

2018 ACCESSORIES & EQUIPMENT

Instrument Panel And Console Trim - Traverse

SPECIFICATIONS

FASTENER SPECIFICATIONS

Reusable Threaded Fastener Tightening Specifications

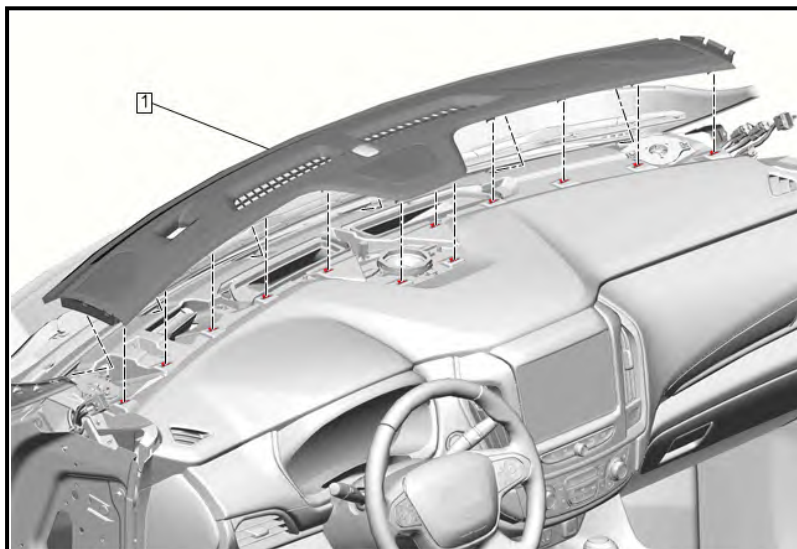
NOTE:

All fasteners listed in this table can be reused after removal.

Application	Specification
	Metric (English)
Brake Pedal Bracket Bolt	15 N.m (11 lb ft)
Front Floor Console Armrest Latch Bolt	2.5 N.m (22 lb in)
Front Floor Console Bolt @ Body Control Module Bracket	2.5 N.m (22 lb in)
Front Floor Console Retainer Bolt	2.5 N.m (22 lb in)
Heater and Air Conditioning Evaporator and Blower Module Bolt	9 N.m (80 lb in)
Heater and Air Conditioning Evaporator and Blower Module Nut	9 N.m (80 lb in)
Instrument Panel Airbag Bolt	9 N.m (80 lb in)
Instrument Panel Bolt	2.5 N.m (22 lb in)
Instrument Panel Compartment Door Opening Frame Bolt	2.5 N.m (22 lb in)
Instrument Panel Knee Bolster Bolt	2 N.m (18 lb in)
Instrument Panel Knee Bolster Bracket Bolt	9 N.m (80 lb in)
Instrument Panel Outer Air Outlet Bolt	0.67 N.m (6 lb in)
Instrument Panel Tie Bar Bolt	22 N.m (16 lb ft)
Instrument Panel Tie Bar Brace Bolt	22 N.m (16 lb ft)
Instrument Panel Upper Trim Pad Bolt	2.5 N.m (22 lb in)

REPAIR INSTRUCTIONS

INSTRUMENT PANEL EXTENSION REPLACEMENT

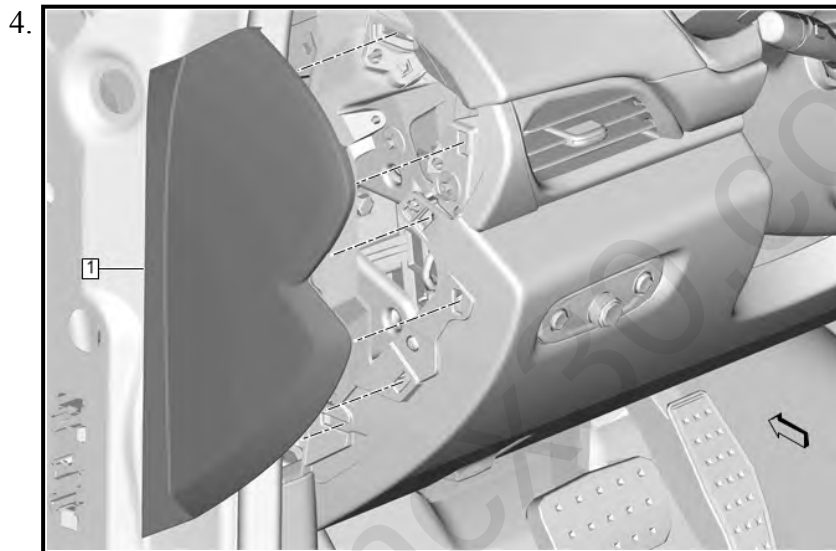


Callout	Component Name
Preliminary Procedure <u>Windshield Garnish Molding Replacement</u>	
1	Instrument Panel Extension Procedure 1. Use a flat bladed plastic trim tool. 2. Disconnect the electrical connector. 3. Transfer components as necessary.

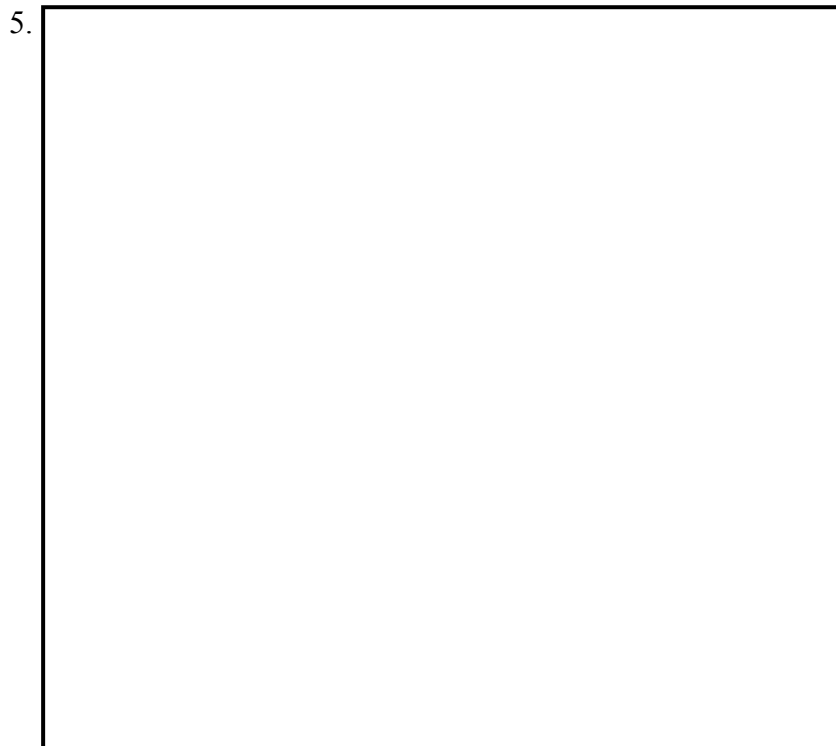
INSTRUMENT PANEL KNEE BOLSTER REPLACEMENT

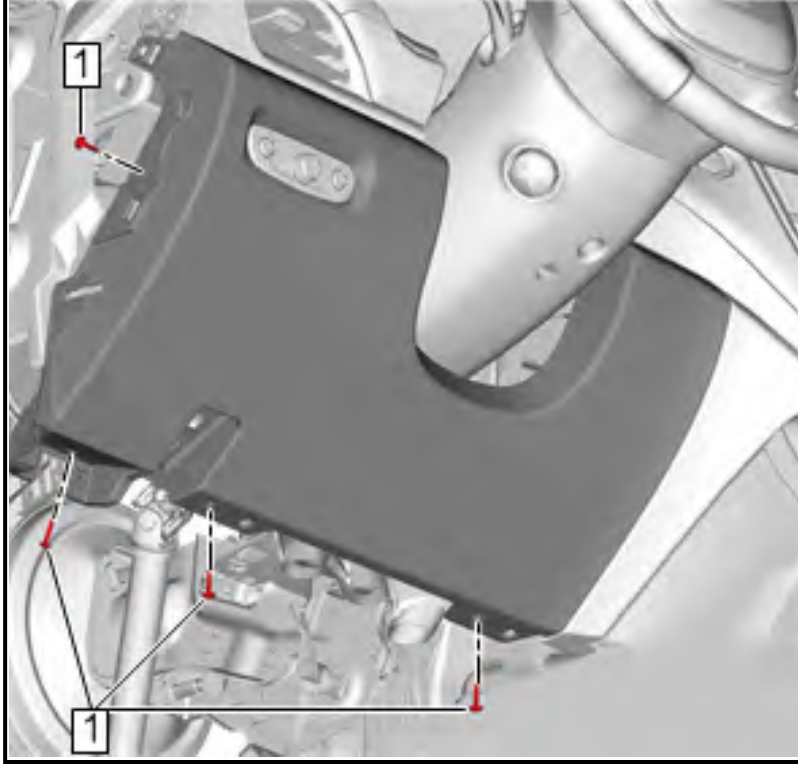
Removal Procedure

1. Front Side Door Sill Garnish Molding - Remove - **Front Side Door Sill Garnish Molding Replacement**
2. Hood Primary Latch Release Cable Handle - Remove - **Hood Primary Latch Release Cable Handle Replacement**
3. Disconnect the data link connector.



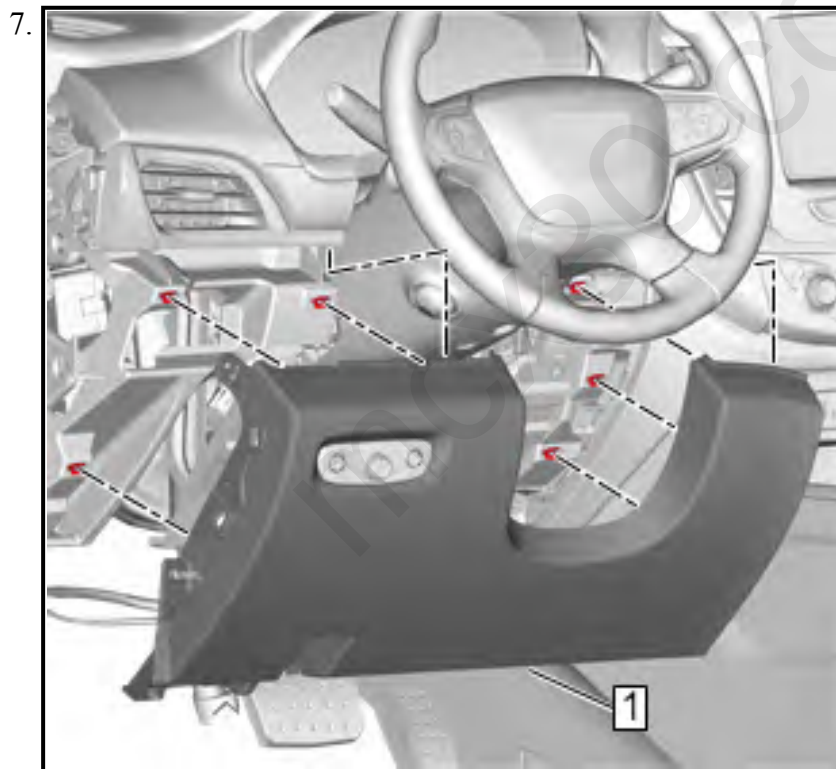
Instrument Panel Outer Trim Cover (1) - Remove - **Instrument Panel Outer Trim Cover Replacement**





Instrument Panel Knee Bolster Bolt (1) - Remove [4x]

6. Release the side tab.



Instrument Panel Knee Bolster (1) - Remove

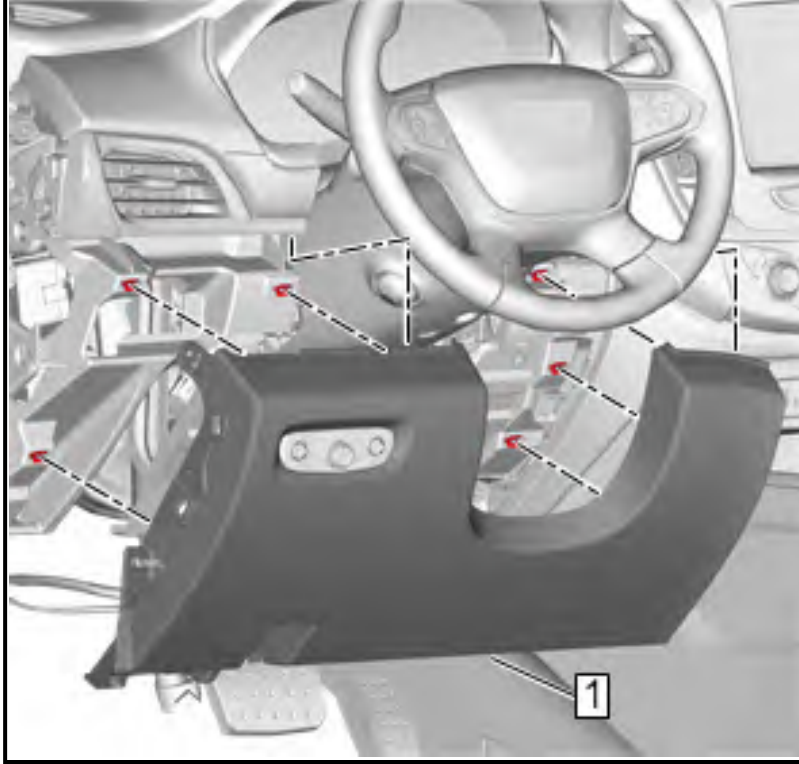
8. Start at the bottom when releasing the retainer clips and clear the flange at the top.

9. Disconnect the electrical connector.

10. Transfer components as necessary.

Installation Procedure

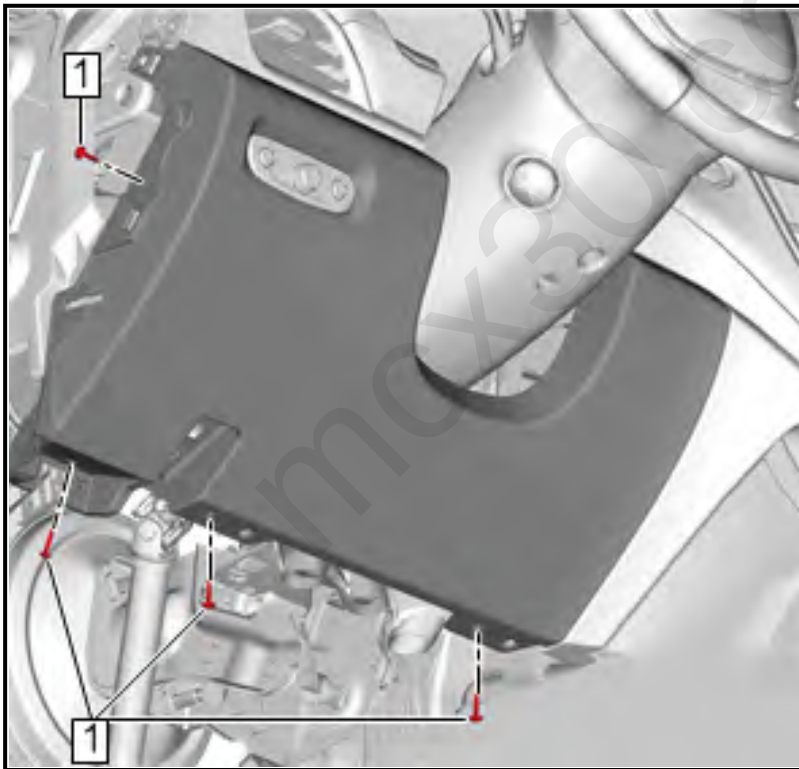




Connect the electrical connector.

2. Instrument Panel Knee Bolster (1) - Install

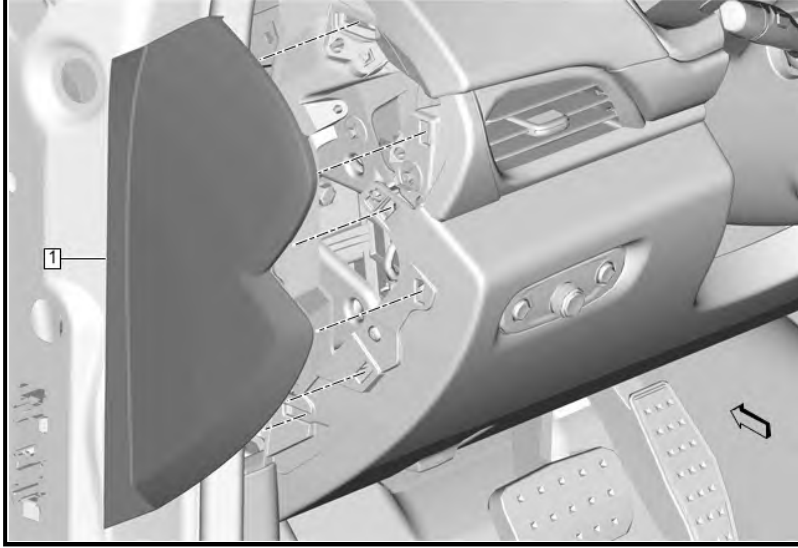
3.



Instrument Panel Knee Bolster Bolt (1) - Install and tighten [4x] 2 N.m (18 lb in)

4.



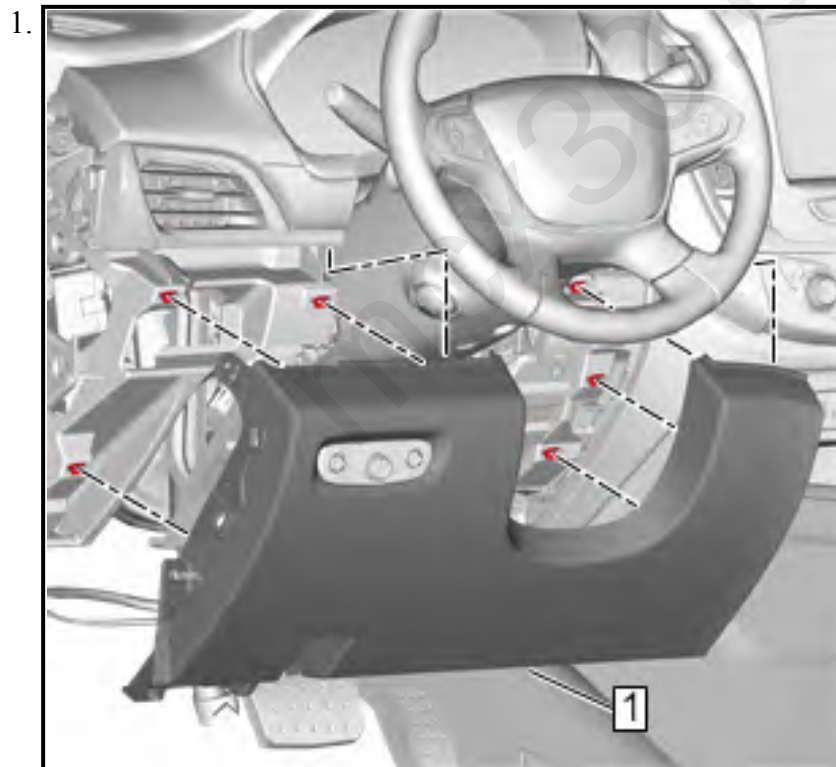


Instrument Panel Outer Trim Cover (1) - Install - [Instrument Panel Outer Trim Cover Replacement](#)

5. Connect the data link connector.
6. Hood Primary Latch Release Cable Handle - Install - [Hood Primary Latch Release Cable Handle Replacement](#)
7. Front Side Door Sill Garnish Molding - Install - [Front Side Door Sill Garnish Molding Replacement](#)

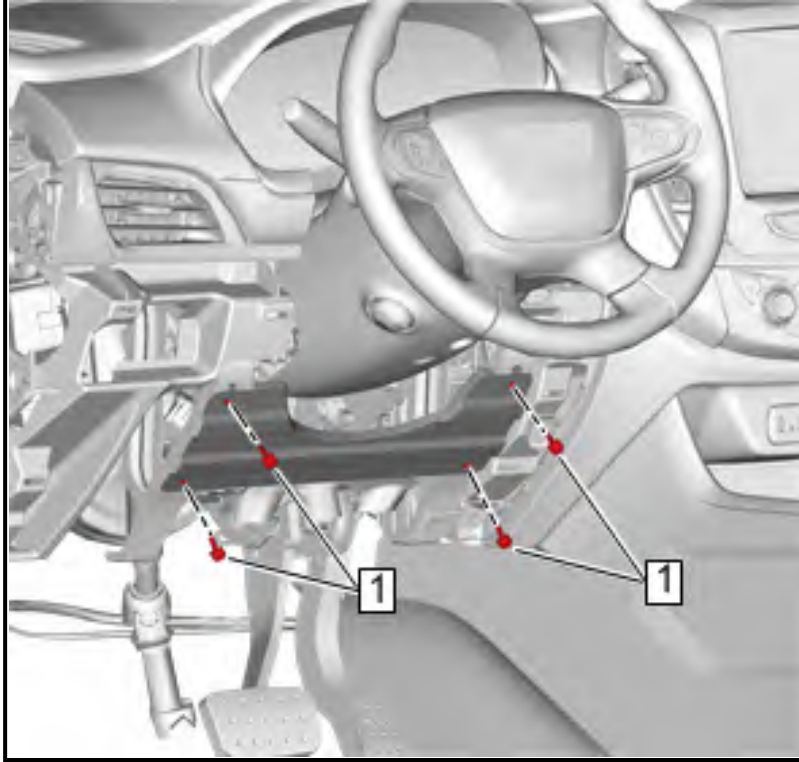
INSTRUMENT PANEL KNEE BOLSTER BRACKET REPLACEMENT

Removal Procedure



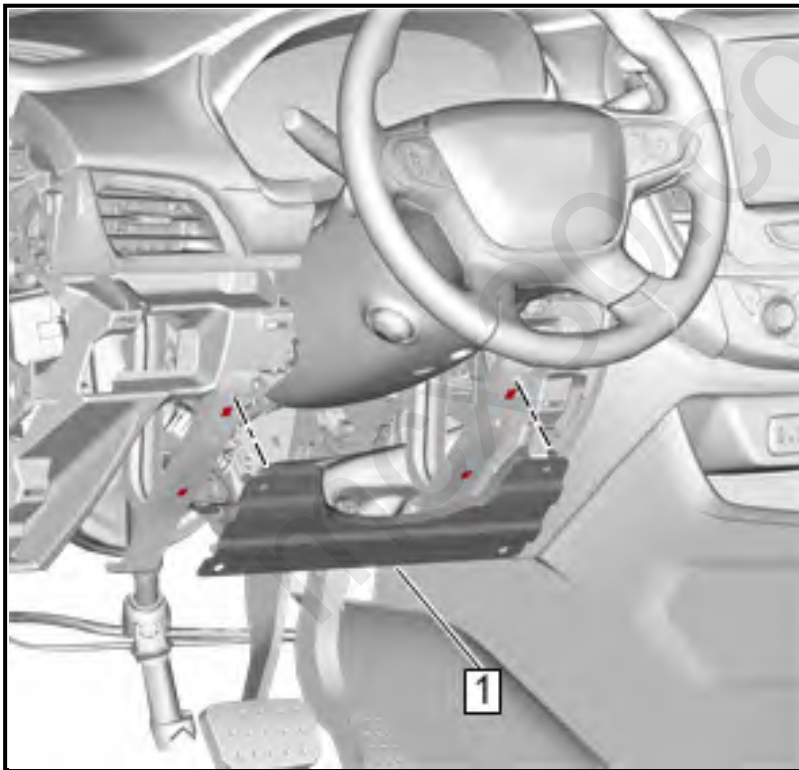
Instrument Panel Knee Bolster (1) - Remove - [Instrument Panel Knee Bolster Replacement](#)





Instrument Panel Knee Bolster Bracket Bolt (1) - Remove [4x]

3.

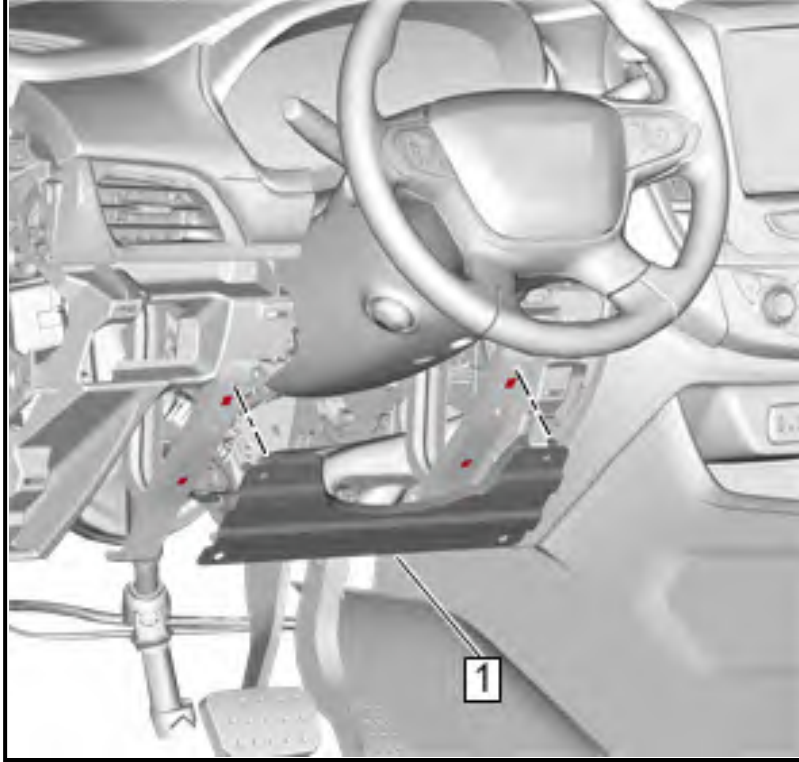


Instrument Panel Knee Bolster Bracket (1) - Remove

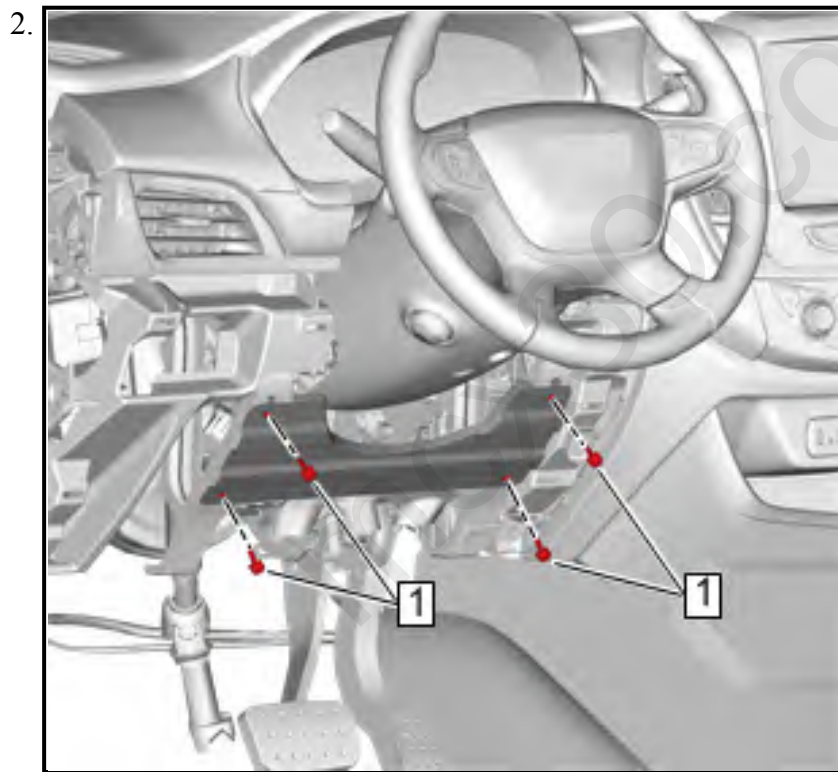
Installation Procedure

1.



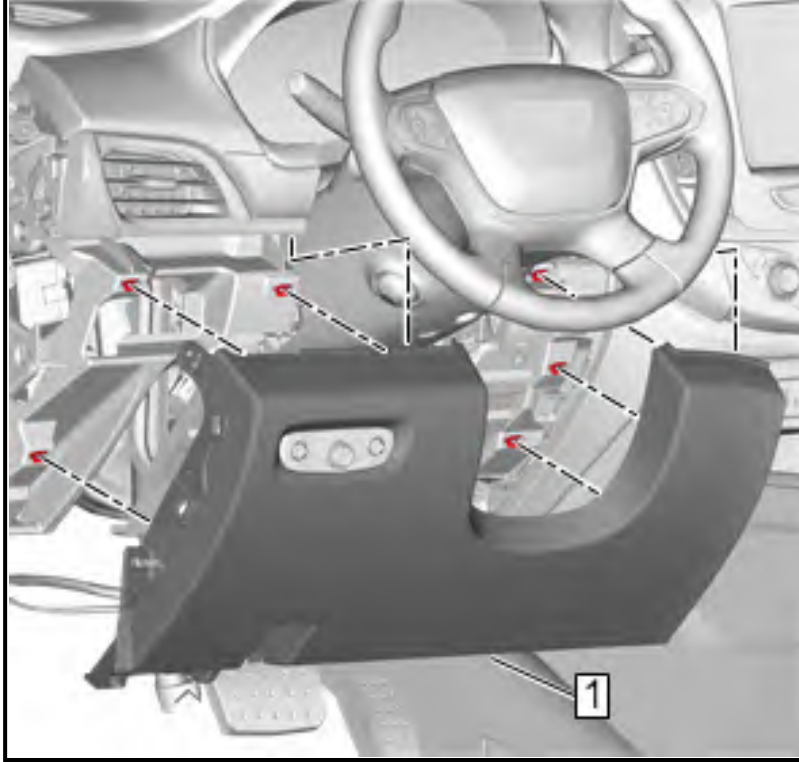


Instrument Panel Knee Bolster Bracket (1) - Install



Instrument Panel Knee Bolster Bracket Bolt (1) - Install and tighten [4x] 9 N.m (80 lb in)



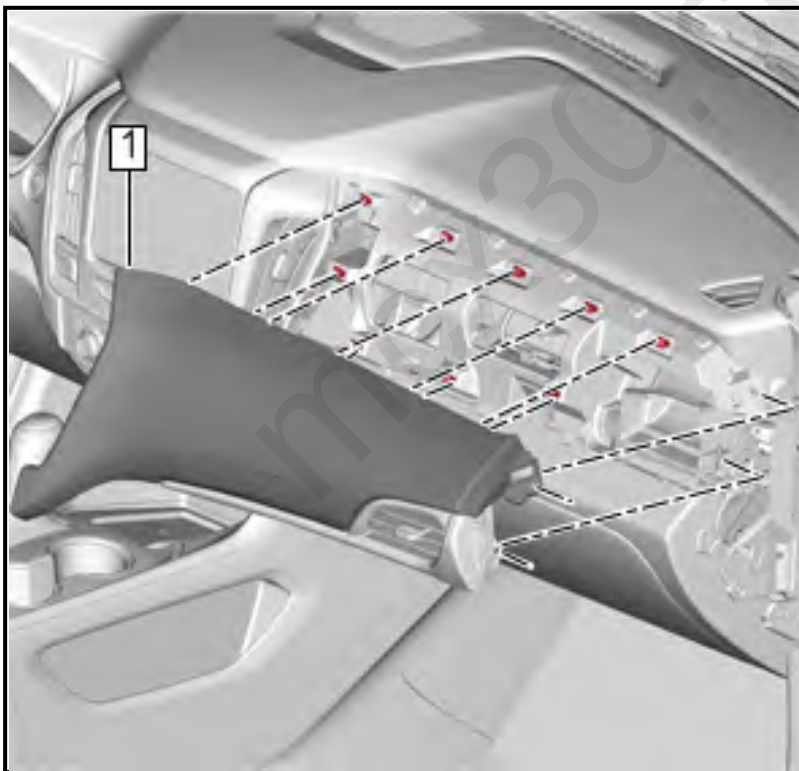


Instrument Panel Knee Bolster (1) - Install - [Instrument Panel Knee Bolster Replacement](#)

INSTRUMENT PANEL TRIM PLATE APPLIQUE REPLACEMENT - RIGHT SIDE

Removal Procedure

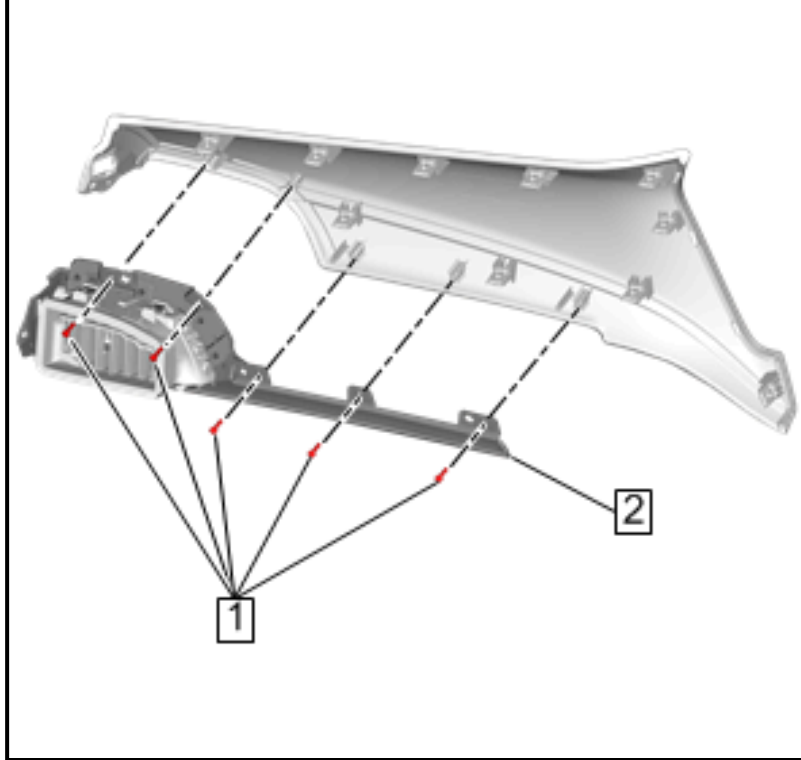
1.



Instrument Panel Trim Pad - Right Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Right Side](#)

2.



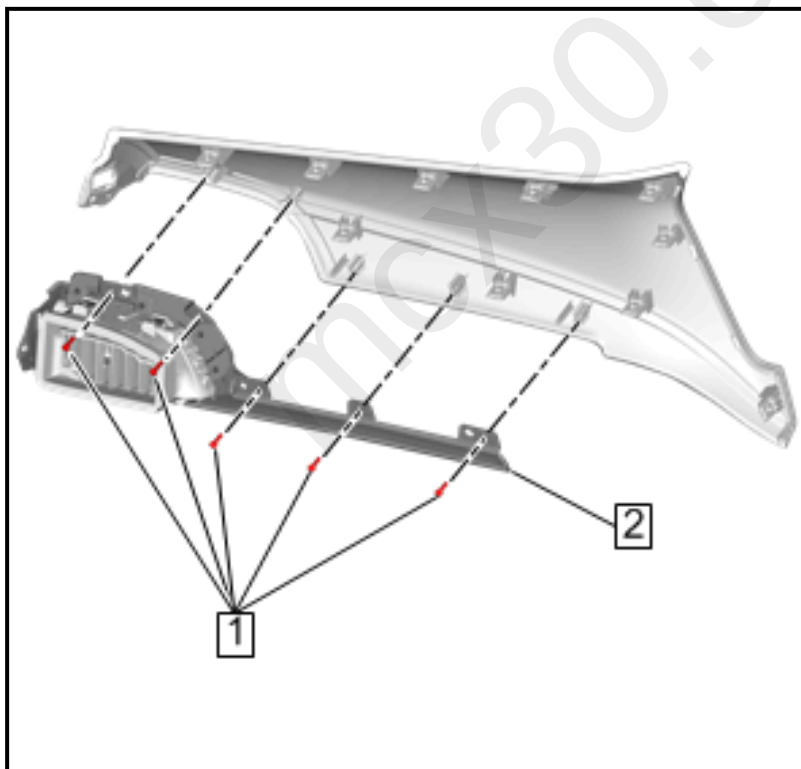


Instrument Panel Outer Air Outlet Bolt (1) - Remove [5x]

3. Instrument Panel Trim Plate Applique - Right Side (2) - Remove
4. Transfer components as necessary.

Installation Procedure

1.



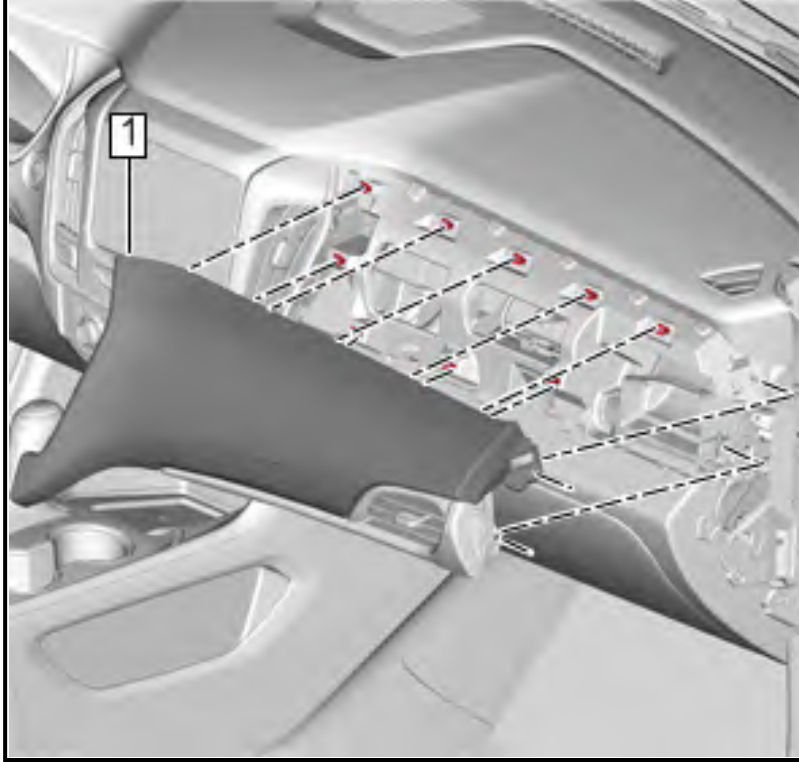
Instrument Panel Trim Plate Applique - Right Side (2) - Install

CAUTION: Refer to Fastener Caution .

2. Instrument Panel Outer Air Outlet Bolt (1) - Install and tighten [5x] 0.67 N.m (6 lb in)

3.

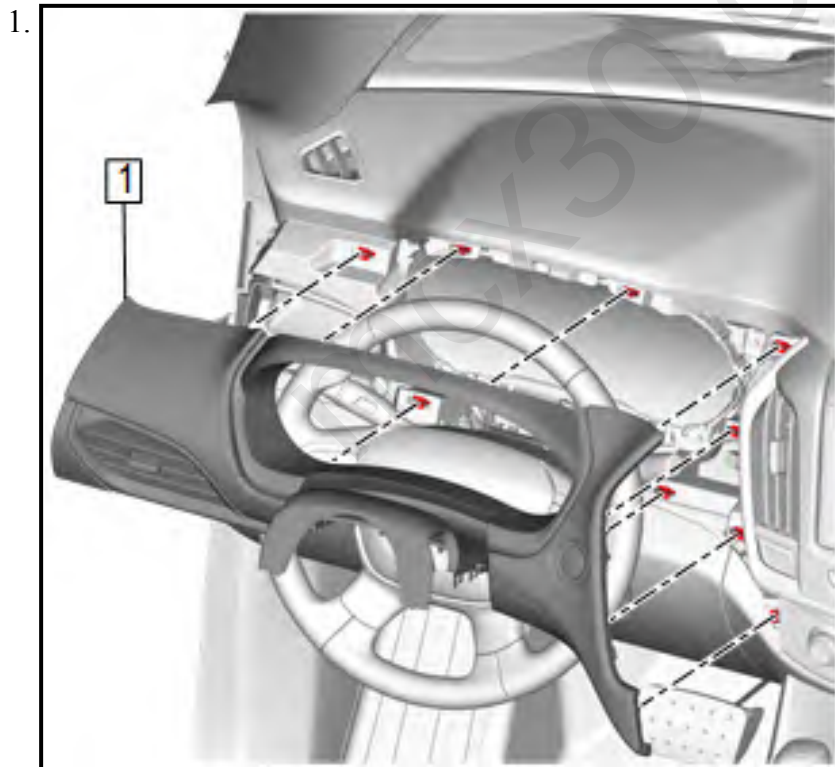




Instrument Panel Trim Pad - Right Side (1) - Install - [Instrument Panel Trim Pad Replacement - Right Side](#)

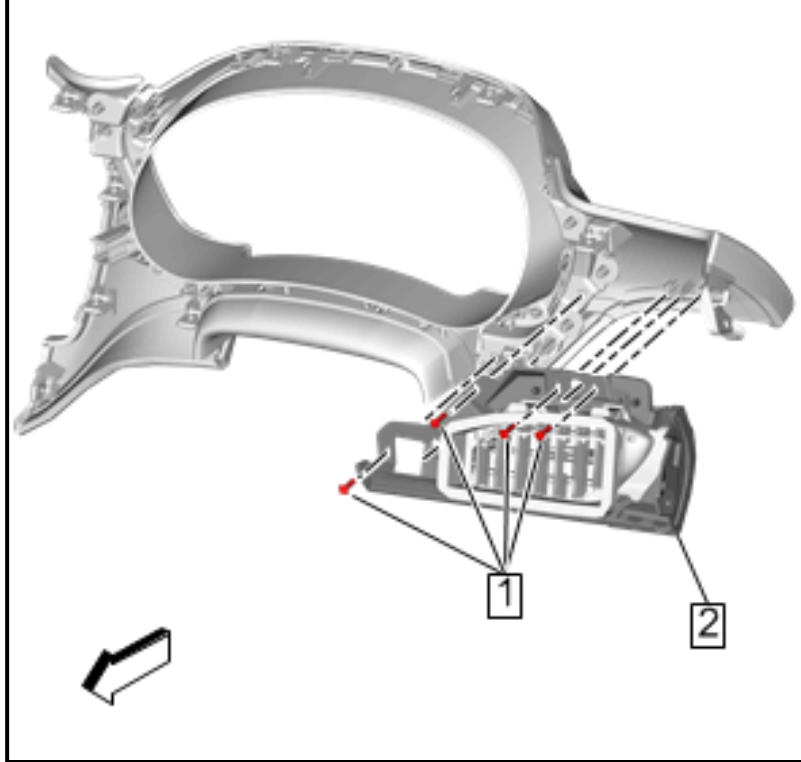
INSTRUMENT PANEL TRIM PLATE APPLIQUE REPLACEMENT - LEFT SIDE

Removal Procedure



Instrument Panel Trim Pad - Left Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Left Side](#)



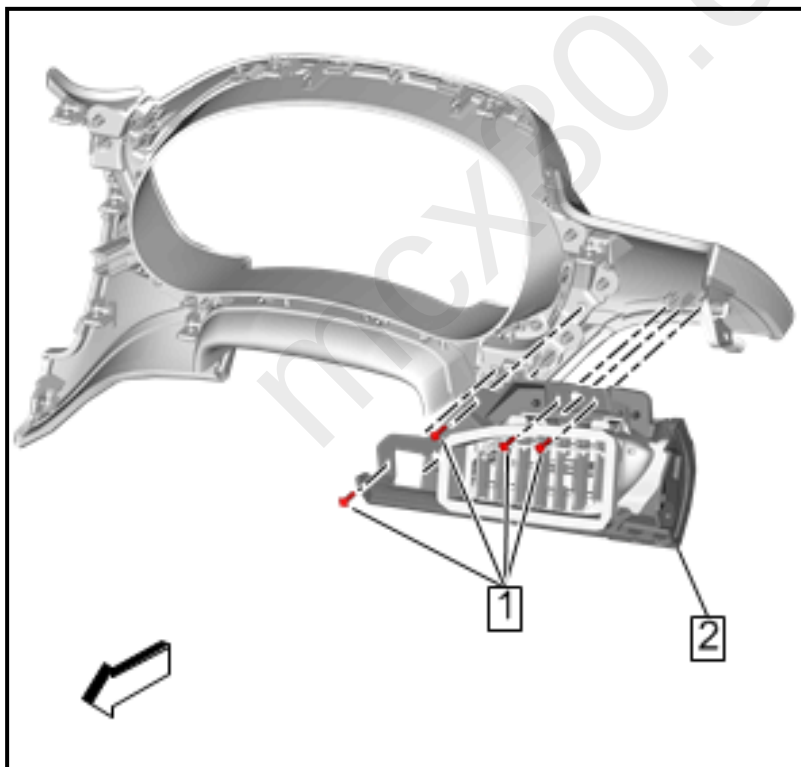


Instrument Panel Outer Air Outlet Bolt (1) - Remove [4x]

3. Instrument Panel Trim Plate Applique - Left Side (2) - Remove
4. Transfer components as necessary.

Installation Procedure

1.



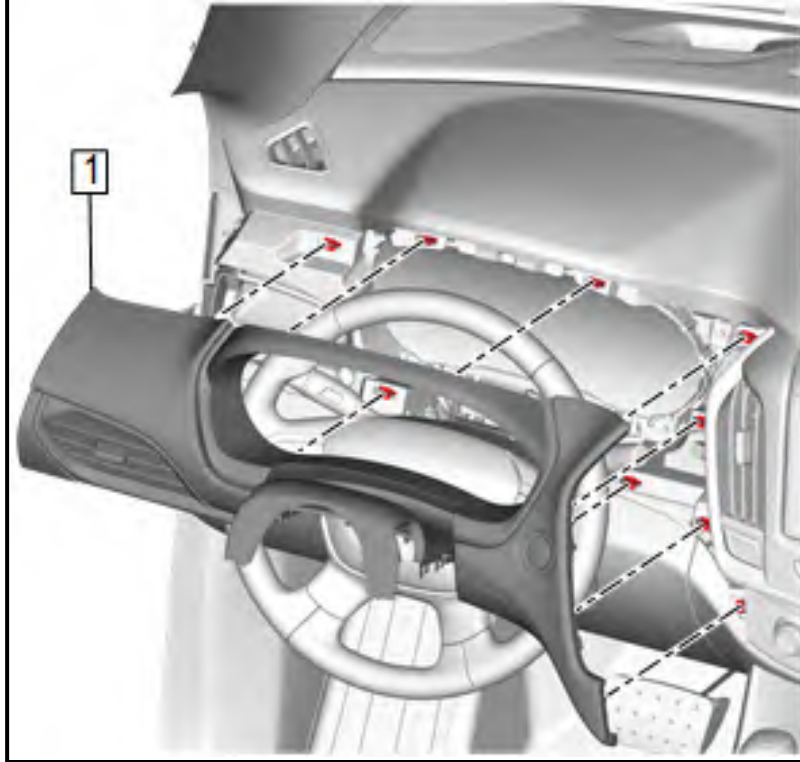
Instrument Panel Trim Plate Applique - Left Side (2) - Install

CAUTION: Refer to [Fastener Caution](#) .

2. Instrument Panel Outer Air Outlet Bolt (1) - Install and tighten [4x] 0.67 N.m (6 lb in)

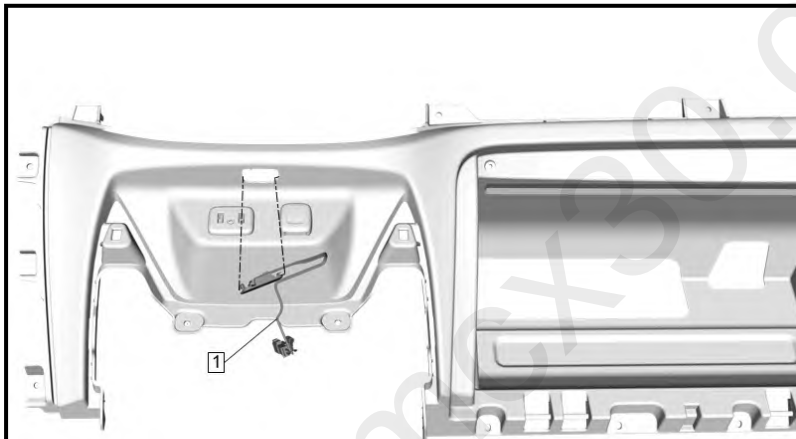
3.





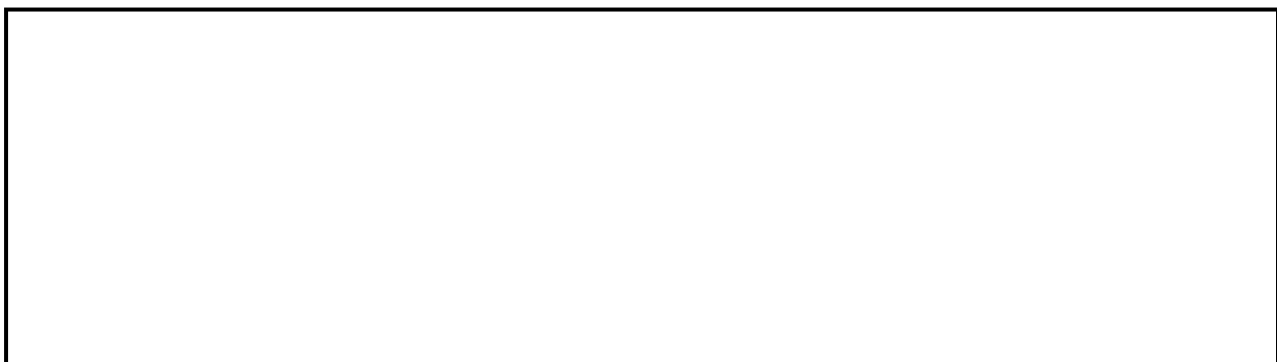
Instrument Panel Trim Pad - Left Side (1) - Install - [Instrument Panel Trim Pad Replacement - Left Side](#)

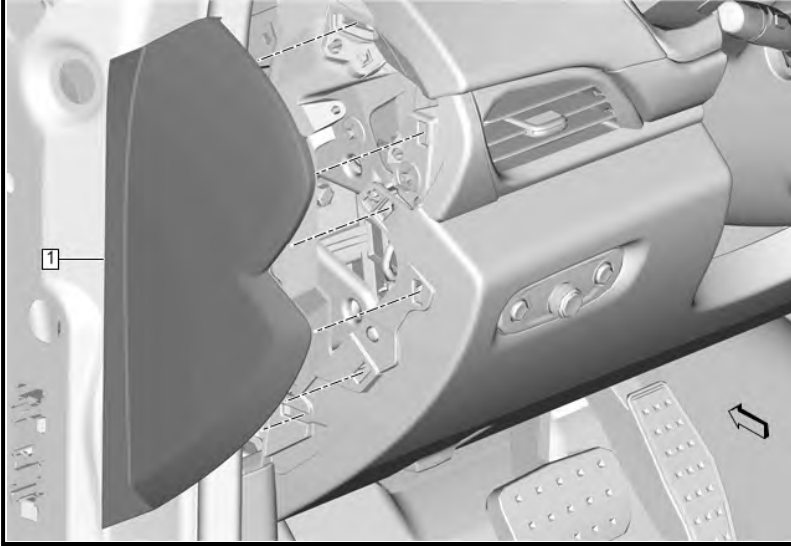
INSTRUMENT PANEL ACCESSORY BEZEL REPLACEMENT



Callout	Component Name
Preliminary Procedures Instrument Panel Compartment Door Opening Frame Replacement	
1	Instrument Panel Accessory Bezel Procedure Release the plastic retaining tabs.

INSTRUMENT PANEL OUTER TRIM COVER REPLACEMENT

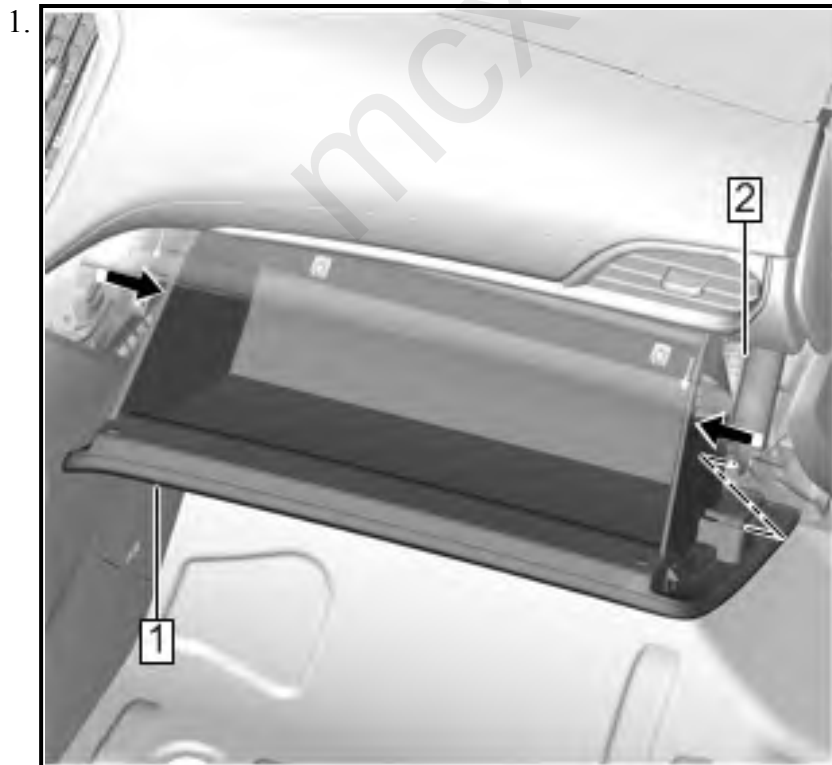




Callout	Component Name
1	Instrument Panel Outer Trim Cover Procedure 1. Pull away a segment of the front side door weather-strip to clear the edge of the trim cover. 2. Use a flat bladed plastic trim tool. 3. Start at the back and work your way inboard to release the tabs. NOTE: Left side shown, right side similar.

INSTRUMENT PANEL COMPARTMENT DOOR REPLACEMENT

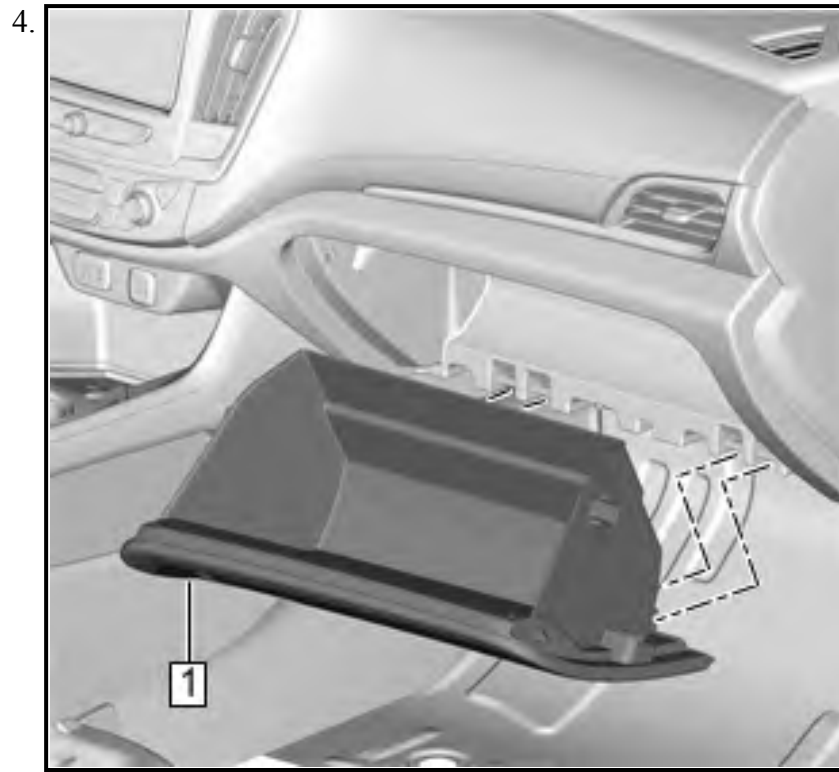
Removal Procedure



Instrument Panel Compartment Door (1) - Open

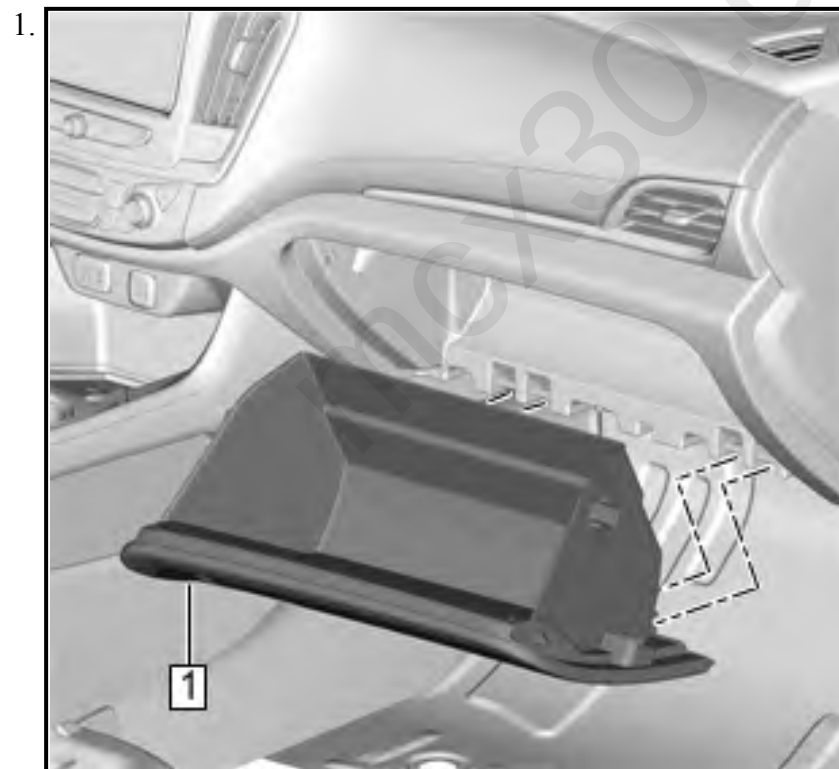
2. Disconnect the instrument panel compartment door dampener (2) from the instrument panel compartment door (1).

3. Squeeze the sides of the instrument panel compartment door (1) to allow the door to open past the stops.



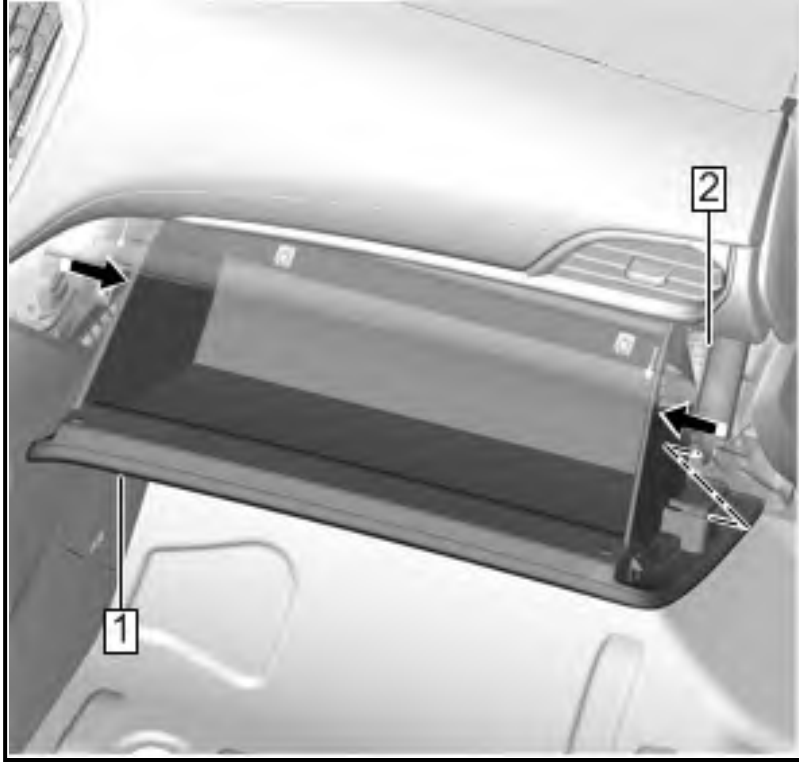
Unsnap the instrument panel compartment door (1) from the instrument panel assembly.

Installation Procedure



Instrument Panel Compartment Door (1) - Install



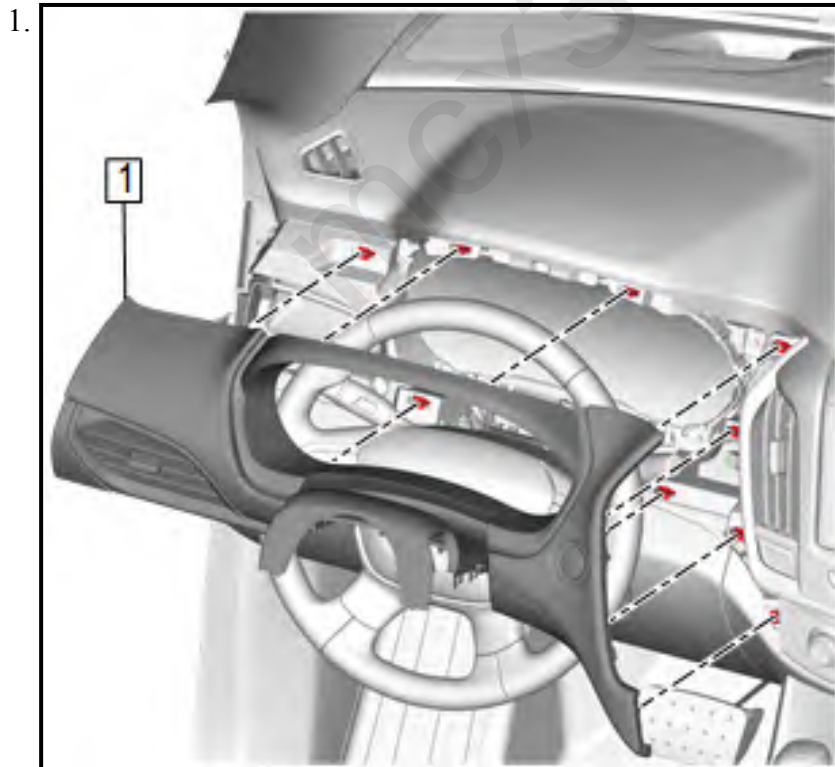


Squeeze the sides of the instrument panel compartment door (1) to allow the door to go past the stops.

3. Connect the instrument panel compartment door dampener (2) to the instrument panel compartment door (1).
4. Instrument Panel Compartment Door (1) - Close

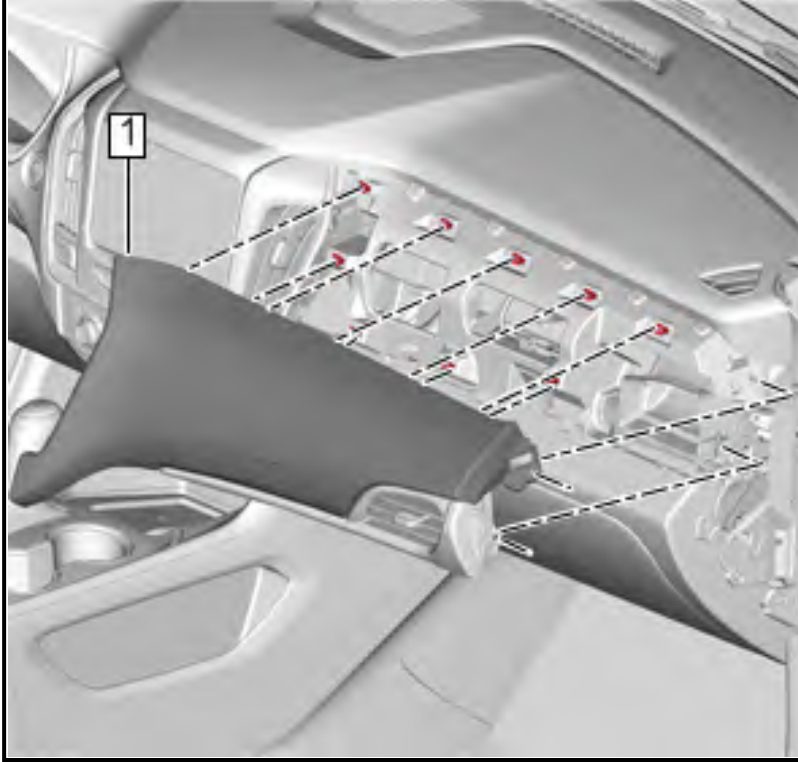
INSTRUMENT PANEL COMPARTMENT DOOR OPENING FRAME REPLACEMENT

Removal Procedure



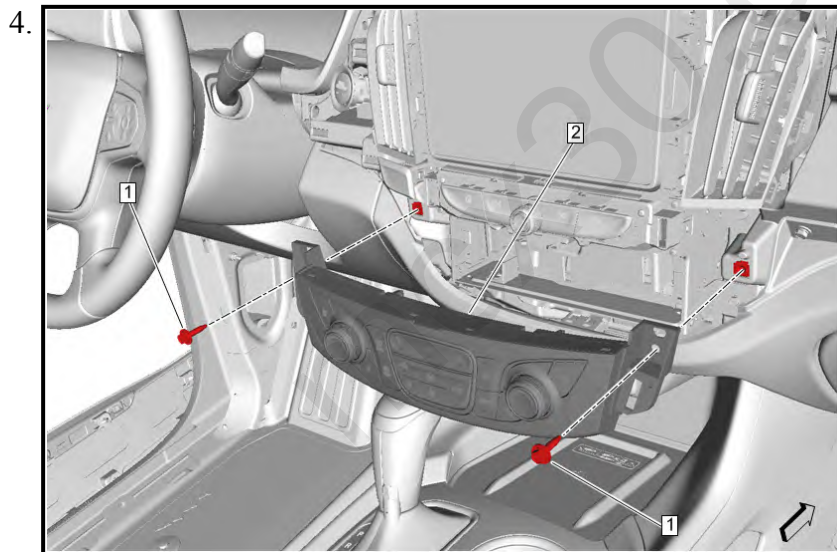
Instrument Panel Trim Pad - Left Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Left Side](#)





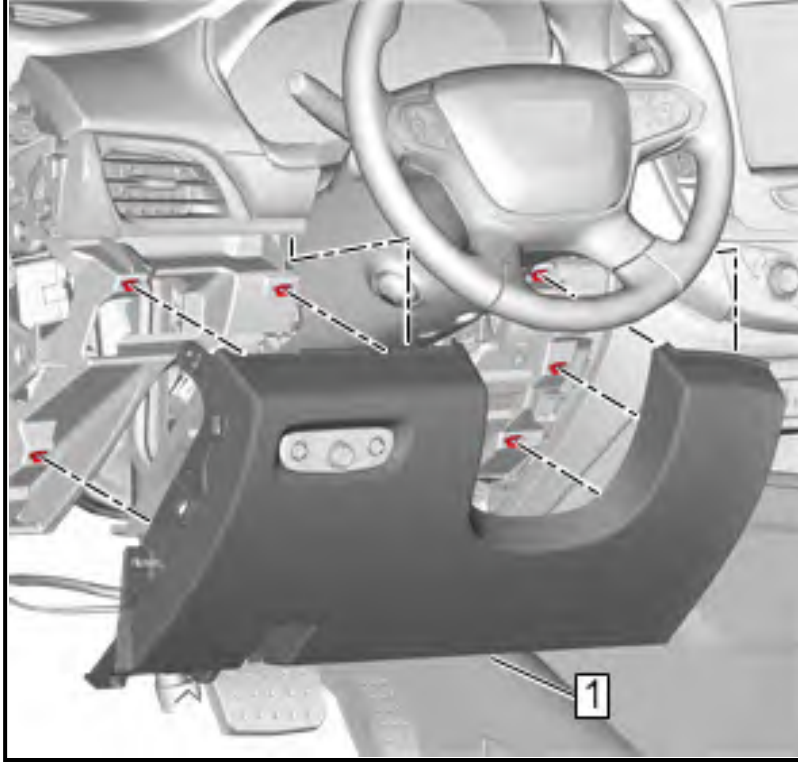
Instrument Panel Trim Pad - Right Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Right Side](#)

3. Instrument Panel Radio Front Trim Plate - Remove - [Instrument Panel Radio Front Trim Plate Replacement \(RPO IOA\)](#)[Instrument Panel Radio Front Trim Plate Replacement \(RPO IO5, IO6\)](#)

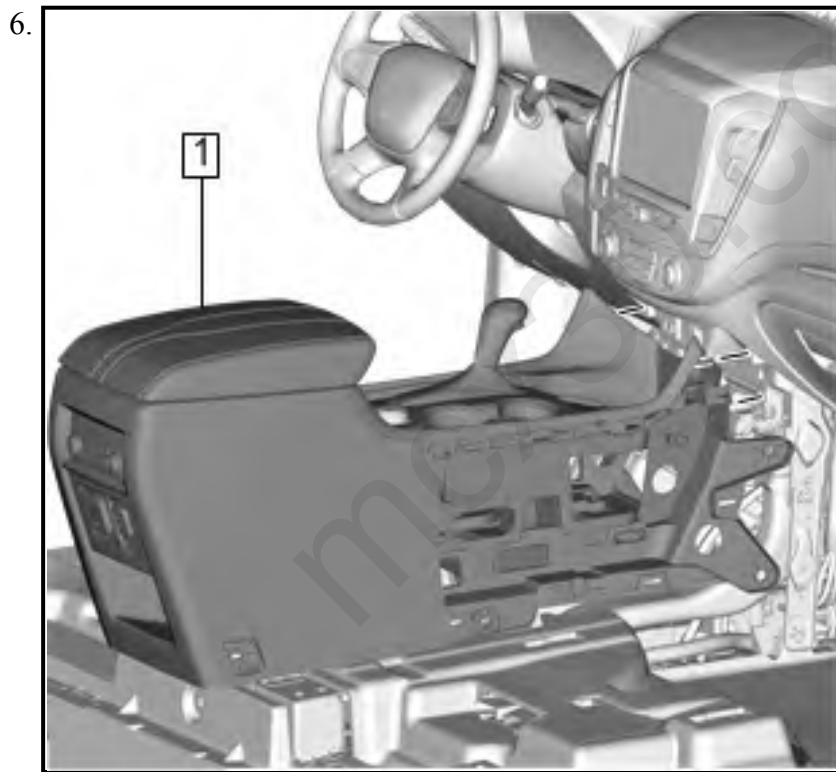


Heater and Air Conditioning User Interface Control (2) - Remove - [Heater and Air Conditioning User Interface Control Replacement](#)





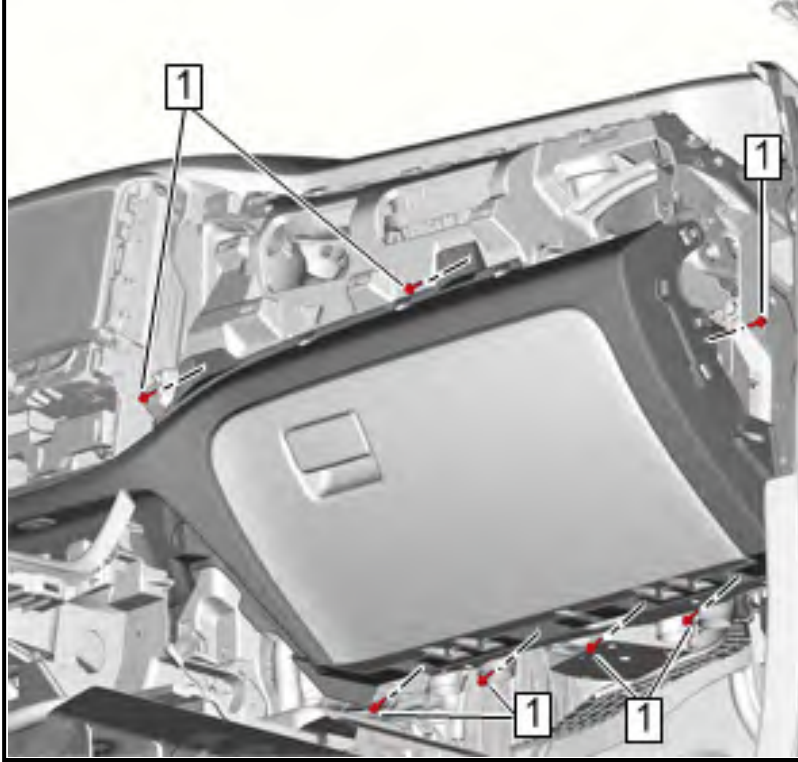
Instrument Panel Knee Bolster (1) - Remove - [Instrument Panel Knee Bolster Replacement](#)



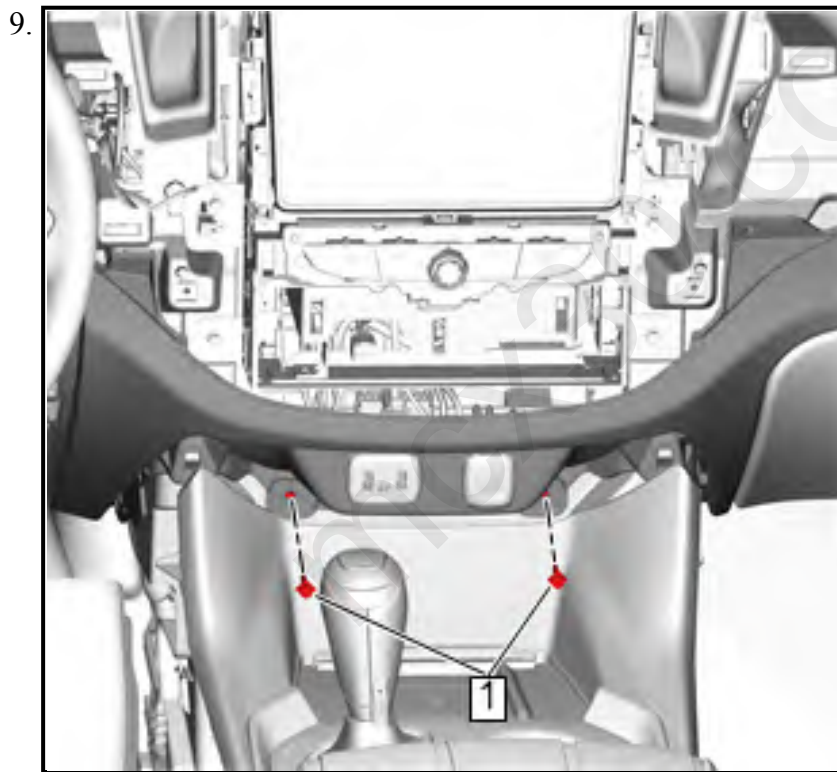
Slide the front floor console (1) back to clear the pins from the instrument panel assembly.

7. Front Floor Console - Remove - [Front Floor Console Replacement](#)



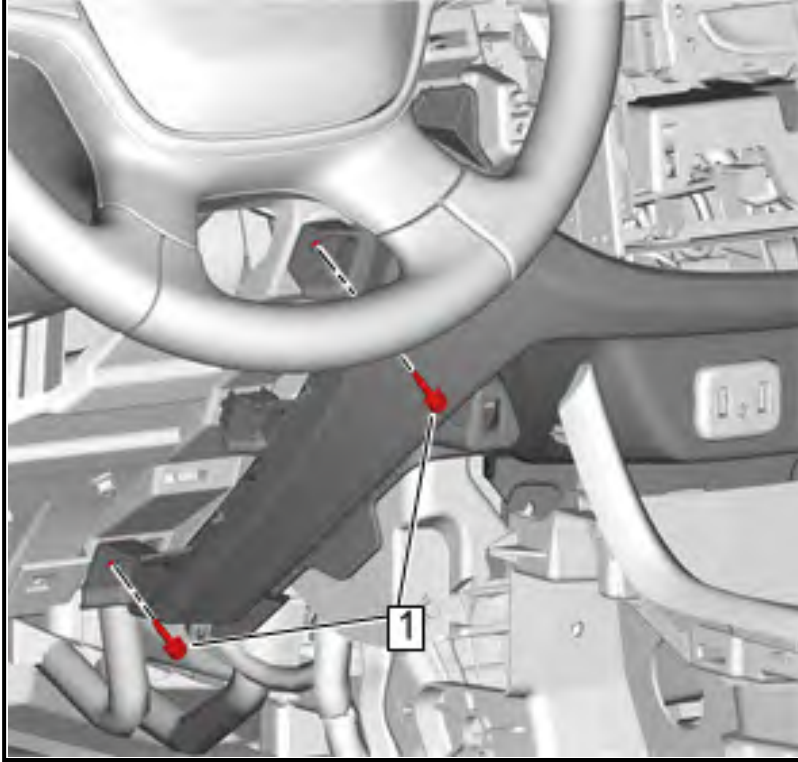


Instrument Panel Compartment Door Opening Frame Bolt (1) - Remove [7x]



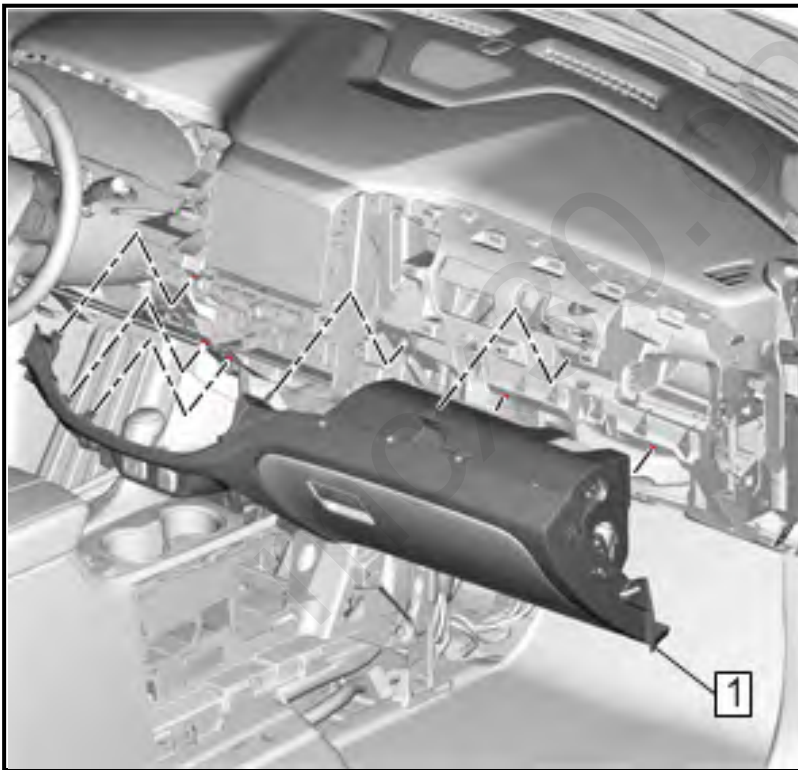
Instrument Panel Compartment Door Opening Frame Bolt (1) - Remove [2x]





Instrument Panel Compartment Door Opening Frame Bolt (1) - Remove [2x]

11.



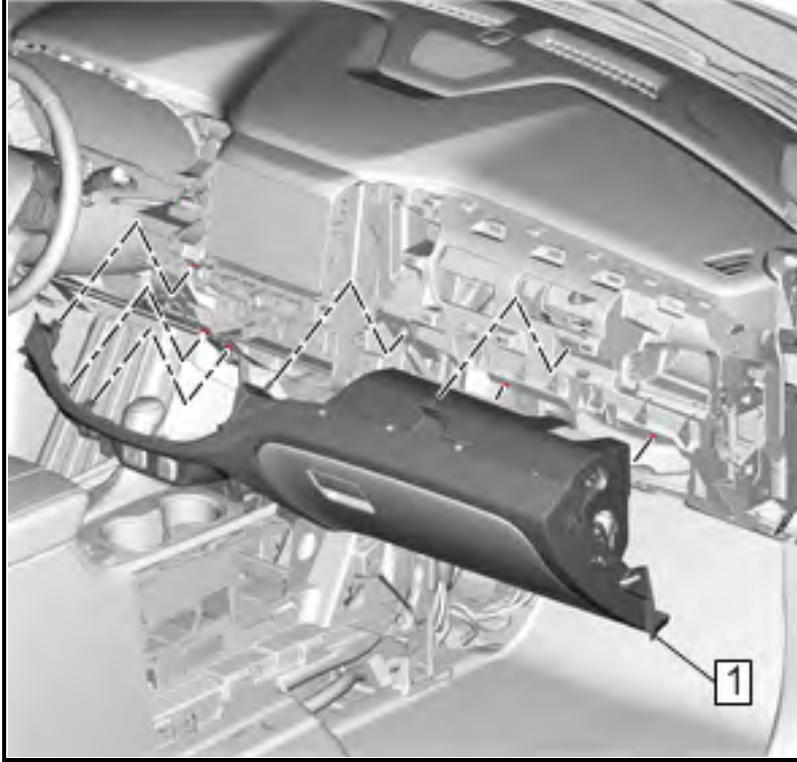
Instrument Panel Compartment Door Opening Frame (1) - Remove

12. Use a plastic trim tool if necessary.
13. Disconnect the electrical connectors.
14. Transfer components as necessary.

Installation Procedure

1.

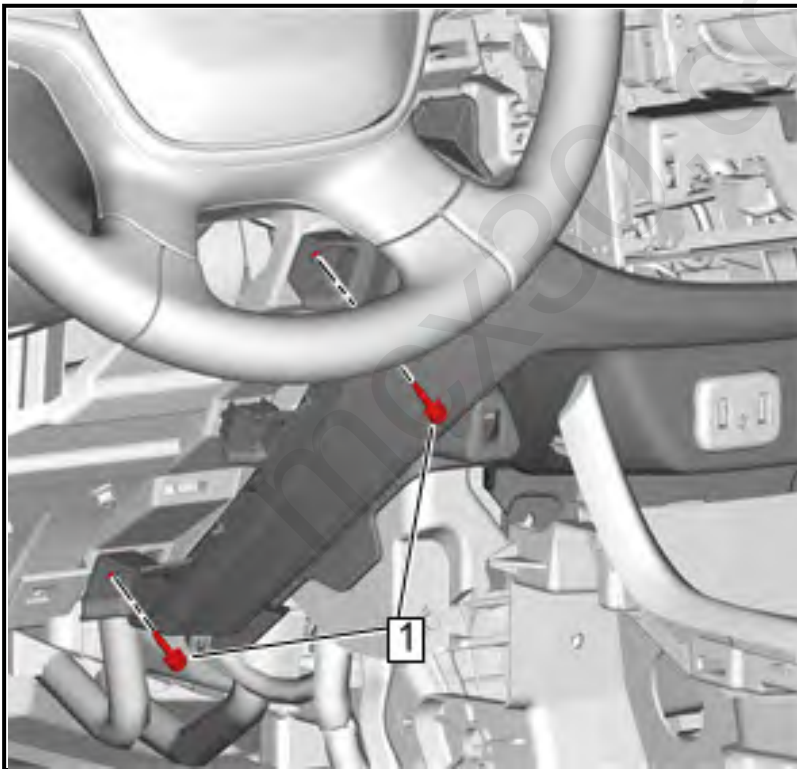




Connect all electrical connectors.

2. Instrument Panel Compartment Door Opening Frame (1) - Install

3.

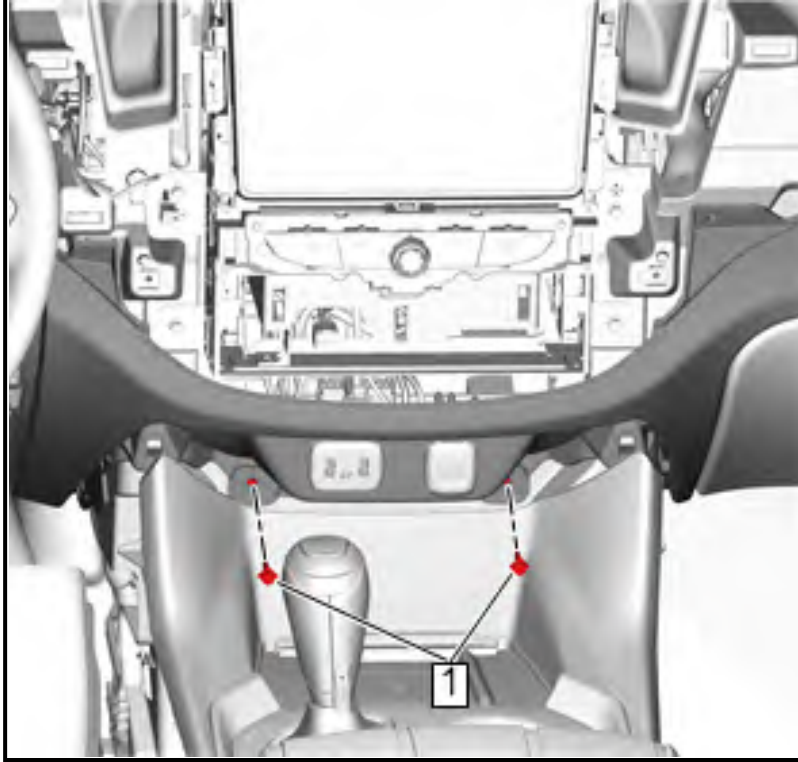


CAUTION: Refer to [Fastener Caution](#) .

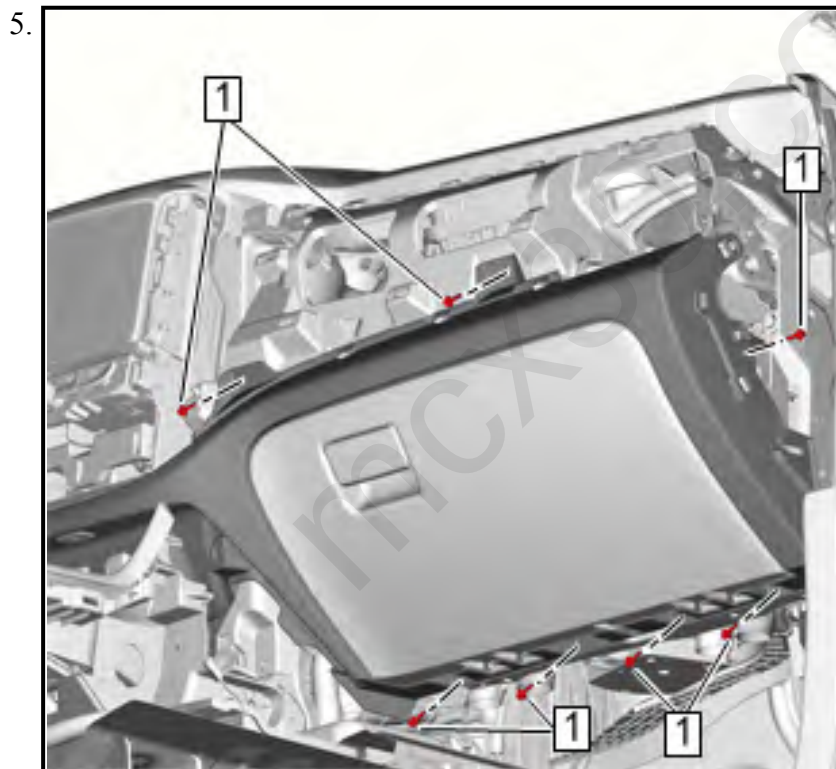
Instrument Panel Compartment Door Opening Frame Bolt (1) - Install and tighten [2x] 2.5 N.m (22 lb in)

4.



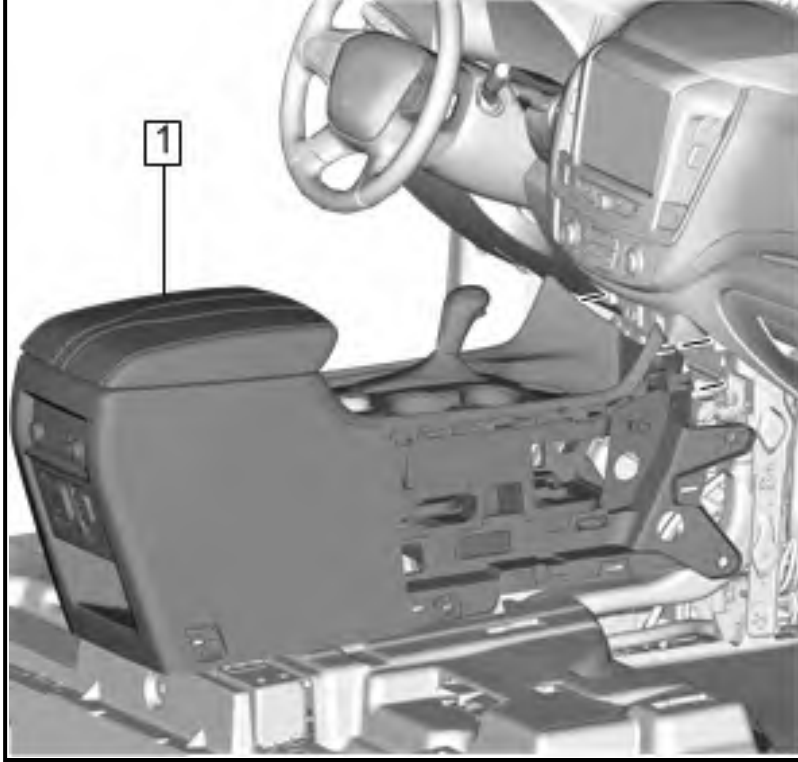


Instrument Panel Compartment Door Opening Frame Bolt (1) - Install and tighten [2x] 2.5 N.m (22 lb in)



Instrument Panel Compartment Door Opening Frame Bolt (1) - Install and tighten [7x] 2.5 N.m (22 lb in)

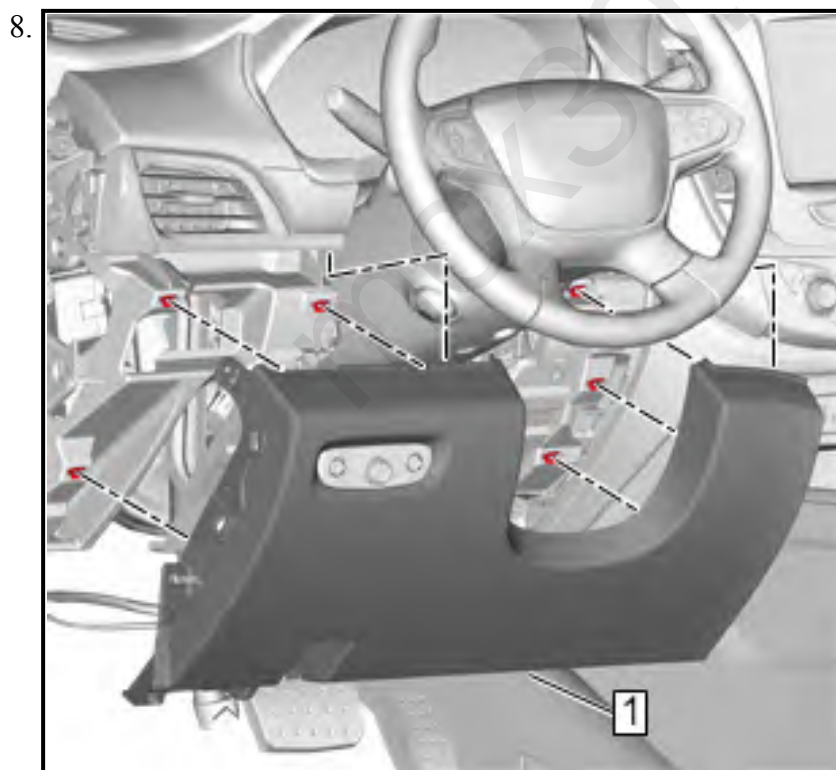




NOTE: When installing the front floor console take care in seating the auxiliary air conditioning air outlet duct to the front floor console rear air duct.

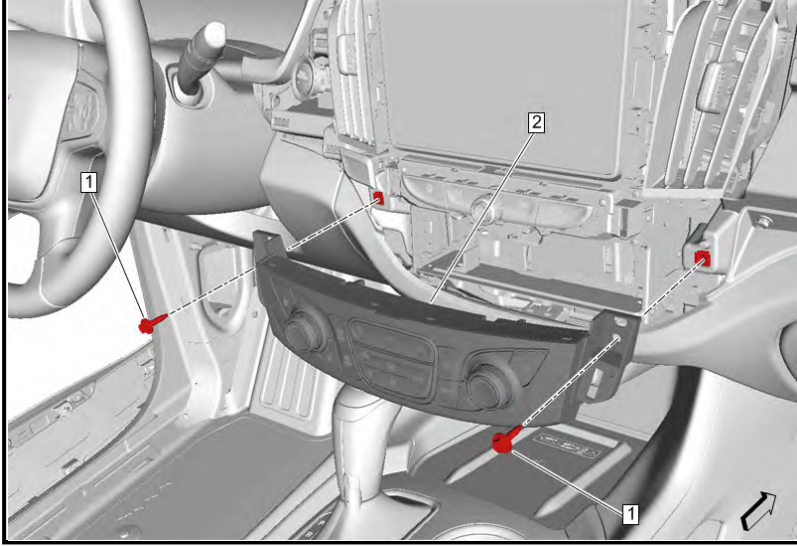
Carefully install the front floor console assembly guide pins into the instrument panel assembly.

7. Front Floor Console - Install - [Front Floor Console Replacement](#)



Instrument Panel Knee Bolster (1) - Install - [Instrument Panel Knee Bolster Replacement](#)

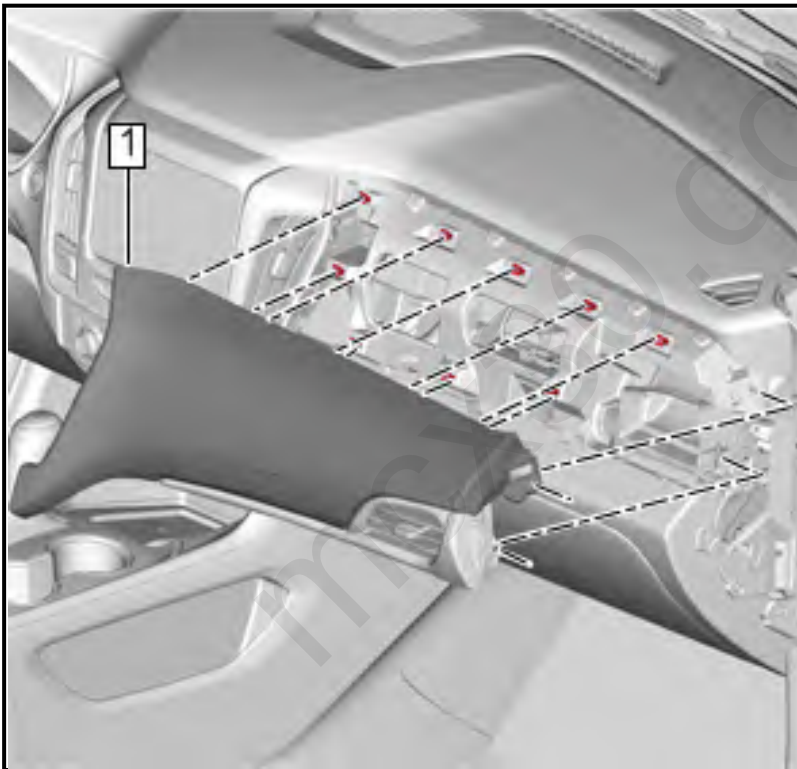




Heater and Air Conditioning User Interface Control (2) - Install - [Heater and Air Conditioning User Interface Control Replacement](#)

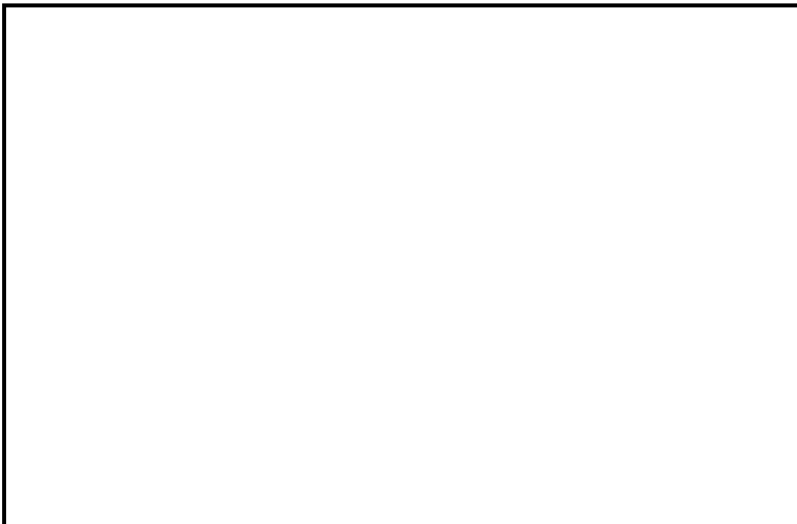
10. Instrument Panel Radio Front Trim Plate - Install - [Instrument Panel Radio Front Trim Plate Replacement \(RPO IOA\)](#)[Instrument Panel Radio Front Trim Plate Replacement \(RPO IO5, IO6\)](#)

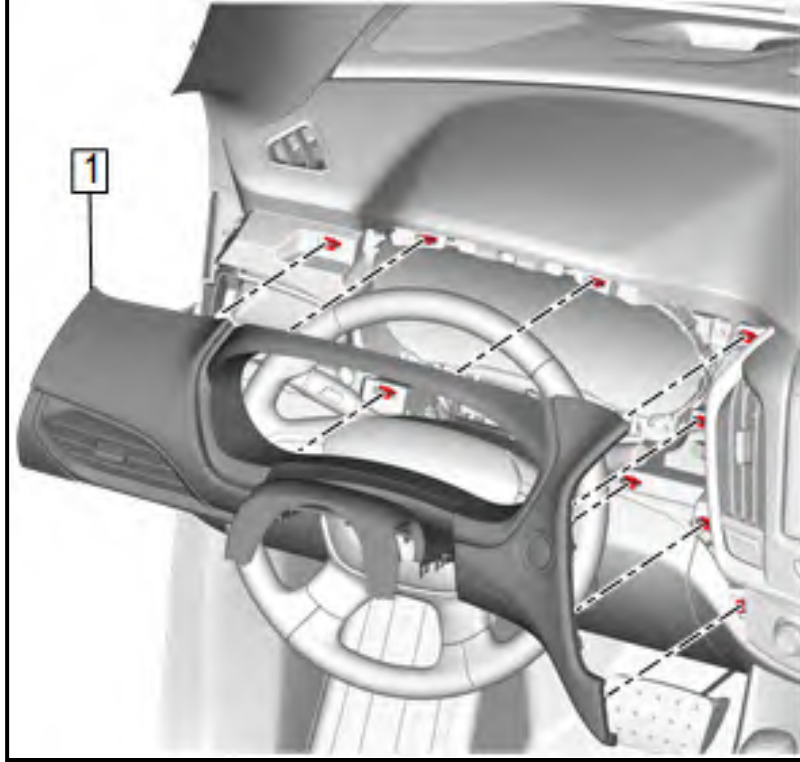
11.



Instrument Panel Trim Pad - Right Side (1) - Install - [Instrument Panel Trim Pad Replacement - Right Side](#)

12.

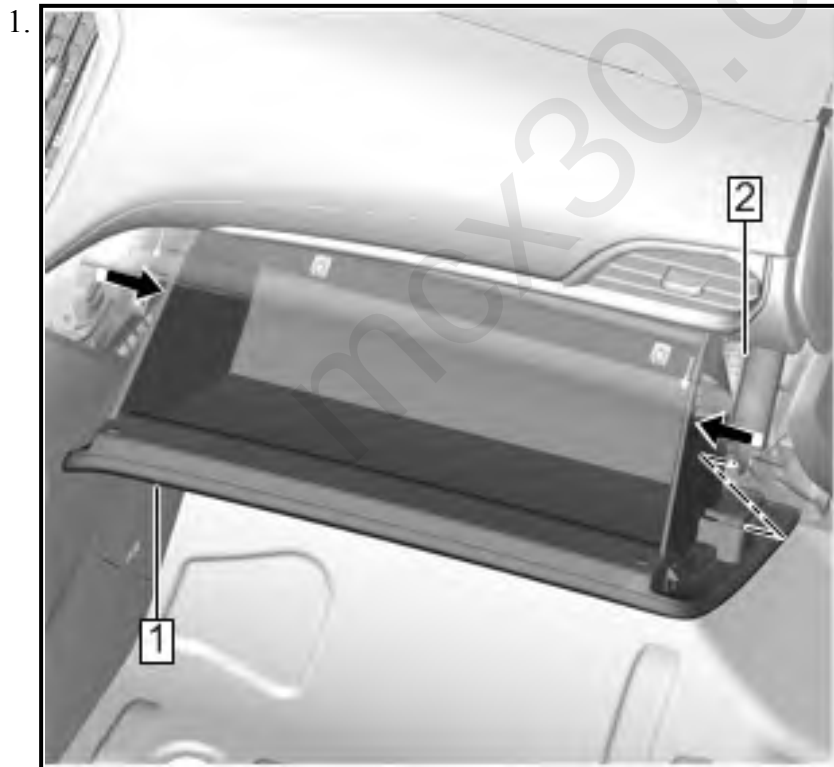




Instrument Panel Trim Pad - Left Side (1) - Install - [Instrument Panel Trim Pad Replacement - Left Side](#)

INSTRUMENT PANEL COMPARTMENT DOOR DAMPENER REPLACEMENT

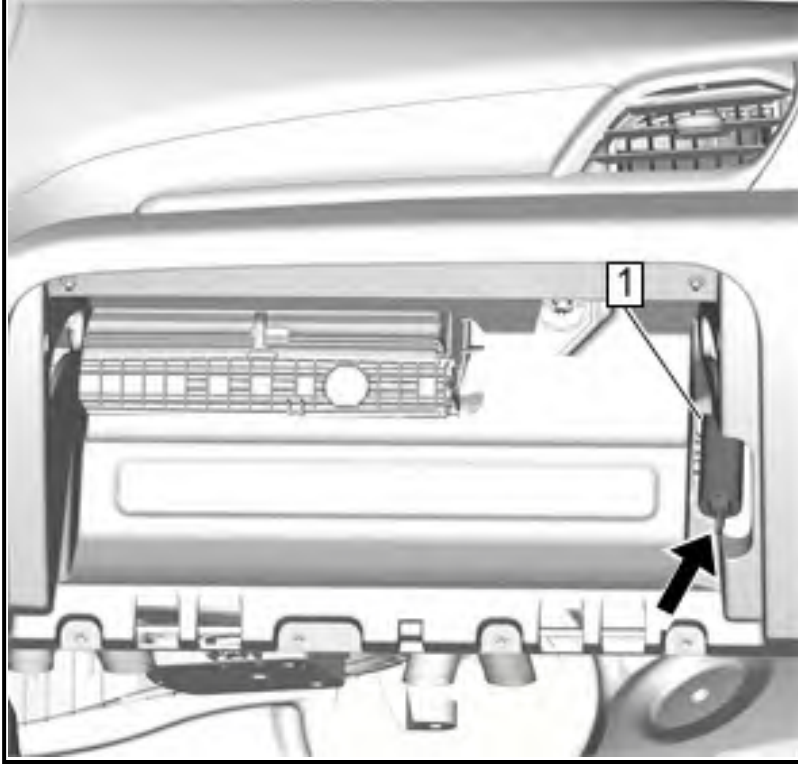
Removal Procedure



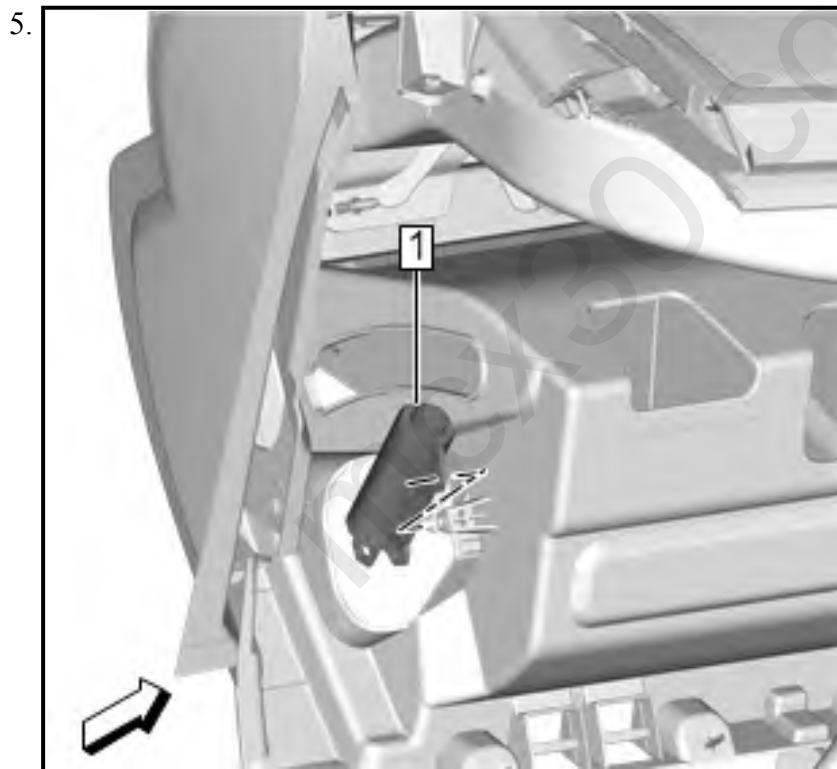
Instrument Panel Compartment Door (1) - Open

2. Disconnect the instrument panel compartment door dampener (2) from the instrument panel compartment door (1).
3. Squeeze the sides of the instrument panel compartment door (1) to allow the door to open past the stops.





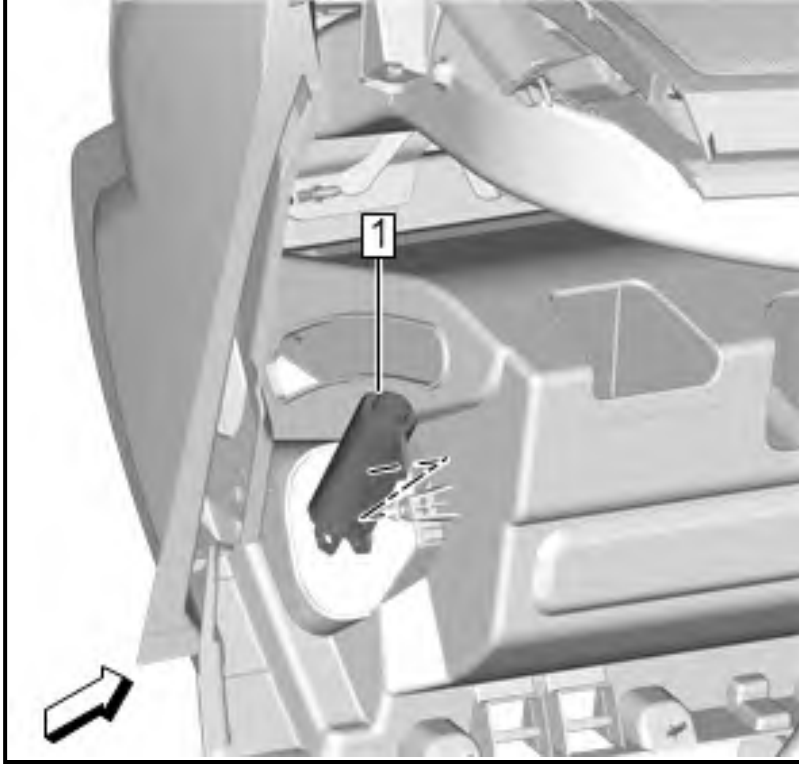
Reach in the access hole and with a suitable tool release the instrument panel compartment door dampener (1) from the pin.



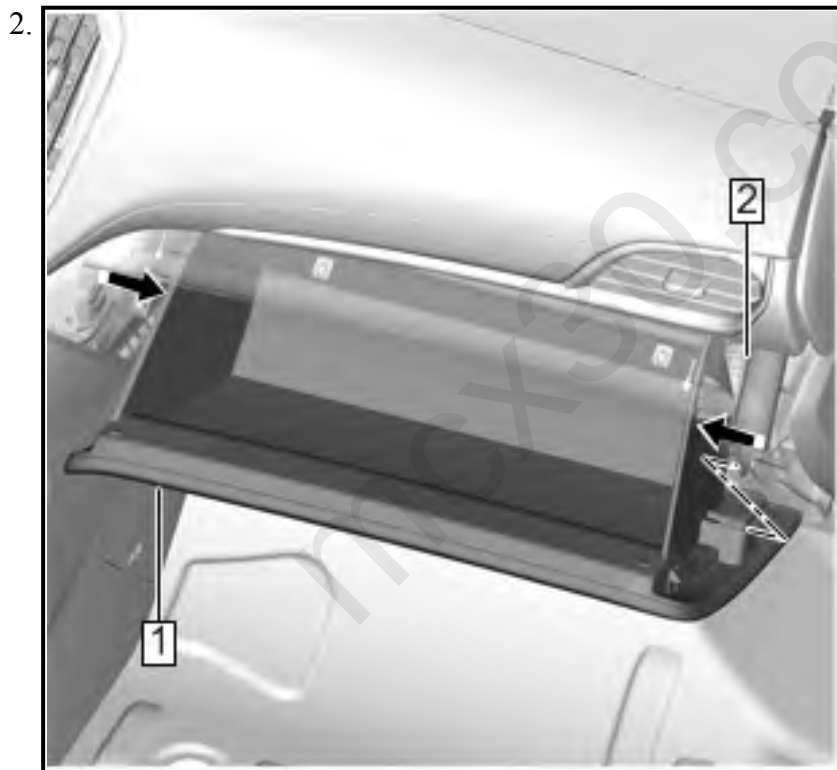
Instrument Panel Compartment Door Dampener (1) - Remove

Installation Procedure





Instrument Panel Compartment Door Dampener (1) - Install



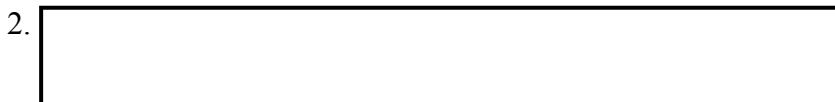
Squeeze the sides of the instrument panel compartment door (1) to allow the door to go past the stops.

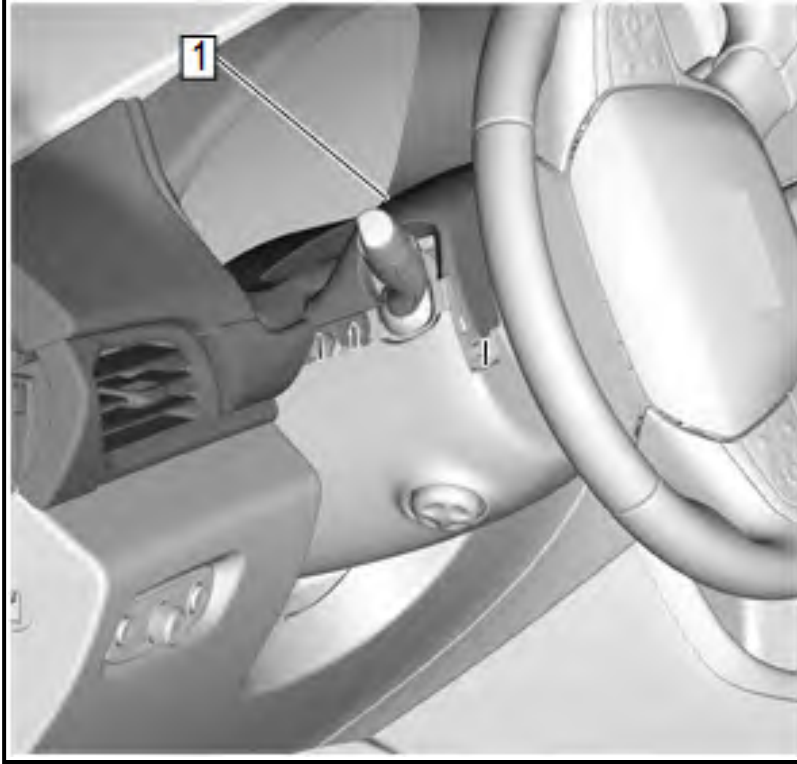
3. Connect the instrument panel compartment door dampener (2) to the instrument panel compartment door (1).
4. Instrument Panel Compartment Door (1) - Close

INSTRUMENT PANEL TRIM PAD REPLACEMENT - LEFT SIDE

Removal Procedure

1. Instrument Panel Outer Trim Cover - Remove - [Instrument Panel Outer Trim Cover Replacement](#)

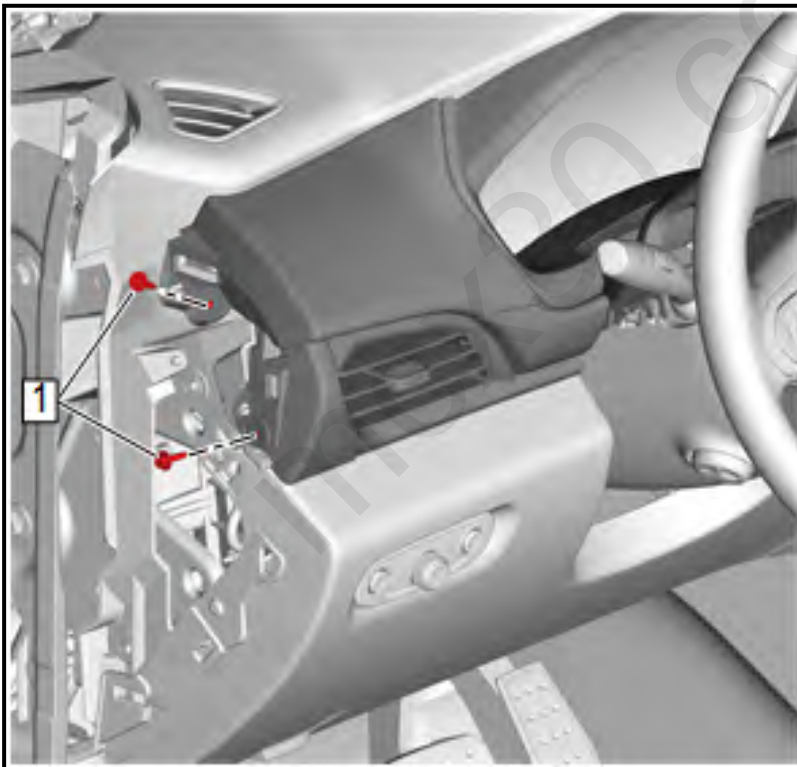




Steering Column Upper Trim Cover (1) - Remove

3. Using a flat-bladed plastic trim tool, release the retainer clips.

4.

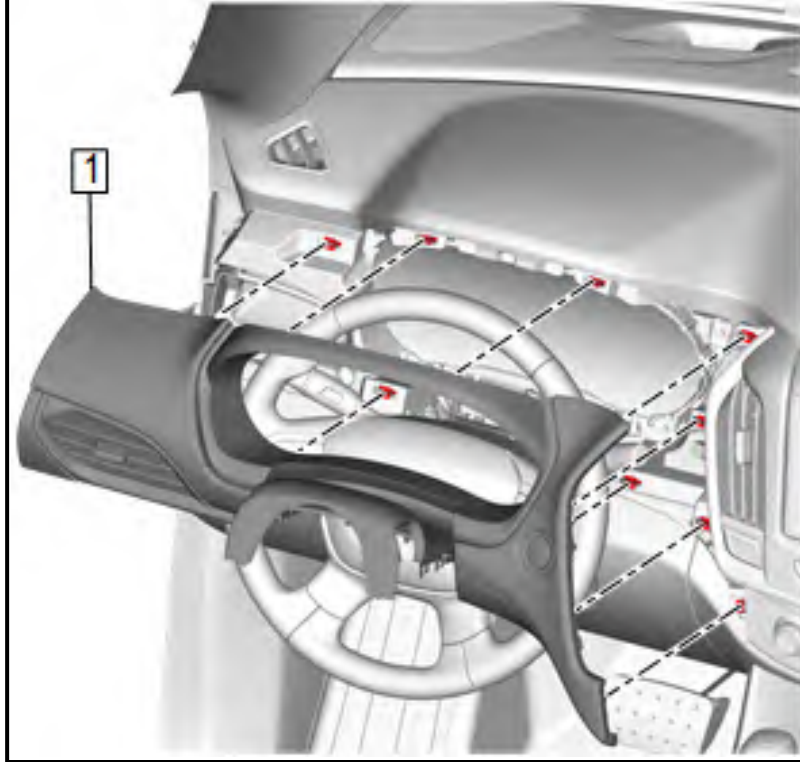


Instrument Panel Upper Trim Pad Bolt (1) - Remove [2x]

5. Use a plastic trim tool to release the two guide pins.

6.



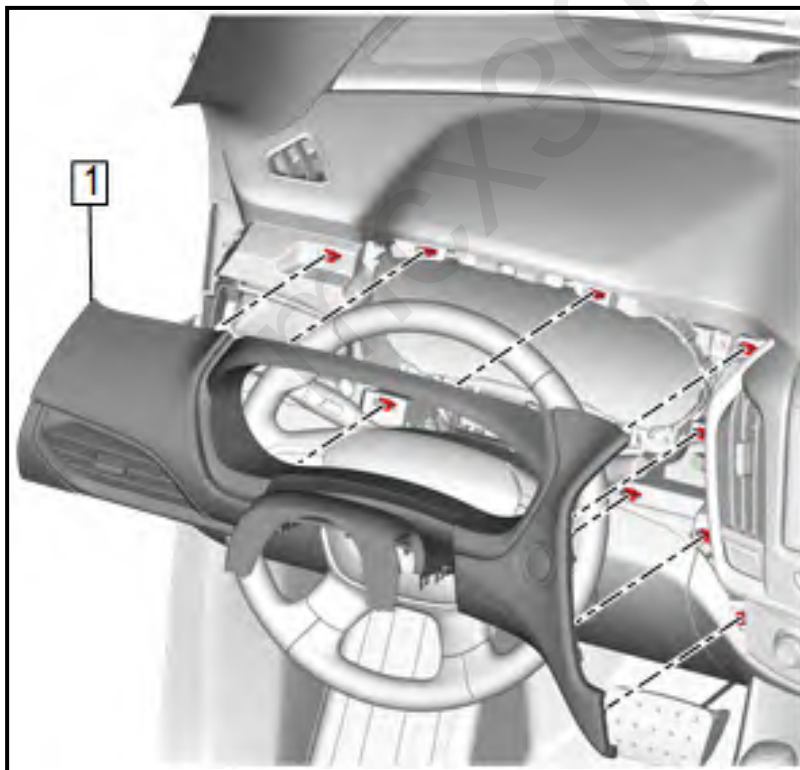


Instrument Panel Trim Pad - Left Side (1) - Remove

7. Use a plastic trim tool if necessary.
8. Disconnect the electrical connector.
9. Transfer components as necessary.

Installation Procedure

1.

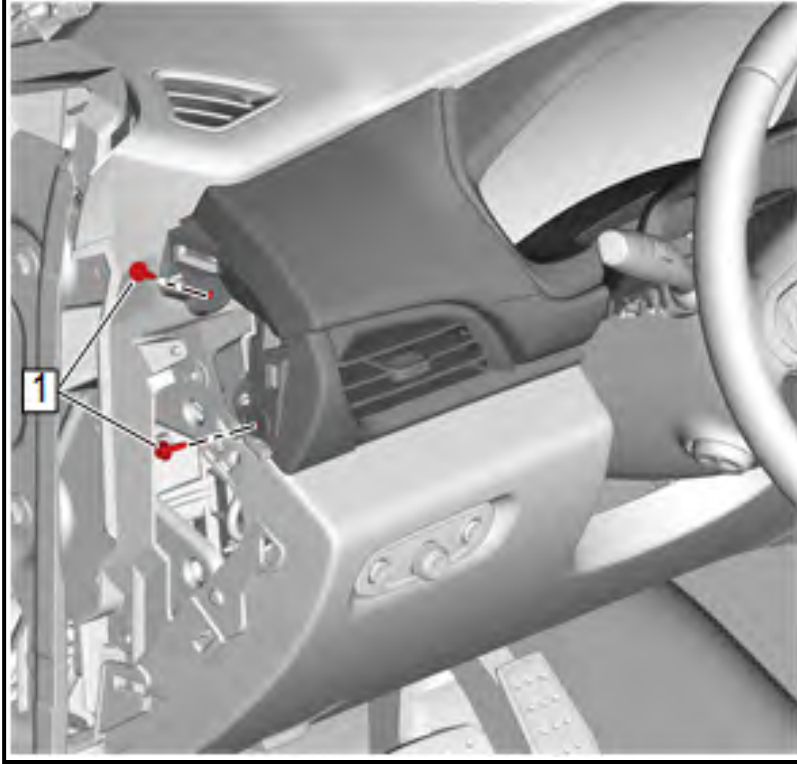


Connect the electrical connector.

2. Instrument Panel Trim Pad - Left Side (1) - Install

3.

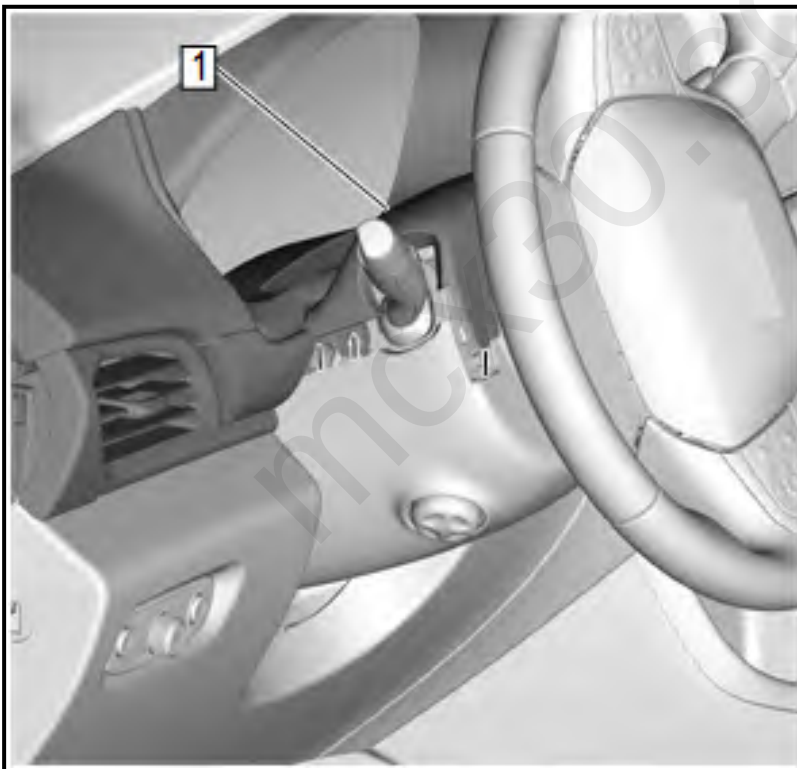




CAUTION: Refer to [Fastener Caution](#) .

Instrument Panel Upper Trim Pad Bolt (1) - Install and tighten [2x] 2.5 N.m (22 lb in)

4.



Steering Column Upper Trim Cover (1) - Install

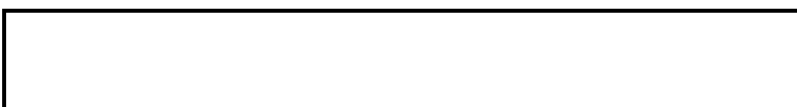
5. Instrument Panel Outer Trim Cover - Install - [Instrument Panel Outer Trim Cover Replacement](#)

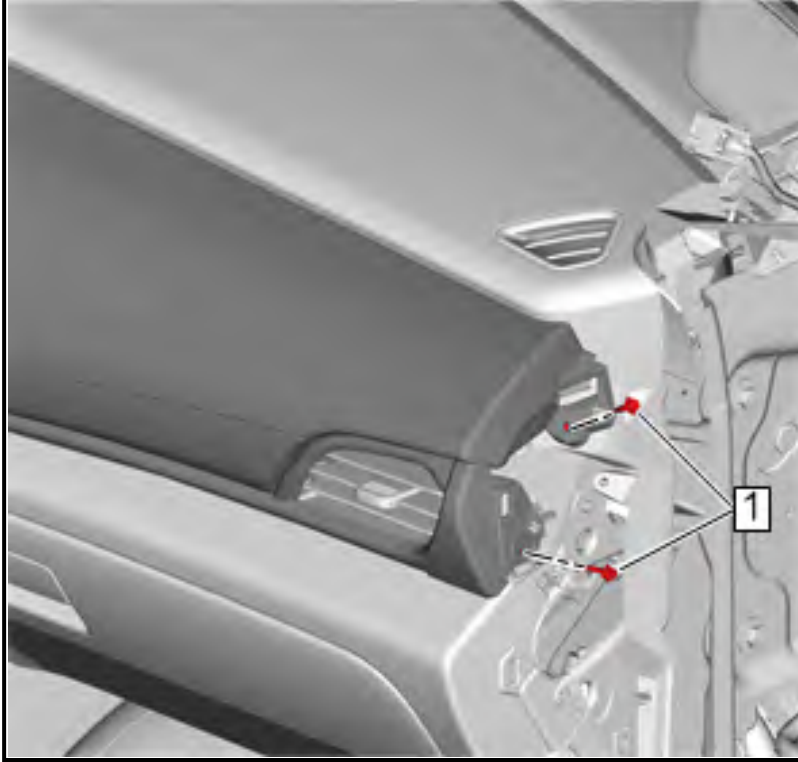
INSTRUMENT PANEL TRIM PAD REPLACEMENT - RIGHT SIDE

Removal Procedure

1. Instrument Panel Outer Trim Cover - Remove - [Instrument Panel Outer Trim Cover Replacement](#)

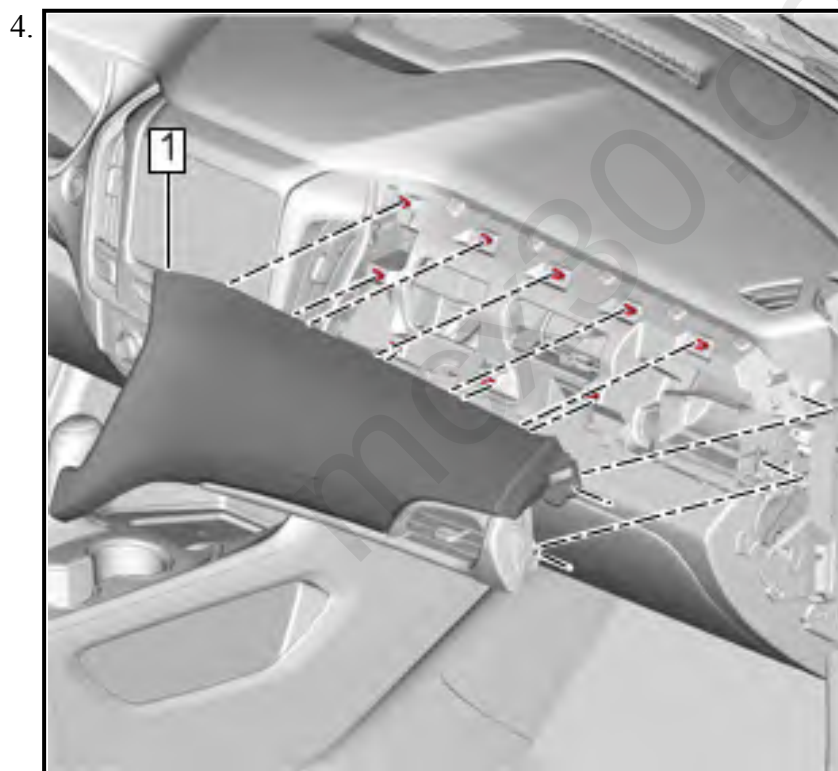
2.





Instrument Panel Upper Trim Pad Bolt (1) - Remove [2x]

3. Use a plastic trim tool to release the two guide pins.



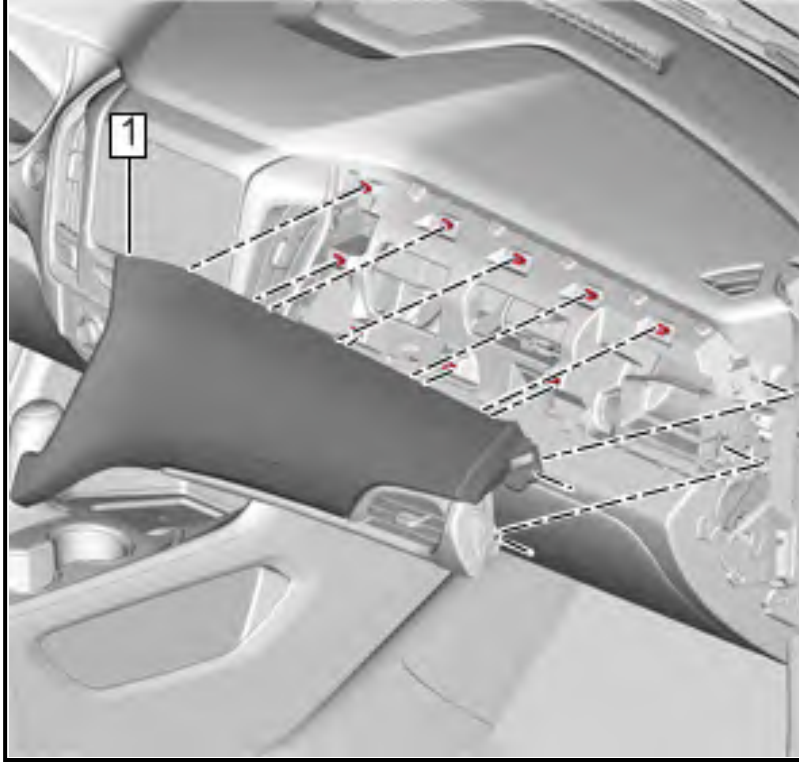
Instrument Panel Trim Pad (1) - Remove

5. Use a plastic trim tool if necessary.

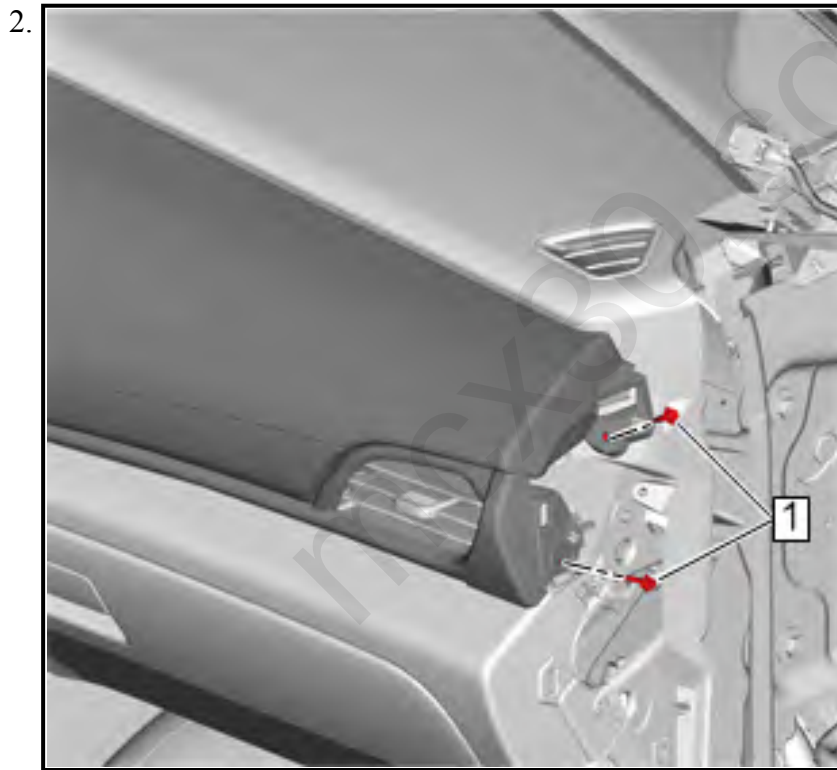
6. Transfer components as necessary.

Installation Procedure





Instrument Panel Trim Pad (1) - Install



CAUTION: Refer to [Fastener Caution](#) .

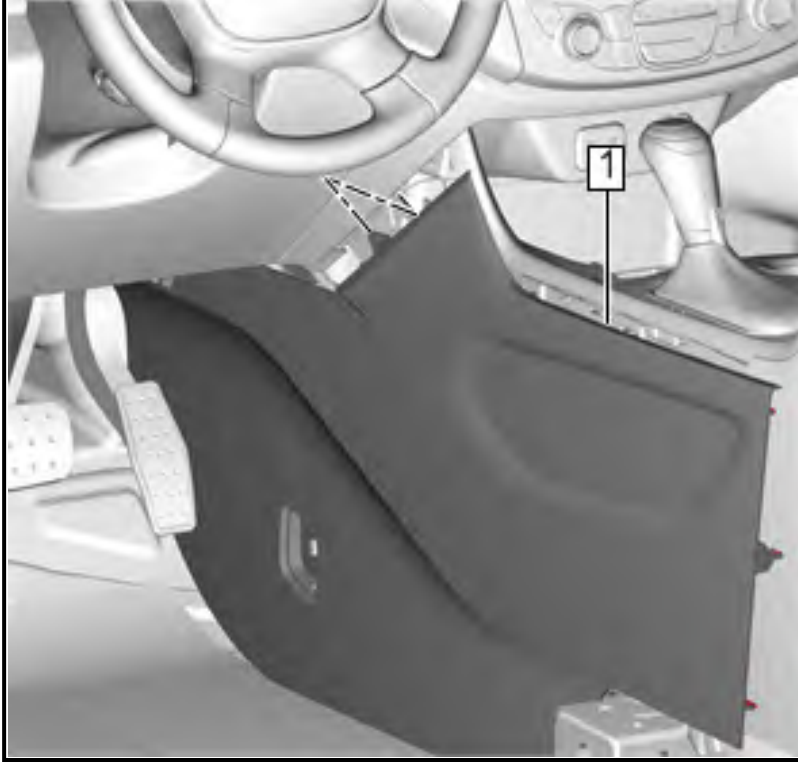
Instrument Panel Upper Trim Pad Bolt (1) - Install and tighten [2x] 2.5 N.m (22 lb in)

3. Instrument Panel Outer Trim Cover - Install - [Instrument Panel Outer Trim Cover Replacement](#)

INSTRUMENT PANEL ASSEMBLY REPLACEMENT

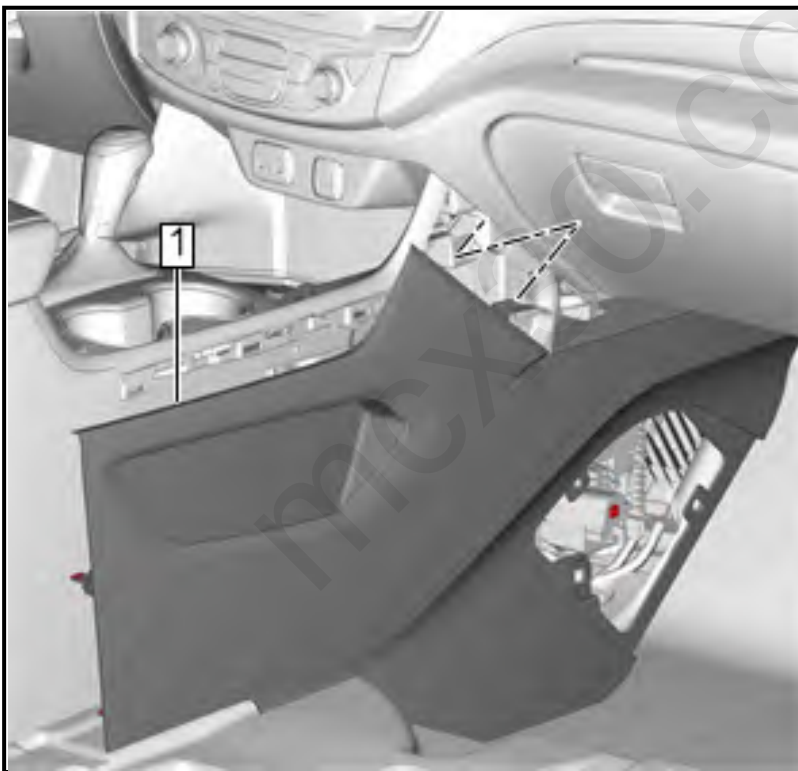
Removal Procedure





Front Floor Console Extension Panel - Left Side (1) - Remove - [Front Floor Console Extension Panel Replacement - Left Side](#)

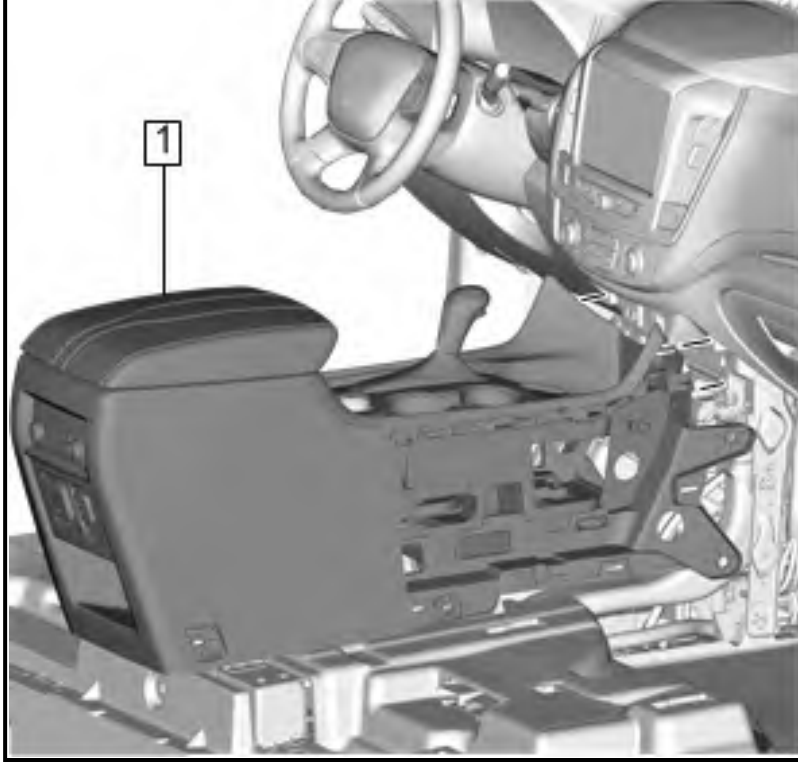
2.



Front Floor Console Extension Panel - Right Side (1) - Remove - [Front Floor Console Extension Panel Replacement - Right Side](#)

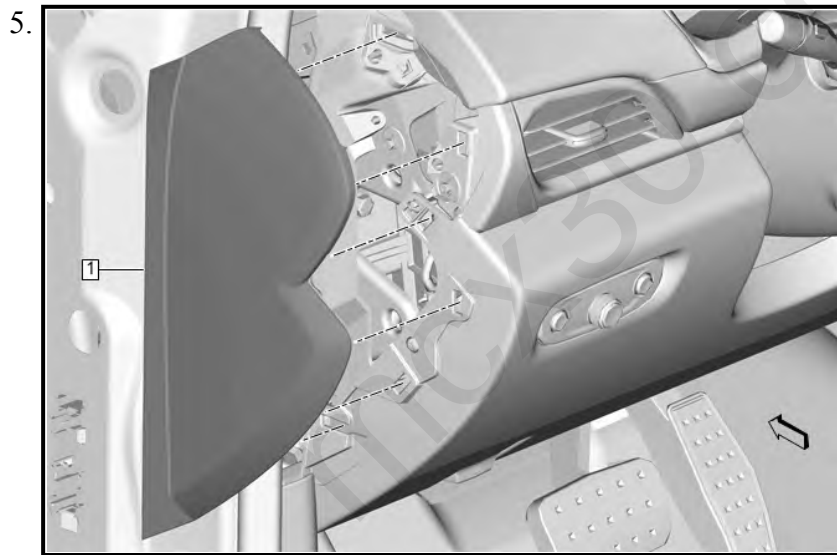
3.



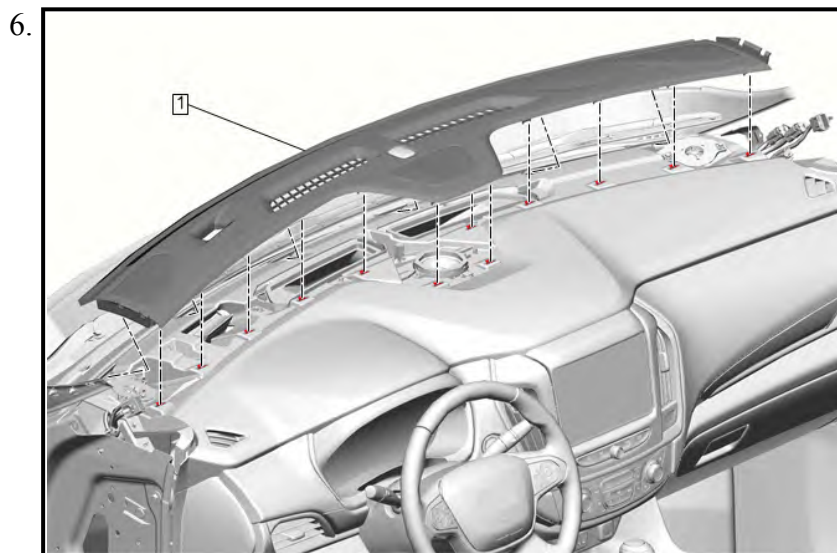


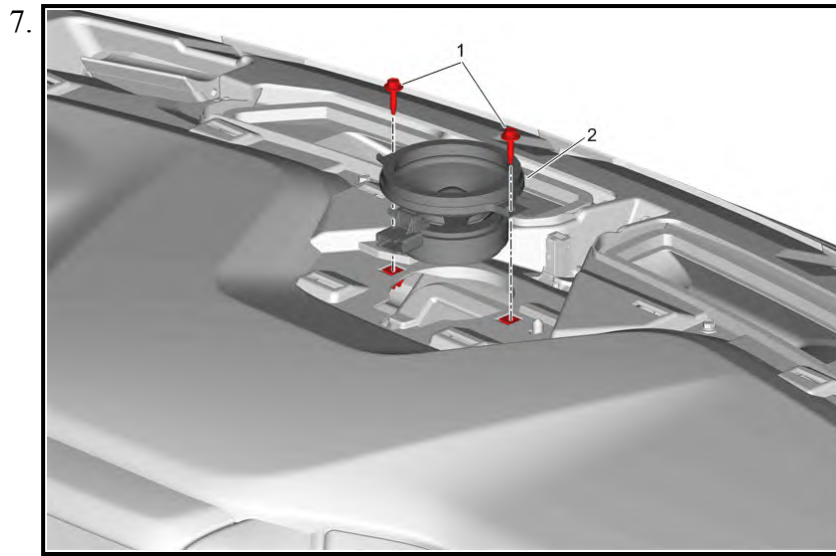
Front Floor Console (1) - Remove - [Front Floor Console Replacement](#)

4. Remove the left and right windshield garnish molding. [Windshield Garnish Molding Replacement](#)

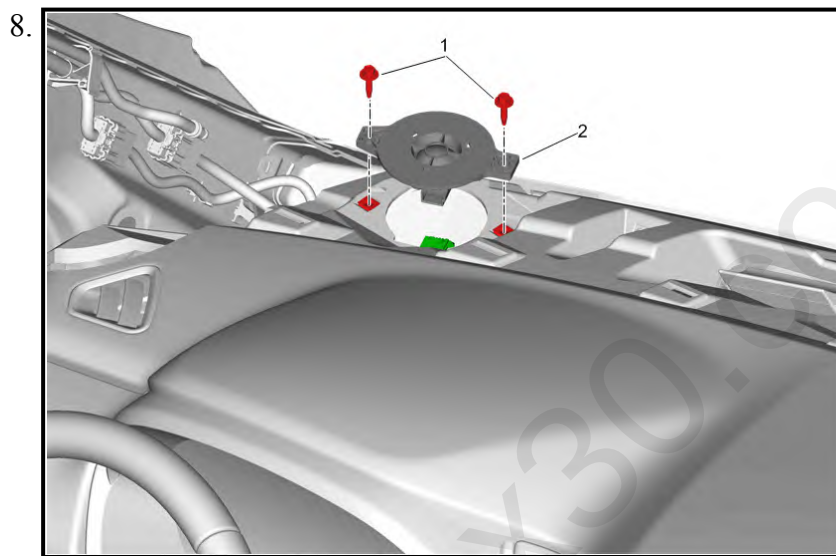


Remove the left and right instrument panel outer trim cover (1). [Instrument Panel Outer Trim Cover Replacement](#)

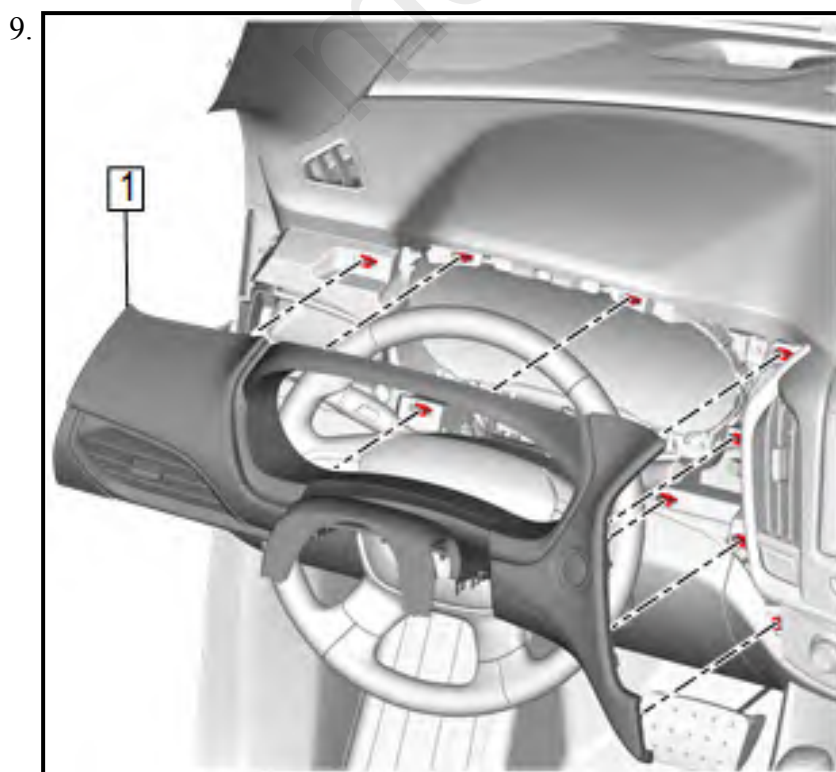




Radio Front Center Speaker (2) - Remove - [Radio Front Center Speaker Replacement](#)

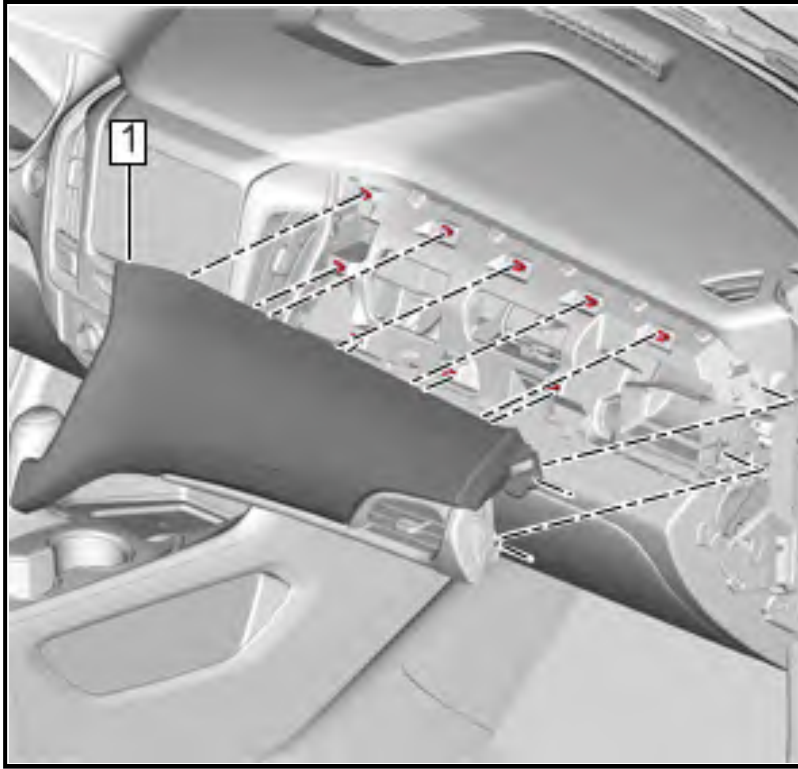


Remove the left and right radio front speaker (2). [Radio Front Speaker Replacement](#)



Instrument Panel Trim Pad - Left Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Left Side](#)

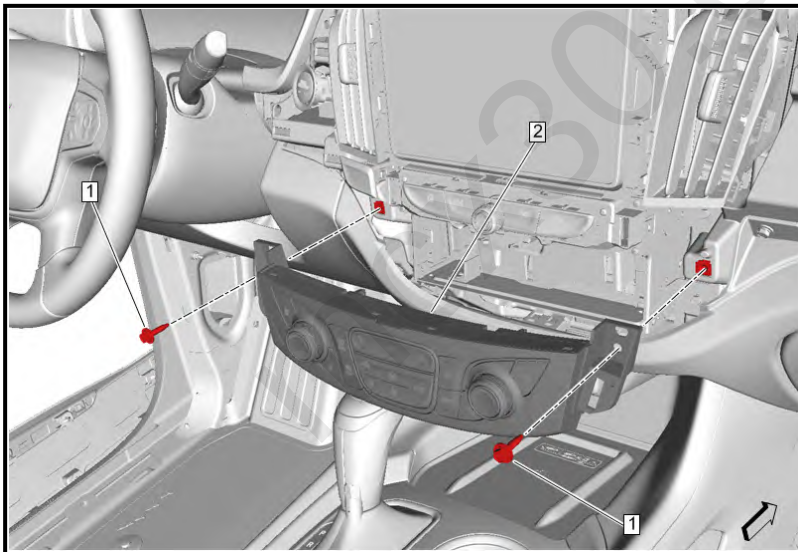
10.



Instrument Panel Trim Pad - Right Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Right Side](#)

11. Instrument Panel Radio Front Trim Plate - Remove - [Instrument Panel Radio Front Trim Plate Replacement \(RPO IOA\)](#)[Instrument Panel Radio Front Trim Plate Replacement \(RPO IO5, IO6\)](#)

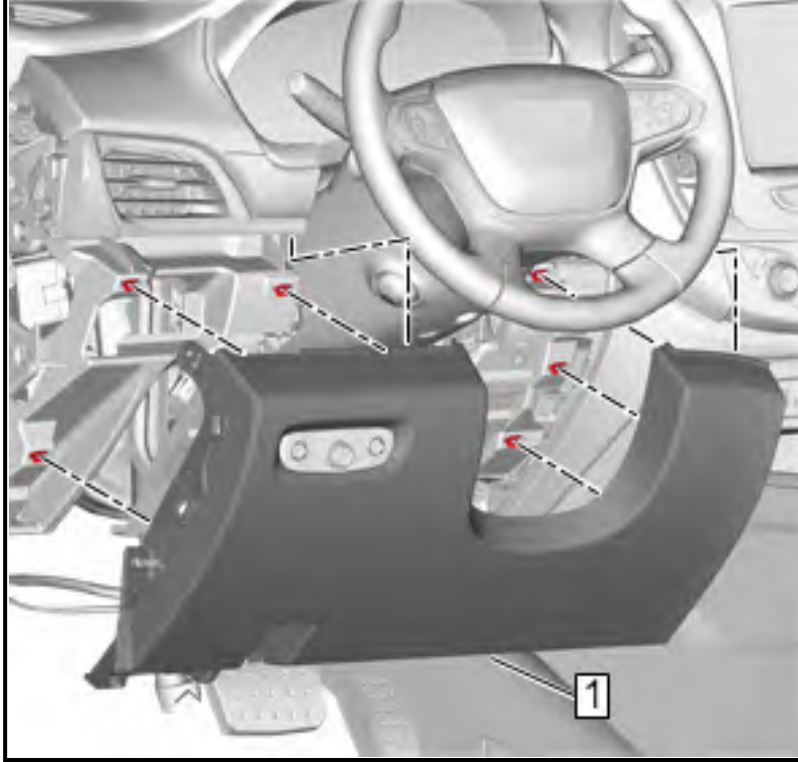
12.



Heater and Air Conditioning User Interface Control (2) - Remove - [Heater and Air Conditioning User Interface Control Replacement](#)

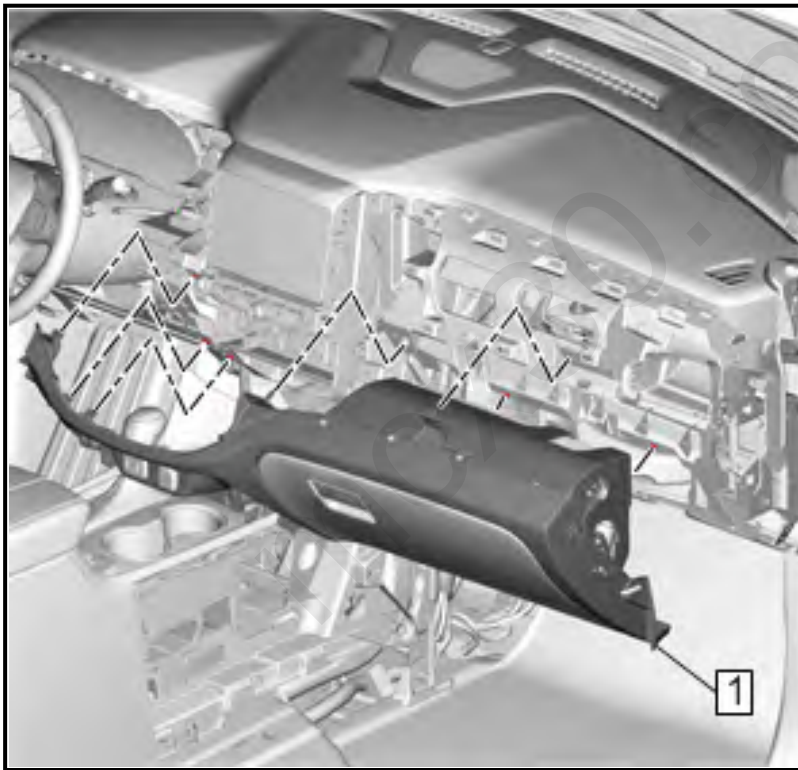
13.





Instrument Panel Knee Bolster (1) - Remove - [Instrument Panel Knee Bolster Replacement](#)

14.

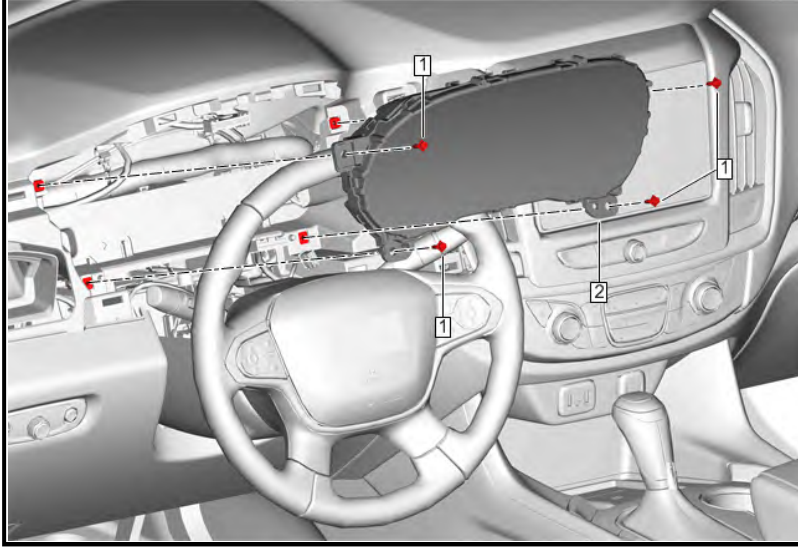


Instrument Panel Compartment Door Opening Frame (1) - Remove - [Instrument Panel Compartment Door Opening Frame Replacement](#)

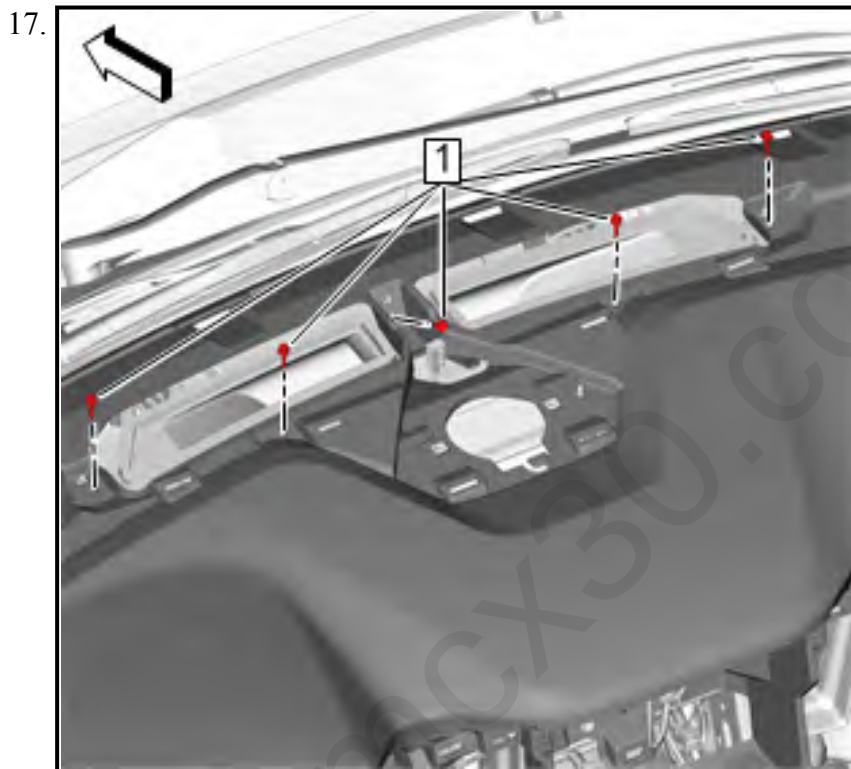
15. Radio Control Assembly - Remove - [Radio Control Assembly Replacement \(With IO5, IO6\)](#)

16.





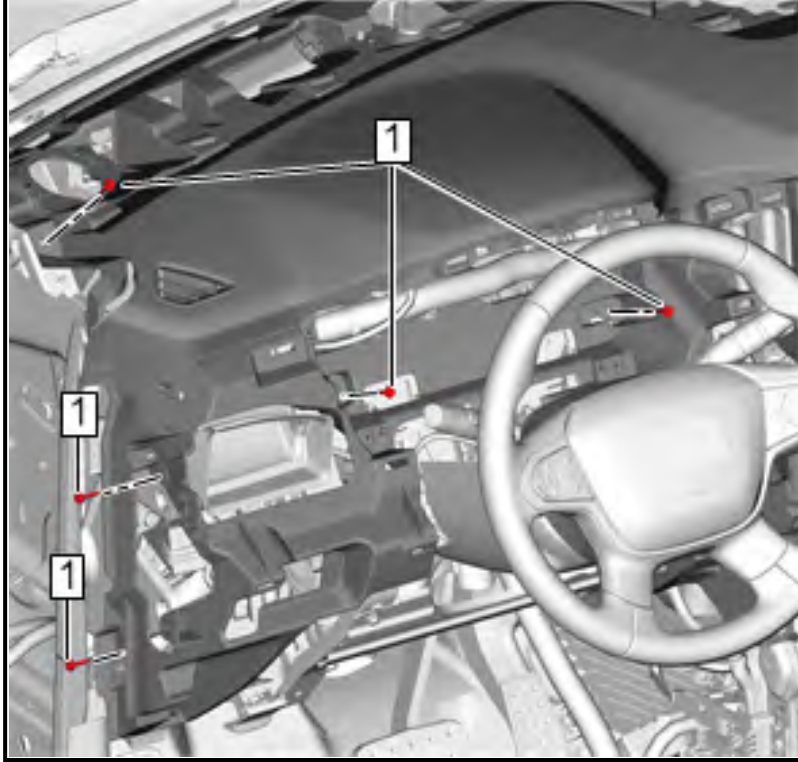
Instrument Cluster (2) - Remove - [Instrument Cluster Replacement](#)



Disconnect and reposition harness as necessary.

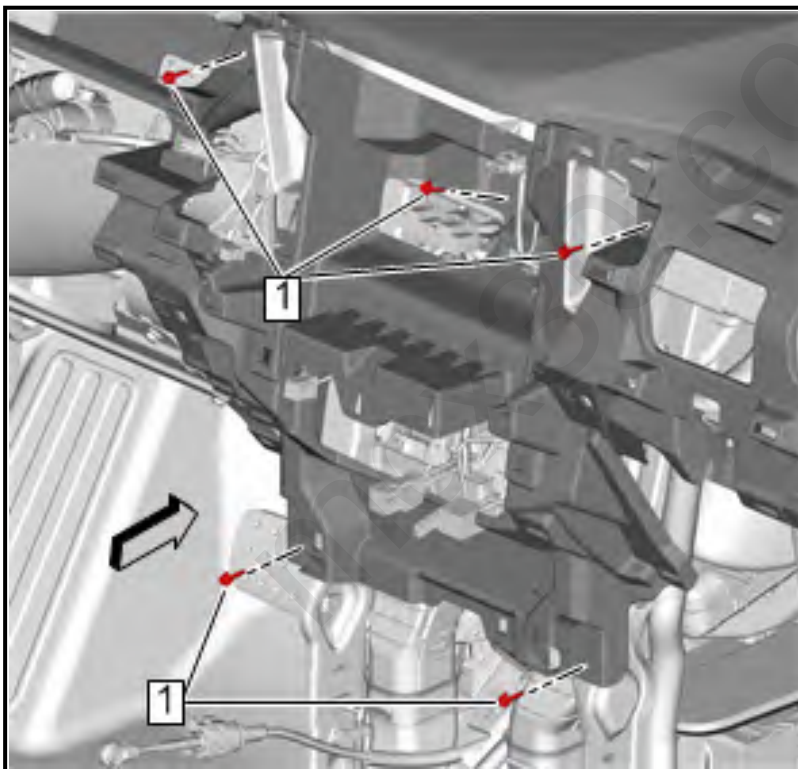
18. Instrument Panel Bolt (1) - Remove [5x]





Instrument Panel Bolt (1) - Remove [5x]

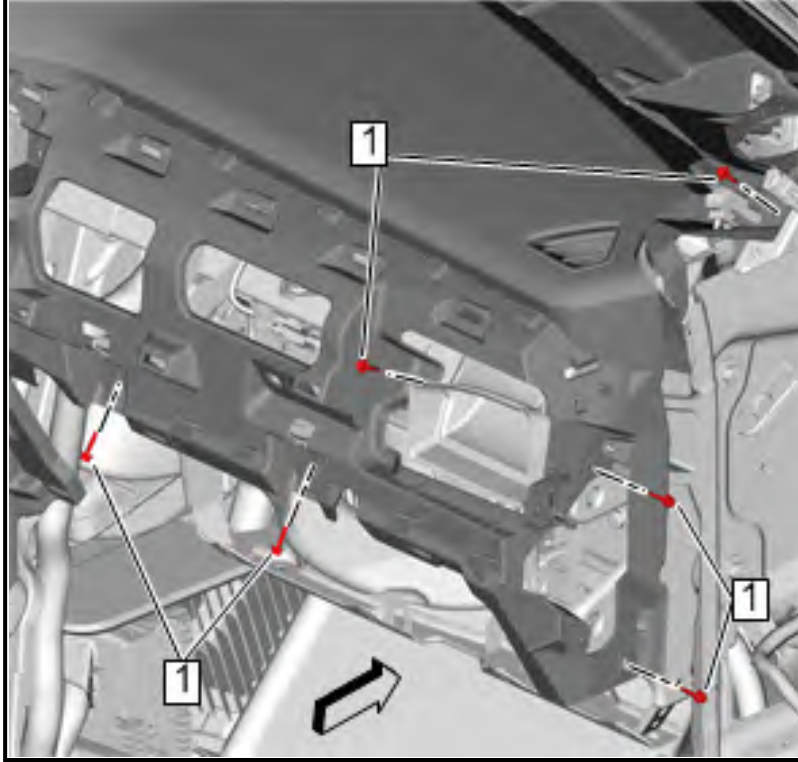
20.



Instrument Panel Bolt (1) - Remove [5x]

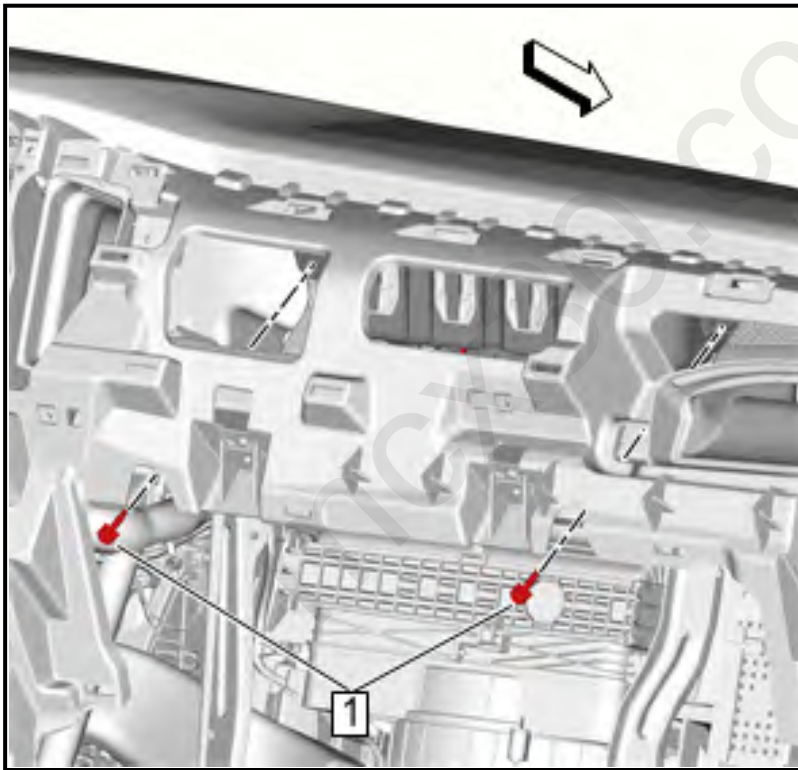
21.





Instrument Panel Bolt (1) - Remove [6x]

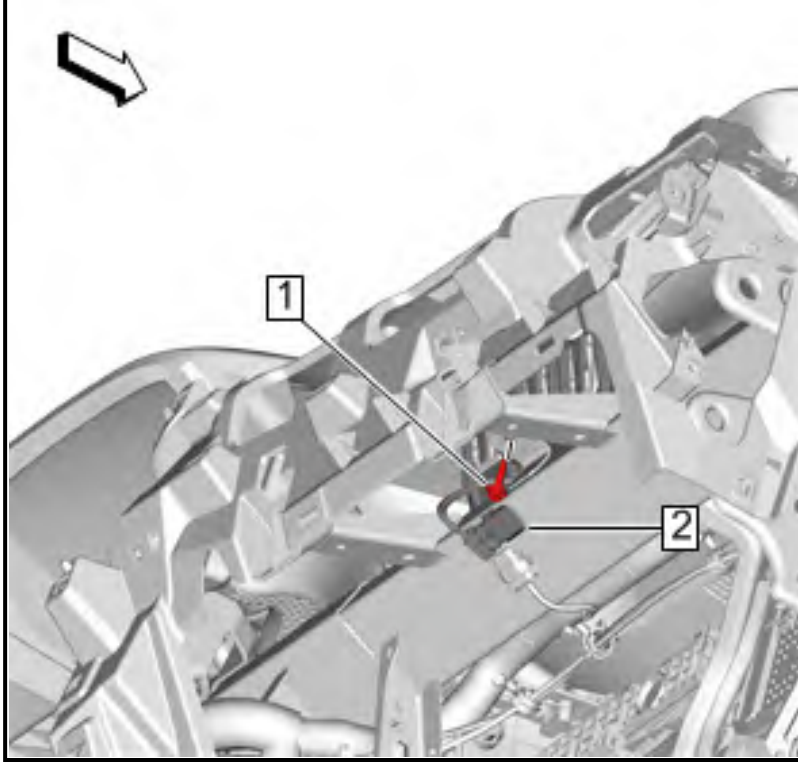
22.



Instrument Panel Airbag Bolt (1) - Remove [2x]

23.

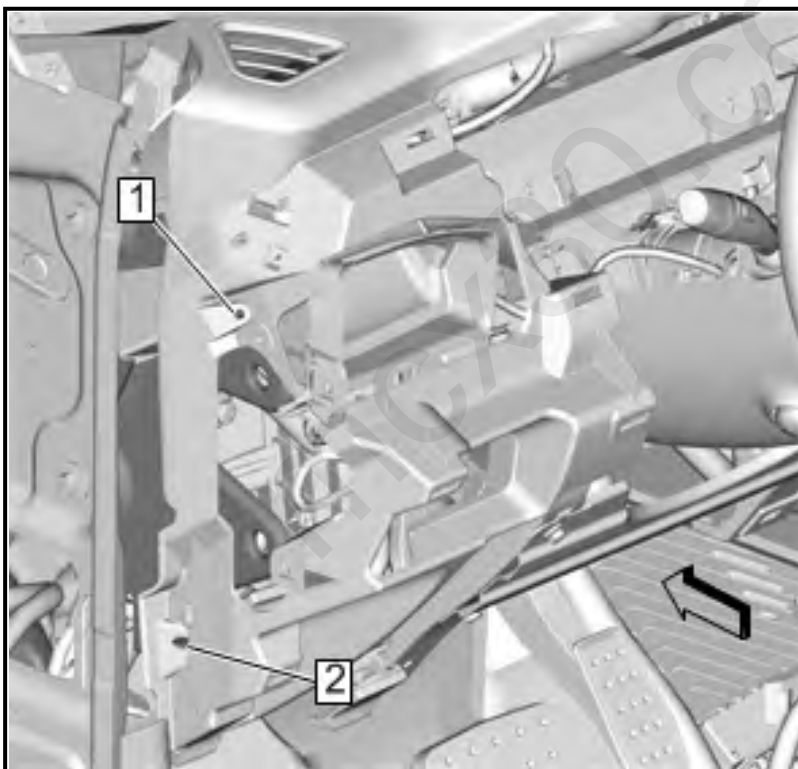




Instrument Panel Airbag Bolt (1) - Remove

24. Disconnect the instrument panel airbag electrical connector from the instrument panel harness. (2)

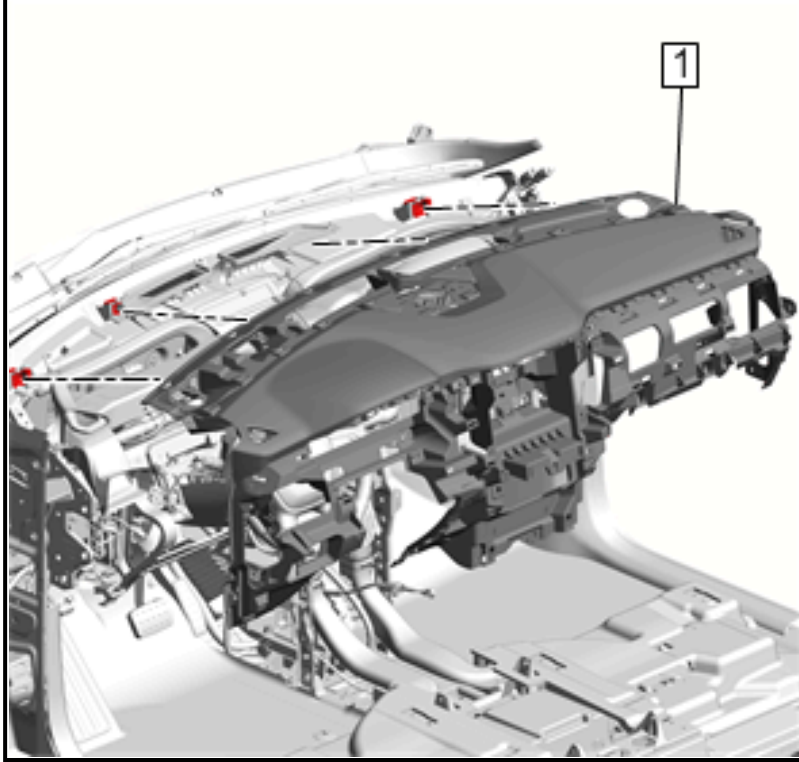
25.



Release the locator stud (1) and tie bar bracket tab (2) on both sides of the instrument panel.

26.

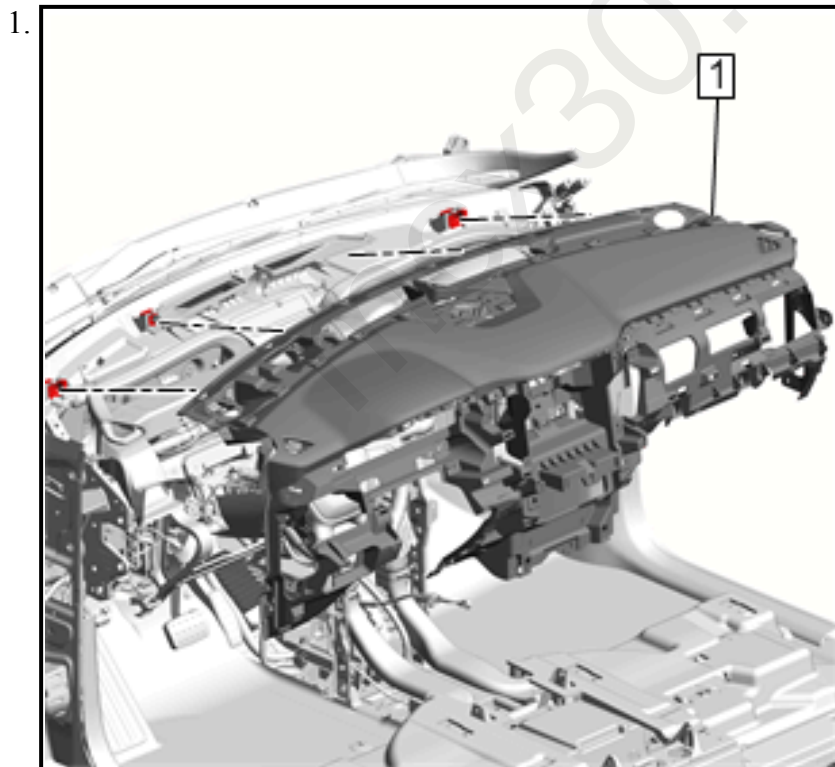




Instrument Panel (1) - Remove

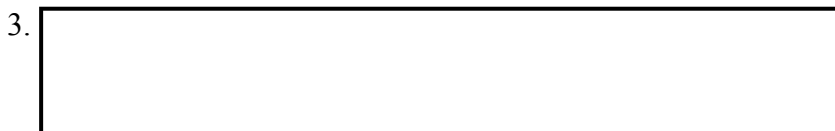
27. Note the location and routing of the wiring harness to ensure proper reinstallation.
28. With the aid of an assistant, lift the instrument panel (1) rearward and upward from the instrument panel tie bar.

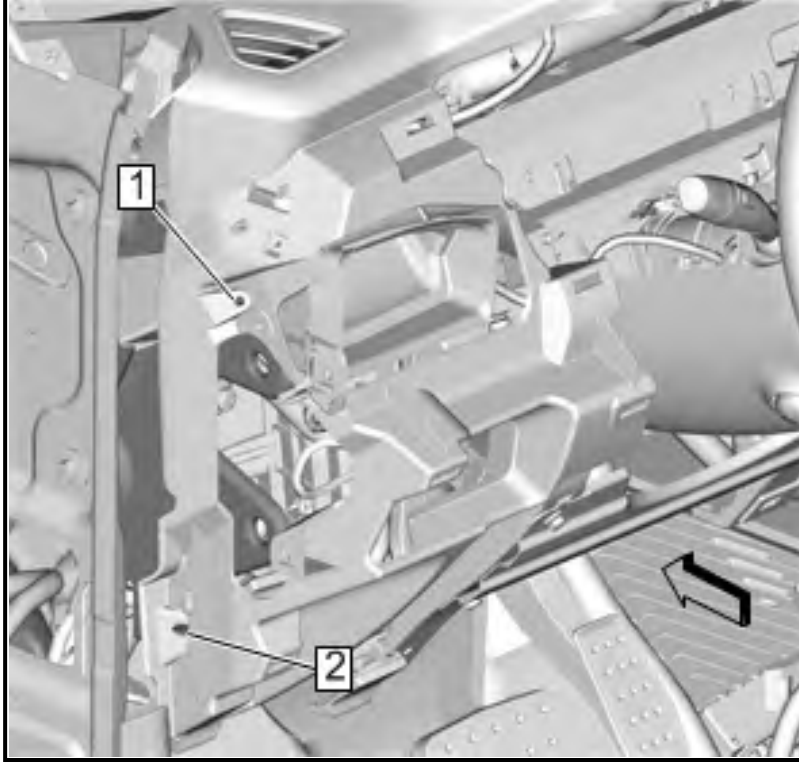
Installation Procedure



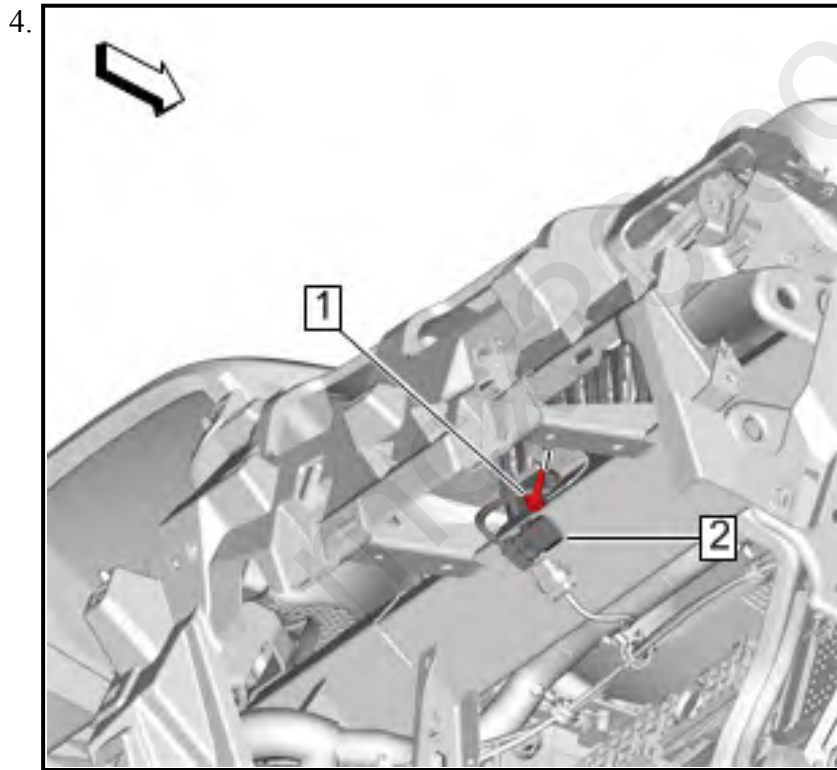
With the aid of an assistant, install the instrument panel (1) to the instrument panel tie bar and the locator pins.

2. Reposition the instrument panel wiring harness into the vehicle position as was noted in the removal and connect the fasteners securing the instrument panel wiring harness to the instrument panel (1).





Make sure the locator studs (1) and tie bar bracket tabs (2) are seated.

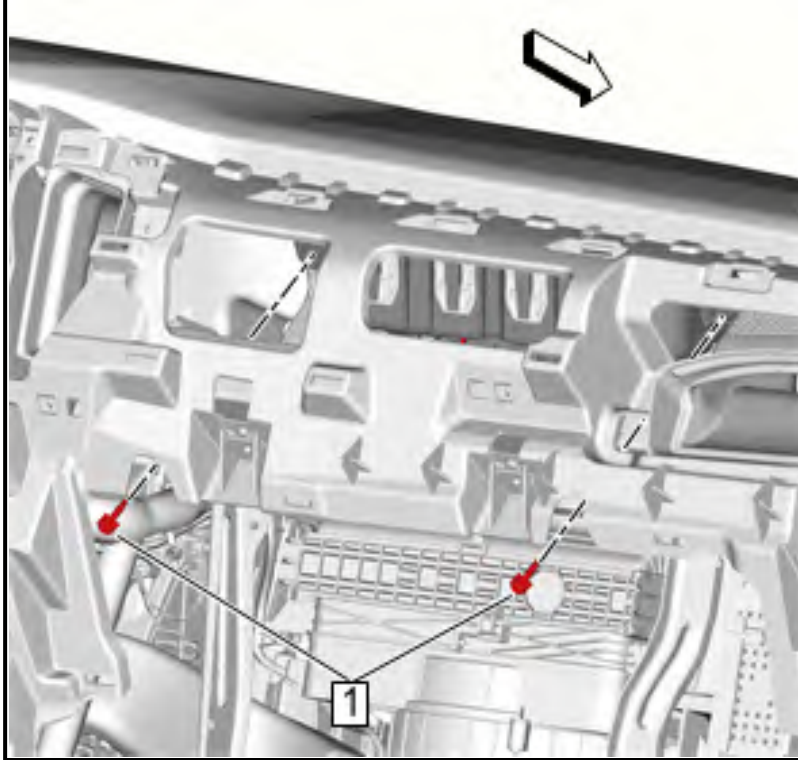


CAUTION: Refer to [Fastener Caution](#) .

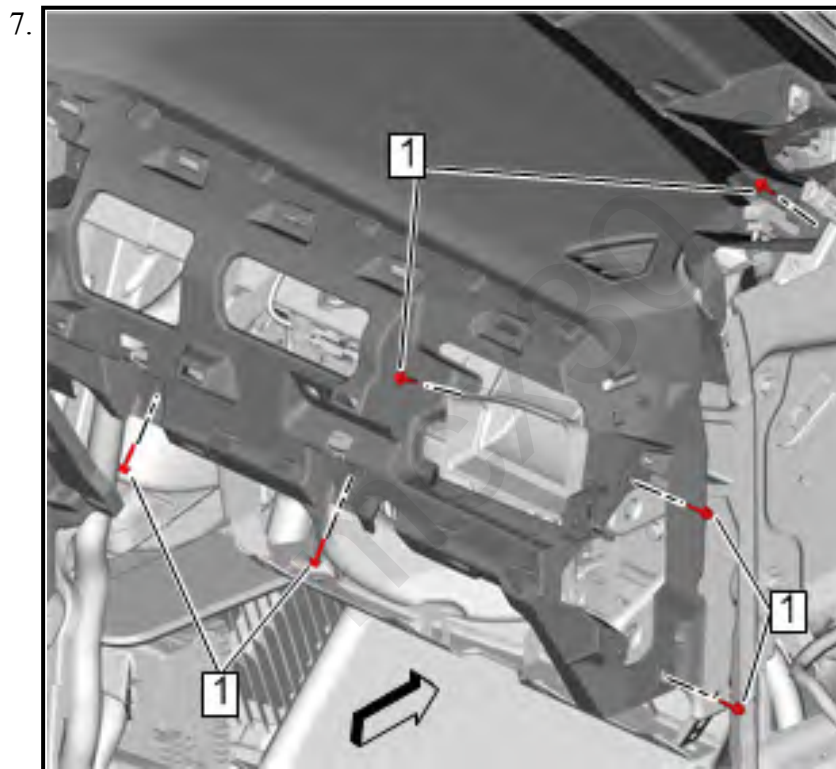
Instrument Panel Airbag Bolt (1) - Install and tighten 9 N.m (80 lb in)

5. Connect the instrument panel airbag electrical connector to the instrument panel harness. (2)



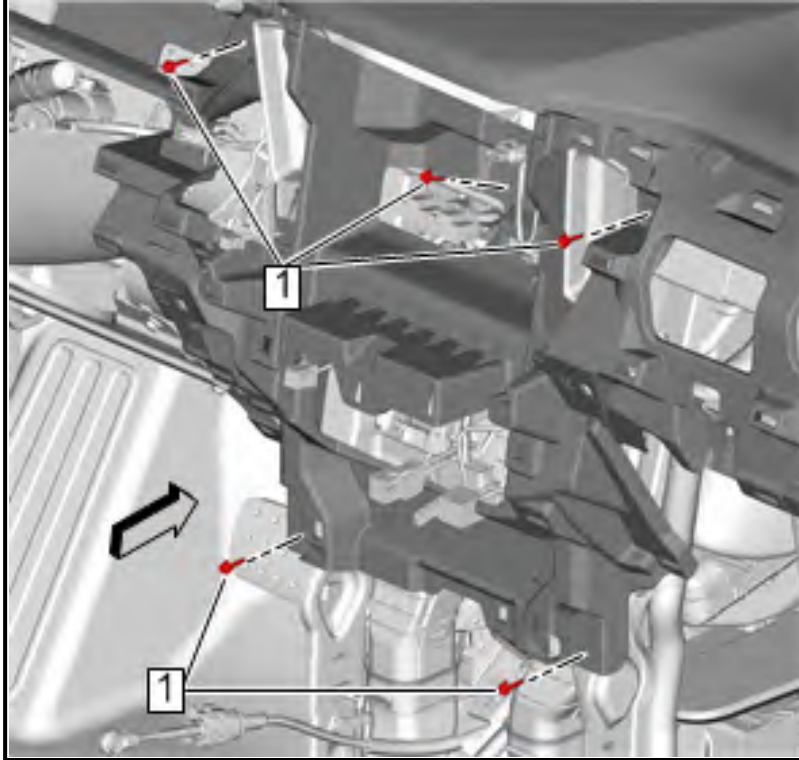


Instrument Panel Airbag Bolt (1) - Install and tighten [2x] 9 N.m (80 lb in)



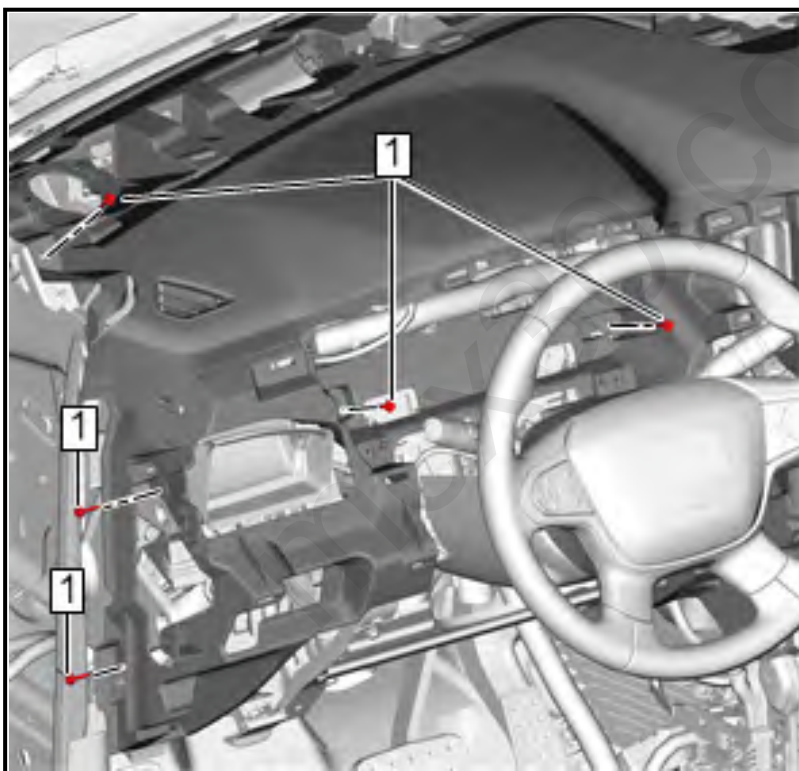
Instrument Panel Bolt (1) - Install and tighten [6x] 2.5 N.m (22 lb in)





Instrument Panel Bolt (1) - Install and tighten [5x] 2.5 N.m (22 lb in)

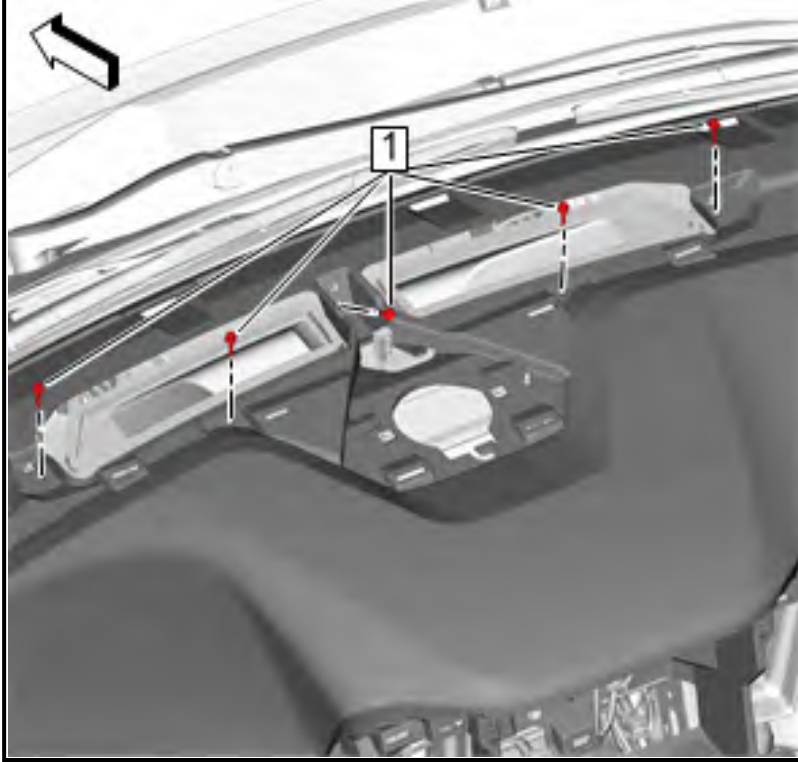
9.



Instrument Panel Bolt (1) - Install and tighten [5x] 2.5 N.m (22 lb in)

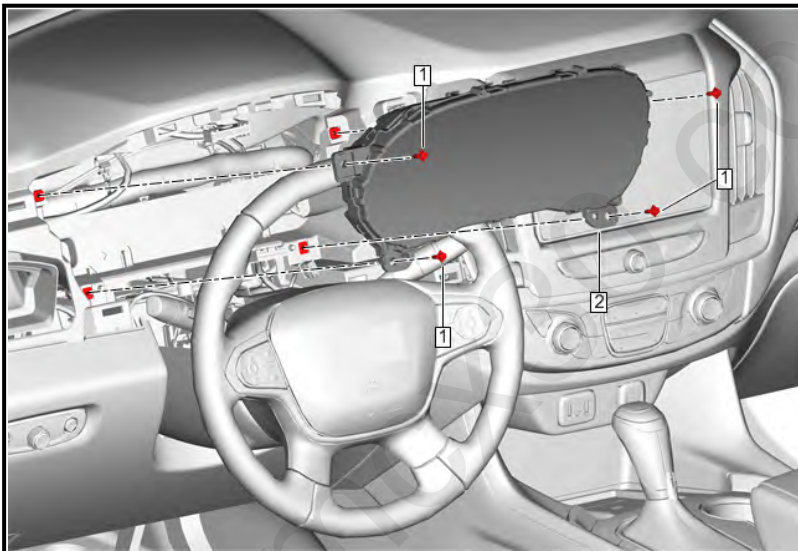
10.





Instrument Panel Bolt (1) - Install and tighten [5x] 2.5 N.m (22 lb in)

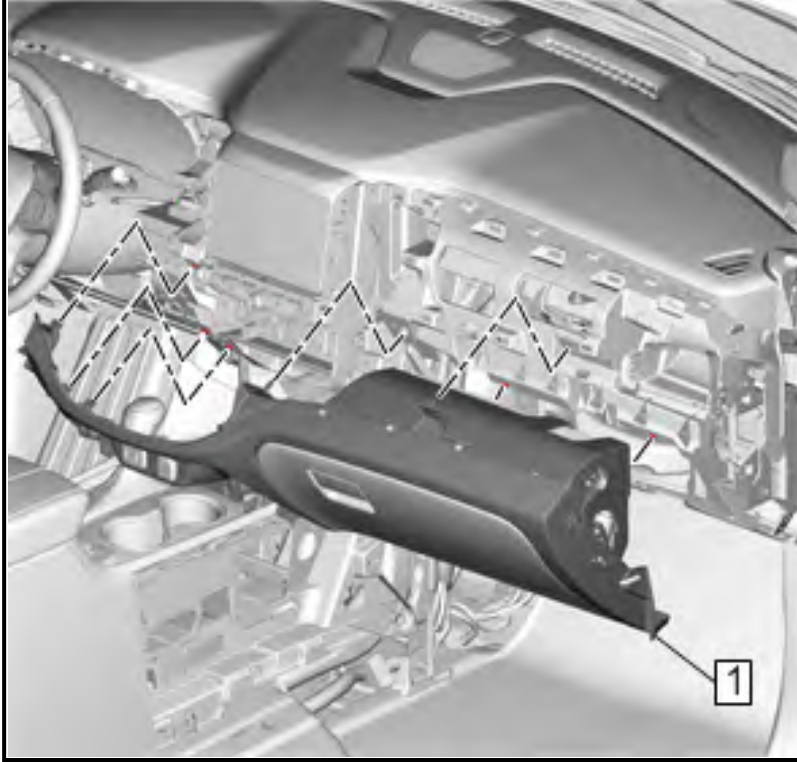
11.



Instrument Cluster (2) - Install - [Instrument Cluster Replacement](#)

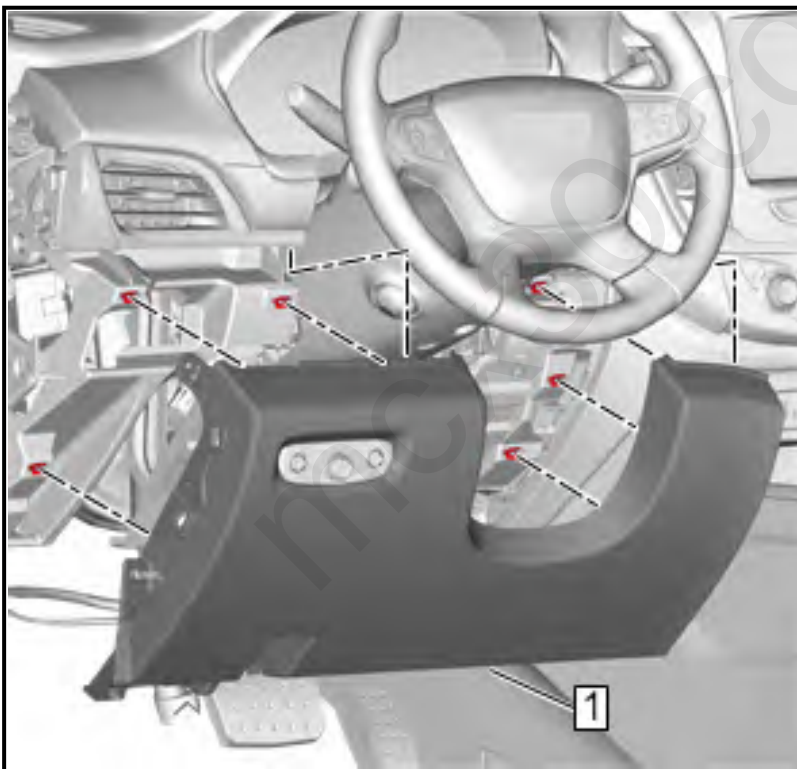
12.





Instrument Panel Compartment Door Opening Frame (1) - Install - [Instrument Panel Compartment Door Opening Frame Replacement](#)

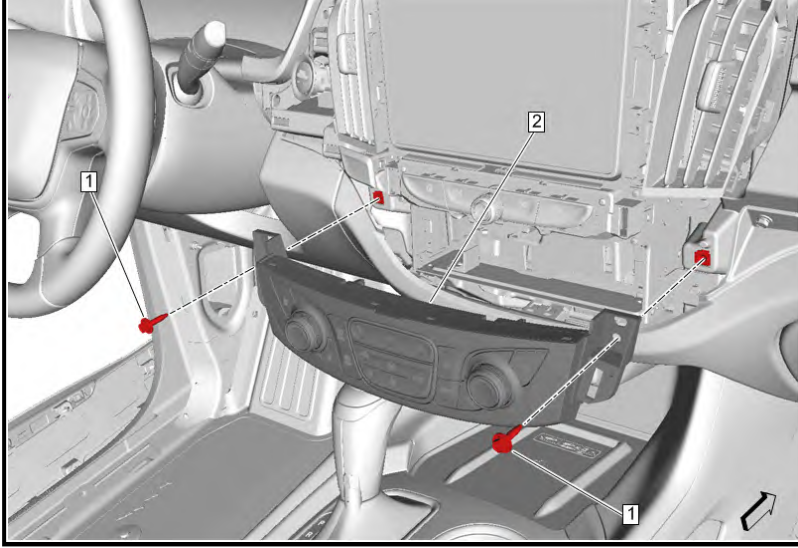
13.



Instrument Panel Knee Bolster (1) - Install - [Instrument Panel Knee Bolster Replacement](#)

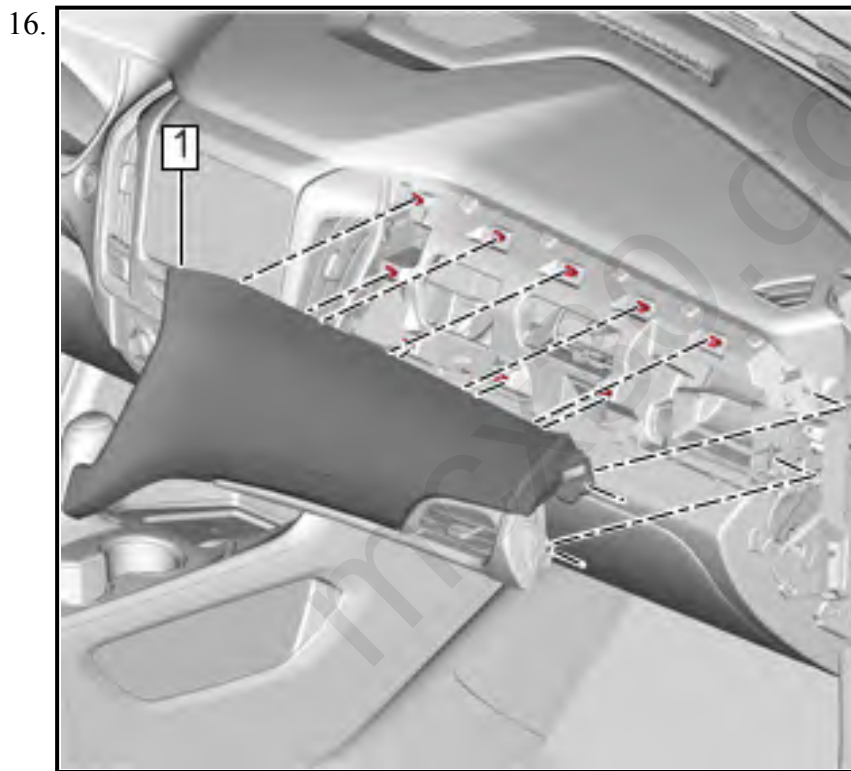
14.



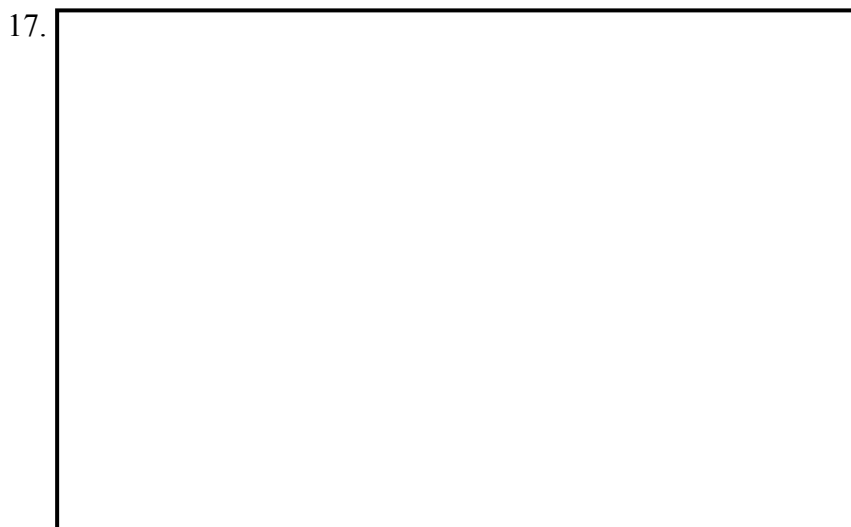


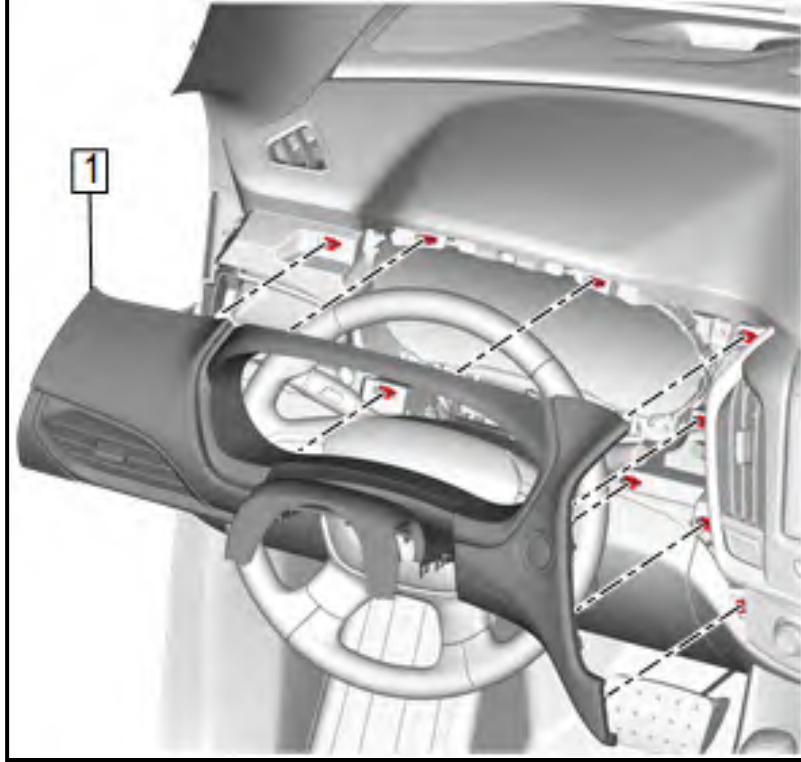
Heater and Air Conditioning User Interface Control (2) - Install - [Heater and Air Conditioning User Interface Control Replacement](#)

15. Instrument Panel Radio Front Trim Plate - Install - [Instrument Panel Radio Front Trim Plate Replacement \(RPO IOA\)](#)[Instrument Panel Radio Front Trim Plate Replacement \(RPO IO5, IO6\)](#)

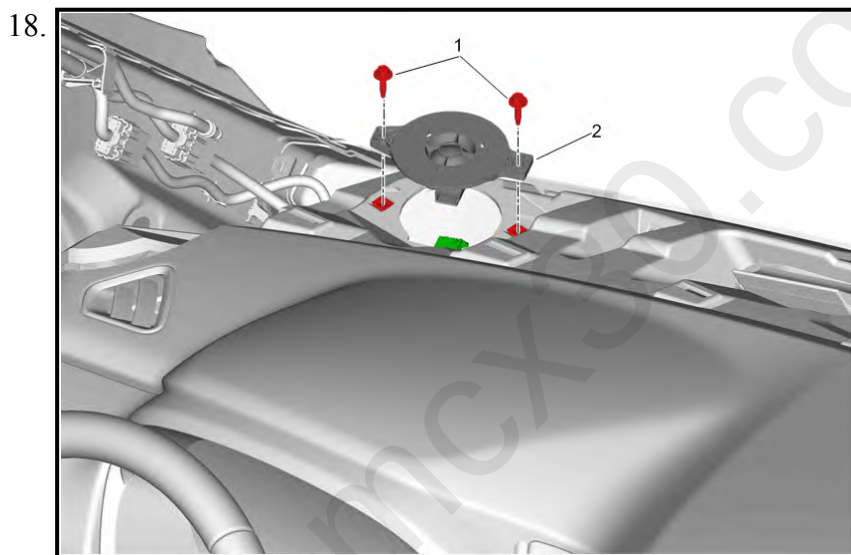


Instrument Panel Trim Pad - Right Side (1) - Install - [Instrument Panel Trim Pad Replacement - Right Side](#)

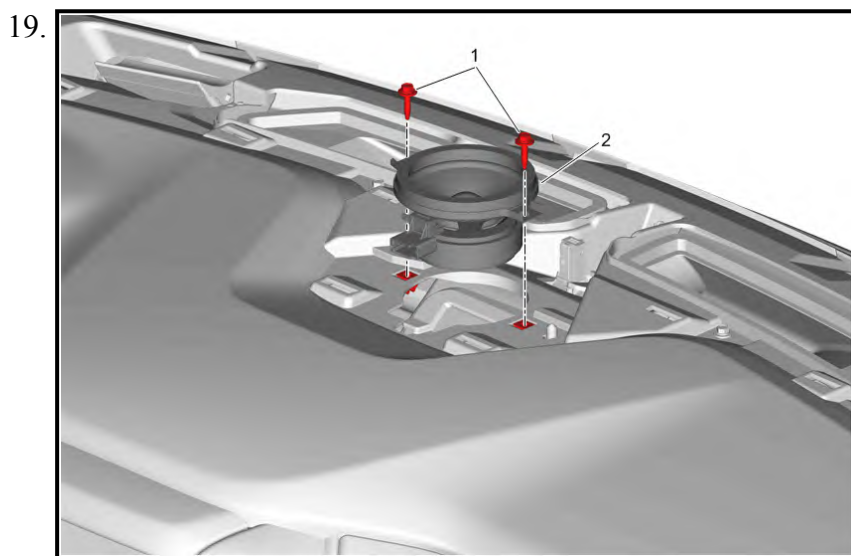




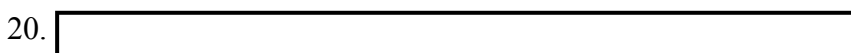
Instrument Panel Trim Pad - Left Side (1) - Install - [Instrument Panel Trim Pad Replacement - Left Side](#)

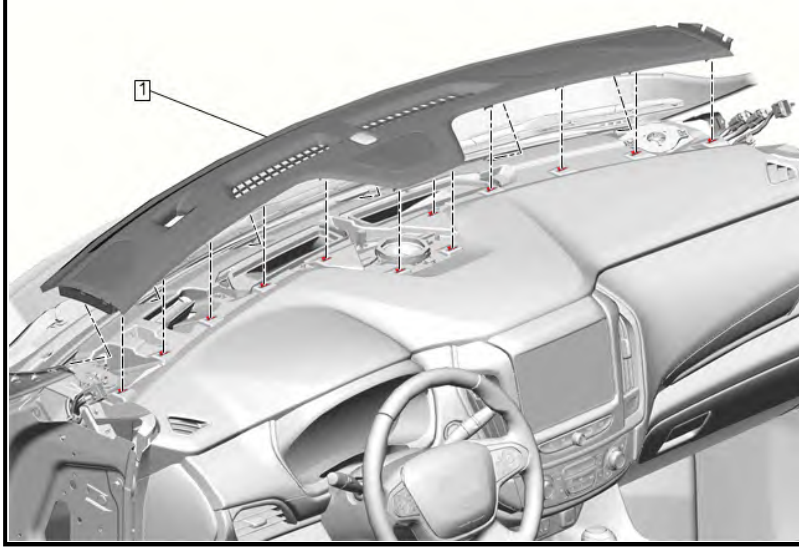


Install the left and right radio front speaker (2). [Radio Front Speaker Replacement](#)



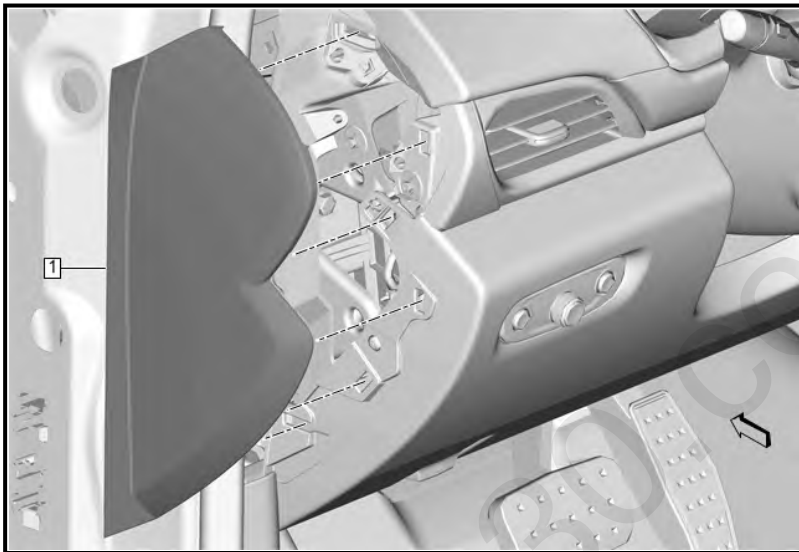
Radio Front Center Speaker (2) - Install - [Radio Front Center Speaker Replacement](#)





Instrument Panel Extension (1) - Install - [Instrument Panel Extension Replacement](#)

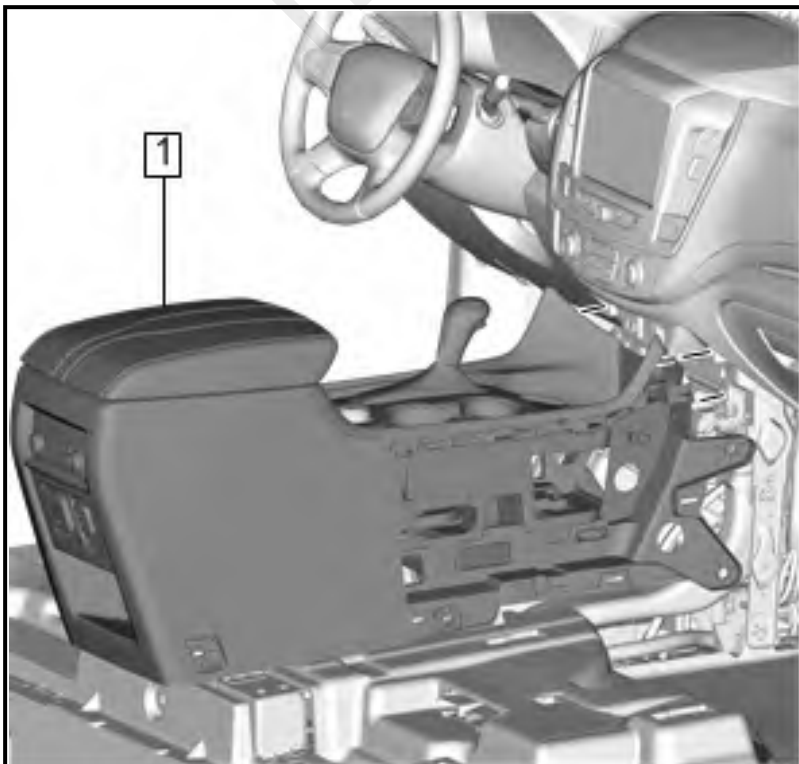
21.



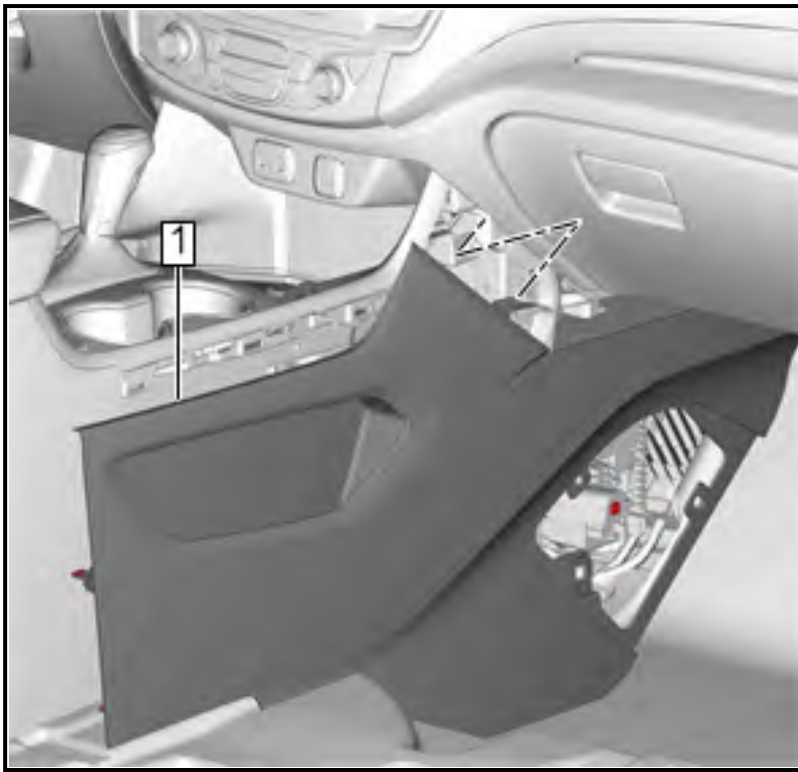
Install the left and right instrument panel outer trim cover (1). [Instrument Panel Outer Trim Cover Replacement](#)

22. Install the left and right windshield garnish molding. [Windshield Garnish Molding Replacement](#)

23.

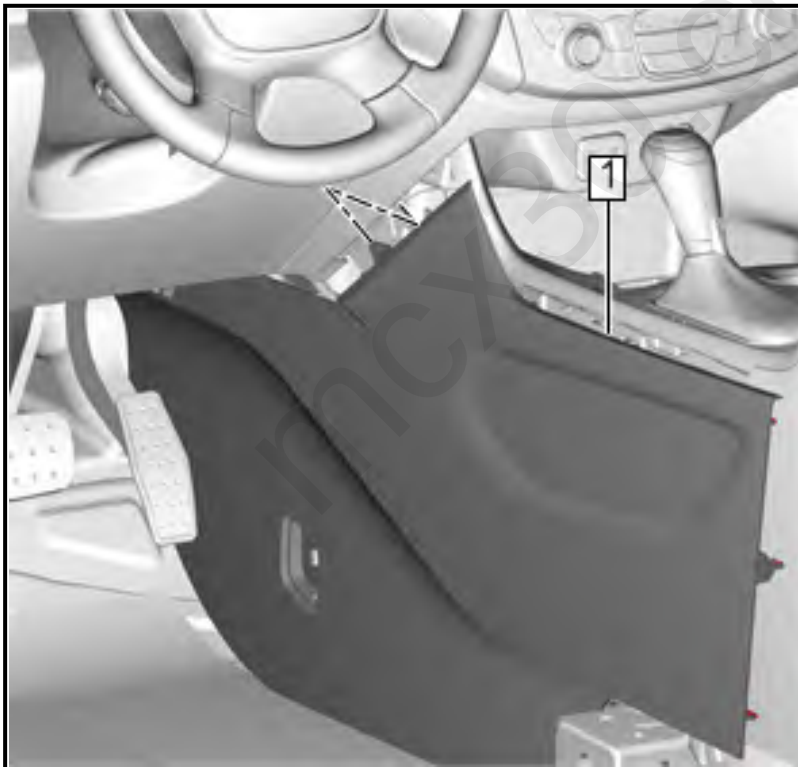


24.



Front Floor Console Extension Panel - Right Side (1) - Install - [Front Floor Console Extension Panel Replacement - Right Side](#)

25.



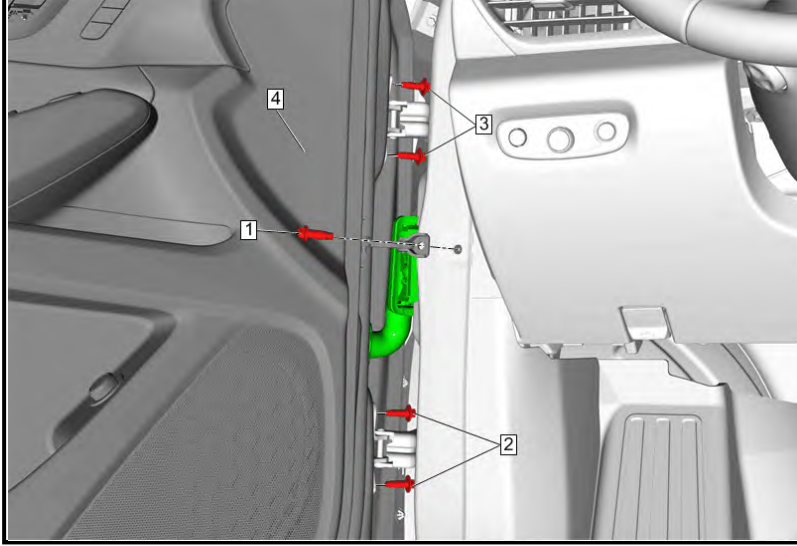
Front Floor Console Extension Panel - Left Side (1) - Install - [Front Floor Console Extension Panel Replacement - Left Side](#)

INSTRUMENT PANEL TIE BAR REPLACEMENT

Removal Procedure

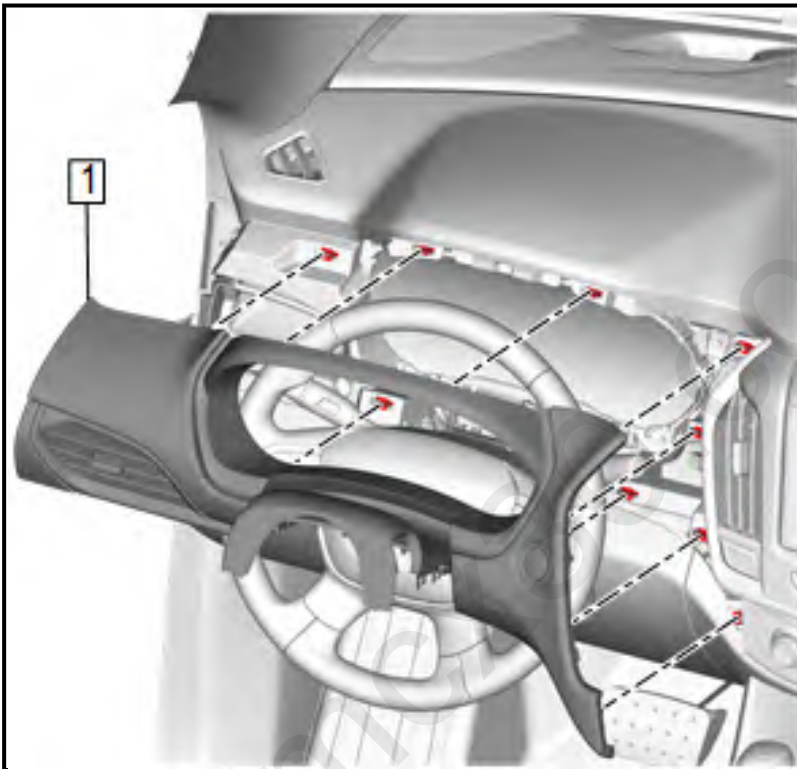
1.





Front Side Door (4) - Remove - [Front Side Door Replacement](#)

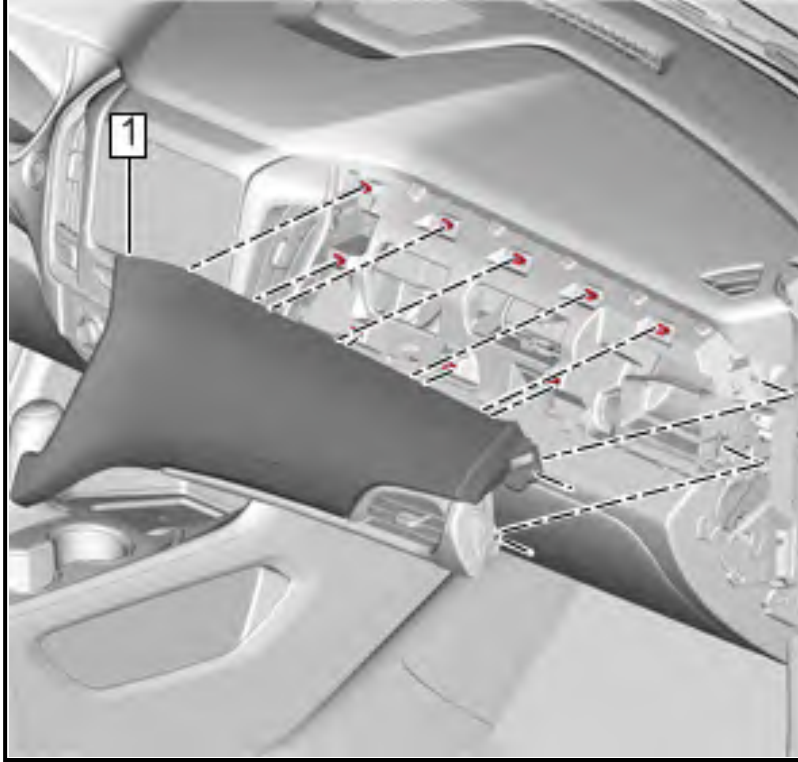
2.



Instrument Panel Trim Pad - Left Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Left Side](#)

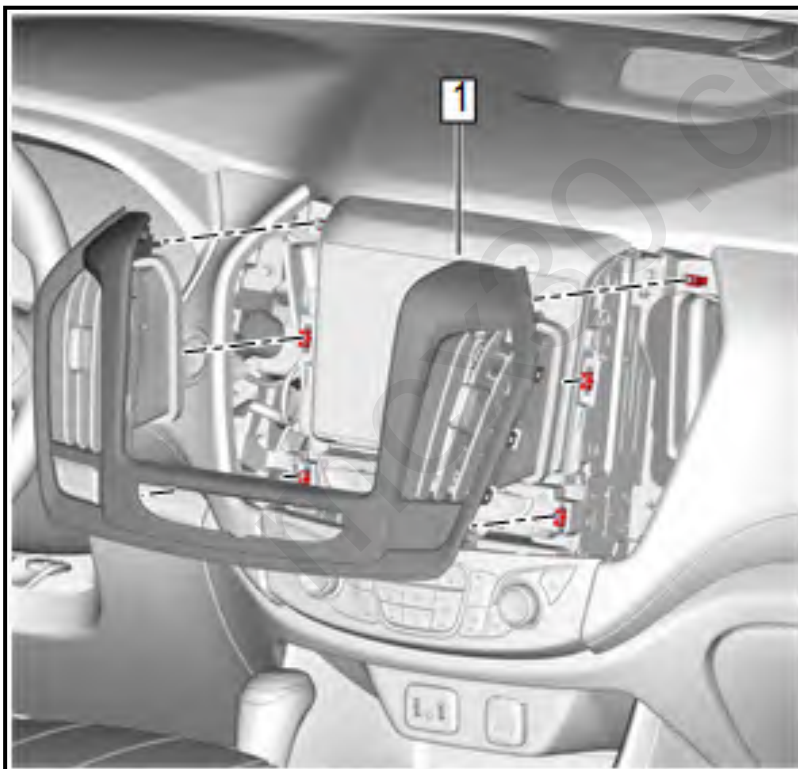
3.





Instrument Panel Trim Pad - Right Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Right Side](#)

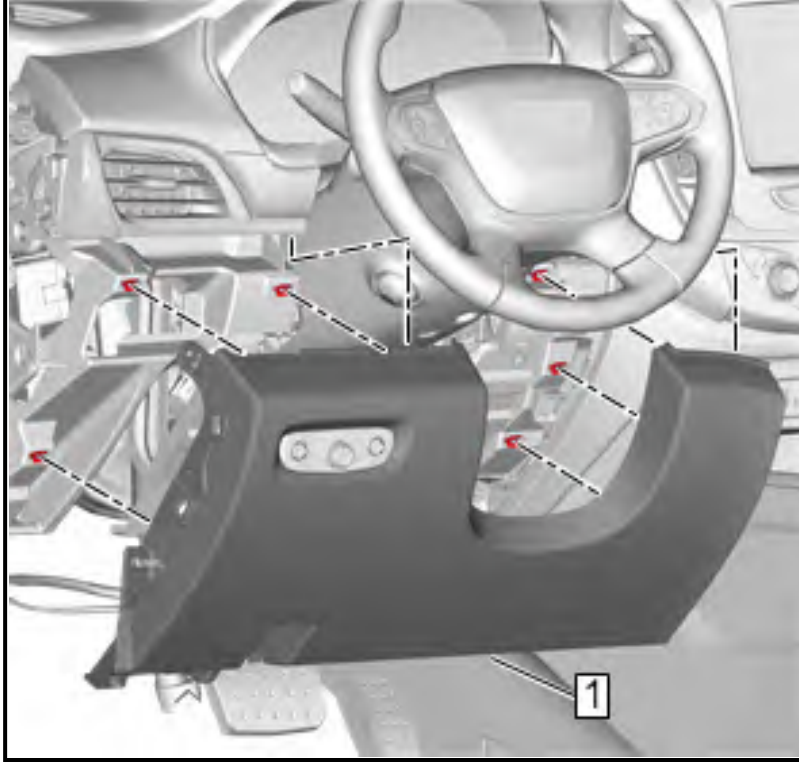
4.



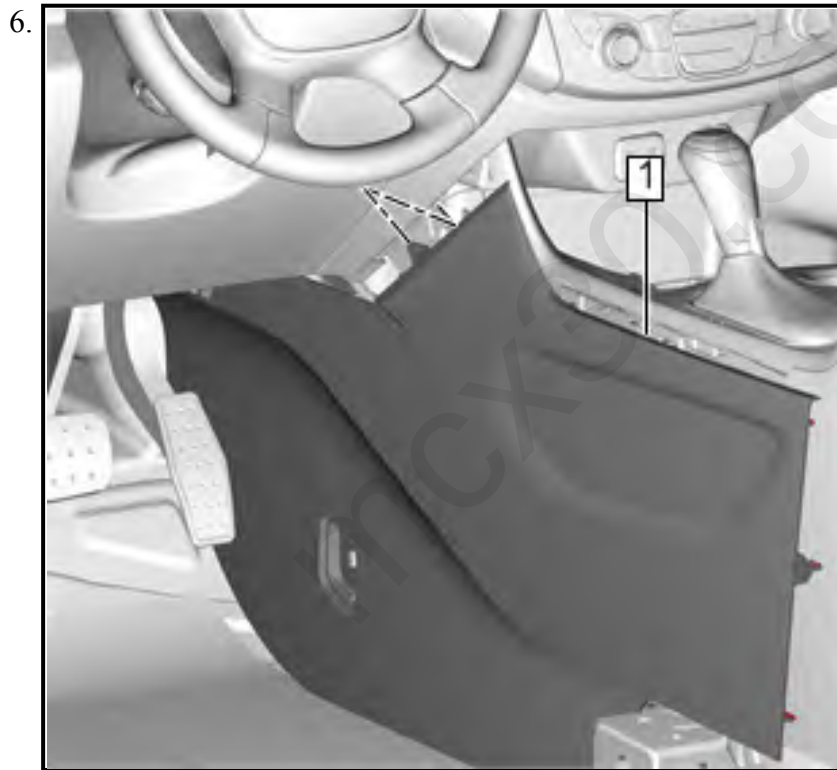
Instrument Panel Radio Front Trim Plate (1) - Remove - [Instrument Panel Radio Front Trim Plate Replacement \(RPO IOA\)](#)[Instrument Panel Radio Front Trim Plate Replacement \(RPO IO5, IO6\)](#)

5.



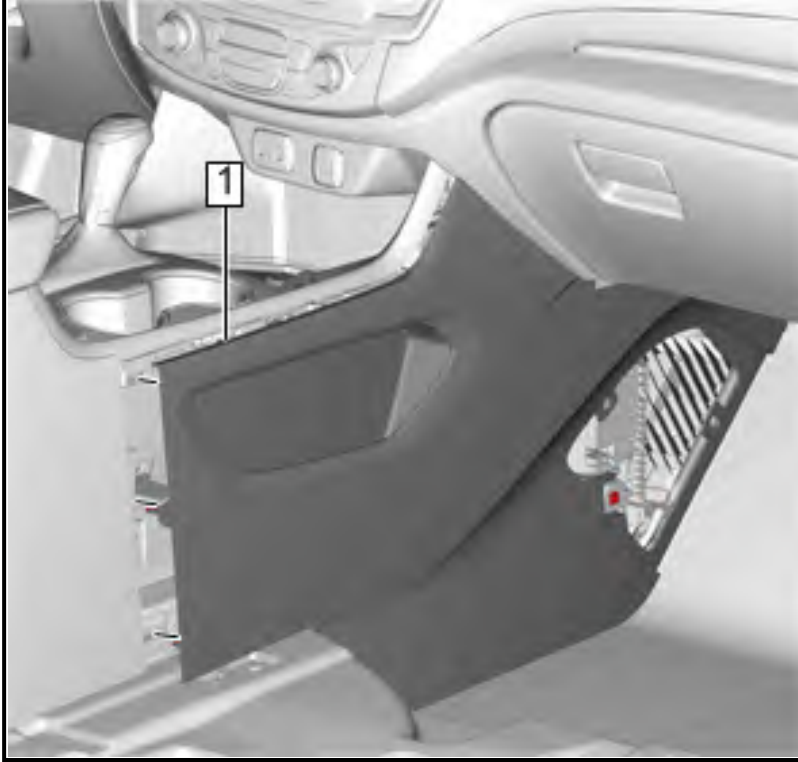


Instrument Panel Knee Bolster (1) - Remove - [Instrument Panel Knee Bolster Replacement](#)

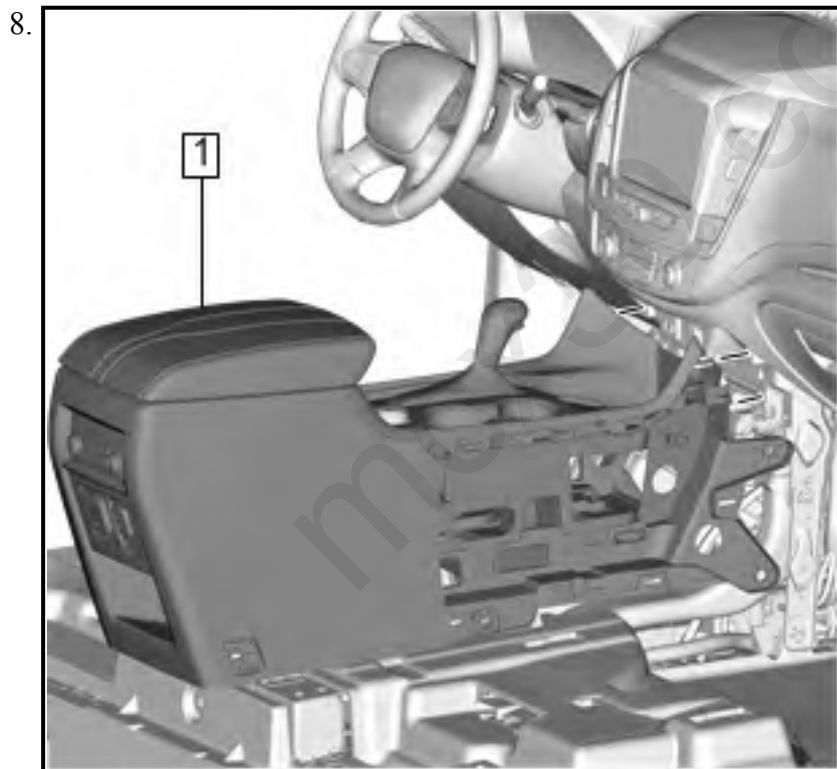


Front Floor Console Extension Panel - Left Side (1) - Remove - [Front Floor Console Extension Panel Replacement - Left Side](#)



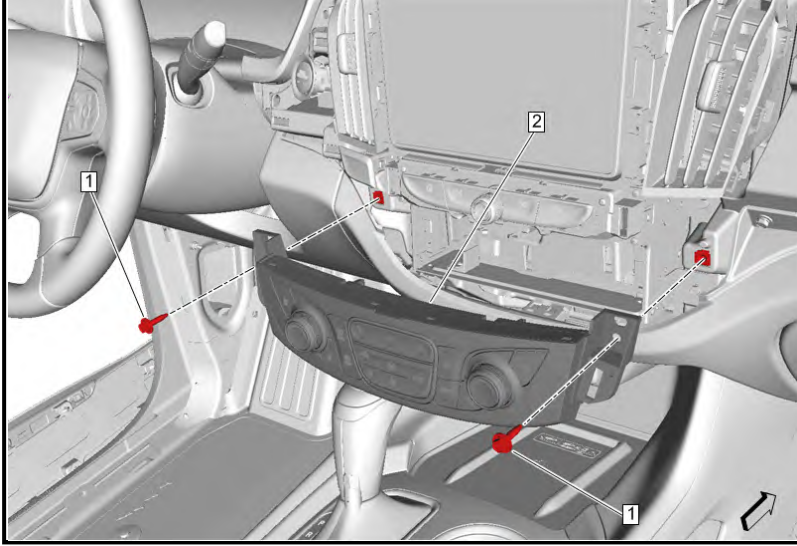


Front Floor Console Extension Panel - Right Side (1) - Remove - [Front Floor Console Extension Panel Replacement - Right Side](#)



Front Floor Console (1) - Remove - [Front Floor Console Replacement](#)

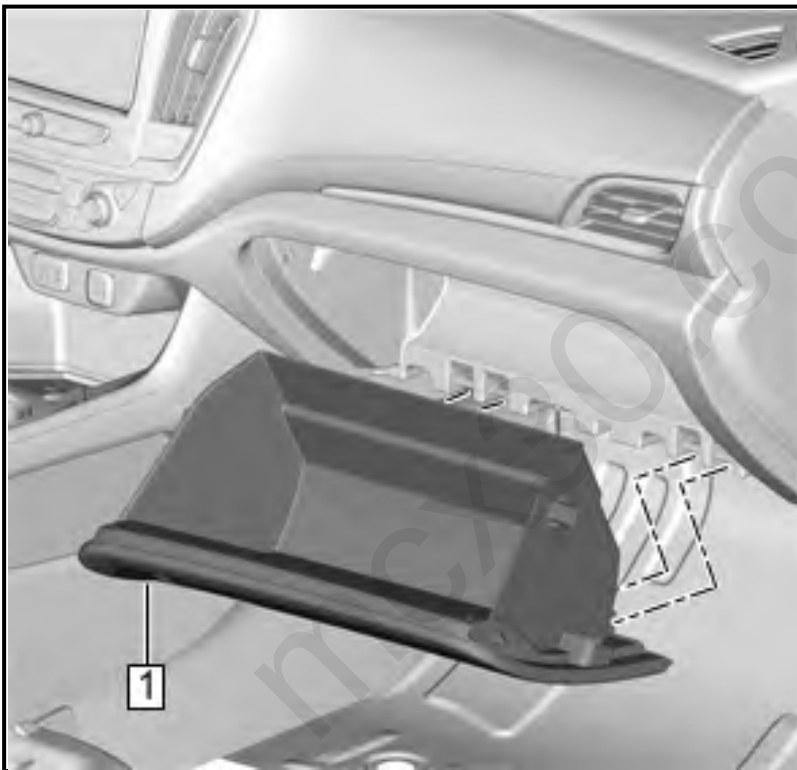




Heater and Air Conditioning User Interface Control (2) - Remove - [Heater and Air Conditioning User Interface Control Replacement](#)

10. Disconnect all electrical connectors.

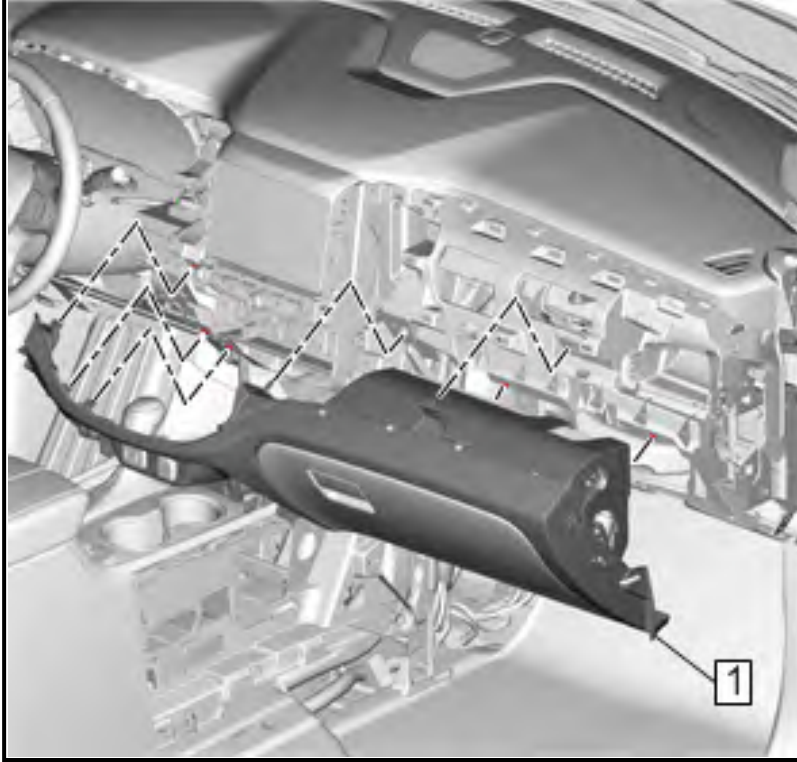
11.



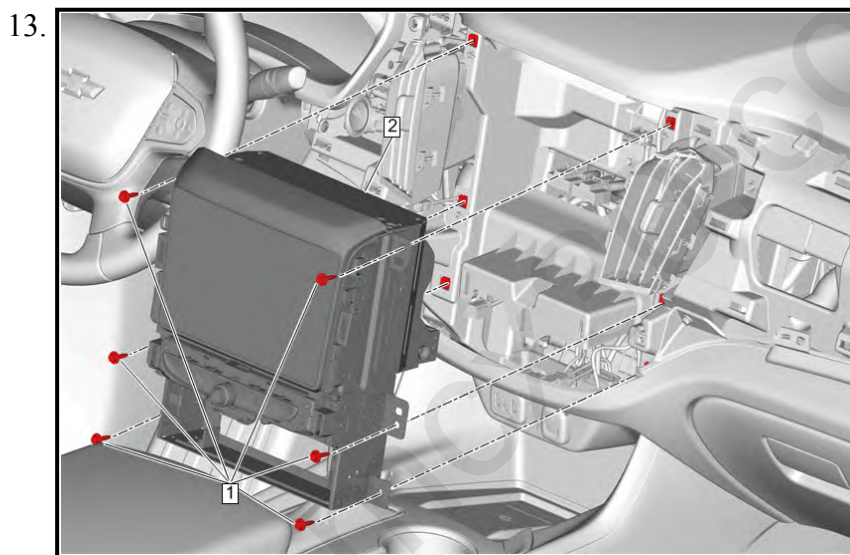
Instrument Panel Compartment Door (1) - Remove - [Instrument Panel Compartment Door Replacement](#)

12.

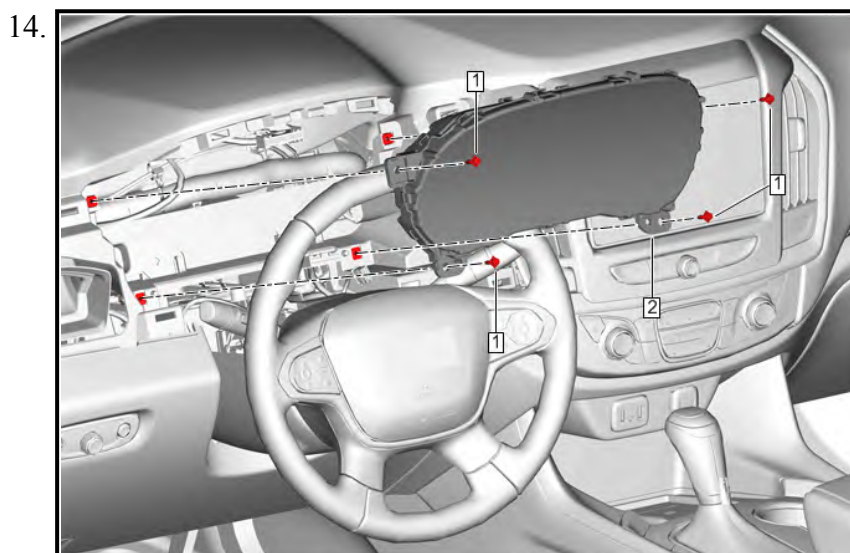




Instrument Panel Compartment Door Opening Frame (1) - Remove - [Instrument Panel Compartment Door Opening Frame Replacement](#)



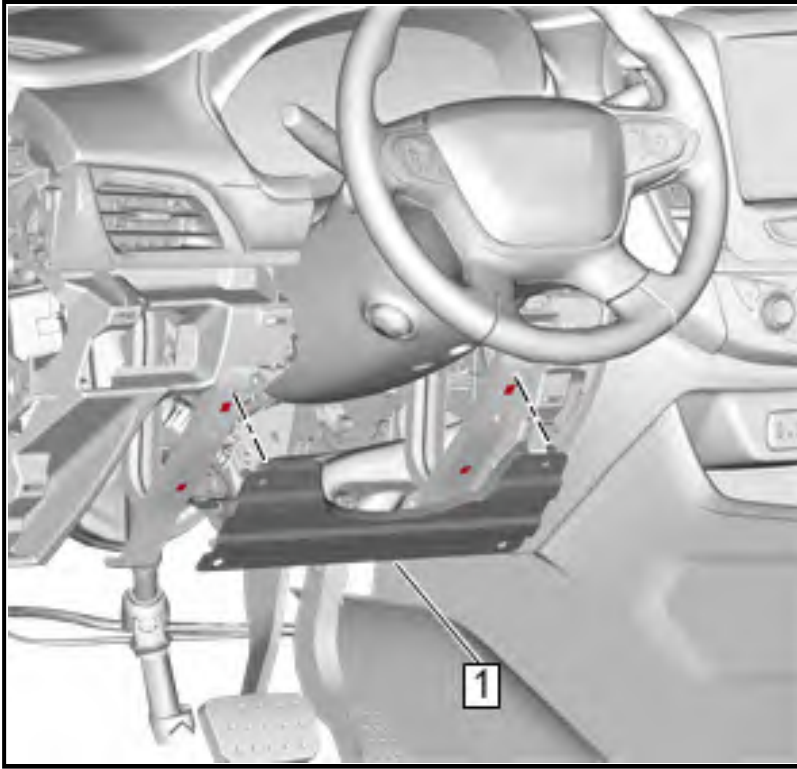
Radio Control (2) - Remove - [Radio Control Assembly Replacement \(With IO5, IO6\)](#)



Instrument Cluster (2) - Remove - [Instrument Cluster Replacement](#)

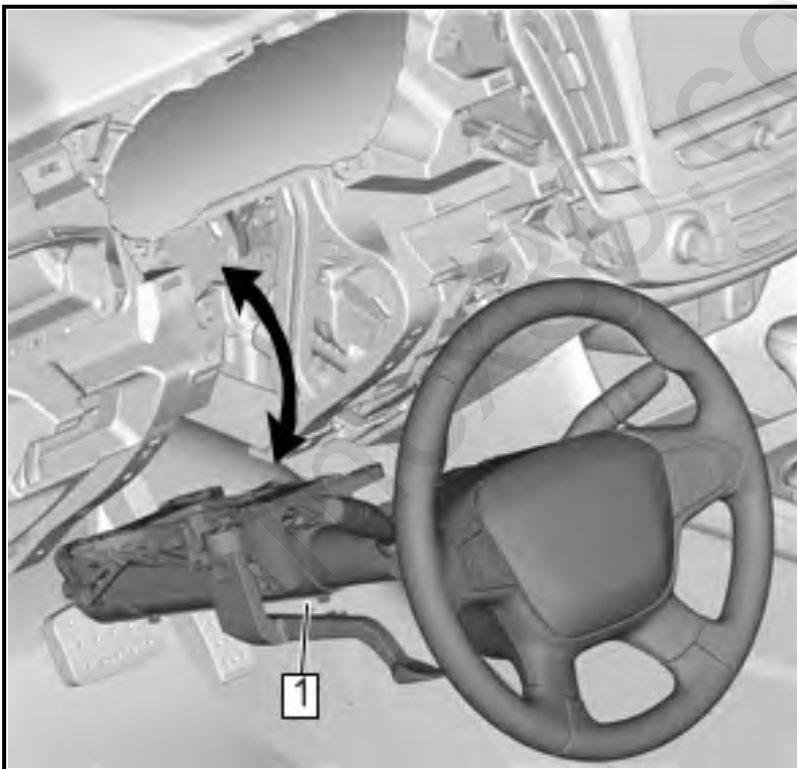
15. Disconnect the electrical connectors.

16.



Instrument Panel Knee Bolster Bracket (1) - Remove - [Instrument Panel Knee Bolster Bracket Replacement](#)

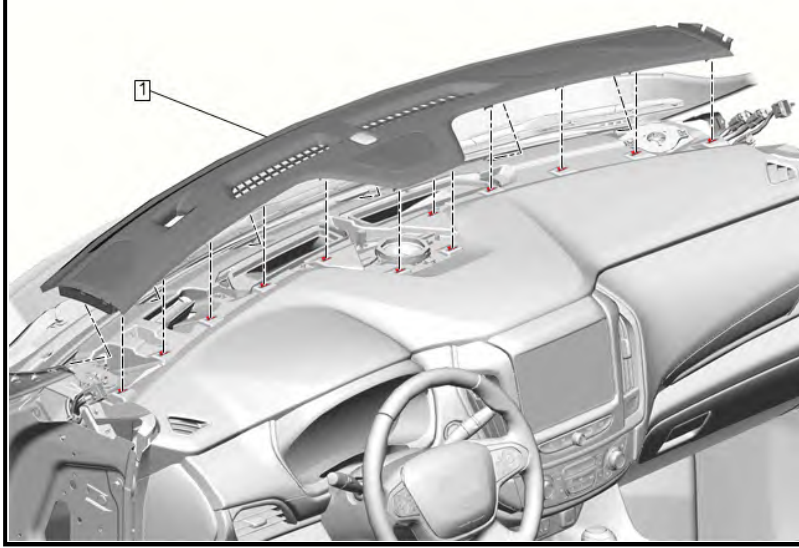
17.



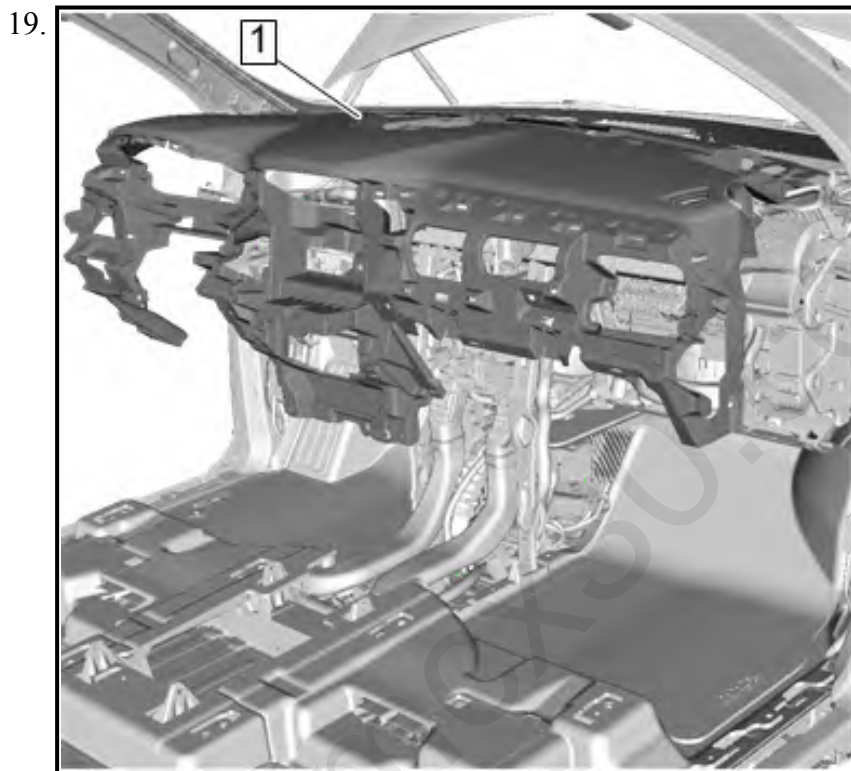
Steering Column (1) - Remove - [Steering Column Replacement \(N37\)](#) [Steering Column Replacement \(N38\)](#)

18.

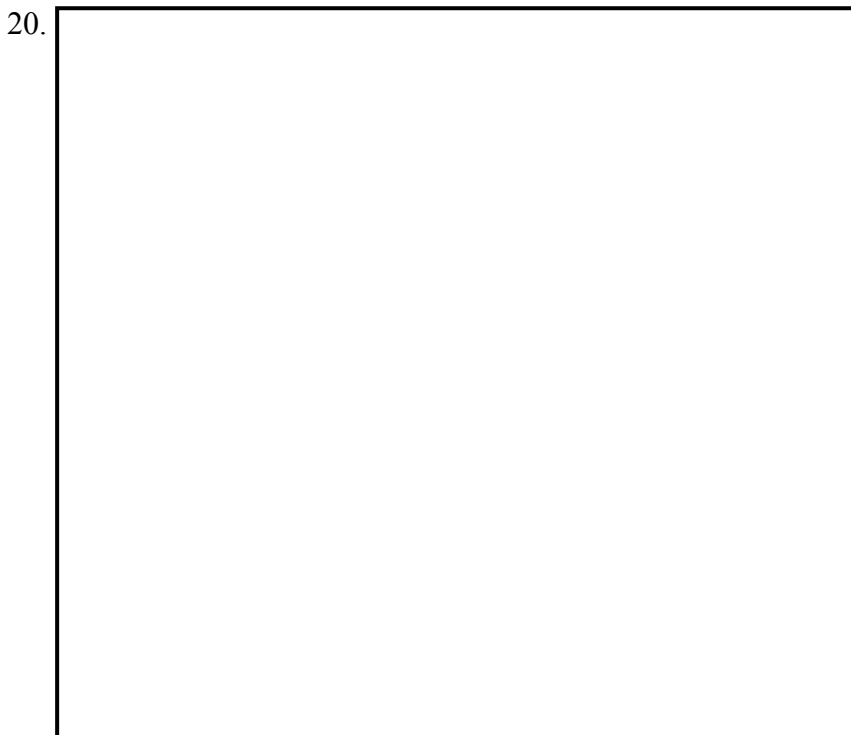


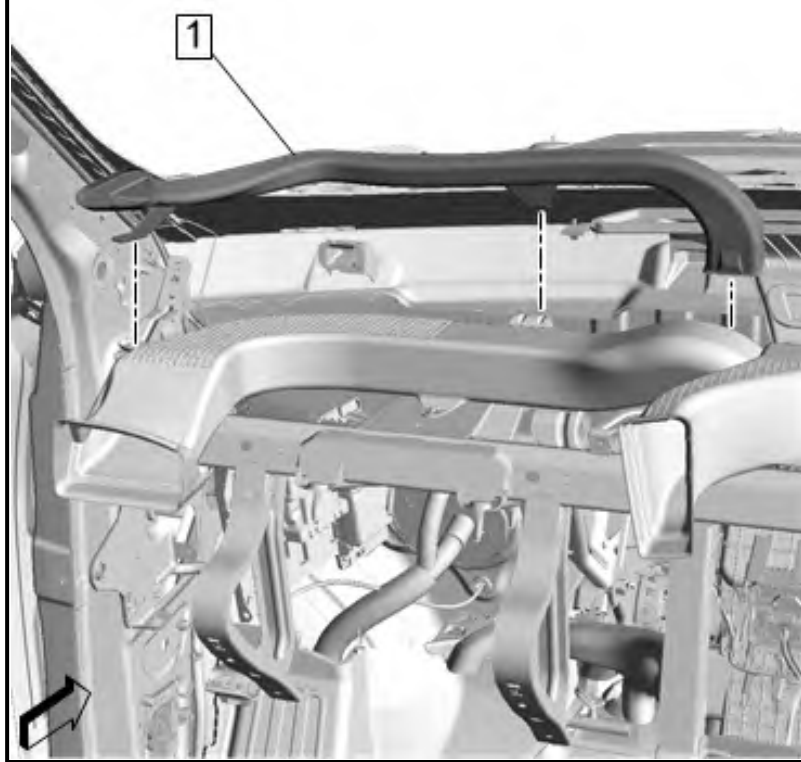


Instrument Panel Extension (1) - Remove - [Instrument Panel Extension Replacement](#)

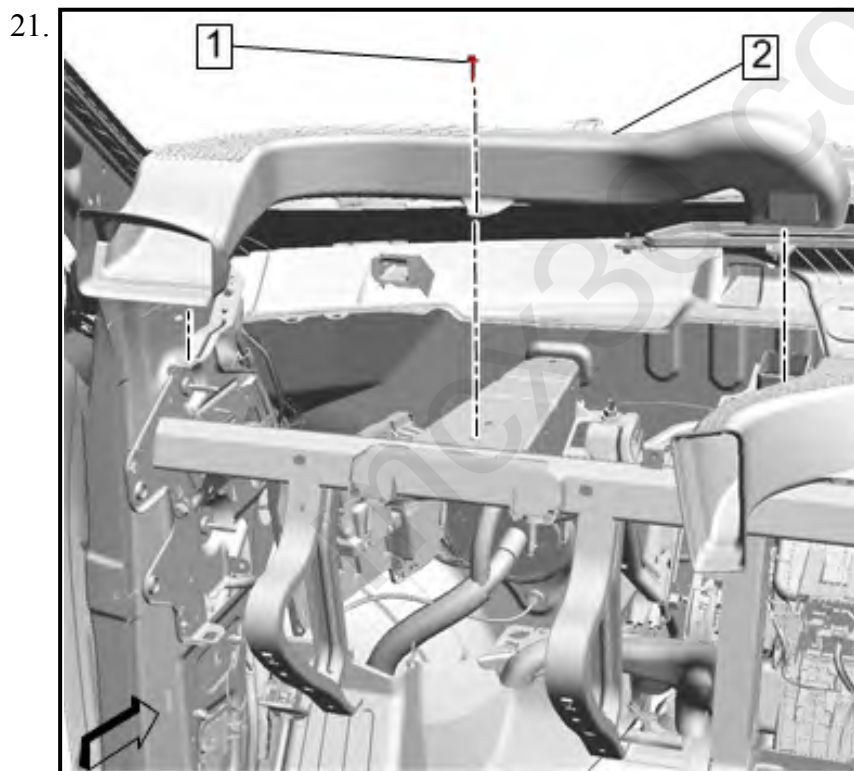


Instrument Panel (1) - Remove - [Instrument Panel Assembly Replacement](#)



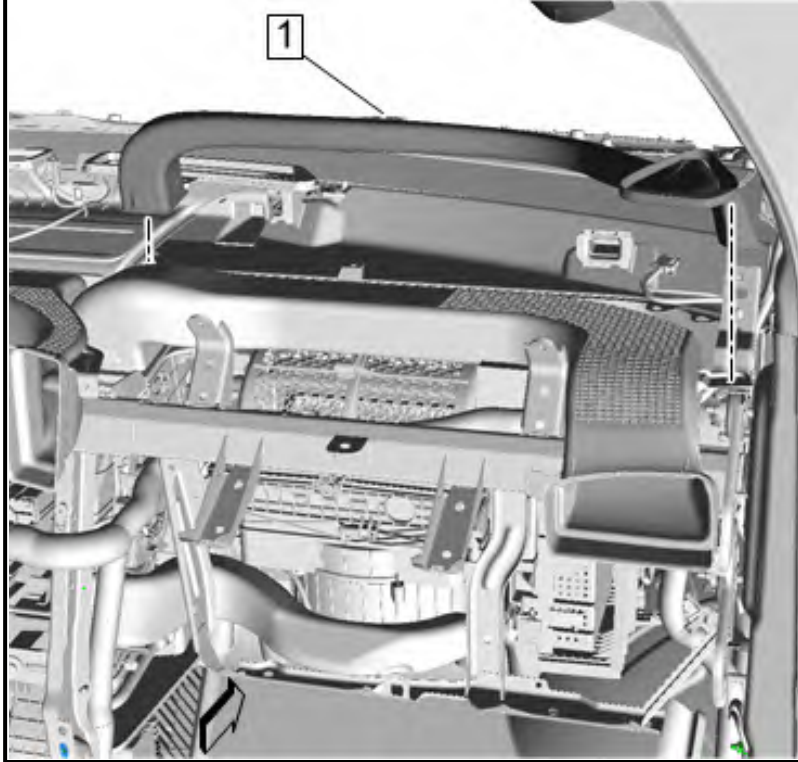


Side Window Defogger Outlet Duct - Left Side (1) - Remove - [Side Window Defogger Outlet Duct Replacement - Left Side](#)



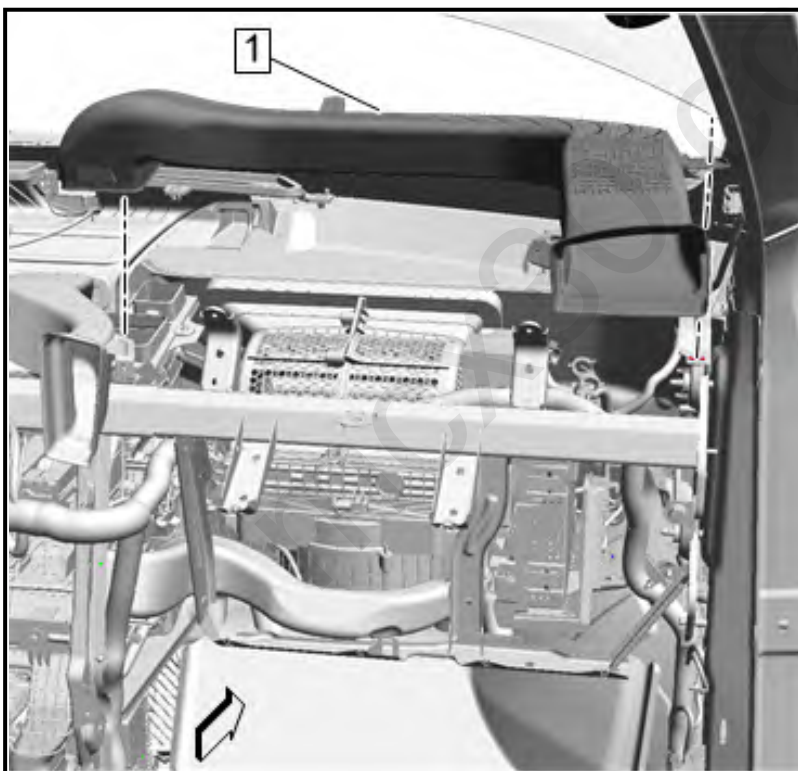
Instrument Panel Outer Air Outlet Duct - Left Side (2) - Remove - [Instrument Panel Outer Air Outlet Duct Replacement - Left Side](#)





Side Window Defogger Outlet Duct - Right Side (1) - Remove - [Side Window Defogger Outlet Duct Replacement - Right Side](#)

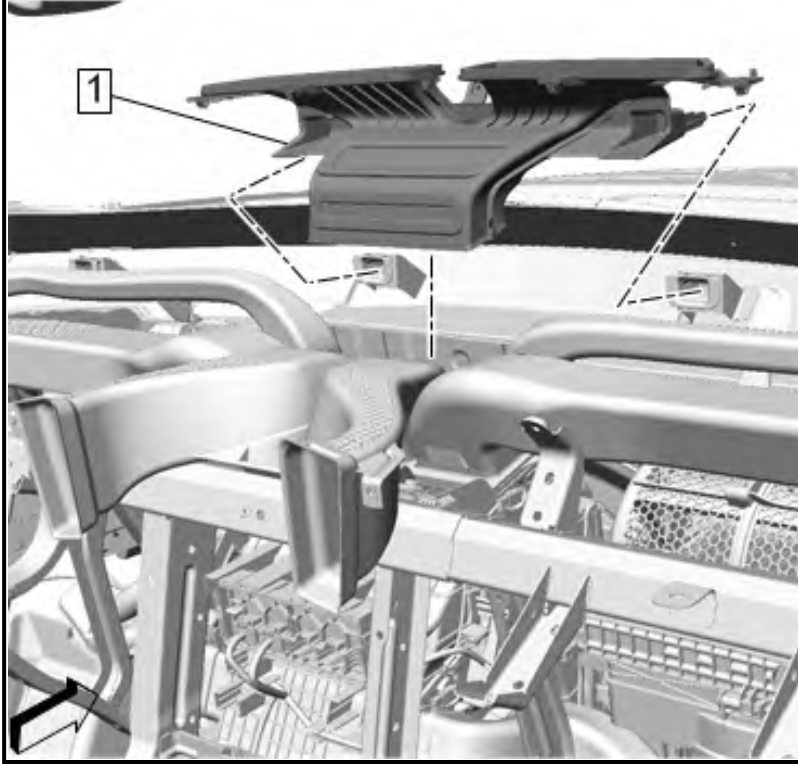
23.



Instrument Panel Outer Air Outlet Duct - Right Side (1) - Remove - [Instrument Panel Outer Air Outlet Duct Replacement - Right Side](#)

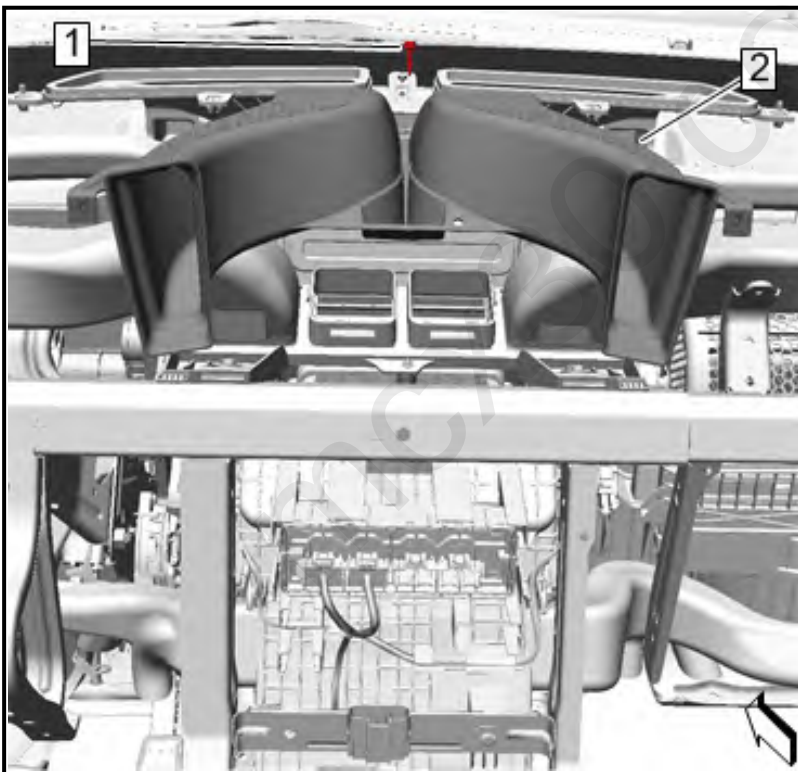
24.





Windshield Defroster Outlet Duct (1) - Remove - [Windshield Defroster Outlet Duct Replacement](#)

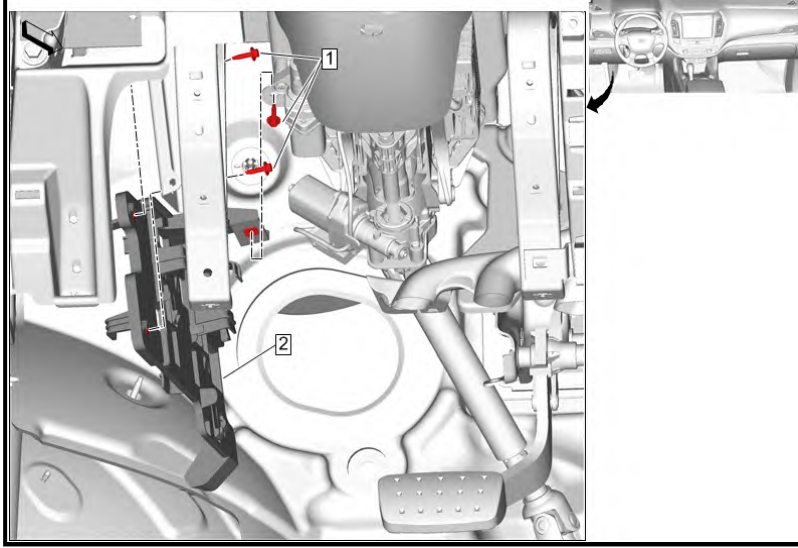
25.



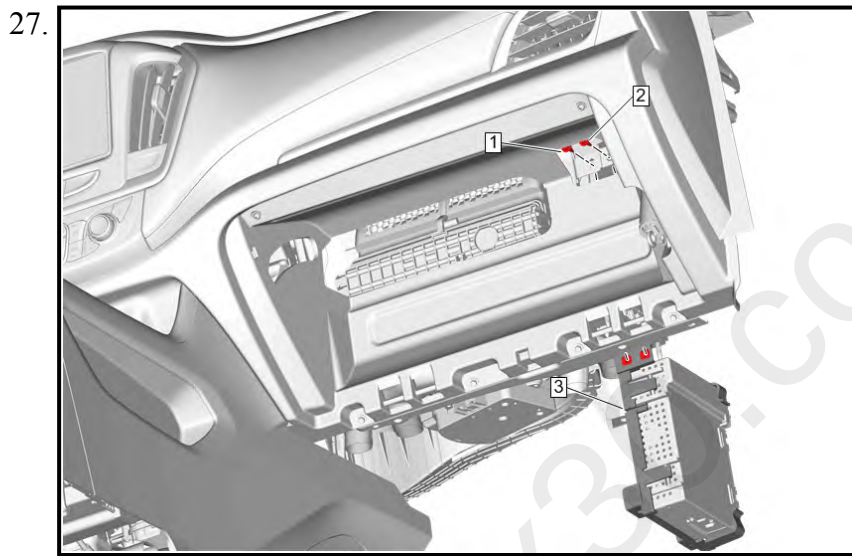
Instrument Panel Outer Air Outlet Duct (2) - Remove - [Instrument Panel Air Outlet Duct Replacement](#)

26.

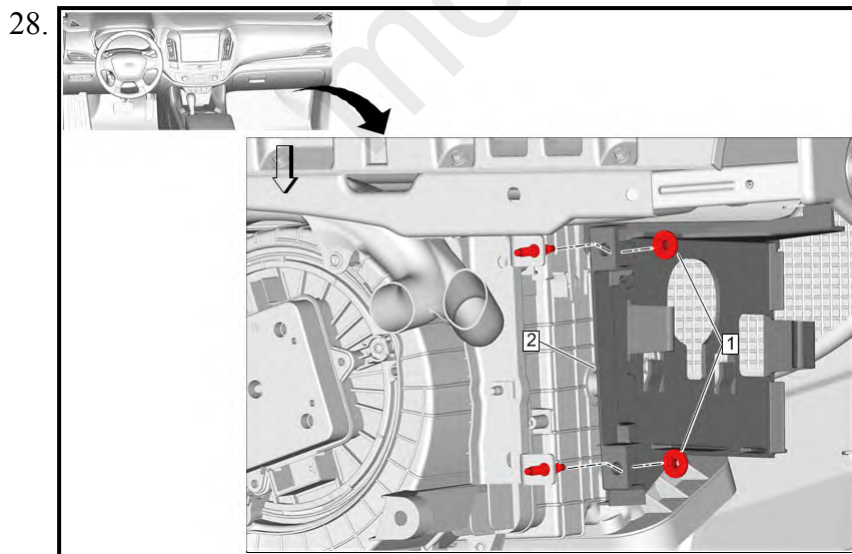




Communication Interface Module Bracket (2) - Remove - [Communication Interface Module Bracket Replacement](#)

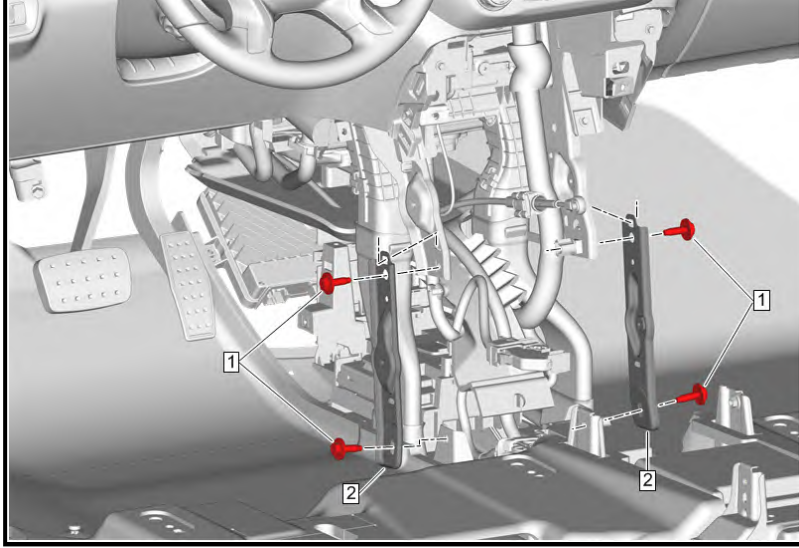


Radio Bracket (3) - Remove - [Radio Bracket Replacement](#)



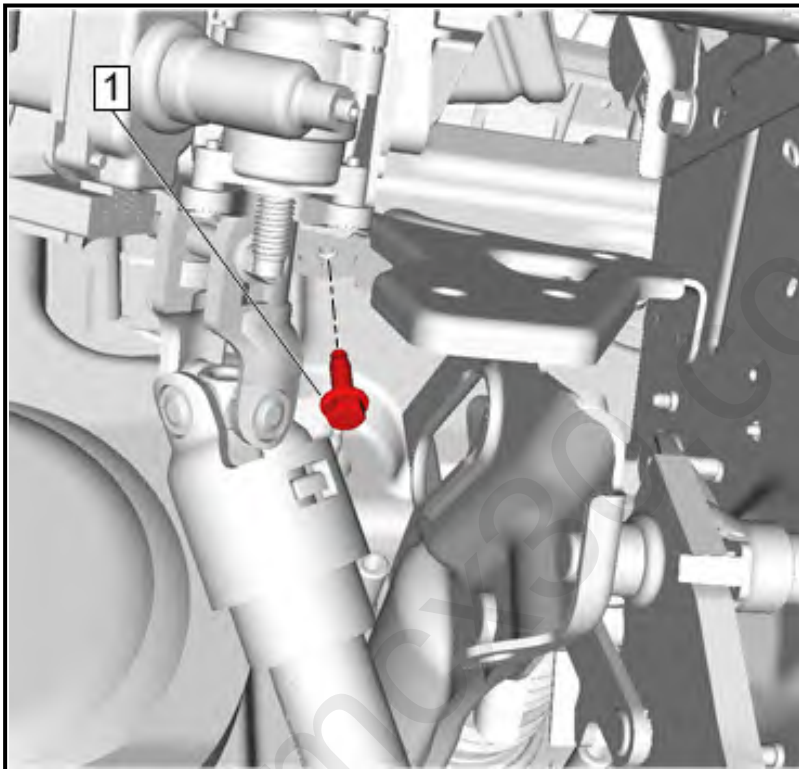
Human Machine Interface Control Module Bracket (2) - Remove - [Human Machine Interface Control Module Bracket Replacement](#)





Instrument Panel Tie Bar Brace (2) - Remove - [Instrument Panel Tie Bar Brace Replacement](#)

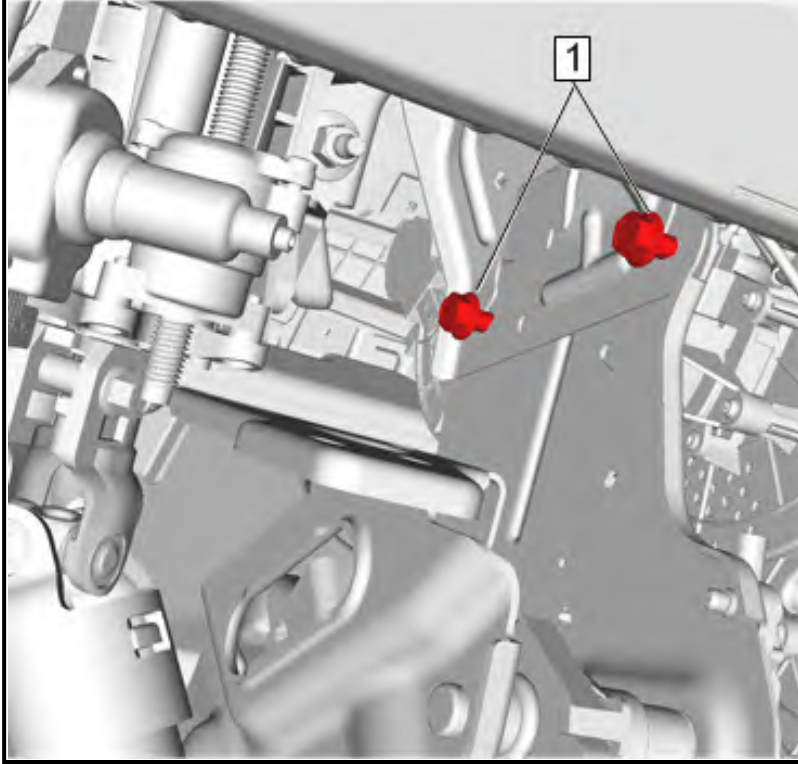
30.



Brake Pedal Bracket Bolt (1) - Remove

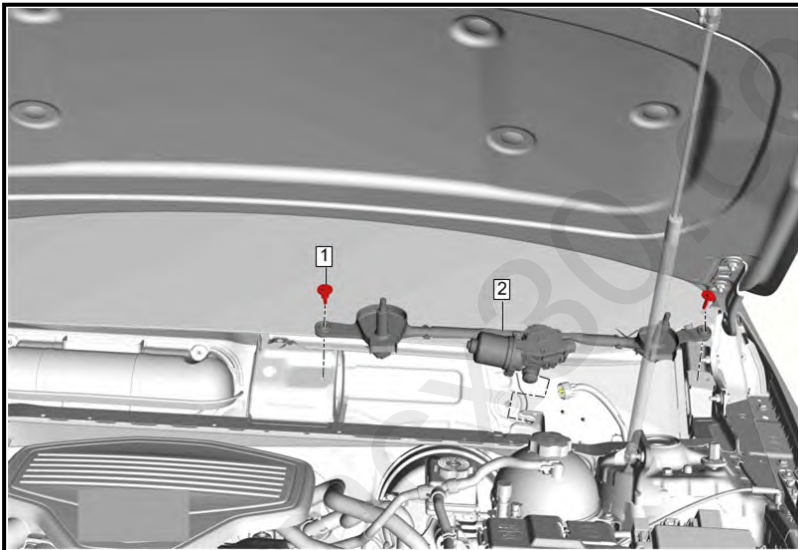
31.





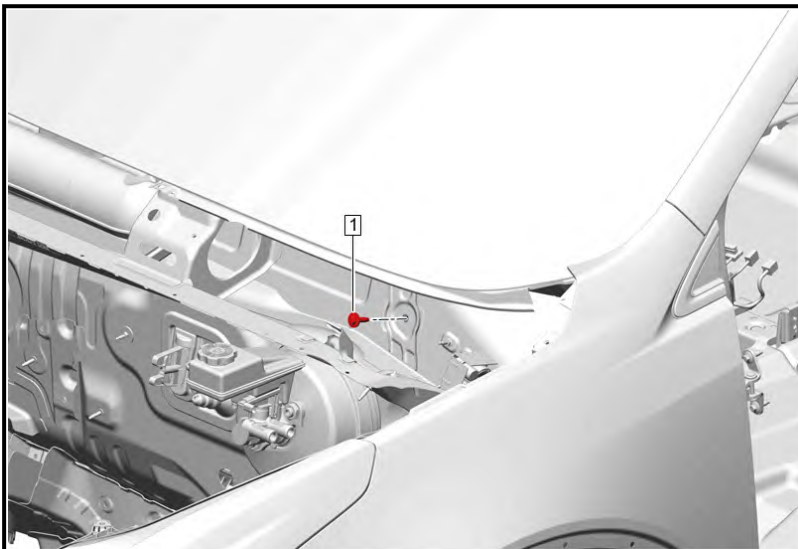
Brake Pedal Bracket Bolt (1) - Remove [2x]

32.



Windshield Wiper Transmission (2) - Remove - [Windshield Wiper Transmission Replacement](#)

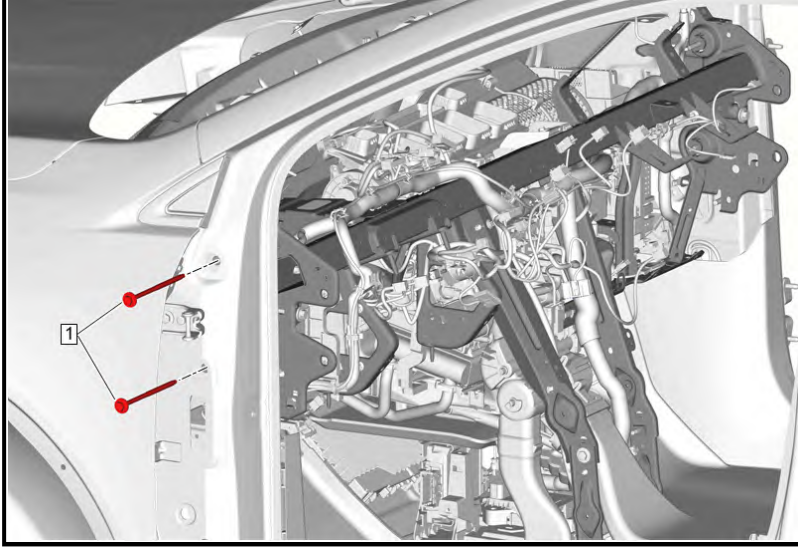
33.



Instrument Panel Tie Bar Bolt (1) - Remove

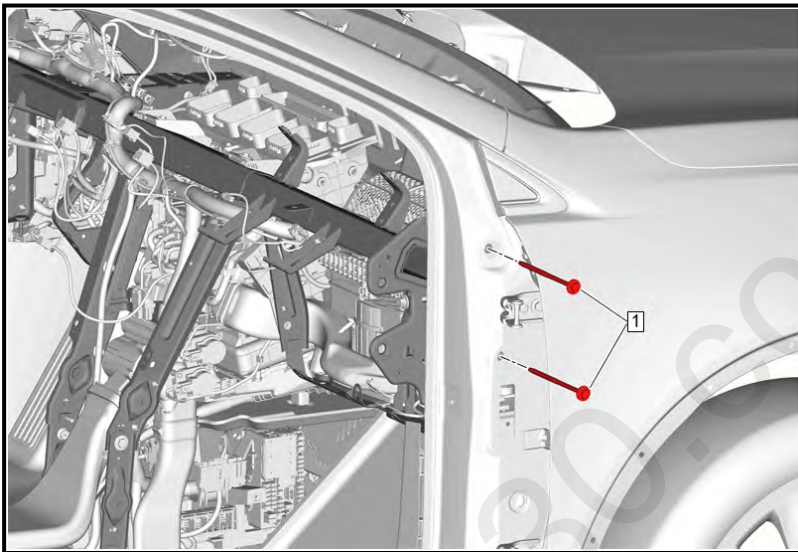
34.





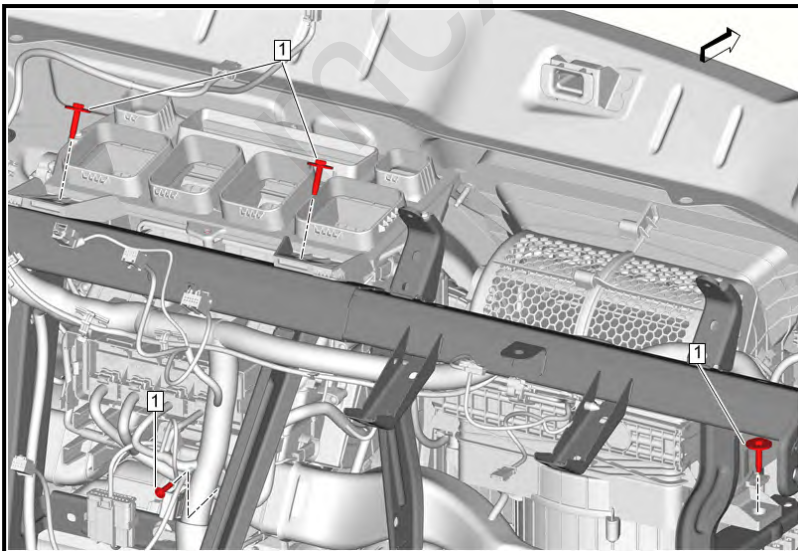
Instrument Panel Tie Bar Bolt (1) - Remove [2x]

35.



Instrument Panel Tie Bar Bolt (1) - Remove [2x]

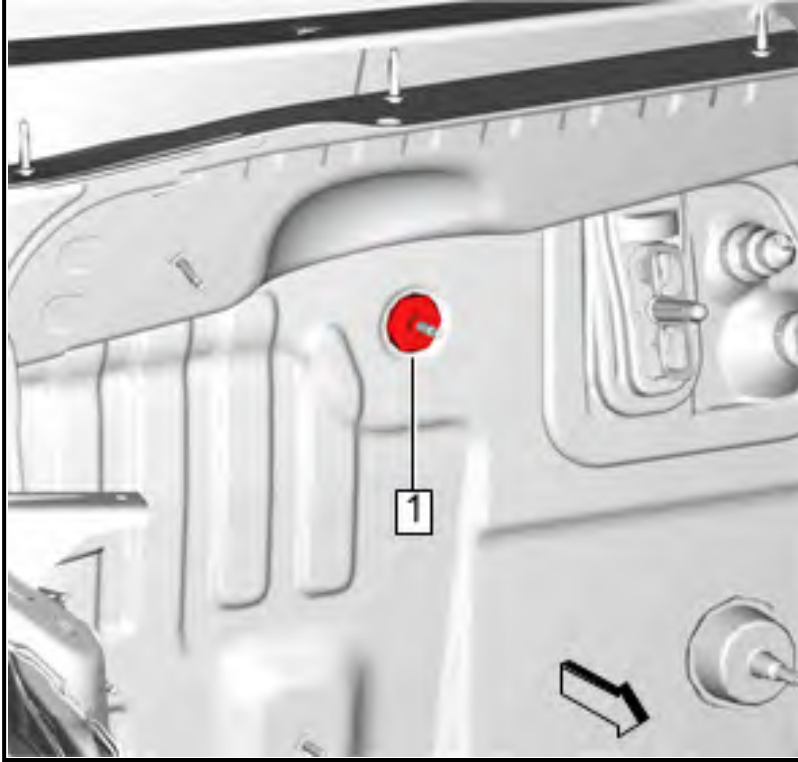
36.



Heater and Air Conditioning Evaporator and Blower Module Bolt (1) - Remove [4x]

37.

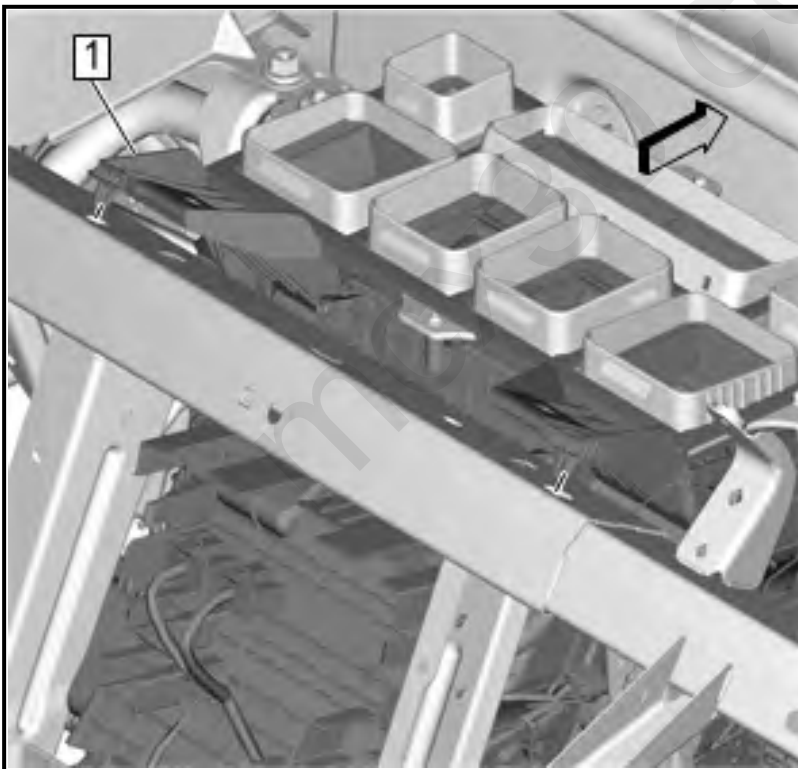




NOTE: Loosening the nut will aid in releasing the HVAC module from the tie bar.

Heater and Air Conditioning Evaporator and Blower Module Nut (1) @ Cowl Panel - Loosen

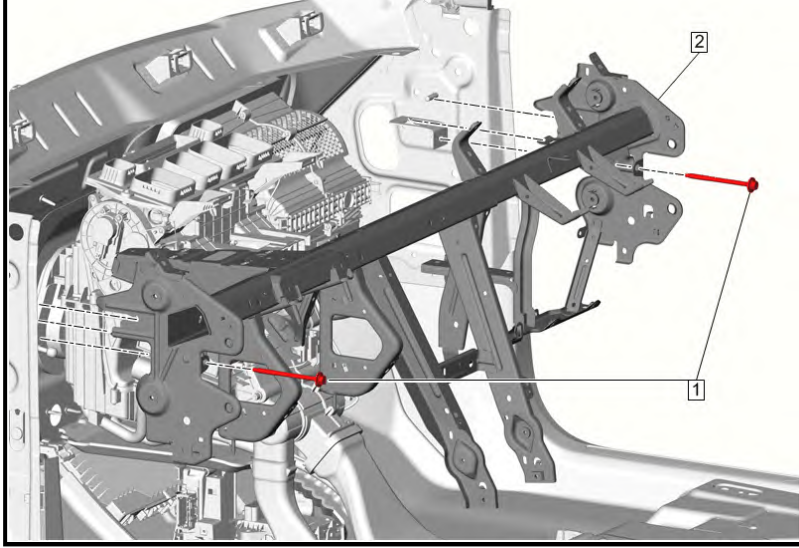
38.



Use a suitable tool to release the HVAC module tabs (1) from the tie bar.

39.





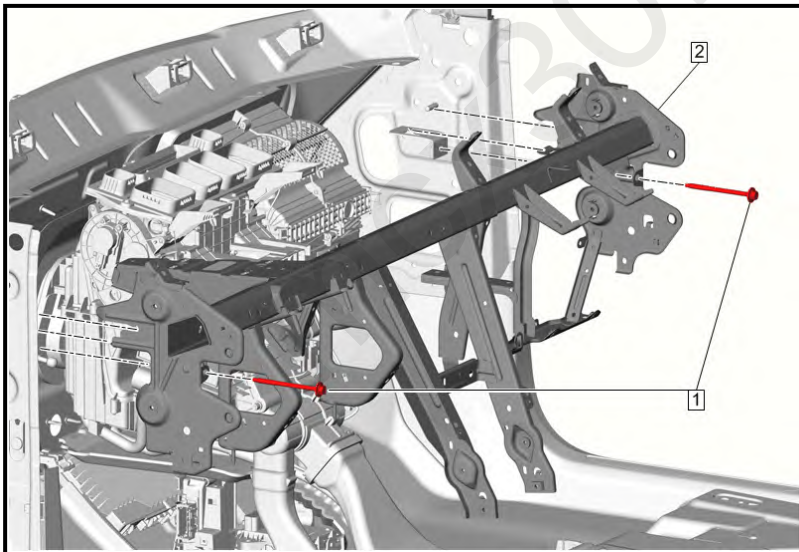
Instrument Panel Tie Bar Bolt (1) - Remove [2x]

40. Note the location and routing of the instrument panel wiring harness prior to removal to ensure proper installation.
41. Support the HVAC module in order to prevent damage.
42. With the aid of an assistant, remove the instrument panel tie bar assembly from the vehicle. (2)
43. Transfer components as necessary.

Installation Procedure

1. With the aid of an assistant, position the instrument panel tie bar assembly into the vehicle.
2. Install the instrument panel wiring harness assembly to the position noted in the removal procedure.

3.

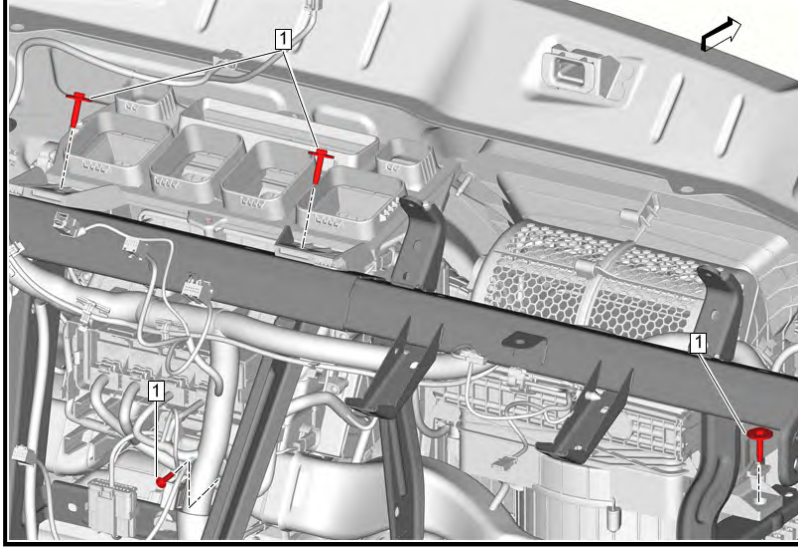


CAUTION: Refer to Fastener Caution .

Instrument Panel Tie Bar Bolt (1) - Install and tighten [2x] 22 N.m (16 lb ft)

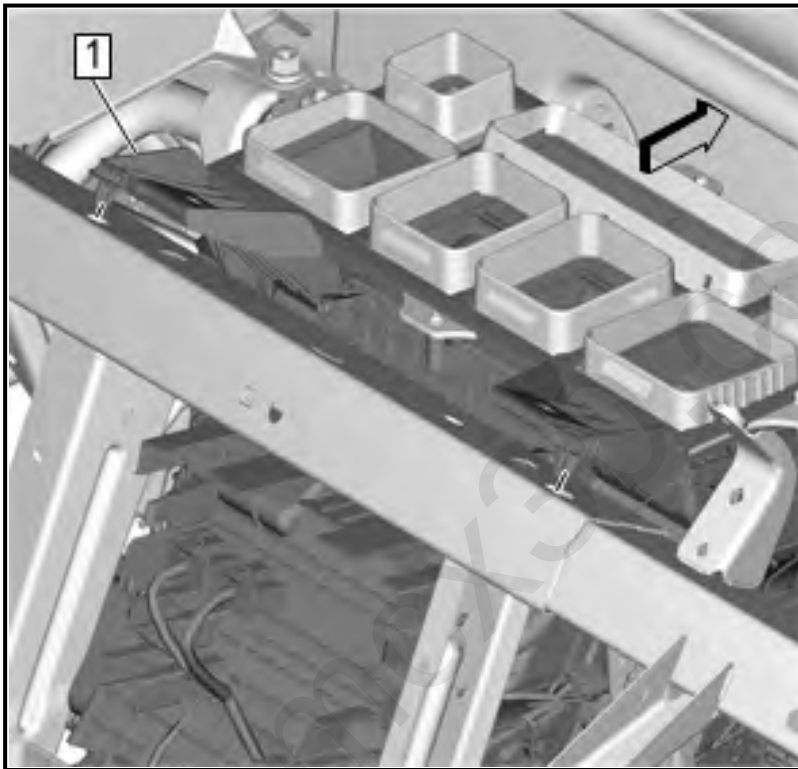
4.





Heater and Air Conditioning Evaporator and Blower Module Bolt (1) - Install and tighten [4x] 9 N.m (80 lb in)

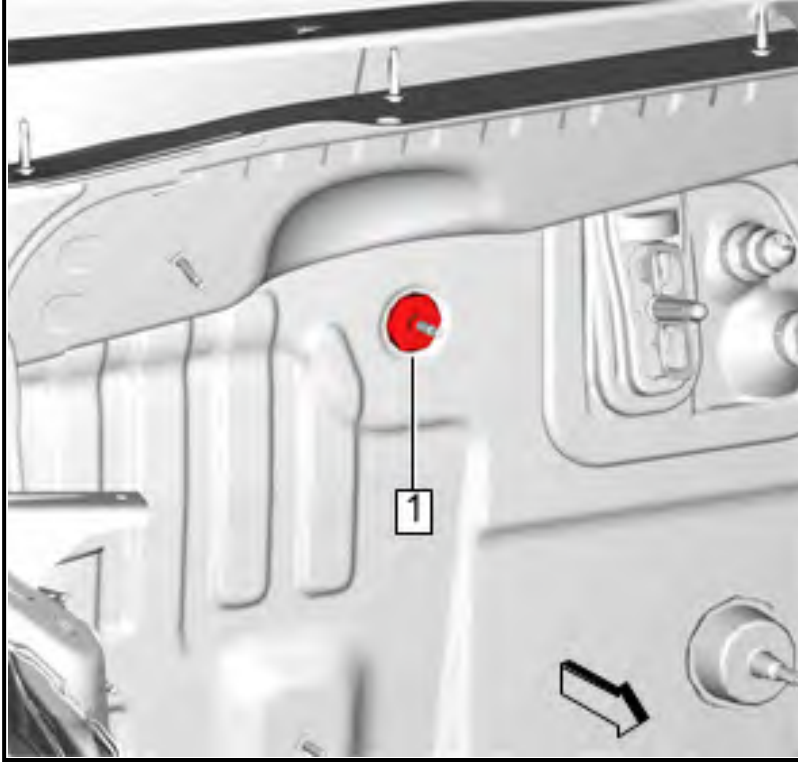
5.



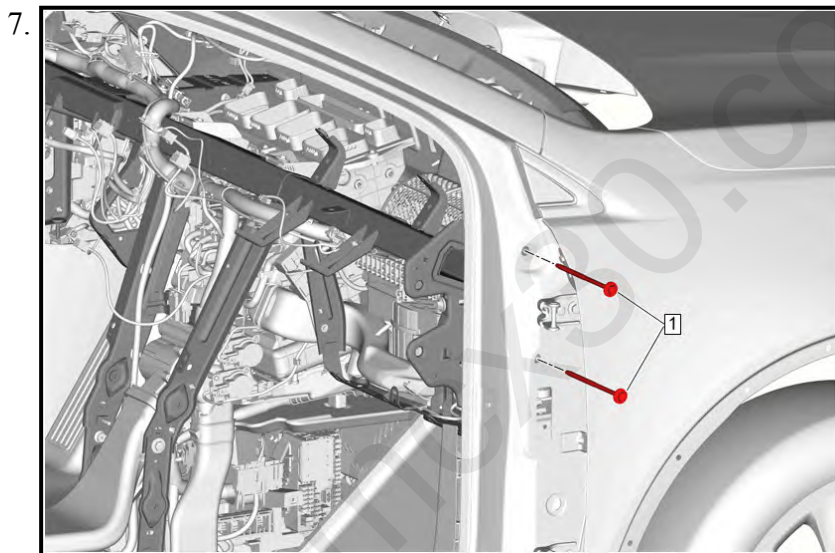
Seat the HVAC module tabs (1) into the tie bar.

6.

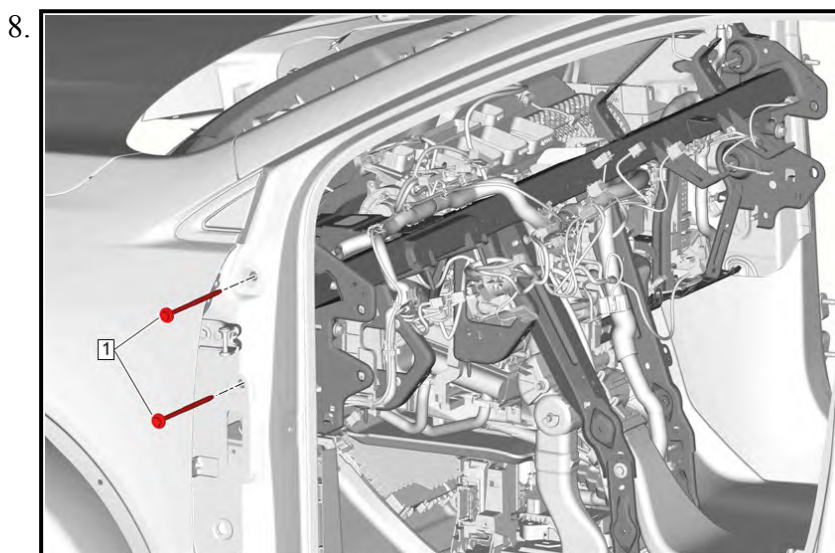




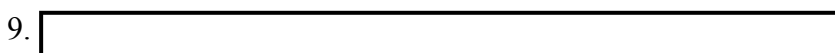
Heater and Air Conditioning Evaporator and Blower Module Nut (1) @ Cowl Panel - Tighten 9 N.m (80 lb in)

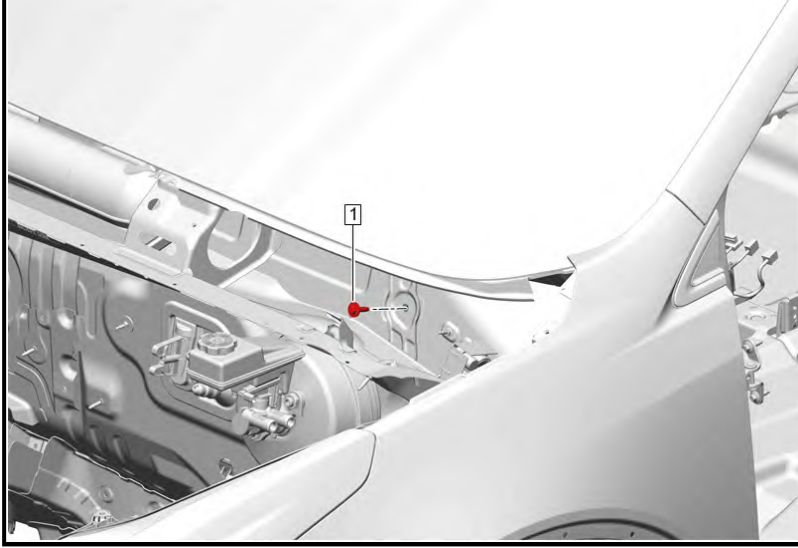


Instrument Panel Tie Bar Bolt (1) - Install and tighten [2x] 22 N.m (16 lb ft)

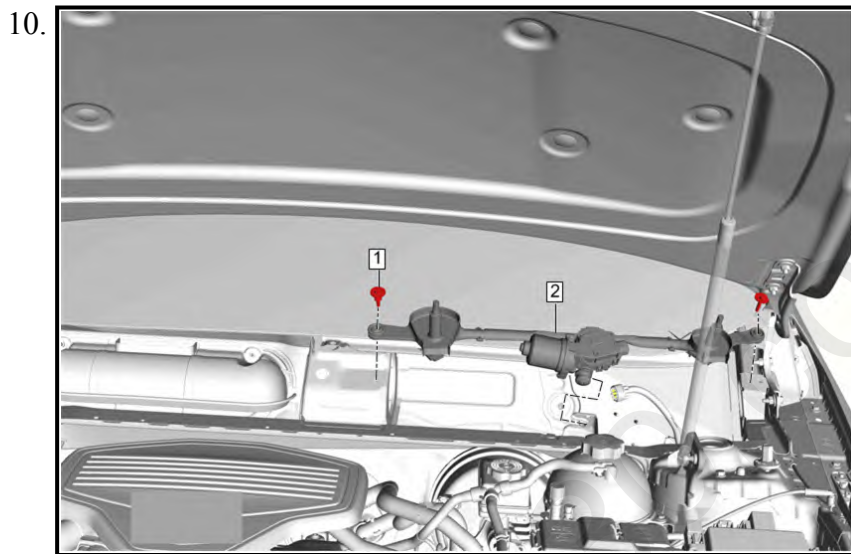


Instrument Panel Tie Bar Bolt (1) - Install and tighten [2x] 22 N.m (16 lb ft)

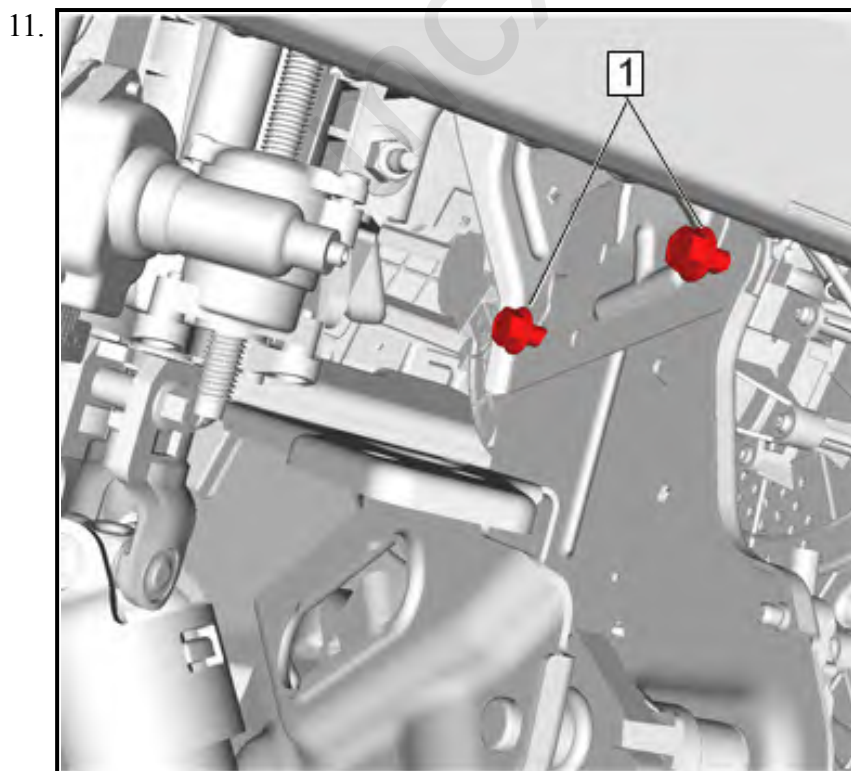




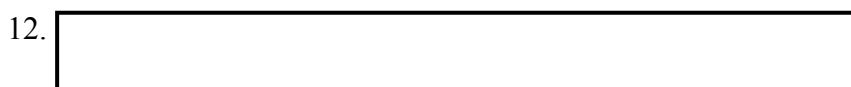
Instrument Panel Tie Bar Bolt (1) - Install and tighten 22 N.m (16 lb ft)

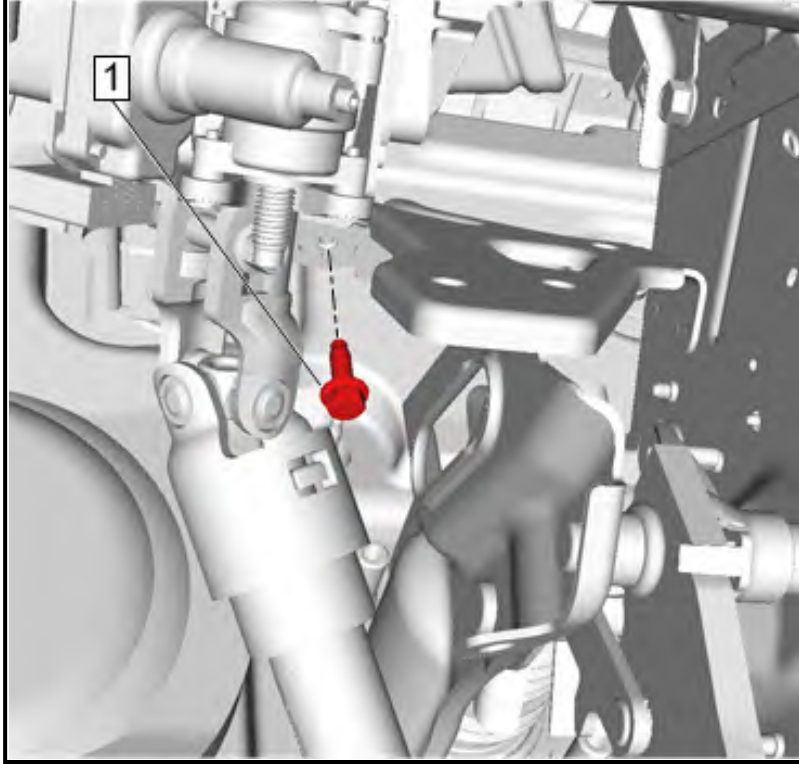


Windshield Wiper Transmission (2) - Install - [Windshield Wiper Transmission Replacement](#)

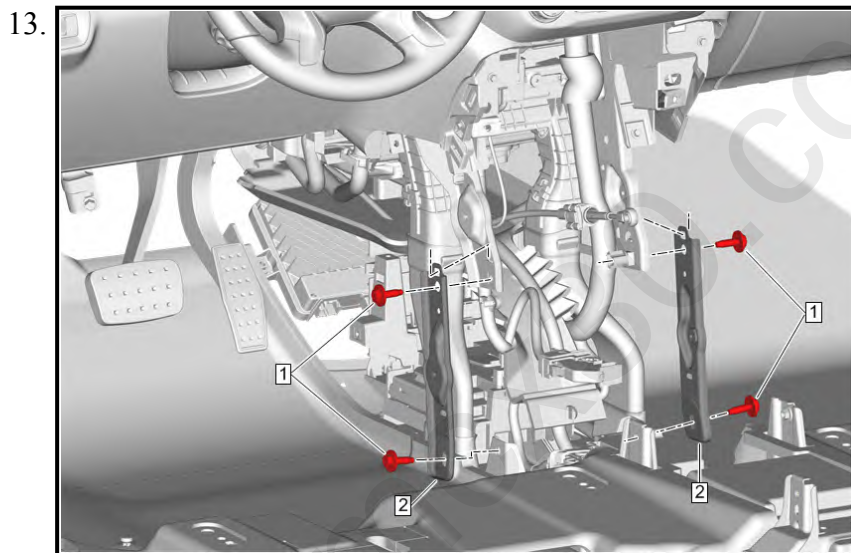


Brake Pedal Bracket Bolt (1) - Install and tighten [2x] 15 N.m (11 lb ft)

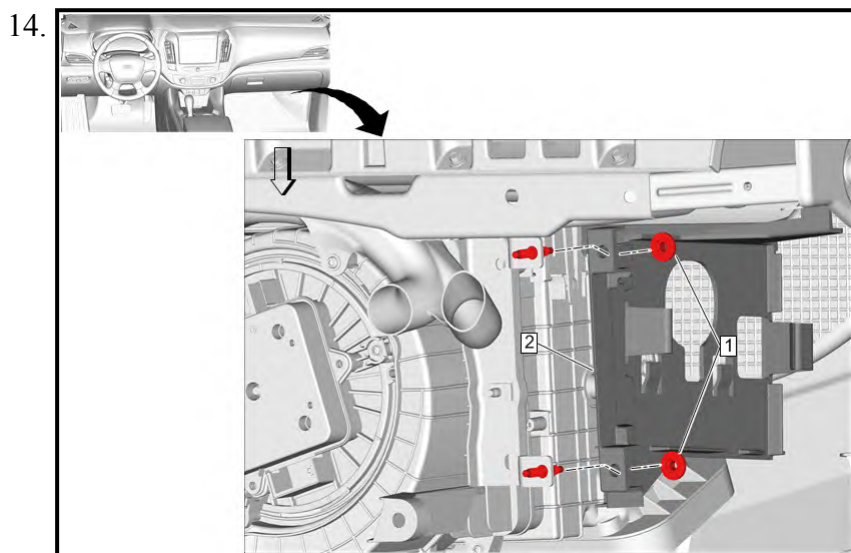




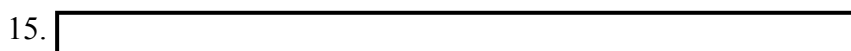
Brake Pedal Bracket Bolt (1) - Install and tighten 15 N.m (11 lb ft)

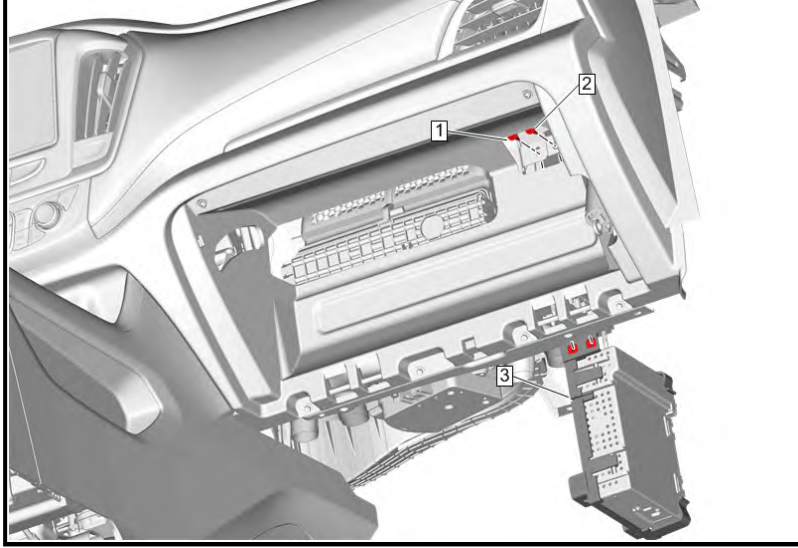


Instrument Panel Tie Bar Brace (2) - Install - [Instrument Panel Tie Bar Brace Replacement](#)

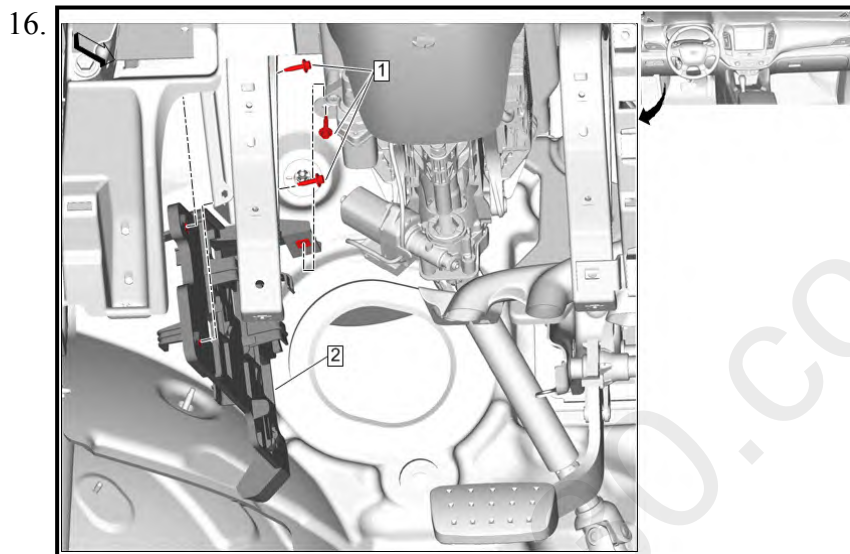


Human Machine Interface Control Module Bracket (2) - Install - [Human Machine Interface Control Module Bracket Replacement](#)

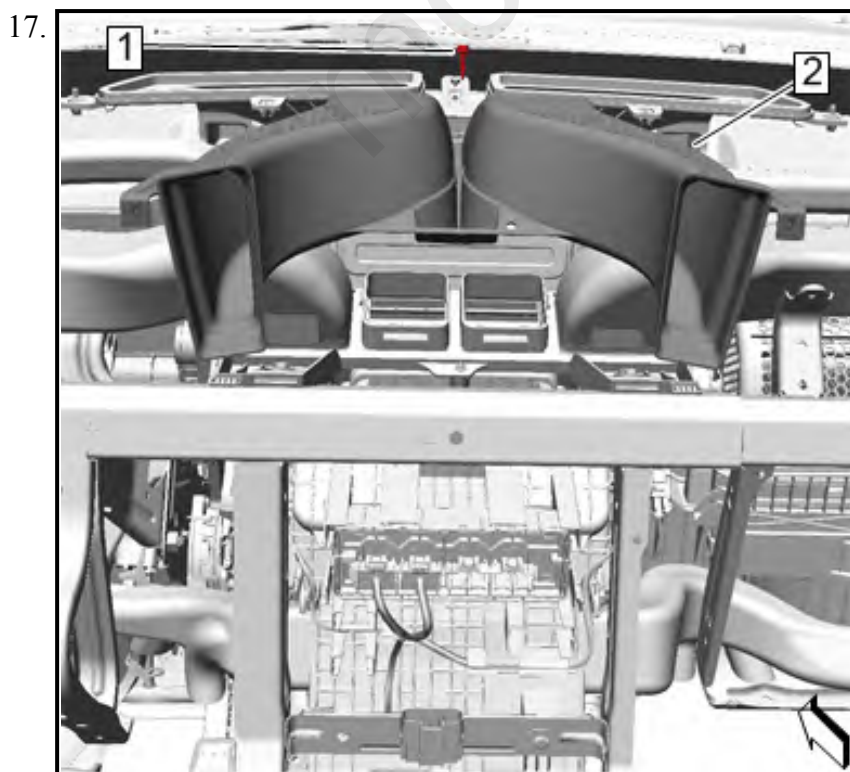




Radio Bracket (3) - Install - [Radio Bracket Replacement](#)

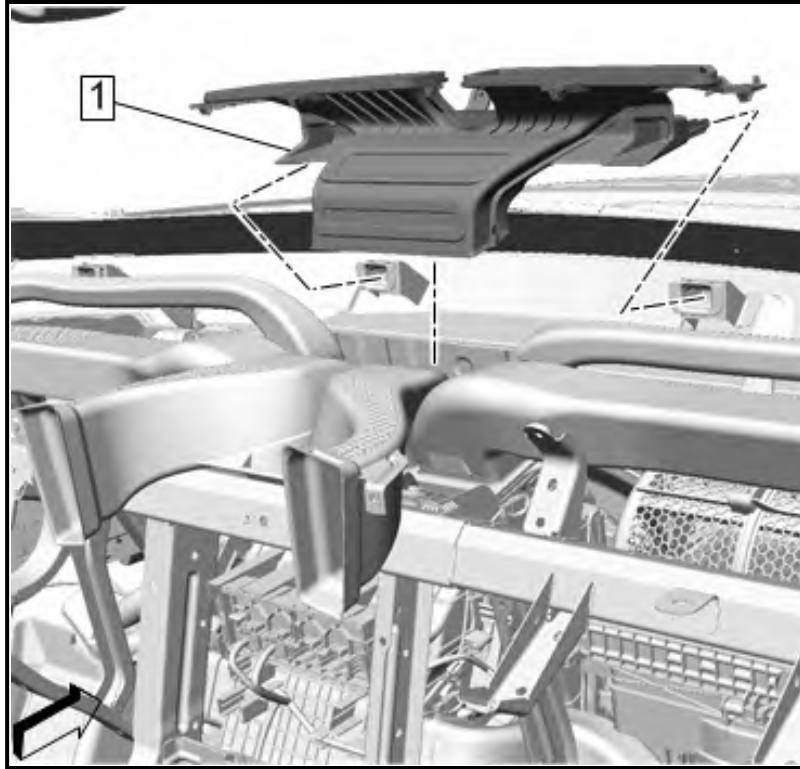


Communication Interface Module Bracket (2) - Install - [Communication Interface Module Bracket Replacement](#)



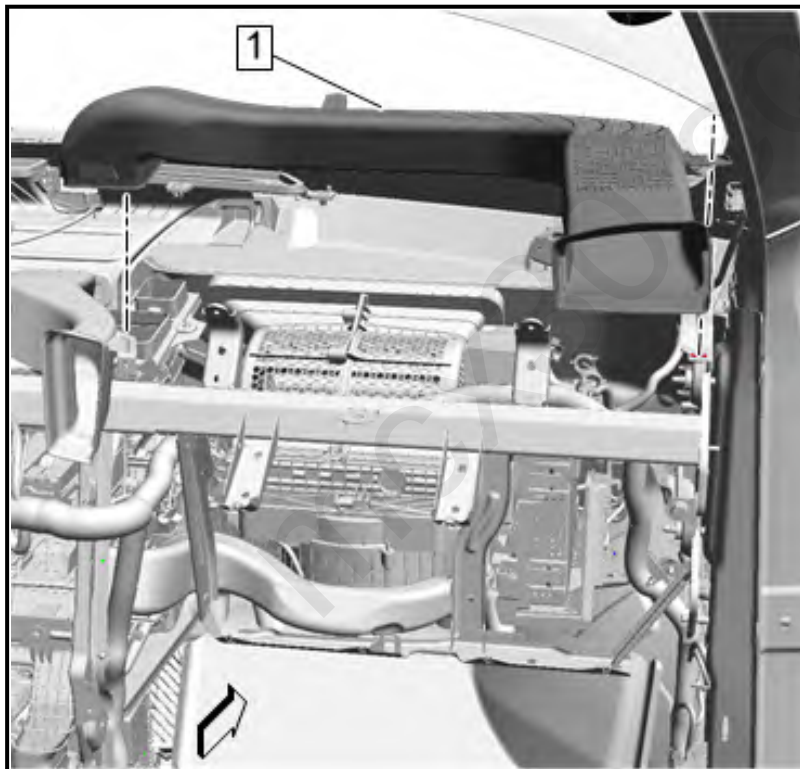
Instrument Panel Outer Air Outlet Duct (2) - Install - [Instrument Panel Air Outlet Duct Replacement](#)

18.



Windshield Defroster Outlet Duct (1) - Install - [Windshield Defroster Outlet Duct Replacement](#)

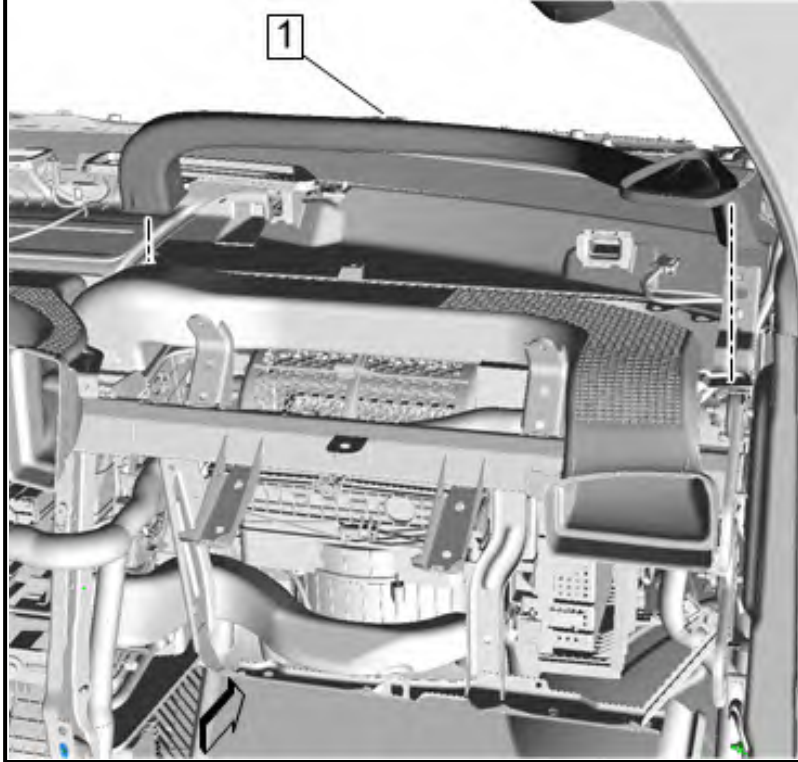
19.



Instrument Panel Outer Air Outlet Duct - Right Side (1) - Install - [Instrument Panel Outer Air Outlet Duct Replacement - Right Side](#)

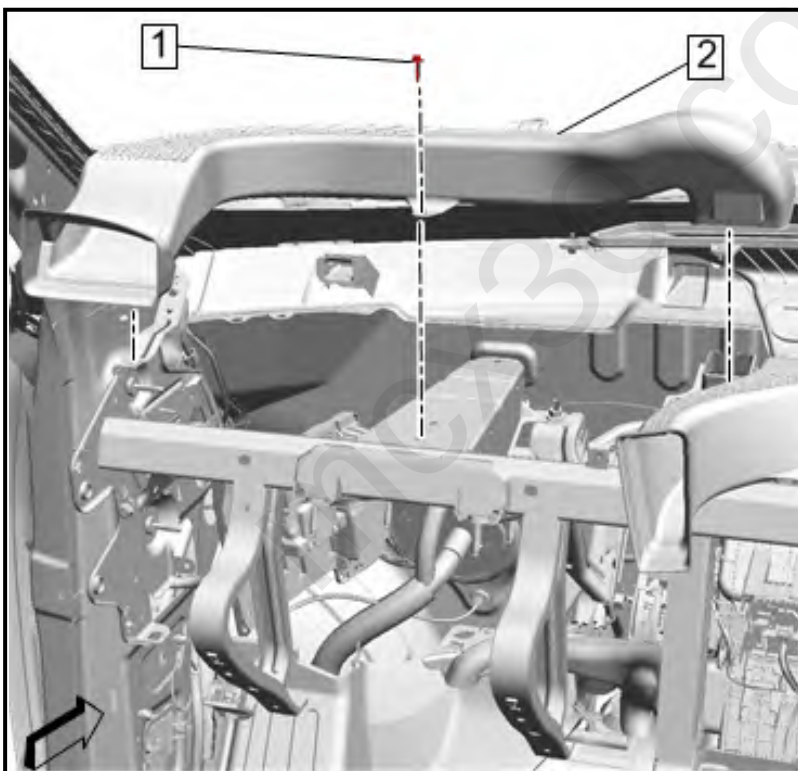
20.





Side Window Defogger Outlet Duct - Right Side (1) - Install - [Side Window Defogger Outlet Duct Replacement - Right Side](#)

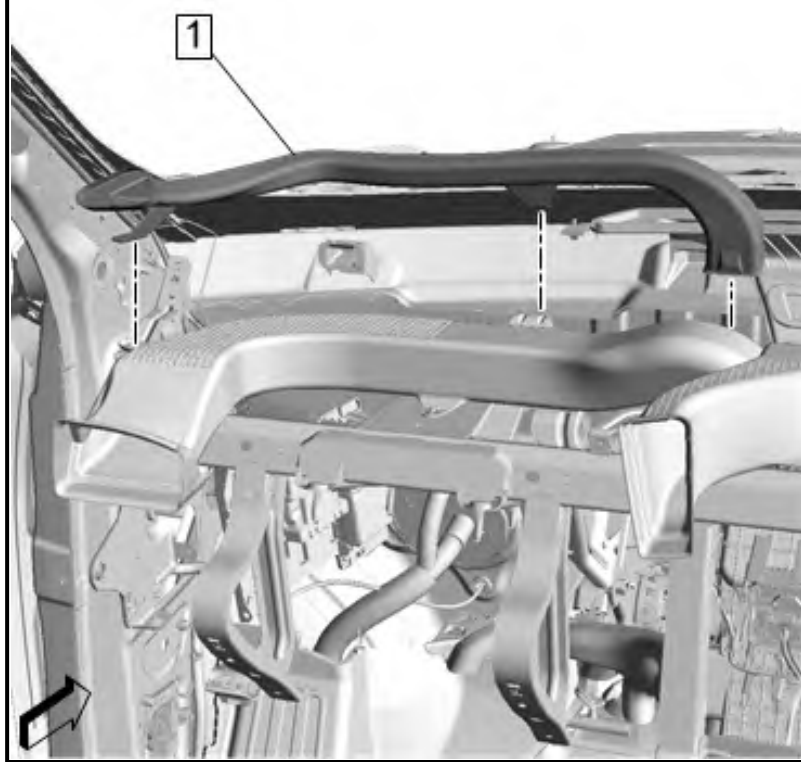
21.



Instrument Panel Outer Air Outlet Duct - Left Side (2) - Install - [Instrument Panel Outer Air Outlet Duct Replacement - Left Side](#)

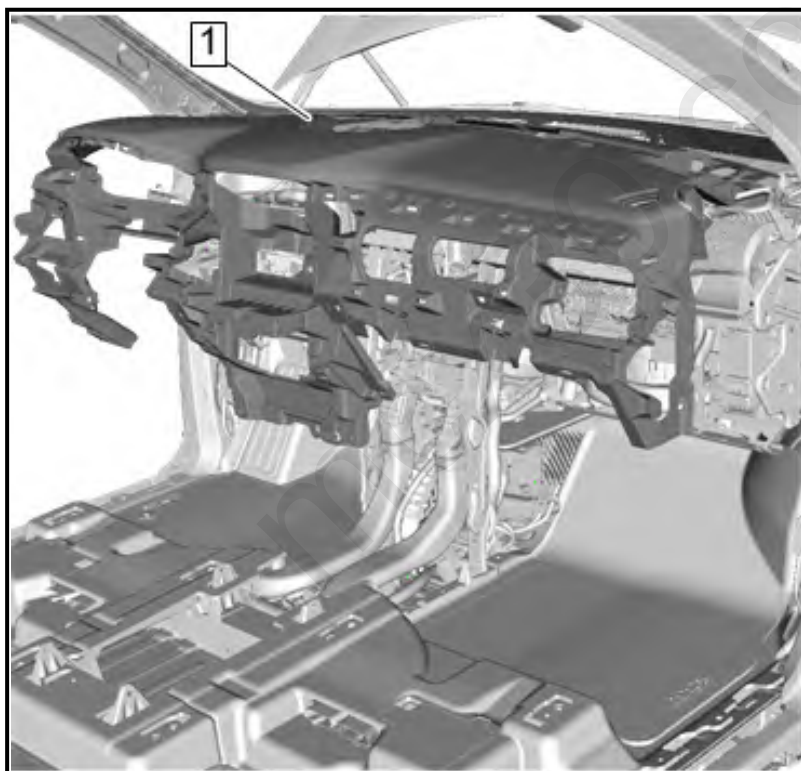
22.





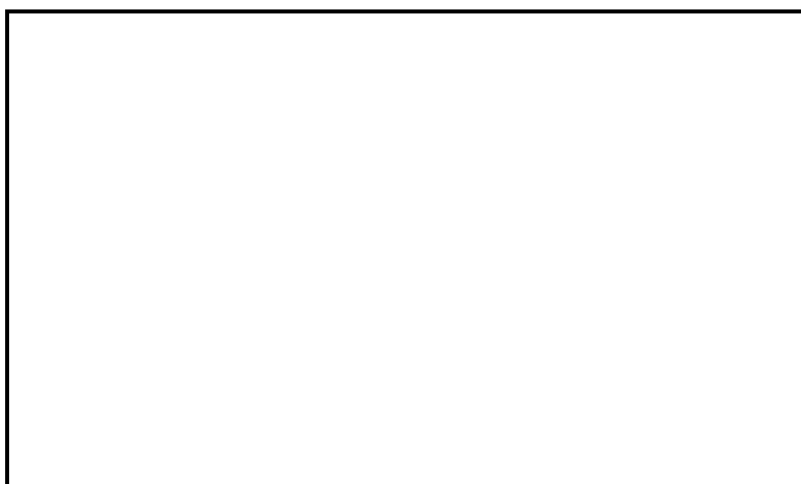
Side Window Defogger Outlet Duct - Left Side (1) - Install - [Side Window Defogger Outlet Duct Replacement - Left Side](#)

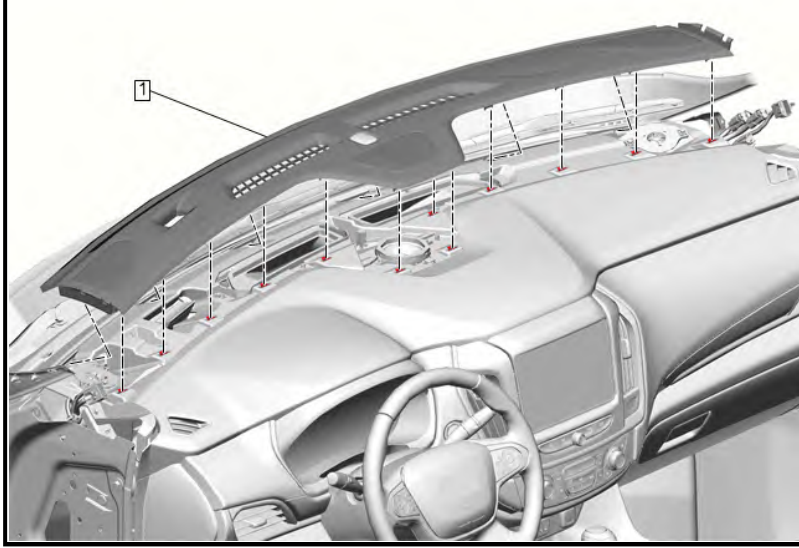
23.



Instrument Panel (1) - Install - [Instrument Panel Assembly Replacement](#)

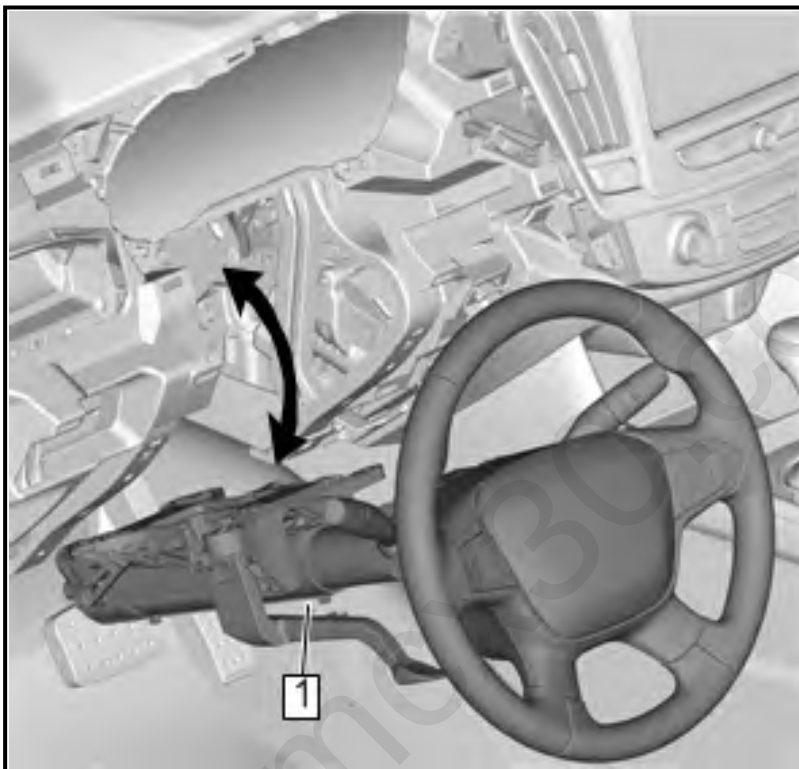
24.





Instrument Panel Extension (1) - Install - [Instrument Panel Extension Replacement](#)

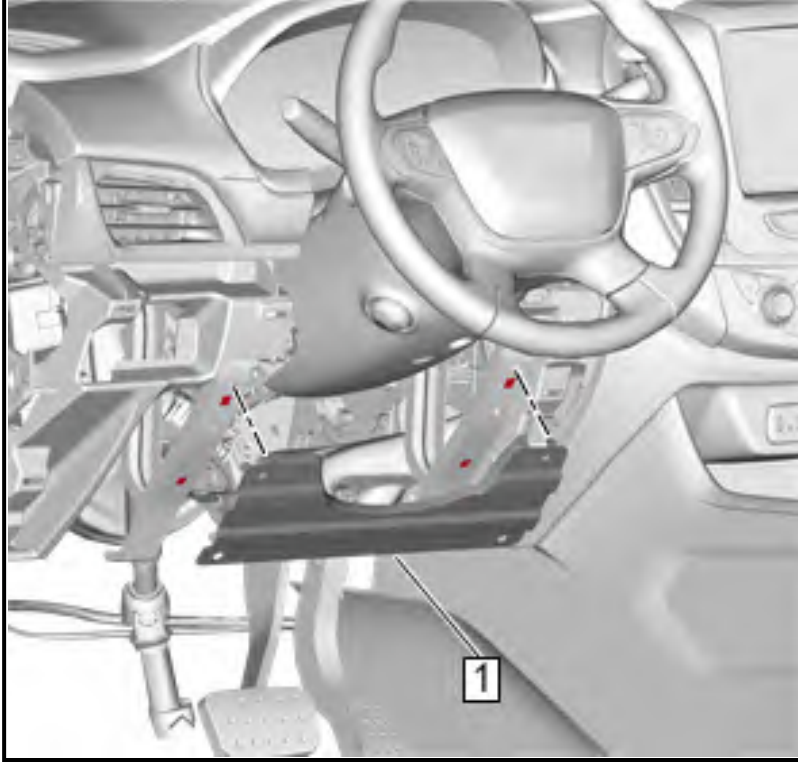
25.



Steering Column (1) - Install - [Steering Column Replacement \(N37\)](#). [Steering Column Replacement \(N38\)](#)

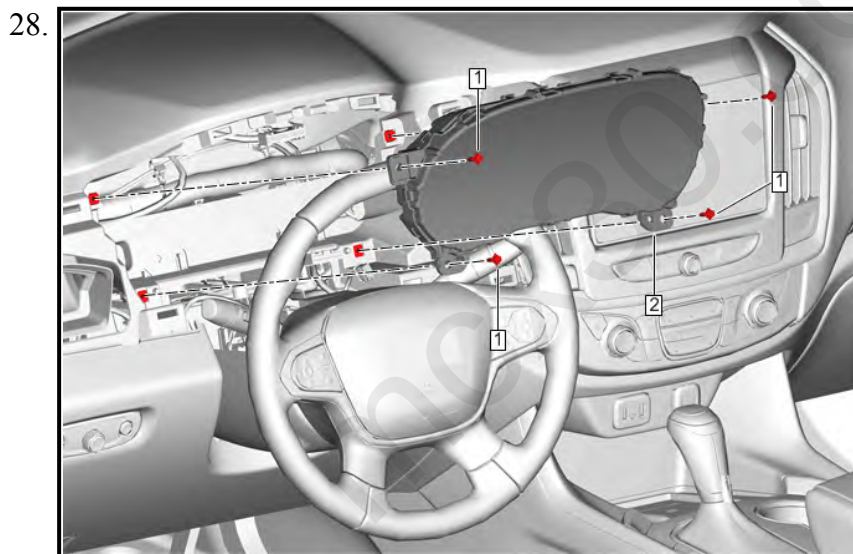
26.



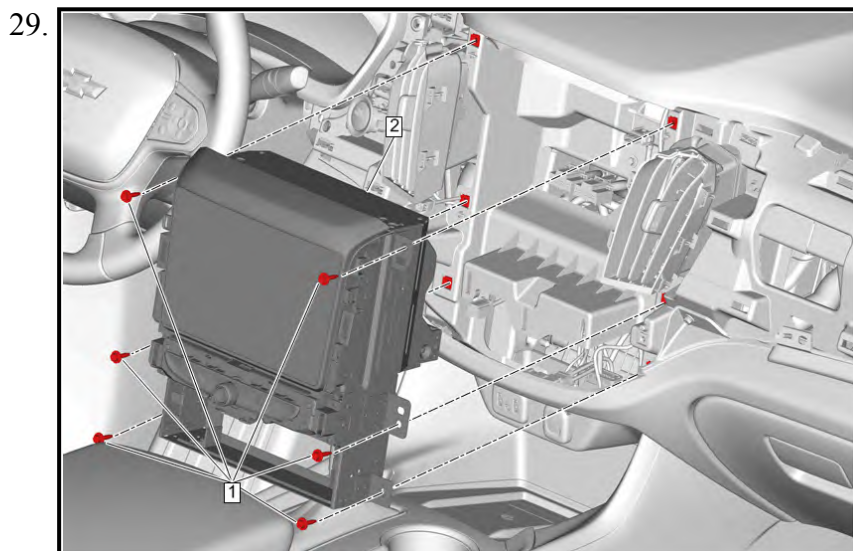


Instrument Panel Knee Bolster Bracket (1) - Install - [Instrument Panel Knee Bolster Bracket Replacement](#)

27. Connect the electrical connectors.

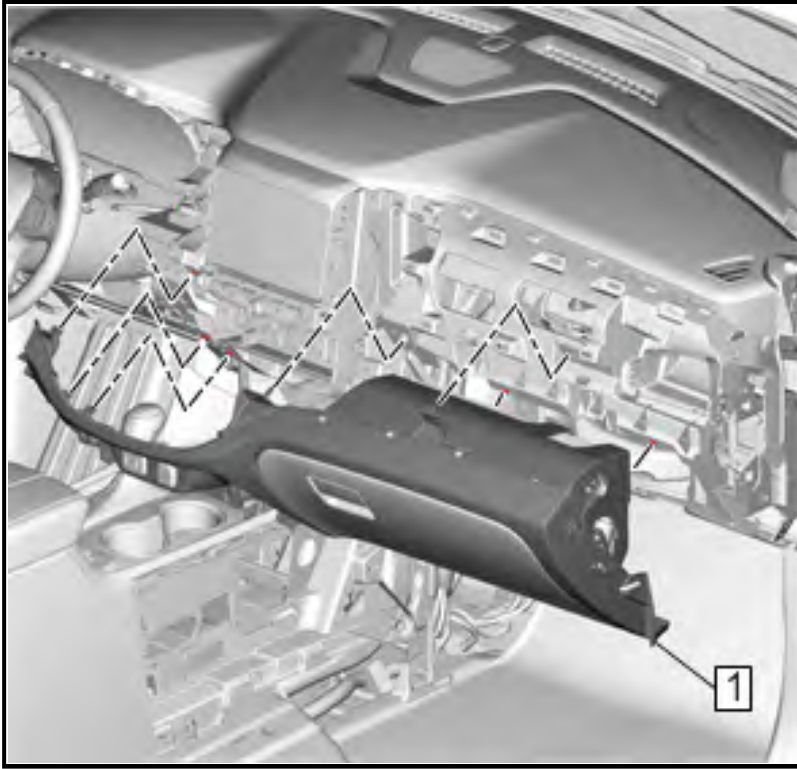


Instrument Cluster (2) - Install - [Instrument Cluster Replacement](#)



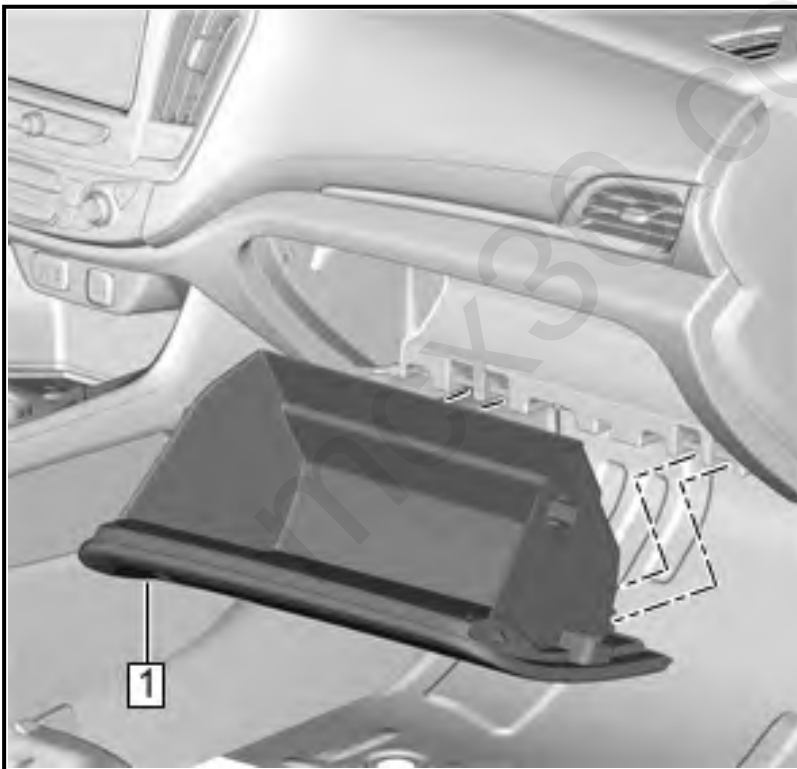
Radio Control (2) - Install - [Radio Control Assembly Replacement \(With IO5, IO6\)](#)

30.



Instrument Panel Compartment Door Opening Frame (1) - Install - [Instrument Panel Compartment Door Opening Frame Replacement](#)

31.

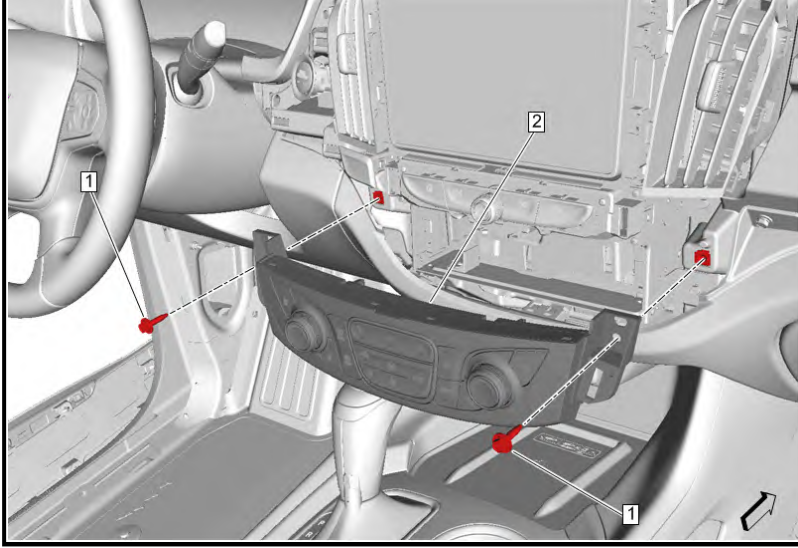


Instrument Panel Compartment Door (1) - Install - [Instrument Panel Compartment Door Replacement](#)

32. Connect the electrical connectors.

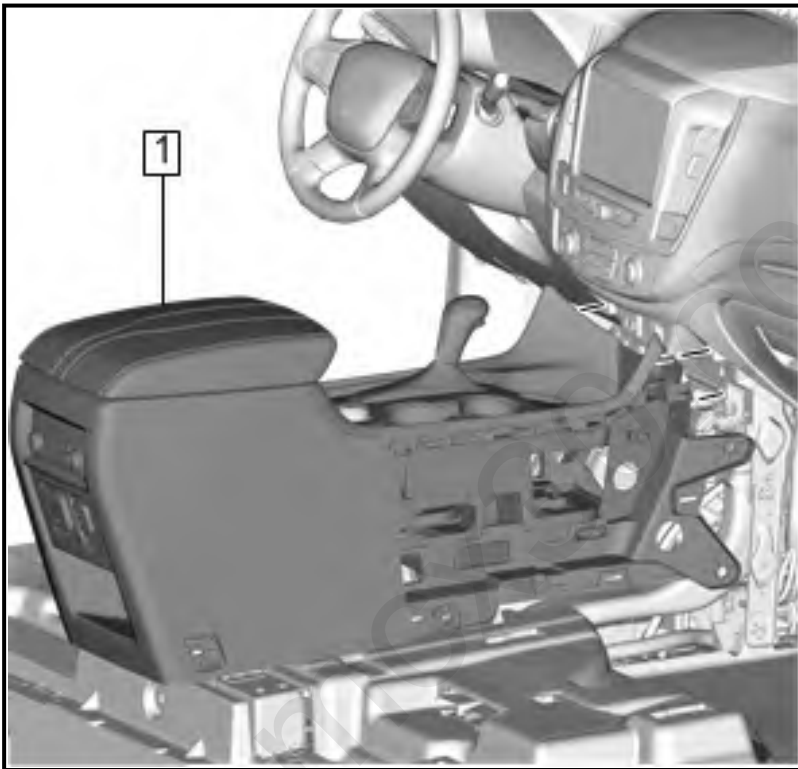
33.





Heater and Air Conditioning User Interface Control (2) - Install - [Heater and Air Conditioning User Interface Control Replacement](#)

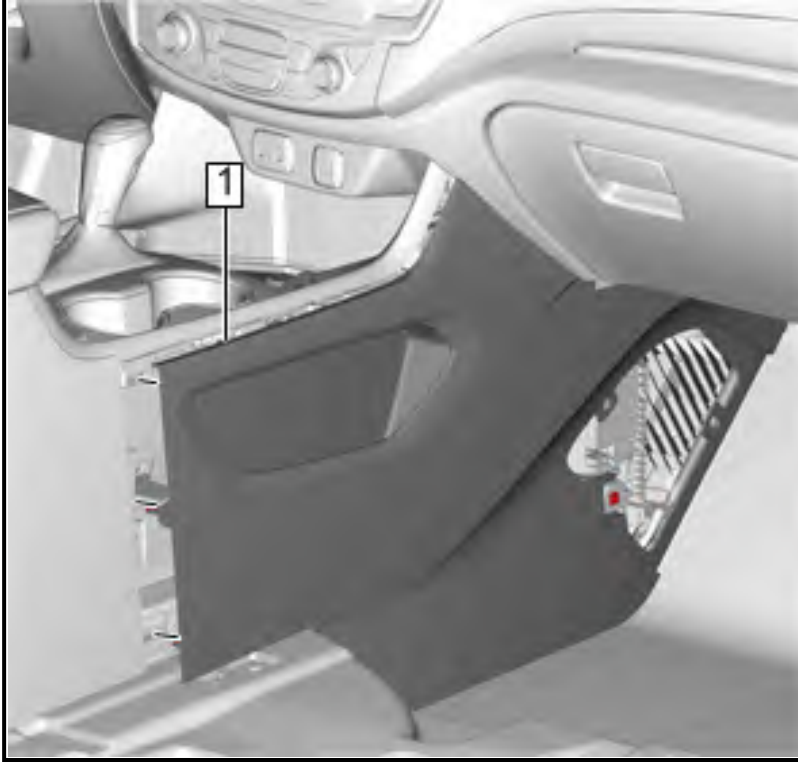
34.



Front Floor Console (1) - Install - [Front Floor Console Replacement](#)

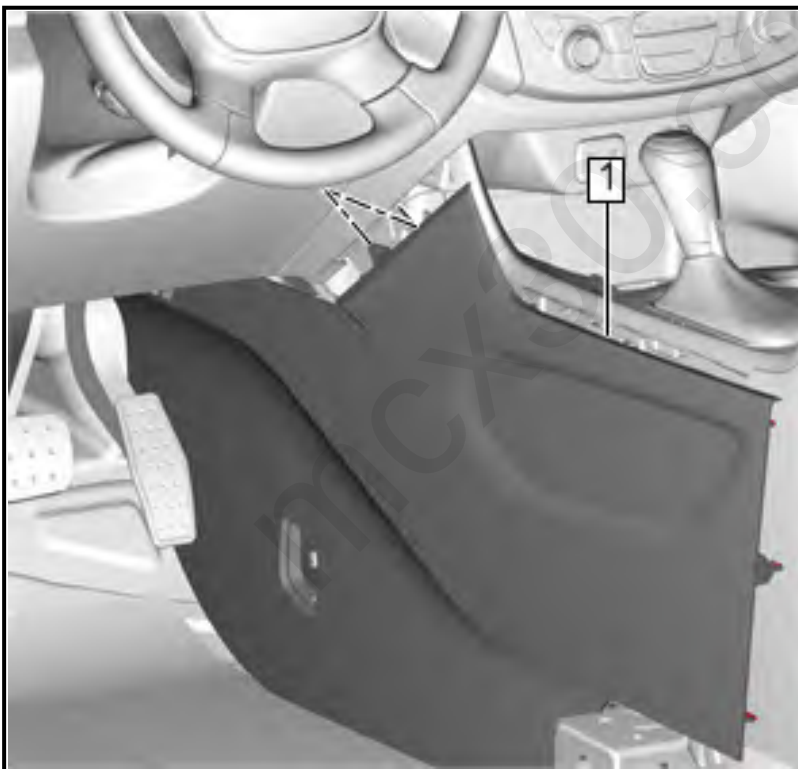
35.





Front Floor Console Extension Panel - Right Side (1) - Install - [Front Floor Console Extension Panel Replacement - Right Side](#)

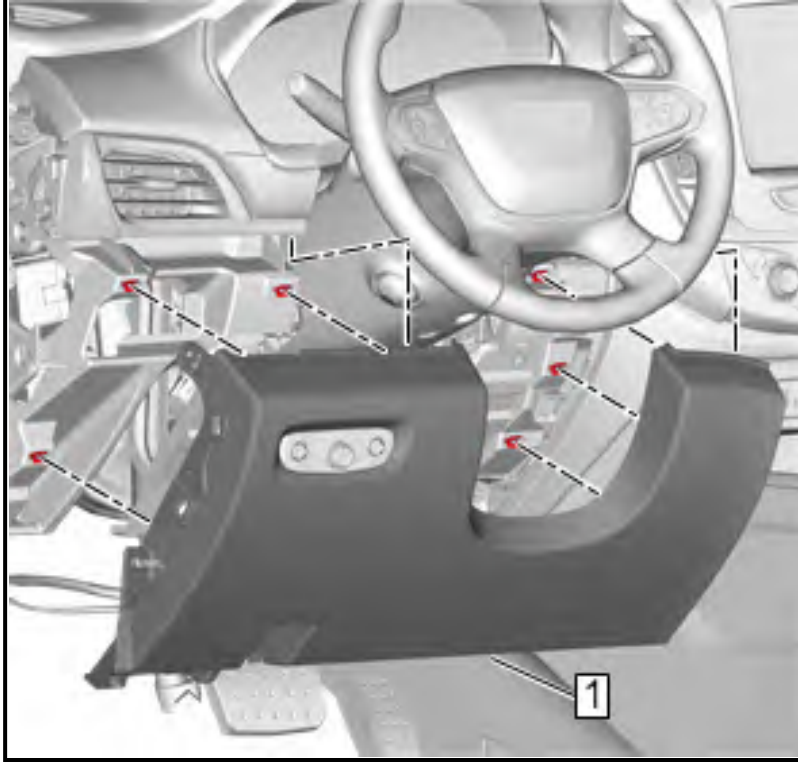
36.



Front Floor Console Extension Panel - Left Side (1) - Install - [Front Floor Console Extension Panel Replacement - Left Side](#)

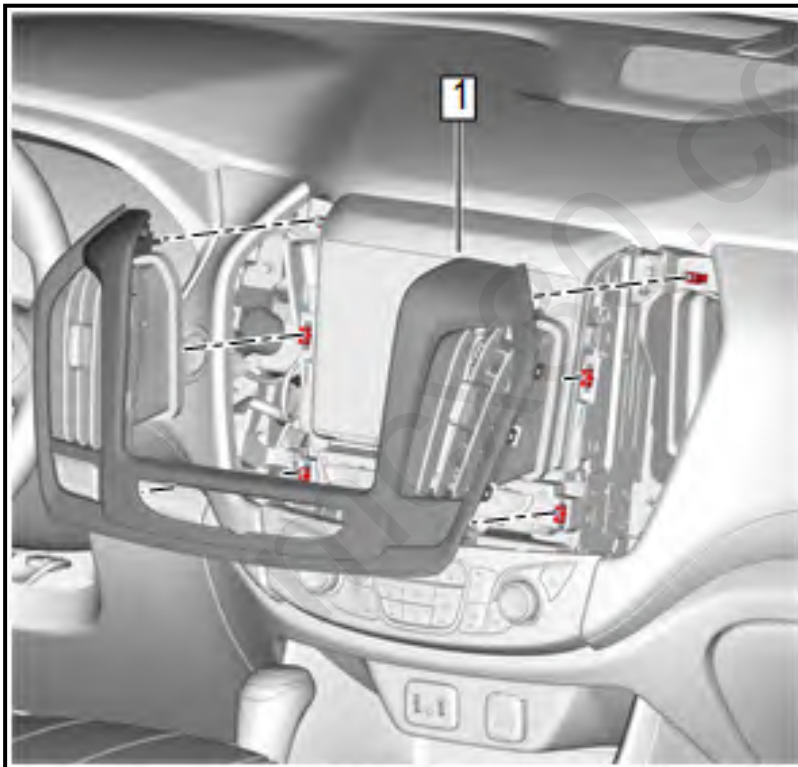
37.





Instrument Panel Knee Bolster (1) - Install - [Instrument Panel Knee Bolster Replacement](#)

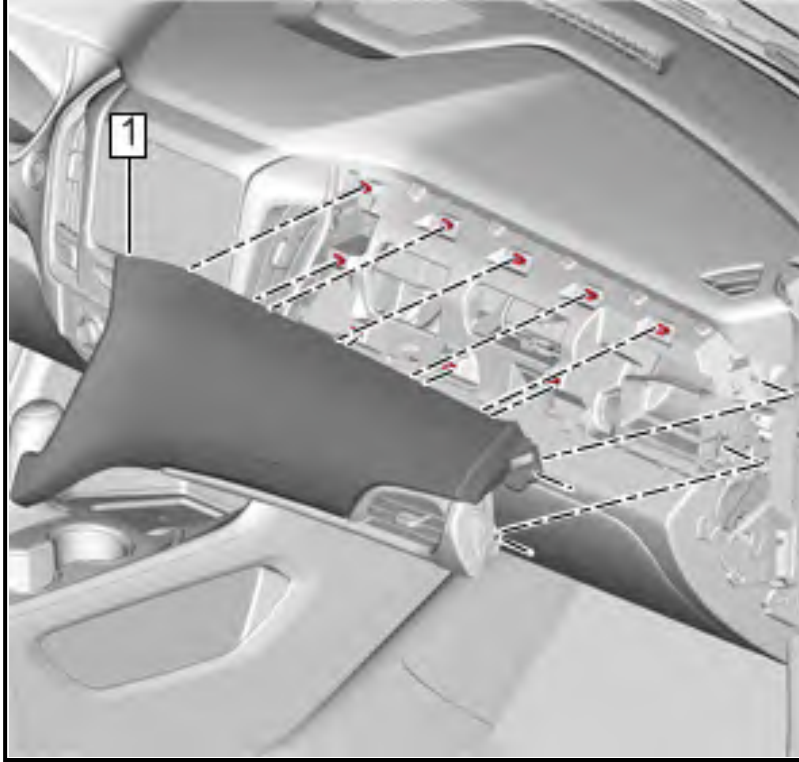
38.



Instrument Panel Radio Front Trim Plate (1) - Install - [Instrument Panel Radio Front Trim Plate Replacement \(RPO IOA\)](#)[Instrument Panel Radio Front Trim Plate Replacement \(RPO IO5, IO6\)](#)

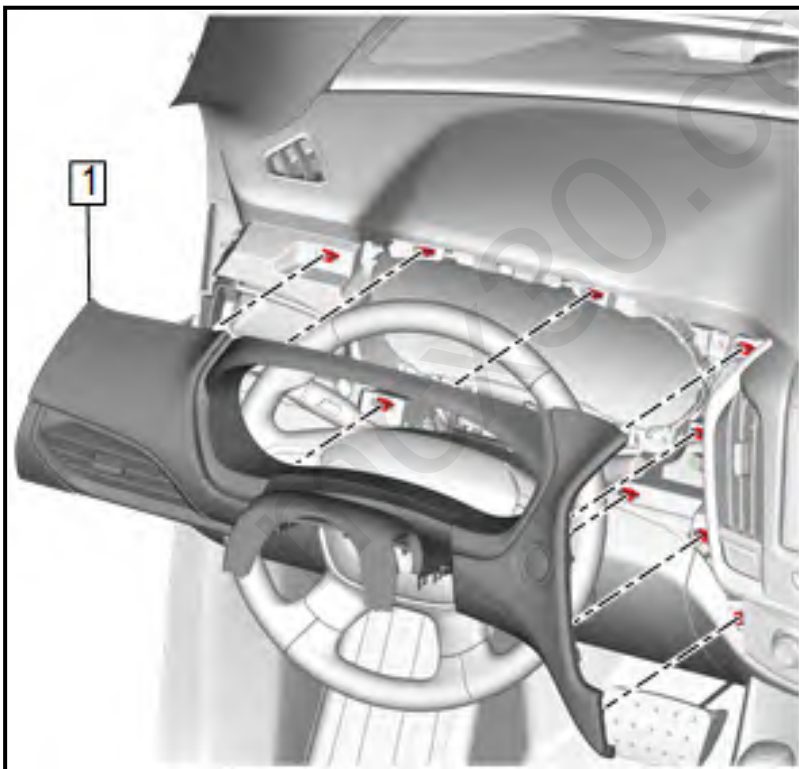
39.





Instrument Panel Trim Pad - Right Side (1) - Install - [Instrument Panel Trim Pad Replacement - Right Side](#)

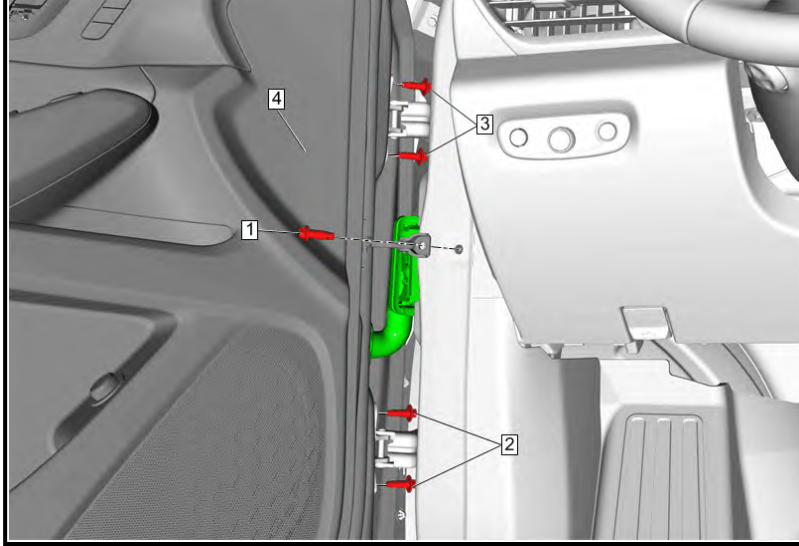
40.



Instrument Panel Trim Pad - Left Side (1) - Install - [Instrument Panel Trim Pad Replacement - Left Side](#)

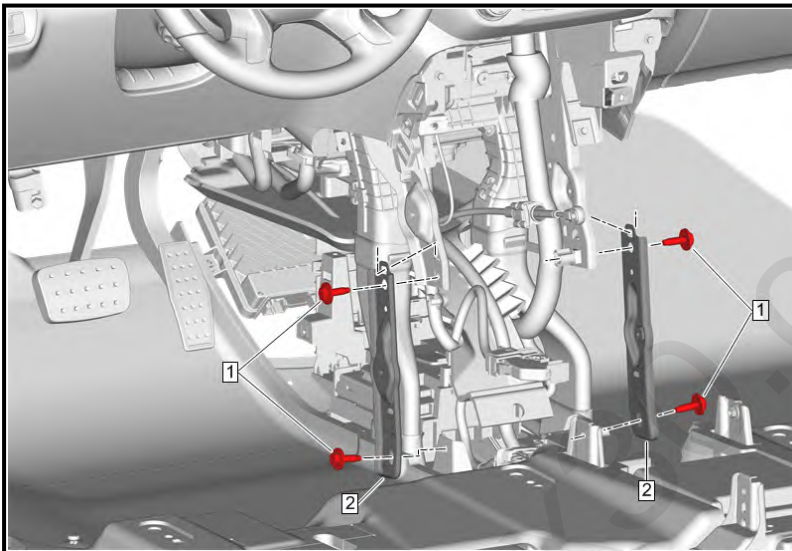
41.





Front Side Door (4) - Install - [Front Side Door Replacement](#)

INSTRUMENT PANEL TIE BAR BRACE REPLACEMENT

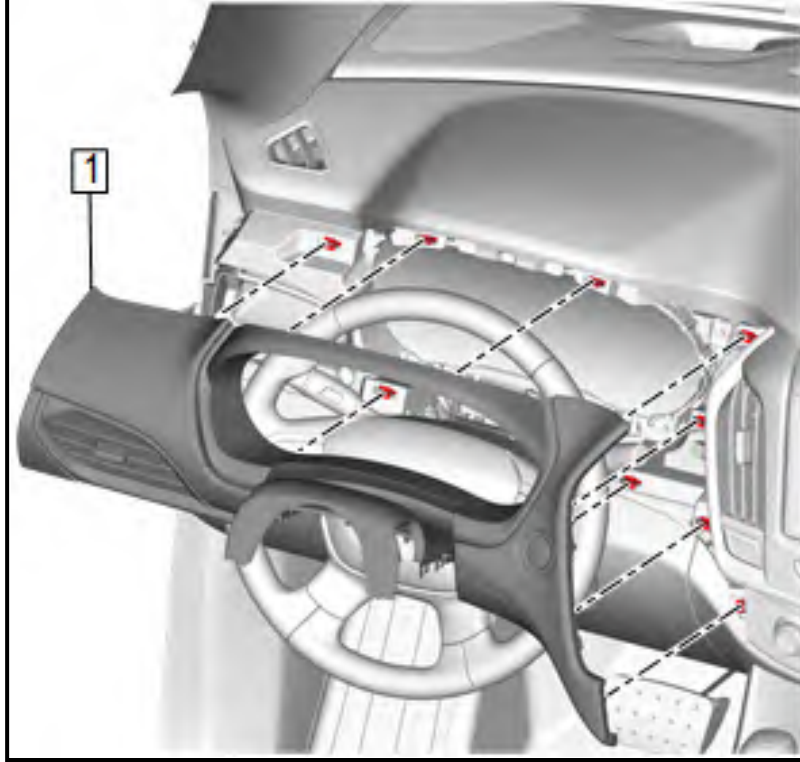


Callout	Component Name
Preliminary Procedure Slide the front floor console back to clear the pins from the instrument panel assembly. Front Floor Console Replacement	
1	Instrument Panel Tie Bar Brace Bolt [4x] CAUTION: Refer to Fastener Caution . Tighten 22 N.m (16 lb ft)
2	Instrument Panel Tie Bar Brace [2x] Procedure Disconnect and reposition harness as necessary.

INSTRUMENT PANEL RADIO FRONT TRIM PLATE REPLACEMENT (RPO IOA)

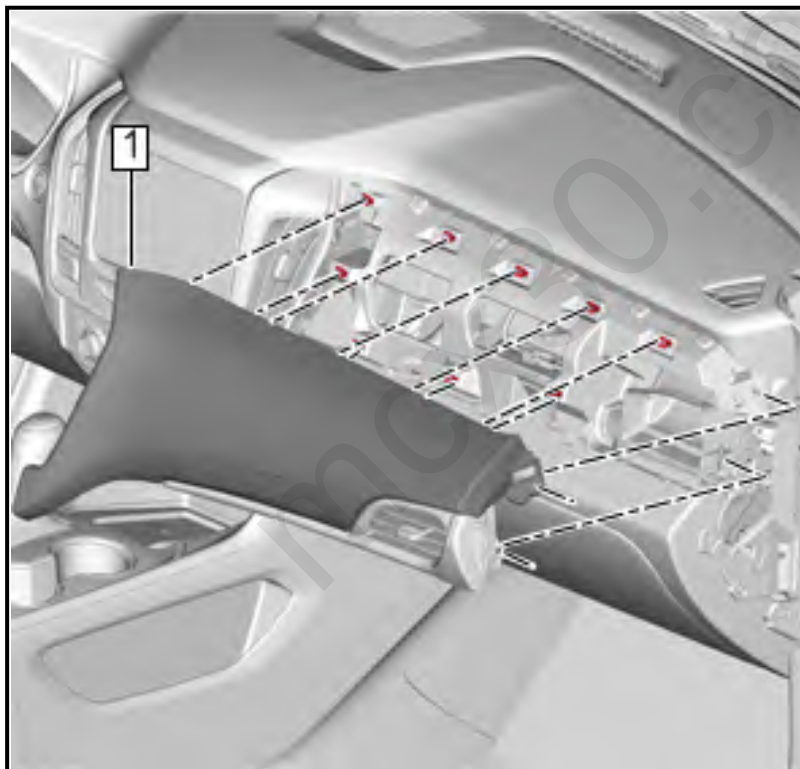
Removal Procedure

1.



Instrument Panel Trim Pad - Left Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Left Side](#)

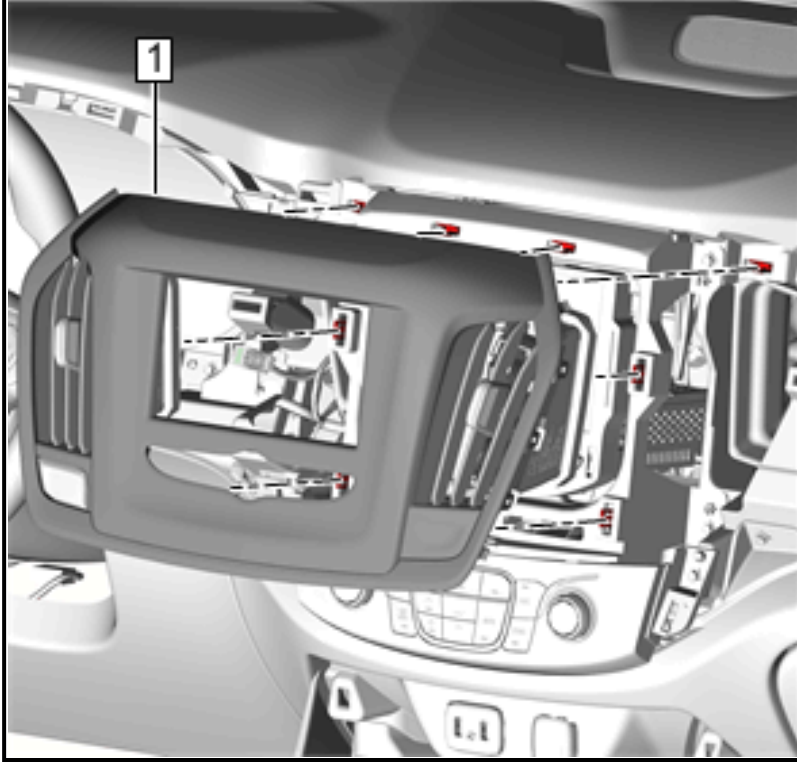
2.



Instrument Panel Trim Pad - Right Side (1) - Remove - [Instrument Panel Trim Pad Replacement - Right Side](#)

3.



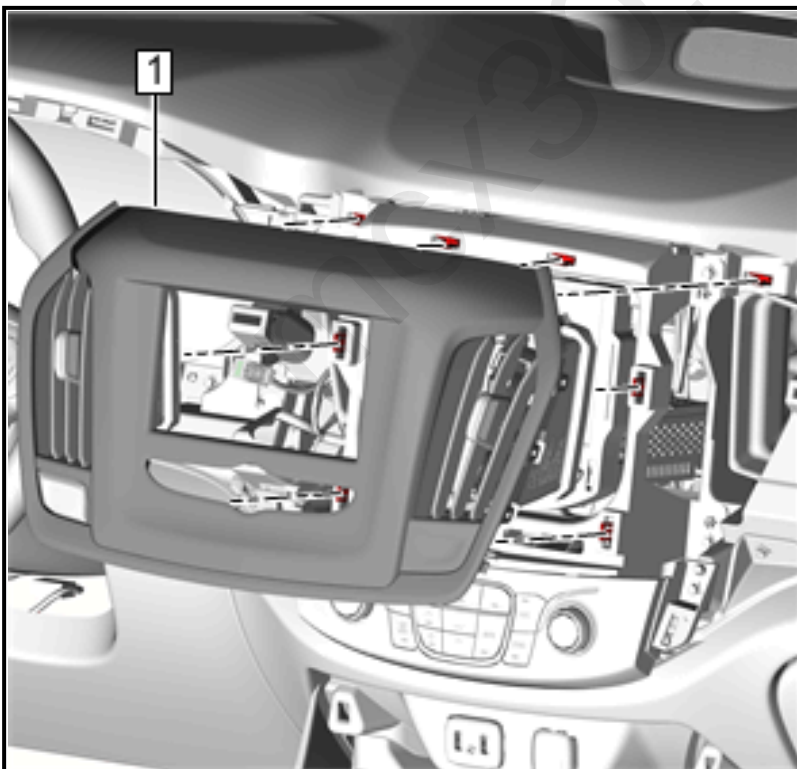


Instrument Panel Radio Front Trim Plate (1) - Remove

4. Use a plastic trim tool if necessary.
5. Disconnect the electrical connector.
6. Transfer components as necessary.

Installation Procedure

1.

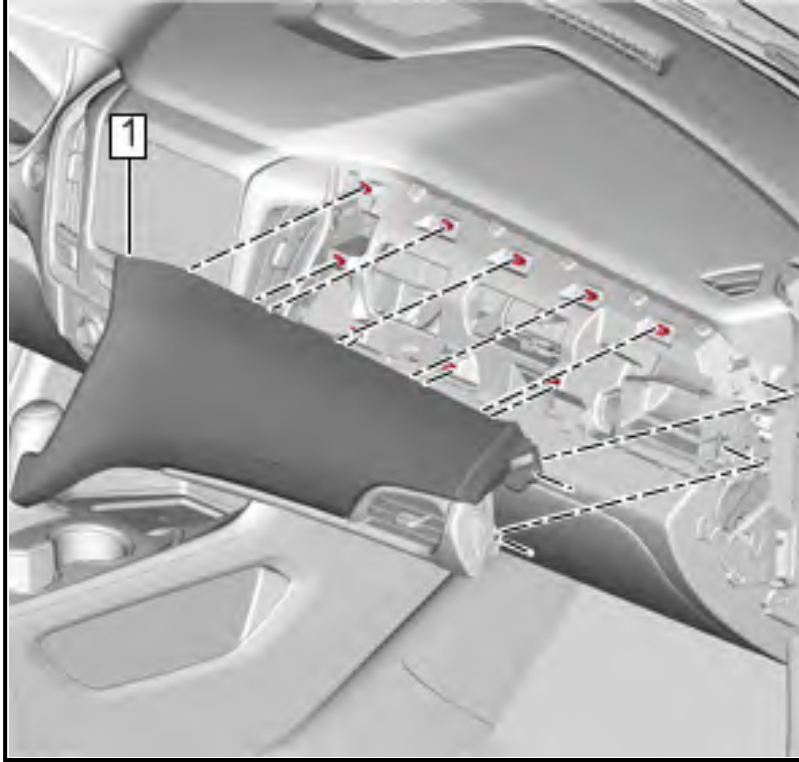


Connect the electrical connector.

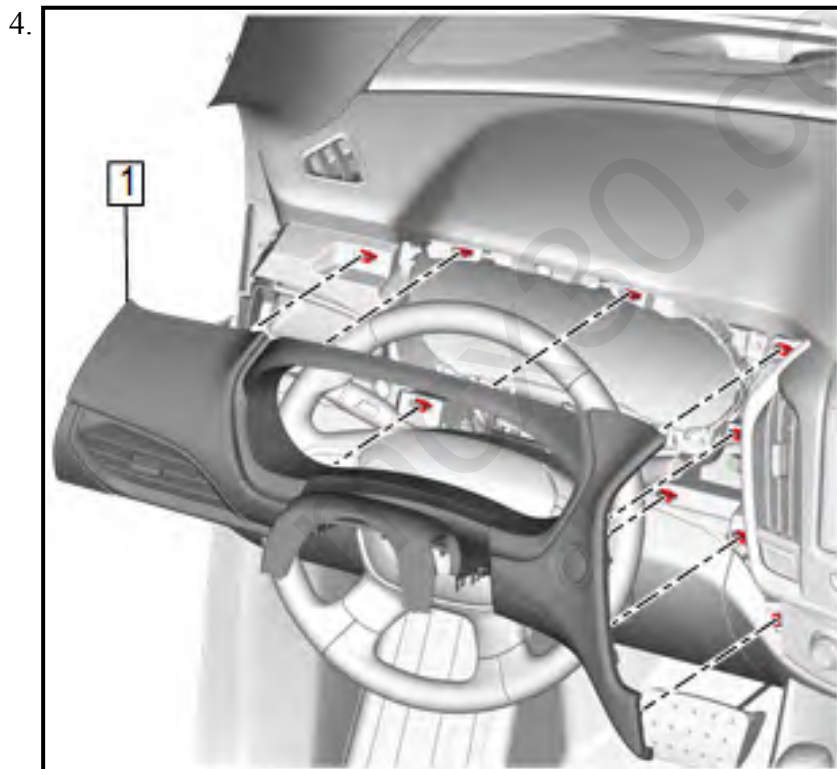
2. Instrument Panel Radio Front Trim Plate (1) - Install

3.





Instrument Panel Trim Pad - Right Side (1) - Install - [Instrument Panel Trim Pad Replacement - Right Side](#)

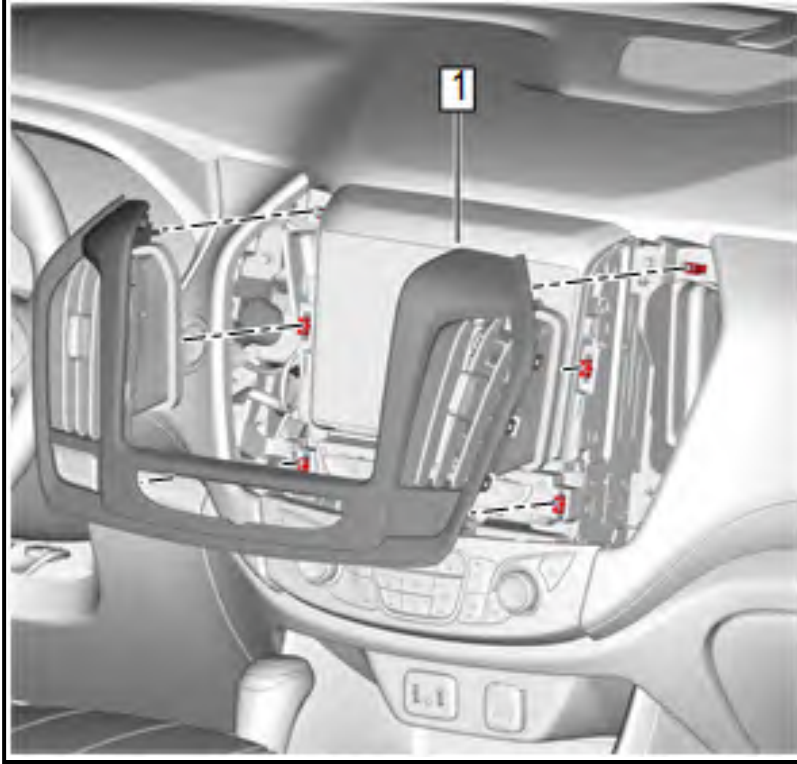


Instrument Panel Trim Pad - Left Side (1) - Install - [Instrument Panel Trim Pad Replacement - Left Side](#)

INSTRUMENT PANEL RADIO FRONT TRIM PLATE REPLACEMENT (RPO IO5, IO6)

Removal Procedure



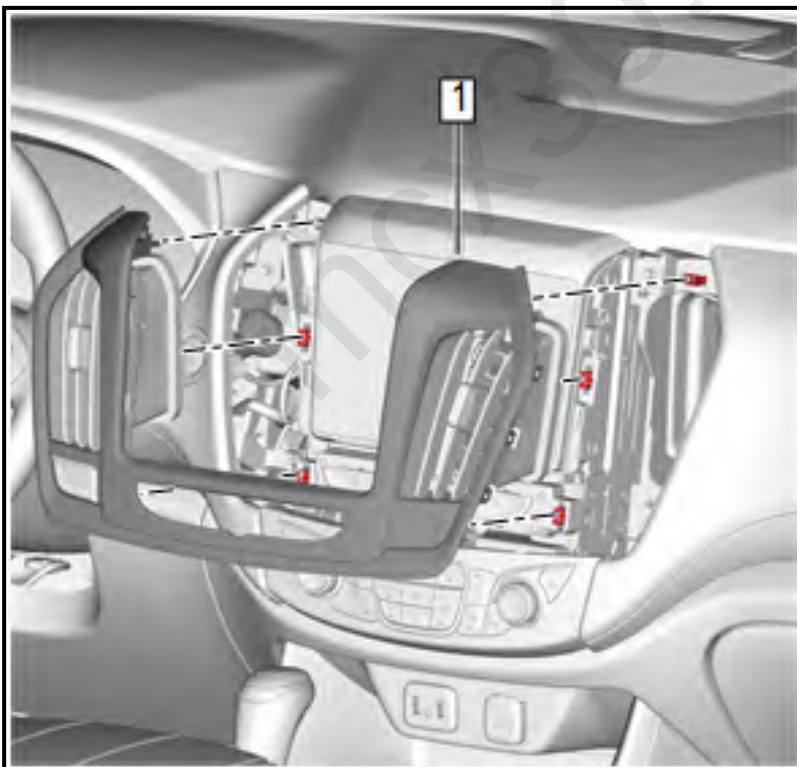


Instrument Panel Radio Front Trim Plate (1) - Remove

2. Using a flat-bladed plastic trim tool, release the retainer clips.
3. Disconnect the electrical connector.
4. Transfer components as necessary.

Installation Procedure

1.



Connect the electrical connector.

2. Instrument Panel Radio Front Trim Plate (1) - Install

WIRE TO WIRE REPAIR - INSTRUMENT PANEL AND CONSOLE

Special Tools

- EL-38125-10 Splice Sleeve Crimping Tool (non GMNA)
- J-38125-5A Ultra Torch Special Tool

- J-38125-8 Splice Sleeve Crimping Tool (GMNA)

For equivalent regional tools, refer to [Special Tools](#).

WARNING: In order to reduce the risk of personal injury, loss of high voltage isolation to ground and higher system impedance, do not attempt to repair any HV wiring, connector, or terminal that is damaged. High voltage coaxial type cables are not repairable. Never attempt to repair a coaxial type cable. The entire cable/harness or component must be replaced. In order to maintain system integrity and personal safety, never attempt to repair any high voltage wiring, cables, or terminals. Performing this procedure on high voltage circuits may result in serious injury or death.

NOTE: If the wiring harness internal to the transmission is damaged, the wiring harness must be replaced. The use of splice sleeves in an attempt to repair the internal transmission wires, connectors, or terminals could result in performance issues.

NOTE: Do not splice wires in Door Harness Grommets.

NOTE: The DuraSeal splice sleeves have the following 2 critical features:

- A special heat shrink sleeve environmentally seals the splice. The heat shrink sleeve contains a sealing adhesive inside.
- A cross hatched (knurled) core crimp provides the necessary low resistance contact integrity for these sensitive, low energy circuits.

Use only DuraSeal splice sleeves to form a one-to-one splice on all types of insulation except high voltage and specialty cables. Use DuraSeal splice sleeves where there are special requirements such as moisture sealing. Follow the instructions below in order to splice copper wire using DuraSeal splice sleeves.

Splice Sleeve Selection

Splice Sleeve Color	Crimp Tool Nest Color		Wire Gauge mm ² / (AWG)
	3 Crimp Nests	4 Crimp Nests	
Salmon (Yellow-Pink) 19300089	Red (1) or Red/Green (1)	Red (2)	0.22 - 0.8/ (18 - 26)
Blue 19168447	Blue (2)	Blue (3)	1.0 - 2.0/ (14 - 16)
Yellow 19168448	Yellow (3)	Yellow (4)	3.0 - 5.0/ (10 - 12)

NOTE: You must perform the following procedures in the listed order. Repeat the procedure if any wire strands are damaged. You must obtain a clean strip with all of the wire strands intact.

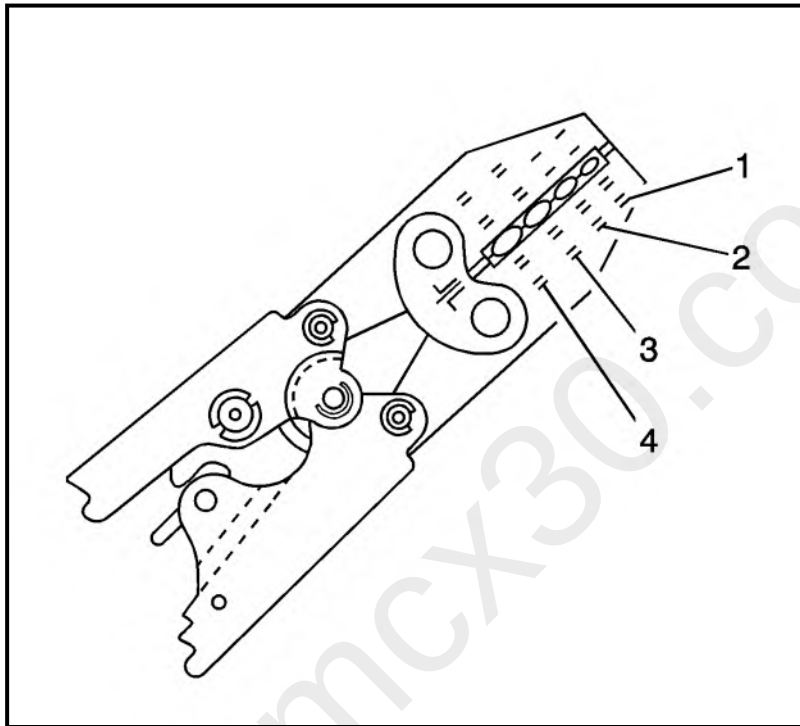
1. Open the harness by removing any tape:
 - Use a sewing seam ripper, available from sewing supply stores, in order to cut open the harness in order to avoid wire insulation damage.
 - Use the DuraSeal splice sleeves on all types of insulation except Tefzel and coaxial.
 - Do not use the crimp and DuraSeal splice sleeve to form a splice with more than 2 wires coming together.
2. Cut as little wire off the harness as possible. You may need the extra length of wire in order to change the location of a splice.

Adjust splice locations so that each splice is at least 40 mm (1.5 in) away from the other splices, harness branches, or connectors.

3. Strip the insulation:

- When adding a length of wire to the existing harness, use the same size wire as the original wire.
 - Perform one of the following items in order to find the correct wire size:
 - Find the wire on the schematic and convert to regional wiring gauge size.
 - If you are unsure of the wire size, begin with the largest opening in the wire stripper and work down until achieving a clean strip of the insulation.
 - Strip approximately 5.0 mm (0.20 in) of insulation from each wire to be spliced.
 - Do not nick or cut any of the strands. Inspect the stripped wire for nicks or cut strands.
 - If the wire is damaged, repeat this procedure after removing the damaged section.
4. For high temperature wiring, slide a section of high temperature SCT1 shrink tubing down the length of wire to be spliced. Ensure that the shrink tubing will not interfere with the splice procedure.
5. Select the proper DuraSeal splice sleeve according to the wire size. Refer to the above table at the beginning of the repair procedure for the color coding of the DuraSeal splice sleeves and the crimp tool nests.

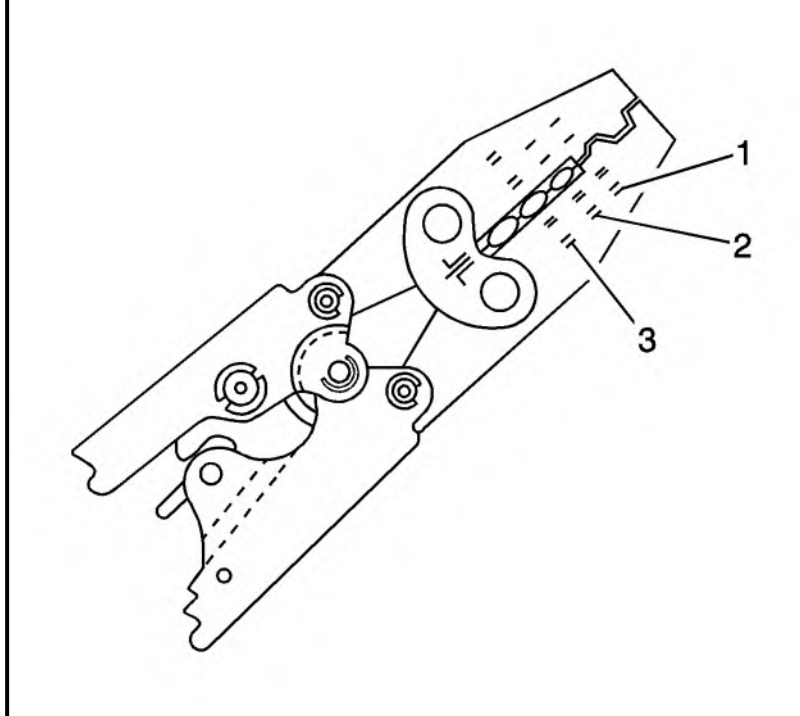
6.



The **EL-38125-10** splice sleeve crimping tool has four crimp nests. The largest crimp nest (4) is used for crimping 10 and 12 gauge wires. The second largest crimp nest (3) is used for crimping 14 and 16 gauge wires. The third largest crimp nest (2) is used for crimping 18 and 20 gauge wires. The smallest crimp nest (1) is used for crimping 22 to 26 gauge wires. The crimp nests are referenced in the table (farther above) under the crimp tool nest color.

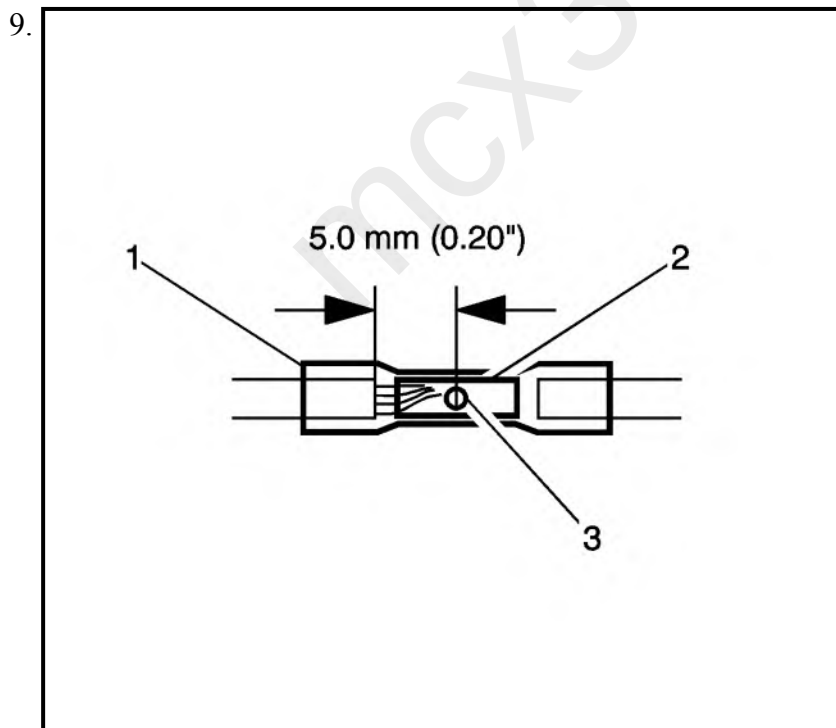
7.



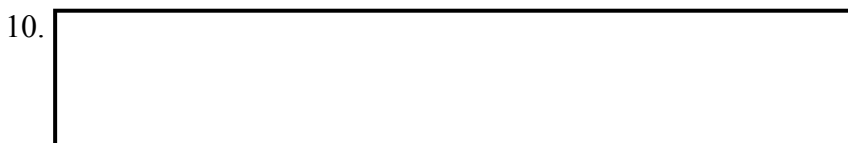


The **J-38125-8** splice sleeve crimping tool has three crimp nests. The largest crimp nest (3) is used for crimping 10 and 12 gauge wires. The second largest crimp nest (2) is used for crimping 14 and 16 gauge wires. The smallest crimp nest (1) is used for crimping 18 to 20 gauge wires. The crimp nests are referenced in the table (farther above) under the crimp tool nest color.

8. Use the splice sleeve crimp tool in order to position the DuraSeal splice sleeve in the proper color nest of the splice sleeve crimp tool. For the four crimp nest tool, use the three largest crimp nests to crimp the splice sleeves. For the three crimp nest tool, use all three crimp nests to crimp the splice sleeves. Use the four and three crimp tool diagrams (above) and the table (farther above) to match the splice sleeve with the correct crimp nest. The crimp tool diagram callout numbers match the numbers in the table (under crimp tool nest color).



Place the DuraSeal splice sleeve in the nest. Ensure that the crimp falls midway between the end of the barrel and the stop. The sleeve has a stop (3) in the middle of the barrel (2) in order to prevent the wire (1) from going further. Close the hand crimper handles slightly in order to firmly hold the DuraSeal splice sleeve in the proper nest.



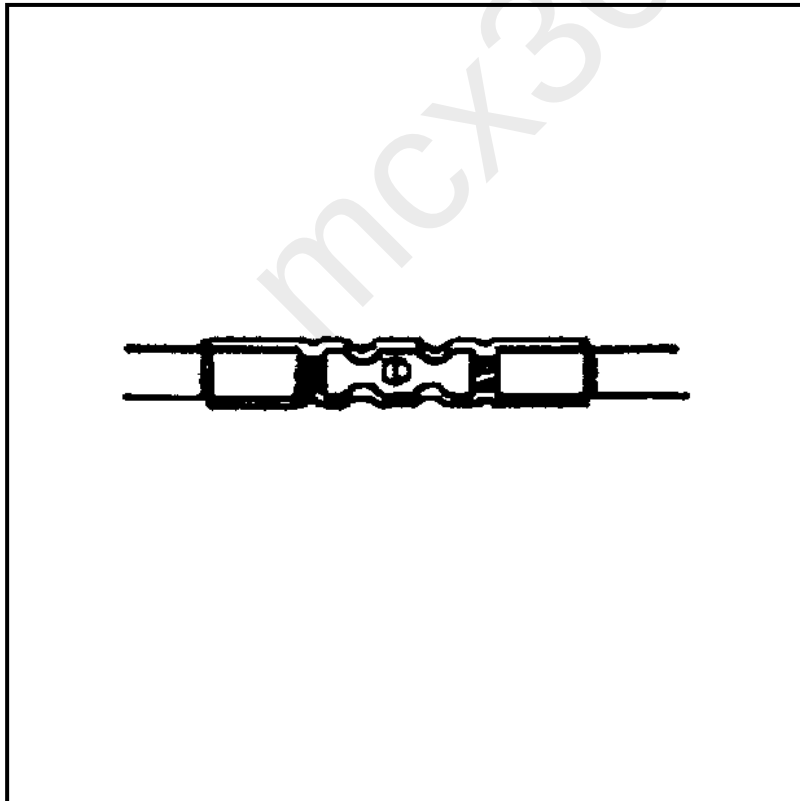


Insert the wire into the splice sleeve barrel until the wire hits the barrel stop. Refer to **Folded-Over Wire Repair** for splicing wires of 0.35 mm or less (22, 24, 26 gauge sizes) and for splicing wires of different gauges.

11. Tightly close the handles of the crimp tool until the crimper handles open when released.

The crimper handles will not open until you apply the proper amount of pressure to the DuraSeal splice sleeve. Repeat steps 4 and 6 for the opposite end of the splice.

- 12.

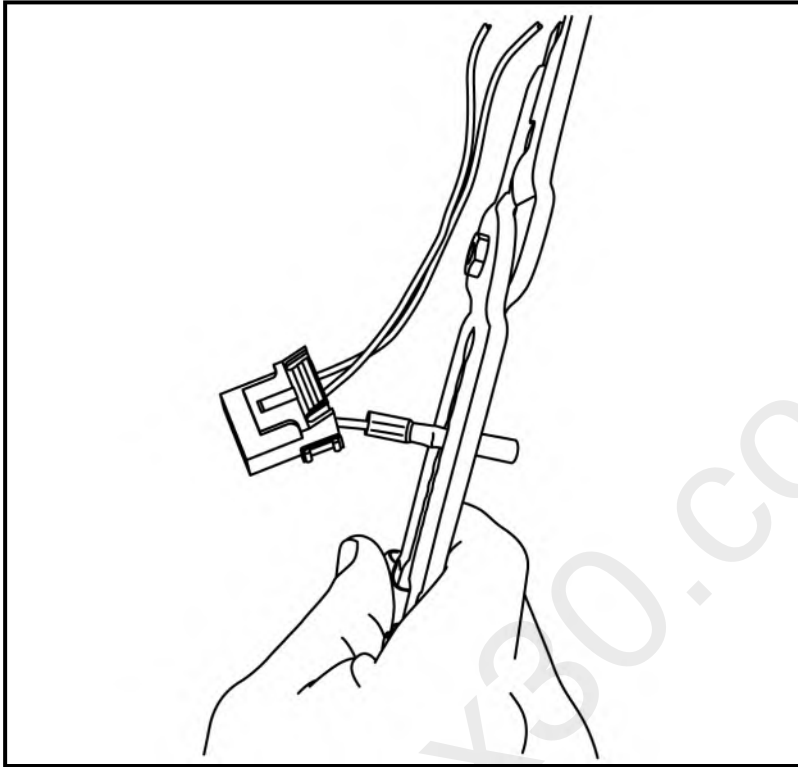


Using the heat torch, apply heat to the crimped area of the barrel.

13. Start in the middle and gradually move the heat barrel to the open ends of the tubing:
 - The tubing will shrink completely as the heat is moved along the insulation.
 - A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.

NOTE: Some replacement pigtail connectors may be delivered without the terminated leads installed into the connector. For Weatherpack™ connectors, all terminated leads included in the package should to be installed into the connector. If the connector end view shows that a terminal is not occupied, the extra terminated lead (s) need to be installed and the end (s) sealed using a DuraSeal splice sleeve and taped back into the harness.

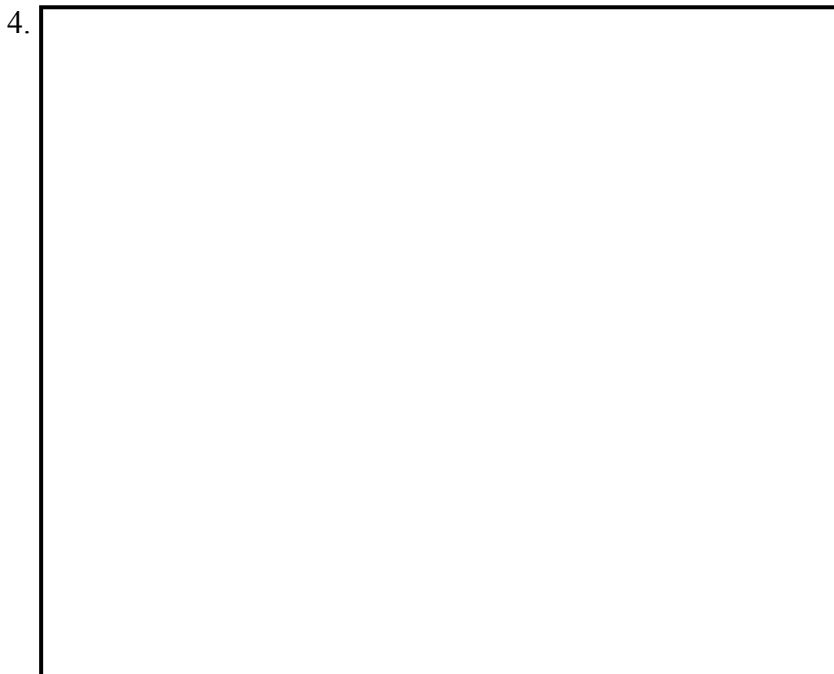
1. Insert the wire into the splice sleeve barrel until the wire hits the barrel stop. Refer to [Folded-Over Wire Repair](#) for splicing wires of 0.35 mm or less (22, 24, 26 gauge sizes) and for splicing wires of different gauges.

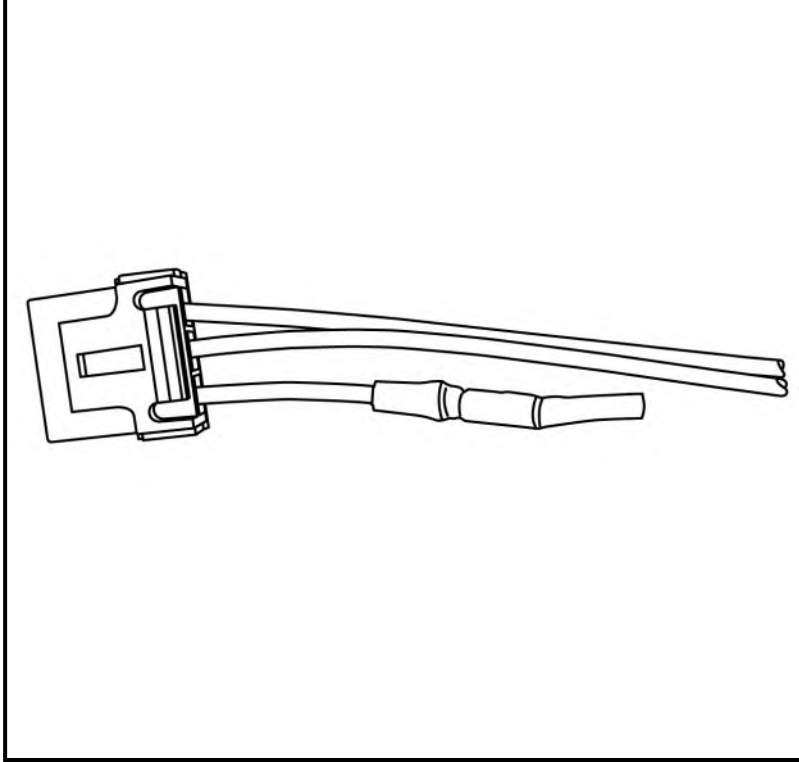


2. Tightly close the handles of the crimp tool until the crimper handles open when released.

The crimper handles will not open until you apply the proper amount of pressure to the DuraSeal splice sleeve. Holding the DuraSEAL with one hand gently tug on the wire to ensure it is crimped in the DuraSeal.

3. Using the heat torch, apply heat to the crimped area of the barrel.

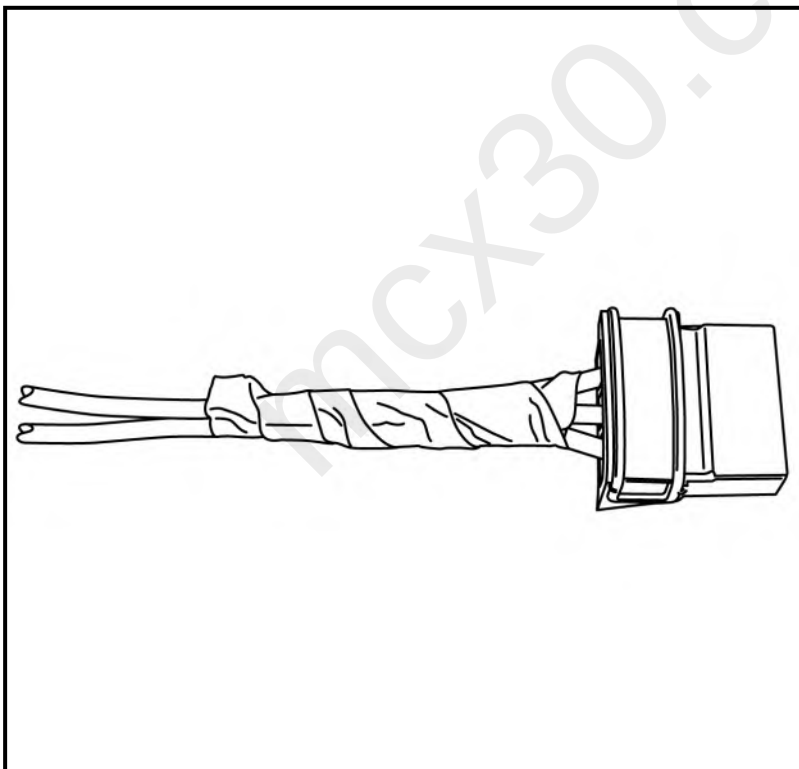




Start in the middle and gradually move the heat barrel to the open ends of the tubing:

- The tubing will shrink completely as the heat is moved along the insulation.
- A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.

5.



Tape the extra terminated lead (s) back into the harness.

High Temperature Wiring Repairs

Use the following procedures to perform high temperature wiring repairs:

1. Center the high temperature SCT1 shrink tube over the DuraSeal splice sleeve.
2. Using the heat torch, apply heat to the high temperature heat shrink tubing.
3. Gradually move the heat from the center to the open end of the tubing:
 - The tubing will shrink completely as the heat is moved along the insulation.

- A small amount of sealant will come out of the end of the tubing when sufficient shrinkage is achieved.

4. Replace any reflective tape and clips that may have been removed during the repair.

CONNECTOR RECONNECTION - INSTRUMENT PANEL AND CONSOLE

Special Tools

EL-35616 Terminal Test Probe Kit

For equivalent regional tools, refer to [Special Tools](#).

When the condition is not currently present, but is indicated in DTC history, the cause may be intermittent. An intermittent may also be the cause when there is a customer complaint, but the symptom cannot be duplicated. Refer to the Symptom Table of the system that is suspect of causing the condition before trying to locate an intermittent condition.

Most intermittent conditions are caused by faulty electrical connections or wiring. Inspect for the following items:

- Loose, corroded, or painted terminal stud/fastener
- Wiring broken inside the insulation
- Poor connection between the male and female terminal at a connector
- A terminal not seated all the way into the connector body
- Poor terminal to wire connection - Some conditions which fall under this description are poor crimps, poor solder joints, crimping over the wire insulation rather than the wire itself, and corrosion in the wire to terminal contact area, etc.
- Pierced or damaged insulation can allow moisture to enter the wiring causing corrosion. The conductor can corrode inside the insulation, with little visible evidence. Look for swollen and stiff sections of wire in the suspect circuits.
- Wiring which has been pinched, cut, or its insulation rubbed through may cause an intermittent open or short as the bare area touches other wiring or parts of the vehicle.
- Wiring that comes in contact with hot or exhaust components
- Refer to [Inducing Intermittent Fault Conditions](#) in order to duplicate the conditions required, in order to verify the customer concern.
- Refer to [Testing for Electrical Intermittents](#) for test procedures to detect intermittent open, high resistance, short to ground, and short to voltage conditions.
- Refer to [Scan Tool Snapshot Procedure](#) for advanced intermittent diagnosis and Vehicle Data Recorder operation.

Testing for Terminal Fretting

Some intermittent conditions can be caused by wire terminal fretting corrosion. Fretting corrosion is a build-up of insulating, oxidized wear debris that can form when there is a small motion between electrical contacts. The oxidized wear debris can pile up enough at the electrical contact spots that the electrical resistance across the connection increases. Movement between the contacting surfaces as small as 10 to 100 microns can cause fretting. To put this in perspective, a sheet of paper is about 100 microns thick, so fretting motion is small and hard to see. Vibration and thermal expansion/contraction are the main sources that create fretting motion. Since vehicles vibrate and can experience large temperature swings, they are a good source for fretting motion. Tin, copper, nickel, and iron surfaces are all susceptible to fretting corrosion. Fretting corrosion can be difficult to see but it looks like small, dark smudges on the terminals contact surface.

To correct a fretting condition disconnect the suspect connector and add dielectric grease / lubricant (Nyogel 760G or equivalent, meeting GM specification 9986087) to both sides of the connector terminals. Then reconnect the connector and wipe away any excess lubricant. This will correct the additional terminal contact resistance due to the terminal fretting corrosion.

Testing for Proper Terminal Contact

It is important to test terminal contact at the component and any inline connectors before replacing a suspect component. Mating terminals must be inspected to ensure good terminal contact. A poor connection between the male and female terminal at a connector may be the result of contamination or deformation.

Contamination may be caused by the connector halves being improperly connected. A missing or damaged connector seal, damage to the connector itself, or exposing the terminals to moisture and dirt can also cause contamination. Contamination, usually in the underhood or underbody connectors, leads to terminal corrosion, causing an open circuit or intermittently open circuit.

Deformation is caused by probing the mating side of a connector terminal without the proper adapter. Always use the **EL-35616** kit when probing connectors. Other causes of terminal deformation are improperly joining the connector halves, or repeatedly separating and joining the connector halves. Deformation, usually to the female terminal contact tang, can result in poor terminal contact causing an open or intermittently open circuit.

Testing for Proper Terminal Contact in Bussed Electrical Centers

It is very important to use the correct test adapter when testing for proper terminal contact of fuses and relays in a bussed electrical center. Use the **EL-35616** kit to test for proper terminal contact. Failure to use the **EL-35616** kit can result in improper diagnosis of the bussed electrical center.

Follow the procedure below in order to test terminal contact:

1. Separate the connector halves.
2. Visually inspect the connector halves for contamination. Contamination may result in a white or green build-up within the connector body or between terminals. This causes high terminal resistance, intermittent contact, or an open circuit. An underhood or underbody connector that shows signs of contamination should be replaced in its entirety: terminals, seals, and connector body.
3. Using an equivalent male terminal/terminated lead, verify that the retention force is significantly different between a known good terminal and the suspect terminal. Replace the female terminal in question.

Flat Wire Connectors

There are no serviceable parts for flat wire connectors on the harness side or the component side.

Follow the procedure below in order to test terminal contact:

1. Remove the component in question.
2. Visually inspect each side of the connector for signs of contamination. Avoid touching either side of the connector as oil from your skin may be a source of contamination as well.
3. Visually inspect the terminal bearing surfaces of the flat wire circuits for splits, cracks, or other imperfections that could cause poor terminal contact. Visually inspect the component side connector to ensure that all of the terminals are uniform and free of damage or deformation.
4. Insert the appropriate adapter into the flat wire harness connector in order to test the circuit in question.

Control Module/Component Voltage and Grounds

Poor voltage or ground connections can cause widely varying symptoms.

- Test all control module voltage supply circuits. Many vehicles have multiple circuits supplying voltage to a control module. Other components in the system may have separate voltage supply circuits that may also need to be tested. Inspect connections at the module/component connectors, fuses, and any intermediate connections between the voltage source and the module/component. A test lamp or a DMM may indicate that voltage is present, but neither tests the ability of the circuit to carry sufficient current. Operate the component to test the ability of the circuit to carry sufficient current. Refer to [Circuit Testing](#) , and [Power Distribution Wiring Schematics](#) .
- Test all control module ground and system ground circuits. The control module may have multiple ground circuits. Other components in the system may have separate grounds that may also need to

be tested. Inspect grounds for clean and tight connections at the grounding point (screw or stud). Inspect the connections at the component and in splice packs, where applicable. Operate the component to test the ability of the circuit to carry sufficient current. Refer to [Circuit Testing](#) , and [Ground Distribution Wiring Schematics](#) .

Temperature Sensitivity

- An intermittent condition may occur when a component/connection reaches normal operating temperature. The condition may occur only when the component/connection is cold, or only when the component/connection is hot.
- Freeze Frame, Failure Records, Snapshot, or Vehicle Data Recorder data may help with this type of intermittent condition, where applicable.
- If the intermittent is related to heat, review the data for a relationship with the following:
 - High ambient temperatures
 - Underhood/engine generated heat
 - Circuit generated heat due to a poor connection, or high electrical load
 - Higher than normal load conditions, towing, etc.
- If the intermittent is related to cold, review the data for the following:
 - Low ambient temperatures - In extremely low temperatures, ice may form in a connection or component. Inspect for water intrusion.
 - The condition only occurs on a cold start.
 - The condition goes away when the vehicle warms up.
- Information from the customer may help to determine if the trouble follows a pattern that is temperature related.
- If temperature is suspected of causing an intermittent fault condition, attempt to duplicate the condition. Refer to [Inducing Intermittent Fault Conditions](#) in order to duplicate the conditions required.

Electromagnetic Interference and Electrical Noise

Some electrical components/circuits are sensitive to electromagnetic interference or other types of electrical noise. Inspect for the following conditions:

- A mis-routed harness that is too close to high voltage/high current devices such as secondary ignition components, motors, generator etc. - These components may induce electrical noise on a circuit that could interfere with normal circuit operation.
- Electrical system interference caused by a malfunctioning relay, or a control module driven solenoid or switch - These conditions can cause a sharp electrical surge. Normally, the condition will occur when the malfunctioning component is operating.
- Installation of non-factory or aftermarket add on accessories such as lights, 2-way radios, amplifiers, electric motors, remote starters, alarm systems, cell phones, etc. - These accessories may create interference in other circuits while operating and the interference would disappear when the accessory is not operating. Refer to [Checking Aftermarket Accessories](#) .
- Test for an open diode across the A/C compressor clutch and for other open diodes. Some relays may contain a clamping diode.
- The generator may be allowing AC noise into the electrical system.

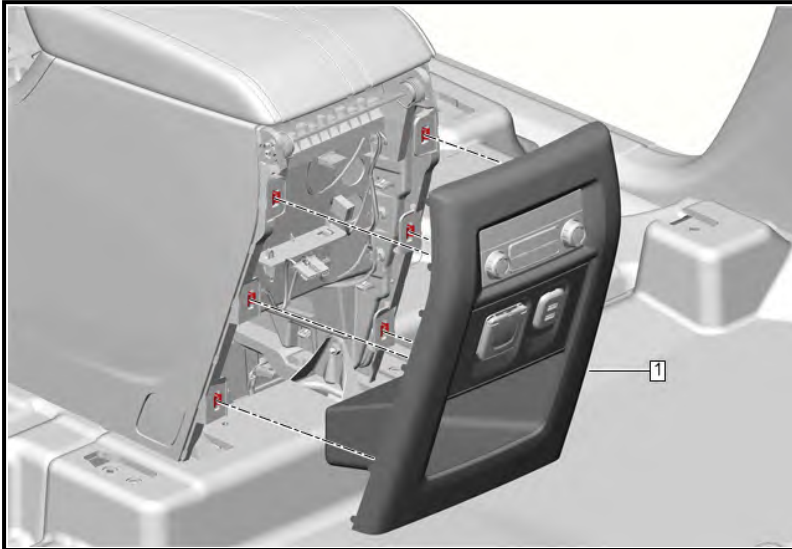
Incorrect Control Module

- There are only a few situations where reprogramming a control module is appropriate:
 - A new service control module is installed.
 - A control module from another vehicle is installed.
 - Revised software/calibration files have been released for this vehicle.

NOTE: **DO NOT re-program the control module with the SAME software/calibration files that are already present in the control module. This is not an effective repair for any type of concern.**

- Verify that the control module contains the correct software/calibration. If incorrect programming is found, reprogram the control module with the most current software/calibration. Refer to [Control Module References](#) for replacement, setup, and programming.

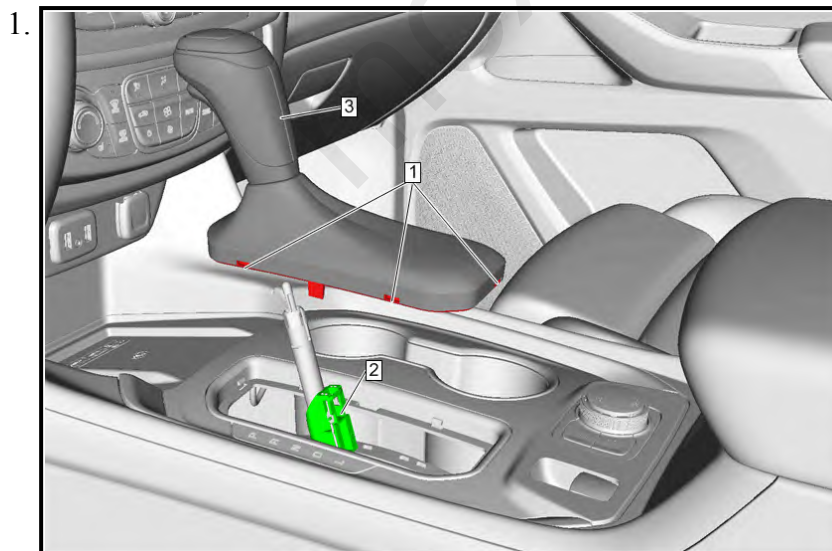
FRONT FLOOR CONSOLE REAR TRIM PANEL REPLACEMENT



Callout	Component Name
1	Front Floor Console Rear Trim Panel Procedure 1. Pull rearward to disengage the clips. 2. Disconnect the electrical connectors. 3. Transfer components as necessary.

FRONT FLOOR CONSOLE CUP HOLDER PLATE REPLACEMENT

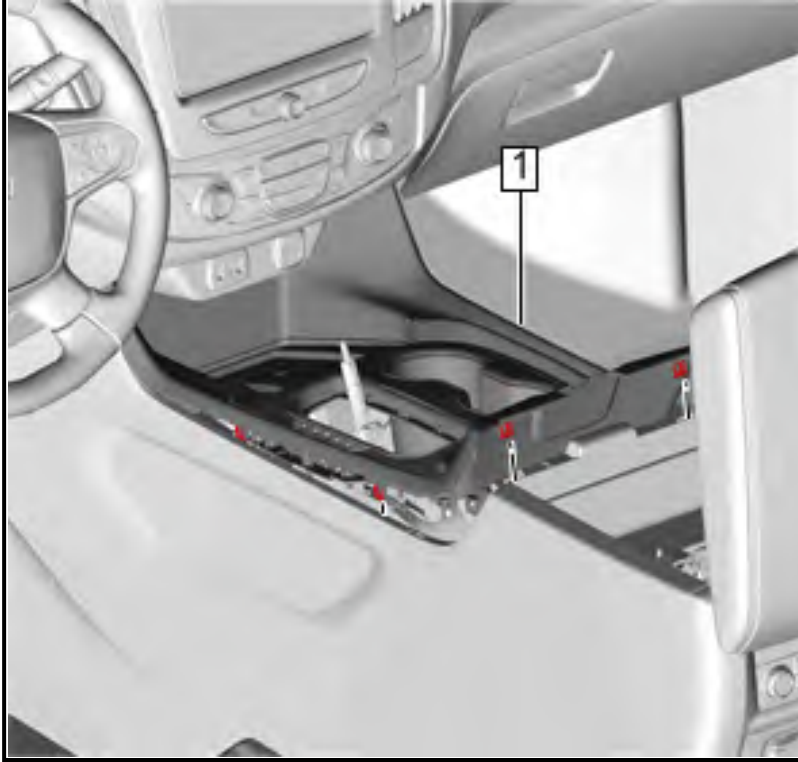
Removal Procedure



Transmission Control Lever Knob (3) - Remove - [Transmission Control Lever Knob Replacement](#)

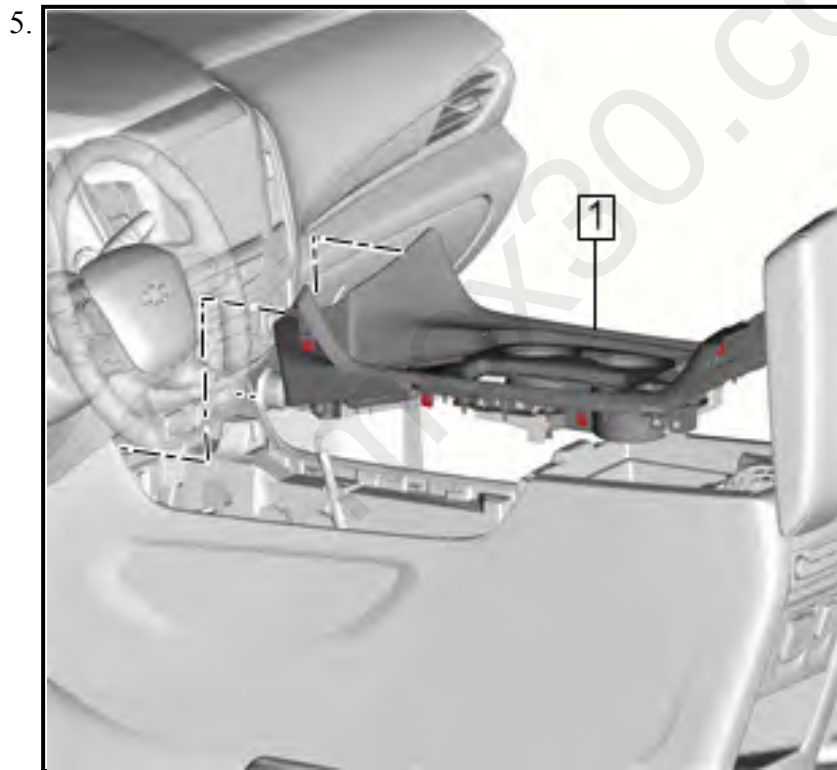
2. Open the armrest cover.





Use a flat bladed plastic tool to remove.

4. Starting from the rear of the front floor console cup holder plate (1) and working your way forward to release the retainers.

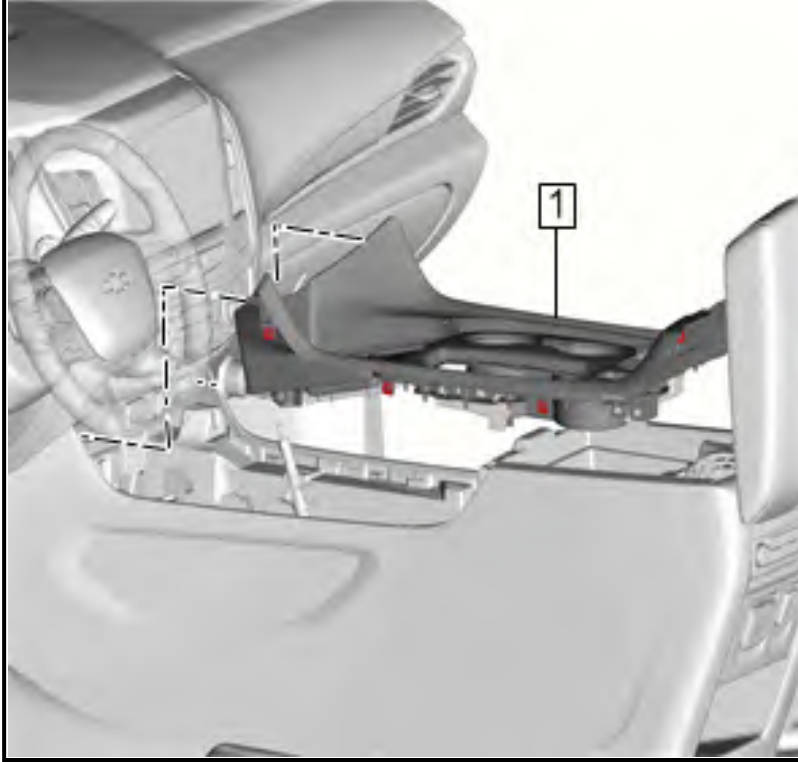


Pull the front floor console cup holder plate (1) rearward to clear the guide pins from the instrument panel.

6. Front Floor Console Cup Holder Plate (1) - Remove
7. Disconnect the electrical connectors.
8. Transfer components as necessary.

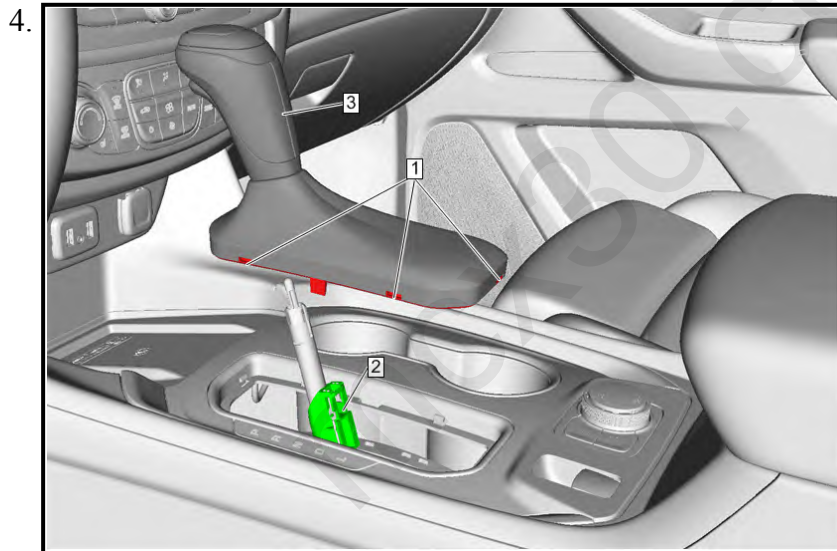
Installation Procedure

1.



Connect all electrical connectors.

2. Front Floor Console Trim Plate (1) - Install
3. Close the armrest cover.

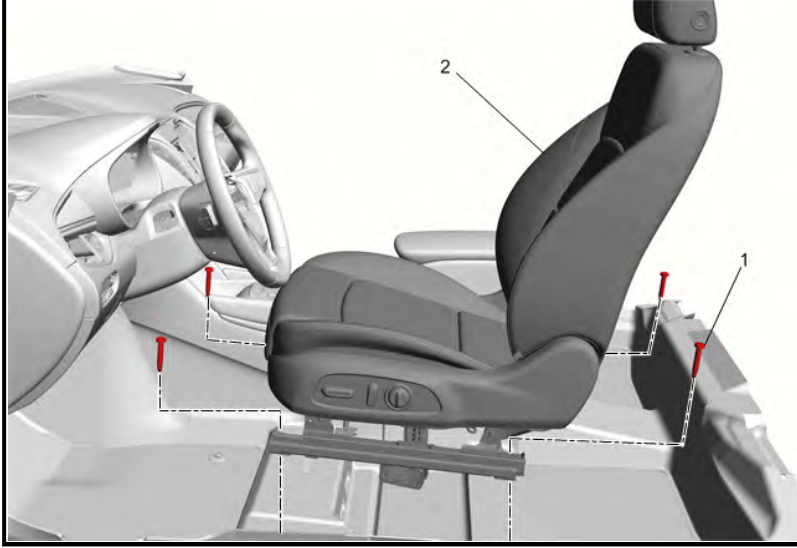


Transmission Control Lever Knob (3) - Install - [Transmission Control Lever Knob Replacement](#)

FRONT FLOOR CONSOLE EXTENSION PANEL REPLACEMENT - RIGHT SIDE

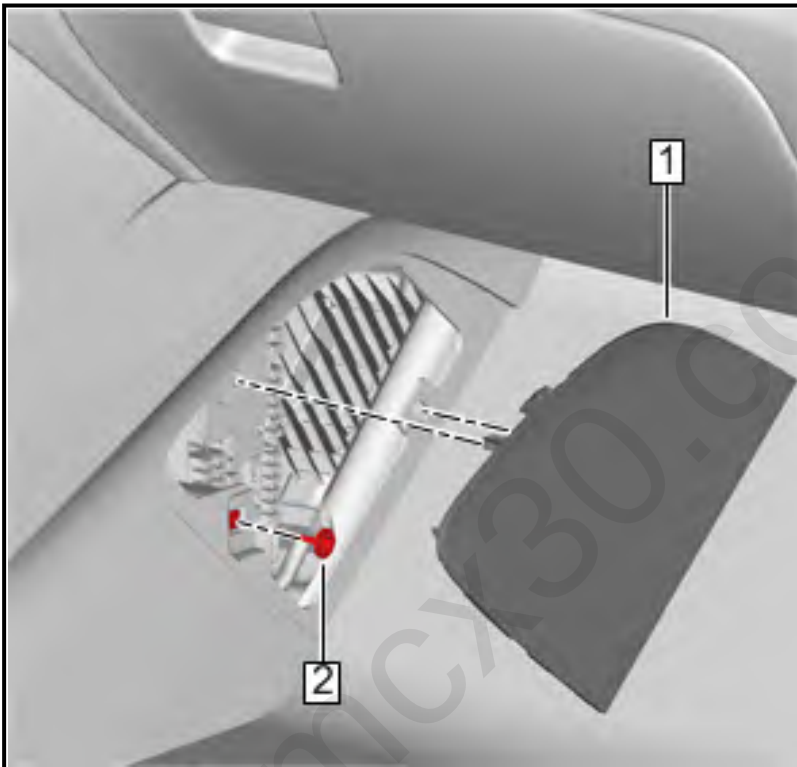
Removal Procedure





Driver or Passenger Seat (2) - Remove - [Driver or Passenger Seat Removal and Installation](#)

2.

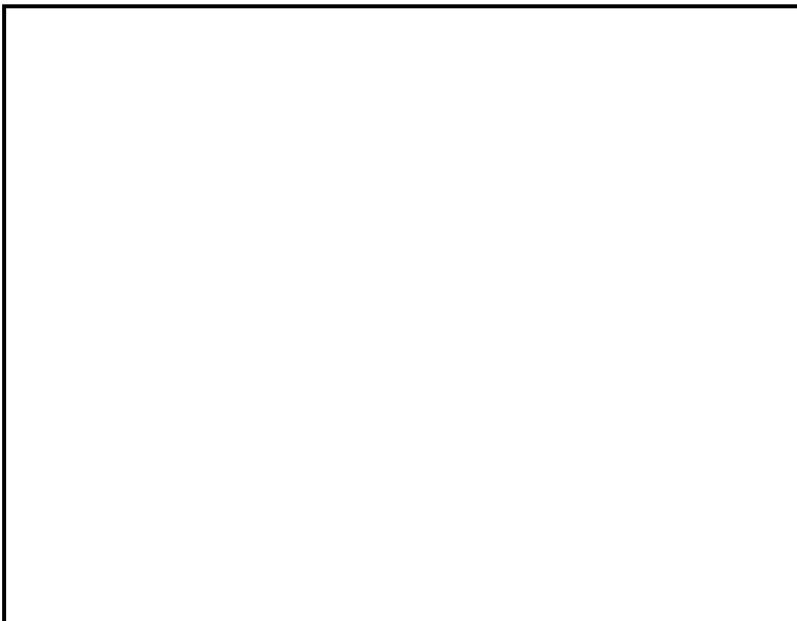


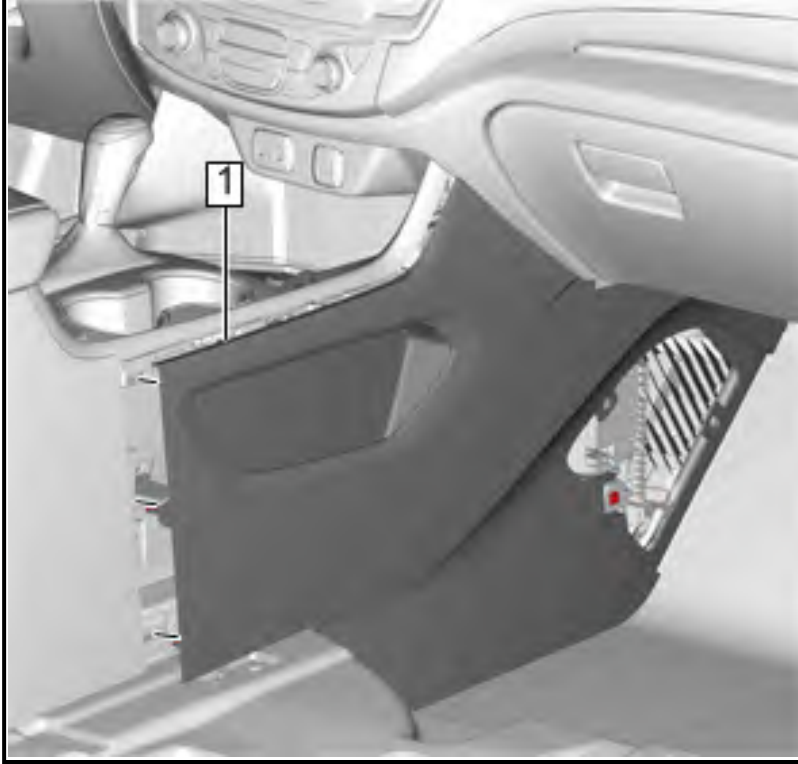
Front Floor Console Front Cover (1) - Remove

3. Use a plastic trim tool if necessary.

4. Front Floor Console Bolt (2) - Remove

5.

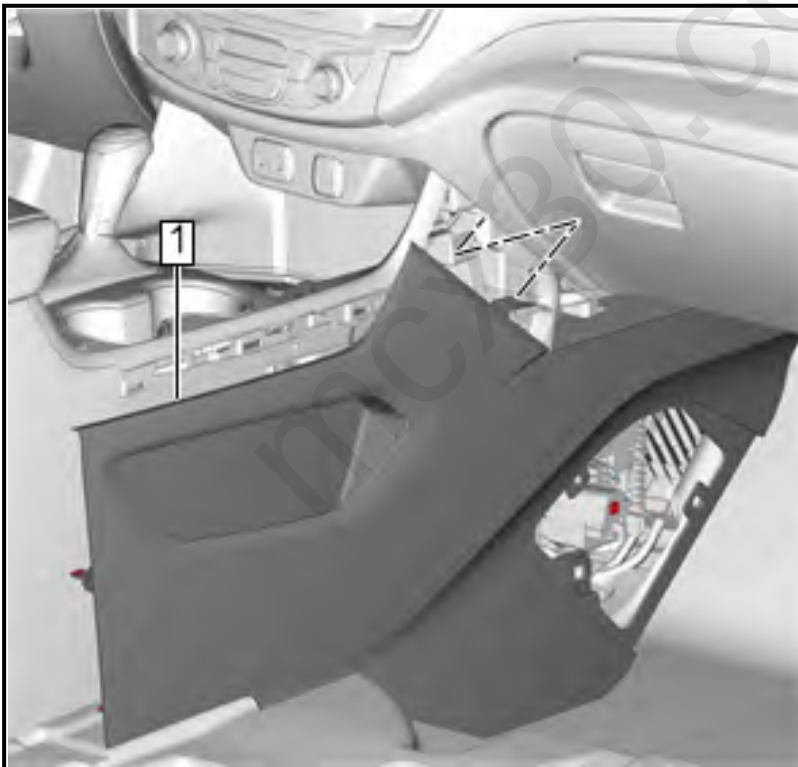




Start at the rear and work your way forward when releasing the front floor console extension panel (1).

6. Use a plastic trim tool if necessary.

7.

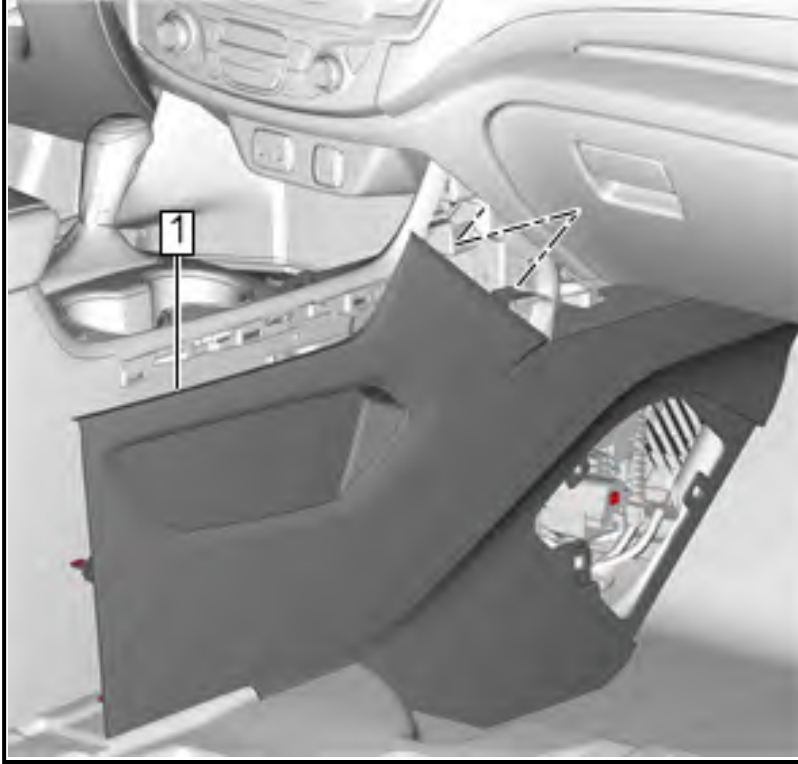


Pull the front floor console extension panel (1) rearward to clear the tab from the instrument panel.

Installation Procedure

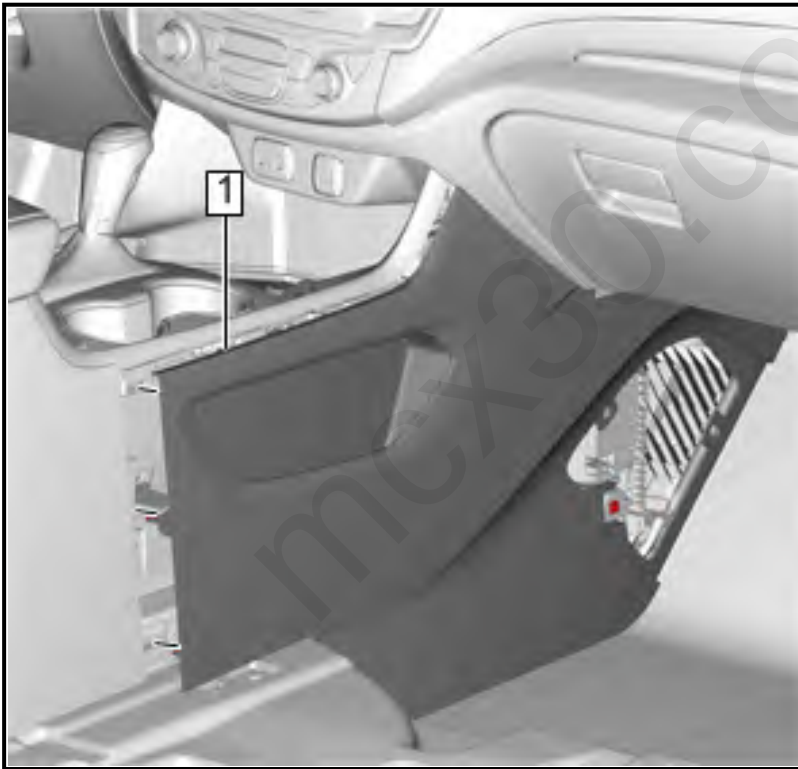
1.





Insert the front floor console extension panel tab (1) into the instrument panel slot.

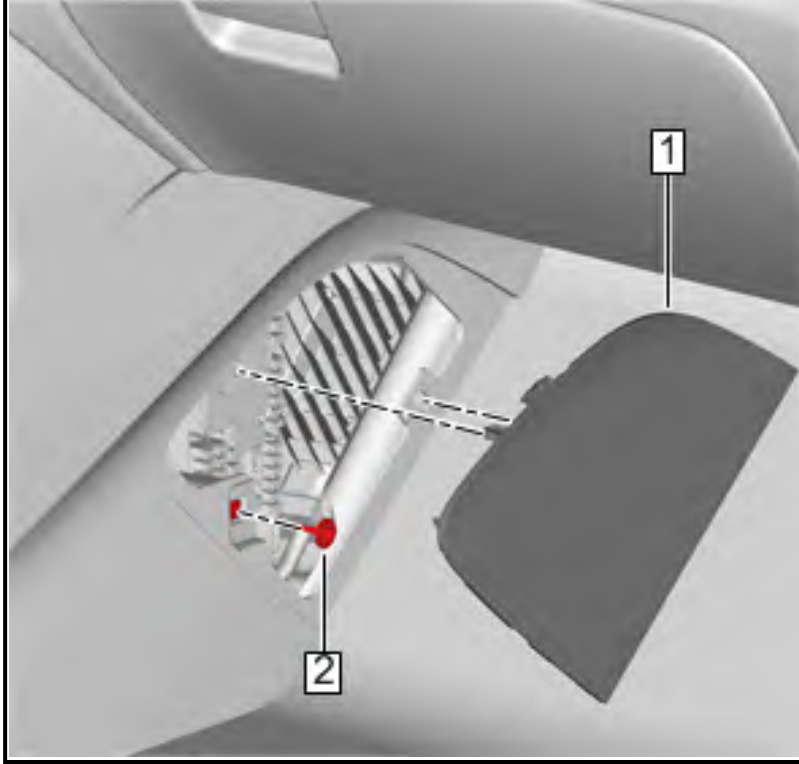
2.



Working you way rearward engage the front floor console extension panel (1).

3.

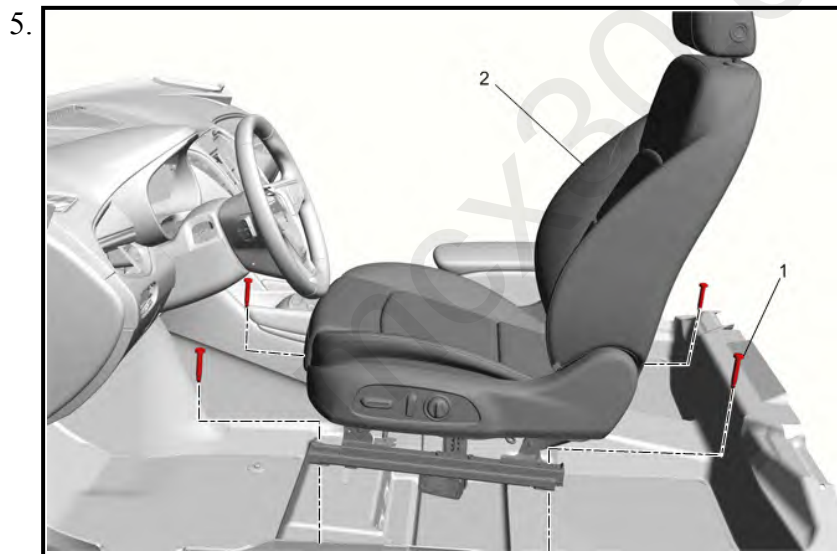




CAUTION: Refer to [Fastener Caution](#) .

Front Floor Console Bolt @ Body Control Module Bracket (2) - Install and tighten 2.5N.m (22 lb in)

4. Front Floor Console Front Cover (1) - Install

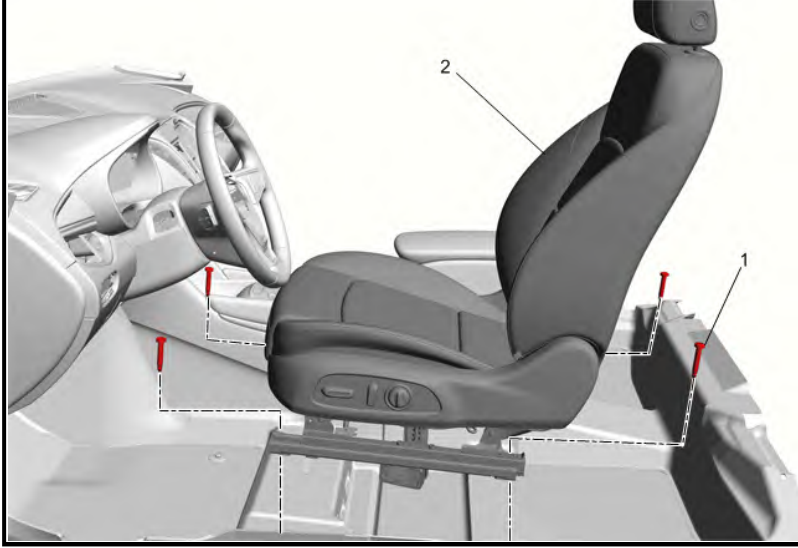


Driver or Passenger Seat (2) - Install - [Driver or Passenger Seat Removal and Installation](#)

FRONT FLOOR CONSOLE EXTENSION PANEL REPLACEMENT - LEFT SIDE

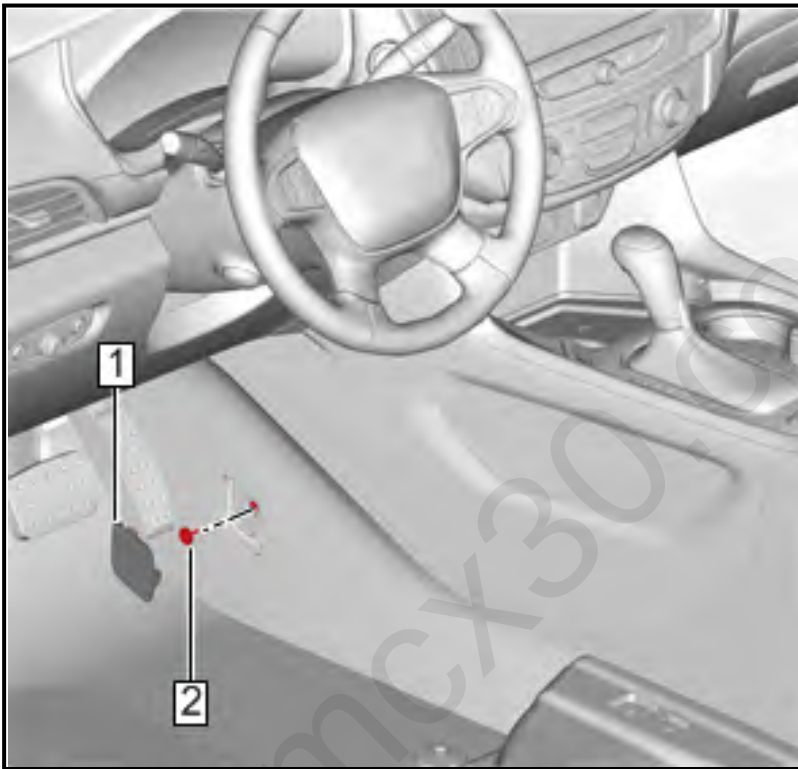
Removal Procedure





Driver or Passenger Seat (2) - Remove - [Driver or Passenger Seat Removal and Installation](#)

2.

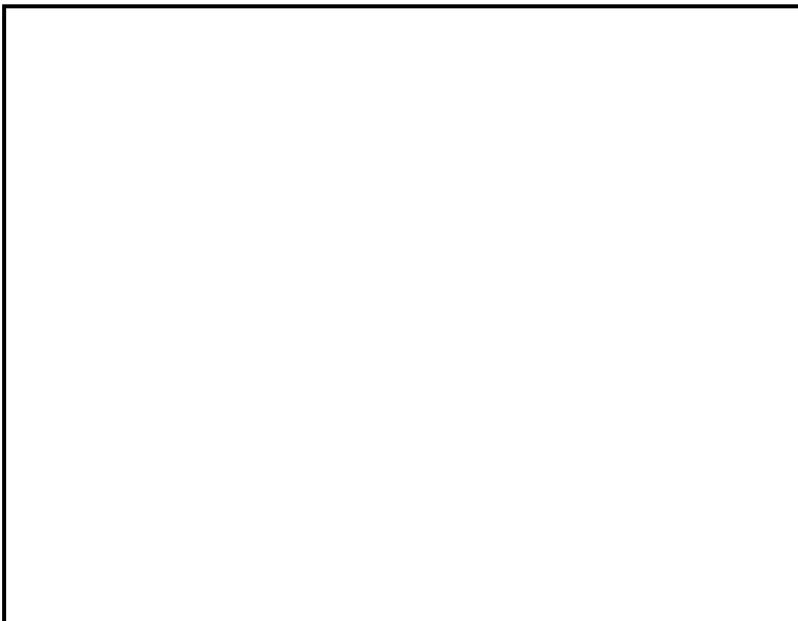


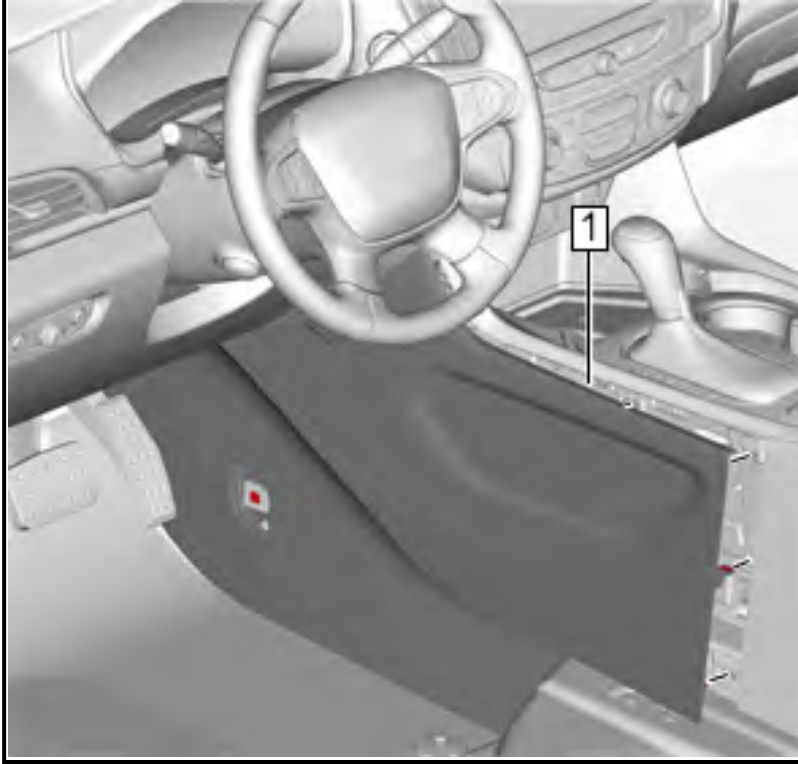
Front Floor Console Bolt Access Hole Cover (1) - Remove

3. Use a plastic trim tool if necessary.

4. Front Floor Console Bolt (2) - Remove

5.

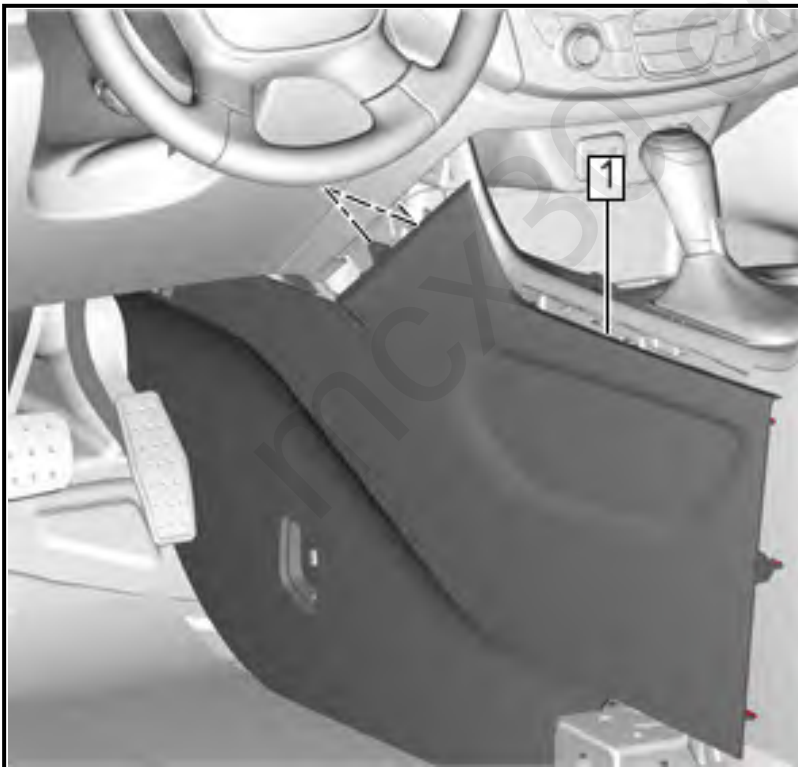




Start at the rear and work your way forward when releasing the front floor console extension panel (1).

6. Use a plastic trim tool if necessary.

7.

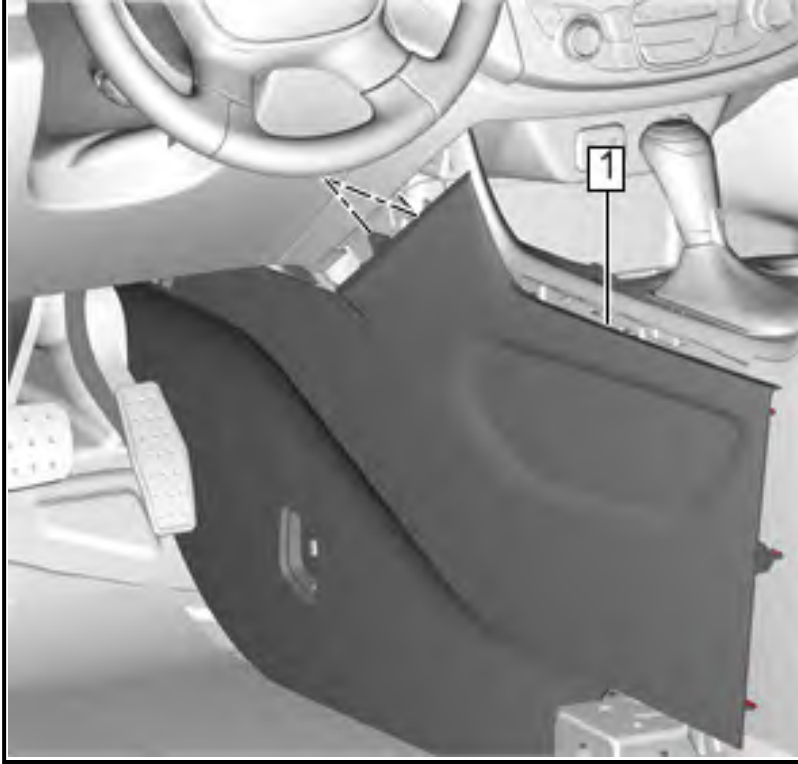


Pull the front floor console extension panel (1) rearward to clear the tab from the instrument panel.

Installation Procedure

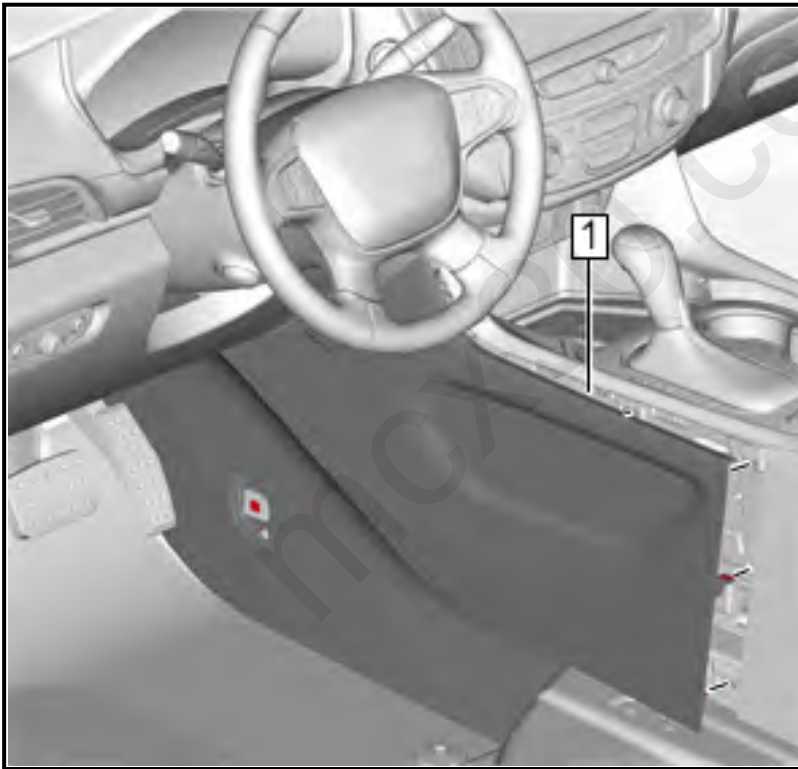
1.





Insert the front floor console extension panel tab (1) into the instrument panel slot.

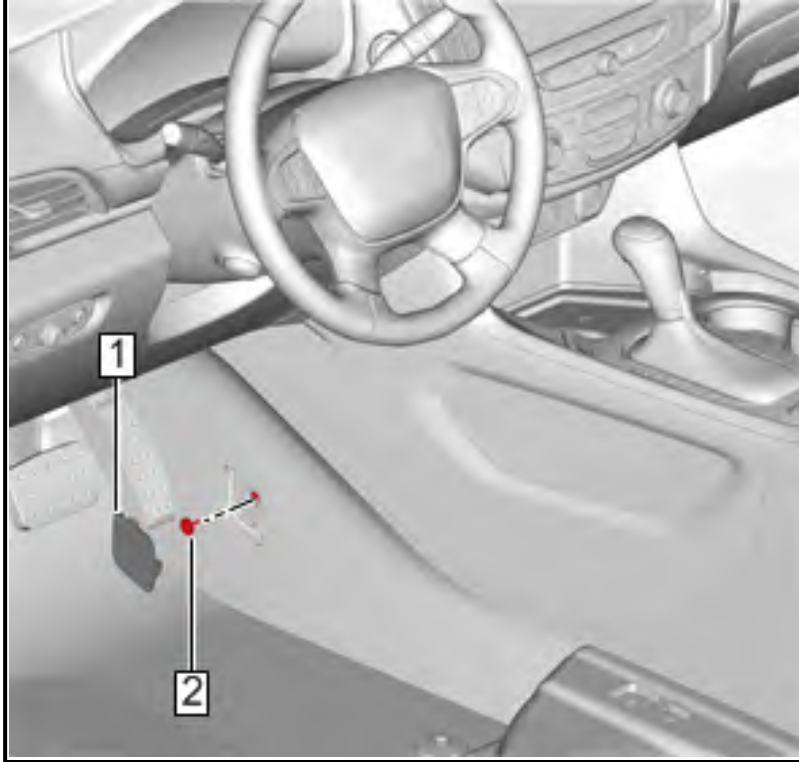
2.



Working you way rearward engage the front floor console extension panel (1).

3.

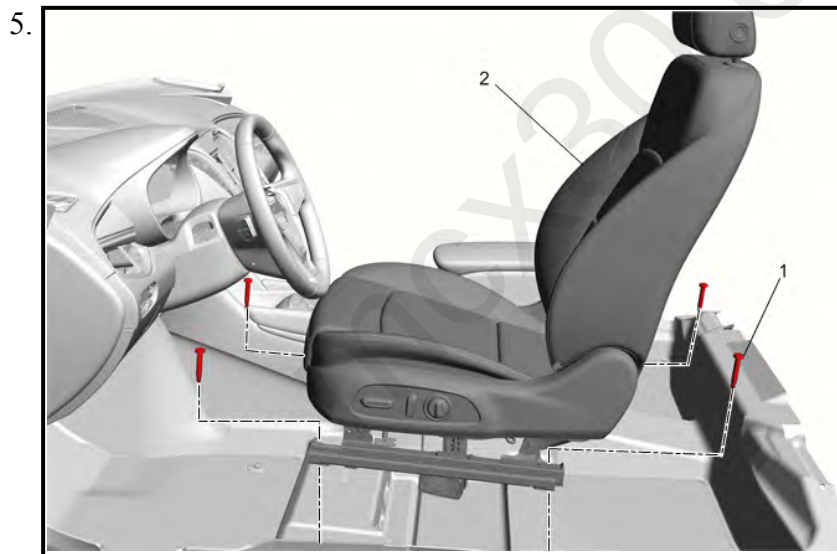




CAUTION: Refer to [Fastener Caution](#) .

Front Floor Console Bolt @ Body Control Module Bracket (2) - Install and tighten 2.5 N.m (22 lb in)

4. Front Floor Console Bolt Access Hole Cover (1) - Install

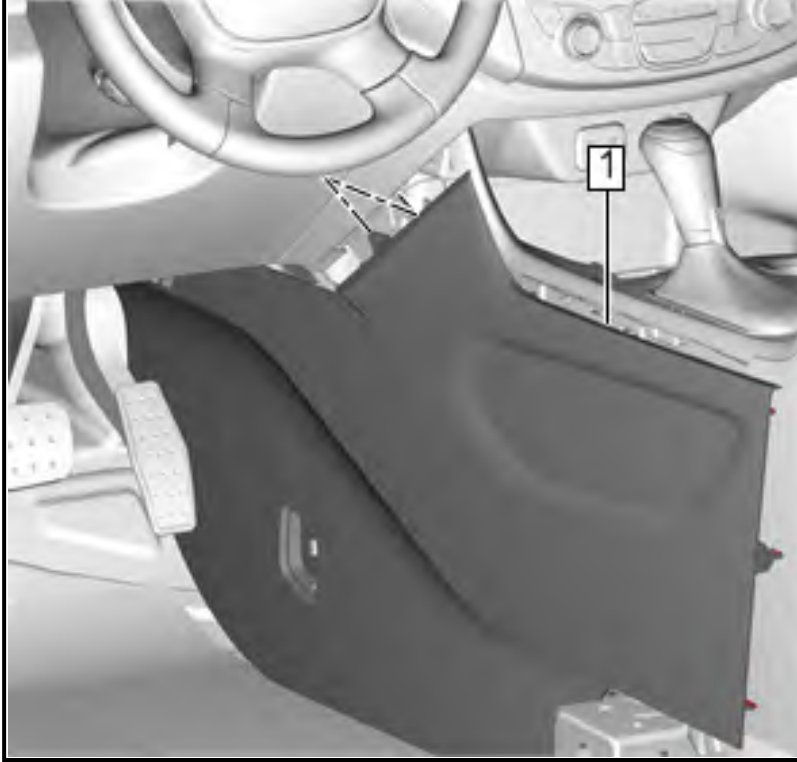


Driver or Passenger Seat (2) - Install - [Driver or Passenger Seat Removal and Installation](#)

FRONT FLOOR CONSOLE REPLACEMENT

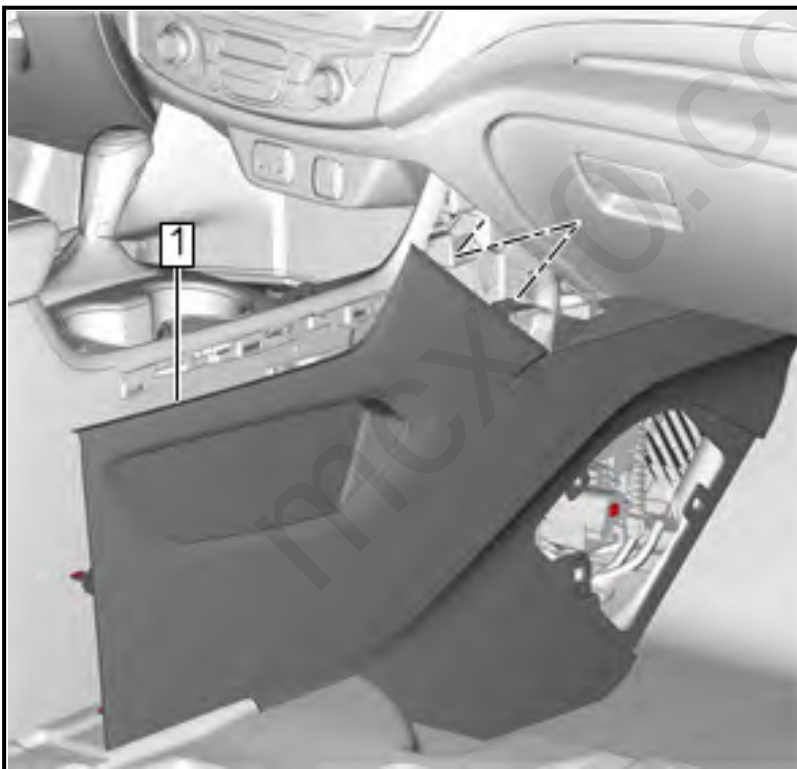
Removal Procedure





Front Floor Console Extension Panel-Left Side (1) - Remove - [Front Floor Console Extension Panel Replacement - Left Side](#)

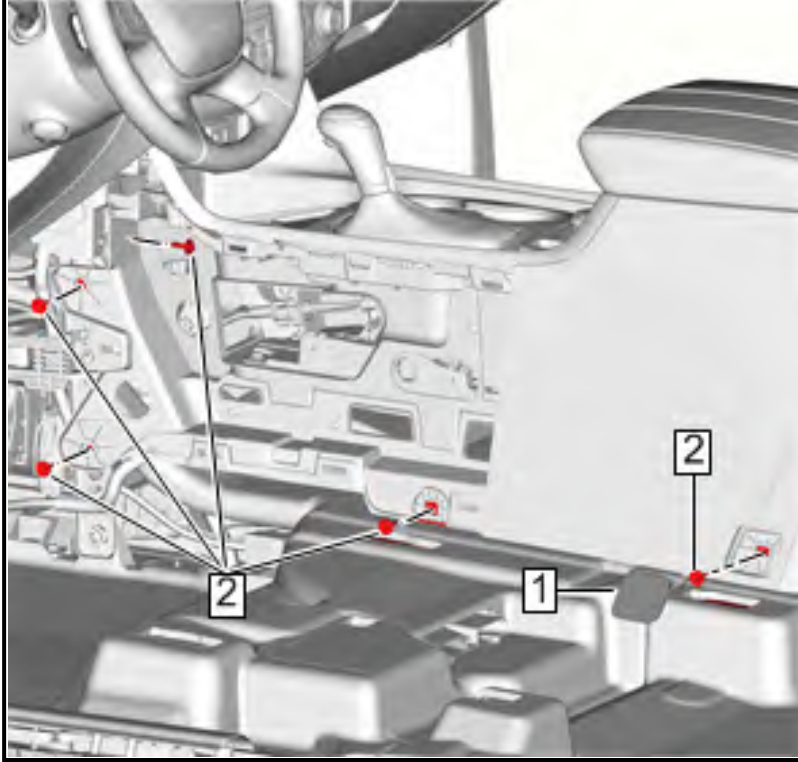
2.



Front Floor Console Extension Panel-Right Side (1) - Remove - [Front Floor Console Extension Panel Replacement - Right Side](#)

3.

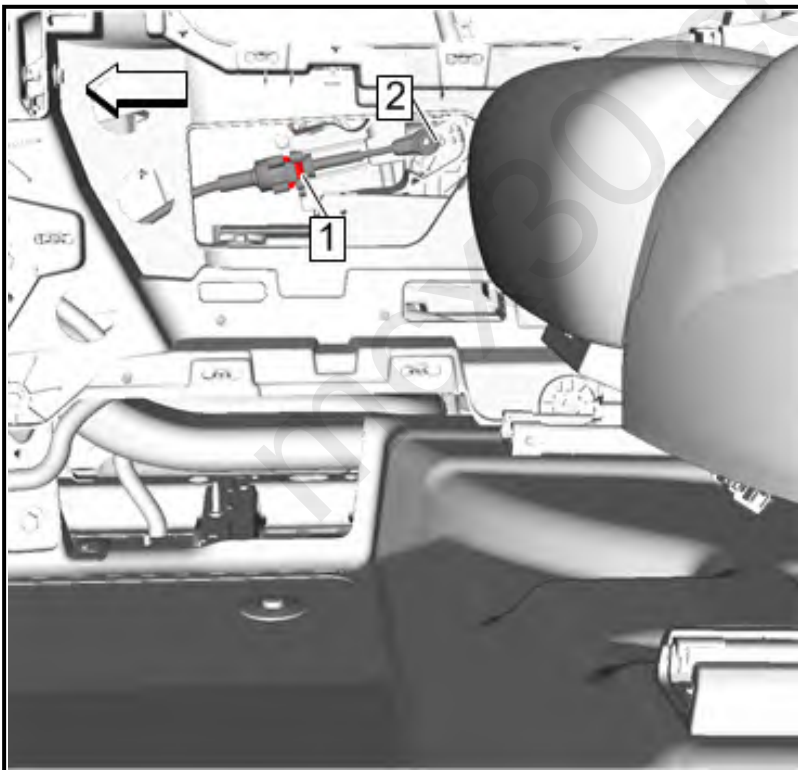




Use a suitable tool to release the front floor console bolt access hole cover (1) from the front floor rear console side trim panel.

4. Front Floor Console Retainer Bolt (2) - Remove [5x]

5.

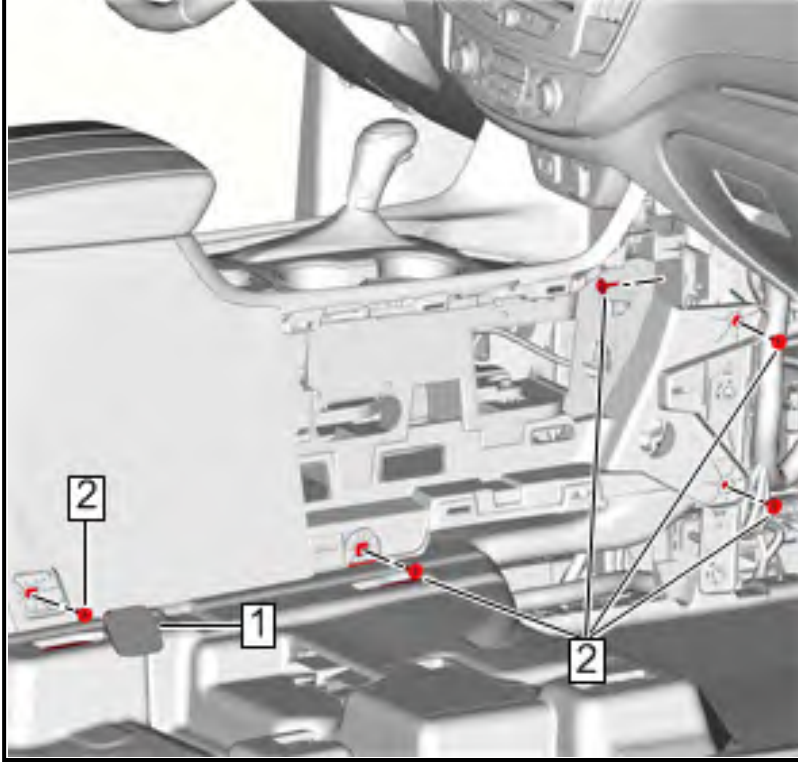


Disconnect the transmission range selector lever cable terminal (2) from the shift lever pin.

6. Release the transmission range selector lever cable retainer (1) and remove the transmission range selector cable from the transmission control lever base.

7.



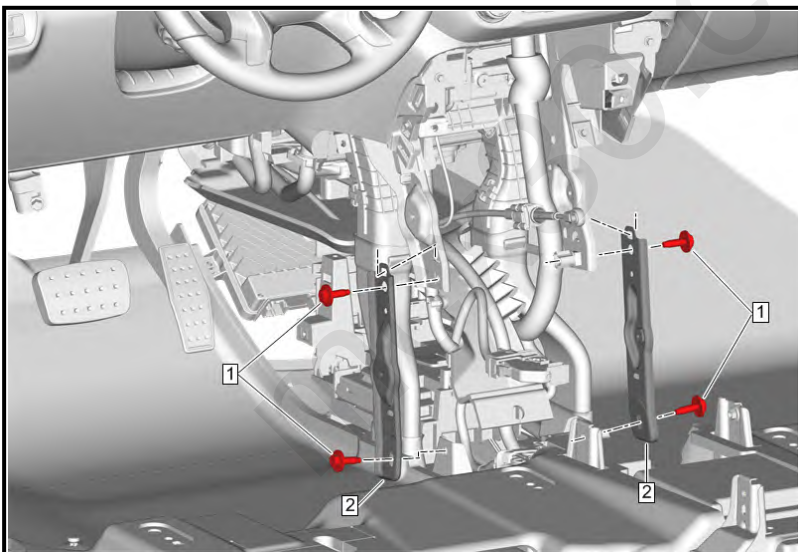


Use a suitable tool to release the front floor console bolt access hole cover (1) from the front floor rear console side trim panel.

8. Front Floor Console Retainer Bolt (2) - Remove [5x]

9. Slide the front floor console back to clear the pins from the instrument panel assembly.

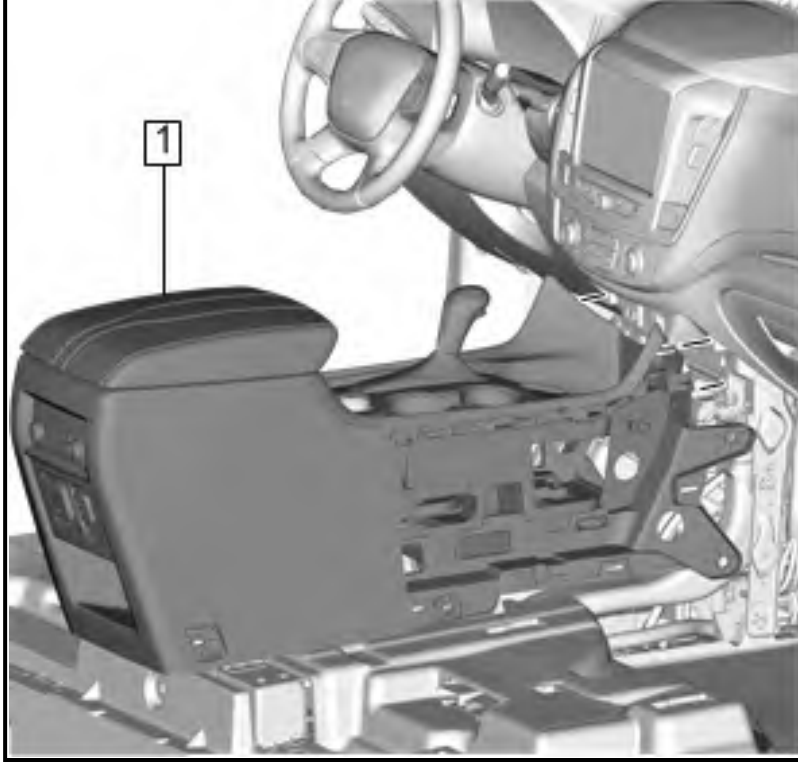
10.



Instrument Panel Tie Bar Brace (2) - Remove - [Instrument Panel Tie Bar Brace Replacement](#)

11.



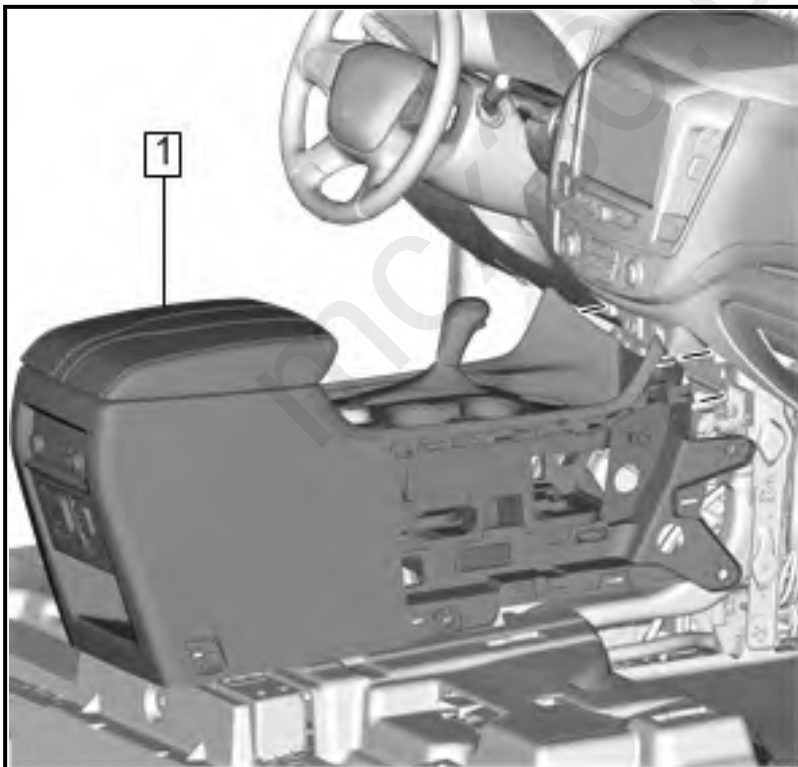


Disconnect the electrical connectors.

12. With the aid of an assistant, lift and remove the front floor console assembly (1) from the vehicle.
13. Transfer components as necessary.

Installation Procedure

1.

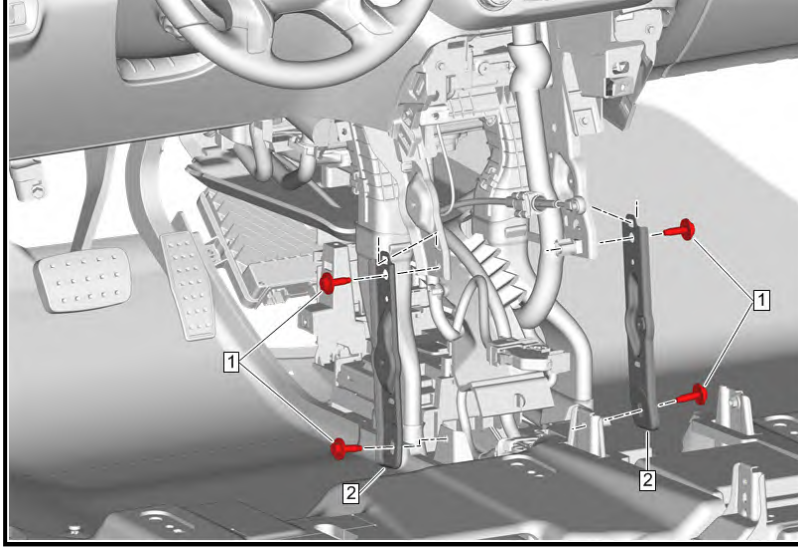


With the aid of an assistant, install the front floor console assembly (1) into the vehicle.

2. Connect the electrical connectors.

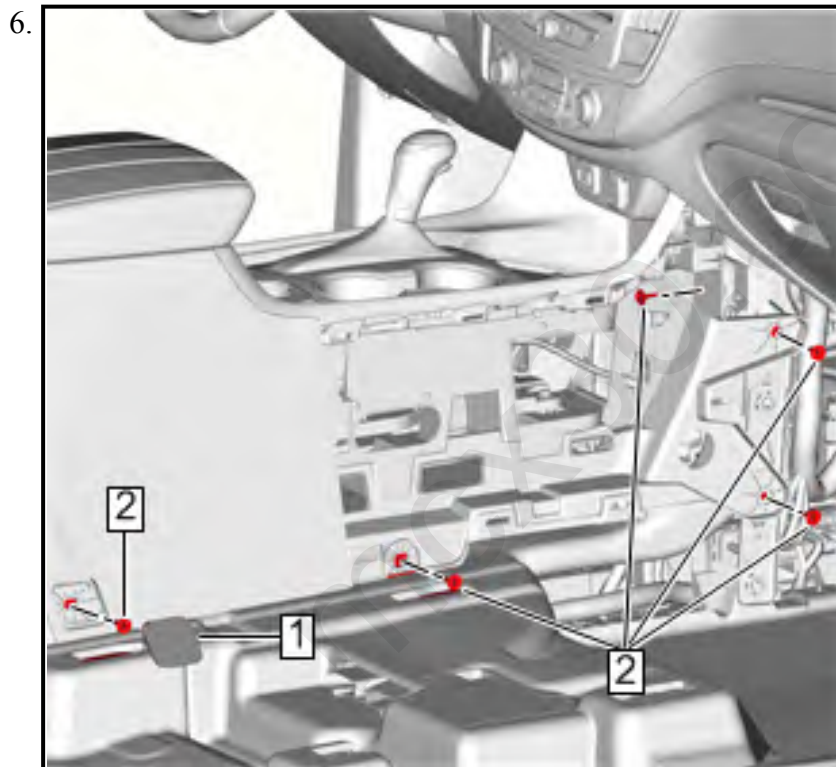
3.





Instrument Panel Tie Bar Brace (2) - Install - [Instrument Panel Tie Bar Brace Replacement](#)

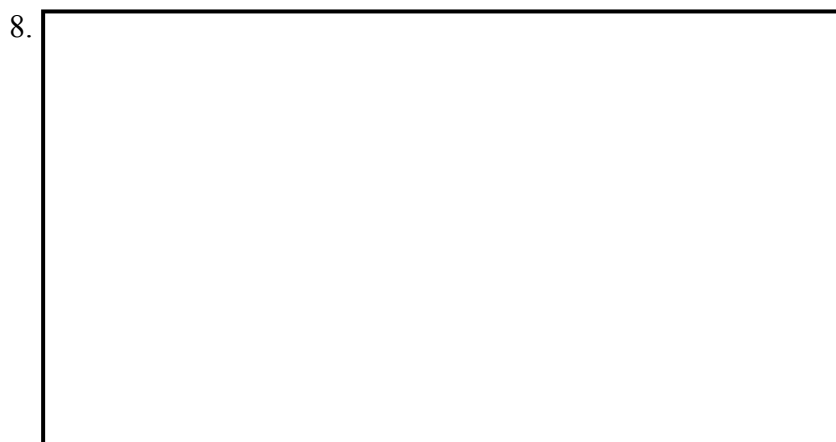
4. Carefully install the front floor console assembly guide pins into the instrument panel assembly.
5. When installing the front floor console take care in seating the auxiliary air conditioning air outlet duct to the front floor console rear air duct.

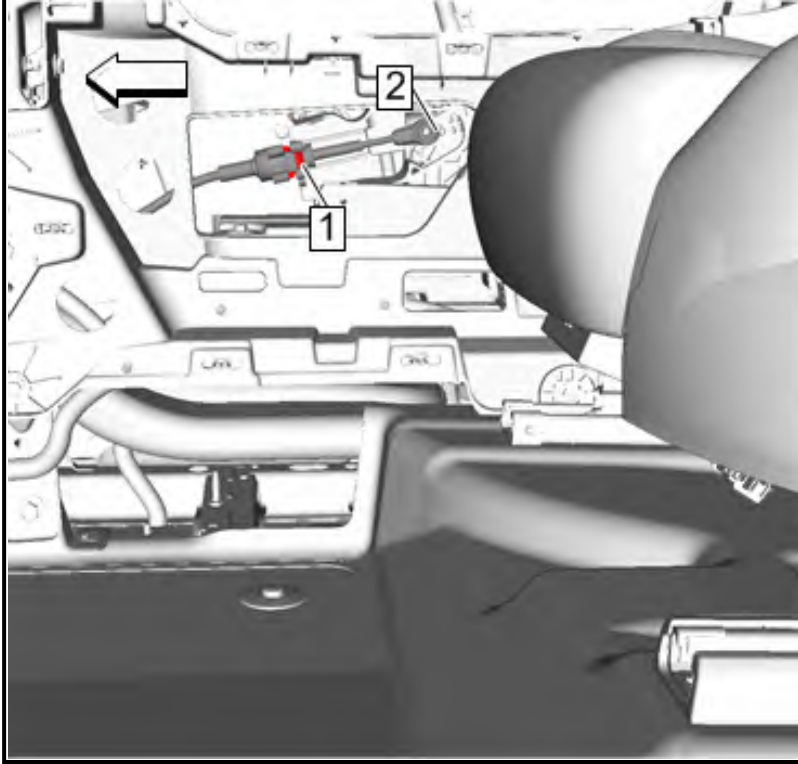


CAUTION: Refer to [Fastener Caution](#) .

Front Floor Console Retainer Bolt (2) - Install and tighten [5x] 9 N.m (80 lb in)

7. Front Floor Console Bolt Access Hole Cover (1) - Install



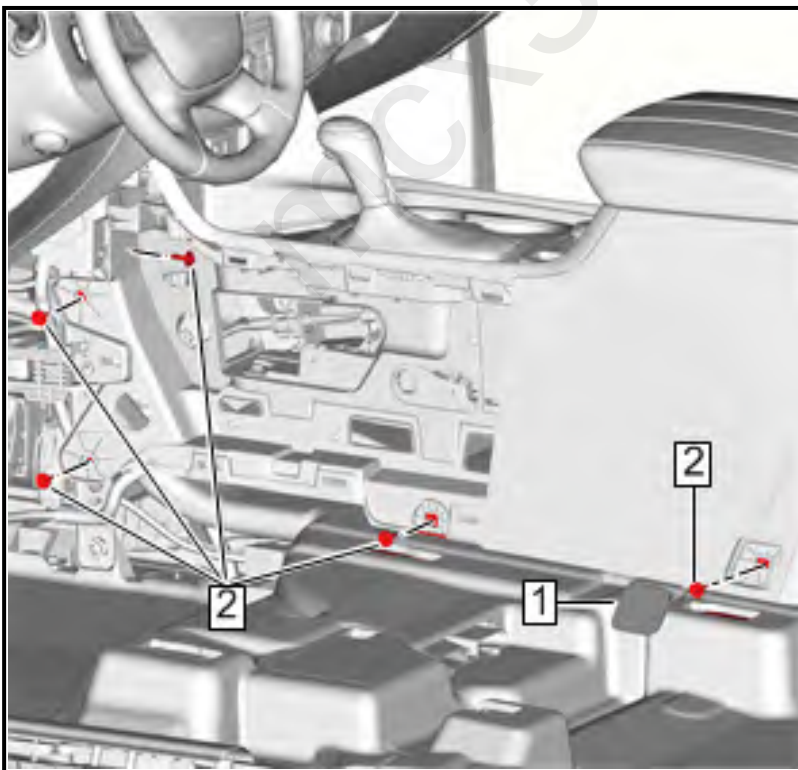


WARNING: After installing the transmission range selector shift cable, pull up and push down on ALL connections to verify that the connections are fully seated and properly engaged. Failure to perform this task can result in the vehicle not being able to shift into PARK causing potential vehicle damage and bodily injury.

Install the transmission range selector lever cable to the transmission control lever base. Insure the cable retainer (1) is fully secured to the transmission control lever base.

9. Connect the transmission range selector lever cable terminal (2) to the shift lever pin.

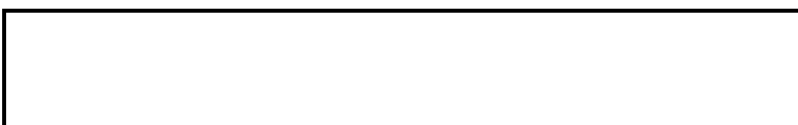
10.

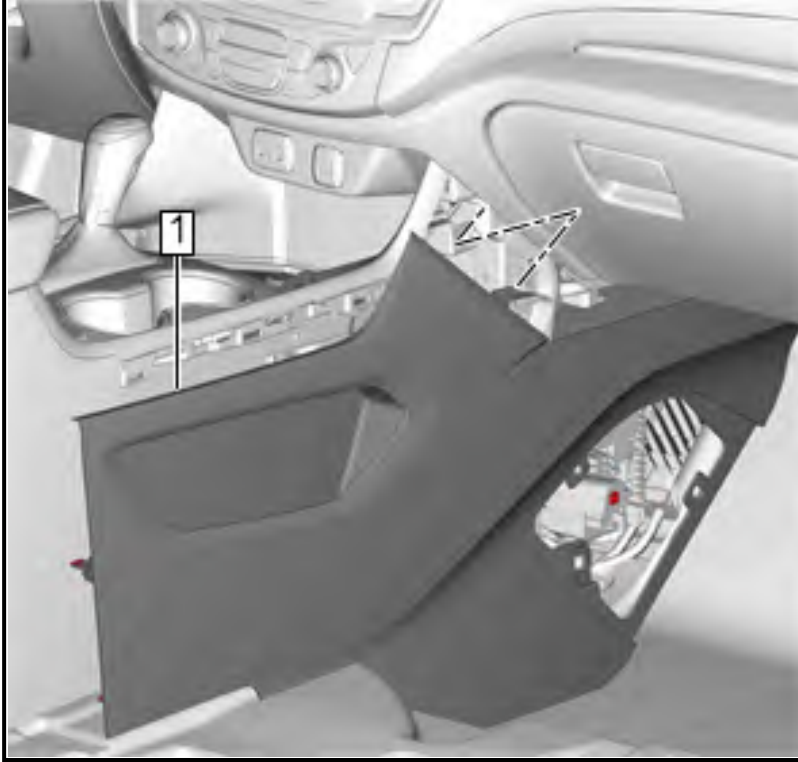


Front Floor Console Retainer Bolt (2) - Install and tighten [5x] 9 N.m (80 lb in)

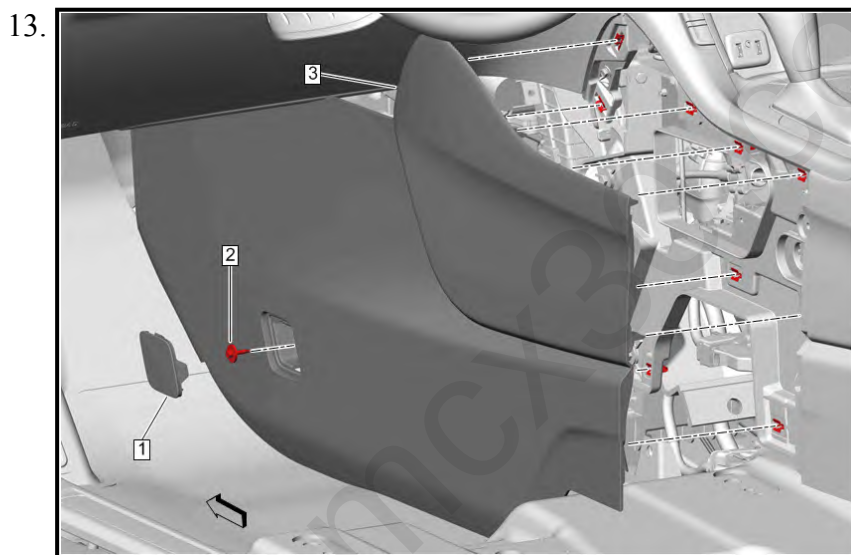
11. Front Floor Console Bolt Access Hole Cover (1) - Install

12.





Front Floor Console Extension Panel-Right Side (1) - Install - [Front Floor Console Extension Panel Replacement - Right Side](#)

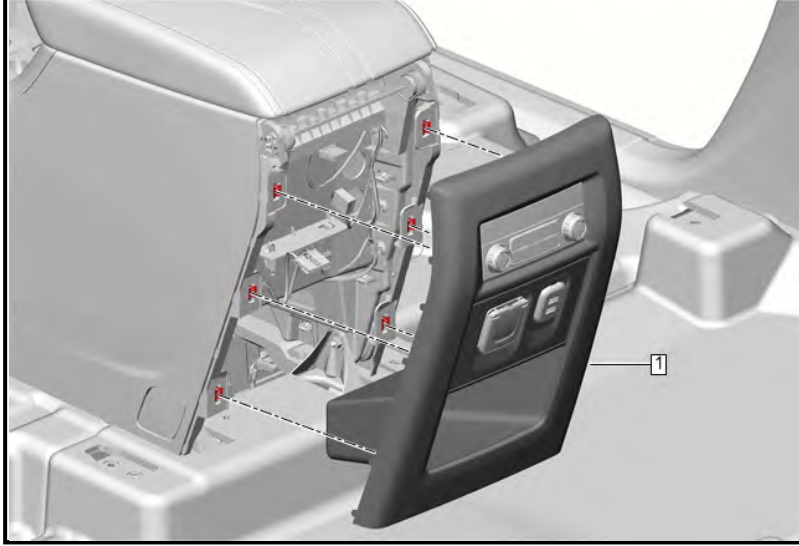


Front Floor Console Extension Panel-Left Side (1) - Install - [Front Floor Console Extension Panel Replacement - Left Side](#)

FRONT FLOOR REAR CONSOLE SIDE TRIM PANEL REPLACEMENT - LEFT SIDE

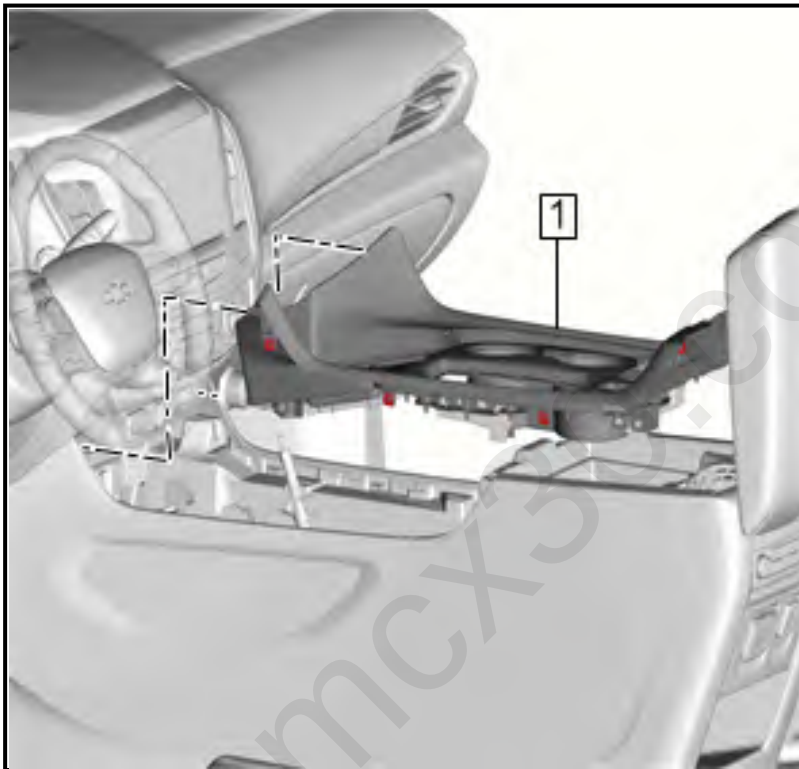
Removal Procedure





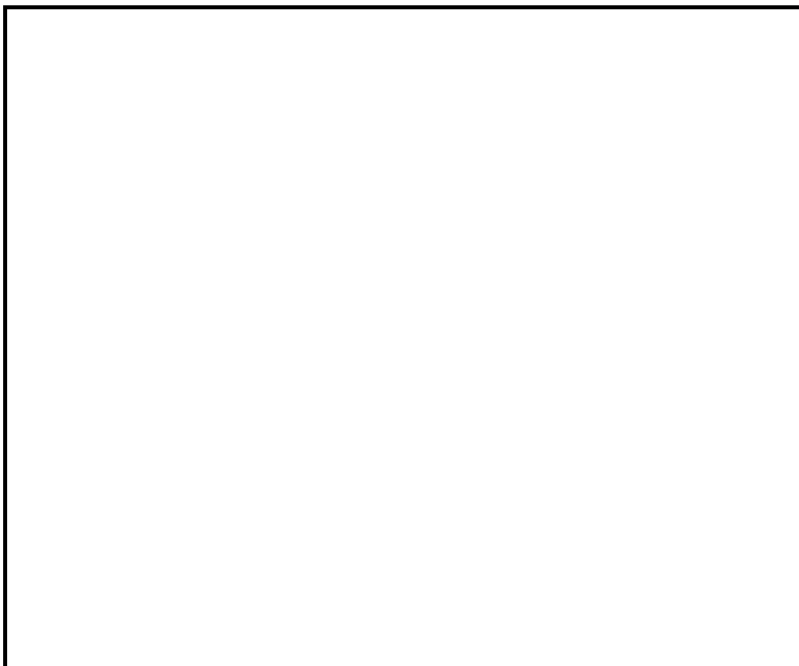
Front Floor Console Rear Trim Panel (1) - Remove - [Front Floor Console Rear Trim Panel Replacement](#)

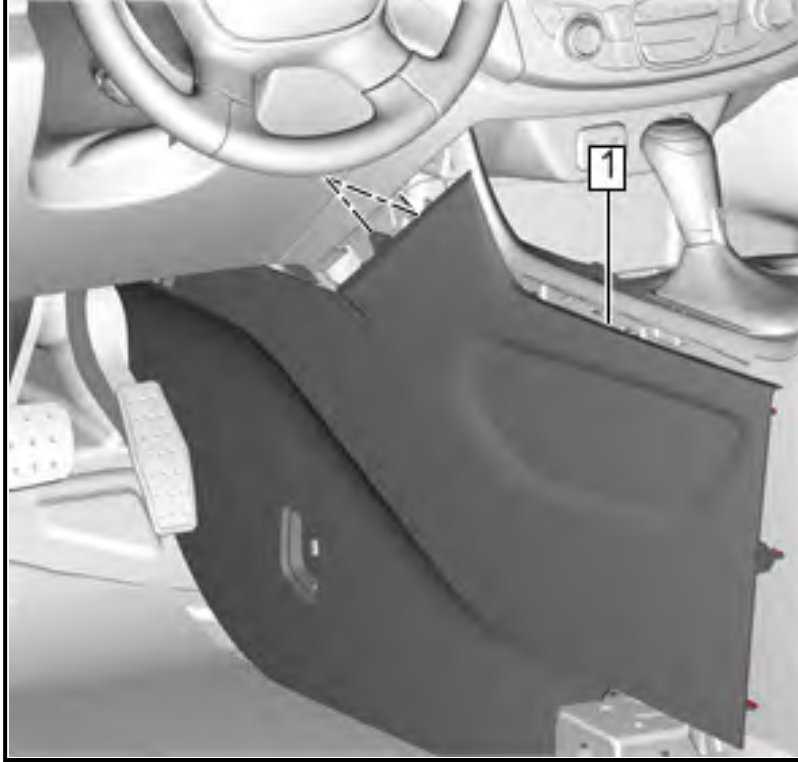
2.



Front Floor Console Cup Holder Plate (1) - Remove - [Front Floor Console Cup Holder Plate Replacement](#)

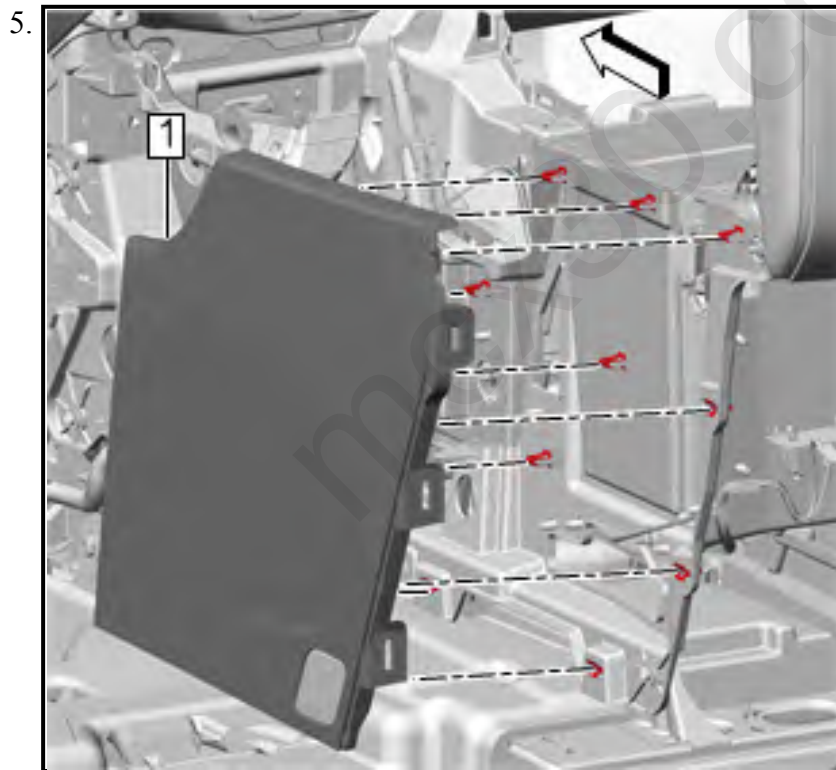
3.





Front Floor Console Extension Panel-Left Side (1) - Remove - [Front Floor Console Extension Panel Replacement - Left Side](#)

4. Reposition the seat as necessary to access the fasteners.

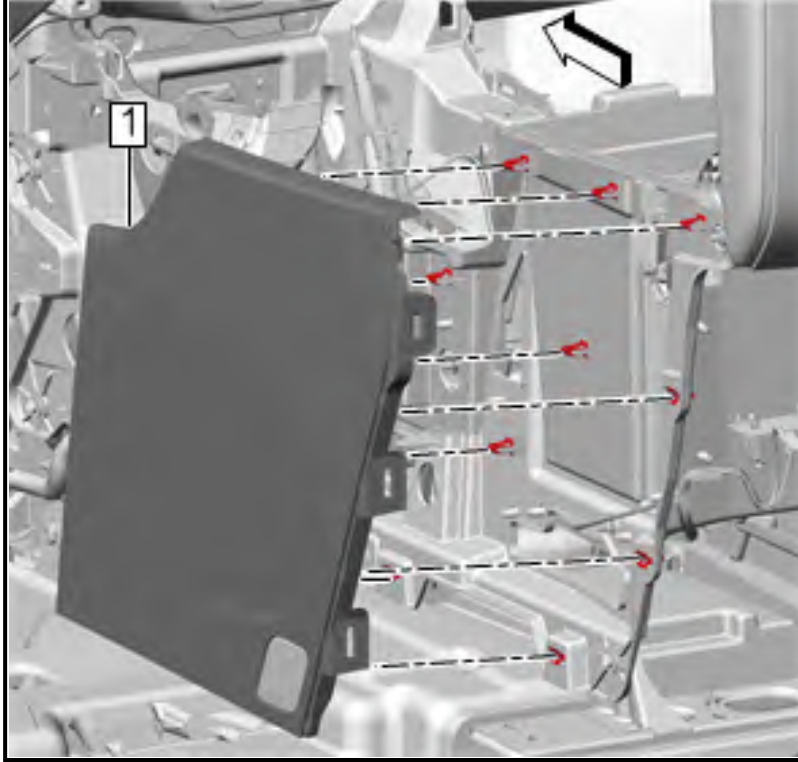


Front Floor Rear Console Side Trim Panel - Left Side (1) - Remove

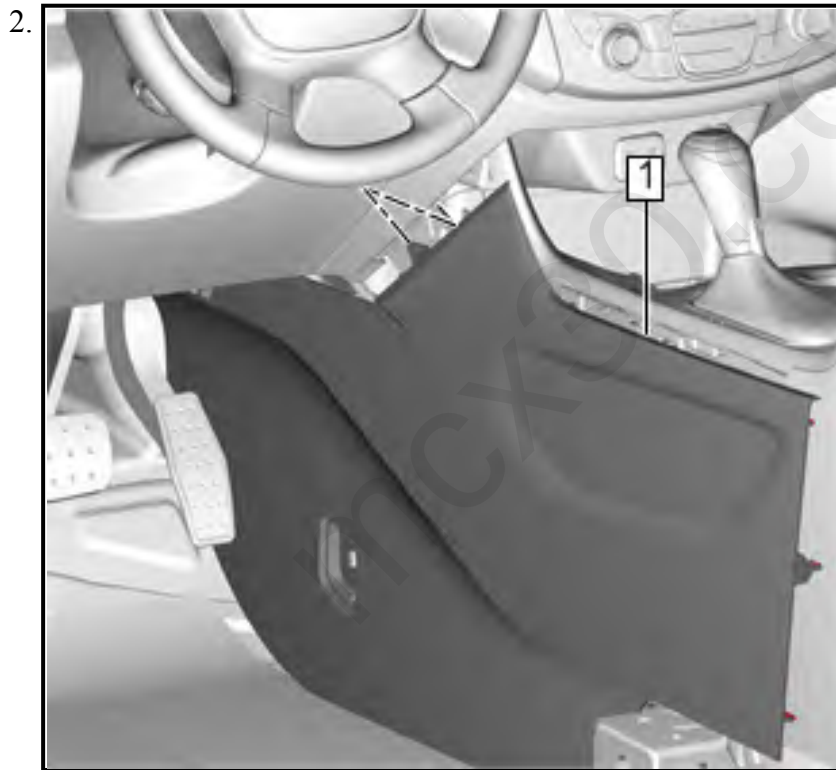
6. Transfer components as necessary.

Installation Procedure



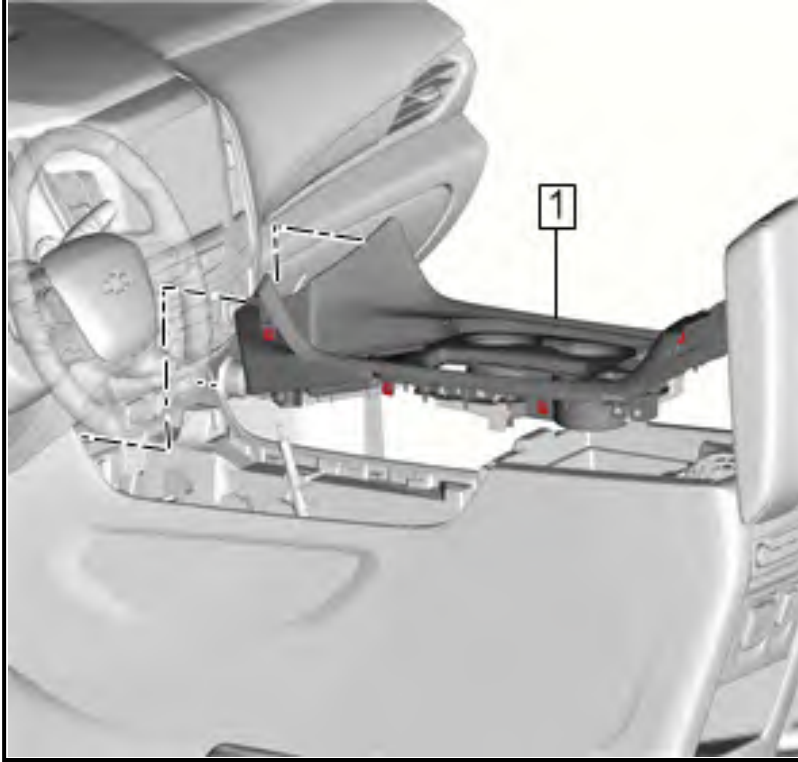


Front Floor Rear Console Side Trim Panel - Left Side (1) - Install

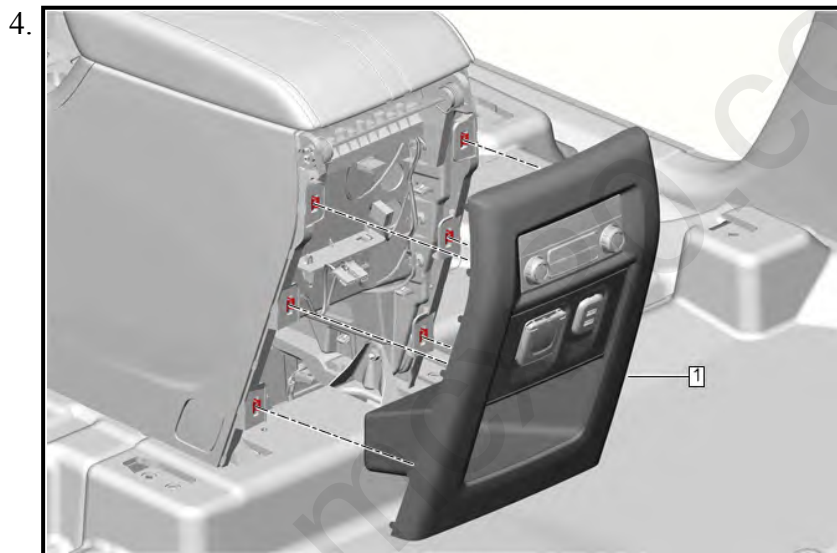


Front Floor Console Extension Panel-Left Side (1) - Install - **Front Floor Console Extension Panel Replacement - Left Side**





Front Floor Console Cup Holder Plate (1) - Install - [Front Floor Console Cup Holder Plate Replacement](#)

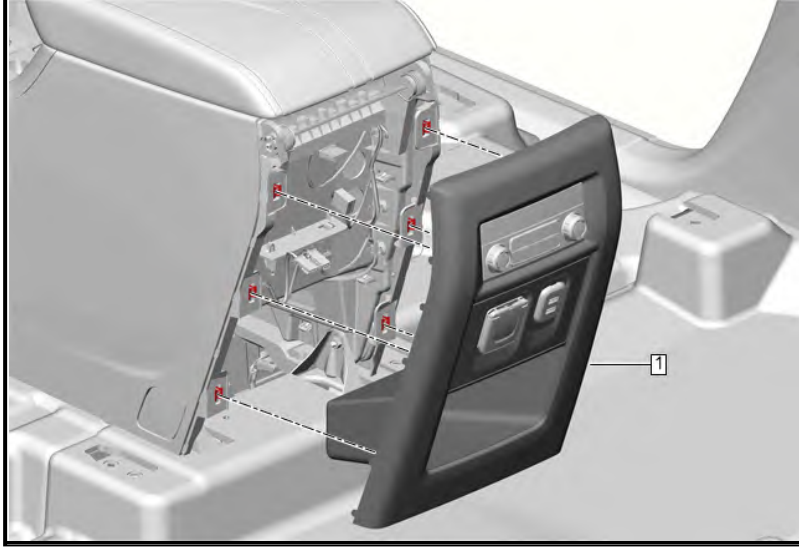


Front Floor Console Rear Trim Panel (1) - Install - [Front Floor Console Rear Trim Panel Replacement](#)

FRONT FLOOR REAR CONSOLE SIDE TRIM PANEL REPLACEMENT - RIGHT SIDE

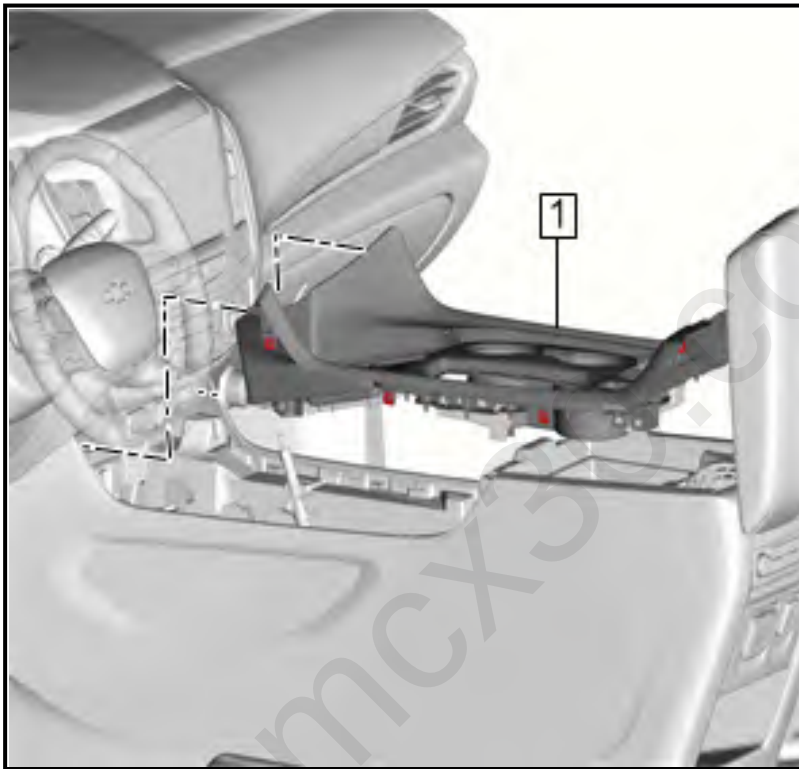
Removal Procedure





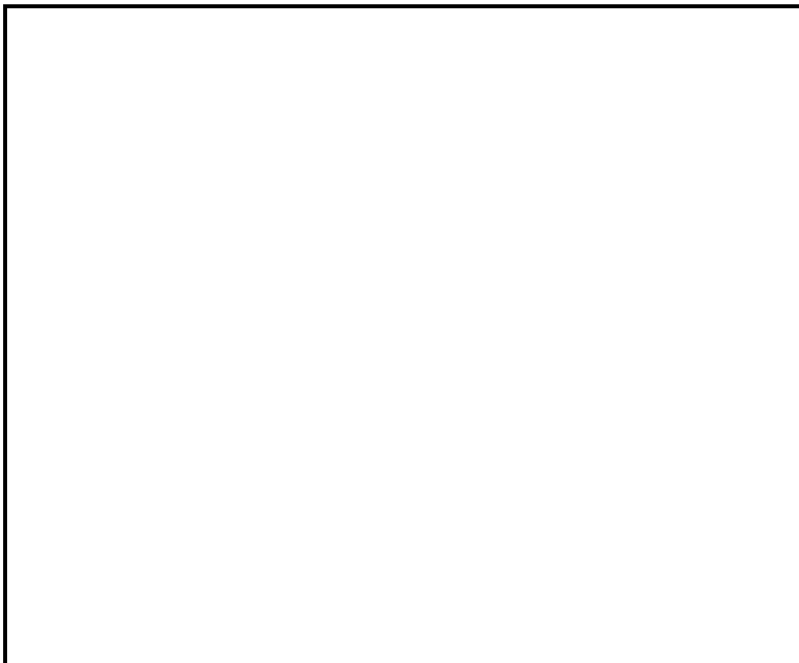
Front Floor Console Rear Trim Panel (1) - Remove - [Front Floor Console Rear Trim Panel Replacement](#)

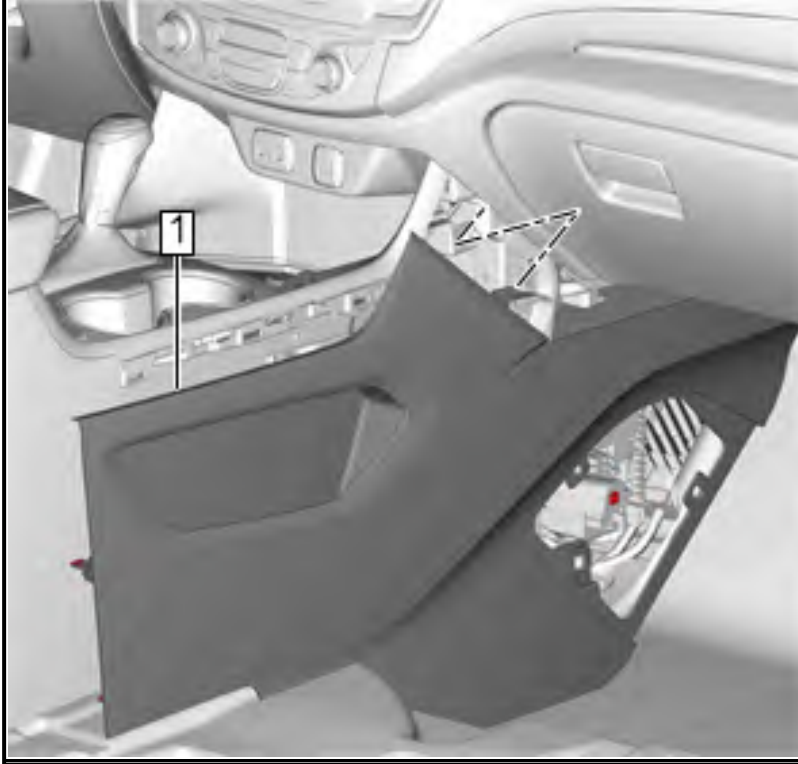
2.



Front Floor Console Cup Holder Plate (1) - Remove - [Front Floor Console Cup Holder Plate Replacement](#)

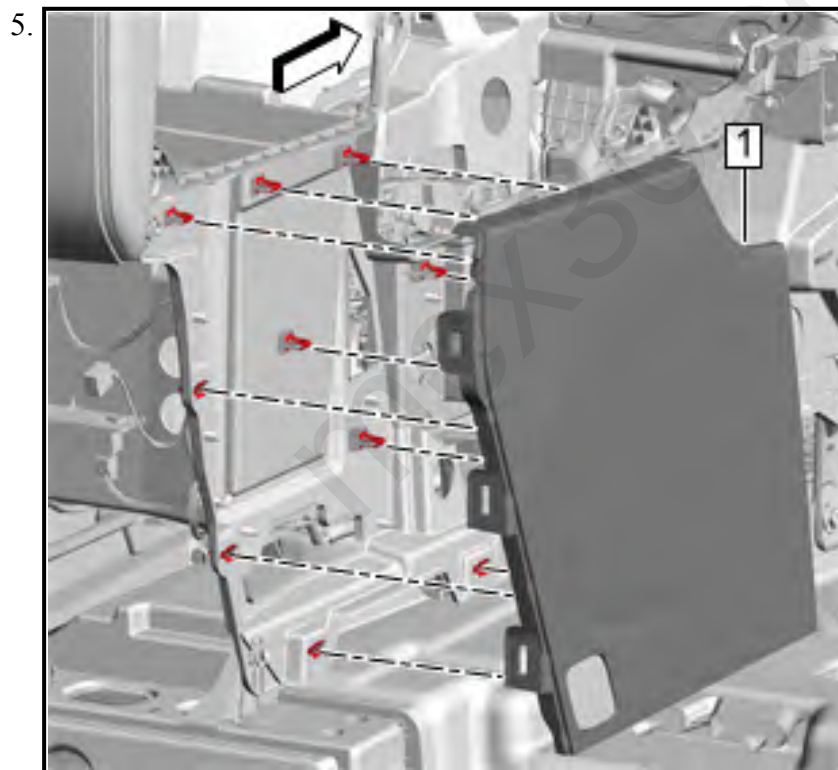
3.





Front Floor Console Extension Panel-Right Side (1) - Remove - [Front Floor Console Extension Panel Replacement - Right Side](#)

4. Reposition the seat as necessary to access the fasteners.

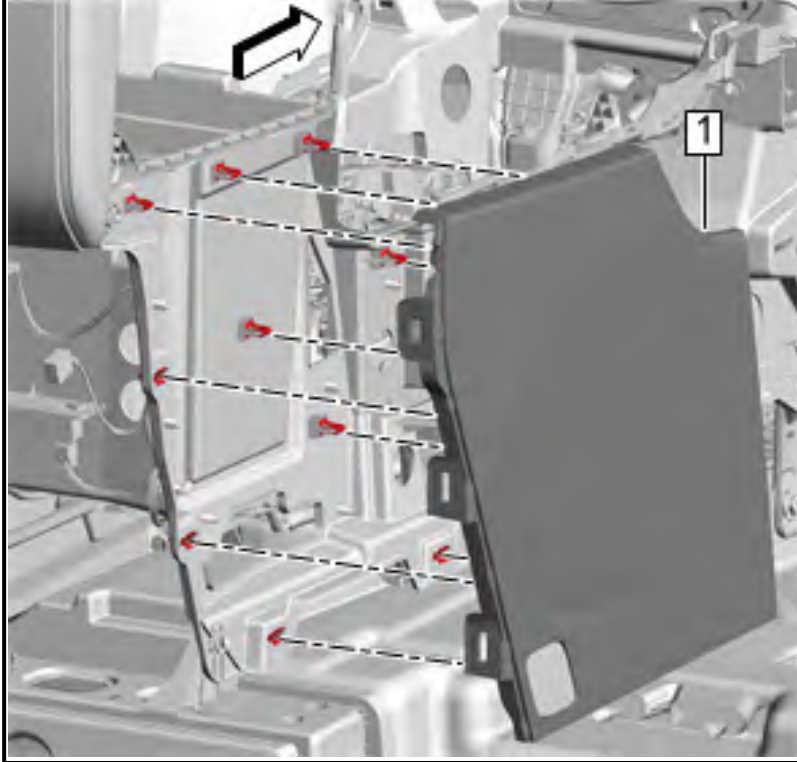


Front Floor Rear Console Side Trim Panel - Right Side (1) - Remove

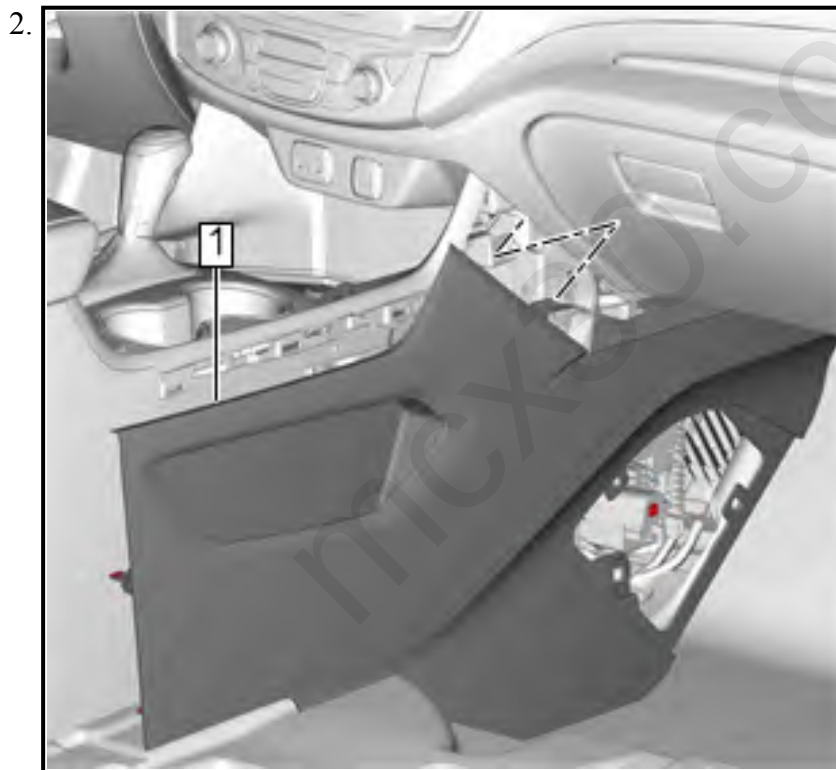
6. Transfer components as necessary.

Installation Procedure



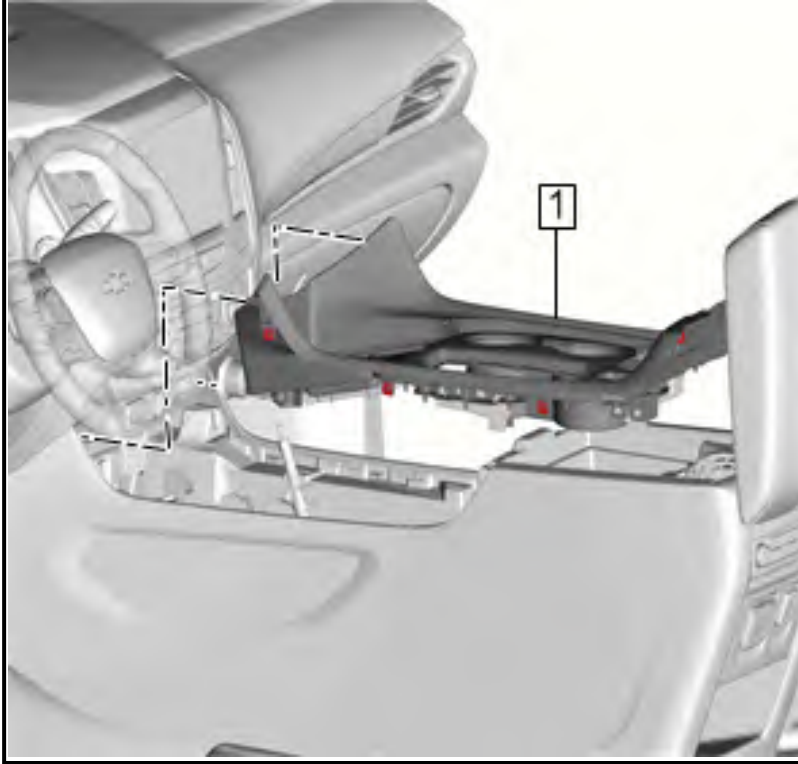


Front Floor Rear Console Side Trim Panel - Right Side (1) - Install

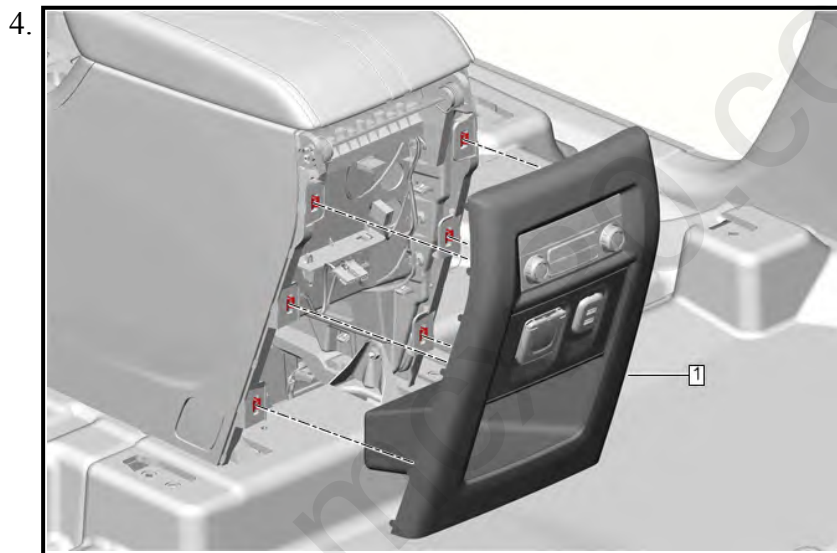


Front Floor Console Extension Panel-Right Side (1) - Install - [Front Floor Console Extension Panel Replacement - Right Side](#)



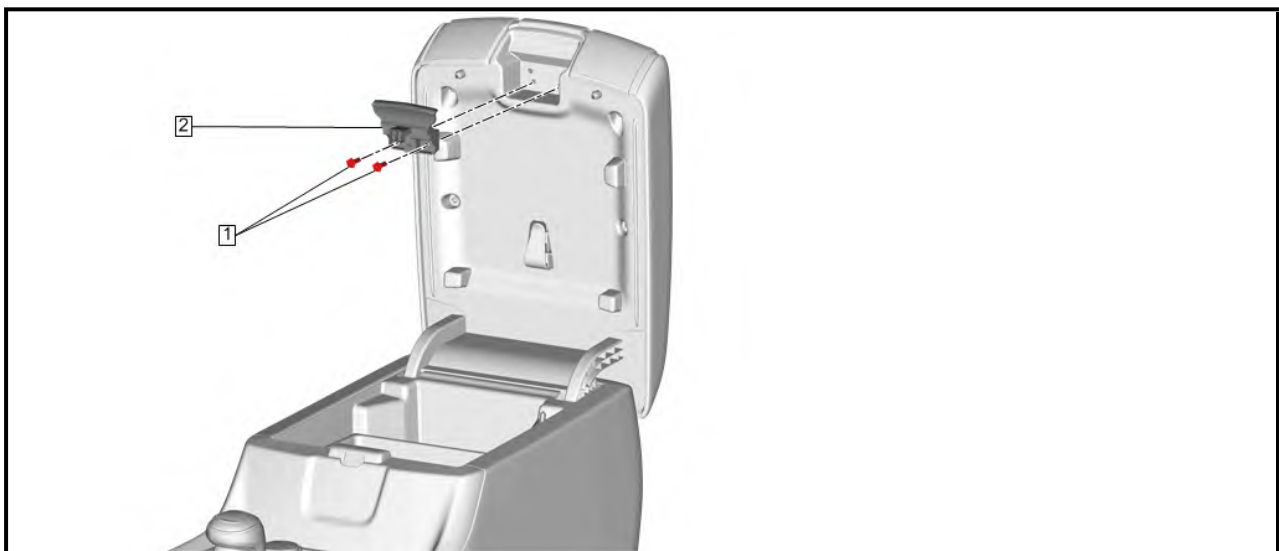


Front Floor Console Cup Holder Plate (1) - Install - [Front Floor Console Cup Holder Plate Replacement](#)



Front Floor Console Rear Trim Panel (1) - Install - [Front Floor Console Rear Trim Panel Replacement](#)

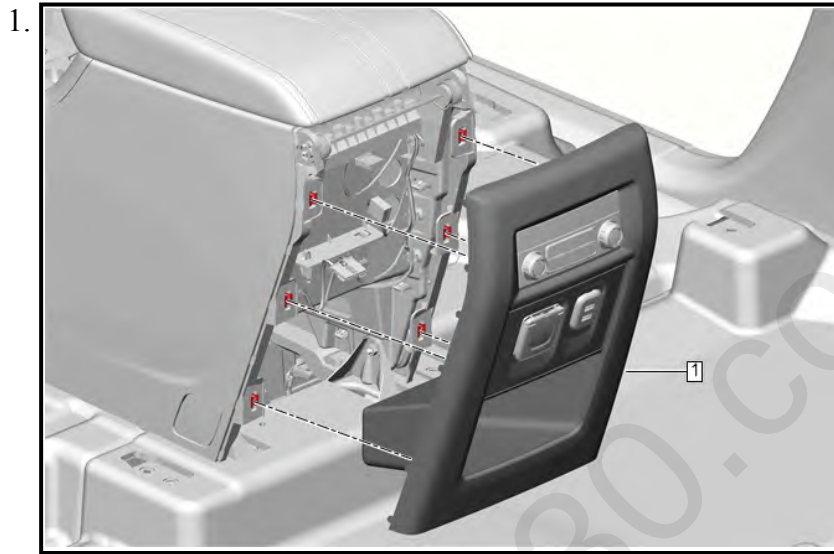
FRONT FLOOR CONSOLE ARMREST LATCH REPLACEMENT



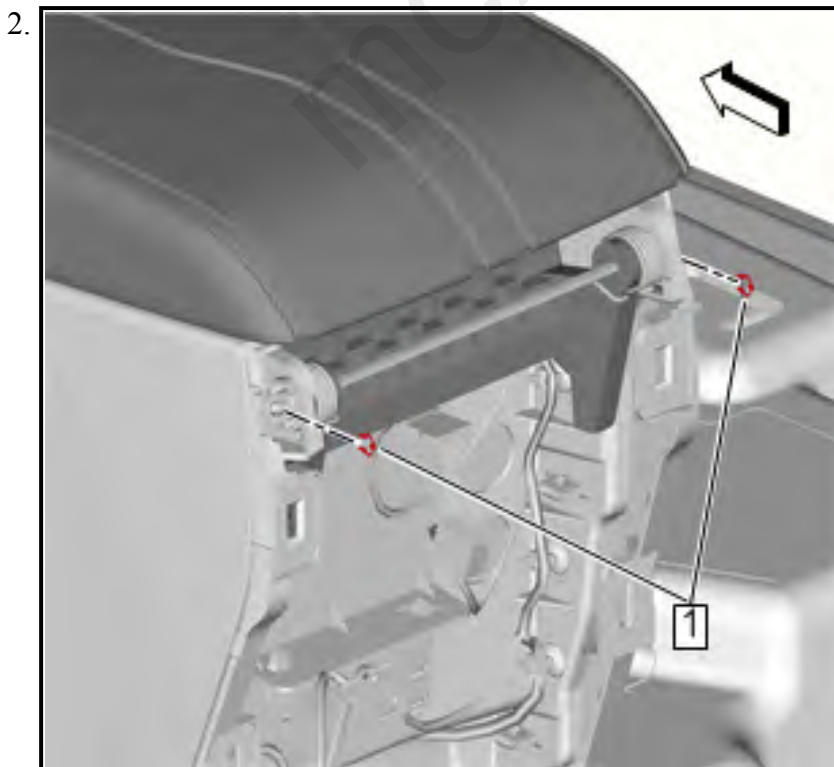
Callout	Component Name
Preliminary Procedure Open the armrest cover.	
1	Front Floor Console Armrest Latch Bolt [2x] CAUTION: Refer to Fastener Caution . Tighten 2.5 N.m (22 lb in)
2	Front Floor Console Armrest Latch

FRONT FLOOR CONSOLE ARMREST REPLACEMENT

Removal Procedure



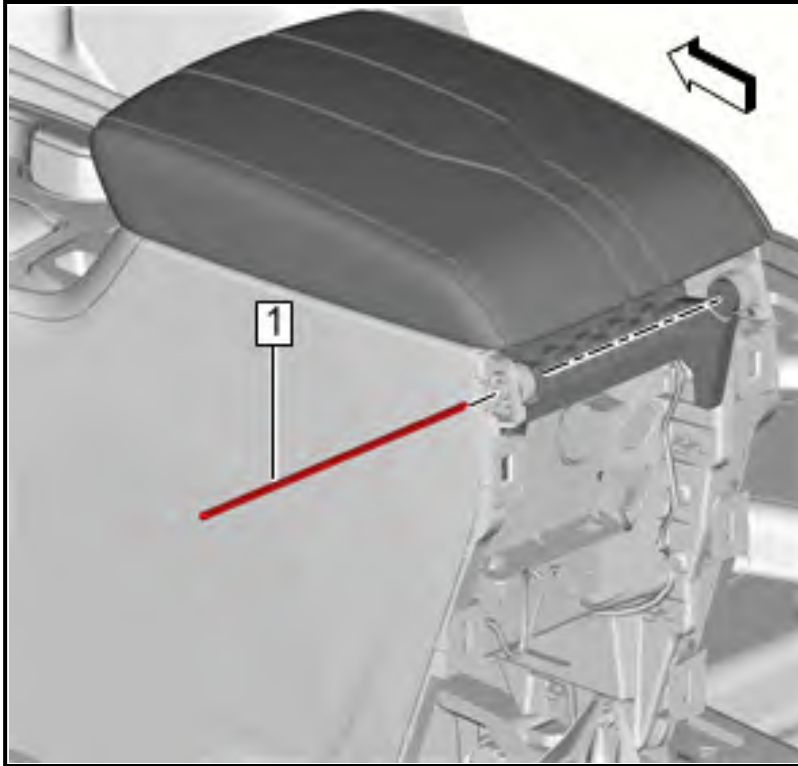
Front Floor Console Rear Trim Panel (1) - Remove - [Front Floor Console Rear Trim Panel Replacement](#)



Use a suitable tool to release the front floor console armrest clips (1) from the pivot pin.

3. Position the front seat as needed to access the front floor console armrest pivot pin.

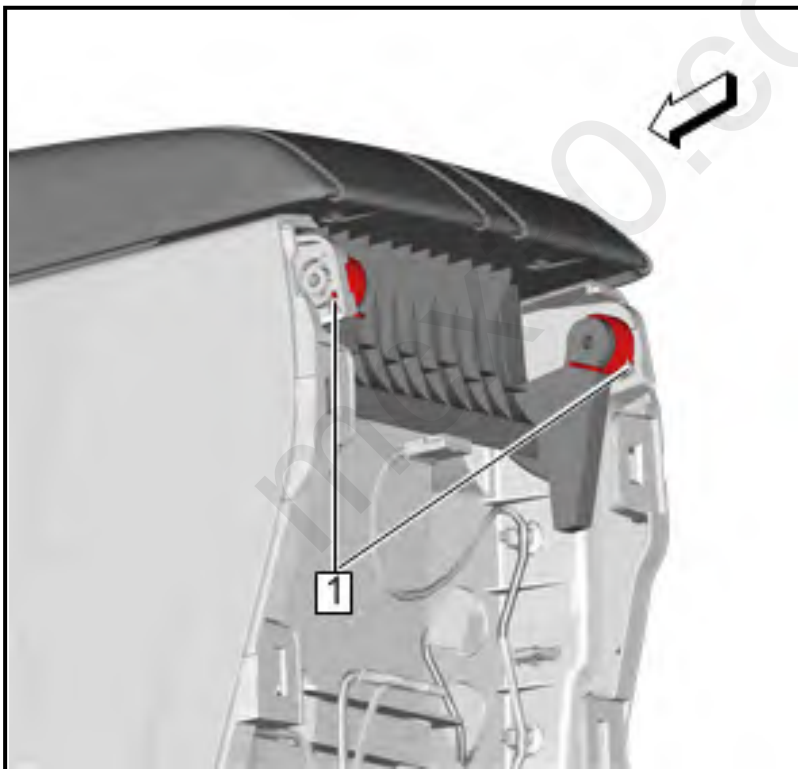
4.



Remove the front floor console armrest pivot pin (1) from the armrest.

5. Use a suitable tool.

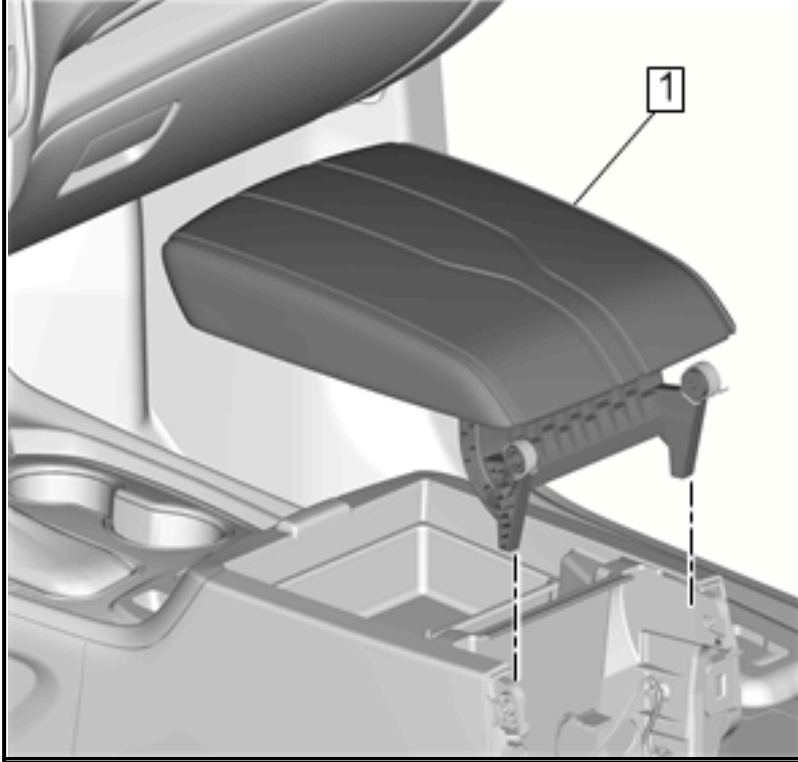
6.



Use a suitable tool to release the ends of the front floor console armrest hinge spring (1) from the front floor lower console.

7.

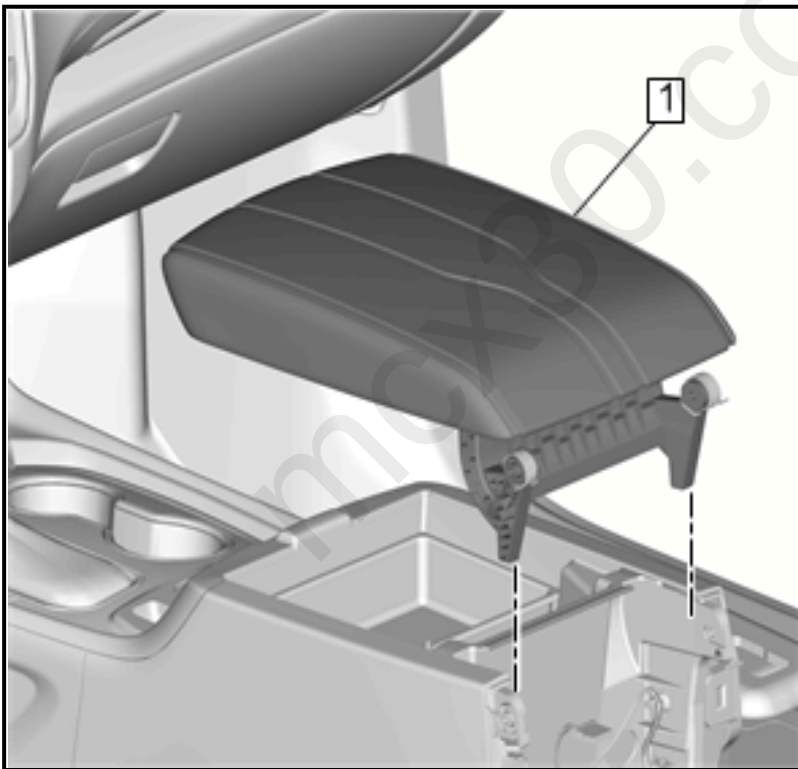




Remove the front floor console armrest (1) from the front floor console.

Installation Procedure

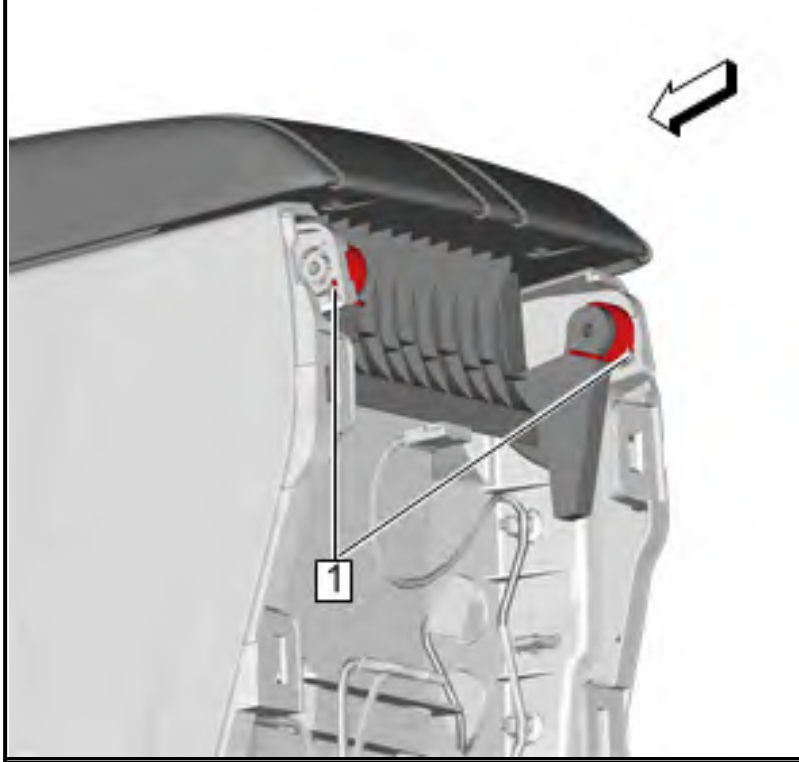
1.



Install the front floor console armrest (1) to the front floor console.

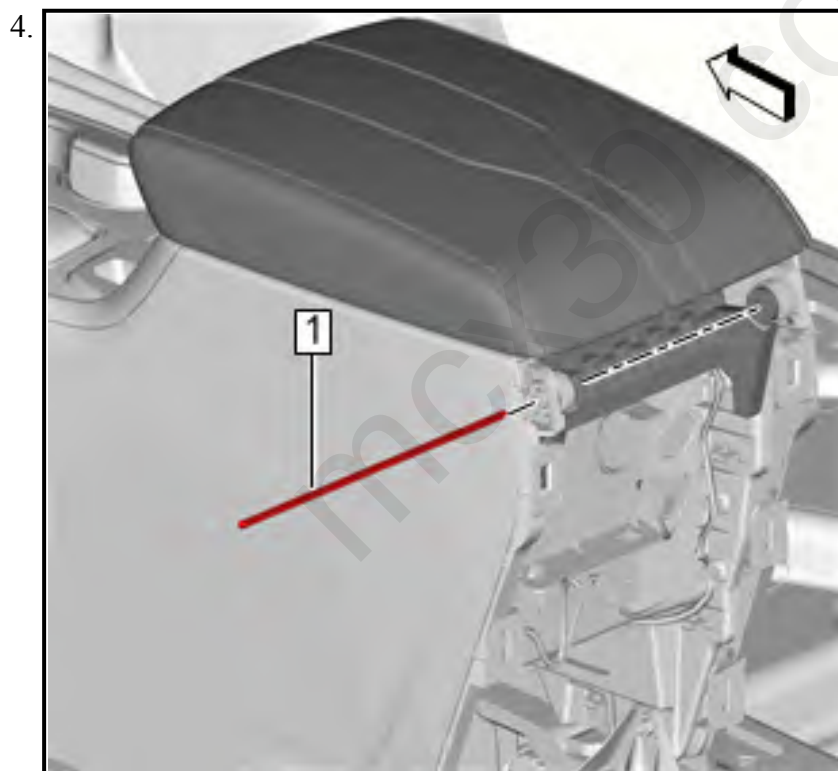
2.





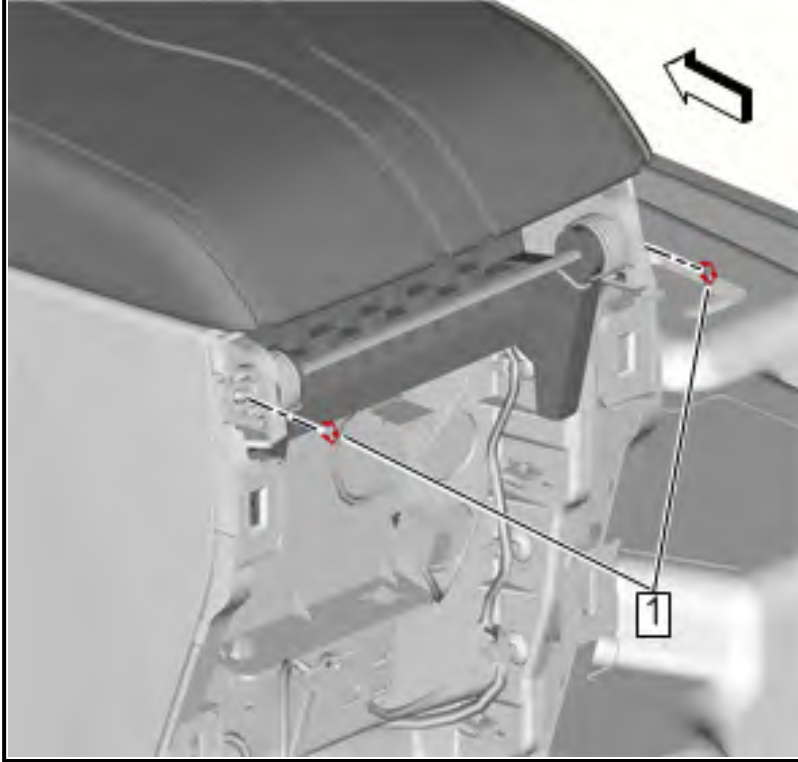
Attach the ends of the front floor console armrest hinge spring (1) to the front floor lower console.

3. Inspect the components and replace as necessary.

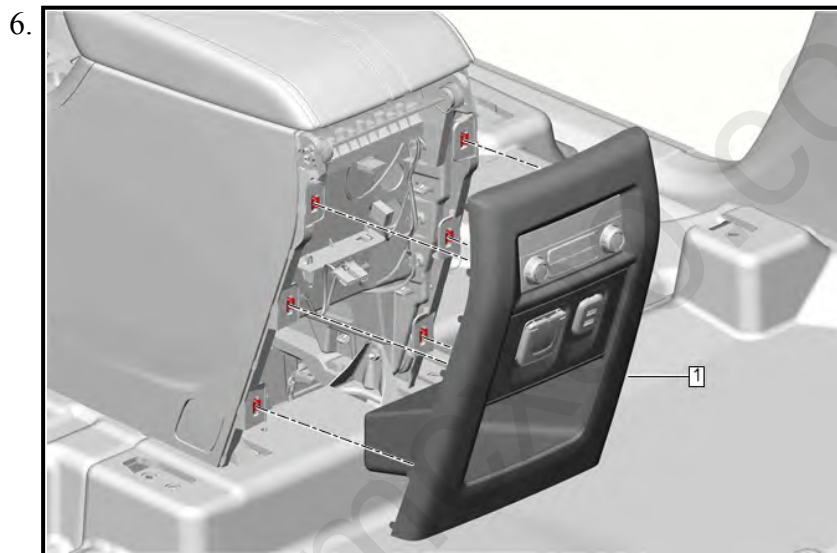


Install the front floor console armrest pivot pin (1) to the armrest.



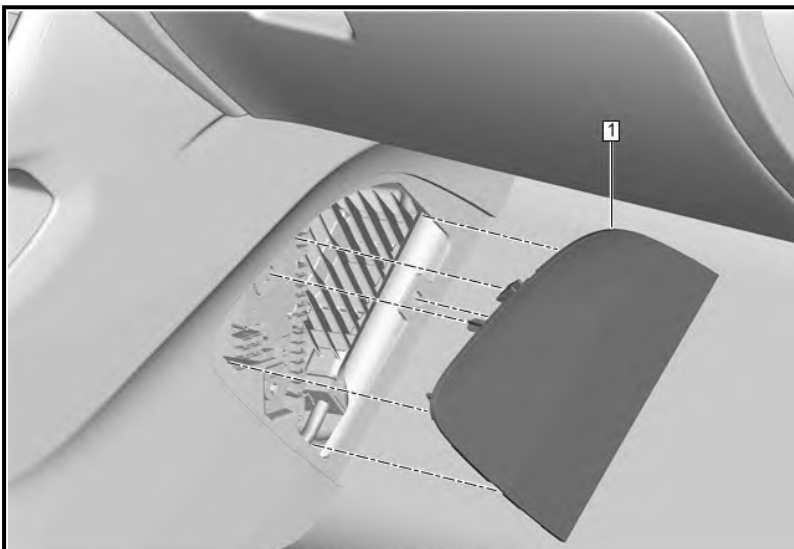


Install the front floor console armrest clips (1) to the end of the pivot pin.



Front Floor Console Rear Trim Panel (1) - Install - [Front Floor Console Rear Trim Panel Replacement](#)

FRONT FLOOR CONSOLE FRONT COVER REPLACEMENT

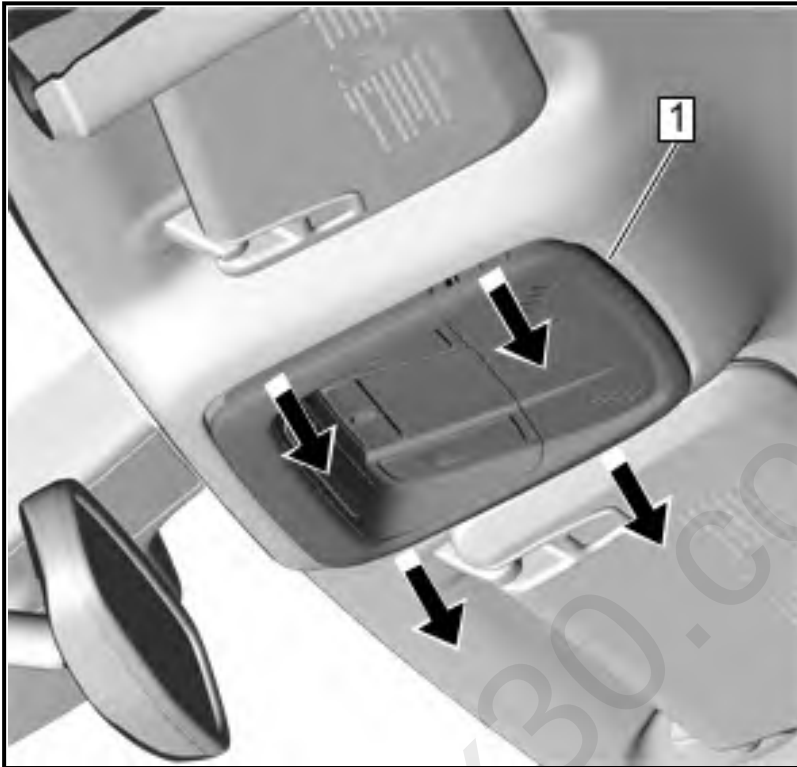


Callout	Component Name
1	Front Floor Console Front Cover
Procedure 1. Use a plastic trim tool if necessary. 2. Start at the bottom and work your way around to release the tabs.	

ROOF CONSOLE REPLACEMENT

Removal Procedure

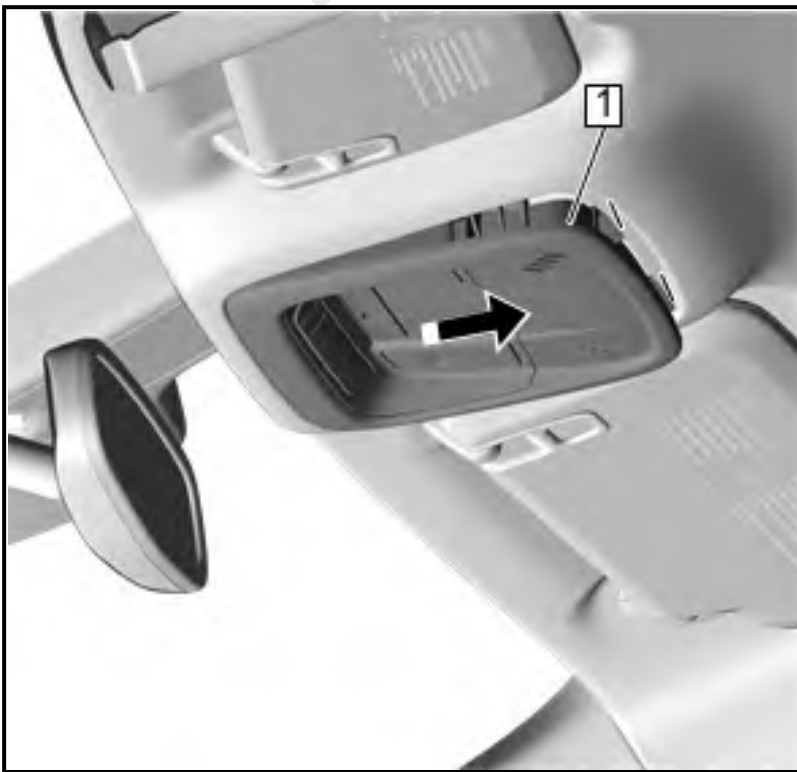
1.



CAUTION: Do not exert downward force at the forward or rearward edge of the roof console assembly as irreversible damage will occur.

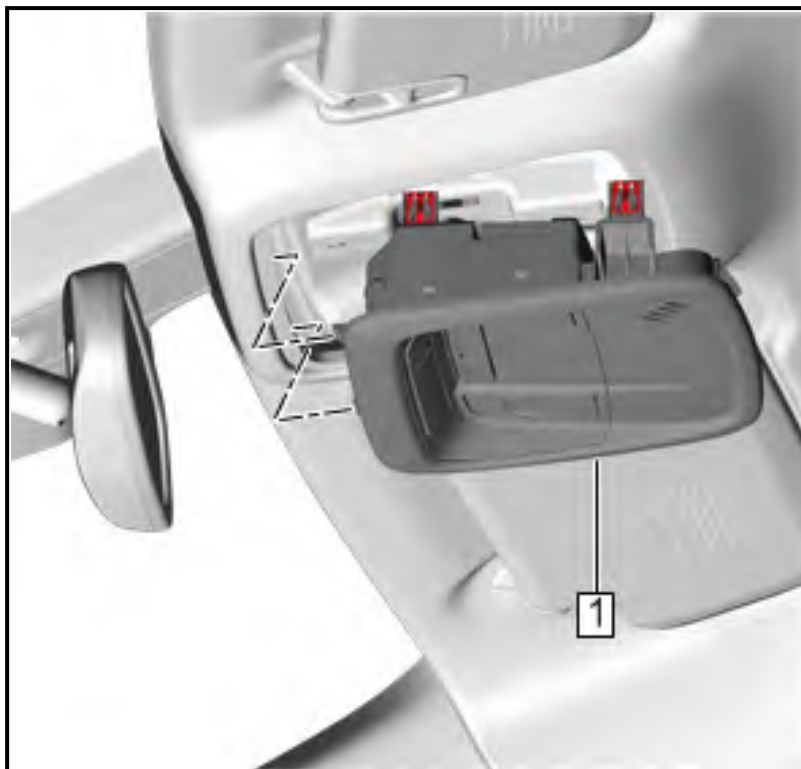
Grasp the roof console (1) on both sides in line with the microphone and OnStar buttons and pull down to disengage the clips.

2.



Clear the rearward roof console (1) tabs from the headliner.

3.

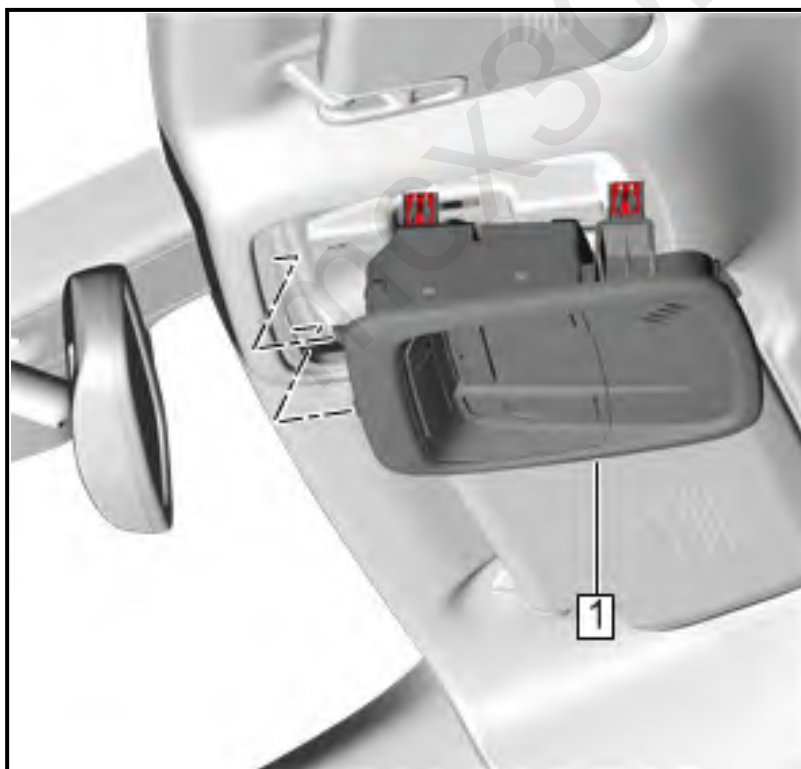


Pull rearward to clear the forward roof console (1) tabs.

4. Disconnect the electrical connectors.

Installation Procedure

1.

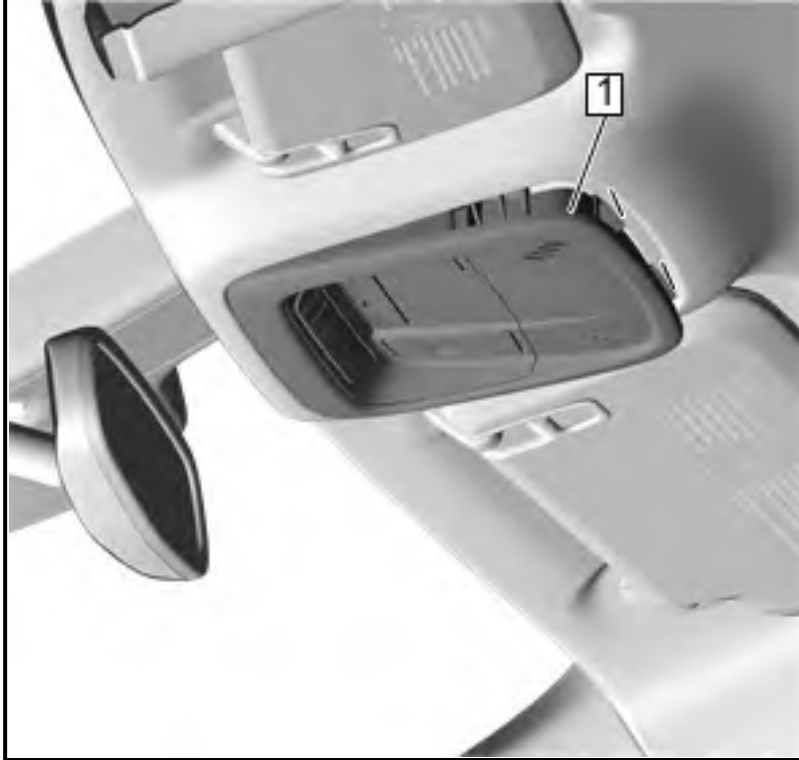


Connect the electrical connectors.

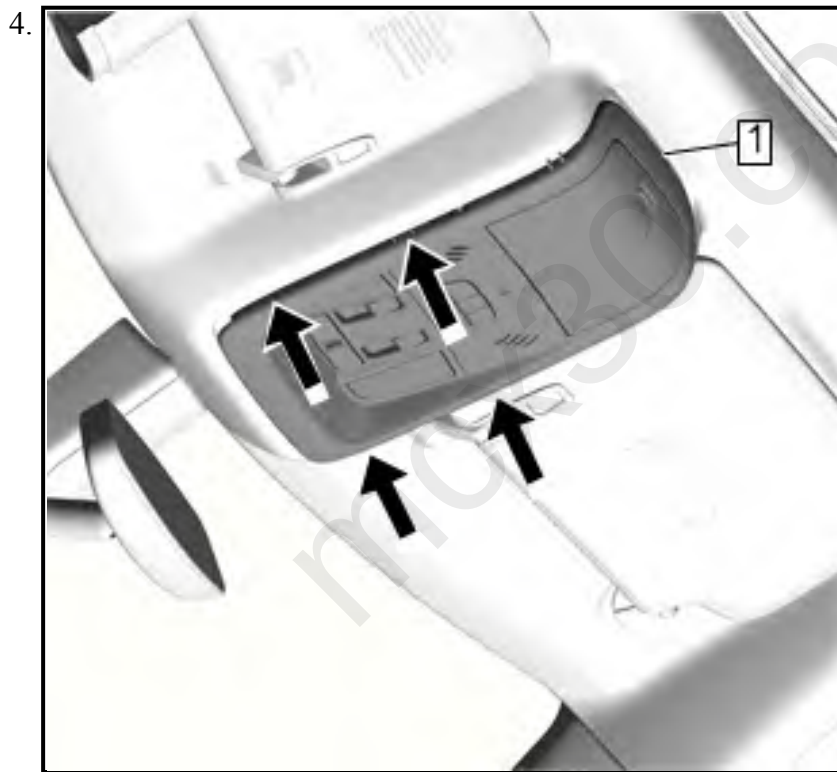
2. Insert the forward roof console (1) tabs into the headliner.

3.





Install the rearward roof console (1) tabs into the headliner.



Roof Console (1) - Install