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2018 FORD Galaxy OEM Service and Repair Workshop Manual

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trouble code)		
IPMA (image processing module A) U0164:00	Lost Communication With HVAC Control Module 'A': No Sub Type Information	Sets in continuous memory DTC (diagnostic trouble code) in the IPMA (image processing module A) if data messages from the HVAC (heating, ventilation and air conditioning) control module through the GWM (gateway module A) are missing for longer than 12 seconds.

Possible Sources

- Communications network concern
- HVAC (heating, ventilation and air conditioning) control module
- GWM (gateway module A)
- IPMA (image processing module A)

AP1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to AP2

No	CLEAR the DTC (diagnostic trouble code) . The system is operating normally at this time. The DTC (diagnostic trouble code) may have been set due to high network traffic or an intermittent fault condition.

AP2 CHECK THE COMMUNICATION NETWORK

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

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

Yes	GO to AP3

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

(programmable module installation) may not have been carried out.

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Ignition OFF.
- Ignition ON.
- Wait 10 seconds.
- Repeat the IPMA (image processing module A) self-test.

Is DTC U0164:00 still present?

Yes	GO to AP6

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.

AP6 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

NOTE

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

- CHECK the vehicle service history for recent service actions related to the HVAC (heating, ventilation and air conditioning) control module, GWM (gateway module A) or IPMA (image processing module A) . 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 AP7

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPMA (image processing module A) U0199:00	Lost Communication With 'Door Control Module A': No Sub Type Information	A continuous memory DTC (diagnostic trouble code) that sets in the IPMA (image processing module A) when expected messages from the DDM (driver door module) through the GWM (gateway module A) are missing for 5 seconds or more.

Possible Sources

- Communication network concern
- GWM (gateway module A) concern
- DDM (driver door module)
- IPMA (image processing module A) concern

AQ1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to AQ2

No	CLEAR the DTC (diagnostic trouble code) . 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.

AQ2 CHECK THE COMMUNICATION NETWORK

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

Does the DDM (driver door module) pass the network test?

Yes	GO to AQ3

No	See the Symptom Chart: Communication Network. REFER to: Controller Area Network (CAN) Module Communications Network

- Using a diagnostic scan tool, perform the DDM (driver door module) self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). See the DTC Chart: DDM (driver door module) . REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).

No	GO to AQ6

AQ6 RECHECK THE IPMA (IMAGE PROCESSING MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)

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

Is DTC U0199:00 still present?

Yes	GO to AQ7

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.

AQ7 CHECK FOR OTHER CAUSES OF COMMUNICATION NETWORK CONCERN

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.

No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST AR : U0200:00

Normal Operation and Fault Conditions

The IPMA (image processing module A) communicates with the PDM (passenger door module) through the MS-CAN (medium speed-controller area network) .

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPMA (image processing module A) U0200:00	Lost Communication With 'Door Control Module B': No Sub Type Information	A continuous memory DTC (diagnostic trouble code) that sets in the IPMA (image processing module A) when expected messages from the PDM (passenger door module) through the GWM (gateway module A) are missing for 3 seconds or more.

Possible Sources

- Communication network concern
- IPMA (image processing module A) concern
- PDM (passenger door module) concern
- GWM (gateway module A)

AR1 VERIFY THE CUSTOMER CONCERN

No	GO to AR4

AR4 PERFORM THE GWM (GATEWAY MODULE A) SELF-TEST

- Using a diagnostic scan tool, perform the GWM (gateway module A) self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to the GWM (gateway module A) DTC (diagnostic trouble code) Charts in this section. REFER to: Controller Area Network (CAN) Module Communications Network (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing). REFER to: Ethernet Module Communications Network (418-00C Ethernet Module Communications Network, Diagnosis and Testing).

No	GO to AR5

AR5 PERFORM THE PDM (PASSENGER DOOR MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the PDM (passenger door module) self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). See the DTC Chart: PDM (passenger door module) . REFER to: Locks, Latches and Entry Systems (501-14 Handles, Locks, Latches and Entry Systems, Diagnosis and Testing).

No	GO to AR6

AR6 RECHECK THE IPMA (IMAGE PROCESSING MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, clear the IPMA (image processing module A) Diagnostic Trouble Codes (DTCs).
- Ignition OFF.

AR8 CHECK FOR CORRECT PDM (PASSENGER DOOR MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect the PDM (passenger door module) connector and related in-line connectors.
- Repair:
  - corrosion (install new connector or terminals – clean module pins)
  - damaged or bent pins – install new terminals/pins
  - pushed-out pins – install new pins as necessary
- Reconnect the PDM (passenger door module) connector and related in-line connectors. Make sure the connectors seat and latch correctly.
- Operate the system and determine if the concern is still present.

Is the concern still present?

Yes	CHECK OASIS for any applicable TSB (Technical Service Bulletin) . If a TSB (Technical Service Bulletin) exists for this concern, DISCONTINUE this test and FOLLOW the TSB (Technical Service Bulletin) instructions. If no TSB (Technical Service Bulletin) address this concern, INSTALL a new PDM. REFER to: Passenger Door Module (PDM) (419-10 Multifunction Electronic Modules, Removal and Installation).

No	The system is operating correctly at this time. Concern may have been caused by a loose or corroded connector. ADDRESS the root cause of any connector or pin issues.

PINPOINT TEST AS : U0241:00

Normal Operation and Fault Conditions

REFER to: Lane Keeping System - System Operation and Component Description(419-07 Lane Keeping System, Description and Operation).

DTC Fault Trigger Conditions

DTC (diagnostic trouble code)	Description	Fault Trigger Condition

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

AS3 PERFORM THE IPMA (IMAGE PROCESSING MODULE A) SELF-TEST

- Using a diagnostic scan tool, perform the IPMA (image processing module A) self-test.

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

Yes	DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to the IPMA (image processing module A) DTC (diagnostic trouble code) Chart in this section.

No	GO to AS4

AS4 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCS)

- Using a diagnostic scan tool, check the GWM (gateway module A) Diagnostic Trouble Codes (DTCs).

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to: Controller Area Network (CAN) Module Communications Network(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing). REFER to: Ethernet Module Communications Network (418-00C Ethernet Module Communications Network, Diagnosis and Testing).

No	GO to AS5

AS5 PERFORM THE HCM (HEADLAMP CONTROL MODULE) SELF-TEST

- Using a diagnostic scan tool, perform the HCM (headlamp control module) self-test.

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

Yes	REFER to the Master DTC Chart. REFER to: Headlamps

- 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 AS8

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

AS8 CHECK FOR CORRECT HCM (HEADLAMP CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all HCM (headlamp control 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 all the HCM (headlamp control 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 FOLLOW the service article instructions. If no service articles address this concern, INSTALL a new HCM (headlamp control module) . REFER to: Headlamp Control Module (HCM) (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 AT : U0300:57