

**INSTRUCTION MANUAL**  
**700139C**  
**INTRODUCTION TO PROGRAMMING**  
**EN1000 SERIES CONTROLS**

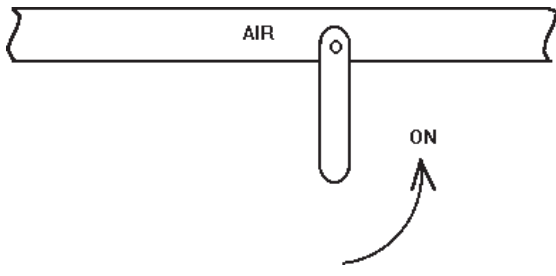
**BEFORE ATTEMPTING TO OPERATE  
THIS EQUIPMENT, READ MANUAL 700120**

NEMA TYPE: ALL

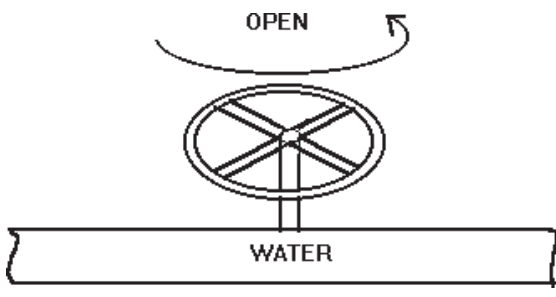
MICROPROCESSOR BASED  
Weld Sequence Controls  
With  
Solid State Thyristor Contactors

**ENTRON**  
ENTRON Controls, LLC.  
1402 S. Batesville Road  
Greer, South Carolina 29650  
(864) 416-0190  
FAX: (864) 416-0195  
[www.entroncontrols.com](http://www.entroncontrols.com)

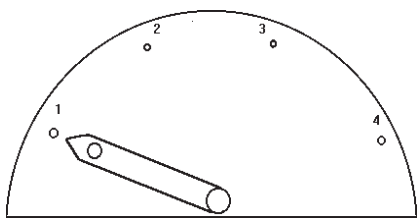
**RWMA**<sup>®</sup>  
MEMBER



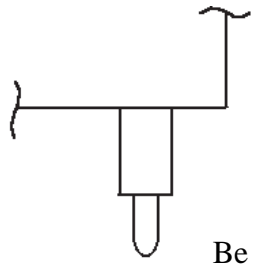
Turn ON air supply to machine.



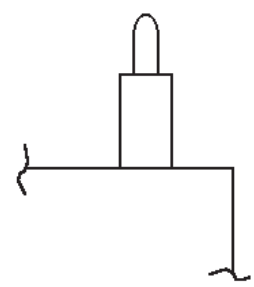
Turn ON water supply to machine.



Set tap switch LOW.



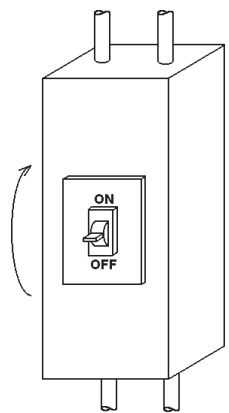
Be sure welder head or arms are fully retracted.



BE SURE WELDING HEADS ARE FULLY RETRACTED

**WARNING**

**HAZARDOUS VOLTAGE FROM ONE OR MORE SOURCES**  
 Turn off all voltage sources before entering cabinet.  
 Electrical shock or flash may cause severe injury or death.  
 Do not remove or cover this sign. 6601488



Turn ON power to control.

**SLOPE MODE**  
 00 - NO SLOPE  
 01 - UP SLOPE  
 02 - DOWNSLOPE

**CYCLE MODE**  
 00 - NON REPEAT  
 01 - REPEAT  
 02 - CHAINED  
 03 - SUCCESSIVE

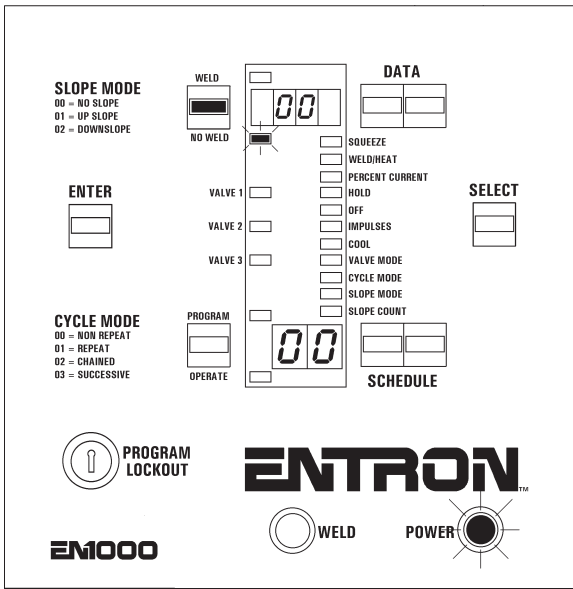
**DATA**

**PROGRAM LOCKOUT**

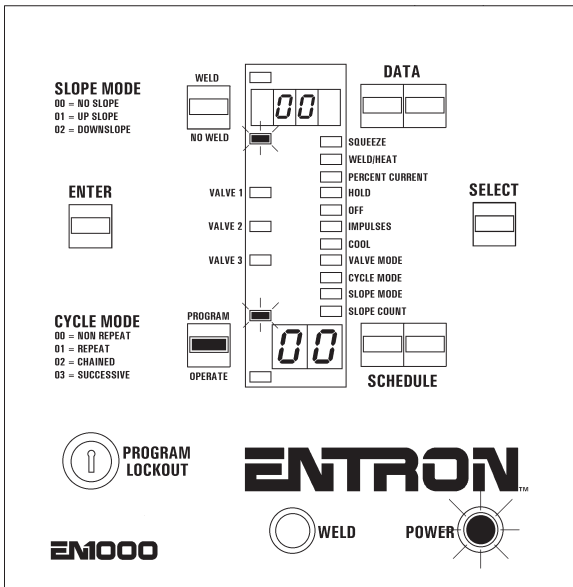
**ENTRON**

**EM1000**

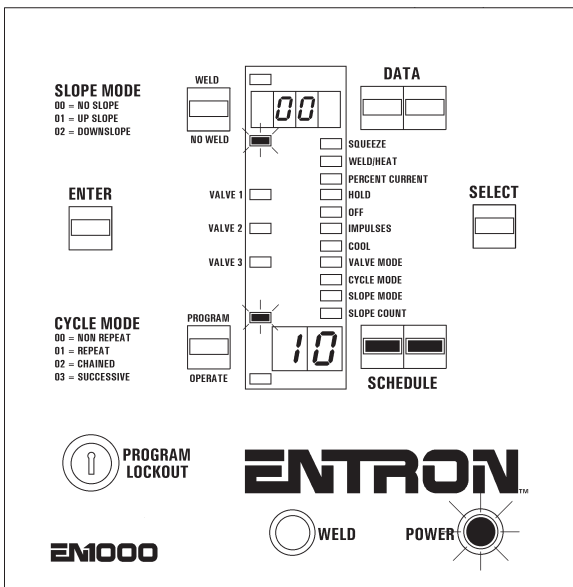
**WELD** **POWER**



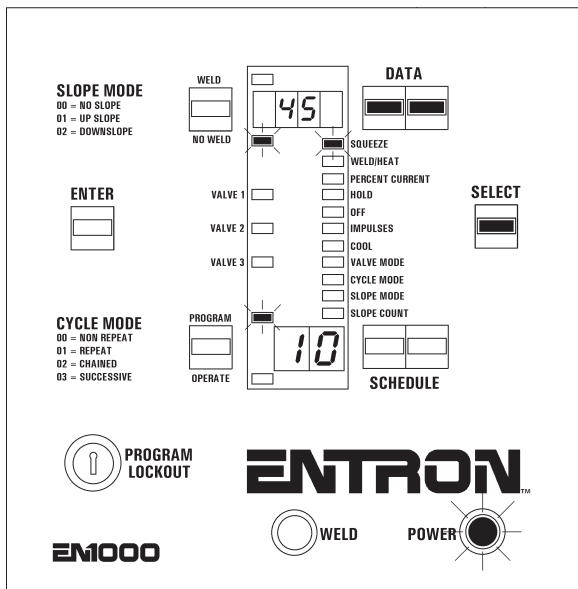
Put control in NO WELD.



Put control in PROGRAM mode.

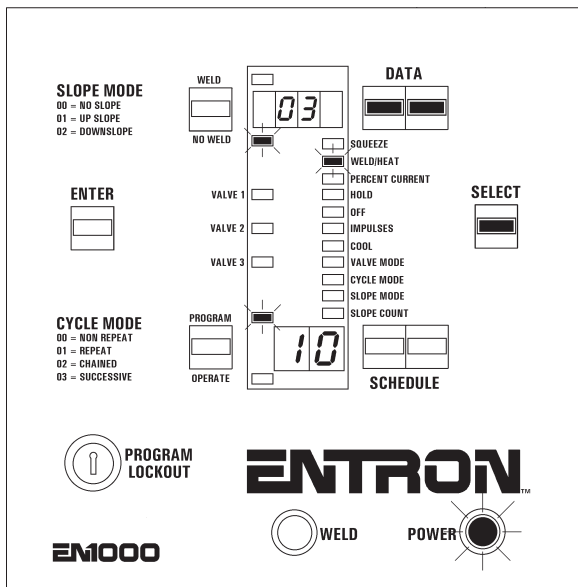


Choose SCHEDULE to program.



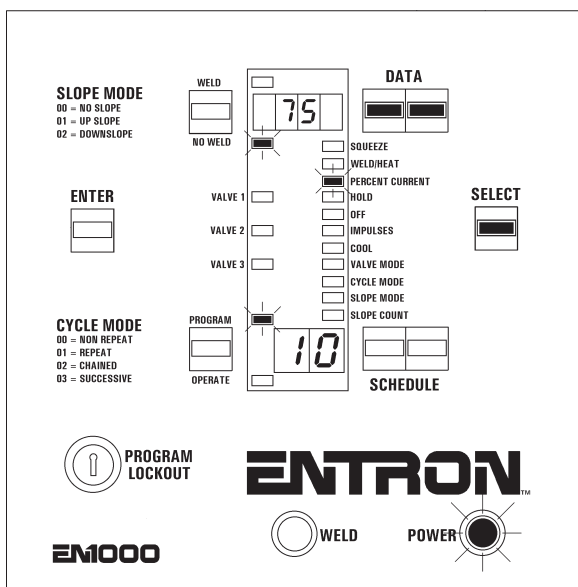
SELECT SQUEEZE.  
Program 30 to 60 cycles.

Press ENTER.



SELECT WELD/HEAT count.  
Program 2 or 3 cycles.

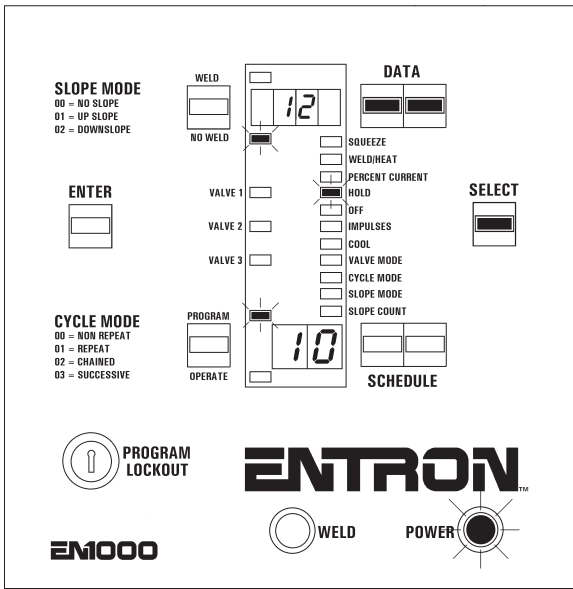
Press ENTER.



SELECT PERCENT CURRENT.  
Program 70% to 80%.

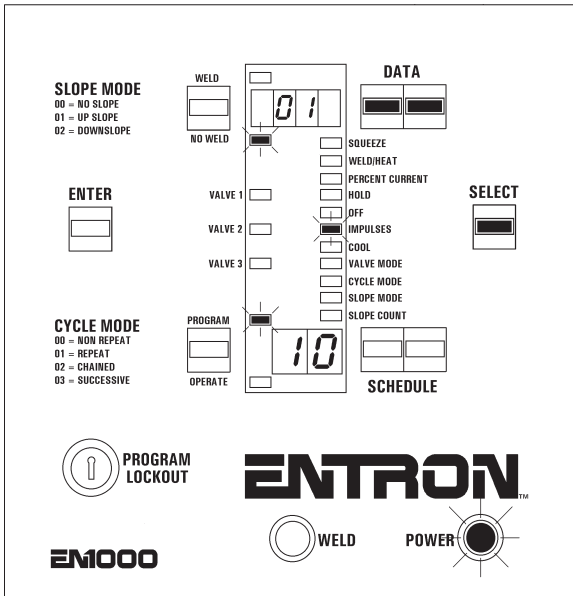
Press ENTER.





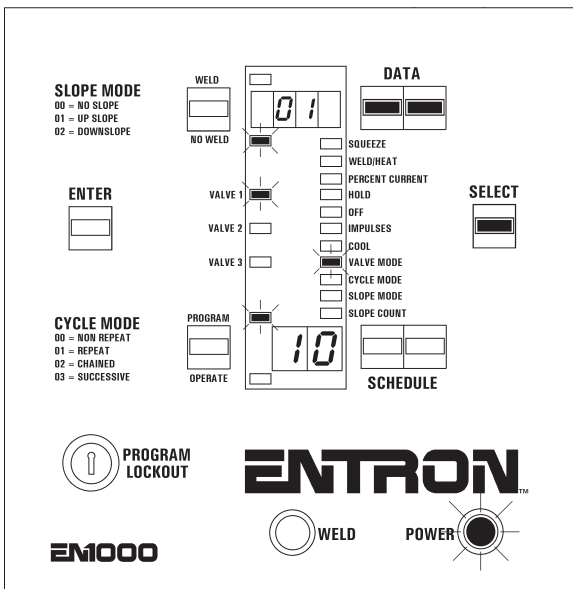
SELECT HOLD count.  
Program 10 to 15 cycles.

Press ENTER.



SELECT IMPULSES.  
Program 01 (one pulse).

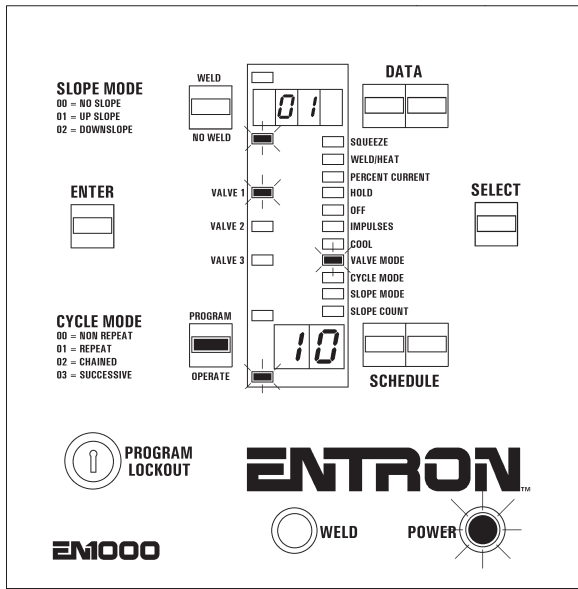
Press ENTER.



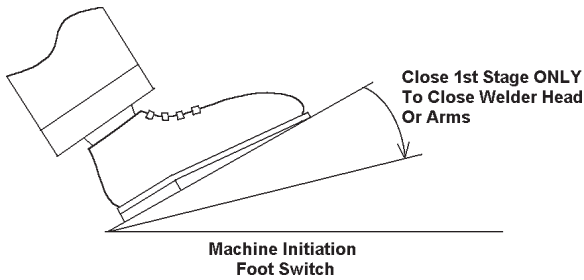
SELECT VALVE MODE.  
Program 01 (Valve 1).

Press ENTER.

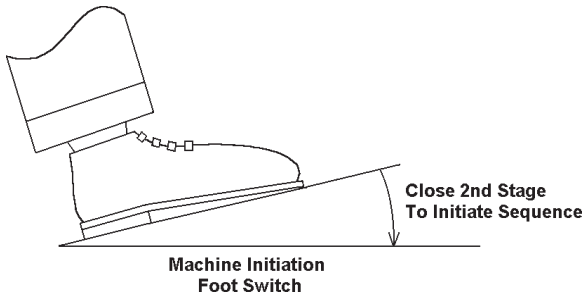




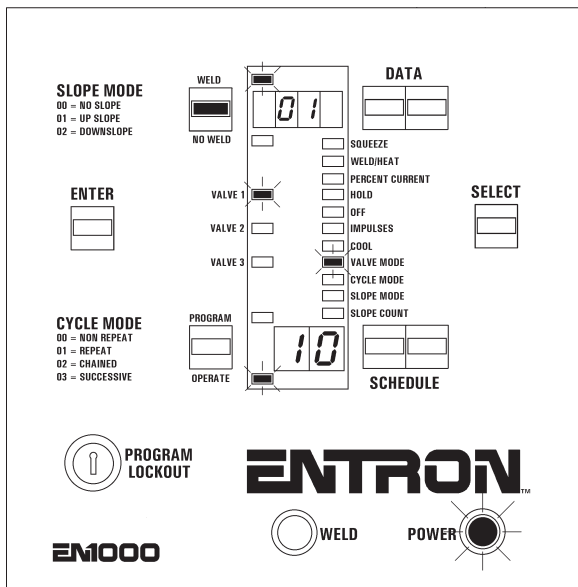
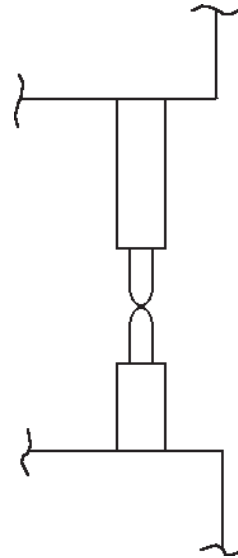
Put control in **OPERATE** mode.  
Check to be sure all unnecessary parameters are set to **00**.



Make sure machine head (or arms) closes properly. (On machines with Single Stage initiation, depressing the foot switch will sequence the control but will not weld.)



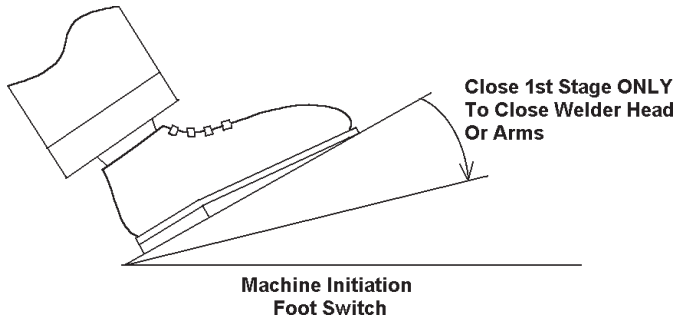
Machine will sequence but **will not weld**, then the head (or arms) will retract.



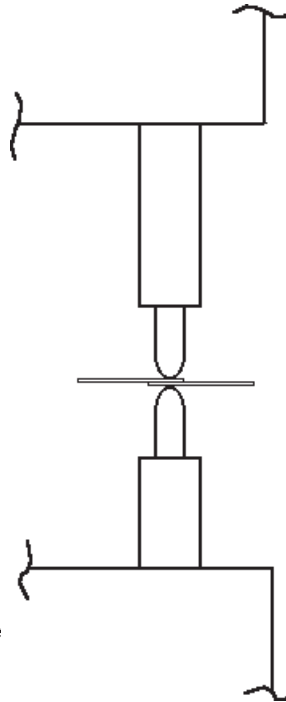
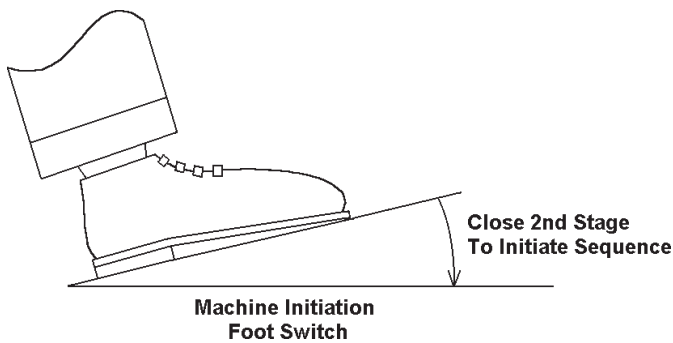
Put control in **WELD**.



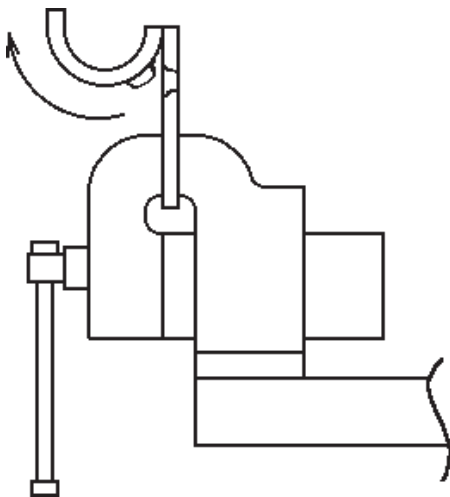
Place sample parts to be welded between electrodes.



Machine head (or arms) will close on parts to be welded. (On machines with Single Stage initiation, depressing the foot switch will sequence the machine and weld.)



Machine will sequence and **weld**, then the head (or arms) will retract.



Before running production quantities of welded parts, ENTRON recommends destructive testing of the welds. Set the welding machine to RWMA recommended standards. Weld the parts. Then clamp one end of the welded part in a vise and **PEEL** the other side back against the weld. Ideally, in low carbon steel, the weld will pull a hole through one or the other parent materials.

**To make the best possible weld, use:**

1. The **LOWEST** transformer tap setting,
2. The **HIGHEST PERCENT CURRENT** setting, and
3. The **SHORTEST WELD** count setting

**for the material to be welded.**