

Module	DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
HVAC	B10BA:14	Rear Blower Control: Circuit Short To Ground or Open	GO to Pinpoint Test AD
HVAC	B11E3:07	Rear HVAC Damper Motor: Mechanical Failure	GO to Pinpoint Test AF
HVAC	B11E3:11	Rear HVAC Damper Motor: Circuit Short To Ground	GO to Pinpoint Test AF
HVAC	B11E3:12	Rear HVAC Damper Motor: Circuit Short To Battery	GO to Pinpoint Test AF
HVAC	B11E3:13	Rear HVAC Damper Motor: Circuit Open	GO to Pinpoint Test AF
HVAC	B11E4:07	Rear Air Distribution Damper Motor: Mechanical Failure	GO to Pinpoint Test AE
HVAC	B11E4:11	Rear Air Distribution Damper Motor: Circuit Short to Ground	GO to Pinpoint Test AE
HVAC	B11E4:12	Rear Air Distribution Damper Motor: Circuit Short To Battery	GO to Pinpoint Test AE
HVAC	B11E4:13	Rear Air Distribution Damper Motor: Circuit Open	GO to Pinpoint Test AE
HVAC	B11E5:11	Left HVAC Damper Position Sensor: Circuit Short To Ground	GO to Pinpoint Test G
HVAC	B11E5:15	Left HVAC Damper Position Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test G
HVAC	B11E6:11	Right HVAC Damper Position Sensor: Circuit Short To Ground	GO to Pinpoint Test H
HVAC	B11E6:15	Right HVAC Damper Position Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test H
HVAC	B11E7:11	Air Distribution Damper Position Sensor: Circuit Short To Ground	GO to Pinpoint Test K
HVAC	B11E7:15	Air Distribution Damper Position Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test K
HVAC	B11F0:11	Air Intake Damper Position Sensor: Circuit Short To Ground	GO to Pinpoint Test J
HVAC	B11F0:15	Air Intake Damper Position Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test J
HVAC	B12CA:11	Start/Stop "Eco-Start" Status Indicator: Circuit Short To Ground	GO to Pinpoint Test AG
HVAC	B12CA:15	Start/Stop "Eco-Start" Status Indicator: Circuit Short To Battery or Open	GO to Pinpoint Test AG
HVAC	B1A61:11	Cabin Temperature Sensor: Circuit Short To Ground	GO to Pinpoint Test E
HVAC	B1A61:15	Cabin Temperature Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test E
HVAC	B1A63:11	Right Solar Sensor: No Sub Type Information	GO to Pinpoint Test Y
HVAC	B1A63:15	Right Solar Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test Y
HVAC	B1A64:11	Left Solar Sensor: No Sub Type Information	GO to Pinpoint Test Y
HVAC	B1A64:15	Left Solar Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test Y
HVAC	B1A69:11	Humidity Sensor: Circuit Short To Ground	GO to Pinpoint Test E
HVAC	B1A69:15	Humidity Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test E
HVAC	B1A69:92	Humidity Sensor: Performance or Incorrect Operation	GO to Pinpoint Test E
HVAC	B1B71:11	Evaporator Temperature Sensor: Circuit Short To Ground	GO to Pinpoint Test F
HVAC	B1B71:15	Evaporator Temperature Sensor: Circuit Short To Battery or Open	GO to Pinpoint Test F
HVAC	B1B7D:11	Rear Air Distribution Actuator: Circuit Short to Ground	GO to Pinpoint Test AE
HVAC	B1B7D:15	Rear Air Distribution Actuator: Circuit Short To Battery or Open	GO to Pinpoint Test AE
HVAC	C1B14:11	Sensor Supply Voltage A: Circuit Short to Ground	GO to Pinpoint Test AB
HVAC	C1B14:12	Sensor Supply Voltage A: Circuit Short to Battery	GO to Pinpoint Test AB
HVAC	U0100:00	Lost Communication with ECM/PCM "A": No Sub Type Information	GO to Pinpoint Test AK
HVAC	U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test Q
HVAC	U0151:00	Lost Communication With Restraints Control Module: No Sub Type Information	GO to Pinpoint Test R
HVAC	U0155:00	Lost Communication With Instrument Panel Cluster (IPC) Control Module: No Sub-Type Information	GO to Pinpoint Test S
HVAC	U0165:00	Lost Communication With HVAC Control Module - Rear: No Sub Type Information	GO to Pinpoint Test U
HVAC	U0253:00	Lost Communication With Accessory Protocol Interface Module: No Sub Type Information	GO to Pinpoint Test V
HVAC	U0401:00	Invalid Data Received from ECM/PCM A: No Sub-Type Information	GO to Pinpoint Test AP

Module	DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
HVAC	U0401:82	Invalid Data Received from ECM/PCM A: Alive / Sequence Counter Incorrect / Not Updated	GO to Pinpoint Test AP
HVAC	U0422:68	Invalid Data Received from Body Control Module: Event Information	GO to Pinpoint Test AP
HVAC	U0422:81	Invalid Data Received from Body Control Module: Invalid Serial Data Received	GO to Pinpoint Test AP
HVAC	U0452:82	Invalid Data Received From Restraints Control Module: Alive / Sequence Counter Incorrect / Not Updated	GO to Pinpoint Test AP
HVAC	U0466:68	Invalid Data Received From HVAC Control Module - Rear: Event Information	GO to Pinpoint Test AP
HVAC	U1000:00	Solid State Driver Protection Active -Driver Disabled: No Sub Type Information	GO to Pinpoint Test W
HVAC	U2024:51	Control Module Cal-Config Data: Not Programmed	GO to Pinpoint Test AQ
HVAC	U2100:00	Initial Configuration Not Complete: No Sub Type Information	GO to Pinpoint Test AQ
HVAC	U3000:41	Control Module: General Checksum Failure	GO to Pinpoint Test AR
HVAC	U3000:49	Control Module: Internal Electronic Failure	GO to Pinpoint Test AR
HVAC	U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test AM
HVAC	U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test AN
PCM	P0532:00	A/C Refrigerant Pressure Sensor A Circuit Low: No Sub Type Information	GO to Pinpoint Test A
PCM	P0533:00	A/C Refrigerant Pressure Sensor A Circuit High: No Sub Type Information	GO to Pinpoint Test A
PCM	P0645:00	A/C Clutch Relay Control Circuit: No Sub Type Information	GO to Pinpoint Test B
PCM	P06A0:00	Variable Compressor Control Circuit: No Sub Type Information	GO to Pinpoint Test C
PCM	P1464:00	A/C Demand Out Of Self Test Range: No Sub Type Information	GO to Pinpoint Test N
PCM	P193E:00	A/C Clutch Request Signal: No Sub Type Information	GO to Pinpoint Test AA
PCM	P2183:00	Engine Coolant Temperature Sensor 2: Circuit Range/Performance	GO to Pinpoint Test AV
PCM	P2184:00	Engine Coolant Temperature Sensor 2: Circuit Low	GO to Pinpoint Test AV
PCM	P2185:00	Engine Coolant Temperature Sensor 2: Circuit High	GO to Pinpoint Test AV
PCM	P2186:00	Engine Coolant Temperature Sensor 2: Circuit Intermittent/Erratic	GO to Pinpoint Test AV
PCM	P2600:00	Coolant Pump "A" Control Circuit/Open: No Sub Type Information	GO to Pinpoint Test D
PCM	P2601:00	Coolant Pump "A" Control Circuit Performance/Stuck Off: No Sub Type Information	GO to Pinpoint Test D
PCM	P2602:00	Coolant Pump "A" Control Circuit Low: No Sub Type Information	GO to Pinpoint Test D
PCM	P2603:00	Coolant Pump "A" Control Circuit High: No Sub Type Information	GO to Pinpoint Test D
PCM	P26BE:00	Engine Coolant Bypass Valve "D" Control Circuit Low: No Sub Type Information	GO to Pinpoint Test AX
PCM	P26BF:00	Engine Coolant Bypass Valve "D" Control Circuit High: No Sub Type Information	GO to Pinpoint Test AX
RHVAC	B10B8:63	Push Buttons: Circuit / Component Protection Time-Out	GO to Pinpoint Test AH
RHVAC	U0140:00	Lost Communication With Body Control Module: No Sub Type Information	GO to Pinpoint Test Q
RHVAC	U0164:00	Lost Communication With HVAC Control Module: No Sub Type Information	GO to Pinpoint Test T
RHVAC	U3000:41	Control Module: General Checksum Failure	GO to Pinpoint Test AR
RHVAC	U3000:42	Control Module: General Memory Failure	GO to Pinpoint Test AR
RHVAC	U3003:16	Battery Voltage: Circuit Voltage Below Threshold	GO to Pinpoint Test AM
RHVAC	U3003:17	Battery Voltage: Circuit Voltage Above Threshold	GO to Pinpoint Test AN
SOBDMC	P01EB:96	Engine Coolant Heater "A" Control Circuit Performance: Component Internal Failure	GO to Pinpoint Test AJ
SOBDMC	P0531:00	A/C Refrigerant Pressure Sensor "A" Circuit Range/Performance: No Sub Type Information	GO to Pinpoint Test A

Module	DTC	Description	Action <i>New: hover over Pinpoint Test links to show title</i>
SOBDMC	P0534:00	A/C Refrigerant Charge Loss: No Sub Type Information	GO to Pinpoint Test A
SOBDMC	P0D6D:00	A/C Compressor Motor Voltage "A" Low: No Sub Type Information	GO to Pinpoint Test AI
SOBDMC	P0D6F:00	A/C Compressor Motor Current High: No Sub Type Information	GO to Pinpoint Test AI
SOBDMC	P0D71:00	A/C Compressor Control Module Internal Temperature Sensor Performance: No Sub Type Information	GO to Pinpoint Test AI
SOBDMC	P2611:00	A/C Refrigerant Distribution Valve "A" Control Circuit/Open: No Sub Type Information	GO to Pinpoint Test AS
SOBDMC	P2612:00	A/C Refrigerant Distribution Valve "A" Control Circuit Low: No Sub Type Information	GO to Pinpoint Test AS
SOBDMC	P2613:00	A/C Refrigerant Distribution Valve "A" Control Circuit High: No Sub Type Information	GO to Pinpoint Test AS
SOBDMC	P26FD:00	A/C Compressor Internal Control Module Performance: No Sub Type Information	GO to Pinpoint Test AI
SOBDMC	P2D41:00	A/C Compressor Motor Voltage "B" Performance: No Sub Type Information	GO to Pinpoint Test AI
SOBDMC	P2D42:00	A/C Compressor Motor Voltage "B" Low: No Sub Type Information	GO to Pinpoint Test AI
SOBDMC	P2D44:00	A/C Compressor Motor Performance: No Sub Type Information	GO to Pinpoint Test AI
SOBDMC	P2DA4:00	Coolant Heater "A" Internal Control Module Performance: No Sub Type Information	GO to Pinpoint Test AJ
SOBDMC	P2DA5:00	Coolant Heater "A" Supply Voltage Circuit: No Sub Type Information	GO to Pinpoint Test AJ
SOBDMC	P2DA6:00	Coolant Heater "A" Over Temperature: No Sub Type Information	GO to Pinpoint Test AJ
SOBDMC	P2DA7:00	Coolant Heater "A" Internal Control Module Control Module System Voltage: No Sub Type Information	GO to Pinpoint Test AJ
SOBDMC	P2E62:00	Engine Coolant Bypass Valve "E" Control Circuit/Open: No Sub Type Information	GO to Pinpoint Test AT
SOBDMC	P2E63:00	Engine Coolant Bypass Valve "E" Control Circuit Low: No Sub Type Information	GO to Pinpoint Test AT
SOBDMC	P2E64:00	Engine Coolant Bypass Valve "E" Control Circuit High: No Sub Type Information	GO to Pinpoint Test AT
SOBDMC	U069E:81	Lost Communication With Coolant Heater "A": Invalid Serial Data Received	GO to Pinpoint Test AJ
SOBDMC	U069E:87	Lost Communication With Coolant Heater "A": Missing Messages	GO to Pinpoint Test AJ

Symptom Charts

Symptom Chart – Climate Control Systems

NOTE: Some Powertrain Control Module (PCM) Diagnostic Trouble Codes (DTCs) may inhibit Air Conditioning (A/C) operation. If any Powertrain Control Module (PCM) Diagnostic Trouble Codes (DTCs) are retrieved, diagnose those first. Refer to the Diagnostic Trouble Code (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).

Condition	Actions
Unable to duplicate the customer concern and no Diagnostic Trouble Codes (DTCs) present	GO to Pinpoint Test I
A module does not respond to the diagnostic scan tool	REFER to: Communications Network (418-00 Module Communications Network, Diagnosis and Testing).
Externally Controlled Variable Displacement Compressor (EVDC) poor performance/does not operate correctly	GO to Pinpoint Test C
Insufficient Air Conditioning (A/C) cooling	GO to Pinpoint Test AY
The A/C is inoperative NON HEV	GO to Pinpoint Test M
The A/C is always on & A/C mode always commanded on NON HEV	GO to Pinpoint Test N
The A/C pressure relief valve is discharging	GO to Pinpoint Test AW
ACCM A/C ELECTRIC COMPRESSOR INOPERATIVE	GO to Pinpoint Test AI
The air inlet door is inoperative	GO to Pinpoint Test J
The front blower motor is inoperative	GO to Pinpoint Test O
The front blower motor does not operate correctly	GO to Pinpoint Test P
The rear blower motor is inoperative	GO to Pinpoint Test AC
The rear blower motor does not operate correctly	GO to Pinpoint Test AD
Incorrect or erratic direction of airflow from outlets on front system	GO to Pinpoint Test K
Incorrect or erratic direction of airflow from outlets on rear system	GO to Pinpoint Test AE
Insufficient, erratic or no heat	GO to Pinpoint Test L
Reduced outlet airflow	GO to Pinpoint Test AZ
The temperature control is inoperative or does not operate correctly & driver side	GO to Pinpoint Test G
The temperature control is inoperative or does not operate correctly & passenger side	GO to Pinpoint Test H
The rear temperature control is inoperative or does not operate correctly	GO to Pinpoint Test AF
The temperature setpoint does not repeat after setting the ignition to OFF	INSTALL a new HVAC control module. REFER to the appropriate procedure in Group 412-00.
NVH when the A/C is on	GO to Pinpoint Test BA

Pinpoint Tests

☐ [PINPOINT TEST A : P0531, P0532, P0533, P0534](#)

☐ [PINPOINT TEST B : P0645:00, P2CFC:00, P2CFD:00, P2CFE:00](#)

☐ [PINPOINT TEST C : P06A0](#)

☐ [PINPOINT TEST D : INSUFFICIENT HEAT IN AUTO START-STOP MODE ONLY](#)

☐ [PINPOINT TEST E : B1A61:11, B1A61:15, B1A69:11, B1A69:15, B1A69:92](#)

☐ [PINPOINT TEST F : B1B71:11, B1B71:15](#)

- ☐ PINPOINT TEST G : THE TEMPERATURE CONTROL IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY - DRIVER SIDE
- ☐ PINPOINT TEST H : THE TEMPERATURE CONTROL IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY - PASSENGER SIDE
- ☐ PINPOINT TEST I : UNABLE TO DUPLICATE THE CUSTOMER CONCERN AND NO DIAGNOSTIC TROUBLE CODES (DTCS) PRESENT
- ☐ PINPOINT TEST J : THE AIR INLET DOOR IS INOPERATIVE
- ☐ PINPOINT TEST K : INCORRECT OR ERRATIC DIRECTION OF AIRFLOW FROM OUTLETS ON FRONT SYSTEM
- ☐ PINPOINT TEST L : INSUFFICIENT, ERRATIC OR NO HEAT
- ☐ PINPOINT TEST M : THE A/C (AIR CONDITIONING) IS INOPERATIVE - NON HEV (HYBRID ELECTRIC VEHICLE)
- ☐ PINPOINT TEST N : THE A/C (AIR CONDITIONING) IS ALWAYS ON &” A/C (AIR CONDITIONING) MODE ALWAYS COMMANDED ON - NON HEV (HYBRID ELECTRIC VEHICLE)
- ☐ PINPOINT TEST O : THE FRONT BLOWER MOTOR IS INOPERATIVE
- ☐ PINPOINT TEST P : THE FRONT BLOWER MOTOR DOES NOT OPERATE CORRECTLY
- ☐ PINPOINT TEST Q : U0140:00
- ☐ PINPOINT TEST R : U0151:00
- ☐ PINPOINT TEST S : U0155:00
- ☐ PINPOINT TEST T : U0164:00
- ☐ PINPOINT TEST U : U0165:00
- ☐ PINPOINT TEST V : U0253:00
- ☐ PINPOINT TEST W : U1000:00
- ☐ PINPOINT TEST X : B102E:11, B102E:15, B102E:92
- ☐ PINPOINT TEST Y : B1A63:11, B1A63:15, B1A64:11, B1A64:15
- ☐ PINPOINT TEST Z : B10B3:11, B10B3:15, B10B4:11, B10B4:15, B10B5:11, B10B5:15, B10B6:11, B10B6:15

- ☐ PINPOINT TEST AA : P193E
- ☐ PINPOINT TEST AB : C1B14:11, C1B14:12
- ☐ PINPOINT TEST AC : THE REAR BLOWER MOTOR IS INOPERATIVE
- ☐ PINPOINT TEST AD : THE REAR BLOWER MOTOR DOES NOT OPERATE CORRECTLY
- ☐ PINPOINT TEST AE : INCORRECT OR ERRATIC DIRECTION OF AIRFLOW FROM OUTLETS ON RHVAC (REAR HEATING, VENTILATION AND AIR CONDITIONING) SYSTEM
- ☐ PINPOINT TEST AF : REAR TEMPERATURE DOOR IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY
- ☐ PINPOINT TEST AG : THE AUTO START-STOP DEACTIVATION INDICATOR IS INOPERATIVE OR DOES NOT OPERATE CORRECTLY
- ☐ PINPOINT TEST AH : B10B8:63
- ☐ PINPOINT TEST AI : ACCM (AIR CONDITIONING CONTROL MODULE) A/C (AIR CONDITIONING) ELECTRIC COMPRESSOR INOPERATIVE
- ☐ PINPOINT TEST AJ : CHECK THE CABIN COOLANT HEATER OPERATION P01EB:96, P2DA4:00, P2DA5:00, P2DA6:00, P2DA7:00, U069E:81, U069E:87
- ☐ PINPOINT TEST AK : U0100:00
- ☐ PINPOINT TEST AL : U0111:00
- ☐ PINPOINT TEST AM : U3003:16
- ☐ PINPOINT TEST AN : U3003:17
- ☐ PINPOINT TEST AO : BUS OFF
- ☐ PINPOINT TEST AP : INVALID DATA RECEIVED
- ☐ PINPOINT TEST AQ : MODULE CONFIGURATION FAULT
- ☐ PINPOINT TEST AR : INTERNAL MODULE FAILURE
- ☐ PINPOINT TEST AS : P2611:00, P2612:00, P2613:00 BATTERY CHILLER SHUT OFF VALVE
- ☐ PINPOINT TEST AT : P2E62:00, P2E63:00, P2E64:00 REAR HEATER CORE SHUT OFF VALVE
- ☐ PINPOINT TEST AU : B3A01:00, B3A02:00, B3A03:00 REAR EVAPORATOR SHUTOFF VALVE

☐ PINPOINT TEST AV : P2183, P2184, P2185, P2186

☐ PINPOINT TEST AW : THE A/C (AIR CONDITIONING) COMPRESSOR RELIEF VALVE DISCHARGING

☐ PINPOINT TEST AX : P26BE, P26BF CABIN HEATER COOLANT DIVERter VALVE

☐ PINPOINT TEST AY : INSUFFICIENT AIR CONDITIONING (A/C) COOLING

☐ PINPOINT TEST AZ : REDUCED OUTLET AIRFLOW

☐ PINPOINT TEST BA : A/C (AIR CONDITIONING) SYSTEM NVH (NOISE, VIBRATION AND HARSHNESS)

mcx30.com

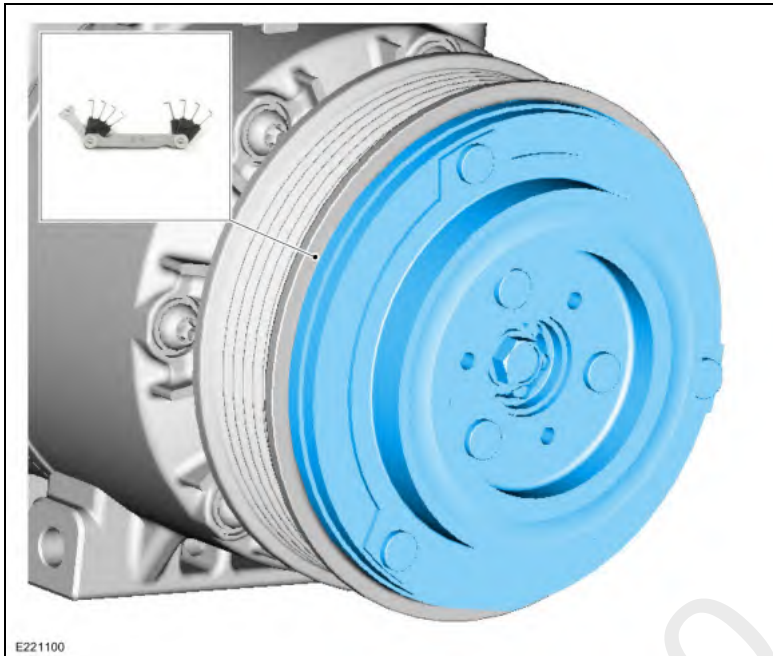
General Procedures

Air Conditioning (A/C) Clutch Air Gap Adjustment - Vehicles With: R134A Refrigerant/R1234YF Refrigerant

Activation

1. **NOTE:** Compressor with a spring rubber clutch shown others similar.

Check the A/C clutch air gap at 3 equally spaced places between the clutch plate and the A/C clutch pulley. Refer to Specifications in Group 412.



2. Remove the A/C clutch. Refer to Air Conditioning A/C Clutch and Air Conditioning A/C Clutch Field Coil procedure in Group 412.

3. **NOTE:** For some vehicles a shim kit may only be available with the A/C clutch assembly.

Add or remove spacers between the clutch plate hub and the compressor shaft until the clearance is within specification. Refer to Specifications in Group 412.

4.
 - For fixed compressor
Torque: 177 lb.in (20 Nm)
 - For EVDC compressor
Torque: 128 lb.in (14.5 Nm)

