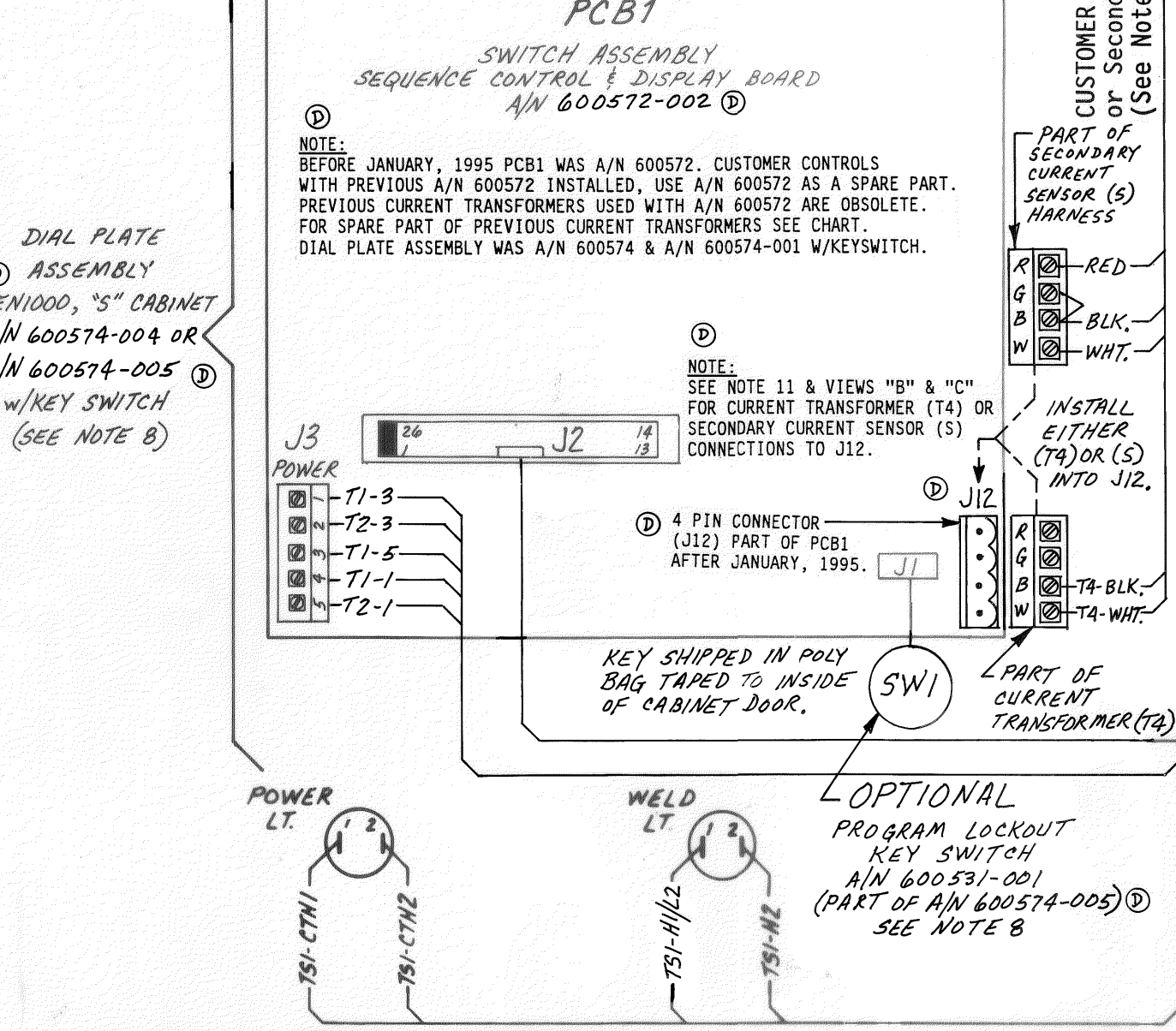


- NOTES:
- It is recommended that control wiring (i.e.: initiation, pressure switch, etc.) be physically separated from the high voltage wiring (115 volts or higher).
  - For 380 VAC Operation - Use Jumper #3 on TS1.
- DO NOT CHANGE JUMPERS!**
- For 230, 460, & 575 VAC Operation - CONSULT FACTORY.
- For Single Stage Pilot Operation - Connect pilot switch to TS1-F53 & TS1-GND. No jumpers required across TS1-F53 & TS1-GND.
- For Two Stage Pilot Operation - Connect 1st stage pilot switch to TS1-F51 & TS1-GND. Connect 2nd stage pilot switch to TS1-F53 & TS1-GND.
- For DUAL COUNT/DUAL CURRENT (Dual Weld/Dual Heat) or TRIPLE COUNT/TRIPLE CURRENT (Triple Weld/TripHe Heat) or External Schedule Selection, SEE MANUAL.
- EN1001-S(IGN) & EN1001-S(SCR):  
When used, connect customer provided Normally Closed (N.C.) Temperature Limit Switch (TLS) across TS1-TLS1/AUX1 & TS1-GND and remove Jumper between TS1-TLS1/AUX1 & TS1-GND.  
EN1001-300S & EN1001-600S:  
ENTRON supplies Temperature Limit Switch (TLS) P/N 300020 and provides connections to TS1-TLS1/AUX1 & TS1-GND. Jumper not required between TS1-TLS1/AUX1 & TS1-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 TS3-VL1 & TS3-VL2 on the Terminal Strip Board (PCB2), (from T3-X1 & T3-X2). Connect external AC power supply (24-240 VAC) to TS3-VL1 & TS3-SV2/SV4/VL2.  
CAUTION: Do not overtighten TS3.
  - VALVE 3 OUTPUT USAGE:  
TS1-SV5 & TS1-SV6 (Valve 3) can be used for either a Valve output or a Process output.  
When TS1-SV5 & TS1-SV6 is used as a Valve output use Jumper "A" on TS3.  
When TS1-SV5 & TS1-SV6 is used as a Process output use Jumper "B" on TS3.  
CAUTION: Do not overtighten TS3
- WARNINGS:** Use of Jumper "B" bypasses control relay contacts to allow a process output without an initiation. SEE MANUAL.
- Connect TS1-L2/CTH4 to L2/H2 side of Welding Transformer Primary.
  - When Optional Program Lockout is specified by customer. Dial Plate A/N 600574-005 replaces A/N 600574-004. Add Switch P/N 600531-001 & remove Hole Plug P/N 565003.
  - EN1001-S(IGN) & EN1001-S(SCR):  
Remove all connections from previously existing firing circuits to L1, L2/H2, & H1 also Ignitor leads or SCR Gate leads & SCR Cathode leads. All previously existing surge Resistor or Rectifiers must be disconnected prior to installation of this control.  
CAUTION: On EN1001-S(SCR), Do not overtighten J5 & J6.  
For External SCR Contactor firing with SCHLATTER P/N S55.5, ES65.5, & ES130 Contactors. Do NOT make J5 & J6 connections as shown on PCB2. See EN1001-S(SCR) Contactor Wiring Diagram with SCHLATTER Contactors. Install Jumper on PCB2 Terminal Strip Board between J5-2 (Yellow) & J6-1 (Red). Make connections from J5-1 (Orange) & J6-2 (White) on PCB2 to SCHLATTER Contactor per correct External SCR Contactor Wiring Diagram.
  - CURRENT TRANSFORMER (T4) CONNECTIONS:  
Wire per view "B". Current Transformer coil (T4) shown installed on L1, may be installed on H1. Wires from Current Transformer (T4) to J12 should be kept as short as possible.
  - SECONDARY CURRENT SENSOR (S) CONNECTIONS:  
Wire per view "C". Secondary Current Sensor (S) may be drawing in place of Current Transformer (T4). Add J12-J12 Harness A/N 322379 & modify cabinet per drawing P/N 510015-006.  
NOTE: Secondary Current Sensor (S) can ONLY be used with PCB1 A/N 600572-002 or A/N 600572 that has a 4 pin connector (J12) installed.
  - CAUTION: Do NOT set Current Control below 40% for 230 Volt Operation with Ignitron Tube Contactor.



Indicates Switches & Lights shown as viewed from inside of Cabinet.

Dark Band indicates Plug in Jack

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

Top of Cabinet

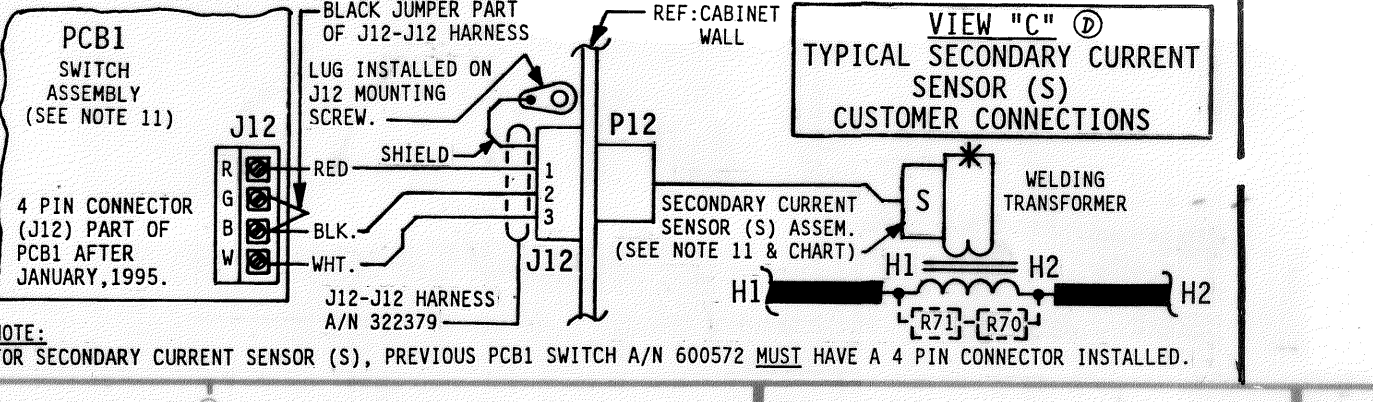
Rear of Cabinet

**600A CONTACTOR PLUMBING DIAGRAM**

**CURRENT SENSING COIL/SENSOR APPLICATION CHART**

COIL/SENSOR MODEL NUMBER	CURRENT TRANSFORMER OR SECONDARY CURRENT SENSOR PART NUMBER	70A CONT.	150A CONT.	300A CONT.	600A CONT.	EXTERNAL FIRING, IGT, SCR
P2 - 200:5	A/N 600575	X	X			X
P2 - 200:5	A/N 600575-001 OBSOLETE	X	X			X
P2 - 200:5	A/N 600575-002	X	X			X
P2 - 200:5	A/N 600575-003	X	X			X
P5 - 500:5	A/N 600576		X	X	X	X
P5 - 500:5	A/N 600576-001 OBSOLETE		X	X	X	X
P5 - 500:5	A/N 600576-002		X	X	X	X
P5 - 500:5	A/N 600576-003		X	X	X	X
P10 - 1000:5	A/N 600577-001 OBSOLETE				X	X
P10 - 1000:5	A/N 600577-003				X	X
S	A/N 600590 & A/N 322379	X	X	X	X	X

X = ONE CURRENT TRANSFORMER ASSEMBLY or ONE SECONDARY CURRENT SENSOR ASSEMBLY.



**FOR SERVICE ON THIS CONTROL CONTACT YOUR MACHINE DEALER OR ENTRON CONTROLS INC. DIRECTLY: (630) 882-9800**

405 EAST HANDY ROAD  
CAROL STREAM, IL 60188  
FAX # (630) 882-3374

**WARNING: 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.

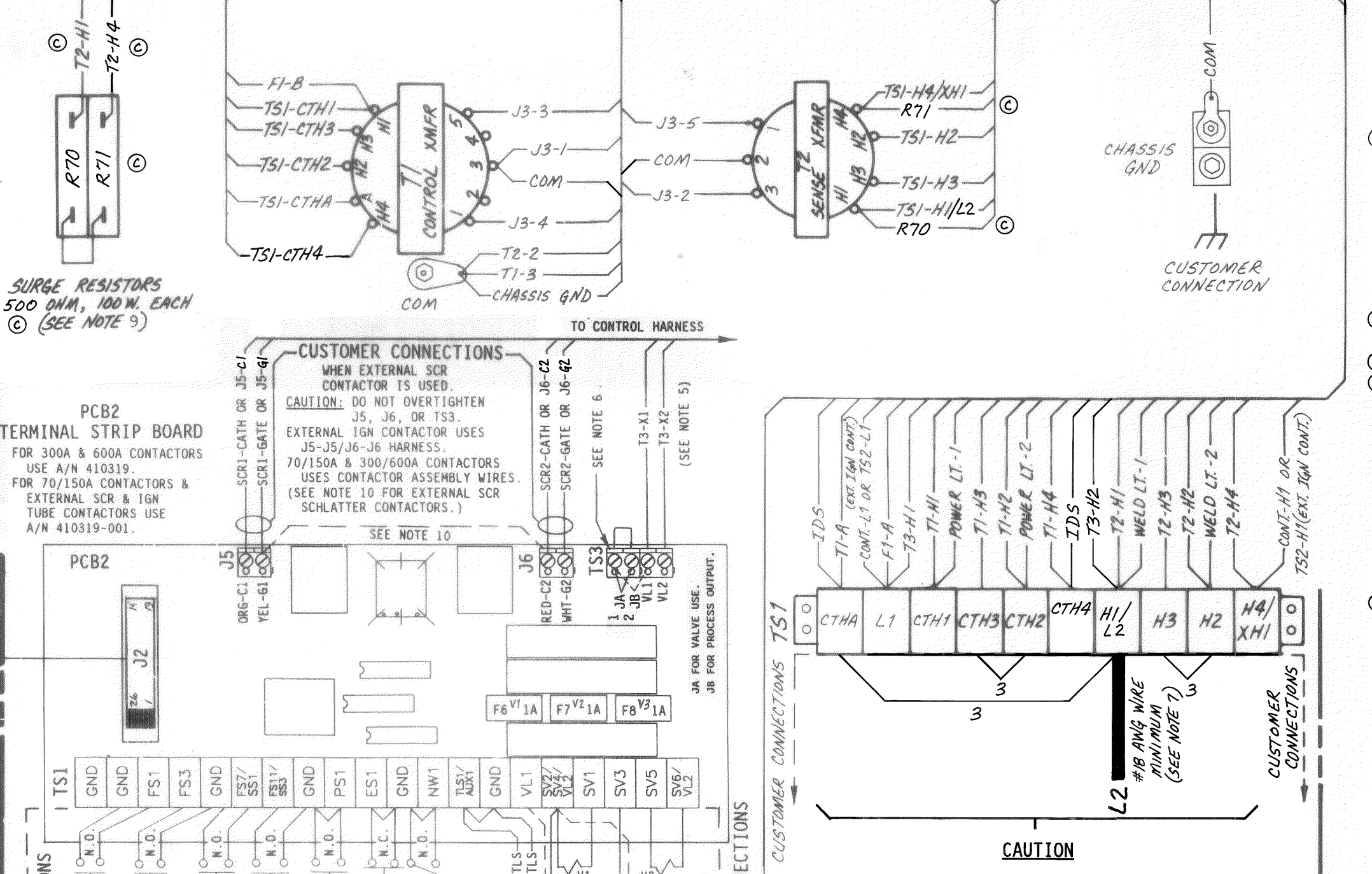
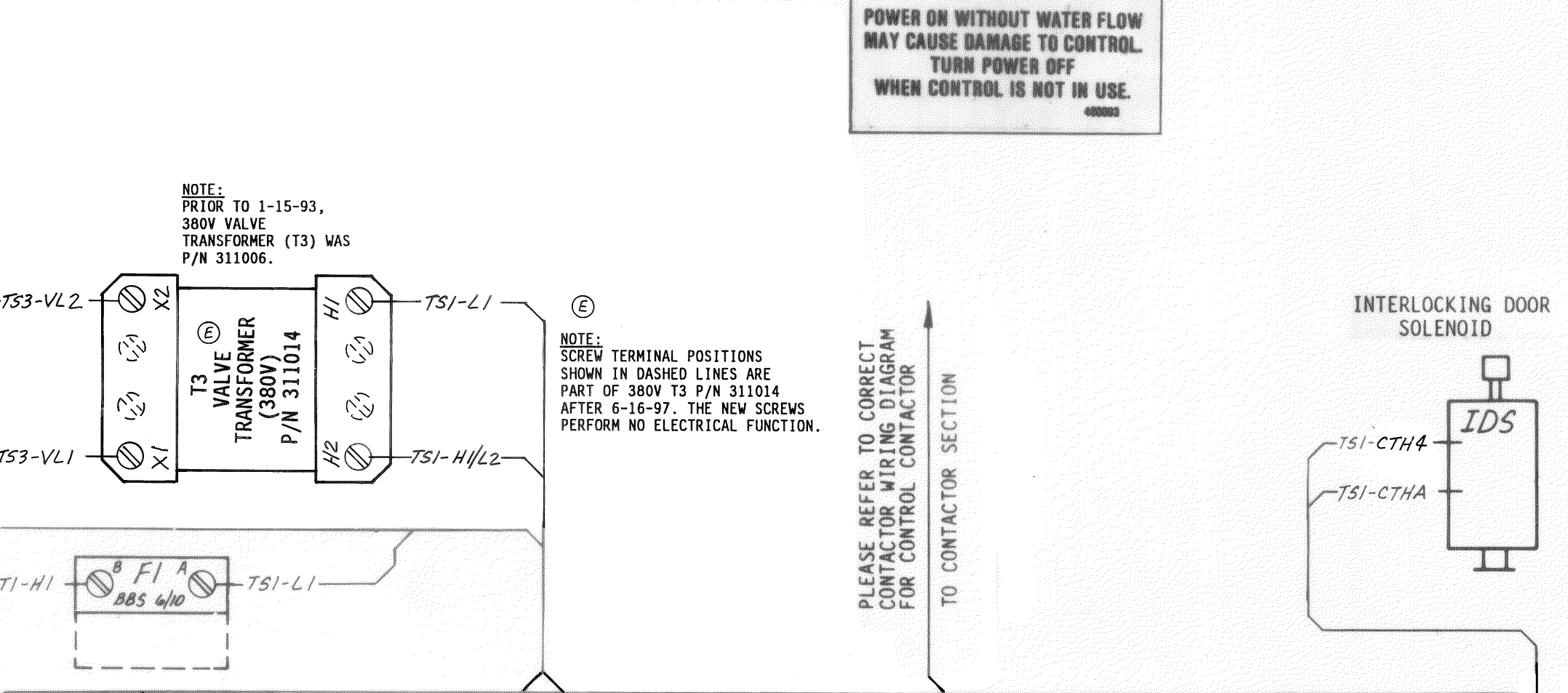
**CAUTION**

Control Shipped Wired for 380 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.



**CAUTION - CONTROL WIRED FOR 380 VAC - UNLESS OTHERWISE SPECIFIED.**

CUSTOMER CONNECTIONS - CAUTION - READ MANUAL & ALL NOTES BEFORE INSTALLING OR OPERATING CONTROL. SEE NOTE 1.

CAUTION

See Note 2

For 380 VAC Operation - Use Jumpers #3 on TS1.

**DO NOT CHANGE JUMPERS!**

For 230, 460, & 575 VAC Operation - CONSULT FACTORY.

MANUFACTURING INSTRUCTIONS

See Drawings #600530, #600530-001, #600530-002, & #600530-003 for Mechanical Assembly Instructions.

See Drawing #440269 for Packing Instructions, "S" Cabinet.

See Drawing #440352 for Label Locations, "S" Cabinet.

See Drawing #440055 for Customer Mounting & Knockout Detail of "S" Cabinet. For Layout/Assembly of Front Panel, See Drawing #600526.

See Drawing #440457 for Current Transformer Assembly.

See Drawing #440458 for Secondary Current Sensor Assembly.

See Wiring Diagram #421270 for EN1001-Series, "S" Cabinet.

See Wiring Diagram #421268 for EN1001-Series, "E" Cabinet.

See Wiring Diagram #421269 for EN1001-Series, "D"/T/LS" Cabinets, w/Optional Circuit Isolation Device.

See Wiring Diagram #421277 for EN1001-Series, "R" Cabinet.

Optional Keylock when specified by customer. See Note 8. Pack key in Poly bag 900148 & attach to Door w/Yellow Tape 900118.

QTY.		DESIG.	PART NO.	DESCRIPTION
1	1	600574-004	600574-005	Assem., Dial Plate, EN1001, Consisting of: Assem., Dial Plate, w/Keylock, EN1001, Consisting of:
1	1	600572-002	PCB1	Assem., Switch, Sequence Control & Display Bd.
1	1	600531-001		Assem., Switch, Keylock, Momentary, SPST
1	1	540245		Illustrated Panel, Dial Plate, EN1001
1	1	515104		Panel, Display Window, Red Filter, EN1001
1	1	565003		Hole Plug, 3/4" Diam., Black
1	1	305001	PWR. LT.	Lamp, Neon, Red, 230V
1	1	305002	WLD. LT.	Lamp, Neon, Clear, 230V
1	1	J2-J2		Assem., Harness, Control Bd. to Terminal Bd.
1	1	J3		Assem., Harness, Power, 300A & 600A Contactors
1	1	J3		Assem., Harness, Power, Ext. IGT & 70/150A Cont.'s
1	1	J3		Assem., Harness, Power, External SCR Contactors

QTY.	DESIG.	PART NO.	DESCRIPTION
1	TS1	335034	Terminal Strip, 10 Pin, (Part of J3 Harness)
1	T1	322311	Assem., Harness, IGT Firing Module to Term. Bd.
1	T2	310001	Transformer, Control, (Part of J3 Harness)
1	T3	310002	Transformer, Sense, (Part of J3 Harness)
1	T3	311014	Transformer, Valve, 50VA, 380V
2	T4	225016	Assem., Transformer, Current, 200:5, P2
2	T4	225015	Assem., Transformer, Current, 500:5, P5
2	R70,71	225016	Assem., Transformer, Current, 1000:5, P10
3	F6,7,8	307022	Resistor, Power, Surge, 500 Ohm, 100W
1	R81	210198	Resistor, Metal Oxide, .1 Ohm, 1W, (Part of Curr Xfmr)
1	F1	308006	Fuseholder, 2 Pole, Mini, 600V, For Dual BAF 6
1	F1	307018	Fuse, Control, 6/10A, BBS 6/10
3	F6,7,8	307022	Fuse, 1 Amp, Slow Blow, 2AG, (Part of 410319 & 410319-001)
1	F4,5	307010	Fuse, Ignitor, 6 Amp, BAF 6, (Part of 410318)
1	TS1	325191	Assem., Wire, Surge Resistor, 18 GA., Black
1	J12-J12	600590	Assem., Secondary Current Sensor (S)
1	J12	322379	Assem., Harness, Secondary Current Sensor
1	J12	600570	Assem., Contactor, SCR, Air, 70A
1	J12	600571	Assem., Contactor, SCR, Air, 150A
1	J12	600520	Assem., Cont., Thyristor, Air, 300A, 460/575V, w/TLS
1	J12	600542	Assem., Cont., Thyristor, Water, 600A, 460/575V, w/TLS
1	J12	300020	Switch, Temp. Limit, (Part of 600520 & 600542)
1	PCB2	410319	Assem., PCB, Terminal Strip Board, EN1001
1	PCB2	410319-001	Assem., PCB, Term. Strip Bd., Ext. Firing, EN1001
1	PCB3	410318	Assem., PCB, IGT Firing Module
1	PCB2	510236	Plate, Mounting, Terminal Strip Board
1		346004	Lug, Screw, Chassis GND, 2/0 Wire
1	IDS	600044	Assem., Interlocking Door Solenoid
1	IDS	314001	Coil Assem Only, IDS
1		510015	Cabinet, "S" Subcompact
1		510017	Door, Cabinet, "S"
1		700120	Manual, EN1001
1		421271	Logic Diagram, EN1001 Control
1		421270-001	Wiring Diagram, EN1001-Series, "S" Cabinet

REV	AUTH	DESCRIPTION	DRN	CHK	BY	DATE
1		ORIGINAL RELEASE				
2						

**ENTRON CONTROLS INC.**

SCALE: DATE DRAWN BY CHK'D BY APPROVED BY

3-31-94 DEC 9-2 94

ANGLES: ± 1° REV LTR APPROVED BY

DECIMALS: ± 0.01 E DATE 10-1-98 DEC

FRACTIONS: ± 1/64 E

**WIRING DIAGRAM, EN1001-SERIES, "S" CABINET, WIRED FOR 380 VAC OPERATION**

NEXT ASSM/USED ON DRAWING NUMBER REV

421270-001 E