

# MOTOR GUARD<sup>®</sup>

## MAGNA-SPOT STUD WELDER

### Troubleshooting Tips

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Effective stud welding and dent pulling comes with skill, experience and the proper tools. If you are having any trouble with your welds check these items carefully. Getting the most power to the weld is the goal and several of the items listed here are simple things that can potentially rob power from the weld.

### *Power Supply*



First, check the obvious. Is the welder connected to a properly grounded 110v outlet that is receiving power? Check the power supply with a meter, a circuit tester or a known good device such as a drop light. If there is **No Power** at the outlet, contact your maintenance department or an electrician.

### *Extension Cord*



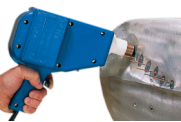
Your welder will work best connected directly to a proper outlet with only the power cord in between. The use of extension cords is discouraged as they can rob the welder of needed power, resulting in poor welds. If an extension cord cannot be avoided, it must be a **Heavy-Duty** cord that is a **Minimum of 12 AWG** and no longer than **15 Feet**.

### *Clean Electrodes*



Carbon buildup and pitting will occur on the tip of the electrode and grounding tube during use. This increases resistance and will lead to poor welds. For best weld performance, **clean the electrode and ground tube** with a wire brush before each use to ensure that they are **Clean and Bright**.

### *Clean, Bare Metal*



Paint, primer, rust, dust, grease and oils on the sheet metal will increase resistance and lead to poor welds. Be sure that the areas around the weld is prepped to a **Clean and Bright** condition. This includes the area where the ground tube contacts the metal.

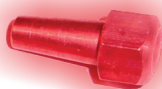
## Weld Time



Welding time is dependent on the size of the weld pin and the thickness of the sheet metal. Practice on a scrap piece to develop a weld time, starting with about 1/2 to 1 second.

**Too Short** of a weld time will produce a weak weld. **Too Long** and the pin will burn through the sheet metal. A rule of thumb is to weld long enough to produce a heat affected zone around the pin 3/4 inches in diameter (about the size of a dime).

## Duty Cycle



Many electrical tools, welders especially, cannot be run continuously without overheating. These types of tools are governed by a duty cycle, in this case **1 second on / 60 per hour**. So the trigger should be held for no more than 1 second and pulled no more than 60 times an hour. This can

easily be exceeded if attempting excessive shrinking. Whether the breaker trips or not, overheating can damage the unit.

## Proper Pins



The strongest welds are achieved with quality draw pins. Do not use pins that appear corroded. For best results, use **Motor Guard Striker Tip** draw pins which will provide a good weld starting point and a stronger weld.

## Proper Electrode Tip

Electrode tips are not interchangeable between different brands of stud welders. Using a non-Motor Guard branded electrode tip will prevent the unit from welding properly. Motor Guard electrode tips are identifiable by the **Hex Flats** around the body of the electrode.



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[www.motorguard.com](http://www.motorguard.com)  
**(800) 227-2822**