

Parking Aid

DTC Chart: Parking Aid Module (PAM)

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).

PAM DTC Chart

DTC	Description	Action
		<i>New: hover over Pinpoint Test links to show title</i>
B1B44:12	Right Rear Outer Sensor: Circuit Short To Battery	GO to Pinpoint Test D
B1B44:14	Right Rear Outer Sensor: Circuit Short To Ground or Open	GO to Pinpoint Test C
B1B44:96	Right Rear Outer Sensor: Component Internal Failure	GO to Pinpoint Test E
B1B46:12	Right Rear Inner Sensor: Circuit Short To Battery	GO to Pinpoint Test D
B1B46:14	Right Rear Inner Sensor: Circuit Short To Ground or Open	GO to Pinpoint Test C
B1B46:96	Right Rear Inner Sensor: Component Internal Failure	GO to Pinpoint Test E
B1B48:12	Left Rear Outer Sensor: Circuit Short To Battery	GO to Pinpoint Test D
B1B48:14	Left Rear Outer Sensor: Circuit Short To Ground or Open	GO to Pinpoint Test C
B1B48:96	Left Rear Outer Sensor: Component Internal Failure	GO to Pinpoint Test E
B1B50:12	Left Rear Inner Sensor: Circuit Short To Battery	GO to Pinpoint Test D
B1B50:14	Left Rear Inner Sensor: Circuit Short To Ground or Open	GO to Pinpoint Test C
B1B50:96	Left Rear Inner Sensor: Component Internal Failure	GO to Pinpoint Test E
B1B58:11	Rear Sensors Power Circuit: Circuit Short To Ground	GO to Pinpoint Test B
U0100:00	Lost Communication With ECM/ PCM "A": No Sub Type Information	GO to Pinpoint Test G
U0101:00	Lost Communication with TCM: No Sub Type Information	GO to Pinpoint Test H
U0121:00	Lost Communication With ABS Control Module: No Sub Type Information	GO to Pinpoint Test I
U0146:00	Lost Communication With GWM: No Sub Type Information	GO to Pinpoint Test K
U0155:00	Lost Communication With IPC Control Module: No Sub Type Information	GO to Pinpoint Test L
U0212:00	Lost Communication With SCCM: No Sub Type Information	GO to Pinpoint Test M
U0253:00	Lost Communication With APIM: No Sub Type Information	GO to Pinpoint Test N
U0256:00	Lost Communication With FCIM "A": No Sub Type Information	GO to Pinpoint Test O
U0257:00	Lost Communication With FCDIM: No Sub-Type Information	GO to Pinpoint Test P
U0401:00	Invalid Data Received From ECM/ PCM A: No Sub Type Information	GO to Pinpoint Test G
U0402:00	Invalid Data Received From TCM: No Sub Type Information	GO to Pinpoint Test H
U0415:00	Invalid Data Received From ABS Control Module: No Sub Type Information	GO to Pinpoint Test I
U0422:00	Invalid Data Received From BCM: No Sub Type Information	GO to Pinpoint Test J
U0423:00	Invalid Data Received from IPC Control Module: No Sub Type Information	GO to Pinpoint Test L
U0429:00	Invalid Data Received From SCCM: No Sub Type Information	GO to Pinpoint Test M
U0554:00	Invalid Data Received From APIM: No Sub Type Information	GO to Pinpoint Test N
U0557:00	Invalid Data Received From FCIM "A": No Sub Type Information	GO to Pinpoint Test O
U0558:00	Invalid Data Received From FCDIM: No Sub Type Information	GO to Pinpoint Test P

DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
U2024:41	Control Module Cal-Config Data: General Checksum Failure	GO to Pinpoint Test Q
U2100:00	Initial Configuration Not Complete: No Sub Type Information	GO to Pinpoint Test Q
U2101:00	Control Module Configuration Incompatible: No Sub Type Information	GO to Pinpoint Test Q
U3000:45	Control Module: Program Memory Failure	GO to Pinpoint Test R
U3000:46	Control Module: Calibration / Parameter Memory Failure	GO to Pinpoint Test R

Symptom Chart(s)

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: Parking Aid - Audible

Condition	Possible Sources	Actions
A module does not communicate with the diagnostic scan tool	- Fuse - Wiring, terminals or connectors - PAM	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
The audible parking aid is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
Continuous or intermittent tone when no obstacles or fault codes are present	Refer to the Pinpoint Test	GO to Pinpoint Test F
The parking aid audio tones are inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
The parking aid menu is not available in the message center and cannot be deactivated	A MyKey® restricted key is in use	Normal operation.

Pinpoint Test(s)

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

NOTE: If a MyKey restricted key is in use, the parking aid menu is not available in the message center and cannot be deactivated.

NOTE: Before disconnecting the PAM or any of the parking aid sensors, verify the connectors are properly seated and latched.

[PINPOINT TEST A : THE AUDIBLE PARKING AID IS INOPERATIVE](#)

NOTE: Before disconnecting the PAM or any of the parking aid sensors, verify the connectors are properly seated and latched.

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

Possible Sources

- Parking aid system disabled
- Communication concern
- PAM (integral to the BCM)
- IPC concern
- TR input concern

A1 PERFORM A NETWORK TEST

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

Do all modules pass the network test?

Yes	GO to A2
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

A2 CHECK THE DIAGNOSTIC TROUBLE CODES (DTCs) FROM THE PAM (PARKING ASSIST CONTROL MODULE) SELF-TEST

- Using the diagnostic scan tool, perform the PAM self-test.

Are any PAM DTCs recorded?

Yes	REFER to the PAM DTC Chart in this section.
No	GO to A3

A3 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCs) FROM THE IPC (INSTRUMENT PANEL CLUSTER) SELF-TEST

- Using the diagnostic scan tool, perform the IPC self-test.

Are any IPC DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).
No	GO to A4

A4 VERIFY THE PARKING AID IS ENABLED

- Verify the parking aid system is enabled in the IPC message center.

Is the parking aid system enabled?

Yes	GO to A5
No	ENABLE the parking aid system.

A5 CHECK FOR CORRECT GEAR INPUT

- Apply the parking brake.
- Ignition ON.
- While monitoring the IPC PRNDL display, briefly select each gear in the entire gear range.

Does the IPC PRNDL indicator match the gear selection throughout the entire range?

Yes	GO to A6
No	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).

A6 CHECK THE AUDIO CHIMES

- Ignition OFF.
- Open the driver door.
- Place the headlamp switch in the ON position.

Does the warning chime operate through the audio system?

Yes	GO to A7
No	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).

A7 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM) .
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST B : B1B58:11

NOTE: Before disconnecting the PAM or any of the parking aid sensors, verify the connectors are properly seated and latched.

Refer to Wiring Diagrams Cell [145](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM supplies voltage to the rear parking aid sensors via a common circuit.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM B1B58:11	Rear Sensors Power Circuit: Circuit Short To Ground	A continuous and on-demand DTC that sets when the rear sensor voltage supply circuit is shorted to ground or to the signal return circuit.

Possible Sources

- Wiring, terminals or connectors
- Rear parking aid sensor
- PAM (integral to the BCM)

B1 CHECK THE BUMPER WIRING HARNESS

- Ignition OFF.
- Inspect the bumper wiring harness for opens, shorts, grounds, or corrosion.

Is the bumper wiring harness OK?

Yes	GO to B2
No	REPAIR or INSTALL a new bumper wiring harness.

B2 CHECK THE LH (LEFT-HAND) REAR OUTER PARKING AID SENSOR FOR AN INTERNAL SHORT

- Disconnect:LHR Outer Parking Aid Sensor [C4009](#).
- Ignition ON.
- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes) and repeat the PAM self-test.

Is DTC B1B58:11 still present?

Yes	GO to B3
No	INSTALL a new LH rear outer parking aid sensor. REFER to: Rear Parking Aid Sensor (413-13A Parking Aid, Removal and Installation).

B3 CHECK THE LH (LEFT-HAND) REAR INNER PARKING AID SENSOR FOR AN INTERNAL SHORT

- Ignition OFF.
- Disconnect: LH Rear Inner Parking Aid Sensor [C4010](#).
- Ignition ON.
- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes) and repeat the PAM self-test.

Is DTC B1B58:11 still present?

Yes	GO to B4
No	INSTALL a new LH rear inner parking aid sensor. REFER to: Rear Parking Aid Sensor (413-13A Parking Aid, Removal and Installation).

B4 CHECK THE RH (RIGHT-HAND) REAR INNER PARKING AID SENSOR FOR AN INTERNAL SHORT

- Ignition OFF.
- Disconnect: RH Rear Inner Parking Aid Sensor [C4012](#).
- Ignition ON.
- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes) and repeat the PAM self-test.

Is DTC B1B58:11 still present?

Yes	GO to B5
No	INSTALL a new RH rear inner parking aid sensor. REFER to: Rear Parking Aid Sensor (413-13A Parking Aid, Removal and Installation).

B5 CHECK THE RH (RIGHT-HAND) REAR OUTER PARKING AID SENSOR FOR AN INTERNAL SHORT

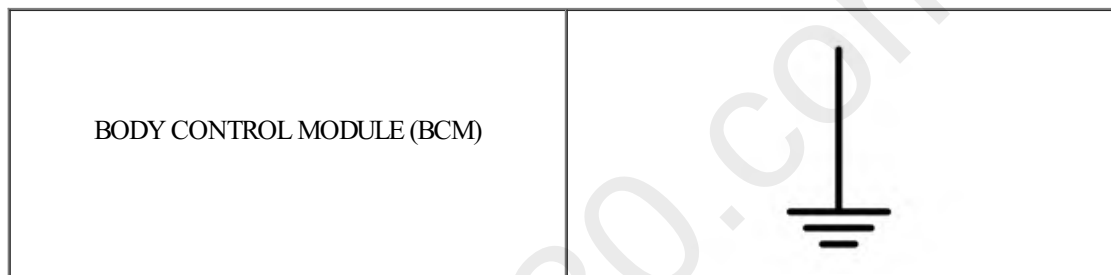
- Ignition OFF.
- Disconnect: RH Rear Outer Parking Aid Sensor [C4011](#).
- Ignition ON.
- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes) and repeat the PAM self-test.

Is DTC B1B58:11 still present?

Yes	GO to B6
No	INSTALL a new RH rear outer parking aid sensor. REFER to: Rear Parking Aid Sensor (413-13A Parking Aid, Removal and Installation).

B6 CHECK THE PARKING AID SENSOR VOLTAGE SUPPLY CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: BCM [C2280D](#).
- Measure:



Positive Lead	Measurement / Action	Negative Lead
C2280D-26	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to B7
No	REPAIR the circuit.

B7 CHECK THE PARKING AID SENSOR VOLTAGE SUPPLY CIRCUIT AND GROUND CIRCUIT FOR A SHORT TOGETHER

- Measure:

BODY CONTROL MODULE (BCM)

Positive Lead	Measurement / Action	Negative Lead
C2280D-26	Ω	C2280D-27

Is the resistance greater than 10,000 ohms?

Yes	GO to B8
No	REPAIR the circuits.

B8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM) .
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

☐ PINPOINT TEST C : B1B44:14, B1B46:14, B1B48:14, B1B50:14

NOTE: Before disconnecting the PAM or any of the parking aid sensors, verify the connectors are properly seated and latched.

Refer to Wiring Diagrams Cell [145](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM B1B44:14	Right Rear Outer Sensor: Circuit Short To Ground Or Open	A continuous and on-demand DTC that sets when any of the right rear outer parking aid sensor circuits are open or the sensor signal line is shorted to ground.
PAM B1B46:14	Right Rear Inner Sensor: Circuit Short To Ground Or Open	A continuous and on-demand DTC that sets when any of the right rear inner parking aid sensor circuits are open or the sensor signal line is shorted to ground.
PAM B1B48:14	Left Rear Outer Sensor: Circuit Short To Ground Or Open	A continuous and on-demand DTC that sets when any of the left rear outer parking aid sensor circuits are open or the sensor signal line is shorted to ground.
PAM B1B50:14	Left Rear Inner Sensor: Circuit Short To Ground Or Open	A continuous and on-demand DTC that sets when any of the left rear inner parking aid sensor circuits are open or the sensor signal line is shorted to ground.

Possible Sources

- Wiring, terminals or connectors
- Rear parking aid sensor
- PAM (integral to the BCM)

C1 RETRIEVE THE DIAGNOSTIC TROUBLE CODES (DTCs) FROM THE PAM (PARKING ASSIST CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the PAM self-test.
- Check the PAM DTCs (diagnostic trouble codes).

Are multiple rear parking aid sensor DTCs (diagnostic trouble codes) recorded?

Yes	GO to C2
No	For DTC B1B44:14, B1B46:14, B1B48:14 or B1B50:14, GO to C3 For all other DTCs (diagnostic trouble codes), REFER to the PAM DTC Chart in this section.

C2 CHECK THE REAR BUMPER WIRING HARNESS

- Ignition OFF.
- Inspect the rear bumper wiring harness for opens, shorts, grounds, or corrosion.

Is the rear bumper wiring harness OK?

Yes	GO to C3
No	REPAIR or INSTALL a new rear bumper wiring harness.

C3 CHECK THE REAR PARKING AID SENSOR CIRCUITRY FOR OPENS

- Disconnect: suspect parking aid sensor.
- Disconnect: BCM [C2280D](#).
- For DTC B1B44:14, measure:

BODY CONTROL MODULE (BCM)	PARKING AID SENSOR, OUTER RIGHT
---------------------------	---------------------------------

Positive Lead	Measurement / Action	Negative Lead
C2280D-26	Ω	C4011-1
C2280D-7	Ω	C4011-2
C2280D-27	Ω	C4011-3

- For DTC B1B46:14, measure:

BODY CONTROL MODULE (BCM)	PARKING AID SENSOR, INNER RIGHT
---------------------------	---------------------------------

Positive Lead	Measurement / Action	Negative Lead
C2280D-26	Ω	C4012-1
C2280D-8	Ω	C4012-2
C2280D-27	Ω	C4012-3

- For DTC B1B48:14, measure:

BODY CONTROL MODULE (BCM)	PARKING AID SENSOR, OUTER LEFT
---------------------------	--------------------------------

Positive Lead	Measurement / Action	Negative Lead
C2280D-26	Ω	C4009-1
C2280D-23	Ω	C4009-2

Positive Lead	Measurement / Action	Negative Lead
C2280D-27	Ω	C4009-3

- For DTC B1B50:14, measure:

BODY CONTROL MODULE (BCM)	PARKING AID SENSOR, INNER LEFT
---------------------------	--------------------------------

Positive Lead	Measurement / Action	Negative Lead
C2280D-26	Ω	C4010-1
C2280D-24	Ω	C4010-2
C2280D-27	Ω	C4010-3

Are the resistances of the suspect sensor circuits less than 3 ohms?

Yes	GO to C4
No	REPAIR the circuit in question.

C4 CHECK THE REAR PARKING AID SENSOR CIRCUITRY FOR SHORTS TO GROUND

- For DTC B1B44:14, measure:

PARKING AID SENSOR, OUTER RIGHT	
---------------------------------	--

Positive Lead	Measurement / Action	Negative Lead
C4011-2	Ω	Ground

- For DTC B1B46:14, measure:

PARKING AID SENSOR, INNER RIGHT	
---------------------------------	--

Positive Lead	Measurement / Action	Negative Lead
C4012-2	Ω	Ground

- For DTC B1B48:14, measure:

PARKING AID SENSOR, OUTER LEFT	
--------------------------------	---

Positive Lead	Measurement / Action	Negative Lead
C4009-2	Ω	Ground

- For DTC B1B50:14, measure:

PARKING AID SENSOR, INNER LEFT	
--------------------------------	--

Positive Lead	Measurement / Action	Negative Lead
C4010-2	Ω	Ground

Is the resistance greater than 10,000 ohms for the sensor circuit in question?

Yes	If all of the parking aid sensors recorded DTCs, GO to C5 If one or more (but not all) parking aid sensor(s) recorded DTCs, INSTALL a new sensor(s) for the one(s) in question. REFER to: Rear Parking Aid Sensor (413-13A Parking Aid, Removal and Installation).
No	REPAIR the circuit in question.

C5 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM) .
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

[PINPOINT TEST D : B1B44:12, B1B46:12, B1B48:12, B1B50:12](#)

NOTE: Before disconnecting the PAM or any of the parking aid sensors, verify the connectors are properly seated and latched.

Refer to Wiring Diagrams Cell [145](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM B1B44:12	Right Rear Outer Sensor: Circuit Short To Battery	A continuous and on-demand DTC that sets when the right rear outer parking aid sensor signal circuit is shorted to battery voltage.
PAM B1B46:12	Right Rear Inner Sensor: Circuit Short To Battery	A continuous and on-demand DTC that sets when the right rear inner parking aid sensor signal circuit is shorted to battery voltage.
PAM B1B48:12	Left Rear Outer Sensor: Circuit Short To Battery	A continuous and on-demand DTC that sets when the left rear outer parking aid sensor signal circuit is shorted to battery voltage.
PAM B1B50:12	Left Rear Inner Sensor: Circuit Short To Battery	A continuous and on-demand DTC that sets when the left rear inner parking aid sensor signal circuit is shorted to battery voltage.

Possible Sources

- Wiring, terminals or connectors
- Rear parking aid sensor
- PAM (integral to the BCM)

D1 RETRIEVE THE DIAGNOSTIC TROUBLE CODES (DTCs) FROM THE PAM (PARKING ASSIST CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the PAM self-test.
- Check the PAM DTCs (diagnostic trouble codes) from the self-test.

Are multiple rear parking aid sensor DTCs (diagnostic trouble codes) recorded?

Yes	GO to D2
No	For DTCs (diagnostic trouble codes) B1B44:12, B1B46:12, B1B48:12 or B1B50:12, GO to D3 For all other DTCs (diagnostic trouble codes), REFER to the PAM DTC Chart in this section.

D2 CHECK THE REAR BUMPER WIRING HARNESS

- Ignition OFF.
- Inspect the rear bumper wiring harness for opens, shorts, grounds, or corrosion.

Is the rear bumper wiring harness OK?

Yes	GO to D3
No	REPAIR or INSTALL a new rear bumper wiring harness.

D3 CHECK THE REAR PARKING AID SENSOR CIRCUITRY FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect: Suspect Parking Aid Sensor(s).

- Disconnect BCM [C2280D](#) .
- Ignition ON.
- For DTC B1B44:12, measure:

PARKING AID SENSOR, OUTER RIGHT	
---------------------------------	--

Positive Lead	Measurement / Action	Negative Lead
C4011-2		Ground

- For DTC B1B46:12, measure:

PARKING AID SENSOR, INNER RIGHT	
---------------------------------	---

Positive Lead	Measurement / Action	Negative Lead
C4012-2		Ground

- For DTC B1B48:12, measure:

PARKING AID SENSOR, OUTER LEFT	
--------------------------------	--

Positive Lead	Measurement / Action	Negative Lead
C4009-2		Ground

- For DTC B1B50:12, measure:

PARKING AID SENSOR, INNER LEFT	
--------------------------------	--

Positive Lead	Measurement / Action	Negative Lead
C4010-2		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to D4

D4 CHECK THE REAR PARKING AID SENSOR CIRCUITRY FOR A SHORT TOGETHER

- Ignition OFF.
- For DTC B1B44:12, measure:

PARKING AID SENSOR, OUTER RIGHT

Positive Lead	Measurement / Action	Negative Lead
C4011-2	Ω	C4011-1

- For DTC B1B46:12, measure:

PARKING AID SENSOR, INNER RIGHT

Positive Lead	Measurement / Action	Negative Lead
C4012-2	Ω	C4012-1

- For DTC B1B48:12, measure:

PARKING AID SENSOR, OUTER LEFT

Positive Lead	Measurement / Action	Negative Lead
C4009-2	Ω	C4009-1

- For DTC B1B50:12, measure:

PARKING AID SENSOR, INNER LEFT

Positive Lead	Measurement / Action	Negative Lead
C4010-2	Ω	C4010-1

D5 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

Is the resistance greater than 10,000 ohms?

--

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM) .
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST E : B1B44:96, B1B46:96, B1B48:96, B1B50:96

NOTE: Before disconnecting the PAM or any of the parking aid sensors, verify the connectors are properly seated and latched.

Refer to Wiring Diagrams Cell [145](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM B1B44:96	Right Rear Outer Sensor: Component Internal Failure	A continuous and on-demand DTC that sets when the RHR outer parking aid sensor has internally failed or has an incorrect attenuation time.
PAM B1B46:96	Right Rear Inner Sensor: Component Internal Failure	A continuous and on-demand DTC that sets when the RHR inner parking aid sensor has internally failed or has an incorrect attenuation time.
PAM B1B48:96	Left Rear Outer Sensor: Component Internal Failure	A continuous and on-demand DTC that sets when the LHR outer parking aid sensor has internally failed or has an incorrect attenuation time.
PAM B1B50:96	Left Rear Inner Sensor: Component Internal Failure	A continuous and on-demand DTC that sets when the LHR inner parking aid sensor has internally failed or has an incorrect attenuation time.

Possible Sources

- Wiring, terminals or connectors
- Rear parking aid sensor
- PAM (integral to the BCM)

E1 CHECK THE DIAGNOSTIC TROUBLE CODES (DTCS) FROM THE PAM (PARKING ASSIST CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the PAM self-test.
- Check the PAM DTCs (diagnostic trouble codes) from the self-test.

Are parking aid DTCs (diagnostic trouble codes) other than B1B44:96, B1B46:96, B1B48:96 or B1B50:96 recorded?

Yes	For all other DTCs (diagnostic trouble codes) REFER to the PAM DTC Chart in this section.
No	GO to E2

E2 CHECK THE PARKING AID SENSOR DISTANCE PARAMETER IDENTIFICATIONS (PIDS) WITH NO OBJECTS BEHIND THE VEHICLE

NOTE: Make sure the area around the vehicle is clear of anything that can activate the parking aid system.

- Clean the rear bumper and sensors with high-pressure water.
- Make sure the suspect parking aid sensor(s) is flush-mounted in the bezel.
- Ignition ON.
- Using a diagnostic scan tool,

Access the PAM and monitor the LRI_DIST (cm) PID

Access the PAM and monitor the LRO_DIST (cm) PID

Access the PAM and monitor the RRI_DIST (cm) PID

Access the PAM and monitor the RRO_DIST (cm) PID

The PID reads 2,540 mm (100 in) on a correctly functioning sensor.

Does the PID read 2,540 mm (100 in)?

Yes	GO to E3
No	GO to E4

E3 CHECK THE PARKING AID SENSOR DISTANCE PARAMETER IDENTIFICATIONS (PIDS) WITH A TEST OBJECT BEHIND THE VEHICLE

NOTE: Make sure the area around the vehicle is clear of anything that can activate the parking aid system.

- Using a diagnostic scan tool,
- Access the PAM and monitor the LRI_DIST (cm) PID
- Access the PAM and monitor the LRO_DIST (cm) PID
- Access the PAM and monitor the RRI_DIST (cm) PID
- Access the PAM and monitor the RRO_DIST (cm) PID
- While monitoring the PID move a test object into and out of the detection zone behind each sensor. For an example of a test object,

Does the PID approximately match the distance from the test object to the rear bumper of the vehicle?

Yes	GO to E5
No	GO to E4

E4 CHECK THE PARKING AID SENSORS

- Ignition OFF.
- Install a known good sensor for the suspect parking aid sensor.
REFER to: Rear Parking Aid Sensor (413-13A Parking Aid, Removal and Installation).
- Ignition ON.
- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes) and repeat the PAM self-test.
- Check the PAM DTCs (diagnostic trouble codes).

Is the concern still present?

Yes	GO to E5
No	INSTALL a new rear parking aid sensor. REFER to: Rear Parking Aid Sensor (413-13A Parking Aid, Removal and Installation).

E5 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM) .
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

☐ [PINPOINT TEST F : CONTINUOUS OR INTERMITTENT TONE WHEN NO OBSTACLES OR FAULT CODES ARE PRESENT](#)

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

Possible Sources

- Dirty or iced over parking aid sensor(s)
- Parking aid sensor(s) installed incorrectly
- Parking aid sensor(s) alignment
- Isolator ring missing, damaged or misaligned

F1 VERIFY THE CONCERN

- Verify the concern

Is there continuous or intermittent tone when no obstacles or fault codes are present?

Yes	Dirty or iced over parking aid sensor(s). CLEAN the rear bumper and sensors with high-pressure water. Ice between parking aid sensor(s) and bezel(s). ALLOW time for the ice between the parking aid sensor(s) and bezel(s) to melt. Parking aid sensor(s) locked into the rear bumper incorrectly. INSTALL the parking aid sensor(s) into the bezel(s) correctly. Parking aid sensor(s) isolator ring missing, damaged or misaligned. INSTALL a new parking aid sensor. REFER to: Rear Parking Aid Sensor (413-13A Parking Aid, Removal and Installation).
No	The system is working normally at this time.

PINPOINT TEST G : U0100:00 OR U0401:00

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the PCM on the High Speed Controller Area Network 1 (HS1-CAN). REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0100:00	Lost Communication With ECM/PCM "A": No Sub Type Information	Sets in continuous memory in the PAM if messages received from the PCM are missing for 5 seconds or more.
PAM U0401:00	Invalid Data Received from ECM/PCM A: No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the PCM through the GWM for 5 seconds or longer.

Possible Sources

- Communication concern
- PAM (integral to the BCM)
- PCM

G1 VERIFY THAT A VEHICLE SESSION CAN BE ESTABLISHED USING THE DIAGNOSTIC SCAN TOOL

- Ignition ON.
- Verify that a vehicle session can be established using a diagnostic scan tool.

Can a vehicle session be established?

Yes	GO to G2
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

G2 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Ignition ON.
- Using a diagnostic scan tool, clear the PAM DTCs (diagnostic trouble codes).
- Operate the system and test for normal operation.
- Check the PAM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0100:00 still present?

Yes	GO to G3 PCM
No	Clear the DTC. The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

G3 RETRIEVE THE RECORDED DTCS (DIAGNOSTIC TROUBLE CODES) FROM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

Are any DTCs (diagnostic trouble codes) (recorded)?

Yes	Refer to the appropriate section in Group 303 for the procedure.
No	GO to G4

G4 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0100:00 OR DTC (DIAGNOSTIC TROUBLE CODE) U0100:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs.
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0100:00 or DTC U0100:87 set in other modules?

Yes	GO to G5
No	GO to G6

G5 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all PCM connectors.
- Repair:
 - corrosion (install new connector or terminals - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the PCM connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, Click here to access Guided Routine (PCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

G6 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

[PINPOINT TEST H : U0101:00 OR U0402:00](#)

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the PCM on the HS-CAN1. REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0101:00	Lost Communication with TCM: No Sub Type Information	Sets in continuous memory in the PAM if messages received from the PCM are missing for 5 seconds or more.
PAM U0402:00	Invalid Data Received from TCM: No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the PCM through the GWM for 5 seconds or longer.

Possible Sources

- Communication concern
- TCM (integral to the PCM)
- PAM (integral to the BCM)

H1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to H2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

H2 CHECK THE COMMUNICATION NETWORK

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

Does the PCM pass the network test?

Yes	GO to H3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

H3 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes).
- Operate the system and test for normal operation.
- Check the PAM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0101:00 still present?

Yes	GO to H4
No	Clear the DTC. The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

H4 RETRIEVE THE RECORDED DTCS (DIAGNOSTIC TROUBLE CODES) FROM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

Are any DTCs (diagnostic trouble codes) recorded?

Yes	Refer to the appropriate section in Group 303 for the procedure.
No	GO to H5

H5 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0101:00 OR DTC (DIAGNOSTIC TROUBLE CODE) U0101:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0101:00 or DTC U 101:87 set in other modules?

Yes	GO to H6
No	GO to H7

H6 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all PCM connectors.
- Repair:
 - corrosion (install new connector or terminals - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the PCM connectors. Make sure they seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, Click here to access Guided Routine (PCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

H7 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

[PINPOINT TEST I: U0121:00 OR U0415:00](#)

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the ABS module through GWM. REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0121:00	Lost Communication With Anti-Lock Brake System (ABS) Control Module "A": No Sub Type Information	Sets in continuous memory in the PAM if messages received from the ABS module through GWM are missing for 5 seconds or more.
PAM U0415:00	Invalid Data Received from Anti-Lock Brake System (ABS) Control Module "A": No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the ABS module through the GWM for 5 seconds or longer.

Possible Sources

- Communication concern
- ABS module
- GWM concern
- PAM (integral to the BCM)

I1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to I2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

I2 CHECK THE COMMUNICATION NETWORK

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

Does the ABS module pass the network test?

Yes	GO to I3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

I3 PERFORM THE ABS (ANTI-LOCK BRAKE SYSTEM) MODULE SELF-TEST

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

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Anti-Lock Brake System (ABS) and Stability Control (206-09 Anti-Lock Brake System (ABS) and Stability Control, Diagnosis and Testing).
No	GO to I4

I4 CHECK GWM (GATEWAY MODULE A) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, check GWM CMDTCs (continuous memory diagnostic trouble codes).

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to I5

I5 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, clear the DTCs).
- Operate the system and test for normal operation.
- Check the PAM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0121 still present?

Yes	GO to I6
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

I6 CHECK FORDTC (DIAGNOSTIC TROUBLE CODE) U0121:00 OR DTC (DIAGNOSTIC TROUBLE CODE) U0121:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0121:00 or DTC U0121:87 set in other modules?

Yes	GO to I7
No	GO to I8

I7 CHECK FOR CORRECT ABS (ANTI-LOCK BRAKE SYSTEM) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect all ABS module 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 ABS module 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 ABS module. REFER to: Anti-Lock Brake System (ABS) Module (206-09 Anti-Lock Brake System (ABS) and Stability Control, Removal and Installation).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

I8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM) .
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

[PINPOINT TEST J : U0140:00 OR U0422:00](#)

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the BCM through the High Speed Controller Area Network 1 (HS1-CAN). REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0140:00	Lost Communication With Body Control Module: No Sub Type Information	A continuous DTC that sets when the PAM is unable to communicate with the BCM for 5 seconds or more.
PAM U0422:00	Invalid Data Received From Body Control Module: No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the BCM for 5 seconds or longer.

Possible Sources

- Communication concern
- BCM
- PAM (integral to the BCM)

J1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to J2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

J2 CHECK THE COMMUNICATION NETWORK

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

Does the BCM pass the network test?

Yes	GO to J3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

J3 PERFORM THE BCM (BODY CONTROL MODULE) SELF-TEST

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

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
No	GO to J4

J4 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes).
- Operate the system and test the system for normal operation.
- Check the PAM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0140:00 still present?

Yes	GO to J5
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

J5 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0140:00 OR DTC (DIAGNOSTIC TROUBLE CODE) U0140:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0140:00 or DTC U0140:87 set in other modules?

Yes	GO to J6
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

J6 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM) .
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

[PINPOINT TEST K : U0146:00](#)

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with GWM through the HS-CAN1. REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0146:00	Lost Communication With Serial Data Gateway "A": No Sub Type Information	Sets in continuous memory in the PAM if messages received from GWM are missing for 5 seconds or more.

Possible Sources

- Communication concern
- GWM
- PAM (integral to the BCM)

K1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to K2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

K2 CHECK THE COMMUNICATION NETWORK

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

Does the GWM pass the network test?

Yes	GO to K3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

K3 CHECK THE GWM (GATEWAY MODULE A) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, check GWM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0146:00 or DTC U0146:87 set in other modules?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to K4

K4 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES).

- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes).
- Operate the system and test for normal operation.
- Check the PAM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0146:00 still present?

Yes	GO to K5
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

K5 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0146:00 OR DTC (DIAGNOSTIC TROUBLE CODE) U0146:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0146:00 or DTC U0146:87 set in other modules?

Yes	GO to K6
No	GO to K7

K6 CHECK FOR CORRECT GWM (GATEWAY MODULE A) OPERATION

- Ignition OFF.
- Disconnect and inspect all GWM 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 GWM 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 GWM. REFER to: Gateway Module A (GWM) (418-00 Module Communications Network, Removal and Installation).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

K7 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST L : U0155:00 OR U0423:00

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the IPC through GWM. REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	Sets in continuous memory in the PAM if messages received from the IPC through GWM are missing for 5 seconds or more.
PAM U0423:00	Invalid Data Received from Instrument Panel Cluster Control Module: No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the IPC through the GWM for 5 seconds or longer.

Possible Sources

- Communication concern
- GWM
- IPC
- PAM (integral to the BCM)

L1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to L2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

L2 CHECK THE COMMUNICATION NETWORK

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

Does the IPC pass the network test?

Yes	GO to L3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

L3 PERFORM THE IPC (INSTRUMENT PANEL CLUSTER) SELF-TEST

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

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).
No	GO to L4

L4 CHECK GWM (GATEWAY MODULE A) CMDTCS (CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, check GWM CMDTCS (continuous memory diagnostic trouble codes).

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to L5

L5 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes).
- Operate the system and test for normal operation.
- Check the PAM CMDTCS (continuous memory diagnostic trouble codes).

Is DTC U0155:00 still present?

Yes	GO to L6
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

L6 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0155:00 OR DTC (DIAGNOSTIC TROUBLE CODE) U0155:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes) .
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCS (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0155:00 or DTC U0155:87 set in other modules?

Yes	GO to L7
No	GO to L8

L7 CHECK FOR CORRECT IPC (INSTRUMENT PANEL CLUSTER) OPERATION

- Ignition OFF.
- Disconnect and inspect the IPC 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 IPC 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, Click here to access Guided Routine (IPC).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

L8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

[PINPOINT TEST M : U0212:00 OR U0429:00](#)

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the SCCM through the GWM. REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0212:00	Lost Communication With Steering Column Control Module: No Sub Type Information	Sets in continuous memory in the PAM if messages received from the SCCM through the GWM are missing for 5 seconds or more.
PAM U0429:00	Invalid Data Received From Steering Column Control Module: No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the SCCM through the GWM for 5 seconds or longer.

Possible Sources

- Communication concern
- GWM
- SCCM
- PAM (integral to the BCM)

M1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to M2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

M2 CHECK THE COMMUNICATION NETWORK

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

Does the SCCM pass the network test?

Yes	GO to M3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

M3 PERFORM THE SCCM (STEERING COLUMN CONTROL MODULE) SELF-TEST

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

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components, Diagnosis and Testing).
No	GO to M4

M4 CHECK GWM (GATEWAY MODULE A) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, check the GWM DTCs (diagnostic trouble codes)

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to M5

M5 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes).
- Operate the system and test for normal operation.
- Check the PAM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0212:00 still present?

Yes	GO to M6
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

M6 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0212:00 OR DTC (DIAGNOSTIC TROUBLE CODE) U0212:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0212:00 or DTC U0212:87 set in other modules?

Yes	GO to M7
No	GO to M8

M7 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

- Ignition OFF
- Disconnect and the 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 and the SCCM connectors. Make sure they seat and latch correctly.

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 the TSB instructions. If no TSB addresses this concern, INSTALL a new SCCM. REFER to: Steering Column Control Module (SCCM) (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

M8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST N : U0253:00 OR U0554:00

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the APIM through the GWM. REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0253:00	Lost Communication With Accessory Protocol Interface Module: No Sub Type Information	Sets in continuous memory in the PAM if messages received from the APIM are missing for 5 seconds or more.
PAM U0554:00	Invalid Data Received From Accessory Protocol Interface Module: No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the APIM through the GWM for 5 seconds or longer.

Possible Sources

- Communication concern
- GWM concern
- APIM
- PAM (integral to the BCM)

N1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to N2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

N2 CHECK THE COMMUNICATION NETWORK

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

Does the APIM pass the network test?

Yes	GO to N3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

N3 PERFORM THE APIM (SYNC MODULE) SELF-TEST

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

Are any DTCs (diagnostic trouble codes) recorded?

Yes	For vehicles without Sony Sound, For vehicles with Sony Sound, REFER to: Information and Entertainment System (415-00 Information and Entertainment System - General Information, Diagnosis and Testing).
No	GO to N4

N4 CHECK THE GWM (GATEWAY MODULE A) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, check the GWM CMDTCs (continuous memory diagnostic trouble codes).

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to N5

N5 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes).
- Operate the system and test for normal operation.
- Check the PAM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0253:00 still present?

Yes	GO to N6
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

N6 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0253:00 OR DTC (DIAGNOSTIC TROUBLE CODE) U0253:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes).
- Ignition OFF.
- Ignition ON
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0253:00 or DTC U0253:87 set in other modules?

Yes	GO to N7
No	GO to N8

N7 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM 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 APIM connectors. Make sure it seats and latches correctly.
- Wait at least 2 minutes for the APIM to re-initialize.
- 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern install a new APIM. For vehicles without Sony Sound, . For vehicles with Sony Sound, REFER to: SYNC Module [APIM] (415-00 Information and Entertainment System - General Information, 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.

N8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

[PINPOINT TEST O : U0256:00 OR U0557:00](#)

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the FCIM through the GWM. REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0256:00	Lost Communication With Front Controls Interface Module "A": No Sub Type Information	Sets in continuous memory in the PAM if messages received from the FCIM are missing for 5 seconds or more.
PAM U0557:00	Invalid Data Received From Front Controls Interface Module "A": No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the FCIM through the GWM for 5 seconds or longer.

Possible Sources

- Communication concern
- GWM concern
- FCIM
- PAM (integral to the BCM)

O1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to O2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

O2 CHECK THE COMMUNICATION NETWORK

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

Do the FCIM pass the network test?

Yes	GO to O3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

O3 PERFORM THE FCIM (FRONT CONTROLS INTERFACE MODULE) SELF-TEST

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

Are any DTCs (diagnostic trouble codes) recorded?

Yes	Refer to the appropriate section in Group 415 for the procedure.
No	GO to O4

O4 CHECK THE GWM (GATEWAY MODULE A) CMDTCS (CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, check the GWM CMDTCs (continuous memory diagnostic trouble codes).

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to Q5

O5 RECHECK THE PAM (PARKING ASSIST CONTROL MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes).
- Operate the system and test for normal operation.
- Check the PAM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0256:00 still present?

Yes	GO to Q6
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

O6 CHECK FOR DTCS (DIAGNOSTIC TROUBLE CODES) U0256:00 OR U0256:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0256:00 or U0256:87 set in other modules?

Yes	GO to Q7
No	GO to Q8

O7 CHECK FOR CORRECT FCIM (FRONT CONTROLS INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the FCIM and any in-line 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 FCIM and any in-line connectors. Make sure they seat and latch correctly.
- Wait at least 2 minutes for the FCIM to re-initialize.
- 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 the TSB instructions. If no TSB addresses this concern, Replace the FCIM. For vehicles without Sony Sound, . For vehicles with Sony Sound, REFER to: Front Controls Interface Module (FCIM) (415-00 Information and Entertainment System - General Information, 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.

O8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM) .
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST P : U0257:00 OR U0558:00

Refer to Wiring Diagrams Cell [14](#) for schematic and connector information.

Normal Operation and Fault Conditions

The PAM communicates with the FCDIM through the GWM. REFER to: Parking Aid - System Operation and Component Description (413-13A Parking Aid, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U0257:00	Lost Communication With Front Controls / Display Interface Module: No Sub Type Information	Sets in continuous memory in the PAM if messages received from the FCDIM are missing for 5 seconds or more.
PAM U0558:00	Invalid Data Received From Front Controls / Display Interface Module: No Sub Type Information	Sets in the PAM when the PAM received invalid network data from the FCDIM through the GWM for 5 seconds or longer.

Possible Sources

- Communication concern
- GWM concern
- FCDIM
- PAM (integral to the BCM)

P1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.
- Verify there is an observable symptom present.

Is an observable symptom present?

Yes	GO to P2
No	Clear the DTC. The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

P2 CHECK THE COMMUNICATION NETWORK

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

Does the FCDIM pass the network test?

Yes	GO to P3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

P3 PERFORM THE FCDIM (FRONT CONTROL/DISPLAY INTERFACE MODULE) SELF-TEST

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

Are any DTCs (diagnostic trouble codes) recorded?

Yes	Refer to the appropriate section in Group 415 for the procedure.
No	GO to P4

P4 CHECK THE GWM (GATEWAY MODULE A) CMDTCS (CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, check the GWM CMDTCs (continuous memory diagnostic trouble codes).

Are any DTCs (diagnostic trouble codes) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to P5

P5 RECHECK THE FCDIM (FRONT CONTROL/DISPLAY INTERFACE MODULE) DTCS (DIAGNOSTIC TROUBLE CODES)

- Using a diagnostic scan tool, clear the DTCs (diagnostic trouble codes).
- Operate the system and test for normal operation.
- Check the FCDIM CMDTCs (continuous memory diagnostic trouble codes).

Is DTC U0257:00 still present?

Yes	GO to P6
No	The system is operating correctly at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

P6 CHECK FOR DTCS (DIAGNOSTIC TROUBLE CODES) U0257:00 OR U0257:87 SET IN OTHER MODULES

- Using a diagnostic scan tool, clear all DTCs (diagnostic trouble codes).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve the CMDTCs (continuous memory diagnostic trouble codes) from all modules.

Is DTC U0257:00 or U0257:87 set in other modules?

Yes	GO to P7
No	GO to P8

P7 CHECK FOR CORRECT FCDIM (FRONT CONTROL/DISPLAY INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the FCDIM 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 FCDIM connectors. Make sure they seat and latch correctly.
- Wait at least 2 minutes for the FCDIM to re-initialize.
- 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 the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new FCDIM.
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.

P8 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- 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, Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

[PINPOINT TEST Q : U2024:41, U2100:00 OR U2101:00](#)

Normal Operation and Fault Conditions

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U2024:41	Control Module Cal-Config Data: General Checksum Failure	Sets in the PAM due to check sum error.
PAM U2100:00	Initial Configuration Not Complete: No Sub Type Information	Sets in the PAM due to incomplete or incorrect PMI procedures.
PAM U2101:00	Control Module Configuration Incompatible: No Sub Type Information	Sets in the PAM due to incomplete or incorrect PMI procedures.

Possible Sources

- PAM

Q1 CHECK VEHICLE HISTORY FOR RECENT SERVICE ACTIONS

- Check the vehicle history for any recent service actions related to the PAM.

Have any service actions been performed?

Yes	REPEAT the PMI as directed by the diagnostic scan tool.
No	GO to Q2

Q2 RECONFIGURE THE MODULE

- Ignition ON.
- Using the diagnostic scan tool, perform the PMI as directed by the diagnostic scan tool.
- Verify that the PAM functions correctly.

Does the PAM functions correctly?

Yes	The system is operating correctly at this time. The concern may have been caused by incomplete or incorrect PMI procedure.
No	If the PAM fails to retain configuration data. □ Click here to access Guided Routine (BCM).

☐ [PINPOINT TEST R : U3000:45 OR U3000:46](#)

Normal Operation and Fault Conditions

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PAM U3000:45	Control Module: Program Memory Failure	Sets in the PAM when there is a ROM memory checksum failure.
PAM U3000:46	Control Module: Calibration/Parameter Memory Failure	Sets in the PAM when the PAM detects a read write failure in the EEPROM.

Possible Sources

- PAM

R1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCs) FROM THE PAM (PARKING ASSIST CONTROL MODULE) SELF-TEST

- Ignition ON.
- Using the diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Using the diagnostic scan tool, perform the PAM self-test.

Is DTC U3000:45 or U3000:46 retrieved?

Yes	☐ Click here to access Guided Routine (BCM).
No	The system is operating correctly at this time.

mcx30.com