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2017 FORD Galaxy OEM Service and Repair Workshop Manual

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DTC (diagnostic trouble code)	Description	Fault Trigger Condition
IPMA (image processing module A) U0402:86	Invalid Data Received from TCM: Signal Invalid	This continuous memory DTC (diagnostic trouble code) can set in the IPMA (image processing module A) if data messages received from the TCM (transmission control module) through the GWM (gateway module A) are missing for 5 seconds or longer.

Possible Sources

- Communication concern
- Battery voltage concern
- TCM (transmission control module) concern
- GWM (gateway module A)
- IPMA (image processing module A)

AU1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to AU2
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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.
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AU2 CHECK THE COMMUNICATION NETWORK

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

Does the TCM (transmission control module) pass the network test?

Yes	GO to AU3
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(307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, Diagnosis and Testing).

No GO to [AU5](#)

AU5 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) set?

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 [AU6](#)

AU6 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 U0402:86 still present?

Yes GO to [AU7](#)

No

The system is operating correctly at this time. The DTC (diagnostic trouble code) may have set due to high network traffic or an intermittent fault condition.

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 TCM (transmission control module) .</p> <p>REFER to: Transmission Control Module (TCM) (307-01A Automatic Transmission - 10-Speed Automatic Transmission – 10R80, 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 AV : U0452:82

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
IPMA (image processing module A) U0452:82	Invalid Data Received From Restraints Control Module: Alive/Sequence Counter Incorrect/Not Updated	This continuous memory DTC (diagnostic trouble code) can set in the IPMA (image processing module A) due to a fault in the RCM (restraints control module) or an invalid input from the RCM (restraints control module) .

Possible Sources

- Suspect module
- RCM (restraints control module)

AV1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS) FROM THE MODULE SENDING INVALID DATA

- Ignition ON.

Yes	RETRIEVE and FOLLOW non-network Diagnostic Trouble Codes (DTCs) from the RCM. REFER to: Airbag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).
No	DIAGNOSE the observable symptom present. REFER to the appropriate Symptom chart in this section.

PINPOINT TEST AX : U049A:86

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
IPMA (image processing module A) U049A:86	Invalid Data Received From 'Door Control Module A': Signal Invalid	Sets in continuous memory in the IPMA (image processing module A) if data messages received from the DDM (driver door module) through the GWM (gateway module A) are missing for 5 seconds or longer.

Possible Sources

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

AX1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to AX2
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Yes	REFER to: Glass, Frames and Mechanisms - Vehicles With: One-Touch Open and Close Front Windows (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).
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No	GO to AX5
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AX5 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) set?

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).
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No	GO to AX6
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AX6 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 U049A:86 still present?

Yes	GO to AX7
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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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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 DDM (driver door module) .</p> <p>REFER to: Driver Door Module (DDM) (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 AY : U0501:86

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
IPMA (image processing module A) U0501:86	Invalid Data Received From 'Door Control Module B': Signal Invalid	Sets in continuous memory in the IPMA (image processing module A) if data messages received from the PDM (passenger door module) through the GWM (gateway module A) are missing for 5 seconds or longer.

Possible Sources

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

AY1 VERIFY THE CUSTOMER CONCERN

- Ignition ON.

AY4 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	REFER to: Glass, Frames and Mechanisms - Vehicles With: One-Touch Open and Close Front Windows (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).
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No	GO to AY5
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AY5 CHECK THE GWM (GATEWAY MODULE A) DIAGNOSTIC TROUBLE CODES (DTCs)

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

Are any Diagnostic Trouble Codes (DTCs) set?

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).
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No	GO to AY6
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AY6 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 U0501:86 still present?

Yes	GO to AY7
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- damaged or bent pins – install new terminals/pins
- pushed-out pins – install new pins as necessary
- Reconnect the PDM (passenger door 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 PDM. REFER to: Passenger Door Module (PDM) (419-10 Multifunction Electronic Modules, 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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PINPOINT TEST AZ : U3000:51

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
IPMA (image processing module A) U3000:51	Control Module: Not Programmed	This continuous memory DTC (diagnostic trouble code) sets when the IPMA (image processing module A) not programmed.

Possible Sources

- Suspect module
- IPMA (image processing module A)

AZ1 INSTALL A NEW SUSPECT MODULE

- Ignition OFF.
- INSTALL a new module in question.

REFER to: [Image Processing Module A \(IPMA\) Camera](#)
(419-07 Lane Keeping System, Removal and Installation).

No The system is operating correctly at this time.

PINPOINT TEST BB : C1001:95

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
IPMA (image processing module A) C1001:95	Vision System Camera: Incorrect Assembly	This continuous memory and on-demand DTC (diagnostic trouble code) sets in the IPMA (image processing module A) when the IPMA (image processing module A) camera installation alignment is incorrect.

Possible Sources

- IPMA (image processing module A) camera alignment

BB1 CARRY OUT THE IPMA (IMAGE PROCESSING MODULE A) CAMERA ALIGNMENT USING A DIAGNOSTIC SCAN TOOL

- Ignition ON.
- Using the diagnostic scan tool, carry out the IPMA (image processing module A) camera alignment procedure.

Did the camera alignment procedure complete successfully?

Yes The system is operating correctly at this time.

No REFER to the camera alignment procedure to troubleshoot the concern.
REFER to: [Image Processing Module A \(IPMA\) Camera](#)
(419-07 Lane Keeping System, Removal and Installation).