

Headlamps

DTC Chart: BCM

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).

BCM DTC Chart

DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
B143B:11	Autolamp On Input: Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test H - For LED headlamps, GO to Pinpoint Test J
B143C:11	Headlamp Off Input: Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test H - For LED headlamps, GO to Pinpoint Test J
B143D:11	Headlamp On Input: Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test H - For LED headlamps, GO to Pinpoint Test J
B143E:11	Headlamp Switch Input: Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test H - For LED headlamps, GO to Pinpoint Test J
B143E:15	Headlamp Switch Input: Circuit Short to Battery or Open	- For halogen headlamps, GO to Pinpoint Test H - For LED headlamps, GO to Pinpoint Test J
B1447:11	Parklamp On Switch Input: Circuit Short to Ground	REFER to: Parking, Rear and License Plate Lamps (417-01 Exterior Lighting, Diagnosis and Testing).
B14E0:11	Exterior Lamps Power Supply "C": Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test A - For LED headlamps, GO to Pinpoint Test C
B14E0:15	Exterior Lamps Power Supply "C": Circuit Short to Battery or Open	- For halogen headlamps, if the low beam is inoperative, GO to Pinpoint Test A - For halogen headlamps, if the low beam is always on, GO to Pinpoint Test I - For LED headlamps, if the low beam is inoperative, GO to Pinpoint Test C - For LED headlamps, if the low beam is always on, GO to Pinpoint Test J
B14E1:11	Exterior Lamps Power Supply "D": Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test A - For LED headlamps, GO to Pinpoint Test C
B14E1:15	Exterior Lamps Power Supply "D": Circuit Short to Battery or Open	- For halogen headlamps, if the low beam is inoperative, GO to Pinpoint Test A - For halogen headlamps, if the low beam is always on, GO to Pinpoint Test I - For LED headlamps, if the low beam is inoperative, GO to Pinpoint Test C - For LED headlamps, if the low beam is always on, GO to Pinpoint Test J

DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
B14E2:11	Exterior Lamps Power Supply "E": Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test E - For LED headlamps, GO to Pinpoint Test G
B14E2:15	Exterior Lamps Power Supply "E": Circuit Short to Battery or Open	- For halogen headlamps, if the high beam is inoperative, GO to Pinpoint Test E - For halogen headlamps, if the high beam is always on, GO to Pinpoint Test L - For LED headlamps, if the low beam is inoperative, GO to Pinpoint Test G - For LED headlamps, if the low beam is always on, GO to Pinpoint Test N
B14E3:11	Exterior Lamps Power Supply "F": Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test E - For LED headlamps, GO to Pinpoint Test G
B14E3:15	Exterior Lamps Power Supply "F": Circuit Short to Battery or Open	- For halogen headlamps, if the high beam is inoperative, GO to Pinpoint Test E - For halogen headlamps, if the high beam is always on, GO to Pinpoint Test L - For LED headlamps, if the low beam is inoperative, GO to Pinpoint Test G - For LED headlamps, if the low beam is always on, GO to Pinpoint Test N
B14E5:01	Left Front Enhanced Exterior Lighting System: General Electrical Failure	GO to Pinpoint Test Q
B14E5:08	Left Front Enhanced Exterior Lighting System: Bus Signal / Message Failure	GO to Pinpoint Test Q
B14E5:1C	Left Front Enhanced Exterior Lighting System: Circuit Voltage Out of Range	GO to Pinpoint Test Q
B14E5:49	Left Front Enhanced Exterior Lighting System: Internal Electronic Failure	GO to Pinpoint Test Q
B14E5:55	Left Front Enhanced Exterior Lighting System: Not Configured	GO to Pinpoint Test Q
B14E5:61	Left Front Enhanced Exterior Lighting System: Signal Calculation Failure	GO to Pinpoint Test Q
B14E7:01	Right Front Enhanced Exterior Lighting System: General Electrical Failure	GO to Pinpoint Test Q
B14E7:08	Right Front Enhanced Exterior Lighting System: Bus Signal / Message Failure	GO to Pinpoint Test Q
B14E7:1C	Right Front Enhanced Exterior Lighting System: Circuit Voltage Out of Range	GO to Pinpoint Test Q
B14E7:49	Right Front Enhanced Exterior Lighting System: Internal Electronic Failure	GO to Pinpoint Test Q
B14E7:55	Right Front Enhanced Exterior Lighting System: Not Configured	GO to Pinpoint Test Q
B14E7:61	Right Front Enhanced Exterior Lighting System: Signal Calculation Failure	GO to Pinpoint Test Q
B1567:11	Right Front High Beam 2 Output: Circuit Short to Ground	GO to Pinpoint Test F
B1567:15	Right Front High Beam 2 Output: Circuit Short to Battery or Open	- For halogen headlamps, if the high beam is inoperative, GO to Pinpoint Test F - For halogen headlamps, if the high beam is always on, GO to Pinpoint Test M

DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
B1569:11	Right Front Low Beam 2 Output: Circuit Short to Ground	GO to Pinpoint Test B
B1569:15	Right Front Low Beam 2 Output: Circuit Short to Battery or Open	- For halogen headlamps, if the low beam is inoperative, GO to Pinpoint Test B - For halogen headlamps, if the low beam is always on, GO to Pinpoint Test I
B156A:11	Left Front High Beam 2 Output: Circuit Short to Ground	GO to Pinpoint Test F
B1567:15	Right Front High Beam 2 Output: Circuit Short to Battery or Open	- For halogen headlamps, if the high beam is inoperative, GO to Pinpoint Test F - For halogen headlamps, if the high beam is always on, GO to Pinpoint Test M
B156B:11	Left Front Low Beam 2 Output: Circuit Short to Ground	GO to Pinpoint Test B
B156B:15	Left Front Low Beam 2 Output: Circuit Short to Battery or Open	- For halogen headlamps, if the low beam is inoperative, GO to Pinpoint Test B - For halogen headlamps, if the low beam is always on, GO to Pinpoint Test I
B1D00:11	Left Low Beam: Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test A - For LED headlamps, GO to Pinpoint Test C
B1D00:15	Left Low Beam: Circuit Short to Battery or Open	- For halogen headlamps, if the low beam is inoperative, GO to Pinpoint Test A - For halogen headlamps, if the low beam is always on, GO to Pinpoint Test I - For LED headlamps, if the low beam is inoperative, GO to Pinpoint Test C - For LED headlamps, if the low beam is always on, GO to Pinpoint Test J
B1D01:11	Right Low Beam: Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test A - For LED headlamps, GO to Pinpoint Test C
B1D01:15	Right Low Beam: Circuit Short to Battery or Open	- For halogen headlamps, if the low beam is inoperative, GO to Pinpoint Test A - For halogen headlamps, if the low beam is always on, GO to Pinpoint Test I - For LED headlamps, if the low beam is inoperative, GO to Pinpoint Test C - For LED headlamps, if the low beam is always on, GO to Pinpoint Test J
B1D02:11	Left High Beam Circuit: Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test E - For LED headlamps, GO to Pinpoint Test G
B1D02:15	Left High Beam Circuit: Circuit Short to Battery or Open	- For halogen headlamps, if the high beam is inoperative, GO to Pinpoint Test E - For halogen headlamps, if the high beam is always on, GO to Pinpoint Test L - For LED headlamps, if the low beam is inoperative, GO to Pinpoint Test G - For LED headlamps, if the low beam is always on, GO to Pinpoint Test N

DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
B1D03:11	Right High Beam Circuit: Circuit Short to Ground	- For halogen headlamps, GO to Pinpoint Test E - For LED headlamps, GO to Pinpoint Test G
B1D03:15	Right High Beam Circuit: Short to Battery or Open	- For halogen headlamps, if the high beam is inoperative, GO to Pinpoint Test E - For halogen headlamps, if the high beam is always on, GO to Pinpoint Test L - For LED headlamps, if the low beam is inoperative, GO to Pinpoint Test G - For LED headlamps, if the low beam is always on, GO to Pinpoint Test N
For other BCM Diagnostic Trouble Codes (DTCs)	-	REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).

DTC Chart: SCCM

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).

SCCM DTC Chart

DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
B1007:09	High-Beam Headlamp Switch: Component Failure	INSTALL a new LH steering column multifunction switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). CLEAR the Diagnostic Trouble Codes (DTCs). Run the SCCM self-test. If the DTC returns, INSTALL a new SCCM. For vehicles without adaptive steering, REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). For vehicles with adaptive steering, REFER to: Steering Column Control Module (SCCM) - Vehicles With: Adaptive Steering (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
B1D36:09	Turn Indicator Switch: Component Failure	INSTALL a new LH steering column multifunction switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). CLEAR the Diagnostic Trouble Codes (DTCs). Run the SCCM self-test. If the DTC returns, INSTALL a new SCCM. For vehicles without adaptive steering, REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). For vehicles with adaptive steering, REFER to: Steering Column Control Module (SCCM) - Vehicles With: Adaptive Steering (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
All other SCCM Diagnostic Trouble Codes (DTCs)	-	REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components, Diagnosis and Testing).

Symptom Chart(s)

Symptom Chart: Headlamps

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
A module does not respond to the diagnostic scan tool	• Fuse • Wiring terminals or connectors • Module	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
One or both upper low beams is inoperative - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test A
One or both lower low beams is inoperative - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test B
One or both low beams is inoperative - vehicles with LED headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test C
Both upper and both lower high beams are inoperative - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test D
One or both upper high beams is inoperative - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test E
One or both lower high beams is inoperative - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test F
One or both high beams is inoperative - vehicles with LED headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test G
Both upper and both lower low beams are on continuously - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test H
An individual low beam is on continuously - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test I
One or both low beams are on continuously - vehicles with LED headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test J
All high beams are on continuously - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test K
One or both upper high beams are on continuously - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test L
One or both lower high beams are on continuously - vehicles with halogen headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test M
One or both high beams are on continuously - vehicles with LED headlamps	Refer to the Pinpoint Test	GO to Pinpoint Test N
The flash-to-pass feature is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test O
The automatic high beam feature is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test P

Pinpoint Tests

[PINPOINT TEST A : ONE OR BOTH UPPER LOW BEAMS IS INOPERATIVE - VEHICLES WITH HALOGEN HEADLAMPS](#)

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B14E0:11	Exterior Lamps Power Supply "C": Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH low beam output circuit.
BCM B14E0:15	Exterior Lamps Power Supply "C": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH low beam output circuit.
BCM B14E1:11	Exterior Lamps Power Supply "D": Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH low beam output circuit.
BCM B14E1:15	Exterior Lamps Power Supply "D": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH low beam output circuit.
BCM B1D00:11	Left Low Beam: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH low beam output circuit.
BCM B1D00:15	Left Low Beam: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH low beam output circuit.
BCM B1D01:11	Right Low Beam: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH low beam output circuit.
BCM B1D01:15	Right Low Beam: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH low beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- Bulb
- BCM

Visual Inspection and Pre-checks

- Inspect the headlamp assembly for damage.

A1 DETERMINE IF ONE OR BOTH LOW BEAMS ARE INOPERATIVE

- Place the headlamp switch in the HEADLAMPS position.

Are both low beams inoperative?

Yes	GO to A7
No	GO to A2

A2 CHECK FOR VOLTAGE FROM THE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position.
- Disconnect Inoperative LH Upper Headlamp [C1509A](#) or RH Upper Headlamp [C1510A](#) .
- Place the headlamp switch in the HEADLAMPS position.
- Measure:

HEADLAMP, LEFT UPPER	
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-1		Ground

HEADLAMP, RIGHT UPPER	
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-1		Ground

Is the voltage greater than 11 volts?

Yes	GO to A6
No	GO to A3

A3 REPEAT THE ON-DEMAND SELF-TEST AND CHECK FOR VOLTAGE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position.
- Ignition ON.

- Using a diagnostic scan tool, perform the BCM self-test.
- Clear the Diagnostic Trouble Codes (DTCs) and repeat the self-test (required to enable the lamp output driver).
- Ignition OFF.
- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Measure:

HEADLAMP, LEFT UPPER	
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-1		Ground

HEADLAMP, RIGHT UPPER	
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-1		Ground

Is the voltage greater than 11 volts?

Yes	INSTALL a new upper headlamp bulb. REFER to: Headlamp Bulb (417-01 Exterior Lighting, Removal and Installation).
No	GO to A4

A4 CHECK THE LOW BEAM CIRCUIT FOR A SHORT TO GROUND

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect BCM [C2280G](#).
- Measure:

HEADLAMP, LEFT UPPER	
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-1	Ω	Ground

HEADLAMP, RIGHT UPPER	
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-1	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to A5

No	REPAIR the circuit. After the repair: If no Diagnostic Trouble Codes (DTCs) are present, TEST the system for normal operation. If any BCM Diagnostic Trouble Codes (DTCs) other than DTC U3000:49 are present, CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation.
A5 CHECK THE LOW BEAM CIRCUIT FOR AN OPEN	If DTC U3000:49 is present, INSTALL a new BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).

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- Measure:

HEADLAMP, LEFT UPPER	BODY CONTROL MODULE (BCM)
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-1	Ω	C2280G-4

HEADLAMP, RIGHT UPPER	BODY CONTROL MODULE (BCM)
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-1	Ω	C2280G-2

Is the resistance less than 3 ohms?

Yes	GO to A7
No	REPAIR the circuit.

A6 CHECK THE HEADLAMP GROUND CIRCUIT FOR AN OPEN

- Measure:

HEADLAMP, LEFT UPPER

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-1		C1509A-2

HEADLAMP, RIGHT UPPER

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-1		C1510A-2

Is the voltage greater than 11 volts?

Yes	INSTALL a new upper headlamp bulb. REFER to: Headlamp Bulb (417-01 Exterior Lighting, Removal and Installation).
No	REPAIR the circuit in question.

A7 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€“ clean module pins)
 - damaged or bent pins â€“ install new terminals/pins
 - pushed-out pins â€“ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 : ONE OR BOTH LOWER LOW BEAMS IS INOPERATIVE - VEHICLES WITH HALOGEN HEADLAMPS

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B1569:11	Right Front Low Beam 2 Output: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH low beam output circuit.
BCM B1569:15	Right Front Low Beam 2 Output: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH low beam output circuit.
BCM B156A:11	Left Front High Beam 2 Output: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH low beam output circuit.
BCM B156A:15	Left Front High Beam 2 Output: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH low beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- Bulb
- BCM

Visual Inspection and Pre-checks

- Inspect the headlamp assembly for damage.

B1 DETERMINE IF ONE OR BOTH LOW BEAMS ARE INOPERATIVE

- Place the headlamp switch in the HEADLAMPS position.

Are both low beams inoperative?

Yes	GO to B7
No	GO to B2

B2 CHECK FOR VOLTAGE FROM THE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position.
- Disconnect Inoperative LH Lower Headlamp [C1509B](#) or RH Lower Headlamp [C1510B](#).
- Place the headlamp switch in the HEADLAMPS position.
- Measure:

HEADLAMP, LEFT LOWER	
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-1		Ground

HEADLAMP, RIGHT LOWER	
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-1		Ground

Is the voltage greater than 11 volts?

Yes	GO to B6
No	GO to B3

B3 REPEAT THE ON-DEMAND SELF-TEST AND CHECK FOR VOLTAGE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position.
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test.
- Clear the Diagnostic Trouble Codes (DTCs) and repeat the self-test (required to enable the lamp output driver).
- Ignition OFF.
- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Measure:

HEADLAMP, LEFT LOWER	
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-1		Ground

HEADLAMP, RIGHT LOWER	
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-1		Ground

B4. CHECK THE LOW BEAM CIRCUIT FOR A SHORT TO GROUND

Is the voltage greater than 11 volts?

- Place the headlamp switch in the OFF position.
- | | |
|--------------|---|
| Yes | INSTALL a new lower headlamp bulb. |
| Ignition OFF | REFER to: Headlamp Bulb (417-01 Exterior Lighting, Removal and Installation). |
| No | GO TO BCM C2280G . |

Measure:

HEADLAMP, LEFT LOWER	
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-1	Ω	Ground

HEADLAMP, RIGHT LOWER	
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-1	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to B5
B5 CHECK THE LOW BEAM CIRCUIT FOR AN OPEN	
No	REPAIR the circuit. After the repair: If no Diagnostic Trouble Codes (DTCs) are present, TEST the system for normal operation. If any BCM Diagnostic Trouble Codes (DTCs) other than DTC U3000:49 are present, CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation. If DTC U3000:49 is present, INSTALL a new BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).

- Measure:

HEADLAMP, LEFT LOWER	BODY CONTROL MODULE (BCM)
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-1	Ω	C2280G-8

HEADLAMP, RIGHT LOWER	BODY CONTROL MODULE (BCM)
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-1	Ω	C2280G-15

Is the resistance less than 3 ohms?

Yes	GO to B7
No	REPAIR the circuit.

B6 CHECK THE HEADLAMP GROUND CIRCUIT FOR AN OPEN

- Measure:

HEADLAMP, LEFT LOWER

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-1		C1509B-2

HEADLAMP, RIGHT LOWER

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-1		C1510B-2

Is the voltage greater than 11 volts?

Yes	INSTALL a new lower headlamp bulb. REFER to: Headlamp Bulb (417-01 Exterior Lighting, Removal and Installation).
No	REPAIR the circuit in question.

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€“ clean module pins)
 - damaged or bent pins â€“ install new terminals/pins
 - pushed-out pins â€“ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 : ONE OR BOTH LOW BEAMS IS INOPERATIVE - VEHICLES WITH LED (LIGHT EMITTING DIODE) HEADLAMPS**

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B14E0:11	Exterior Lamps Power Supply "C": Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH low beam output circuit.
BCM B14E0:15	Exterior Lamps Power Supply "C": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH low beam output circuit.
BCM B14E1:11	Exterior Lamps Power Supply "D": Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH low beam output circuit.
BCM B14E1:15	Exterior Lamps Power Supply "D": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH low beam output circuit.
BCM B1D00:11	Left Low Beam: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH low beam output circuit.
BCM B1D00:15	Left Low Beam: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH low beam output circuit.
BCM B1D01:11	Right Low Beam: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH low beam output circuit.
BCM B1D01:15	Right Low Beam: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH low beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- Headlamp assembly (LED headlamps)
- LED control module
- BCM

Visual Inspection and Pre-checks

- Inspect the headlamp assembly for damage.

C1 DETERMINE IF ONE OR BOTH LOW BEAMS ARE INOPERATIVE

- Place the headlamp switch in the HEADLAMPS position.

Are both low beams inoperative?

Yes	GO to C8
No	GO to C2

C2 CHECK FOR VOLTAGE FROM THE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position.
- Disconnect Inoperative LH Headlamp [C1284](#) or RH Headlamp [C1285](#) .
- Place the headlamp switch in the HEADLAMPS position.
- Measure:

HEADLAMP, LEFT	
----------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-5		Ground

HEADLAMP, RIGHT	
-----------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-5		Ground

Is the voltage greater than 11 volts?

Yes	GO to C6
No	GO to C3

C3 REPEAT THE ON-DEMAND SELF-TEST AND CHECK FOR VOLTAGE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position.

- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test.
- Clear the Diagnostic Trouble Codes (DTCs) and repeat the self-test (required to enable the lamp output driver).
- Ignition OFF.
- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Measure:

HEADLAMP, LEFT	
----------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-5		Ground

HEADLAMP, RIGHT	
-----------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-5		Ground

Is the voltage greater than 11 volts?

Yes	GO to C7
No	GO to C4

C4 CHECK THE LOW BEAM CIRCUIT FOR A SHORT TO GROUND

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect BCM [C2280G](#) .
- Measure:

HEADLAMP, LEFT	
----------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-5	Ω	Ground

HEADLAMP, RIGHT	
-----------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-5	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to C5
-----	--------------------------

No	REPAIR the circuit. After the repair: If no Diagnostic Trouble Codes (DTCs) are present, TEST the system for normal operation. If any BCM Diagnostic Trouble Codes (DTCs) other than DTC U3000:49 are present, CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation. If DTC U3000:49 is present, INSTALL a new BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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C5 CHECK THE LOW BEAM CIRCUIT FOR AN OPEN

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- Measure:

HEADLAMP, LEFT	BODY CONTROL MODULE (BCM)
----------------	---------------------------

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-5	Ω	C2280G-4

HEADLAMP, RIGHT	BODY CONTROL MODULE (BCM)
-----------------	---------------------------

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-5	Ω	C2280G-2

Is the resistance less than 3 ohms?

Yes	GO to C8
No	REPAIR the circuit.

C6 CHECK THE HEADLAMP GROUND CIRCUIT FOR AN OPEN

- Measure:

HEADLAMP, LEFT

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-5		C1284-7

HEADLAMP, RIGHT

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-5		C1285-7

Is the voltage greater than 11 volts?

Yes	GO to C7
No	REPAIR the circuit in question.

C7 CHECK THE LED (LIGHT EMITTING DIODE) CONTROL MODULE

- REMOVE the suspect LED control module (mounted on headlamp assembly).
- Substitute the known good LED control module from the opposite headlamp.
- CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation.

Does the suspect headlamp operate?

Yes	REMOVE the known good LED control module. INSTALL a new LED control module. REFER to: Light Emitting Diode (LED) Control Module (417-01 Exterior Lighting, Removal and Installation).
No	REMOVE the known good LED control module. INSTALL a new headlamp assembly. REFER to: Headlamp Assembly (417-01 Exterior Lighting, Removal and Installation).

C8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM 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 BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 D : BOTH UPPER AND BOTH LOWER HIGH BEAMS ARE INOPERATIVE - VEHICLES WITH HALOGEN HEADLAMPS

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

Possible Sources

- Wiring, terminals or connectors
- LH steering column multifunction switch
- SCCM
- BCM

Visual Inspection and Pre-checks

- Inspect the LH steering column multifunction switch for damage.

D1 CHECK THE LH (LEFT-HAND) MULTIFUNCTION SWITCH INPUT

- While placing the LH steering column multifunction switch in the HIGH BEAM and LOW BEAM positions,
Access the SCCM and monitor the HIGH_BEAM_SW (0) PID

Do the PID values agree with the LH steering column multifunction switch position?

Yes	GO to D3
No	INSTALL a new LH steering column multifunction switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern still exists, GO to D2

D2 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- 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 the service article instructions. If no service articles address this concern, INSTALL a new SCCM. For vehicles without adaptive steering, REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). For vehicles with adaptive steering, REFER to: Steering Column Control Module (SCCM) - Vehicles With: Adaptive Steering (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.

D3 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM 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 BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 E : ONE OR BOTH UPPER HIGH BEAMS IS INOPERATIVE - VEHICLES WITH HALOGEN HEADLAMPS**

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B14E2:11	Exterior Lamps Power Supply "E": Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH high beam output circuit.
BCM B14E2:15	Exterior Lamps Power Supply "E": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH high beam output circuit.
BCM B14E3:11	Exterior Lamps Power Supply "F": Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH high beam output circuit.
BCM B14E3:15	Exterior Lamps Power Supply "F": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH high beam output circuit.
BCM B1D02:11	Left High Beam Circuit: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH high beam output circuit.
BCM B1D02:15	Left High Beam Circuit: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH high beam output circuit.
BCM B1D03:11	Right High Beam Circuit: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH high beam output circuit.
BCM B1D03:15	Right High Beam Circuit: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH high beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- Bulb
- BCM

Visual Inspection and Pre-checks

- Inspect the headlamp assembly for damage.

E1 CHECK THE LOW BEAM OPERATION

- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Place the LH steering column multifunction switch in the high beam position and observe the headlamps.
- Place the LH steering column multifunction switch in the low beam position and observe the headlamps.

Do the low beams illuminate?

Yes	If an individual upper high beam is inoperative, GO to E2 If both upper high beams are inoperative, GO to E6
No	GO to Pinpoint Test A

E2 CHECK FOR VOLTAGE FROM THE HEADLAMP HIGH BEAM CIRCUIT

- Place the headlamp switch in the OFF position.
- Disconnect Inoperative LH Upper Headlamp [C1509A](#) or RH Upper Headlamp [C1510A](#) .
- Ignition ON.

- Place the headlamp switch in the HEADLAMPS position and the LH steering column multifunction switch in the HIGH BEAM position.
- Measure:

HEADLAMP, LEFT UPPER	
----------------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-3		Ground

HEADLAMP, RIGHT UPPER	
-----------------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-3		Ground

Is the voltage greater than 11 volts?

Yes	INSTALL a new upper headlamp bulb. REFER to: Headlamp Bulb (417-01 Exterior Lighting, Removal and Installation).
No	GO to E3

E3 REPEAT THE ON-DEMAND SELF-TEST AND CHECK FOR VOLTAGE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position and the LH steering column multifunction switch in the LOW BEAM position.
- Using a diagnostic scan tool, perform the BCM self-test.
- Clear the Diagnostic Trouble Codes (DTCs) and repeat the self-test (required to enable the lamp output driver).
- Ignition OFF.
- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position and the LH steering column multifunction switch in the HIGH BEAM position.
- Measure:

HEADLAMP, LEFT UPPER	
----------------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-3		Ground

HEADLAMP, RIGHT UPPER	
-----------------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-3		Ground

Is the voltage greater than 11 volts?

Yes	INSTALL a new upper headlamp bulb. REFER to: Headlamp Bulb (417-01 Exterior Lighting, Removal and Installation).
No	GO to E4

E4 CHECK THE HIGH BEAM CIRCUIT FOR A SHORT TO GROUND

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect BCM [C2280G](#) .
- Measure:

HEADLAMP, LEFT UPPER	
----------------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-3	Ω	Ground

HEADLAMP, RIGHT UPPER	
-----------------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-3	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to E5
No	REPAIR the circuit. After the repair: If no Diagnostic Trouble Codes (DTCs) are present, TEST the system for normal operation. If any BCM Diagnostic Trouble Codes (DTCs) other than DTC U3000:49 are present, CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation. If DTC U3000:49 is present, INSTALL a new BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).

E5 CHECK THE HIGH BEAM SUPPLY CIRCUIT FOR AN OPEN

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- For halogen headlamps, measure:

HEADLAMP, LEFT UPPER	BODY CONTROL MODULE (BCM)
----------------------	---------------------------

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-3	Ω	C2280G-11

HEADLAMP, RIGHT UPPER	BODY CONTROL MODULE (BCM)
-----------------------	---------------------------

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-3	Ω	C2280G-6

Is the resistance less than 3 ohms?

Yes	GO to E6
No	REPAIR the circuit.

E6 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM 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 BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 F : ONE OR BOTH LOWER HIGH BEAMS IS INOPERATIVE - VEHICLES WITH HALOGEN HEADLAMPS

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B1567:11	Right Front High Beam 2 Output: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH high beam output circuit.
BCM B1567:15	Right Front High Beam 2 Output: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH high beam output circuit.
BCM B156A:11	Left Front High Beam 2 Output: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH high beam output circuit.
BCM B156A:15	Left Front High Beam 2 Output: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH high beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- Bulb
- BCM

Visual Inspection and Pre-checks

- Inspect the headlamp assembly for damage.

F1 CHECK THE LOW BEAM OPERATION

- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Place the LH steering column multifunction switch in the high beam position and observe the headlamps.
- Place the LH steering column multifunction switch in the low beam position and observe the headlamps.

Do the low beams illuminate?

Yes	If an individual lower high beam is inoperative, GO to F2 If both lower high beams are inoperative, GO to F6
No	GO to Pinpoint Test A

F2 CHECK FOR VOLTAGE FROM THE HEADLAMP HIGH BEAM CIRCUIT

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect Inoperative LH Lower Headlamp [C1509B](#) or RH Lower Headlamp [C1510B](#) .
- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position and the LH steering column multifunction switch in the HIGH BEAM position.
- Measure:

HEADLAMP, LEFT LOWER	
----------------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-3		Ground

HEADLAMP, RIGHT LOWER	
-----------------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-3		Ground

F3 REPEAT THE ON-DEMAND SELF-TEST AND CHECK FOR VOLTAGE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position and the LH steering column multifunction switch in the LOW BEAM position.
- Is the voltage greater than 11 volts?

- Clear the Diagnostic Trouble Codes (DTGs) and repeat the self-test (required to enable the lamp output driver).

- Yes INSTALL a new lower headlamp bulb. REFER to: Headlamp Bulb (417-01 Exterior Lighting, Removal and Installation).

- Ignition OFF.

- No GO to [F3](#)

- Ignition ON.

- Place the headlamp switch in the HEADLAMPS position and the LH steering column multifunction switch in the HIGH BEAM position.

- Measure:

HEADLAMP, LEFT LOWER	
----------------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-3		Ground

HEADLAMP, RIGHT LOWER	
-----------------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-3		Ground

Is the voltage greater than 11 volts?

F4 CHECK THE HIGH BEAM CIRCUIT FOR A SHORT TO GROUND

- Place the headlamp switch in the OFF position.
- Yes** INSTALL a new lower headlamp bulb.
REFER to: Headlamp Bulb (417-01 Exterior Lighting, Removal and Installation).
- Ignition OFF.
- No** GO to [F4](#).
- Disconnect BCM [C2280G](#).

- Measure:

HEADLAMP, LEFT LOWER	
----------------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-3	Ω	Ground

HEADLAMP, RIGHT LOWER	
-----------------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-3	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to F5
No	REPAIR the circuit. After the repair: If no Diagnostic Trouble Codes (DTCs) are present, TEST the system for normal operation. If any BCM Diagnostic Trouble Codes (DTCs) other than DTC U3000:49 are present, CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation.
F5 CHECK THE HIGH BEAM SUPPLY CIRCUIT FOR AN OPEN	If DTC U3000:49 is present, INSTALL a new BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).

- For halogen headlamps, measure:

HEADLAMP, LEFT LOWER	BODY CONTROL MODULE (BCM)
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-3	Ω	C2280G-14

HEADLAMP, RIGHT LOWER	BODY CONTROL MODULE (BCM)
-----------------------	---------------------------

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-3	Ω	C2280G-13

Is the resistance less than 3 ohms?

Yes	GO to F6
No	REPAIR the circuit.

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€“ clean module pins)
 - damaged or bent pins â€“ install new terminals/pins
 - pushed-out pins â€“ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 : ONE OR BOTH HIGH BEAMS IS INOPERATIVE - VEHICLES WITH LED (LIGHT EMITTING DIODE) HEADLAMPS**

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B14E2:11	Exterior Lamps Power Supply "E": Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH high beam output circuit.
BCM B14E2:15	Exterior Lamps Power Supply "E": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH high beam output circuit.
BCM B14E3:11	Exterior Lamps Power Supply "F": Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH high beam output circuit.
BCM B14E3:15	Exterior Lamps Power Supply "F": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH high beam output circuit.
BCM B1D02:11	Left High Beam Circuit: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the LH high beam output circuit.
BCM B1D02:15	Left High Beam Circuit: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH high beam output circuit.
BCM B1D03:11	Right High Beam Circuit: Circuit Short To Ground	A continuous memory and on-demand DTC that sets when the BCM detects a short to ground from the RH high beam output circuit.
BCM B1D03:15	Right High Beam Circuit: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH high beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- LED control module
- Headlamp assembly
- BCM

Visual Inspection and Pre-checks

- Inspect the headlamp assembly for damage.

G1 CHECK FOR BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODE (DTCS)

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

Are any BCM Diagnostic Trouble Code (DTCs) other than B14E2:11, B14E2:15, B14E3:11, B14E3:15, B1D02:11, B1D02:15, B1D03:11 or B1D03:15 present?

Yes	DIAGNOSE all other BCM Diagnostic Trouble Code (DTCs) first. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
No	GO to G2

G2 CHECK THE LOW BEAM OPERATION

- Place the headlamp switch in the HEADLAMPS position.
- Place the LH steering column multifunction switch in the high beam position and observe the headlamps.
- Place the LH steering column multifunction switch in the low beam position and observe the headlamps.

Do the low beams illuminate?

Yes	If an individual high beam is inoperative, GO to G3 If both high beams are inoperative, GO to G8
No	GO to Pinpoint Test A

G3 CHECK FOR VOLTAGE FROM THE HEADLAMP HIGH BEAM CIRCUIT

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect Inoperative LH Headlamp [C1284](#) or RH Headlamp [C1285](#) .
- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position and the LH steering column multifunction switch in the HIGH BEAM position.
- Measure:

HEADLAMP, LEFT	
----------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-6		Ground

HEADLAMP, RIGHT	
-----------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-6		Ground

Is the voltage greater than 11 volts?

Yes	GO to G7
No	GO to G4

G4 REPEAT THE ON-DEMAND SELF-TEST AND CHECK FOR VOLTAGE HEADLAMP LOW BEAM CIRCUIT

- Place the headlamp switch in the OFF position and the LH steering column multifunction switch in the LOW BEAM position.
- Using a diagnostic scan tool, perform the BCM self-test.
- Clear the Diagnostic Trouble Codes (DTCs) and repeat the self-test (required to enable the lamp output driver).
- Ignition OFF.
- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position and the LH steering column multifunction switch in the HIGH BEAM position.
- Measure:

HEADLAMP, LEFT	
----------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-6		Ground

HEADLAMP, RIGHT	
-----------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-6		Ground

G5 CHECK THE HIGH BEAM CIRCUIT FOR A SHORT TO GROUND

Is the voltage greater than 11 volts?

- Place the headlamp switch in the OFF position.

• Yes	GO to G7
• No	GO to G5 C2280G .

- Measure:

HEADLAMP, LEFT	
----------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-6	Ω	Ground

HEADLAMP, RIGHT



RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-6	Ω	Ground

Is the resistance greater than 10,000 ohms?

G6 CHECK FOR HIGH BEAM SUPPLY CIRCUIT FOR AN OPEN

No	REPAIR the circuit. After the repair: If no Diagnostic Trouble Codes (DTCs) are present, TEST the system for normal operation. If any BCM Diagnostic Trouble Codes (DTCs) other than DTC U3000:49 are present, CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation. If DTC U3000:49 is present, INSTALL a new BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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- Measure:

HEADLAMP, LEFT	BODY CONTROL MODULE (BCM)
----------------	---------------------------

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-6	Ω	C2280G-11

HEADLAMP, RIGHT	BODY CONTROL MODULE (BCM)
-----------------	---------------------------

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-6	Ω	C2280G-6

Is the resistance less than 3 ohms?

Yes	GO to G8
No	REPAIR the circuit.

G7 CHECK THE LED (LIGHT EMITTING DIODE) CONTROL MODULE

- REMOVE the suspect LED control module (mounted on headlamp assembly).
- Substitute the known good LED control module from the opposite headlamp.
- CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation.

Does the suspect headlamp operate?

Yes	REMOVE the known good LED control module. INSTALL a new LED control module. REFER to: Light Emitting Diode (LED) Control Module (417-01 Exterior Lighting, Removal and Installation).
No	REMOVE the known good LED control module. INSTALL a new headlamp assembly. REFER to: Headlamp Assembly (417-01 Exterior Lighting, Removal and Installation).

G8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM 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 BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 : BOTH UPPER AND BOTH LOWER LOW BEAMS ARE ON CONTINUOUSLY - VEHICLES WITH HALOGEN HEADLAMP

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B143B:11	Autolamp On Input: Circuit Short To Ground	An on-demand DTC that sets when the BCM detects a short to ground on the autolamp on input circuit.
BCM B143C:11	Headlamp Off Input: Circuit Short To Ground	An on-demand DTC that sets when the BCM detects a short to ground on the headlamp off input circuit.
BCM B143D:11	Headlamp On Input: Circuit Short To Ground	An on-demand DTC that sets when the BCM detects a short to ground on the headlamp on input circuit.
BCM B143E:11	Headlamp Switch Input: Circuit Short To Ground	A continuous memory DTC that sets when the BCM detects a short to ground on the headlamp switch input circuits.

Possible Sources

- Wiring, terminals or connectors
- Headlamp switch
- BCM

Visual Inspection and Pre-checks

- Inspect the headlamp switch for damage.

H1 CHECK THE HEADLAMP SWITCH

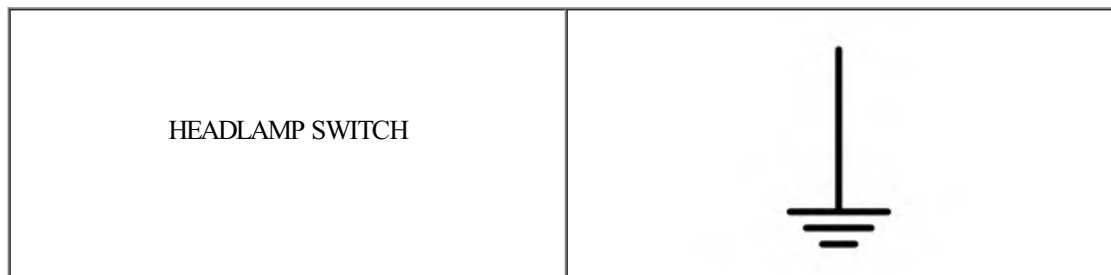
- Ignition OFF.
- Disconnect Headlamp Switch [C205](#) .
- Carry out the headlamp switch component test.
Refer to Wiring Diagrams Cell [149](#) for schematic and connector information.

Does the headlamp switch pass the component test?

Yes	GO to H2
No	INSTALL a new headlamp switch. REFER to: Headlamp Switch (417-01 Exterior Lighting, Removal and Installation).

H2 CHECK THE HEADLAMP SWITCH GROUND CIRCUIT FOR AN OPEN

- Measure:



Positive Lead	Measurement / Action	Negative Lead
C205-4	Ω	Ground

Is the resistance less than 3 ohms?

Yes	GO to H3
No	REPAIR the circuit.

H3 CHECK THE HEADLAMP SWITCH CIRCUITS FOR A SHORT TO VOLTAGE

- Disconnect BCM [C2280B](#).
- Ignition ON.
- Measure:

HEADLAMP SWITCH

Positive Lead	Measurement / Action	Negative Lead
C205-10		C205-4
C205-11		C205-4
C205-12		C205-4
C205-13		C205-4

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to H4

H4 CHECK THE HEADLAMP SWITCH CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

HEADLAMP SWITCH	
-----------------	--

Positive Lead	Measurement / Action	Negative Lead
C205-10	Ω	Ground
C205-11	Ω	Ground
C205-12	Ω	Ground
C205-13	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to H5
No	REPAIR the circuit in question.

H5 CHECK THE HEADLAMP SWITCH CIRCUITS FOR AN OPEN

- Measure:

HEADLAMP SWITCH	BODY CONTROL MODULE (BCM)
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Positive Lead	Measurement / Action	Negative Lead
C205-10	Ω	C2280B-16
C205-11	Ω	C2280B-2
C205-12	Ω	C2280B-15
C205-13	Ω	C2280B-21

Are the resistances less than 3 ohms?

Yes	GO to H6
No	REPAIR the circuit in question.

H6 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€ clean module pins)
 - damaged or bent pins â€ install new terminals/pins
 - pushed-out pins â€ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 : AN INDIVIDUAL LOW BEAM IS ON CONTINUOUSLY - VEHICLES WITH HALOGEN HEADLAMPS

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B14E0:15	Exterior Lamps Power Supply "C": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the LH low beam output circuit.
BCM B14E1:15	Exterior Lamps Power Supply "D": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the RH low beam output circuit.
BCM B1569:15	Right Front Low Beam 2 Output: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the RH low beam output circuit.
BCM B156A:15	Left Front High Beam 2 Output: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the LH low beam output circuit.
BCM B1D00:15	Left Low Beam: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the LH low beam output circuit.
BCM B1D01:15	Right Low Beam: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the RH low beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- BCM

I1 CHECK THE LOW BEAM CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BCM [C2280G](#).
- Ignition ON.

Do the low beam continue to illuminate?

Yes	REPAIR the circuit in question.
No	GO to I2

I2 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM 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 BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 : ONE OR BOTH LOW BEAMS ARE ON CONTINUOUSLY - VEHICLES WITH LED (LIGHT EMITTING DIODE) HEADLAMPS

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B143B:11	Autolamp On Input: Circuit Short To Ground	An on-demand DTC that sets when the BCM detects a short to ground on the autolamp on input circuit.
BCM B143C:11	Headlamp Off Input: Circuit Short To Ground	An on-demand DTC that sets when the BCM detects a short to ground on the headlamp off input circuit.
BCM B143D:11	Headlamp On Input: Circuit Short To Ground	An on-demand DTC that sets when the BCM detects a short to ground on the headlamp on input circuit.
BCM B143E:11	Headlamp Switch Input: Circuit Short To Ground	A continuous memory DTC that sets when the BCM detects a short to ground on the headlamp switch input circuits.
BCM B14E0:15	Exterior Lamps Power Supply "C": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH low beam output circuit.
BCM B14E1:15	Exterior Lamps Power Supply "D": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH low beam output circuit.
BCM B1D00:15	Left Low Beam: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the LH low beam output circuit.
BCM B1D01:15	Right Low Beam: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the RH low beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- LED control module
- BCM

J1 CHECK FOR BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODE (DTCS)

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

Are any BCM Diagnostic Trouble Code (DTCs) other than B143B:11, B143C:11, B143D:11, B143E:11, B14E2:15, B14E3:15, B1D02:15 or B1D03:15 present?

Yes	DIAGNOSE all other BCM Diagnostic Trouble Code (DTCs) first. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
No	GO to J2

J2 CHECK THE LOW BEAM OPERATION

- Ignition ON.
- Place the headlamp switch in the OFF position and observe the headlamps.

Do both low beams illuminate?

Yes	GO to J3
No	GO to J8

J3 CHECK THE HEADLAMP SWITCH

- Ignition OFF.
- Disconnect Headlamp Switch [C205](#) .
- Carry out the headlamp switch component test.
Refer to Wiring Diagrams Cell [149](#) for schematic and connector information.

Does the headlamp switch pass the component test?

Yes	GO to J4
No	INSTALL a new headlamp switch. REFER to: Headlamp Switch (417-01 Exterior Lighting, Removal and Installation).

J4 CHECK THE HEADLAMP SWITCH GROUND CIRCUIT FOR AN OPEN

- Measure:

HEADLAMP SWITCH	
-----------------	--

Positive Lead	Measurement / Action	Negative Lead
C205-4	Ω	Ground

Is the resistance less than 3 ohms?

Yes	GO to J5
No	REPAIR the circuit.

J5 CHECK THE HEADLAMP SWITCH CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BCM [C2280B](#).
- Ignition ON.
- Measure:

HEADLAMP SWITCH

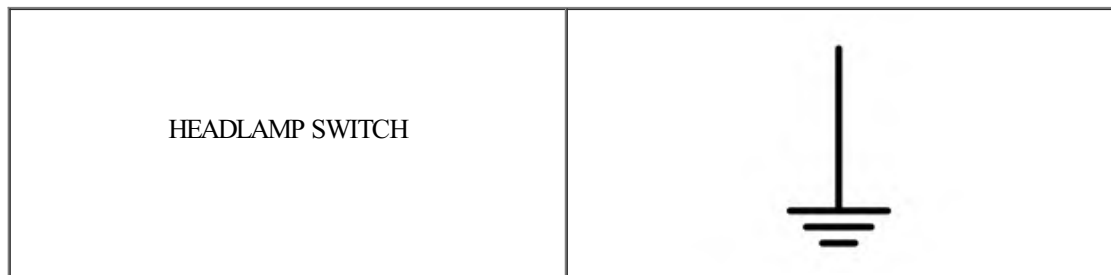
Positive Lead	Measurement / Action	Negative Lead
C205-10		C205-4
C205-11		C205-4
C205-12		C205-4
C205-13		C205-4

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to J6

J6 CHECK THE HEADLAMP SWITCH CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:



Positive Lead	Measurement / Action	Negative Lead
C205-10	Ω	Ground
C205-11	Ω	Ground
C205-12	Ω	Ground
C205-13	Ω	Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to J7
No	REPAIR the circuit in question.

J7 CHECK THE HEADLAMP SWITCH CIRCUITS FOR AN OPEN

- Measure:

HEADLAMP SWITCH	BODY CONTROL MODULE (BCM)
-----------------	---------------------------

Positive Lead	Measurement / Action	Negative Lead
C205-10	Ω	C2280B-16
C205-11	Ω	C2280B-2
C205-12	Ω	C2280B-15
C205-13	Ω	C2280B-21

Are the resistances less than 3 ohms?

Yes	GO to J10
No	REPAIR the circuit in question.

J8 CHECK THE LOW BEAM CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BCM [C2280G](#) .
- Ignition ON.

Does the low beam continue to illuminate?

Yes	REPAIR the circuit in question.
No	GO to J9

J9 CHECK THE LED (LIGHT EMITTING DIODE) CONTROL MODULE

- Ignition OFF.
- Connect BCM [C2280G](#).
- REMOVE the suspect LED control module (mounted on headlamp assembly).
- Substitute the known good LED control module from the opposite headlamp.
- Ignition ON.
- CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation.

Does the suspect headlamp operate correctly?

Yes	REMOVE the known good LED control module. INSTALL a new LED control module. REFER to: Light Emitting Diode (LED) Control Module (417-01 Exterior Lighting, Removal and Installation).
No	REMOVE the known good LED control module. GO to J10

J10 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€ clean module pins)
 - damaged or bent pins â€ install new terminals/pins
 - pushed-out pins â€ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 K : ALL HIGH BEAMS ARE ON CONTINUOUSLY - VEHICLES WITH HALOGEN HEADLAMPS](#)

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

Possible Sources

- Wiring, terminals or connectors
- LH steering column multifunction switch
- SCCM
- BCM

Visual Inspection and Pre-checks

- Inspect the LH steering column multifunction switch for damage.

K1 CHECK THE LH (LEFT-HAND) MULTIFUNCTION SWITCH INPUT

- While placing the LH steering column multifunction switch in the HIGH BEAM and LOW BEAM positions,

Access the SCCM and monitor the HIGH_BEAM_SW (0) PID

Do the PID values agree with the LH steering column multifunction switch position?

Yes	GO to K3
No	INSTALL a new LH steering column multifunction switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern still exists, GO to K2

K2 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- 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 the service article instructions. If no service articles address this concern, INSTALL a new SCCM. For vehicles without adaptive steering, REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). For vehicles with adaptive steering, REFER to: Steering Column Control Module (SCCM) - Vehicles With: Adaptive Steering (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.

K3 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€“ clean module pins)
 - damaged or bent pins â€“ install new terminals/pins
 - pushed-out pins â€“ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 : ONE OR BOTH UPPER HIGH BEAMS ARE ON CONTINUOUSLY - VEHICLES WITH HALOGEN HEADLAMPS

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B14E2:15	Exterior Lamps Power Supply "E": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH high beam output circuit.
BCM B14E3:15	Exterior Lamps Power Supply "F": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH high beam output circuit.
BCM B1D02:15	Left High Beam Circuit: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the LH high beam output circuit.
BCM B1D03:15	Right High Beam Circuit: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the RH high beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- BCM

L1 CHECK HIGH BEAMS OPERATION

- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Place the LH steering column multifunction switch in the LOW BEAM position and observe the headlamps.
- Observe the operation of the LH and RH headlamps.

Are both high beams illuminated?

Yes	GO to L3
No	GO to L2

L2 CHECK HIGH BEAM VOLTAGE SUPPLY CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BCM [C2280G](#) .
- Disconnect Inoperative LH Headlamp [C1509A](#) or RH Headlamp [C1510A](#) .
- Ignition ON.
- Measure:

HEADLAMP, LEFT UPPER	
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509A-3		Ground

HEADLAMP, RIGHT UPPER	
-----------------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510A-3		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to L3

L3 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€ clean module pins)
 - damaged or bent pins â€ install new terminals/pins
 - pushed-out pins â€ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 M : ONE OR BOTH LOWER HIGH BEAMS ARE ON CONTINUOUSLY - VEHICLES WITH HALOGEN HEADLAMPS](#)

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B1567:15	Right Front High Beam 2 Output: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the RH high beam output circuit.
BCM B1567:15	Right Front High Beam 2 Output: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the LH high beam output circuit.

Possible Sources

- Wiring terminals or connectors
- BCM

M1 CHECK HIGH BEAMS OPERATION

- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Place the LH steering column multifunction switch in the LOW BEAM position and observe the headlamps.
- Observe the operation of the LH and RH headlamps.

Are both high beams illuminated?

Yes	GO to M3
No	GO to M2

M2 CHECK HIGH BEAM VOLTAGE SUPPLY CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BCM [C2280G](#) .
- Disconnect BCM [C2280G](#) .
- Ignition ON.
- Measure:

HEADLAMP, LEFT LOWER	
----------------------	--

LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1509B-3		Ground

HEADLAMP, RIGHT LOWER	
-----------------------	--

RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1510B-3		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to M3

- Disconnect and inspect all BCM 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 BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 : ONE OR BOTH HIGH BEAMS ARE ON CONTINUOUSLY - VEHICLES WITH LED (LIGHT EMITTING DIODE) HEADLAMPS

Refer to Wiring Diagrams Cell [85](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B14E2:15	Exterior Lamps Power Supply "E": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the LH high beam output circuit.
BCM B14E3:15	Exterior Lamps Power Supply "F": Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects an open from the RH high beam output circuit.
BCM B1D02:15	Left High Beam Circuit: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the LH high beam output circuit.
BCM B1D03:15	Right High Beam Circuit: Circuit Short To Battery Or Open	A continuous memory and on-demand DTC that sets when the BCM detects a short to voltage from the RH high beam output circuit.

Possible Sources

- Wiring, terminals or connectors
- LH steering column multifunction switch
- SCCM
- BCM

Visual Inspection and Pre-checks

- Inspect the LH steering column multifunction switch for damage.

N1 CHECK HIGH BEAMS OPERATION

- Ignition ON.
- Place the headlamp switch in the HEADLAMPS position.
- Place the LH steering column multifunction switch in the LOW BEAM position and observe the headlamps.
- Observe the operation of the LH and RH headlamps.

Are both high beams illuminated?

Yes	GO to N2
No	GO to N3

N2 CHECK THE LH (LEFT-HAND) MULTIFUNCTION SWITCH INPUT

- While placing the LH steering column multifunction switch in the HIGH BEAM and LOW BEAM positions,
Access the SCCM and monitor the HIGH_BEAM_SW (0) PID

Do the PID values agree with the LH steering column multifunction switch position?

Yes	GO to N5
No	INSTALL a new LH steering column multifunction switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern still exists, GO to N4

N3 CHECK HIGH BEAM VOLTAGE SUPPLY CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect BCM [C2280G](#) .
- Disconnect Inoperative LH Headlamp [C1284](#) or RH Headlamp [C1284](#) .
- Ignition ON.
- Measure:

HEADLAMP, LEFT	
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LH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1284-6		Ground

HEADLAMP, RIGHT	
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RH Headlamp

Positive Lead	Measurement / Action	Negative Lead
C1285-6		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to N5

N4 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- Disconnect and inspect all SCCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€ clean module pins)
 - damaged or bent pins â€ install new terminals/pins
 - pushed-out pins â€ 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 Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new SCCM. For vehicles without adaptive steering, REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). For vehicles with adaptive steering, REFER to: Steering Column Control Module (SCCM) - Vehicles With: Adaptive Steering (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.

N5 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€ clean module pins)
 - damaged or bent pins â€ install new terminals/pins
 - pushed-out pins â€ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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 O : THE FLASH-TO-PASS FEATURE IS INOPERATIVE

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

Possible Sources

- LH steering column multifunction switch
- SCCM
- BCM

Visual Inspection and Pre-checks

- Inspect the LH steering column multifunction switch for damage.

O1 CHECK THE HIGH BEAM OPERATION

- Ignition ON.
- Place the headlamp switch in the HEADLAMPS ON position.
- Activate and deactivate the high beams using the high beam function of the LH steering column multifunction switch.

Do the high beams operate correctly?

Yes	GO to O2
No	If one or both high beams are inoperative, GO to Pinpoint Test E If one or both high beams are always on, GO to Pinpoint Test K

O2 CHECK THE LH (LEFT-HAND) MULTIFUNCTION SWITCH INPUT

- While placing the LH steering column multifunction switch in the HIGH BEAM and LOW BEAM positions,
Access the SCCM and monitor the HIGH_BEAM_SW (0) PID
- While placing the LH steering column multifunction switch in the FLASH-TO-PASS position,
Access the SCCM and monitor the FLASH-to-PASS PID

Does the PID value agree with the LH steering column multifunction switch position?

Yes	GO to O4
No	INSTALL a new LH steering column multifunction switch. REFER to: Steering Column Multifunction Switch LH (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). TEST the system for normal operation. If the concern still exists, GO to O3

O3 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- Disconnect and inspect all SCCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€ clean module pins)
 - damaged or bent pins â€ install new terminals/pins
 - pushed-out pins â€ 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 Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new SCCM. For vehicles without adaptive steering, REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation). For vehicles with adaptive steering, REFER to: Steering Column Control Module (SCCM) - Vehicles With: Adaptive Steering (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.

O4 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Disconnect and inspect all BCM connectors.
- Repair:
 - corrosion (install new connector or terminals â€ clean module pins)
 - damaged or bent pins â€ install new terminals/pins
 - pushed-out pins â€ install new pins as necessary
- Reconnect the BCM 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 BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, 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.

The IPMA controls the automatic high beam feature when active.

The IPMA turns the high beam headlamps on when the following conditions are met:

- The feature has been enabled using the message center
- The headlamp switch is in the AUTOLAMPS position and the autolamps feature has turned the exterior lamps on
- The vehicle speed is greater than 51 km/h (32 mph)
- The IPMA determines the ambient lighting conditions are dark enough
- The IPMA does not detect any light source that can be interpreted as an illuminated vehicle lamp

The IPMA turns the high beams off if any of the following occur:

- The IPMA detects any light source that can be interpreted as an illuminated vehicle lamp
- The IPMA determines the ambient lighting conditions are not dark enough
- The vehicle speed falls below 44 km/h (27 mph)
- The autolamps are turned off
- The IPMA determines the view is blocked

PINPOINT TEST P : THE AUTOMATIC HIGH BEAM FEATURE IS INOPERATIVE

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).
 REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

Possible Sources

- Windshield debris
- IPMA (part of the interior rear view mirror)

NOTE: *In cold weather conditions (4Â°C [40Â°F] or less), the auto high beams are inhibited for 10 minutes to allow the camera windshield defrost heater to clear the windshield in front of the auto high beam camera.*

P1 VERIFY THE HIGH BEAM HEADLAMP OPERATION

- Place the headlamp switch in the HEADLAMPS ON position.
- Place the RH steering column multifunction switch in the HIGH BEAM position while observing the headlamps.

Do the high beam headlamps illuminate?

Yes	GO to P2
No	DIAGNOSE the inoperative high beams.

P2 CHECK FOR IPMA (IMAGE PROCESSING MODULE A) DIAGNOSTIC TROUBLE CODE (DTCs)

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

Are any IPMA Diagnostic Trouble Code (DTCs) present?

Yes	REFER to: Lane Keeping System (419-07 Lane Keeping System, Diagnosis and Testing).
No	GO to P3

P3 VERIFY THE AUTOMATIC HIGH BEAM SENSOR IS NOT BLOCKED

- Visually verify the automatic high beam sensor is not blocked. Sources of blockage can include:
 - stickers, window decals or tags.
 - non-OEM window tinting.

Was the automatic high beam sensor blocked?

Yes	If possible, REMOVE the blockage. If the blockage cannot be removed, REVIEW the operation of the automatic high beams with the customer.
No	INSTALL a new IPMA (part of the interior rear view mirror). REFER to: Interior Rear View Mirror (501-09 Rear View Mirrors, Removal and Installation).

Refer to Wiring Diagrams Cell [90](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Exterior Lighting - Overview (417-01 Exterior Lighting, Description and Operation).

REFER to: Exterior Lighting - System Operation and Component Description (417-01 Exterior Lighting, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
BCM B14E5:01	Left Front Enhanced Exterior Lighting System: General Electrical Failure	A continuous memory and on-demand DTC that sets when the BCM detects a an internal failure from the LH headlamp.
BCM B14E5:08	Left Front Enhanced Exterior Lighting System: Bus Signal/Message Failures	A continuous memory and on-demand DTC that sets when the BCM detects a message failure from the LH low beam output circuit.
BCM B14E5:1C	Left Front Enhanced Exterior Lighting System: Circuit Voltage Out Of Range	An on-demand DTC that sets when the BCM detects a an internal failure from the LH headlamp.
BCM B14E5:49	Left Front Enhanced Exterior Lighting System: Internal Electronic Failure	A continuous memory and on-demand DTC that sets when the BCM detects a an internal failure from the LH headlamp.
BCM B14E5:55	Left Front Enhanced Exterior Lighting System: Not Configured	A continuous memory and on-demand DTC that sets when the BCM detects the LH headlamp adaptive front lighting module is not configured.
BCM B14E5:61	Left Front Enhanced Exterior Lighting System: Signal Calculation Failure	An on-demand DTC that sets when the BCM detects a an internal failure from the LH headlamp.
BCM B14E7:01	Right Front Enhanced Exterior Lighting System: General Electrical Failure	A continuous memory and on-demand DTC that sets when the BCM detects a an internal failure from the RH headlamp.
BCM B14E7:08	Right Front Enhanced Exterior Lighting System: Bus Signal/Message Failures	A continuous memory and on-demand DTC that sets when the BCM detects a message failure from the RH low beam output circuit.
BCM B14E7:1C	Right Front Enhanced Exterior Lighting System: Circuit Voltage Out Of Range	An on-demand DTC that sets when the BCM detects a an internal failure from the RH headlamp.
BCM B14E7:49	Right Front Enhanced Exterior Lighting System: Internal Electronic Failure	A continuous memory and on-demand DTC that sets when the BCM detects a an internal failure from the RH headlamp.
BCM B14E7:55	Right Front Enhanced Exterior Lighting System: Not Configured	A continuous memory and on-demand DTC that sets when the BCM detects the RH headlamp adaptive front lighting module is not configured.
BCM B14E7:61	Right Front Enhanced Exterior Lighting System: Signal Calculation Failure	An on-demand DTC that sets when the BCM detects a an internal failure from the RH headlamp.

Possible Sources

- Wiring, terminals or connectors
- Adaptive front lighting module
- Headlamp assembly
- BCM

Q1 CHECK FOR BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODE (DTCs)

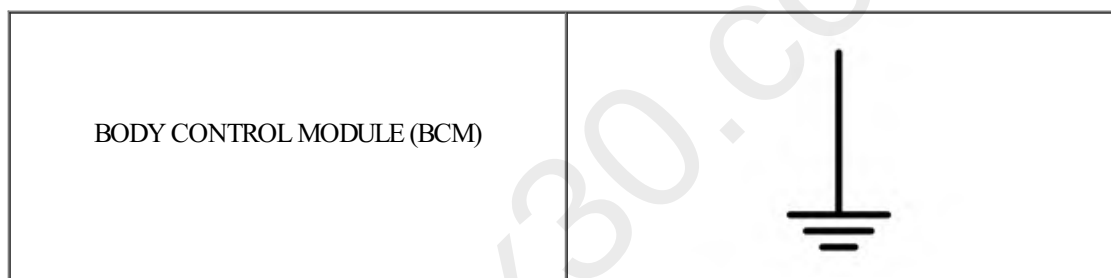
- Ignition ON.
- Using a diagnostic scan tool, perform the BCM self-test.

Are any BCM Diagnostic Trouble Code (DTCs) other than B14E5:01, B14E5:08, B14E5:1C, B14E5:49, B14E5:55, B14E5:61, B14E7:01, B14E7:08, B14E7:1C, B14E7:49, B14E7:55 or B14E7:61 present?

Yes	DIAGNOSE all other BCM Diagnostic Trouble Code (DTCs) first. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
No	GO to Q2

Q2 CHECK BCM (BODY CONTROL MODULE) LIN (LOCAL INTERCONNECT NETWORK) CIRCUITS FOR A SHORT TO VOLTAGE

- Place the headlamp switch in the OFF position.
- Ignition OFF.
- Disconnect: BCM [C2280F](#)
- Disconnect LH Headlamp [C1284](#) and RH Headlamp [C1285](#) .
- Ignition ON.
- Measure:



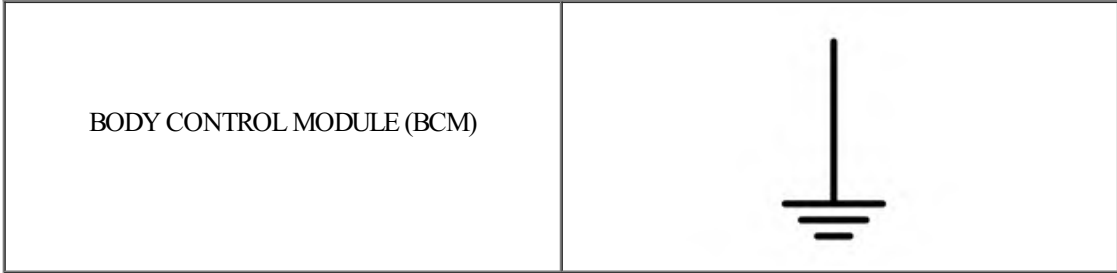
Positive Lead	Measurement / Action	Negative Lead
C2280F-15		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to Q3

Q3 CHECK BCM (BODY CONTROL MODULE) LIN (LOCAL INTERCONNECT NETWORK) CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:



Positive Lead	Measurement / Action	Negative Lead
C2280F-15	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to Q4
No	REPAIR the circuit.

Q4 CHECK BCM (BODY CONTROL MODULE) LIN (LOCAL INTERCONNECT NETWORK) CIRCUITS FOR AN OPEN

- Measure:

BODY CONTROL MODULE (BCM)	HEADLAMP, LEFT
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DTC B14E5:01, B14E5:08, B14E5:1C, B14E5:49, B14E5:55 or B14E5:61

Positive Lead	Measurement / Action	Negative Lead
C2280F-15	Ω	C1284-9

BODY CONTROL MODULE (BCM)	HEADLAMP, RIGHT
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DTC B14E7:01, B14E7:08, B14E7:1C, B14E7:49, B14E7:55 or B14E7:61

Positive Lead	Measurement / Action	Negative Lead
C2280F-15	Ω	C1285-9

Is the resistance less than 3 ohms?

Yes	GO to Q5
No	REPAIR the circuit.

Q5 CHECK THE LED (LIGHT EMITTING DIODE) CONTROL MODULE

- Ignition OFF.
- Connect BCM [C2280G](#).
- REMOVE the suspect LED control module (mounted on headlamp assembly).
- Substitute the known good LED control module from the opposite headlamp.
- Ignition ON.
- CLEAR the Diagnostic Trouble Codes (DTCs), REPEAT the self-test (required to enable the lamp output driver) and cycle the ignition OFF and ON. TEST the system for normal operation.

Did BCM DTC B14E5:01, B14E5:08, B14E5:1C, B14E5:49, B14E5:55, B14E5:61, B14E7:01, B14E7:08, B14E7:1C, B14E7:49, B14E7:55 or B14E7:61 return?

Yes	REMOVE the known good LED control module. INSTALL a new headlamp assembly. REFER to: Headlamp Assembly (417-01 Exterior Lighting, Removal and Installation).
No	REMOVE the known good LED control module. INSTALL a new LED control module. REFER to: Light Emitting Diode (LED) Control Module (417-01 Exterior Lighting, Removal and Installation).

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