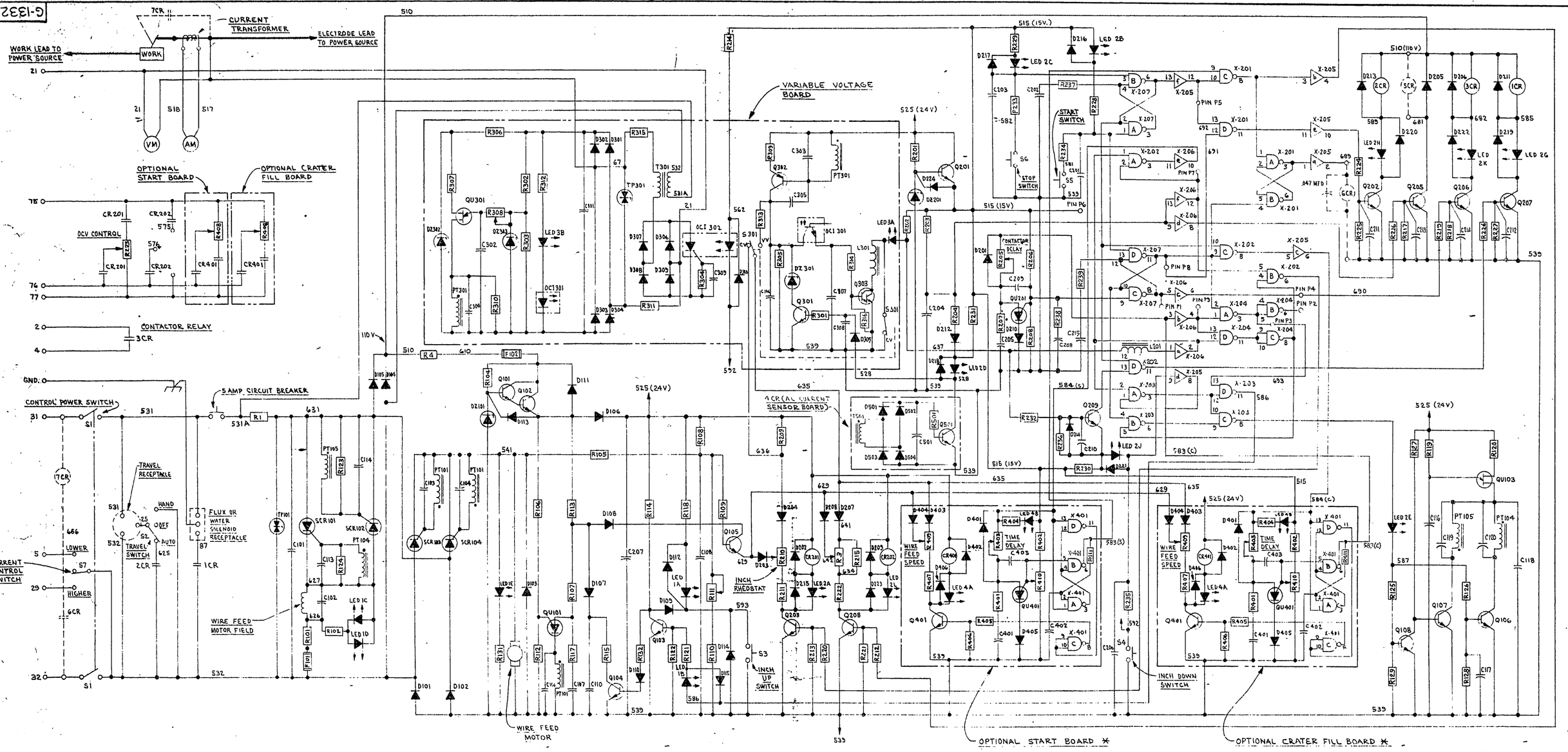
G-1332



CONTROL CIRCUIT

C101	.47 MFD	R101	40 Ω 5W	R128	47 K Ω
C102	50 MFD	② R102	68 K Ω	R129	47 K Ω
C103	.047 MFD	R104	10 K Ω 2 W	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	2N 5655
C108	4.7 MFD	R108	22 K Ω	Q102	MJ 3029
C110	1 MFD	R109	10K 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
②C119	.02 MFD	R115	100 Ω	QU101	2N 6027
③C120	.02 MFD	R117	47 Ω	QU103	D5E43
D101	16 A	R118	6.8 K Ω	LED1A	
D102	16 A	R119	6.8 K Ω	LED1B	RED
D103	16 A	R120	680 Ω	④LED1C	LIGHT EMITTING
D104 THRU ⑦D115	1 A	R121	2.7 K Ω	LED1D	DIODE
		R122	47 K Ω	LED1E	
		R123	100 Ω	SCR101	8A. 600 V.
		R124	100 Ω	SCR102	8 A. 600 V.
		R125	2.7 K Ω	SCR103	16 A. 400 V.
DZ 101	25V.	R126	2.7 K Ω	SCR104	16 A. 400 V.
		R127	4.7K Ω		

TP101 TRANSIENT PROTECTOR
F101 ½ A. SLOW BLOW FUSE
F102 ⅜ A. FUSE
PT 101 PULSE TRANSFORMER
PT 104 PULSE TRANSFORMER
PT105 PULSE TRANSFORMER

LOGIC CIRCUIT

C201	.02 MFD	R201	1.5 K Ω	R229	4.7 K Ω
C202	2 MFD	R202	4.7 K Ω	R230	4.7 K Ω
C203	.02 MFD	R203	15 K Ω	R231	4.7 K Ω
C204	10 MFD	⑥R204	470 Ω	R232	100 K Ω
C205	18 MFD	R205	100 K Ω 2 W	R233	100 Ω
C206	.02 MFD	R206	6.8 K Ω	R234	100 Ω
C207	50 MFD	R207	1.5 K Ω	R235	100 Ω
C208	2 MFD	R208	33 K Ω	R236	22 K Ω
C209	.02 MFD	R209	10 K Ω	⑥R237	470 Ω
C210	10 MFD	R210	5K Ω 2 W	⑥R238	470 Ω
C211 THRU C214	.02 MFD	R211	1K Ω	⑥R239	470 Ω
⑥C215	.02 MFD	R213	47 K Ω	X201	QUAD 2 INPUT NANDGATE
CR201	DPST NO. 24V. D.C.	R214	1.5 K Ω	X202	QUAD 2 INPUT NANDGATE
CR202	DIST NO. 24V. D.C.	R215	10 K Ω	X203	QUAD 2 INPUT NANDGATE
DZ101	16 V	R216	10 K Ω	X204	QUAD 2 INPUT NANDGATE
D201 THRU D224	1 A	R217	47 K Ω	X205	HEX INVERTER
		R218	47 K Ω	X206	HEX INVERTER
		R219	10 K Ω	X207	QUAD 2 INPUT NANDGATE
QU201	2N 6027	R220	2.7 K Ω	LED 2A THRU 2H, 2J, 2K, 2L	RED LIGHT EMITTING DIODE
Q201	2N 5655	R221	47 K Ω	②L201	5.6 mH
Q202	2N 5657	R222	1 K Ω		
Q203	2N 4123	R223	10 K Ω 2W		
Q205	2N 5657	R224	4.7 K Ω		
Q206	2N 5657	R225	47 K Ω		
Q207	2N 5657	R226	4.7 K Ω		
Q208	2N4123	R227	47 K Ω		
Q209	2N4123	R228	4.7 K Ω		

VARIABLE VOLTAGE CIRCUIT

C301	2 MFD	R306	4.7 K Ω 2W		
C302	.1 MFD	R307	100 Ω		
C303	.01 MFD	R308	10 K Ω TRIMMER		
C304	.02 MFD	R309	15 Ω		
C305	.01 MFD	R310	47 Ω		
C306	2 MFD	R311	68 Ω		
C307	.02 MFD	R312	6.8 K Ω 2 W		
C308	.22 MFD	K313	6.8 K Ω		
C309	.02 MFD	R314	47 K Ω		
		R315	1 K Ω 12.W		
		①R316	470 K Ω		
D301	1A AVALANCHE	DZ301	5.1 V.		
D302	1A AVALANCHE	DZ302	10 V.		
D303	1A AVALANCHE	DZ303	25 V.		
D304	1A AVALANCHE	④LED 3A / LED 3 B	RED LIGHT EMITTING DIODE		
D305 THRU ①D310	1 A	③OCI 301	4N 28 (OPTO-ISOLATOR)		
		OCI 302	MCS 2 (OPTO-ISOLATOR)		
		Q301	2N4123		
		Q302	2N4126		
		Q303	MPS A13		
R301	47 K Ω	QU301	D5E43		
R302	4.7 K Ω 2 W	TP301	TRANSIENT PROTECTOR		
R303	6.8 K Ω	PT301	PULSE TRANSFORMER		
R304	27 K Ω	S 301	DPDT TOGGLE SWITCH		
R305	100 K Ω	T301	24 V. TRANSFORMER		
		L301	47mH		

* OPTIONAL CIRCUIT

C401	18 MFD
C402	.02 MFD
C403	.02 MFD
CR401	DPST N.O. 24 VDC
D401 THRU D406	1 A
R401	1.5 K Ω
R402	6.8 K Ω
R403	100 K Ω 2 W.
R404	4.7 K Ω
R405	2.7 K Ω
R406	47 K Ω
R407	1 K Ω
R408	10 K Ω 2 W
R409	5 K Ω 2 W
R410	50 K Ω TRIMMER
⑦R411	470 Ω
④LED 4A / LED 4B	RED LIGHT EMITTING DIODE
Q401	2N 4123
QU401	2N 6027
X401	QUAD 2 INPUT NANDGATE

COMPONENTS NOT ON P.C. BOARD

R1	2 Ω 50 W
R3	5KΩ 2W WIRE FEED SPEED CONTROL
R4	250 Ω 25 W
S1	DPST CONTROL POWER SWITCH
S2	SPDT TRAVEL SWITCH
S3	SPST INCH UP SWITCH
S4	SPST INCH DOWN SWITCH
S5	SPST START SWITCH
S6	SPST STOP SWITCH
S7	SPDT CURRENT CONTROL SWITCH
1CR	SPST, 110 VDC COIL
2CR	SPST, 110 VDC COIL
3CR	SPST, 110 VDC COIL
4CR	AC CURRENT SENSOR ACTUATED BY WELDING CURRENT
5CR	OPTIONAL - SPST, 110 V DC COIL ACTUATED BY 4 CR CIRCUIT
OPTIONAL LINC-FILL STARTING RELAY KIT	6CR SOLID STATE RELAY FOR LINC-FILL STARTING RELAY OPERATION 7CR LINC FILL STARTING RELAY

AC CURRENT SENSOR CIRCUIT

C501	1 MFD
D501	1 A
D502	1 A
D503	1 A
D504	1 A
R501	10 K Ω
Q501	2N4123
T501	CURRENT TRANSFORMER

METHODS OF TRAVEL	LEAD NO. TO PIN NO.		METHODS OF BURN-BACK	LEAD NO. TO PIN NO.	
START-STOP	691	P8	WIRE FEED STOP AND	693	P3
WITH SWITCHES	692	P5	CONTACTOR DELAY	690	P4
START-STOP	691	P8	INCH UP AND	693	P1
WITH CURRENT	692	P7	CONTACTOR DELAY	690	P2
START WITH CURRENT	691	P5	INCH UP AND NO	693	P1
STOP WITH STOP SWITCH	692	P7	CONTACTOR DELAY	690	P2
START WITH START SWITCH	691	P8			
STOP AFTER CRATER FILL	692	P9			

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

N.A. TO OPERATE UNIT WITHOUT OPTIONAL START BOARD JUMPER 583 (S) & 584 (S)

N.B. TO OPERATE UNIT WITHOUT OPTIONAL CRATER FILL BOARD JUMPER 583(C) & 584 (C)

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

SUPERSEDED BY G-1368
SUBSEQUENT INTERCHANGEABLE DRAWINGS NOT SHOWN

NOTE: CIRCLED NUMBERS SHOW CHANGES MADE ON CHANGE SHEET NUMBERS

THE LINCOLN ELECTRIC CO.
CLEVELAND, OHIO U.S.A.
DATE 10-11-73 SCALE

Chge. Ltr. No.	8347-H	Ⓒ
1-11-74B	8307-J	Ⓑ
1-25-74A	12-13-74F	Ⓐ
7-15-74F	1-10-75E	
4-12-74A		Ⓔ
4-26-74B		Ⓓ
6-28-74H		Ⓒ

TYPE AUTOMATICS (CNA-4)
SUBJECT OPERATING SCHEMATIC
SUPER. PRO. PR. TJP CHK. SHEET NO. G-1332