

Tricks of the Trade

FFA # 7

MAINTENANCE OF WELDERS

Having modern solid state controls equipped with the most advanced SCR contactors and using the correct copper alloy electrodes is very important in producing good welds. However, good welder maintenance is also important. If the welding machine is not capable of welding properly, no control can overcome poor maintenance. Proper care of the secondary of the machine, the electrodes and the pressure system is often more important to good weld quality than the selection or set-up of the control.

WATER COOLING LINES

When designing the water cooling for the welder, be sure there is a separate line for the contactor, another line for the electrodes and another line for the transformer. Water run serially from electrodes may become too hot to sufficiently cool the contactor. If a loop system is used and a common return line is involved be sure it is properly sized and fully open so that back pressure will not reduce water flow below recommendations. A sight flow indicator or water flow switch is recommended on closed circuit systems.

BE SURE TO HAVE WATER TURNED ON WHEN POWER TO A WATER COOLED SCR CONTACTOR IS TURNED ON. THE RULE TO FOLLOW IS:

**WATER OFF - - - - POWER OFF
WATER ON - - - - POWER ON**

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AIR SUPPLIES TO SPOT WELDERS. . .

Never use a "Quick Dis-connect fitting" on your air line to a spot welder. It restricts air flow! Gives poor follow-up, poor welds and slows the machine tip travel. Always use "Full Size" air line supply to welders, no piping reducers or flow restrictions!

ELECTRICAL POWER TO SPOT WELDERS. .

Always use the proper size wire depending on KVA, plant voltage, and distance of line to a new or existing welder. Welders will not operate properly, give poor welds and cause weld timers to lockout because someone has used too small a wire to feed a welder. (Ask for our Form STI#1 "Specification for resistance welder installation data sheet". This gives all electrical, air and water size information for welder installations.

CONDUCTIVE LUBRICANT. . .

A special conductive lubricant is available to put on tip/shank tapers so they seal water better, prevent galling and make tips easier to remove. ARO Pt # 93799201. Conductive Tip Lubricant available from stock. Many of our customers like this item very well. Use a small quantity on each tip taper. Copper paste, Pt # SS30 is also available

SCR SERVICE HINTS. . .

SCR's have a long life cycle but they must be properly used. They may be affected by high voltage surges and can be protected by devices called MOV's (metal oxide varistors) or R-C circuits called snubbers. Also with SCR's, it is necessary that enough "SQUEEZE" time is allowed to be sure the tips are applying pressure to the work piece before current is applied. If tips are not together before the weld current flows, a high transient is caused and may damage the SCR contactor. Remember to keep your SCR's cool but don't allow them to sweat.