

- Using a diagnostic scan tool, perform a GSM control module self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: External Controls (307-05A Automatic Transmission External Controls - 10-Speed Automatic Transmission â€“ 10R60, Diagnosis and Testing).
No	GO to A4

A4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the GWM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to A5

A5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to A6

A6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0103 still present?

Yes	GO to A7
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.

A7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

Yes	GO to A8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

A8 CHECK FOR CORRECT GSM (GEAR SHIFT MODULE) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the GSM connector(s).
- Repair:
 - corrosion (install new connector or terminals – clean module pins)
 - damaged or bent pins – install new terminals/pins
 - pushed-out pins – install new pins as necessary
- Reconnect the GSM connector(s). 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 service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new GSM. REFER to: Gear Shift Module (GSM) (307-05A Automatic Transmission External Controls - 10-Speed Automatic Transmission – 10R60, 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.

PINPOINT TEST B : U0121

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0121:00	Lost Communication With Anti-Lock Brake System (ABS) Control Module "A": No Sub Type Information	The PCM sets this DTC if data messages from the ABS module through the GWM are missing.

Possible Sources

- Communications network concern
- ABS module
- GWM
- PCM

B1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to B2
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.

B2 CHECK THE COMMUNICATION NETWORK

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

Did the ABS module pass the network test?

Yes	GO to B3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

B3 PERFORM ABS (ANTI-LOCK BRAKE SYSTEM) CONTROL MODULE SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Anti-Lock Brake System (ABS) and Stability Control (206-09 Anti-Lock Brake System (ABS) and Stability Control, Diagnosis and Testing).
No	GO to B4

B4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the GWM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to B5

B5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to B6

B6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0121 still present?

Yes	GO to B7
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.

B7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

Yes	GO to B8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

B8 CHECK FOR CORRECT ABS (ANTI-LOCK BRAKE SYSTEM) MODULE OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new ABS module. REFER to: Hydraulic Control Unit (HCU) (206-09 Anti-Lock Brake System (ABS) and Stability Control, 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.

PINPOINT TEST C : U0122:

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0122:00	Lost Communication With Vehicle Dynamics Control Module: No Sub Type Information	The PCM sets this DTC if data messages from the VDM through the GWM are missing.

Possible Sources

- Communications network concern
- VDM
- GWM
- PCM

C1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to C2
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.

C2 CHECK THE COMMUNICATION NETWORK

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

Did the VDM pass the network test?

Yes	GO to C3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

C3 PERFORM VDM (VEHICLE DYNAMICS CONTROL MODULE) MODULE SELF-TEST

- Using a diagnostic scan tool, perform a VDM self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	
No	GO to C4

C4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, retrieve the BCM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to C5

C5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to C6

C6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0122 still present?

Yes	GO to C7
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.

C7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

Yes	GO to C8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

C8 CHECK FOR CORRECT VDM (VEHICLE DYNAMICS CONTROL MODULE) OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new
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.

PINPOINT TEST D : U0126, U0212

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0126:00	Lost Communication With Steering Angle Sensor Module: No Sub Type Information	he PCM sets this DTC if data messages from the SCCM through the GWM are missing.
PCM U0212:00	Lost Communication With Steering Column Control Module: No Sub Type Information	The PCM sets this DTC if data messages from the SCCM through the GWM are missing.

Possible Sources

- Communications network concern
- SCCM
- GWM
- PCM

D1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to D2
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.

D2 CHECK THE COMMUNICATION NETWORK

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

Did the SCCM module pass the network test?

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

D3 PERFORM SCCM (STEERING COLUMN CONTROL MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components, Diagnosis and Testing).
No	GO to D4

D4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the GWM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to D5

D5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to D6

D6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0126 or U0212 still present?

Yes	GO to D7
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.

D7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

Yes	GO to D8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

D8 CHECK FOR CORRECT SCCM (STEERING COLUMN CONTROL MODULE) OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new 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.

PINPOINT TEST E : U0151

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0151:00	Lost Communication With Restraints Control Module: No Sub Type Information	The PCM sets this DTC if data messages from the RCM through the GWM are missing.

Possible Sources

- Communications network concern
- RCM
- GWM
- PCM

E1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to E2
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.

E2 CHECK THE COMMUNICATION NETWORK

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

Did the RCM pass the network test?

Yes	GO to E3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

E3 PERFORM RCM (RESTRAINTS CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform a RCM self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Airbag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).
No	GO to E4

E4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the GWM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to E5

E5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to E6

E6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0151 still present?

Yes	GO to E7
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.

E7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

Yes	GO to E8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

E8 CHECK FOR CORRECT RCM (RESTRAINTS CONTROL MODULE) OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new RCM. REFER to: Restraints Control Module (RCM) (501-20B Supplemental Restraint System, 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.

PINPOINT TEST F : U0164

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0164:00	Lost Communication With HVAC Control Module: No Sub Type Information	The PCM sets this DTC if data messages from the HVAC control module through the GWM are missing.

Possible Sources

- Communications network concern
- HVAC control module
- GWM
- PCM

F1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to F2
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.

F2 CHECK THE COMMUNICATION NETWORK

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

Did the HVAC control module pass the network test?

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

F3 PERFORM HVAC (HEATING, VENTILATION AND AIR CONDITIONING) CONTROL MODULE SELF-TEST

- Using a diagnostic scan tool, perform a HVAC control module self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Climate Control System (412-00 Climate Control System - General Information, Diagnosis and Testing).
No	GO to F4

F4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, retrieve the BCM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to F5

F5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to F6

F6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0164 still present?

Yes	GO to F7
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.

F7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

Yes	GO to F8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

F8 CHECK FOR CORRECT RCM (RESTRAINTS CONTROL MODULE) OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new HVAC control module. REFER to: Heating, Ventilation and Air Conditioning (HVAC) Control Module (412-00 Climate Control System - General Information, Removal and Installation).
No	The system is operating correctly at this time. The concern may have been caused by module connections. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST G : U0230

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0230:00	Lost Communication With Rear Gate Module: No Sub Type Information	The PCM sets this DTC if data messages from the RGTM module through the GWM are missing.

Possible Sources

- Communications network concern
- RGTM
- GWM
- PCM

G1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to G2
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.

G2 CHECK THE COMMUNICATION NETWORK

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

Did the RGTM module pass the network test?

Yes	GO to G3
No	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).

G3 PERFORM RGTM (REAR GATE TRUNK MODULE) CONTROL MODULE SELF-TEST

- Using a diagnostic scan tool, perform a RGTM control module self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Body Closures (501-03 Body Closures, Diagnosis and Testing).
No	GO to G4

G4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, retrieve the GWM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to G5

G5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to G6

G6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0230 still present?

Yes	GO to G7
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.

G7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

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

G8 CHECK FOR CORRECT RGTM (REAR GATE TRUNK MODULE) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the RGTM connector(s).
- Repair:
 - corrosion (install new connector or terminals & clean module pins)
 - damaged or bent pins & install new terminals/pins
 - pushed-out pins & install new pins as necessary
- Reconnect the RGTM connector(s). 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 service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new RGTM module. REFER to: Rear Gate Trunk Module (RGTM) (501-03 Body Closures, 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.

[PINPOINT TEST H : U023A](#)

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U023A:00	Lost Communication With Image Processing Module A: No Sub Type Information	The PCM sets this DTC if data messages from the IPMA through the GWM are missing.

Possible Sources

- Communications network concern
- IPMA
- GWM
- PCM

H1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to H2
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.

H2 CHECK THE COMMUNICATION NETWORK

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

Did the IPMA pass the network test?

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

H3 PERFORM IPMA (IMAGE PROCESSING MODULE A) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Lane Keeping System (419-07 Lane Keeping System, Diagnosis and Testing).
No	GO to H4

H4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the GWM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to H5

H5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to H6

H6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U023A still present?

Yes	GO to H7
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.

H7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

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

H8 CHECK FOR CORRECT IPMA (IMAGE PROCESSING MODULE A) OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new IPMA. REFER to: Interior Rear View Mirror (501-09 Rear View Mirrors, 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.

PINPOINT TEST I : U0252

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0252:00	Lost Communication With Lighting Control Module- Rear "B": No Sub Type Information	The PCM sets this DTC if data messages from the TRM through the GWM are missing.

Possible Sources

- Communications network concern
- TRM
- GWM
- PCM

I1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to I2
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.

I2 CHECK THE COMMUNICATION NETWORK

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

Did the TRM pass the network test?

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

I3 PERFORM TRM (TRAILER MODULE) SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Trailer Lamps (417-01 Exterior Lighting, Diagnosis and Testing).
No	GO to I4

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

- Using a diagnostic scan tool, retrieve the GWM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

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

I5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to I6

I6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCS)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0252 still present?

Yes	GO to 17
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.

17 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

Yes	GO to 18
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

18 CHECK FOR CORRECT TRM (TRAILER MODULE) OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new TRM. REFER to: Trailer Module (TRM) (417-01 Exterior Lighting, 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.

PINPOINT TEST J : U0253:

Normal Operation and Fault Conditions

REFER to: Communications Network - System Operation and Component Description (418-00 Module Communications Network, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0253:00	Lost Communication With Accessory Protocol Interface Module: No Sub Type Information	The PCM sets this DTC if data messages from the APIM through the GWM are missing.

Possible Sources

- Communications network concern
- APIM
- GWM
- PCM

J1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to J2
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.

J2 CHECK THE COMMUNICATION NETWORK

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

Did the APIM pass the network test?

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

J3 PERFORM APIM (SYNC MODULE) MODULE SELF-TEST

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

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Information and Entertainment System - Vehicles With: SYNC 3 (415-00B Information and Entertainment System - General Information - Vehicles With: SYNC 3, Diagnosis and Testing).
No	GO to J4

J4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

- Using a diagnostic scan tool, retrieve the BCM Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
No	GO to J5

J5 PERFORM THE PCM (POWERTRAIN CONTROL MODULE) SELF-TEST

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

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

Yes	REFER to PCM DTC Chart in this section.
No	GO to J6

J6 RECHECK THE PCM (POWERTRAIN CONTROL MODULE) DIAGNOSTIC TROUBLE CODES (DTCs)

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

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the PCM self-test.

Is DTC U0253 still present?

Yes	GO to J7
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.

J7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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

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

Is the observable symptom still present?

Yes	GO to J8
No	The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

J8 CHECK FOR CORRECT APIM (SYNC MODULE) OPERATION

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

Is the concern still present?

Yes	CHECK OASIS for any applicable service articles: TSB, GSB, SSM or FSA. If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new APIM. REFER to: SYNC Module [APIM] (415-00B Information and Entertainment System - General Information - Vehicles With: SYNC 3, 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.

PINPOINT TEST K : U0404, U0405, U0416, U101E, U101F, U102F

Normal Operation and Fault Conditions

Refer to the Powertrain Control/Emissions Diagnosis (PC/ED) Manual Section 1 Description and Operation.

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM U0404:00	Invalid Data Received from Gear Shift Control Module A: No Sub Type Information	This DTC sets when the PCM receives invalid network data from the GSM.
PCM U0405:00	Invalid Data Received From Cruise Control Module: No Sub Type Information	This DTC sets when the PCM receives invalid network data from the CCM.
PCM U0416:00	Invalid Data Received From Vehicle Dynamics Control Module: No Sub Type Information	This DTC sets when the PCM receives invalid network data from the VDM.
PCM U101E:00	Invalid Internal Control Module Monitoring Data Received from Gear Shift Module: No Sub Type Information	This DTC sets when the PCM receives invalid network data from the GSM.
PCM U101F:00	Invalid Internal Control Module Monitoring Data Received from Transmission Range Control Module: No Sub Type Information	This DTC sets when the PCM receives invalid network data from the TRCM.
PCM U102F:00	Invalid Internal Control Module Monitoring Data Received From All Wheel Drive Control Module: No Sub Type Information	This DTC sets when the PCM receives invalid network data from the AWD control module.

Possible Sources

- Suspect Module

K1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCs) FROM THE MODULE SENDING INVALID DATA

- Using a diagnostic scan tool, carry out the self-test for the module in question sending the invalid data.

Are any Diagnostic Trouble Codes (DTCs) present from the module sending the invalid data?

Yes	DIAGNOSE the module sending the invalid data. REFER to the appropriate section in the Workshop Manual.
No	DIAGNOSE the observable symptom.

PINPOINT TEST L : FUEL PUMP CONTROL FAULTS

Normal Operation and Fault Conditions

REFER to: Engine - Overview (303-01A Engine - 2.3L EcoBoost (201kW/273PS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM P025A:00	Fuel Pump Module "A" Control Circuit/Open: No Sub Type Information	This DTC sets when the PCM detects the FPC circuit is open or shorted to voltage or ground.
PCM P025B:00	Fuel Pump Module "A" Control Circuit Range/Performance: No Sub Type Information	This DTC sets when the fuel pump control module is still reporting that it is receiving an invalid duty cycle or frequency from the PCM after a calibrated amount of time.
PCM P025C:00	Fuel Pump Module "A" Control Circuit Low: No Sub Type Information	This DTC sets when the PCM detects the FPC circuit is shorted to ground.
PCM P025D:00	Fuel Pump Module "A" Control Circuit High: No Sub Type Information	This DTC sets when the PCM detects the FPC circuit is open or shorted to voltage.
PCM P027B:00	Fuel Pump Module "B" Control Circuit Range/Performance: No Sub Type Information	This DTC sets when the fuel pump control module 2 is still reporting that it is receiving an invalid duty cycle or frequency from the PCM after a calibrated amount of time.

Possible Sources

- Fuel pump
- Fuel pump control module
- PCM
- Radio frequency interference or electromagnetic interference
- Wiring, terminals or connectors

L1 DIAGNOSE THE CONCERN USING THE PC/ED (POWERTRAIN CONTROL/EMISSIONS DIAGNOSIS) MANUAL

- Diagnose the concern using the PC/ED manual.

Did the diagnosis in PC/ED instruct to install a new BCM?

Yes	☐ Click here to access Guided Routine (BCM).
No	Concern was resolved PC/ED.

PINPOINT TEST M : OIL PRESSURE CONTROL SOLENOID FAULTS

Normal Operation and Fault Conditions

REFER to: Engine - Overview (303-01A Engine - 2.3L EcoBoost (201kW/273PS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM P06DA:00	Engine Oil Pressure Control Circuit/Open: No Sub Type Information	ets when the PCM detects an open on the engine oil pressure control solenoid valve circuit.
PCM P06DB:00	Engine Oil Pressure Control Circuit Low: No Sub Type Information	Sets when the PCM detects a short to ground on the engine oil pressure control solenoid valve circuit.
PCM P06DC:00	Engine Oil Pressure Control Circuit High: No Sub Type Information	Sets when the PCM detects a short to voltage on the engine oil pressure control solenoid valve circuit.

Possible Sources

- Communications network concern
- Engine oil pressure control solenoid valve
- PCM
- Wiring, terminals or connectors

M1 CHECK THE ENGINE OIL PRESSURE CONTROL SOLENOID VALVE SUPPLY VOLTAGE

- Ignition OFF.
- Disconnect Engine oil pressure control solenoid valve [C1748](#) .
- Ignition ON.
- Measure:



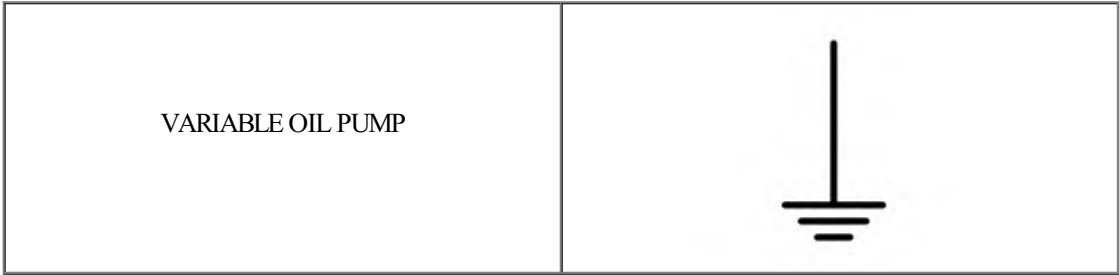
Positive Lead	Measurement / Action	Negative Lead
C1748-1		Ground

Is the voltage greater than 11 volts?

Yes	GO to M2
No	VERIFY BJB fuse F6 (20A) is OK. If OK, REPAIR the open circuit. If not OK, REFER to the Wiring Diagrams manual to identify the possible causes of the circuit short.

M2 CHECK THE ENGINE OIL PRESSURE CONTROL SOLENOID VALVE CIRCUIT FOR A SHORT TO VOLTAGE

- Ignition OFF.
- Disconnect PCM [C1381E](#).
- Ignition ON.
- Measure:



Positive Lead	Measurement / Action	Negative Lead
C1748-2		Ground

Is any voltage present?

Yes	REPAIR the circuit.
No	GO to M3

M3 CHECK THE ENGINE OIL PRESSURE CONTROL SOLENOID VALVE CIRCUIT FOR AN OPEN

- Ignition OFF.
- Measure:

POWERTRAIN CONTROL MODULE (PCM)	VARIABLE OIL PUMP
---------------------------------	-------------------

Positive Lead	Measurement / Action	Negative Lead
C1381E-7	Ω	C1748-2

Is the resistance less than 3 ohms?

Yes	GO to M4
No	REPAIR the circuit.

M4 CHECK THE ENGINE OIL PRESSURE CONTROL SOLENOID VALVE CIRCUIT FOR A SHORT TO GROUND

- Measure:

VARIABLE OIL PUMP	
-------------------	--

Positive Lead	Measurement / Action	Negative Lead
C1748-2	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to M5
No	REPAIR the circuit.

M5 CHECK THE ENGINE OIL PRESSURE CONTROL SOLENOID VALVE OPERATION

- **NOTE:** Engine oil level and contamination can affect the oil pressure reading.

Check the engine oil level and correct as necessary.

- Connect PCM [C1381E](#).
- Connect Engine oil pressure control solenoid valve [C1748](#).
- Using a diagnostic scan tool, view the PCM PID EOP_PRESS.
- Start the engine.
- Record the EOP_PRESS PID reading.
- Ignition OFF.
- Disconnect Engine oil pressure control solenoid valve [C1748](#).
- Start the engine.
- Record the EOP_PRESS PID reading.
- Ignition OFF.

Did the engine oil pressure increase by greater than 276 kpa (40 psi) with the solenoid disconnected?

Yes	GO to M6
No	INSTALL a new oil pressure control solenoid valve. REFER to: Oil Pressure Control Solenoid (303-14A Electronic Engine Controls - 2.3L EcoBoost (201kW/273PS), Removal and Installation).

M6 VERIFY ENGINE OIL PRESSURE CONTROL SOLENOID VALVE CONNECTION AND WIRING

- Disconnect Engine oil pressure control solenoid valve [C1748](#).
- Disconnect PCM connectors.
- Inspect connectors and wiring:
 - corrosion (install new connector or terminals “clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect **all** 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	REPAIR the circuit or connector as needed.
No	The system is operating correctly at this time. The concern may have been caused by loose module connections. ADDRESS the root cause of any connector or pin issues.

☐ [PINPOINT TEST N : P06E9](#)

Normal Operation and Fault Conditions

REFER to: Engine - Overview (303-01A Engine - 2.3L EcoBoost (201kW/273PS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM P06E9:00	Engine Starter Performance: No Sub Type Information	No engine rotation detected during crank event

Possible Sources

- Battery
- Battery Cables
- IPC
- Starter
- BJB starter relay
- Wiring, terminals or connectors

N1 VERIFY THE ENGINE CRANKS

- Place the ignition switch in the START position.

Does the engine crank?

Yes	REFER to PC/ED Section 3 and FOLLOW Symptom Chart 3 for No Start (Engine Cranks)
No	REFER to: Starting System - 2.3L EcoBoost (201kW/273PS) (303-06A Starting System - 2.3L EcoBoost (201kW/273PS), Diagnosis and Testing).

☐ PINPOINT TEST O : P1001

Normal Operation and Fault Conditions

REFER to: Starting System - System Operation and Component Description (303-06A Starting System - 2.3L EcoBoost (201kW/273PS), Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM P1001:00	KOER Not Able to Complete, KOER Aborted: No Sub Type Information	This DTC sets when the KOER self-test does not complete in the time allowed.

Possible Sources

- Incorrect self-test procedure
- Unexpected response from the self-test monitors
- RPM out of specification

O1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS)

- Place the ignition switch in the START position.
- Using a diagnostic scan tool retrieve and record all Diagnostic Trouble Codes (DTCs).
- Repair any self-test or Continuous Memory Diagnostic Trouble Codes (CMDTCs) and clear the DTC(s).
- Rerun the KOER self test.

Did DTC P1001 return?

Yes	GO to Q2
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.

O2 REPROGRAM THE PCM (POWERTRAIN CONTROL MODULE)

- Reprogram the PCM with the latest software.
REFER to: Module Programming (418-01 Module Configuration, General Procedures).
- Rerun the KOER self test.

Did DTC P1001 return?

Yes	☐ Click here to access Guided Routine (PCM).
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.

[PINPOINT TEST P : P166A](#)

Normal Operation and Fault Conditions

REFER to: Module Controlled Functions - System Operation and Component Description (419-10 Multifunction Electronic Modules, Description and Operation).

DTC Fault Trigger Conditions

DTC	Description	Fault Trigger Condition
PCM P166A:00	Restraints Deployment Communication Circuit: No Sub Type Information	This DTC sets when the PCM detects an open or short in the IES circuit.

Possible Sources

- BCM
- Wiring, terminals or connectors

P1 DIAGNOSE THE CONCERN USING THE PC/ED (POWERTRAIN CONTROL/EMISSIONS DIAGNOSIS) MANUAL

- Diagnose the concern using the PC/ED manual pinpoint test.

Did the diagnosis in PC/ED instruct to install a new BCM?

Yes	☐ Click here to access Guided Routine (BCM).
No	Concern was resolved using PC/ED manual pinpoint test.

Removal and Installation

mcx30.com

Camshaft Position (CMP) Sensor

Materials

Name	Specification
Motorcraft® Silicone Brake Caliper Grease and Dielectric Compound XG-3-A	ESE-M1C171-A

Removal

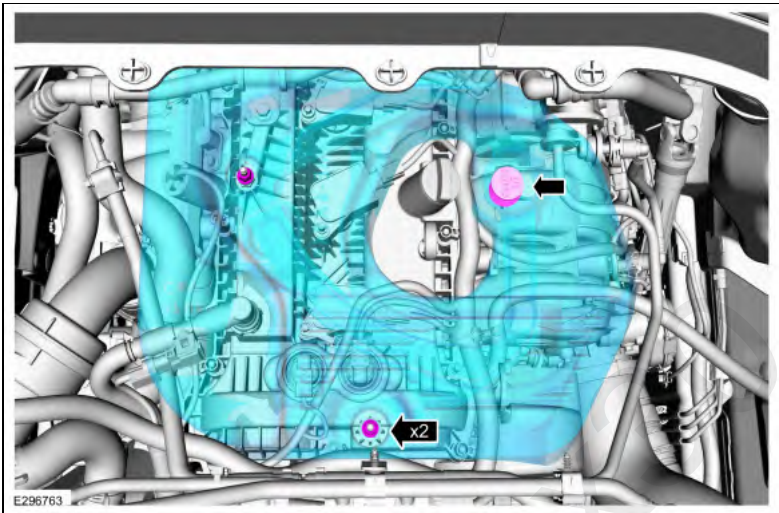
NOTE: Removal steps in this procedure may contain installation details.

Exhaust Camshaft Position (CMP) Sensor

1. **NOTICE:** Do not pull the engine appearance cover forward or sideways to remove. Failure to press straight upward on the underside of the cover at the attachment points may result in damage to the cover or engine components.
1. Remove the engine appearance cover nuts.

2. Place your hand under the engine appearance cover at each grommet location and pull straight up to release each grommet from the studs.

3. After all of the grommets have been released from the studs, remove the appearance cover from the engine.



2.
- Disconnect the electrical connector. Remove the bolt and the exhaust CMP sensor.
Torque: 97 lb.in (11 Nm)