

## **MACHINE SET-UP**

1. The welder should be sequenced carefully through its various functions before applying welding current.
  - A. Please see "Machine Sequences" information sheet.
  - B. Please see "Program of Control" sample and read Control manual.
2. If the machine sequences properly both manually and automatically, the water system should be checked to assure that water is circulating freely and in the proper amount and direction.
3. Welding pressure (Electrode Force) should be adjusted to level recommended for the material being welded.
4. The machine is now ready to make test welds. In all cases, material or stock should be free of scale or oxides. If practical, test welds should be performed on parts (or stock) which will be typical of production parts. Each weld schedule should be carefully set and properly recorded after satisfactory welds are obtained.

**NOTE:** It is very helpful to prepare a welding schedule chart and attach it to the welder. This chart can be referred to at anytime for reference if doubt occurs as to weld quality. A sample schedule chart is included in this manual.

## **MACHINE SEQUENCES AND DEFINITIONS**

**SQUEEZE TIME:** The time interval between the initial application of the electrode that force on the work and the first application of current. Note that this is the process definition. The control definition is the time interval between sequence initiation and beginning of weld current. Squeeze time is necessary to delay the weld current until electrode force has built up to the desired level.

**SQUEEZE DELAY:** Is used on a repeat operation, additional time is added to Squeeze on the first weld only.

**WELD TIME:** Is the time during which welding current is applied to the work in making a weld. It is measured in cycles of line voltage as are all timing functions. One cycle is 1/60 of a second in a 60 Hz power system.

**IMPULSE:** Amount of weld pulses.

**COOL TIME:** Time between successive heat impulses.

**HEAT TIME:** The time duration that welding current flows in one impulse.

**HOLD TIME:** The time during which electrode force is maintained on the Work after the last impulse of welding current ceases. Hold time is necessary to allow the weld nugget to solidify before releasing the welded parts.

**OFF TIME:** In the Repeat mode, the time duration between Hold count and Squeeze count to allow the work to be repositioned.