

Eastwood

DO THE JOB RIGHT.

Part #19089

SPOT WELD GUN INSTRUCTIONS



THE EASTWOOD SPOT WELD GUN welds two overlapping steel panels (up to 18 gauge) together using an electric arc to melt the top panel, fusing it to the bottom panel. The two panels must be cleaned of all rust, paint, grease, or other material, and must fit tightly together – this is critical to both the strength of the weld and achieving satisfactory results.

Eastwood's Spot Weld Gun attaches to most Arc (stick) welders and uses 60 amps or less, making it possible to weld light gauge sheet metal (such as auto body panels) with virtually none of the distortion usually caused by high-powered stick welders.

No Assembly Required. Your Eastwood Spot Welder comes completely assembled and includes two heads: one with four prongs for welding flat surfaces and one with two prongs for corners and tight spaces.

SUGGESTED PRODUCTS

- **#19092 Electrodes, Pack of 10**
Specially-designed for use with the Eastwood Spot Weld Gun. Carbon-center electrodes provide 60-100 welds each.
- **#12099 Auto Darkening Welding Helmet**
High strength plastic housing protects your face from welding heat and spatter.
- **#19295 Firepower FP 100 Welder**
Perfect welder for the Spot Weld Gun. Requires 120V/20A circuit. Output is adjustable up to 85 Amps. Compact, and portable.



IMPORTANT SAFETY NOTICE

READ AND UNDERSTAND ALL INSTRUCTIONS BEFORE WELDING.

Repair procedures and techniques, tools and parts for servicing motor vehicles, as well as the skill and experience of the individual performing the work vary widely. It is not possible to anticipate all the conceivable ways or conditions under which a vehicle may be serviced or repaired, nor to provide cautions for all of the possible hazards that may result. Standard and accepted safety precautions and equipment should be used during any process that can cause material removal or projectiles, such as cutting, grinding, chiseling, prying, etc. Before performing any such operation, you must be completely satisfied that neither your personal safety nor the condition or performance of the vehicle will be compromised.

CAUTION

Welding is a process in which the temperature of metal is raised to the melting point (approximately 3,000°F) so it is important that you work carefully and safely. Here are a few points to make sure that your work will be the best quality you can make it and that it will be done safely.

- **Wear protective gloves and always use a quality welding helmet.**
Do not use gas welding goggles or other substitutes. Arc welding produces harmful ultraviolet (UV) rays which will damage your eyes and may burn your skin, if not protected. Be sure that others in your work area are protected as well, if they are in sight of the welding arc. Use a good quality welding helmet with at least a #11 Lens.
- **Never work on or near a fuel tank, or near any flammable substance.**
Even when empty, a fuel tank still contains explosive fuel vapors.
- **Keep a fire extinguisher handy.**
For shop use, your extinguisher should be rated "ABC"
- **Never set your Arc (stick) welder higher than 60 amps when using the Spot Weld Gun.**
Higher settings may overheat and damage your Spot Weld Gun.
- **Disconnect the battery and alternator or generator cables if you are welding on the vehicle.**
Since welding uses electricity at high amperage, electrical components on your vehicle may be damaged if the battery cables are left connected.
- **Never weld in wet or damp conditions.**
Welding uses electricity at high amperage. Be certain the area in which you are working is dry to avoid the possibility of electrocution.

GETTING READY TO WELD

Practice, Practice, Practice!

Welding is not a difficult task, but like anything else, there are tricks which you will learn as you do it. The best way to learn is by doing.

When learning to weld, it is important to be comfortable. When welding small pieces, set them up on a non-flammable work surface, and get seated comfortably. Being comfortably seated allows you to look carefully at the welds in progress. It also makes it easier to keep your arms steady.

Practice spot welding on scrap metal to get the feel of the tool and to see how it works with your welder. After welding two pieces together, try pulling them apart to check weld strength. The weld should remain on the lower piece of metal when the top piece has been torn off. If the pieces pull apart without ripping, then weld penetration was not sufficient. Try welding for a slightly longer time, but avoid letting the weld burn through both pieces of metal.

Get Ready To Weld

1. Select the correct head and install on the gun.

Use a slight twisting motion to remove or install heads. The four-prong head is best used on flat surfaces and the two-prong head is best used inside corners and curved areas.

2. Load the electrode into the tube on the front of gun and lightly tighten set screw.

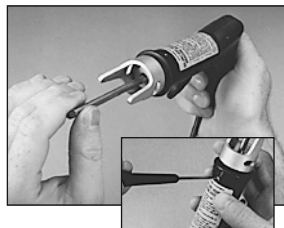
Push the electrode into the tube until the tip is even with the head prongs. If you encounter resistance when inserting the electrode, make sure the set screw is loose.

3. Connect the gun to your Arc (stick) welder.

Insert the end of the Gun's power cable into your welder's electrode holder. Be certain that the metal pin on the end of the Gun's power cable is in good contact with the electrode holder.

4. Connect your welder's ground clamp to the workpiece.

Attach the ground clamp as close as possible to the area which you are about to weld. This will help to speed the welding process.



MAKING SPOT WELDS

CAUTION: Disconnect battery ground strap and alternator or generator wires before welding to avoid damaging electrical components.

5. Make sure that your welder is set no higher than 60 amps.

Your Spot Weld Gun will work in the range of 40-60 amps. Until you are thoroughly comfortable with this tool and its capabilities, we recommend starting at a 40 amp setting and turning the amperage up, if needed.

6. Wear protective gloves and a welding helmet with a #11 lens.

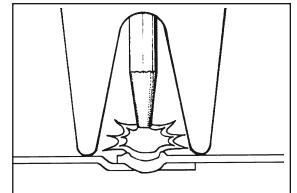
Welding produces both considerable heat and ultraviolet radiation, which can damage your eyes and burn your skin. Proper protection is very important. Also welding heat can travel through the sheet metal, making the surrounding area very hot.

7. Pull the trigger all the way back and firmly press the pressure head prongs against the workpiece.

Slowly release the trigger, until the electrode contacts the workpiece. Current will begin to flow on contact. Immediately pull the trigger up about 1/16" (about the thickness of a dime). This will cause an electric arc between the electrode and the workpiece.

NOTE: Do not allow the electrode to glow more than 1/2 inch up from the tip or the gun will overheat. Overheating the gun voids the warranty.

Current will continue to flow making a crackling sound as the metal melts and the spot weld is formed. It is very important to watch the spot weld closely as the metal melts and forms a puddle. When the top layer of metal has melted and just as the puddle begins to drop (top layer melting onto the bottom layer), pull the trigger all the way up to lift the electrode away from the workpiece. This breaks the arc and stops the welding process. Continue to hold the spot weld gun against the workpiece for a second, to allow the top layer of molten metal to cool and solidify. You can now move to the next weld.



8. Let the Spot Weld Gun cool after every 10 to 12 spot welds.

Due to the build-up of heat, it is strongly recommended that you let the Spot Weld Gun cool after every 10 or 12 spot welds. Use this cool-off time to check panel alignment and to inspect your work. Overheating will damage the Spot Weld Gun and void the warranty.

TESTING SPOT WELDS

Just because a weld looks good doesn't mean that it is a good weld. A good weld must penetrate through the top layer of metal onto the bottom layer. An ugly weld with good penetration is better than a good-looking weld with little penetration.

When spot welding, closely watch the puddle which forms beneath the electrode tip. The puddle on the top layer of metal should melt and drop onto the bottom piece. Break the arc by pulling the Spot Weld Gun's trigger all the way up just as this happens.

The key to a good spot weld is to get enough penetration through to the bottom layer so the top and bottom pieces will hold together. This is a function of time (how long you hold the arc) and the thickness of the sheet metal, which will vary from car to car and even location to location on the same car. For example, most fenders are a thinner gauge metal than floorboards. Most older cars use thicker metal than newer cars and most imports use thinner metal than domestic cars.

Experiment on some scrap panels the same thickness as the panels on which you will be working. Remember: Holding the arc too long will burn pinholes through the metal and not holding it long enough will produce weak welds.

To test your practice spot welds, clamp the test piece solidly in a vise. Try to peel one panel from the other. It is usually possible to separate the panels, but a good spot weld will rip out of the top panel and the spot weld "button" will remain firmly attached to the bottom panel.

Practice until your spot welds can stand up to this test over and over again before going on to your project.

REMOVING SPOT WELDS

Most restoration projects involve not only making spot welds, but removing some, too. Eastwood's #11279 Spot Weld Cutter 3/8" diameter (pictured at right) acts like a mini hole saw. It cuts around spot welds without drilling through both layers of metal. The hex-shaped shank fits all power drills and will not slip in your drill chuck.

The Spot Weld Cutter cuts around the spot weld, leaving a "button" on the lower panel. This can easily be ground off with a high speed sander.

A key to long life for the Spot Weld Cutter is to keep the speed down (900 rpm or less). In most electric variable-speed drills, this is about half-speed. Also use a good quality cutting lubricant which will yield cleaner cuts as well as prolong cutter life. Eastwood offers professional-grade spot weld cutters that totally drill out spot welds with little or no grinding required to finish the job. Available in 3/8" diameter (19017) for most applications and 1/2" diameter (19003) needed for trucks and convertibles.



TROUBLESHOOTING

Very simple in design, your Spot Weld Gun should provide years of service. If it is not performing satisfactorily, please check the following:

Make sure that both pieces of metal are clean and held tightly together. We recommend the Eastwood Panel Holding System (#19074). For easier final finishing, make an offset flange in the lower piece of metal. Eastwood's Combination Hole Punch/Panel Flanger (#31018), or the Pneumatic Version (#31015) will do the job well.

SUGGESTED PRODUCTS

#19004 3/8" and 1/2" Pro spot Weld Cutter Kit

Totally drill out spot welds with little or no grinding required to finish the job.



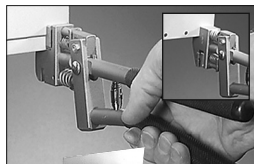
#19074 Panel Holding System

Holds panels in alignment while welding. Includes 2 side holders, 10 blind holders, and removal/installation tool.



#31018 Combination Hole Punch Flanger

Professional-looking repairs with less filler. One side flanges metal for patch-panel replacement. The other side punches 3/16" diameter holes for plug welding.



#31015 Pneumatic Flange/Punch Tool

#31042 Anti-Heat Compound

This reusable compound confines welding heat, reducing the risk of warping panels and damaging surrounding components. Ideal when welding near rubber or glass.



#19045 Eastwood Stitch Welder

Faster and easier than stick welding, the Eastwood Stitch Welder is super for joining patch panels. Welds steel from 22 to 18 gauge. Works great with the FirePower FP100 Arc Welder (#19295).



#12099 Auto Darkening Welding Helmet

No more lens-flipping: keep your hands on your work.



#12590 MIG Gloves

#12562 Welding Blanket



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

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