

Information and Entertainment System

DTC Charts

ACM DTC Chart

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).

DTC	Description	Action
B1142:27	Ignition Status 1: Signal Rate of Change Above Threshold	GO to Pinpoint Test E
B1A01:01	Speaker #1: General Electrical Failure	GO to Pinpoint Test H
B1A01:11	Speaker #1: Circuit Short To Ground	GO to Pinpoint Test H
B1A01:12	Speaker #1: Circuit Short To Battery	GO to Pinpoint Test H
B1A01:13	Speaker #1: Circuit Open	GO to Pinpoint Test H
B1A02:01	Speaker #2: General Electrical Failure	GO to Pinpoint Test H
B1A02:11	Speaker #2: Circuit Short To Ground	GO to Pinpoint Test H
B1A02:12	Speaker #2: Circuit Short To Battery	GO to Pinpoint Test H
B1A02:13	Speaker #2: Circuit Open	GO to Pinpoint Test H
B1A03:01	Speaker #3: General Electrical Failure	GO to Pinpoint Test H
B1A03:11	Speaker #3: Circuit Short To Ground	GO to Pinpoint Test H
B1A03:12	Speaker #3: Circuit Short To Battery	GO to Pinpoint Test H
B1A03:13	Speaker #3: Circuit Open	GO to Pinpoint Test H
B1A04:01	Speaker #4: General Electrical Failure	GO to Pinpoint Test H
B1A04:11	Speaker #4: Circuit Short To Ground	GO to Pinpoint Test H
B1A04:12	Speaker #4: Circuit Short To Battery	GO to Pinpoint Test H
B1A04:13	Speaker #4: Circuit Open	GO to Pinpoint Test H

B1A05:02	Speaker #5: General Signal Failure	GO to Pinpoint Test I
B1A06:01	Speaker #6: General Electrical Failure	GO to Pinpoint Test H
B1A06:02	Speaker #6: General Signal Failure	GO to Pinpoint Test H
B1A56:21	Antenna: Signal Amplitude < Minimum	This test is used for end of line or repair bay testing at the Ford plant. The running and passing of this test depends on local radio stations. If no local station is broadcasting on the required frequency, the test fails.
B1A89:11	Satellite Antenna: Circuit Short To Ground	- For a satellite radio concern, GO to Pinpoint Test B - For a SIRIUS Travel Link™ concern, GO to Pinpoint Test T
B1A89:13	Satellite Antenna: Circuit Open	- For a satellite radio concern, GO to Pinpoint Test B - For a SIRIUS Travel Link™ concern, GO to Pinpoint Test T
B1D19:49	Compact Disc Unit: Internal Electronic Failure	GO to Pinpoint Test J
B1D19:4B	Compact Disc Unit: Over Temperature	GO to Pinpoint Test J
U0100:00	Lost Communication With ECM/PCM "A": No Sub Type Information	GO to Pinpoint Test X
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test Z
U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	GO to Pinpoint Test AB
U0237:00	Lost Communication With Digital Audio Control Module "C": No Sub Type Information	GO to Pinpoint Test AI
U0253:00	Lost Communication With Accessory Protocol Interface Module: No Sub Type Information	GO to Pinpoint Test AL
U0256:00	Lost Communication With Front Controls Interface Module "A": No Sub Type Information	GO to Pinpoint Test AM
U201A:51	Control Module Main Calibration Data: Not Programmed	This DTC sets due to an incorrect or incomplete ACM configuration. Using a diagnostic scan tool, CARRY OUT the ACM programming procedure using as-built data.
U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC sets due to an incorrect or incomplete ACM configuration. Using a diagnostic scan tool, CARRY OUT the ACM programming procedure using as-built data.
U2101:00	Control Module Configuration Incompatible: No Sub Type Information	This DTC sets due to an incorrect or incomplete ACM configuration. Using a diagnostic scan tool, CARRY OUT the ACM programming procedure using as-built data.

U3000:41	Control Module: General Checksum Failure	CLEAR the DTC. WAIT at least 10 seconds. REPEAT the self-test. If the DTC is retrieved again, INSTALL a new ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3000:42	Control Module: General Memory Failure	CLEAR the DTC. WAIT at least 10 seconds. REPEAT the self-test. If the DTC is retrieved again, INSTALL a new ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3000:96	Control Module: Component Internal Failure	CLEAR the DTC. WAIT at least 10 seconds. REPEAT the self-test. If the DTC is retrieved again, INSTALL a new ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test AN
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test AO

APIM DTC Chart

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).

DTC	Description	Action
B108E:01	Display: General Electrical Failure	GO to Pinpoint Test M
B108E:02	Display: General Signal Failure	GO to Pinpoint Test M
B108E:4B	Display: Over Temperature	GO to Pinpoint Test M
B108E:87	Display: Missing Message	GO to Pinpoint Test M
B119F:01	GPS Antenna: General Electrical Failure	GO to Pinpoint Test S
B119F:13	GPS Antenna: Circuit Open	GO to Pinpoint Test S
B1252:11	USB Port: Circuit Short To Ground	GO to Pinpoint Test P
B1252:13	USB Port: Circuit Open	GO to Pinpoint Test P
B12B8:11	USB Port #2: Circuit Short To Ground	DIAGNOSE any symptoms present. If no symptom is present, DISREGARD this DTC.

B14FD:11	External Media Control Connectivity: Circuit Short To Ground	GO to Pinpoint Test P
B1D79:11	Microphone Input: Circuit Short To Ground	GO to Pinpoint Test O
B1D79:12	Microphone Input: Circuit Short To Battery	GO to Pinpoint Test O
B1D79:13	Microphone Input: Circuit Open	GO to Pinpoint Test O
C1001:01	Vision System Camera: General Electrical Failure	REFER to: Parking Aid (413-13 Parking Aid - Vehicles With: Parking Aid Camera) .
U0121:00	Lost Communication With Anti-Lock Brake System (ABS) Control Module: No Sub Type Information	GO to Pinpoint Test Y
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test Z
U0151:00	Lost Communication With Restraints Control Module: No Sub Type Information	GO to Pinpoint Test AA
U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	GO to Pinpoint Test AB
U0159:00	Lost Communication With Parking Assist Control Module "A": No Sub Type Information	GO to Pinpoint Test AC
U0184:00	Lost Communication With Radio: No Sub Type Information	GO to Pinpoint Test AD
U0198:00	Lost Communication With Telematic Control Module: No Sub Type Information	GO to Pinpoint Test AE
U0208:00	Lost Communication With "Seat Control Module A": No Sub Type Information	GO to Pinpoint Test AF
U0232:00	Lost Communication With Side Obstacle Detection Control Module - Left: No Sub Type Information	GO to Pinpoint Test AG
U0233:00	Lost Communication With Side Obstacle Detection Control Module - Right: No Sub Type Information	GO to Pinpoint Test AH
U023B:00	Lost Communication With Image Processing Module B	REFER to: Parking Aid (413-13 Parking Aid - Vehicles With: Parking Aid Camera) .
U024B:00	Lost Communication with Seat Control Module "G": No Sub Type Information	GO to Pinpoint Test AJ
U024C:00	Lost Communication with Seat Control Module "H": No Sub Type Information	GO to Pinpoint Test AK
U0256:00	Lost Communication With Front Controls Interface Module "A": No Sub Type Information	GO to Pinpoint Test AM

U0415:00	Invalid Data Received From Anti-Lock Brake System (ABS) Control Module: No Sub Type Information	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the ABS module, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the ABS module. REFER to: Anti-Lock Brake System (ABS) and Stability Control (206-09 Anti-Lock Brake System (ABS) and Stability Control) .
U0422:00	Invalid Data Received From Body Control Module: No Sub Type Information	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the BCM, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules) .
U0423:00	Invalid Data Received From Instrument Panel Cluster Control Module: No Sub Type Information	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the IPC, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the IPC. REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).
U0452:00	Invalid Data Received From Restraints Control Module: No Sub Type Information	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the RCM, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the RCM. REFER to: Airbag Supplemental Restraint System (SRS) - Raptor (501-20B Supplemental Restraint System, Diagnosis and Testing). REFER to: Airbag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).
U1A00:87	Private Communication Network: Missing Message	GO to Pinpoint Test T
U2017:45	Control Module Software #2: Program Memory Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (APIM).
U2017:51	Control Module Software #2: Not Programmed	This DTC sets due to an incorrect or incomplete APIM configuration. Using a diagnostic scan tool, CARRY OUT the APIM programming procedure. REFER to: SYNC Module [APIM] Programming (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures).

U2017:52	Control Module Software #2: Not Activated	This DTC sets due to an incorrect or incomplete APIM configuration. Using a diagnostic scan tool, CARRY OUT the APIM programming procedure. REFER to: SYNC Module [APIM] Programming (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures).
U2017:54	Control Module Software #2: Missing Calibration	This DTC sets due to an incorrect or incomplete APIM configuration. Using a diagnostic scan tool, CARRY OUT the APIM programming procedure. REFER to: SYNC Module [APIM] Programming (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures).
U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC sets due to an incorrect or incomplete APIM configuration. Using a diagnostic scan tool, CARRY OUT the APIM programming procedure. REFER to: SYNC Module [APIM] Programming (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures).
U2101:00	Control Module Configuration Incompatible: No Sub Type Information	This DTC sets due to an incorrect or incomplete APIM configuration. Using a diagnostic scan tool, CARRY OUT the APIM programming procedure. REFER to: SYNC Module [APIM] Programming (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures).
U3000:04	Control Module: System Internal Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (APIM).
U3000:09	Control Module: Component Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (APIM).
U3000:41	Control Module: General Checksum Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (APIM).
U3000:88	Control Module: Bus Off	NOTE: <i>The module was unable to communicate on the network at a point in time. The fault is not currently present since the module had to communicate with the diagnostic scan tool to report this DTC.</i> INSPECT for damaged or corroded wiring at the APIM. Refer to Wiring Diagrams Cell 14 for schematic and connector information. CLEAR the DTC. WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (APIM).
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test AN
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test AO

DACMC DTC Chart

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).

DTC	Description	Action
U0100:00	Lost Communication With ECM/PCM "A": No Sub Type Information	GO to Pinpoint Test X
U0121:00	Lost Communication With Anti-Lock Brake System (ABS) Control Module: No Sub Type Information	GO to Pinpoint Test Y
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test Z
U2024:00	Control Module Cal-Config Data: No Sub Type Information	This DTC sets due to an incorrect or incomplete DACMC configuration. Using a diagnostic scan tool, CARRY OUT the DACMC programming procedure using as-built data.
U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC sets due to an incorrect or incomplete DACMC configuration. Using a diagnostic scan tool, CARRY OUT the DACMC programming procedure using as-built data.
U2101:00	Control Module Configuration Incompatible: No Sub Type Information	This DTC sets due to an incorrect or incomplete DACMC configuration. Using a diagnostic scan tool, CARRY OUT the DACMC programming procedure using as-built data.
U3000:41	Control Module: General Checksum Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again, INSTALL a new ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3000:42	Control Module: General Memory Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again, INSTALL a new ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3000:92	Control Module: Performance or Incorrect Operation	GO to Pinpoint Test D
U3000:94	Control Module: Unexpected Operation	NOTE: <i>If an observable symptom is not present, DISREGARD this DTC.</i> GO to Pinpoint Test D
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test AN

U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test AO
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FCIM DTC Chart

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).

DTC	Description	Action
B00D5:01	Restraint System Passenger Disable Indicator: General Electrical Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (FCIM).
B1034:11	Left Front Seat Heater Element: Circuit Short To Ground	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
B1034:15	Left Front Seat Heater Element: Circuit Short To Battery or Open	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
B1036:11	Right Front Seat Heater Element: Circuit Short To Ground	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
B1036:15	Right Front Seat Heater Element: Circuit Short To Battery or Open	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
B1038:11	Left Front Seat Heater Sensor: Circuit Short To Ground	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
B1038:15	Left Front Seat Heater Sensor: Circuit Short To Battery or Open	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
B103A:11	Right Front Seat Heater Sensor: Circuit Short To Ground	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
B103A:15	Right Front Seat Heater Sensor: Circuit Short To Battery or Open	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).

B105A:12	Cabin Temperature Sensor Fan: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B105A:14	Cabin Temperature Sensor Fan: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1081:07	Left Temperature Damper Motor: Mechanical Failure	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B1081:11	Left Temperature Damper Motor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1081:12	Left Temperature Damper Motor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1081:13	Left Temperature Damper Motor: Circuit Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B1082:07	Right Temperature Damper Motor: Mechanical Failure	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1082:11	Right Temperature Damper Motor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1082:12	Right Temperature Damper Motor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1082:13	Right Temperature Damper Motor: Circuit Open	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1083:07	Recirculation Damper Motor: Mechanical Failure	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B1083:11	Recirculation Damper Motor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1083:12	Recirculation Damper Motor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1083:13	Recirculation Damper Motor: Circuit Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B1086:07	Air Distribution Damper Motor: Mechanical Failure	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1086:11	Air Distribution Damper Motor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1086:12	Air Distribution Damper Motor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B1086:13	Air Distribution Damper Motor: Circuit Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10AF:11	Blower Fan Relay: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10AF:15	Blower Fan Relay: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B3:11	Right Panel Air Discharge Temperature: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B10B3:15	Right Panel Air Discharge Temperature: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B4:11	Right Floor Air Discharge Temperature: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B4:15	Right Floor Air Discharge Temperature: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B5:11	Left Panel Air Discharge Temperature: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B10B5:15	Left Panel Air Discharge Temperature: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B6:11	Left Floor Air Discharge Temperature: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B6:15	Left Floor Air Discharge Temperature: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B8:63	Push Buttons: Circuit / Component Protection Time-Out	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (FCIM).

B10B9:12	Blower Control: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B9:14	Blower Control: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11E5:12	Left HVAC Damper Position Sensor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B11E5:14	Left HVAC Damper Position Sensor: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11E6:12	Right HVAC Damper Position Sensor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11E6:14	Right HVAC Damper Position Sensor: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11E7:12	Air Distribution Damper Position Sensor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B11E7:14	Air Distribution Damper Position Sensor: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11F0:12	Air Intake Damper Position Sensor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11F0:14	Air Intake Damper Position Sensor: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1202:01	Restraint System Passenger Enable Indicator: General Electrical Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (FCIM).

B12CA:11	Start/Stop "Eco-Start" Status Indicator: Circuit Short To Ground	REFER to the Diagnosis and Testing in the appropriate 303-06 section.
B12CA:15	Start/Stop "Eco-Start" Status Indicator: Circuit Short To Battery or Open	REFER to the Diagnosis and Testing in the appropriate 303-06 section.
B14B7:63	Snow Plow Button: Circuit / Component Protection Time-Out	REFER to: Snow Plow Package (419-10 Multifunction Electronic Modules) .
B14BF:11	Snow Plow LED: Circuit Short To Ground	REFER to: Snow Plow Package (419-10 Multifunction Electronic Modules) .
B14BF:15	Snow Plow LED: Circuit Short To Battery or Open	REFER to: Snow Plow Package (419-10 Multifunction Electronic Modules) .
B1A61:11	Cabin Temperature Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A61:15	Cabin Temperature Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A63:11	Right Solar Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B1A63:15	Right Solar Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A64:11	Left Solar Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A64:15	Left Solar Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B1A69:12	Humidity Sensor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A69:14	Humidity Sensor: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1B71:11	Evaporator Temperature Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

B1B71:15	Evaporator Temperature Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1C83:12	Rear Defog Relay: Circuit Short To Battery	REFER to: Glass, Frames and Mechanisms (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).
B1C83:14	Rear Defog Relay: Circuit Short To Ground or Open	REFER to: Glass, Frames and Mechanisms (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).
C1B14:11	Sensor Supply Voltage A: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).

C1B14:12	Sensor Supply Voltage A: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing). REFER to: Climate Control System - Raptor, Vehicles With: Dual Automatic Temperature Control (DATC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test Z
U0151:00	Lost Communication With Restraints Control Module: No Sub Type Information	GO to Pinpoint Test AA
U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	GO to Pinpoint Test AB
U0253:00	Lost Communication With Accessory Protocol Interface Module: No Sub Type Information	GO to Pinpoint Test AL
U0401:00	Invalid Data Received from ECM/PCM A: No Sub Type Information	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the RCM, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the PCM. REFER to the Diagnosis and Testing in the appropriate 303-14 section.
U0401:82	Invalid Data Received from ECM/PCM A: Alive / Sequence Counter Incorrect / Not Updated	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the RCM, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the PCM. REFER to the Diagnosis and Testing in the appropriate 303-14 section.
U0422:68	Invalid Data Received From Body Control Module: Event Information	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the BCM, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules) .

U0422:81	Invalid Data Received From Body Control Module: Invalid Serial Data Received	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the BCM, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the BCM. REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules) .
U0452:82	Invalid Data Received From Restraints Control Module: Alive / Sequence Counter Incorrect / Not Updated	NOTE: <i>If no Diagnostic Trouble Codes (DTCs) are present in the RCM, DIAGNOSE the observable symptom.</i> RETRIEVE and FOLLOW Diagnostic Trouble Codes (DTCs) present in the RCM. REFER to: Airbag Supplemental Restraint System (SRS) - Raptor (501-20B Supplemental Restraint System, Diagnosis and Testing). REFER to: Airbag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).
U1000:00	Solid State Driver Protection Active -Driver Disabled: No Sub Type Information	NOTE: <i>The FCIM has temporarily disabled a HVAC control output because an excessive current draw exists (such as a short to ground). The FCIM cannot enable the output until the cause of the short is corrected.</i> ADDRESS all other FCIM Diagnostic Trouble Codes (DTCs) first. After the cause of the concern is corrected, CLEAR the Diagnostic Trouble Codes (DTCs) and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (FCIM).
U2024:51	Control Module Cal-Config Data: Not Programmed	This DTC sets due to an incorrect or incomplete FCIM configuration. Using a diagnostic scan tool, CARRY OUT the FCIM programming procedure using as-built data.
U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC sets due to an incorrect or incomplete FCIM configuration. Using a diagnostic scan tool, CARRY OUT the FCIM programming procedure using as-built data.
U3000:41	Control Module: General Checksum Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (FCIM).
U3000:49	Control Module: Internal Electronic Failure	CLEAR the Diagnostic Trouble Codes (DTCs). WAIT at least 10 seconds and then REPEAT the self-test. If the DTC is retrieved again,   Click here to access Guided Routine (FCIM).
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test AN
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test AO

SCCM DTC Chart

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).

DTC	Description	Action
B1380:09	Steering Wheel Right Switch Pack: Component Failure	GO to Pinpoint Test L
B1380:11	Steering Wheel Right Switch Pack: Circuit Short To Ground	GO to Pinpoint Test L
B1380:17	Steering Wheel Right Switch Pack: Circuit Voltage Above Threshold	GO to Pinpoint Test L
All other Diagnostic Trouble Codes (DTCs)	—	REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components) .

TCU DTC Chart

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).

DTC	Description	Action
B116C:04	External SIM Cable/SIM Card: System Internal Failure	CLEAR the DTC. WAIT 10 seconds and then REPEAT the TCU self-test. If the DTC is retrieved again, INSTALL a new TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
B1246:11	GSM (Group System for Mobile) Antenna: Circuit Short To Ground	• If not equipped with the vehicle hotspot feature, GO to Pinpoint Test U • If equipped with the vehicle hotspot feature, GO to Pinpoint Test V
B1246:13	GSM (Group System for Mobile) Antenna: Circuit Open	• If not equipped with the vehicle hotspot feature, GO to Pinpoint Test U • If equipped with the vehicle hotspot feature, GO to Pinpoint Test V
B1D55:11	Antenna #2: Circuit Short To Ground	GO to Pinpoint Test W
B1D55:13	Antenna #2: Circuit Open	GO to Pinpoint Test W

U0100:00	Lost Communication with ECM/PCM "A": No Sub Type Information	GO to Pinpoint Test X
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test Z
U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	GO to Pinpoint Test AB
U0253:00	Lost Communication With Accessory Protocol Interface Module: No Sub Type Information	GO to Pinpoint Test AL
U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC sets due to an incorrect or incomplete TCU configuration. Using a diagnostic scan tool, CARRY OUT the TCU PMI procedure using as-built data.
U2101:00	Control Module Configuration Incompatible: No Sub Type Information	This DTC sets due to an incorrect or incomplete TCU configuration. Using a diagnostic scan tool, CARRY OUT the TCU PMI procedure using as-built data.
U3000:04	Control Module: System Internal Failure	CLEAR the DTC. WAIT 10 seconds and then REPEAT the TCU self-test. If the DTC is retrieved again, INSTALL a new TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3000:41	Control Module: General Checksum Failure	CLEAR the DTC. WAIT 10 seconds and then REPEAT the TCU self-test. If the DTC is retrieved again, INSTALL a new TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3000:42	Control Module: General Memory Failure	CLEAR the DTC. WAIT 10 seconds and then REPEAT the TCU self-test. If the DTC is retrieved again, INSTALL a new TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3000:52	Control Module: Not Activated	CLEAR the DTC. WAIT 10 seconds and then REPEAT the TCU self-test. If the DTC is retrieved again, INSTALL a new TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3000:56	Control Module: Invalid / Incompatible Configuration	CLEAR the DTC. WAIT 10 seconds and then REPEAT the TCU self-test. If the DTC is retrieved again, INSTALL a new TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test AN
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test AO

Symptom Charts

Symptom Chart: Radio

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).

Condition	Possible Sources	Actions
A module does not respond to the diagnostic scan tool	Refer to the Pinpoint Test	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
The AM radio is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
The FM radio is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
Poor AM reception	Refer to the Pinpoint Test	GO to Pinpoint Test A
Poor FM reception	Refer to the Pinpoint Test	GO to Pinpoint Test A
Continuous seek or scan in AM/ FM	Refer to the Pinpoint Test	GO to Pinpoint Test A
Poor satellite radio reception	Refer to the Pinpoint Test	GO to Pinpoint Test B
Poor sound quality or no sound while in satellite radio mode - all other functions operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test B
The satellite radio is inoperative or does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test B
The audio system does not operate correctly from the FCIM	Refer to the Pinpoint Test	GO to Pinpoint Test K
One or more audio steering wheel control button is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test L
The CD player is inoperative or does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test J
The FCIM illumination is inoperative or does not dim	Refer to the Pinpoint Test	REFER to: Instrument Panel and Interior Switches Illumination (413-00 Instrument Panel and Interior Switches Illumination, Diagnosis and Testing).

Symptom Chart: Sound Quality

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).

Condition	Possible Sources	Actions
A loud popping sound is heard from the speakers when cycling the ignition	Refer to the Pinpoint Test	GO to Pinpoint Test C
A low frequency noise is heard from the speakers (3.5L GTDI only)	Refer to the Pinpoint Test	GO to Pinpoint Test D
No sound from all speakers	Refer to the Pinpoint Test	GO to Pinpoint Test E
The left speakers are inoperative when using Bluetooth and USB hub SYNC features	Refer to the Pinpoint Test	GO to Pinpoint Test N
The right speakers are inoperative when using Bluetooth and USB hub SYNC features	Refer to the Pinpoint Test	GO to Pinpoint Test N
Poor sound quality or distorted sound from one or more speakers (not all speakers)	Refer to the Pinpoint Test	GO to Pinpoint Test F
The speed compensated volume does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test G
The left front door speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test H
The left A-pillar tweeter speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test H
The right front door speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test H
The right A-pillar tweeter speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test H
The center instrument panel speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test H
The left rear door speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test H
The right rear door speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test H
The subwoofer speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test I

Symptom Chart: Touchscreen Display

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).

Condition	Possible Sources	Actions
The FDIM is blank or black	Refer to the Pinpoint Test	GO to Pinpoint Test M
The FDIM is not responsive to touch	Refer to the Pinpoint Test	GO to Pinpoint Test M
The FDIM is slow to respond to touch	Refer to the Pinpoint Test	GO to Pinpoint Test M

The image displayed on the FDIM is incorrect, the image color is incorrect, or the image is distorted, flickering, or unclear	Refer to the Pinpoint Test	GO to Pinpoint Test M
The image on the FDIM is locked or frozen	Refer to the Pinpoint Test	GO to Pinpoint Test M
The FDIM changes brightness	• Illumination setting • Illumination system concern	• CHECK the operation of the backlighting system and make sure it operates correctly. ◦ If the backlighting system operates correctly, REVIEW the brightness settings in the IPC message center, the instrument panel illumination setting and the display brightness settings within the display menu. REVIEW the available settings with the vehicle owner and ADJUST the settings as necessary. ◦ If the backlighting system does not operate correctly, REFER to: Instrument Panel and Interior Switches Illumination (413-00 Instrument Panel and Interior Switches Illumination, Diagnosis and Testing).

Symptom Chart: SYNC Features/Media/Phone

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).

Condition	Possible Sources	Actions
The SYNC system does not operate correctly from the FCIM	Refer to the Pinpoint Test	GO to Pinpoint Test K
One or more SYNC steering wheel control button is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test L
The left speakers are inoperative when using Bluetooth and USB hub SYNC features	Refer to the Pinpoint Test	GO to Pinpoint Test N
The right speakers are inoperative when using Bluetooth and USB hub SYNC features	Refer to the Pinpoint Test	GO to Pinpoint Test N
The SYNC system audible prompts are inoperative or do not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test N
During a phone call, no incoming audio is heard in the vehicle	Refer to the Pinpoint Test	GO to Pinpoint Test N

Poor sound quality, distorted, or no sound while in SYNC mode	Refer to the Pinpoint Test	GO to Pinpoint Test N
Voice recognition is inoperative or outgoing audio is not transmitted during a phone call	Refer to the Pinpoint Test	GO to Pinpoint Test O
An individual Bluetooth device or feature is inoperative	Device compatibility	NOTE: <i>If an individual Bluetooth device is able to pair with the SYNC system, there are no concerns with the APIM.</i> INSTRUCT the customer to review the device compatibility list. REFER to the appropriate Ford authorized website to view a list of compatible devices and features. Not all phone features are available through the SYNC system. This is normal operation.
Unable to pair Bluetooth device or the Bluetooth functionality is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test Q
A USB device is not recognized by the SYNC system or audio files on a USB device are not found using the SYNC system from one or both USB ports	Refer to the Pinpoint Test	GO to Pinpoint Test P
The 911 Assist or Emergency Assistance Not Operational message displays	Refer to the Pinpoint Test	GO to Pinpoint Test R
SYNC AppLink is inoperative or does not operate correctly	Refer to the Pinpoint Test	NOTE: <i>AppLink is only possible when Android Auto™ and Apple CarPlay™ are disabled.</i> - INSTRUCT the vehicle customer to review the mobile device platform, application, and application version compatibility list. REFER to the appropriate Ford authorized website to view a list of compatible devices and features. It is normal operation for incompatible mobile device platforms, applications, and application versions to be unavailable through SYNC AppLink. - If the mobile device platform, application, and application version are compatible, and the device is connected through Bluetooth only, GO to Pinpoint Test Q - If the mobile device platform, application, and application version are compatible, and the device is connected through Bluetooth and the USB port, GO to Pinpoint Test P
SYNC Connect is inoperative or does not operate correctly (vehicles not equipped with the vehicle Wi-Fi® hotspot feature)	Refer to the Pinpoint Test	GO to Pinpoint Test U

SYNC Connect is inoperative or does not operate correctly (vehicles equipped with the vehicle Wi-Fi® hotspot feature)	Refer to the Pinpoint Test	GO to Pinpoint Test V
Unable to discover or log onto a Wi-Fi® connection	Refer to the Owner Literature	INSTRUCT the customer to refer to “Wi-Fi Issues” in the SYNC Troubleshooting section of the Owner Literature.
The Wi-Fi® connection does not operate correctly (vehicles not equipped with the vehicle Wi-Fi® hotspot feature)	Refer to the Owner Literature	INSTRUCT the customer to refer to “Wi-Fi Issues” in the SYNC Troubleshooting section of the Owner Literature.
The vehicle Wi-Fi® hotspot feature is experiencing poor data speed	- Refer to the Pinpoint Test - Refer to the Owner Literature	- CARRY OUT the TCU self-test. - If any Diagnostic Trouble Codes (DTCs) are present, REFER to the TCU DTC Chart in this section. - If no Diagnostic Trouble Codes (DTCs) are present, INSTRUCT the customer to refer to “Wi-Fi Issues” in the SYNC Troubleshooting section of the Owner Literature.
The vehicle Wi-Fi® hotspot feature is inoperative or experiencing poor data speed	Refer to the Pinpoint Test	GO to Pinpoint Test W

Symptom Chart: Navigation/Compass

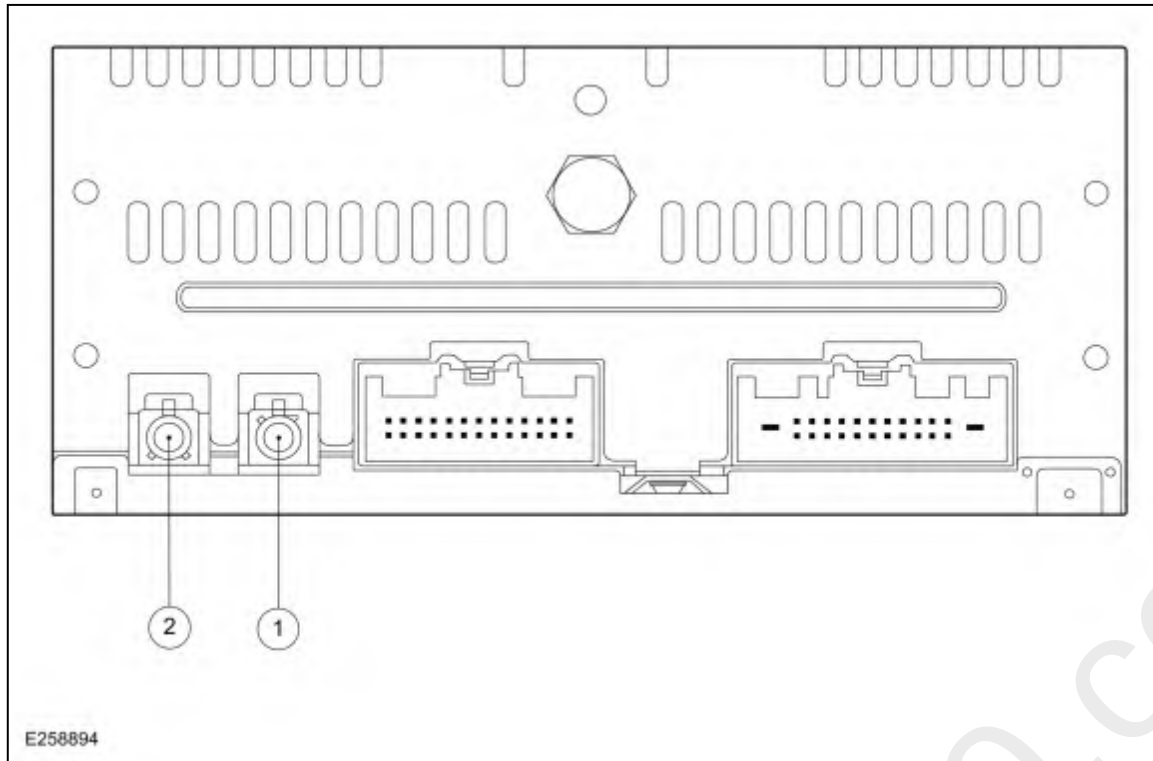
Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.
REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

Condition	Possible Sources	Actions
The navigation is inoperative or does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test S
The SIRIUS Travel Link™ feature is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test T
The compass is inoperative or does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test S

Pinpoint Tests

Poor AM Or FM Reception

Refer to Wiring Diagrams Cell 133 for schematic and connector information.



Item	Part Number	Description
1	—	Audio unit antenna connection
2	—	Satellite radio connection

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

Possible Causes

- No channel found in the selected RDS category
- Generator
- Wiring, terminals, or connectors
- Ignition system
- Noise suppression equipment
- Audio unit antenna cable
- Audio unit antenna
- ACM

PINPOINT TEST A : POOR AM (AMPLITUDE MODULATION) OR FM (FREQUENCY MODULATION) RECEPTION

NOTE: Prior to carrying out diagnostics, it may be beneficial to determine the cause using the Antenna Kit Tool 420-525 (Rotunda part number NUD420-525) or equivalent tool.

A1 CHECK THE AUDIO SYSTEM RECEPTION WITH THE ENGINE RUNNING

- Operate the audio system in AM/ FM mode.
- Check the reception with the engine running and with the engine off.

Does the poor reception only occur with the engine running?

Yes	GO to A2
No	GO to A4

A2 CHECK THE GENERATOR

- Ignition OFF.
 - **NOTICE: Do not allow the generator B+ cable terminal to make contact with a conductive surface. Failure to follow this instruction may result in personal injury or damage to the vehicle.**
- Disconnect the generator B+ cable.
- Start the engine.
 - Operate the audio system in AM/ FM mode.

Is the reception OK?

Yes	INSTALL a new generator. REFER to the appropriate Removal and Installation procedure in section 414-02.
No	GO to A3

A3 CHECK THE IGNITION CIRCUITS

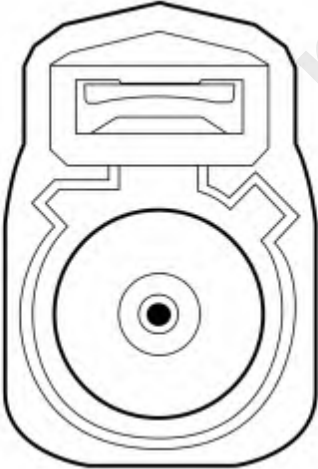
- Ignition OFF.
- Connect the generator B+ cable.
- Inspect the engine compartment and make sure all ignition coils are correctly and securely connected, and no cracks are visible in the coil housings.
- Inspect all the wiring harnesses and connectors for damaged insulation and loose or broken conditions.

Are the ignition components OK?

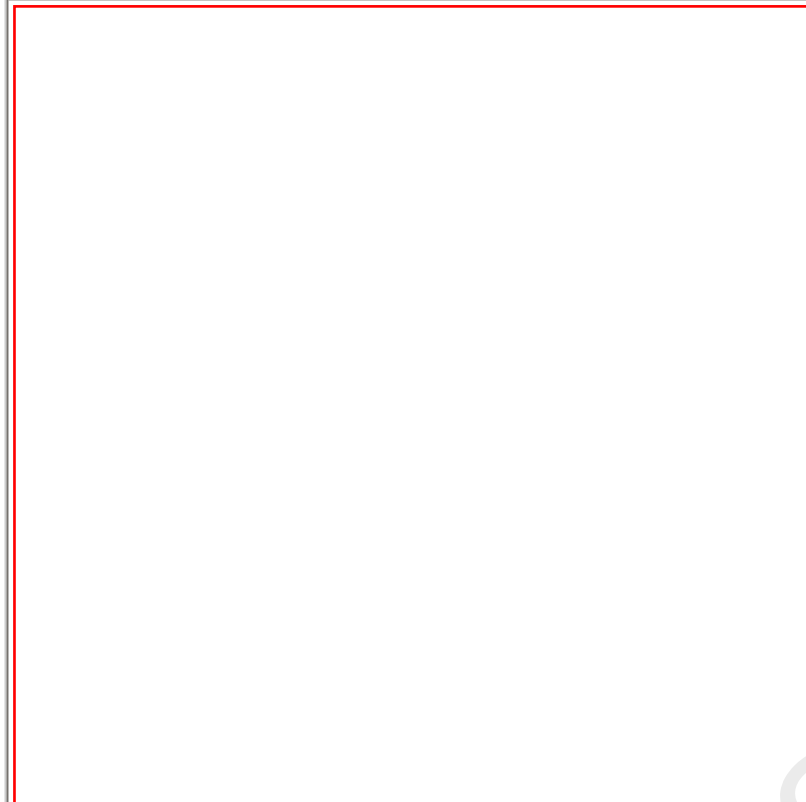
Yes	USE a jumper cable to ground various parts of the vehicle to the frame (for example: engine, fenders, quarter panels, stone deflectors, air cleaner, and body sheet metal). When the noise is eliminated, PROVIDE a permanent ground where necessary.
No	REPAIR the ignition system as necessary.

A4 CHECK THE AUDIO UNIT ANTENNA CABLE CORE AND SHIELD FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect the audio unit antenna cable at the ACM.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E260212		Ground

Audio unit antenna cable core at the ACM



Ground

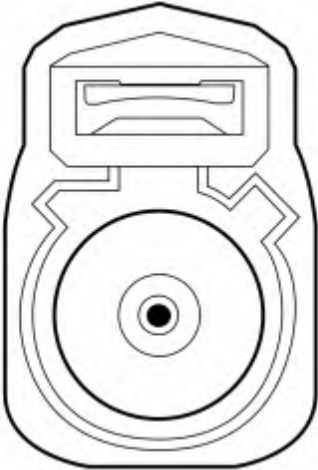
Audio unit antenna cable shield at the ACM

Is any voltage present?

Yes	IDENTIFY the cause of the short to voltage and REPAIR or INSTALL a new audio unit antenna cable or audio unit antenna in question. REFER to: Audio Unit Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). REFER to: Audio Unit Antenna (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to A5

A5 CHECK THE AUDIO UNIT ANTENNA AND CABLE CORE FOR A SHORT TO GROUND CONDITION

- Ignition OFF.
- Measure:

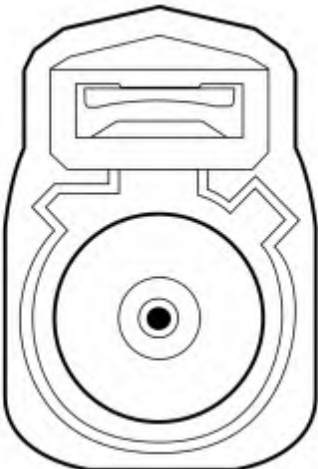
Positive Lead	Measurement / Action	Negative Lead
 E260212 Audio unit antenna cable core at the ACM		Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to A7
No	GO to A6

A6 CHECK THE AUDIO UNIT ANTENNA CABLE FOR A SHORT TO GROUND

- Disconnect the audio unit antenna cable to the audio unit antenna connection located behind the glove compartment.
- Measure:

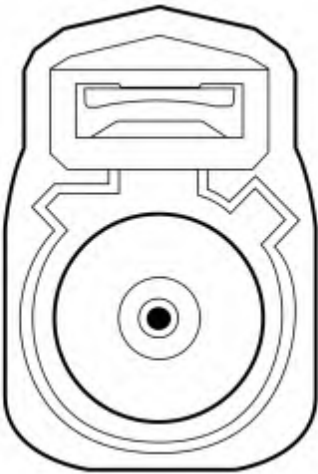
Positive Lead	Measurement / Action	Negative Lead
 E260212 Audio unit antenna cable core at the ACM		Ground

Is the resistance greater than 10,000 ohms?

Yes	INSTALL a new audio unit antenna. REFER to: Audio Unit Antenna (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	INSTALL a new audio unit antenna cable. REFER to: Audio Unit Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

A7 CHECK THE AUDIO UNIT ANTENNA CABLE CORE AND SHIELD FOR A SHORT TOGETHER CONDITION

- Measure:

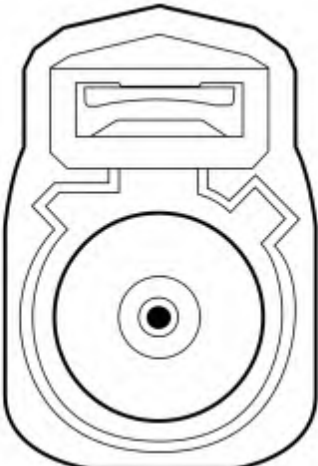
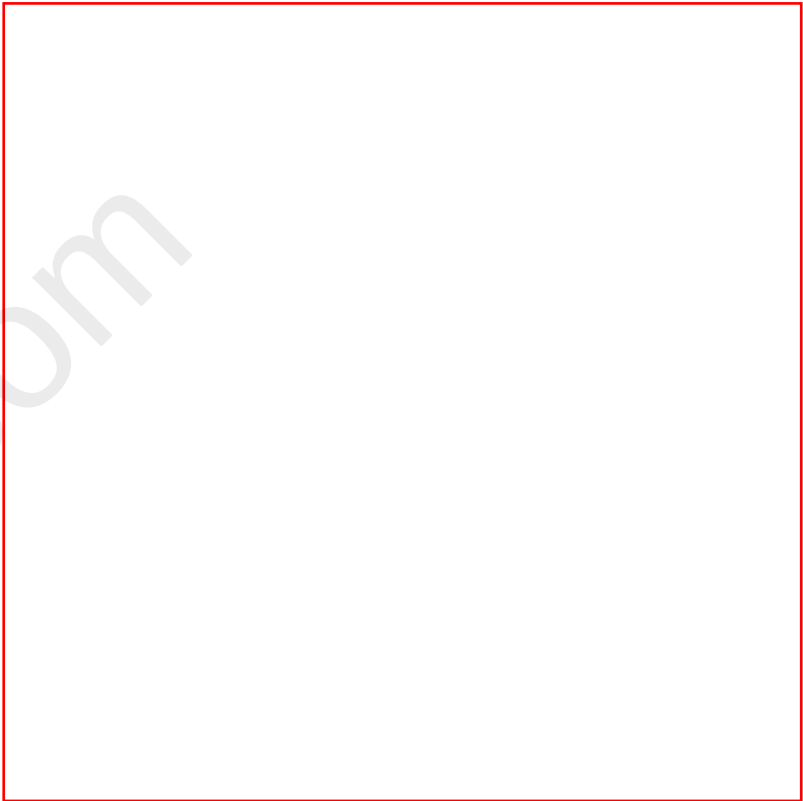
Positive Lead	Measurement / Action	Negative Lead
 E260212 Audio unit antenna cable core at the ACM		Audio unit antenna cable shield at the ACM

Is the resistance greater than 10,000 ohms?

Yes	GO to A9
No	INSTALL a new audio unit antenna cable. REFER to: Audio Unit Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

A8 ISOLATE THE AUDIO UNIT ANTENNA CABLE CORE AND SHIELD FOR A SHORT TOGETHER

- Disconnect the audio unit antenna cable to the audio unit antenna connection located behind the glove compartment.
- Measure:

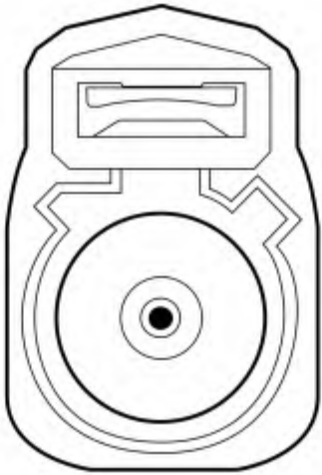
Positive Lead	Measurement / Action	Negative Lead
 E260212 Audio unit antenna cable core at the ACM		 Audio unit antenna cable shield at the ACM

Is the resistance greater than 10,000 ohms?

Yes	INSTALL a new audio unit antenna. REFER to: Audio Unit Antenna (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	INSTALL a new audio unit antenna cable. REFER to: Audio Unit Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

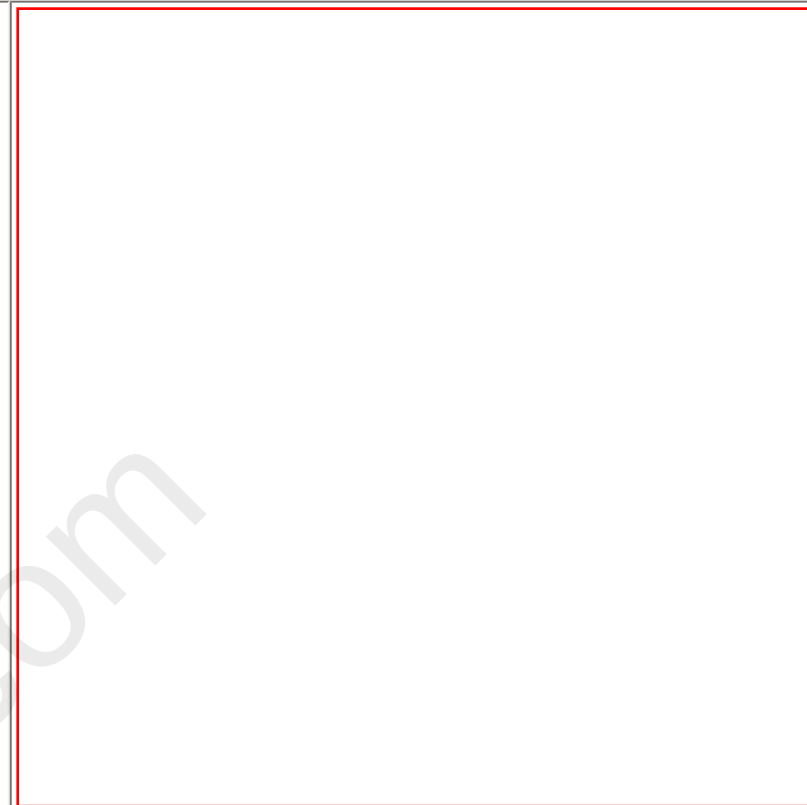
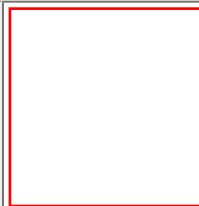
A9 CHECK THE AUDIO UNIT ANTENNA CABLE CORE AND SHIELD FOR AN OPEN

- Disconnect the audio unit antenna cable to the audio unit antenna connection located behind the glove compartment.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E260212 Audio unit antenna cable core at the ACM		Audio unit antenna cable core at the audio unit antenna connection



Audio unit antenna cable shield at the ACM



Audio unit antenna cable shield at the audio unit antenna connection

Are the resistances less than 1 ohm?

Yes	GO to A10
No	INSTALL a new audio unit antenna cable. REFER to: Audio Unit Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

A10 ISOLATE THE AUDIO UNIT ANTENNA

- Install a new audio unit antenna.
REFER to: [Audio Unit Antenna](#) (415-00D Information and Entertainment System - General Information - Vehicles With: Bang and Olufsen Audio System, Removal and Installation).
- Operate the audio system in AM/ FM mode.

Is the reception OK?

Yes	The system is operating correctly at this time. The concern was caused by the audio unit antenna.
No	GO to A11

A11 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

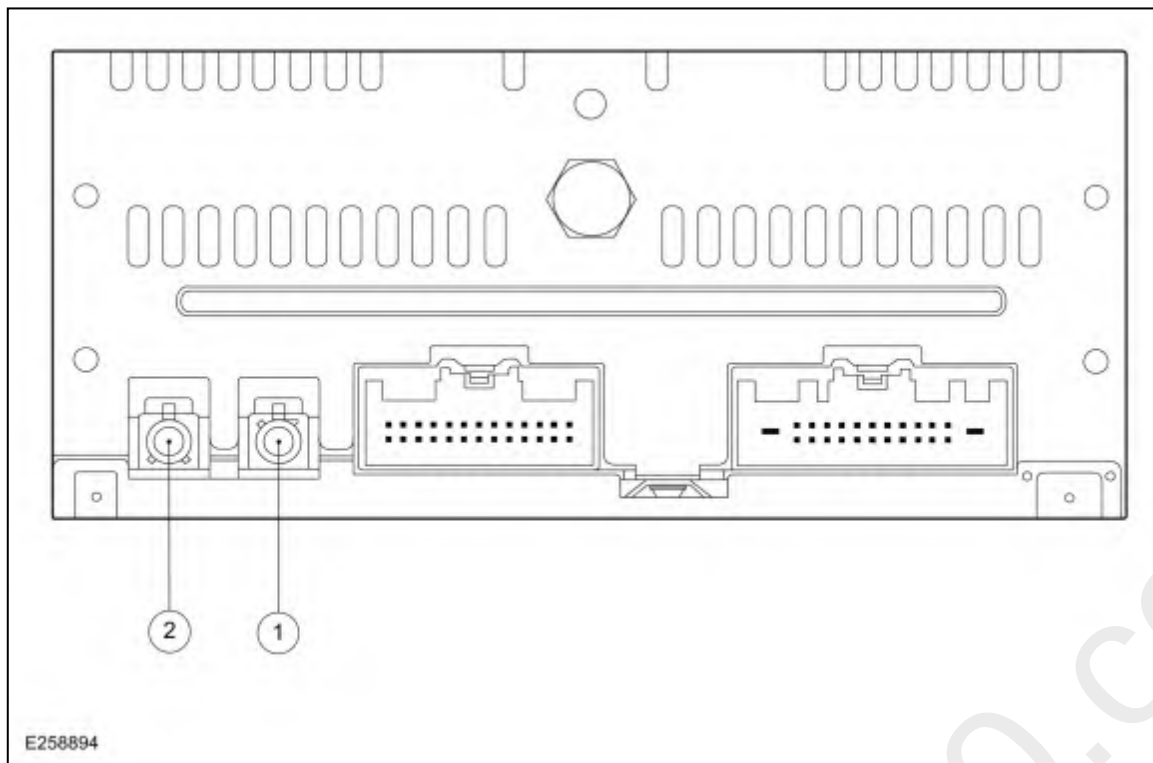
- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM connectors. Make sure they 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The Satellite Radio Is Inoperative, Has Poor Reception Or Sound Quality Or Has No Sound

Refer to Wiring Diagrams Cell 133 for schematic and connector information.



Item	Part Number	Description
1	—	Audio unit antenna connection
2	—	Satellite radio connection

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

When a satellite radio subscription is activated, the ESN of the satellite radio receiver built into the ACM is associated with the VIN.

ACM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1A89:11	Satellite Antenna: Circuit Short To Ground	Sets continuous or during the on-demand self-test when the ACM detects a short to ground from the satellite radio cable.

B1A89:13	Satellite Antenna: Circuit Open	Sets continuous or during the on-demand self-test when the ACM detects an open from the satellite radio cable.
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Possible Causes

- Expired subscription
- Obstructions in the antenna line of sight
- Incorrectly matched ESN
- Lower satellite radio antenna cable (includes GPS splitter)
- Satellite radio antenna
- ACM

PINPOINT TEST B : THE SATELLITE RADIO IS INOPERATIVE, HAS POOR RECEPTION OR SOUND QUALITY OR HAS NO SOUND

NOTE: Prior to carrying out diagnostics, it may be beneficial to determine the cause using the Antenna Kit Tool 420-525 (Rotunda part number NUD420-525) or equivalent tool.

B1 VERIFY AN ACTIVE SUBSCRIPTION

- Operate the audio system in satellite radio mode and observe the display.

Does the display indicate the subscription has expired?

Yes	The system is operating correctly. INSTRUCT the customer to contact SIRIUS to reactivate the subscription.
No	GO to B2

B2 CHECK THE RECEPTION

- Drive the vehicle to an open location free from obstacles such as tall buildings or large trees.
- Using a diagnostic scan tool, view the ACM Parameter Identifications (PIDs).
- Monitor the satellite signal strength (SAT_SIG_STR) PID.

Can a "Good," "Very Good," or "Excellent" value be obtained?

Yes	GO to B3
No	GO to B6

B3 CHECK THE SATELLITE RADIO SYSTEM FOR CORRECT OPERATION

- Operate multiple channels with the audio system in satellite radio mode.

Does the satellite radio system receive multiple channels with normal sound quality?

Yes	The system is operating correctly. The concern may have been caused by obstructions in the antenna line of sight.
No	GO to B4

B4 CHECK FOR PROMOTIONAL CHANNEL 184

- Select channel 184.

Does the satellite radio system receive channel 184 with normal sound quality?

Yes	GO to B5
No	GO to B6

B5 VERIFY THE VIN (VEHICLE IDENTIFICATION NUMBER) AND THE ESN (ELECTRONIC SERIAL NUMBER) ON FILE MATCHES THE VIN (VEHICLE IDENTIFICATION NUMBER) AND THE ESN (ELECTRONIC SERIAL NUMBER) FROM THE VEHICLE

- Retrieve the satellite radio ESN by tuning to channel 0.
- Contact the SIRIUS Dealer Support.
- Make sure the VIN and the ESN SIRIUS has on the customer file match the VIN and the ESN retrieved from the vehicle.
- Follow the actions from step B2 to obtain "Good," "Very Good," or "Excellent" reception.
- Operate the audio system in satellite radio mode.
- **NOTE:** *It may take up to 30 minutes for the activation signal to be received and satellite radio functions to operate.*

Request for SIRIUS to send the activation signal to the vehicle 2-3 times.

- Operate multiple channels with the audio system in satellite radio mode.

Does the satellite radio system receive multiple channels with normal sound quality?

Yes	The system is operating correctly. The concern may have been caused by the SIRIUS file information not matching the vehicle or a result of the activation signal needing to be resent.
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No	GO to B6
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B6 CHECK THE OPERATION OF THE NAVIGATION SYSTEM

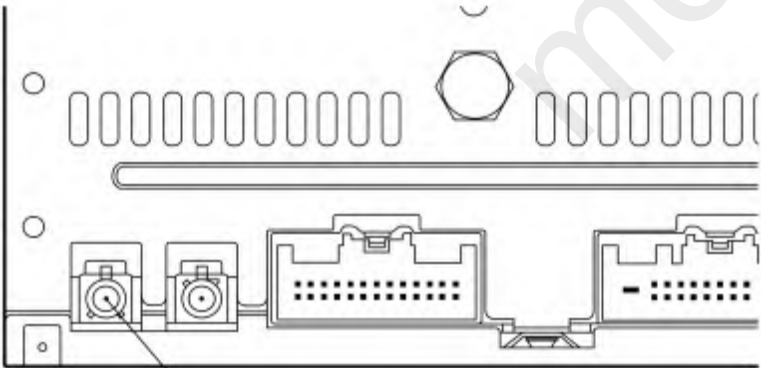
- Ignition ON.
- Check the operation of the navigation system.

Does the navigation system operate correctly?

Yes	GO to B7
No	GO to Pinpoint Test S

B7 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OUTPUT VOLTAGE TO THE SATELLITE RADIO ANTENNA CABLE

- Ignition OFF.
- Disconnect the satellite radio antenna cable at the ACM.
- Ignition ON.
- Using the female Flex Probe 300-08058 (0.5 mm x 0.5 mm) or equivalent, measure:

Positive Lead	Measurement / Action	Negative Lead
 E260256		Ground

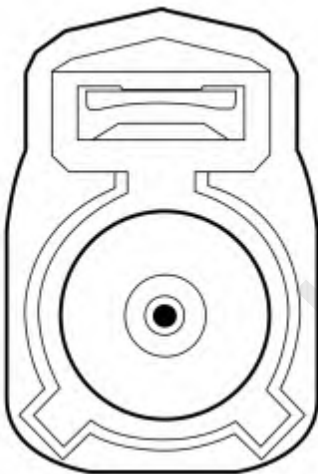
Satellite cable core (ACM component side)

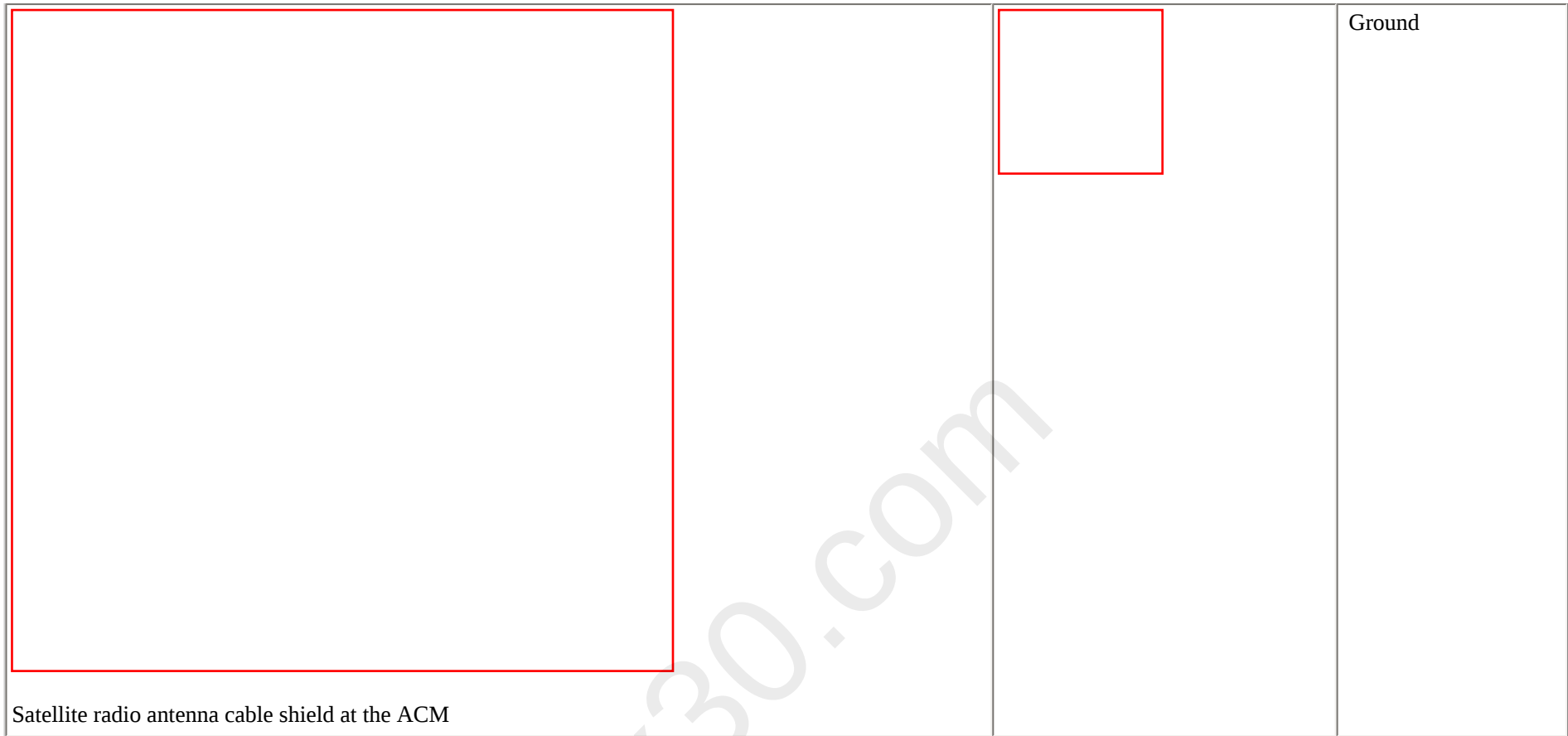
Is the voltage between 4.7 and 5.8 volts?

Yes	GO to B8
No	GO to B13

B8 CHECK THE LOWER SATELLITE RADIO ANTENNA CABLE CORE AND SHIELD FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect the lower satellite radio antenna cable to the upper satellite radio antenna cable connection located behind the glove compartment.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E260213 Satellite radio antenna cable core at the ACM		Ground



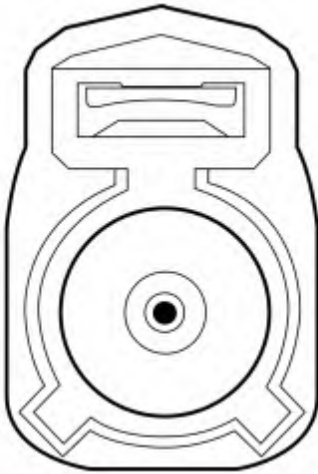
Is any voltage present?

Yes	INSTALL a new lower satellite radio antenna cable. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to B9

B9 CHECK THE LOWER SATELLITE RADIO ANTENNA COAXIAL CABLE CORE FOR A SHORT TO GROUND

- Ignition OFF.

- Measure:

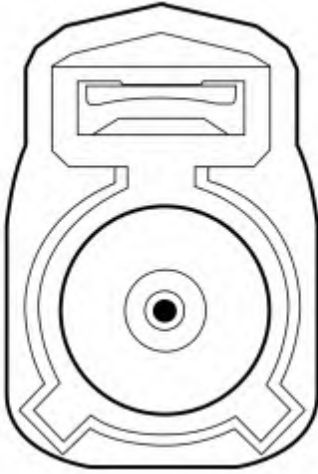
Positive Lead	Measurement / Action	Negative Lead
 E260213 Satellite radio antenna cable core at the ACM		Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to B10
No	INSTALL a new lower satellite radio antenna cable. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

B10 CHECK THE LOWER SATELLITE RADIO ANTENNA CABLE CORE AND SHIELD FOR A SHORT TOGETHER

- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E260213 Satellite radio antenna cable core at the ACM		Satellite radio antenna cable shield at the ACM

Is the resistance greater than 10,000 ohms?

Yes	GO to B11
No	INSTALL a new lower satellite radio antenna cable. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

B11 ISOLATE THE LOWER SATELLITE RADIO ANTENNA CABLE

- INSTALL a new lower satellite radio antenna cable.
REFER to: [Satellite Radio Antenna Cable](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
- Operate the audio system in satellite radio mode.
- Operate multiple channels with the audio system in satellite radio mode.

Does the satellite radio system receive multiple channels with normal sound quality?

Yes	The system is operating correctly. The concern was caused by the original satellite radio antenna cable.
No	GO to B12

B12 ISOLATE THE SATELLITE RADIO ANTENNA

- INSTALL a new satellite radio antenna.
REFER to: [Satellite Radio Antenna](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
- Operate the audio system in satellite radio mode.
- Operate multiple channels with the audio system in satellite radio mode.

Does the satellite radio system receive multiple channels with normal sound quality?

Yes	The system is operating correctly. The concern was caused by the original lower satellite radio antenna.
No	GO to B13

B13 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition ON.
- Disconnect and inspect all ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

A Loud Popping Sound Is Heard From The Speakers When Cycling The Ignition

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Refer to Wiring Diagrams Cell 13 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

Normal Operation and Fault Conditions

To prevent voltage spikes from producing popping noises through the speakers when the ignition is in the START position, the PCM applies voltage on the ACM start signal circuit. When the voltage is received by the ACM, the audio signal output is muted.

Possible Causes

- Wiring, terminals, or connectors
- ACM

PINPOINT TEST C : A LOUD POPPING SOUND IS HEARD FROM THE SPEAKERS WHEN CYCLING THE IGNITION

C1 CHECK FOR PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the PCM KOEO and KOER self-tests.

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to the Diagnosis and Testing in the appropriate 303-14 section.
No	GO to C2

C2 CHECK THE START SENSE CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect: ACM C240A.
- Disconnect: BJB C1035C.

Is the resistances less than 3 ohms?

Yes	GO to C3
No	REPAIR the circuit.

C3 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

A Low Frequency Noise Is Heard From The Speakers (3.5L GTDI Only)

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

DACMC DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U3000:92	Control Module: Performance or Incorrect Operation	Sets during the on-demand self-test when the DACMC detects a fault with the ESE system.
U3000:94	Control Module: Unexpected Operation	Sets in continuous memory when the DACMC detects a fault with the ESE system.

Possible Causes

- Wiring, terminals, or connectors
- ESE disabled
- ACM (with integrated DACMC)

Visual Inspection and Diagnostic Pre-checks

- The ESE system may not be compatible with speakers, other audio system components, and audio system architectures not approved by Ford. Ensure that no modifications have been made to the audio system.
- Inspect the left and right front door speaker locations for items that may be blocking the speaker sound output.

PINPOINT TEST D : A LOW FREQUENCY NOISE IS HEARD FROM THE SPEAKERS (3.5L GTDI ONLY)

D1 CHECK FOR SPEAKER DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Using a diagnostic scan tool, carry out the ACM self-test.

Are any speaker Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE the speaker Diagnostic Trouble Codes (DTCs) first. REFER to the ACM DTC Chart in this section.
No	GO to D2

D2 VERIFY THE ESE (ENGINE SOUND ENHANCEMENT) SYSTEM IS ENABLED

- **NOTE:** An asterisk next to the word “Disabled” or “Enabled” indicates if the ESE system is configured off or on.

Using a diagnostic scan tool, select "Module Programming > Programmable Parameters > Audio Configure > Engine Noise Enhancement".

Is the Engine Noise Enhancement feature enabled?

Yes	GO to D3
No	ENABLE the Engine Noise Enhancement feature.

D3 VERIFY THE CONCERN IS RELATED TO THE ESE (ENGINE SOUND ENHANCEMENT) SYSTEM

- Close all the doors.
- Turn the audio system on.
- Determine if an observable symptom is present.
- Start the vehicle.
- Determine if an observable symptom is present.

Is an observable symptom present only when the engine is on?

Yes	GO to D4
No	The symptom is not ESE-related. REFER to the Symptom Charts in this section to diagnose the audio system.

D4 VERIFY THE CONCERN IS RELATED TO THE ESE (ENGINE SOUND ENHANCEMENT) SYSTEM WITH THE DRIVER DOOR OPEN

- With the vehicle stationary, operate the engine through the RPM range and verify if an observable symptom present.
- Disable the ESE system by opening the driver door.
- With the vehicle stationary, operate the engine through the RPM range and verify if an observable symptom present.

Is an observable symptom present when the driver door is open?

Yes	The symptom is not ESE-related. REFER to the Symptom Charts in this section to diagnose the audio system.
No	GO to D5

D5 CHECK FOR CORRECT DACMC (DIGITAL AUDIO CONTROL MODULE C) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

No Sound From All Speakers

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Refer to Wiring Diagrams Cell 13 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

A short to ground or short to voltage in the circuitry to one of the speakers may cause multiple speakers to lose sound due to the built-in overload protection feature of the ACM. In this case, a speaker fault DTC sets.

To prevent voltage spikes from producing popping noises through the speakers when the ignition is in the START position, the PCM applies voltage to the ACM start signal circuit. When the voltage is received by the ACM, the audio signal output is muted. A short to voltage on this circuit causes the ACM output to be muted continuously, and the warning chimes to only sound from the IPC. A DTC in the PCM sets when this condition exists and a starting concern may be present.

ACM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1142:27	Ignition Status 1: Signal Rate of Change Above Threshold	Sets continuous when the ACM detects a short to voltage from the start signal circuit.

Possible Causes

- Wiring, terminals, or connectors
- ACM

PINPOINT TEST E : NO SOUND FROM ALL SPEAKERS

E1 VERIFY THE ACM (AUDIO FRONT CONTROL MODULE) PASSES THE NETWORK TEST

- Using a diagnostic scan tool, carry out the network test.

Does the ACM pass the network test?

Yes	GO to E2
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

E2 CHECK FOR PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to Diagnosis and Testing in the appropriate 303-14 section.
No	GO to E3

E3 CHECK THE START SENSE CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect ACM C240A.
- Disconnect PCM B connector.
- Ignition ON.

Is any voltage present?

Yes	REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.
No	GO to E4

E4 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

Poor Sound Quality Or Distorted Sound From One Or More Speakers (Not All Speakers)

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

The ACM sends audio signals to the speakers in the form of AC voltage, resulting in clear audio output.

Possible Causes

- Loose component fasteners
- Loose door handle, lock, and other trim panel components and fasteners
- Loose items in storage areas
- Loose speaker grilles
- Loose wire harnesses or wire harness fasteners
- Speaker
- Water shield bonding and placement

Visual Inspection and Diagnostic Pre-checks

Inspect the suspect area for any possible rattle conditions such as:

- Any storage compartments including cup holders (if equipped)
- Door map pockets for contents that can rattle (if equipped)
- Door pull cup attachments (if equipped)
- Door switch bezels (if equipped)
- Speaker grilles
- Trim panels and fasteners

PINPOINT TEST F : POOR SOUND QUALITY OR DISTORTED SOUND FROM ONE OR MORE SPEAKERS (NOT ALL SPEAKERS)

F1 ISOLATE THE ZONE
• Download all the diagnostic sound tracks to a suitable USB flash drive and connect it to the USB hub. REFER to: Speaker Audio Test (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures). • Operate the audio system in USB mode. • Using the audio system fade and balance settings, adjust the audio sound to each of the zones (left front, right front and, left rear, right rear for 4-door vehicles) and use the 6 diagnostic sound tracks to isolate the poor sound quality. • Locate and apply pressure to the trim panel(s) around the poor sound quality area in question.
Does applying pressure to a trim panel reduce or eliminate the noise?

Yes	REPAIR or REPLACE the trim panel as needed.
No	GO to F2

F2 REMOVE AND INSPECT BEHIND/UNDERNEATH THE SUSPECT TRIM PANEL

- Remove the trim panel to access the suspect speaker.
- Operate the audio system using digital media such as a CD or MP3 player.
- Validate where the poor sound quality area is located.
- Check:
 - Trim panel for loose components (e.g. speaker grille) around the speaker area.
 - Trim panel joining components for missing or broken pieces.
 - Door latch mechanical parts for correct attachment.
 - Wire harnesses for correct routing and attachment.
 - Water shield for correct placement (speaker air path not blocked).
 - Water shield for correct bonding to sheet metal.
 - Storage areas for loose items.
 - All safety belt retractors.
 - All speaker bracket and related fasteners. Make sure they are secure and tightened to specified torque.

Is the source of the noise located?

Yes	REPAIR or REPLACE any loose or broken component or fastener as necessary.
No	GO to F3

F3 CHECK THE SUSPECT SPEAKER FOR WATER INTRUSION

- Inspect for watermarks.
- Check the following speaker components:
 - Cone
 - Magnet
 - Basket

Are any watermarks present on the speaker?

Yes	VERIFY the water shield is in the correct location, REPAIR or REPLACE any trim, door or speaker seal as required. DRY the speaker in question and TEST the system for normal operation.
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No	GO to F4
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F4 ISOLATE SPEAKER TO VERIFY NOISE

- Remove the suspect speaker from its location and leave the speaker connected to the harness.
- Hold the speaker away from any trim panel and make sure the speaker is isolated from contact.
- Operate the audio system using digital media such as a CD or MP3 player.

Is the noise still present in the suspect speaker?

Yes	INSTALL a new speaker for the one in question.
No	LOCATE the source of the noise and REPAIR as necessary.

The Speed Compensated Volume Does Not Operate Correctly

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

Possible Causes

- Speed compensated volume setting
- Speed signal concern
- Network communication concern
- ACM

PINPOINT TEST G : THE SPEED COMPENSATED VOLUME DOES NOT OPERATE CORRECTLY

G1 CHECK THE SPEEDOMETER OPERATION

- Drive the vehicle and observe the speedometer.

Does the speedometer operate correctly?

Yes	GO to G2
No	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).

G2 CHECK THE SPEED COMPENSATED VOLUME SETTING

NOTE: Refer to the Owner Literature to access the speed compensated volume settings.

- Turn the speed compensated volume off.
- Operate the audio system in AM/ FM mode.
- Drive the vehicle at various speeds and observe the speaker volume.
- Set the speed compensated volume to maximum compensation.
- Operate the audio system in AM/ FM mode.
- Drive the vehicle at various speeds and observe the speaker volume.

Does the volume remain constant with the speed compensated volume turned off, and increase and decrease with vehicle speed with the speed compensated volume set to maximum?

Yes	The system is operating correctly at this time. INFORM the customer in the correct usage of the speed compensated volume feature.
No	GO to G3

G3 CHECK FOR COMMUNICATION DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the ACM self-test.

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to the ACM DTC Chart in this section.
No	GO to G4

G4 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

One Or More Speaker Is Inoperative

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

ACM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1A01:01	Speaker #1: General Electrical Failure	Sets when the ACM detects a failure from the left front door speaker and left A-pillar tweeter speaker circuits.
B1A01:11	Speaker #1: Circuit Short To Ground	Sets when the ACM detects a short to ground from the left front door speaker and left A-pillar tweeter speaker circuits. When DTC B1A01:11 is set, the speaker output is disabled.
B1A01:12	Speaker #1: Circuit Short To Battery	Sets when the ACM detects a short to voltage from the left front door speaker and left A-pillar tweeter speaker circuits. When DTC B1A01:12 is set, the speaker output is disabled.
B1A01:13	Speaker #1: Circuit Open	Sets when the ACM detects an open from the left front door speaker or left A-pillar tweeter speaker circuits.
B1A02:01	Speaker #2: General Electrical Failure	Sets when the ACM detects a failure from the right front door or right A-pillar tweeter speaker circuits.
B1A02:11	Speaker #2: Circuit Short To Ground	Sets when the ACM detects a short to ground from the right front door or right A-pillar tweeter speaker circuits. When DTC B1A02:11 is set, the speaker output is disabled.
B1A02:12	Speaker #2: Circuit Short To Battery	Sets when the ACM detects a short to voltage from the right front door or right A-pillar tweeter speaker circuits. When DTC B1A02:12 is set, the speaker output is disabled.
B1A02:13	Speaker #2: Circuit Open	Sets when the ACM detects an open from the right front door or right A-pillar tweeter speaker circuits.
B1A03:01	Speaker #3: General Electrical Failure	Sets when the ACM detects a failure from the right rear door speaker circuits.
B1A03:11	Speaker #3: Circuit Short To Ground	Sets when the ACM detects a short to ground from the right rear door speaker circuits. When DTC B1A03:11 is set, the speaker output is disabled.
B1A03:12	Speaker #3: Circuit Short To Battery	Sets when the ACM detects a short to voltage from the right rear door speaker circuits. When DTC B1A03:12 is set, the speaker output is disabled.
B1A03:13	Speaker #3: Circuit Open	Sets when the ACM detects an open from the right rear door speaker circuits.
B1A04:01	Speaker #4: General Electrical Failure	Sets when the ACM detects a failure from the left rear door speaker circuits.
B1A04:11	Speaker #4: Circuit Short To Ground	Sets when the ACM detects a short to ground from the left rear door speaker circuits. When DTC B1A04:11 is set, the speaker output is disabled.
B1A04:12	Speaker #4: Circuit Short To Battery	Sets when the ACM detects a short to voltage from the left rear door speaker circuits. When DTC B1A04:12 is set, the speaker output is disabled.
B1A04:13	Speaker #4: Circuit Open	Sets when the ACM detects an open from the left rear door speaker circuits.
B1A06:01	Speaker #6: General Electrical Failure	Sets when the ACM detects a failure from the center instrument panel speaker circuits.
B1A06:02	Speaker #6: General Signal Failure	Sets when the ACM detects a failure from the center instrument panel speaker circuits.

Possible Causes

- Wiring, terminals, or connectors
- Speaker
- ACM

PINPOINT TEST H : ONE OR MORE SPEAKER IS INOPERATIVE

NOTE: If equipped with tweeter speakers, the front door speaker and tweeter speaker share the same audio signal. If a concern exists with both speakers, retest the system with one of them disconnected to determine if the disconnected speaker is the cause of the fault.

H1 CHECK THE AUDIO CIRCUITS TO THE SPEAKER FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect the suspect speaker.
- Disconnect ACM C240A.
- For the suspect speaker, measure:

Click to display connectors

Right Rear Door Speaker

Positive Lead	Measurement / Action	Negative Lead
C802-1		Ground
C802-4		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to H2

H2 CHECK THE AUDIO CIRCUITS TO THE SPEAKER FOR A SHORT TO GROUND

- Ignition OFF.
- For the suspect speaker, measure:

Click to display connectors

Right Rear Door Speaker

Positive Lead	Measurement / Action	Negative Lead
C802-1	Ω	Ground
C802-4		Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to H3
No	REPAIR the circuit in question.

H3 CHECK THE AUDIO CIRCUITS TO THE SPEAKER FOR A SHORT TOGETHER

- For the suspect speaker, measure:

Click to display connectors

Right Rear Door Speaker

Positive Lead	Measurement / Action	Negative Lead
C802-1	Ω	C802-4

Is the resistance greater than 10,000 ohms?

Yes	GO to H4
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No	REPAIR the circuits.
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H4 CHECK THE AUDIO CIRCUITS TO THE SPEAKER FOR AN OPEN

- For the suspect speaker, measure:

Click to display connectors

Right Rear Door Speaker

Positive Lead	Measurement / Action	Negative Lead
C802-1	Ω	C240A-24
C802-4		C240A-12

Are the resistances less than 3 ohms?

Yes	GO to H5
No	REPAIR the circuit in question.

H5 CHECK THE AUDIO SIGNAL TO THE SUSPECT SPEAKER

- Connect ACM C240A.
- Ignition ON.
- Operate the audio system in AM/ FM mode.
- For the suspect speaker, measure:

Click to display connectors

Right Rear Door Speaker

Positive Lead	Measurement / Action	Negative Lead
C802-1		C802-4

Is a fluctuating AC voltage present?

Yes	INSTALL a new speaker in question.
No	GO to H6

H6 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The Subwoofer Speaker Is Inoperative

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

If the audio unit amplifier detects an open, short to ground, or less than 4.5 volts from the enable circuit, the speaker output is muted.

ACM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1A05:02	Speaker #5: General Signal Failure	Sets when the ACM detects a failure from the audio signal circuits to the audio unit amplifier or from the audio unit amplifier enable circuit.

Possible Causes

- Fuse
- Wiring, terminals, or connectors
- ACM
- Subwoofer speaker and enclosure
- Subwoofer amplifier

Visual Inspection and Diagnostic Pre-checks

- Check the BJB fuse 22 (20A).

PINPOINT TEST I : THE SUBWOOFER SPEAKER IS INOPERATIVE

I1 CHECK THE SUBWOOFER SPEAKER AND ENCLOSURE FOR PHYSICAL DAMAGE
• Ignition OFF. • Inspect the subwoofer speaker by looking through the grille for any obvious damage to the speaker cone and foam. • Inspect the subwoofer speaker enclosure for any obvious damage to the assembly.
Is any damage present?

Yes	INSTALL a new subwoofer speaker enclosure. REFER to: Subwoofer Speaker (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to I2

I2 CHECK THE SUBWOOFER AMPLIFIER VOLTAGE SUPPLY

- Disconnect Subwoofer Amplifier C3041.
- Ignition ON.

Is the voltage greater than 11 volts?

Yes	GO to I4
No	VERIFY the BJB Fuse 22 (20A) is OK. If OK, GO to I3 If not OK, REFER to the Wiring Diagram manual to identify the possible causes of the circuit short.

I3 CHECK THE SUBWOOFER AMPLIFIER VOLTAGE SUPPLY CIRCUIT FOR AN OPEN

- Ignition OFF.
- Disconnect BJB C1035B.

Is the resistance less than 3 ohms?

Yes	INSTALL a new BJB
No	REPAIR the circuit.

I4 CHECK THE SUBWOOFER AMPLIFIER GROUND CIRCUIT

Is the voltage greater than 11 volts?

Yes	GO to I5
No	REPAIR the circuit.

I5 CHECK THE SUBWOOFER AMPLIFIER ENABLE CIRCUIT FOR CORRECT VOLTAGE

NOTICE: This pinpoint test step directs testing circuits using a back-probe method. Use the special back-probe tool POM6411. Do not force test leads or other probes into connectors. Adequate care must be exercised to avoid connector terminal damage, while ensuring good electrical contact is made with the circuit or terminal. Failure to follow these instructions may cause damage to wiring, terminals, or connectors, and may cause subsequent electrical faults.

- Ignition OFF.
- Connect Subwoofer Amplifier C3041.
- Ignition ON.
- Operate the audio system in AM/ FM mode.

Is the voltage between 3.5 and 5 volts?

Yes	GO to 19
No	GO to 16

I6 CHECK THE SUBWOOFER AMPLIFIER ENABLE CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect Subwoofer Amplifier C3041.
- Disconnect ACM C240B.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to 17

I7 CHECK THE SUBWOOFER AMPLIFIER ENABLE CIRCUIT FOR A SHORT TO GROUND

- Ignition OFF.

Is the resistance greater than 10,000 ohms?

Yes	GO to I8
No	REPAIR the circuit.

I8 CHECK THE SUBWOOFER AMPLIFIER ENABLE CIRCUIT FOR AN OPEN

Is the resistance less than 3 ohms?

Yes	GO to I14
No	REPAIR the circuit.

I9 CHECK THE AUDIO CIRCUITS TO THE SUBWOOFER AMPLIFIER FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect Subwoofer Amplifier C3041.
- Disconnect ACM C240B.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to I10

I10 CHECK THE AUDIO CIRCUITS TO THE SUBWOOFER AMPLIFIER FOR A SHORT TO GROUND

- Ignition OFF.

Are the resistances greater than 10,000 ohms?

Yes	GO to I11
No	REPAIR the circuit in question.

I11 CHECK THE AUDIO CIRCUITS TO THE SUBWOOFER AMPLIFIER FOR A SHORT TOGETHER

Is the resistance greater than 10,000 ohms?

Yes	GO to I12
No	REPAIR the circuits.

I12 CHECK THE AUDIO CIRCUITS TO THE SUBWOOFER AMPLIFIER FOR AN OPEN

Are the resistances less than 3 ohms?

Yes	GO to I13
No	REPAIR the circuit in question.

I13 CHECK THE AUDIO SIGNAL TO THE SUBWOOFER AMPLIFIER

- Connect ACM C240B.
- Ignition ON.
- Operate the audio system in AM/ FM mode.

Is a fluctuating AC voltage present?

Yes	INSTALL a new subwoofer amplifier. REFER to: Subwoofer Speaker (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). TEST the system for normal operation. If the concern is still present, install a new subwoofer speaker enclosure. REFER to: Subwoofer Speaker (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to I14

I14 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The CD Player Is Inoperative Or Does Not Operate Correctly

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

ACM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1D19:49	Compact Disc Unit: Internal Electronic Failure	Sets continuous and during the on-demand self-test when the ACM detects the internal circuit board cannot communicate with the CD mechanism while in CD mode.
B1D19:4B	Compact Disc Unit: Over Temperature	Sets continuous when the ACM detects the internal circuit board detects the CD mechanism exceeds the temperature threshold while in CD mode.

Possible Causes

- Misaligned FCIM
- CD
- ACM

PINPOINT TEST J : THE CD (COMPACT DISC) PLAYER IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY

J1 VERIFY THE FCIM (FRONT CONTROLS INTERFACE MODULE) CD (COMPACT DISC) EJECT BUTTON OPERATION

- Ignition ON.
- Operate the audio system in CD mode.
- Press the EJECT button on the FCIM to eject the CD.

Does the CD eject?

Yes	GO to J4
No	If the FCIM EJECT button is responsive, GO to J2 If the FCIM EJECT button is not responsive, GO to J3

J2 VERIFY THE FCIM (FRONT CONTROLS INTERFACE MODULE) IS CORRECTLY ALIGNED WITH THE CD (COMPACT DISC) SLOT

- Remove the FCIM, but do not disconnect any electrical connectors.
REFER to: [Front Controls Interface Module \(FCIM\)](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
- Press the EJECT button on the FCIM to eject the CD.

Does the CD eject?

Yes	INSTALL the FCIM and make sure the FCIM CD slot is correctly aligned with the ACM CD slot. REFER to: Front Controls Interface Module (FCIM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to J8

J3 CHECK FOR ACM (AUDIO FRONT CONTROL MODULE) DTC (DIAGNOSTIC TROUBLE CODE) U0256:00

- Using a diagnostic scan tool, carry out the ACM self-test.

Is DTC U0256:00 present?

Yes	GO to Pinpoint Test AM
No	GO to Pinpoint Test K

J4 VERIFY THE CD (COMPACT DISC) PLAYER OPERATION

- Insert a known good CD.
- Operate the audio system in CD mode and play an audio file.

Is the audio output OK for the CD player?

Yes	The system is operating correctly. The concern is with the CD (inspect for fingerprints, loose paper label, incorrect format, irregular shape, scratches, or other damage).
No	GO to J5

J5 CHECK FOR ACM (AUDIO FRONT CONTROL MODULE) DTC (DIAGNOSTIC TROUBLE CODE) B1D19:49 AND B1D19:4B

- With the audio system in CD mode, carry out the ACM self-test using a diagnostic scan tool.

Is DTC B1D19:49 or B1D19:4B present?

Yes	For DTC B1D19:49, GO to J6 For DTC B1D19:4B, the system is operating correctly at this time. The concern may have been caused by extended CD player use. Audio operation can resume after the ACM cools. Clear the DTC.
No	GO to J8

J6 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) B1D19:49

- Using a diagnostic scan tool, clear the ACM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait at 10 seconds.
- With the audio system in CD mode, carry out the ACM self-test using a diagnostic scan tool.

Is DTC B1D19:49 still present?

Yes	GO to J8
No	GO to J7

J7 CHECK FOR CORRECT CD (COMPACT DISC) PLAYER OPERATION

- Operate the audio system in CD mode and play an audio file.

Is the audio output OK for the CD player?

Yes	The system is operating correctly at this time. The concern may have been caused by the CD.
No	GO to J8

J8 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The Audio/SYNC System Does Not Operate Correctly From The FCIM

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

Possible Causes

- Network communication concern
- ACM concern
- APIM concern
- FCIM

PINPOINT TEST K : THE AUDIO/SYNC SYSTEM DOES NOT OPERATE CORRECTLY FROM THE FCIM (FRONT CONTROLS INTERFACE MODULE)

K1 VERIFY THE ACM (AUDIO FRONT CONTROL MODULE) AND THE FCIM (FRONT CONTROLS INTERFACE MODULE) PASS THE NETWORK TEST

- Using a diagnostic scan tool, carry out the network test.

Does the ACM and the FCIM pass the network test?

Yes	GO to K2
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

K2 RETRIEVE THE ACM (AUDIO FRONT CONTROL MODULE) AND THE FCIM (FRONT CONTROLS INTERFACE MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, carry out the self-test for the following modules:
 - ACM
 - FCIM

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to the appropriate DTC Chart in this section.
No	GO to K3

K3 CHECK FOR CORRECT FCIM (FRONT CONTROLS INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the FCIM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the FCIM 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,   Click here to access Guided Routine (FCIM).
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.

One Or More Steering Wheel Audio/SYNC Control Button Is Inoperative

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

SCCM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1380:09	Steering Wheel Right Switch Pack: Component Failure	Sets continuous and during the on-demand self-test when the SCCM detects a right steering wheel switch is active for more than 2 minutes.
B1380:11	Steering Wheel Right Switch Pack: Circuit Short To Ground	Set continuous and during the on-demand self-test when the SCCM detects a short to ground from the right steering wheel switch circuits.
B1380:17	Steering Wheel Right Switch Pack: Circuit Voltage Above Threshold	Set continuous and during the on-demand self-test when the SCCM detects an open or short to voltage from the right steering wheel switch circuits.

Possible Causes

- Wiring, terminals, or connectors
- Steering wheel switch
- Clockspring
- Steering wheel
- SCCM

PINPOINT TEST L : ONE OR MORE AUDIO/SYNC STEERING WHEEL CONTROL BUTTON IS INOPERATIVE

L1 CHECK FOR VOLTAGE TO THE STEERING WHEEL SWITCH

- Ignition OFF.
- Remove the driver airbag.
REFER to: [Driver Airbag](#) (501-20B Supplemental Restraint System, Removal and Installation).
- Disconnect Right Steering Wheel Switch C2999.
- Disconnect Left Steering Wheel Switch C2998.
- Ignition ON.

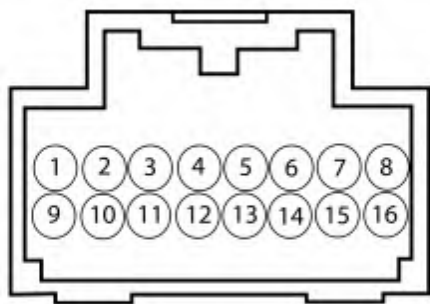
Is the voltage approximately 5 volts?

Yes	INSTALL a new right steering wheel switch. REFER to: Steering Wheel Multifunction Switch (211-05 Steering Wheel and Column Electrical Components, Removal and Installation).
No	GO to L2

L2 CHECK THE STEERING WHEEL HARNESS

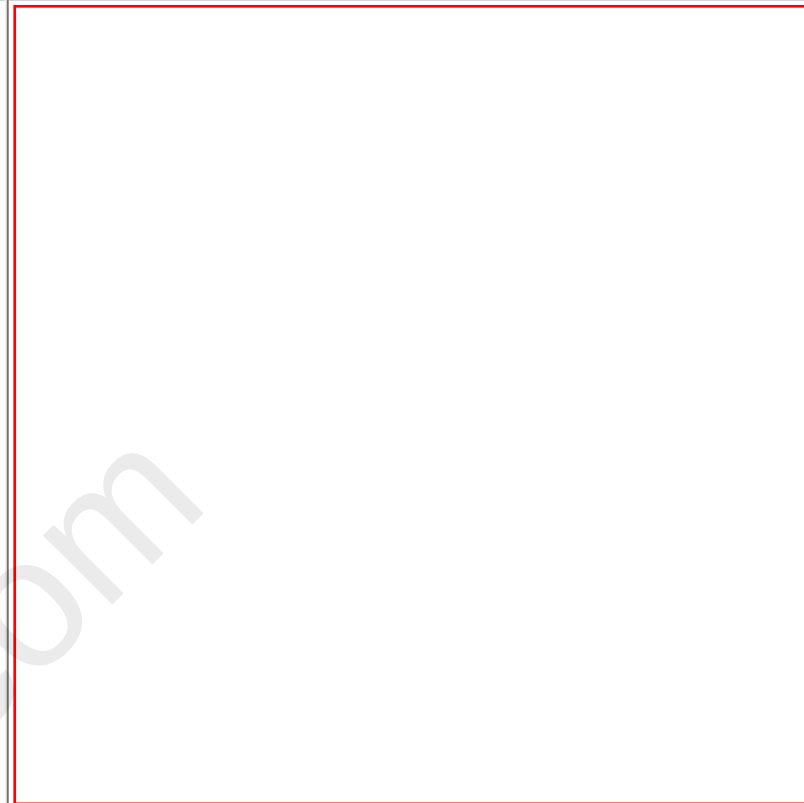
- Ignition OFF.
- Disconnect Clockspring C218B.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead



E155137

Upper Clockspring C218B, pin 14 (component side)

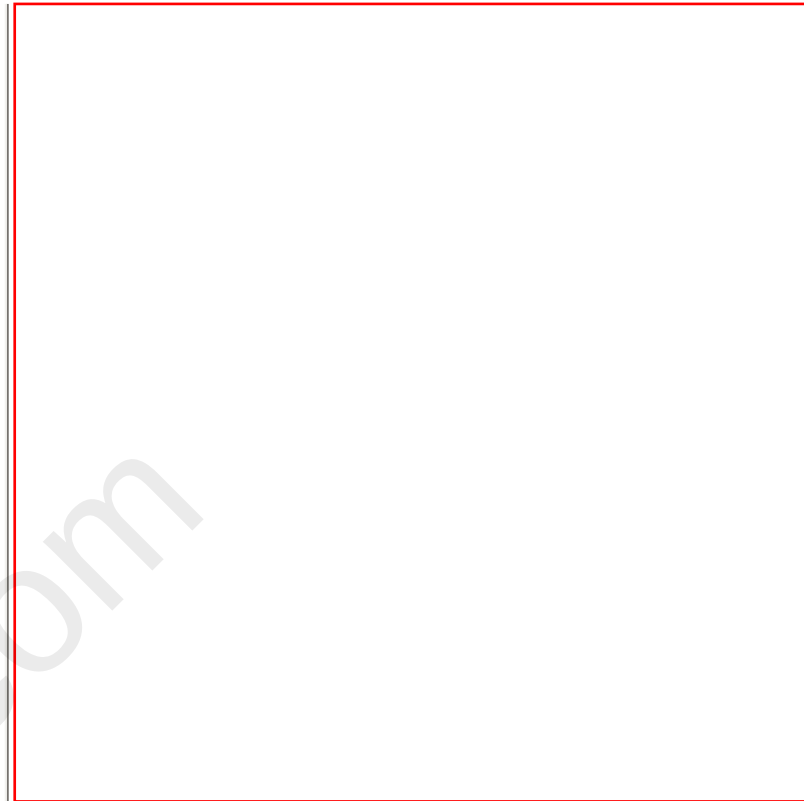


Upper Clockspring C218B, pin 16 (component side)

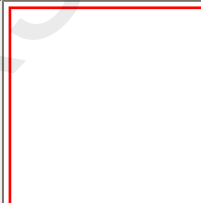




Upper Clockspring C218B, pin 15 (component side)

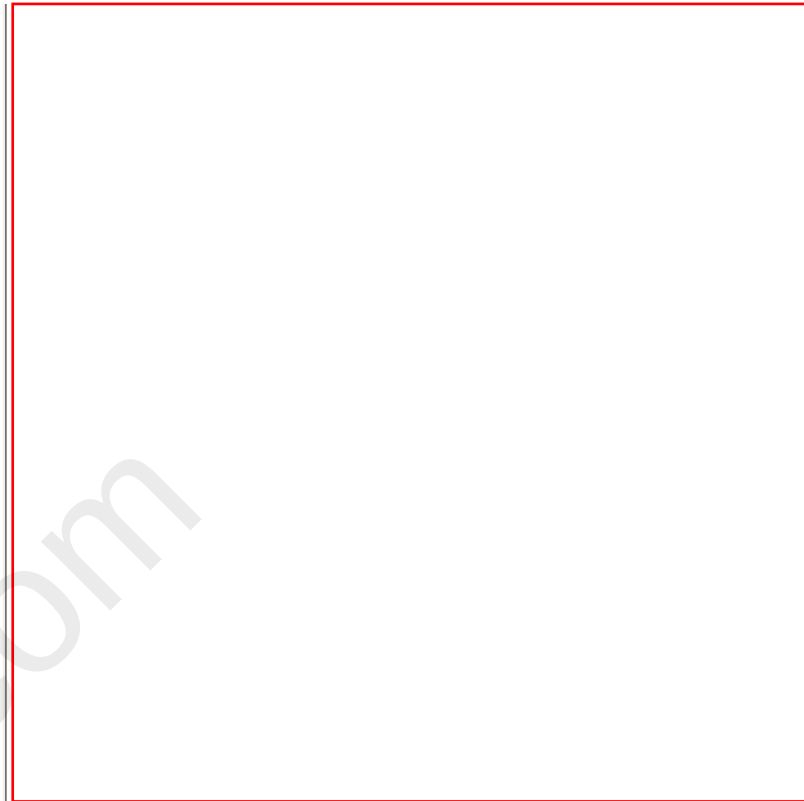


Upper Clockspring C218B, pin 16 (component side)

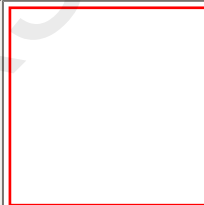




Upper Clockspring C218B, pin 6 (component side)

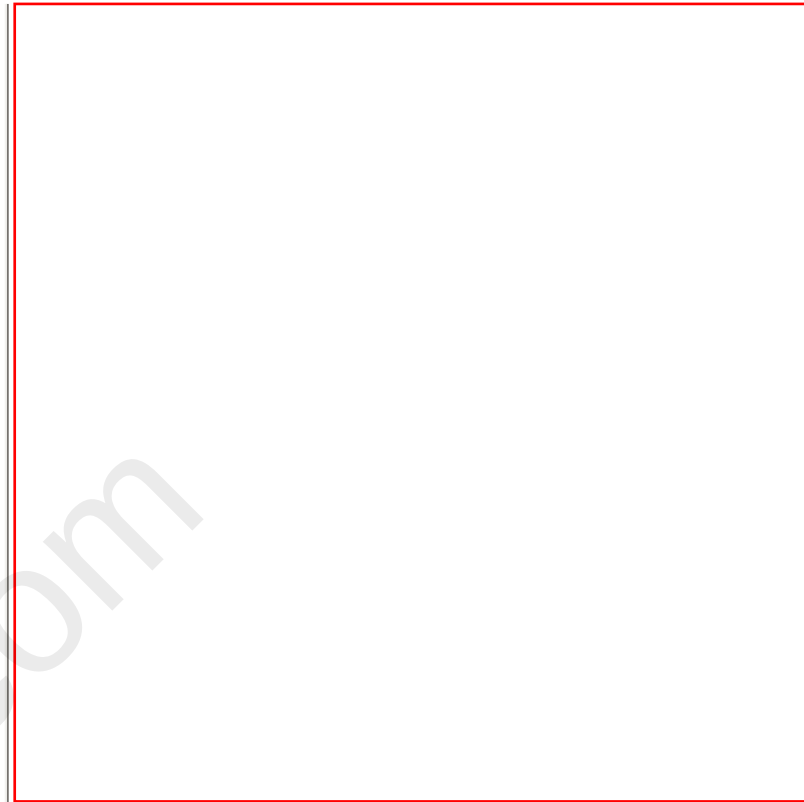


Upper Clockspring C218B, pin 16 (component side)





Upper Clockspring C218B, pin 7 (component side)



Upper Clockspring C218B, pin 16 (component side)

Is the voltage approximately 5 volts?

Yes	REPAIR the steering wheel harness (open or short is present) or INSTALL a new steering wheel as necessary. REFER to: Steering Wheel (211-04 Steering Column, Removal and Installation).
No	GO to L3

L3 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) B1380:17

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

Is DTC B1380:17 present?

Yes	GO to L4
No	GO to L5

L4 CHECK THE CLOCKSPRING FOR A SHORT TO GROUND

- Ignition OFF.
- Remove the clockspring.
REFER to: [Clockspring](#) (501-20B Supplemental Restraint System, Removal and Installation).
- Ignition ON.
- Wait 30 seconds.
- Using a diagnostic scan tool, clear the SCCM Diagnostic Trouble Codes (DTCs).
- **NOTE:** *DTC B1380:17 may be present when carrying out this step and should be disregarded at this time.*

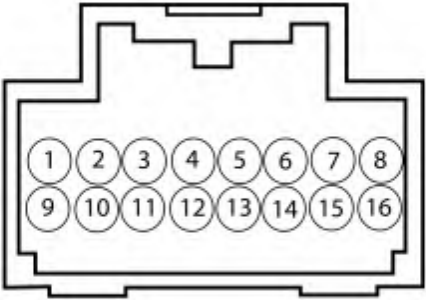
Using a diagnostic scan tool, carry out the SCCM self-test.

Is DTC B1380:17 still present?

Yes	GO to L6
No	INSTALL a new clockspring. REFER to: Clockspring (501-20B Supplemental Restraint System, Removal and Installation).

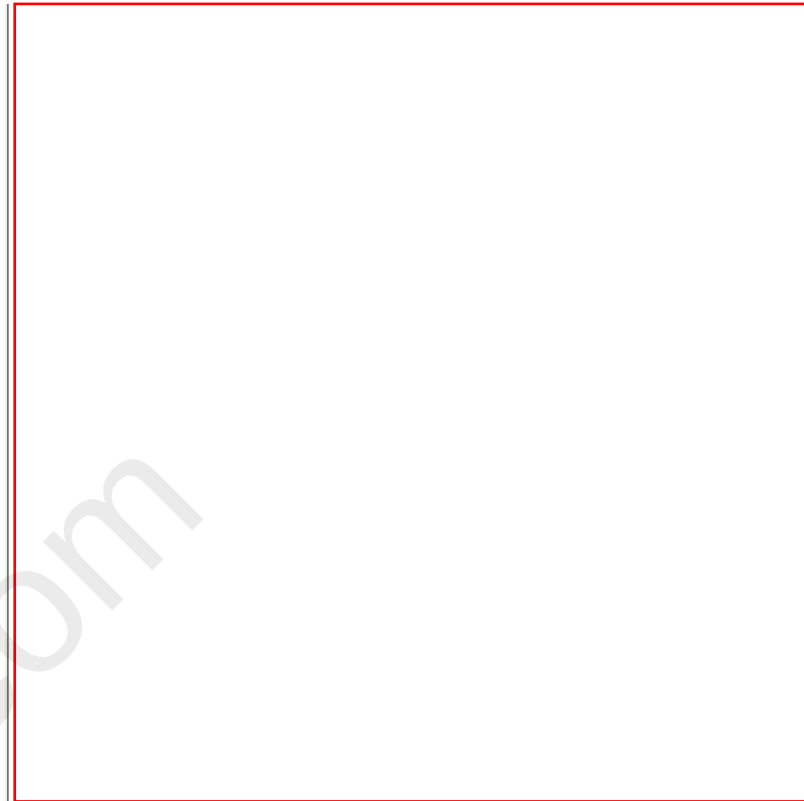
L5 CHECK THE CLOCKSPRING FOR AN OPEN

- Ignition OFF.
- Measure:

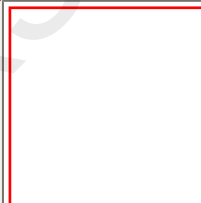
Positive Lead	Measurement / Action	Negative Lead
 E155137 Upper Clockspring C218B, pin 14 (component side)		Lower Clockspring C218D, pin 6 (component side)



Upper Clockspring C218B, pin 15 (component side)

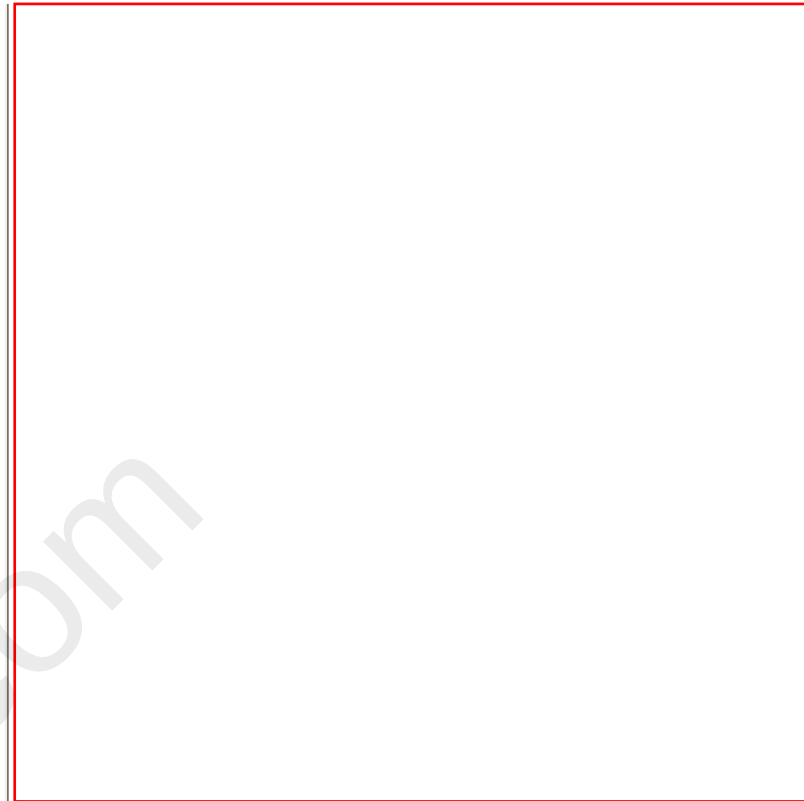


Lower Clockspring C218D, pin 8 (component side)

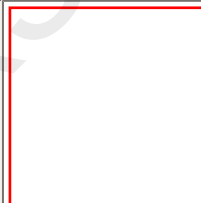




Upper Clockspring C218B, pin 6 (component side)

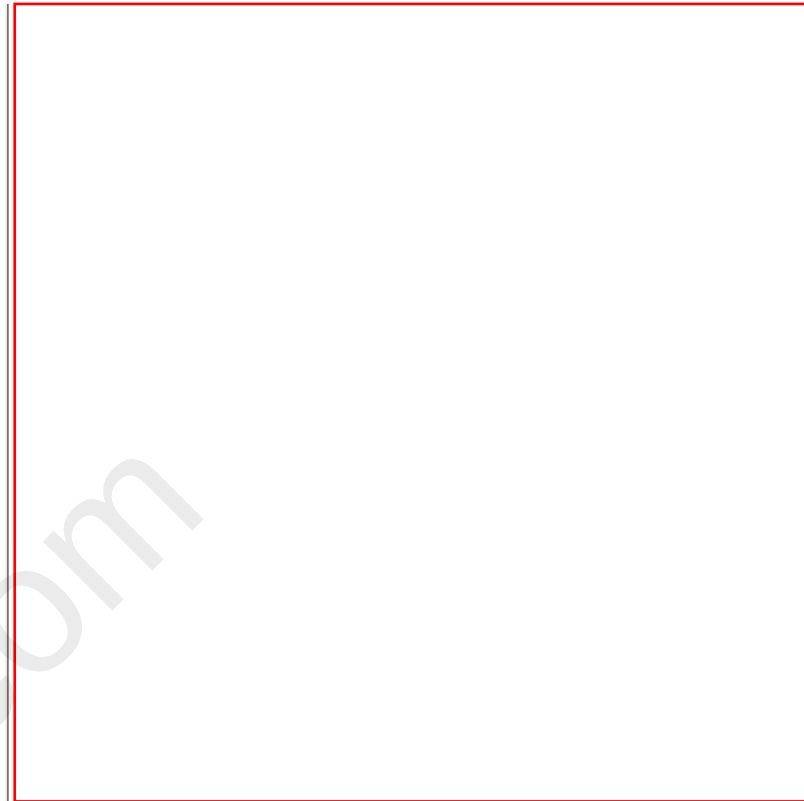


Lower Clockspring C218D, pin 5 (component side)

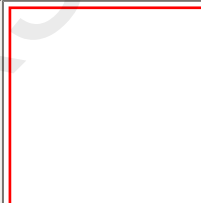




Upper Clockspring C218B, pin 7 (component side)

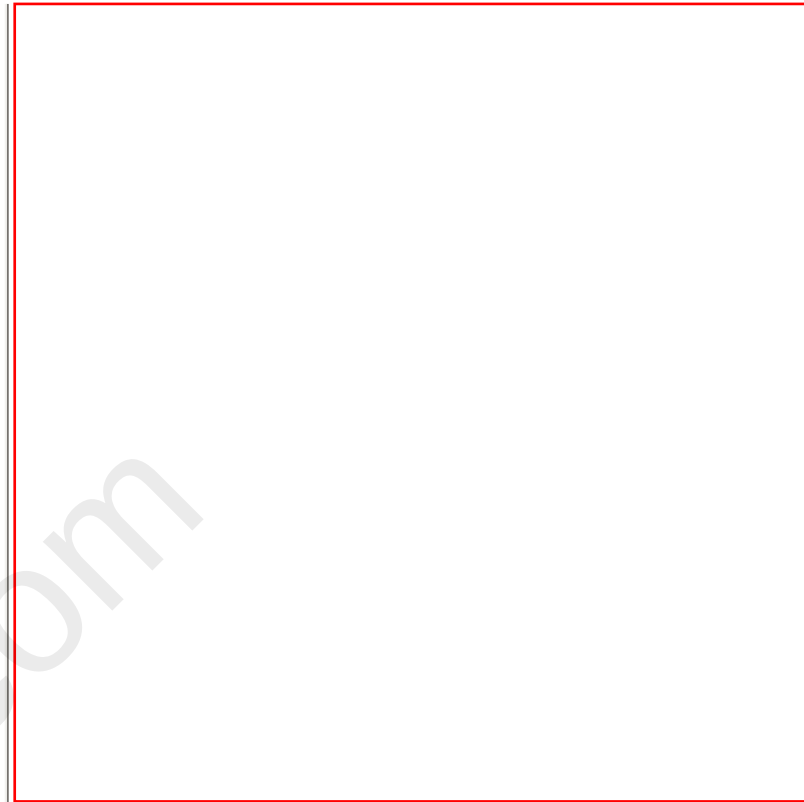


Lower Clockspring C218D, pin 7 (component side)





Upper Clockspring C218B, pin 16 (component side)



Lower Clockspring C218D, pin 10 (component side)

Are the resistances less than 3 ohms?

Yes	GO to L6
No	INSTALL a new clockspring. REFER to: Clockspring (501-20B Supplemental Restraint System, Removal and Installation).

L6 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable 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 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. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The FDIM Is Inoperative Or Does Not Operate Correctly

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

NOTE: .The FDIM display calibrates after each ignition cycle. Touching the display during an ignition cycle may cause the touchscreen to be inoperative.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B108E:01	Display: General Electrical Failure	Sets in continuous memory when the APIM detects an error from the FDIM.
B108E:02	Display: General Signal Failure	Sets in continuous memory when the APIM receives a message from the FDIM indicating a fault.
B108E:4B	Display: Over Temperature	Sets in continuous memory when the APIM receives a message from the FDIM reporting an over temperature condition.

B108E:87	Display: Missing Message	Sets in continuous memory when the APIM loses communication to the FDIM.
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Possible Causes

- Network communication concern
- Configuration concern
- LVDS cable
- FDIM
- APIM

PINPOINT TEST M : THE FDIM (FRONT DISPLAY INTERFACE MODULE) IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY

NOTE: Prior to carrying out diagnostics, it may be beneficial to determine the cause using the Circuit Tester and LVDS Adapter Kit 420-912 (Rotunda part number NUD420-912) or equivalent tool.

M1 CHECK FOR A NETWORK CONCERN

NOTE: The display screen is blank if a concern with the HS-CAN3 is present.

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

Does the ACM and the APIM pass the network test?

Yes	GO to M2
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

M2 CHECK FOR COMMUNICATION AND CONFIGURATION DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, retrieve all Continuous Memory Diagnostic Trouble Code (CMDTCs).

Are any communication or configuration related Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE these Diagnostic Trouble Codes (DTCs) first. REFER to the appropriate module DTC Chart in the appropriate section.
No	GO to M3

M3 CHECK FOR ACM (AUDIO FRONT CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the ACM self-test.

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to the ACM DTC Chart in this section.
No	GO to M4

M4 CHECK FOR APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	For DTC B108E:01, B108E:02, B108E:4B or B108E:87, GO to M12 For all other Diagnostic Trouble Codes (DTCs), REFER to the APIM DTC Chart in this section.
No	GO to M5

M5 REBOOT THE APIM (SYNC MODULE) AND RECHECK THE SYSTEM OPERATION

- **NOTE:** *In the event the APIM is not receiving the ignition status message, the audio system still powers up when using the SEEK UP and POWER buttons to reboot the APIM.*

Simultaneously press and hold the SEEK UP and POWER buttons on the FCIM for 10 seconds. As the APIM reboot begins, the touchscreen turns black before the startup sequence begins.

- After the reboot is complete, operate the system to verify if the concern is still present.

Is the concern still present?

Yes	If the touchscreen display is blank or black, GO to M10 If the touchscreen display is not responsive to touch, is locked or frozen, GO to M6 If the touchscreen display is slow to respond to touch, GO to M8 If the image displayed on the touchscreen display is incorrect, the image color is incorrect, or the image is distorted, flickering, or unclear, GO to M9 For all other concerns with the touchscreen display, GO to M10
No	VERIFY the specific concern by duplicating the steps that were taken when the original concern was generated. If the concern is not duplicated, the system is operating correctly at this time. INSTRUCT the vehicle owner the correct operation of the touchscreen display.

M6 ACCESS THE BEZEL DIAGNOSTICS

- Access "APIM Diagnostics" using Bezel Diagnostics.
REFER to: [Bezel Diagnostics](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures).
- Select the "RGB Pixel Test".

Does the touchscreen enter the "RGB Pixel Test" mode?

Yes	GO to M7
No	GO to M12

M7 INSPECT THE DISPLAY FOR CRACKS

- While cycling through one color at a time, carefully inspect the screen for cracks.

Are any cracks present on the display?

Yes	 Click here to access Guided Routine (FCIM).
No	GO to M8

M8 CONFIRM THE TOUCH RESPONSE

- Access "APIM Diagnostics" using Bezel Diagnostics.
REFER to: [Bezel Diagnostics](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures).
- Select the "Touchscreen Activation Test".
- Touch several points around the display and observe the display touch response. The most recent touch point is indicated by a blue box and prior touch points are indicated by white boxes.

Does the display respond correctly and respond in a timely manner to each touch point?

Yes	VERIFY the specific concern by duplicating the steps that were taken when the original concern was generated. If the concern cannot be duplicated, the system is operating correctly at this time. INSTRUCT the vehicle owner the correct operation of the touchscreen display.
No	GO to M14

M9 INSPECT THE FDIM (FRONT DISPLAY INTERFACE MODULE) IMAGE CLARITY

- Access "APIM Diagnostics" using Bezel Diagnostics.
REFER to: [Bezel Diagnostics](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, General Procedures).
- Select the "RGB Pixel Test" and then "Display Test Pattern" while inspecting the display image quality.

Is the image quality concern present when using the "RGB Pixel Test" and "Display Test Pattern" functions?

Yes	GO to M14
No	The system is operating correctly at this time. VERIFY the specific concern by duplicating the steps that were taken when the original concern was generated.

M10 CHECK IF THE IPC (INSTRUMENT PANEL CLUSTER) POWERS UP

- Ignition OFF.
- Ignition ON.

Does the IPC power up when the ignition is cycled on?

Yes	GO to M11
No	DIAGNOSE the no power in ON condition. REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components) .

M11 CHECK THE APIM (SYNC MODULE) IGNITION KEY INPUT (KEYPOS) PID (PARAMETER IDENTIFICATION)

- Using a diagnostic scan tool, view the APIM Parameter Identifications (PIDs).
- Using a diagnostic scan tool, view the APIM PID KEYPOS.

Does the PID indicate Ignition?

Yes	GO to M12
No	GO to M14

M12 CHECK THE LVDS (LOW VOLTAGE DIFFERENTIAL SIGNALING) CABLE FOR AN OPEN

NOTICE: Use the male Flex Probe 300-08057 (0.5 mm) or equivalent. Failure to use the correct probe may damage the LVDS cable.

- Ignition OFF.
- Disconnect APIM C2383D.
- Disconnect FDIM C2253.

Are the resistances less than 3 ohms?

Yes	GO to M13
No	INSTALL a new LVDS cable. After installing a new cable, REBOOT the APIM by simultaneously pressing and holding the SEEK UP and POWER buttons on the FCIM for 10 seconds, and verify touchscreen operation.

M13 CHECK FOR CORRECT VOLTAGE TO THE FDIM (FRONT DISPLAY INTERFACE MODULE)

NOTICE: Use the male Flex Probe 300-08057 (0.5 mm) or equivalent. Failure to use the correct probe may damage the LVDS cable.

- Connect APIM C2383D.
- Ignition ON.
- **NOTE:** Set the multimeter to the mVDC setting (if necessary, refer to the multimeter manual for information on how to access the mV range). Do not use the LVDS cable ground for this measurement.

Is the DC voltage between 0.5 and 10 millivolts?

Yes	INSTALL a new FDIM. REFER to: Front Display Interface Module (FDIM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to M14

M14 TEMPORARILY REMOVE THE POWER FROM THE APIM (SYNC MODULE) AND RECHECK THE SYSTEM OPERATION

- Ignition OFF.
- Remove BCM fuse 32 (10A).
- Wait 1 minute.
- Install BCM fuse 32 (10A).
- Ignition ON.
- Test the system to verify the concern is still present.

Is the concern still present?

Yes	GO to M15
No	The system is operating correctly at this time. VERIFY the specific concern by duplicating the steps that were taken when the original concern was generated. If the concern cannot be duplicated, the concern may have been caused from a low/high voltage event such as jump starting a vehicle or a drained battery.

M15 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the APIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the APIM and any 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,   Click here to access Guided Routine (APIM).
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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.
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Sound From The SYNC System (Music/Audible Prompts) Is Inoperative Or Does Not Operate Correctly

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Normal Operation and Fault Conditions

For a list of SYNC stereo and mono outputs,

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

Possible Causes

- Customer device
- Wiring, terminals, or connectors
- Steering wheel switch input concern
- APIM
- ACM

PINPOINT TEST N : SOUND FROM THE SYNC SYSTEM (MUSIC/AUDIBLE PROMPTS) IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY

N1 CHECK THE OPERATION OF THE SPEAKERS USING THE AM (AMPLITUDE MODULATION) / FM (FREQUENCY MODULATION) MODE

- Ignition ON.
- Operate the audio system in AM/ FM mode.
- Using the audio system fade and balance features, adjust the audio sound to each of the zones (left front, right front, left rear and right rear).

Do all of the speakers operate?

Yes	GO to N2
No	GO to Pinpoint Test H

N2 CHECK THE SCCM (STEERING COLUMN CONTROL MODULE) STEERING WHEEL SWITCH PARAMETER IDENTIFICATIONS (PIDS)

- Using a diagnostic scan tool, view the SCCM Parameter Identifications (PIDs).
- Using a diagnostic scan tool, view the following SCCM steering wheel audio/media switch Parameter Identifications (PIDs) while pressing each button.
 - SW_VOICE (Steering Wheel Voice Button)
 - SW_MEDIA (Steering Wheel Media Button)
 - SW_MUTE (Steering Wheel Mute Button)

Do the Parameter Identifications (PIDs) correspond correctly?

Yes	GO to N3
No	GO to Pinpoint Test L

N3 CHECK THE APIM (SYNC MODULE) OUTPUT CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect ACM C240B.
- Disconnect APIM C2383A.
- Ignition ON.
- Measure:

Click to display connectors

Stereo Right

Positive Lead	Measurement / Action	Negative Lead
C240B-13		Ground
C240B-26		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to N4

N4 CHECK THE APIM (SYNC MODULE) OUTPUT CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

Click to display connectors

Stereo Right

Positive Lead	Measurement / Action	Negative Lead
C240B-13	Ω	Ground
C240B-26		Ground

Are the resistances greater than 10,000 ohms?

Yes	GO to N5
No	REPAIR the circuit in question.

N5 CHECK THE APIM (SYNC MODULE) OUTPUT CIRCUITS FOR A SHORT TOGETHER

- Measure:

Click to display connectors

Stereo Left and Right

Positive Lead	Measurement / Action	Negative Lead
C240B-12	Ω	C240B-13
C240B-12		C240B-25
C240B-12		C240B-26
C240B-13		C240B-25
C240B-13		C240B-26
C240B-25		C240B-26

Are the resistances greater than 10,000 ohms?

Yes	GO to N6
No	REPAIR the circuits in question.

N6 CHECK THE APIM (SYNC MODULE) OUTPUT CIRCUITS FOR AN OPEN

- Measure:

Click to display connectors

Stereo Right

Positive Lead	Measurement / Action	Negative Lead
C240B-13	Ω	C2383A-25
C240B-26		C2383A-26

Are the resistances less than 3 ohms?

Yes	GO to N7
No	REPAIR the circuit in question.

N7 CHECK FOR AN AC (ALTERNATING CURRENT) VOLTAGE SIGNAL FROM THE APIM (SYNC MODULE) OUTPUT CIRCUITS

- Connect APIM C2383A.
- Ignition ON.
- For a concern playing music using the SYNC system, play an audio file through the audio system using a SYNC audio source (Bluetooth, USB port).
- For a concern with the SYNC audible prompts, repeatedly press the VOICE button on the steering wheel switch while measuring the voltage.
- NOTE:** The ACM C240A connector must be connected for this test.

Measure:

Click to display connectors

Stereo Right

Positive Lead	Measurement / Action	Negative Lead
C240B-13		C240B-26

Is a fluctuating AC voltage present?

Yes	GO to N9
No	GO to N8

N8 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM connector.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the APIM connector. Make sure it seats and latches 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,   Click here to access Guided Routine (APIM).
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.

N9 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

Voice Recognition Is Inoperative Or Outgoing Audio Is Not Transmitted During A Phone Call

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1D79:11	Microphone Input: Circuit Short To Ground	Sets during the on-demand self-test when the APIM detects a short to ground from the microphone circuitry.
B1D79:12	Microphone Input: Circuit Short To Battery	Sets during the on-demand self-test when the APIM detects a short to voltage from the microphone circuitry.

B1D79:13	Microphone Input: Circuit Open	Sets during the on-demand self-test when the APIM detects an open from the microphone circuitry.
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Possible Causes

- Wiring, terminals, or connectors
- Steering wheel switch input concern
- Microphone
- APIM

PINPOINT TEST O : VOICE RECOGNITION IS INOPERATIVE OR OUTGOING AUDIO IS NOT TRANSMITTED DURING A PHONE CALL

O1 CHECK THE SCCM (STEERING COLUMN CONTROL MODULE) STEERING WHEEL VOICE BUTTON (SW_VOICE) AND STEERING WHEEL MUTE BUTTON (SW_MUTE) PARAMETER IDENTIFICATIONS (PIDS)	
• Ignition ON. • Using a diagnostic scan tool, view the SCCM Parameter Identifications (PIDs). • Using a diagnostic scan tool, view the SCCM SW_VOICE and SW_MUTE Parameter Identifications (PIDs) while pressing the voice and mute buttons on the steering wheel.	
Do the Parameter Identifications (PIDs) correspond correctly?	
Yes	GO to O2
No	GO to Pinpoint Test L
O2 CHECK THE MICROPHONE CIRCUITS FOR A SHORT TO VOLTAGE	
• Ignition OFF. • Disconnect APIM C2383A. • Disconnect Microphone C9221. • Ignition ON.	
Is any voltage present?	
Yes	REPAIR the circuit in question.
No	GO to O3

O3 CHECK THE MICROPHONE CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.

Are the resistances greater than 10,000 ohms?

Yes	GO to O4
No	REPAIR the circuit in question.

O4 CHECK THE MICROPHONE CIRCUITS FOR AN OPEN

Are the resistances less than 3 ohms?

Yes	GO to O5
No	REPAIR the circuit in question.

O5 CHECK THE MICROPHONE CIRCUITS FOR A SHORT TOGETHER

Is the resistance greater than 10,000 ohms?

Yes	Install a new microphone. REFER to: Microphone (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to O6
No	REPAIR the circuits.

O6 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM connector.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the APIM connector. Make sure they seat and latch 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,   Click here to access Guided Routine (APIM).
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.

A USB Device Is Not Recognized By The Sync System Or Audio Files On A USB Device Are Not Found Using The Sync System From One Or Both USB Ports

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions

B1252:11	USB Port: Circuit Short to Ground	Sets in continuous memory and during the on-demand self-test when the APIM detects a short to ground from the USB cable.
B1252:13	USB Port: Circuit Open	Sets during the on-demand self-test when the APIM detects an open from the USB cable.
B14FD:11	External Media Control Connectivity: Circuit Short To Ground	Sets in continuous memory when the APIM detects a short to ground from the USB hub power supply circuit.

Possible Causes

- USB device
- Foreign object in the USB port
- USB cable
- USB hub
- APIM

PINPOINT TEST P : A USB (UNIVERSAL SERIAL BUS) DEVICE IS NOT RECOGNIZED BY THE SYNC SYSTEM OR AUDIO FILES ON A USB (UNIVERSAL SERIAL BUS) DEVICE ARE NOT FOUND USING THE SYNC SYSTEM FROM ONE OR BOTH USB (UNIVERSAL SERIAL BUS) PORTS

P1 CHECK FOR FOREIGN MATERIAL IN THE USB (UNIVERSAL SERIAL BUS) PORTS

- Ignition OFF.
- Remove any devices connected to the USB ports.
- Inspect the USB ports for foreign material.

Is any foreign material present in either USB port?

Yes	REMOVE the foreign material present in the USB port.
No	GO to P2

P2 CHECK THE OPERATION FROM BOTH USB (UNIVERSAL SERIAL BUS) PORTS

- Ignition ON.
- Connect the MIT 105-00120 to one USB port.
- Using the MIT 105-00120, attempt to play an audio file.
- Connect the MIT 105-00120 to the other USB port.
- Using the MIT 105-00120, attempt to play an audio file.

Is the audio output OK for both USB ports?

Yes	The system is operating correctly. The concern is with the customer USB device.
No	If the audio output is inoperative for only one USB port, INSTALL a new USB hub. REFER to: Universal Serial Bus (USB) Hub (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). If the audio output is inoperative for both USB ports, GO to P3

P3 CHECK FOR APIM (SYNC MODULE) DTC (DIAGNOSTIC TROUBLE CODE) B1252:11 AND B14FD:11

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

Is DTC B1252:11 or B14FD:11 present?

Yes	GO to P4
No	GO to P8

P4 ISOLATE THE USB (UNIVERSAL SERIAL BUS) HUB

- Ignition OFF.
- Disconnect USB Hub C3512A (with floor console) or C2809A (without floor console).
- Disconnect USB Hub C3512B (with floor console) or C2809B (without floor console).
- Ignition ON.
- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Wait 30 seconds.
- **NOTE:** *DTC B1252:13 may be present when carrying out this step and should be disregarded at this time.*

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

Is DTC B1252:11 or B14FD:11 still present?

Yes	For DTC B1252:11, GO to P5 For DTC B14FD:11, GO to P6
No	INSTALL a new USB hub. REFER to: Universal Serial Bus (USB) Hub (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

P5 ISOLATE THE USB (UNIVERSAL SERIAL BUS) CABLE FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect APIM C2383B.
- Ignition ON.
- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Wait 30 seconds.
- **NOTE:** *DTC B1252:13 may be present when carrying out this step and should be disregarded at this time.*

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

Is DTC B1252:11 still present?

Yes	GO to P13
No	INSTALL a new USB cable. REFER to: SYNC Module [APIM] to Universal Serial Bus (USB) Port Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

P6 CHECK THE USB (UNIVERSAL SERIAL BUS) HUB POWER AND RETURN CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.
- Disconnect APIM C2383A.

Are the resistances greater than 10,000 ohms?

Yes	GO to P7
No	REPAIR the circuit in question.

P7 CHECK THE USB (UNIVERSAL SERIAL BUS) HUB POWER AND RETURN CIRCUITS FOR A SHORT TO EACH OTHER

Is the resistance greater than 10,000 ohms?

Yes	GO to P13
No	REPAIR the circuits.

P8 CHECK FOR POWER TO THE USB (UNIVERSAL SERIAL BUS) HUB

- Ignition OFF.
- Disconnect USB Hub C3512A (with floor console) or C2809A (without floor console).
- Ignition ON.
- Measure:

Click to display connectors

Without Floor Console

Positive Lead	Measurement / Action	Negative Lead
C2809A-1		C2809A-4

Is the voltage approximately 5 volts?

Yes	GO to P11
No	GO to P9

P9 CHECK THE USB (UNIVERSAL SERIAL BUS) HUB POWER AND RETURN CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect APIM C2383A.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to P10

P10 CHECK THE USB (UNIVERSAL SERIAL BUS) HUB POWER AND RETURN CIRCUITS FOR AN OPEN

- Ignition OFF.
 - Measure:
- Click to display connectors

Without Floor Console

Positive Lead	Measurement / Action	Negative Lead
C2809A-1	Ω	C2383A-8

C2809A-4



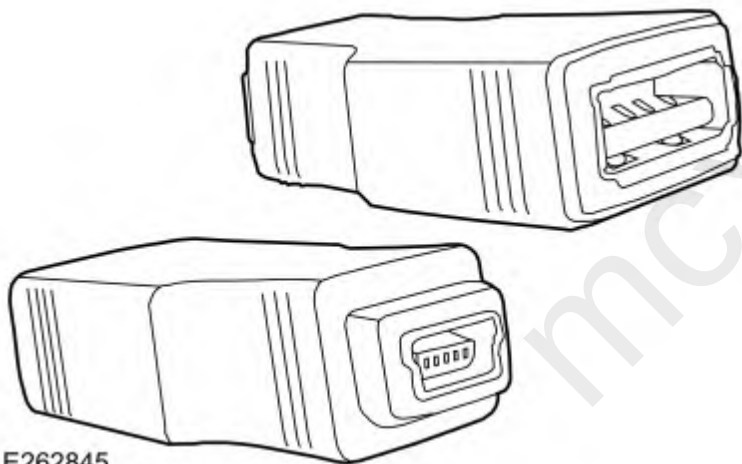
C2383A-38

Are the resistances less than 3 ohms?

Yes	GO to P13
No	REPAIR the circuit in question.

P11 BYPASS THE USB (UNIVERSAL SERIAL BUS) HUB

- Ignition OFF.
- Disconnect USB Hub C3512B (with floor console) or C2809B (without floor console).



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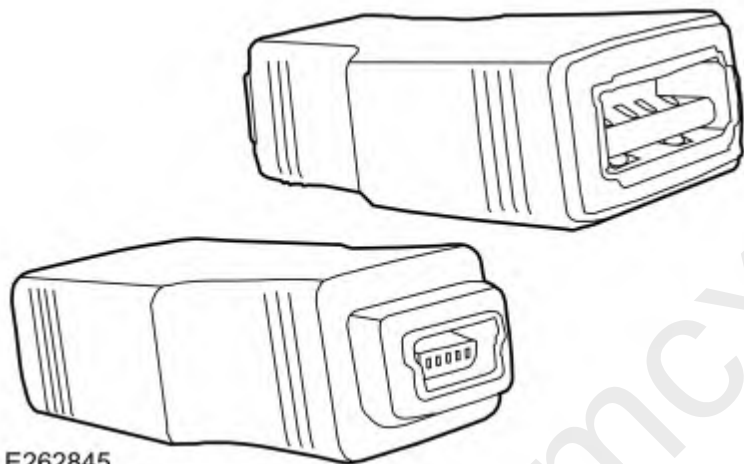
- Connect a Type A 4 Pin To Female Type Mini-B 5 Pin USB 2.0 Adaptor (Rotunda part number CCMUSB-AF-BF5) or equivalent to the USB hub C3512B.
- Ignition ON.
- Connect the MIT 105-00120 to the USB adaptor.
- Using the MIT 105-00120, attempt to play an audio file.

Is the audio output OK?

Yes	INSTALL a new USB hub. REFER to: Universal Serial Bus (USB) Hub (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to P12

P12 BYPASS THE USB (UNIVERSAL SERIAL BUS) CABLE

- Ignition OFF.
- Obtain a new USB cable.
- Connect one end of the new USB cable to the APIM C2383B.



- Connect a Type A 4 Pin To Female Type Mini-B 5 Pin USB 2.0 Adaptor (Rotunda part number CCMUSB-AF-BF5) or equivalent to the new USB cable.
- Ignition ON.
- Connect the MIT 105-00120 to the USB adaptor.
- Using the MIT 105-00120, attempt to play an audio file.

Is the audio output OK?

Yes	INSTALL a new USB cable. REFER to: SYNC Module [APIM] to Universal Serial Bus (USB) Port Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to P13

P13 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the APIM and any related in-line connectors. Make sure they seat and latch correctly.
- Wait 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.  Click here to access Guided Routine (APIM).
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.

Unable To Pair Bluetooth Device Or The Bluetooth Functionality Is Inoperative

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - Overview](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

Possible Causes

- Customer error
- Incompatible Bluetooth device
- Bluetooth device
- APIM

PINPOINT TEST Q : UNABLE TO PAIR BLUETOOTH DEVICE OR THE BLUETOOTH FUNCTIONALITY IS INOPERATIVE

NOTE: *It may be necessary for the vehicle owner to provide the Bluetooth device to complete diagnostics.*

Q1 CHECK THE APIM (SYNC MODULE) BLUETOOTH PAIRING CAPABILITY

- Ignition ON.
- Connect one of the following to a USB port:
 - A MIT 420-373 (or Rotunda part number 105-00120-GEN2) or equivalent verification tool.
 - Compatible Bluetooth Device (only if the MIT (or equivalent verification tool) **is not** available). Refer to the appropriate Ford website to view a list of compatible devices and features.
- With the MIT (equivalent verification tool) or compatible Bluetooth device in Bluetooth mode, pair it with the APIM. Follow the device instructions for Bluetooth pairing.
- Using a diagnostic scan tool, view the APIM Parameter Identifications (PIDs).
- Monitor the APIM Bluetooth device paired (BT_PAIR) and the Bluetooth device connected (BT_CONN) Parameter Identifications (PIDs).

Do the Parameter Identifications (PIDs) both read "Yes"?

Yes	GO to Q2
No	GO to Q6

Q2 CARRY OUT A MASTER RESET AND RETEST THE CUSTOMER DEVICE

- **NOTE:** Carrying out a Master Reset returns all preference settings to the factory defaults, erases the phone book and call histories, deletes any Bluetooth devices paired with the SYNC system, and removes any Wi-Fi® network connections, cancelling any system update download or installation in progress. For vehicles with navigation, the saved destinations (home, favorites, and previous) are erased.

Carry out a Master Reset. Refer to “Master Reset” in the Owner Literature.

- Pair and connect the customer's Bluetooth device with the APIM. Refer to the Owner Literature.
- Using a diagnostic scan tool, view the APIM Parameter Identifications (PIDs).
- Monitor the Bluetooth device paired PID (BT_PAIR) and the Bluetooth device connected PID (BT_CONN).

Do the Parameter Identifications (PIDs) both read "Yes"?

Yes	GO to Q3
No	GO to Q4

Q3 CHECK THE SUSPECT BLUETOOTH DEVICE FEATURES

- Check the operation of the suspect Bluetooth device feature such as text messaging, media playback or controls, phone book download, call history, or call waiting.

Does the suspect Bluetooth device feature operate?

Yes	The system is operating correctly at this time. REVIEW the pairing process with the vehicle owner.
No	GO to Q4

Q4 CHECK THE INOPERATIVE BLUETOOTH DEVICE AND FEATURE FOR COMPATIBILITY

- Review the device compatibility list and determine if the inoperative Bluetooth device and feature is compatible. Refer to the appropriate Ford website to view a list of compatible devices and features.

Is the inoperative Bluetooth device and feature compatible?

Yes	GO to Q5
No	The system is operating correctly. The Bluetooth device or feature in question is not compatible with the SYNC system.

Q5 CHECK THE SUSPECT DEVICE

- Power off the suspect device.
- If possible, remove the battery and install it for a complete reboot.
- Power on the suspect device for a simple reboot.
- If necessary, check the suspect device for updates.
- Make sure "SYNC" is deleted from the suspect device Bluetooth menu prior to attempting to pair the Bluetooth device with the APIM.
- If necessary, carry out a Master Clear, Master Reset, or Factory Data Reset on the suspect device following the manufacturer instructions (in the device owner manual and/or website).

Is the concern still present?

Yes	GO to Q6
No	The system is operating correctly. The fault was with the suspect device.

Q6 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM connector.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the APIM connector. Make sure it seats and latches 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,   Click here to access Guided Routine (APIM).
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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.
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The 911 Assist or Emergency Assistance Not Operational Message Displays

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - Overview](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

If a fault message appears indicating the 911 Assist or Emergency Assistance is not operational, the concern may be caused due to modules not communicating or incorrect PMI procedures.

Possible Causes

- 911 Assist or Emergency Assistance feature disabled
- Network communication concern
- Module configuration concern
- APIM

PINPOINT TEST R : THE 911 ASSIST OR EMERGENCY ASSISTANCE NOT OPERATIONAL MESSAGE DISPLAYS

R1 CHECK FOR CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

- Ignition ON.
- Using a diagnostic scan tool, retrieve the Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Are any Continuous Memory Diagnostic Trouble Codes (CMDTCs) present?

Yes	REFER to the appropriate module DTC Chart in the appropriate section.
No	GO to R2

R2 VERIFY THE 911 ASSIST OR EMERGENCY ASSISTANCE FEATURE IS ENABLED

- Check the 911 Assist or Emergency Assistance feature setting in the display settings menu.

Is the 911 Assist or Emergency Assistance setting enabled?

Yes	GO to R3
No	Enable the 911 Assist or Emergency Assistance feature.

R3 CHECK THE VEHICLE SERVICE HISTORY

- Check the vehicle service history for recent service actions related to the RCM and the APIM.

Is any recent service action noted with the RCM or the APIM noted?

Yes	CARRY OUT the PMI procedure using As-Built data as directed by the diagnostic scan tool.
No	GO to R4

R4 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the APIM and any 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 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 (APIM).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The Navigation/Compass Is Inoperative Or Does Not Operate Correctly

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B119F:01	GPS Antenna: General Electrical Failure	Sets in continuous memory when the APIM detects a short to ground or short to voltage from the GPS coaxial cable.
B119F:13	GPS Antenna: Circuit Open	Sets in continuous memory when the APIM detects an open from the GPS coaxial cable.

Possible Causes

- Corrosion
- Network communication concern
- Obstructions in the GPS antenna line of sight to the satellite
- Satellite radio antenna cable
- Satellite radio antenna
- APIM

PINPOINT TEST S : THE NAVIGATION/COMPASS IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY

NOTE: Prior to carrying out diagnostics, it may be beneficial to determine the cause using the Antenna Kit Tool 420-525 (Rotunda part number NUD420-525) or equivalent tool.
S1 CHECKGPS (GLOBAL POSITIONING SYSTEM) ANTENNA RECEPTION

- Ignition ON.
- Access "APIM Diagnostics" using Bezel Diagnostics.
REFER to: [Bezel Diagnostics](#) (415-00D Information and Entertainment System - General Information - Vehicles With: Bang and Olufsen Audio System, General Procedures).
- Select "Location Information".
- **NOTE:** *If the value reads less than 3 for "Number of Satellites" or "No GPS Fix" for "Fix Mode", drive the vehicle to an outdoor location free from obstacles such as tall buildings and large trees.*

Monitor the "Number of Satellites" and "Fix Mode".

Are 3 or more satellites displayed for "Number of Satellites" and is "3D fix obtained" displayed for "fix Mode"?

Yes	GO to S2
No	GO to S4

S2 CHECK NAVIGATION FOR CORRECT OPERATION

- Operate various navigation features (including a short guided route) and observe the functionality of the navigation system.

Does the navigation system operate correctly?

Yes	The system is operating correctly at this time. The concern may have been caused by obstructions in the antenna line of sight to the satellites for an extended period of time.
No	GO to S3

S3 CHECK FOR ABS (ANTI-LOCK BRAKE SYSTEM) MODULE NETWORK COMMUNICATION

- Ignition ON.
- Using a diagnostic scan tool, clear all Continuous Memory Diagnostic Trouble Codes (CMDTCs).
- Ignition OFF.
- Ignition ON.
- Wait 30 seconds.
- Using a diagnostic scan tool, retrieve all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Is DTC U0121:00 set in the APIM?

Yes	GO to Pinpoint Test Y
No	GO to S11

S4 CHECK FOR CORRECT APIM (SYNC MODULE) OUTPUT VOLTAGE FROM THE GPS (GLOBAL POSITIONING SYSTEM) COAXIAL CABLE CONNECTION

- Ignition OFF.
- Disconnect GPS Coaxial Cable from the APIM.
- Ignition ON.
- Using the female Flex Probe 300-08058 (0.5 mm x 0.5 mm) or equivalent, measure:

Positive Lead	Measurement / Action	Negative Lead
		Ground



E231524

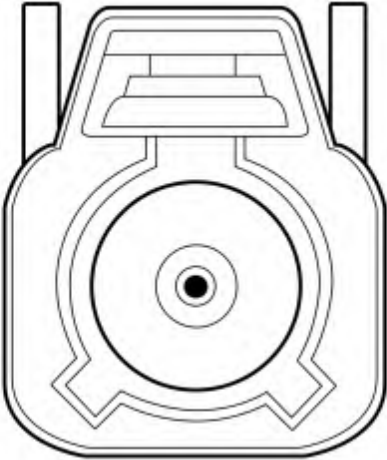
GPS coaxial cable core (APIM component side)

Is the voltage between 4.7 and 5.8 volts?

Yes	GO to S5
No	GO to S11

S5 CHECK THE GPS (GLOBAL POSITIONING SYSTEM) ANTENNA COAXIAL CABLE CORE AND SHIELD FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect Satellite radio antenna cable from the ACM.
- Disconnect Satellite radio antenna cable from the satellite radio antenna.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E258796 Coaxial cable core at the APIM		Ground
		Ground

Coaxial cable shield at the APIM

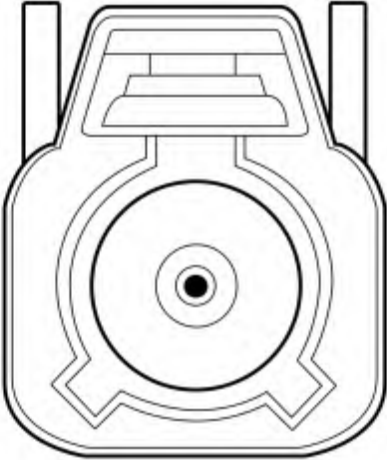
Is any voltage present?

Yes	IDENTIFY the location of the short to voltage. REPAIR or INSTALL a new coaxial cable in question. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to S6

S6 CHECK THE GPS (GLOBAL POSITIONING SYSTEM) ANTENNA COAXIAL CABLE CORE FOR A SHORT TO GROUND

- Ignition OFF.

- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E258796 Coaxial cable core at the APIM		Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to S7
No	IDENTIFY the location of the short to ground. REPAIR or INSTALL a new coaxial cable in question. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

S7 CHECK THE GPS (GLOBAL POSITIONING SYSTEM) ANTENNA COAXIAL CABLE CORE AND SHIELD FOR A SHORT TOGETHER

- Measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
Coaxial cable core at the APIM	Ω	Coaxial cable shield at the APIM

Is the resistance greater than 10,000 ohms?

Yes	GO to S8
No	IDENTIFY the location of the short. INSTALL a new coaxial cable in question. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

S8 CHECK THE GPS (GLOBAL POSITIONING SYSTEM) ANTENNA COAXIAL CABLE CORE AND SHIELD FOR AN OPEN

- Measure:

Click to display connectors

Positive Lead	Measurement / Action	Negative Lead
Coaxial cable core at the APIM	Ω	Coaxial cable core at the satellite radio antenna
Coaxial cable shield at the APIM		Coaxial cable shield at the satellite radio antenna

Are the resistances less than 3 ohms?

Yes	GO to S9
No	IDENTIFY the location of the open. INSTALL a new coaxial cable in question. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

S9 CHECK THE SATELLITE RADIO ANTENNA BASE AND MOUNTING SURFACE

- Remove the satellite radio antenna.
REFER to: [Satellite Radio Antenna](#) (415-00D Information and Entertainment System - General Information - Vehicles With: Bang and Olufsen Audio System, Removal and Installation).
- Inspect for corrosion on the audio unit antenna base and the vehicle mounting surface.

Is audio unit base and mounting free of corrosion?

Yes	GO to S10
No	REPAIR any corrosion on the antenna unit base and/or vehicle mounting surface. INSTALL the antenna and make sure the correct torque value is used when tightening the fastener. REFER to: Satellite Radio Antenna (415-00D Information and Entertainment System - General Information - Vehicles With: Bang and Olufsen Audio System, Removal and Installation).

S10 CHECK THE LOWER SATELLITE/GPS (GLOBAL POSITIONING SYSTEM) ANTENNA COAXIAL CABLE

- Install the satellite radio antenna.
REFER to: [Satellite Radio Antenna](#) (415-00B Information and Entertainment System - General Information - Vehicles With: SYNC Without Touchscreen, Removal and Installation).
- Install a new lower satellite/GPS antenna coaxial cable.
REFER to: [Satellite Radio Antenna Cable](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
- Test the system for normal operation.

Is the concern still present?

Yes	INSTALL a new satellite radio antenna. REFER to: Satellite Radio Antenna (415-00B Information and Entertainment System - General Information - Vehicles With: SYNC Without Touchscreen, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to S11
No	The repair is complete. The concern was caused by the lower satellite/GPS antenna coaxial cable.

S11 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

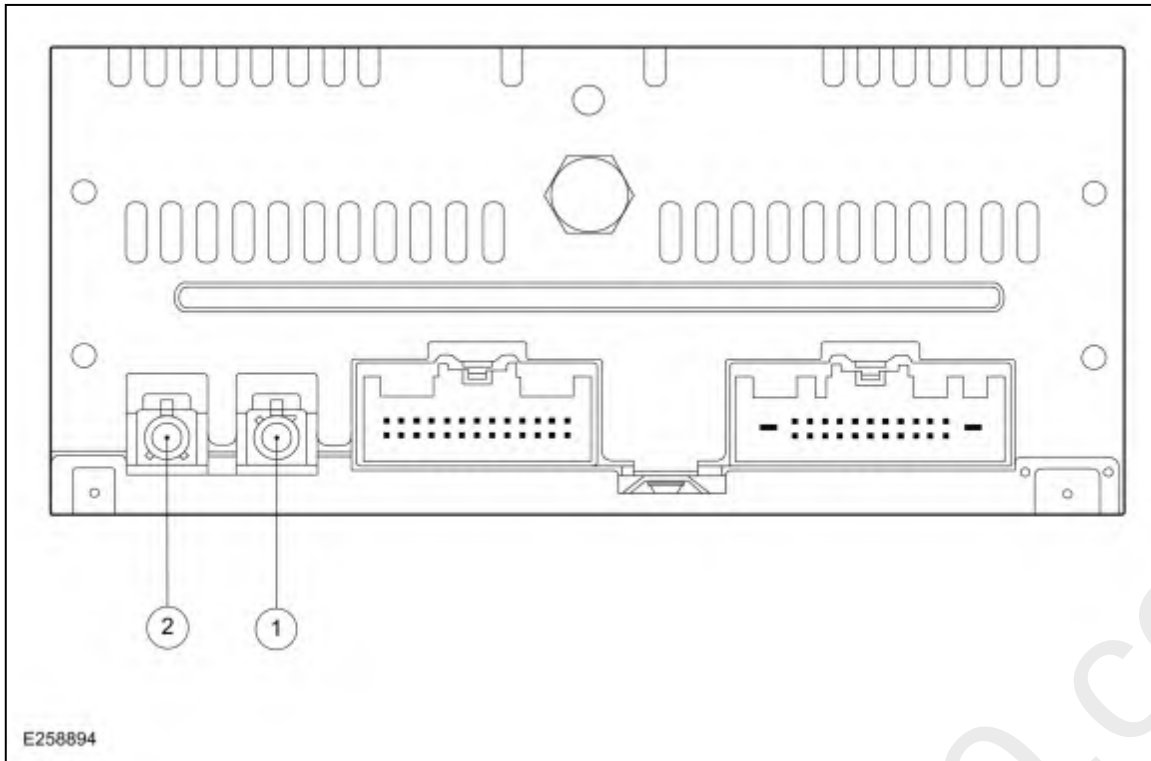
- Ignition OFF.
- Disconnect and inspect all the APIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the APIM and any 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,   Click here to access Guided Routine (APIM).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The SIRIUS Travel Link™ Feature Is Inoperative

Refer to Wiring Diagrams Cell 133 for schematic and connector information.



Item	Part Number	Description
1	—	Audio unit antenna connection
2	—	Satellite radio connection

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U1A00:87	Private Communication Network: Missing Message	Sets during the on-demand self-test when the APIM does not receive a valid response from the ACM over the SDL circuits.

ACM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1A89:11	Satellite Antenna: Circuit Short To Ground	Sets continuous and during the on-demand self-test when the ACM detects a short to ground from the satellite radio coaxial cable.
B1A89:13	Satellite Antenna: Circuit Open	Sets continuous and during the on-demand self-test when the ACM detects an open from the satellite radio coaxial cable.

Possible Causes

- Expired subscription
- Navigation system concern
- Incorrectly matched ESN
- Wiring, terminals, or connectors
- Lower satellite radio antenna cable
- ACM
- APIM

PINPOINT TEST T : THE SIRIUS TRAVEL LINK™ FEATURE IS INOPERATIVE

T1 VERIFY THE NAVIGATION SYSTEM OPERATES CORRECTLY

- Operate the navigation and make sure it operates correctly.

Does the navigation system operate correctly?

Yes	GO to T2
No	GO to Pinpoint Test S

T2 VERIFY AN ACTIVE SUBSCRIPTION

NOTE: The status of the satellite radio subscription should be disregarded. The SIRIUS Travel Link™ feature does not require a satellite radio subscription to operate.

- Ignition ON.
- Access the "Subscription Info" selection in the SIRIUS Travel Link™ menu.

Does the display indicate "Unsubscribed" for traffic, weather, fuel prices, movie times, sports, weather map, or ski conditions?

Yes	GO to T3
No	GO to T5

T3 CHECK THE VEHICLE SERVICE HISTORY FOR ACM (AUDIO FRONT CONTROL MODULE) REPLACEMENT

- Check the vehicle service history and determine if the ACM was replaced.

Does the vehicle service history indicate the ACM was recently replaced?

Yes	GO to T4
No	The subscription has expired. INSTRUCT the customer to contact SIRIUS to reactivate the subscription.

T4 VERIFY THE VIN (VEHICLE IDENTIFICATION NUMBER) AND THE ESN (ELECTRONIC SERIAL NUMBER) ON FILE MATCHES THE VIN (VEHICLE IDENTIFICATION NUMBER) AND THE ESN (ELECTRONIC SERIAL NUMBER) FROM THE VEHICLE

- Retrieve the satellite radio ESN by tuning to channel 0.
- Contact the SIRIUS Dealer Support.
- Make sure the VIN and the ESN SIRIUS has on the customer file match the VIN and the ESN retrieved from the vehicle.

Does the VIN and the ESN on the customer SIRIUS file match the ESN and VIN retrieved from the vehicle?

Yes	The subscription has expired. INSTRUCT the customer to contact SIRIUS to reactivate the subscription.
No	INSTRUCT the customer to contact SIRIUS to update the VIN and the ESN retrieved from the vehicle.

T5 CHECK THE SATELLITE RADIO SIGNAL STRENGTH

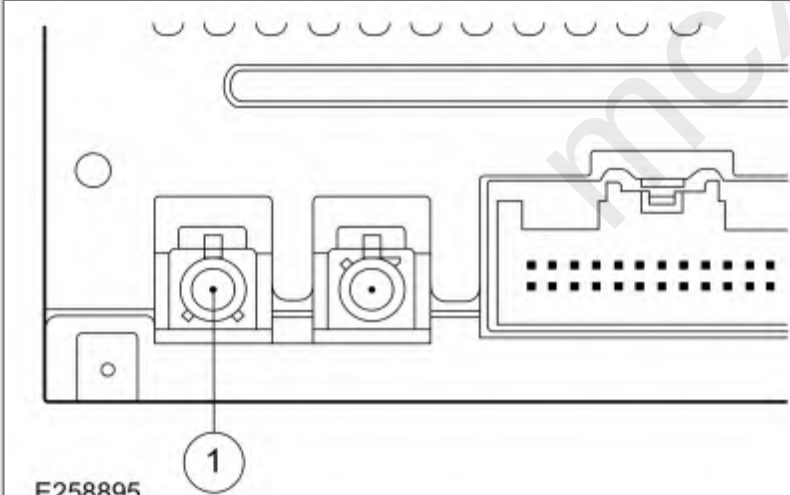
- Drive the vehicle to an outdoor location that is free from obstacles such as tall buildings and large trees until a "Good," "Very Good," or "Excellent" PID value is obtained.
- Using a diagnostic scan tool, view the ACM Parameter Identifications (PIDs).
- Monitor the Satellite Radio Signal Strength PID (SAT_SIG_STR).

Is a "Good," "Very Good," or "Excellent" PID value obtained?

Yes	GO to T9
No	GO to T6

T6 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OUTPUT VOLTAGE TO THE SATELLITE RADIO COAXIAL CABLE

- Ignition OFF.
- Disconnect the satellite radio antenna coaxial cable from the ACM.
- Ignition ON.
- Using the female Flex Probe 300-08058 (0.5 mm x 0.5 mm) or equivalent, measure:

Positive Lead	Measurement / Action	Negative Lead
 E258895 Satellite radio antenna coaxial cable core (component side)		Ground

Is the voltage between 4.4 and 5.5 volts?

Yes	GO to T7
No	GO to T15

T7 CHECK THE SATELLITE RADIO ANTENNA

- Ignition OFF.
- Install a new satellite radio antenna.
REFER to: [Satellite Radio Antenna](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
- Ignition ON.
- Drive the vehicle to an outdoor location that is free from obstacles such as tall buildings and large trees until a "Good," "Very Good," or "Excellent" PID value is obtained.
- Using a diagnostic scan tool, view the ACM Parameter Identifications (PIDs).
- Monitor the Satellite Radio Signal Strength PID (SAT_SIG_STR).

Is a "Good," "Very Good," or "Excellent" PID value obtained?

Yes	The system is operating correctly. The concern was caused by the satellite radio antenna.
No	GO to T8

T8 CHECK THE LOWER SATELLITE RADIO ANTENNA CABLE

- Ignition OFF.
- Install a new lower satellite radio antenna cable.
REFER to: [Satellite Radio Antenna Cable](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
- Ignition ON.
- Drive the vehicle to an outdoor location that is free from obstacles such as tall buildings and large trees until a "Good," "Very Good," or "Excellent" PID value is obtained.
- Using a diagnostic scan tool, view the ACM Parameter Identifications (PIDs).
- Monitor the Satellite Radio Signal Strength PID (SAT_SIG_STR).

Is a "Good," "Very Good," or "Excellent" PID value obtained?

Yes	The system is operating correctly. The concern was caused by the lower satellite radio antenna cable.
No	GO to T15

T9 SEND THE SIRIUS ACTIVATION SIGNAL AND RECHECK SIRIUS TRAVEL LINK™ FOR CORRECT OPERATION

- Refer to the SIRIUS website and input the ESN to send the activation signal to the vehicle.
- Wait 15 minutes.
- **NOTE:** *If the SIRIUS Travel Link™ features have not updated, input the ESN again to re-send/refresh the signal.*

Operate various SIRIUS Travel Link™ features and observe their functionality.

Does the SIRIUS Travel Link™ operate correctly?

Yes	The system is operating correctly at this time.
No	GO to T10

T10 ALLOW THE CATEGORIES TO UPDATE AND THEN CHECK SIRIUS TRAVEL LINK™ FOR CORRECT OPERATION

NOTE: *The frequency of category updates varies and depends on the category and the SIRIUS infrastructure data load.*

- Drive the vehicle to an outdoor location that is free from obstacles such as tall buildings and large trees until a "Good," "Very Good," or "Excellent" PID value is obtained.
- Operate various SIRIUS Travel Link™ features and observe their functionality.

Does SIRIUS Travel Link™ operate correctly?

Yes	The system is operating correctly at this time. The concern was a result of obstructions in the antenna's line of sight.
No	GO to T11

T11 CHECK THE SDL (SIRIUS DATA LINK) CIRCUITS FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect ACM C240B.
- Disconnect APIM C2383A.
- Ignition ON.

Is any voltage present?

Yes	REPAIR the circuit in question.
No	GO to T12

T12 CHECK THE SDL (SIRIUS DATA LINK) CIRCUITS FOR A SHORT TO GROUND

- Ignition OFF.

Are the resistances greater than 10,000 ohms?

Yes	GO to T13
No	REPAIR the circuit in question.

T13 CHECK THE SDL (SIRIUS DATA LINK) CIRCUITS FOR A SHORT TOGETHER

Is the resistance greater than 10,000 ohms?

Yes	GO to T14
No	REPAIR the circuits.

T14 CHECK THE SDL (SIRIUS DATA LINK) CIRCUITS FOR AN OPEN

Are the resistances less than 3 ohms?

Yes	GO to T15
No	REPAIR the circuit in question.

T15 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM connectors.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the ACM 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to T16
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.

T16 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION	
- Ignition OFF. - Disconnect and inspect the APIM connector. - Repair: - Corrosion (clean module pins or install new connectors or terminals) - Damaged or bent pins (install new terminals or pins) - Pushed-out pins (install new pins as necessary) - Reconnect the APIM connector. Make sure it seats and latches 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, CARRY OUT the APIM Hardware Test.   Click here to access Guided Routine (APIM).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The SYNC Connect Feature Is Inoperative Or Does Not Operate Correctly (Vehicles Not Equipped With The Vehicle Wi-Fi® Hotspot Feature)

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions

B1246:11	GSM (Group System for Mobile) Antenna: Circuit Short To Ground	Sets continuous and during the on-demand self-test when the TCU detects a short to ground from the TCU antenna cable for more than 5 seconds.
B1246:13	GSM (Group System for Mobile) Antenna: Circuit Open	Sets continuous and during the on-demand self-test when the TCU detects an open from the TCU antenna cable for more than 5 seconds.

Possible Causes

- Outdated FordPass mobile application software version/level
- Poor TCU reception
- Customer device
- Customer error
- Wiring, terminals, or connectors
- TCU antenna
- TCU antenna coaxial cable
- TCU

PINPOINT TEST U : THE SYNC CONNECT FEATURE IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY (VEHICLES NOT EQUIPPED WITH THE VEHICLE WI-FI® HOTSPOT FEATURE)

U1 CHECK FOR CORRECT VEHICLE OPERATION

- Verify the SYNC Connect function in question operates correctly on the vehicle, independent of the FordPass mobile application. For example, if the SYNC Connect door lock/unlock function is inoperative, check the operation of the door locks using the door lock control switch and passive key; if the SYNC Connect remote start is inoperative, check the remote start function from the passive key; if the SYNC Connect fuel level information does not display, check the operation of the fuel gauge from the IPC, etc.

Does the function in question operate when tested in the vehicle?

Yes	GO to U2
No	REFER to the appropriate section in the Workshop Manual to diagnose the inoperative function.

U2 CHECK FORDPASS MOBILE APPLICATION FOR FUNCTIONALITY

- Check the following:
 - The FordPass mobile application software version level matches the latest software version level available.
 - The device is logged into the FordPass mobile application with the login created from the application or with the Ford Owner account login that corresponds with the vehicle.
 - The vehicle has been added to the FordPass mobile application.
 - SYNC Connect has been fully activated by authorizing the vehicle within the FordPass mobile application.
 - The vehicle is within cell phone tower range. Refer to the coverage map at www.att.com/maps/wireless-coverage
- Access the FordPass mobile application and test various SYNC Connect functions for proper operation by selecting "Vehicle Controls."

Do the SYNC Connect functions operate from the FordPass mobile application?

Yes	The system is operating correctly at this time. The concern may have been caused by poor vehicle reception or low battery voltage.
No	GO to U3

U3 VERIFY THE TCU (TELEMATIC CONTROL UNIT MODULE) PASSES THE NETWORK TEST

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

Does the TCU pass the network test?

Yes	GO to U4
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

U4 CHECK FOR LOST COMMUNICATION DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear all Continuous Memory Diagnostic Trouble Codes (CMDTCs).
- Ignition OFF.
- Ignition ON.
- Wait at least 10 seconds.
- Using a diagnostic scan tool, retrieve all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Are any lost communication Diagnostic Trouble Codes (DTCs) set in any audio system module?

Yes	REFER to the appropriate DTC Chart in this section.
No	GO to U5

U5 CARRY OUT A MASTER RESET

NOTE: Carrying out a Master Reset returns all preference settings to the factory defaults, erases the phone book and call histories, deletes any Bluetooth devices paired with the SYNC system, removes any Wi-Fi® network connections (cancelling any system update download or installation in progress), erases the saved destinations (home, favorites, and previous), and deletes any devices paired with the FordPass mobile application.

- Carry out a Master Reset. Refer to the Owner's Literature.
- Add the vehicle to the FordPass mobile application.
- Select "Allow" on the initial FDIM touchscreen prompt.
- Wait for a period of 24 hours.
- Select "Allow" on the final FDIM touchscreen prompt.
- Access the FordPass mobile application and test various SYNC Connect functions for correct operation by selecting "Vehicle Controls."

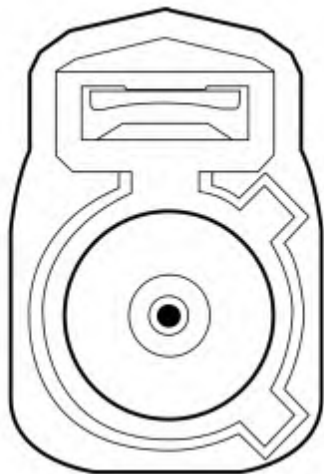
Do the SYNC Connect functions operate from the FordPass mobile application?

Yes	The system is operating correctly at this time. The concern was with the device with the FordPass mobile application.
No	GO to U6

U6 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) ANTENNA COAXIAL CABLE FOR A SHORT TO VOLTAGE

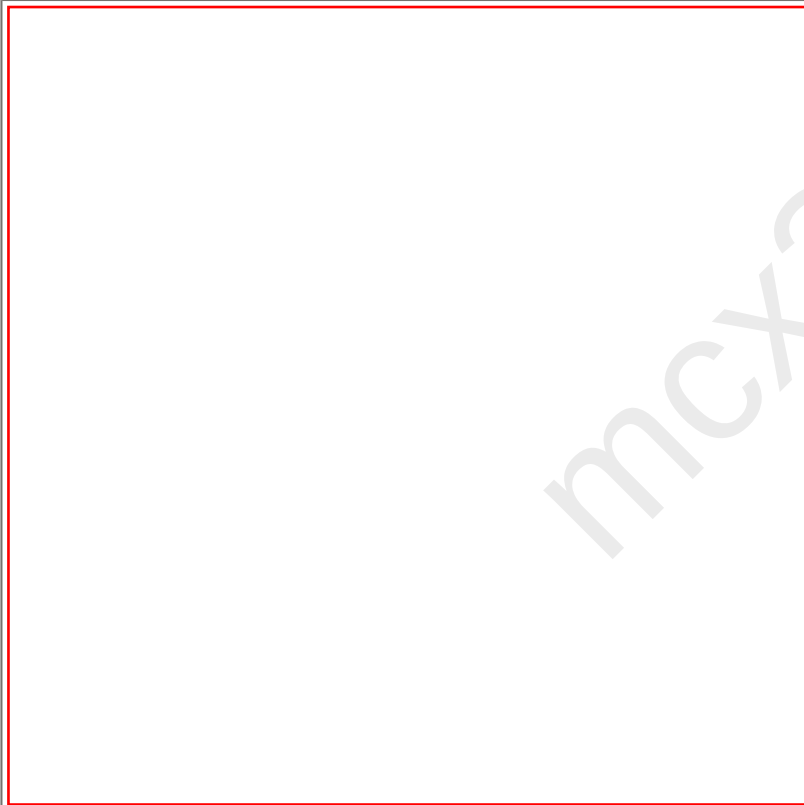
- Ignition OFF.
- Disconnect TCU antenna coaxial cable from the TCU.
- Disconnect TCU antenna coaxial cable from the TCU antenna.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
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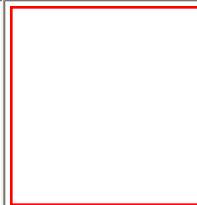


E258990

TCU antenna coaxial cable core



TCU antenna coaxial cable shield



Ground



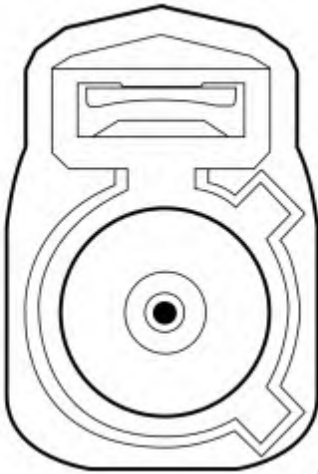
Ground

Is any voltage present?

Yes	INSTALL a new TCU antenna coaxial cable. REFER to: Telematics Control Unit (TCU) Module Antenna Coaxial Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to U7

U7 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) ANTENNA COAXIAL CABLE FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

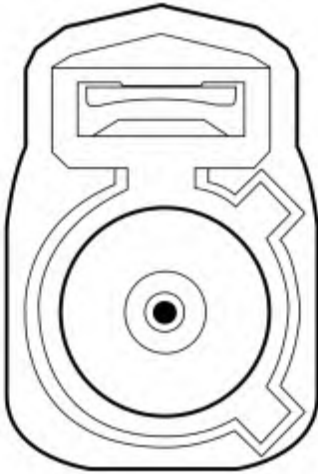
Positive Lead	Measurement / Action	Negative Lead
 E258990 TCU antenna coaxial cable core		Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to U8
No	INSTALL a new TCU antenna coaxial cable. REFER to: Telematics Control Unit (TCU) Module Antenna Coaxial Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

U8 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) ANTENNA COAXIAL CABLE CORE AND SHIELD FOR A SHORT TOGETHER

- Measure:

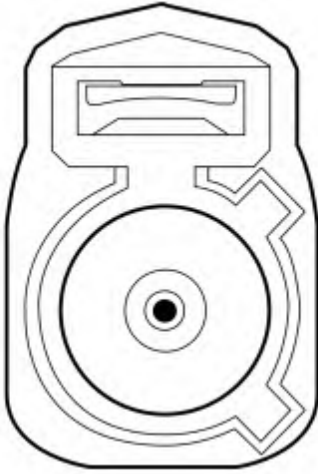
Positive Lead	Measurement / Action	Negative Lead
 E258990 TCU antenna coaxial cable core		TCU antenna coaxial cable shield

Is the resistance greater than 10,000 ohms?

Yes	GO to U9
No	INSTALL a new TCU antenna coaxial cable. REFER to: Telematics Control Unit (TCU) Module Antenna Coaxial Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

U9 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) ANTENNA COAXIAL CABLE FOR AN OPEN

- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E258990 TCU antenna coaxial cable core at the TCU		TCU antenna coaxial cable core at the TCU antenna

TCU antenna coaxial cable shield at the TCU

TCU antenna coaxial cable shield at the TCU antenna

Are the resistances less than 1 ohm?

Yes	INSTALL a new TCU antenna. REFER to: Telematics Control Unit (TCU) Module Antenna (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to U10
No	INSTALL a new TCU antenna coaxial cable. REFER to: Telematics Control Unit (TCU) Module Antenna Coaxial Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

U10 CHECK FOR CORRECT TCU (TELEMATIC CONTROL UNIT MODULE) OPERATION

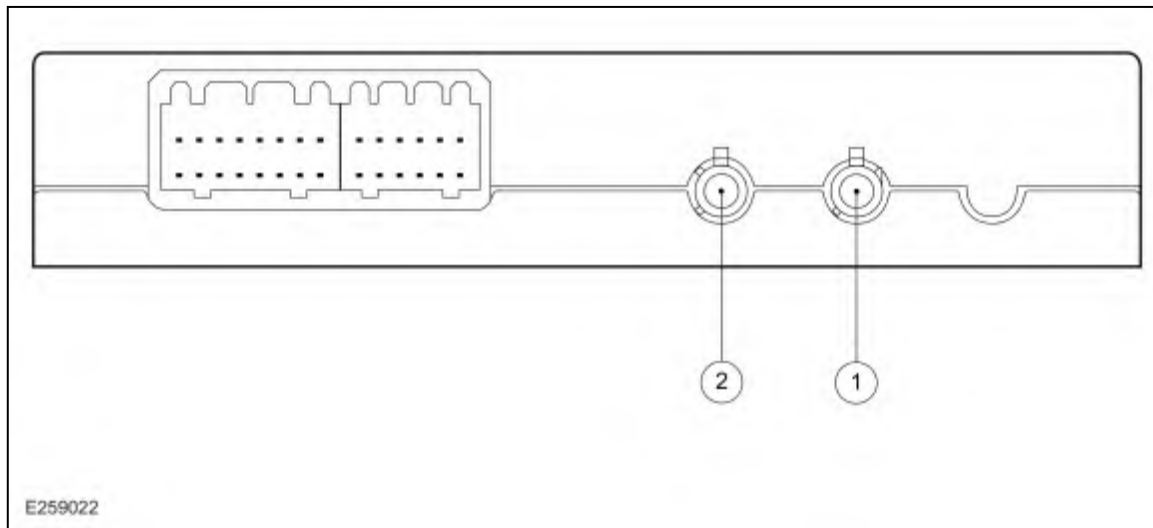
- Ignition OFF.
- Inspect the TCU connector.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the TCU connector. Make sure it seats and latches correctly.
- 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 TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The SYNC Connect Feature Is Inoperative Or Does Not Operate Correctly (Vehicles Equipped With The Vehicle Wi-Fi® Hotspot Feature)

Refer to Wiring Diagrams Cell 133 for schematic and connector information.



Item	Part Number	Description
1	—	TCU antenna connection
2	—	Cellular antenna connection

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1246:11	GSM (Group System for Mobile) Antenna: Circuit Short To Ground	Sets continuous and during the on-demand self-test when the TCU detects a short to ground from the cellular antenna cable to the satellite antenna for more than 5 seconds.
B1246:13	GSM (Group System for Mobile) Antenna: Circuit Open	Sets continuous and during the on-demand self-test when the TCU detects an open from the cellular antenna cable to the satellite antenna for more than 5 seconds.

Possible Causes

- Outdated FordPass mobile application software version/level
- Poor TCU reception
- Customer device

- Customer error
- Wiring, terminals, or connectors
- Cellular antenna cable
- Satellite radio antenna cable
- Satellite radio antenna
- TCU

PINPOINT TEST V : THE SYNC CONNECT FEATURE IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY (VEHICLES EQUIPPED WITH THE VEHICLE WI-FI® HOTSPOT FEATURE)

V1 CHECK FOR CORRECT VEHICLE OPERATION

- Verify the SYNC Connect function in question operates correctly on the vehicle, independent of the FordPass mobile application. For example, if the SYNC Connect door lock/unlock function is inoperative, check the operation of the door locks using the door lock control switch. and passive key, remote start function from the passive key, fuel level from the IPC, etc.

Does the function in question operate when tested in the vehicle?

Yes	GO to V2
No	REFER to the appropriate section in the Workshop Manual to diagnose the inoperative function.

V2 CHECK FORDPASS MOBILE APPLICATION FOR FUNCTIONALITY

- Check the following:
 - The FordPass mobile application software version level matches the latest software version level available.
 - The device is logged into the FordPass mobile application with the login created from the application or with the Ford Owner account login that corresponds with the vehicle.
 - The vehicle has been added to the FordPass mobile application.
 - SYNC Connect has been fully activated by authorizing the vehicle within the FordPass mobile application.
 - The vehicle is within cell phone tower range. Refer to the coverage map at www.att.com/maps/wireless-coverage
- Access the FordPass mobile application and test various SYNC Connect functions for proper operation by selecting "Vehicle Controls."

Do the SYNC Connect functions operate from the FordPass mobile application?

Yes	The system is operating correctly at this time. The concern may have been caused by poor vehicle reception or low battery voltage.
No	GO to V3

V3 VERIFY THE TCU (TELEMATIC CONTROL UNIT MODULE) PASSES THE NETWORK TEST

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

Does the TCU pass the network test?

Yes	GO to V4
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

V4 CHECK FOR LOST COMMUNICATION DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear all Continuous Memory Diagnostic Trouble Codes (CMDTCs).
- Ignition OFF.
- Ignition ON.
- Wait at least 10 seconds.
- Using a diagnostic scan tool, retrieve all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Are any lost communication Diagnostic Trouble Codes (DTCs) set in any audio system module?

Yes	REFER to the appropriate DTC Chart in this section.
No	GO to V5

V5 CARRY OUT A MASTER RESET

NOTE: Carrying out a Master Reset returns all preference settings to the factory defaults, erases the phone book and call histories, deletes any Bluetooth devices paired with the SYNC system, removes any Wi-Fi® network connections (cancelling any system update download or installation in progress), erases the saved destinations (home, favorites, and previous), and deletes any devices paired with the FordPass mobile application.

- Carry out a Master Reset. Refer to the Owner Literature.
- Add the vehicle to the FordPass mobile application.
- Select "Allow" on the initial FDIM touchscreen prompt.
- Wait for a period of 24 hours.

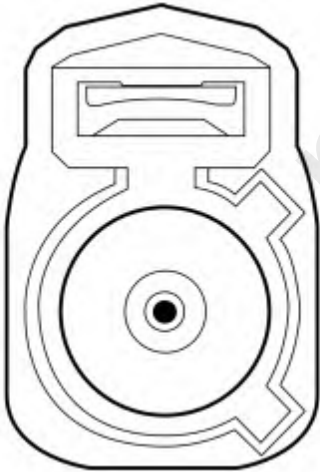
- Select "Allow" on the final FDIM touchscreen prompt.
- Access the FordPass mobile application and test various SYNC Connect functions for correct operation by selecting "Vehicle Controls."

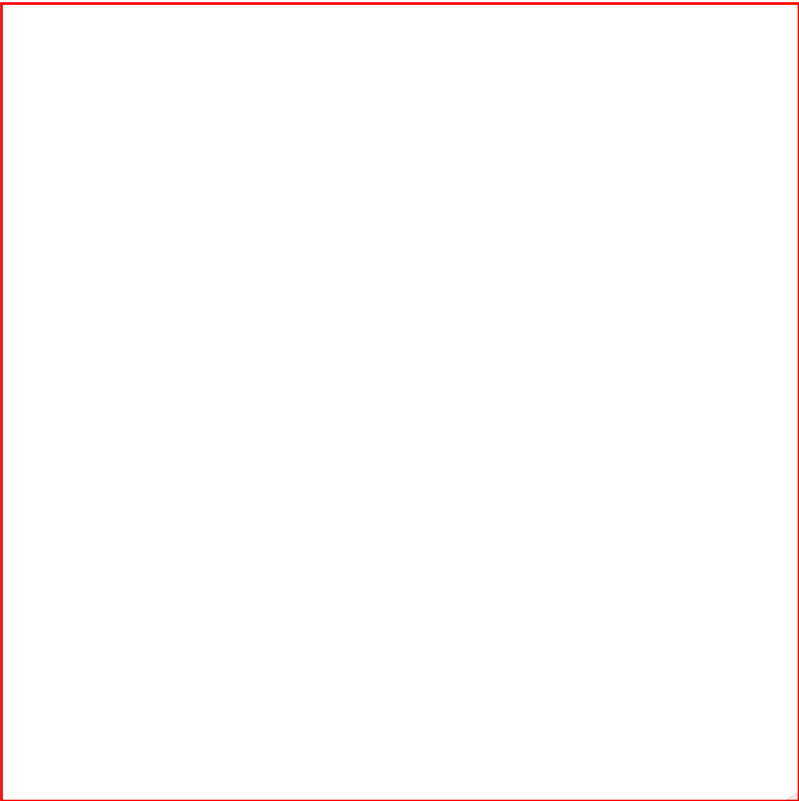
Do the SYNC Connect functions operate from the FordPass mobile application?

Yes	The system is operating correctly at this time. The concern was with the device with the FordPass mobile application.
No	GO to V6

V6 CHECK THE CELLULAR ANTENNA CABLE FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect cellular antenna cable from the TCU.
- Disconnect satellite radio antenna cable from the satellilte radio antenna.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E258990 Cellular antenna cable core at the TCU		Ground

 Cellular antenna cable shield at the TCU		Ground
--	--	--------

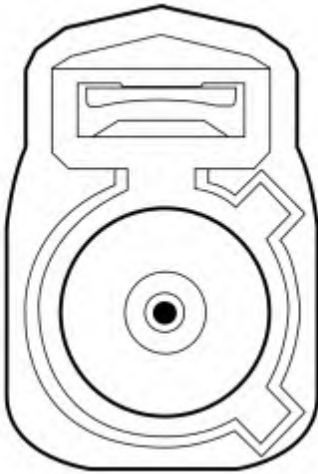
Is any voltage present?

Yes	IDENTIFY the coaxial cable with the short to voltage. INSTALL a new coaxial cable in question. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). REFER to: Cellular Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to V7

V7 CHECK THE CELLULAR ANTENNA CABLE FOR A SHORT TO GROUND

- Ignition OFF.

- Measure:

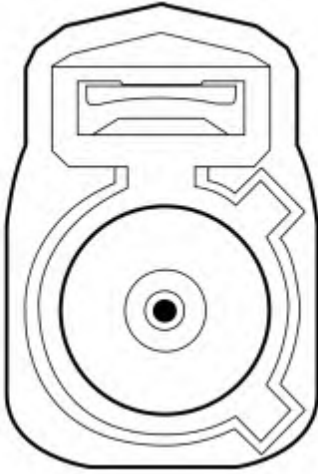
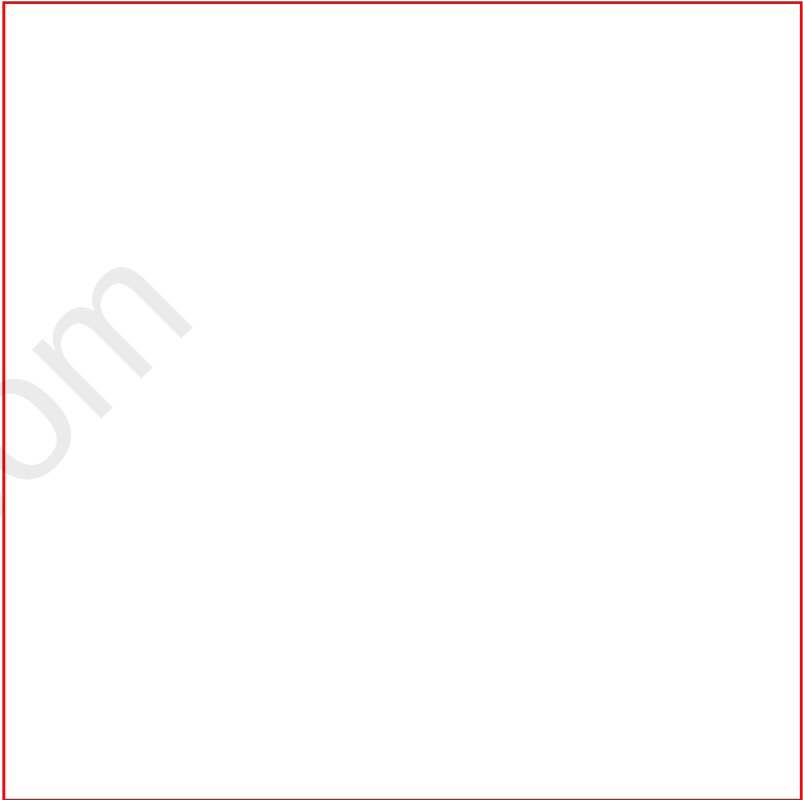
Positive Lead	Measurement / Action	Negative Lead
 E258990 Cellular antenna cable core at the TCU		Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to V8
No	IDENTIFY the coaxial cable with the short to ground. INSTALL a new coaxial cable in question. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). REFER to: Cellular Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

V8 CHECK THE CELLULAR ANTENNA CABLE CORE AND SHIELD FOR A SHORT TOGETHER

- Measure:

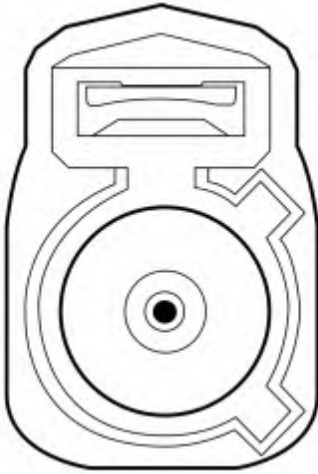
Positive Lead	Measurement / Action	Negative Lead
 E258990 Cellular antenna cable core at the TCU		 Cellular antenna cable shield at the TCU

Is the resistance greater than 10,000 ohms?

Yes	GO to V9
No	IDENTIFY the coaxial cable with the short to shield. INSTALL a new coaxial cable in question. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). REFER to: Cellular Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

V9 CHECK THE CELLULAR ANTENNA CABLE FOR AN OPEN

• Measure:

Positive Lead	Measurement / Action	Negative Lead
 E258990 Cellular antenna cable core at the TCU		Cellular antenna cable core at the satellite antenna

Cellular antenna cable shield at the TCU

Cellular antenna cable shield at the satellite antenna

Are the resistances less than 1 ohm?

Yes	INSTALL a new satellite radio antenna. REFER to: Satellite Radio Antenna (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to V10
No	IDENTIFY the coaxial cable with the open. INSTALL a new coaxial cable in question. REFER to: Satellite Radio Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). REFER to: Cellular Antenna Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

V10 CHECK FOR CORRECT TCU (TELEMATIC CONTROL UNIT MODULE) OPERATION

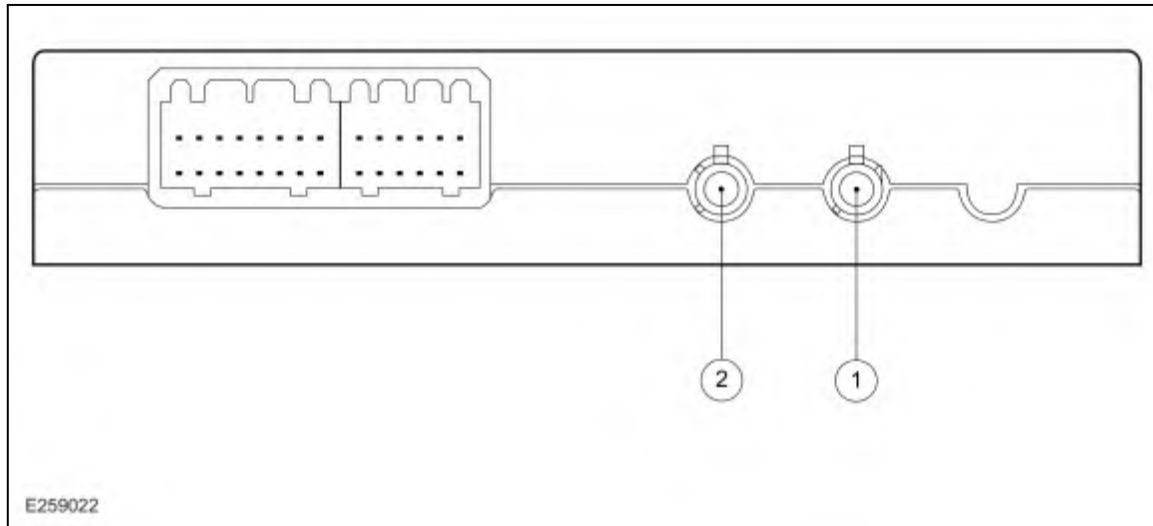
- Ignition OFF.
- Inspect the TCU connector.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the TCU connector. Make sure it seats and latches correctly.
- 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 TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

The Vehicle Wi-Fi® Hotspot Feature Is Inoperative Or Experiencing Poor Data Speed

Refer to Wiring Diagrams Cell 133 for schematic and connector information.



Item	Part Number	Description
1	—	TCU antenna connection
2	—	Cellular antenna connection

Normal Operation and Fault Conditions

REFER to: [Information and Entertainment System - System Operation and Component Description](#) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Description and Operation).

TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
B1D55:11	Antenna #2: Circuit Short To Ground	Sets continuous and during the on-demand self-test when the TCU detects a short to ground from the TCU antenna cable for more than 5 seconds.
B1D55:13	Antenna #2: Circuit Open	Sets continuous and during the on-demand self-test when the TCU detects an open from the TCU antenna cable for more than 5 seconds.

Possible Causes

- Outdated FordPass mobile application software version/level
- Poor TCU reception
- Customer device

- Customer error
- Wiring, terminals, or connectors
- TCU antenna
- TCU antenna coaxial cable
- TCU

PINPOINT TEST W : THE VEHICLE WI-FI® HOTSPOT FEATURE IS INOPERATIVE OR EXPERIENCING POOR DATA SPEED

W1 CHECK FOR CORRECT VEHICLE OPERATION

- Verify the SYNC Connect function operates correctly. For example, check the operation of the door locks using the SYNC Connect feature.

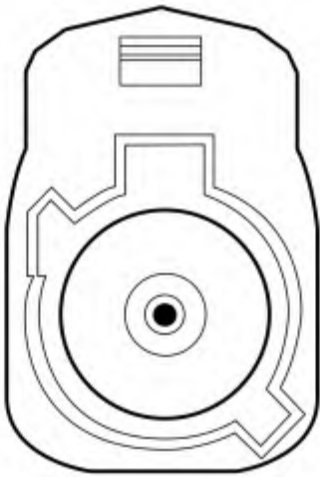
Does the SYNC Connect feature operate?

Yes	GO to W2
No	GO to Pinpoint Test V

W2 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) COAXIAL ANTENNA CABLE FOR A SHORT TO VOLTAGE

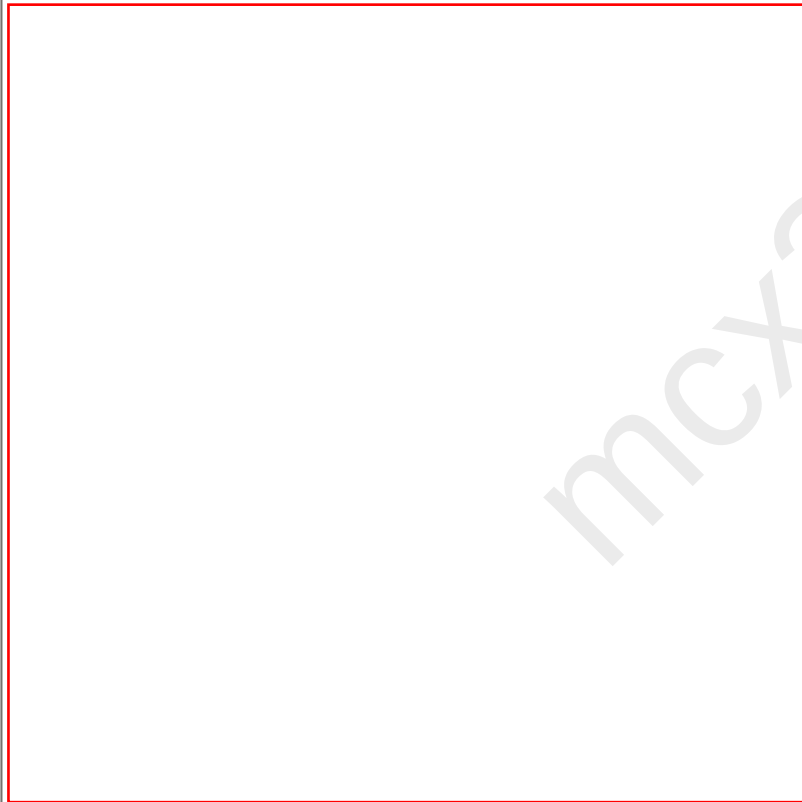
- Ignition OFF.
- Disconnect TCU antenna coaxial cable from the TCU.
- Disconnect TCU antenna coaxial cable from the TCU antenna.
- Ignition ON.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
		Ground



E258989

TCU antenna coaxial cable core at the TCU



TCU antenna coaxial cable shield at the TCU



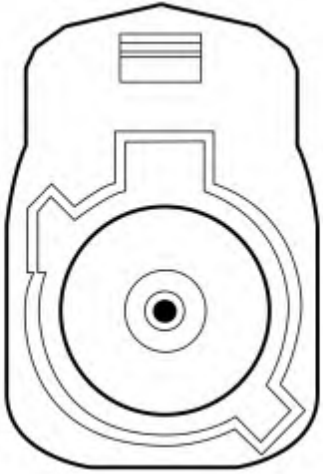
Ground

Is any voltage present?

Yes	INSTALL a new TCU antenna coaxial cable. REFER to: Telematics Control Unit (TCU) Module Antenna Coaxial Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
No	GO to W3

W3 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) ANTENNA COAXIAL CABLE FOR A SHORT TO GROUND

- Ignition OFF.
- Measure:

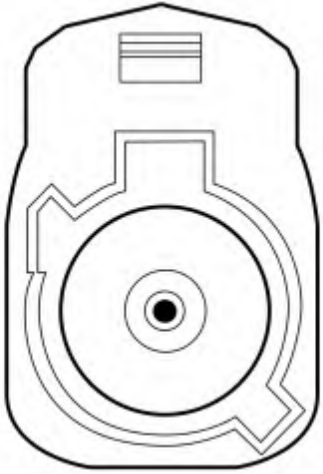
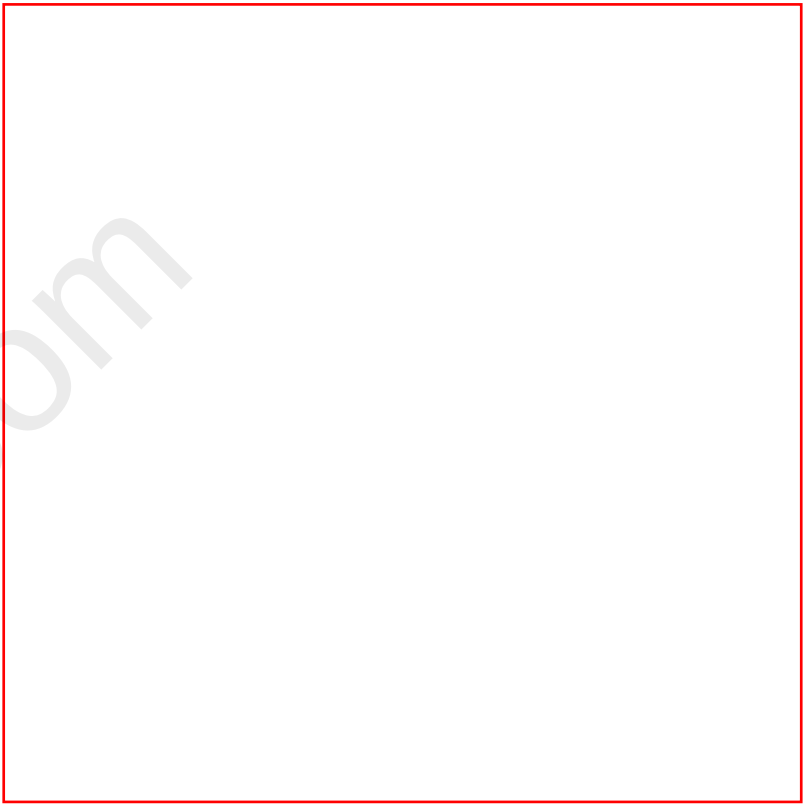
Positive Lead	Measurement / Action	Negative Lead
 E258989 TCU antenna coaxial cable core at the TCU		Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to W4
No	INSTALL a new TCU antenna coaxial cable. REFER to: Telematics Control Unit (TCU) Module Antenna Coaxial Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

W4 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) ANTENNA COAXIAL CABLE CORE AND SHIELD FOR A SHORT TOGETHER

- Measure:

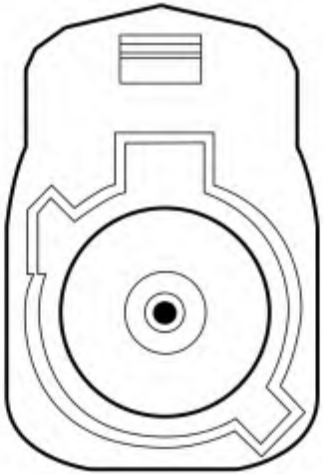
Positive Lead	Measurement / Action	Negative Lead
 E258989 TCU antenna coaxial cable core at the TCU		 TCU antenna coaxial cable shield at the TCU

Is the resistance greater than 10,000 ohms?

Yes	GO to W5
No	INSTALL a new TCU antenna coaxial cable. REFER to: Telematics Control Unit (TCU) Module Antenna Coaxial Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

W5 CHECK THE TCU (TELEMATIC CONTROL UNIT MODULE) ANTENNA COAXIAL CABLE FOR AN OPEN

- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E258989 TCU antenna coaxial cable core at the TCU		TCU antenna coaxial cable core at the TCU antenna

TCU antenna coaxial cable shield at the TCU

TCU antenna coaxial cable shield at the TCU antenna

Are the resistances less than 1 ohm?

Yes	INSTALL a new TCU antenna. REFER to: Telematics Control Unit (TCU) Module Antenna (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation). TEST the system for normal operation. If the concern is still present, GO to W6
No	INSTALL a new TCU antenna coaxial cable. REFER to: Telematics Control Unit (TCU) Module Antenna Coaxial Cable (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).

W6 CHECK FOR CORRECT TCU (TELEMATIC CONTROL UNIT MODULE) OPERATION

- Ignition OFF.
- Inspect the TCU connector.
- Repair:
 - Corrosion (clean module pins or install new connectors or terminals)
 - Damaged or bent pins (install new terminals or pins)
 - Pushed-out pins (install new pins as necessary)
- Reconnect the TCU connector. Make sure it seats and latches 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 TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

U0100:00

Normal Operation and Fault Conditions

The ACM, the DACMC and the TCU communicate with the PCM over the CAN . If the ACM, the DACMC or the TCU does not receive messages from the PCM, features such as the speed compensated volume can be inoperative.

ACM/ DACMC/ TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0100:00	Lost Communication with ECM/PCM "A": No Sub Type Information	Sets continuous when the ACM, the DACMC or the TCU detects network messages are missing from the PCM for more than 5 seconds.

Possible Causes

- Network communication concern
- ACM concern
- DACMC concern
- TCU concern
- PCM

PINPOINT TEST X : U0100:00

X1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to X2
No	The system is operating normally at this time. The DTC may have been set due to high network traffic or an intermittent fault condition.

X2 VERIFY THE DIAGNOSTIC SCAN TOOL COMMUNICATES WITH THE PCM (POWERTRAIN CONTROL MODULE)

- Connect the diagnostic scan tool to the vehicle.
- Attempt to establish a vehicle session using the diagnostic scan tool.

Can a vehicle session be established?

Yes	GO to X3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

X3 CHECK FOR NON-NETWORK ACM (AUDIO FRONT CONTROL MODULE) / DACMC (DIGITAL AUDIO CONTROL MODULE C) / TCU (TELEMATIC CONTROL UNIT MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the ACM, the DACMC or the TCU DTC Chart in this section.
No	GO to X4

X4 CHECK FOR PCM (POWERTRAIN CONTROL MODULE) TROUBLE CODES (DTCS)

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

Are any Diagnostic Trouble Codes (DTCs) present?

Yes	REFER to Diagnosis and Testing in the appropriate 303-14 section.
No	GO to X5

X5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0100:00

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question setting the DTC.
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

Is DTC U0100:00 still present?

Yes	GO to X6
No	The system is operating correctly at this time. The DTC may have set due to high network traffic or an intermittent fault condition.

X6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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, the ACM, the DACMC and the TCU. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to X7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

X7 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the PCM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors 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 any 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 PCM. REFER to the Removal and Installation procedure in the appropriate 303-14 section.
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.

U0121:00

Normal Operation and Fault Conditions

The APIM and the DACMC communicate with the ABS module over the CAN. If the APIM or the DACMC does not receive messages from the ABS module, the GPS feature may not be accurate.

APIM/ DACMC DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0121:00	Lost Communication With Anti-Lock Brake System (ABS) Control Module: No Sub Type Information	Sets in continuous memory when the APIM or the DACMC detects network messages are missing from the ABS module for more than 5 seconds.

Possible Causes

- Network communication concern
- APIM concern
- DACMC concern
- ABS module

PINPOINT TEST Y : U0121:00

Y1 VERIFY THE CONCERN	
• Ignition ON. • Verify there is an observable symptom present.	
Is an observable symptom present?	
Yes	GO to Y2
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.

Y2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the ABS module pass the network test?

Yes	GO to Y3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

Y3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) / DACMC (DIGITAL AUDIO CONTROL MODULE C) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM or the DACMC DTC Chart in this section.
No	GO to Y4

Y4 CHECK FOR NON-NETWORK ABS (ANTI-LOCK BRAKE SYSTEM) MODULE DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	REFER to: Anti-Lock Brake System (ABS) and Stability Control (206-09 Anti-Lock Brake System (ABS) and Stability Control) .
No	GO to Y5

Y5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0121:00

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question setting the DTC.
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

Is DTC U0121:00 still present?

Yes	GO to Y6
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.

Y6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 ABS module, the APIM and the DACMC. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to Y7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

Y7 CHECK FOR CORRECT ABS (ANTI-LOCK BRAKE SYSTEM) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the ABS module and any related in-line connectors.
- Repair:
 - corrosion (install new connectors 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 and any 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,   Click here to access Guided Routine (ABS).
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.

U0140:00

Normal Operation and Fault Conditions

The ACM, the APIM, the DACMC, the FCIM and the TCU communicate with the BCM over the CAN. If the ACM, the APIM, the DACMC, the FCIM or the TCU does not receive messages from the BCM, the display screen brightness may not operate not operate correctly.

ACM/ APIM/ DACMC/ FCIM/ TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	Sets in continuous memory when the ACM, the APIM, the DACMC, the FCIM or the TCU detects network messages are missing from the BCM for more than 5 seconds.

Possible Causes

- Network communication concern
- ACM concern
- APIM concern
- FCIM concern
- TCU concern
- BCM

PINPOINT TEST Z : U0140:00

Z1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to Z2
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.

Z2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the BCM pass the network test?

Yes	GO to Z3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

Z3 CHECK FOR NON-NETWORK ACM (AUDIO FRONT CONTROL MODULE) / APIM (SYNC MODULE) / DACMC (DIGITAL AUDIO CONTROL MODULE C) / FCIM (FRONT CONTROLS INTERFACE MODULE) / TCU (TELEMATIC CONTROL UNIT MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the ACM, the APIM, the DACMC, the FCIM or the TCU DTC Chart in this section.
No	GO to Z4

Z4 CHECK FOR NON-NETWORK BCM (BODY CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	REFER to: Body Control Module (BCM) (419-10 Multifunction Electronic Modules, Diagnosis and Testing).
No	GO to Z5

Z5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0140:00

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question setting the DTC.
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

Is DTC U0140:00 still present?

Yes	GO to Z6
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.

Z6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 BCM, the ACM, the APIM, the DACMC, the FCIM and the TCU. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to Z7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

Z7 CHECK FOR CORRECT BCM (BODY CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the BCM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the BCM and any 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,   Click here to access Guided Routine (BCM).
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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.
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U0151:00

Normal Operation and Fault Conditions

The APIM and the FCIM communicate with the RCM over the CAN. If messages are missing or not received from the RCM, features such as the 911 Assist or Emergency Assist or the passenger airbag disable indicator may be inoperative.

APIM/ FCIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0151:00	Lost Communication With Restraints Control Module: No Sub Type Information	Sets in continuous memory when the APIM or the FCIM detects messages from the RCM are missing for more than 5 seconds.

Possible Causes

- Network communication concern
- FCIM concern
- APIM concern
- RCM

PINPOINT TEST AA : U0151:00

AA1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AA2
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.

AA2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the RCM pass the network test?

Yes	GO to AA3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AA3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) / FCIM (FRONT CONTROLS INTERFACE MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM or the FCIM DTC Chart in this section.
No	GO to AA4

AA4 CHECK FOR NON-NETWORK RCM (RESTRAINTS CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the RCM self-test.

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

Yes	REFER to: Airbag Supplemental Restraint System (SRS) - Raptor (501-20B Supplemental Restraint System, Diagnosis and Testing). REFER to: Airbag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).
No	GO to AA5

AA5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0151:00

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question setting the DTC.
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

Is DTC U0151:00 still present?

Yes	GO to AA6
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.

AA6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 RCM, the APIM and the FCIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AA7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AA7 CHECK FOR CORRECT RCM (RESTRAINTS CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the RCM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the RCM and any 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 RCM. REFER to: Restraints Control Module (RCM) (501-20B Supplemental Restraint System, Removal and Installation).   Click here to access Guided Routine (ABS).
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.

U0155:00

Normal Operation and Fault Conditions

The ACM, the APIM, the FCIM and the TCU communicate with the IPC over the CAN. If messages are missing or not received from the IPC, features such as the display illumination or warning chimes may not operate correctly.

ACM/ APIM/ FCIM/ TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	Sets in continuous memory when the ACM, the APIM, the FCIM or the TCU detects network messages are missing from the IPC for more than 5 seconds.

Possible Causes

- Network communication concern
- ACM concern
- APIM concern
- FCIM concern
- TCU concern
- IPC

PINPOINT TEST AB : U0155:00

AB1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AB2
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.

AB2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the IPC pass the network test?

Yes	GO to AB3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AB3 CHECK FOR NON-NETWORK ACM (AUDIO FRONT CONTROL MODULE) / APIM (SYNC MODULE) / FCIM (FRONT CONTROLS INTERFACE MODULE) / TCU (TELEMATIC CONTROL UNIT MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the ACM, the APIM, the FCIM or the TCU DTC Chart in this section.
No	GO to AB4

AB4 CHECK FOR NON-NETWORK IPC (INSTRUMENT PANEL CLUSTER) DIAGNOSTIC TROUBLE CODES (DTCs)

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

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

Yes	REFER to: Instrumentation, Message Center and Warning Chimes (413-01 Instrumentation, Message Center and Warning Chimes, Diagnosis and Testing).
No	GO to AB5

AB5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0155:00

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question setting the DTC.
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

Is DTC U0155:00 still present?

Yes	GO to AB6
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.

AB6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 IPC, the ACM, the APIM, the FCIM and the TCU. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AB7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AB7 CHECK FOR CORRECT IPC (INSTRUMENT PANEL CLUSTER) OPERATION

- Ignition OFF.
- Disconnect and inspect the IPC and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the IPC and any 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 IPC. REFER to: Instrument Panel Cluster (IPC) (413-01 Instrumentation, Message Center and Warning Chimes, 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.

U0159:00

Normal Operation and Fault Conditions

The APIM communicates with the PAM over the CAN. If messages are missing or not received from the PAM, features such as the parking aid may not operate correctly.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0159:00	Lost Communication With Parking Assist Control Module "A": No Sub Type Information	Set in continuous memory when the APIM detects network messages are missing from the PAM for more than 5 seconds.

Possible Causes

- Network communication concern
- APIM concern
- BCM (with integrated PAM)

PINPOINT TEST AC : U0159:00

AC1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AC2
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.

AC2 CHECK THE NETWORKCOMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the PAM pass the network test?

Yes	GO to AC3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AC3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AC4

AC4 CHECK FOR NON-NETWORK PAM (PARKING ASSIST CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

Are any non-network 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 AC5

AC5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0159:00

- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the APIM self-test.

Is DTC U0159:00 still present?

Yes	GO to AC6
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.

AC6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 PAM, the BCM and the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AC7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AC7 CHECK FOR CORRECT PAM (PARKING ASSIST CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the BCM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the BCM and any 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,   Click here to access Guided Routine (BCM).
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.

U0184:00

Normal Operation and Fault Conditions

The APIM communicates with the ACM over the CAN. If messages are missing or not received from the ACM, the touchscreen display is blank.

Normal Operation and Fault Conditions

REFER to: Information and Entertainment System (415-00 Information and Entertainment System - General Information) .
See Network Message Chart.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions

U0184:00	Lost Communication With Radio: No Sub Type Information	Sets in continuous memory when the APIM detects network messages are missing from the ACM for more than 5 seconds.
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Possible Causes

- Network communication concern
- APIM concern
- ACM

PINPOINT TEST AD : U0184:00

AD1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AD2
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.

AD2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the ACM pass the network test?

Yes	GO to AD3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AD3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AD4

AD4 CHECK FOR NON-NETWORK ACM (AUDIO FRONT CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the ACM self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the ACM DTC Chart in this section.
No	GO to AD5

AD5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0184:00

- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the APIM self-test.

Is DTC U0184:00 still present?

Yes	GO to AD6
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.

AD6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 ACM or the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AD7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AD7 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the ACM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the ACM and any 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
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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.
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U0198:00

Normal Operation and Fault Conditions

The APIM communicates with the TCU over the CAN. If messages are missing or not received from the TCU, the SYNC Connect feature may not operate correctly.

Normal Operation and Fault Conditions

REFER to: Information and Entertainment System (415-00 Information and Entertainment System - General Information) .
See Network Message Chart.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0198:00	Lost Communication With Telematic Control Module: No Sub Type Information	Sets in continuous memory when the APIM detects network messages are missing from the TCU for more than 5 seconds.

Possible Causes

- Network communication concern
- APIM concern
- TCU

PINPOINT TEST AE : U0198:00

AE1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AE2
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.

AE2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the TCU pass the network test?

Yes	GO to AE3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AE3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AE4

AE4 CHECK FOR NON-NETWORK TCU (TELEMATIC CONTROL UNIT MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the TCU self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the TCU DTC Chart in this section.
No	GO to AE5

AE5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0198:00

- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the APIM self-test.

Is DTC U0198:00 still present?

Yes	GO to AE6
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.

AE6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 TCU and the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AE7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AE7 CHECK FOR CORRECT TCU (TELEMATIC CONTROL UNIT MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the TCU and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the TCU and any 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 TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

U0208:00

Normal Operation and Fault Conditions

The APIM communicates with the SCME over the CAN. If messages are missing or not received from the SCME, the climate controlled seat may not operate correctly.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0208:00	Lost Communication With "Seat Control Module A": No Sub Type Information	Sets in continuous memory when the APIM detects network messages are missing from the SCME for more than 5 seconds.

Possible Causes

- Network communication concern
- APIM concern
- SCME

PINPOINT TEST AF : U0208:00

AF1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AF2
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.

AF2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the SCME pass the network test?

Yes	GO to AF3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AF3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AF4

AF4 CHECK FOR NON-NETWORK SCME (FRONT SEAT CLIMATE CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the SCME self-test.

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

Yes	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
No	GO to AF5

AF5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0208:00

- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the APIM self-test.

Is DTC U0208:00 still present?

Yes	GO to AF6
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.

AF6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 SCME and the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AF7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AF7 CHECK FOR CORRECT SCME (FRONT SEAT CLIMATE CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the SCME and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the SCME and any 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 SCME.
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.

U0232:00

Normal Operation and Fault Conditions

The APIM communicates with the SODL over the CAN. If messages are missing or not received from the SODL, features such as the side detection settings or warning chimes may not operate correctly.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0232:00	Lost Communication With Side Obstacle Detection Control Module - Left: No Sub Type Information	Sets in continuous memory when the APIM detects network messages are missing from the SODL for more than 5 seconds.

Possible Causes

- Network communication concern
- APIM concern
- SODL

PINPOINT TEST AG : U0232:00

AG1 VERIFY THE CONCERN	
• Ignition ON. • Verify there is an observable symptom present.	
Is an observable symptom present?	
Yes	GO to AG2
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.
AG2 CHECK THE NETWORK COMMUNICATION	

- Using a diagnostic scan tool, carry out the network test.

Does the SODL pass the network test?

Yes	GO to AG3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AG3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AG4

AG4 CHECK FOR NON-NETWORK SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	REFER to: Blind Spot Information System (419-04 Side and Rear Vision, Diagnosis and Testing).
No	GO to AG5

AG5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0232:00

- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the APIM self-test.

Is DTC U0232:00 still present?

Yes	GO to AG6
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.

AG6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 SODL and the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AG7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AG7 CHECK FOR CORRECT SODL (SIDE OBSTACLE DETECTION CONTROL MODULE LH) OPERATION

- Ignition OFF.
- Disconnect and inspect the SODL and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the SODL and any 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 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 module connections. ADDRESS the root cause of any connector or pin issues.

U0233:00

Normal Operation and Fault Conditions

The APIM communicates with the SODR over the CAN. If messages are missing or not received from the SODR, features such as the side detection settings or warning chimes may not operate correctly.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0233:00	Lost Communication With Side Obstacle Detection Control Module - Right: No Sub Type Information	Sets in continuous memory when the APIM detects network messages are missing from the SODR for more than 5 seconds when the ignition is on.

Possible Causes

- Network communication concern
- APIM concern
- SODR

PINPOINT TEST AH : U0233:00

AH1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AH2
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.

AH2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the SODR pass the network test?

Yes	GO to AH3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AH3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AH4

AH4 CHECK FOR NON-NETWORK SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	REFER to: Blind Spot Information System (419-04 Side and Rear Vision, Diagnosis and Testing).
No	GO to AH5

AH5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0233:00

- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the APIM self-test.

Is DTC U0233:00 still present?

Yes	GO to AH6
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.

AH6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 SODR and the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AH7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AH7 CHECK FOR CORRECT SODR (SIDE OBSTACLE DETECTION CONTROL MODULE RH) OPERATION

- Ignition OFF.
- Disconnect and inspect the SODR and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the SODR and any 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 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 module connections. ADDRESS the root cause of any connector or pin issues.

U0237:00**Normal Operation and Fault Conditions**

The ACM communicates with the DACMC over the CAN. If messages are missing or not received from the DACMC, features such as the ESE may not operate correctly.

ACM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0237:00	Lost Communication With Digital Audio Control Module "C": No Sub Type Information	Sets in continuous memory when the ACM detects network messages are missing from the DACMC for more than 5 seconds.

Possible Causes

- Network communication concern
- ACM concern
- ACM (contains the DACMC)

PINPOINT TEST AI : U0237:00

AI1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AI2
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.

AI2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the DACMC pass the network test?

Yes	GO to AI3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AI3 CHECK FOR NON-NETWORK ACM (AUDIO FRONT CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the ACM self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the ACM DTC Chart in this section.
No	GO to AI4

AI4 CHECK FOR NON-NETWORK DACMC (DIGITAL AUDIO CONTROL MODULE C) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the DACMC self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the DACMC DTC Chart in this section.
No	GO to AI5

AI5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0237:00

- Using a diagnostic scan tool, clear the ACM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the ACM self-test.

Is DTC U0237:00 still present?

Yes	GO to AI6
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.

AI6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 ACM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AI7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AI7 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the ACM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the ACM and any 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
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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.
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U024B:00

Normal Operation and Fault Conditions

The APIM communicates with the SCMG over the CAN. If messages are missing or not received from the SCMG, features such as the driver seat massage may not operate correctly.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U024B:00	Lost Communication with Seat Control Module "G": No Sub Type Information	Sets in continuous memory when the APIM detects network messages are missing from the SCMG for more than 5 seconds.

Possible Causes

- Network communication concern
- APIM concern
- SCMG

PINPOINT TEST AJ : U024B:00

AJ1 VERIFY THE CONCERN	
• Ignition ON. • Verify there is an observable symptom present.	
Is an observable symptom present?	
Yes	GO to AJ2
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.

AJ2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the SCMG pass the network test?

Yes	GO to AJ3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AJ3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AJ4

AJ4 CHECK FOR NON-NETWORK SCMG (DRIVER MULTI-CONTOUR SEAT MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the SCMG self-test.

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

Yes	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
No	GO to AJ5

AJ5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U024B:00

- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the APIM self-test.

Is DTC U024B:00 still present?

Yes	GO to AJ6
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.

AJ6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 SCMG and the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AJ7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AJ7 CHECK FOR CORRECT SCMG (DRIVER MULTI-CONTOUR SEAT MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the SCMG and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the SCMG and any 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 SCMG. REFER to: Driver Multi-Contour Seat Module [SCMG] (501-10A Front Seats, 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.

U024C:00

Normal Operation and Fault Conditions

The APIM communicates with the SCMH over the CAN. If messages are missing or not received from the SCMH, features such as the passenger seat massage may not operate correctly.

APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U024C:00	Lost Communication with Seat Control Module "H": No Sub Type Information	Sets in continuous memory when the APIM detects network messages are missing from the SCMH for more than 5 seconds.

Possible Causes

- Network communication concern

- APIM concern
- SCMH

PINPOINT TEST AK : U024C:00

AK1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AK2
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.

AK2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the SCMH pass the network test?

Yes	GO to AK3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AK3 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AK4

AK4 CHECK FOR NON-NETWORK SCMH (PASSENGER MULTI-CONTOUR SEAT MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the SCMH self-test.

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

Yes	REFER to: Front Seats (501-10A Front Seats, Diagnosis and Testing).
No	GO to AK5

AK5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U024C:00

- Using a diagnostic scan tool, clear the APIM Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the APIM self-test.

Is DTC U024C:00 still present?

Yes	GO to AK6
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.

AK6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 SCMH or the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AK7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AK7 CHECK FOR CORRECT SCMH (PASSENGER MULTI-CONTOUR SEAT MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the SCMH and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the SCMH and any 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 SCMH.
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.

U0253:00**Normal Operation and Fault Conditions**

The ACM, the FCIM and the TCU communicate with the APIM over the CAN. If messages are missing or not received from the APIM, the display is blank.

ACM/ FCIM/ TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
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U0253:00	Lost Communication With Accessory Protocol Interface Module: No Sub Type Information	Sets in continuous memory when the ACM, the FCIM or the TCU detects network messages are missing from the APIM for more than 5 seconds.
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Possible Causes

- Network communication concern
- ACM concern
- FCIM concern
- TCU concern
- APIM

PINPOINT TEST AL : U0253:00

AL1 VERIFY THE CONCERN

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

Is an observable symptom present?

Yes	GO to AL2
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.

AL2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the APIM pass the network test?

Yes	GO to AL3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AL3 CHECK FOR NON-NETWORKACM (AUDIO FRONT CONTROL MODULE) / FCIM (FRONT CONTROLS INTERFACE MODULE) / TCU (TELEMATIC CONTROL UNIT MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM, the FCIM or the TCU DTC Chart in this section.
No	GO to AL4

AL4 CHECK FOR NON-NETWORK APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the APIM DTC Chart in this section.
No	GO to AL5

AL5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0253:00

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question setting the DTC.
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

Is DTC U0253:00 still present?

Yes	GO to AL6
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.

AL6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 APIM, the ACM, the FCIM and the TCU If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AL7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AL7 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the APIM and any 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,   Click here to access Guided Routine (APIM).
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.

U0256:00

Normal Operation and Fault Conditions

The ACM and the APIM communicate with the FCIM over the CAN. If messages are missing or not received from the FCIM, button presses on the FCIM may not operate correctly.

ACM/ APIM DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U0256:00	Lost Communication With Front Controls Interface Module "A": No Sub Type Information	Sets in continuous memory when the ACM or the APIM detects network messages are missing from the FCIM for more than 5 seconds when the ignition is on.

Possible Causes

- Network communication concern
- ACM concern
- APIM concern
- FCIM

PINPOINT TEST AM : U0256:00

AM1 VERIFY THE CONCERN	
• Ignition ON. • Verify there is an observable symptom present.	
Is an observable symptom present?	
Yes	GO to AM2
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.

AM2 CHECK THE NETWORK COMMUNICATION

- Using a diagnostic scan tool, carry out the network test.

Does the FCIM pass the network test?

Yes	GO to AM3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

AM3 CHECK FOR NON-NETWORK ACM (AUDIO FRONT CONTROL MODULE) / APIM (SYNC MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the ACM or the APIM DTC Chart in this section.
No	GO to AM4

AM4 CHECK FOR NON-NETWORK FCIM (FRONT CONTROLS INTERFACE MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs) first. REFER to the FCIM DTC Chart in this section.
No	GO to AM5

AM5 RECHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0256:00

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question setting the DTC.
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the module in question setting the DTC.

Is DTC U0256:00 still present?

Yes	GO to AM6
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.

AM6 CHECK FOR OTHER CAUSES OF NETWORK COMMUNICATION 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 FCIM, the ACM or the APIM. If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build list 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 vehicle with concern
 - return the swapped module to source vehicle and obtain new replacement module
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AM7
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AM7 CHECK FOR CORRECT FCIM (FRONT CONTROLS INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the FCIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors 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 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,   Click here to access Guided Routine (FCIM).
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.

U3003:16

Refer to Wiring Diagrams Cell 133 for schematic and connector information.

Normal Operation and Fault Conditions

The modules monitor the supplied voltage and set a DTC if it falls below a threshold.

ACM/ APIM/ DACMC/ FCIM/ TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	Sets in continuous memory and during the on-demand self-test when the ACM, the APIM, the DACMC, the FCIM or the TCU detects the supply voltage below 10 volts.

Possible Causes

- Previous low battery voltage
- Wiring, terminals, or connectors
- Charging system concern
- ACM (includes the DACMC if equipped)
- APIM
- FCIM
- TCU

PINPOINT TEST AN : U3003:16

AN1 RECHECK FOR LOW VOLTAGE DIAGNOSTIC TROUBLE CODES (DTCS)

- Ignition ON.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question setting the low voltage DTC.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the module in question setting the low voltage DTC.

Is DTC U3003:16 still present?

Yes	GO to AN2
No	The system is operating correctly at this time. The DTC may have been set due to a previous low battery voltage condition.

AN2 CHECK FOR CHARGING SYSTEM DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, carry out the PCM KOEO and KOER self-tests.

Are any voltage-related Diagnostic Trouble Codes (DTCs) present?

Yes	DIAGNOSE the charging system concern. REFER to the appropriate Diagnosis and Testing in section 414-00.
No	GO to AN3

AN3 CHECK THE BATTERY CONDITION AND STATE OF CHARGE

- Ignition OFF.
- Check the battery condition and verify the battery is fully charged.
REFER to: [Battery](#) (414-01 Battery, Mounting and Cables, Diagnosis and Testing).

Is the battery OK and fully charged?

Yes	GO to AN4
No	DIAGNOSE the battery. REFER to: Battery (414-01 Battery, Mounting and Cables, Diagnosis and Testing).

AN4 COMPARE THE SUSPECT MODULE VOLTAGE SUPPLY PID (PARAMETER IDENTIFICATION) TO THE BATTERY VOLTAGE

- Ignition ON.
- Measure and record the battery voltage.
- For the suspect module, monitor the voltage supply PID:
 - ACM - VPWR_ACM (Module supply voltage)
 - DACMC - VPWR_DACMC (DACMC_Power_Supply_Voltage)
 - APIM - BATMOD (Battery Module Voltage)
 - FCIM - VPWR_FCIM (Module supply voltage)
 - TCU - VPWR_TCU (Module supply voltage)

Is the voltage reading within 0.2 volt of the recorded battery voltage?

Yes	For the ACM or the DACMC, GO to AN7 For the APIM, GO to AN8 For the FCIM, GO to AN9 For the TCU, GO to AN10
No	GO to AN5

AN5 CHECK THE MODULE VOLTAGE SUPPLY CIRCUIT FOR HIGH RESISTANCE

- Ignition OFF.
- Disconnect the suspect module.
- Ignition ON.
- Measure and record the battery voltage.
- For the suspect module, measure:

Click to display connectors

TCU

Positive Lead	Measurement / Action	Negative Lead
C4803A-1		Ground

Is the voltage reading within 0.2 volt of the recorded battery voltage?

Yes	GO to AN6
No	REPAIR the circuit for high resistance.

AN6 CHECK THE SUSPECT MODULE GROUND CIRCUIT FOR HIGH RESISTANCE

- For the suspect module, measure:

Click to display connectors

TCU

Positive Lead	Measurement / Action	Negative Lead
C4803A-1		C4803A-13

Is the suspect module voltage greater than 11 volts?

Yes	For the ACM or the DACMC, GO to AN7 For the APIM, GO to AN8 For the FCIM, GO to AN9 For the TCU, GO to AN10
No	REPAIR the circuit for high resistance.

AN7 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the ACM and any 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

AN8 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the APIM and any 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,   Click here to access Guided Routine (APIM).
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.

AN9 CHECK FOR CORRECT FCIM (FRONT CONTROLS INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the FCIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors 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 related in-line connectors. Make sure they seat and latch correctly.
- Wait 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 Technical Service Bulletins (TSBs) address this concern,   Click here to access Guided Routine (FCIM).
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.

AN10 CHECK FOR CORRECT TCU (TELEMATIC CONTROL UNIT MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the TCU and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the TCU and any related in-line connectors. Make sure they seat and latch correctly.
- Wait 2 minutes for the TCU 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 TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.

U3003:17

Normal Operation and Fault Conditions

The modules monitor the supplied voltage and set a DTC if it rises above a threshold.

ACM/ APIM/ DACMC/ FCIM/ TCU DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Conditions
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	Sets in continuous memory and during the on-demand self-test when the ACM, the APIM, the DACMC, the FCIM or the TCU detects the supply voltage is greater than 16 volts.

Possible Causes

- Charging system concern
- ACM (includes the DACMC if equipped)
- APIM
- FCIM
- TCU

PINPOINT TEST AO : U3003:17**AO1 CHECK FOR HIGH VOLTAGE DIAGNOSTIC TROUBLE CODES (DTCS) SET IN OTHER MODULES**

- Ignition ON.
- Using a diagnostic scan tool, retrieve the Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Are any charging or over-voltage related voltage Diagnostic Trouble Codes (DTCs) present in multiple modules?

Yes	DIAGNOSE the overcharging condition. REFER to the Diagnosis and Testing in the appropriate 414-00 section.
No	GO to AO2

AO2 CHECK THE BATTERY VOLTAGE WITH THE ENGINE RUNNING

- Turn off all interior/exterior lights and accessories.
- Start and run the engine at approximately 2,000 RPM for 3 minutes while monitoring the battery voltage.

Does the battery voltage rise to 15.5 volts or higher?

Yes	DIAGNOSE the overcharging condition. REFER to the Diagnosis and Testing in the appropriate 414-00 section.
No	GO to AO3

AO3 RECHECK FOR THE HIGH VOLTAGE DTC (DIAGNOSTIC TROUBLE CODE)

- Ignition OFF.
- Ignition ON.
- Using a diagnostic scan tool, clear the DTC for the suspect module.
- Wait 10 seconds.
- Using a diagnostic scan tool, carry out the self-test for the suspect module setting the high voltage DTC.

Is DTC U3003:17 still present?

Yes	For the ACM or the DACMC, GO to AO4 For the APIM, GO to AO5 For the FCIM, GO to AO6 For the TCU, GO to AO7
No	The system is operating correctly at this time. The DTC may have been set previously during battery charging or while jump starting the vehicle.

AO4 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all the ACM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the ACM and any 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 ACM. REFER to: Audio Front Control Module (ACM) (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, Removal and Installation).
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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.
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AO5 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the APIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the APIM and any 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,   Click here to access Guided Routine (APIM).
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.

AO6 CHECK FOR CORRECT FCIM (FRONT CONTROLS INTERFACE MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the FCIM and any related in-line connectors.
- Repair:
 - corrosion (install new connectors 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 related in-line connectors. Make sure they seat and latch correctly.
- Wait 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 Technical Service Bulletins (TSBs) address this concern,   Click here to access Guided Routine (FCIM).
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.

AO7 CHECK FOR CORRECT TCU (TELEMATIC CONTROL UNIT MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the TCU and any related in-line connectors.
- Repair:
 - corrosion (install new connectors or terminals - clean module pins)
 - damaged or bent pins - install new terminals pins
 - pushed-out pins - install new pins as necessary
- Reconnect the TCU and any related in-line connectors. Make sure they seat and latch correctly.
- Wait 2 minutes for the TCU 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 TCU. REFER to: Telematics Control Unit (TCU) Module (415-00C Information and Entertainment System - General Information - Vehicles With: Touchscreen Display, 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.