

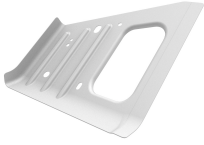




## Toeboard Outer






## Parts List

Quantity	Part Number	Description	Image / Notes
1	1092173-S0-A (LH) 1092174-S0-A (RH)	M3 ASY - TOEBOARD OUTER PNL (Toeboard Outer Panel)	
17 rivets needed; order 20 rivets	1454538-00-A	 High Strength Structural Rivet, 6.5 mm	All rivets come in packages of 10; order all rivets in multiples of 10.
1	—	Structural Adhesive	Refer to <a href="#">BR-17-92-002</a> , "Obtaining Adhesives, Coolant, and Other Chemicals" for information on how to obtain approved 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.  Source locally; not available from Tesla.

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>The special tools listed below are required to perform this procedure:</p> <ul style="list-style-type: none"><li>• GMA welder</li></ul> <p>Use only an approved GMA welder. Refer to <a href="#">BR-16-92-007</a>, "Approved Welders" for a list of current approved GMA welders.</p>



## Prerequisites

1

Disconnect 12V and high voltage power (refer to the appropriate section in [BR-17-17-004](#), "Disconnecting 12V and High Voltage Power on Model 3").



**WARNING:** Before disconnecting the 12V power supply, make sure that all windows are at least slightly open. Attempting to open a door with a fully-closed window when the 12V power supply is disconnected could result in door glass shatter.



**NOTE:** Before disconnecting the 12V power supply, make sure that the driver's door window is fully open. Failure to lower the driver's door window before disconnecting the 12V power supply could result in vehicle lockout.

2

Before working on the vehicle, make sure that high voltage current is not present (refer to the appropriate section in [BR-17-17-004](#), "Disconnecting 12V and High Voltage Power on Model 3").



**WARNING:** Only technicians who have been trained in High Voltage Awareness are permitted to perform the Vehicle Electrical Isolation procedure. Proper personal protective equipment (PPE) and insulating high voltage gloves with a minimum rating of class 0 (1000V) must be worn any time a high voltage cable is handled. Refer to [TN-15-92-003](#), "High Voltage Awareness Care Points" for additional safety information.



## Removal

Remove the original component.

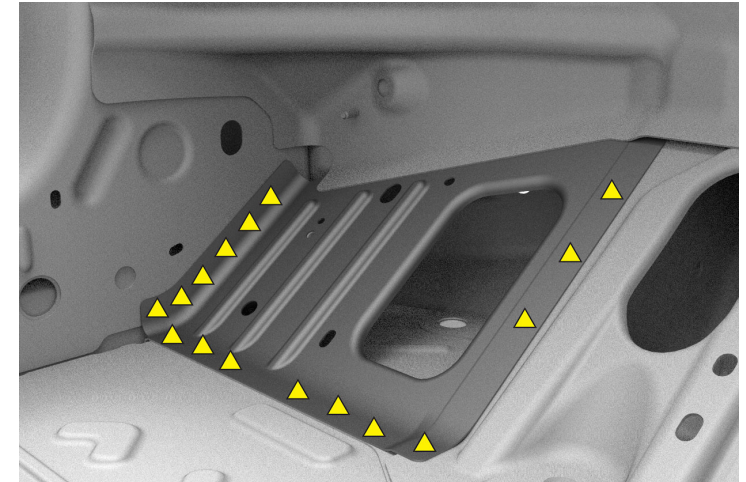
# A

Use a drill with a spot weld bit to drill out the factory spot welds.  
Use a belt sander to sand down any factory spot welds that cannot be reached with a drill.

▲ Factory Spot Weld



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



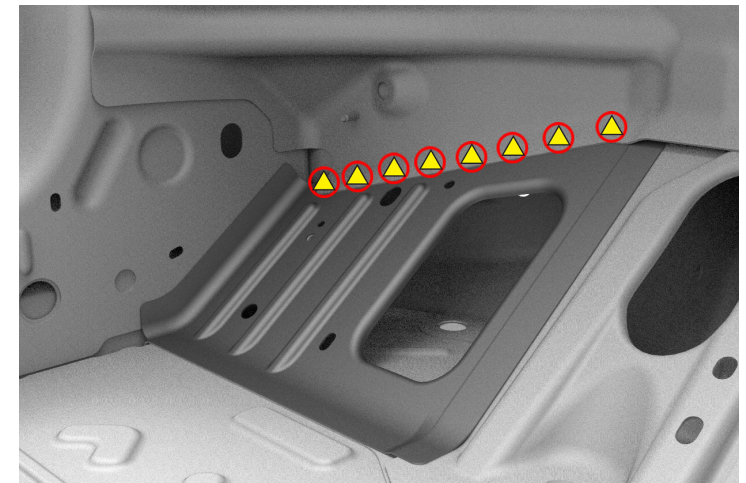
# B

Use a drill with a spot weld bit to drill out the factory spot welds.  
Use a belt sander to sand down any factory spot welds that cannot be reached with a drill.

⊘ Drill through factory spot welds



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





## Removal

Remove the original component (continued).

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



**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.

**D**

Use a disc sander with a medium-abrasive surface conditioning disc to remove any remaining materials from the mating surfaces. 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 secure it in place.

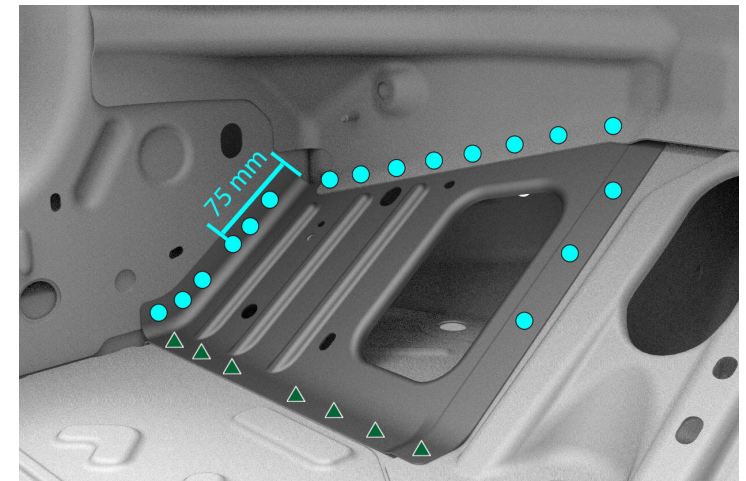
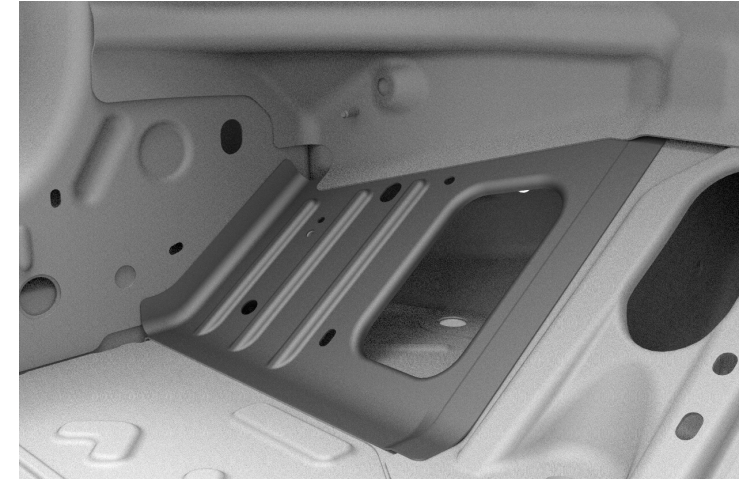
B Mark the fastener locations on the new component.

● High Strength Structural Rivet, 6.5 mm (x17)

▲ Steel Plug Weld (x7)



**WARNING:** Use the measurements indicated for the outboard rivets to avoid interference with the Sill Insert.





## Replacement

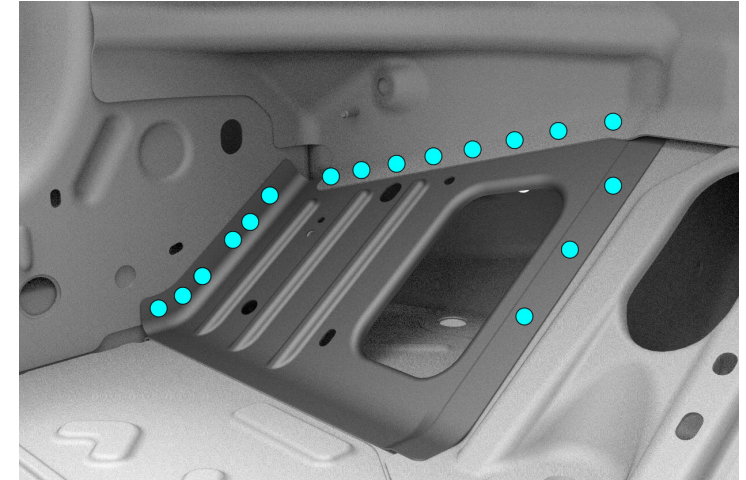
1 Prepare for installation (continued).

- C Drill 6.7 mm holes for structural rivets.
  - High Strength Structural Rivet, 6.5 mm (x17)



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

- D Mark boundary lines along all mating surfaces between the new component and the vehicle for surface preparation.

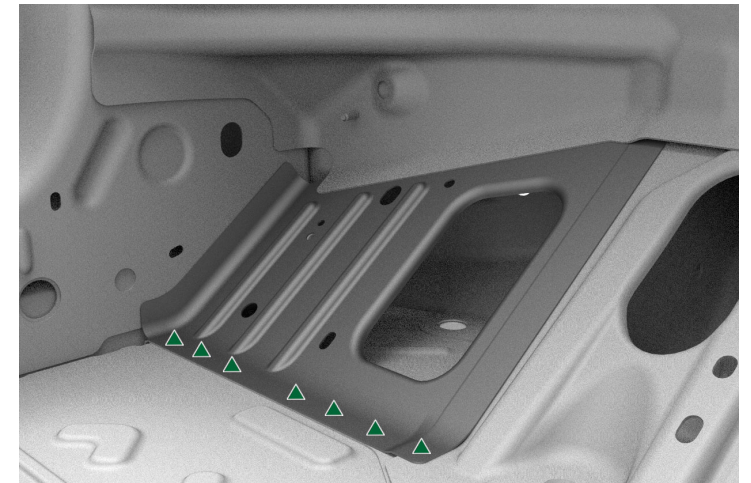






## Replacement

- 1 Prepare for installation (continued).
- E Remove the new component.
- F Drill 8 mm holes for plug welds.  
▲ Steel Plug Weld (x7)





## Replacement

2 Prepare the surfaces.

**A** Use a red Scotch-Brite pad or equivalent to scuff the e-coat on the mating surfaces of the new component and the vehicle.

**B** Use a disc sander with a medium-abrasive surface conditioning disc to remove the e-coat from the mating surfaces and weld areas of the new component and the vehicle. Use a belt sander with a medium-abrasive belt for any areas that cannot be reached with a disc sander.



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



## Replacement

2 Prepare the surfaces (continued).

C Clean all the mating surfaces of the new component or components and 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 mating surfaces of the vehicle and the new component.



**CAUTION:** If any bare metal mating surfaces have been exposed for two hours or longer, abrade the mating surfaces again to remove oxidation, then clean the mating surfaces with isopropyl alcohol (IPA).



**WARNING:** Do not apply structural adhesive within 25 mm of the GMA weld locations. Applying structural adhesive within 25 mm of the GMA weld locations can cause weld failure.

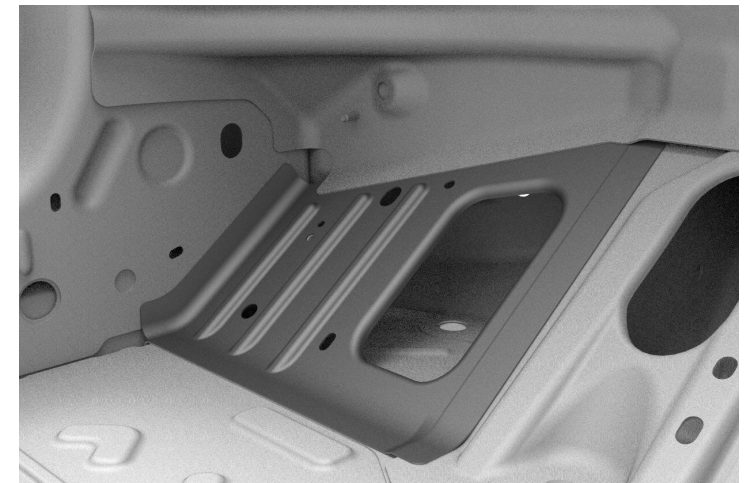


**NOTE:** Assembly must be performed while the primer layer is still wet. The drying time of the adhesive varies depending on temperature and humidity.



## 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 vehicle.
  
- 4 Install the new component.
  - A Put the new component into position and secure it in place.

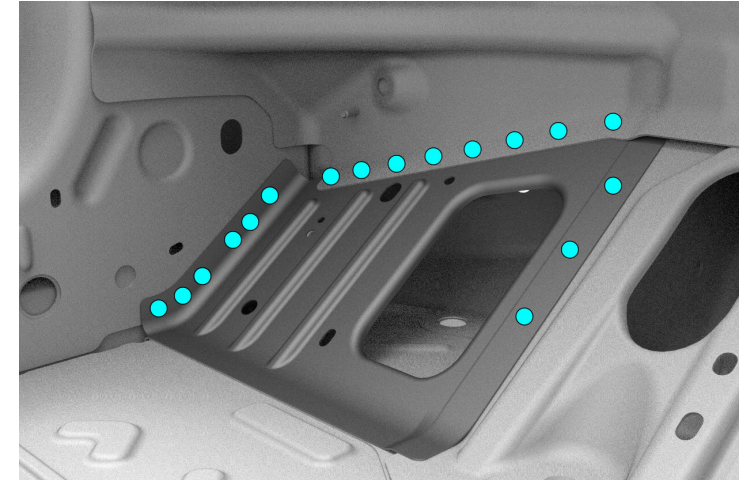




## Replacement

4 Install the new component (continued).

B Insert the structural rivets.  
● High Strength Structural Rivet, 6.5 mm (x17)



C Install the structural rivets.



## Replacement

- 4 Install the new component (continued).
  - D Clamp all bonded areas that are not secured with a fastener.
  - E Wipe off any excess adhesive.



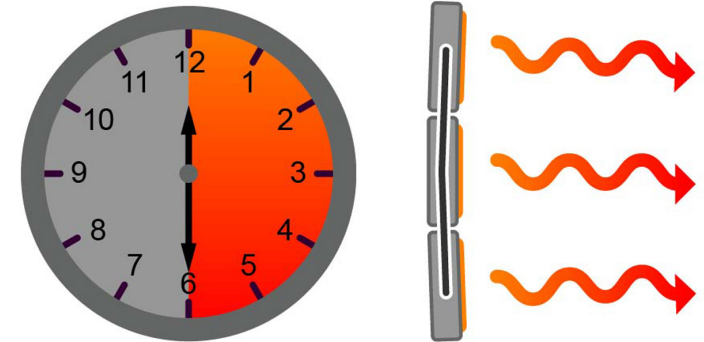
# Replacement

4 Install the new component (continued).

**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

**G** Perform GMA welding.

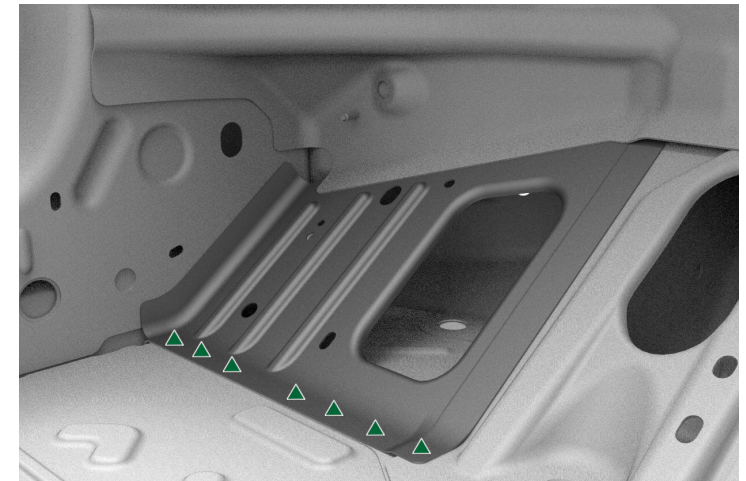
▲ Steel Plug Weld (x7)



**WARNING:** Failure to follow all welding safety precautions, including the use of personal protective equipment, could result in serious injury or property damage. Only technicians who have successfully met Tesla's requirements for welding training are authorized to weld structural components on Tesla vehicles.



**WARNING:** Before GMA welding, make sure that the structural adhesive is dry to the touch. If the structural adhesive is not dry to the touch before GMA welding, the strength of the adhesive bond might be compromised.





## Replacement

4 Install the new component (continued).

G

Perform GMA welding (continued).



**CAUTION:** Do not weld on a Tesla vehicle with an energized high voltage or 12V system. Welding on a Tesla vehicle with an energized high voltage or 12V system might damage vehicle components.



**CAUTION:** Grind the bottom surface of each weld flat to avoid contact with the top of the HV battery.



**NOTE:** Before GMA welding, a test weld using material of the same gauge and type should be performed to make sure that the welding equipment settings produce a satisfactory joint.