2007 ACCESSORIES AND EQUIPMENT

Lamps/Lighting - Exterior - Electrical/Diagnostics - Nitro

DIAGNOSTIC CODE INDEX

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DTC	Description
B162B	LEFT LOW BEAM CONTROL CIRCUIT LOW
B162C	LT LOW BEAM CONTROL CKT HI
B162F	RIGHT LOW BEAM CONTROL CIRCUIT LOW
B1630	RIGHT LOW BEAM CONTROL CIRCUIT HIGH
B1633	LEFT HI BEAM CONTROL CIRCUIT LOW
B1634	LEFT HI BEAM CONTROL CIRCUIT HIGH
B1637	RIGHT HI BEAM CONTROL CIRCUIT LOW
B1638	RIGHT HI BEAM CONTROL CIRCUIT HIGH
B163B	FRONT LEFT TURN CONTROL CIRCUIT LOW
B163C	FRONT LEFT TURN CONTROL CIRCUIT HIGH
B163F	FRONT RIGHT TURN CONTROL CIRCUIT LOW
B1640	FRONT RIGHT TURN CONTROL CIRCUIT HIGH
B1643	REAR LEFT TURN CONTROL CIRCUIT LOW
B1644	REAR LEFT TURN CONTROL CIRCUIT HIGH
B1644	RIGHT STOP LAMP CONTROL CIRCUIT HIGH
B1647	REAR RIGHT TURN CONTROL CIRCUIT LOW
B1648	REAR RIGHT TURN CONTROL CIRCUIT HIGH
B165C	PARK LAMP CONTROL CIRCUIT LOW
B165D	PARK LAMP CONTROL CIRCUIT HIGH
B166C	LEFT TRAILER TOW LAMP CONTROL CIRCUIT HIGH
B166F	RIGHT TRAILER TOW LAMP CONTROL CIRCUIT LOW
B1670	RIGHT TRAILER TOW LAMP CONTROL CIRCUIT HIGH
B16B1	LEFT STOP LAMP CONTROL CIRCUIT HIGH
B16F8	FRONT LEFT FOG LAMP CONTROL CIRCUIT LOW
B16F9	FRONT LEFT FOG LAMP CONTROL CIRCUIT HIGH
B16FC	FRONT RIGHT FOG LAMP CONTROL CIRCUIT LOW
B16FD	FRONT RIGHT FOG LAMP CONTROL CIRCUIT HIGH
B17B8	LEFT STOP LAMP CONTROL CIRCUIT OVERCURRENT
B17BA	HEADLAMP LEVELING MOTOR CONTROL CIRCUIT OVERCURRENT
B17BD	LEFT SIDEMARKER LAMP CONTROL CIRCUIT HIGH
B17BF	LEFT SIDEMARKER LAMP CONTROL CIRCUIT OVERCURRENT
B17C2	RIGHT SIDEMARKER LAMP CONTROL CIRCUIT HIGH
B17C4	RIGHT SIDEMARKER LAMP CONTROL CIRCUIT OVERCURRENT

LAMPS/LIGHTING - EXTERIOR-ELECTRICAL/DIAGNOSTICS

DIAGNOSIS AND TESTING

B162B-LEFT LOW BEAM CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Headlamps activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L43) LEFT LOW BEAM CONTROL CIRCUIT SHORT TO GROUND
LEFT LOW BEAM BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Headlamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B162B-LEFT LOW BEAM CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) LEFT LOW BEAM BULB

Turn the ignition off.

Disconnect the Left Low Beam Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Left Low Beam Bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L43) LEFT LOW BEAM CONTROL CIRCUIT SHORT TO GROUND

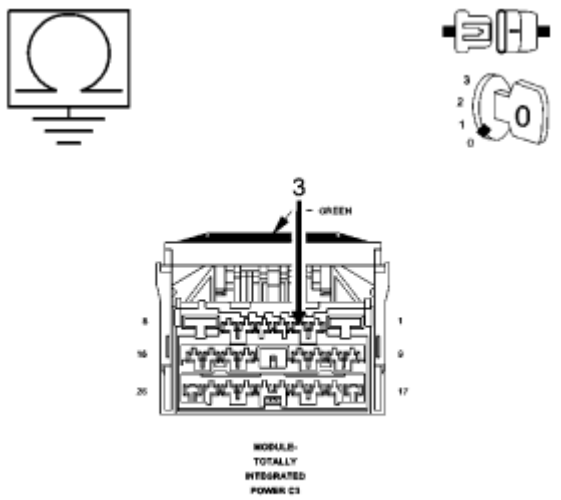

Fig. 1: Measuring Resistance Between Ground And (L43) Left Low Beam Control Circuit
Courtesy of CHRYSLER LLC

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Disconnect the Left Headlamp harness connector.

Measure the resistance between ground and the (L43) Left Low Beam Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L43) Left Low Beam Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

B162C-LT LOW BEAM CONTROL CKT HI

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects an OPEN condition when the low beam is on.

Possible Causes
CHECK (L911) LEFT HEADLAMP RETURN SIGNAL
(L911) LEFT HEADLAMP RETURN SIGNAL
CHECK (L43) LEFT LOW BEAM CONTROL CIRCUIT
(L43) LEFT LOW BEAM CONTROL CIRCUIT OPEN
LEFT LOW BEAM BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Headlamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B162C-LEFT LOW BEAM CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (L911) LEFT HEADLAMP RETURN SIGNAL

Turn the ignition off.

Disconnect the Left Low Beam Lamp harness connector.

With a 12-volt test light connected to 12-volts, probe the (L911) left headlamp return signal circuit.

Does the test light illuminate brightly?

Yes

Go to 4).

No

Go to 3).

3) (L911) LEFT HEADLAMP RETURN SIGNAL

Measure the resistance of the (L911) left headlamp return signal circuit at the Left Low Beam harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L911) left headlamp return signal circuit for an open.

Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L43) LEFT LOW BEAM CONTROL CIRCUIT

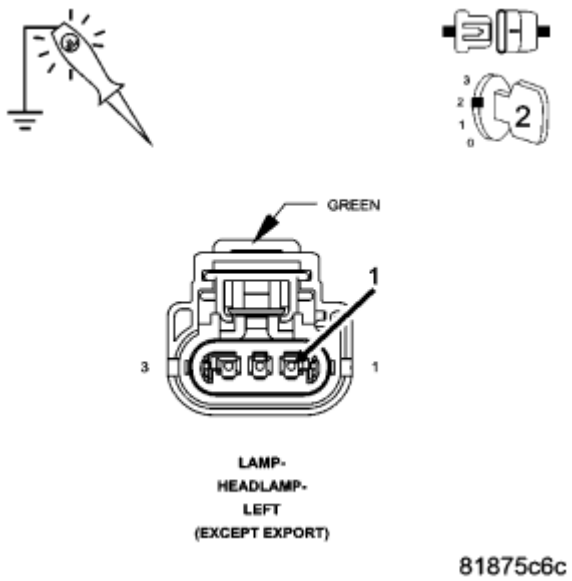

Fig. 2: Checking (L43) Left Low Beam Control Circuit
Courtesy of CHRYSLER LLC

Turn the ignition on.

With a 12-volt test light connected to ground, check the (L43) Left Low Beam Control circuit.

Does the test light illuminate brightly with the headlamps switch turned on, and shut off with the headlamps turned off?

Yes

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L43) LEFT LOW BEAM CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Measure the resistance of the (L43) Left Low Beam Control circuit between the Left Low Beam harness

connector and the TIPM C3 harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L43) Left Low Beam Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

B162F-RIGHT LOW BEAM CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Headlamps activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a SHORT condition when the right low beam is on.

Possible Causes
(L44) RIGHT LOW BEAM CONTROL CIRCUIT SHORT TO GROUND
RIGHT LOW BEAM BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Headlamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B162F-RIGHT LOW BEAM CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) RIGHT LOW BEAM BULB

Turn the ignition off.

Disconnect the Right Low Beam Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Right Low Beam Bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

3) (L44) RIGHT LOW BEAM CONTROL CIRCUIT SHORT TO GROUND

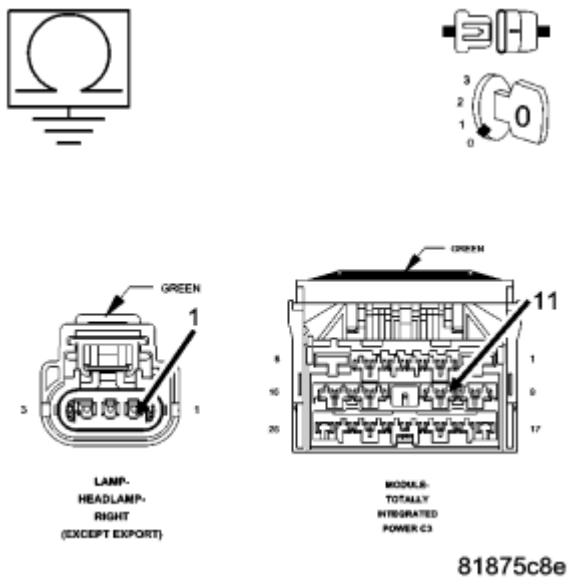

Fig. 3: Measuring Resistance Between Ground And (L44) Right Low Beam Control Circuit
Courtesy of CHRYSLER LLC

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Disconnect the Right Headlamp harness connector.

Measure the resistance between ground and the (L44) Right Low Beam Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L44) Right Low Beam Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

B1630-RIGHT LOW BEAM CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (L910) RIGHT HEADLAMP RETURN SIGNAL
(L910) RIGHT HEADLAMP RETURN SIGNAL
CHECK (L44) RIGHT LOW BEAM CONTROL CIRCUIT
(L44) RIGHT LOW BEAM CONTROL CIRCUIT OPEN
(L44) RIGHT LOW BEAM CONTROL CIRCUIT SHORTED TO VOLTAGE
RIGHT LOW BEAM BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Headlamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B1630-RIGHT LOW BEAM CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (L910) RIGHT HEADLAMP RETURN SIGNAL

Turn the ignition off.

Disconnect the Right Low Beam Lamp harness connector.

With a 12-volt test light connected to 12-volts, probe the (L910) right headlamp return signal circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (L910) RIGHT HEADLAMP RETURN SIGNAL

Measure the resistance of the (L910) right headlamp return signal circuit at the Right Low Beam harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L910) right headlamp return signal circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L44) RIGHT LOW BEAM CONTROL CIRCUIT

Turn the ignition on.

With a 12-volt test light connected to ground, check the (L44) Right Low Beam Control circuit.

Does the test light illuminate brightly with the headlamps switch turned on, and shut off with the headlamps turned off?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L44) RIGHT LOW BEAM CONTROL CIRCUIT OPEN

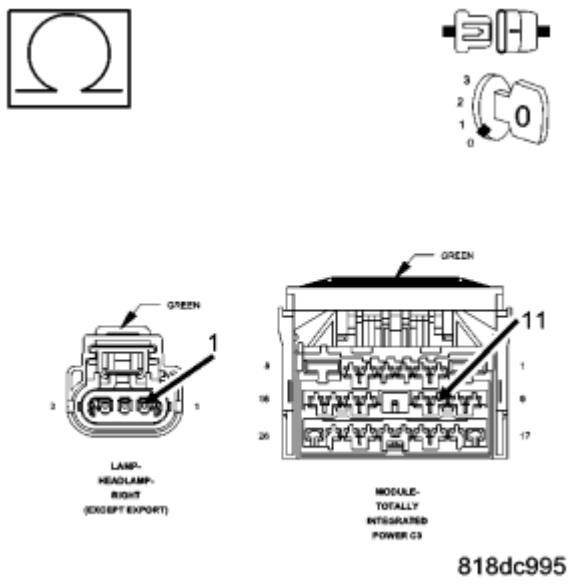

Fig. 4: Measuring Resistance Of (L44) Right Low Beam Control Circuit Between Right Low Beam Harness Connector And TIPM C3 Harness Connector
Courtesy of CHRYSLER LLC

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Measure the resistance of the (L44) Right Low Beam Control circuit between the Right Low Beam harness connector and the TIPM C3 harness connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L44) Right Low Beam Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L44) RIGHT LOW BEAM CONTROL CIRCUIT SHORTED TO VOLTAGE

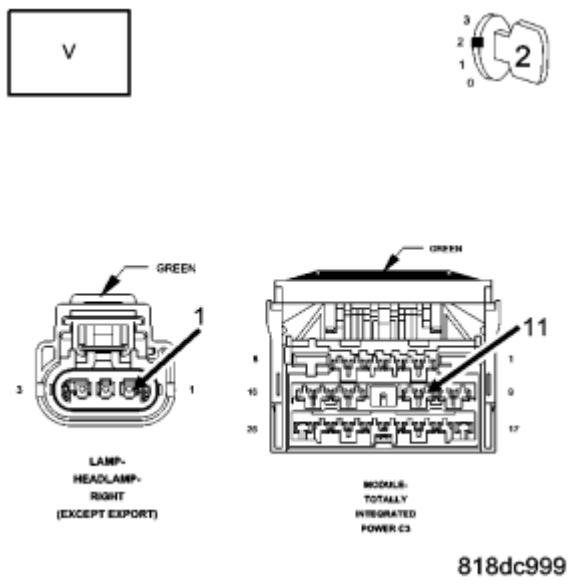

Fig. 5: Measuring For Voltage On (L44) Right Low Beam Control Circuit
Courtesy of CHRYSLER LLC

Turn the ignition on.

Measure for voltage on the (L44) Right Low Beam Control circuit.

Is there any voltage present?

Yes

Repair the (L44) Right Low Beam Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B1633-LEFT HI BEAM CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Headlamps activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L33) LEFT HIGH BEAM CONTROL CIRCUIT SHORT TO GROUND
LEFT HIGH BEAM BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the High Beam Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B1633-LEFT HIGH BEAM CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) LEFT HIGH BEAM BULB

Turn the ignition off.

Disconnect the Left High Beam Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Left High Beam Bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L33) LEFT HIGH BEAM CONTROL CIRCUIT SHORT TO GROUND

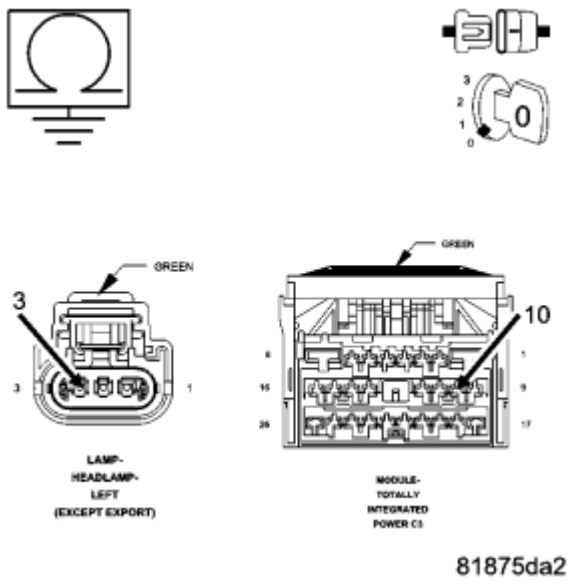

Fig. 6: Measuring Resistance Between Ground And (L33) Left High Beam Control Circuit
Courtesy of CHRYSLER LLC

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Disconnect the Left Headlamp harness connector.

Measure the resistance between ground and the (L33) Left High Beam Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L33) Left High Beam Control circuit for a short to ground.

Perform **BODY VERIFICATION TEST - VER 1** .

B1634-LEFT HI BEAM CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (L911) LEFT HEADLAMP RETURN SIGNAL
(L911) LEFT HEADLAMP RETURN SIGNAL OPEN
CHECK (L33) LEFT HIGH BEAM CONTROL CIRCUIT
(L33) LEFT HIGH BEAM CONTROL CIRCUIT OPEN
(L33) LEFT HIGH BEAM CONTROL CIRCUIT SHORT TO VOLTAGE
LEFT HIGH BEAM BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the High Beam Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B1634-LEFT HIGH BEAM CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or

contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (L911) LEFT HEADLAMP RETURN SIGNAL

Turn the ignition off.

Disconnect the Left High Beam Lamp harness connector.

With a 12-volt test light connected to 12-volts, probe the (L911) left headlamp return signal circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (L911) LEFT HEADLAMP RETURN SIGNAL

Measure the resistance of the (L911) left headlamp return signal circuit at the Left High Beam harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L911) left headlamp return signal circuit for an open.

Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L33) LEFT HIGH BEAM CONTROL CIRCUIT

Turn the ignition on.

With a 12-volt test light connected to ground, check the (L33) Left High Beam Control circuit.

Does the test light illuminate brightly with the headlamps switch turned on, and shut off with the headlamps turned off?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L33) LEFT HIGH BEAM CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Measure the resistance of the (L33) Left High Beam Control Circuit between the Left Headlamp harness connector and the TIPM C3 harness connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L33) Left High Beam Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L33) LEFT HIGH BEAM CONTROL CIRCUIT SHORT TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L33) Left High Beam Control circuit.

Is there any voltage present?

Yes

Repair the (L33) Left High Beam Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B1637-RIGHT HI BEAM CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the High Beam Headlamps activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L34) RIGHT HIGH BEAM CONTROL CIRCUIT SHORT TO GROUND
RIGHT HIGH BEAM BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the High Beam Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B1637-RIGHT HIGH BEAM CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) RIGHT HIGH BEAM BULB

Turn the ignition off.

Disconnect the Right High Beam Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Right High Beam Bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L34) RIGHT HIGH BEAM CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Disconnect the Right Headlamp harness connector.

Measure the resistance between ground and the Right High Beam Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L34) Right High Beam Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

B1638-RIGHT HI BEAM CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (L910) RIGHT HEADLAMP RETURN SIGNAL CIRCUIT
(L910) RIGHT HEADLAMP RETURN SIGNAL CIRCUIT OPEN
CHECK (L34) RIGHT HIGH BEAM CONTROL CIRCUIT
(L34) RIGHT HIGH BEAM CONTROL CIRCUIT OPEN
(L34) RIGHT HIGH BEAM CONTROL CIRCUIT SHORT TO VOLTAGE
RIGHT HIGH BEAM BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Headlamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B1638-RIGHT HIGH BEAM CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (L910) RIGHT HEADLAMP RETURN SIGNAL CIRCUIT

Turn the ignition off.

Disconnect the Right High Beam Lamp harness connector.

With a 12-volt test light connected to 12-volts, probe the (L910) right headlamp return signal circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (L910) RIGHT HEADLAMP RETURN SIGNAL CIRCUIT OPEN

Measure the resistance of the (L910) right headlamp return signal circuit at the Right High Beam harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L910) right headlamp return signal circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L34) RIGHT HIGH BEAM CONTROL CIRCUIT

Turn the ignition on.

With a 12-volt test light connected to ground, check the (L34) Right High Beam Control circuit.

Does the test light illuminate brightly with the headlamps switch turned on, and shut off with the headlamps turned off?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L34) RIGHT HIGH BEAM CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Measure the resistance of the (L34) Right High Beam Control circuit between the Right Headlamp harness connector and the TIPM C3 harness connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L34) Right High Beam Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L34) HIGH BEAM CONTROL CIRCUIT SHORT TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L34) High Beam Control circuit.

Is there any voltage present?

Yes

Repair the (L34) High Beam Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B163B-FRONT LEFT TURN CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Turn Signal activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L61) FRONT LEFT TURN SIGNAL CONTROL CIRCUIT SHORT TO GROUND

FRONT LEFT TURN SIGNAL BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Left Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B163B-FRONT LEFT TURN LAMP CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) FRONT LEFT TURN SIGNAL BULB

Turn the ignition off.

Disconnect the Front Left Turn Signal Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Front Left Turn Signal Bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L61) FRONT LEFT TURN SIGNAL CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Disconnect the Front Left Turn Signal Lamp harness connector.

Measure the resistance between ground and the (L61) Front Left Turn Signal Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L61) Front Left Turn Signal Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

B163C-FRONT LEFT TURN CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (Z904) GROUND CIRCUIT
(Z904) GROUND CIRCUIT OPEN
CHECK (L61) FRONT LEFT TURN SIGNAL CONTROL CIRCUIT
(L61) FRONT LEFT TURN SIGNAL CONTROL CIRCUIT OPEN
(L61) FRONT LEFT TURN SIGNAL CONTROL CIRCUIT SHORTED TO VOLTAGE
FRONT LEFT TURN LAMP BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Left Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B163C-FRONT LEFT TURN LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (Z904) GROUND CIRCUITS

Turn the ignition off.

Disconnect the Front Left Turn Signal Lamp assembly harness connector.

With a 12-volt test light connected to 12-volts, probe each (Z904) Ground circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (Z904) GROUND CIRCUIT OPEN

Measure the resistance of the appropriate (Z904) Ground circuit(s) at the Front Left Turn Signal Lamp

assembly harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the appropriate (Z904) Ground circuit(s) for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L61) FRONT LEFT TURN SIGNAL CONTROL CIRCUIT

Turn the ignition on.

With the Left Turn Signal still on and a 12-volt test light connected to ground, check the (L61) Front Left Turn Signal Control circuit.

Does the test light blink brightly from on to off with the turn signal indicator?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L61) FRONT LEFT TURN SIGNAL CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Measure the resistance of the (L61) Front Left Turn Signal Control circuit between the Front Left Turn Signal Lamp assembly harness connector and the TIPM C3 harness connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L61) Front Left Turn Lamp Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L61) FRONT LEFT TURN SIGNAL CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L61) Front Left Turn Signal Control circuit.

Is there any voltage present?

No

Repair the (L61) Front Left Turn Signal Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B163F-FRONT RIGHT TURN CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Turn Signal activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L60) FRONT RIGHT TURN SIGNAL CONTROL CIRCUIT SHORT TO GROUND
FRONT RIGHT TURN SIGNAL BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Right Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B163F-FRONT RIGHT TURN LAMP CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) FRONT RIGHT TURN SIGNAL BULB

Turn the ignition off.

Disconnect the Front Right Turn Signal Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Front Right Turn Signal Bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

3) (L60) FRONT RIGHT TURN SIGNAL CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Disconnect the Right Front Turn Signal Lamp harness connector.

Measure the resistance between ground and the (L60) Right Front Turn Signal Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L60) Right Front Turn Signal Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

B1640-FRONT RIGHT TURN CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (Z904) GROUND CIRCUIT
(Z904) GROUND CIRCUIT OPEN
CHECK (L60) FRONT RIGHT TURN SIGNAL CONTROL CIRCUIT
(L60) FRONT RIGHT TURN SIGNAL CONTROL CIRCUIT OPEN
(L60) FRONT RIGHT TURN SIGNAL CONTROL CIRCUIT SHORTED TO VOLTAGE
FRONT RIGHT TURN SIGNAL BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Right Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B1640-FRONT RIGHT TURN LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (Z904) GROUND CIRCUITS

Turn the ignition off.

Disconnect the Front Right Turn Signal Lamp assembly harness connector.

With a 12-volt test light connected to 12-volts, probe each (Z904) Ground circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (Z904) GROUND CIRCUIT OPEN

Measure the resistance of the appropriate (Z904) Ground circuit(s) at the Front Right Turn Signal Lamp assembly harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the appropriate (Z904) Ground circuit(s) for an open.

Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L60) FRONT RIGHT TURN SIGNAL CONTROL CIRCUIT

Turn the ignition on.

With the Right Turn Signal still on and a 12-volt test light connected to ground, check the (L60) Front Right Turn Signal Control circuit.

Does the test light blink brightly from on to off with the turn signal indicator?

Yes

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L60) FRONT RIGHT TURN SIGNAL CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C3 harness connector.

Measure the resistance of the (L60) Front Right Turn Signal Control circuit between the Front Right Turn Signal Lamp assembly harness connector and the TIPM C3 harness connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L60) Front Right Turn Signal Control circuit for an open.

Perform **BODY VERIFICATION TEST - VER 1** .

6) (L60) RIGHT TURN SIGNAL CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L60) Front Right Turn Signal Control circuit.

Is there any voltage present?

No

Repair the (L60) Front Right Turn Signal Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B1643-REAR LEFT TURN CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Turn Signal activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L63) REAR LEFT TURN SIGNAL CONTROL CIRCUIT SHORT TO GROUND
REAR LEFT TURN SIGNAL BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Left Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B1643-REAR LEFT TURN LAMP CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) REAR LEFT TURN SIGNAL BULB

Turn the ignition off.

Disconnect the Rear Left Turn Signal Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Rear Left Turn Signal Bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

3) (L63) LEFT TURN SIGNAL CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C7 harness connector.

Disconnect the Left Rear Tail Lamp harness connector.

Measure the resistance between ground and the (L63) Rear Left Turn Signal Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L63) Rear Left Turn Signal Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

B1644-REAR LEFT TURN CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (Z910) GROUND CIRCUIT
(Z910) GROUND CIRCUIT OPEN
CHECK (L63) LEFT REAR TURN SIGNAL CONTROL CIRCUIT
(L63) LEFT REAR TURN SIGNAL CONTROL CIRCUIT OPEN
(L63) LEFT REAR TURN SIGNAL CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Left Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B1644-REAR LEFT TURN LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent

condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (Z910) GROUND CIRCUITS

Turn the ignition off.

Disconnect the Left Rear Turn Signal Lamp assembly harness connector.

With a 12-volt test light connected to 12-volts, probe each (Z910) Ground circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (Z910) GROUND CIRCUIT OPEN

Measure the resistance of the appropriate (Z910) Ground circuit(s) at the Left Rear Turn Signal Lamp assembly harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the appropriate (Z910) Ground circuit(s) for an open.

Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L63) LEFT REAR TURN SIGNAL CONTROL CIRCUIT

Turn the ignition on.

With the Left Turn Signal still on and a 12-volt test light connected to ground, check the (L63) Left Rear Turn Signal Control circuit.

Does the test light blink brightly from on to off with the turn signal indicator?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L63) LEFT TURN SIGNAL CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C7 harness connector.

Measure the resistance of the (L63) Left Rear Turn Signal Control circuit between the Left Rear Tail Lamp assembly harness connector and the TIPM C7 harness connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L63) Left Rear Turn Signal Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L63) LEFT REAR TURN SIGNAL CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L63) Left Rear Turn Signal Control circuit.

Is there any voltage present?

Yes

Repair short to voltage on the (L63) Left Rear Turn Signal Control circuit.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B1644-RIGHT STOP LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (Z920) GROUND CIRCUIT
(Z920) GROUND CIRCUIT OPEN
CHECK (L54) RIGHT STOP LAMP CONTROL CIRCUIT
(L54) RIGHT STOP LAMP CONTROL CIRCUIT OPEN
(L54) RIGHT STOP LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
RIGHT STOP LAMP BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn the Stop Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B16B5-RIGHT STOP LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (Z920) GROUND CIRCUITS

Disconnect the Right Rear Tail Lamp harness connector.

With a 12-volt test light connected to 12-volts, probe each (Z920) Ground circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (Z920) GROUND CIRCUIT OPEN

Measure the resistance of the appropriate (Z920) Ground circuit(s) at the Right Rear Tail Lamp assembly harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the appropriate (Z920) Ground circuit(s) for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L54) RIGHT STOP LAMP CONTROL CIRCUIT

Turn the ignition on.

With the Stop Lamps still on and a 12-volt test light connected to ground, check the (L54) Right Stop Lamp Control circuit.

Does the test light illuminate brightly?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L54) RIGHT STOP LAMP CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C7 connector.

Measure the resistance of the (L54) Right Stop Lamp Control circuit between the Right Rear Tail Lamp harness connector and the TIPM C7 harness connector.

Is the resistance below 10.0 ohms?

No

Go to 6).

Yes

Repair the (L54) Right Stop Lamp Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L54) RIGHT STOP LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure the voltage between (L54) Right Stop Lamp Control circuit and ground.

Is there any voltage present?

Yes

Repair the (L54) Right Stop Lamp Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B1647-REAR RIGHT TURN CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Turn Signal activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L62) RIGHT REAR TURN SIGNAL CONTROL CIRCUIT SHORT TO GROUND
RIGHT REAR TURN SIGNAL BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Right Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B1647-REAR RIGHT TURN LAMP CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) REAR RIGHT TURN SIGNAL BULB

Turn the ignition off.

Disconnect the Right Rear Turn Signal Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Right Rear Turn Signal Bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L62) RIGHT REAR TURN SIGNAL CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C7 harness connector.

Disconnect the Right Rear Tail Lamp harness connector.

Measure the resistance between ground and the (L62) Right Rear Turn Signal Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L62) Right Rear Turn Signal Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

B1648-REAR RIGHT TURN CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes

CHECK (Z910) GROUND CIRCUIT
(Z910) GROUND CIRCUIT OPEN
CHECK (L62) RIGHT REAR TURN SIGNAL CONTROL CIRCUIT
(L62) RIGHT REAR TURN SIGNAL CONTROL CIRCUIT OPEN
(L62) RIGHT REAR TURN SIGNAL CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Right Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B1648-REAR RIGHT TURN LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (Z910) GROUND CIRCUITS

Turn the ignition off.

Disconnect the Right Rear Turn Signal Lamp assembly harness connector.

With a 12-volt test light connected to 12-volts, probe each (Z910) Ground circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (Z910) GROUND CIRCUIT OPEN

Measure the resistance of the appropriate (Z910) Ground circuit(s) at the Right Rear Turn Signal Lamp assembly harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the appropriate (Z910) Ground circuit(s) for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L62) RIGHT REAR TURN SIGNAL CONTROL CIRCUIT

Turn the ignition on.

With the Right Turn Signal still on and a 12-volt test light connected to ground, check the (L62) Right Rear Turn Signal Control circuit.

Does the test light blink brightly from on to off with the turn signal indicator?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L62) RIGHT REAR TURN SIGNAL CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C7 harness connector.

Measure the resistance of the (L62) Right Rear Turn Signal Control circuit between the Right Rear Tail Lamp assembly harness connector and the TIPM C7 harness connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L62) Right Rear Turn Lamp Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L62) RIGHT REAR TURN SIGNAL CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L62) Right Rear Turn Signal Control circuit.

Is there any voltage present?

Yes

Repair the (L62) Right Rear Turn Signal Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B165C-PARK LAMP CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Park Lamps activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L17) (L217) FUSED PARK LAMP CONTROL CIRCUIT SHORT TO GROUND
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Park Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B165C-PARK LAMP CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) (L17)(L217) FUSED PARK LAMP CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C5 harness connector.

Disconnect the Park Lamp harness connectors.

Measure the resistance between ground and the (L17) (L217) Fused Park Lamp Control circuits.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L17)(L217) Fused Park Lamp Control circuits for a short to ground.

Perform **BODY VERIFICATION TEST - VER 1** .

B165D-PARK LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
(L17)(L217) FUSED PARK LAMP CONTROL CIRCUITS OPEN
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn the Park Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B165D-PARK LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) (L17)(L217) FUSED PARK LAMP CONTROL CIRCUITS OPEN

Turn the ignition off.

Disconnect the TIPM C5 harness connector.

Disconnect the Park Lamp harness connector.

Measure the resistance of the (L17)(L217) Fused Park Lamp Control circuits between the Park Lamp Harness Connectors and the TIPM C5 harness connector.

Does the ohm meter read open circuit?

Yes

Repair the (L17)(L217) Fused Park Lamp Control circuits for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

B166C-LEFT TRAILER TOW LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the ignition on.

Set Condition:

The Totally Integrated Power Module (TIPM) detects an HIGH condition.

Possible Causes
(L673) LEFT TRAILER TOW LAMP CONTROL CIRCUIT OPEN
(L673) LEFT TRAILER TOW LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn on the Left Turn Signal.

With the scan tool, read DTC's.

Does the scan tool display active: B166C-LEFT TRAILER TOW LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) (L673) LEFT TRAILER TOW LAMP CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C6 harness connector.

Disconnect the Left Trailer Tow Lamp harness connectors.

Measure the resistance of the (L673) Left Trailer Tow Lamp Control circuit between the Left Trailer Tow Lamp harness connectors and the TIPM C6 harness connector.

Does the ohm meter read open circuit?

Yes

Repair the (L673) Left Trailer Tow Lamp Control circuit for an open.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 3).

3) (L673) LEFT TRAILER TOW LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure the voltage on the (L673) Left Trailer Tow Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L673) Left Trailer Tow Lamp Control circuit for a short to voltage.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B166F-RIGHT TRAILER TOW LAMP CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the ignition on.

Set Condition:

The Totally Integrated Power Module (TIPM) Detects a LOW condition.

Possible Causes
(L674) RIGHT TRAILER TOW LAMP CONTROL CIRCUIT SHORT TO GROUND TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn on the Right Turn Signal.

With the scan tool, read DTC's.

Does the scan tool display active: B166F-RIGHT TRAILER TOW LAMP CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken

wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) (L674) RIGHT TRAILER TOW LAMP CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C6 harness connector.

Measure the resistance between ground and the (L674) Right Trailer Tow Lamp Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the (L674) Right Trailer Tow Lamp Control circuit for a short to ground.

Perform **BODY VERIFICATION TEST - VER 1** .

B1670-RIGHT TRAILER TOW LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously

Set Condition:

The Totally Integrated Power Module (TIPM) Detects a HIGH condition.

Possible Causes
(L674) RIGHT TRAILER TOW LAMP CONTROL CIRCUIT OPEN
(L674) RIGHT TRAILER TOW LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn on the Right Turn Signal.

With the scan tool, read DTC's.

Does the scan tool display active: B1670-RIGHT TRAILER TOW LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) (L674) RIGHT TRAILER TOW LAMP CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C6 harness connector.

Disconnect the Right Trailer Tow Lamp harness connectors.

Measure the resistance of the (L674) Right Trailer Tow Lamp Control circuit between the Right Trailer Tow Lamp harness connectors and the TIPM C6 harness connector.

Does the ohm meter read open circuit?

Yes

Repair the (L674) Right Trailer Tow Lamp Control circuit for an open.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 3).

3) (L674) RIGHT TRAILER TOW LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure the voltage on the (L674) Right Trailer Tow Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L674) Right Trailer Tow Lamp Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B16B1-LEFT STOP LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (Z919) GROUND CIRCUIT
(Z919) GROUND CIRCUIT OPEN
CHECK (L53) LEFT STOP LAMP CONTROL CIRCUIT
(L53) LEFT STOP LAMP CONTROL CIRCUIT OPEN
(L53) LEFT STOP LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
LEFT STOP LAMP BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn the Stop Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B16B1-LEFT STOP LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (Z919) GROUND CIRCUITS

Turn the ignition off.

Disconnect the Left Rear Tail Lamp harness connector.

With a 12-volt test light connected to 12-volts, probe each (Z919) Ground circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (Z919) GROUND CIRCUIT OPEN

Measure the resistance of the appropriate (Z919) Ground circuit(s) at the Left Rear Tail Lamp assembly harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the appropriate (Z919) Ground circuit(s) for an open.

Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L53) LEFT STOP LAMP CONTROL CIRCUIT

Turn the ignition on.

With the Stop Lamps still on and a 12-volt test light connected to ground, check the (L53) Left Stop Lamp Control circuit.

Does the test light illuminate brightly?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L53) LEFT STOP LAMP CONTROL CIRCUIT OPEN

Disconnect the TIPM C7 harness connector.

Measure the resistance of the (L53) Left Rear Turn Signal Control circuit between the Left Rear Tail Lamp harness connector and the TIPM C7 harness connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L53) Turn Signal Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L53) LEFT STOP LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L53) Left Stop Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L53) Left Stop Lamp Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B16F8-FRONT LEFT FOG LAMP CONTROL CIRCUIT LOW

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

With the Front Fog Lamps activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L89) FRONT LEFT FOG LAMP CONTROL CIRCUIT SHORT TO GROUND
FRONT LEFT FOG LAMP BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Front Fog Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B16F8-FRONT LEFT FOG LAMP CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) FRONT LEFT FOG LAMP BULB

Turn the ignition off.

Disconnect the Front Left Fog Lamp Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Front Left Fog Lamp Bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

3) (L89) FRONT LEFT FOG LAMP CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C4 harness connector.

Measure the resistance between ground and the (L89) Front Left Fog Lamp Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.

No

Repair the (L89) Front Left Fog Lamp Control circuit for a short to ground.

Perform **BODY VERIFICATION TEST - VER 1** .

B16F9-FRONT LEFT FOG LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (Z904) GROUND CIRCUIT
(Z904) GROUND CIRCUIT OPEN
CHECK (L89) FRONT LEFT FOG LAMP CONTROL CIRCUIT
(L89) FRONT LEFT FOG LAMP CONTROL CIRCUIT OPEN
(L89) FRONT LEFT FOG LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
FRONT LEFT FOG LAMP BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Front Fog Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B16F9-FRONT LEFT FOG LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (Z904) GROUND CIRCUITS

Disconnect the Front Left Fog Lamp harness connector.

With a 12-volt test light connected to 12-volts, probe each (Z904) Ground circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (Z904) GROUND CIRCUIT OPEN

Measure the resistance of the appropriate (Z904) Ground circuit(s) at the Front Left Fog Lamp harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the appropriate (Z904) Ground circuit(s) for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L89) FRONT LEFT FOG LAMP CONTROL CIRCUIT

Turn the ignition on.

With a 12-volt test light connected to ground, check the (L89) Front Left Fog Lamp Control circuit.

Does the test light illuminate brightly with the fog lamp switch turned on, and shut off with the fog lamps turned off?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L89) FRONT LEFT FOG LAMP CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C4 harness connector.

Measure the resistance between the (L89) Front Left Fog Lamp Control circuit and the Front Left Fog Lamp harness connector to the TIPM C4 connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L89) Front Left Fog Lamp Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L89) FRONT LEFT FOG LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure the voltage of the (L89) Front Left Fog Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L89) Front Left Fog Lamp Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B16FC-FRONT RIGHT FOG LAMP CONTROL CIRCUIT LOW

For a complete wiring diagram refer to appropriate Wiring Diagram article.

When Monitored:

With the Front Fog Lamps activated.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a LOW condition.

Possible Causes
(L90) FRONT RIGHT FOG LAMP CONTROL CIRCUIT SHORT TO GROUND
FRONT RIGHT FOG LAMP BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Front Fog Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B16FC- FRONT RIGHT FOG LAMP CONTROL CIRCUIT LOW?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) FRONT RIGHT FOG LAMP BULB

Turn the ignition off.

Disconnect the Front Right Fog Lamp Bulb.

Turn the ignition on.

With the scan tool, read DTC's.

Does the DTC reset?

Yes

Go to 3).

No

Replace the Front Right Fog Lamp Bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L90) FRONT RIGHT FOG LAMP CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C4 harness connector.

Measure the resistance between ground and the Front Right Fog Lamp Control circuit.

Is the resistance above 10k ohms?

Yes

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.

No

Repair the (L90) Front Right Fog Lamp Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

B16FD-FRONT RIGHT FOG LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
CHECK (Z904) GROUND CIRCUIT
(Z904) GROUND CIRCUIT OPEN
CHECK (L90) FRONT RIGHT FOG LAMP CONTROL CIRCUIT

(L90) FRONT RIGHT FOG LAMP CONTROL CIRCUIT OPEN
(L90) FRONT RIGHT FOG LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
FRONT RIGHT FOG LAMP BULB
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Front Fog Lamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B16FD-FRONT RIGHT FOG LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) CHECK (Z904) GROUND CIRCUITS

Disconnect the Front Right Fog Lamp assembly harness connector.

With a 12-volt test light connected to 12-volts, probe each (Z904) Ground circuit.

Does the test light illuminate brightly on each ground circuit?

Yes

Go to 4).

No

Go to 3).

3) (Z904) GROUND CIRCUIT OPEN

Measure the resistance of the appropriate (Z904) Ground circuit(s) at the Front Right Fog Lamp harness connector.

Is the resistance below 10.0 ohms?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Repair the appropriate (Z904) Ground circuit(s) for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

4) CHECK (L90) FRONT RIGHT FOG LAMP CONTROL CIRCUIT

Turn the ignition on.

With a 12-volt test light connected to ground, check the (L90) Front Right Fog Lamp Control circuit.

Does the test light illuminate brightly with the fog lamp switch turned on, and shut off with the fog lamps turned off?

Yes

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 5).

5) (L90) FRONT RIGHT FOG LAMP CONTROL CIRCUIT OPEN

Turn the ignition off.

Disconnect the TIPM C4 harness connector.

Measure the resistance of the (L90) Front Right Fog Lamp Control circuit between the Front Right Fog Lamp assembly harness connector and the TIPM C4 connector.

Is the resistance below 10.0 ohms?

Yes

Go to 6).

No

Repair the (L90) Front Right Fog Lamp Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

6) (L90) FRONT RIGHT FOG LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure the voltage of the (L90) Front Right Fog Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L90) Front Right Fog Lamp Control circuit for a short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B17B8-LEFT STOP LAMP CONTROL CIRCUIT OVERCURRENT

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a OVERCURRENT condition.

Possible Causes
(L53) LEFT STOP LAMP CONTROL CIRCUIT SHORT TO GROUND
(L53) LEFT STOP LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's.

Turn the Left Turn Signals on.

With the scan tool, read DTC's.

Does the scan tool read active: B17B8-LEFT STOP LAMP CONTROL CIRCUIT OVERCURRENT?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) LEFT STOP LAMP BULB

Turn the ignition off.

Remove Left Stop Lamp Bulb.

Inspect the Left Stop Lamp Bulb.

Is the inoperative bulb OK?

Yes

Go to 3).

No

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

3) (L53) LEFT STOP LAMP CONTROL CIRCUIT SHORT TO GROUND

Disconnect the TIPM C7 harness connector.

Disconnect the Left Stop Lamp harness connector.

Measure the resistance between ground and the (L53) Left Stop Lamp Control circuit.

Is the resistance above 10k ohms?

Yes

Go to 4).

No

Repair the (L53) Left Stop Lamp Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

4) (L53) LEFT STOP LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L53) Left Stop Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L53) Left Stop Lamp Control circuit short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B17BA-HEADLAMP LEVELING MOTOR CONTROL CIRCUIT OVERCURRENT

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a OVERCURRENT condition.

Possible Causes
(L133) HEADLAMP LEVELING MOTOR CONTROL CIRCUIT SHORT TO GROUND
(L133) HEADLAMP LEVELING MOTOR CONTROL CIRCUIT SHORTED TO VOLTAGE

TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn the Headlamps on.

With the scan tool, read DTC's.

Does the scan tool display active: B17BA-HEADLAMP LEVELING MOTOR CONTROL CIRCUIT OVERCURRENT?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) (L133) HEADLAMP LEVELING MOTOR CONTROL CIRCUIT SHORT TO GROUND

Turn the ignition off.

Disconnect the TIPM C7 harness connector.

Disconnect the Headlamp harness connector.

Measure the resistance between ground and the (L133) Headlamp Leveling Motor Control circuit.

Is the resistance above 10k ohms?

Yes

Go to 3).

No

Repair the (L133) Headlamp Leveling Motor Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L133) HEADLAMP LEVELING MOTOR CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L133) Headlamp Leveling Motor Control circuit.

Is there any voltage present?

Yes

Repair the (L133) Headlamp Leveling Motor Control circuit short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B17BD-LEFT SIDEMARKER LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes
(L163) LEFT SIDEMARKER LAMP CONTROL CIRCUIT OPEN
(L163) LEFT SIDEMARKER LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn the Left Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B17BD-LEFT SIDEMARKER LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) LEFT REAR TURN SIGNAL BULB

Turn the ignition off.

Remove Left Rear Turn Signal Bulb.

Inspect the Left Rear Turn Signal Bulb.

Is the inoperative bulb OK?

Yes

Go to 3).

No

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

3) (L163) LEFT SIDEMARKER LAMP CONTROL CIRCUIT OPEN

Disconnect the TIPM C4 harness connector.

Disconnect the Left Sidemarker Lamp assembly harness connector.

Measure the resistance of the (L163) Left Sidemarker Lamp Control circuit between the Left Sidemarker Lamp assembly harness connector and the TIPM C4 harness connector.

Does the ohm meter read open circuit?

Yes

Repair the (L163) Left Sidemarker Lamp Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 4).

4) (L163) LEFT SIDEMARKER LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L163) Left Sidemarker Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L163) Left Sidemarker Lamp Control circuit short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B17BF-LEFT SIDEMARKER LAMP CONTROL CIRCUIT OVERCURRENT

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a OVERCURRENT condition.

Possible Causes
(L163) LEFT SIDEMARKER LAMP CONTROL CIRCUIT SHORT TO GROUND
(L163) LEFT SIDEMARKER LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn the Left Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B17BF-LEFT SIDEMARKER LAMP CONTROL CIRCUIT OVERCURRENT?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) LEFT REAR TURN SIGNAL BULB

Turn the ignition off.

Remove Left Rear Turn Signal Bulb.

Inspect the Left Rear Turn Signal Bulb.

Is the inoperative bulb OK?

Yes

Go to 3).

No

Replace the Inoperative bulb in accordance with the Service Information.

Perform **BODY VERIFICATION TEST - VER 1** .

3) (L163) LEFT SIDEMARKER LAMP CONTROL CIRCUIT SHORT TO GROUND

Disconnect the TIPM C4 harness connector.

Disconnect the Left Sidemarker Lamp harness connector.

Measure the resistance between ground and the (L163) Left Sidemarker Lamp Control circuit.

Is the resistance above 10k ohms?

Yes

Go to 4).

No

Repair the (L163) Left Sidemarker Lamp Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

4) (L163) LEFT SIDEMARKER LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L163) Left Sidemarker Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L163) Left Sidemarker Lamp Control circuit short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B17C2-RIGHT SIDEMARKER LAMP CONTROL CIRCUIT HIGH

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a HIGH condition.

Possible Causes

(L162) RIGHT SIDEMARKER LAMP CONTROL CIRCUIT OPEN
(L162) RIGHT SIDEMARKER LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn the Right Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B17C2-RIGHT SIDEMARKER LAMP CONTROL CIRCUIT HIGH?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) RIGHT REAR TURN SIGNAL BULB

Turn the ignition off.

Remove Right Rear Turn Signal Bulb.

Inspect the Right Rear Turn Signal Bulb.

Is the inoperative bulb OK?

Yes

Go to 3).

No

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L162) RIGHT SIDEMARKER LAMP CONTROL CIRCUIT OPEN

Disconnect the TIPM C4 harness connector.

Disconnect the Right Sidemarker Lamp assembly harness connector.

Measure the resistance of the (L162) Right Sidemarker Lamp Control circuit between the Right Sidemarker Lamp assembly harness connector and the TIPM C4 harness connector.

Does the ohm meter read open circuit?

Yes

Repair the (L162) Right Sidemarker Lamp Control circuit for an open.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Go to 4).

4) (L162) RIGHT SIDEMARKER LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L162) Right Sidemarker Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L162) Right Sidemarker Lamp Control circuit short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

B17C4-RIGHT SIDEMARKER LAMP CONTROL CIRCUIT OVERCURRENT

For complete wiring diagrams refer to **SYSTEM WIRING DIAGRAMS** article.

When Monitored:

Continuously.

Set Condition:

When the Totally Integrated Power Module (TIPM) detects a OVERCURRENT condition.

Possible Causes
(L162) RIGHT SIDEMARKER LAMP CONTROL CIRCUIT SHORT TO GROUND
(L162) RIGHT SIDEMARKER LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE
TOTALLY INTEGRATED POWER MODULE

Diagnostic Test

1) TEST FOR INTERMITTENT CONDITION

Turn the ignition on.

With the scan tool, clear all DTC's

Turn the Left Turn Signal on.

With the scan tool, read DTC's.

Does the scan tool display active: B17C4-RIGHT SIDEMARKER LAMP CONTROL CIRCUIT OVERCURRENT?

Yes

Go to 2).

No

The condition that caused this symptom is currently not present. Check for an intermittent condition by inspecting the related wiring harness for chafed, pierced, pinched, and partially broken wires. Also, inspect the related connectors for broken, bent, pushed out, spread, corroded, or contaminated terminals. Repair as necessary.

Perform **BODY VERIFICATION TEST - VER 1** .

2) RIGHT REAR TURN SIGNAL BULB

Turn the ignition off.

Remove Right Rear Turn Signal Bulb.

Inspect the Right Rear Turn Signal Bulb.

Is the inoperative bulb OK?

Yes

Go to 3).

No

Replace the Inoperative bulb in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .

3) (L162) RIGHT SIDEMARKER LAMP CONTROL CIRCUIT SHORT TO GROUND

Disconnect the TIPM C4 harness connector.

Disconnect the Right Sidemarker Lamp harness connector.

Measure the resistance between ground and the (L162) Right Sidemarker Lamp Control circuit.

Is the resistance above 10k ohms?

Yes

Go to 4).

No

Repair the (L162) Right Sidemarker Lamp Control circuit for a short to ground.
Perform **BODY VERIFICATION TEST - VER 1** .

4) (L162) RIGHT SIDEMARKER LAMP CONTROL CIRCUIT SHORTED TO VOLTAGE

Turn the ignition on.

Measure for voltage on the (L162) Right Sidemarker Lamp Control circuit.

Is there any voltage present?

Yes

Repair the (L162) Right Sidemarker Lamp Control circuit short to voltage.
Perform **BODY VERIFICATION TEST - VER 1** .

No

Replace the Totally Integrated Power Module (TIPM) in accordance with the Service Information.
Perform **BODY VERIFICATION TEST - VER 1** .