

Body Repair Tech Note: Structural Repairs

Body Repair Tech Notes provide information about Tesla-approved methods and practices for body repair. These instructions assume knowledge of motor vehicle and high voltage electrical component repairs, and should only be executed by trained professionals. Tesla assumes no liability for injury or property damage due to a failure to properly follow these instructions or for repairs attempted by unqualified individuals.

This Body Repair Tech Note supersedes BR-14-10-004 R5, dated 30-Nov-16. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

Structural Pulling Not Allowed

Tesla does not allow structural pulling on any structural component of a Tesla vehicle. Tesla defines a structural component as any part that is welded, weld-bonded, rivet-bonded, or riveted to the vehicle.

Structurally pulling the body structure can damage the integrity of the spot welds and the adhesive bonds between structural components, including those in seemingly unrelated parts of the body structure. Because compromised spot welds and adhesive bonds can significantly reduce the structural integrity of the vehicle, Tesla does not allow structural pulling of the body structure.

Structural pulling can also negatively affect the physical properties of high-strength steel and compromise associated welds.

Cosmetic Repairs Allowed

Cosmetic repairs to exterior metal panels (steel or aluminum) are allowed. For more information on the types of aluminum cosmetic repairs that are allowed and approved methods, refer to [BR-17-10-001](#), "Repairing Aluminum Cosmetic Damage".

Used, Recycled, or Aftermarket Structural Parts Not Allowed

Tesla does not allow used, recycled, or aftermarket parts or components to be used for structural repairs. Structural repairs are defined as repairs involving any part or component that is welded, weld-bonded, bonded, rivet-bonded, or riveted to the vehicle.

The body structures of Tesla vehicles are assembled with structural adhesive at the factory, so structural parts cannot be removed without causing permanent damage to the parts themselves. There are no approved field testing methods to verify that the integrity of a part has not been compromised. To ensure that vehicle safety is not compromised after structural repairs have been performed, only new, undamaged, Original Equipment Manufacturer (OEM) parts should be used in conjunction with approved repair methods.

Tesla only sells parts that have been tested for safety; Tesla does not test aftermarket parts. Because Tesla cannot confirm that aftermarket structural parts will not adversely affect vehicle safety, Tesla does not allow the use of aftermarket parts in structural repairs.

For more information, refer to [BR-16-00-002](#), "Repair Guidelines for Parts, Fasteners, and Structural Adhesives".

Performing Structural Repairs on a Frame Bench

All structural repairs on Tesla vehicles must be performed with the vehicle properly mounted to an approved frame bench, with the exception of the procedures listed in [BR-16-10-008](#), “Structural Repair Procedures Not Requiring a Frame Bench”.

For a list of approved frame bench systems, refer to [BR-16-92-006](#), “Approved Frame Bench Systems”.

Use Only Approved Structural Adhesives

Use only the structural adhesives listed in [BR-15-92-008](#), “Approved Structural Adhesives and Urethane Sealants” for structural repairs on Tesla vehicles.

⚠ WARNING: Do not use a non-approved structural adhesive for a structural repair on a Tesla vehicle. Using a non-approved structural adhesive might compromise vehicle crash integrity.

⚠ WARNING: Never use expired structural adhesive. Always check the expiration date on the structural adhesive before use. Using expired structural adhesive might compromise vehicle crash integrity.

⚠ WARNING: Do not use structural adhesive as a substitute for welds, rivets, or any other fastening method listed in a Tesla Body Repair Manual. Apply structural adhesive only to the areas shown in the relevant Body Repair Manual procedure. Substituting structural adhesive for other fasteners or fastening methods might compromise vehicle crash integrity.

Use Only Approved Fasteners

Use only the fasteners listed in [BR-16-92-001](#), “Approved Fasteners and Fastener Installation Tools for Structural Repair” for structural repairs on Tesla vehicles.

⚠ WARNING: Use only approved fasteners sourced from Tesla when performing structural repairs on Tesla vehicles. Using non-approved fasteners might compromise the integrity of the repair and vehicle safety. Using non-approved fasteners might also affect whether Tesla supports the vehicle.


Use Only Approved Welders

Use only the GMA welders and squeeze-type resistance spot welders listed in [BR-16-92-007](#), “Approved Welders” for structural repairs on Tesla vehicles.

⚠ WARNING: Use only approved welders when performing structural repairs on Tesla vehicles. Using non-approved welders might compromise the integrity of the repair and vehicle safety.

Use Only Approved GMA Welding Wire

Use only the welding wires listed in [BR-15-92-010](#), “Approved GMA Welding Wires for Structural Repairs” for structural repairs on Tesla vehicles.

 **WARNING:** Do not use non-approved welding wire for a Tesla structural repair. Using a non-approved welding wire might compromise vehicle crash integrity.

For feedback on the accuracy of this document, email BodyRepair@tesla.com.