

DTC	Description	Fault Trigger Conditions
B1045:13	Chime: Circuit Open	Set by the audio DSP module when an open is detected on the LH chime signal circuits between the ACM and audio DSP module.
B13FD:13	Chime Input 2: Circuit Open	Set by the audio DSP module when an open is detected on the RH chime signal circuits between the ACM and audio DSP module.

Possible Sources

- Wiring, terminals or connectors
- Communication concern
- ACM concern
- APIM concern
- DACMC concern
- DSP concern

DIAGNOSIS AND TESTING > INSTRUMENTATION, MESSAGE CENTER AND WARNING CHIMES > PINPOINT TESTS > PINPOINT TEST BA : THE CHIME ONLY SOUNDS FROM THE IPC (INSTRUMENT PANEL CLUSTER) > PINPOINT TEST BA : THE CHIME ONLY SOUNDS FROM THE IPC (INSTRUMENT PANEL CLUSTER)

BA1 PERFORM THE IPC (INSTRUMENT PANEL CLUSTER) SELF-TEST

Ignition ON.

Using a diagnostic scan tool, perform the IPC self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	REFER to DTC Chart: IPC .
No	GO to BA2

BA2 PERFORM THE ACM (AUDIO FRONT CONTROL MODULE) SELF-TEST

Using a diagnostic scan tool, perform the ACM self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	Refer to the appropriate article for the procedure.
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No	GO to BA3
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BA3 PERFORM THE APIM (SYNC MODULE) SELF-TEST

Using a diagnostic scan tool, perform the APIM self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	Refer to the appropriate article for the procedure.
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No	If equipped with 2.7L GTDI or 3.5L GTDI engine, GO to BA4 If not equipped with 2.7L GTDI or 3.5L GTDI engine, GO to BA5
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BA4 PERFORM THE DACMC (DIGITAL AUDIO CONTROL MODULE C) SELF-TEST

Using a diagnostic scan tool, perform the DACMC self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	Refer to the appropriate article for the procedure.
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No	If equipped with touchscreen audio system, GO to BA6 If not equipped with the touchscreen audio system, GO to BA5
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BA5 CHECK FOR CORRECT AUDIO SYSTEM OPERATION

Operate the audio system in AM/ FM mode.

Does the audio system operate correctly?

Yes	If not equipped with the touchscreen audio system, GO to BA17 If equipped with the touchscreen audio system, GO to BA6
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No	Diagnose the audio system. Refer to the appropriate article for the procedure.
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BA6 PERFORM THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE SELF-TEST

Using a diagnostic scan tool, perform the audio DSP module self-test.

Are any Diagnostic Trouble Codes (DTCs) recorded?

Yes	For DTC B1045:13, GO to BA7 For DTC B10FD:13, GO to BA12 For all other Diagnostic Trouble Codes (DTCs), Refer to the appropriate article for the
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	procedure.
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No	GO to BA17
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BA7 CHECK THE LH (LEFT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE

Ignition OFF.

Disconnect Audio DSP Module C3154A .

Ignition ON.

Operate the audio system in AM/ FM mode.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-2		C3154A-12

Is a fluctuating AC voltage present?

Yes	GO to BA19
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No	GO to BA8
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BA8 CHECK THE LH (LEFT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE FOR A SHORT TO VOLTAGE

Ignition OFF.

Disconnect ACM C240A .

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-2		Ground
C3154A-12		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
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No	GO to BA9
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BA9 CHECK THE LH (LEFT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE FOR A SHORT TO GROUND

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-2	Ω	Ground
C3154A-12	Ω	Ground

Are the resistances greater than 10, 000 ohms?

Yes	GO to BA10
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No	REPAIR the circuit in question.
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BA10 CHECK THE LH (LEFT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE FOR AN OPEN

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-2	Ω	C240A-21
C3154A-12	Ω	C240A-9

Are the resistances less than 3 ohms?

Yes	GO to BA11
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No	REPAIR the circuit in question.
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BA11 CHECK THE LH (LEFT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE FOR A SHORT TOGETHER

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-2	Ω	C3154A-12

Is the resistance greater than 10, 000 ohms?

Yes	GO to BA17
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No	REPAIR the circuits.
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BA12 CHECK THE RH (RIGHT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE

Ignition OFF.

Disconnect Audio DSP Module C3154A .

Ignition ON.

Operate the audio system in AM/ FM mode.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-4		C3154A-14

Is a fluctuating AC voltage present?

Yes	GO to BA19
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No	GO to BA13
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BA13 CHECK THE RH (RIGHT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE FOR A SHORT TO VOLTAGE

Ignition OFF.

Disconnect ACM C240A .

Ignition ON.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-4		Ground
C3154A-14		Ground

Is any voltage present?

Yes	REPAIR the circuit in question.
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No	GO to BA14
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BA14 CHECK THE RH (RIGHT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL

SIGNAL PROCESSING MODULE) MODULE FOR A SHORT TO GROUND

Ignition OFF.

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-4	Ω	Ground
C3154A-14	Ω	Ground

Are the resistances greater than 10, 000 ohms?

Yes	GO to BA15
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No	REPAIR the circuit in question.
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BA15 CHECK THE RH (RIGHT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE FOR AN OPEN

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-4	Ω	C240A-24
C3154A-14	Ω	C240A-12

Are the resistances less than 3 ohms?

Yes	GO to BA16
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No	REPAIR the circuit in question.
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BA16 CHECK THE RH (RIGHT-HAND) AUDIO SIGNAL TO THE AUDIO DSP (AUDIO DIGITAL SIGNAL PROCESSING MODULE) MODULE FOR A SHORT TOGETHER

Measure:

Positive Lead	Measurement / Action	Negative Lead
C3154A-4	Ω	C3154A-14

Is the resistance greater than 10, 000 ohms?

Yes	GO to BA17
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No	REPAIR the circuit in question.
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BA17 CHECK FOR CORRECT ACM (AUDIO FRONT CONTROL MODULE) OPERATION

Ignition OFF.

Disconnect and inspect all the ACM connectors 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 ACM connectors and related in-line 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 Technical Service Bulletins (TSBs). If a TSB exists for this concern, DISCONTINUE this test and FOLLOW TSB instructions. If no Technical Service Bulletins (TSBs) address this concern, INSTALL a new ACM. Refer to the appropriate article for the procedure. TEST the system for normal operation. If the chimes still do not sound through the audio system, GO to BA18
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.

BA18 CHECK FOR CORRECT IPC (INSTRUMENT PANEL CLUSTER) OPERATION

Ignition OFF.

Disconnect and inspect all IPC connector 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 connector and related in-line connectors. Make sure it seats and latches correctly.

Operate the system and determine if the concern is still present.

Is the concern still present?