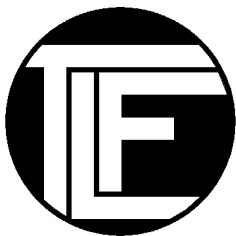


**T. L. FAHRINGER CO.**

**AC-200**

**WELD/ANNEAL CONTROL**

**OWNER'S MANUAL**



T. L. Fahringer Co.  
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# **INSTALLATION INSTRUCTIONS**

**CAUTION**: THE PLUG ON THE AC-200 IS ONLY TO BE PLUGGED INTO A PROPERLY WIRED AC-200 RECEPTACLE ON THE BACK OF A WELDER AS DESCRIBED IN THIS MANUAL. **DO NOT** INSERT THE PLUG INTO ANY OTHER OUTLET AS SERIOUS DAMAGE WILL OCCUR TO THE AC-200 AND WILL NOT BE COVERED UNDER WARRANTY.

**ALL WIRING INSTALLATION SHOULD BE DONE BY A QUALIFIED ELECTRICIAN.**

## **INSTALLATION OF AC-200 TO A WELDER PRE-WIRED FOR AC-200**

Please Note: If your welder is not already wired to accept an AC-200, refer to the wiring kit installation instructions on Page 3, then return to this section for final installation.

- 1) Ensure power to welder is either off or disconnected.
- 2) Remove the cover plate from the 2 x 4" electrical box on the back of the welder.
- 3) Locate the gray signal cable inside the box.
- 4) If not already done, run the two red and white 18 gauge wires out through a hole in one of the sides of the box and secure them with the supplied strain relief.
- 5) Locate the signal cable with the red and white 18 gauge wires from the back of the AC-200 and connect these wires to the matching wires on the welder.
- 6) Through another hole, connect the incoming main power to the L1 & L2 wires in the 2 x 4" box with suitable connectors and secure with a suitable strain relief.
- 7) Replace the cover on the 2 x 4" box.
- 8) Insert the plug from the AC-200 into the receptacle in the 4 x 4" electrical box and turn the plug to the lock position.
- 9) The AC-200 is now installed and ready to run. Please refer to the "OPERATING INSTRUCTIONS" for proper operating procedures.

# AC-200 WIRING KIT INSTALLATION

## Wiring Kit Contents:

- 4 x 4" Utility Box
- 2 x 4" Utility Box
- 8-32 Screw & Kep Nut
- 2' Welder Signal Cable for AC-200 (male & female bullet connectors one end; eye connectors other end)
- 1" Strain Relief
- Electrical Receptacle with 2 lengths of wire attached to X and Y.
- 4 x 4" Receptacle Cover

- 1) Ensure all power to the welder is either off or disconnected.
- 2) Disconnect the existing power cord from the welder.
- 3) Locate the two power wires (L1 and L2) on the back of the welder.
- 4) Mount the 4 x 4" electrical box, supplied with the AC-200, to the back of the welder so that L1 and L2 are terminating inside the box. (See Diagram A on Page 4).
- 5) Mount the 2 x 4" electrical box, supplied with the AC-200, to the back of the welder so that wires can be run from the 2 x 4" box into the 4 x 4" box. (See Diagrams A & B on Page 4)
- 6) Remove the lid from the welder and locate the main switch. Remove the high voltage wires from the main switch, connect them together with the supplied 8-32 screw & nut, and wrap the connection with electrical tape.

**CAUTION: Tape all wire connections thoroughly. Failure to do so could result in serious injury or death from electrical shock.**

- 7) Locate the supplied 2-foot section of gray 2-conductor 18-gauge signal cable. Using the end with the pre-installed eye connectors, connect the red wire to one side of the main switch and the white wire to the other side, the order does not matter.

**CAUTION: Make sure the high voltage wires are removed from the main switch as described in step 6 before connecting the signal cable wires in step 7. Failure to do so could damage the AC-200 and will not be covered under warranty.**

- 8) Run the other end of the cable, the end with the pre-installed stud connectors, down through the welder into the 4 x 4" electrical box, and then into the 2 x 4" box. Be careful to route the cable so that it will not interfere with any moving parts on the welder. If necessary, use wire ties.
- 9) Run the cable out through a hole in the side of the 2 x 4" box and secure with the supplied strain relief.
- 10) Replace the lid on the welder.
- 11) Locate the electrical receptacle provided with the AC-200 and look closely at the back of it. There are four terminals marked X, Y, Z, and G. The following is a list of where each wire connects to the receptacle:
  - X = Power L1 only
  - Y = Power L2, and L2 from welder
  - Z = L1 from welder
  - G = Ground
- 12) Terminal "X" and terminal "Y" should have a short length of wire attached already. These two wires go into the 2 x 4" box and are attached to the Incoming Main Power referred to in step 11.
- 13) Once all wires have been connected to the receptacle it can be attached to the 4 x 4" cover and the cover can then be attached to the 4 x 4" electrical box.
- 14) Go to "INSTALLATION OF AC-200 TO A WELDER PRE-WIRED FOR AC-200" on Page 2

BACK VIEW OF WELDER SHOWING  
TYPICAL LAYOUT OF ELEC. BOXES.

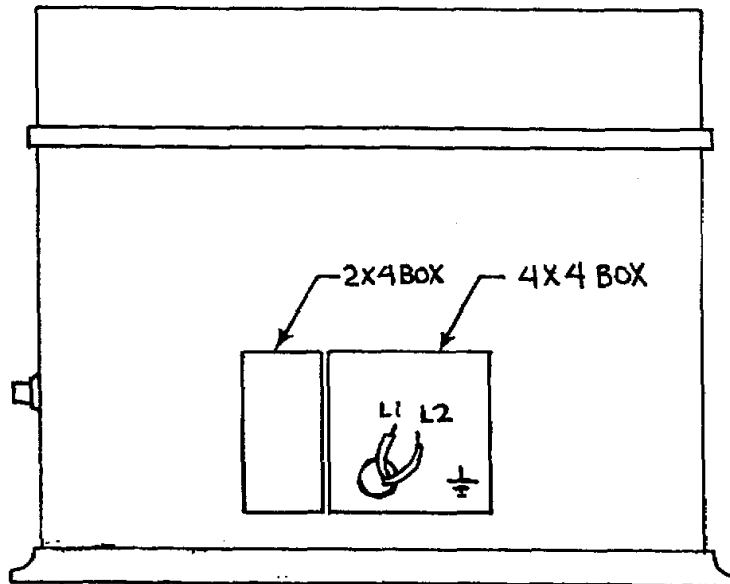


DIAGRAM A

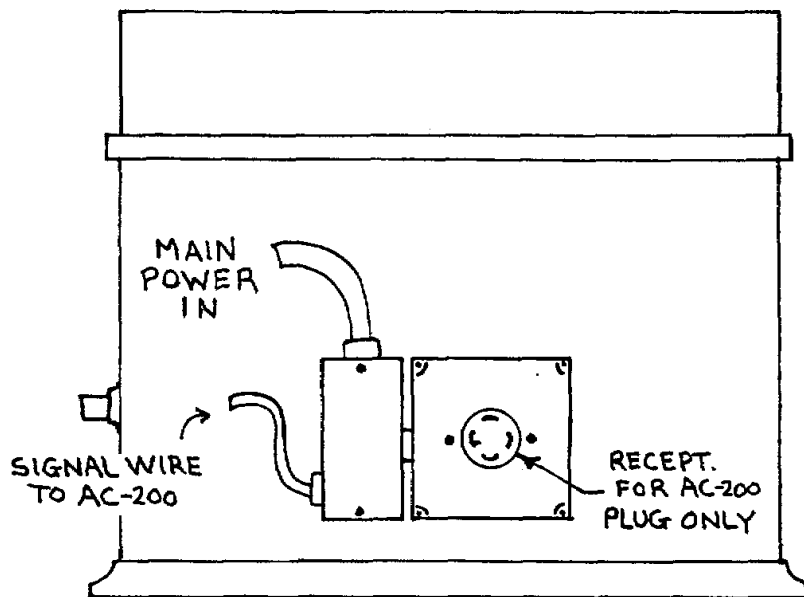


DIAGRAM B

# **OPERATING INSTRUCTIONS**

# AC-200 OPERATING INSTRUCTIONS

**IMPORTANT:** When using the AC-200 with your Fahringer or Stryco welder, the selector switch on your welder should remain in the WELD position at all times, for both welding and annealing.

## TO USE FOR WELDING:

- 1) **SELECT WELD MODE** - Move the WELD/ANNEAL selector switch to the weld position.
- 2) Weld with the welder in the normal fashion. When you press the weld button on your welder, you will be activating the weld control through the signal wires attached to the welder main switch. For welder operating instructions refer to the owner's manual for your machine.

**PLEASE NOTE:** When the AC-200 is in the WELD mode, the START button, STOP button, ANNEAL HEAT knobs, and ANNEAL TIME timers are disabled.

## TO USE FOR ANNEALING:

- 1) **SELECT ANNEAL MODE** - Move the WELD/ANNEAL selector switch to the anneal position.
- 2) **SET ANNEAL TIME 1** - Set the ANNEAL TIME 1 timer for the desired ramp up time by pressing the buttons which correspond to each digit.
- 3) **ADJUST ANNEAL HEAT 1** - Turn the ANNEAL HEAT 1 knob to the desired ramp up heat setting.

**NOTE:** When setting up for a new blade size it is advisable to adjust the anneal heat to a setting between 200 and 300 to ensure that the blade does not over-heat upon initiating the anneal cycle. Then, using trial and error, adjust the heat and time settings up and down until the desired results are achieved. (See "OBTAINING NEW ANNEAL SETTINGS" on Page 7)

- 4) **SET ANNEAL TIME 2** - Set the ANNEAL TIME 2 timer for the desired soak time by pressing the buttons which correspond to each digit.
- 5) **ADJUST ANNEAL HEAT 2** - Turn the ANNEAL HEAT 2 knob to the desired soak heat setting.
- 6) **START CYCLE** - Initiate the anneal cycle by pressing the START button.

## DESCRIPTION OF PROCESS

After initiating an anneal cycle ANNEAL TIMER 1 will count down to zero, during which the ANNEAL HEAT 1 setting will be applied to the blade. After ANNEAL TIME 1 times out ANNEAL TIME 2 will count down to zero, during which time the ANNEAL HEAT 2 setting will be applied to the blade. The anneal cycle can be terminated at any time by pressing the STOP button, and can be restarted at any time by repressing the START button. The anneal heat settings can be adjusted on the fly while the cycle is running. This makes finding new anneal settings quicker. Once you have found the correct heat and time settings for a particular blade size they should be recorded in the supplied chart on Page 8 for future reference.

**PLEASE NOTE: The numbers displayed in the ANNEAL HEAT knob windows are not temperature. They are only a reference scale for recording and returning to specific ANNEAL HEAT settings.**

## OBTAINING NEW ANNEAL SETTINGS

- 1) Set ANNEAL TIME 1 for 0.1 seconds
- 2) Set ANNEAL TIME 2 for 100.0 seconds
- 3) Set both ANNEAL HEAT 1 & 2 for 200 – 300
- 4) Load a blade of the desired size and initiate an anneal cycle
- 5) Turn up ANNEAL HEAT 2 until the desired temperature is reached and holds steady
- 6) Set ANNEAL TIME 2 for the desired soak time (probably around 3 – 5 seconds)
- 7) Set ANNEAL TIME 1 for the desired ramp time
- 8) Set ANNEAL HEAT 1 approximately 100 points higher than ANNEAL HEAT 2
- 9) Load a fresh blade and initiate another anneal cycle
- 10) If needed, adjust the settings accordingly and repeat from Step 9 until the desired ramp and soak effect is achieved

The AC-200 is a very accurate and repeatable controller. However, there are some factors that may cause your anneal settings to change from time to time. Steps should be taken to remedy or avoid these circumstances.

- A) Worn, pitted, or dirty jaws. These factors will create resistance to the flow of electricity to the blade which will result in the use of higher anneal heat or longer anneal time in order to obtain the same heat.
- B) Inconsistent jaw gap setting. If the annealing jaw gap is larger or smaller from blade to blade the resulting heat will be higher or lower, respectively. It is important to maintain a consistent annealing jaw gap for all blades.
- C) Uneven clamping pressure. This problem will create a decreased area of contact between the jaws and the blade, resulting in higher resistance and an uneven heat pattern on the blade.

