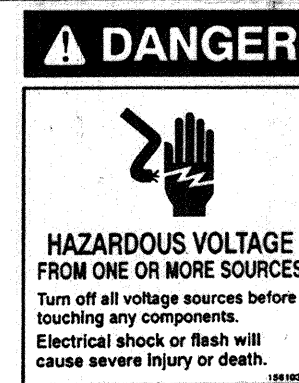


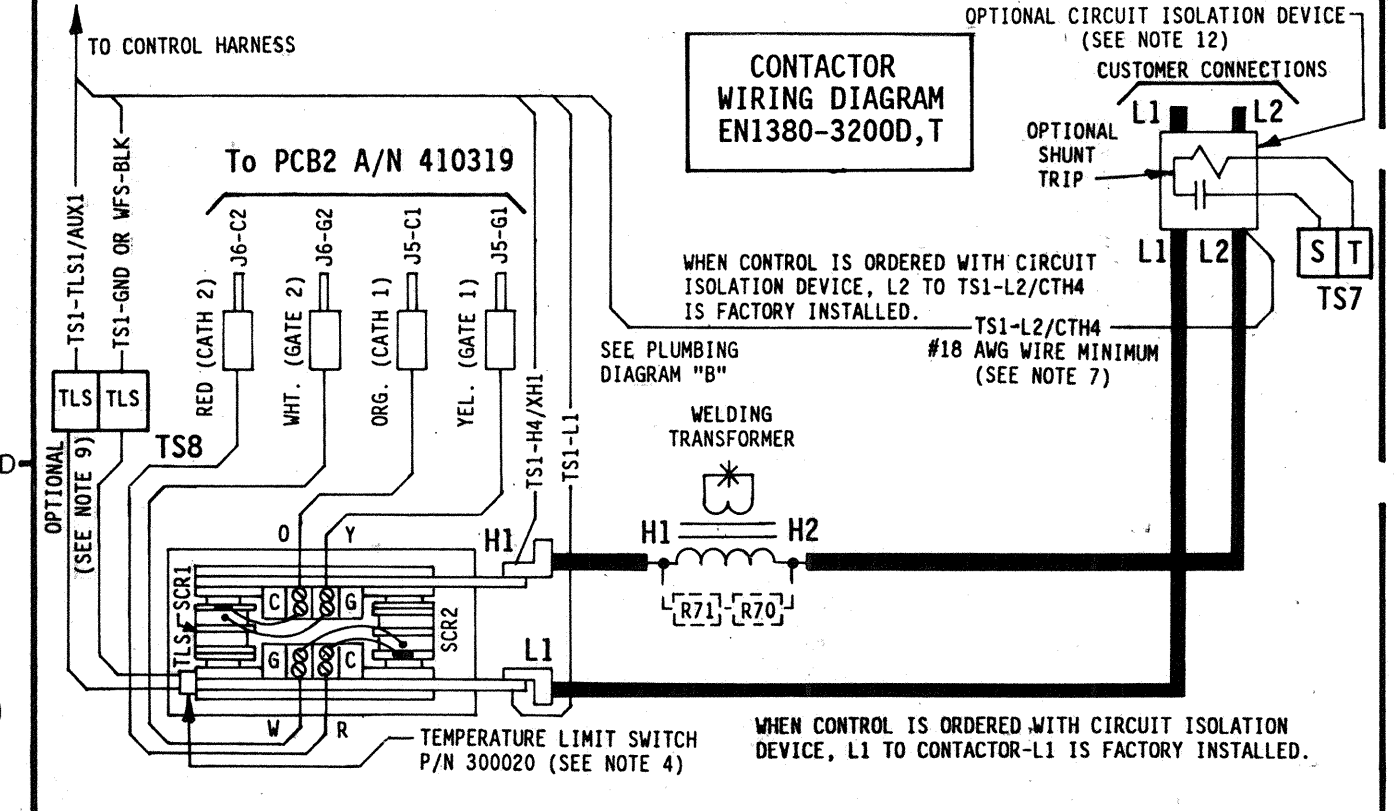
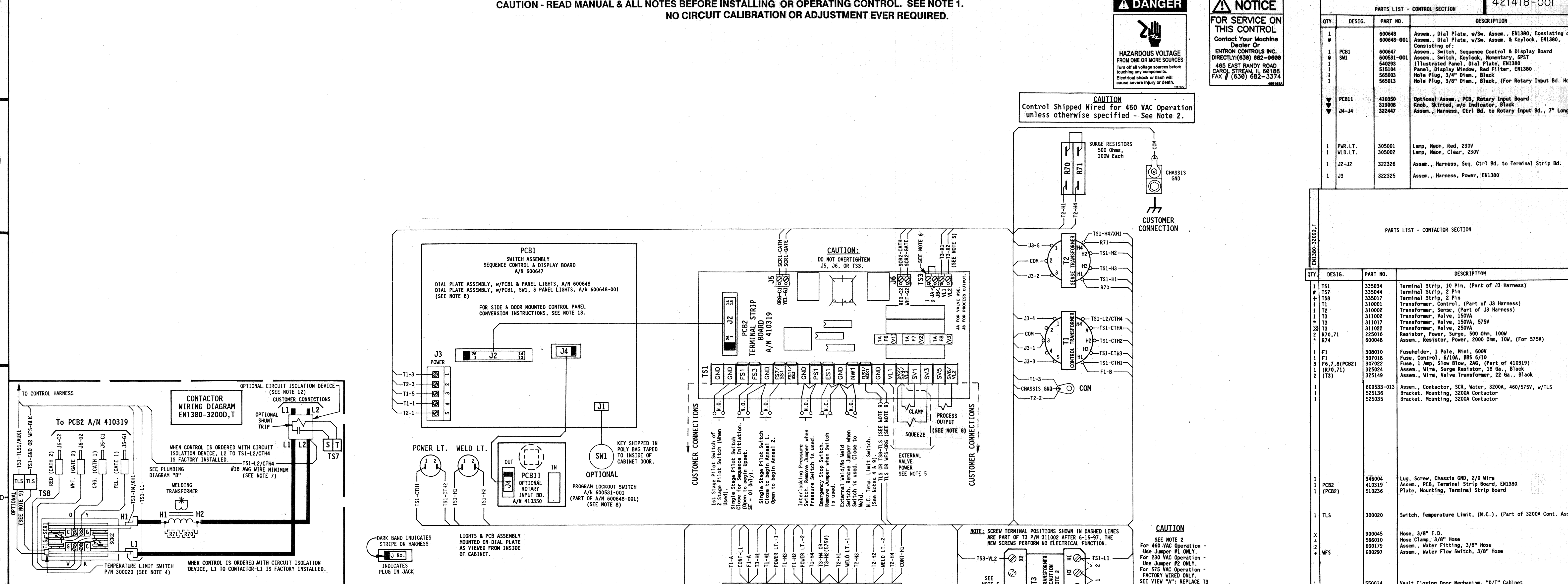
CAUTION - READ MANUAL & ALL NOTES BEFORE INSTALLING OR OPERATING CONTROL. SEE NOTE 1.
NO CIRCUIT CALIBRATION OR ADJUSTMENT EVER REQUIRED.



NOTICE
FOR SERVICE ON THIS CONTROL
Contact Your Machine Dealer Or
ENTRON CONTROLS INC.
DIRECTLY (330) 682-9600
465 EAST RANDY ROAD
CAROL STREAM, IL 60188
FAX # (330) 682-3374

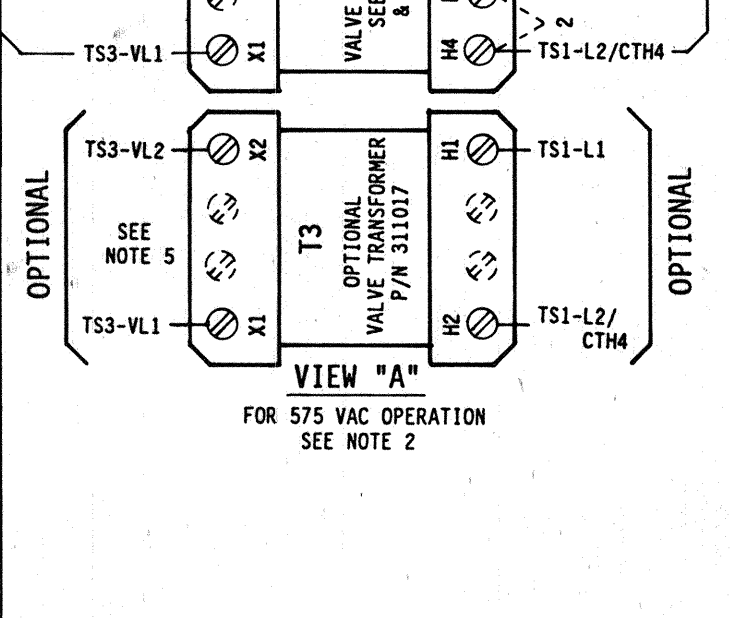
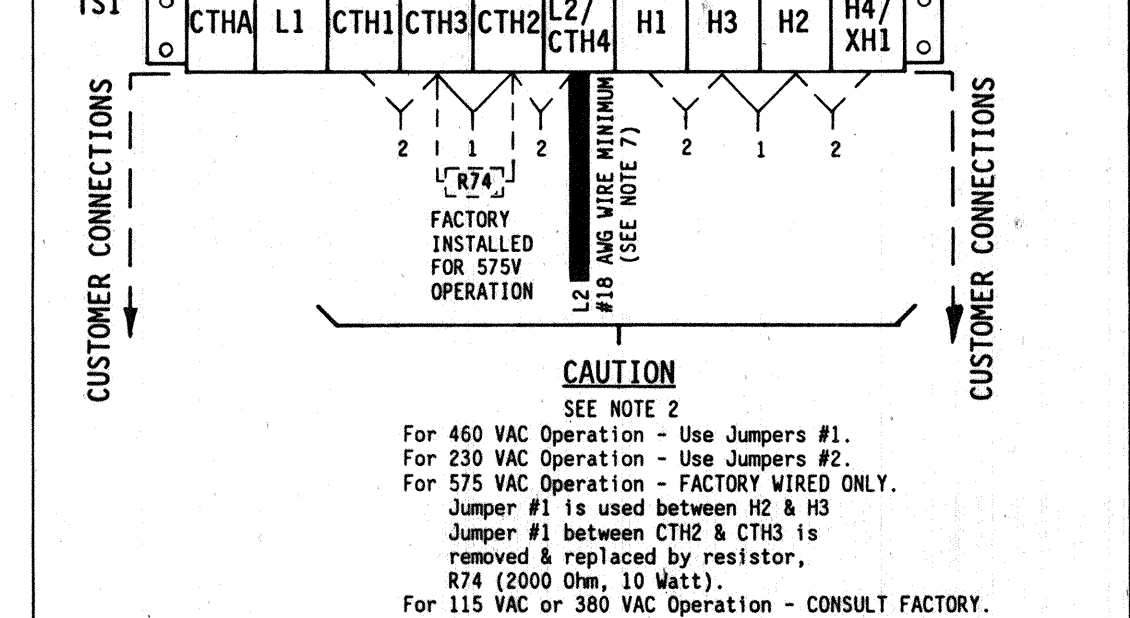
421418-001

CAUTION
Control Shipped Wired for 460 VAC Operation unless otherwise specified - See Note 2.

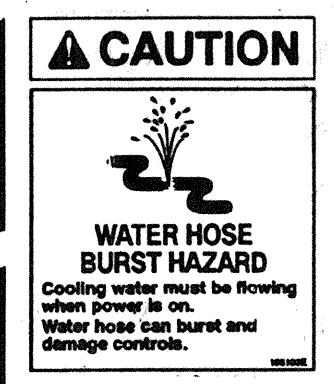
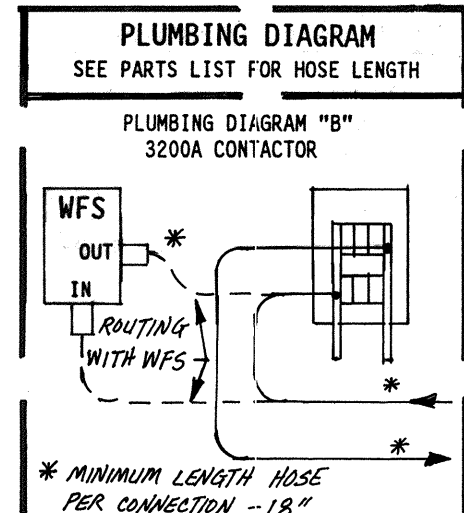


- NOTES:
- It is recommended that control wiring (i.e., initiation, pressure switch, etc.) be physically separated from the high voltage wiring (115 volts or higher).
 - For 460 VAC Operation - Use Jumper #1 on T3 & T51. As shipped unless otherwise specified. For 230 VAC Operation - Use Jumper #2 on 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-F53 & T51-GND. No jumpers required across T51-F51 & T51-GND. For Two Stage Pilot Operation - Connect 1st stage pilot switch to T51-F51 & T51-GND. Connect 2nd stage pilot switch to T51-F53 & 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.
 - EN1380-3200 "D/T" 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-VL1 & 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.
 - WARNING: Use of Jumper "B" bypasses control relay contacts to allow a process output without an initiation. SEE MANUAL.
 - Connect T51-L2/CTH4 to L2/H2 side of Welding Transformer Primary. (Factory wired on controls supplied with Circuit Isolation Device).
 - When Optional Program Lockout is specified by customer. Dial Plate A/N 600648-001 replaces A/N 600648. Add Switch P/N 600531-001 & remove Hole Plug P/N 565003.
 - When TLS and WFS are used together, add P/N 600297 & Terminal Strip T58 P/N 335017. Wire as shown below. Jumper not required between T51-TLS1/AUX1 & T51-GND. WFS will open with flows less than .75 GPM.

- To convert the Control Panel from side mounted cabinet control to door mounted or door mounted cabinet control to side mounted. Remove Cover Plate and Control Panel Dial Plate Assembly. Position spiral wrap around all harness wiring to prevent interference of wiring with the closing of cabinet door. When mounting Control Panel on side of cabinet, use clamp to secure J3 harness wires. CAUTION: When changing the position of the Control Panel, be sure harness wires do NOT interfere with the closing of the cabinet door. Wires may pinch in between door & cabinet and cause damage to wiring.
- ABBREVIATED DESCRIPTION OF OPERATION for Typical Band Saw Welder, SE = 01: Close FS3 to GND to begin Flash Weld. Open FS3 to GND to begin a timed (in cycles) upset. Flash Percent Current, Upset Time, and Percent Current can be varied by changing Front Panel variables. Close FS7 to GND to begin Anneal 1. Open FS7 to GND to begin Anneal 2. Anneal 2 time ONLY can be affected by Heat and Cool Time (in cycles). Anneal 1 Percent Current, Heat (in cycles), and Cool (in cycles) can all be effected by changing Front Panel variables. DESCRIPTION OF OPERATION for Typical Butt Welder, SE = 02: Momentary Close FS3 to GND to begin Butt Weld. Connect Clamp Valve to SV1 & SV2. Connect Squeeze Valve to SV3 & SV4 (Clamp & Squeeze times are the same). If Anneal is desired, see FS7 Operation above. See Manual for more information.



CAUTION - CONTROL WIRED FOR 460 VAC OPERATION - UNLESS OTHERWISE SPECIFIED.



PARTS LIST - CONTROL SECTION			
QTY.	DESIG.	PART NO.	DESCRIPTION
1	0	600648	Assem., Dial Plate, w/Sw. Assem., EN1380, Consisting of: Assem., Dial Plate, w/Sw. Assem. & Keylock, EN1380.
1	PCB1	600647	Assem., Switch, Sequence Control & Display Board
1	SW1	600531-001	Assem., Switch, Keylock, Momentary, SPST
1	1	540293	Illustrated Panel, Dial Plate, EN1380
1	1	515104	Panel, Display Window, Red Filter, EN1380
1	1	565003	Hole Plug, 3/4" Diam., Black
1	1	565013	Hole Plug, 3/8" Diam., Black, (For Rotary Input Bd. Hole)
1	PCB11	410350	Optional Assem., PCB, Rotary Input Board
1	J4-J4	322447	Assem., Harness, Ctrl Bd. to Rotary Input Bd., 7" Long
1	PWR.LT.	305001	Lamp, Neon, Red, 230V
1	M.D.LT.	305002	Lamp, Neon, Clear, 230V
1	J2-J2	322326	Assem., Harness, Seq. Ctrl Bd. to Terminal Strip Bd.
1	J3	322325	Assem., Harness, Power, EN1380

PARTS LIST - CONTACTOR SECTION			
QTY.	DESIG.	PART NO.	DESCRIPTION
1	T51	335034	Terminal Strip, 10 Pin, (Part of J3 Harness)
1	T57	335044	Terminal Strip, 2 Pin
1	T58	335017	Terminal Strip, 2 Pin
1	T1	310001	Transformer, Control, (Part of J3 Harness)
1	T2	310002	Transformer, Sense, (Part of J3 Harness)
1	T3	311002	Transformer, Valve, 150VA
1	T3	311017	Transformer, Valve, 150VA, 575V
1	T3	311022	Transformer, Valve, 250VA
1	T3	311022	Transformer, Valve, 250VA
1	R70,71	225016	Resistor, Power, Surge, 500 Ohm, 10W
1	R74	600048	Assem., Resistor, Power, 2000 Ohm, 10W, (For 575V)
1	F1	308010	Fuseholder, 1 Pole, Mini, 600V
1	F1	307018	Fuse, Control, 6/10A, BBS 6/10
1	F6,7,8(PCB2)	307022	Fuse, 1 Amp, Slow Blow, 2A6, (Part of 410319)
1	(R70,71)	325004	Assem., Wire, Surge Resistor, 10 Ga., Black
2	(T3)	325149	Assem., Wire, Valve Transformer, 22 Ga., Black
1	1	600533-013	Assem., Contactor, SCR, Water, 3200A, 460/575V, w/TLS
1	1	525136	Bracket, Mounting, 3200A Contactor
1	1	525035	Bracket, Mounting, 3200A Contactor
1	1	346004	Lug, Screw, Chassis GND, 2/0 Wire
1	PCB2	410319	Assem., PCB, Terminal Strip Board, EN1380
1	(PCB2)	510236	Plate, Mounting, Terminal Strip Board
1	TLS	300020	Switch, Temperature Limit, (M.C.), (Part of 3200A Cont. Assem.)
1	X	900045	Hose, 3/8" I.D.
1	X	566010	Hose Clamp, 3/8" Hose
1	X	600179	Assem., Water Fitting, 3/8" Hose
1	X	600297	Assem., Water Flow Switch, 3/8" Hose
1	1	550014	Vault Closing Door Mechanism, "D/T" Cabinet
1	1	510247	Cabinet, Control, Style "D/T", w/CB
1	1	510248	Door, Cabinet, Control, Style "D/T"
1	C/B	300020	Circuit Breaker, Pole, Amp, V, (See Note 12)
1	1	700163	Manual, EN1380
1	1	421383	Logic Diagram, EN1380 Control
1	1	421418-001	Wiring Diagram, EN1380-3200, "D/T" Cabinet

- OPTIONAL:
- Optional, See Note 12.
 - Optional Keylock when specified by customer. See Note 8. Pack Key in Poly Bag 900148 & attach to Door w/Yellow Tape 900118.
 - Substitution or addition of parts when 575V control is specified.
 - Supplied when optional Shunt Trip (ST), 115V is specified.
 - Optional Water Flow Switch Assembly & T58. An additional Thirty-Six (36") of hose, P/N 900045 and two (2) hose clamps, P/N 566010 are to be supplied. See Note 9.
 - For all contactors in "D/T" cabinet supply 3" of hose.
 - Optional. Add quantity one (1) PCB11 Rotary Input Board when specified by customer. Remove Hole Plug P/N 565013 when PCB11 is specified. Supply quantity one (1) each of J4-J4 Harness Assembly & Knob when optional PCB11 is specified.

MANUFACTURING INSTRUCTIONS:
See Drawing #600562 For Mechanical Layout/Assem. of EN1380 "D/T" Cabinet.
See Drawing #440336 For Inner Pack & Use Carton #650016 For "D/T" Cabinet Packing Instructions.
See Drawing #440437 For Circuit Breaker to L1 Contactor Cable connections.
See Drawing #600526 For Layout/Assem. of Front Panel.

ORIGINAL RELEASE			
REV	AUTH	DESCRIPTION	DRWN CHK BY DATE
1			

ENTRON CONTROLS INC			
SCALE	DATE	DRAWN BY	CHK'D BY
	9-21	DEC	9-21-00

TOLERANCE UNLESS SPECIFIED			
ANGLES	±	REV LTR	REVISED
	°		
	DECIMALS: ± .010		
	FRACTIONS: ± 1/64		

REV	AUTH	DESCRIPTION	DRWN BY	CHK'D BY

REV	AUTH	DESCRIPTION	DRWN BY	CHK'D BY