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## 1983 FORD Mustang OEM Service and Repair Workshop Manual

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- Locate and apply pressure to the trim panel(s) around the poor sound quality area in question.

**Does applying pressure to a trim panel reduce or eliminate the noise?**

<b>Yes</b>	REPAIR or REPLACE the trim panel as needed.
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<b>No</b>	GO to <a href="#">D2</a>
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**D2 REMOVE AND INSPECT BEHIND/UNDERNEATH THE SUSPECT TRIM PANEL**

- Remove the trim panel to access the suspect speaker.
- Operate the audio system in USB (universal serial bus) mode using the downloaded audio files.
- Validate where the poor sound quality area is located.
- Check:
  - Trim panel for loose components (speaker grille for example) around the speaker area.
  - Trim panel joining components for missing or broken pieces.
  - Door latch mechanical parts for correct attachment.
  - Wire harnesses for correct routing and attachment.
  - Water shield for correct placement (speaker air path not blocked).
  - Water shield for correct bonding to sheet metal.
  - Storage areas for loose items.
  - All safety belt retractors.
  - All speaker bracket and related fasteners. Make sure they are secure and tightened to specified torque.

**Is the source of the noise located?**

<b>Yes</b>	REPAIR or REPLACE any loose or broken component or fastener as necessary.
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<b>No</b>	GO to <a href="#">D3</a>
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**D3 CHECK THE SUSPECT SPEAKER FOR WATER INTRUSION**

- Inspect for watermarks.
- Check the following speaker components:
  - Cone
  - Magnet
  - Basket

- Operate the audio system in AM (amplitude modulation) / FM (frequency modulation) mode.
- Drive the vehicle at various speeds and observe the speaker volume.
- Set the speed compensated volume to maximum compensation.
- Drive the vehicle at various speeds and observe the speaker volume.

**Does the volume remain constant with the speed compensated volume turned off, and increase and decrease with vehicle speed with the speed compensated volume set to maximum?**

<b>Yes</b>	The system is operating correctly at this time. INFORM the vehicle owner in the correct usage of the speed compensated volume feature.
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<b>No</b>	GO to <a href="#">E2</a>
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## **E2 CHECK FOR COMMUNICATION DIAGNOSTIC TROUBLE CODES (DTCs)**

- For vehicles equipped with the 6 speaker system, carry out the ACM (audio front control module) self-test.
- For vehicles equipped with the 10 speaker system, carry out the DSP (audio digital signal processing module) self-test.

**Are any Diagnostic Trouble Codes (DTCs) present?**

<b>Yes</b>	REFER to the DTC (diagnostic trouble code) chart in this section.
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<b>No</b>	GO to <a href="#">E3</a>
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## **E3 CARRY OUT PMI (PROGRAMMABLE MODULE INSTALLATION) FOR THE SUSPECT MODULE**

- For vehicles equipped with the 6 speaker system, carry out the PMI (programmable module installation) for the ACM (audio front control module) .
- For vehicles equipped with the 10 speaker system, carry out the PMI (programmable module installation) for the DSP (audio digital signal processing module) .
- Check the operation of the speed compensated volume feature.

**Does the speed compensated volume feature operate?**

<b>Yes</b>	The repair is complete.
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- Reconnect the ACM (audio front 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?**

<b>Yes</b>	<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 ACM (audio front control module) .</p> <p>REFER to: <a href="#">Audio Front Control Module (ACM) - Vehicles With: 8 Inch Center Display Screen/12 Inch Center Display Screen</a> (415-00 Information and Entertainment System - General Information, Removal and Installation).</p>
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<b>No</b>	<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 F : ONE OR MORE SPEAKER IS INOPERATIVE - ACM (AUDIO FRONT CONTROL MODULE) CONTROLLED 4, 6, 5 OR 7 SPEAKER SYSTEM**

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

**Normal Operation and Fault Conditions** REFER to: [Information and Entertainment System - Component Location](#)

(415-00 Information and Entertainment System - General Information, Description and Operation).

REFER to: [Information and Entertainment System - System Operation and Component Description](#)

(415-00 Information and Entertainment System - General Information, Description and Operation).

**DTC Fault Trigger Conditions**

DTC (diagnostic trouble code)	Description	Fault Trigger Condition
ACM (audio front control module) B1A01:01	Speaker #1: General Electrical Failure	Sets during the on-demand self-test when the ACM (audio front control module) detects a failure from the left front door and A-pillar speaker circuits.
ACM (audio front control module) B1A01:11	Speaker #1: Circuit Short To Ground	Sets in continuous memory and during the on-demand self-test when the ACM (audio front control module) detects a short to ground from the left front door and A-pillar speaker circuits. The

ACM (audio front control module) B1A03:12	Speaker #3: Circuit Short To Battery	Sets in continuous memory and during the on-demand self-test when the ACM (audio front control module) detects a short to voltage from the right rear door speaker circuits. The speaker output is disabled when this DTC (diagnostic trouble code) is set.
ACM (audio front control module) B1A03:13	Speaker #3: Circuit Open	Sets during the on-demand self-test when the ACM (audio front control module) detects an open from the right rear door speaker circuits.
ACM (audio front control module) B1A04:01	Speaker #4: General Electrical Failure	Sets during the on-demand self-test when the ACM (audio front control module) detects a failure from the left rear door speaker circuits.
ACM (audio front control module) B1A04:11	Speaker #4: Circuit Short To Ground	Sets in continuous memory and during the on-demand self-test when the ACM (audio front control module) detects a short to ground from the left rear door speaker circuits. The speaker output is disabled when this DTC (diagnostic trouble code) is set.
ACM (audio front control module) B1A04:12	Speaker #4: Circuit Short To Battery	Sets in continuous memory and during the on-demand self-test when the ACM (audio front control module) detects a short to voltage from the left rear door speaker circuits. The speaker output is disabled when this DTC (diagnostic trouble code) is set.
ACM (audio front control module) B1A04:13	Speaker #4: Circuit Open	Sets during the on-demand self-test when the ACM (audio front control module) detects an open from the left rear door speaker circuits.
ACM (audio front control module) B1A06:01	Speaker #6: General Electrical Failure	Sets during the on-demand self-test when the ACM (audio front control module) detects a failure from the instrument panel center speaker circuits.
ACM (audio front control module) B1A06:11	Speaker #6: Circuit Short To Ground	Sets in continuous memory and during the on-demand self-test when the ACM (audio front control module) detects a short to ground from the instrument panel center speaker circuits. The speaker output is disabled when this DTC (diagnostic trouble code) is set.
ACM (audio front control module) B1A06:12	Speaker #6: Circuit Short To Battery	Sets in continuous memory and during the on-demand self-test when the ACM (audio front control module) detects a short to voltage from the instrument panel center speaker circuits. The

C2420-1	$\Omega$	Ground
C2420-3	$\Omega$	Ground

### Right A-Pillar Speaker



Positive Lead	Measurement / Action	Negative Lead
C2421-1	$\Omega$	Ground
C2421-3	$\Omega$	Ground

### Left Front Door Speaker



Positive Lead	Measurement / Action	Negative Lead
C570-1	$\Omega$	Ground
C570-4	$\Omega$	Ground

### Right Front Door Speaker



Positive Lead	Measurement / Action	Negative Lead
C628-1	$\Omega$	Ground

Positive Lead	Measurement / Action	Negative Lead
C2356-1		Ground
C2356-2		Ground

### Left A-Pillar Speaker

Positive Lead	Measurement / Action	Negative Lead
C2420-1		Ground
C2420-3		Ground

### Right A-Pillar Speaker

Positive Lead	Measurement / Action	Negative Lead
C2421-1		Ground
C2421-3		Ground

### Left Front Door Speaker

Positive Lead	Measurement / Action	Negative Lead
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C804-4		Ground
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**Is any voltage present?**

<b>Yes</b>	REPAIR the circuit in question.
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<b>No</b>	GO to <a href="#">F3</a>
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**F3 CHECK THE AUDIO CIRCUITS TO THE SPEAKER FOR A SHORT TOGETHER**

**NOTE**

For a front door or corresponding A-pillar speaker concern, make sure both speakers are disconnected.

- Ignition OFF.
- For the suspect speaker, measure:

**Instrument Panel Center Speaker**

Positive Lead	Measurement / Action	Negative Lead
C2356-1	$\Omega$	C2356-2

**Left A-Pillar Speaker**

Positive Lead	Measurement / Action	Negative Lead
C2420-1	$\Omega$	C2420-3

**Right A-Pillar Speaker**

Positive Lead	Measurement / Action	Negative Lead



**No**

REPAIR the circuits.

**F4 CHECK THE AUDIO CIRCUITS TO THE SPEAKER FOR AN OPEN**

- For the suspect speaker, measure:

**Instrument Panel Center Speaker**

Positive Lead	Measurement / Action	Negative Lead
C2356-1	$\Omega$	C240A-13
C2356-2	$\Omega$	C240A-24

**Left A-Pillar Speaker**

Positive Lead	Measurement / Action	Negative Lead
C2420-1	$\Omega$	C240A-8
C2420-3	$\Omega$	C240A-7

**Right A-Pillar Speaker**

Positive Lead	Measurement / Action	Negative Lead
C2421-1	$\Omega$	C240A-3

## Right Rear Door Speaker

Positive Lead	Measurement / Action	Negative Lead
C802-1	$\Omega$	C240A-10
C804-4	$\Omega$	C240A-9

Are the resistances less than 3 ohms?

<b>Yes</b>	GO to <a href="#">F5</a>
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<b>No</b>	REPAIR the circuit in question.
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## F5 CHECK THE AUDIO SIGNAL TO THE SUSPECT SPEAKER

- Connect ACM (audio front control module) C240A .
- Ignition ON.
- Operate the audio system in AM (amplitude modulation) / FM (frequency modulation) mode.
- For the suspect speaker, measure:

### Instrument Panel Center Speaker

Positive Lead	Measurement / Action	Negative Lead
C2356-1	$\tilde{V}$	C2356-2

### Left A-Pillar Speaker

Positive Lead	Measurement / Action	Negative Lead
C2420-1	$\tilde{V}$	C2420-3