

Eastwood[®]

DO THE JOB RIGHT.[®]

Item #13901

SPOT WELDING KIT

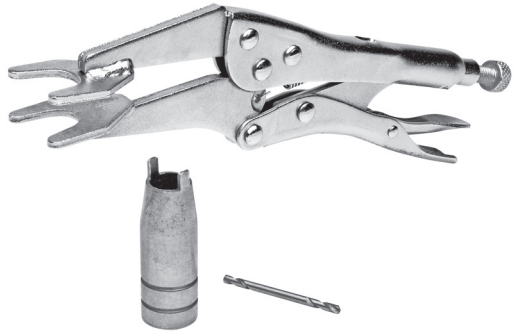
INSTRUCTIONS



Spot Welding in the past had primarily been done by large resistance welders but can now be achieved with your MIG welder and this **Spot Welding Kit** from Eastwood. Spot welding is accomplished by clamping two panels together and fusing them with a number of welds sequentially-placed rather than a continuous bead to hold the panels together. This kit is designed to be used with Tweco® Style MIG torches.

CONTENTS

- (1) Spot Weld Pliers
- (1) Spot Weld Nozzle
- (1) 3/16" Double-Ended Drill Bit



SAFETY INFORMATION

The following explanations are displayed in this manual, on the labeling, and on all other information provided with this product:

⚠ DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

⚠ WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

⚠ CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

⚠ NOTICE

NOTICE is used to address practices not related to personal injury.

SAFETY INFORMATION



⚠ READ INSTRUCTIONS

- Thoroughly read and understand this manual before using. Save for future reference.



⚠ DANGER ELECTRIC SHOCK CAN CAUSE INJURY OR DEATH!



- Improper use of an electric Welder can cause electric shock, injury and death! Read all precautions described in the Welder Manual to reduce the possibility of electric shock.
- Disconnect Welder from power supply before assembly, disassembly or maintenance of the torch, contact tip and when installing or removing nozzles.
- Always wear dry, protective clothing and leather welding gloves and insulated footwear. Use suitable clothing made from durable flame-resistant material to protect your skin.
- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks.
- Always operate the Welder in a clean, dry, well ventilated area. Do not operate the Welder in humid, wet, rainy or poorly ventilated areas.
- The electrode and work (or ground) circuits are electrically “hot” when the Welder is on. Do not allow these “hot” parts to come in contact with your bare skin or wet clothing.
- Separate yourself from the welding circuit by using insulating mats to prevent contact from the work surface.
- Be sure that the work piece is properly supported and grounded prior to beginning an electric welding operation.
- Always attach the ground clamp to the piece to be welded and as close to the weld area as possible. This will give the least resistance and best weld.

SAFETY INFORMATION



⚠ DANGER

WELDING SPARKS CAN CAUSE FIRE OR EXPLOSION!

- Electric welding produces sparks which can be discharged considerable distances at high velocity igniting flammable or exploding vapors and materials.
 - Do not operate electric arc Welder in areas where flammable or explosive vapors are present.
 - Do not use near combustible surfaces. Remove all flammable items within 35 feet of the welding area.
- Always keep a fire extinguisher nearby while welding.
- Use welding blankets to protect painted and or flammable surfaces; rubber weather-stripping, dash boards, engines, etc.
- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks.



⚠ WARNING

ELECTROMAGNETIC FIELDS CAN BE A HEALTH HAZARD!

- The electromagnetic field that is generated during arc welding may interfere with various electrical and electronic devices such as cardiac pacemakers. Anyone using such devices should consult with their physician prior to performing any electric welding operations.
- Exposure to electromagnetic fields while welding may have other health effects which are not known.



⚠ WARNING

ARC RAYS CAN BURN!

- Arc rays produce intense ultraviolet radiation which can burn exposed skin and cause eye damage. Use a shield with the proper filter (a minimum of #11) to protect your eyes from sparks and the rays of the arc when welding or when observing open arc welding (see ANSI Z49.1 and Z87.1 for safety standards).
- Use suitable clothing made from durable flame-resistant material to protect your skin.
- If other persons or pets are in the area of welding, use welding screens to protect bystanders from sparks and arc rays.



⚠ WARNING FUMES AND WELDING GASES CAN BE A HEALTH HAZARD!

- Fumes and gasses released during welding are hazardous. Do not breathe fumes that are produced by the welding operation. Wear an OSHA-approved respirator when welding.
- Always work in a properly ventilated area.
- Never weld coated materials including but not limited to: cadmium plated, galvanized, lead based paints.



⚠ CAUTION HOT METAL AND TOOLS WILL BURN!

- Electric welding heats metal and tools to temperatures that will cause severe burns!
- Use protective, heat resistant gloves and clothing when using Eastwood or any other welding equipment. Never touch welded work surface, torch tip or nozzle until they have completely cooled.

SET UP

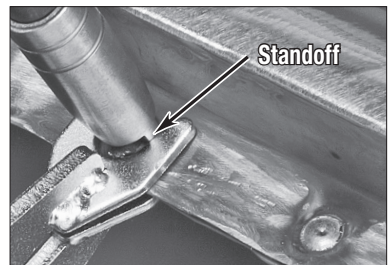
1. Unplug MIG welder and remove gas nozzle on the end of the torch.
2. Install the supplied Spot Weld Nozzle. Once the Nozzle is installed the welder can be plugged back in. **NOTE:** This Nozzle is designed to fit the Eastwood MIG Welders but will also work on any other Tweco Style Torch. The Spot Weld Nozzle “standoffs” do not have to be oriented in any particular position to function properly.
3. Before using on your project it is necessary to test technique and machine settings on scrap metal. The following suggestions are recommendations for the initial settings on the Eastwood MIG Welders, but you may have to fine-tune the voltage or wire speed to achieve perfect spot welds.

Suggested Settings

	Material Thickness	18 Ga.	20 Ga.
Eastwood MIG135	Arc Volts	J	I
	Wire Speed	7	7
Eastwood MIG175	Arc Volts	J	J
	Wire Speed	9	6
Eastwood MIG 140 and MIG180	Arc Volts	17	16
	Wire Speed	260	250

OPERATION

1. Determine a plan of action and use a scribe to mark where each spot weld should be placed on the top panel. Clean all metal surfaces which will be in contact with a flap disc. Be sure to remove all paint, scale, oil, etc.
2. If using 120V welders, it is necessary to drill or punch a hole in the top panel being spot welded. Use the included 3/16” drill bit to drill a hole through the TOP PANEL ONLY. If using 240V welders, in most cases, you will not need to drill or punch a hole in the top panel.
3. Use the supplied Spot Weld Pliers to clamp the top and bottom panels being spot welded together. Put the U shape of the pliers around the area to be spot welded. If using a 120V Welder, center the U shape around the hole drilled in the previous step. See the image at right for reference.
4. Place the “standoffs” of the Spot Weld Nozzle in the ‘U’ of the clamp.



5. Hold the trigger to activate the arc for 2-3 seconds. Adjust the time accordingly after trying on test panels.
6. Release and pull back the torch to reveal the spot weld. If possible make sure that the spot weld fully penetrated before continuing on.
7. Continue on to finish all of the predetermined spots for the welds. It is beneficial to move around when welding rather than doing the spot welds all consecutively as it could overheat the panel and causing warping.

TROUBLESHOOTING

PROBLEM	CAUSE	CORRECTION
The Weld Did Not Penetrate Through to the Rear Panel	Weld time is too short	Increase the weld time.
	A hole may be needed in the front panel	Punch or drill hole in front panel.
	Volt setting may be too low	Turn up the Volt setting. If this causes the wire to burn back before reaching the panel, increase Wire Speed also.
	Metal surfaces to be welded are contaminated	Make sure the metal is clean. The use of an abrasive flap disc on all surfaces in contact and being welded is strongly recommended.
The Weld Bead is Too High	Weld time is too long	Decrease the weld time.
	Weld speed is too fast	Decrease the wire speed.
The Weld Bead is Too Large in Diameter	Weld time is too long	Decrease the weld time.

ADDITIONAL ITEMS

- #31018 Flanger and Hole Punch Combination Tool
- #31015 Pneumatic Flanger and Hole Punch Combination Tool
- #19017 Spot Weld Drill 3/8"
- #19003 Spot Weld Drill 1/2"

If you have any questions about the use of this product, please contact

The Eastwood Technical Assistance Service Department: 800.343.9353 >> email: tech@eastwood.com

PDF version of this manual is available at eastwood.com

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