






BR-16-92-007 R14 October 16, 2020		Tesla, Inc. Body Repair Technical Note
<b>Model:</b>	<b>Vehicle System:</b>	<b>Region:</b>
All	92 - Tools and Equipment	All

## Approved Welders

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-16-92-007 R13, dated 20-Aug-20. Each content change is marked by a vertical line in the left margin. Discard the previous version and replace it with this one.

Use only approved welders for welding during structural repairs on Tesla vehicles.

-  **WARNING:** Using non-approved welders might compromise the integrity of the repair and vehicle safety.
-  **WARNING:** To maintain vehicle crash integrity, use only the welding wires specified in the Body Repair Procedures manual section “Approved GMA Welding Wire for Structural Repairs” to perform GMA welding on Tesla vehicles.
-  **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.
-  **CAUTION:** To ensure proper welder performance, technicians must be trained on the use and maintenance of Tesla-approved equipment.

## Gas Metal Arc (GMA) Welders

The gas metal arc (GMA) welders listed below are approved for aluminum and steel GMA welding during structural repairs on Tesla vehicles:

Manufacturer	Approved GMA Welders	Approved for			
		Model S	Model X	Model 3	Model Y
<b>Car Bench</b>	• Sound MIG 2060/md (Model 301)	✓	✓	✓	✗
	• Jaguar Sound MIG 2060/md (Model 302)	✓	✓	✓	✗
<b>Car-O-Liner</b>	• CMI273 Pulse Twin	✓	✓	✓	✓
	• CMI300 Pulse Duo	✓	✓	✓	✓
	• CMI300 Pulse Trio	✓	✓	✓	✓
<b>Cebora</b>	• Jaguar Sound MIG 2060/MD (Model 302)	✓	✓	✓	✓
	• Jaguar MIG E200/MD (Model 321)	✓	✓	✓	✓
	• Sound MIG 2060/MD (Model 301)	✓	✓	✓	✓
	• Sound MIG 2740/T Star Pulse (Model 307)	✓	✓	✓	✓
	• SynStar 330TC (Model 386)	✓	✓	✓	✓
<b>Chief</b>	• MultiMig 521	✓	✓	✓	✓
	• MultiMig 522	✓	✓	✓	✓
	• MultiMig 525	✓	✓	✓	✓
	• MultiMig 621	✓	✓	✓	✓
	• MultiMig 721	✓	✓	✓	✓
<b>ELMA-Tech</b>	• MIDI MIG 300/800	✓	✓	✓	✓
<b>Fronius</b>	• TransPuls Synergic 2700	✓	✓	✓	✓
	• TransPuls Synergic 2700 CMT	✓	✓	✓	✓
	• TPS 270i C Pulse	✓	✓	✓	✓
	• TPS 320i	✓	✓	✓	✓
<b>GYS</b>	• AutoPulse 220-M3	✓	✓	✓	✓
	• NeoPulse 300-T2	✓	✓	✓	✓

Manufacturer	Approved GMA Welders	Approved for			
		Model S	Model X	Model 3	Model Y
<b>Miller</b>	• MillerMatic 255 Auto	✓	✓	✓	✓
	• Millermatic 350P	✓	✓	✓	✓
<b>PRO SPOT</b>	• SP-1	✓	✓	✓	✓
	• SP-2	✓	✓	✓	✓
	• SP-5	✓	✓	✓	✓
	• SP-5 DP	✓	✓	✓	✓
	• SP-5.3	✓	✓	✓	✓
<b>Spanesi</b>	• Q5.2 INVERTER	✓	✓	✓	✓
<b>Wieländer + Schill</b>	• InvertaPuls IP4-3	✓	✓	✓	✓
	• InvertaPuls IP6-2	✓	✓	✓	✓
	• InvertaPuls IP7-2	✓	✓	✓	✓

## Squeeze-Type Resistance Spot (STRS) Welders

The squeeze-type resistance spot (STRS) welders listed below are approved for steel resistance spot welding during structural repairs on Tesla vehicles:

Manufacturer	Approved STRS Welders	Approved for			
		Model S	Model X	Model 3	Model Y
<b>Car Bench</b>	3664P7CB: Requires: <ul style="list-style-type: none"> <li>TECNA type A welding caps (TECNA part number 5234)</li> <li>Terminal software version 3.0.0 or higher</li> <li>Inverter software version 5.22 or higher)</li> </ul>	✓	✓	✓	✗
<b>Car-O-Liner</b>	CTR12000 Requires: <ul style="list-style-type: none"> <li>Car-O-Liner standard 13 mm welding caps (Car-O-Liner part number 41959)</li> <li>Software version 4.00.00 Build 2 or higher</li> </ul>	✓	✓	✓	✓
	CTR9 Requires: <ul style="list-style-type: none"> <li>Car-O-Liner standard 13 mm welding caps (Car-O-Liner part number 41959)</li> <li>WPB Software software version 2.9.42 or higher</li> <li>MMI software version 3.8.21 or higher</li> <li>GCB software version 1.3.7 or higher</li> </ul>	✓	✓	✓	✓
<b>Chief</b>	MI200T Requires: <ul style="list-style-type: none"> <li>Chief's type A welding caps – Chief part number CEL049987</li> <li>Software version 06.01.10 or higher</li> </ul>	✓	✓	✓	✓
<b>ELMA-Tech</b>	PREMIUMspot Requires: <ul style="list-style-type: none"> <li>Form A Electrode caps – ELMA part number 90_1330.4_AV_V2</li> <li>Software: PREMIUMspot VISION SW0340011 or higher</li> </ul>	✓	✓	✓	✓
<b>GYS</b>	GYSPT SPOT INVERTER PTI-S7 Requires: <ul style="list-style-type: none"> <li>GYS's type A welding caps – GYS part number 49987</li> <li>Software version 6.01.09 or higher</li> </ul>	✓	✓	✓	✓

Manufacturer	Approved STRS Welders	Approved for			
		Model S	Model X	Model 3	Model Y
<b>PRO SPOT</b>	i5 Requires: <ul style="list-style-type: none"> <li>Pro Spot Type F welding caps – Pro Spot part number PS-029</li> <li>Software version 1.7.01 or higher</li> </ul>	✓	✓	✓	✓
	i4s Requires: <ul style="list-style-type: none"> <li>Pro Spot Type F welding caps – Pro Spot part number PS-023</li> <li>Software version 1.4.75 or higher</li> </ul>	✓	✓	✓	✓
<b>Spanesi</b>	92PUNTP117V2 Requires: <ul style="list-style-type: none"> <li>Flat caps –part number 5234</li> <li>Software version 0.4.4 or higher</li> </ul>	✓	✓	✓	✓
<b>TECNA</b>	3664P Smart-Plus Requires: <ul style="list-style-type: none"> <li>TECNA type A welding caps – TECNA part number 5234</li> <li>Terminal software version 4.1.0 or higher</li> <li>Inverter software version 5.24 or higher</li> </ul>	✓	✓	✓	✓
	3680P/7: <ul style="list-style-type: none"> <li>TECNA welding caps – TECNA part number 5234T</li> <li>Software version 6.4.0 or higher</li> </ul>	✓	✓	✓	✓
<b>Wieländer + Schill</b>	InvertaSpot GT-C Automatic Requires: <ul style="list-style-type: none"> <li>Wieländer + Schill's form A R32 welding caps – Wieländer + Schill's part number 497096</li> <li>Software RSS V4 version 3.0.8.0 or higher</li> </ul>	✓	✓	✓	✓

**⚠ CAUTION:** Do not perform spot welding on panels with bare metal interfacing surfaces. Apply approved structural adhesive or a suitable zinc weld-through primer to the weld interface areas before spot welding. Failure to apply a coating to the bare metal weld interface areas might result in corrosion and subsequent joint failure.

**⚠ CAUTION:** Use only insulated clamps within 200 mm (8 in) of resistance spot weld locations. Do not perform resistance spot welding when there is an uninsulated clamp within 200 mm (8 in) of the spot weld location.

For feedback on the accuracy of this document, email [BodyRepair@tesla.com](mailto:BodyRepair@tesla.com).