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2006 FORD Galaxy OEM Service and Repair Workshop Manual

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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) U1000:11	Solid State Driver Protection Active -Driver Disabled: Circuit Short To Ground	This DTC (diagnostic trouble code) set in the IPMA (image processing module A) when the IPMA (image processing module A) has temporarily disabled the camera windshield heater defroster output because an excessive current draw exists (such as a short to ground).

Possible Sources

- IPMA (image processing module A) concern

AE1 CHECK FOR THE CAMERA WINDSHIELD HEATER DEFROSTER OUTPUT

- Ignition ON.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question.

Is DTC U1000:11 still present?

Yes	The IPMA (image processing module A) cannot enable the output driver until the short is corrected. ADDRESS all other IPMA (image processing module A) DTC (diagnostic trouble code) first. After the cause of the concern is corrected, CLEAR the DTC (diagnostic trouble code) and REPEAT the IPMA (image processing module A) self-test to enable the output driver.
No	The repair is complete.

PINPOINT TEST AF : U2100:00

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
IPMA (image processing module A) U2107:68	Collision Mitigation By Braking: Event Information	A continuous memory DTC (diagnostic trouble code) that sets in the IPMA (image processing module A) if messages from the ABS (anti-lock brake system) control module or PCM (powertrain control module) over the FD-CAN (Flexible Data Rate Controller Area Network) are invalid. The AEBS (advanced emergency brake system) is intermittent or inoperative.

Possible Sources

- Communication network concern
- ABS (anti-lock brake system) control module concern
- IPMA (image processing module A) concern
- PCM (powertrain control module) concern

NOTE

Pre-collision assist not available.

AG1 CHECK THE COMMUNICATION NETWORK

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

Does the IPMA (image processing module A) , ABS (anti-lock brake system) control module, and PCM (powertrain control module) pass the network test?

Yes	GO to AG2
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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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AG2 CHECK THE IPMA MODULE CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

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

NOTE

ACC (adaptive cruise control) not available.

AH1 CHECK THE COMMUNICATION NETWORK

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

Does the ABS (anti-lock brake system) module and PCM (powertrain control module) pass the network test?

Yes	GO to AH2
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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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AH2 CHECK THE CCM MODULE CONTINUOUS MEMORY DIAGNOSTIC TROUBLE CODES (CMDTCS)

- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs).
- Wait 10 seconds.
- Using the diagnostic scan tool, check the IPMA (image processing module A) CMDTCS.

Is DTC (diagnostic trouble code) U2108:68 retrieved again?

Yes	DIAGNOSE any ABS (anti-lock brake system) module Diagnostic Trouble Codes (DTCs). REFER to: Anti-Lock Brake System (ABS) and Stability Control (206-09 Anti-Lock Brake System (ABS) and Stability Control, Diagnosis and Testing). DIAGNOSE any PCM (powertrain control module) Diagnostic Trouble Codes (DTCs). Refer to the appropriate section in Group 303 for the procedure.
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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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No	The system is operating correctly at this time. The DTC (diagnostic trouble code) may have been set due to an intermittent fault condition.
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PINPOINT TEST AJ : U2300:55

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) U2300:55	Central Configuration: Not Configured	This continuous memory DTC (diagnostic trouble code) can set in IPMA (image processing module A) due to incomplete or incorrect PMI (programmable module installation) procedures.

Possible Sources

- IPMA (image processing module A) concern

AJ1 CHECK FOR THE CORRECT PMI (PROGRAMMABLE MODULE INSTALLATION) PROCEDURE

- Ignition ON.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question.

Is DTC U2300:55 still present?

Yes	<p>CHECK the vehicle service history for recent service actions related to this module. If there have been recent service actions with this module, run the IPMA (image processing module A) configuration application, this application will write the as-built from the server to the IPMA (image processing module A) .</p> <p>REFER to: Module Programming (418-01A Module Configuration, General Procedures).</p> <p>If there have been no recent service actions, INSTALL a new module to correct the failure to retain configuration data. REFER to: Image Processing Module A (IPMA) (419-07 Lane Keeping System, Removal and Installation).</p>
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No	The repair is complete.
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PINPOINT TEST AL : U3000:42

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) U3000:42	Control Module: General Memory Failure	This DTC (diagnostic trouble code) sets in the IPMA (image processing module A) when IPMA (image processing module A) general memory failure.

Possible Sources

- IPMA (image processing module A) concern

AL1 CHECK WHETHER ALL IPMA (IMAGE PROCESSING MODULE A) DTC (DIAGNOSTIC TROUBLE CODE) 'S ADDRESSED

- Ignition ON.
- Using a diagnostic scan tool, clear the Diagnostic Trouble Codes (DTCs) for the module in question.

Is DTC U3000:42 still present?

Yes	ADDRESS all other IPMA (image processing module A) DTC (diagnostic trouble code) first. If this continuous memory DTC (diagnostic trouble code) is still present after all other DTC (diagnostic trouble code) have been addressed, INSTALL a new IPMA (image processing module A) . REFER to: Image Processing Module A (IPMA) (419-07 Lane Keeping System, Removal and Installation).
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No	The repair is complete.
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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) U0104:00	Lost Communication With Cruise Control Module: No Sub Type Information	The IPMA (image processing module A) sets this DTC (diagnostic trouble code) if data messages from the CCM (cruise control module) module are missing.

Possible Sources

- Communications network concern
- CCM (cruise control module)

AN1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to AN2
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No	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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AN2 CHECK THE COMMUNICATION NETWORK

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.

AN5 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.

- CHECK the vehicle service history for recent service actions related to the CCM (cruise control module), 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 [AN6](#)

No

The system is operating correctly at this time. The concern may have been due to incorrect parts replacement procedures or incorrect module configuration.

AN6 CHECK FOR CORRECT CCM (CRUISE CONTROL MODULE) MODULE OPERATION

- Ignition OFF.
- Disconnect and inspect the CCM (cruise control module) connector(s).
- Repair:
 - corrosion (install new connector or terminals – clean module pins)
 - damaged or bent pins – install new terminals/pins

- IPMA (image processing module A) concern
- GWM (gateway module A)

AO1 VERIFY THE CUSTOMER CONCERN

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

Is an observable symptom present?

Yes	GO to AO2
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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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AO2 CHECK THE COMMUNICATION NETWORK

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

Does the ATCM (all terrain control module) pass the network test?

Yes	GO to AO3
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No	<p>REFER to: Controller Area Network (CAN) Module Communications Network(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).</p> <p>REFER to: Ethernet Module Communications Network (418-00C Ethernet Module Communications Network, Diagnosis and Testing).</p>
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AO3 PERFORM THE ALL TERRAIN CONTROL MODULE (ATCM) SELF-TEST

- Using a diagnostic scan tool, perform the ATCM (all terrain control module) module self-test.

Are any DTC (diagnostic trouble code) s recorded?

Yes	<p>DIAGNOSE all non-network Diagnostic Trouble Codes (DTCs). REFER to the DTC Chart: Terrain Control Module.</p> <p>REFER to: Four-Wheel Drive Systems - Vehicles With: 2-Speed Torque On Demand Transfer Case (307-07A Four-Wheel Drive Systems, Diagnosis and Testing).</p> <p>REFER to: Four-Wheel Drive Systems - Vehicles With: Electronic Shift Transfer Case</p>
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- Wait 10 seconds.
- Using a diagnostic scan tool, perform the IPMA (image processing module A) continuous memory self-test.
- Check the IPMA (image processing module A) Continuous Memory Diagnostic Trouble Codes (CMDTCs).

Is DTC U0138:00 present?

Yes	GO to AO7
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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.
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AO7 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 ATCM (all terrain control module) module, GWM (gateway module A) or IPMA (image processing module A) . If recent service history is found:
 - verify correct replacement module was installed
 - vehicle parts build 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
 - if a new replacement module is installed, PERFORM PMI (programmable module installation) using as-built data
- Operate the system and determine if the observable symptom is still present.

Is the observable symptom still present?

Yes	GO to AO8
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