



NOTE: Before disconnecting any of the cameras, verify the connectors are properly seated and latched.

**DIAGNOSIS AND TESTING > PARKING AID > PINPOINT TEST(S) > PINPOINT TEST J
: THE FRONT PARKING AID CAMERA IS INOPERATIVE OR DOES NOT OPERATE
CORRECTLY > PINPOINT TEST J : THE FRONT PARKING AID CAMERA IS
INOPERATIVE OR DOES NOT OPERATE CORRECTLY**

J1 CHECK FOR CORRECT GEAR INPUT AT THE IPC (INSTRUMENT PANEL CLUSTER)

Ignition ON.

While monitoring the IPC PRNDL indicator, briefly select each gear in the entire range.

Does the IPC PRNDL indicator match the actual gear selection?

Yes	GO to J2
No	REFER to: Instrumentation, Message Center and Warning Chimes .

J2 CHECK FOR CORRECT SPEEDOMETER OPERATION

Verify the operation of the speedometer.

Does the speedometer operate correctly?

Yes	GO to J3
No	REFER to: Instrumentation, Message Center and Warning Chimes .

J3 PERFORM A NETWORK TEST

Using a diagnostic scan tool, perform a network test.

Do all modules pass the network test?

Yes	GO to J4
No	REFER to: Communications Network .

J4 CHECK THE DISPLAY

 **NOTE:** Some fault conditions may cause the actual camera image(s) not to be displayed.

Observe the FDIM.

Select REVERSE.

Wait 30 seconds.

Does the FDIM switch to parking aid camera display mode?

Yes	Select PARK. GO to J5
No	Select PARK. DIAGNOSE the display. Vehicles With: Touchscreen Display, REFER to: Information and Entertainment System . Vehicles With: Sony Audio System, REFER to: Information and Entertainment System .

J5 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS) FROM THE IPMB (IMAGE PROCESSING MODULE B) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) retrieved?

Yes	For DTC B148E:08 or B148E:49, GO to J6 For all other Diagnostic Trouble Codes (DTCs), REFER to the IPMB DTC Chart .
No	GO to J6

J6 CHECK FOR VOLTAGE AT THE FRONT PARKING AID CAMERA

Ignition OFF.

Disconnect Front Parking Aid Camera C1663 .

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1663-1		Ground

Is the voltage greater than 11 volts?

Yes	GO to J7
No	INSPECT BJB fuse 113 (7.5A). If the fuse is OK, repair the circuit for an open. If the fuse

	is not OK, REFER to the OEM WIRING DIAGRAMS to identify the possible causes of the short circuit.
--	---

J7 CHECK FOR GROUND AT THE FRONT PARKING AID CAMERA

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1663-5	Ω	Ground

Is the resistance less than 3 ohms?

Yes	GO to J9
No	GO to J8

J8 CHECK THE GROUND/SHIELD CIRCUIT FOR AN OPEN BETWEEN THE FRONT PARKING AID CAMERA AND IPMB (IMAGE PROCESSING MODULE B)

Disconnect IPMB C2512A and C2512B .

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1663-5	Ω	C2512B-12

Is the resistance less than 3 ohms?

Yes	GO to J16
No	REPAIR the circuit.

J9 CHECK THE VIDEO SIGNAL CIRCUITS FOR A SHORT TO VOLTAGE BETWEEN THE FRONT PARKING AID CAMERA AND IPMB (IMAGE PROCESSING MODULE B)

Ignition OFF.

Disconnect IPMB C2512B .

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead

C1663-3		Ground
C1663-4		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
------------	---------------------------------

No	GO to J10
-----------	-----------

J10 CHECK THE VIDEO SIGNAL CIRCUITS FOR A SHORT TO GROUND BETWEEN THE FRONT PARKING AID CAMERA AND IPMB (IMAGE PROCESSING MODULE B)

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1663-3	Ω	Ground
C1663-4	Ω	Ground

Are the resistances greater than 10, 000 ohms?

Yes	GO to J11
------------	-----------

No	REPAIR the circuit in question.
-----------	---------------------------------

J11 CHECK THE VIDEO SIGNAL CIRCUITS FOR AN OPEN BETWEEN THE FRONT PARKING AID CAMERA AND IPMB (IMAGE PROCESSING MODULE B)

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1663-3	Ω	C2512B-5
C1663-4	Ω	C2512B-6

Are the resistances less than 3 ohms?

Yes	GO to J12
------------	-----------

No	REPAIR the circuit in question.
-----------	---------------------------------

J12 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO VOLTAGE AT THE FRONT PARKING AID CAMERA

Disconnect IPMB C2512A .

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1663-2		Ground

Is any voltage present?

Yes	REPAIR the circuit.
------------	---------------------

No	GO to J13
-----------	-----------

J13 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR AN OPEN BETWEEN THE FRONT PARKING AID CAMERA AND IPMB (IMAGE PROCESSING MODULE B)

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1663-2	Ω	C2512A-14

Is resistance less than 3 ohms ?

Yes	GO to J14
------------	-----------

No	REPAIR the circuit.
-----------	---------------------

J14 CHECK THE LIN (LOCAL INTERCONNECT NETWORK) CIRCUIT FOR A SHORT TO GROUND AT THE FRONT PARKING AID CAMERA

Measure:

Positive Lead	Measurement / Action	Negative Lead
C1663-2	Ω	Ground

Is resistance greater than 10, 000 ohms?

Yes	GO to J15
------------	-----------

No	REPAIR the circuit.
-----------	---------------------

J15 CHECK FOR CORRECT FRONT PARKING AID CAMERA OPERATION

Ignition OFF.

Disconnect and inspect the front parking aid camera and related 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 front parking aid camera and related in-line connectors. Make sure they seat and latch correctly.

Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new front parking aid camera. REFER to: Front Parking Aid Camera . If the concern is still present after camera replacement, GO to J16
No	The system is operating correctly at this time. The concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

J16 CHECK FOR CORRECT IPMB (IMAGE PROCESSING MODULE B) OPERATION

Ignition OFF.

Disconnect and inspect the IPMB 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 IPMB connectors. Make sure they seat and latch correctly.

Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW the TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new IPMB.
------------	--