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1998 FORD Galaxy OEM Service and Repair Workshop Manual

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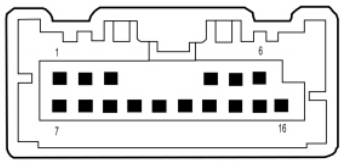
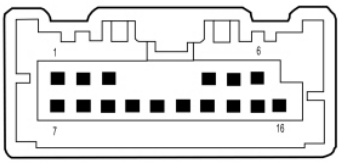
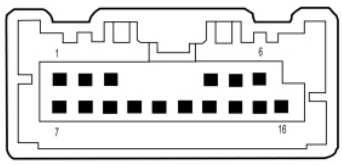
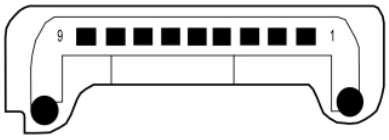
 E253177 Upper Clockspring C218B, pin 10 (component side)	V	 E253177 Upper Clockspring C218B, pin 9 (component side)

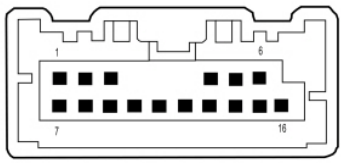
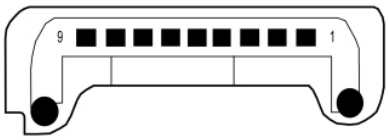
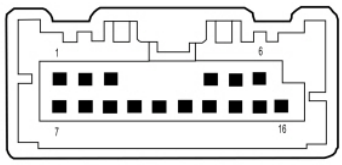
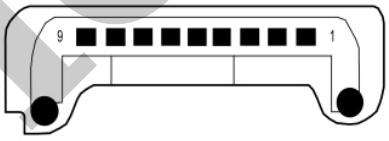
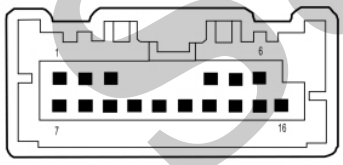
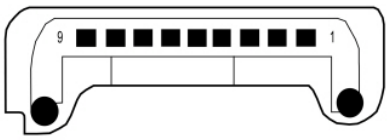
Are the voltages approximately 5 volts?

Yes	REPAIR the steering wheel harness (open or short is present) or INSTALL a new steering wheel as necessary. REFER to: Steering Wheel (211-04 Steering Column, Removal and Installation).
No	GO to A6

A6 CHECK THE CLOCKSPRING FOR AN OPEN

- Ignition OFF.
- Measure:

Positive Lead	Measurement / Action	Negative Lead
 E253177	Ω	 E253175

 E253177 Upper Clockspring C218B, pin 7 (component side)	Ω	 E253175 Lower Clockspring C218F, pin 1 (component side)
 E253177 Upper Clockspring C218B, pin 8 (component side)	Ω	 E253175 Lower Clockspring C218F, pin 2 (component side)
 E253177 Upper Clockspring C218B, pin 10 (component side)	Ω	 E253175 Lower Clockspring C218F, pin 4 (component side)

	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.

A8 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all PCM (powertrain control module) 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 PCM (powertrain 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 (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,  Guided Routine available in the on-line Workshop Manual.

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 : THE CRUISE CONTROL IS INOPERATIVE - WITH ADAPTIVE STEERING

Refer to Wiring Diagrams Cell 31for schematic and connector information.

SECM (steering effort control module) C2003:11	Steering Wheel Switch Left Module: Circuit Short To Ground	Set in continuous memory when the SECM (steering effort control module) detects when cruise control switch circuits are shorted to ground.

Possible Sources

- Wiring, terminals or connectors
- Cruise control switch
- ABS (anti-lock brake system) module
- EBB (electric brake booster)
- PCM (powertrain control module)
- SECM (steering effort control module)

NOTE

Some ABS (anti-lock brake system) module Diagnostic Trouble Codes (DTCs) may inhibit cruise control operation. Check for ABS (anti-lock brake system) module DTCs, REFER to section 206-09.

B1 CHECK FOR DIAGNOSTIC TROUBLE CODES (DTCS)

- Connect the diagnostic tool.
- Ignition ON.
- Using a diagnostic scan tool, perform PCM (powertrain control module) self-test.
- Using a diagnostic scan tool, perform ABS (anti-lock brake system) module self-test.
- Using a diagnostic scan tool, perform EBB (electric brake booster) self-test.
- Using a diagnostic scan tool, perform SECM (steering effort control module) self-test.

Are any DTCs recorded?

Yes	If PCM (powertrain control module) DTCs were retrieved, DIAGNOSE and REPAIR those DTCs first. REFER to the Master DTC (diagnostic trouble code) Chart. If ABS (anti-lock brake system) module DTCs were retrieved, DIAGNOSE and REPAIR those DTCs first. REFER to the Master DTC (diagnostic trouble code) Chart. If EBB (electric brake booster) DTCs were retrieved, DIAGNOSE and REPAIR those DTCs first. REFER to the Master DTC (diagnostic trouble code) Chart. If SCCM (steering column control module) DTC (diagnostic trouble code) B137F:11, B137F:17, B137F:2A, B137F:4A, B1380:11, B1380:17, B1380:2A, B1380:4A or C2003:11 is retrieved, GO to B4

Do the PID (parameter identification) values agree with the brake pedal position?

Yes	GO to B6

No	GO to Pinpoint Test C

B4 CHECK FOR VOLTAGE TO THE STEERING WHEEL SWITCH

- Ignition OFF.
- Remove the driver airbag.
  REFER to: Driver Airbag - Vehicles With: Adaptive Steering(501-20B Supplemental Restraint System, Removal and Installation).
- Disconnect Right Steering Wheel Switch C2999 .
- Disconnect Left Steering Wheel Switch C2998 .
- Ignition ON.
- Measure:
  Left Steering Wheel Switch

Positive Lead	Measurement / Action	Negative Lead
C2998-2	V	C2998-5
C2998-3	V	C2998-5
C2998-4	V	C2998-5

Right Steering Wheel Switch

Positive Lead	Measurement / Action	Negative Lead

	(211-04 Steering Column, Removal and Installation).

B6 CHECK FOR CORRECT PCM (POWERTRAIN CONTROL MODULE) OPERATION

- Ignition OFF.
- Disconnect and inspect all PCM (powertrain control module) 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 PCM (powertrain 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 (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,  Guided Routine available in the on-line Workshop Manual.
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 : P0504:00, P0572:00, P0573:00, P1703:00 OR P1935:00

Refer to Wiring Diagrams Cell 31for schematic and connector information.

Normal Operation and Fault Conditions REFER to: Cruise Control - System Operation and Component Description

(419-03A Cruise Control, Description and Operation).

DTC Fault Trigger Conditions

Possible Sources

- Wiring, terminals or connectors
- Fuse 30 (5A)
- ABS (anti-lock brake system) module
- EBB (electric brake booster)
- PCM (powertrain control module)

Visual Inspection and Pre-checks

- BCM (body control module) Fuse 30 (5A)

NOTICE

Use the correct probe adapter(s) when making measurements. Failure to use the correct probe adapter(s) may damage the connector.

C1 CHECK FOR ABS (ANTI-LOCK BRAKE SYSTEM) MODULE DTCS

- Connect the diagnostic tool.
- Ignition ON.
- Using a diagnostic scan tool, perform the ABS (anti-lock brake system) Module self-test.

Are any DTCs recorded?

Yes	If ABS (anti-lock brake system) DTCs were retrieved, DIAGNOSE and REPAIR those DTCs first. 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 C2

C2 CHECK THE OPERATION OF THE STOPLAMPS

- Operate the stoplamps.

Do the stoplamps and high mounted stoplamp operate correctly?

Yes	GO to C3

- Disconnect PCM (powertrain control module) C1233B 5.2L Ti-VCT.
- Disconnect PCM (powertrain control module) C1915B BEV.
- Disconnect ABS (anti-lock brake system) module C135 .
- Ignition ON.
- Measure:

2.7L EcoBoost

Positive Lead	Measurement / Action	Negative Lead
C1232B-58	V	Ground

3.3L Duratec

Positive Lead	Measurement / Action	Negative Lead
C1551B-58	V	Ground

3.5L EcoBoost

Positive Lead	Measurement / Action	Negative Lead
C175B-58	V	Ground

5.0L Ti-VCT

Positive Lead	Measurement / Action	Negative Lead
C1381B-58	V	Ground

5.2L Ti-VCT

C1551B-58	Ω	Ground

3.5L EcoBoost

Positive Lead	Measurement / Action	Negative Lead
C175B-58	Ω	Ground

5.0L Ti-VCT

Positive Lead	Measurement / Action	Negative Lead
C1381B-58	Ω	Ground

5.2L Ti-VCT

Positive Lead	Measurement / Action	Negative Lead
C1233B-58	Ω	Ground

BEV

Positive Lead	Measurement / Action	Negative Lead
C1915B-A3	Ω	Ground

Is the resistance greater than 10,000 ohms?

Yes	GO to C6