

415-00A Information and Entertainment System - General Information - Vehicles
With: AM/FM

2019 Ranger

Diagnosis and Testing

Procedure revision date:
11/19/2018

Information and Entertainment System

DTC Charts

ACM DTC Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices.
REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

<u>DTC</u>	<u>Description</u>	<u>Action</u>
B10B8:23	Push Buttons: Signal Stuck Low	GO to Pinpoint Test T
B1252:11	USB Port: Short To Ground	GO to Pinpoint Test J
B1A01:11	Speaker #1: Circuit Short To Ground	GO to Pinpoint Test F
B1A01:15	Speaker #1: Circuit Short To Battery or Open	GO to Pinpoint Test F
B1A02:11	Speaker #2: Circuit Short To Ground	GO to Pinpoint Test F
B1A02:15	Speaker #2: Circuit Short To Battery or Open	GO to Pinpoint Test F
B1A03:11	Speaker #3: Circuit Short To Ground	GO to Pinpoint Test F
B1A03:15	Speaker #3: Circuit Short To Battery or Open	GO to Pinpoint Test F
B1A04:11	Speaker #4: Circuit Short To Ground	GO to Pinpoint Test F
B1A04:15	Speaker #4: Circuit Short To Battery or Open	GO to Pinpoint Test F
B1A56:11	Antenna: Circuit Short To Ground	GO to Pinpoint Test A
B1A56:15	Antenna: Circuit Short To Battery or Open	GO to Pinpoint Test A
B1D79:11	Microphone Input: Circuit Short To Ground	GO to Pinpoint Test H
B1D79:15	Microphone Input: Circuit Short To Battery or Open	GO to Pinpoint Test H

U0074:88	Control Module Communication Bus "B" Off: Bus Off	GO to Pinpoint Test Q
U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub Type Information	GO to Pinpoint Test N
U0422:68	Invalid Data Received From Body Control Module: Event Information	GO to Pinpoint Test R
U0423:68	Invalid Data Received from Instrument Panel Cluster Control Module: Event Information	GO to Pinpoint Test R
U2100:00	Initial Configuration Not Complete: No Sub Type Information	GO to Pinpoint Test S
U3000:49	Control Module: Internal Electronic Failure	GO to Pinpoint Test T
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test O
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test P

FCIM DTC Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

<u>DTC</u>	Description	Action
B00D5:01	Restraint System Passenger Disable Indicator: General Electrical Failure	REFER to: Airbag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).
B105A:12	Cabin Temperature Sensor Fan: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B105A:14	Cabin Temperature Sensor Fan: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1082:07	Right Temperature Damper Motor: Mechanical Failure	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1082:11	Right Temperature Damper Motor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information,

		Diagnosis and Testing).
B1082:12	Right Temperature Damper Motor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1082:13	Right Temperature Damper Motor: Circuit Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1083:07	Recirculation Damper Motor: Mechanical Failure	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1083:11	Recirculation Damper Motor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1083:12	Recirculation Damper Motor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1083:13	Recirculation Damper Motor: Circuit Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1086:07	Air Distribution Damper Motor: Mechanical Failure	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1086:11	Air Distribution Damper Motor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1086:12	Air Distribution Damper Motor: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1086:13	Air Distribution Damper Motor: Circuit Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10AF:11	Blower Fan Relay: Circuit Short To	

	Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10AF:15	Blower Fan Relay: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B5:11	Left Panel Air Discharge Temperature: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B5:15	Left Panel Air Discharge Temperature: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B6:11	Left Floor Air Discharge Temperature: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B6:15	Left Floor Air Discharge Temperature: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B8:63	Push Buttons: Circuit / Component Protection Time-Out	GO to Pinpoint Test T
B10B9:12	Blower Control: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B10B9:14	Blower Control: Circuit Short To Ground or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11E6:11	Right HVAC Damper Position Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11E6:15	Right HVAC Damper Position Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11E7:11	Air Distribution Damper Position	

	Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11E7:15	Air Distribution Damper Position Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11F0:11	Air Intake Damper Position Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B11F0:15	Air Intake Damper Position Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1202:01	Restraint System Passenger Enable Indicator: General Electrical Failure	REFER to: Airbag Supplemental Restraint System (SRS) (501-20B Supplemental Restraint System, Diagnosis and Testing).
B12CA:11	Start/Stop "Eco-Start" Status Indicator: Circuit Short To Ground	REFER to Diagnosis and Testing in the appropriate 303-06 section.
B12CA:15	Start/Stop "Eco-Start" Status Indicator: Circuit Short To Battery or Open	REFER to Diagnosis and Testing in the appropriate 303-06 section.
B1A61:11	Cabin Temperature Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A61:15	Cabin Temperature Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A63:11	Right Solar Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A63:15	Right Solar Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A64:11	Left Solar Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information,

		Diagnosis and Testing).
B1A64:15	Left Solar Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A69:11	Humidity Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1A69:15	Humidity Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1B71:11	Evaporator Temperature Sensor: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1B71:15	Evaporator Temperature Sensor: Circuit Short To Battery or Open	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
B1C83:12	Rear Defog Relay: Circuit Short To Battery	REFER to: Glass, Frames and Mechanisms (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).
B1C83:14	Rear Defog Relay: Circuit Short To Ground or Open	REFER to: Glass, Frames and Mechanisms (501-11 Glass, Frames and Mechanisms, Diagnosis and Testing).
C1B14:11	Sensor Supply Voltage A: Circuit Short To Ground	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
C1B14:12	Sensor Supply Voltage A: Circuit Short To Battery	REFER to: Climate Control System - Vehicles With: Electronic Manual Temperature Control (EMTC) (412-00 Climate Control System - General Information, Diagnosis and Testing).
U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test L
U0151:00	Lost Communication With Restraints Control Module: No Sub Type Information	GO to Pinpoint Test M
U0155:00	Lost Communication With Instrument	GO to Pinpoint Test N

	Panel Cluster (IPC) Control Module: No Sub Type Information	
U0401:00	Invalid Data Received from ECM/PCM A: No Sub Type Information	GO to Pinpoint Test R
U0401:82	Invalid Data Received from ECM/PCM A: Alive / Sequence Counter Incorrect / Not Updated	GO to Pinpoint Test R
U0422:68	Invalid Data Received From Body Control Module: Event Information	GO to Pinpoint Test R
U0422:81	Invalid Data Received From Body Control Module: Invalid Serial Data Received	GO to Pinpoint Test R
U0452:82	Invalid Data Received From Restraints Control Module: Alive / Sequence Counter Incorrect / Not Updated	GO to Pinpoint Test R
U1000:00	Solid State Driver Protection Active - Driver Disabled: No Sub Type Information	GO to Pinpoint Test T
U2024:51	Control Module Cal-Config Data: Not Programmed	GO to Pinpoint Test S
U2100:00	Initial Configuration Not Complete: No Sub Type Information	GO to Pinpoint Test S
U3000:41	Control Module: General Checksum Failure	GO to Pinpoint Test T
U3000:49	Control Module: Internal Electronic Failure	GO to Pinpoint Test T
U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test O
U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test P

SCCM DTC Chart

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

<u>DTC</u>	Description	Action
B1380:11	Steering Wheel Right Switch Pack: Circuit Short To Ground	GO to Pinpoint Test G
B1380:13	Steering Wheel Right Switch Pack: Circuit Open	GO to Pinpoint Test G

B1380:96	Steering Wheel Right Switch Pack: Component Internal Failure	GO to Pinpoint Test G
B1380:9E	Steering Wheel Right Switch Pack: Stuck On	GO to Pinpoint Test G
All other Diagnostic Trouble Codes (DTCs)	—	REFER to: Steering Wheel and Column Electrical Components (211-05 Steering Wheel and Column Electrical Components, Diagnosis and Testing).

Symptom Charts

Symptom Chart: Radio

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

Condition	Possible Sources	Actions
A module does not respond to the diagnostic scan tool	Refer to the Pinpoint Test	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
The <u>AM</u> radio is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
The <u>FM</u> radio is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test A
Poor <u>AM</u> reception	Refer to the Pinpoint Test	GO to Pinpoint Test A
Poor <u>FM</u> reception	Refer to the Pinpoint Test	GO to Pinpoint Test A
Continuous seek or scan in <u>AM/ FM</u> mode	Refer to the Pinpoint Test	GO to Pinpoint Test A
One or more audio steering wheel control button is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test G

Symptom Chart: Speakers and Sound Quality

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

Condition	Possible Sources	Actions
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A loud popping sound is heard from the speakers when cycling the ignition on	Refer to the Pinpoint Test	GO to Pinpoint Test B
No sound from all speakers	Refer to the Pinpoint Test	GO to Pinpoint Test C
Poor sound quality or distorted sound from one or more speakers (not all speakers)	Refer to the Pinpoint Test	GO to Pinpoint Test D
The speed compensated volume does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test E
The left front door speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test F
The right front door speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test F
The left rear door speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test F
The right rear door speaker is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test F

Symptom Chart: Audio Unit Media/Phone Features

Diagnostics in this manual assume a certain skill level and knowledge of Ford-specific diagnostic practices. REFER to: [Diagnostic Methods](#) (100-00 General Information, Description and Operation).

Condition	Possible Sources	Actions
Audio input using the audio input jack is inoperative or does not operate correctly	Refer to the Pinpoint Test	GO to Pinpoint Test I
A <u>USB</u> device is not recognized by the audio system or audio files on a <u>USB</u> device are not found using the audio system from the <u>USB</u> port	Refer to the Pinpoint Test	GO to Pinpoint Test J
Outgoing audio is not transmitted during a phone call	Refer to the Pinpoint Test	GO to Pinpoint Test H
An individual Bluetooth device or feature is inoperative	Device compatibility	<p>NOTE: <i>If an individual Bluetooth device is able to pair with the SYNC system, there are no concerns with the <u>ACM</u>.</i></p> <p>INSTRUCT the vehicle owner to review the device compatibility list. REFER to the appropriate Ford authorized website to view a list of compatible devices and features. Not all phone features are compatible.</p>
Unable to pair Bluetooth device or the Bluetooth functionality is inoperative	Refer to the Pinpoint Test	GO to Pinpoint Test K

Pinpoint Tests

▶ PINPOINT TEST A : POOR AM (AMPLITUDE MODULATION) - FM (FREQUENCY MODULATION) RECEPTION

▶ PINPOINT TEST B : A LOUD POPPING SOUND IS HEARD FROM THE SPEAKERS WHEN CYCLING THE IGNITION ON

▶ PINPOINT TEST C : NO SOUND FROM ALL SPEAKERS

▶ PINPOINT TEST D : POOR SOUND QUALITY OR DISTORTED SOUND FROM ONE OR MORE SPEAKERS (NOT ALL SPEAKERS)

▶ PINPOINT TEST E : THE SPEED COMPENSATED VOLUME DOES NOT OPERATE CORRECTLY

▶ PINPOINT TEST F : ONE OR MORE SPEAKER IS INOPERATIVE

▶ PINPOINT TEST G : ONE OR MORE AUDIO/SYNC STEERING WHEEL CONTROL BUTTON IS INOPERATIVE

▶ PINPOINT TEST H : OUTGOING AUDIO IS NOT TRANSMITTED DURING A PHONE CALL

▶ PINPOINT TEST I : AUDIO INPUT USING THE AUDIO INPUT JACK IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY

▶ PINPOINT TEST J : A USB (UNIVERSAL SERIAL BUS) DEVICE IS NOT RECOGNIZED BY THE AUDIO SYSTEM OR AUDIO FILES ON A USB (UNIVERSAL SERIAL BUS) DEVICE ARE NOT FOUND USING THE USB (UNIVERSAL SERIAL BUS) PORT

▶ PINPOINT TEST K : UNABLE TO PAIR BLUETOOTH DEVICE OR THE BLUETOOTH FUNCTIONALITY IS INOPERATIVE

▶ PINPOINT TEST L : U0140:00 (FCIM (FRONT CONTROLS INTERFACE MODULE))

▶ PINPOINT TEST M : U0151:00 (FCIM (FRONT CONTROLS INTERFACE MODULE))

▶ PINPOINT TEST N : U0155:00 (ACM (AUDIO FRONT CONTROL MODULE) , FCIM (FRONT CONTROLS INTERFACE MODULE))

▶ PINPOINT TEST O : U3003:16 (ACM (AUDIO FRONT CONTROL MODULE) , FCIM (FRONT CONTROLS INTERFACE MODULE))

▶ PINPOINT TEST P : U3003:17 (ACM (AUDIO FRONT CONTROL MODULE) , FCIM (FRONT CONTROLS INTERFACE MODULE))

▶ PINPOINT TEST Q : BUS OFF

▶ PINPOINT TEST R : INVALID DATA RECEIVED

▶ PINPOINT TEST S : MODULE CONFIGURATION FAULT

▶ PINPOINT TEST T : INTERNAL MODULE FAILURE

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