



FOR CONTROL FOR COMPONENT VALUES AND CIRCUIT CONNECTIONS.

CONTROL CIRCUIT		LED'S	
C101 .47 MFD	R101 40 OHM 12 W	LED1A	RED
C102 50 MFD	R102 68K OHM	LED1B	RED
C103 .047 MFD	R104 10K OHM 2 W	LED1C	EMITTING
C104 .047 MFD	R105 27K OHM	LED1D	EMITTING
C106 .047 MFD	R106 4.7K OHM	LED1E	DIODE
C107 .1 MFD	R107 15K OHM		
C108 4.7 MFD	R108 22K OHM		
C110 1 MFD	R109 10K OHM		
C113 .15 MFD	R110 1.5K OHM		
C114 .15 MFD	R111 5K OHM TRIMMER		
C116 .047 MFD	R112 4.7K OHM		
C117 .02 MFD	R113 33K OHM		
C118 .02 MFD	R114 10K OHM		
C119 .02 MFD	R115 100 OHM		
C120 .02 MFD	R116 47 OHM		
C121 .02 MFD	R118 6.8K OHM		
	R119 6.8K OHM		
	R120 680 OHM		
	R121 2.7K OHM		
	R122 47K OHM		
	R123 100 OHM		
	R124 100 OHM		
	R125 10K OHM		
	R126 680 OHM		
	R127 4.7K OHM		
	R128 47K OHM		
	R129 47K OHM		
	R131 10K OHM 2 W		
	R132 10K OHM		

VARIABLE VOLTAGE CIRCUIT FOR VARIABLE VOLTAGE P.C. BOARDS L5394-2 OR HIGHER USE M16966 SCHEMATIC FOR COMPONENT VALUES AND CIRCUIT CONNECTIONS.

C301 2 MFD	R308 10K OHM TRIMMER
C302 .1 MFD	R309 15 OHM
C303 .01 MFD	R310 75 OHM
C304 .02 MFD	R311 68 OHM
C305 .01 MFD	R312 5.6K OHM 2 W
C306 2 MFD	R313 6.8K OHM
C307 .47 MFD	R314 10K OHM
C308 .22 MFD	R315 1K OHM 12 W
C309 .02 MFD	R316 33K OHM
C310 .01 MFD	R317 10K OHM
	R318 560 OHM
	R319 2.7M OHM
	R320 100 OHM

FOR START P.C. BOARD L5911-1 AND UP USE M17938 SCHEMATIC FOR COMPONENT VALUES AND CIRCUIT CONNECTIONS. FOR CRATER FILL P.C. BOARDS L5222-2 AND UP, USE M17939 SCHEMATIC FOR COMPONENT VALUES AND CIRCUIT CONNECTIONS.

* OPTIONAL CIRCUIT		COMPONENTS NOT ON P.C. BOARD	
C401 18 MFD	S1 DPST CONTROL POWER SWITCH	R1 2 OHM 50 W	S2 SPDT TRAVEL SWITCH
C402 .02 MFD	S3 SPST INCH UP SWITCH	R2 10K OHM 2 W (USED ONLY ON NA-4 WITH CURRENT CONTROL RHEOSTAT)	S4 SPST INCH DOWN SWITCH
C403 .02 MFD	S4 SPST INCH DOWN SWITCH	R3 5K OHM 2 W WIRE SPEED CONTROL	S5 SPST START SWITCH
C404 .02 MFD	S5 SPST START SWITCH	R4 250 OHM 25 W	S6 SPST STOP SWITCH
C405 .02 MFD (CRATER CKT. ONLY)	S6 SPST STOP SWITCH		S7 SPOT CURRENT CONTROL SWITCH (NOT USED ON NA-4 WITH CURRENT CONTROL RHEOSTAT)
CR401 DPST N.O. 24 VDC			
D401 1A			
D402 1A			
D403 1A			
D404 1A			
D405 1A			
LED4A RED LIGHT EMITTING DIODE			
LED4B RED LIGHT EMITTING DIODE			
LED4C RED LIGHT EMITTING DIODE			
LED4D RED LIGHT EMITTING DIODE			
LED4E RED LIGHT EMITTING DIODE			
LED4F RED LIGHT EMITTING DIODE			
LED4G RED LIGHT EMITTING DIODE			
LED4H RED LIGHT EMITTING DIODE			
LED4I RED LIGHT EMITTING DIODE			
LED4J RED LIGHT EMITTING DIODE			
LED4K RED LIGHT EMITTING DIODE			
LED4L RED LIGHT EMITTING DIODE			
LED4M RED LIGHT EMITTING DIODE			
LED4N RED LIGHT EMITTING DIODE			
LED4O RED LIGHT EMITTING DIODE			
LED4P RED LIGHT EMITTING DIODE			
LED4Q RED LIGHT EMITTING DIODE			
LED4R RED LIGHT EMITTING DIODE			
LED4S RED LIGHT EMITTING DIODE			
LED4T RED LIGHT EMITTING DIODE			
LED4U RED LIGHT EMITTING DIODE			
LED4V RED LIGHT EMITTING DIODE			
LED4W RED LIGHT EMITTING DIODE			
LED4X RED LIGHT EMITTING DIODE			
LED4Y RED LIGHT EMITTING DIODE			
LED4Z RED LIGHT EMITTING DIODE			

AC CURRENT SENSOR CIRCUIT

C501 1 MFD
D501 1 A
D502 1 A
D503 1 A
D504 1 A
R501 10K OHM
O501 2N4123
TS01 CURRENT TRANSFORMER

NOTE: SINCE COMPONENTS OR CIRCUITRY ON A PRINTED CIRCUIT BOARD MAY CHANGE WITHOUT AFFECTING THE INTERCHANGEABILITY OF A COMPLETE BOARD, THIS DIAGRAM MAY NOT SHOW THE EXACT COMPONENTS OR CIRCUITRY OF CONTROLS HAVING A COMMON CODE NUMBER.

NOTE: TO OPERATE UNIT WITHOUT OPTIONAL START BOARD JUMPER 583 (S) AND 584 (S). TO OPERATE UNIT WITHOUT OPTIONAL CRATER FILL BOARD JUMPER 583 (C) AND 584 (C). X201 THRU X207 AND X401 - PIN 7 CONNECTED TO 539 - PIN 14 CONNECTED TO 515. N.D. THESE JUMPER LEADS ARE NOT PRESENT ON LOGIC P.C. BOARDS WITH DIP SWITCHES. N.E. JUMPER LEAD TO BE CONNECTED TO PIN "H" AT ALL TIMES.

NOTE: SAMPLE SWITCH SWITCH POSITION 1 IS UP SWITCH POSITION 2 IS DOWN SWITCH POSITIONS 3 AND 4 ARE NOT APPLICABLE

METHODS OF TRAVEL	FOR EARLIER LOGIC P.C. BOARDS WITH JUMPERS	FOR LOGIC P.C. BOARDS WITH DIP SWITCHES	METHODS OF BURNBACK	FOR EARLIER LOGIC P.C. BOARDS WITH JUMPERS	FOR LOGIC P.C. BOARDS WITH DIP SWITCHES
START/STOP WITH SWITCHES	CONNECT LEAD #691 TO P6 LEAD #692 TO P5	[SWITCH 1] [SWITCH 2]	WIRE FEED STOP & CONTRACTOR DELAY	CONNECT LEAD #693 TO P3 LEAD #690 TO P4	[SWITCH 1] [SWITCH 2]
START/STOP WITH CURRENT	CONNECT LEAD #691 TO P6 LEAD #692 TO P7	[SWITCH 1] [SWITCH 2]	INCH UP & CONTACTOR DELAY	CONNECT LEAD #693 TO P1 LEAD #690 TO P4	[SWITCH 1] [SWITCH 2]
START WITH CURRENT STOP WITH STOP SWITCH	CONNECT LEAD #691 TO P5 LEAD #692 TO P7	[SWITCH 1] [SWITCH 2]	INCH UP & NO CONTACTOR DELAY	CONNECT LEAD #693 TO P1 LEAD #690 TO P2	[SWITCH 1] [SWITCH 2]
START WITH START SWITCH STOP AFTER CRATER FILL (CRATER FILL BOARD INSTALLED)	CONNECT LEAD #691 TO P8 LEAD #692 TO P9	[SWITCH 1] [SWITCH 2]			

USE OF CRATER FILL BOARD CRATER BOARD INSTALLED? YES (REMOVE JUMPER CONNECTOR "B" FROM 584(c) TO 583(c)) NO (INSTALL JUMPER CONNECTOR "B" FROM 584(c) TO 583(c))

FOR EARLIER LOGIC P.C. BOARDS WITH JUMPERS FOR LOGIC P.C. BOARDS WITH DIP SWITCHES

CONNECT LEAD #694 TO P10 [SWITCH 1] [SWITCH 2]

CONNECT LEAD #694 TO P8 [SWITCH 1] [SWITCH 2]