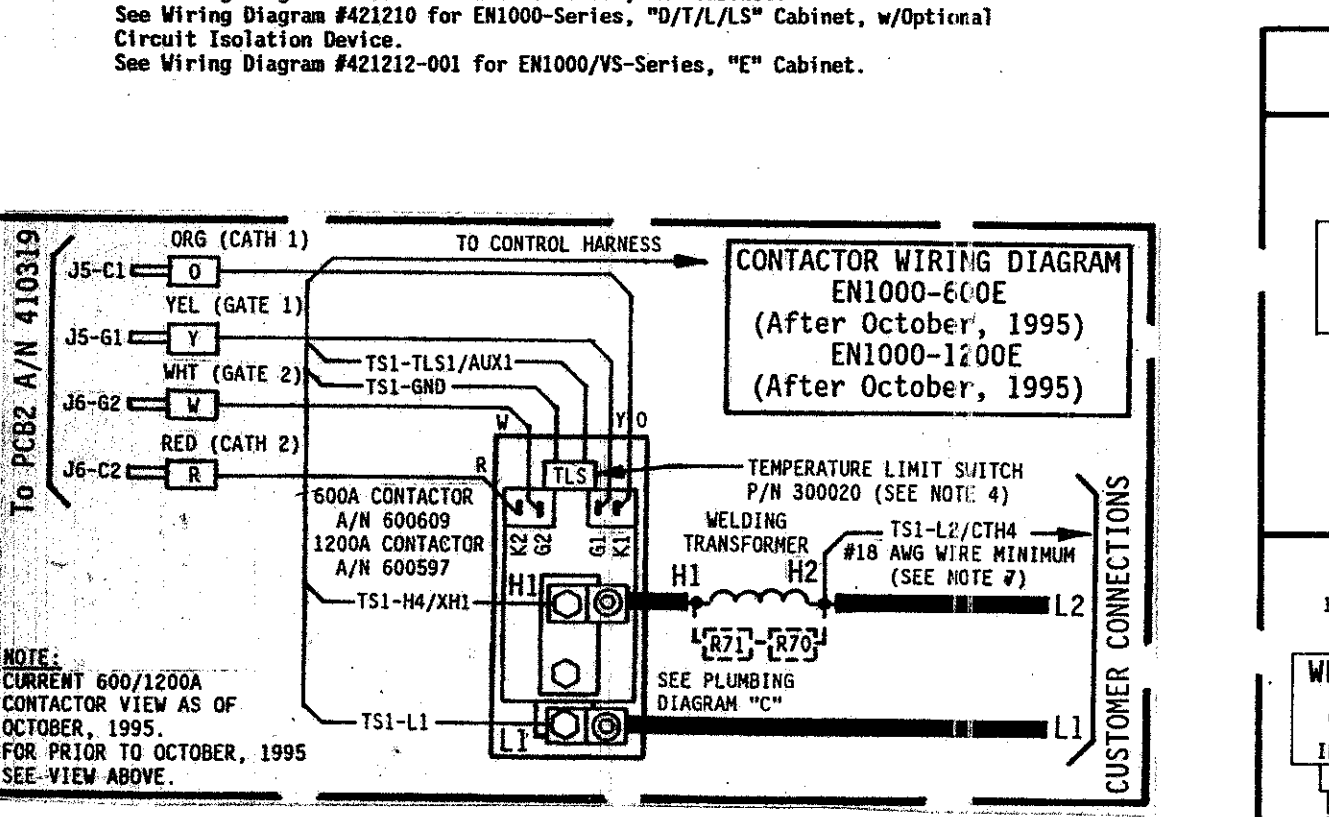
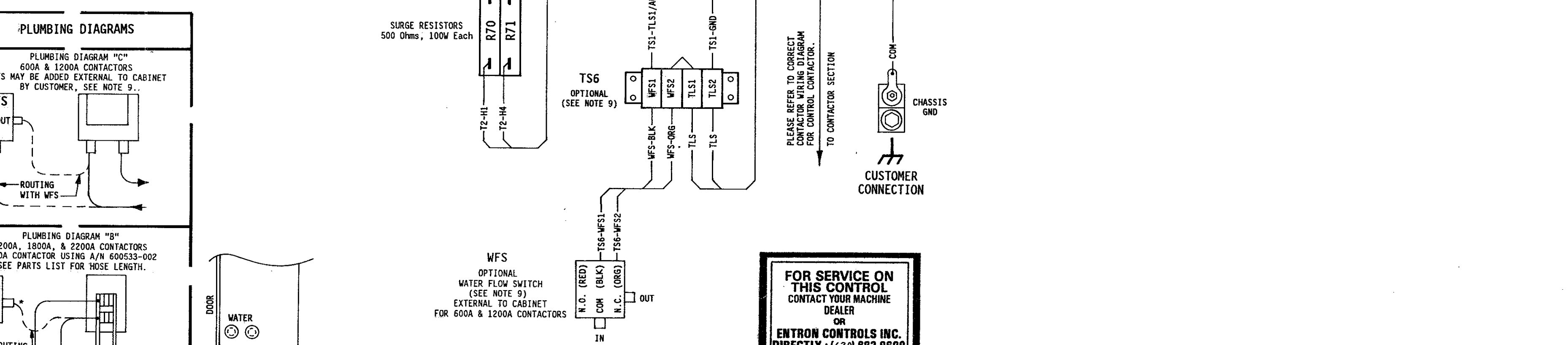
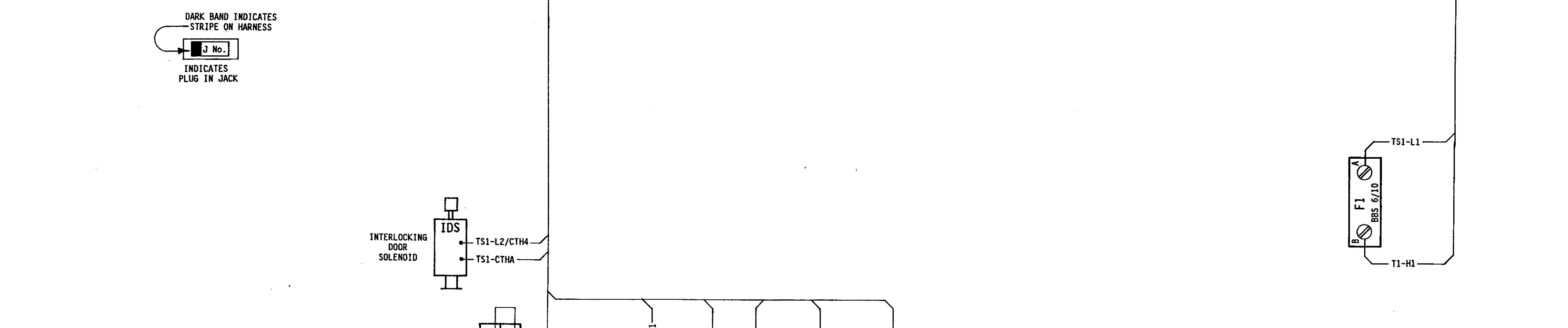
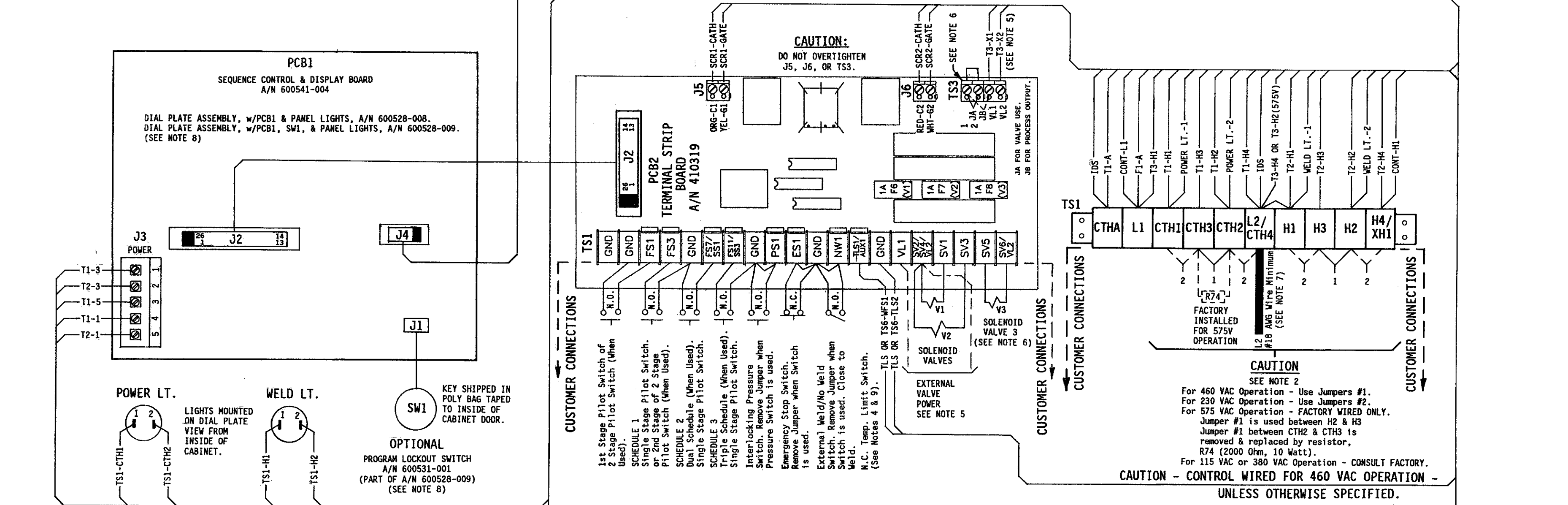
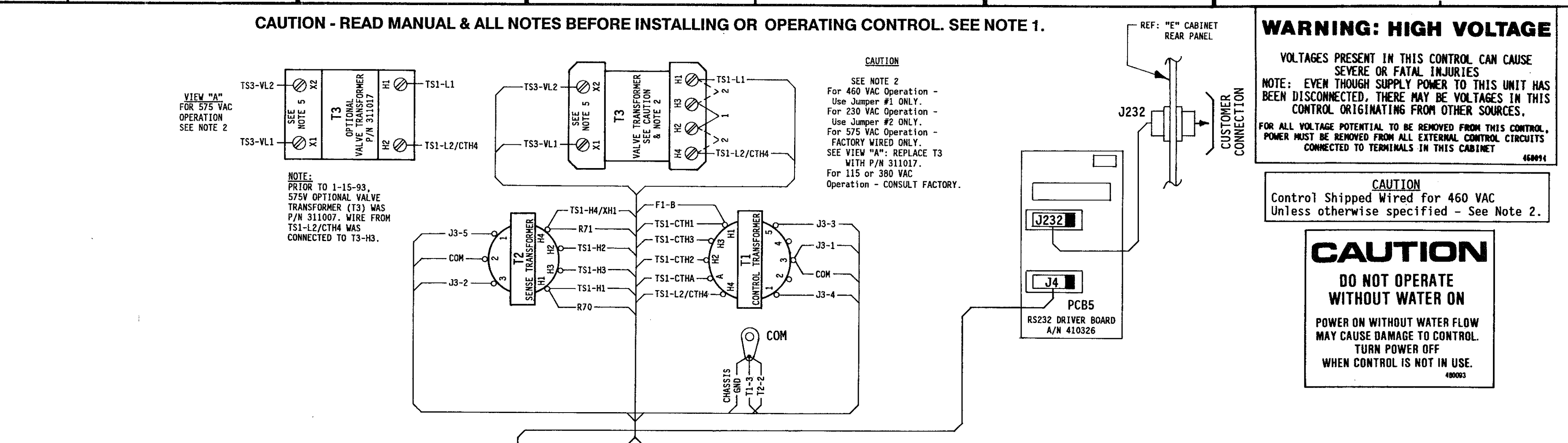


- NOTES:**
- It is recommended that control wiring (i.e.: initiation, pressure switch, etc.) be physically separated from the high voltage wiring (115 volts or higher).
  - For 460 VAC Operation - Use Jumper #1 on T3 & T51. As shipped unless otherwise specified. For 230 VAC Operation - Use Jumper #2 on T3 & T51. For 575 VAC Operation - FACTORY WIRED ONLY. SEE VIEW "A". Replace T3 with P/N 311017. Wire per View "A". Use Jumper #1 between H2 & H3 on T51. Use Resistor R74 (2000 Ohm, 10 Watt) in place of Jumper #1 between CTH2 & CTH3 on T51. For 115 VAC or 380 VAC Operation - CONSULT FACTORY.
  - For Single Stage Pilot Operation** - Connect pilot switch to T51-FS3 & T51-GND. No jumpers required across T51-FS1 & T51-GND.
  - For Two Stage Pilot Operation** - Connect 1st stage pilot switch to T51-FS1 & T51-GND. Connect 2nd stage pilot switch to T51-FS3 & T51-GND.
  - For DUAL COUNT/DUAL CURRENT (Dual Weld/Dual Heat) or TRIPLE COUNT/TRIPLE CURRENT (Triple Weld/Triple Heat) or External Schedule Selection** - See MANUAL.
  - EN1000-SERIES "E" Cabinet:** ENTRON supplies Temperature Limit Switch (TLS) P/N 300020 and provides connections to T51-TLS1/AUX1 & T51-GND. Jumper not required between T51-TLS1/AUX1 & T51-GND. NOTE: TLS SCR will open at temperatures greater than or equal to 150° F.
  - When external valve power is supplied to the control. Remove and insulate leads T53-VL2 & T53-VL2 on the Terminal Strip Board (PCB2). (From T3-X1 & T3-X2). Connect external AC power supply (24-240 VAC) to T51-VL1 & T51-SV2/SV4/VL2. **CAUTION:** Do not overtighten T53.
  - VALVE 3 OUTPUT USAGE:** T51-SV5 & T51-SV6 (Valve 3) can be used for either a Valve output or a Process output. When T51-SV5 & T51-SV6 is used as a Valve output use Jumper "A" on T53. When T51-SV5 & T51-SV6 is used as a Process output use Jumper "B" on T53. **CAUTION:** Do not overtighten T53.
  - WARNINGS:** Use of Jumper "B" bypasses contact relay contacts to allow a process output without an initiation. SEE MANUAL.
  - Connect T51-L2/CTH4 to L2/H2 side of Welding Transformer Primary.
  - When Optional Program Lockout is specified by customer. Dial Plate A/N 600528-009 replaces A/N 600528-008. Add Switch P/N 600531-001 & remove Hole Plug P/N 565003.
  - When TLS and WFS are used together, add terminal strip T56 (P/N 335038) and wire as shown below. Jumper not required between T51-TLS1/AUX1 & T51-GND. WFS will open with flows less than .75 GPM. EN1000-600E & EN1000-1200E: When control is furnished with a 600A or 1200A Contactor the Water Flow Switch may be installed by the customer, external to the cabinet. The WFS must be wired in series with the TLS supplied by ENTRON, per the diagram below.
  - See Wiring Diagram #421180 for EN1000-Series, "S" Cabinet. See Wiring Diagram #421189 for EN1000-Series, "R" Cabinet. See Wiring Diagram #421210 for EN1000-Series, "D/T/L/LS" Cabinet, w/Optional Circuit Isolation Device. See Wiring Diagram #421212-001 for EN1000/VS-Series, "E" Cabinet.



**NO CIRCUIT CALIBRATION OR ADJUSTMENT EVER REQUIRED.**



**FOR SERVICE ON THIS CONTROL CONTACT YOUR MACHINE DEALER OR ENTRON CONTROLS INC. DIRECTLY: (630) 882-9800 485 EAST RANDY ROAD CAROL STREAM, IL 60188 FAX # (630) 882-3374**

**CAUTION - HIGH VOLTAGE**

VOLTAGES PRESENT IN THIS CONTROL CAN CAUSE SEVERE OR FATAL INJURIES. NOTE: EVEN THOUGH SUPPLY POWER TO THIS UNIT HAS BEEN DISCONNECTED, THERE MAY BE VOLTAGES IN THIS CONTROL ORIGINATING FROM OTHER SOURCES. FOR ALL VOLTAGE POTENTIAL TO BE REMOVED FROM THIS CONTROL, POWER MUST BE REMOVED FROM ALL EXTERNAL CONTROL CIRCUITS CONNECTED TO TERMINALS IN THIS CABINET.

**CAUTION**  
Control Shipped Wired for 460 VAC Unless otherwise specified - See Note 2.

**CAUTION**  
DO NOT OPERATE WITHOUT WATER ON  
POWER ON WITHOUT WATER FLOW MAY CAUSE DAMAGE TO CONTROL. TURN POWER OFF WHEN CONTROL IS NOT IN USE.

PARTS LIST - CONTROL SECTION			
QTY.	DESIG.	PART NO.	DESCRIPTION
1	0	600528-008	Assem., Dial Plate, EN1000, Consisting of:
1	0	600528-009	Assem., Dial Plate, w/Key Switch, EN1000, Consisting of:
1	0	600541-004	Assem., Switch, Sequence Control & Display Board
1	0	600531-001	Assem., Switch, Keylock, Momentary, SPST
1	1	640251	Illustrated Panel, Dial Plate, EN1000
1	1	515104	Panel, Display Window, Red Filter, EN1000
1	1	565003	Hole Plug, 3/4" Diam., Black
1	1	305001	Lamp, Neon, Red, 230V
1	1	305002	Lamp, Neon, Clear, 230V
1	J2-J2	322303	Assem., Harness, Ctrl Bd. to Term. Strip Bd.
1	J3	322327	Assem., Harness, Power, EN1000
1	J4-J4	322392	Assem., Harness, Control Bd. to RS232 Driver Bd., .21-1/2" LG.

**CAUTION: DO NOT OVERTIGHTEN J5, J6, OR T53.**

PARTS LIST - CONTACTOR SECTION			
QTY.	DESIG.	PART NO.	DESCRIPTION
1	1	335034	Terminal Strip, 10 Pin, (Part of J3 Harness)
1	1	T58	Terminal Strip, 2 Pin, (Part of Contactor Assem.)
1	1	T56	Terminal Strip, 4 Pin, (For TLS/WFS), (SHIP LOOSE w/600A & 1200A)
2	2	R70,71	Resistor, Power, Surge, 500 Ohm, 10W, (For 575V)
1	1	600408	Assem., Resistor, Power, 2000 Ohm, 10W, (For 575V)
1	1	310001	Transformer, Control, (Part of J3 Harness)
1	1	310002	Transformer, Sense, (Part of J3 Harness)
1	1	311002	Transformer, Valve, 150 VA
1	1	311017	Transformer, Valve, 150 VA, 575V
1	1	308010	Fuseholder, 1 Pole, Mini, 600V
1	1	307018	Fuse, Control, 6/10A, BBS 6/10
3	3	307022	Fuse, 1 Amp, Slow Blow, 2AG, (Part of 410319)
1	1	325024	Assem., Wire, Surge Resistor, 18 Ga., Black
2	2	325149	Assem., Wire, Valve Transformer, 22 Ga., Black
1	1	600520	Assem., Cont., Thyristor, Air, 300A, 460/575V, w/TLS
1	1	600609	Assem., Cont., Thyristor, Water, 600A, 460/575V
1	1	600597	Assem., Cont., Thyristor, Water, 1200A, 460/575V
1	1	600533-005	Assem., Contactor, SCR, Water, 1800A, 460/575V, w/TLS
1	1	600533-003	Assem., Contactor, SCR, Water, 2200A, 460/575V, w/TLS
1	1	346004	Lug, 5/16 Bolt to 2/0 Wire, 600A Contactor, L1 & H1
1	1	410319	Assem., PCB, Terminal Strip Board, EN1000
1	1	346004	Lug, Screw, Chassis GND, 2/0 Wire
1	1	525136	Bracket, Mounting, 1800/2200A Contactors
1	1	525035	Bracket, Mounting, 300/600/1200A Contactors
1	1	510236	Plate, Mounting, Terminal Strip Board
1	1	300220	Switch, Temp., Limit, (N.C.), (Part of 300/1800/2200A Cont.)
1	1	530021	Plate, Mounting, 600/1200A Contactors
1	1	410326	Assem., PCB, RS232 Driver Board
1	1	J232-J232	Assem., Harness, RS232 Driver Bd. to Rear Panel
39"	1	900045	Hose, 3/8" ID
44"	1	566010	Hose Clamp, 3/8" Hose
2	2	600179	Assem., Water Fitting, 3/8" Hose
2	2	600297	Assem., Water Flow Switch, 3/8" Hose, (SHIP LOOSE w/600A & 1200A)
1	1	1	IDS
1	1	600044	Assem., Interlocking Door Solenoid
1	1	314001	Coil Assem. Only, IDS
1	1	510238	Cabinet, Control Style "E"
1	1	510241	Door, Cabinet, Style "E"
1	1	700140	Manual, EN1000
1	1	700105	Manual, EN1000
1	1	421183	Logic Diagram, EN1000 Control
1	1	421212-005	Wiring Diagram, EN1000-Series/232, "E" Cabinet

- ⊖ Optional Keylock when specified by customer. See Note 8. Pack Key in Poly bag 900148 & attach to Door w/Yellow Tape 900118.
- X Optional when specified by customer. See Notes 4 & 9.
- + Substitution or addition of parts when 575V control is specified.
- + Optional Water Flow Switch Assembly. An additional inches (") of hose, P/N 900045 and two (2) hose clamps, P/N 566010, are to be supplied. See Note 9. See Drawing #440449 for Customer Mounting & Knockout Detail "E" Cabinet.

**MANUFACTURING INSTRUCTIONS:**  
See Drawing #440445 for Packing Instructions "E" Cabinet.  
See Drawing #440448 for Label Locations "E" Cabinet.  
SEE DRAWING #600550, #600550-001, #600550-002, or #600550-003 FOR MECHANICAL ASSEMBLY INSTRUCTIONS.

REV	AUTH	DESCRIPTION	DATE	CHK'D BY	DATE
1		ORIGINAL RELEASE			
<b>ENTRON CONTROLS INC.</b>					
SCALE	DATE	DRAWN BY	CHK'D BY	APPROVED BY	
	8-16-97		DEC		
TOLERANCE UNLESS SPECIFIED					
ANGLES: ± 1°			REVISED		
DECIMALS: ± .010			DATE		
FRACTIONS: ± 1/64			DATE		
WIRING DIAGRAM, EN1000-SERIES/232, "E" CABINET					
NEXT ASSUMED ON			DRAWING NUMBER		
			421212-005		
REV.	AUTH.	DESCRIPTION	DATE	CHK'D BY	DATE
EN1000-300E/232		EN1000-1200E/232			
EN1000-600E/232		EN1000-1800E/232			