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2018 FORD Explorer OEM Service and Repair Workshop Manual

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- Wait 10 seconds.
- Using a diagnostic scan tool, retrieve all Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Is DTC (diagnostic trouble code) U0146:87 set in other modules?

Yes	GO to F7
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No	GO to F8
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F7 CHECK FOR CORRECT GWM (GATEWAY MODULE A) OPERATION

- Ignition OFF.
- Disconnect and inspect the GWM (gateway module A) connectors.
- Repair:
 - corrosion (install new connector or terminals - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the GWM (gateway module A) 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	<p>CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new GWM (gateway module A) .</p> <p>REFER to: Gateway Module A (GWM) (418-00A Controller Area Network (CAN) Module Communications Network, Removal and Installation).</p>
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No	<p>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.</p>
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F8 CHECK FOR CORRECT BCMC (BODY CONTROL MODULE C) OPERATION

- Ignition OFF.

Possible Sources

- Communication network concern
- HVAC (heating, ventilation and air conditioning) module
- BCMC (body control module C)

NOTE

If new modules were installed prior to the DTC (diagnostic trouble code) being set, the module configuration may be incorrectly set during the PMI (programmable module installation) or the PMI (programmable module installation) may not have been carried out.

G1 CHECK THE COMMUNICATION NETWORK

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

Does the HVAC (heating, ventilation and air conditioning) module pass the network test?

Yes	GO to G3
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No	REFER to: Controller Area Network (CAN) Module Communications Network (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).
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G2 RETRIEVE THE BCMC (BODY CONTROL MODULE C) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, perform the BCMC (body control module C) self-test.

Is DTC (diagnostic trouble code) U3003:16, or U3003:17 recorded?

Yes	For DTC (diagnostic trouble code) U3003:16, GO to Pinpoint Test M For DTC (diagnostic trouble code) U3003:17, GO to Pinpoint Test N
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No	GO to G3
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Yes	GO to G6
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No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to high network traffic or an intermittent fault condition.
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G6 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U0164:87 SET IN OTHER MODULES

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

Is DTC (diagnostic trouble code) U0164:87 set in other modules?

Yes	GO to G7
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No	GO to G8
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G7 CHECK FOR CORRECT HVAC (HEATING, VENTILATION AND AIR CONDITIONING) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the HVAC (heating, ventilation and air conditioning) module connector.
- 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 (heating, ventilation and air conditioning) module 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 (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . If a service article exists for this concern, DISCONTINUE this test and
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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 (diagnostic trouble code)	Description	Fault Trigger Condition
BCMC (body control module C) U023A:87	Lost Communication With Image Processing Module A: Missing Message	A continuous memory DTC (diagnostic trouble code) that sets in the BCMC (body control module C) if data messages received from the IPMA (image processing module A) are missing.

Possible Sources

- Communication network concern
- IPMA (image processing module A)
- BCMC (body control module C)

NOTE

If new modules were installed prior to the DTC (diagnostic trouble code) being set, the module configuration may be incorrectly set during the PMI (programmable module installation) or the PMI (programmable module installation) may not have been carried out.

H1 CHECK THE COMMUNICATION NETWORK

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

Does the IPMA (image processing module A) pass the network test?

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

H5 CHECK FOR BCMC (BODY CONTROL MODULE C) CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

- Using a diagnostic scan tool, clear the DTCs.
- Wait 10 seconds.
- Using a diagnostic scan tool, check the BCMC (body control module C) CMDTCS.

Is BCMC (body control module C) DTC (diagnostic trouble code) U023A:87 still present?

Yes	GO to H6
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No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to high network traffic or an intermittent fault condition.
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H6 CHECK FOR DTC (DIAGNOSTIC TROUBLE CODE) U023A:87 SET IN OTHER MODULES

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

Is DTC (diagnostic trouble code) U023A:87 set in other modules?

Yes	GO to H7
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No	GO to H8
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H7 CHECK FOR CORRECT IPMA (IMAGE PROCESSING MODULE A) OPERATION

- Ignition OFF.
- Disconnect and inspect the IPMA (image processing module A) connectors.
- Repair:
 - corrosion (install new connector or terminals - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect the IPMA (image processing module A) connectors. Make sure they seat and latch correctly.

- Ignition OFF.
- Disconnect and inspect all BCMC (body control module C) connectors.
- Repair:
 - corrosion (install new connector or terminals - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Connect the BCMC (body control module C) 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	<p>CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . 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 BCMC (body control module C) .</p> <p>REFER to: Body Control Module C (BCMC) (419-10 Multifunction Electronic Modules, Removal and Installation).</p>
No	<p>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.</p>

PINPOINT TEST I : U0293:87

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

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 (diagnostic trouble code)	Description	Fault Trigger Condition
BCMC (body control module C) U0293:87	Lost Communication With Hybrid/EV Powertrain Control Module 'A': Missing Message	A continuous memory DTC (diagnostic trouble code) that sets in the BCMC (body control module C) if data messages received from the SOBDMC (secondary on-board diagnostic control module C) are missing.

13 CHECK THE BCMC (BODY CONTROL MODULE C) CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Using a diagnostic scan tool, check the BCMC (body control module C) CMDTCS.

Is DTC (diagnostic trouble code) U0293:87 retrieved again?

Yes	GO to 14
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No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to high network traffic or an intermittent fault condition.
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14 RETRIEVE THE SOBDMC (SECONDARY ON-BOARD DIAGNOSTIC CONTROL MODULE C) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, perform the SOBDMC (secondary on-board diagnostic control module C) KOEO (key on, engine off) self-test.

Are any SOBDMC (secondary on-board diagnostic control module C) DTCs present?

Yes	DIAGNOSE and REPAIR those DTCs first. REFER to: Electric Powertrain Control (303-14F Electric Powertrain Control - 3.5L V6 PowerBoost (CN), Diagnosis and Testing).
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No	GO to 15
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15 RETRIEVE THE BCMC (BODY CONTROL MODULE C) DTCS

- Using a diagnostic scan tool, perform the BCMC (body control module C) self-test.

Are any BCMC (body control module C) DTCs present?

Yes	DIAGNOSE and REPAIR those DTCs first. REFER to the Master DTC (diagnostic trouble code) Chart.
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(303-14F Electric Powertrain Control - 3.5L V6 PowerBoost (CN), 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.

18 CHECK FOR CORRECT BCMC (BODY CONTROL MODULE C) OPERATION

- Ignition OFF.
- Disconnect and inspect all BCMC (body control module C) connectors.
- Repair:
 - corrosion (install new connector or terminals - clean module pins)
 - damaged or bent pins - install new terminals/pins
 - pushed-out pins - install new pins as necessary
- Reconnect all BCMC (body control module C) 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 (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . 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 BCMC (body control module C) .

REFER to: [Body Control Module C \(BCMC\)](#)
(419-10 Multifunction Electronic Modules, 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 : U1000:00

Normal Operation and Fault Conditions

The BCMC (body control module C) uses solid state drivers to control the output of several systems. When an overload occurs on any of these drivers, the BCMC (body control module C) disables the output and tracks the number of repetitive faults on each of these circuits. The module compares this number of

J2 REPEAT THE BCMC (BODY CONTROL MODULE C) SELF-TEST

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Repeat the BCMC (body control module C) self-test.

Is DTC (diagnostic trouble code) U1000:00 still present?

Yes	CHECK OASIS (Online Automotive Service Information System) for any applicable service articles: TSB (Technical Service Bulletin) , GSB (General Service Bulletin) , SSM (special service message) or FSA (Field Service Action) . 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 BCMC (body control module C) . REFER to: Body Control Module C (BCMC) (419-10 Multifunction Electronic Modules, Removal and Installation).
No	The system is operating correctly at this time. The circuit short has been repaired.

PINPOINT TEST K : U2100:00 OR U2200:00

Normal Operation and Fault Conditions

The three options for module configuration and programming are, PMI (programmable module installation) which is used when a module is replaced. A software update, which is used for updating the software in an existing module. And configuration, which is used to rewrite the configuration values which are available on the server.

REFER to: [Module Programming](#)(418-01A Module Configuration, General Procedures).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
BCMC (body control module C) U2100:00	Initial Configuration Not Complete: No Sub Type Information	This DTC (diagnostic trouble code) sets when the BCM (body control module) PMI (programmable module installation) was not installed completely or incorrectly.