communicate with the vehicle:
   - Verify the ignition key is in the ON position.
   - Verify the scan tool operation with a known good vehicle.
   - Refer to Section 418-00 to diagnose no response from the PCM.

9. Carry out the network test.
   - If the scan tool responds with no communication for one or more modules, refer to Section 418-00 .
   - If the network test passes, retrieve and record the continuous memory DTCs.

10. Clear the continuous DTCs and carry out the self-test diagnostics for the PCM.

11. If the DTCs retrieved are related to the concern, go to DTC Charts. For all other DTCs, refer to the Diagnostic Trouble Code (DTC) Chart in Section 419-10 .

12. If no DTCs related to the concern are retrieved, GO to Symptom Chart .

DTC Charts

PCM DTC Chart

DTCs	Description	Action
P0579	Cruise Control Multifunction Input A Circuit Range/Performance	GO to Pinpoint Test C .
P0581	Cruise Control Multifunction Input A Circuit High	GO to Pinpoint Test C .
P1703	Brake Switch Out of Self-Test Range	GO to Pinpoint Test B .
All other DTCs	—	REFER to the Powertrain Control/Emissions Diagnosis (PC/ED) manual.

Symptom Chart

Symptom Chart

Condition	Possible Sources	Action
• The speed control is inoperative	• PCM not configured for speed control • Speed control switch • Digital Transmission Range (TR) sensor system concern (automatic transmission) • Clutch pedal speed control deactivator switch (manual transmission) • PCM	• GO to Pinpoint Test A .
• The speed control does not disengage when the clutch is applied	• Wiring, terminals or connectors • Clutch pedal speed control deactivator switch • PCM	• GO to Pinpoint Test A .
• The speed control indicator lamp is inoperative/always on	• Wiring, terminals or connectors • Instrument Cluster (IC) • PCM	• REFER to Section 413-01 .

Pinpoint Tests

Pinpoint Test A: The Speed Control Is Inoperative

Normal Operation

The PCM sends a signal through circuit 248 (TN/OG) to the speed control switches, which passes through the clockspring. The return signal is grounded by the PCM through circuit 133 (BK) and the clockspring. When the brake pedal is applied, the Smart Junction Box (SJB) sends a message to the PCM to deactivate the speed control, if engaged.

The speed control deactivator switch interrupts circuit 535 (LB/RD), removing the voltage signal to the PCM, when the brake pedal is applied firmly and passes the stoplamp switch trip point. This is a redundant signal to the PCM.

Vehicles equipped with a manual transmission have an additional clutch pedal speed control deactivator switch. The clutch pedal speed control deactivator switch, normally closed, supplies a ground signal to the PCM through circuit 1899 (WH). When the clutch pedal is pressed, the clutch pedal speed control deactivator switch moves to the open position, removing the ground signal from the PCM, which deactivates the speed control. Circuit 1205 (BK) supplies ground to the clutch pedal speed control deactivator switch.

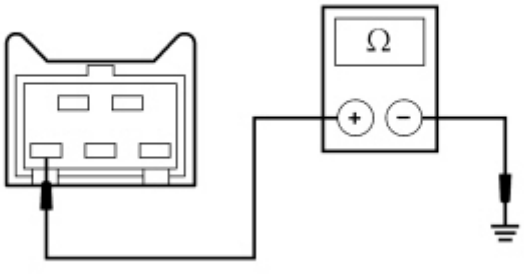
This pinpoint test is intended to diagnose the following:

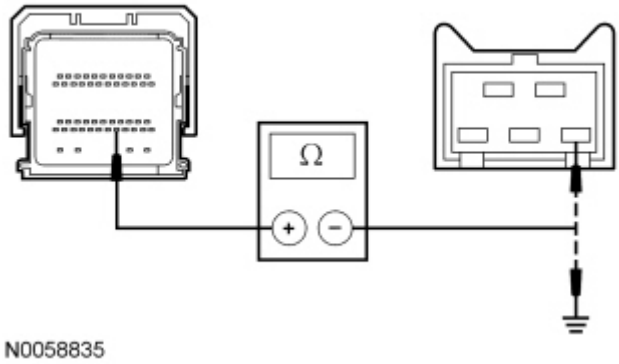
- PCM not configured for speed control
- Speed control switch
- Digital Transmission Range (TR) sensor system concern (automatic transmission)
- Clutch pedal speed control deactivator switch (manual transmission)
- PCM

PINPOINT TEST A: THE SPEED CONTROL IS INOPERATIVE

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

Test Step	Result / Action to Take
A1 VERIFY PCM CONFIGURATION • Enter the following diagnostic mode on the scan tool: Programmable Parameters. • Verify that the speed control is enabled in the PCM. • **Is the speed control enabled?**	**Yes** GO to A2. **No** ENABLE the speed control in the PCM using the scan tool programmable parameters menu. TEST the system for normal operation.
A2 CHECK FOR DTCs • Review the recorded DTCs from the PCM self-test. • **Are any PCM DTCs recorded?**	**Yes** REFER to DTC Charts in this section. **No** GO to A3.
A3 CHECK THE VEHICLE SPEED **NOTE:** This step may require an assistant. • Enter the following diagnostic mode on the scan tool: ABS DataLogger. • Monitor and record the ABS module wheel speed PID (LF_WSPD) while driving the vehicle at 48 km/h (30 mph) as indicated on the speedometer. • Enter the following diagnostic mode on the scan tool: PCM DataLogger. • Monitor and record the PCM vehicle speed PID (VSS) while driving the vehicle at 48 km/h (30 mph) as indicated on the speedometer. • **Does the speed indicated by the ABS module wheel speed PID match the PCM vehicle speed PID?**	**Yes** GO to A4. **No** REFER to the Powertrain Control/Emissions Diagnosis (PC/ED) manual to diagnose the Output Shaft Speed (OSS) signal.
A4 CHECK THE STOPLAMP SWITCH (BOO) PID • Enter the following diagnostic mode on the scan tool: PCM DataLogger. • Monitor the PCM BOO PID.	**Yes** GO to A5.

• Apply and release the brake pedal. • **Does the PID value agree with the brake pedal position?**	**No** GO to Pinpoint Test B.
A5 CHECK THE SPEED CONTROL SWITCH • Enter the following diagnostic mode on the scan tool: PCM DataLogger. • Press each speed control switch button while monitoring the SCCS PID (speed control switch). **Speed Control Switch** / **SCCS PID Value** OFF / OFF ON / ON RES / RESUME SET - / COAST - SET + / SET/+ • **Does the PID value agree with the switch position?**	**Yes** If equipped with an automatic transmission, GO to A6. If equipped with a manual transmission, GO to A7. **No** If only one switch does not display the correct PID value, INSTALL a new speed control switch. REFER to Speed Control Switch in this section. TEST the system for normal operation. Otherwise, GO to Pinpoint Test C.
A6 CHECK THE DIGITAL TRANSMISSION RANGE (TR) SENSOR PID • Enter the following diagnostic mode on the scan tool: PCM DataLogger. • Monitor the PCM TR PID. • Select DRIVE. • **Does the PID value agree with the transmission range selector lever position?**	**Yes** GO to A10. **No** REFER to Section 307-01 to diagnose the TR input concern.
A7 CHECK THE CLUTCH PEDAL SPEED CONTROL DEACTIVATOR SWITCH PID (CPP_TOP) • Enter the following diagnostic mode on the scan tool: PCM DataLogger. • Monitor the PCM CPP_TOP PID while pressing and releasing the clutch pedal. • **Does the clutch pedal speed control deactivator switch PID agree with the clutch pedal position?**	**Yes** GO to A10. **No** GO to A8.
A8 CHECK THE CLUTCH PEDAL SPEED CONTROL DEACTIVATOR SWITCH GROUND CIRCUIT FOR AN OPEN • Ignition OFF. • Disconnect: Clutch Pedal Speed Control Deactivator Switch C277. • Measure the resistance between the clutch pedal speed control deactivator switch C277-3, circuit 1205 (BK), harness side and ground.  N0012707 • **Is the resistance less than 5 ohms?**	**Yes** GO to A9. **No** REPAIR the circuit. TEST the system for normal operation.
A9 CHECK THE CLUTCH PEDAL SPEED CONTROL DEACTIVATOR	

SWITCH SIGNAL CIRCUIT FOR AN OPEN OR A SHORT TO GROUND	
• Disconnect: PCM C175b. • Measure the resistance between the PCM C175b-39, circuit 1899 (WH), harness side and the clutch pedal speed control deactivator switch C277-1, circuit 1899 (WH), harness side; and between the PCM C175b-39, circuit 1899 (WH), harness side and ground.  N0058835 • **Is the resistance less than 5 ohms between the PCM and the clutch pedal speed control deactivator switch, and greater than 10,000 ohms between the PCM and ground?**	**Yes** INSTALL a new clutch pedal speed control deactivator switch. REFER to Speed Control Deactivator Switch in this section. TEST the system for normal operation. **No** REPAIR the circuit. TEST the system for normal operation.
A10 CHECK FOR CORRECT PCM OPERATION	

• Disconnect all the PCM connectors.
• Check for:
  ▪ corrosion
  ▪ damaged pins
  ▪ pushed-out pins
• Connect all the PCM connectors and make sure they seat correctly.
• Operate the system and verify the concern is still present.
• **Is the concern still present?**
	Yes
	INSTALL a new PCM. REFER to Section 303-14. TEST the system for normal operation.
	
	No
	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector.

Pinpoint Test B: DTC P1703

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

Normal Operation

When the brake pedal is applied, the Smart Junction Box (SJB) sends a message to the PCM to deactivate the speed control if engaged.

The speed control deactivator switch receives voltage through circuit 391 (RD/YE). The switch removes voltage from circuit 535 (LB/RD) to the PCM when the brake pedal is applied firmly and passes the stoplamp switch trip point. This is a redundant signal to the PCM.

- DTC P1703 (Brake Switch Out Of Self Test Range) — sets when there is an open or short in the deactivator switch circuits or when there is an open or short in the stoplamp circuits.

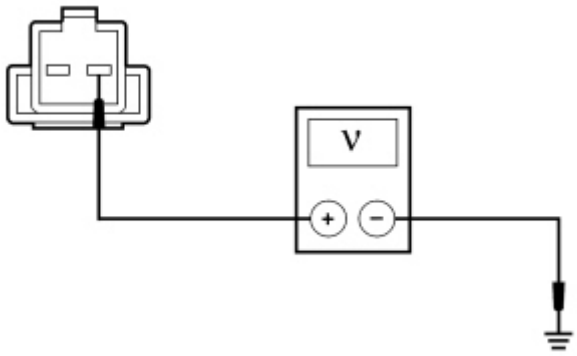
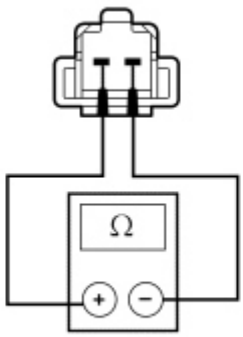
This pinpoint test is intended to diagnose the following:

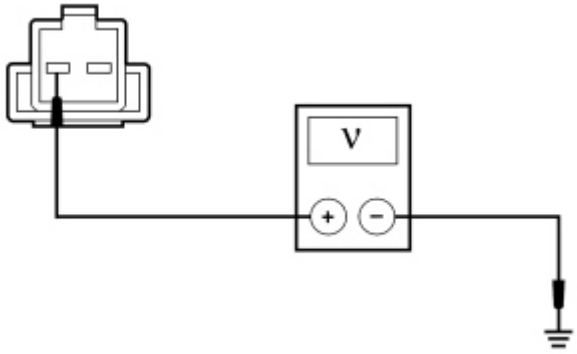
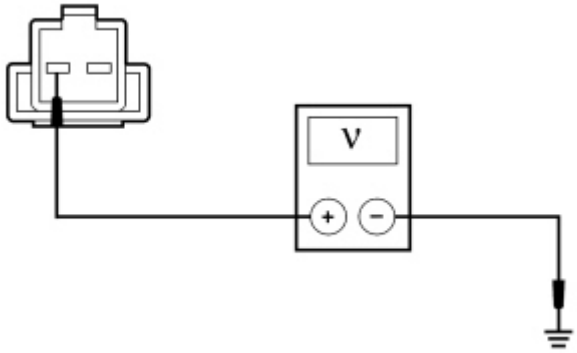
- Fuse
- Wiring, terminals or connectors
- Speed control deactivator switch
- ABS module
- Bussed Electrical Center (BEC)

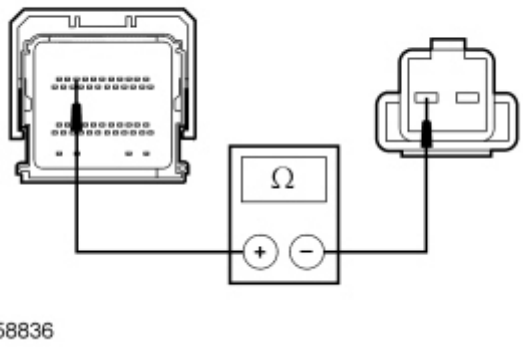
- SJB
- PCM

PINPOINT TEST B: DTC P1703

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

Test Step	Result / Action to Take
B1 CHECK THE OPERATION OF THE STOPLAMPS	
• Ignition ON. • Operate the stoplamps. • **Do the stoplamps operate correctly?**	**Yes** GO to B2 . **No** REFER to Section 417-01 .
B2 CHECK THE SPEED CONTROL DEACTIVATOR SWITCH VOLTAGE SUPPLY CIRCUIT	
• Ignition OFF. • Disconnect: Speed Control Deactivator Switch C278. • Ignition ON. • Measure the voltage between the speed control deactivator switch C278-2, circuit 391 (RD/YE), harness side and ground.  N0002251 • **Is the voltage greater than 10 volts?**	**Yes** GO to B3 . **No** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.
B3 CHECK THE SPEED CONTROL DEACTIVATOR SWITCH	
• Ignition OFF. • Measure the resistance between the speed control deactivator switch pin 1, component side and the speed control deactivator switch pin 2, component side.  N0084229 • **Is the resistance less than 5 ohms with the brake pedal released and greater than 10,000 ohms with the brake pedal**	**Yes** GO to B4 . **No** INSTALL a new speed control deactivator switch. REFER to Speed Control Deactivator Switch in this section. CLEAR the DTCs. REPEAT the self-test.

applied?	
B4 CHECK THE SPEED CONTROL DEACTIVATOR SWITCH SIGNAL CIRCUIT FOR A SHORT TO VOLTAGE	
• Measure the voltage between the speed control deactivator switch C278-1, circuit 535 (LB/RD), harness side and ground.  N0002250 • **Is any voltage present?**	**Yes** GO to B5 . **No** GO to B6 .
B5 CHECK THE ABS MODULE FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Disconnect: ABS Module C135. • Ignition ON. • Measure the voltage between the speed control deactivator switch C278-1, circuit 535 (LB/RD), harness side and ground.  N0002250 • **Is any voltage present?**	**Yes** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test. **No** GO to B7 .
B6 CHECK THE SPEED CONTROL DEACTIVATOR SWITCH SIGNAL CIRCUIT FOR AN OPEN	
• Ignition OFF. • Measure the resistance between the PCM C175b-9, circuit 535 (LB/RD), harness side and the speed control deactivator switch C278-1, circuit 535 (LB/RD), harness side.	**Yes** GO to B8 . **No** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.

 N0058836 • **Is the resistance less than 5 ohms?**	
B7 CHECK FOR CORRECT ABS MODULE OPERATION	

• Disconnect the ABS module connector.
• Check for:
  ▪ corrosion
  ▪ damaged pins
  ▪ pushed-out pins
• Connect the ABS module connector and make sure it is seated correctly.
• Operate the system and verify the concern is still present.
• **Is the concern still present?**
	Yes
	INSTALL a new ABS module. REFER to Section 206-09 . CLEAR the PCM DTCs. REPEAT the self test.
	
	No
	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. CLEAR the PCM DTCs. REPEAT the self-test.

B8 CHECK FOR CORRECT PCM OPERATION	

• Disconnect all the PCM connectors.
• Check for:
  ▪ corrosion
  ▪ damaged pins
  ▪ pushed-out pins
• Connect all the PCM connectors and make sure they seat correctly.
• Operate the system and verify the concern is still present.
• **Is the concern still present?**
	Yes
	INSTALL a new PCM. REFER to Section 303-14 . TEST the system for normal operation.
	
	No
	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. CLEAR the DTCs. REPEAT the self-test.

Pinpoint Test C: DTC P0579 Or DTC P0581

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

Normal Operation

The PCM sends a signal through circuit 248 (TN/OG) to the speed control switches. The return signal is grounded through circuit 133 (BK). Both circuits pass through the clockspring.

- DTC P0579 (Cruise Control Multifunction Input A Circuit Range/Performance) — sets when the speed control switch circuits are open, shorted to voltage or shorted to ground.
- DTC P0581 (Cruise Control Multifunction Input A Circuit High) — sets when the speed control switch circuits are shorted to voltage or open.

This pinpoint test is intended to diagnose the following:

- Wiring, terminals or connectors
- Clockspring
- Speed control switch
- PCM

PINPOINT TEST C: DTC P0579 OR DTC P0581

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

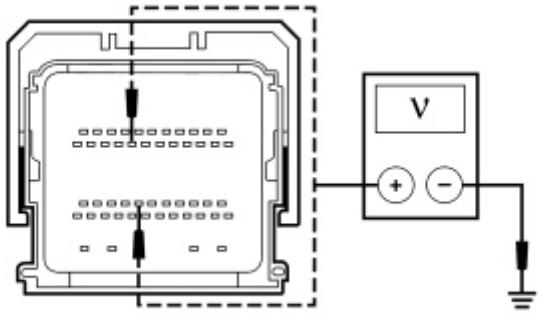
<table>
<tr><th>Test Step</th><th>Result / Action to Take</th></tr>
<tr><td>C1 CHECK THE SPEED CONTROL SWITCH</td><td rowspan="2">Yes
The system is operating correctly at this time. CLEAR the DTCs. TEST the system for normal operation.

No
If only one switch does not display the correct PID value, INSTALL a new speed control switch. REFER to Speed Control Switch in this section. CLEAR the DTCs. TEST the system for normal operation.

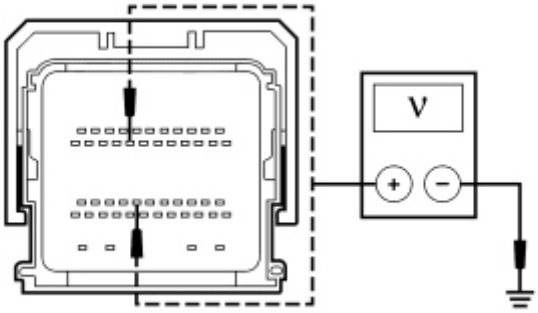
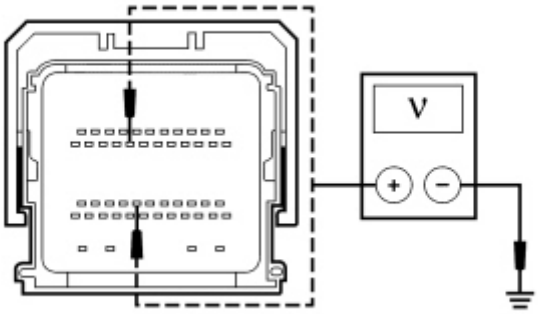
Otherwise, GO to C2 .</td></tr>
<tr><td>• Ignition ON.
• Enter the following diagnostic mode on the scan tool: PCM DataLogger.
• Press each speed control switch button while monitoring the SCCS PID (speed control switch).

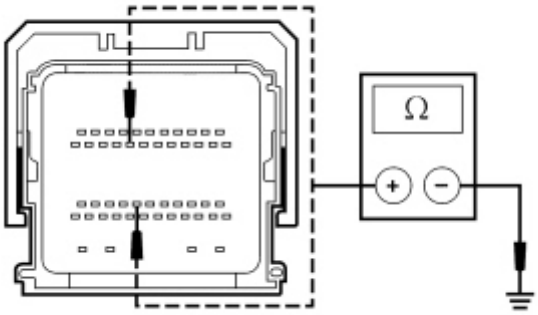
<table><tr><th>Speed Control Switch</th><th>SCCS PID Value</th></tr><tr><td>OFF</td><td>OFF</td></tr><tr><td>ON</td><td>ON</td></tr><tr><td>RES</td><td>RESUME</td></tr><tr><td>SET -</td><td>COAST -</td></tr><tr><td>SET +</td><td>SET/+</td></tr></table>
• Does the PID value agree with the switch position?</td></tr>
<tr><td>C2 CHECK THE SPEED CONTROL SWITCH CIRCUITRY FOR A SHORT TO VOLTAGE</td><td rowspan="2">Yes
TURN the parking lamps off. GO to C3 .

No
TURN the parking lamps off. GO to C5 .</td></tr>
<tr><td>• Ignition OFF.
• Disconnect: PCM C175b.
• Ignition ON.
• Turn the parking lamps on.
• Measure the voltage between the PCM C175b-19, circuit 248 (TN/OG), harness side and ground; and between the PCM C175b-30, circuit 133 (BK), harness side and ground.

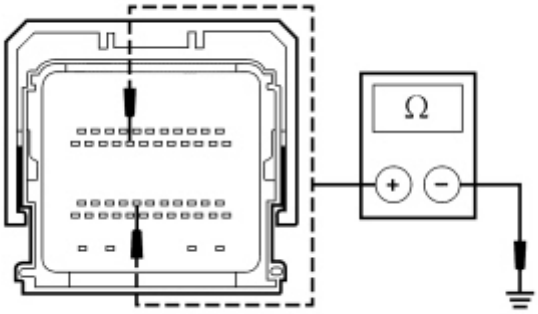
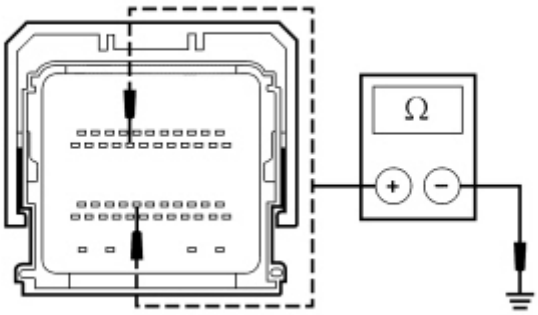
A0082239
• Is any voltage present?</td></tr>
<tr><td>C3 CHECK CIRCUITS 248 (TN/OG) AND 133 (BK) FOR A SHORT TO VOLTAGE</td><td rowspan="2">Yes
REPAIR the circuit in</td></tr>
<tr><td>• Ignition OFF.
• Disconnect: Clockspring C2274.</td></tr>
</table>

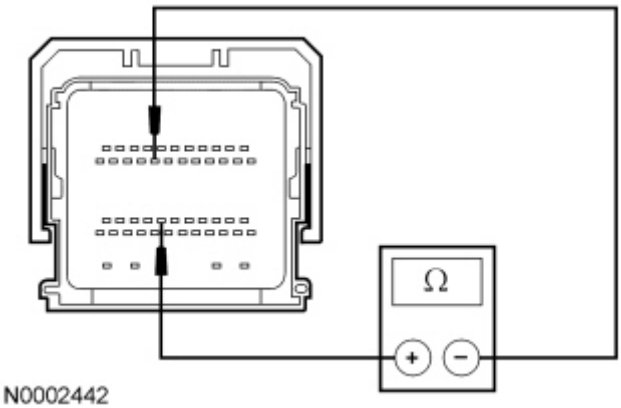
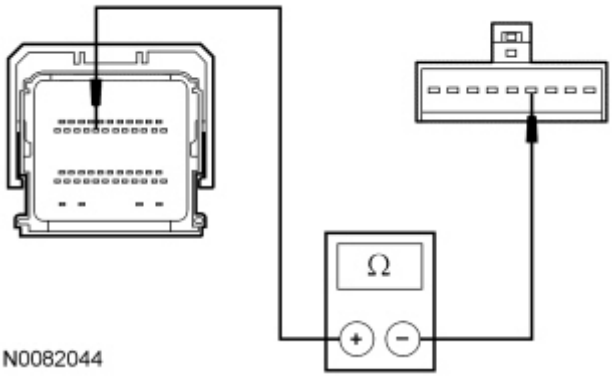
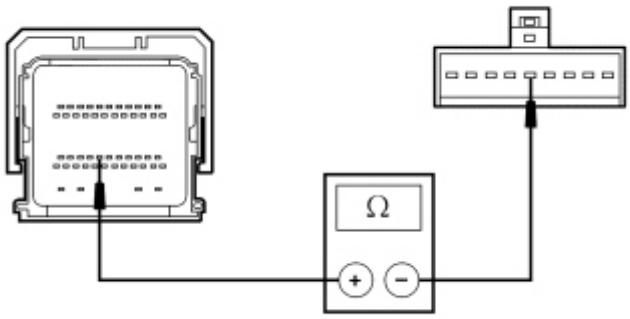
• Ignition ON. • Turn the parking lamps on. • Measure the voltage between the PCM C175b-19, circuit 248 (TN/OG), harness side and ground; and between the PCM C175b-30, circuit 133 (BK), harness side and ground.  A0082239 • **Is any voltage present?**	question. CLEAR the DTCs. REPEAT the self-test. **No** TURN the parking lamps off. GO to C4 .
C4 CHECK THE CLOCKSPRING FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Connect: Clockspring C2274. • Remove the driver air bag module. Refer to Section 501-20B . • Connect the restraint system diagnostic tools (418-F395) to the upper clockspring air bag connector. • Disconnect: Upper Clockspring. • **WARNING: Make sure no one is in the vehicle and there is nothing blocking or placed in front of any air bag module when the battery is connected. Failure to follow these instructions may result in serious personal injury in the event of an accidental deployment.** • Connect the battery. • Ignition ON. • Turn the parking lamps on. • Measure the voltage between the PCM C175b-19, circuit 248 (TN/OG), harness side and ground; and between the PCM C175b-30, circuit 133 (BK), harness side and ground.  A0082239 • **Is any voltage present?**	**Yes** INSTALL a new clockspring. REFER to Section 501-20B . DISCONNECT the battery. INSTALL the driver air bag module. REFER to Section 501-20B . CLEAR the DTCs. REPEAT the self-test. **No** INSTALL a new speed control switch. REFER to Speed Control Switch in this section. DISCONNECT the battery. INSTALL the driver air bag module. REFER to Section 501-20B . CLEAR the DTCs. REPEAT the self-test.
C5 CHECK THE SPEED CONTROL SWITCH CIRCUITRY FOR A SHORT TO GROUND	
• Ignition OFF. • Measure the resistance between the PCM C175b-19, circuit 248 (TN/OG), harness side and ground; and between the PCM C175b-30, circuit 133 (BK), harness side and ground.	**Yes** GO to C8 . **No** GO to C6 .

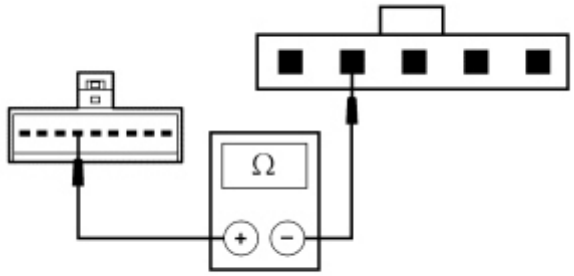
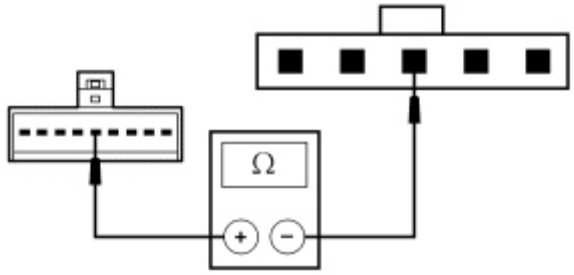


A0082240

- **Are the resistances greater than 10,000 ohms?**

C6 CHECK THE CLOCKSPRING FOR A SHORT TO GROUND • Remove the driver air bag module. Refer to Section 501-20B . • Disconnect: Upper Clockspring. • Measure the resistance between the PCM C175b-19, circuit 248 (TN/OG), harness side and ground; and between the PCM C175b-30, circuit 133 (BK), harness side and ground.  A0082240 • **Are the resistances greater than 10,000 ohms?**	**Yes** INSTALL a new speed control switch. REFER to Speed Control Switch in this section. DISCONNECT the battery. INSTALL the driver air bag module. REFER to Section 501-20B . CLEAR the DTCs. REPEAT the self-test. **No** GO to C7 .
C7 CHECK CIRCUITS 248 (TN/OG) AND 133 (BK) FOR A SHORT TO GROUND • Disconnect: Clockspring C2274. • Measure the resistance between the PCM C175b-19, circuit 248 (TN/OG), harness side and ground; and between the PCM C175b-30, circuit 133 (BK), harness side and ground.  A0082240 • **Are the resistances greater than 10,000 ohms?**	**Yes** INSTALL a new clockspring. REFER to Section 501-20B . DISCONNECT the battery. INSTALL the driver air bag module. REFER to Section 501-20B . CLEAR the DTCs. REPEAT the self-test. **No** REPAIR the circuit in question. INSTALL the driver air bag module. REFER to Section 501-20B . CLEAR the DTCs. REPEAT the self-test.
C8 CHECK THE SPEED CONTROL SWITCH CIRCUITRY FOR AN OPEN • Measure the resistance between the PCM C175b-19, circuit 248 (TN/OG), harness side and the PCM C175b-30, circuit 133 (BK), harness side.	**Yes** GO to C11 .

 N0002442 • **Is the resistance between 4,100 and 4,500 ohms?**	**No** GO to C9 .
C9 CHECK CIRCUITS 248 (TN/OG) AND 133 (BK) FOR AN OPEN	
• Disconnect: Clockspring C2274. • Measure the resistance between the PCM C175b-19, circuit 248 (TN/OG), harness side and the clockspring C2274-4, circuit 248 (TN/OG), harness side.  N0082044 • Measure the resistance between the PCM C175b-30, circuit 133 (BK), harness side and the clockspring C2274-5, circuit 133 (BK), harness side.  N0082045 • **Are the resistances less than 5 ohms?**	**Yes** GO to C10 . **No** REPAIR the circuit in question. CLEAR the DTCs. REPEAT the self-test.
C10 CHECK THE CLOCKSPRING	
• Remove the driver air bag module. Refer to Section 501-20B . • Disconnect: Upper Clockspring. • Measure the resistance between the clockspring C2274 pin 4, component side and the upper clockspring connector pin 2, component side.	**Yes** INSTALL a new speed control switch. REFER to Speed Control Switch in this section. DISCONNECT the battery. INSTALL the driver air bag module. REFER to Section 501-20B . CLEAR

 N0082046 • Measure the resistance between the clockspring C2274 pin 5, component side and the upper clockspring connector pin 3, component side.  N0082047 • **Are the resistances less than 5 ohms?**	the DTCs. REPEAT the self-test. **No** INSTALL a new clockspring. REFER to Section 501-20B . DISCONNECT the battery. INSTALL the driver air bag module. REFER to Section 501-20B . CLEAR the DTCs. REPEAT the self-test.

C11 CHECK FOR CORRECT PCM OPERATION
• Disconnect all the PCM connectors.
• Check for:
  ▪ corrosion
  ▪ damaged pins
  ▪ pushed-out pins
• Connect all the PCM connectors and make sure they seat correctly.
• Operate the system and verify the concern is still present.
• **Is the concern still present?**
	Yes
	INSTALL a new PCM. REFER to Section 303-14 . INSTALL the driver air bag module. REFER to Section 501-20B . TEST the system for normal operation.
	
	No
	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. INSTALL the driver air bag module. REFER to Section 501-20B . CLEAR the DTCs. REPEAT the self-test.