

SECTION 6: Mounting

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Push Bumpers

Ford Motor Company does not recommend the installation of any type of push bumper.

Siren and Grille Lights

NOTICE:

Do not modify the cooling system. High voltage vehicle components may be damaged if any cooling system modifications are attempted.

The cooling system relies on proper airflow through the radiator to keep components at their proper operating temperature. When adding sirens and grille lights to a vehicle, make sure this airflow is not obstructed. Reduced airflow could put additional strain on the cooling system and shorten the operational life of related components. The cooling system also cools the electric motors and electronics. If the coolant exceeds certain temperatures, the components will attempt to protect themselves by limiting the power and torque available. During the installation process, keep the placement of components away from the grille area of the vehicle.

Mounting Equipment to the Vehicle

- Do not mount equipment to the high voltage (orange) wiring/cables, the high voltage cover or the HVTB cooling plenum.
- Do not mount equipment on the instrument panel between the driver and passenger airbags due to deployment variability.
- Do not mount equipment on the instrument panel between the driver and the pedals, between the door and the console area due to knee airbag deployment variability.
- Do not mount equipment obstructing the HVTB service disconnect located under the hood, LH side of the engine compartment.
- Do not remove or block the HVTB cooling plenum or ducts. These components are necessary for the proper cooling of the HVTB.
- Do not cover any warning or vehicle labels.
- **NOTICE:**
The side impact sensors are tuned to excite based on their mass (including wiring), as well as the host sheet metal. Any alteration to these components must be avoided. Additions such as padding, wire connectors, retainers, tape or fasteners of any kind should not be used. All fasteners in this predominantly sheet metal environment should be made of steel or a non-conductive plastic to guarantee retention and longevity. If any part of a steel fastener is exposed to a wet area, it should be plated to resist corrosion.
- Do not mount equipment to the A, B, C, or D-pillars.
- Do not mount equipment on the headliner within 200 mm (8 in) of the side edges.
- Do not mount equipment above the beltline within 200 mm (8 in) of the side glass from the A-pillar leading edge to the rear edge of the D-pillar.
- Do not mount equipment on the headliner along the siderails.
- Do not install a partition, divider or equipment that spans the vehicle above the beltline.

Airbag, Safety Restraint System and Side Impact Sensor Component Description and Location

The safety belt retractors are located in the base of the B-pillars. The pretensioner located in the retractor is referred to as the safety belt retractor pretensioner. In the event the Restraints Control Module (RCM) senses an impact, pretensioners provide improved occupant protection by rapidly removing slack from the safety belt. Removing slack from the safety belt helps to properly position the occupant and allows for maximum effectiveness of the safety belts and the airbags.

- Do not use the safety belt retractor bolts for mounting the partition.
- Do not mount any partition hardware on the inboard side of the B-pillar within the bottom 305 mm (12 in).
- Do not mount any partition hardware that will interfere with the proper sealing of the door.

The side impact sensors are located in the front doors and C-pillars; one sensor in each door and in each C-pillar. The location and orientation are critical for the correct operation of all the impact sensors. Do not use the attachment bolts of the impact sensors to mount any equipment.

The RCM is mounted under the front of the center console. The RCM orientation is critical for proper operation of the restraint systems. Do not relocate or use the RCM mounting bolts for attachment purposes of any equipment.

Various safety restraints exist within the vehicle, the restraint system includes various modules, sensors, retractors, airbags and the safety belt systems. Refer to the workshop manual for more detail on the safety restraint system.

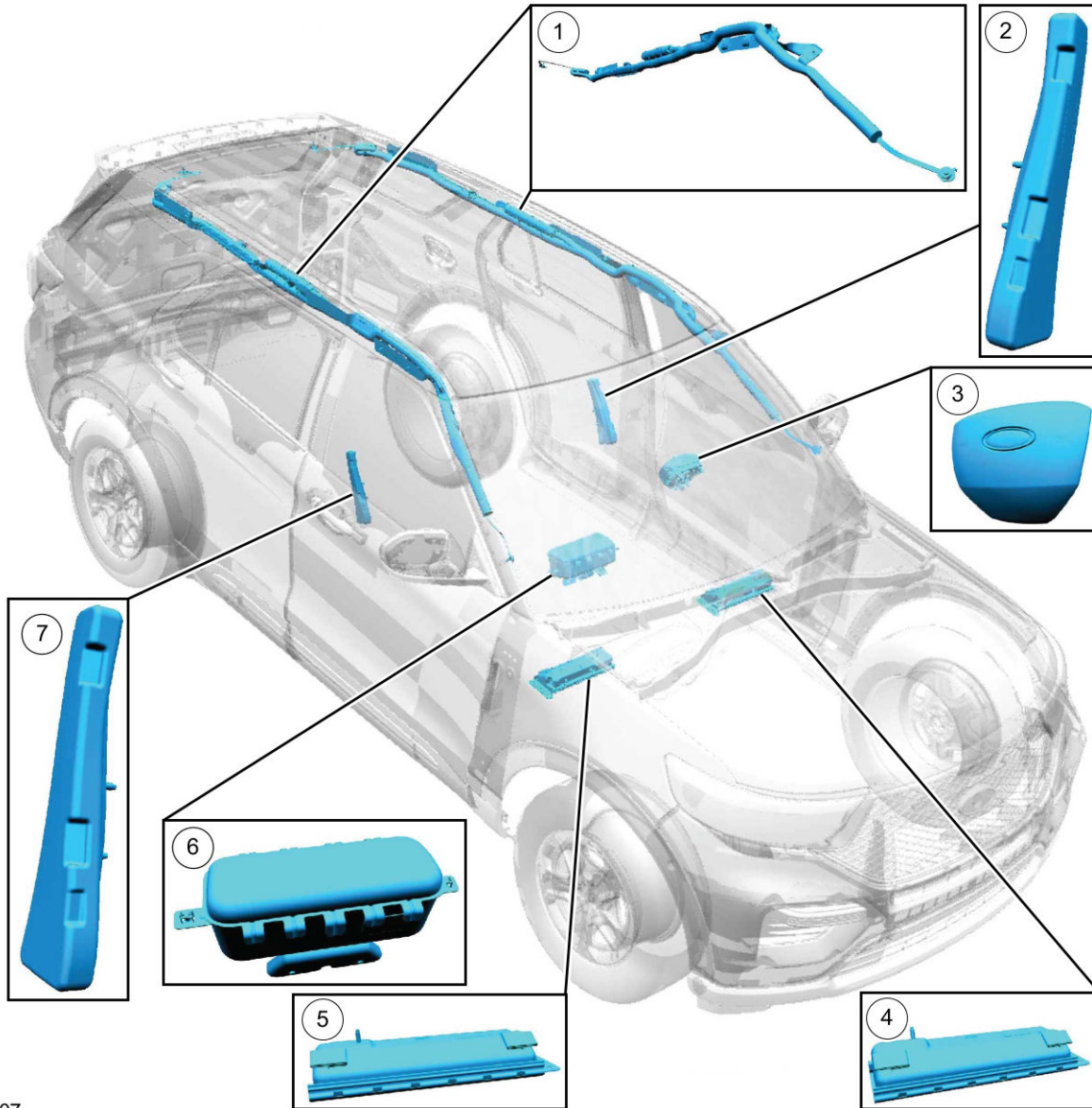
NOTE:

Airbag, safety restraint system and side impact sensor component location shown below.

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NOTE:

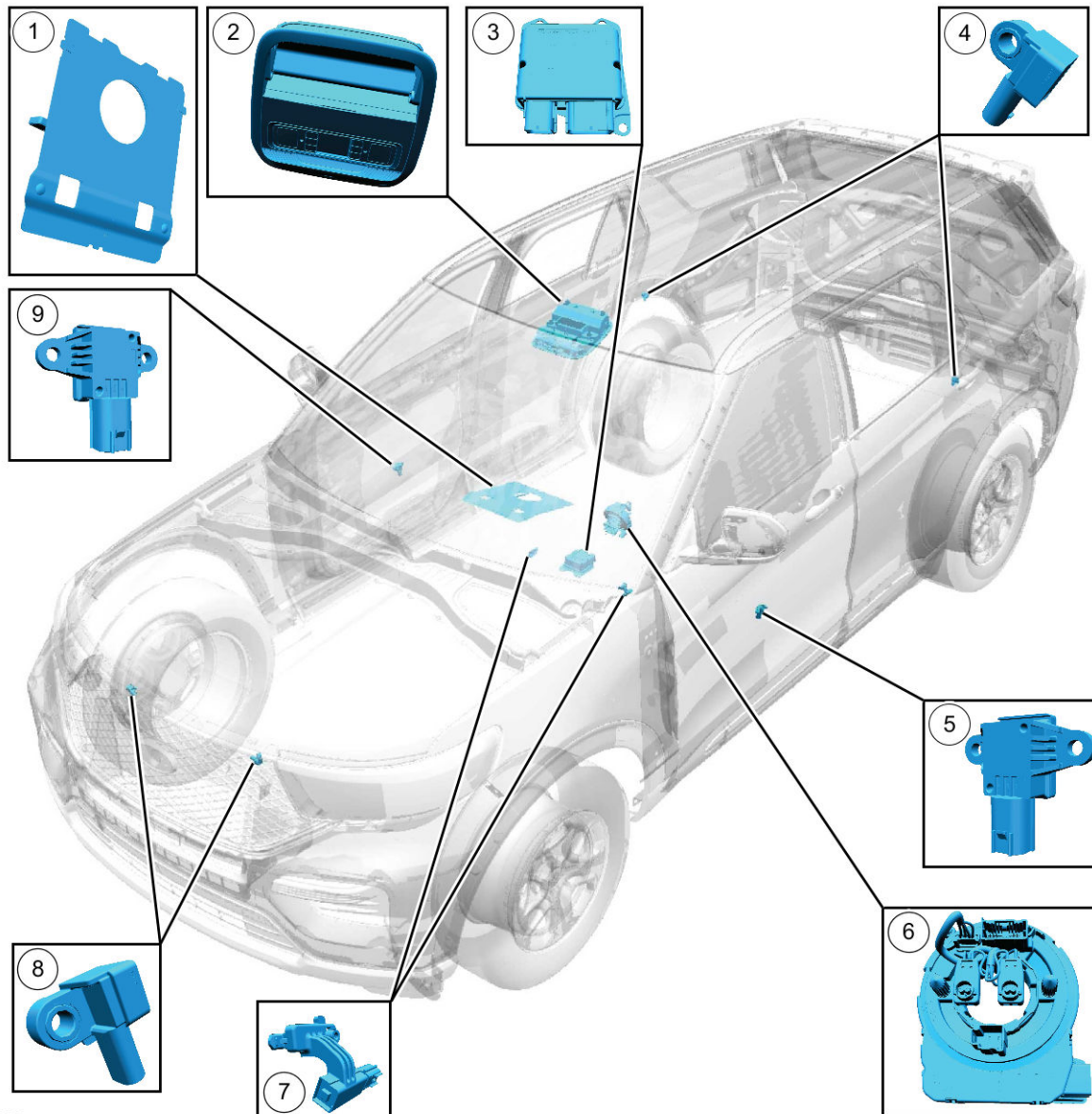
Airbag, safety restraint system and side impact sensor component location shown below.



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Item	Description
1	Driver and passenger side curtain airbag
2	Driver side airbag
3	Driver airbag
4	Driver knee airbag
5	Passenger knee airbag
6	Passenger airbag (includes canister vent)
7	Passenger side airbag

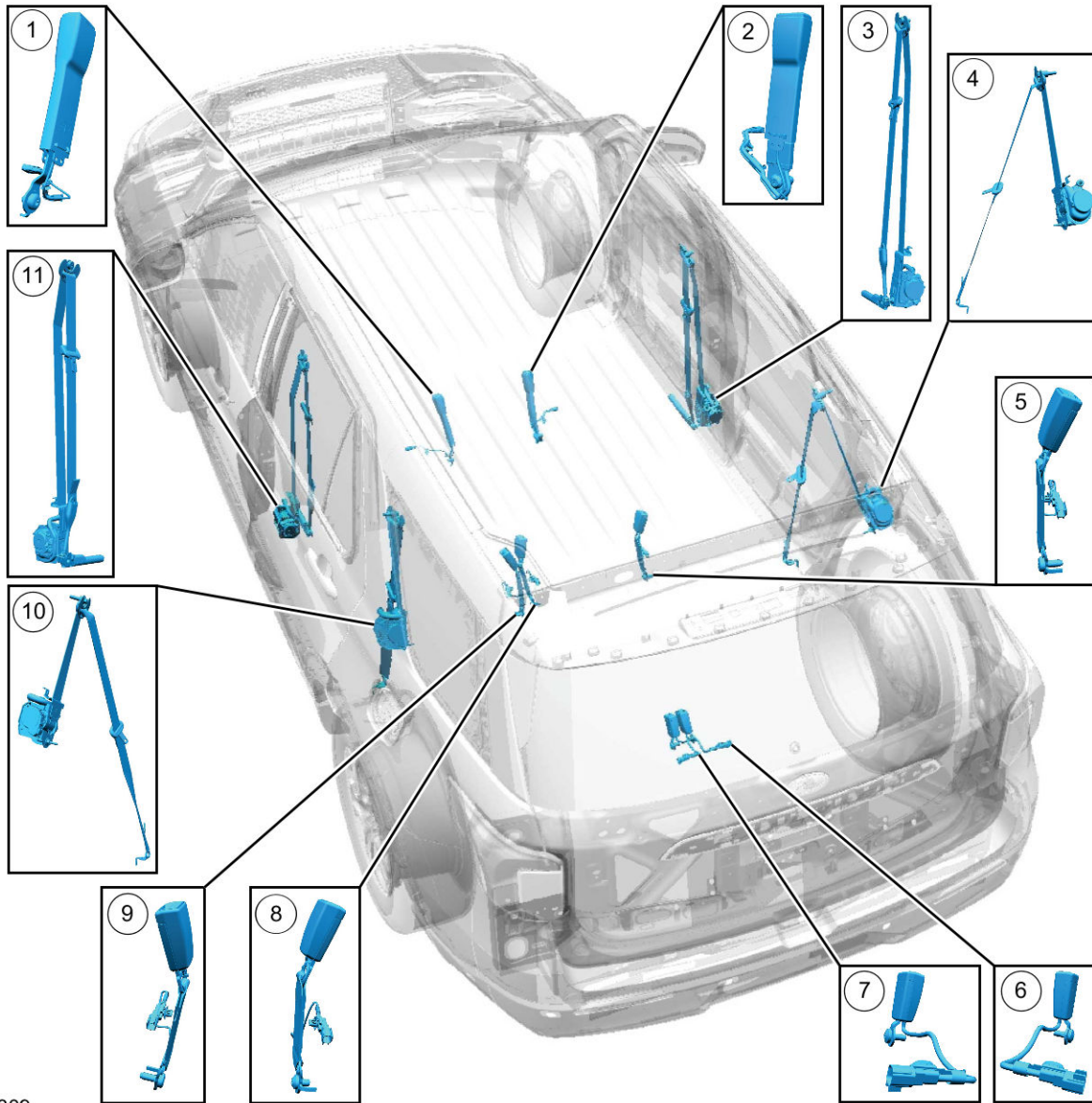
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N0179808

Item	Description
1	OCSM (occupant classification system module) (includes OCS (occupant classification system) sensor and gel-filled bladder)
2	Overhead console (includes PAD (passenger airbag deactivation) indicator)
3	RCM (restraints control module)
4	Driver and passenger C-pillar side impact sensors
5	Driver front door side impact sensor
6	Clockspring
7	Seat position sensors
8	Driver and passenger front impact severity sensors
9	Passenger front door side impact sensor

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Item	Description
1	Driver seatbelt buckle (includes buckle sensor)
2	Front passenger seatbelt buckle (includes buckle sensor and Belt Tension Sensor (BTS))

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(Continued)

3	Front passenger seatbelt retractor (includes retractor pretensioner, retractor load limiter and anchor pretensioner)
4	Second row passenger side outer seatbelt retractor (includes retractor pretensioner)
5	Second row passenger side outer seatbelt buckle (includes seatbelt buckle switch)
6	Third row passenger side seatbelt buckle (includes seatbelt buckle switch)
7	Third row driver side seatbelt buckle (includes seatbelt buckle switch)
8	Second row center seatbelt buckle (if equipped) (includes seatbelt buckle switch)
9	Second row driver side outer seatbelt buckle (includes seatbelt buckle switch)
10	Second row driver side outer seatbelt retractor (includes retractor pretensioner)
11	Driver seatbelt retractor (includes retractor pretensioner)

Airbag Deployment Interference

 **WARNING:**

Do not place objects or mount equipment in front of the airbag module cover or in the front seat area; this is to avoid contact with a deploying airbag. Placing objects on or over the airbag inflation area may cause those objects to be propelled by the airbag. Failure to follow these instructions may result in personal injury.

 **WARNING:**

Dash, tunnel or console-mounted equipment should be placed only within their specified zone. Failure to follow this instruction may result in personal injury.

 **WARNING:**

Do not mount equipment between the side of the front seat and the door trim that would block deployment of the side airbag. Failure to follow this instruction may result in personal injury.

 **WARNING:**

Do not mount equipment on the instrument panel between the driver and the pedal area, between the door and the console that may come in contact with or block a deploying knee airbag. Failure to follow this instruction may result in personal injury.

 **WARNING:**

Do not attempt to service, repair or modify the airbag supplemental restraint systems (SRS) or its fuses. See your Ford or Lincoln dealer. Failure to follow this instruction may result in personal injury.

 **WARNING:**

Modifications to the front end of the vehicle, including frame, bumper, front end body structure, tow hooks and B-pillar surrounding parts may affect the performance of the airbag sensors, increasing the risk of injury. Do not modify the front end of the vehicle.

 **WARNING:**

Do not place objects or mount equipment on or near the headliner at the siderail that may come into contact with a deploying Safety Canopy® System. Failure to follow this instruction may increase the risk of personal injury in the event of a collision.

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**WARNING:**

Do not attempt to service, repair or modify the Safety Canopy® System, its fuses, the A, B, C, or D-pillar trim, or the headliner on a vehicle containing a Safety Canopy® System. See your Ford or Lincoln dealer.

**WARNING:**

To reduce risk of injury, do not obstruct or place objects in the deployment path of the inflatable Safety Canopy® System.

NOTICE:

The side impact sensors are tuned to excite based on their mass (including wiring), as well as the host sheet metal. Any alteration to these components must be avoided. Additions, such as padding, wire connectors, retainers, tape or fasteners of any kind should not be used. All fasteners in this predominantly sheet metal environment should be made of steel or a non-conductive plastic to guarantee retention and longevity. If any part of a steel fastener is exposed to a wet area, it should be plated to resist corrosion.

Driver/passenger airbags affect the way equipment can be mounted in vehicles. Any surfaces that could come into contact with an airbag during deployment must not damage the airbag or alter its deployment path. Sharp edges, corners or protrusions could damage the nylon airbag material and reduce the effectiveness of the airbag. Do not mount or place any objects in the deployment path of an airbag. Airbags must be allowed to fully deploy without restriction. The deployment of airbags is not compatible with any configuration of equipment mounting that places objects in the airbag deployment path. Equipment mounted or placed in the deployment area of an airbag will reduce the effectiveness of the airbag, damage the airbag and potentially damage or dislodge the equipment.

Airbag deployment drawings are provided in Section 7. Consult the drawings before equipment is installed inside the passenger compartment to make sure that the mounted equipment does not interfere with airbag deployment.

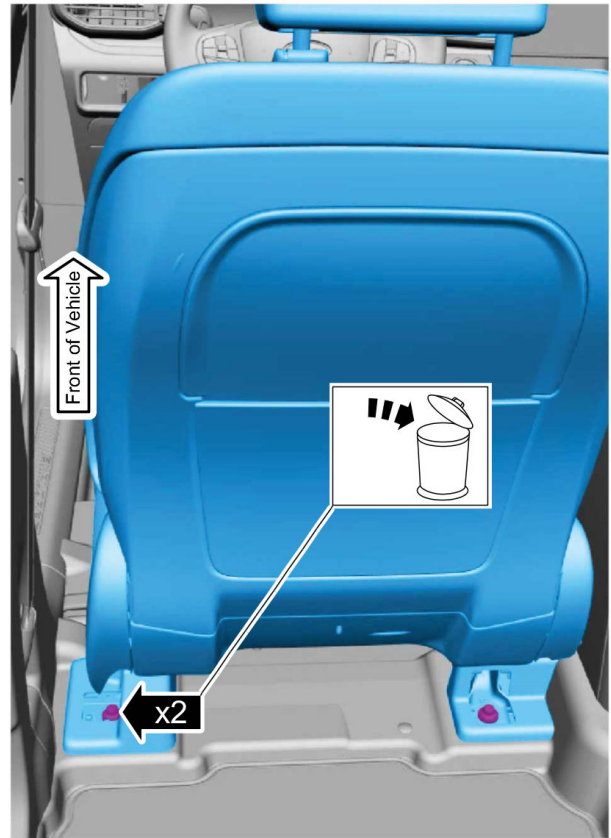
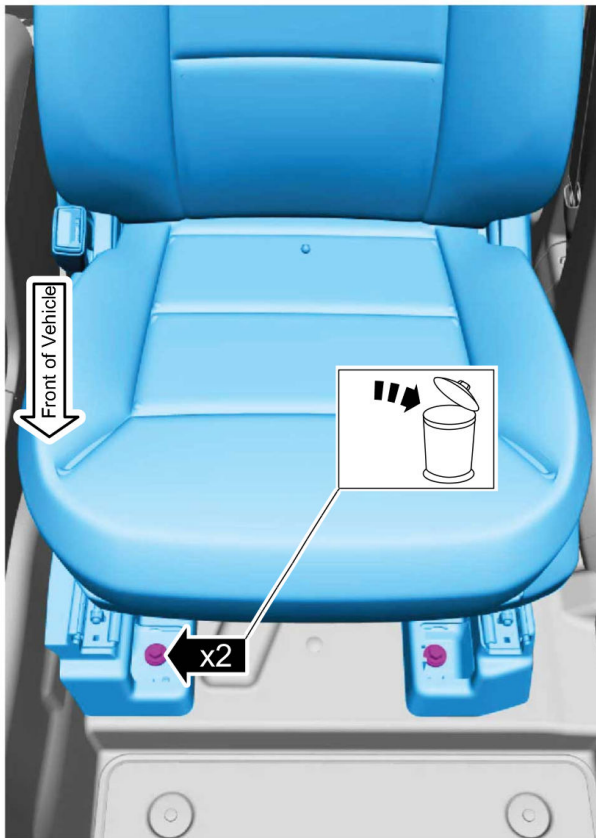
Seat Attaching Bolts

The vehicle safety belts and seat assemblies are factory installed in their correct location. Seat attaching bolts are not to be used as attachment points for any equipment. Front seat bolts are to be discarded when removed (one time use). Any added material between the seat attaching bolt and the seat frame could have unpredictable effects on the seat bolt torque. If the safety belts are removed for any reason, all of the appropriate attaching hardware must be hand started and then tightened to the correct torque specifications as per the Workshop Manual. Proper operation must be verified before returning the vehicle to service.

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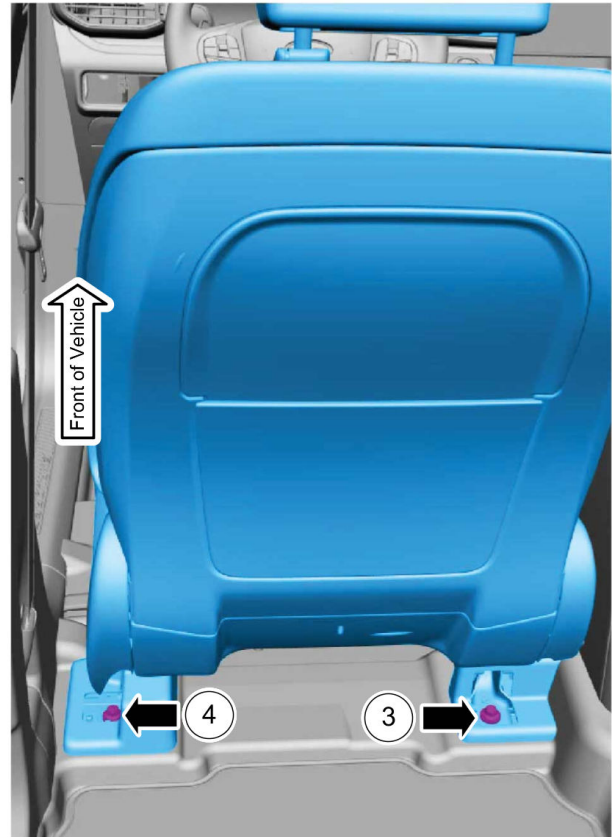
NOTE:

The retainers shown below are one time use. If removed, replace with a new retainer.

Front Seat

N0180476

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N0180477

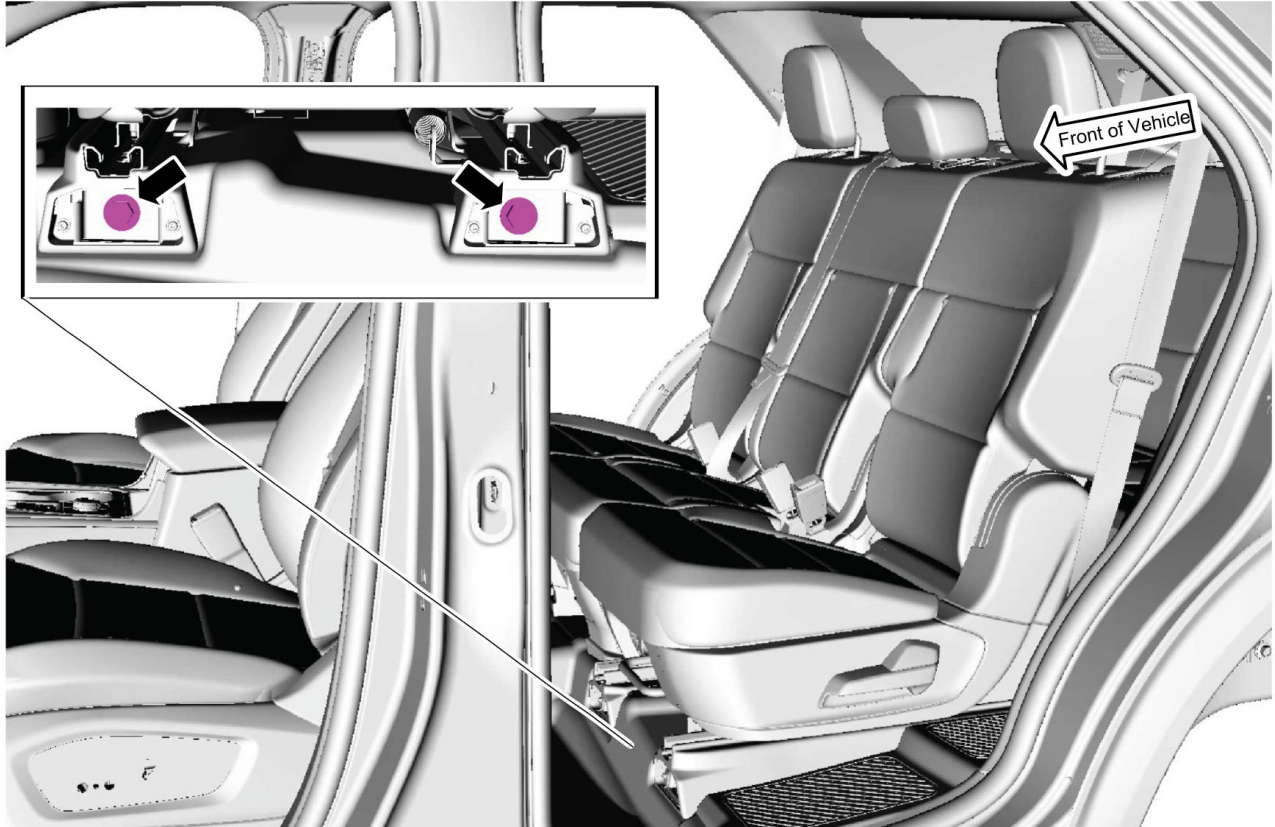
NOTE:

If removed torque the bolts in the following sequence.

1. 35 lb.ft (47 Nm)
2. 35 lb.ft (47 Nm)
3. 35 lb.ft (47 Nm)
4. 35 lb.ft (47 Nm)

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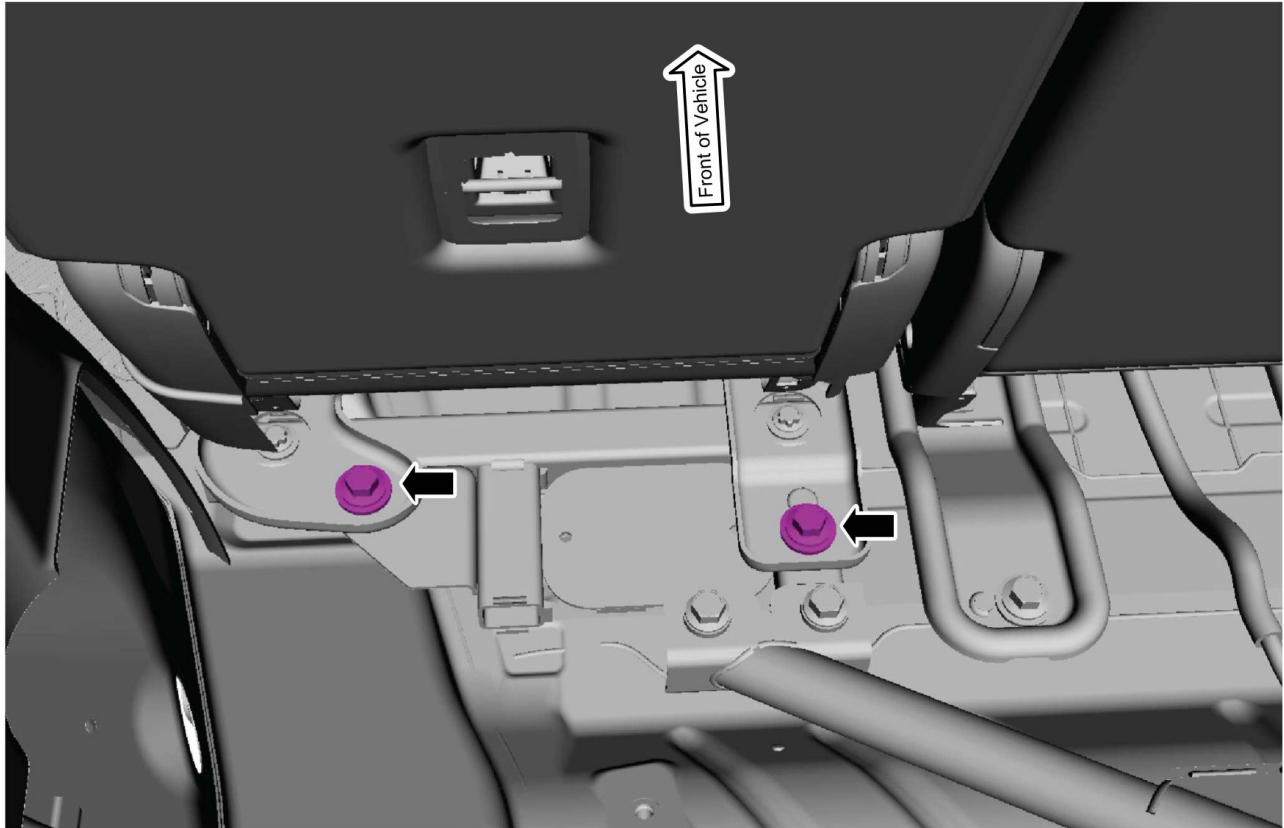
Rear Outboard Seat



N0180478

If removed, torque to 33lb.ft (45 Nm)

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N0180479

If removed, torque to 33 lb.ft (45 Nm)

Section 6: Mounting

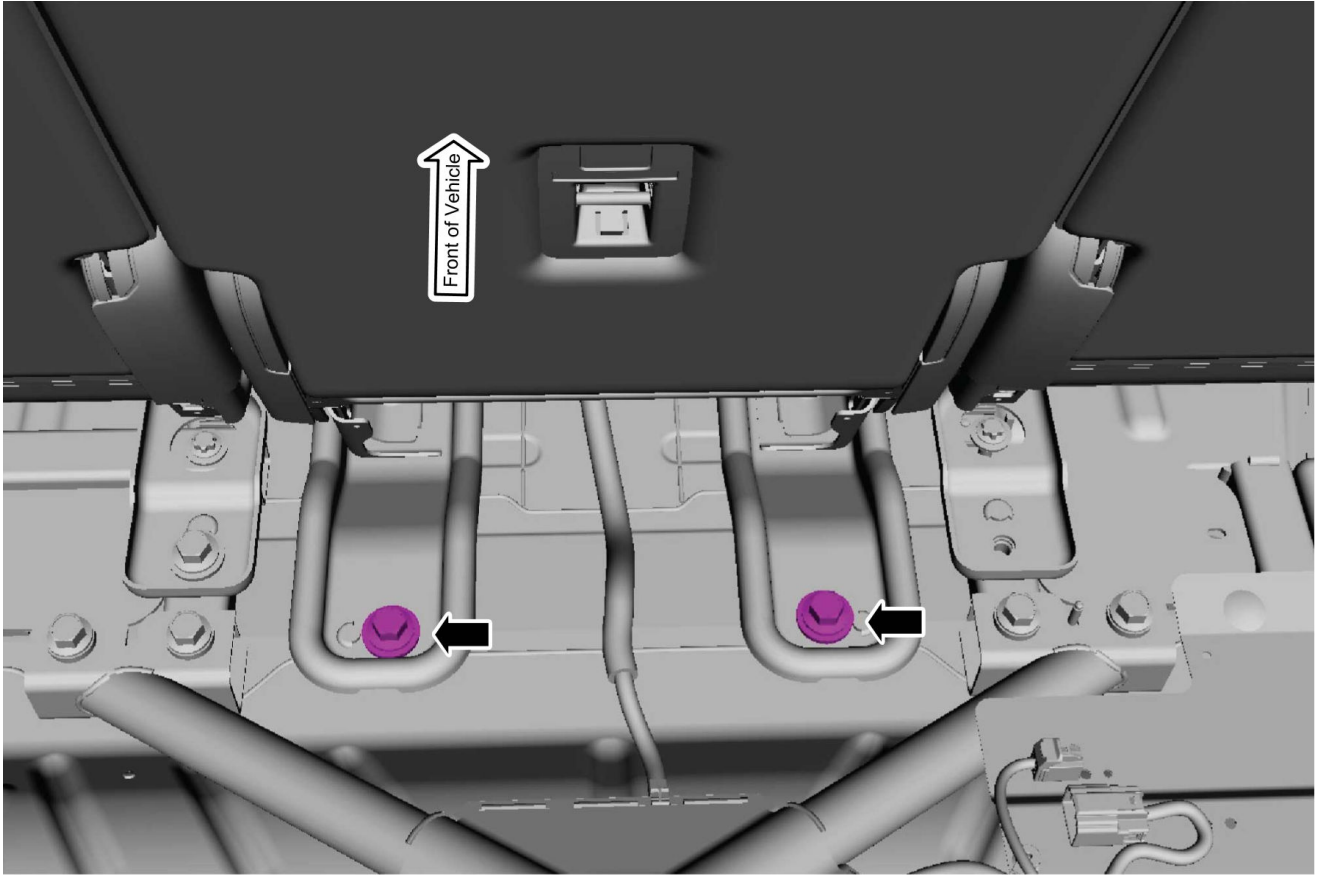
Rear Center Seat



N0180480

If removed, torque to 33lb.ft (45 Nm)

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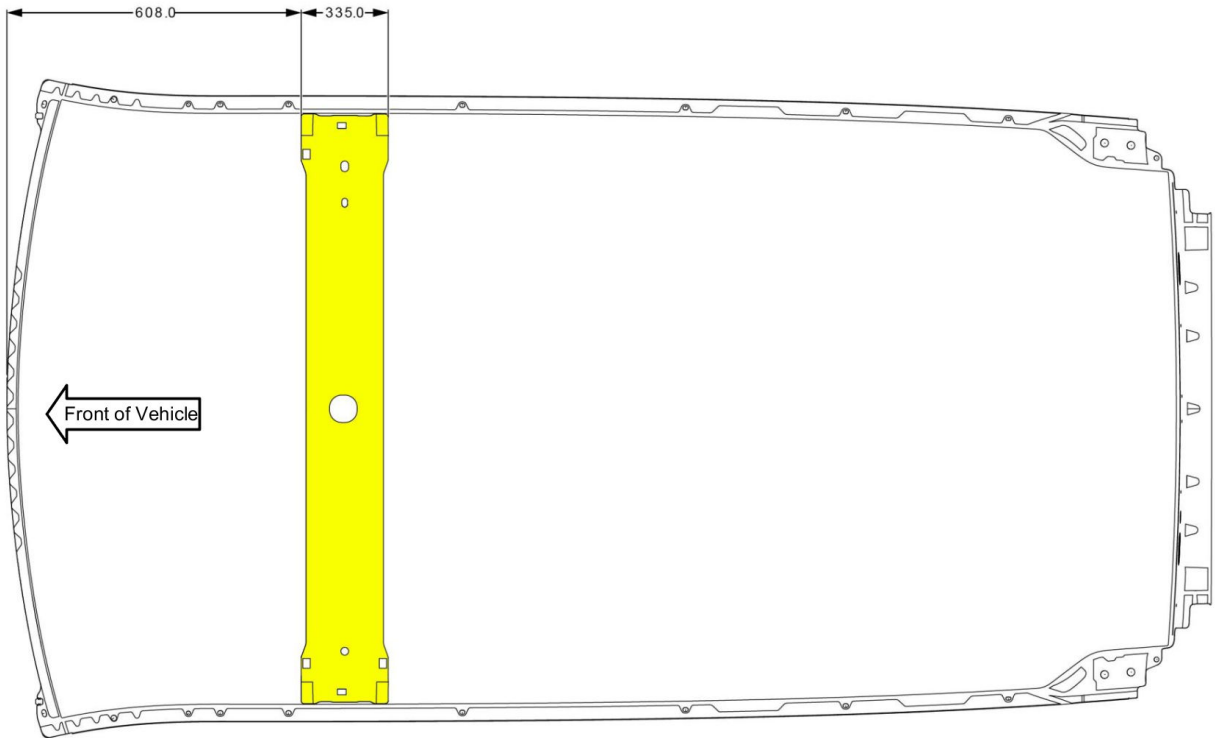
N0180481

If removed, torque to 33lb.ft (45 Nm)

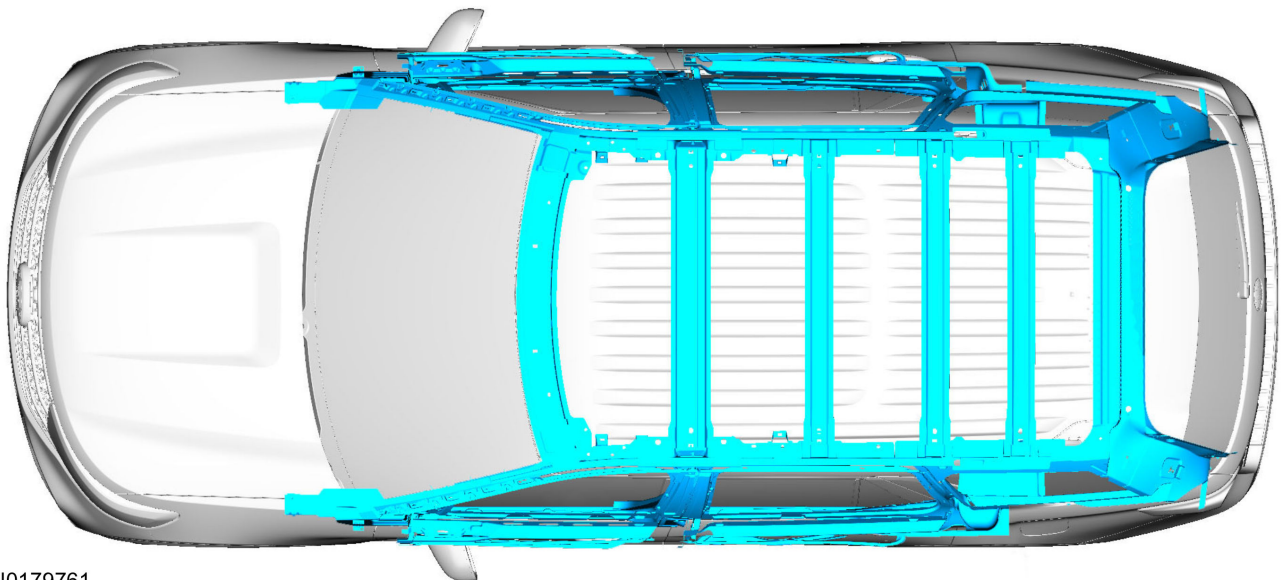
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Roof Bow Locations

TOP OF ROOF VIEW WITH FORWARD MOST ROOF BOW HIGHLIGHTED (DIMENSIONS)



N0179842



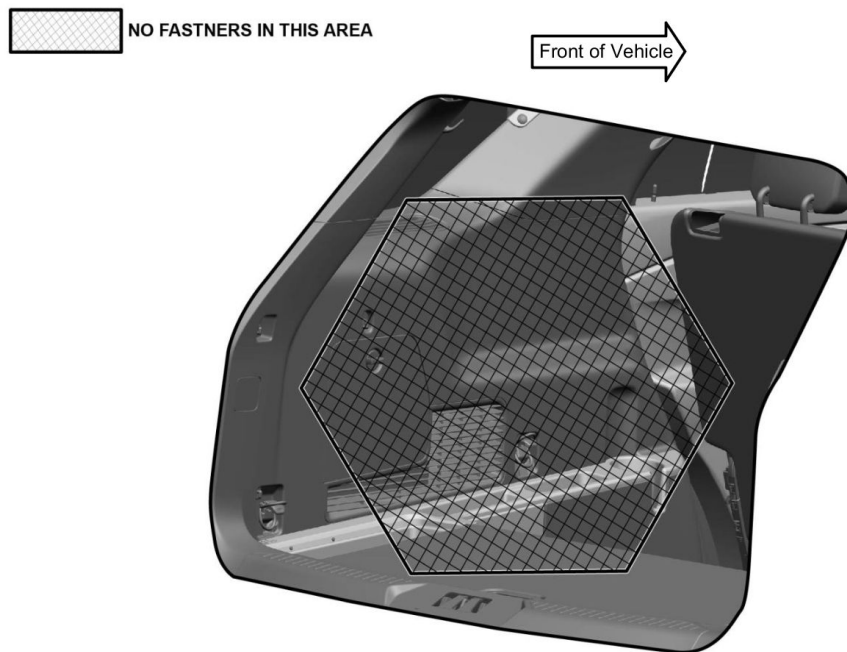
N0179761

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Cargo Area View

Driver side of cargo area shown no fasteners should be attached to passenger side of cargo area also.

VIEW LOOKING FORWARD INTO REAR OF U625 DRIVER/PASSENGER SIDES TO HIGHLIGHT AREAS UPFITTERS ARE TO AVOID USING FASTENERS



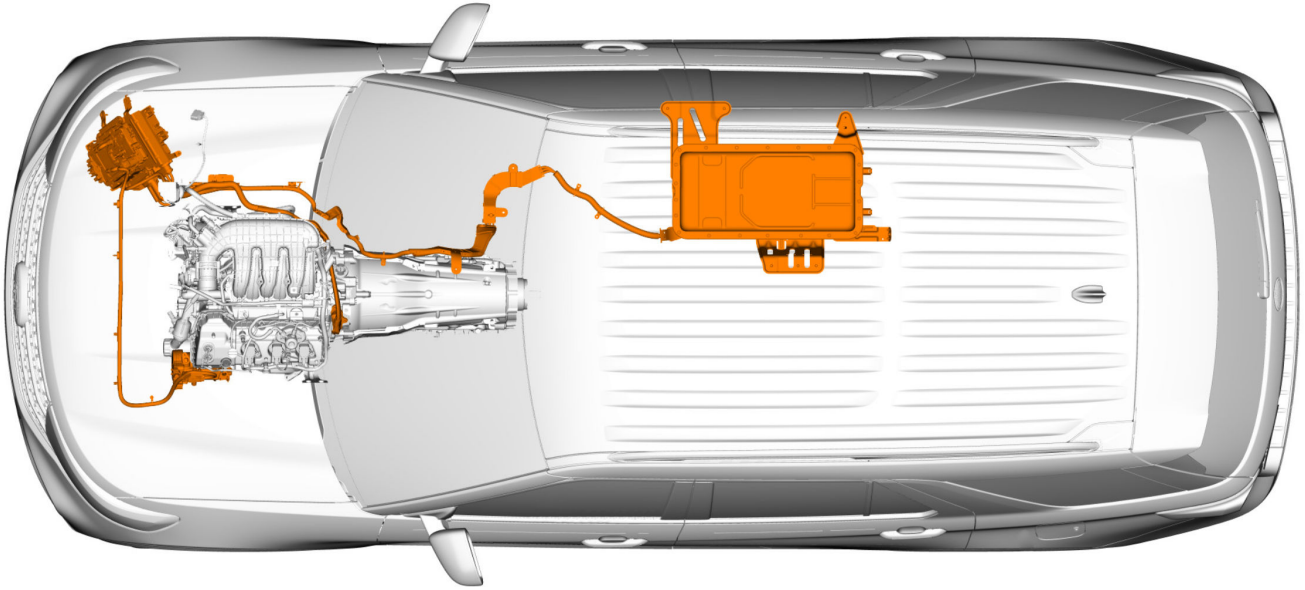
N0180482

Areas to Avoid When Choosing Mounting Locations

The following illustrations show locations to avoid when choosing components mounting locations, these locations include: High Voltage Components and Cables, Fuel System Components, Brake System Components, and Exhaust Components. To avoid personal injury or damage to vehicle systems avoid drilling or mounting of components in these areas.

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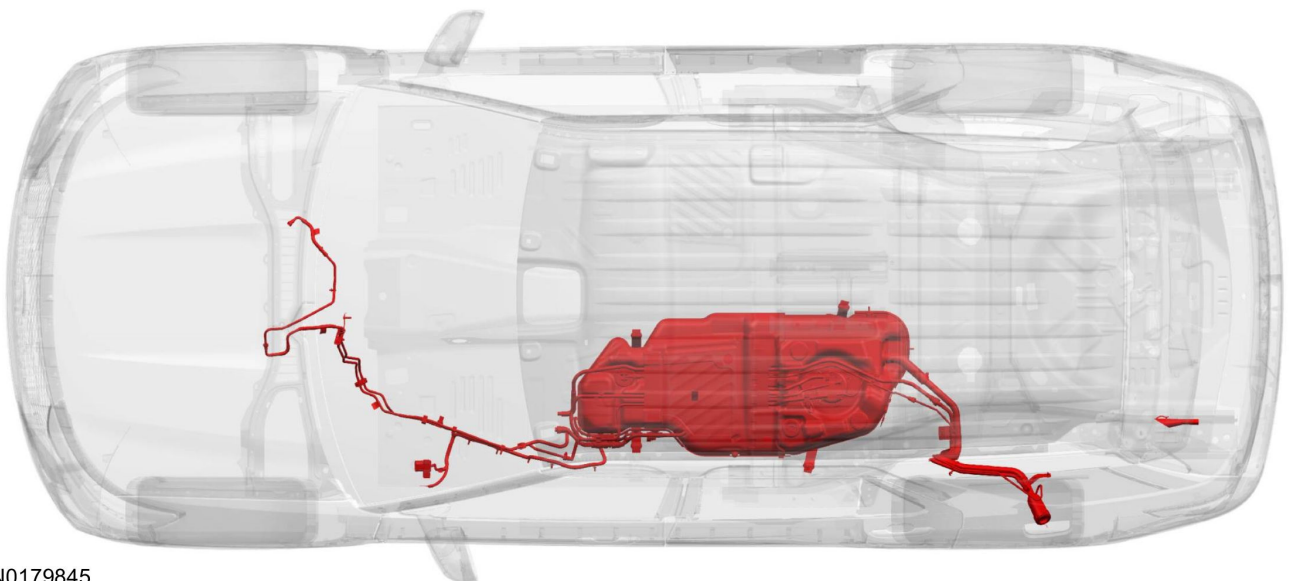
High Voltage System Components



N0180458

Fuel System Components

FUEL SYSTEM COMPONENTS HIGHLIGHTED

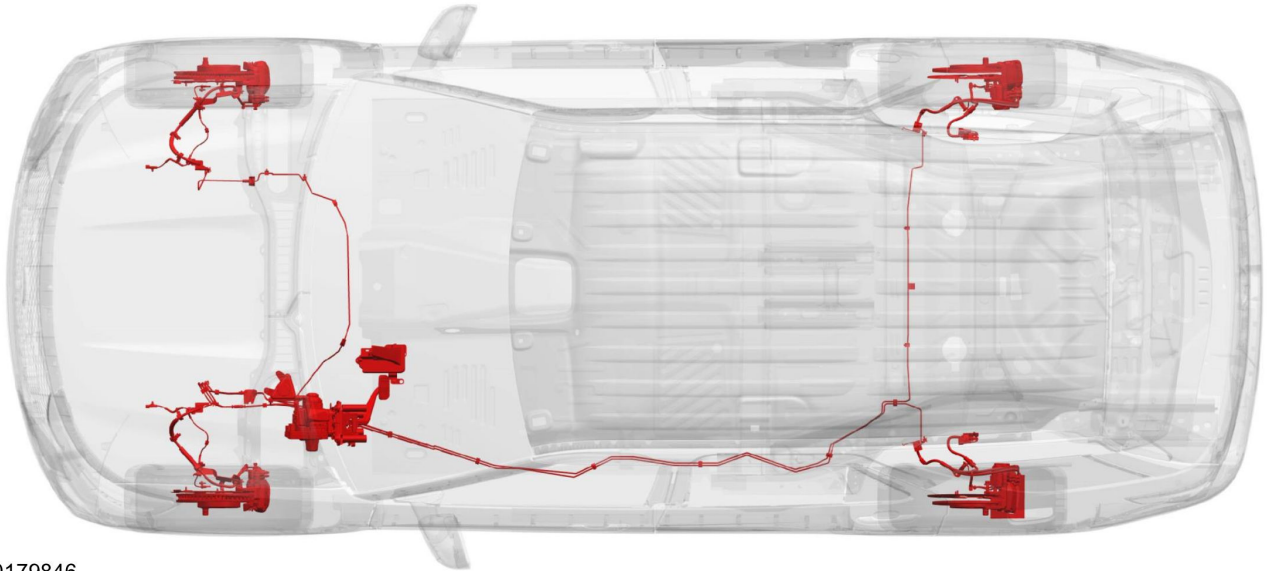


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Brake System Components

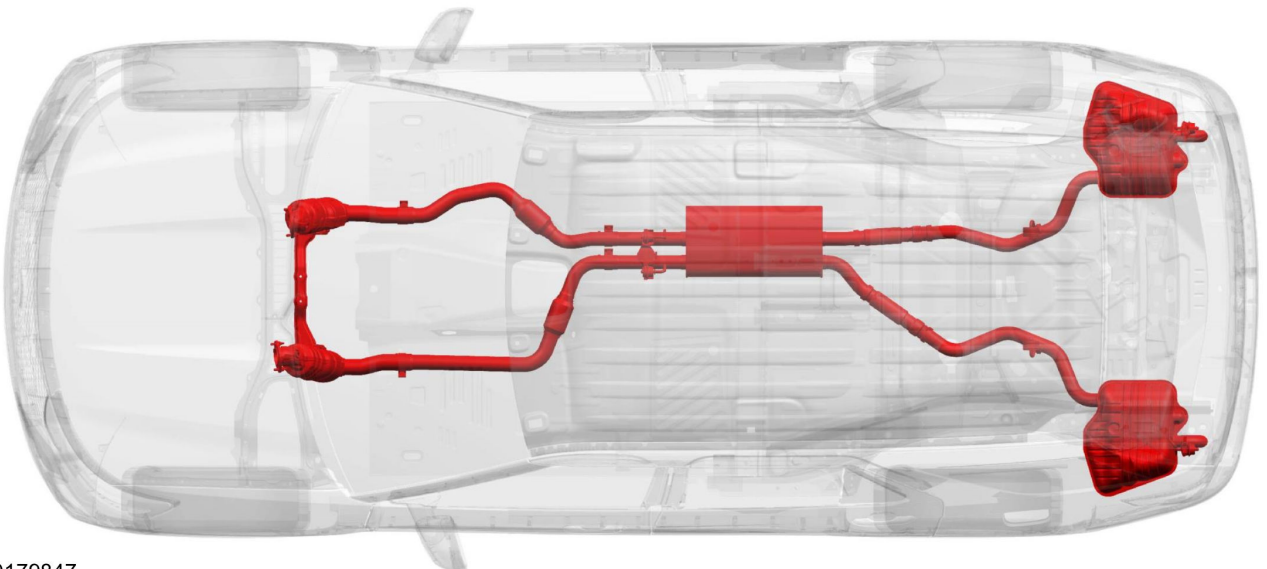
BRAKE SYSTEM COMPONENTS HIGHLIGHTED



N0179846

Exhaust System Components

EXHAUST SYSTEM COMPONENTS HIGHLIGHTED



N0179847

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Floor Drain

Removal of High Voltage Battery for Second Row Seat Drain Placement

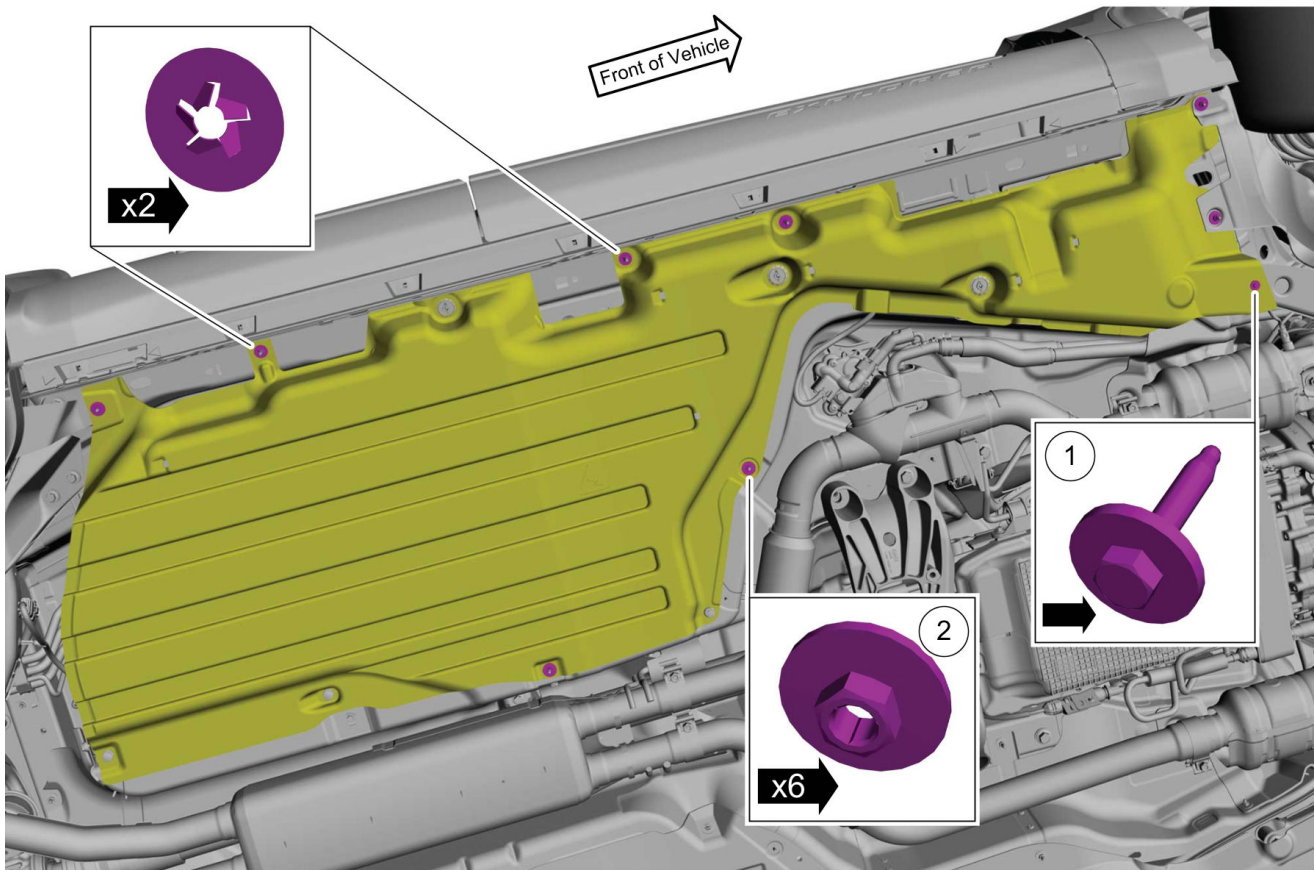
⚠ WARNING:

Follow all the warnings and perform the High Voltage Battery Depower Procedure found in Section 2. Failure to follow these instructions may result in serious personal injury or death.

⚠ WARNING:

To prevent the risk of high-voltage shock, always follow precisely all warnings and service instructions, including instructions to depower the system found in Section 2. The high-voltage system utilizes approximately 300 volts DC, provided through high-voltage cables to its components and modules. The high-voltage cables and wiring are identified by orange harness tape or orange wire covering. All high-voltage components are marked with high-voltage warning labels with a high-voltage symbol. Failure to follow these instructions may result in serious personal injury or death.

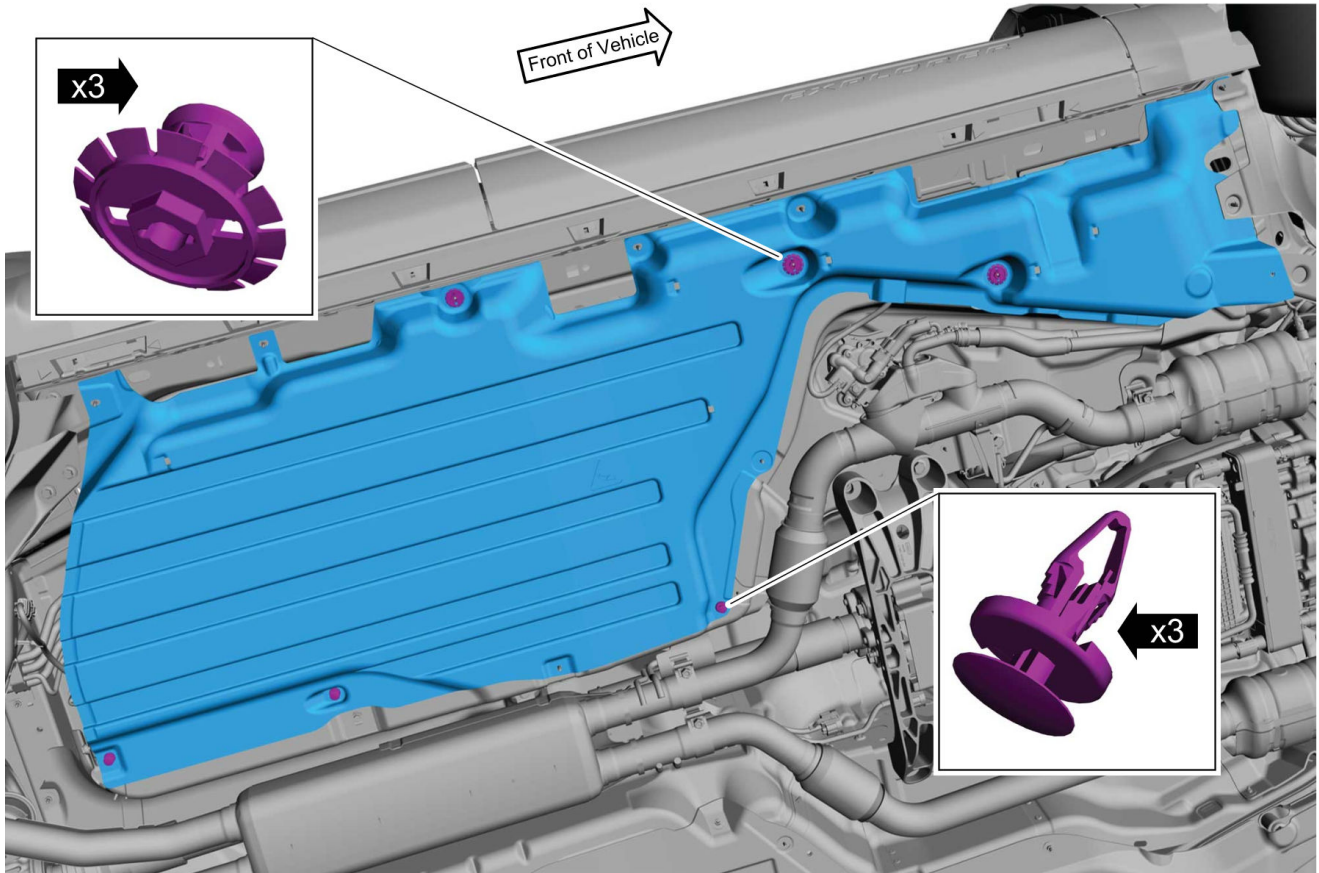
1. Remove the retainers on the right hand side aero deflector shield.
 - a. Torque to 22 lb.in (2.5 Nm)
 - b. Torque to 55 lb.in (6.2 Nm)



N0180483

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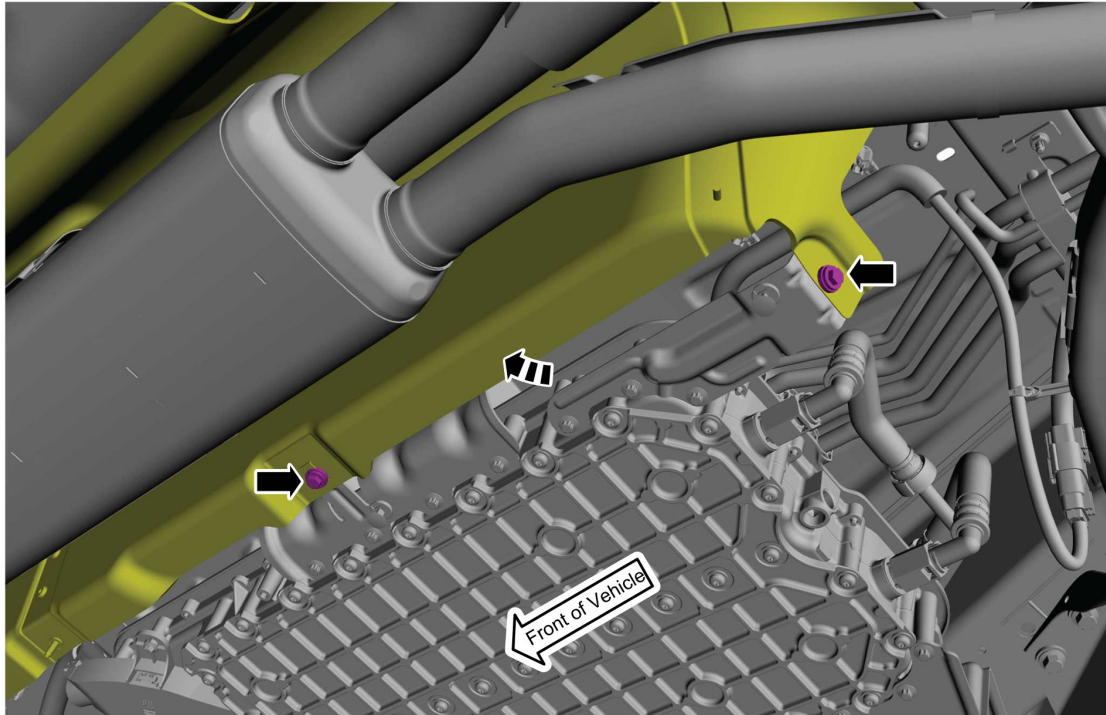
2. Remove the retainers and the right hand side area deflector shield.



N0180484

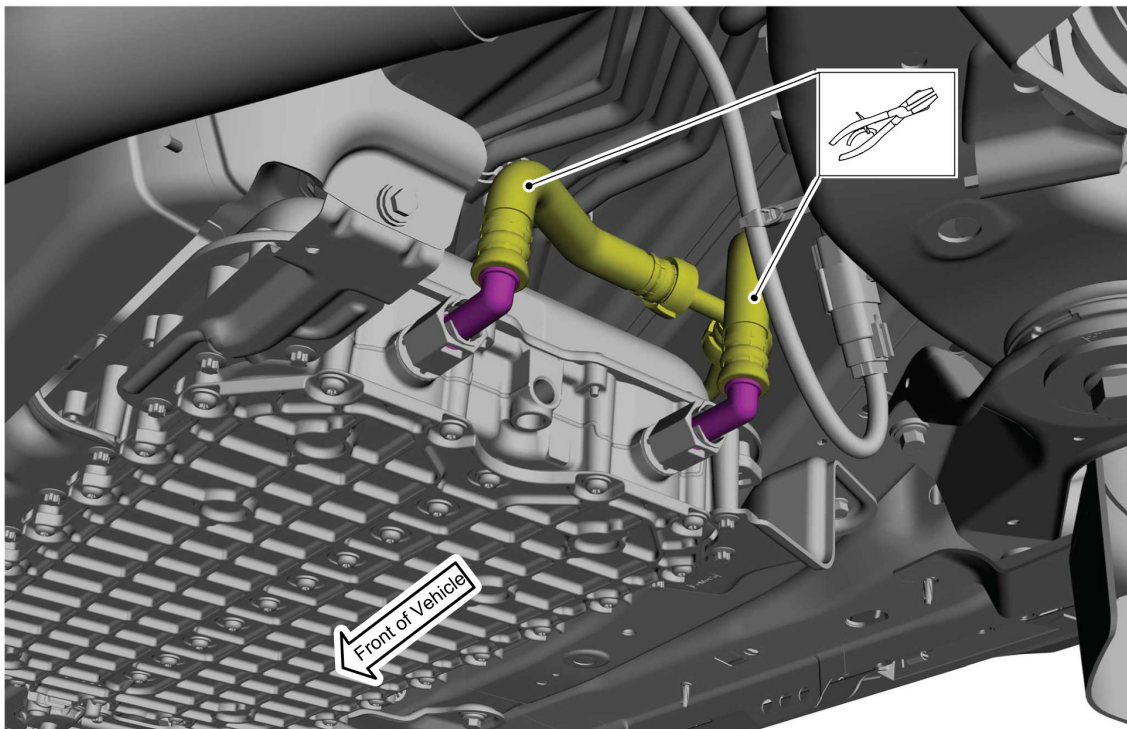
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3. Remove the retainers and position aside the heat shield.



N0180537

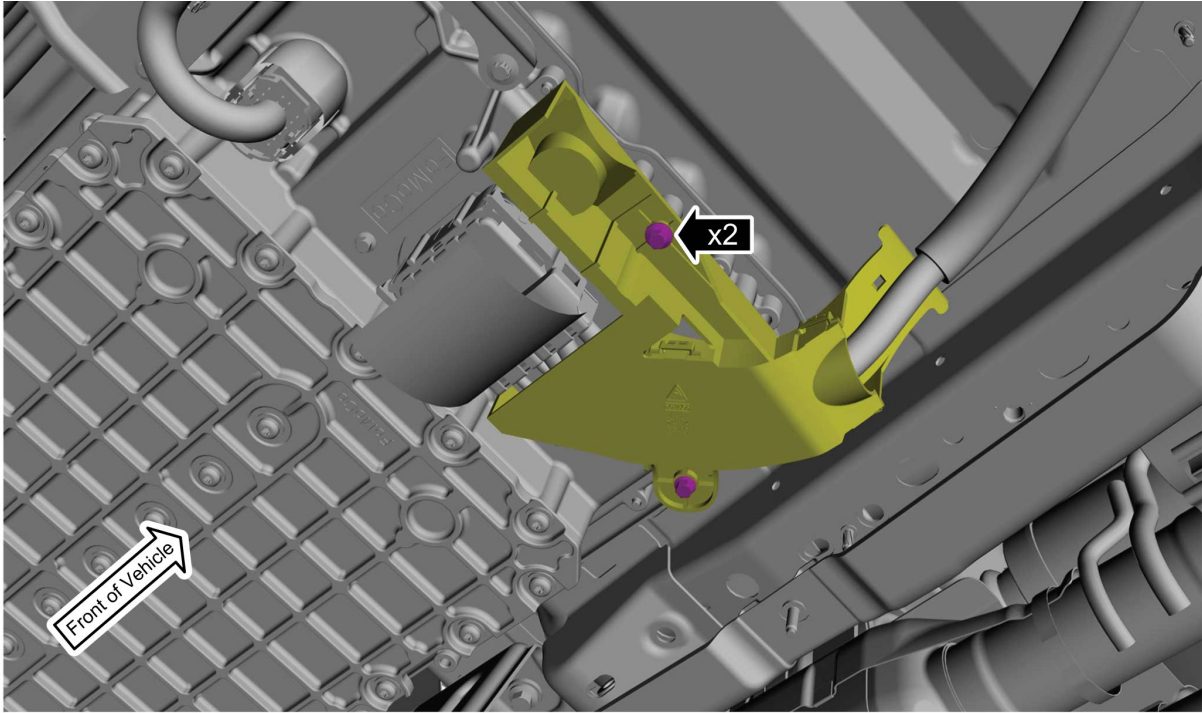
4. Clamp the coolant hoses using hose clamp pliers and disconnect.



N0180538

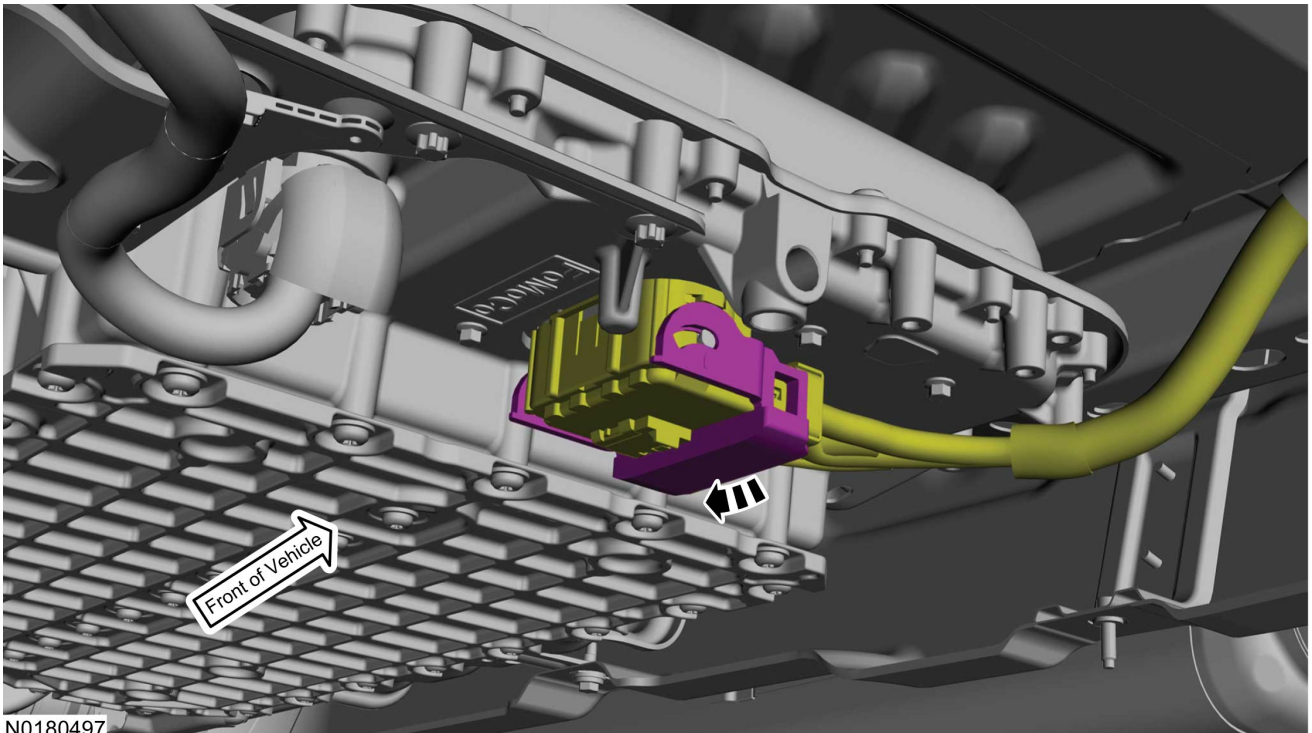
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5. Remove the retainers and position aside the wire shield.



N0180496

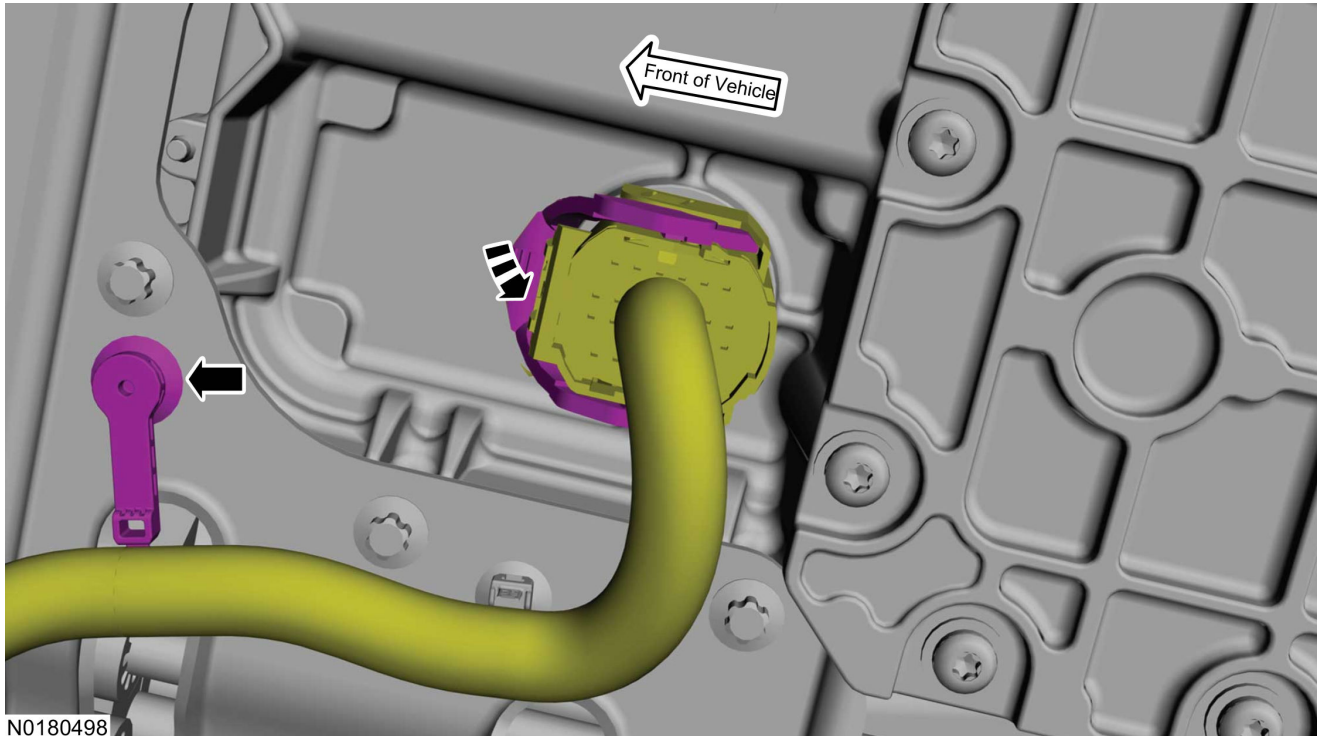
6. Disconnect the electrical connector.



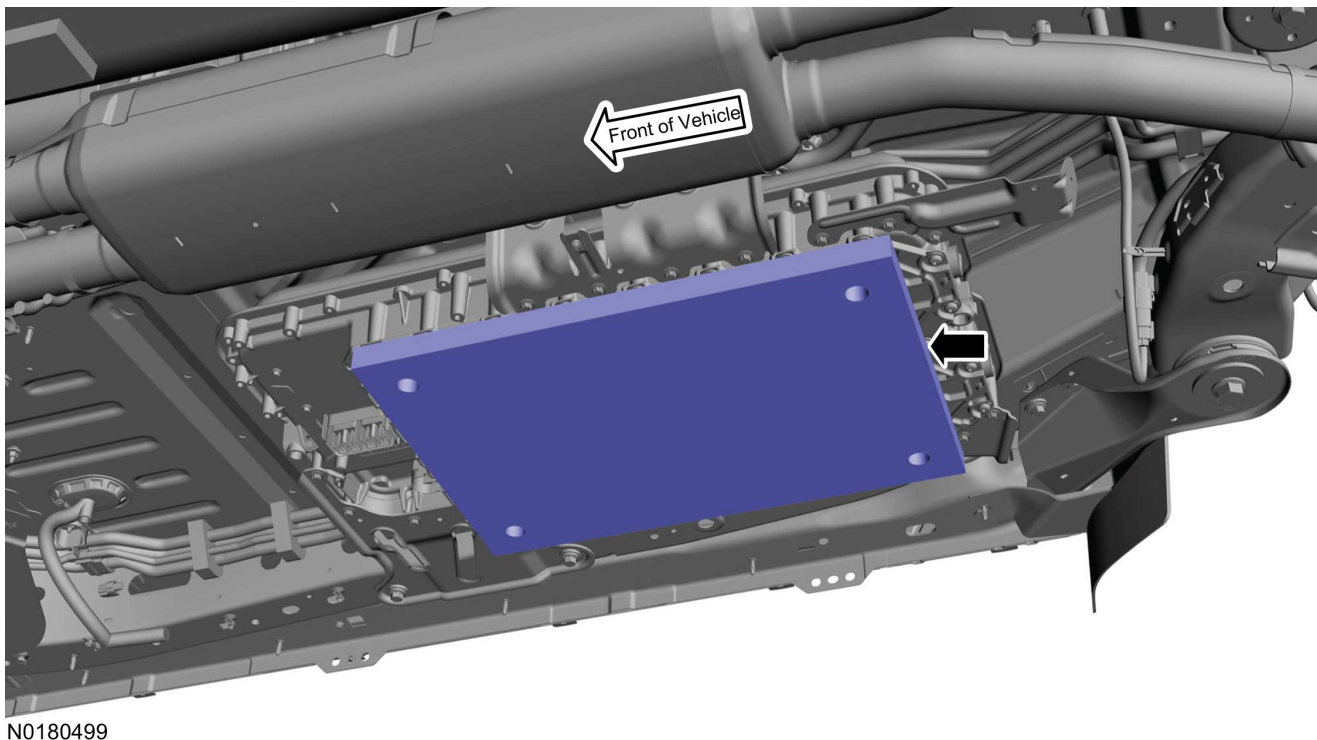
N0180497

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7. Disconnect the electrical connector and wire retainer and position aside.



8. Position a powertrain jack and support the high voltage battery assembly.

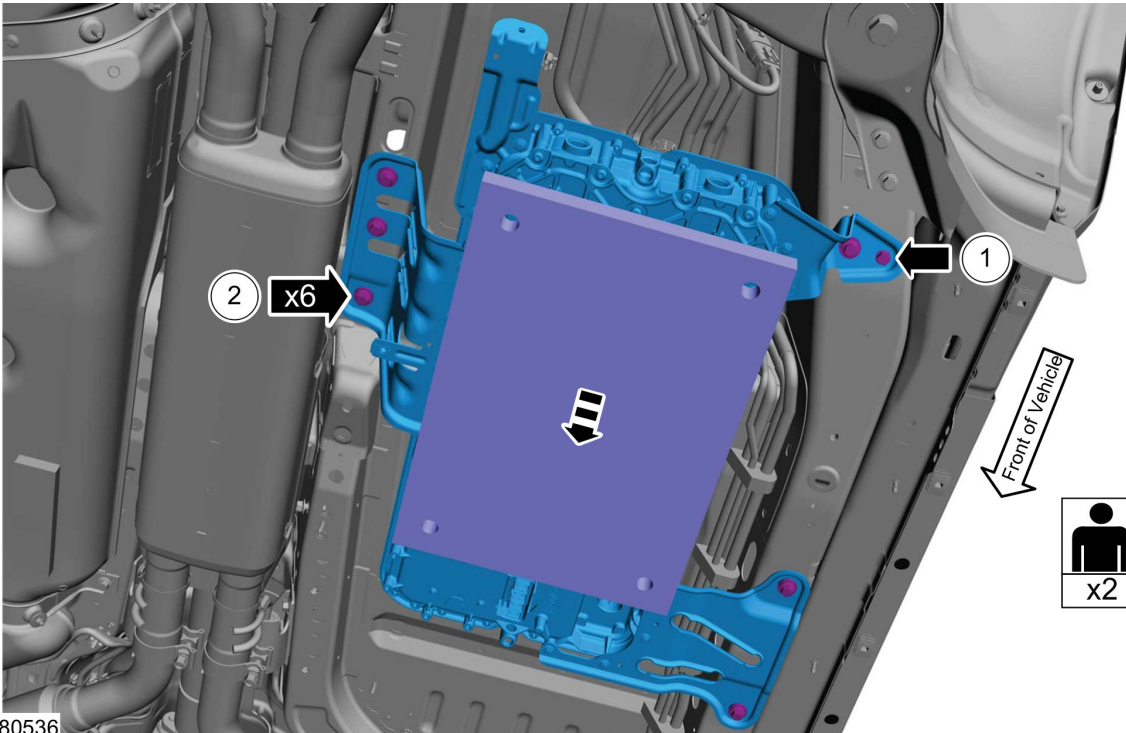


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NOTE:

The high voltage battery has significant weight and length.

9. Remove the bolts and with the aid of an assistant along with the powertrain jack, lower the high voltage battery assembly.
 - a. Torque to 106 lb.in (12 Nm)
 - b. Torque to 35 lb.ft (47.5 Nm)



Installation of the High Voltage Battery

10. To reinstall, reverse the removal procedure.

NOTE:

Updating the PCM (Powertrain Control Module) with the latest calibration will update the appropriate modules as required by the software update.

NOTE:

Calibration files can be obtained at www.motorcraft.com

Filling and Bleeding with a Vacuum Cooling System Filler

NOTICE:

Use the correct coolant. Do not mix coolant types. Mixing coolant types may degrade the coolant corrosion protection and may damage the engine or cooling system. For the correct coolant specified for this vehicle.

NOTICE:

Engine coolant provides boil protection, corrosion protection, freeze protection, and cooling efficiency to the engine and cooling components. In order to obtain these protections, maintain the engine coolant at the correct concentration and fluid level in the degas bottle.

NOTICE:

Do not add alcohol, methanol, or brine, or any engine coolants mixed with alcohol or methanol antifreezes. These can cause damage from overheating or freezing.

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NOTE:

Ford Motor Company does NOT recommend the use of recycled engine coolant since a Ford-approved recycling process is not yet available.

11. Measure the coolant concentration in the vehicle. Determine the concentration desired based on the vehicle duty cycle of extreme hot or cold operating conditions. Add, top-off or adjust the coolant to the correct concentration.
12. Install the vacuum cooling system filler and follow the manufacturer's instructions to fill and bleed the system.
13. Fill the degas bottle to the MAX FILL line.
14. Install the degas bottle cap until it contacts the hard stop.
15. Turn the climate control system off.
16. Start the engine and increase the engine speed to 3,500 rpm and hold for 30 seconds.
17. Turn the engine off and wait for 1 minute to purge any large air pockets from the cooling system.

**WARNING:**

Always allow the engine to cool before opening the cooling system. Do not unscrew the coolant pressure relief cap when the engine is operating or the cooling system is hot. The cooling system is under pressure; steam and hot liquid can come out forcefully when the cap is loosened slightly. Failure to follow these instructions may result in serious personal injury.

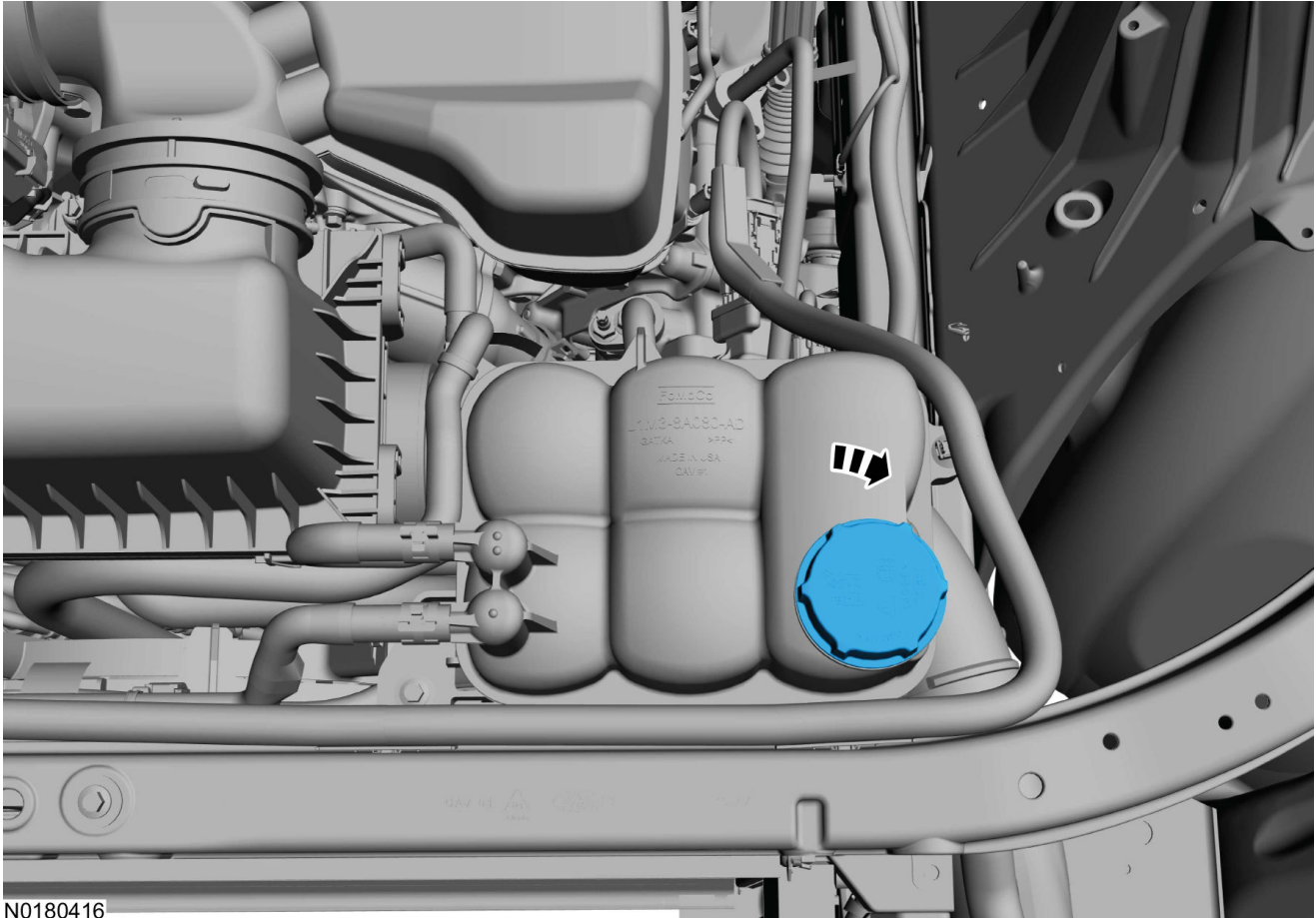
18. Check the engine coolant level in the degas bottle and if necessary fill to the top of the MAX FILL line on the degas bottle.
19. Start the engine and let it idle until the engine reaches normal operating temperature and the thermostat is fully open. A fully open thermostat is verified by the cooling fan cycling on at least once.
20. Increase the engine speed to 3,500 rpm and hold for 30 seconds.
21. Allow the engine to idle for 30 seconds.
22. Turn the engine off for 1 minute.
23. Repeat steps 20 through 22 a total of 10 times to remove any remaining air trapped in the system.

**WARNING:**

Always allow the engine to cool before opening the cooling system. Do not unscrew the coolant pressure relief cap when the engine is operating or the cooling system is hot. The cooling system is under pressure; steam and hot liquid can come out forcefully when the cap is loosened slightly. Failure to follow these instructions may result in serious personal injury.

24. Check the engine coolant level in the degas bottle and, if necessary, fill to the top of the MAX FILL line on the degas bottle.
25. Install the pressure relief cap until it contacts the hard stop.

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