

## Weld Control Quick Start Guide

To adjust welding parameters:

1. Power up machine (through properly sized disconnect/breaker)
  - a. "Power On" LED will illuminate
  - b. Blinking dot indicates **Run Mode** (machine will weld with previously input weld settings)

2. Quickly depress *Programming Dial* once and release
  - a. Control goes into **Select Mode**

i. Turn *Programming Dial* to select between:

1. Squeeze
2. Impulse
3. Cool
4. Heat Time
5. Heat Percent
6. Hold
7. Off

b. Highlight value you want to change, push *Programming Dial* again.

- a. "Pr", followed by "- -" will be displayed on the readout.

This indicates that you are in **Program Mode**.

b. Adjust variable to desired setting by turning the *Programming Dial*. (For details on recommended weld settings, please refer to appropriate Weld Setting Recommendations).

c. When you have adjusted the settings and want to save them, press the *Programming Dial* to save parameters.

- d. Control is now back to **Run Mode**.

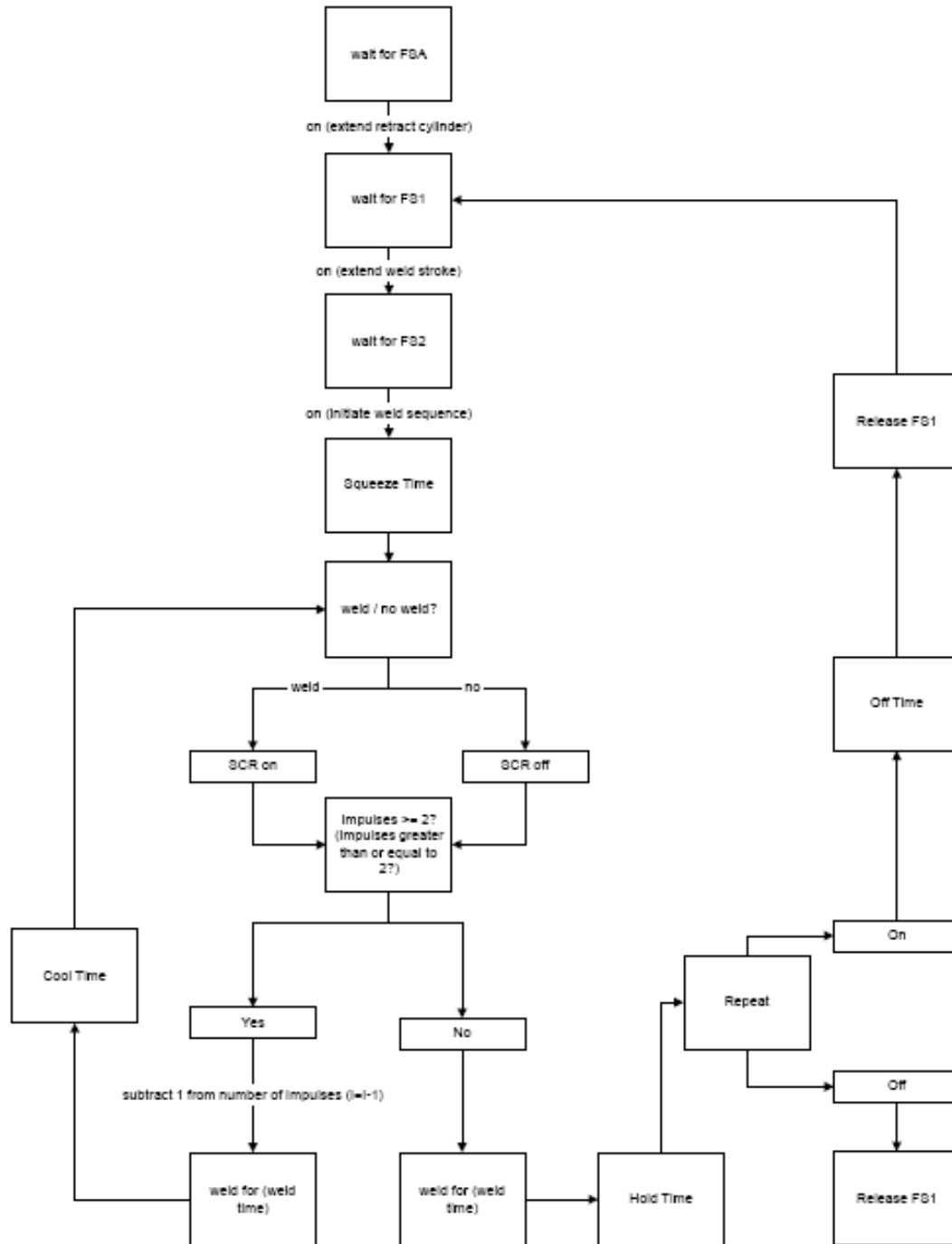
3. Repeat steps outlined in Section 2. (above) until all of your parameters are set to desired settings.

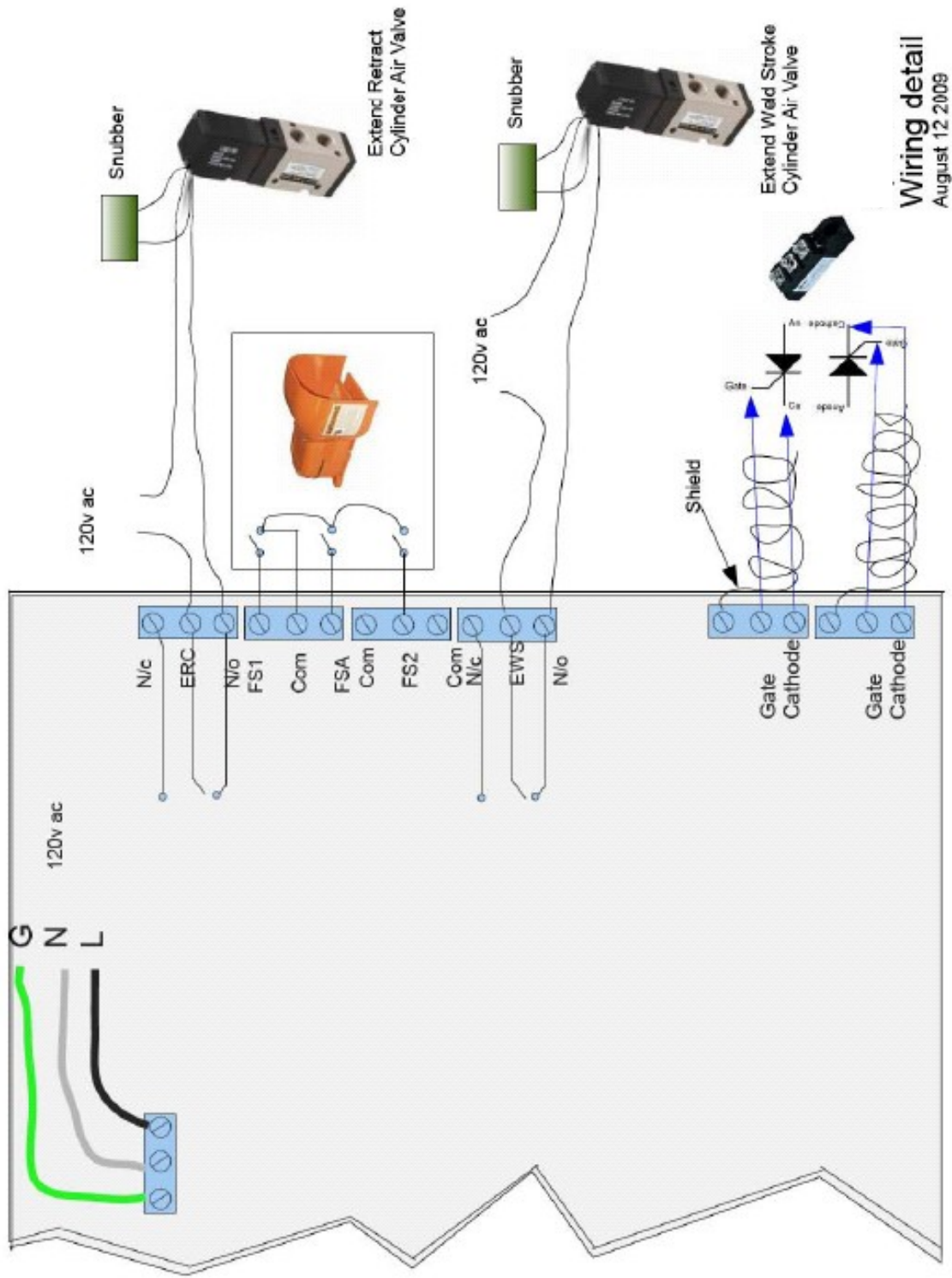
4. To gain access to the Repeat function, depress and hold the *Programming Dial* until it reads "rP" (approximately one second). This will access the **Repeat Mode** selection. The control will begin to toggle between "rP" or "nO". "rP" indicates the Repeat Function is active. "nO" indicates the Repeat Function is inactive. As the control toggles between "rP" and "nO", depress the *Programming Dial* when your selection is illuminated. After approximately one second, a decimal (dot) will illuminate on the screen to indicate verification of your selection, and the control will return to **Run Mode**.

## Weld Definitions and Weld Setting Recommendations

Cool Time (cycles)	Cool Time is only used when Impulses is set to 2 or more. Cool time is the amount of time that the weld "cools" in between Impulse welds. If there is a value in Cool Time but Impulses are set to 1, the Cool Time will be ignored. Set Cool Time to 20 cycles or more and then decrease it to improve overall welding time.
Cycles	Cycles are a measurement of time. One cycle is equal to 1/60th of a second. There are 60 cycles in one second. Cycles are to milliseconds what inches are to millimeters.
Heat Percent (%)	Heat Percent is the percentage of output of the capacity of the welder. 99 represents 99%, or the maximum capacity of the resistance welder. Start your weld schedule with a low percent (5% or less), and increase your schedule at 5% increments.
Heat Time (cycles)	Heat Time is the amount of time that the welder will provide current to the weld. Start with a heat time of 5 cycles and work your way up from there.
Hold Time (cycles)	Hold Time represents the time the weld tips stay together after the weld time is complete. In effect, it acts like a forge and allows the weld to cool. Start with a Hold Time of 20 cycles and experiment from there.
Impulses	One Impulse is defined as one complete welding sequence of one weld. Usually set to 1. If welding heavier gauge material, the number of Impulses can be increased to provide double (2 Impulses), triple (3 Impulses), or more (4 and up to 99) multipliers of the weld energy. Use the Cool Time to set the amount of time in between Impulses. Impulses differ from Repeat (see Repeat definition for details).
Off Time (cycles)	Off Time is only utilized when the Repeat function is turned on. The Off Time is the amount of time the welder will wait in between welds. If there is a value in Off Time but Repeat is set to "nO", the Off Time will be ignored.
Rapid Fire	Rapid Fire welding (also known as "Stitch Welding") is when the Repeat function is utilized to weld many welds together in rapid succession (possible to weld up to 60 or 100 welds per minute). Often the welds are "layered" on top of one another, allowing a skilled operator to create a hermetic seal. Note: a special type of welding machine is required for this operation, and not all welding machines can be retro-fit.
Repeat	Repeat is a function that allows an operator to press and hold the footswitch closed while the welder performs multiple welds in a row. This is helpful if welding Rapid Fire, or if placing multiple welds near one another. Repeat differs from Impulses in that the welding tips will open and close in between welds, and that the welder will Repeat for as long as the footswitch is depressed. Use the Off Time to adjust the time in between welds.
Squeeze Time (cycles)	The amount of time it takes for the weld tips to hit the parts and build pressure. The time starts from the moment the footswitch is activated. When the time elapses, the Heat Time (and corresponding Heat Percent setting) will initiate. Start with a long squeeze time (60 cycles or more) and work your way down to minimize the overall welding time.

# Welding Sequence





Wiring detail  
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# Weld – No Weld Switch Connection

Shown in "no weld" position

