



CONTROL CIRCUIT		
C101 .47 MFD	R101 40 Ω 5W	R128 47 K Ω
C102 50 MFD	R102 6.8 K Ω	R129 47 K Ω
C103 .047 MFD	R104 10 K Ω 2W	R131 10 K Ω 2W
C104 .047 MFD	R105 27 K Ω	R132 10 K Ω
C106 .047 MFD	R106 47 K Ω	
C107 .1 MFD	R107 15 K Ω	Q101 2N5655
C108 47 MFD	R108 22 K Ω	Q102 MJ3029
C110 1 MFD	R109 10 K Ω	Q103 2N4123
C113 .15 MFD	R110 1.5 K Ω	Q104 2N4123
C114 .15 MFD	R111 5 K Ω TRIMMER	Q105 2N4123
C116 .047 MFD	R112 47 K Ω	Q106 2N4123
C117 .02 MFD	R113 33 K Ω	Q107 2N4123
C118 .02 MFD	R114 10 K Ω	Q108 2N4123
C119 .02 MFD	R115 100 Ω	Q109 2N4123
C120 .02 MFD	R117 47 Ω	Q110 2N6027
D101 16 A	R118 6.8 K Ω	Q111 2N6027
D102 16 A	R119 6.8 K Ω	
D103 16 A	R120 6.8 K Ω	LED1A LIGHT EMITTING
D104 THRU 1 A	R121 2.7 K Ω	LED1B LIGHT EMITTING
D105 THRU 1 A	R122 47 K Ω	LED1C LIGHT EMITTING
D106 THRU 1 A	R123 100 Ω	LED1D LIGHT EMITTING
D107 THRU 1 A	R124 100 Ω	LED1E LIGHT EMITTING
D108 THRU 1 A	R125 2.7 K Ω	
D109 THRU 1 A	R126 2.7 K Ω	
D110 THRU 1 A	R127 4.7 K Ω	
DZ101 25V.		

LOGIC CIRCUIT		
C201 .02 MFD	R201 1.5 K Ω	R221 47 K Ω
C202 2 MFD	R202 4.7 K Ω	R222 1 K Ω
C203 .02 MFD	R203 15 K Ω	R223 10 K Ω 2W
C204 10 MFD	R204 470 Ω	R224 4.7 K Ω
C205 18 MFD	R205 100 K Ω 2W	R225 4.7 K Ω
C206 .02 MFD	R206 6.8 K Ω	R226 4.7 K Ω
C207 50 MFD	R207 1.5 K Ω	R227 4.7 K Ω
C208 2 MFD	R208 33 K Ω	R228 4.7 K Ω
C209 .02 MFD	R209 10 K Ω	
C210 10 MFD	R210 5 K Ω 2W	
C211 .02 MFD	R211 1 K Ω	
C212 .02 MFD	R212 2.7 K Ω	
C213 .02 MFD	R213 47 K Ω	
C214 .02 MFD	R214 1.5 K Ω	
C215 .02 MFD	R215 5 K Ω	
C216 .02 MFD	R216 10 K Ω	
C217 .02 MFD	R217 47 K Ω	
C218 .02 MFD	R218 4.7 K Ω	
C219 .02 MFD	R219 10 K Ω	
C220 .02 MFD	R220 2.7 K Ω	
C221 .02 MFD	R221 47 K Ω	
C222 .02 MFD	R222 1 K Ω	
C223 .02 MFD	R223 10 K Ω 2W	
C224 .02 MFD	R224 4.7 K Ω	
C225 .02 MFD	R225 4.7 K Ω	
C226 .02 MFD	R226 4.7 K Ω	
C227 .02 MFD	R227 4.7 K Ω	
C228 .02 MFD	R228 4.7 K Ω	
C229 .02 MFD	R229 4.7 K Ω	
C230 .02 MFD	R230 4.7 K Ω	
C231 .02 MFD	R231 4.7 K Ω	
C232 .02 MFD	R232 4.7 K Ω	
C233 .02 MFD	R233 4.7 K Ω	
C234 .02 MFD	R234 4.7 K Ω	
C235 .02 MFD	R235 4.7 K Ω	
C236 .02 MFD	R236 4.7 K Ω	
C237 .02 MFD	R237 4.7 K Ω	
C238 .02 MFD	R238 4.7 K Ω	
C239 .02 MFD	R239 4.7 K Ω	
C240 .02 MFD	R240 4.7 K Ω	
C241 .02 MFD	R241 4.7 K Ω	
C242 .02 MFD	R242 4.7 K Ω	
C243 .02 MFD	R243 4.7 K Ω	
C244 .02 MFD	R244 4.7 K Ω	
C245 .02 MFD	R245 4.7 K Ω	
C246 .02 MFD	R246 4.7 K Ω	
C247 .02 MFD	R247 4.7 K Ω	
C248 .02 MFD	R248 4.7 K Ω	
C249 .02 MFD	R249 4.7 K Ω	
C250 .02 MFD	R250 4.7 K Ω	

VARIABLE VOLTAGE CIRCUIT		
C301 2 MFD	R301 4.7 K Ω 2W	R316 470 K Ω
C302 .1 MFD	R302 100 Ω	R317 10 K Ω
C303 .01 MFD	R303 10 K Ω TRIMMER	
C304 .02 MFD	R304 15 K Ω	
C305 .01 MFD	R305 47 Ω	
C306 2 MFD	R306 4.7 K Ω 2W	
C307 .02 MFD	R307 100 Ω	
C308 .02 MFD	R308 10 K Ω	
C309 .02 MFD	R309 15 K Ω	
C310 .02 MFD	R310 47 Ω	
C311 .02 MFD	R311 6.8 Ω	
C312 .02 MFD	R312 4.8 K Ω 2W	
C313 .02 MFD	R313 4.8 K Ω	
C314 .02 MFD	R314 47 K Ω	
C315 .02 MFD	R315 1 K Ω 12W	
C316 .02 MFD	R316 470 K Ω	
C317 .02 MFD	R317 10 K Ω	
C318 .02 MFD	R318 10 K Ω	
C319 .02 MFD	R319 10 K Ω	
C320 .02 MFD	R320 2.7 K Ω	
C321 .02 MFD	R321 47 K Ω	
C322 .02 MFD	R322 1 K Ω	
C323 .02 MFD	R323 10 K Ω 2W	
C324 .02 MFD	R324 4.7 K Ω	
C325 .02 MFD	R325 4.7 K Ω	
C326 .02 MFD	R326 4.7 K Ω	
C327 .02 MFD	R327 4.7 K Ω	
C328 .02 MFD	R328 4.7 K Ω	
C329 .02 MFD	R329 4.7 K Ω	
C330 .02 MFD	R330 4.7 K Ω	
C331 .02 MFD	R331 4.7 K Ω	
C332 .02 MFD	R332 4.7 K Ω	
C333 .02 MFD	R333 4.7 K Ω	
C334 .02 MFD	R334 4.7 K Ω	
C335 .02 MFD	R335 4.7 K Ω	
C336 .02 MFD	R336 4.7 K Ω	
C337 .02 MFD	R337 4.7 K Ω	
C338 .02 MFD	R338 4.7 K Ω	
C339 .02 MFD	R339 4.7 K Ω	
C340 .02 MFD	R340 4.7 K Ω	

* OPTIONAL CIRCUIT	
C401 18 MFD	R401 1.5 K Ω
C402 .02 MFD	R402 6.8 K Ω
C403 .02 MFD	R403 100 K Ω 2W
C404 .02 MFD	R404 4.7 K Ω
C405 .02 MFD	R405 2.7 K Ω
C406 .02 MFD	R406 47 K Ω
C407 .02 MFD	R407 1 K Ω
C408 .02 MFD	R408 10 K Ω 2W
C409 .02 MFD	R409 5 K Ω 2W
C410 .02 MFD	R410 50 K Ω TRIMMER
C411 .02 MFD	R411 470 Ω
C412 .02 MFD	R412 470 Ω
C413 .02 MFD	R413 470 Ω
C414 .02 MFD	R414 470 Ω
C415 .02 MFD	R415 470 Ω
C416 .02 MFD	R416 470 Ω
C417 .02 MFD	R417 470 Ω
C418 .02 MFD	R418 470 Ω
C419 .02 MFD	R419 470 Ω
C420 .02 MFD	R420 470 Ω
C421 .02 MFD	R421 470 Ω
C422 .02 MFD	R422 470 Ω
C423 .02 MFD	R423 470 Ω
C424 .02 MFD	R424 470 Ω
C425 .02 MFD	R425 470 Ω
C426 .02 MFD	R426 470 Ω
C427 .02 MFD	R427 470 Ω
C428 .02 MFD	R428 470 Ω
C429 .02 MFD	R429 470 Ω
C430 .02 MFD	R430 470 Ω
C431 .02 MFD	R431 470 Ω
C432 .02 MFD	R432 470 Ω
C433 .02 MFD	R433 470 Ω
C434 .02 MFD	R434 470 Ω
C435 .02 MFD	R435 470 Ω
C436 .02 MFD	R436 470 Ω
C437 .02 MFD	R437 470 Ω
C438 .02 MFD	R438 470 Ω
C439 .02 MFD	R439 470 Ω
C440 .02 MFD	R440 470 Ω

COMPONENTS NOT ON P.C. BOARD	
R1 2 Ω 50W	S1 DPST CONTROL POWER SWITCH
R3 5MΩ WIRE FEED SPEED CONTROL	S2 SPDT TRAVEL SWITCH
R4 250 Ω 25W	S3 SPST INCH UP SWITCH
S4 SPST INCH DOWN SWITCH	S4 SPST INCH DOWN SWITCH
S5 SPST START SWITCH	S5 SPST START SWITCH
S6 SPST STOP SWITCH	S6 SPST STOP SWITCH
S7 SPDT CURRENT CONTROL SWITCH	S7 SPDT CURRENT CONTROL SWITCH
1CR SPST, 110 VDC COIL	1CR SPST, 110 VDC COIL
2CR SPST, 110 VDC COIL	2CR SPST, 110 VDC COIL
3CR SPST, 110 VDC COIL	3CR SPST, 110 VDC COIL
4CR AC CURRENT SENSOR ACTUATED BY WELDING CURRENT	4CR AC CURRENT SENSOR ACTUATED BY WELDING CURRENT
5CR OPTIONAL SPST, 110 VDC COIL ACTUATED BY 4 CR CIRCUIT	5CR OPTIONAL SPST, 110 VDC COIL ACTUATED BY 4 CR CIRCUIT
6CR SOLID STATE RELAY FOR LINC-FILL STARTING RELAY OPERATION	6CR SOLID STATE RELAY FOR LINC-FILL STARTING RELAY OPERATION
7CR LINC FILL STARTING RELAY	7CR LINC FILL STARTING RELAY

AC CURRENT SENSOR CIRCUIT	
C501 1MFD	D501 1A
D502 1A	D502 1A
D503 1A	D503 1A
D504 1A	D504 1A
R501 10 K Ω	R501 10 K Ω
Q501 2N4123	Q501 2N4123
TE01 CURRENT TRANSFORMER	TE01 CURRENT TRANSFORMER

METHODS OF TRAVEL		METHODS OF BURN-BACK	
START-STOP WITH SWITCHES	LEAD NO. TO PIN NO. 691 P5	WIRE FEED STOP AND CONTACTOR DELAY	LEAD NO. TO PIN NO. 693 P3
START-STOP WITH CURRENT	692 P5	CONTACTOR DELAY	690 P4
START WITH CURRENT STOP WITH STOP SWITCH	691 P5	INCH UP AND CONTACTOR DELAY	693 P1
START WITH START SWITCH STOP AFTER CRATER FILL	692 P7	CONTACTOR DELAY	690 P4
	691 P5	INCH UP AND NO CONTACTOR DELAY	693 P1
	692 P7	CONTACTOR DELAY	690 P2

A.N.S.I. ELECTRICAL SYMBOLS PER E-1537

N.A. TO OPERATE UNIT WITHOUT OPTIONAL START BOARD JUMPER 5B3(S) & 5B4(S)

N.B. TO OPERATE UNIT WITHOUT OPTIONAL CRATER FILL BOARD JUMPER 5B3(C) & 5B4(C)

N.C. X201 THRU X207 AND X401 - PIN 7, CONNECTED TO 539 PIN 14, CONNECTED TO 515

SUPERSEDED BY G-1381
SUBSEQUENTLY INTERCHANGEABLE CHANGES NOT SHOWN

NOTE: CIRCLED NUMBERS SHOW CHANGES MADE ON CHANGE SHEET NUMBERS