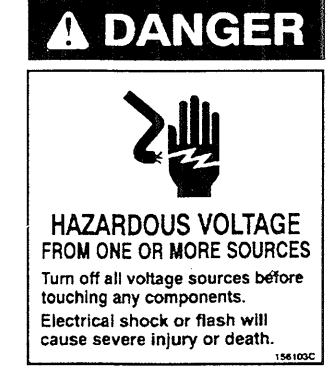
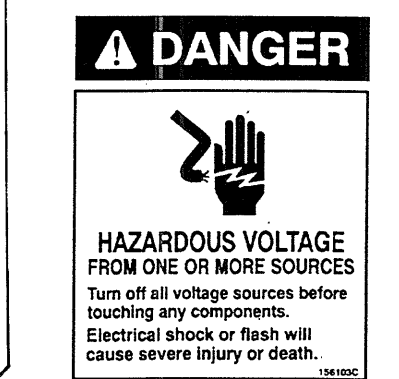
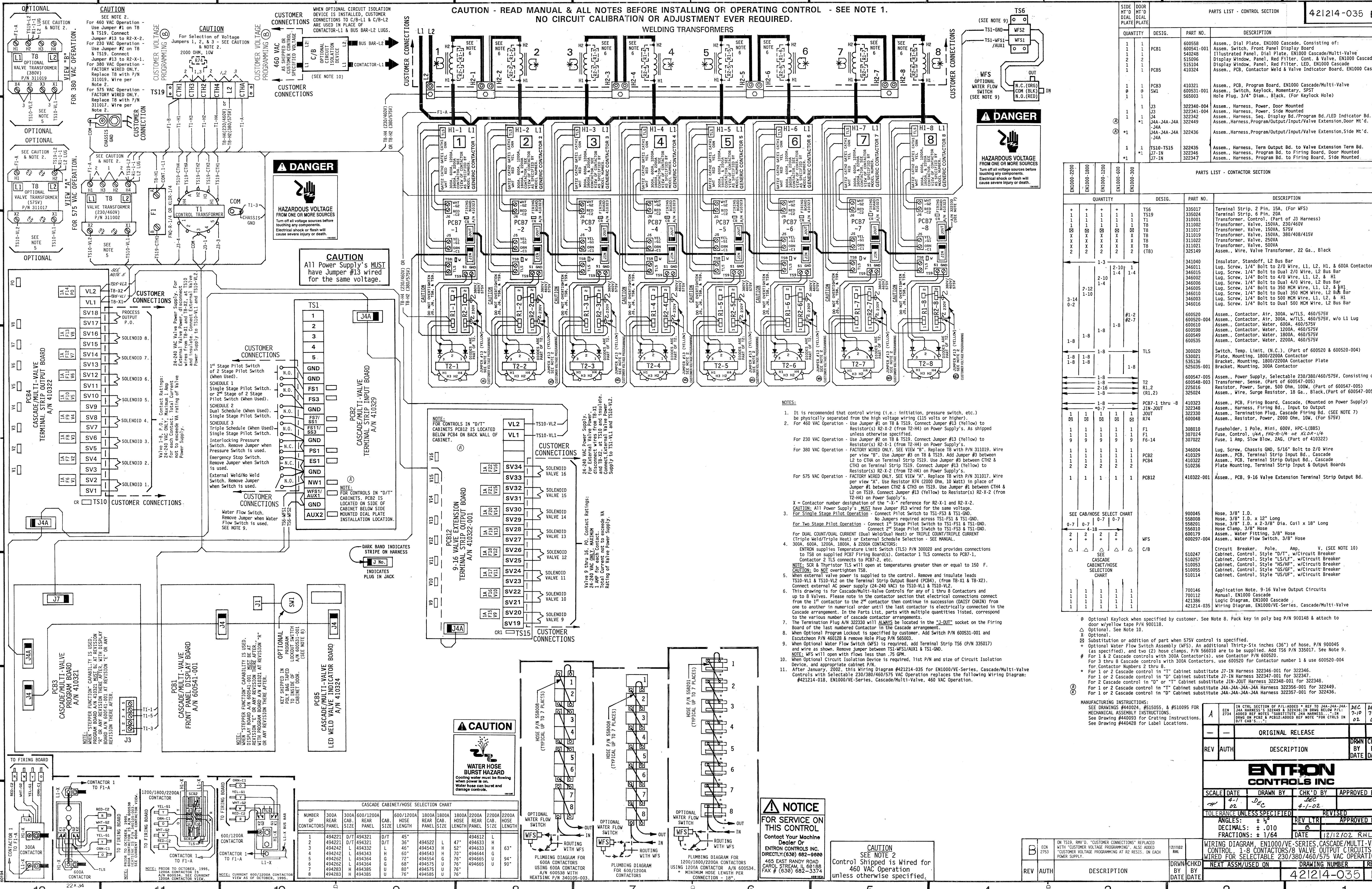


CAUTION - READ MANUAL & ALL NOTES BEFORE INSTALLING OR OPERATING CONTROL - SEE NOTE 1.
NO CIRCUIT CALIBRATION OR ADJUSTMENT EVER REQUIRED.



CAUTION
All Power Supply's MUST have Jumper #13 wired for the same voltage.

- 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 T8 & TS19. Connect Jumper #3 (Yellow) to Resistor(s) R2-X-1 (from T8-H4) on Power Supply's. As shipped otherwise specified.
 - For 230 VAC Operation - Use Jumper #2 on T8 & TS19. Connect Jumper #13 (Yellow) to Resistor(s) R2-X-2 (from T8-H4) on Power Supply's.
 - For 380 VAC Operation - FACTORY WIRED ONLY. SEE VIEW "B". Replace T8 with P/N 311019. Wire per view "B". Use Jumper #3 on T8 & TS19. Add Jumper #3 between L2 to CTH4 on Terminal Strip TS19. Use Jumper #3 between CTH2 & CTH3 on Terminal Strip TS19. Connect Jumper #13 (Yellow) to Resistor(s) R2-X-2 (from T8-H4) on Power Supply's.
 - For 575 VAC Operation - FACTORY WIRED ONLY. SEE VIEW "A". Replace T8 with P/N 311017. Wire per view "A". Use Resistor R74 (2000 Ohm, 10 Watt) in place of Jumper #1 between CTH2 & CTH3 on TS19. Use Jumper #1 between CTH4 & L2 on TS19. Connect Jumper #13 (Yellow) to Resistor(s) R2-X-2 (from T8-H4) on Power Supply's.
 - CAUTION: All Power Supply's MUST have Jumper #13 wired for the same voltage.
 - For Single Stage Pilot Operation - Connect Pilot Switch to 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/Total Current (Dual Weld/Total Heat) or TRIPLE COUNT/TRIPLE CURRENT (Triple Weld/Triple Heat) or External Schedule Selection - SEE MANUAL.
 - ENTRON supplies Temperature Limit Switch (T1S) P/N 300020 and provides connections to T8 on supplied PCB7 Firing Boards(s). Contactor 1 T1S connects to PCB7-1. Contactor 2 T1S connects to PCB7-2, etc.
 - NOTE: SCR & Thyristor T1S will open at temperatures greater than or equal to 150 F. CAUTION: Do NOT overdrive T8.
 - When external valve power is supplied to the control. Remove and insulate leads TS10-V1 & TS10-V2 on the Terminal Strip Output Board (PCB4). (from T8-X1 & T8-X2). Connect external AC power supply (24-240 VAC) to TS10-V1 & TS10-V2.
 - This drawing is for Cascade/Multi-Valve Controls for any of 1 thru 8 Contactors and up to 8 Valves. Please note in the contactor section that electrical connections connect from the 1st contactor to the 2nd contactor then continue in succession (DAISY CHAIN) from one to another in numerical order until the last contactor is electrically connected in the Cascade arrangement. In the Parts List, parts with multiple quantities listed, correspond to the various number of cascade contactor arrangements.
 - The Termination Plug A/N 322330 will ALWAYS be located in the "J_OUT" socket on the Firing Board of the last numbered Contactor in the Cascade arrangement.
 - When Optional Program Lockout is specified by customer. Add Switch P/N 600531-001 and Escutcheon P/N 460128 & remove Hole Plug P/N 565003.
 - When Optional Water Flow Switch (WFS) is required, add Terminal Strip T56 (P/N 335017) and wire as shown. Remove jumper between TS1-WFS1/AUX1 & Terminal Strip T56 (P/N 335017). NOTE: WFS will open with flows less than .75 GPM.
 - When Optional Circuit Isolation Device is required. List P/N and size of Circuit Isolation Device, and appropriate cabinet P/N.
 - After January, 2002, this Wiring Diagram #421214-035 for EN1000/VE-Series, Cascade/Multi-Valve Controls with Selectable 230/380/460/575 VAC Operation replaces the following Wiring Diagram: #421214-036, EN1000/VE-Series, Cascade/Multi-Valve, 460 VAC Operation.

QUANTITY	DESIG.	PART NO.	DESCRIPTION
1	PCB1	600558	Assem., Dial Plate, EN1000 Cascade, Consisting of:
1	PCB1	600541-001	Assem. Switch, Front Panel Display Board
1	PCB1	540248	Illustrated Panel, Dial Plate, EN1000 Cascade/Multi-Valve
1	PCB1	550096	Display Window, Panel, Red Filter, Cont. & Valve, EN1000 Cascade
1	PCB5	515104	Display Window, Panel, Red Filter, LED, EN1000 Cascade
1	PCB5	430324	Assem., PCB, Contactor Weld & Valve Indicator Board, EN1000 Casc.
1	PCB3	410321	Assem., PCB, Program Board, EN1000 Cascade/Multi-Valve
1	SW1	600531-001	Assem., Switch, Keylock, Momentary, SPST
1	SW1	565003	Hole Plug, 3/4" Diam., Black, (For Keylock Hole)
1	J3	322340-004	Assem., Harness, Power, Door Mounted
1	J3	322342	Assem., Harness, Power, Side Mounted
1	J3	322449	Assem., Harness, Seq. Display Bd./Program Bd./LED Indicator Bd.
1	J3	322449	Assem., Harness, Program Output/Input/Valve Extension, Door Mt'd.
1	J3	322436	Assem., Harness, Program Output/Input/Valve Extension, Side Mt'd.
1	TS10-TS15	322435	Assem., Harness, Term Output Bd. to Valve Extension Term Bd.
1	J7-IN	322346	Assem., Harness, Program Bd. to Firing Board, Door Mounted
1	J7-IN	322347	Assem., Harness, Program Bd. to Firing Board, Side Mounted

QUANTITY	DESIG.	PART NO.	DESCRIPTION
1	TS6	335017	Terminal Strip, 2 Pin, 15A, (For WFS)
1	TS19	335024	Terminal Strip, 6 Pin, 20A
1	T8	310001	Transformer, Control, (Part of J3 Harness)
1	T8	311002	Transformer, Valve, 150VA, 230/460V
1	T8	311017	Transformer, Valve, 150VA, 575V
1	T8	311019	Transformer, Valve, 150VA, 380/408/415V
1	T8	311022	Transformer, Valve, 260VA
1	T8	311021	Transformer, Valve, 500VA
1	T8	325249	Assem., Wire, Valve Transformer, 22 Ga., Black
1-3		341040	Insulator, Standoff, L2 Bus Bar
1-3		346011	Lug, Screw, 1/4" Bolt to 2/0 Wire, L1, L2, H1, & 600A Contactor
1-3		346015	Lug, Screw, 1/4" Bolt to Dual 2/0 Wire, L2 Bus Bar
1-3		346022	Lug, Screw, 1/4" Bolt to 4/0 Wire, L1, L2, & H1
1-3		346006	Lug, Screw, 1/4" Bolt to 350 MCM Wire, L1, L2, & H1
1-3		346005	Lug, Screw, 1/4" Bolt to Dual 350 MCM Wire, L1, L2, & H1
1-3		346010	Lug, Screw, 1/4" Bolt to 500 MCM Wire, L1, L2, & H1
1-3		346003	Lug, Screw, 1/4" Bolt to Dual 500 MCM Wire, L2 Bus Bar
1-3		346016	Lug, Screw, 1/4" Bolt to Dual 500 MCM Wire, L2 Bus Bar
1-8		600520	Assem., Contactor, Air, 300A, w/TLS, 460/575V
1-8		600520-004	Assem., Contactor, Air, 300A, w/TLS, 460/575V, w/o L1 Lug
1-8		600518	Assem., Contactor, Water, 600A, 460/575V
1-8		600598	Assem., Contactor, Water, 1200A, 460/575V
1-8		600549	Assem., Contactor, Water, 1800A, 460/575V
1-8		600535	Assem., Contactor, Water, 2200A, 460/575V
1-8		300020	Switch, Temp. Limit, (N.C.), (Part of 600520 & 600520-004)
1-8		550096	Assem., Harness, Firing Bd., Input to Output
1-8		551336	Bracket, Mounting, 1800/2200A Contactor Plate
1-8		525035-001	Bracket, Mounting, 300A Contactor
1-8		600547-005	Assem., Power Supply, Selectable 230/380/460/575V, Consisting of:
1-8		600548-003	Transformer, Sense, (Part of 600547-005)
1-8		225016	Resistor, Power, Surge, 500 Ohm, 100W, (Part of 600547-005)
1-8		325024	Assem., Wire, Surge Resistor, 18 Ga., Black, (Part of 600547-005)
1-8		410323	Assem., PCB, Firing Board, Cascade, (Mounted on Power Supply)
1-8		322330	Assem., Termination Plug, Cascade Firing Bd. (SEE NOTE 7)
1-8		600408	Assem., Resistor, Power, 2000 Ohm, 10W, (For 575V)
1-8		308010	Fuseholder, 1 Pole, Mini, 600V, HPC-(RBS)
1-8		307024	Fuse, Control, 1/4A, FNR-R/4 or KLD-R/4
1-8		307022	Fuse, 1 Amp, Slow Blow, ZAG, (Part of 410323)
1-8		346004	Lug, Screw, Chassis GND, 5/16" Bolt to 2/0 Wire
1-8		410329	Assem., PCB, Terminal Strip Input Bd., Cascade
1-8		410322	Assem., PCB, Terminal Strip Output Bd., Cascade
1-8		510236	Plate, Mounting, Terminal Strip Input & Output Boards
1-8		410322-001	Assem., PCB, 9-16 Valve Extension Terminal Strip Output Bd.

SEE CAB/HOSE SELECT CHART

QUANTITY	DESIG.	PART NO.	DESCRIPTION
1	J3	300020	Switch, Temp. Limit, (N.C.), (Part of 600520 & 600520-004)
1	J3	550096	Assem., Harness, Firing Bd., Input to Output
1	J3	551336	Bracket, Mounting, 1800/2200A Contactor Plate
1	J3	525035-001	Bracket, Mounting, 300A Contactor
1	J3	600547-005	Assem., Power Supply, Selectable 230/380/460/575V, Consisting of:
1	J3	600548-003	Transformer, Sense, (Part of 600547-005)
1	J3	225016	Resistor, Power, Surge, 500 Ohm, 100W, (Part of 600547-005)
1	J3	325024	Assem., Wire, Surge Resistor, 18 Ga., Black, (Part of 600547-005)
1	J3	410323	Assem., PCB, Firing Board, Cascade, (Mounted on Power Supply)
1	J3	322330	Assem., Termination Plug, Cascade Firing Bd. (SEE NOTE 7)
1	J3	600408	Assem., Resistor, Power, 2000 Ohm, 10W, (For 575V)
1	J3	308010	Fuseholder, 1 Pole, Mini, 600V, HPC-(RBS)
1	J3	307024	Fuse, Control, 1/4A, FNR-R/4 or KLD-R/4
1	J3	307022	Fuse, 1 Amp, Slow Blow, ZAG, (Part of 410323)
1	J3	346004	Lug, Screw, Chassis GND, 5/16" Bolt to 2/0 Wire
1	J3	410329	Assem., PCB, Terminal Strip Input Bd., Cascade
1	J3	410322	Assem., PCB, Terminal Strip Output Bd., Cascade
1	J3	510236	Plate, Mounting, Terminal Strip Input & Output Boards

MANUFACTURING INSTRUCTIONS:

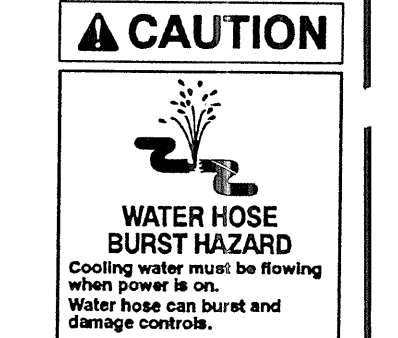
SEE DRAWINGS #440024, #515055, & #510095 FOR MECHANICAL ASSEMBLY INSTRUCTIONS.

See Drawing #440093 for Crating Instructions.

See Drawing #440428 for Label Locations.

REV	AUTH	DESCRIPTION	DRWN BY	CHK'D BY	APPROVED BY
1		ORIGINAL RELEASE			
2		REVISED			
3		REVISED			
4		REVISED			
5		REVISED			
6		REVISED			
7		REVISED			
8		REVISED			

NOTICE
FOR SERVICE ON THIS CONTROL
Contact Your Machine Dealer Or
ENTRON CONTROLS INC.
DIRECTLY: (630) 682-8000
465 EAST RANDY ROAD
CAROL STREAM, IL 60818
FAX # (630) 682-4374



CASCADE CABINET/HOSE SELECTION CHART

NUMBER OF CONTACTORS	300A CAB. PANEL SIZE	300A CAB. HOSE REAR PANEL	600/1200A CAB. HOSE REAR PANEL	1800A CAB. HOSE REAR PANEL	1800A CAB. HOSE REAR PANEL	2200A CAB. HOSE REAR PANEL	2200A CAB. HOSE REAR PANEL	2200A CAB. HOSE REAR PANEL
1	494221	D/T 494321	D/T 45"	494522	L 47"	494623	H 52"	494724
2	494221	D/T 494321	D/T 36"	494522	L 47"	494623	H 52"	494724
3	494242	L 494332	L 46"	494543	H 50"	494633	H 63"	494724
4	494242	L 494332	L 60"	494543	H 76"	494633	H 94"	494724
5	494263	L 494364	L 72"	494564	H 76"	494654	H 90"	494724
6	494263	L 494364	L 68"	494575	U 76"	494665	U 90"	494724
7	494282	L 494385	L 80"	494575	U 76"	494665	U 90"	494724
8	494282	L 494385	L 76"	494585	U 76"	494665	U 90"	494724