




## C-Pillar Reinforcement






# Parts List

Quantity	Part Number	Description	Image / Notes
1	1095027-S0-A (LH) 1095028-S0-A (RH)	C-Pillar Reinforcement	 <p>The C-Pillar Reinforcement is listed in the Parts Manual as the "C-Pillar Extension".</p>
13 rivets needed; order 20 rivets.	1028719-00-A	● Structural Rivet, 4.8 mm	All rivets come in packages of 10; order all rivets in multiples of 10.
6 rivets needed; order 10 rivets.	1063943-00-A	● Structural Bulb Rivet, 6.5 mm	All rivets come in packages of 10; order all rivets in multiples of 10.
1	—	Urethane Sealant	<p><b>⚠ WARNING:</b> Use only Tesla-approved urethane sealant; refer to <a href="#">BR-15-92-008</a>, "Approved Structural Adhesive and Urethane Sealants" for a list of current approved urethane sealants.</p> <p>Refer to <a href="#">BR-17-92-002</a>, "Obtaining Adhesives, Coolant, and Other Chemicals" for information on how to obtain approved urethane sealant.</p>





## Parts List

Quantity	Part Number	Description	Image / Notes
1	—	Structural Adhesive	 <b>WARNING:</b> Use only Tesla-approved structural adhesive; refer to <a href="#">BR-15-92-008</a> , "Approved Structural Adhesive and Urethane Sealants" for a list of current approved structural adhesives.  Refer to <a href="#">BR-17-92-002</a> , "Obtaining Adhesives, Coolant, and Other Chemicals" for information on how to obtain approved structural adhesive.

These part numbers were current at the time of publication. Use the revisions listed or later, unless otherwise specified in the Parts Manual.



## Repair Information

Repair Information	Warnings and Cautions	Special Tools
<p>This procedure is for the left-hand component; the procedure is identical for the right-hand component.</p>	<p> <b>WARNING:</b> Wear the appropriate personal protective equipment (PPE) when performing this procedure.</p> <p> <b>CAUTION:</b> This procedure involves both steel and aluminum components. Use the appropriate tools at each step to avoid cross-contamination.</p>	<p>The special tools listed below are required to perform this procedure:</p> <ul style="list-style-type: none"><li>• SPR removal tool</li><li>• Frame bench</li></ul> <p>The vehicle must be properly mounted on an approved frame bench to replace this component. Refer to <a href="#">BR-16-92-006</a>, "Approved Frame Bench Systems" for a list of current approved bench repair systems.</p>



## Prerequisites

Remove the Quarter Outer Skin.





## Removal

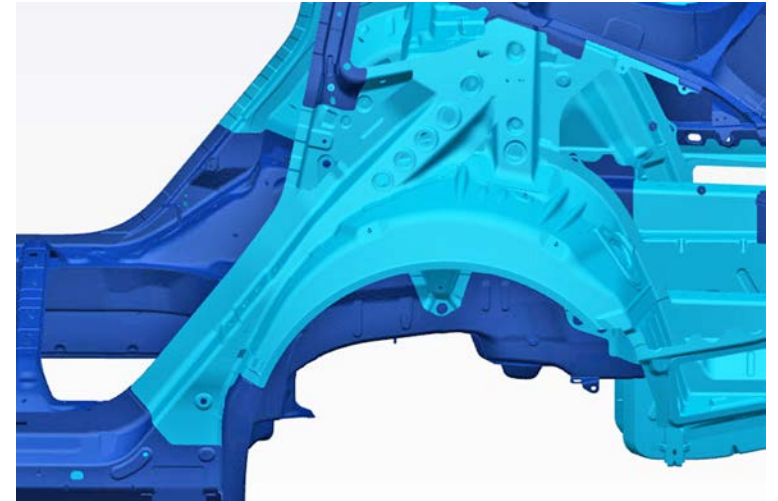
- 1 Identify the steel components and the aluminum components on the vehicle.

 Aluminum

 Steel



**CAUTION:** Take the appropriate steps to minimize the cross-contamination of steel and aluminum components during the repair.





## Removal

2 Remove the original component.

A Remove the foam dams from the original C-Pillar Reinforcement and set them aside for use during installation.



**NOTE:** Keep the foam dams for reinstallation in a [later step](#).

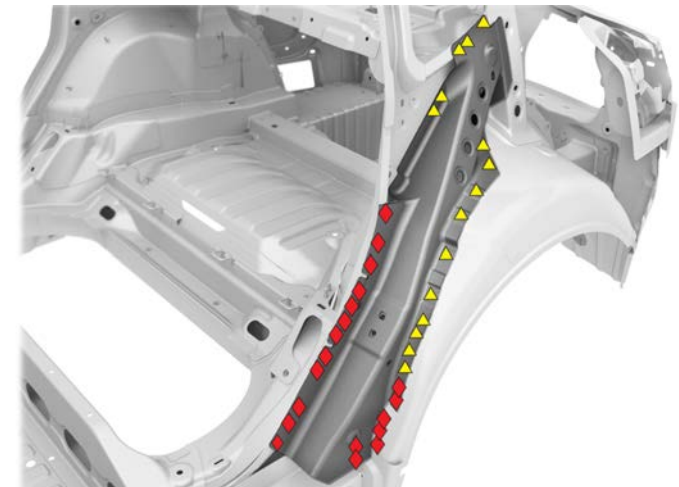
B Identify the fasteners.

▲ Factory Spot Weld (x15)

◆ Factory SPR (x19)



**NOTE:** Factory spot weld locations shown are approximate. Exact spot weld locations and number vary from vehicle to vehicle.



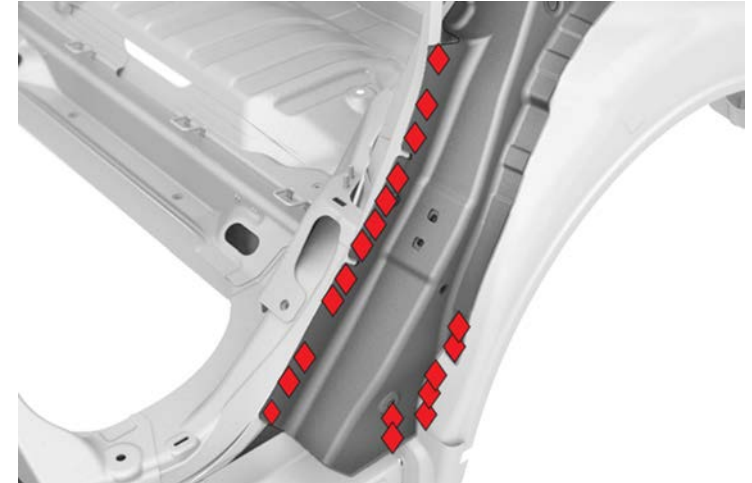


## Removal

2 Remove the original component (continued).

C Use an SPR removal tool or a drill with a high-strength steel bit to remove the factory self-piercing rivets. Use a belt sander for any factory self-piercing rivets that cannot be removed with an SPR removal tool or a drill.

◆ Factory SPR (x19)







## Removal

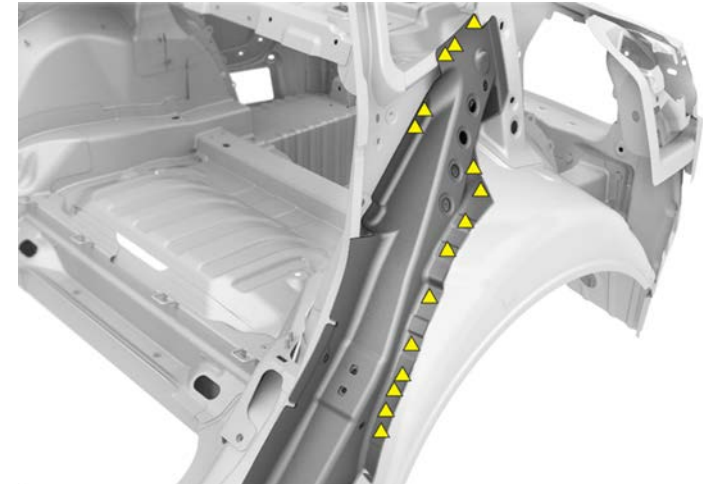
2 Remove the original component (continued).

D Use a drill with a spot weld bit to drill out the factory spot welds.

▲ Factory Spot Weld (x15)



**NOTE:** Factory spot weld locations shown are approximate. Exact spot weld locations and number vary from vehicle to vehicle.





## Removal

2 Remove the original component (continued).

E Use a heat gun to heat the adhesive joints, and then use a hammer and chisel to remove the original component.



**WARNING:** Do not heat the adhesive joints above 100°C (212°F). Heating the adhesive joints above 100°C (212°F) can weaken the aluminum and compromise vehicle crash integrity.



**WARNING:** Do not heat any adhesive joints of components that are not being removed. Heating adhesive joints weakens the adhesive bond and could compromise vehicle crash integrity.





### Removal

# 3

Use a disc sander with a medium-abrasive surface conditioning disc to remove any remaining materials from the bond paths. Use a belt sander with a medium-abrasive belt for any areas that cannot be reached with a disc sander. Vacuum any adhesive dust.



**WARNING:** Remove the epoxy adhesive in a well-ventilated area. Wear suitable personal protective equipment.



**WARNING:** Use only sanding wheels and belts that are 80 grit or finer on aluminum components. Using sanding wheels or belts that are coarser than 80 grit can cause fractures in the aluminum.





## Replacement

1 Prepare for installation.

A Put the new component into position and align it to the frame bench jig points.



**NOTE:** If necessary, use a shim to account for the thickness of the Quarter Outer Skin.

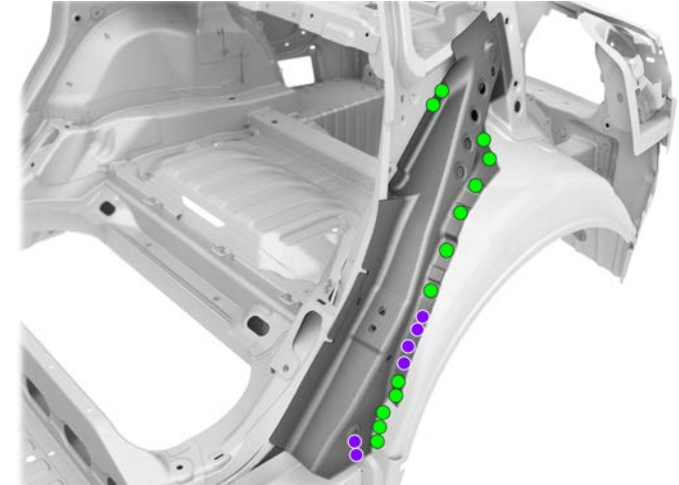
B Clamp all areas where fasteners will not be installed.





## Replacement

- 1 Prepare for installation (continued).
  - C Mark the fastener locations on the new component.
    - Structural Rivet, 4.8 mm (x13)
    - Structural Bulb Rivet, 6.5 mm (x6)





## Replacement

1 Prepare for installation (continued).

**D** Use a drill with a 4.8 mm (3/16 in) bit to drill holes for structural rivets.

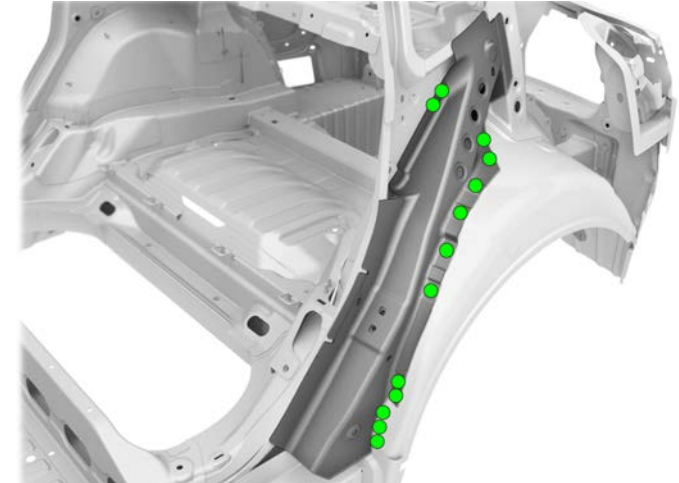
● Structural Rivet, 4.8 mm (x13)



**NOTE:** If a location has remaining pieces of a factory SPR, drill the hole from the back side of the panel to avoid drilling through the remaining pieces of the factory SPR.



**NOTE:** Install a grip screw after drilling each hole to keep the panel aligned while drilling the remaining holes.





## Replacement

1 Prepare for installation (continued).

**D** Use a drill with a 4.8 mm (3/16 in) bit to drill holes for structural rivets (continued).



**E** Use a drill with a 6.8 mm (17/64 in) bit to drill holes for structural bulb rivets.

 Structural Bulb Rivet, 6.5 mm (x6)



**NOTE:** If necessary, temporarily remove the gantry to drill any holes that are not accessible with the gantry in place.



**NOTE:** Install a grip screw after drilling each hole to keep the panel aligned while drilling the remaining holes.





## Replacement

- 1 Prepare for installation (continued).
  - E Use a drill with a 6.8 mm (17/64 in) bit to drill holes for structural bulb rivets (continued).
  - F Mark the steel-to-aluminum bond path areas on the new component.







## Replacement

1 Prepare for installation (continued).

**G** Mark the boundary path areas on the new component to indicate where the new component does not contact the vehicle.



**NOTE:** Do not remove the e-coat from these areas.

**H** Remove the new component.





## Replacement

1 Prepare for installation (continued).

Mark the bond path areas on the new component. These areas will be prepared for bonding in a later step.



**TIP:** Mark the panels in a way that delineates between the different types of areas to be prepared.



2 Prepare the surfaces.

A Use a red Scotch-Brite pad or equivalent to scuff the new component in the steel-to-aluminum bond path areas.

 Steel-to-Aluminum Bond Path





## Replacement

2 Prepare the surfaces (continued).

A Use a red Scotch-Brite pad or equivalent to scuff the new component in the steel-to-aluminum bond path areas (continued).






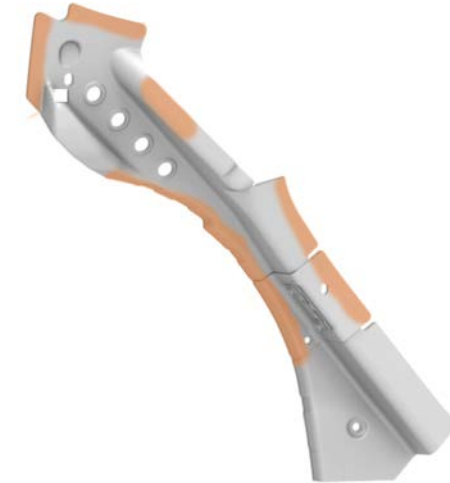
## Replacement

2 Prepare the surfaces (continued).

B

Use a disc sander with a medium-abrasive surface conditioning disc to remove the e-coat on the new component in the bond path areas. Use a belt sander with a medium-abrasive belt for any areas that cannot be reached with a disc sander.

 Aluminum-to-Aluminum Bond Path



**WARNING:** Remove the e-coat in a well-ventilated area. Wear suitable personal protective equipment.



**WARNING:** Use only sanding wheels and belts that are 80 grit or finer on aluminum components. Using sanding wheels or belts that are coarser than 80 grit can cause fractures in the aluminum.



**CAUTION:** Within two hours of removing the e-coat or paint, cover the abraded areas in the bond path with a thin primer layer of structural adhesive. If the abraded areas are not primed within two hours, they must be abraded again to remove any oxidation.



## Replacement

2 Prepare the surfaces (continued).

**B** Use a disc sander with a medium-abrasive surface conditioning disc to remove the e-coat on the new component in the bond path areas. Use a belt sander with a medium-abrasive belt for any areas that cannot be reached with a disc sander (continued).





## Replacement

2 Prepare the surfaces (continued).

C Clean all the bond paths on the new component or components and on the vehicle with isopropyl alcohol (IPA).



**WARNING:** Wipe off the remaining isopropyl alcohol with a clean, dry towel immediately after application. Do not let the remaining isopropyl alcohol air dry. Allowing the remaining isopropyl alcohol to air dry can compromise the adhesive bond.



3 Apply structural adhesive.

A Spread a thin coating of structural adhesive as a primer layer on the bond paths on the vehicle and the new component.



**NOTE:** Assembly must be performed while the primer layer is still wet. The drying time of the adhesive varies depending on temperature and humidity.





## Replacement

3 Apply structural adhesive (continued).

B While the primer layer is still wet, apply a bead of structural adhesive on top of the primer layer on the new component.



4 Install the new component.

A Put the new component into position and align it to the frame bench jig points.



**NOTE:** If necessary, use a shim to account for the thickness of the Quarter Outer Skin.





## Replacement

4 Install the new component (continued).

A Put the new component into position and align it to the frame bench jig points (continued).



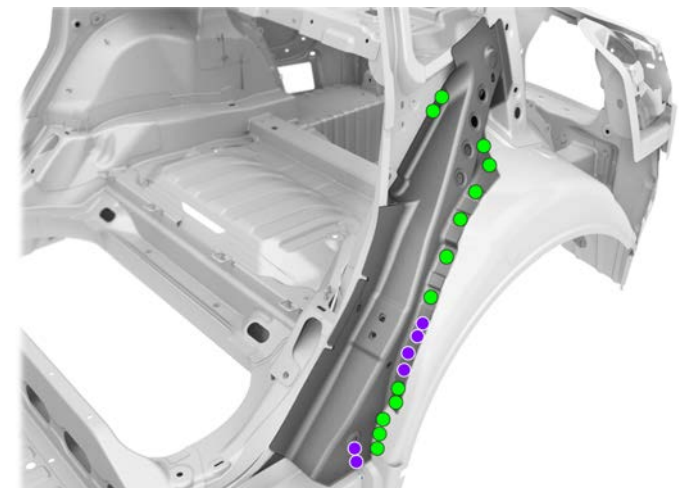
B Insert the structural rivets and structural bulb rivets.

● Structural Rivet, 4.8 mm (x8)

● Structural Bulb Rivet, 6.5 mm (x6)



**NOTE:** The rivets can be inserted from outside the vehicle so that they stay in place during alignment, but all rivets are installed from inside the vehicle or from underneath the wheel well, as appropriate.







## Replacement

4 Install the new component (continued).

B Insert the structural rivets and structural bulb rivets (continued).



C Clamp any area that is not secured with a fastener.



**NOTE:** Additional fasteners are installed in these areas when installing the new Quarter Outer Skin.





## Replacement

- 4 Install the new component (continued).
- C Clamp any area that is not secured with a fastener (continued).



- D Install the structural rivets and structural bulb rivets.
- CAUTION:** All rivets are installed from inside the vehicle or from underneath the wheel well, as appropriate.





## Replacement

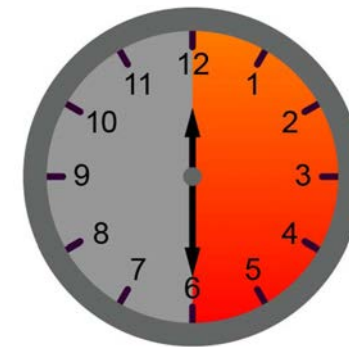
**4** Install the new component (continued).

**E** Wipe off any excess adhesive.

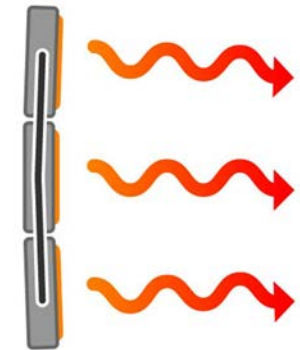
**F** Bake the structural adhesive so that the bonded panels reach a temperature of 60°C–80°C (140°F–176°F) for at least 30 minutes to achieve full strength.



**WARNING:** Do not allow the High Voltage Battery to reach a temperature above 74°C (165°F). Heating the High Voltage Battery above 74°C (165°F) for an extended period could result in injury to personnel and/or damage to the battery.



00:30:00+



60°C–80°C



## Replacement

5 Reinstall the foam dams.

A Apply urethane adhesive to the edge of the foam dams that were removed in an [earlier step](#).



B Install the foam dams in the original locations.





## Replacement

6

Install the new Quarter Outer Skin.

