Blind Spot Information System

DTC 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).

SODL and SODR DTC Chart

DTC	Description	Action
B11D6:11	Driver Display Alert LED: Circuit Short To Ground	This DTC sets due to an incorrect or incomplete SODL or SODR configuration. Using a diagnostic scan tool, CARRY OUT PMI using as-built data.
B11D6:15	Driver Display Alert LED: Circuit Short To Battery or Open	This DTC sets due to an incorrect or incomplete SODL or SODR configuration. Using a diagnostic scan tool, CARRY OUT PMI using as-built data.
U0100:00	Lost Communication With ECM/PCM "A": No Sub Type Information	• For vehicles equipped with the 3.5L EcoBoost engine, GO to Pinpoint Test G • For vehicles equipped with the 2.7L EcoBoost, 3.5L Duratec or 5.0L 32V Ti-VCT engine, GO to Pinpoint Test I
U0101:00	Lost Communication with TCM: No Sub Type Information	• For vehicles equipped with the 3.5L EcoBoost engine, GO to Pinpoint Test H • For vehicles equipped with the 2.7L EcoBoost, 3.5L Duratec or 5.0L 32V Ti-VCT engine, GO to Pinpoint Test I

U0146:00	Lost Communication with Gateway "A": No Sub Type Information	GO to Pinpoint Test J
U0199:00	Lost Communication With "Door Control Module A": No Sub Type Information	GO to Pinpoint Test K
U0200:00	Lost Communication With "Door Control Module B": No Sub Type Information	GO to Pinpoint Test L
U0401:86	Invalid Data Received from ECM/PCM A: Signal Invalid	This continuous memory DTC sets when the SODL or SODR receives invalid network data from the PCM. RETRIEVE and REPAIR all non-network Diagnostic Trouble Codes (DTCs) in the PCM and the other modules on the network. If no PCM Diagnostic Trouble Codes (DTCs) exist, DIAGNOSE the observable symptom.
U0402:86	Invalid Data Received from TCM: Signal Invalid	This continuous memory DTC sets when the SODL or SODR receives invalid transmission range network data from the PCM. RETRIEVE and REPAIR all non-network Diagnostic Trouble Codes (DTCs) in the PCM and the other modules on the network. If no PCM Diagnostic Trouble Codes (DTCs) exist, DIAGNOSE the observable symptom.
U049A:86	Invalid Data Received From "Door Control Module A": Signal Invalid	This continuous memory DTC sets when the SODL or SODR receives invalid network data from the DDM. RETRIEVE and REPAIR all non-network Diagnostic Trouble Codes (DTCs) in the DDM and the other modules on the network. If no DDM Diagnostic Trouble Codes (DTCs) exist, DIAGNOSE the observable symptom.
U0501:86	Invalid Data Received From "Door Control Module B": Signal Invalid	This continuous memory DTC sets when the SODL or SODR receives invalid network data from the PDM. RETRIEVE and REPAIR all non-network Diagnostic Trouble Codes (DTCs) in the PDM and the other modules on the network. If no PDM Diagnostic Trouble Codes (DTCs) exist, DIAGNOSE the observable symptom.

U2100:00	Initial Configuration Not Complete: No Sub Type Information	• This continuous memory DTC sets due to incomplete or incorrect PMI procedures. CHECK the vehicle service history for recent service actions related to this module. ❍ If there have been recent service actions with this module, INSTALL as-built data from Professional Technician Society (PTS) following diagnostic scan tool instructions under Module Programming>As-Built. REFER to: Module Configuration (418-01 Module Configuration) . ❍ If there have been no recent service actions, INSTALL a new module to correct the failure to retain configuration data. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
U2300:55	Central Configuration: Not Configured	This continuous memory DTC sets when the SODL or SODR does not detect the VIN information on the MS-CAN. RETRIEVE and REPAIR all non-network Diagnostic Trouble Codes (DTCs) in all other modules.
U3000:44	Control Module: Data Memory Failure	• CLEAR the SODL or SODR Diagnostic Trouble Codes (DTCs) and REPEAT the self-test. If the continuous memory or on-demand DTC U3000:44 returns, INSTALL a new SODL or SODR. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
U3000:45	Control Module: Program Memory Failure	• CLEAR the SODL or SODR Diagnostic Trouble Codes (DTCs) and REPEAT the self-test. If the continuous memory or on-demand DTC U3000:45 returns, INSTALL a new SODL or SODR. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).

U3000:46	Control Module: Calibration/Parameter Memory Failure	• CLEAR the SODL or SODR Diagnostic Trouble Codes (DTCs) and REPEAT the self-test. If the continuous memory or on-demand DTC U3000:46 returns, INSTALL a new SODL or SODR. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
U3000:49	Control Module: Internal Electronic Failure	• CLEAR the SODL or SODR Diagnostic Trouble Codes (DTCs) and REPEAT the self-test. If the continuous memory or on-demand DTC U3000:49 returns, INSTALL a new SODL or SODR. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
U3002:62	Vehicle Identification Number: Signal Compare Failure	• This continuous memory DTC sets when the VIN stored in the SODL or SODR does not match the VIN that is broadcast on the network. CHECK the vehicle service history for recent service actions related to this module. ○ If there have been recent service actions with this module, REPEAT the PMI procedure as directed by the diagnostic scan tool. REFER to: Module Configuration (418-01 Module Configuration) . ○ If there have been no recent service actions, INSTALL a new module to correct the failure to retain configuration data. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).

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).

DDM DTC Chart

DTC	Description	Action
B118C:11	Left Blind Spot Warning Indicator: Circuit Short To Ground	GO to Pinpoint Test D
B118C:15	Left Blind spot Warning Indicator: Circuit Short To Battery or Open	• If the LH BLIS®/ CTA LED is inoperative, GO to Pinpoint Test D • If the LH BLIS®/ CTA LED is always on, GO to Pinpoint Test C
All other DDM Diagnostic Trouble Codes (DTCs)	-	REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).

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).

PDM DTC Chart

DTC	Description	Action
B118D:11	Right Blind Spot Warning Indicator: Circuit Short To Ground	GO to Pinpoint Test D
B118D:15	Right Blind spot Warning Indicator: Circuit Short To Battery or Open	• If the RH BLIS®/ CTA LED is inoperative, GO to Pinpoint Test D • If the RH BLIS®/ CTA LED is always on, GO to Pinpoint Test C

All other PDM Diagnostic Trouble Codes (DTCs)	-	REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).

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).

NOTE: *The customer trailer needs to be connected to the vehicle to properly diagnose a BLIS® with trailer tow system concern (if equipped).*

NOTE: *Rule out any base BLIS®/ CTA system concerns prior to diagnosing the BLIS® with trailer tow system (if equipped).*

Symptom Chart - BLIS®

Condition	Possible Sources	Action
A module does not respond to the diagnostic scan tool	• Fuse • Communication concern • Wiring, terminals or connectors • Module	REFER to: Communications Network (418-00 Module Communications Network) .
The BLIS® is inoperative or does not function correctly	Refer to the Pinpoint Test	GO to Pinpoint Test A
The BLIS® has poor or inconsistent performance	Refer to the Pinpoint Test	GO to Pinpoint Test A

The BLIS® message center warnings are not displayed and the exterior mirror BLIS®/ CTA LED does not illuminate	Refer to the Pinpoint Test	GO to Pinpoint Test A
Trailer isn't identified in the message center (BLIS® with Trailer Tow)	Refer to the Pinpoint Test	GO to Pinpoint Test A
An exterior mirror BLIS®/ CTA LED is always on	Refer to the Pinpoint Test	GO to Pinpoint Test C
An exterior mirror BLIS®/ CTA LED does not illuminate	Refer to the Pinpoint Test	GO to Pinpoint Test D
The IPC message center displays a blocked sensor message	Refer to the Pinpoint Test	GO to Pinpoint Test E
The BLIS® cannot be turned off in the message center	Refer to the Pinpoint Test	GO to Pinpoint Test F
The IPC message center or the LH upper steering wheel switch is not operating correctly	• Wiring, terminals or connectors • Message center switch (part of the LH upper steering wheel switch) • Clockspring • SCCM • IPC	See: The message center is not operating correctly. REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes) .

Symptom Chart - CTA

Condition	Possible Sources	Action

A module does not respond to the diagnostic scan tool	• Fuse • Communication concern • Wiring, terminals or connectors • Module	REFER to: Communications Network (418-00 Module Communications Network) .
The CTA system is inoperative or does not function correctly	Refer to the Pinpoint Test	GO to Pinpoint Test B
The CTA system has poor or inconsistent performance	Refer to the Pinpoint Test	GO to Pinpoint Test B
The CTA system message center warnings are not displayed and the exterior mirror BLIS®/ CTA LED does not illuminate	Refer to the Pinpoint Test	GO to Pinpoint Test B
An exterior mirror BLIS®/ CTA LED does not illuminate when the audio tone sounds for the CTA system	Refer to the Pinpoint Test	GO to Pinpoint Test B
An exterior mirror BLIS®/ CTA LED is always on	Refer to the Pinpoint Test	GO to Pinpoint Test C
An exterior mirror BLIS®/ CTA LED does not illuminate	Refer to the Pinpoint Test	GO to Pinpoint Test D
The IPC message center displays a blocked sensor message	Refer to the Pinpoint Test	GO to Pinpoint Test E
The CTA system cannot be turned off in the message center	Refer to the Pinpoint Test	GO to Pinpoint Test F

Symptom Chart - BLIS® With Trailer Tow

Condition	Possible Sources	Action
A module does not communicate with the diagnostic scan tool	• Fuse • Communication concern • Wiring, terminals or connectors • Module	REFER to: Communications Network (418-00 Module Communications Network) .
The BLIS® With Trailer Tow system is inoperative (when a trailer is connected BLIS® and CTA automatically shut off)	The BLIS® and the BLIS® With Trailer Tow are disabled in the IPC	Enable the BLIS® and the BLIS® With Trailer Tow in the IPC.
	There is no trailer stored in the cluster	Add a valid trailer that permits BLIS® With Trailer Tow.
	An incompatible BLIS® With Trailer Tow compatible trailer is selected	REFER to the Owner's Literature for a list of BLIS® With Trailer Tow compatible trailers.
	Trailer connect diagnostics concern	Perform the trailer connect diagnostics. REFER to the Owner's Literature.
The BLIS® With Trailer Tow receives late alerts. (no alerting alongside trailer, only when target is alongside vehicle)	Incorrect trailer setup	Verify the trailer setup measurements. REFER to the Owner's Literature.
	Target vehicle is passing at a high relative speed	No action required, the system is operating correctly at this time.
The BLIS® With Trailer Tow receives early alerts. (alerting when target is far behind the BLIS® With Trailer Tow blind spot zone)	Incorrect trailer setup	Verify the trailer setup measurements. REFER to the Owner's Literature.

The BLIS® With Trailer Tow system receives false alerts.	False alerts	**NOTE:** *Attaching a trailer can cause additional false alerts. False alerts should not be in excess of 5% of total alerts.* Test drive vehicle with trailer to verify if alerts are continuously occurring. If continuously alerting GO to Pinpoint Test A
The BLIS® With Trailer Tow is missing target vehicles.	Incorrect trailer setup	Verify the trailer setup measurements. REFER to the Owner's Literature.
	Target vehicle is passing at a high relative speed	**NOTE:** *The BLIS® With Trailer Tow may miss up to 3% of targets.* No action required, the system is operating correctly at this time.
	Missed targets	

Pinpoint Tests

The BLIS® Is Inoperative Or Does Not Function Correctly

Refer to Wiring Diagrams Cell 146 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Blind Spot Information System - System Operation and Component Description (419-04 Side and Rear Vision, Description and Operation).

Possible Causes

- Trailer isn't identified in the message center
- Communication network concern
- Obstruction or damage to the rear lamp assemblies or surrounding body panels

- Configuration concern
- SODL
- SODR
- IPC concern
- PCM concern
- GWM concern
- DDM concern
- PDM concern
- TRM concern

Visual Inspection and Diagnostic Pre-Checks

- For vehicles without BLIS with Trailer Tow, verify a trailer is not electrically connected to the vehicle.
- For vehicles with BLIS with Trailer Tow, verify a trailer is set up in the message center.
- Check for damage to the rear lamp assemblies and surrounding body panels.

PINPOINT TEST A : THE BLIS (BLIND SPOT INFORMATION SYSTEM) ® IS INOPERATIVE OR DOES NOT FUNCTION CORRECTLY

A1 VERIFY THE LH (LEFT-HAND) AND RH (RIGHT-HAND) EXTERIOR MIRROR BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) OPERATION

- Ignition OFF.
- Observe the LH and RH exterior mirror BLIS®/ CTA Light Emitting Diodes (LEDs).
- Start the engine.

Do the LH and RH exterior mirror BLIS®/ CTA Light Emitting Diodes (LEDs) illuminate and turn off after approximately 3 seconds?

Yes	GO to A2
No	If either LED is inoperative, GO to Pinpoint Test D If either LED is always on, GO to Pinpoint Test C

A2 VERIFY THE BLIS (BLIND SPOT INFORMATION SYSTEM) ® OPERATION

- Verify the operation of the BLIS®.

Does the BLIS® operate correctly?

Yes	The concern may have been caused by an intermittent condition such as poor weather conditions or the customer's perception of proper BLIS® operation. REVIEW the normal system operation with the customer. REFER to the Owner's Literature.
No	For vehicles without BLIS with Trailer Tow, GO to A4 For vehicles with BLIS with Trailer Tow, GO to A3

A3 VERIFY THAT A TRAILER IS SET UP IN THE MESSAGE CENTER

- Ignition ON.
- Using the Message Center check to see if there is a trailer configured.

Is there a trailer configured in the Message Center?

Yes	GO to A4
No	The concern is caused by the trailer not being set up in the message center. REFER to the Owner's Literature.

A4 CHECK FOR SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) OBSTRUCTIONS

- Ignition OFF.
- Inspect the rear lamp assemblies for a build-up of dirt, debris or any obstruction.

Are any obstructions present?

Yes	CLEAN and REMOVE all obstructions from the rear lamp assemblies.
No	GO to A5

A5 INSPECT THE REAR LAMP ASSEMBLIES AND SURROUNDING BODY PANELS FOR DAMAGE

- Perform a visual inspection of the rear lamp assemblies and surrounding body panels.

Is any damage present?

Yes	REPAIR or INSTALL new parts as necessary. REFER to: Rear Lamp Assembly (417-01 Exterior Lighting) . REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
No	GO to A6

A6 VERIFY THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) PASS THE NETWORK TEST

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

Do the SODL and SODR pass the network test?

Yes	GO to A7
No	REFER to: Communications Network (418-00 Module Communications Network) .

A7 CHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

- Using a diagnostic scan tool, retrieve the Continuous Memory Diagnostic Trouble Codes (CMDTCs) from the SODL and SODR.

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to the SODL and SODR DTC chart in this section.
No	GO to A8

A8 VERIFY THE MESSAGE CENTER FUNCTIONALITY

- Verify the message center functions correctly.

Does the message center function correctly?

Yes	GO to A9
No	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes) .

A9 VERIFY THE BLIS (BLIND SPOT INFORMATION SYSTEM) ® IS ENABLED IN THE MESSAGE CENTER

- **NOTE:** *Verify a MyKey® is NOT in use.*

  Navigate to the BLIS® menu in the message center and verify the BLIS® is ON.

Is the BLIS® ON?

Yes	GO to A10
No	ACTIVATE the BLIS®. If the system cannot be activated, GO to A11

A10 CHECK FOR CORRECT GEAR INPUT

- Apply the parking brake.
- While monitoring the reversing lamps, move the selector lever through the entire range.

Do the reversing lamps illuminate only in reverse?

Yes	GO to A11
No	REFER to: Reversing Lamps (417-01 Exterior Lighting) .

A11 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) KOEO (KEY ON, ENGINE OFF) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	Refer to the appropriate section in Group 303 for the procedure.
No	GO to A12

A12 PERFORM THE DDM (DRIVER DOOR MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC B118C:11 or DTC B118C:15, REFER to the DDM DTC chart in this section. For all other Diagnostic Trouble Codes (DTCs), REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).
No	GO to A13

A13 PERFORM THE PDM (PASSENGER DOOR MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC B118D:11 or DTC B118D:15, REFER to the PDM DTC chart in this section. For all other Diagnostic Trouble Codes (DTCs), REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).
No	GO to A14

A14 PERFORM THE TRM (TRAILER MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to: Trailer Lamps (417-01 Exterior Lighting, Diagnosis and Testing).
No	GO to A15

A15 CHECK THE GWM (GATEWAY MODULE A) CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

- Using a diagnostic scan tool, check the GWM Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to: Communications Network (418-00 Module Communications Network) .
No	GO to A16

A16 VERIFY THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) CONFIGURATION

- Check the vehicle service history for recent service action related to the SODL and SODR.

Have there been any recent service actions related to the SODL or SODR?

Yes	INSTALL As-Built data into the SODL**and** SODR from Professional Technician Society (PTS) following diagnostic scan tool instructions under Module Programming>As-Built.
No	For a SODL concern, GO to A17 For a SODR concern, GO to A18

A17 CHECK FOR CORRECT SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) OPERATION

- Ignition OFF.
- Disconnect and inspect the SODL connector 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 SODL connector and related in-line connectors. Make sure the connectors 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 SODL. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
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.

A18 CHECK FOR CORRECT SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) OPERATION

- Ignition OFF.
- Disconnect and inspect the SODR connector 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 SODR connector and related in-line connectors. Make sure the connectors 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 SODR. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
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.

The CTA System Is Inoperative Or Does Not Function Correctly

Refer to Wiring Diagrams Cell 146 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Blind Spot Information System - System Operation and Component Description (419-04 Side and Rear Vision, Description and Operation).

Possible Causes

- Communication network concern
- Obstruction or damage to the rear lamp assemblies or surrounding body panels
- Configuration concern
- SODL
- SODR
- IPC concern
- PCM concern
- GWM concern
- PAM concern (internal to the BCM)
- TRM concern
- DDM concern
- PDM concern

Visual Inspection and Diagnostic Pre-Checks

- Verify a trailer is not electrically connected to the vehicle.
- Check for damage to the rear lamp assemblies and surrounding body panels.

PINPOINT TEST B : THE CTA (CROSS TRAFFIC ALERT) SYSTEM IS INOPERATIVE OR DOES NOT FUNCTION CORRECTLY

B1 VERIFY THE LH (LEFT-HAND) AND RH (RIGHT-HAND) EXTERIOR MIRROR BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) OPERATION

- Ignition OFF.
- Observe the LH and RH exterior mirror BLIS®/ CTA Light Emitting Diodes (LEDs).
- Start the engine.

Do the LH and RH exterior mirror BLIS®/ CTA Light Emitting Diodes (LEDs) illuminate and turn off after approximately 3 seconds?

Yes	GO to B2
No	If either LED is inoperative, GO to Pinpoint Test D If either LED is always on, GO to Pinpoint Test C

B2 VERIFY THE CTA (CROSS TRAFFIC ALERT) SYSTEM OPERATION

- Verify the operation of the CTA system.

Does the CTA operate correctly?

Yes	The concern may have been caused by an intermittent condition such as poor weather conditions or the customer's perception of proper CTA system operation. REVIEW proper system operation with the customer. REFER to the Owner's Literature.
No	GO to B3

B3 CHECK FOR SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) OBSTRUCTIONS

- Ignition OFF.
- Inspect the rear lamp assemblies for a build-up of dirt, debris or any obstruction.

Are any obstructions present?

Yes	CLEAN and REMOVE all obstructions from the rear lamp assemblies.
No	GO to B4

B4 INSPECT THE REAR LAMP ASSEMBLIES AND SURROUNDING BODY PANELS FOR DAMAGE

- Perform a visual inspection of the rear lamp assemblies and surrounding body panels.

Is any damage present?

Yes	REPAIR or INSTALL new parts as necessary. REFER to: Rear Lamp Assembly (417-01 Exterior Lighting) . REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
No	GO to B5

B5 VERIFY THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) PASS THE NETWORK TEST

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

Do the SODL and SODR pass the network test?

Yes	GO to B6
No	REFER to: Communications Network (418-00 Module Communications Network) .

B6 CHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, retrieve all Diagnostic Trouble Codes (DTCs) from the SODL and SODR.

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to the SODL and SODR DTC chart in this section.
No	GO to B7

B7 VERIFY THE MESSAGE CENTER FUNCTIONALITY

- Verify the message center functions correctly.

Does the message center function correctly?

Yes	GO to B8
No	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes) .

B8 VERIFY THE CTA (CROSS TRAFFIC ALERT) IS ENABLED IN THE MESSAGE CENTER

- **NOTE:** *Verify a MyKey® is NOT in use.*

  Navigate to the CTA menu in the message center and verify the CTA system is ON.

Is the CTA system ON?

Yes	GO to B9
No	ACTIVATE the CTA system. If the system cannot be activated, GO to B10

B9 CHECK FOR CORRECT GEAR INPUT

- Apply the parking brake.
- While monitoring the reversing lamps, move the selector lever through the entire gear range.

Do the reversing lamps illuminate only in reverse?

Yes	GO to B10
No	REFER to: Spot Lamps (417-01 Exterior Lighting, Diagnosis and Testing).

B10 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) KOEO (KEY ON, ENGINE OFF) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	Refer to the appropriate section in Group 303 for the procedure.
No	GO to B11

B11 PERFORM THE DDM (DRIVER DOOR MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC B118C:11 or DTC B118C:15, REFER to the DDM DTC chart in this section. For all other Diagnostic Trouble Codes (DTCs), REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).
No	GO to B12

B12 PERFORM THE PDM (PASSENGER DOOR MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC B118D:11 or DTC B118D:15, REFER to the PDM DTC chart in this section. For all other Diagnostic Trouble Codes (DTCs), REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).
No	GO to B13

B13 PERFORM THE TRM (TRAILER MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to: Trailer Lamps (417-01 Exterior Lighting, Diagnosis and Testing).
No	GO to B14

B14 PERFORM THE PAM (PARKING ASSIST CONTROL MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to: Parking Aid (413-13A Parking Aid - Vehicles With: Rear Parking Aid, Diagnosis and Testing).
No	GO to B15

B15 CHECK THE GWM (GATEWAY MODULE A) CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

- Using a diagnostic scan tool, check the GWM Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to: Communications Network (418-00 Module Communications Network) .
No	GO to B16

B16 VERIFY THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) CONFIGURATION

- Check the vehicle service history for recent service action related to the SODL and SODR.

Have there been any recent service actions related to the SODL or SODR?

Yes	INSTALL As-Built data into the SODL**and** SODR from Professional Technician Society (PTS) following diagnostic scan tool instructions under Module Programming>As-Built.
No	For a SODL concern, GO to B17 For a SODR concern, GO to B18

B17 CHECK FOR CORRECT SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) OPERATION

- Ignition OFF.
- Disconnect and inspect the SODL connector 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 SODL connector and related in-line connectors. Make sure the connectors 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 SODL. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
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.

B18 CHECK FOR CORRECT SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) OPERATION

- Ignition OFF.
- Disconnect and inspect the SODR connector 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 SODR connector and related in-line connectors. Make sure the connectors 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 SODR. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
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.

An Exterior Mirror BLIS®/ CTA LED Is Always On

Refer to Wiring Diagrams Cell 146 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Blind Spot Information System - System Operation and Component Description (419-04 Side and Rear Vision, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B118C:15	Left Blind Spot Warning Indicator: Circuit Short To Battery or Open	This DTC sets in continuous memory and on-demand in the DDM when a lower than expected current draw (such as a short to voltage) is detected on the LH exterior mirror BLIS®/ CTA LED output circuit.
B118D:15	Right Blind Spot Warning Indicator: Circuit Short To Battery or Open	This DTC sets in continuous memory and on-demand in the PDM when a lower than expected current draw (such as a short to voltage) is detected on the RH exterior mirror BLIS®/ CTA LED output circuit.

Possible Causes

- Wiring, terminals or connectors
- DDM
- PDM

PINPOINT TEST C : AN EXTERIOR MIRROR BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) IS ALWAYS ON

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may cause damage to the connector. Use only Rotunda Flex Probes (NUD105-R025D)
C1 VERIFY THE EXTERIOR MIRROR BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) OPERATION

- Start the engine.
- Observe the exterior mirror BLIS®/ CTALight Emitting Diodes (LEDs) for 10 seconds.

Is the always on condition still present?

Yes	If the LH LED is always on, GO to C2 If the RH LED is always on, GO to C4
No	The system is operating correctly at this time. The concern may have been caused by an intermittent condition.

C2 CHECK THE LH (LEFT-HAND) EXTERIOR MIRROR BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) OUTPUT CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect DDM C501B.
- Ignition ON.

Does the BLIS®/ CTA LED turn off?

Yes	GO to C6
No	GO to C3

C3 CHECK FOR A SHORT BETWEEN THE LH (LEFT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) OUTPUT CIRCUIT AND THE MEMORY POSITION SENSOR SUPPLY CIRCUIT

- Ignition OFF.

Is the resistance greater than 10,000 ohms?

Yes	GO to C6
No	REPAIR the circuits.

C4 CHECK THE RH (RIGHT-HAND) EXTERIOR MIRROR BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) OUTPUT CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect PDM C652B.
- Ignition ON.

Does the BLIS®/ CTA LED turn off?

Yes	GO to C7
No	GO to C5

C5 CHECK FOR A SHORT BETWEEN THE RH (RIGHT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) OUTPUT CIRCUIT AND THE MEMORY POSITION SENSOR SUPPLY CIRCUIT

- Ignition OFF.

Is the resistance greater than 10,000 ohms?

Yes	GO to C7
No	REPAIR the circuits.

C6 CHECK FOR CORRECT DDM (DRIVER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the DDM connector 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 DDM connector and related in-line connectors. Make sure the connectors 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 DDM. REFER to: Driver Door Module (DDM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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.

C7 CHECK FOR CORRECT PDM (PASSENGER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the PDM connector 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 PDM connector and related in-line connectors. Make sure the connectors 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 PDM. REFER to: Passenger Door Module (PDM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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.

An Exterior Mirror BLIS®/ CTA LED Is Inoperative

Refer to Wiring Diagrams Cell 146 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: Blind Spot Information System - System Operation and Component Description (419-04 Side and Rear Vision, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B118C:11	Left Blind Spot Warning Indicator: Circuit Short To Ground	This DTC sets in continuous memory and on-demand in the DDM when a higher than expected current draw is detected on the LH exterior mirror BLIS®/ CTA LED output circuit.
B118C:15	Left Blind Spot Warning Indicator: Circuit Short To Battery or Open	This DTC sets in continuous memory and on-demand in the DDM when an open circuit is detected on the LH exterior mirror BLIS®/ CTA LED output circuit.
B118D:11	Right Blind Spot Warning Indicator: Circuit Short To Ground	This DTC sets in continuous memory and on-demand in the PDM when a higher than expected current draw is detected on the RH exterior mirror BLIS®/ CTA LED output circuit.
B118D:15	Right Blind Spot Warning Indicator: Circuit Short To Battery or Open	This DTC sets in continuous memory and on-demand in the PDM when an open circuit is detected on the RH exterior mirror BLIS®/ CTA LED output circuit.

Possible Causes

- Wiring, terminals or connectors
- Communication network concern
- Exterior mirror
- DDM
- PDM
- Exterior mirror BLIS®/ CTA LED (part of the exterior mirror glass)

PINPOINT TEST D : AN EXTERIOR MIRROR BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) IS INOPERATIVE

NOTICE: Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may cause damage to the connector. Use only Rotunda Flex Probes (NUD105-R025D)

D1 CHECK THE BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) OPERATION

- Start the engine.
- Observe the left and right exterior mirror BLIS®/ CTA Light Emitting Diodes (LEDs).

Do the left and right BLIS®/ CTA Light Emitting Diodes (LEDs) illuminate and turn off after 3 seconds?

Yes	The system is operating correctly at this time. The concern may have been caused by an intermittent fault condition. VERIFY the operation of the BLIS® and CTA system.
No	GO to D2

D2 PERFORM A NETWORK TEST

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

Do the DDM and PDM pass the network test?

Yes	GO to D3
No	REFER to: Communications Network (418-00 Module Communications Network) .

D3 CHECK FOR RECORDED DIAGNOSTIC TROUBLE CODES (DTCS) FROM THE DDM (DRIVER DOOR MODULE) OR PDM (PASSENGER DOOR MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the DDM (LH LED concern) or PDM (RH LED concern) self-tests.

Is DDM DTC B118C:11 or PDM DTC B118D:11 present?

Yes	For DTC B118C:11, GO to D4 For DTC B118D:11, GO to D10
No	If the LH BLIS®/ CTA LED is inoperative, GO to D7 If the RH BLIS®/ CTA LED is inoperative, GO to D13

D4 CHECK THE DDM (DRIVER DOOR MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) WITH THE LH (LEFT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) DISCONNECTED

- Using the diagnostic scan tool, clear the DDM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Disconnect: LH BLIS®/ CTA LED C576
- Ignition ON. **NOTE:** *DTC B118C:11 may be set during this step, it can be ignored.*
- Using the diagnostic scan tool, perform the DDM self-test.

Is DTC B118C:15 present?

Yes	INSTALL a new LH exterior mirror glass. REFER to: Exterior Mirror - Vehicles With: Long Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation). REFER to: Exterior Mirror - Vehicles With: Short Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation).
No	GO to D5

D5 CHECK THE EXTERIOR MIRROR HARNESS FOR A SHORT TO GROUND

- Using the diagnostic scan tool, clear the DDM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Disconnect: LH Exterior Mirror C521.
- Ignition ON. **NOTE:** *DTC B118C:11 may set during this step, it can be ignored.*
- Using the diagnostic scan tool, perform the DDM self-test.

Is DTC B118C:15 present?

Yes	REPAIR the exterior mirror jumper harness as necessary. If the harness cannot be repaired, INSTALL a new exterior mirror. REFER to: Exterior Mirror - Vehicles With: Long Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation). REFER to: Exterior Mirror - Vehicles With: Short Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation).
No	GO to D6

D6 CHECK THE LH (LEFT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: DDM C501B.

Is the resistance greater than 10,000 ohms?

Yes	GO to D16
No	REPAIR the circuit.

D7 CHECK THE DDM (DRIVER DOOR MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) WITH THE LH (LEFT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) CIRCUITS JUMPED TOGETHER

- Ignition OFF.
- Disconnect: LH BLIS®/ CTA LED C576.
- Ignition ON.
- Using a diagnostic scan tool, perform the DDM self-test.

Is DTC B118C:11 present?

Yes	REMOVE the fused jumper wire. INSTALL a new LH exterior mirror glass. REFER to: Exterior Mirror - Vehicles With: Long Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation). REFER to: Exterior Mirror - Vehicles With: Short Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation).
No	REMOVE the fused jumper wire. GO to D8

D8 CHECK THE DDM (DRIVER DOOR MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) WITH THE LH (LEFT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) CIRCUITS JUMPED TOGETHER AT THE LH (LEFT-HAND) EXTERIOR MIRROR

- Ignition OFF.
- Disconnect: LH Exterior Mirror C521.
- Ignition ON.
- Using a diagnostic scan tool, perform the DDM self-test.

Is DTC B118C:11 present?

Yes	REPAIR the exterior mirror jumper harness as necessary. If the harness cannot be repaired, INSTALL a new exterior mirror. REFER to: Exterior Mirror - Vehicles With: Long Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation). REFER to: Exterior Mirror - Vehicles With: Short Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation).
No	REMOVE the fused jumper wire. GO to D9

D9 CHECK THE LH (LEFT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) CIRCUITS FOR AN OPEN BETWEEN THE DDM (DRIVER DOOR MODULE) AND THE LH (LEFT-HAND) EXTERIOR MIRROR.

- Ignition OFF.
- Disconnect: DDM C501B.

Is the resistance less than 3 ohms?

Yes	GO to D16
No	REPAIR the affected circuit.

D10 CHECK THE PDM (PASSENGER DOOR MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) WITH THE RH (RIGHT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) DISCONNECTED

- Using the diagnostic scan tool, clear the PDM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Disconnect: RH BLIS®/ CTA LED C676.
- Ignition ON. **NOTE:** *DTC B118D:11 may set during this step, it can be ignored.*
- Using the diagnostic scan tool, perform the PDM self-test.

Is DTC B118D:15 present?

Yes	INSTALL a new RH exterior mirror glass. REFER to: Exterior Mirror - Vehicles With: Long Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation). REFER to: Exterior Mirror - Vehicles With: Short Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation).
No	GO to D11

D11 CHECK THE EXTERIOR MIRROR HARNESS FOR A SHORT TO GROUND

- Using the diagnostic scan tool, clear the PDM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Disconnect: RH Exterior Mirror C622.
- Ignition ON. **NOTE:** *DTC B118D:11 may set during this step, it can be ignored.*
- Using the diagnostic scan tool, perform the PDM self-test.

Is DTC B118D:15 present?

Yes	REPAIR the exterior mirror jumper harness as necessary. If the harness cannot be repaired, INSTALL a new exterior mirror. REFER to: Exterior Mirror - Vehicles With: Long Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation). REFER to: Exterior Mirror - Vehicles With: Short Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation).
No	GO to D12

D12 CHECK THE RH (RIGHT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect: PDM C652B.

Is the resistance greater than 10,000 ohms?

Yes	GO to D17
No	REPAIR the circuit.

D13 CHECK THE PDM (PASSENGER DOOR MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) WITH THE RH (RIGHT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) CIRCUITS JUMPED TOGETHER

- Ignition OFF.
- Disconnect: RH BLIS®/ CTA LED C676.
- Ignition ON.
- Using a diagnostic scan tool, perform the PDM self-test.

Is DTC B118D:11 present?

Yes	REMOVE the fused jumper wire. INSTALL a new RH exterior mirror glass. REFER to: Exterior Mirror - Vehicles With: Long Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation). REFER to: Exterior Mirror - Vehicles With: Short Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation).
No	REMOVE the fused jumper wire. GO to D14

D14 CHECK THE PDM (PASSENGER DOOR MODULE) DIAGNOSTIC TROUBLE CODES (DTCS) WITH THE RH (RIGHT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) CIRCUITS JUMPED TOGETHER AT THE LH (LEFT-HAND) EXTERIOR MIRROR

- Ignition OFF.
- Disconnect: RH Exterior Mirror C622.
- Ignition ON.
- Using a diagnostic scan tool, perform the PDM self-test.

Is DTC B118D:11 present?

Yes	REPAIR the exterior mirror jumper harness as necessary. If the harness cannot be repaired, INSTALL a new exterior mirror. REFER to: Exterior Mirror - Vehicles With: Long Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation). REFER to: Exterior Mirror - Vehicles With: Short Arm Mirrors (501-09 Rear View Mirrors, Removal and Installation).
No	REMOVE the fused jumper wire. GO to D15

D15 CHECK THE RH (RIGHT-HAND) BLIS (BLIND SPOT INFORMATION SYSTEM) ®/ CTA (CROSS TRAFFIC ALERT) LED (LIGHT EMITTING DIODE) CIRCUITS FOR AN OPEN BETWEEN THE PDM (PASSENGER DOOR MODULE) AND THE RH (RIGHT-HAND) EXTERIOR MIRROR.

- Ignition OFF.
- Disconnect: PDM C652B.

Is the resistance less than 3 ohms?

Yes	GO to D17
No	REPAIR the affected circuit.

D16 CHECK FOR CORRECT DDM (DRIVER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all DDM connector 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 DDM connector and related in-line connectors. Make sure all connectors 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 DDM . REFER to: Driver Door Module (DDM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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.

D17 CHECK FOR CORRECT PDM (PASSENGER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all PDM connector 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 PDM connector and related in-line connectors. Make sure all connectors 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 PDM. REFER to: Passenger Door Module (PDM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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.

The IPC Message Center Displays A Blocked Sensor Message

Normal Operation and Fault Conditions

REFER to: Blind Spot Information System - System Operation and Component Description (419-04 Side and Rear Vision, Description and Operation).

Possible Causes

- Build-up of dirt or debris on the rear lamp assemblies.
- Damage to the rear lamp assemblies.
- SODL
- SODR

PINPOINT TEST E : THE IPC (INSTRUMENT PANEL CLUSTER) MESSAGE CENTER DISPLAYS A BLOCKED SENSOR MESSAGE

E1 INSPECT THE REAR LAMP ASSEMBLIES FOR DEBRIS, MUD, SNOW OR ICE

- Inspect the rear lamp assemblies for any debris, mud, snow or ice that may be present.

Are the rear lamp assemblies covered with debris, mud, snow or ice?

Yes	CLEAN the rear lamp assemblies. Once the repair is complete, PERFORM one key cycle and DRIVE the vehicle. The SODL and SODR needs to detect 2 good targets while the vehicle is being driven to clear the blocked condition.
No	GO to E2

E2 INSPECT THE REAR LAMP ASSEMBLIES, SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) FOR DAMAGE

- Thoroughly inspect the rear lamp assemblies, SODL, SODR and the SODL and SODR cover for damage.

Is any damage present?

Yes	REPAIR or INSTALL new parts as necessary. REFER to: Rear Lamp Assembly (417-01 Exterior Lighting) . REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).

No	For a SODL concern, GO to E3 For a SODR concern, GO to E4

E3 CHECK FOR CORRECT SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) OPERATION

- Ignition OFF.
- Disconnect and inspect all SODL connector 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 SODL connector and related in-line connectors. Make sure all connectors 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 SODL. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
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.

E4 CHECK FOR CORRECT SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) OPERATION

- Ignition OFF.
- Disconnect and inspect all SODR connector 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 SODR connector and related in-line connectors. Make sure all connectors 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 SODR. REFER to: Side Obstacle Detection Control Module (419-04 Side and Rear Vision, Removal and Installation).
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.

The BLIS® and CTA System Cannot Be Turned Off In The Message Center.

Normal Operation and Fault Conditions

REFER to: Blind Spot Information System - System Operation and Component Description (419-04 Side and Rear Vision, Description and Operation).

Possible Causes

- MyKey® in use

- Communication network concern
- Message center concern
- SODR concern
- SODL concern

Visual Inspection and Diagnostic Pre-Checks

Check for a MyKey® restricted key in use. If a restricted key is in use, the BLIS® or the CTA system cannot be turned off in the message center.

PINPOINT TEST F : THE BLIS (BLIND SPOT INFORMATION SYSTEM) ® AND CTA (CROSS TRAFFIC ALERT) SYSTEM CANNOT BE TURNED OFF IN THE MESSAGE CENTER

F1 VERIFY WHETHER A MYKEY® RESTRICTED KEY IS IN USE
• Verify whether a MyKey® restricted key is in use. **Is a MyKey® restricted key in use?**

Yes	The system is operating correctly at this time. INFORM the customer of normal operation. REFER to the Owner's Literature.
No	GO to F2

F2 PERFORM A NETWORK TEST
• Ignition ON. • Using a diagnostic scan tool, perform a network test. **Do the IPC, SODL and SODR pass the network test?**

Yes	GO to F3
No	REFER to: Communications Network (418-00 Module Communications Network) .

F3 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS) FROM THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) SELF-TESTS

- Using a diagnostic scan tool, perform the SODL and SODR self-tests.

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to the DTC chart in this section.
No	GO to F4

F4 CHECK THE MESSAGE CENTER FOR CORRECT OPERATION

- Check the message center for correct operation while turning the BLIS® and CTA system on and off.

Does the message center function correctly?

Yes	The system is operating correctly at this time. The concern may have been caused by an intermittent fault condition.
No	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes) .

DTC U0100:00

Refer to Wiring Diagrams Cell 14 for schematic and connector information.

Normal Operation and Fault Conditions

The SODL and SODR communicate with the PCM through the GWM.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0100:00	Lost Communication with ECM/PCM "A": No Sub Type Information	A continuous memory DTC that sets in the SODL and SODR when messages received from the PCM over the HS-CAN1 through the GWM are missing for 2 seconds or more.

Possible Causes

- Communication network concern
- GWM concern
- SODL concern
- SODR concern
- PCM

PINPOINT TEST G : U0100:00

G1 VERIFY THE CUSTOMER'S CONCERN

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

Is an observable symptom present?

Yes	GO to G2
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.

G2 VERIFY THE SCAN TOOL COMMUNICATES WITH THE PCM (POWERTRAIN CONTROL MODULE)

- Connect a diagnostic scan tool.
- Check that a vehicle session can be established using the diagnostic scan tool.

Can a vehicle session be established?

Yes	GO to G3
No	See the Symptom Chart: Communication Network. REFER to: Communications Network (418-00 Module Communications Network) .

G3 PERFORM THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) SELF-TEST

- Using a diagnostic scan tool, perform the SODL and SODR self-test.
- Clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the SODL and SODR self-test.

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to SODL and SODR DTC chart in this section.
No	GO to G4

G4 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). See Electronic Engine Control, PCM DTC Chart. (Electronic Engine Control) Refer to the appropriate section in Group 303 for the procedure.
No	GO to G5

G5 PERFORM THE GWM (GATEWAY MODULE A) SELF TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	See the GWM DTC Chart. REFER to: Communications Network (418-00 Module Communications Network) .
No	GO to G6

G6 RECHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear the SODL and SODR Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the continuous memory self-test.
- Check the SODL and SODR Diagnostic Trouble Codes (DTCs).

Is DTC U0100:00 sill present?

Yes	GO to G7
No	The system is operating correctly at this time. The DTC may have set due to high network traffic, or an intermittent fault condition.

G7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE: *If new modules were installed prior to the DTC being set, the module configuration can be incorrectly set during the PMI, or the PMI may not have been carried out.*

- CHECK the vehicle service history for recent service actions related to the PCM, SODL, SODR or GWM. If recent service history is found:
  - verify correct replacement module was installed
    - HVBOM may be used to verify correct part fitment
  - verify the configuration of replacement module was correct
    - re-configure module using as-built data if prior configuration is suspect
  - verify the module was not obtained from a like vehicle and installed into customer vehicle
    - return the swapped module to source vehicle and obtain new replacement module
    - if a new replacement module is installed, PERFORM PMI using as-built data
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom present?

Yes	GO to G8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures, or incorrect module configuration.

G8 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the PCM connectors 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 PCM connectors 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 TSB addresses this concern, INSTALL a new PCM. Refer to the appropriate section in Group 303 for the procedure.
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.

DTC U0101:00

Refer to Wiring Diagrams Cell 14 for schematic and connector information.

Normal Operation and Fault Conditions

The SODL and SODR communicate with the TCM through the GWM.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions

U0101:00	Lost Communication with TCM: No Sub Type Information	A continuous memory DTC that sets in the SODL and SODR when messages received from the TCM over the HS-CAN1 through the GWM are missing for 2 seconds or more.

Possible Causes

- Communication network concern
- GWM concern
- SODL concern
- SODR concern
- TCM

PINPOINT TEST H : U0101:00

H1 VERIFY THE CUSTOMER'S CONCERN

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

Is an observable symptom present?

Yes	GO to H2
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.

H2 CHECK THE COMMUNICATION NETWORK

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

Does the TCM, SODL, SODR and GWM pass the network test?

Yes	GO to H3
No	See the Symptom Chart: Communication Network. REFER to: Communications Network (418-00 Module Communications Network) .

H3 PERFORM THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) SELF-TEST

- Using a diagnostic scan tool, perform the SODL and SODR self-test.
- Clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the SODL and SODR self-test.

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to SODL and SODR DTC chart in this section.
No	GO to H4

H4 PERFORM THE TCM (TRANSMISSION CONTROL MODULE) SELF-TEST

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

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to: Diagnostic Trouble Code (DTC) Charts and Pinpoint Tests - 3.5L EcoBoost (272kW/370PS) (307-01B Automatic Transmission - 10-Speed Automatic Transmission - 10R80, Diagnosis and Testing).
No	GO to H5

H5 PERFORM THE GWM (GATEWAY MODULE A) SELF TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	See the GWM DTC Chart. REFER to: Communications Network (418-00 Module Communications Network) .
No	GO to H6

H6 RECHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear the SODL and SODR Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the continuous memory self-test.
- Check the SODL and SODR Diagnostic Trouble Codes (DTCs).

Is DTC U0101:00 sill present?

Yes	GO to H7
No	The system is operating correctly at this time. The DTC may have set due to high network traffic, or an intermittent fault condition.

H7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE: *If new modules were installed prior to the DTC being set, the module configuration can be incorrectly set during the PMI, or the PMI may not have been carried out.*

- CHECK the vehicle service history for recent service actions related to the TCM, SODL, SODR or GWM. If recent service history is found:
  - verify correct replacement module was installed
    - HVBOM may be used to verify correct part fitment
  - verify the configuration of replacement module was correct
    - re-configure module using as-built data if prior configuration is suspect
  - verify the module was not obtained from a like vehicle and installed into customer vehicle
    - return the swapped module to source vehicle and obtain new replacement module
    - if a new replacement module is installed, PERFORM PMI using as-built data
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom present?

Yes	GO to H8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures, or incorrect module configuration.

H8 CHECK FOR CORRECT TCM (TRANSMISSION CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the TCM connectors 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 TCM connectors 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 TSB addresses this concern, INSTALL a new TCM. REFER to: Transmission Control Module (TCM) - 3.0L Power Stroke Diesel/3.5L EcoBoost (272kW/370PS) (307-01B Automatic Transmission - 10-Speed Automatic Transmission - 10R80, 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.

DTC U0100:00, DTC U0101:00

Refer to Wiring Diagrams Cell 14 for schematic and connector information.

Normal Operation and Fault Conditions

The SODL and SODR communicate with the PCM through the GWM. The TCM is contained inside the PCM and cannot be serviced separately.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0100:00	Lost Communication with ECM/PCM "A": No Sub Type Information	A continuous memory DTC that sets in the SODL and SODR when messages received from the PCM over the HS-CAN1 through the GWM are missing for 2 seconds or more.
U0101:00	Lost Communication with TCM: No Sub Type Information	

Possible Causes

- Communication network concern
- GWM concern
- SODL concern
- SODR concern
- PCM

PINPOINT TEST I : U0100:00, DTC (DIAGNOSTIC TROUBLE CODE) U0101:00

I1 VERIFY THE CUSTOMER'S CONCERN

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

Is an observable symptom present?

Yes	GO to I2
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.

I2 VERIFY THE SCAN TOOL COMMUNICATES WITH THE PCM (POWERTRAIN CONTROL MODULE)

- Connect a diagnostic scan tool.
- Check that a vehicle session can be established using the diagnostic scan tool.

Can a vehicle session be established?

Yes	GO to I3
No	See the Symptom Chart: Communication Network. REFER to: Communications Network (418-00 Module Communications Network) .

I3 PERFORM THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) SELF-TEST

- Using a diagnostic scan tool, perform the SODL and SODR self-test.
- Clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the SODL and SODR self-test.

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to SODL and SODR DTC chart in this section.
No	GO to I4

I4 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). See Electronic Engine Control, PCM DTC Chart. (Electronic Engine Control) Refer to the appropriate section in Group 303 for the procedure.
No	GO to I5

I5 PERFORM THE GWM (GATEWAY MODULE A) SELF TEST

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	See the GWM DTC Chart. REFER to: Communications Network (418-00 Module Communications Network) .
No	GO to I6

I6 RECHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear the SODL and SODR Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the continuous memory self-test.
- Check the SODL and SODR Diagnostic Trouble Codes (DTCs).

Is DTC U0100:00 or U0101:00 sill present?

Yes	GO to I7
No	The system is operating correctly at this time. The DTC may have set due to high network traffic, or an intermittent fault condition.

I7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE: *If new modules were installed prior to the DTC being set, the module configuration can be incorrectly set during the PMI, or the PMI may not have been carried out.*

- CHECK the vehicle service history for recent service actions related to the PCM, SODL, SODR or GWM. If recent service history is found:
  - verify correct replacement module was installed
    - HVBOM may be used to verify correct part fitment
  - verify the configuration of replacement module was correct
    - re-configure module using as-built data if prior configuration is suspect
  - verify the module was not obtained from a like vehicle and installed into customer vehicle
    - return the swapped module to source vehicle and obtain new replacement module
    - if a new replacement module is installed, PERFORM PMI using as-built data
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom present?

Yes	GO to I8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures, or incorrect module configuration.

I8 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF
- Disconnect and inspect the PCM 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 PCM 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 TSB addresses this concern, INSTALL a new PCM. Refer to the appropriate section in Group 303 for the procedure.
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.

DTC U0146:00

Refer to Wiring Diagrams Cell 14 for schematic and connector information.

Normal Operation and Fault Conditions

The SODL and SODR communicate with the GWM through the MS-CAN.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions

U0146:00	Lost Communication with Gateway "A": No Sub Type Information	A continuous memory DTC that sets in the SODL and SODR when messages received through the GWM are missing for 2 seconds or more.

Possible Causes

- Communication network concern
- SODL concern
- SODR concern
- GWM

PINPOINT TEST J : U0146:00

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

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

Does the GWM pass the network test?

Yes	GO to J3
No	See the Symptom Chart: Communication Network. REFER to: Communications Network (418-00 Module Communications Network) .

J3 PERFORM THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) SELF-TEST

- Using a diagnostic scan tool, perform the SODL and SODR self-test.
- Clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the SODL and SODR self-test.

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to the SODL and SODR DTC chart in this section.
No	GO to J4

J4 PERFORM THE GWM (GATEWAY MODULE A) SELF-TEST

- Using a diagnostic scan tool, check the GWM Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	See the GWM DTC Chart. REFER to: Communications Network (418-00 Module Communications Network) .
No	GO to J5

J5 RECHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) AND SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear the SODL and SODR Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the continuous memory self-test.
- Check the SODL or SODR Diagnostic Trouble Codes (DTCs).

Is DTC U0146:00 still present?

Yes	GO to J6
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.

J6 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE: *If new modules were installed prior to the DTC being set, the module configuration can be incorrectly set during the PMI, or the PMI may not have been carried out.*

- CHECK the vehicle service history for recent service actions related to the GWM, SODL or SODR. If recent service history is found:
  - verify correct replacement module was installed
    - HVBOM may be used to verify correct part fitment
  - verify the configuration of replacement module was correct
    - re-configure module using as-built data if prior configuration is suspect
  - verify the module was not obtained from a like vehicle and installed into customer vehicle
    - return the swapped module to source vehicle and obtain new replacement module
    - if a new replacement module is installed, PERFORM PMI using as-built data
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to J7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

J7 CHECK FOR CORRECT GWM (GATEWAY MODULE A) OPERATION

- Ignition OFF.
- Disconnect and inspect the GWM and all 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 GWM and all 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 TSB addresses 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. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

DTC U0199:00

Refer to Wiring Diagrams Cell 14 for schematic and connector information.

Normal Operation and Fault Conditions

The SODL communicates with the DDM through the MS-CAN.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0199:00	Lost Communication With "Door Control Module A": No Sub Type Information	A continuous memory DTC that sets in the SODL when expected messages from the DDM are missing for 2 seconds or more.

Possible Causes

- Communication network concern
- SODL concern
- DDM

PINPOINT TEST K : DTC (DIAGNOSTIC TROUBLE CODE) U0199:00

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 DDM pass the network test?

Yes	GO to K3
No	See the Symptom Chart: Communication Network. REFER to: Communications Network (418-00 Module Communications Network) .

K3 PERFORM THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) SELF-TEST

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

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to the SODL and SODR DTC chart in this section.
No	GO to K4

K4 PERFORM THE DDM (DRIVER DOOR MODULE) SELF-TEST

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

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). See the DTC Chart: DDM. REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).
No	GO to K5

K5 RECHECK THE SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear the SODL Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the continuous memory self-test.
- Check the SODL Diagnostic Trouble Codes (DTCs).

Is DTC U0199:00 still present?

Yes	GO to K6
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.

K6 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE: *If new modules were installed prior to the DTC being set, the module configuration can be incorrectly set during the PMI, or the PMI may not have been carried out.*

- CHECK the vehicle service history for recent service actions related to the DDM or SODL. If recent service history is found:
  - verify correct replacement module was installed
    - HVBOM may be used to verify correct part fitment
  - verify the configuration of replacement module was correct
    - re-configure module using as-built data if prior configuration is suspect
  - verify the module was not obtained from a like vehicle and installed into customer vehicle
    - return the swapped module to source vehicle and obtain new replacement module
    - if a new replacement module is installed, PERFORM PMI using as-built data
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to K7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

K7 CHECK FOR CORRECT DDM (DRIVER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all DDM connectors 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 DDM connectors 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 DDM. REFER to: Driver Door Module (DDM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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.

DTC U0200:00

Refer to Wiring Diagrams Cell 14 for schematic and connector information.

Normal Operation and Fault Conditions

The SODR communicates with the PDM through the MS-CAN.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0200:00	Lost Communication with Gateway "A": No Sub Type Information	A continuous memory DTC that sets in the SODR when expected messages from the PDM are missing for 2 seconds or more.

Possible Causes

- Communication network concern
- SODR concern
- PDM

PINPOINT TEST L : DTC (DIAGNOSTIC TROUBLE CODE) U0200:00

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 PDM pass the network test?

Yes	GO to L3
No	See the Symptom Chart: Communication Network. REFER to: Communications Network (418-00 Module Communications Network) .

L3 PERFORM THE SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) SELF-TEST

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

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to the SODL and SODR DTC chart in this section.
No	GO to L4

L4 PERFORM THE PDM (PASSENGER DOOR MODULE) SELF-TEST

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

Are any non-network Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). See the DTC Chart: PDM. REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).
No	GO to L5

L5 RECHECK THE SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear the SODR Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, perform the continuous memory self-test.
- Check the SODR Diagnostic Trouble Codes (DTCs).

Is DTC U0200:00 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 OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE: *If new modules were installed prior to the DTC being set, the module configuration can be incorrectly set during the PMI, or the PMI may not have been carried out.*

- CHECK the vehicle service history for recent service actions related to the PDM or SODR. If recent service history is found:
  - verify correct replacement module was installed
    - HVBOM may be used to verify correct part fitment
  - verify the configuration of replacement module was correct
    - re-configure module using as-built data if prior configuration is suspect
  - verify the module was not obtained from a like vehicle and installed into customer vehicle
    - return the swapped module to source vehicle and obtain new replacement module
    - if a new replacement module is installed, PERFORM PMI using as-built data
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to L7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

L7 CHECK FOR CORRECT PDM (PASSENGER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the PDM connector 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 PDM connector and related in-line connectors. Make sure the connectors 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 PDM. REFER to: Passenger Door Module (PDM) (419-10 Multifunction Electronic Modules, Removal and Installation).
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.