

Fastener Tightening Specifications

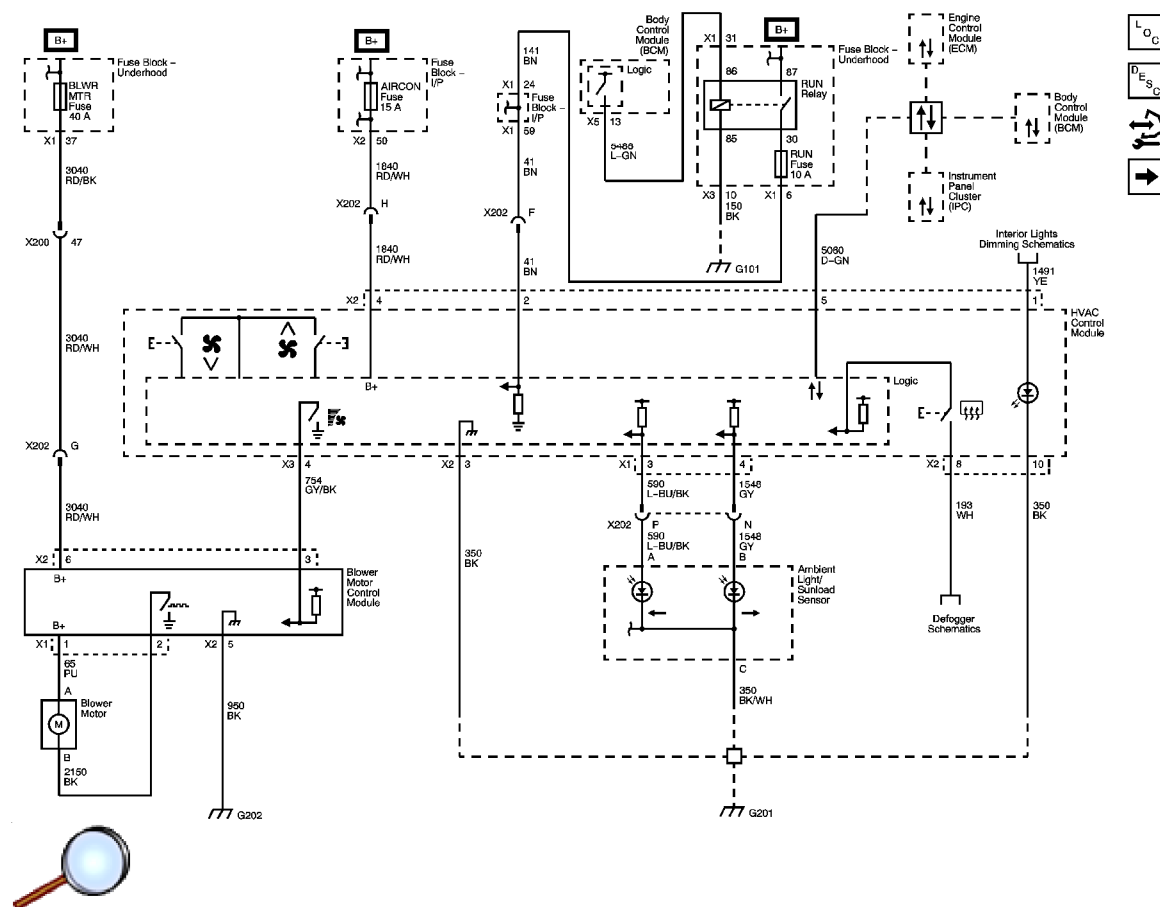
Application	Specifications	
	Metric	English
Air Inlet Assembly Screws	1.5 N·m	13 lb in
Air Outlet Duct Screws	1.5 N·m	13 lb in
Air Temperature Actuator to Evaporator Case Screws	1.5 N·m	13 lb in
Blower Case Assembly Screws	1.5 N·m	13 lb in
Blower Motor Control Module Screws	1.5 N·m	13 lb in
Blower Motor Screws	1.5 N·m	13 lb in
Compressor Clutch Bolt	12 N·m	106 lb in
Compressor Hose Assembly-to-Compressor Nut	27 N·m	20 lb ft
Compressor Hose Assembly-to-Condenser Nut	16 N·m	12 lb ft
Compressor Pressure Relief Valve	8 N·m	70 lb in
Compressor Stud-to-Engine-LZ4	8 N·m	71 lb in
Compressor-to-Engine Bolts - LAT/LE5	22 N·m	16 lb ft
Compressor-to-Engine Bolts - LZ4/LY7	50 N·m	37 lb ft
Condensor-to-Radiator Bolts	5 N·m	44 lb in
Evaporator Case Assembly Screws	1.5 N·m	13 lb in
Evaporator Outlet Hose Bracket Nut	10 N·m	89 lb in
Evaporator Outlet Hose-to-Compressor Hose Nut	16 N·m	12 lb ft
Evaporator Outlet Hose and Liquid Line Clamp Bracket Nut to TXV	16 N·m	12 lb ft
Front of Dash-to-HVAC Module Seal Nuts	9 N·m	80 lb in
Heater Core Cover Screws	1.5 N·m	13 lb in
Liquid Line-to-Condenser Nut	16 N·m	12 lb ft
Liquid Line-to-Body Nuts	9 N·m	80 lb in
Mode Actuator to Evaporator Case Screws	1.5 N·m	13 lb in
Mode Cam Bracket to Evaporator Case Screws	1.5 N·m	13 lb in
Passenger Compartment Air Filter Housing Nuts	9 N·m	80 lb in
Receiver Dehydrator Cap	16 N·m	12 lb ft
Receiver Dehydrator/Condenser to Radiator Bolts	16 N·m	12 lb ft
Recirc Actuator to Air Inlet Screws	1.5 N·m	13 lb in
Refrigerant Pressure Sensor-to-Compressor Hose Assembly	4 N·m	35 lb in
TXV Backing Plate Bolts	3.5 N·m	31 lb in

Sensor Resistance Table

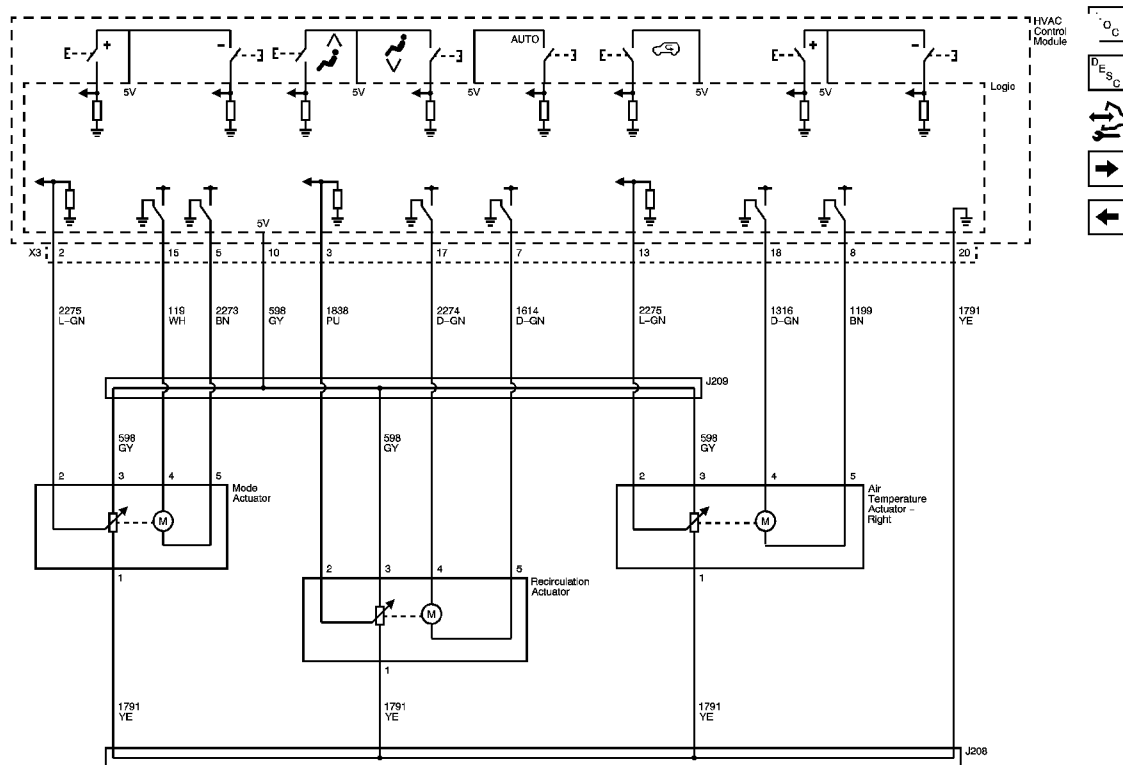
Voltage Tech 2 (V)	R Nominal (k ohms)	Outside Air Temp (° F)	Outside Air Temp (° C)
4.72-4.74	171.6	-22	-30
4.52-4.54	94.63	-4	-20
4.22-4.25	54.21	14	-10
3.81-3.85	32.00	32	0
3.31-3.34	19.61	50	10
2.76-2.79	12.31	68	20
2.22-2.25	7.959	86	30
1.73-1.75	5.268	104	40
1.31-1.34	3.563	122	50
0.99-1.01	2.458	140	60

The Tech 2 will display sensor value as a voltage. This gives the approximate voltage expected at different ambient temperatures as well as what should be read with an ohmmeter connected to the sensor. Since this is raw data any heat from underhood that changes ambient temp around the sensor might skew the reading, so let the engine compartment cool.

Module Power, Ground and Data Communications



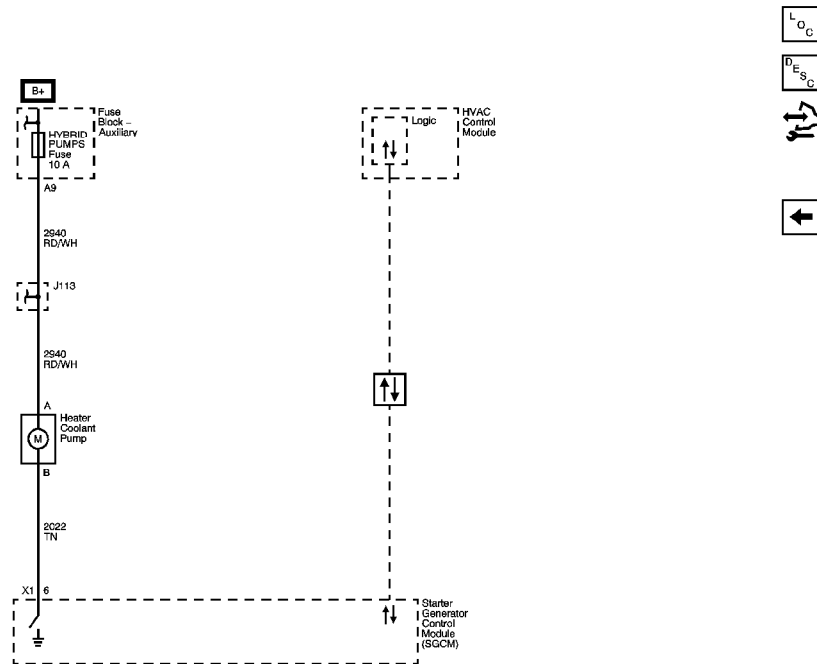
Mode Controls



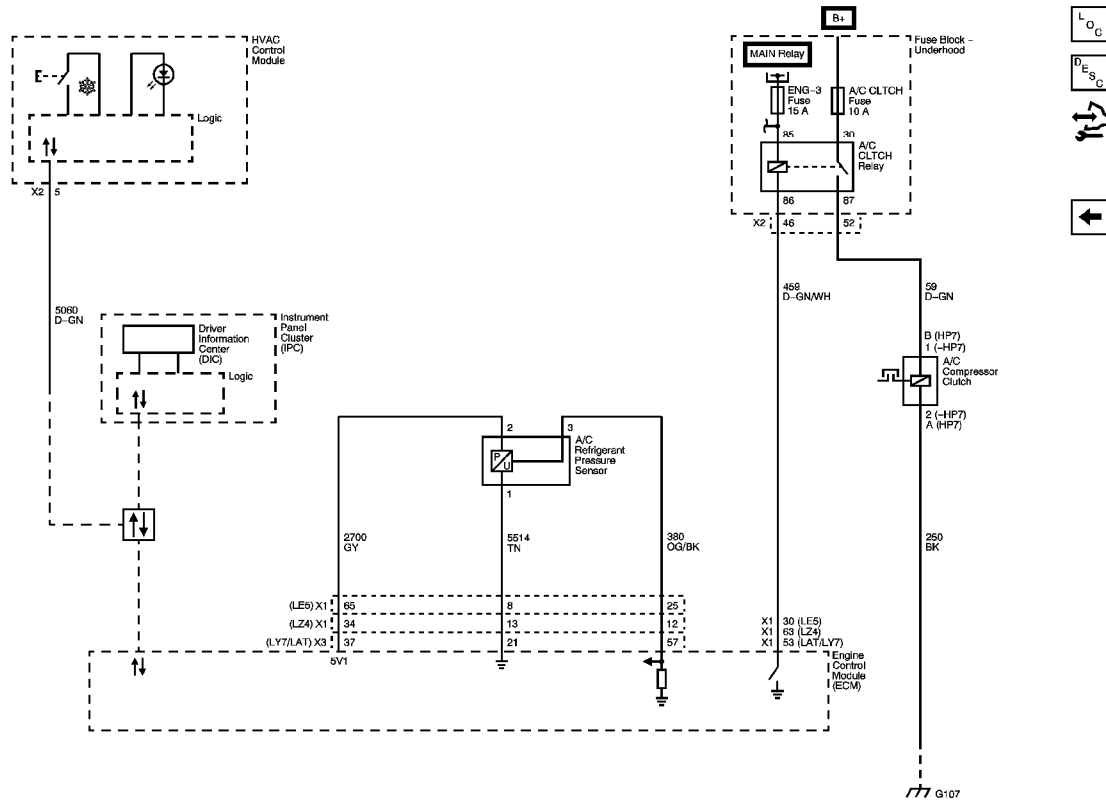




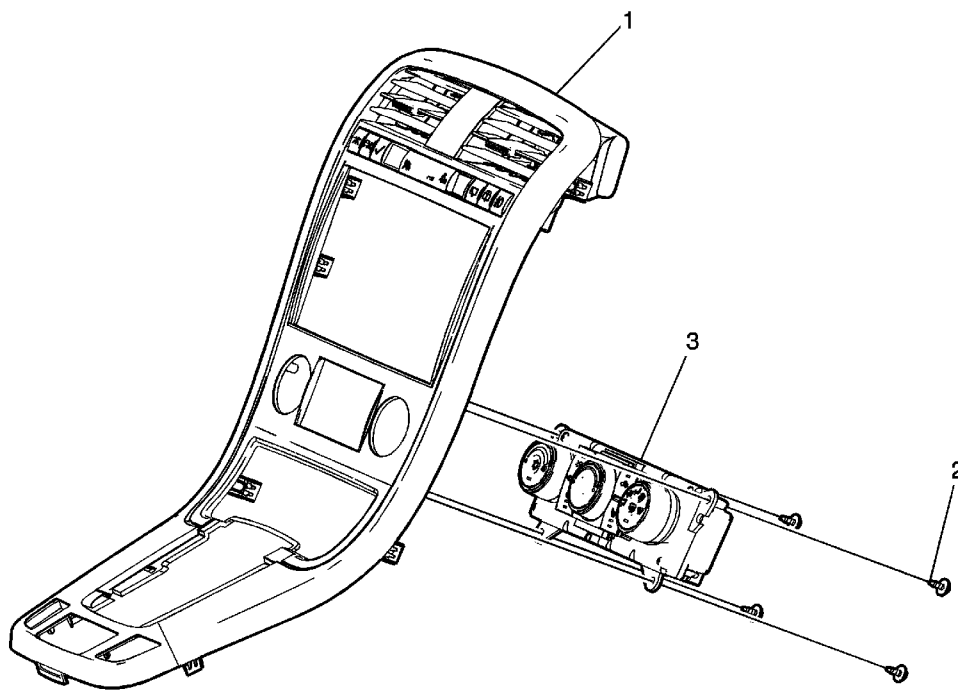
Heater Pump Controls (HP7)



Compressor Controls

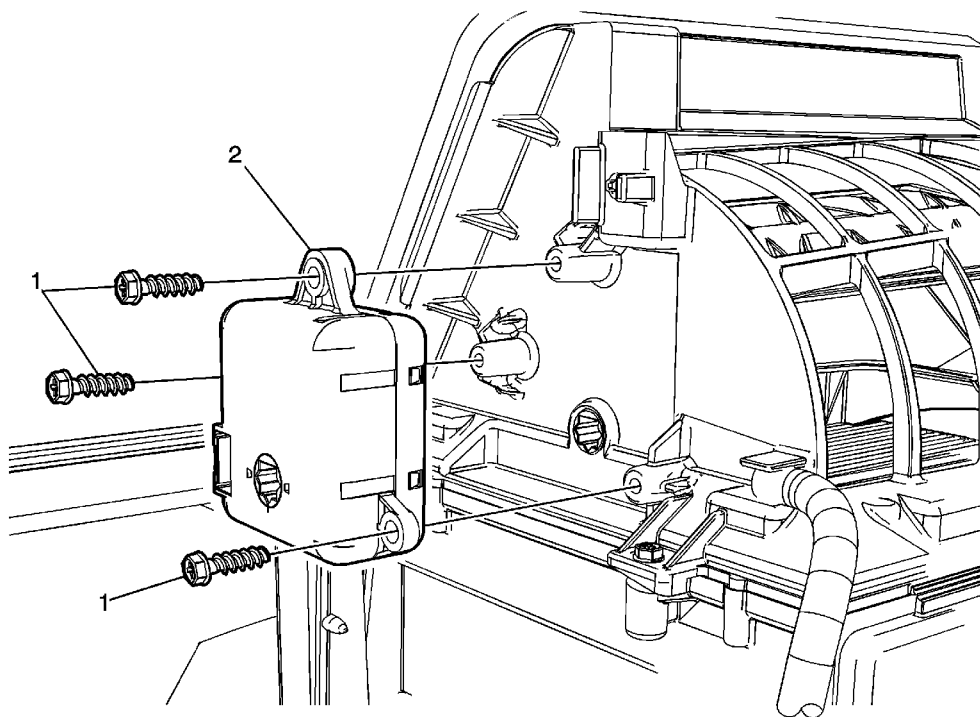


Heater and Air Conditioning Control Replacement



Callout	Component Name
1	Front Floor Console Accessory Trim Plate. Refer to Front Floor Console Accessory Trim Plate Replacement .
2	HVAC Control Assembly Screw (Qty: 4) Caution: Refer to Fastener Caution in the Preface section. Tighten 1.5 N·m (13 lb in)
3	HVAC Control Assembly Procedure Reprogram the HVAC control module. Refer to Control Module References .

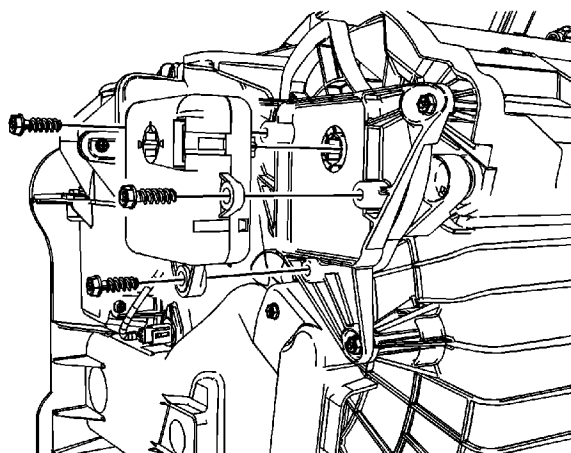
Air Inlet Valve Actuator Replacement



Callout	Component Name
Preliminary Procedure	
Remove the instrument panel assembly. Refer to Instrument Panel Assembly Replacement .	
1	Recirculation Actuator Screw (Qty: 3) Caution: Refer to Fastener Caution in the Preface section. Tighten 1.5 N·m (13 lb in)
2	Recirculation Actuator Procedure 1. Remove the electrical connector. 2. Calibrate the recirculation actuator. Refer to Actuator Recalibration.

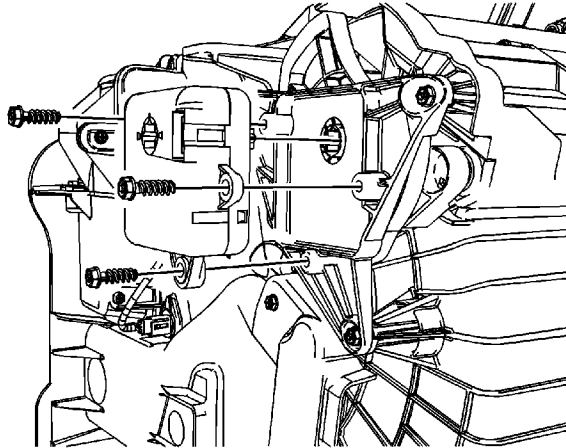
Mode Valve Actuator Replacement

Removal Procedure



1. Remove the driver knee bolster. Refer to [Driver Knee Bolster Replacement](#).
2. Remove the communication interface module, if equipped. Refer to [Communication Interface Module Replacement](#).
3. Disconnect the electrical connector from the mode actuator.
4. Remove the mode actuator screws from the evaporator case assembly.
5. Remove the mode actuator from the evaporator case assembly.

Installation Procedure



1. Install the mode actuator to the evaporator case assembly.

Caution: Refer to [Fastener Caution](#) in the Preface section.

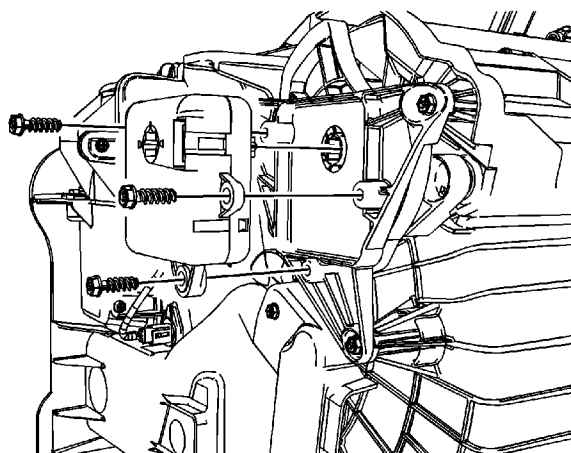
2. Install the mode actuator screws to the evaporator case assembly and tighten to **1.5 N·m (13 lb in)**.
3. Connect the electrical connector to the mode actuator.
4. Install the communication interface module, if equipped. Refer to [Communication Interface Module Replacement](#).
5. Install the driver knee bolster. Refer to [Driver Knee Bolster Replacement](#).

Note: Any time a mode actuator or the HVAC control module is replaced, the HVAC control module must be calibrated to ensure proper air distribution.

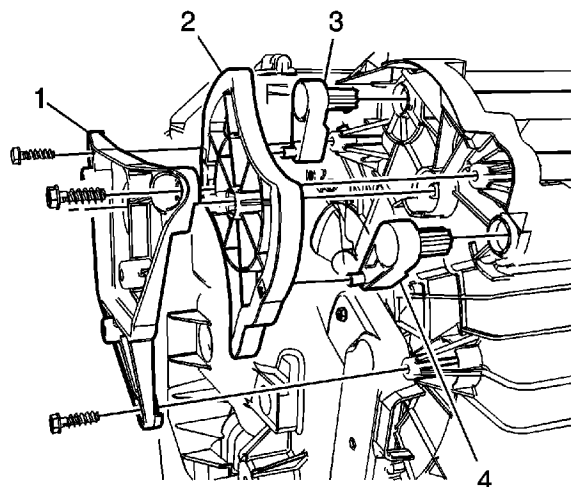
6. Calibrate the actuators. Refer to [Actuator Recalibration](#).
7. Cycle the ignition and verify proper operation.

Mode Control Cam Replacement

Removal Procedure



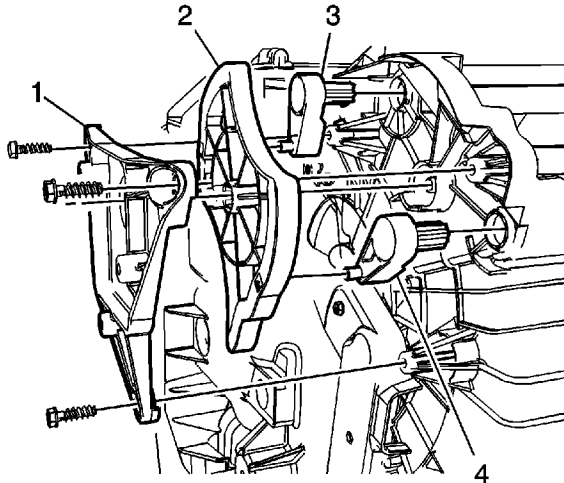
1. Remove the driver knee bolster. Refer to [Driver Knee Bolster Replacement](#).
2. Remove the communication interface module, if equipped. Refer to [Communication Interface Module Replacement](#).
3. Disconnect the electrical connector from the mode actuator.
4. Remove the mode actuator screws from the evaporator case assembly.
5. Remove the mode actuator from the evaporator case assembly.





6. Remove the screws retaining the mode cam bracket (1) to the evaporator case assembly.
7. Remove the mode cam bracket (1) from the evaporator case assembly.
8. Remove the mode cam (2) and the mode cam levers (3) from the evaporator case assembly.

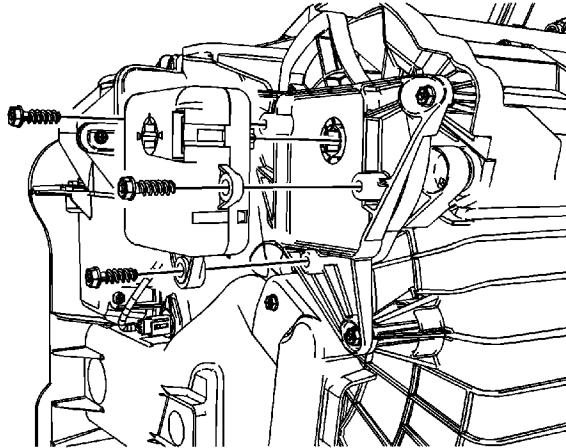
Installation Procedure



1. Install the mode cam levers (3) to the evaporator case assembly.
2. Align and install the mode cam (2) to the mode cam levers (3). Rotate the mode cam (2) to verify mode door operation.
3. Install the mode cam bracket (1) to the evaporator case assembly.

Caution: Refer to [Fastener Caution](#) in the Preface section.

4. Install the mode cam bracket screws to the evaporator case assembly and tighten the screws to **1.5 N·m (13 lb in)**.



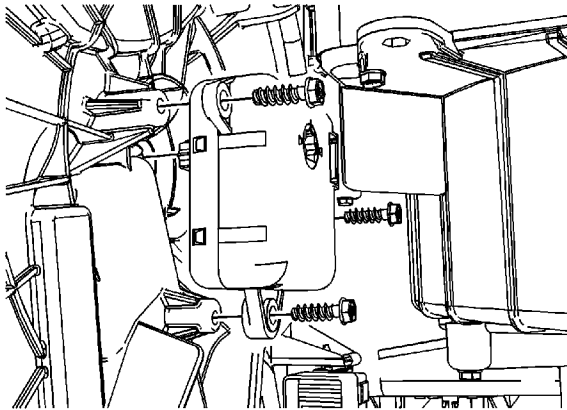
5. Install the mode actuator to the evaporator case assembly.
6. Install the mode actuator screws to the evaporator case assembly and tighten the screws to **1.5 N·m (13 lb in)**.
7. Connect the electrical connector to the mode actuator.
8. Install the communication interface module, if equipped. Refer to [Communication Interface Module Replacement](#).
9. Install the driver knee bolster. Refer to [Driver Knee Bolster Replacement](#).

Note: Any time a mode actuator or the HVAC control module is replaced, the HVAC control module must be calibrated to ensure proper air distribution.

10. Calibrate the actuators. Refer to [Actuator Recalibration](#).
11. Cycle the ignition and verify proper operation.

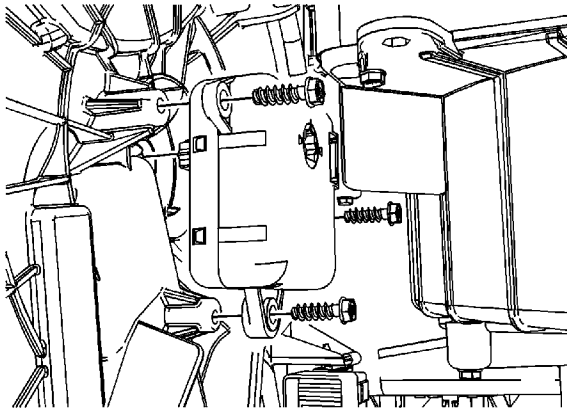
Temperature Valve Actuator Replacement

Removal Procedure



1. Remove the instrument panel compartment. Refer to [Instrument Panel Compartment Replacement](#).
2. Disconnect the electrical connector from the air temperature actuator.
3. Remove the air temperature actuator screws from the HVAC module.
4. Remove the air temperature actuator from the HVAC module.

Installation Procedure



1. Align the air temperature actuator with the door shaft and rotate into position.

Caution: Refer to [Fastener Caution](#) in the Preface section.

2. Install the air temperature actuator screws to the HVAC module.

Tighten

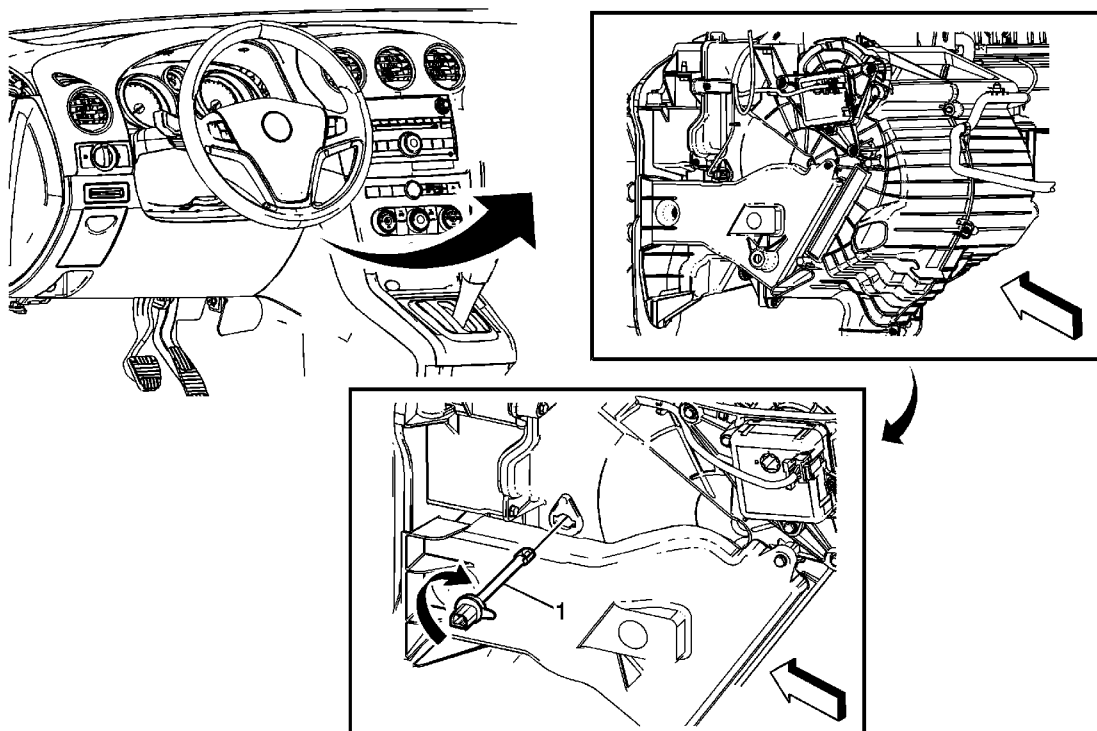
Tighten the screws to 1.5 N·m (13 lb in).

3. Connect the electrical connector to the air temperature actuator.

Note: Any time an actuator or the HVAC control module is replaced, the HVAC control module must be calibrated to ensure proper air distribution.

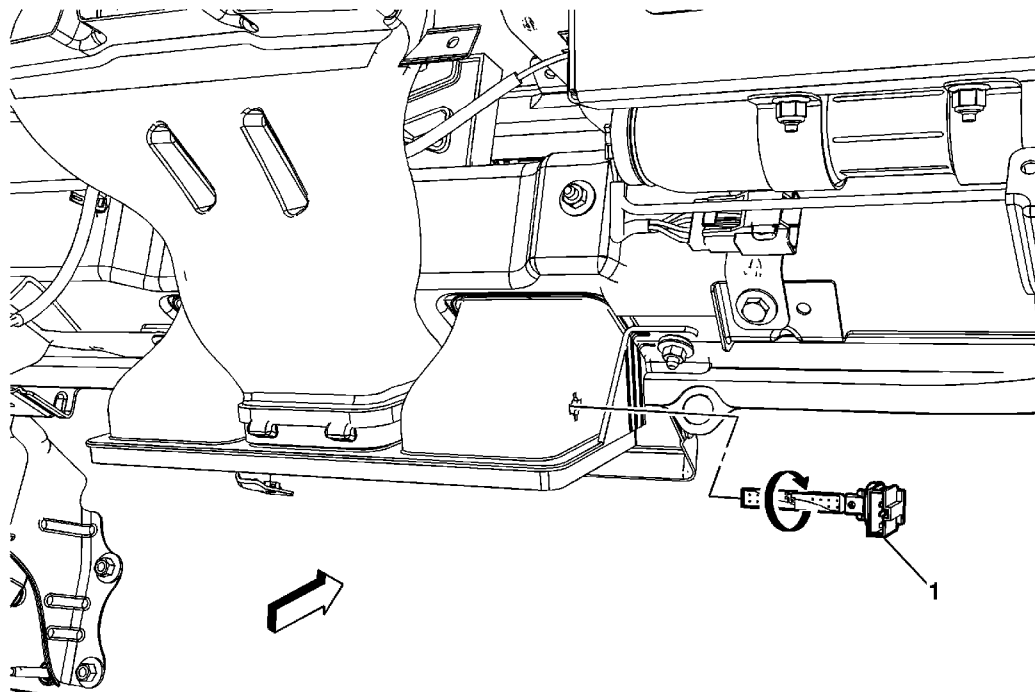
4. Calibrate the actuators. Refer to [Actuator Recalibration](#).
5. Cycle the ignition and verify proper operation.
6. Install the instrument panel compartment. Refer to [Instrument Panel Compartment Replacement](#).

Air Conditioning Refrigerant Temperature Sensor Replacement



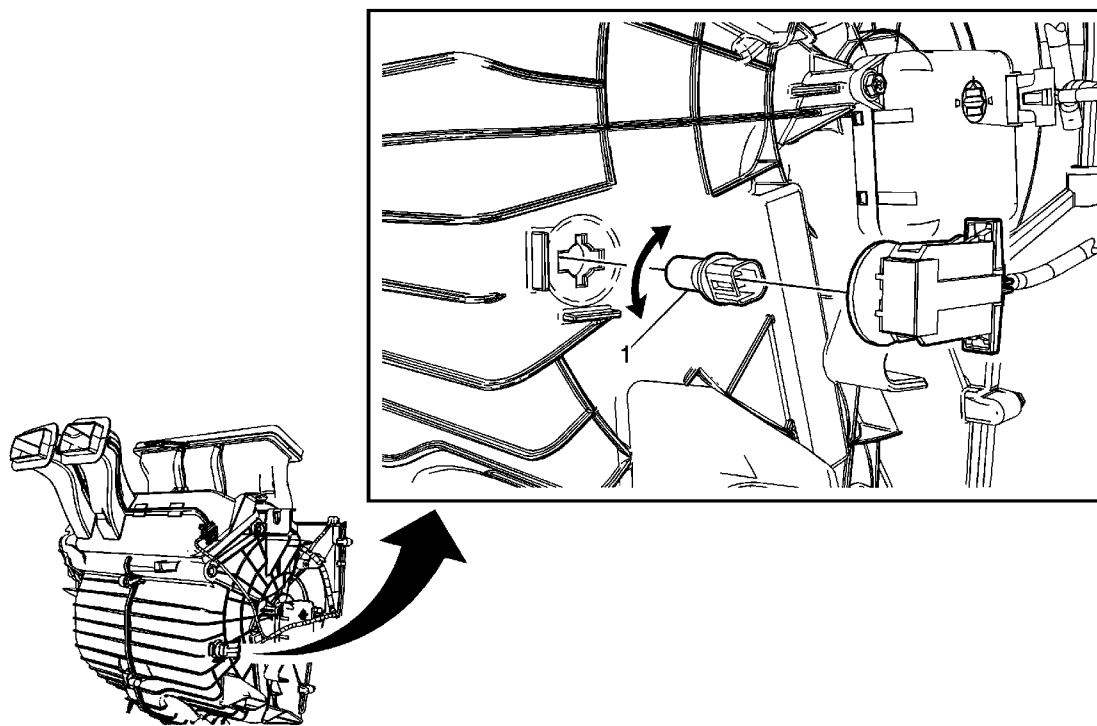
Callout	Component Name
Preliminary Procedure	
Remove the driver knee bolster. Refer to Driver Knee Bolster Replacement .	
1	A/C Refrigerant Temperature Sensor Procedure • Disconnect wiring harness from sensor. • Release tab and rotate sensor clockwise to remove.

Duct Air Temperature Sensor Replacement - Upper



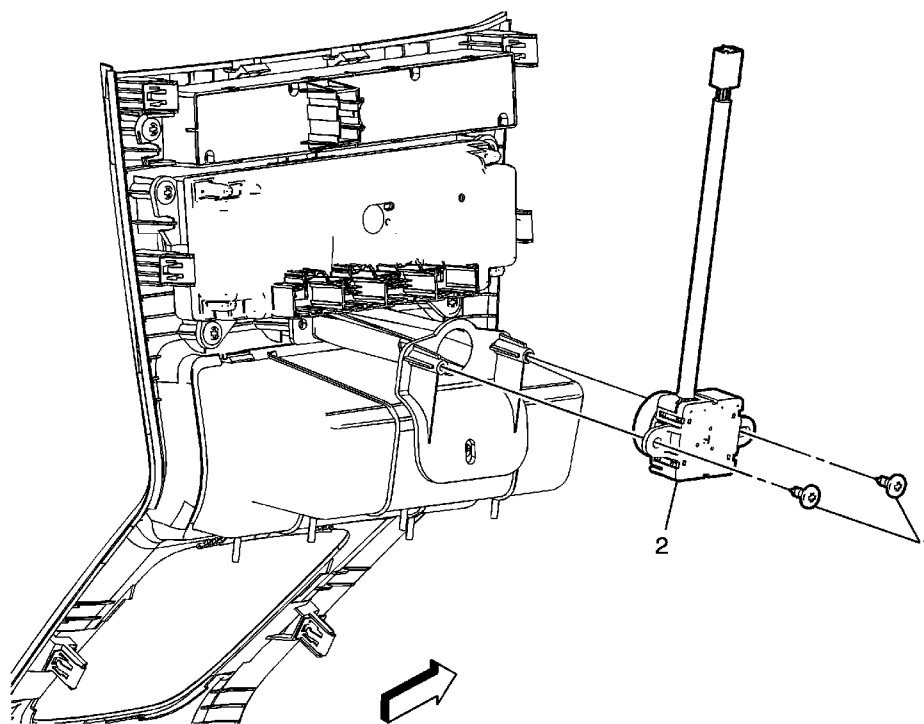
Callout	Component Name
Preliminary Procedure	
1. Remove the I/P compartment. Refer to Instrument Panel Compartment Replacement . 2. Disconnect the electrical connections.	
1	Air Temperature Sensor - Upper Procedure Rotate sensor ¼ turn to remove.

Duct Air Temperature Sensor Replacement - Lower



Callout	Component Name
Preliminary Procedure	
1. Remove I/P Compartment. Refer to Instrument Panel Compartment Replacement 2. Disconnect electrical connections.	
1	Air Temperature Sensor - Lower Tip Rotate sensor ¼ turn to remove

Inside Air Temperature Sensor Replacement



Callout	Component Name
Preliminary Procedure	
Remove the front floor console accessory trim plate. Refer to Front Floor Console Accessory Trim Plate Replacement .	
1	Inside Air Temperature Sensor Screw (Qty: 2) Caution: Refer to Fastener Caution in the Preface section. Tighten 2 N·m (18 lb in)
2	Inside Air Temperature Sensor Procedure Disconnect wiring harness at sensor pigtail.