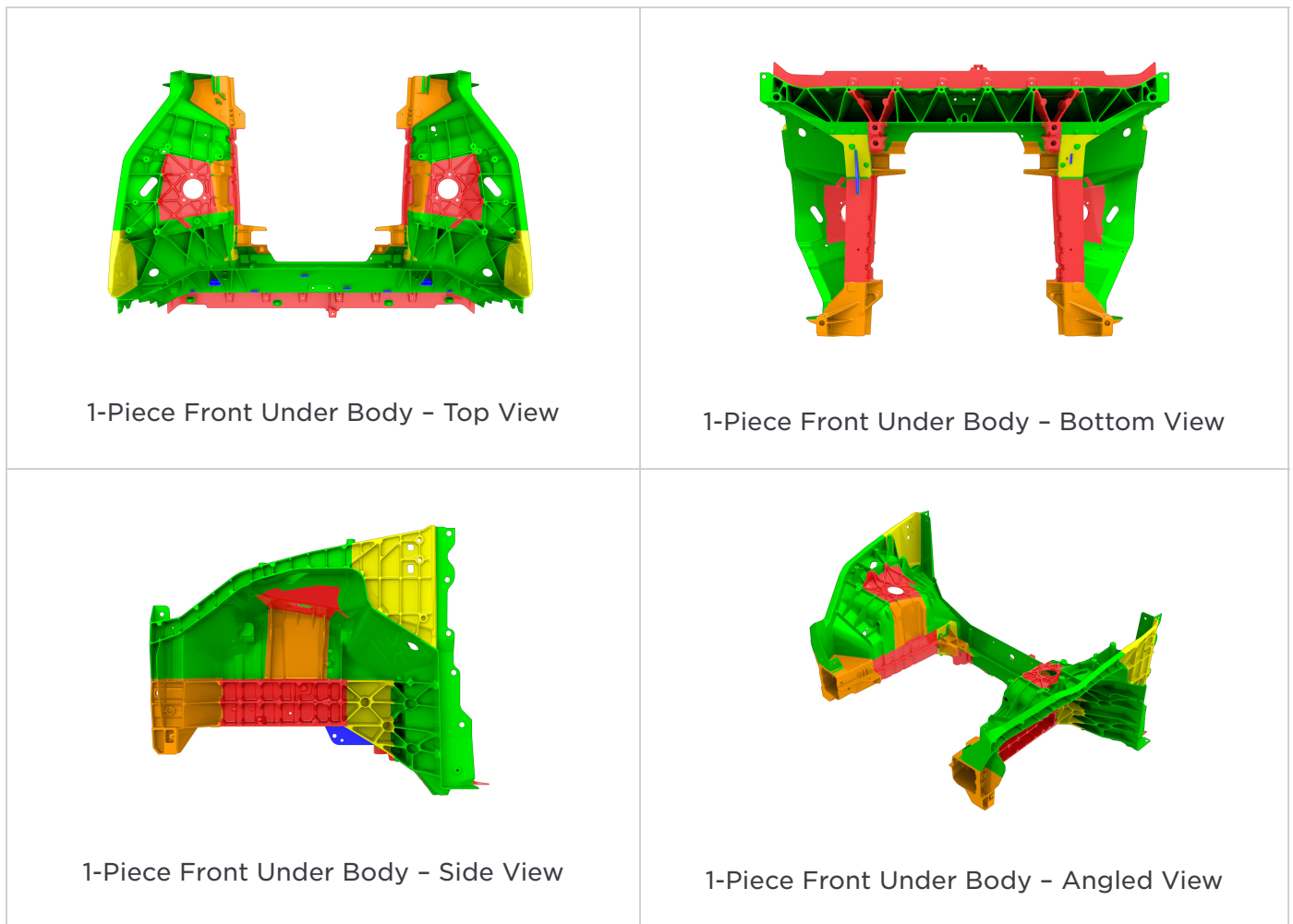


# Cast Front Under Body Repair Guidelines

Explains how to determine if the cast Front Under Body can be repaired or if replacement is required.






The images below show the cast Front Under Body from different angles, and contain highlighted areas. Compare the damaged area of the vehicle's Front Under Body to the images below, then use the repair criteria corresponding to the color of the highlighted area to find the criteria to use to determine if the damaged area of the component can be repaired.



Based on the colors used in the images above, the allowed repairs are as follows:

Table 1. Allowed Repairs

Area Color	Allowed Repairs
<p><b>Blue areas (tabs):</b></p>	<ul style="list-style-type: none"> <li>• Tabs that are broken off entirely can be welded back into place.</li> <li>• Tabs that are partially broken or cracked can be repaired by welding.</li> <li>• Bent tabs can be straightened using cold methods.</li> </ul> <p><b>Note</b> Do not use heat methods to straighten tabs.</p>
<p><b>Green areas:</b></p>	<ul style="list-style-type: none"> <li>• Welding damage up to 50 mm is allowed.</li> <li>• For damage more than 50 mm in length, <a href="#">contact Tesla Collision Repair</a> for assistance for assistance.</li> <li>• A broken stud may be welded on or replaced with a double-ended. See <a href="#">Replacing a Damaged Stud</a> for more information.</li> <li>• Bent webbing sections may be straightened using cold methods.</li> </ul> <p><b>Note</b> Do not use heat methods to straighten webbing sections.</p> <p><b>Note</b> After repair, bent webbing sections should be restored to within 1.5 mm of their original position.</p>
<p><b>Yellow areas:</b></p>	<ul style="list-style-type: none"> <li>• Welding damage up to 30 mm is allowed (a reinforcement plate is not required).</li> <li>• Welding damage between 30 mm and 50 mm in length is allowed, but reinforcement plates (Tesla part number 1076938-E0-B) must also be installed. See <a href="#">Installing a Reinforcement Plate</a> for more information.</li> <li>• For damage more than 50 mm in length, <a href="#">contact Tesla Collision Repair</a> for assistance.</li> <li>• A broken stud may be welded on or replaced with a double-ended. See <a href="#">Replacing a Damaged Stud</a> for more information.</li> <li>• Bent webbing sections may be straightened using cold methods.</li> </ul> <p><b>Note</b></p>

Area Color	Allowed Repairs
	<p data-bbox="540 184 1328 216">Do not use heat methods to straighten webbing sections.</p> <p data-bbox="492 327 1422 436">  <b>Note</b>            After repair, bent webbing sections should be restored to within 1.5 mm of their original position.         </p>
<p data-bbox="196 590 302 653"><b>Orange areas:</b></p>	<ul data-bbox="418 562 1463 909" style="list-style-type: none"> <li data-bbox="418 562 1463 667">• Welding a crack up to 30 mm is allowed, but a reinforcement plate (Tesla part number 1076938-E0-B) must also be installed. See <a href="#">Installing a Reinforcement Plate</a> for more information.</li> <li data-bbox="418 695 1430 758">• For damage more than 30 mm in length, <a href="#">contact Tesla Collision Repair</a> for assistance.</li> <li data-bbox="418 785 1438 848">• A broken stud may be welded on or replaced with a double-ended. See <a href="#">Replacing a Damaged Stud</a> for more information.</li> <li data-bbox="418 875 1349 909">• Bent webbing sections may be straightened using cold methods.</li> </ul> <p data-bbox="492 993 1328 1056">  <b>Note</b>            Do not use heat methods to straighten webbing sections.         </p> <p data-bbox="492 1178 1422 1283">  <b>Note</b>            After repair, bent webbing sections should be restored to within 1.5 mm of their original position.         </p>
<p data-bbox="175 1457 321 1488"><b>Red areas:</b></p>	<p data-bbox="402 1457 1385 1520">None; if the Front Under Body is damaged in these areas, <a href="#">contact Tesla Collision Repair</a> for assistance.</p> <p data-bbox="440 1640 1304 1745">  <b>Note</b>            A broken stud may replaced with a double ended stud. See <a href="#">Replacing a Damaged Stud</a> for more information.         </p> <p data-bbox="440 1927 605 1959">  <b>Warning</b> </p>

Area Color	Allowed Repairs
	Welding is not allowed in this area.

## Installing a Reinforcement Plate

Reinforcement plates may be installed only at the direction of the [Tesla Collision Repair Support Team](#), or as specified in the Allowed Repairs tables (above). Reinforcement plates are installed as follows:

### Note

Reinforcement plates are not installed by welding; reinforcement plates are installed only with structural adhesive.

1. Straighten the area where the reinforcement plate will be installed using cold methods.

### Note

Do not use heat methods to straighten webbing sections.

2. Cut a section of reinforcement plate to length.

### Note

Reinforcement plates are placed on both sides of cracked or straightened webbing. Make sure that each reinforcement plate covers the maximum surface area around the repair area.

3. Trim and rework the reinforcement plate as necessary to snugly fit over the area to be reinforced, and allow for any adjoining panels.
4. Remove any contaminants from the mating surfaces on the repair area and the reinforcement plate by cleaning them with isopropyl alcohol (IPA) prior to applying structural adhesive.
5. Apply structural adhesive.
6. Fit the reinforcement plates into position and clamp them into place.
7. Wipe off excess structural adhesive.

### Warning

Before performing any repair that requires fasteners to be installed through an installed reinforcement plate, [contact Tesla Collision Repair](#) for assistance. Because the reinforcement plate increases panel stack thickness, it may be necessary to change fasteners used in repairs performed after the reinforcement plate has been installed.

## Replacing a Damaged Stud

A damaged or broken stud may be replaced using a double-ended stud (Tesla part number 1463292-00-C).

To replace a broken stud:

1. Grind down the damaged stud until it is flush with the surrounding material.
2. Use a center punch to mark the center of the remaining part of the stud (the location of the replacement stud).
3. Drill a 5.5 mm. hole that is 22 mm. deep in the replacement stud location.
4. Remove all debris from the drilled hole.
5. Insert the self-tapping double ended stud and torque it to 5 Nm.