






BR-16-92-007 R10 May 13, 2020		Tesla, Inc. Body Repair Technical Note
Model:	Vehicle System:	Region:
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 R9, dated 09-Apr-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 [BR-15-92-010](#), “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
Car Bench	• Sound MIG 2060/md (Model 301)	✓	✓	✓	✗
	• Jaguar Sound MIG 2060/md (Model 302)	✓	✓	✓	✗
Car-O-Liner	• CMI273 Pulse Twin	✓	✓	✓	✓
	• CMI300 Pulse Duo	✓	✓	✓	✓
	• CMI300 Pulse Trio	✓	✓	✓	✓


Manufacturer	Approved GMA Welders	Approved for			
		Model S	Model X	Model 3	Model Y
Cebora	<ul style="list-style-type: none"> Jaguar Sound MIG 2060/MD (Model 302) Sound MIG 2060/MD (Model 301) Sound MIG 2740/T Star Pulse (Model 307) SynStar 330TC (Model 386) 	✓	✓	✓	✗
Chief	<ul style="list-style-type: none"> MultiMig 521 MultiMig 522 MultiMig 525 MultiMig 621 MultiMig 721 	✓	✓	✓	✗
ELMA-Tech	<ul style="list-style-type: none"> MIDI MIG 300/800 	✓	✓	✓	✓
Fronius	<ul style="list-style-type: none"> TransPuls Synergic 2700 TransPuls Synergic 2700 CMT TPS 270i C Pulse TPS 320i 	✓	✓	✓	✗
GYS	<ul style="list-style-type: none"> AutoPulse 220-M3 NeoPulse 300-T2 	✓	✓	✓	✓
Miller	<ul style="list-style-type: none"> MillerMatic 255 Auto Millermatic 350P 	✓	✓	✓	✓
PRO SPOT	<ul style="list-style-type: none"> SP-1 SP-2 SP-5 SP-5 DP SP-5.3 	✓	✓	✓	✓
Wieländer + Schill	<ul style="list-style-type: none"> InvertaPuls IP6-2 (Model WS-332007-T) 	✓	✓	✓	✗


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
Car Bench	3664P7CB: Requires: <ul style="list-style-type: none"> TECNA type A welding caps (TECNA part number 5234) Terminal software version 3.0.0 or higher Inverter software version 5.22 or higher) 	✓	✓	✓	✗
Car-O-Liner	CTR12000 Requires: <ul style="list-style-type: none"> Car-O-Liner standard 13 mm welding caps (Car-O-Liner part number 41959) Software version 4.00.00 Build 2 or higher 	✓	✓	✓	✓
	CTR9 Requires: <ul style="list-style-type: none"> Car-O-Liner standard 13 mm welding caps (Car-O-Liner part number 41959) Software version 4.00.00 Build 2 or higher 	✓	✓	✓	✓
Chief	MI200T Requires: <ul style="list-style-type: none"> Chief's type A welding caps – Chief part number CEL049987 Software version 06.01.10 or higher 	✓	✓	✓	✓
ELMA-Tech	PREMIUMspot Requires: <ul style="list-style-type: none"> Form A Electrode caps – ELMA part number 90_1330.4_AV_V2 Software: PREMIUMspot VISION SW0340011 or higher 	✓	✓	✓	✓
GYS	GYSPT INVERTER PTI-S7 Requires: <ul style="list-style-type: none"> GYS's type A welding caps – GYS part number 49987 Software version 6.07.09 or higher 	✓	✓	✓	✓

Manufacturer	Approved STRS Welders	Approved for			
		Model S	Model X	Model 3	Model Y
PRO SPOT	i5 Requires: <ul style="list-style-type: none"> Pro Spot Type F welding caps – Pro Spot part number PS-029 Software version 1.7.01 or higher 	✓	✓	✓	✓
	i4s Requires: <ul style="list-style-type: none"> Pro Spot Type F welding caps – Pro Spot part number PS-023 Software version 1.4.75 or higher 	✓	✓	✓	✓
TECNA	3664P Smart-Plus Requires: <ul style="list-style-type: none"> TECNA type A welding caps – TECNA part number 5234 Terminal software version 3.0.0 or higher Inverter software version 5.22 or higher 	✓	✓	✓	✗
Wieländer + Schill	InvertaSpot GT Requires: <ul style="list-style-type: none"> Wieländer + Schill's form A R32 welding caps – Wieländer + Schill's part number 497005-ws Software RSS V4 version 3.0.6.7 or higher) 	✓	✓	✓	✗

 **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.