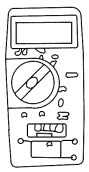
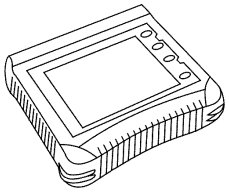
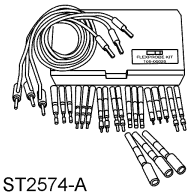
DIAGNOSIS AND TESTING

Instrument Cluster and Panel Illumination

Refer to Wiring Diagrams Cell 71 for schematic and connector information.

Special Tool(s)

 ST1137-A	73III Automotive Meter 105-R0057 or equivalent
 ST2332-A	Worldwide Diagnostic System (WDS) Vehicle Communication Module (VCM) with appropriate adapters, or equivalent diagnostic tool
 ST2574-A	Flex Probe Kit 105-R025B or equivalent

Principles of Operation

Dimmable backlighting

When the parking lamps are ON, the SJB provides a pulse-width modulated voltage to the dimmable instrument panel switches and components. The instrument panel dimmer switch allows the brightness level of the dimmable backlights and displays to be adjusted.

The SJB communicates with the instrument cluster through the controller area network (CAN). The instrument cluster then increases or decreases the intensity of the instrument cluster backlighting accordingly. The dimmable components consists of:

- instrument cluster
- message center switch
- hazard flasher switch
- climate control assembly
- transmission range (TR) indicator
- convertible top switch (part of the overhead console) (if equipped)
- steering wheel switches
- headlamp switch

Non-dimmable backlighting

When the key is in the ACC or RUN positions, the SJB energizes the accessory delay relay, providing switched voltage to the non-dimmable components and switches. The non-dimmable components consists of:

- driver window control switch
- passenger window control switch
- driver door lock control switch
- passenger door lock control switch

Fault Management

The dimmable backlighting defaults to full intensity if the instrument panel dimmer switch or circuitry fails.

Inspection and Verification

1. Verify the customer concern.
2. Visually inspect for obvious signs of mechanical or electrical damage.

Visual Inspection Chart

Mechanical	Electrical
• Instrument panel dimmer switch	• Smart junction box (SJB) fuse 6 (5A) • Miniature bulb(s) • Circuitry • Accessory delay relay • Instrument cluster • Headlamp switch

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. If the cause is not visually evident, connect the diagnostic tool to the data link connector (DLC) and select the vehicle to be tested from the diagnostic tool menu. If the diagnostic tool does not communicate with the vehicle:
   - check that the program card is correctly installed.
   - check the connections to the vehicle.
   - check the ignition switch position.

DIAGNOSIS AND TESTING (Continued)

5. If the diagnostic tool still does not communicate with the vehicle, refer to the diagnostic tool operating manual.
6. Carry out the diagnostic tool data link test. If the diagnostic tool responds with:
   - CAN circuits fault; all electronic control units no response/not equipped, refer to Section 418-00.
   - No response/not equipped for the SJB, refer to Section 419-10.
   - No response/not equipped for the instrument cluster, refer to Section 413-01.
   - System passed, retrieve and record the continuous diagnostic trouble codes (DTCs), erase the continuous DTCs, and carry out self-test diagnostics for the SJB and the instrument cluster.
7. If the DTCs retrieved are related to the concern and are from the SJB, go to the Smart Junction Box (SJB) Diagnostic Trouble Code (DTC) Index.
8. If the DTCs retrieved are related to the concern and are from the instrument cluster, refer to Section 413-01.
9. If no DTCs related to the concern are retrieved, GO to Symptom Chart.

Smart Junction Box (SJB) Diagnostic Trouble Code (DTC) Index

DTC	Description	Source	Action
B1247	Instrument Panel Dimmer Switch Circuit Open	SJB	GO to Pinpoint Test B.
B1342	ECU is Faulted	SJB	DOCUMENT and CLEAR the DTCs. REPEAT the self-test. If DTC B1342 is retrieved again, INSTALL a new SJB. REFER to Section 419-10.
B2027	LED Backlighting Output Circuit Failure	SJB	GO to Pinpoint Test C.
B2132	Dimmer Switch Circuit Short To Ground	SJB	GO to Pinpoint Test B.
B2477	Module Configuration Failure	SJB	DOCUMENT and CLEAR the DTCs. REPEAT the self-test. If DTC B2477 is retrieved again, REFER to Section 418-01.
U1900	CAN Communication Bus Fault - Receive Error	SJB	DOCUMENT and CLEAR the DTCs. REPEAT the self-test. If DTC U1900 is retrieved again, REFER to Section 418-00.
All Other DTCs	—	SJB	REFER to Section 419-10.

DIAGNOSIS AND TESTING (Continued)

Symptom Chart

Symptom Chart

Condition	Possible Sources	Action
• No communication with the smart junction box (SJB)	• Fuse(s) • Circuitry • SJB	• REFER to Section 419-10
• The control illumination is inoperative	• Smart junction box (SJB)	• GO to Pinpoint Test A.
• The instrument cluster illumination is inoperative	• Circuitry • Instrument cluster	• CHECK the operation of other backlighting components. — If the other backlighting components operate correctly, INSTALL a new instrument cluster. REFER to Section 413-01. TEST the system for normal operation. — If other backlighting components are inoperative, GO to Pinpoint Test A.
• The instrument panel illumination does not dim	• Circuitry • Instrument panel dimmer switch • Smart junction box (SJB)	• GO to Pinpoint Test B.
• One or more smart junction box (SJB) controlled illumination source(s) is inoperative	• Fuse • Circuitry • Illuminated component • Clockspring • SJB • Accessory delay relay • Speed control switch	• GO to Pinpoint Test C.

Pinpoint Tests

Pinpoint Test A: The Control Illumination is Inoperative

Normal Operation

When the headlamp switch is placed in the PARK or headlamp ON position, the smart junction box (SJB) supplies either a pulse width modulated (PWM) signal or 12 volts to the various backlighting sources in the instrument panel, doors and console.

Possible Causes

• SJB

PINPOINT TEST A: THE CONTROL ILLUMINATION IS INOPERATIVE

Test Step		Result / Action to Take
A1	CHECK THE PARKING LAMPS OPERATION	
	• Monitor the parking lamps in the OFF position and in the PARK position.	**Yes** GO to **A2**.

(Continued)

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST A: THE CONTROL ILLUMINATION IS INOPERATIVE (Continued)

Test Step		Result / Action to Take
A1	**CHECK THE PARKING LAMPS OPERATION (Continued)**	
	• **Do the parking lamps operate correctly?**	**No** REFER to Section 417-01 to continue diagnosis of the exterior lighting system.
A2	**CHECK FOR CORRECT SJB OPERATION**	

	• Disconnect all the SJB connectors.
	• Check for:
	  • corrosion
	  • pushed-out pins
	• Connect all the SJB 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 SJB. REFER to Section 419-10. 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: The Instrument Panel Illumination Does Not Dim

Normal Operation

With the parking lamps ON, a voltage signal is supplied to the instrument panel dimmer switch through circuit 1036 (BN/WH) from the smart junction box (SJB). The dimmer switch passes this voltage through a variable resistor and then returns the signal to the SJB on circuit 1035 (OG/RD). The SJB uses the return signal to determine the backlighting intensity desired by the operator. A pulse-width modulated (PWM) signal is sent from the SJB to each of the dimmable backlights, maintaining the operators desired level of lighting intensity.

The dimmable backlighting defaults to full intensity if the instrument panel dimmer switch or circuitry fails.

Possible Causes

- circuit 1035 (OG/RD) open, short to ground, or short to voltage
- circuit 1036 (BN/WH) open or short to ground
- circuit 1405 (LB/BK) short to voltage
- instrument panel dimmer switch
- SJB

PINPOINT TEST B: THE INSTRUMENT PANEL ILLUMINATION DOES NOT DIM

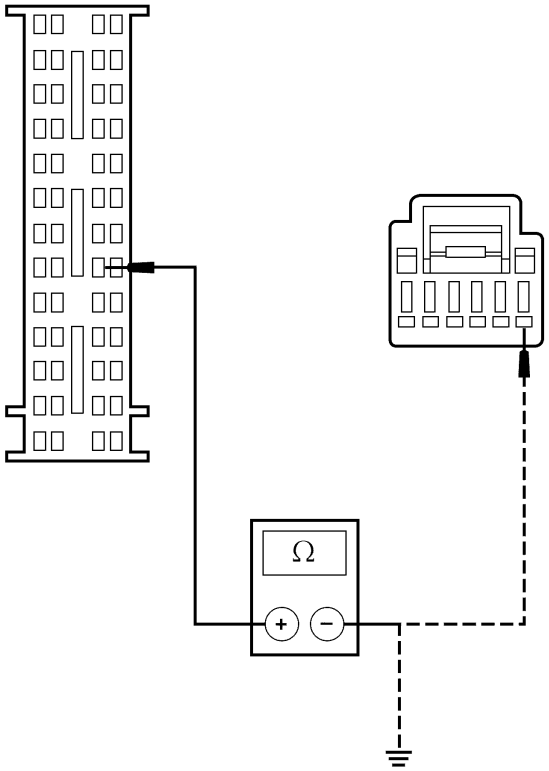
⚠ CAUTION: Use the correct probe adaptor(s) when making measurements. Failure to use the correct probe adaptor(s) may damage the connector.

Test Step		Result / Action to Take
B1	**MONITOR THE INSTRUMENT PANEL ILLUMINATION OPERATION**	
	• With the parking lamps ON, rotate the dimmer switch from maximum brightness to minimum brightness. • Monitor all instrument panel illumination sources for correct operation. • **Do all the dimmable instrument panel illumination sources dim correctly?**	**Yes** The system is OK. **No** If only the instrument cluster does not dim, INSTALL a new instrument cluster. REFER to Section 413-01. TEST the system for normal operation. For all others, GO to **B2**.
B2	**CHECK THE SJB INSTRUMENT PANEL DIMMER SWITCH PIDs**	
	• Key in ON position. • Enter the following diagnostic mode on the diagnostic tool: SJB Instrument Panel Dimmer Switch PIDs. • Turn the parking lamps ON. • Monitor the SJB instrument panel dimmer switch PIDs while rotating the instrument panel dimmer switch from full OFF to full ON. • **Do the SJB instrument panel dimmer switch PIDs agree with the instrument panel dimmer switch position?**	**Yes** GO to **B8**. **No** GO to **B3**.

(Continued)

DIAGNOSIS AND TESTING (Continued)

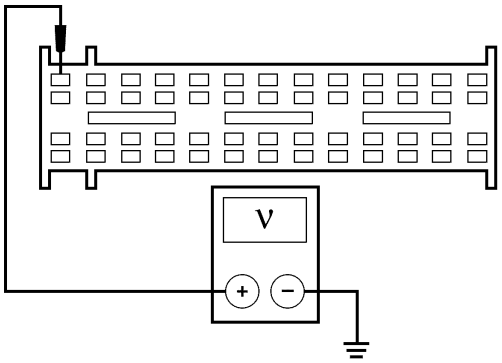
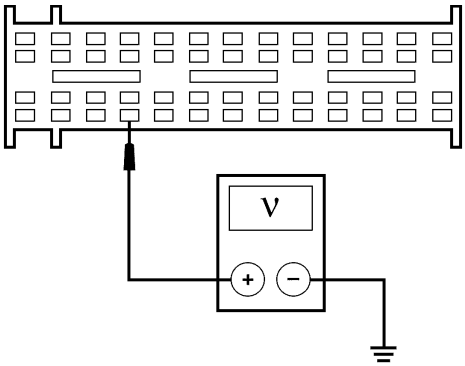
PINPOINT TEST B: THE INSTRUMENT PANEL ILLUMINATION DOES NOT DIM (Continued)

Test Step		Result / Action to Take
B3	**CHECK CIRCUIT 1036 (BN/WH) FOR AN OPEN AND A SHORT TO GROUND**	
	• Key in OFF position. • Disconnect: SJB C2280b. • Disconnect: Instrument Panel Dimmer Switch C2298. • Measure the resistance between the SJB C2280b-32, circuit 1036 (BN/WH), harness side and the instrument panel dimmer switch C2298-1, circuit 1036 (BN/WH), harness side; and between the SJB C2280b-32, circuit 1036 (BN/WH), harness side and ground.  N0012438 • **Is the resistance less than 5 ohms between the SJB and the instrument panel dimmer switch, and greater than 10,000 ohms between the SJB and ground?**	**Yes** GO to **B4**. **No** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.
B4	**CHECK CIRCUIT 1405 (LB/BK) FOR A SHORT TO VOLTAGE**	
	• Key in ON position.	

(Continued)

DIAGNOSIS AND TESTING (Continued)

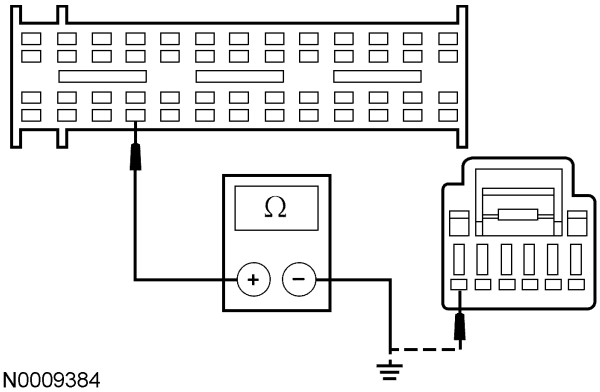
PINPOINT TEST B: THE INSTRUMENT PANEL ILLUMINATION DOES NOT DIM (Continued)

Test Step		Result / Action to Take
B4	**CHECK CIRCUIT 1405 (LB/BK) FOR A SHORT TO VOLTAGE (Continued)**	
	• Measure the voltage between the SJB C2280b-1, circuit 1405 (LB/BK), harness side and ground.  N0009383 • **Is any voltage indicated?**	**Yes** GO to **B5**. **No** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.
B5	**CHECK CIRCUIT 1035 (OG/RD) FOR A SHORT TO VOLTAGE**	
	• Measure the voltage between the SJB C2280b-43, circuit 1035 (OG/RD), harness side and ground.  N0009386 • **Is any voltage indicated?**	**Yes** GO to **B6**. **No** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.
B6	**CHECK CIRCUIT 1035 (OG/RD) FOR AN OPEN AND A SHORT TO GROUND**	
	• Key in OFF position.	

(Continued)

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST B: THE INSTRUMENT PANEL ILLUMINATION DOES NOT DIM (Continued)

Test Step		Result / Action to Take
B6	**CHECK CIRCUIT 1035 (OG/RD) FOR AN OPEN AND A SHORT TO GROUND (Continued)**	
	• Measure the resistance between the SJB C2280b-43, circuit 1035 (OG/RD), harness side and the instrument panel dimmer switch C2298-6, circuit 1035 (OG/RD), harness side; and between the SJB C2280b-43, circuit 1035 (OG/RD), harness side and ground.  N0009384 • **Is the resistance less than 5 ohms between the SJB and the instrument panel dimmer switch, and greater than 10,000 ohms between the SJB and ground?**	**Yes** GO to **B7**. **No** REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.
B7	**CHECK THE INSTRUMENT PANEL DIMMER SWITCH OPERATION**	
	• Carry out the instrument panel dimmer switch component test. Refer to Wiring Diagrams Cell 149 for component testing. • **Does the instrument panel dimmer switch pass the component test?**	**Yes** GO to **B8**. **No** INSTALL a new instrument panel dimmer switch. REFER to Section 417-01. CLEAR the DTCs. REPEAT the self-test.
B8	**CHECK FOR CORRECT SJB OPERATION**	

	• Disconnect all the SJB connectors.
	• Check for:
	  • corrosion
	  • pushed-out pins
	• Connect all the SJB 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 SJB. REFER to Section 419-10. 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.

DIAGNOSIS AND TESTING (Continued)

Pinpoint Test C: One Or More Smart Junction Box (SJB) Controlled Illumination Source(s) Is Inoperative

Normal Operation — Dimmable Backlighting

With the parking lamps ON, a voltage signal is supplied to the instrument panel dimmer switch through circuit 1036 (BN/WH) from the smart junction box (SJB). The dimmer switch passes this voltage through a variable resistor and then returns the signal to the SJB on circuit 1035 (OG/RD). The SJB uses the return signal to determine the backlighting intensity desired by the operator. A pulse-width modulated (PWM) signal is sent from the SJB to each of the dimmable backlights maintaining the operator's desired level of lighting intensity.

Normal Operation — Non-Dimmable Backlighting

When the ignition switch is placed in the ACCY or the ON position, a voltage signal is supplied to the SJB. The SJB activates the accessory delay relay, supplying voltage to the non-dimmable backlights.

Possible Causes

- fuse
- circuit 19 (LB/RD) open or short to ground
- circuit 203 (OG/LB) open or short to ground
- circuit 293 (OG/RD) open or short to ground
- circuit 333 (YE/RD) open or short to ground
- circuit 984 (YE/LB) open or short to ground
- circuit 985 (RD/LB) open or short to ground
- circuit 1205 (BK) open
- circuit 1403 (BK/WH) open or short to ground
- circuit 1405 (LB/BK) open
- circuit 1425 (GY/WH) open or short to ground
- circuit 2023 (YE/LB) open or short to ground
- circuit 2029 (LB/WH) open or short to ground
- circuit 2030 (YE/WH) open or short to ground
- illuminated component
- clockspring
- accessory delay relay
- SJB

PINPOINT TEST C: ONE OR MORE SMART JUNCTION BOX (SJB) CONTROLLED ILLUMINATION SOURCE(S) IS INOPERATIVE

⚠ CAUTION: Use the correct probe adaptor(s) when making measurements. Failure to use the correct probe adaptor(s) may damage the connector.

Test Step		Result / Action to Take
C1	**CHECK THE INSTRUMENT PANEL ILLUMINATION OPERATION**	**Yes** GO to Pinpoint Test A. **No** If the inoperable illumination source(s) are non-dimmable, GO to **C2**. For all others GO to **C6**.
	• Key in ON position. • Place the headlamp switch in the PARK position. • Rotate the dimmer switch to the maximum brightness position. • Monitor all instrument panel illumination sources for correct operation. • **Are all the instrument panel illumination sources inoperable?**	
C2	**CHECK THE NON-DIMMABLE BACKLIGHTING OPERATION**	**Yes** VERIFY the SJB fuse 6 (5A) is OK. If OK, GO to **C3**. **No** GO to **C4**.
	• Monitor all instrument panel illumination non-dimmable sources for correct operation. • **Are all the instrument panel non-dimmable illumination sources inoperable?**	
C3	**CHECK THE ACCESSORY DELAY RELAY**	**Yes** GO to **C12**. **No** INSTALL a new accessory delay relay. CLEAR the DTCs. REPEAT The self-test.
	• Key in OFF position. • Carry out the accessory delay relay component test. Refer to Wiring Diagrams Cell 149 for component testing. • **Does the accessory delay relay pass the component test?**	
C4	**CHECK CIRCUIT 333 (YE/RD), 984 (YE/LB), AND 985 (RD/LB) FOR AN OPEN AND A SHORT TO GROUND**	
	• Key in OFF position. • Disconnect: SJB C2280e. • Disconnect: Suspect Illuminated Component.	

(Continued)

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST C: ONE OR MORE SMART JUNCTION BOX (SJB) CONTROLLED ILLUMINATION SOURCE(S) IS INOPERATIVE (Continued)

Test Step		Result / Action to Take
C4	**CHECK CIRCUIT 333 (YE/RD), 984 (YE/LB), AND 985 (RD/LB) FOR AN OPEN AND A SHORT TO GROUND (Continued)**	

- Measure the resistance between the SJB, harness side and the suspect illuminated component, harness side; and between the SJB, harness side and ground as follows:

Suspect Illuminated Component Location	SJB Connector-Pin	Illuminated Component Connector-Pin	Circuit
Driver Door Lock Control Switch	C2280e-26	C505-3	985 (RD/LB)
Driver Door Window Control Switch	C2280e-26	C504-3	985 (RD/LB)
Passenger Door Lock Control Switch	C2280e-25	C605-3	984 (YE/LB)
Passenger Window Control Switch	C2280e-25	C604-5	984 (YE/LB)
Rear Window Control Switch	C2280e-23	C566-5	333 (YE/RD)

- **Is the resistance less than 5 ohms between the SJB and the suspect illuminated component, and greater than 10,000 ohms between the SJB and ground?**

Yes
GO to **C5**.

No
REPAIR the circuit in question. CLEAR the DTCs. REPEAT the self-test.

C5	**CHECK NON-DIMMABLE LAMPS CIRCUIT 1205 (BK) FOR AN OPEN**	

- Measure the resistance between the suspect illuminated component, harness side and ground as follows:

Suspect Illuminated Component Location	Illuminated Component Connector-Pin	Circuit
Driver Door Lock Control Switch	C505-1	1205 (BK)
Driver Door Control Switch	C504-1	1205 (BK)
Passenger Door Lock Control Switch	C605-1	1205 (BK)
Passenger Window Control Switch	C604-1	1205 (BK)
Rear Window Control Switch	C566-1	1205 (BK)

- **Is the resistance less than 5 ohms?**

Yes
INSTALL a new illuminated component in question. CLEAR the DTCs. REPEAT the self-test.

No
REPAIR the circuit in question. CLEAR the DTCs. REPEAT the self-test.

(Continued)

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST C: ONE OR MORE SMART JUNCTION BOX (SJB) CONTROLLED ILLUMINATION SOURCE(S) IS INOPERATIVE (Continued)

<table>
<tr><th colspan="2">Test Step</th><th>Result / Action to Take</th></tr>
<tr><td>C6</td><td>CHECK THE DIMMABLE BACKLIGHTING OPERATION</td><td rowspan="2">Yes
GO to C12.
No
GO to C7.</td></tr>
<tr><td colspan="2">• Monitor all instrument panel illumination dimmable sources for correct operation.
• Are all the instrument panel dimmable illumination sources inoperable?</td></tr>
<tr><td>C7</td><td>CHECK THE INOPERABLE ILLUMINATED COMPONENT CIRCUIT FOR VOLTAGE</td><td rowspan="2">Yes
For the instrument panel dimmer switch, GO to C10. For all others, GO to C9.
No
GO to C8.</td></tr>
<tr><td colspan="2">• Disconnect: Suspect Illuminated Component.
• Key in ON position.
• Turn the parking lamps ON, rotate the instrument panel dimmer switch to the full intensity position.
• Measure the voltage between the suspect illuminated component and ground as follows:
<table>
<tr><th>Suspect Illuminated Component Location</th><th>Illuminated Component Connector-Pin</th><th>Circuit</th></tr>
<tr><td>Speed Control Switch</td><td>Steering Wheel Control Harness Connector</td><td>203 (OG/LB)</td></tr>
<tr><td>Roof Opening Panel Switch</td><td>C9013-8</td><td>293 (OG/RD)</td></tr>
<tr><td>Instrument Panel Dimmer Switch</td><td>C2298-3</td><td>1403 (BK/WH)</td></tr>
<tr><td>Climate Control Head</td><td>C294a-2</td><td>1425 (GY/WH)</td></tr>
<tr><td>Headlamp Switch</td><td>C205-2</td><td>2023 (YE/LB)</td></tr>
<tr><td>Instrument Panel Center Switches</td><td>C2039-6</td><td>2029 (LB/WH)</td></tr>
<tr><td>Message Center</td><td>C253-1</td><td>2030 (YE/WH)</td></tr>
</table>
• Is the voltage greater than 10 volts?</td></tr>
<tr><td>C8</td><td>CHECK CIRCUITS 19 (LB/RD), 203 (OG/LB), 293 (OG/RD), 1403 (BK/WH), 1425 (GY/WH), 2023 (YE/LB), 2029 (LB/WH), AND 2030 (YE/WH), FOR AN OPEN AND A SHORT TO GROUND</td><td></td></tr>
<tr><td colspan="2">• Turn the headlamp switch OFF.
• Key in OFF position.
• Disconnect: Smart Junction Box (SJB).
• Disconnect: Suspect lamp.
• Measure the resistance between the SJB, harness side and the suspect illuminated component, harness side; and between the SJB, harness side and ground as follows:</td><td></td></tr>
</table>

(Continued)

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST C: ONE OR MORE SMART JUNCTION BOX (SJB) CONTROLLED ILLUMINATION SOURCE(S) IS INOPERATIVE (Continued)

Test Step		Result / Action to Take
C8	**CHECK CIRCUITS 19 (LB/RD), 203 (OG/LB), 293 (OG/RD), 1403 (BK/WH), 1425 (GY/WH), 2023 (YE/LB), 2029 (LB/WH), AND 2030 (YE/WH), FOR AN OPEN AND A SHORT TO GROUND (Continued)**	

Suspect Illuminated Component Location	SJB Connector-Pin	Illuminated Component Connector-Pin	Circuit
Speed Control Switch	C2280b-10	Clockspring C2274-3	203 (OG/LB)
Convertible Top Switch	C2280f-6	Overhead Console C9013-8	293 (OG/RD)
Instrument Panel Dimmer Switch	C2280b-8	C2298-3	1403 (BK/WH)
Climate Control Assembly	C2280b-23	C294a-2	1425 (GY/WH)
Headlamp Switch	C2280b-6	C205-2	2023 (YE/LB)
Instrument Panel Center Switches	C2280b-11	Center Stack C2039-6	2029 (LB/WH)
Message Center Switch	C2280b-9	C253-1	2030 (YE/WH)
Transmission Range (TR) Indicator	C2280e-12	C307-4	19 (LB/RD)

- **Is the resistance less than 5 ohms between the SJB and the suspect illuminated component, and greater than 10,000 ohms between the SJB and ground?**

Yes
GO to **C12**.

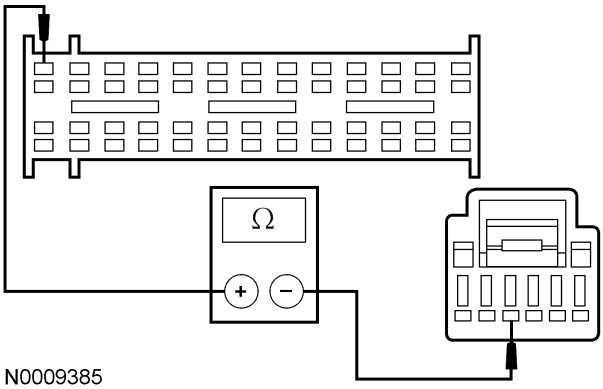
No
REPAIR the circuit in question. CLEAR the DTCs. REPEAT the self-test.

C9	**CHECK DIMMABLE LAMPS CIRCUIT 1205 (BK) FOR AN OPEN**	
	• Measure the resistance between the suspect illuminated component, harness side and ground as follows:	

(Continued)

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST C: ONE OR MORE SMART JUNCTION BOX (SJB) CONTROLLED ILLUMINATION SOURCE(S) IS INOPERATIVE (Continued)

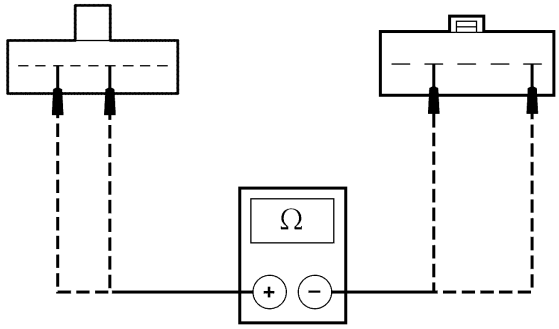
<table>
<tr><th colspan="2">Test Step</th><th>Result / Action to Take</th></tr>
<tr><td>C9</td><td>CHECK DIMMABLE LAMPS CIRCUIT 1205 (BK) FOR AN OPEN (Continued)</td><td rowspan="2">Yes
For the speed control switch, GO to C11. For all others, INSTALL a new component. CLEAR the DTCs. REPEAT the self-test.
No
REPAIR the circuit in question. CLEAR the DTCs. REPEAT the self-test.</td></tr>
<tr><td colspan="2">
<table>
<tr><th>Suspect Illuminated Component Location</th><th>Illuminated Component Connector-Pin</th><th>Circuit</th></tr>
<tr><td>Speed Control Switch</td><td>Clockspring C2274-6</td><td>1205 (BK)</td></tr>
<tr><td>Convertible Top Switch</td><td>Overhead Console C9013-3</td><td>1205 (BK)</td></tr>
<tr><td>Climate Control Assembly</td><td>C294a-1</td><td>1205 (BK)</td></tr>
<tr><td>Headlamp Switch</td><td>C205-1</td><td>1205 (BK)</td></tr>
<tr><td>Instrument Panel Center Switches</td><td>Center Stack C2039-1</td><td>1205 (BK)</td></tr>
<tr><td>Message Center Switch</td><td>C253-4</td><td>1205 (BK)</td></tr>
</table>
• Is the resistance less than 5 ohms?
</td></tr>
<tr><td>C10</td><td>CHECK CIRCUIT 1405 (LB/BK) FOR AN OPEN</td><td rowspan="2">Yes
INSTALL a new instrument panel dimmer switch. REFER to Section 417-01. CLEAR the DTCs. REPEAT the self-test.
No
REPAIR the circuit. CLEAR the DTCs. REPEAT the self-test.</td></tr>
<tr><td colspan="2">
• Measure the resistance between the SJB C2280b-1, circuit 1405 (LB/BK), harness side and the instrument panel dimmer switch C2298-4, circuit 1405 (LB/BK), harness side.


N0009385
• Is the resistance less than 5 ohms?
</td></tr>
<tr><td>C11</td><td>CHECK THE CLOCKSPRING FOR AN OPEN</td><td></td></tr>
<tr><td colspan="2">• Remove the driver air bag module. Refer to Section 501-20B.
• Disconnect: Steering Wheel Control Harness.</td><td></td></tr>
</table>

(Continued)

DIAGNOSIS AND TESTING (Continued)

PINPOINT TEST C: ONE OR MORE SMART JUNCTION BOX (SJB) CONTROLLED ILLUMINATION SOURCE(S) IS INOPERATIVE (Continued)

Test Step		Result / Action to Take
C11	**CHECK THE CLOCKSPRING FOR AN OPEN (Continued)**	
	• Measure the resistance between the clockspring C2274 pin 3, component side, and the top of the clockspring pin 1, component side and between the clockspring C2274 pin 6, component side and the top of the clockspring pin 4, component side.  N0012156 • **Are the resistances less than 5 ohms?**	**Yes** INSTALL a new speed control switch. REFER to Section 310-03. INSTALL the drive air bag module. REFER to Section 501-20B. CLEAR the DTCs. REPEAT the self-test. **No** INSTALL a new clockspring. REFER to Section 501-20B. INSTALL the driver air bag module. REFER to Section 501-20B. CLEAR the DTCs. REPEAT the self-test.
C12	**CHECK FOR CORRECT SJB OPERATION**	

	• Disconnect all the SJB connectors.
	• Check for:
	  • corrosion
	  • pushed-out pins
	• Connect all the SJB 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 SJB. REFER to Section 419-10. 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.