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2017 FORD Mustang Shelby GT350 OEM Service and Repair Workshop Manual

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

No


INSTALL a new clockspring.

REFER to: [Clockspring - Vehicles With: Adaptive Steering](#)
(501-20B Supplemental Restraint System, Removal and Installation).

G8 CHECK THE STEERING WHEEL HARNESS ILLUMINATION CIRCUIT FOR AN OPEN

- Ignition OFF.
- Place the headlamp switch in the OFF position.
- Depower the SRS (supplemental restraint system) .
REFER to: [Supplemental Restraint System \(SRS\) Depowering](#)(501-20B Supplemental Restraint System, General Procedures).
- Remove the driver airbag. For vehicles without adaptive steering,
REFER to: [Driver Airbag - Vehicles Without: Adaptive Steering](#)(501-20B Supplemental Restraint System, Removal and Installation).
For vehicles with adaptive steering, REFER to: [Driver Airbag - Vehicles With: Adaptive Steering](#)(501-20B Supplemental Restraint System, Removal and Installation).
- Disconnect Inoperative switch.
- Place a light source over the ambient light sensor so the illumination can reach maximum intensity.
- Headlamp switch in the PARKING LAMPS ON position.
- Ignition ON.
- Press the illumination dim up switch until full illumination intensity is reached.
- Measure:

LH (left-hand) steering wheel switch

Positive Lead	Measurement / Action	Negative Lead
C2998-1		C2998-6

RH (right-hand) steering wheel switch

Positive Lead	Measurement / Action	Negative Lead
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No	<p>DIAGNOSE a concern with the network.</p> <p>REFER to: Controller Area Network (CAN) Module Communications Network (418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).</p>
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H2 CHECK FOR CORRECT IPC (INSTRUMENT PANEL CLUSTER) OPERATION

- Disconnect and inspect all IPC (instrument panel cluster) 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 IPC (instrument panel cluster) and related in-line connectors and all previously disconnected illumination system connectors. Make sure all connectors seat and latch correctly.
- Operate the system to 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 IPC (instrument panel cluster) .</p> <p>REFER to: Instrument Panel Cluster (IPC) (413-01 Instrumentation, Message Center and Warning Chimes, 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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PINPOINT TEST I : THE ACM (AUDIO FRONT CONTROL MODULE) ILLUMINATION IS INOPERATIVE OR DOES NOT DIM

Refer to Wiring Diagrams Cell 131 for schematic and connector information.

Normal Operation and Fault Conditions REFER to: [Instrument Panel and Interior Switches Illumination - System Operation and Component Description](#)

(413-00 Instrument Panel and Interior Switches Illumination, Description and Operation).

(415-00 Information and Entertainment System - General Information, 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 : THE INFORMATION AND ENTERTAINMENT DISPLAY UNIT ILLUMINATION IS INOPERATIVE OR DOES NOT DIM

Refer to Wiring Diagrams Cell 131 for schematic and connector information.

Normal Operation and Fault Conditions REFER to: [Instrument Panel and Interior Switches Illumination - System Operation and Component Description](#)

(413-00 Instrument Panel and Interior Switches Illumination, Description and Operation).

Possible Sources

- Communication network concern
- Wiring, terminals or connectors
- APIM (SYNC module)
- Information and entertainment display unit (touchscreen)

J1 PERFORM A NETWORK TEST

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

Does the APIM (SYNC module) pass the network test?

Yes

GO to [J2](#)

No

DIAGNOSE a concern with the network.

REFER to: [Controller Area Network \(CAN\) Module Communications Network](#)

(418-00A Controller Area Network (CAN) Module Communications Network, Diagnosis and Testing).

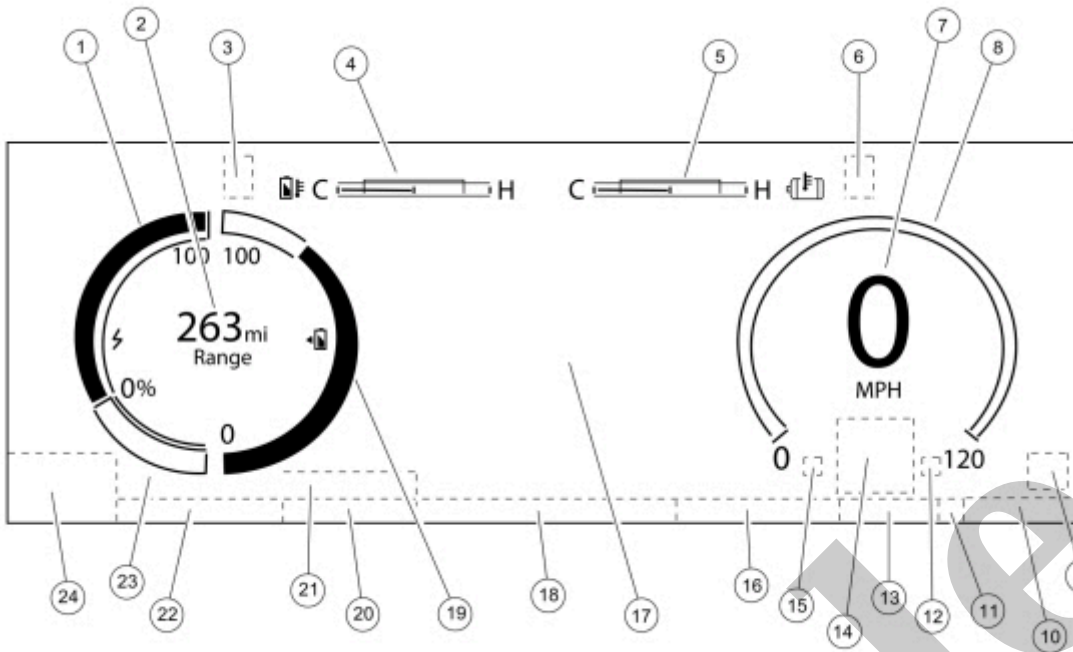
J2 PERFORM A TEST OF THE AUDIO SYSTEM FROM THE INFORMATION AND ENTERTAINMENT DISPLAY UNIT

- Verify the audio system can be operated from the information and entertainment display unit.

- Disconnect and inspect all GSM (gear shift module) 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 GSM (gear shift module) and related in-line connectors and all previously disconnected illumination system connectors. Make sure all connectors seat and latch correctly.
- Operate the system to determine if the concern is still present.

Is the concern still present?

<p>Yes</p>	<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 GSM (gear shift module) .</p> <p>REFER to: Gear Shift Module (GSM) - Vehicles With: Console Shift (307-05B Automatic Transmission External Controls - 10-Speed Automatic Transmission – 10R80, Removal and Installation).</p>
<p>No</p>	<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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NOTE

The illustration shows the basic display elements. The elements displayed and the layout changes based on driver selections. For additional information about specific feature displays, refer to the Owner's Literature.

Item	Description
1	Power gauge
2	Vehicle range display
3	LH (left-hand) turn RTT (reconfigurable telltale) indicator
4	High voltage battery temperature gauge
5	Electric motor temperature gauge
6	RH (right-hand) turn RTT (reconfigurable telltale) indicator
7	Digital speedometer

	<ul style="list-style-type: none"> • Lane keep assist RTT (reconfigurable telltale) indicator • One-pedal drive control RTT (reconfigurable telltale) indicator
17	<ul style="list-style-type: none"> • Main menu display • Information-on-demand display • Driver assistance display (when information-on-demand is selected): <ul style="list-style-type: none"> ◦ Adaptive cruise control display ◦ Highway assist display ◦ Lane centering aid display ◦ Lane keeping system display
18	Information display
19	High voltage battery gauge
20	<ul style="list-style-type: none"> • Outside air temperature display • Forward collision warning RTT (reconfigurable telltale) indicator • Seatbelt warning RTT (reconfigurable telltale) indicator
21	<ul style="list-style-type: none"> • ABS (anti-lock brake system) RTT (reconfigurable telltale) indicator • Auto hold RTT (reconfigurable telltale) indicator
22	PRND display
23	<ul style="list-style-type: none"> • Brake warning RTT (reconfigurable telltale) indicator • Electric park brake RTT (reconfigurable telltale) indicator
24	<ul style="list-style-type: none"> • Rotating Reconfigurable Telltales (RTTs): <ul style="list-style-type: none"> ◦ Auto/adaptive high beam ◦ Drive mode (Sport, Off-Road, Tow Haul) ◦ Four wheel drive (2H, 4H, 4L, 4A) ◦ High beam ◦ Lights on ◦ Rear fog lamp (if equipped) ◦ ELD (electronic locking differential) (eLocker) ◦ Stability-traction control (sliding car icon)

traffic alert) warning chimes are sounded through the rear speakers. All other warning chimes are sounded through the front audio system speakers.

NOTE

There are instances where some chimes may sound through the IPC (instrument panel cluster) and should not be interpreted as a fault in the audio system. An example might be when the ignition is off, with the key in the ignition and the driver door ajar. In this instance, the audio system is offline and the key-in-ignition chime defaults to the IPC (instrument panel cluster) .

The IPC (instrument panel cluster) also acts as a backup. In the event of an audio system chime failure, the IPC (instrument panel cluster) sounds all chimes that are required.

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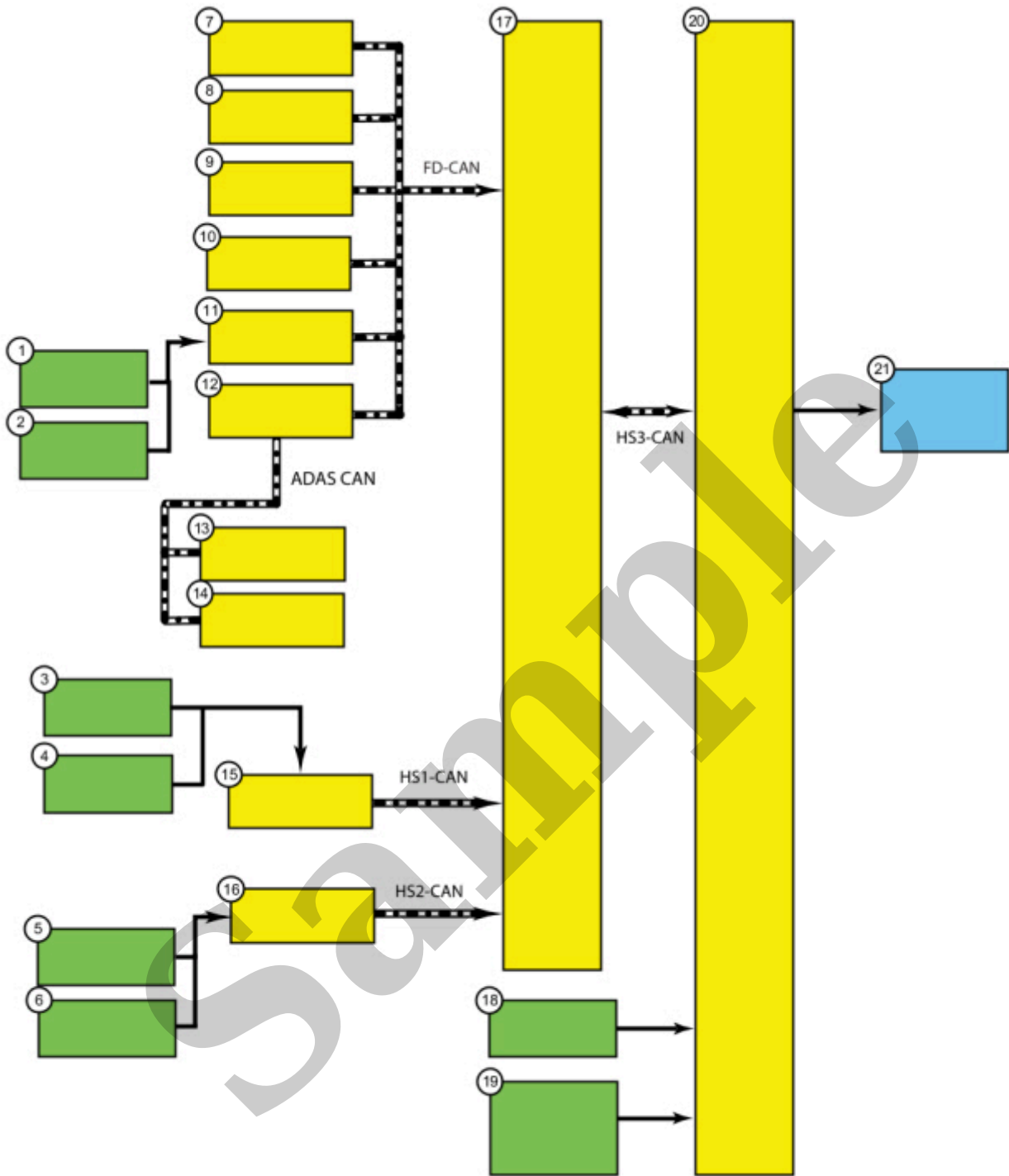
Sample

3	PCM (powertrain control module)
4	GWM (gateway module A)
5	IPC (instrument panel cluster)
6	High voltage battery (charge)
7	Power (regenerative)
8	High voltage battery temperature
9	Electric motor temperature
10	Speedometer

Network Message Chart - Gauges

The data on each gauge is displayed when the IPC (instrument panel cluster) receives messaged inputs from other modules on the CAN (controller area network) . The IPC (instrument panel cluster) communicates on the HS-CAN3 (high-speed controller area network 3) . If the originating module communicates on a network other than the HS-CAN3 (high-speed controller area network 3) , the messaged signals will be sent to the GWM (gateway module A) first, then to the IPC (instrument panel cluster) .

Gauge	Network Message	Originating Module	Originating CAN (controller area network)	Receiving Module
High voltage battery (Charge)	Battery state of charge display	BECM (battery energy control module)	HS-CAN1 (high-speed controller area network 1)	IPC (instrument panel cluster)
High voltage battery temperature	High voltage battery temperature status	BECM (battery energy control module)	HS-CAN1 (high-speed controller area network 1)	IPC (instrument panel cluster)
Electric motor temperature	Engine coolant temperature data	PCM (powertrain control module)	FD-CAN (Flexible Data Rate Controller Area Network)	IPC (instrument panel cluster)



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Item	Description
1	Parking brake switch