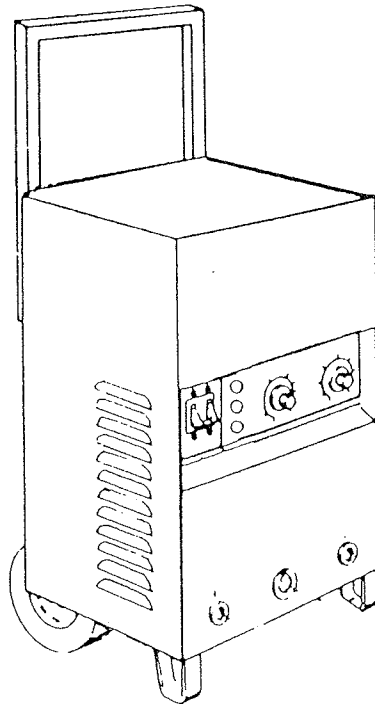


INSTRUCTION-MAINTENANCE MANUAL

UA-500 **SOLID-STATE** **STUD WELDING SYSTEM**



**POWER / CONTROL UNIT
TRANSFORMER RECTIFIER
220 / 380 / 415 * 50HZ * SINGLE PHASE**

JUMPER BAR INSTALLATION

220 VOLTS - 1 TO 4, 3 TO 6, 6 TO 7

380 VOLTS - 2 TO 4, 5 TO 7

415 VOLTS - 3 TO 4, 5 TO 7

CONNECTION INSTRUCTIONS - STEEL

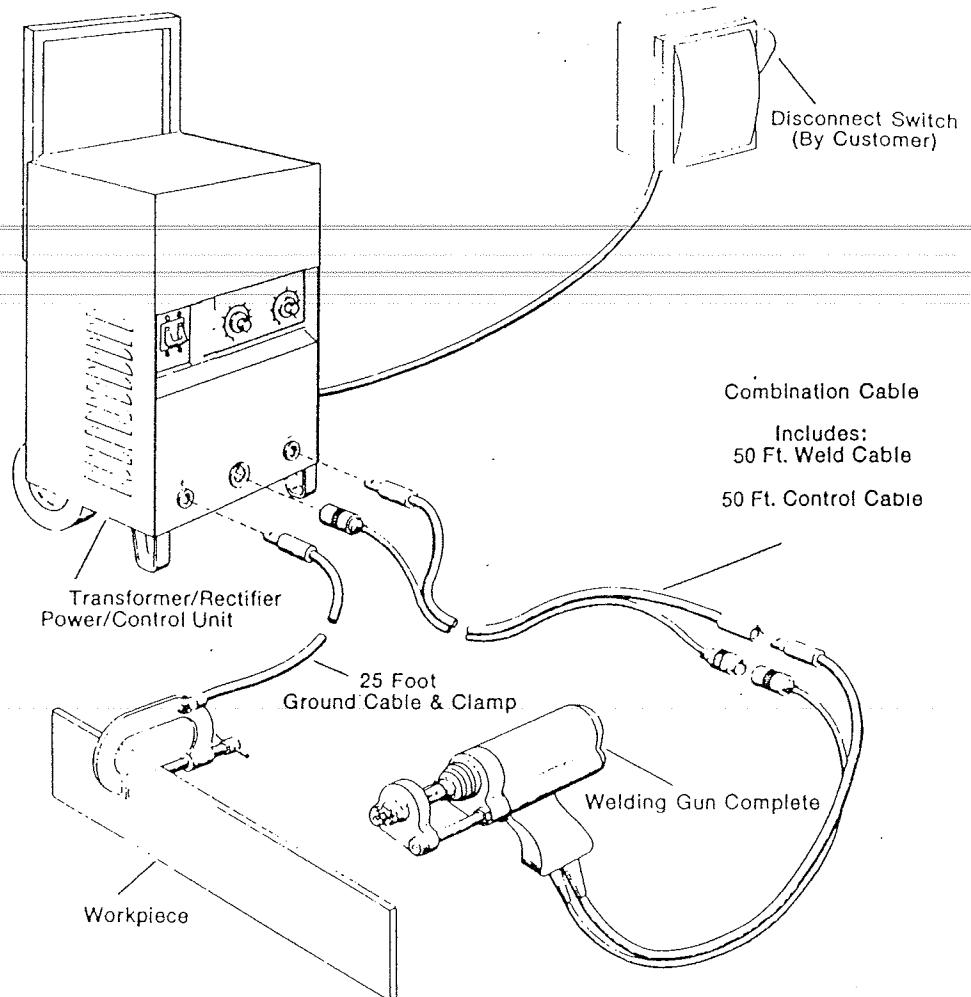
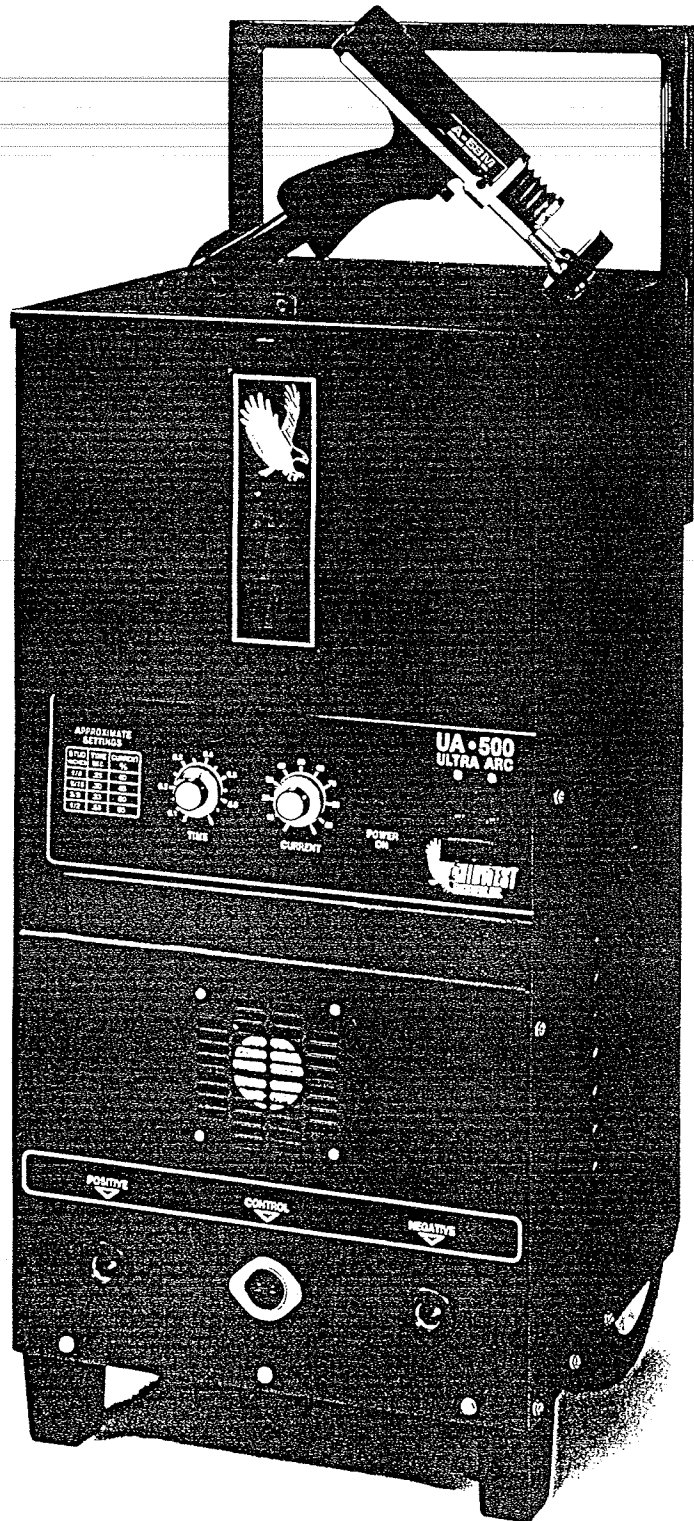


FIGURE 1

NOTE: All cables must be uncoiled when in use.

1. **GROUND CABLE**—Connect the male end to the receptacle marked (POS) on the power/control unit and securely fasten the "C" Clamp to the workpiece.
 2. **WELDING CABLE**—Connect the male end to the receptacle marked (NEG) on the power/control unit and the female end to the male connector on the gun weld cable.
 3. **CONTROL CABLE**—Connect the male end to the receptacle marked (CONTROL) on the power/control unit and the female end to the male connector on the gun control cable.
- NOTE:** When using 50 ft. combination cable between gun and power/control unit it must be uncoiled.
4. Set up the gun in accordance with instructions on Page 5, Figures 2 and 3.
 5. Adjust the weld timer and amperage control to the approximate settings shown on the face of the unit.
 6. Turn circuit breaker on.
 7. Insert a stud in the chuck and a ferrule in the ferrule grip.
 8. Hold the gun perpendicular to work surface, and depress gun until ferrule is firmly seated against work surface.
 9. Press trigger to initiate weld. **DO NOT PRESS TRIGGER AGAIN.**
 10. Do not move gun during weld cycle. After weld cycle is completed, hesitate a moment to allow molten metal to solidify, then withdraw gun from stud.
 11. Inspect weld results and adjust setup as required.



APPROXIMATE SETTINGS

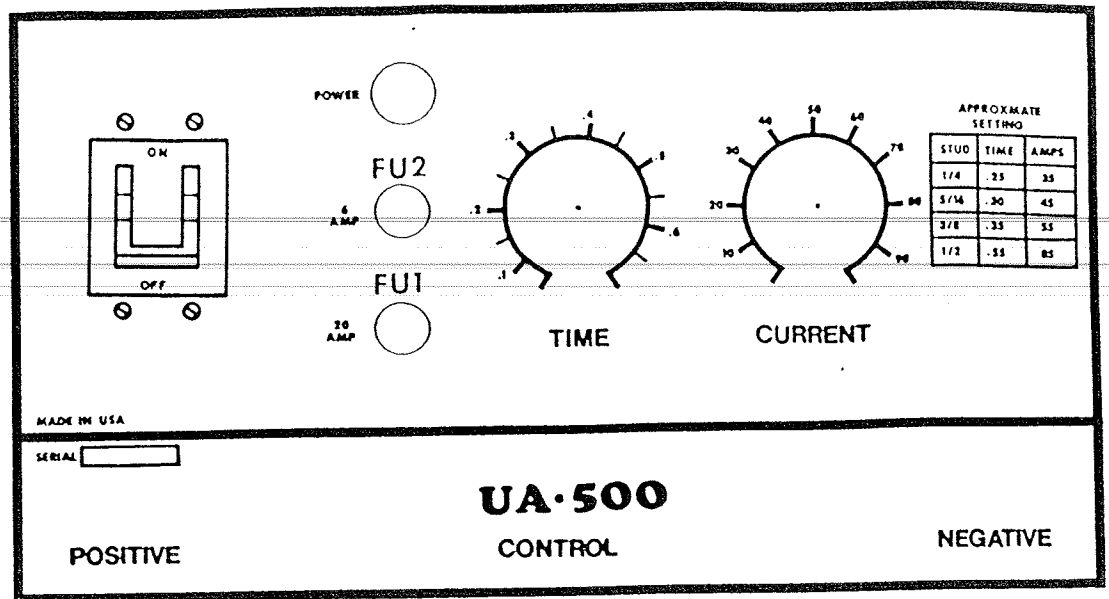
WELD	TIME	CURRENT
1/8"	25	20
1/4"	30	25
3/8"	35	30
1/2"	40	35

UA-500
ULTRA ARC



POSITIVE
CONTROL
NEGATIVE

PANEL CONTROLS - UNIT MAINTENANCE



ON - OFF POWER SWITCH: When the circuit breaker located on the front of the unit is turned "ON", the unit is energized and the pilot light will light. The circuit breaker provides protection to the components in the unit. Should an overload occur, the circuit breaker will "TRIP". This in turn shuts the unit off. The circuit breaker is a manual reset type; therefore, if it should "TRIP", it must be reset. FU1 is a 30 amp Delay Type Fuse which protects the Sustaining Arc Circuit. FU2 is a 6 amp Delay Type Fuse which protects the Gun Control Circuit.

CURRENT: Weld current adjustment may be made by means of the current control on the front panel, adjustable from 250 amps to 100 amps. The dial is calibrated from 20 to 100.

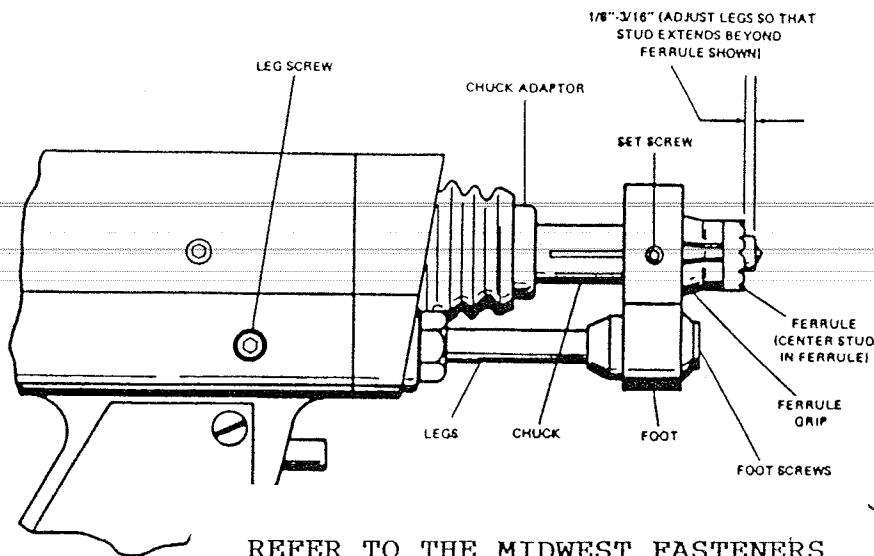
TIME: The weld timer regulates the duration of the weld current. The timer is calibrated in seconds.

POLARITY SELECTION: On straight polarity, which is normally used, the ground is POSITIVE. To reverse polarity, simply reverse the cables on the front of the unit.

TRANSFORMER AND RECTIFIER: We recommend that the transformer and rectifier be cleaned occasionally by blowing out with low velocity stream of compressed air so that maximum cooling will be accomplished. This should be done periodically, depending upon the location of the unit and the amount of dust and dirt in the atmosphere. The case cover should be removed and a clean, dry air stream should be used for this operation.

CAUTION Before attempting any inspection or work on the inside of the unit, open the branch circuit or main disconnect switch or remove the circuit fuses. Turning off the unit does not remove voltage from the power terminals inside the unit. This can only be done by opening the primary circuit.

GUN SETUP WELDING STEEL STUDS



REFER TO THE MIDWEST FASTENERS
A-58M L.D. ARC GUN MANUAL.

Lift is the amount of upward movement of the chuck during the weld cycle. The circuitry permits checking lift without the gun being grounded. To check lift (usually measured in inches), hold gun in the air, away from the work surface, press trigger, and measure movement of chuck.

1. Insert Chuck in the Chuck Adaptor and tap lightly with a hammer until it is held firmly in the taper of the Chuck Adaptor.

NOTE: A different Chuck is required for each stud diameter.

2. Insert Ferrule Grip into Foot and secure with set screws provided.
3. Insert stud in Chuck and Ferrule in Ferrule Grip.
4. Loosen screws holding Foot, and adjust the Foot so that stud is centered in the Ferrule. THIS IS IMPORTANT because improper welds will result if there is any binding or friction between the stud and Ferrule.

ADJUSTMENT OF PLUNGE

1. Adjust the Legs so that the stud extends from $\frac{1}{8}$ " to $\frac{3}{16}$ " beyond the end of the Ferrule.
2. When stud is so positioned, tighten the leg screws so that the Foot Assembly cannot move.

NOTE: It is necessary to adjust plunge when changing stud lengths.

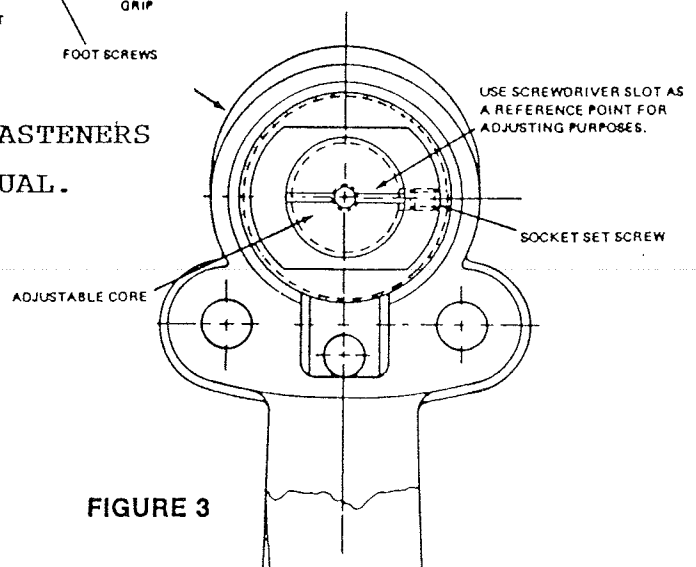


FIGURE 3

To Change Lift:

Remove rear cap on gun loosen lock screw and adjust the adjustable core as required. (see Figure 3)

TO INCREASE LIFT, screw out adjustable core.

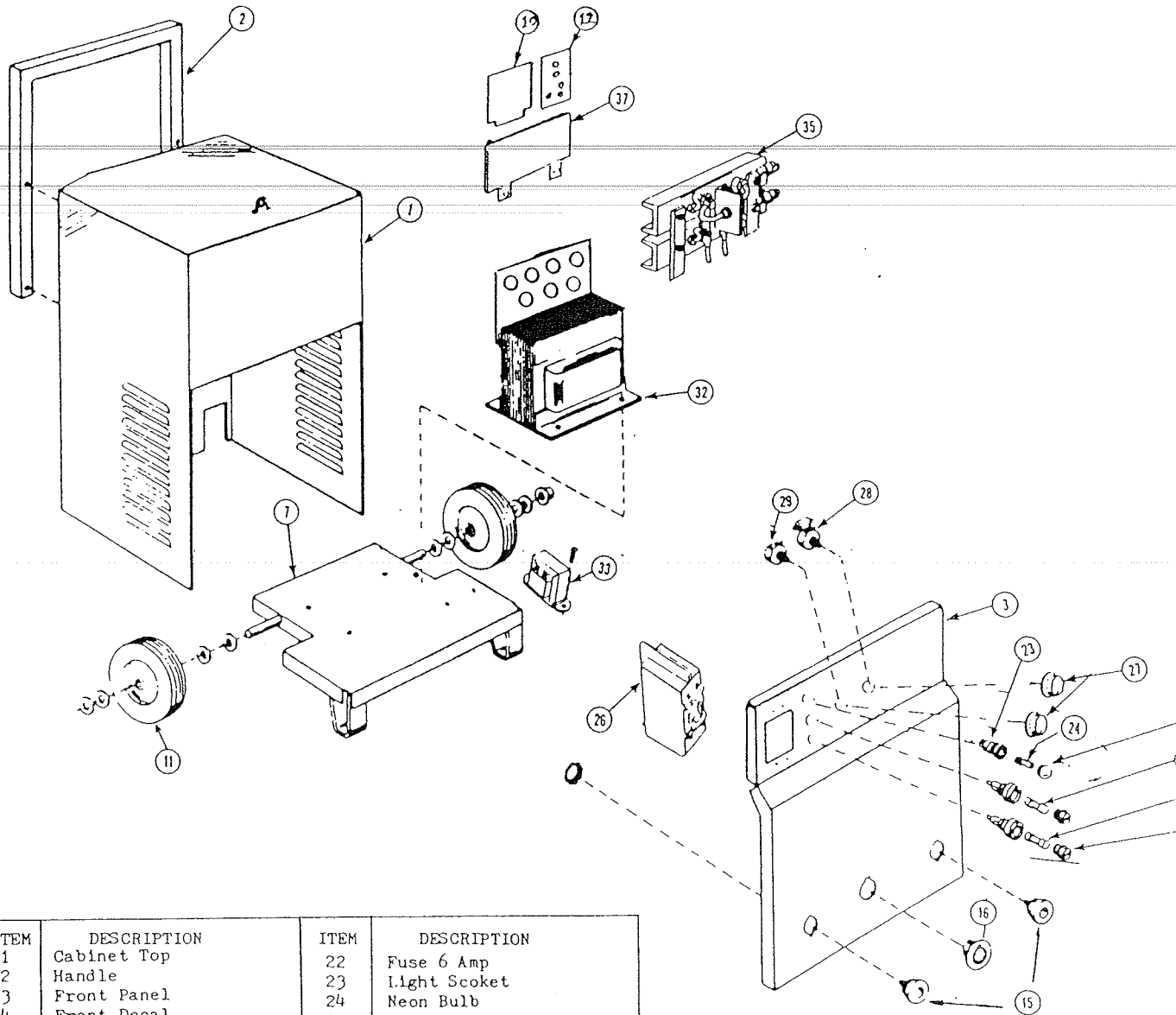
TO DECREASE LIFT, screw in adjustable core.

After proper lift is obtained, lock adjustable core in position by tightening lock screw. Replace rear cap on gun.

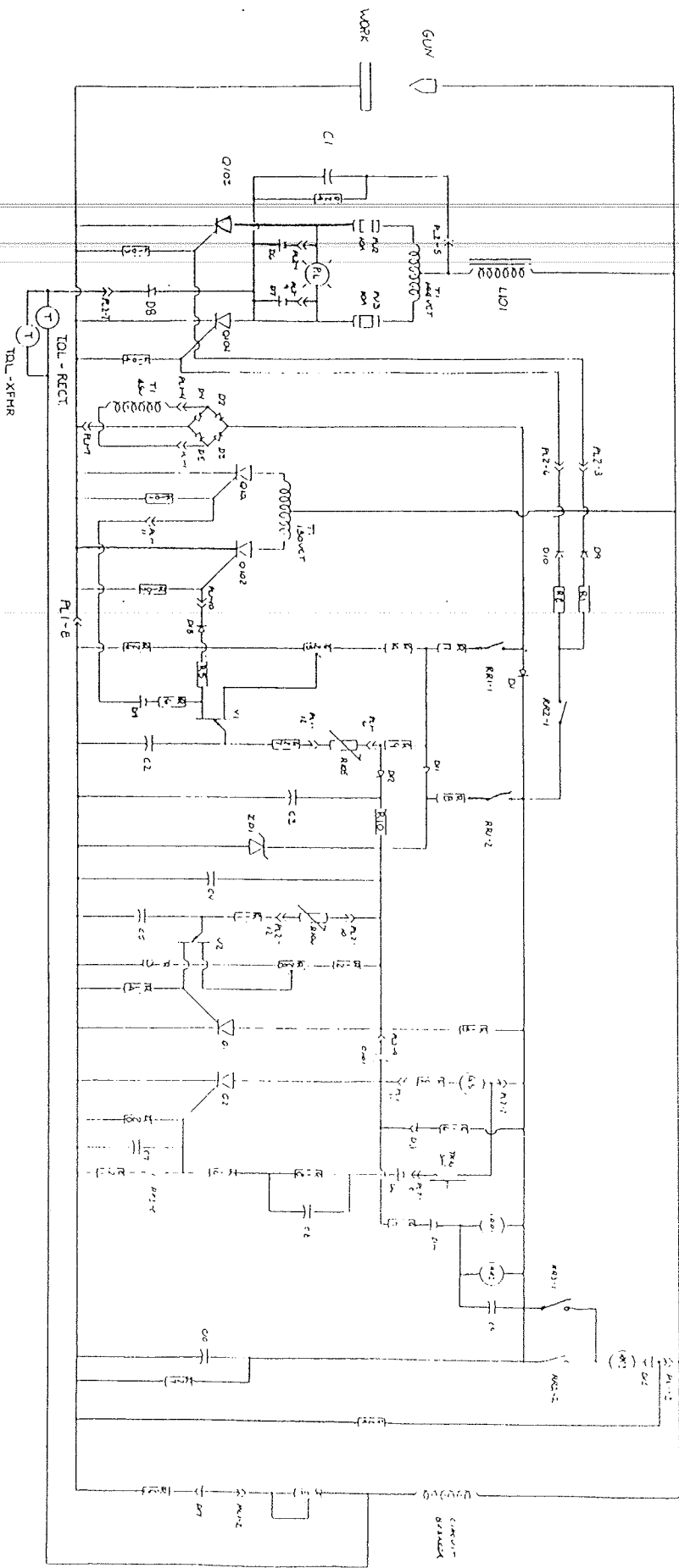
Recommended Lift Settings for Steel Studs

$\frac{1}{16}$ " ... For welding $\frac{3}{8}$ " diameter studs or less.

ASSEMBLY



ITEM	DESCRIPTION	ITEM	DESCRIPTION
1	Cabinet Top	22	Fuse 6 Amp
2	Handle	23	Light Socket
3	Front Panel	24	Neon Bulb
4	Front Decal	25	Lens
7	Base	26	Circuit Breaker
9	Wire Harness	27	Rheostat Knob
10	P.C. Board	28	Current Rheostat
11	Wheel	29	Time Rheostat
12	Support Arc Module	32	Main Transformer
15	Cam-lok Connector	33	Choke Coil
16	Control Connector	35	Main Rectifier Ass,y
20	Fuse Holder	37	Mounting Bracket
21	Fuse 20 Amp		



UN 300 SCHEMATIC	
Sheet No.	1
Total Sheets	1
Part No.	
Rev.	
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