

TECHNICAL MANUAL

**MODEL 2230
LINE/PRINTER** LPO5

VOLUME II

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Dataproducts

6219 DE SOTO AVENUE
WOODLAND HILLS, CALIFORNIA 91364

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SECTION VIII
LOGIC DIAGRAMS

8-1 INTRODUCTION

8-2 This section contains a complete complement of printer logic diagrams. Also included are explanations of the logic symbols used in these pages.

8-3 DRAWINGS

8-4 To aid in troubleshooting, the logic diagrams are cross-referenced so signals can be followed from point of origin to point(s) of destination.

8-5 LOGIC SYMBOLS

8-6 With two exceptions, the logic symbols in the drawings throughout this manual are standard and described in MIL-STD-806B.

8-7 A small circle at the input of a logic element indicates that the relatively low (L) input signal activates the function. Conversely, the absence of a small circle indicates that the relatively high (H) input signal activates the function.

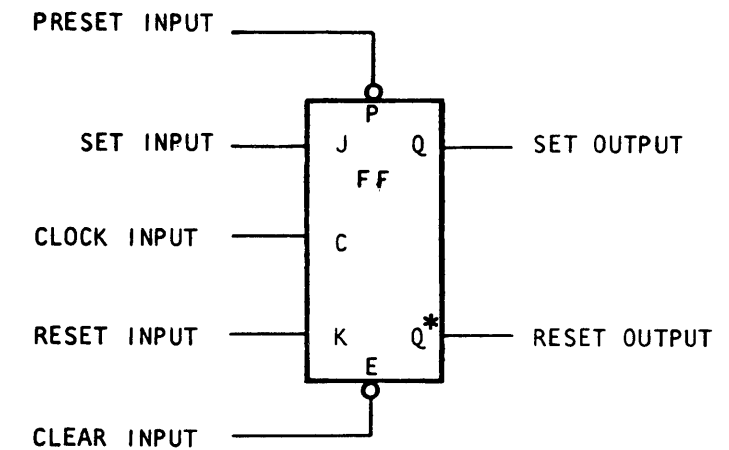
8-8 A small circle at the output of a logic element indicates that the output of the activated function is relatively low. Conversely, the absence of a small circle indicates that the output of the activated function is relatively high.

8-9 Examples are shown below of some common functions of two variables and their equivalents.

AND Symbol	OR Symbol	Inputs		Output
		A	B	X
		H	H	L
		H	L	H
		L	H	H
		L	L	L

8-10 The exceptions to MIL-STD-806B are as follows:

- a. An asterisk (*) replaces the overbar used to denote the inverted or "not" function of a term.
- b. The symbol for a J-K flip-flop is shown in the example below:



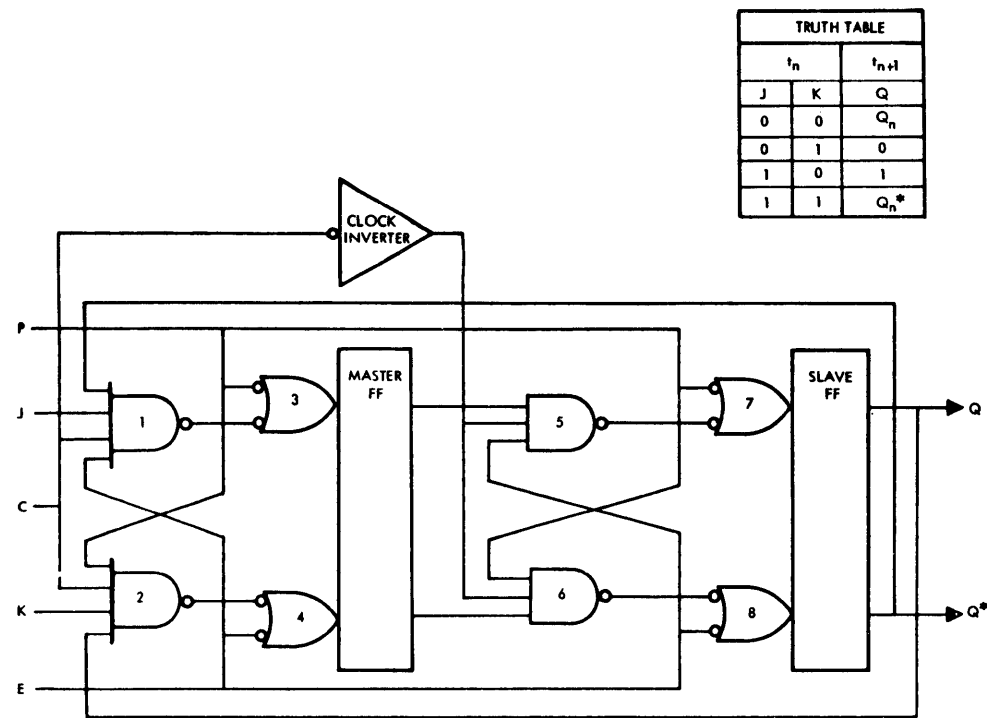
8-11 J-K FLIP FLOP

8-12 The following paragraphs are intended as an aid in understanding and troubleshooting the J-K master/slave flip-flop (hereafter called the J-K flip-flop) used throughout the printer logic.

8-13 Two J-K flip-flops, each consisting of two distinct flip-flops (master/slave) and associated gates and diodes, are housed in one integrated circuit chip.

8-14 Each J-K flip-flop has five distinct inputs and two outputs as follows:

- a. J = Set input with clock
- b. K = Reset input with clock
- c. E = DC clear (reset) input without clock
- d. P = DC set input without clock
- e. C = Clock input (clocks on trailing edge of positive pulse)
- f. Q = Set output
- g. Q* = Reset output



TRUTH TABLE		
t_n		t_{n+1}
J	K	Q
0	0	Q_n
0	1	0
1	0	1
1	1	Q_n^*

J-K Flip-Flop Logic

8-15 Since the J-K flip-flop consists of two flip-flops (master and slave), the master is conditioned first and the slave flip-flop is conditioned at a later time to reflect the initial state of the master flip-flop. The conditioning of the master and subsequent transferring of intelligence to the slave flip-flop is accomplished under the control of the clock input. The possible operating conditions of the J-K flip-flop are described in the following paragraphs.

8-16 DC Set

8-17 If input P goes low, NAND gates 2 and 6 are inhibited and NAND gates 3 and 7 are enabled, setting both the master and slave flip-flops. Output Q goes high and remains high until P goes high and another operating state is initiated.

8-18 DC Reset

8-19 If input E goes low, NAND gates 1 and 5 are inhibited, and NAND gates 4 and 8 are enabled, resetting both the master and slave flip-flops. Output Q^* goes high and remains high until E goes high and another operating state is initiated.

8-20 Set With Clock

8-21 Assuming input J is high, all other inputs are inhibited, and the J-K flip-flop is at present reset, the following takes place.

8-22 Since J, E, and Q^* are high, NAND gate 1 is enabled when C (clock) goes high and the master flip-flop is set. The output of the clock inverter goes low and disables NAND gate 5. The slave flip-flop is thus prevented from responding to the master flip-flop output for the duration of the clock. Once the master flip-flop is set, J can go low as it has no further effect on the J-K flip-flop state in this operation.

8-23 When C goes low, the clock inverter output goes high, enabling NAND gate 5 and setting the slave flip-flop. Output Q goes high and remains high until another operating state is initiated. Since Q^* is now low, NAND gate 1 is inhibited and the present state is maintained if J again goes high. To change state requires that K go high or E go low.

8-24 Reset With Clock

8-25 Assuming input K is high, all other inputs are inhibited, and the J-K flip-flop is at present set, the following takes place.

8-26 Since K, P, and Q are high, NAND gate 2 is enabled when C (clock) goes high and the master flip-flop is reset. The output of the clock inverter goes low and disables NAND gate 6. The slave flip-flop is thus prevented from responding to the master flip-flop output for the duration of the clock. Once the master flip-flop is set, K can go low as it has no further effect on the J-K flip-flop state in this operation.

8-27 When C goes low, the clock inverter output goes high, enabling NAND gate 6 and resetting the slave flip-flop. Output Q^* goes high and remains high until another operating state is initiated. Since Q is now low, NAND gate 2 is inhibited and the present state is maintained if K again goes high. To change state requires that J go high or P go low.

8-28 Inputs J and K High

8-29 If J and K are high simultaneously, and E and P are inhibited, then the J-K flip-flop toggles to the state opposite that which it was prior to the arrival of the clock.

8-30 Inputs J and K Low

8-31 If J and K are low simultaneously and E and P are inhibited, then the J-K flip-flop cannot toggle and remains at the state that it was prior to the arrival of the clock.

8-32 Inputs E and P Low

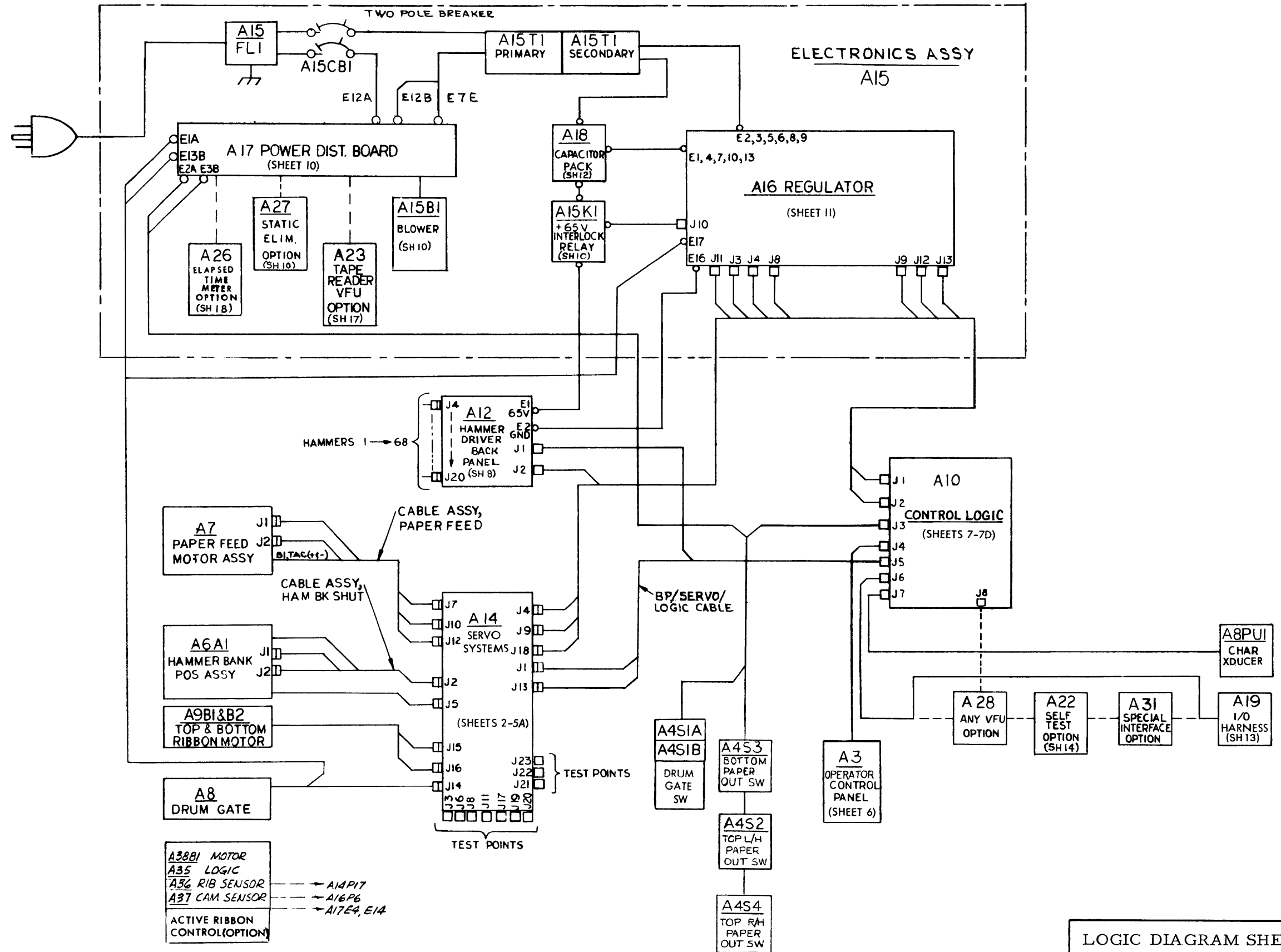
8-33 This is an abnormal operating condition but if E and P should go low simultaneously, the J-K flip-flop acts on both conditions and outputs Q and Q^* go high at the same time.

8-34 LOGIC DIAGRAM INDEX

8-35 The index below provides a listing of the logic diagrams contained in this section. The loading diagrams, which show integrated circuit layouts, follow the logic diagrams.

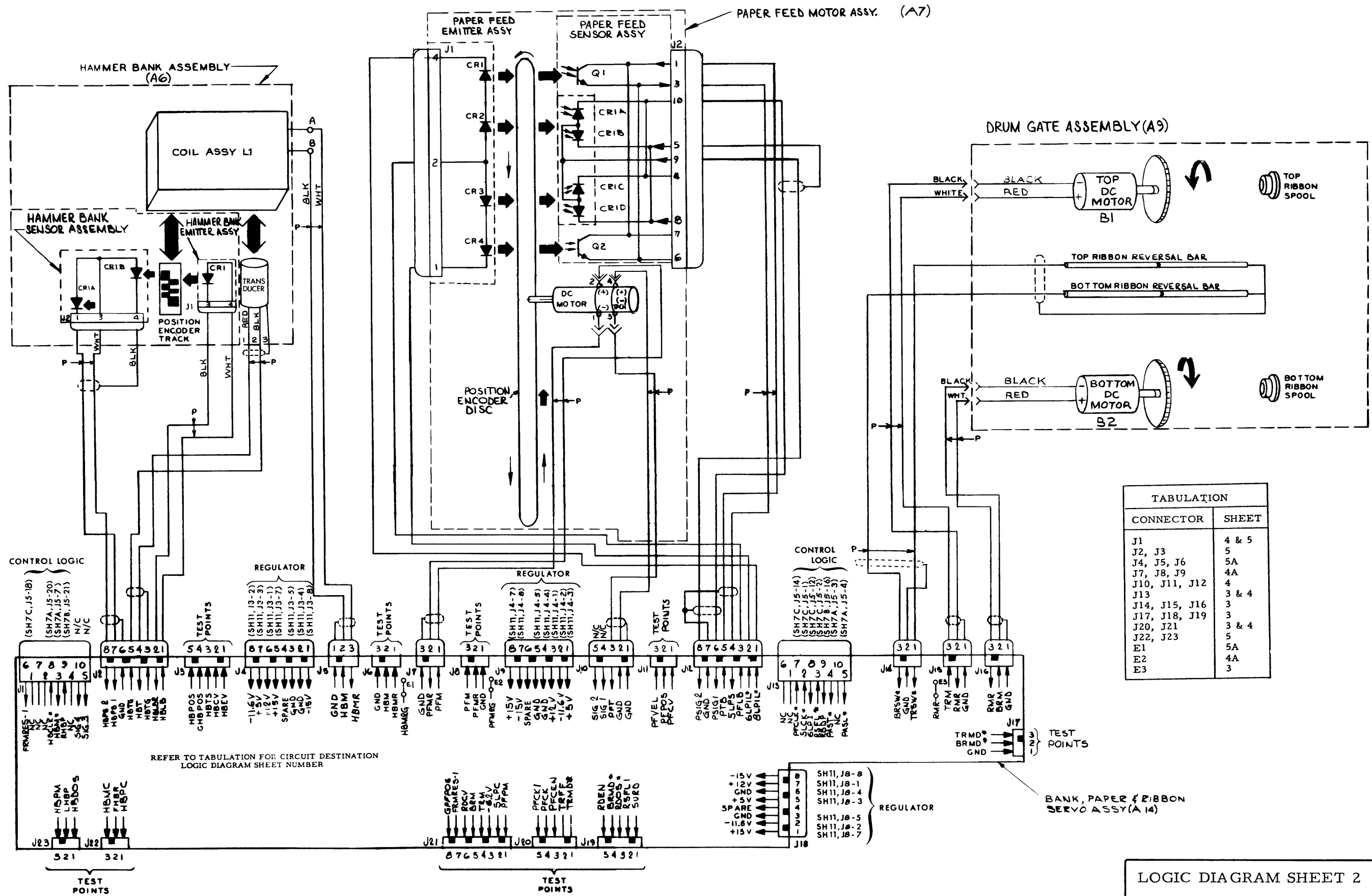
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LOGIC DIAGRAM SHEET 1
 PRINTER WIRING & CABLING

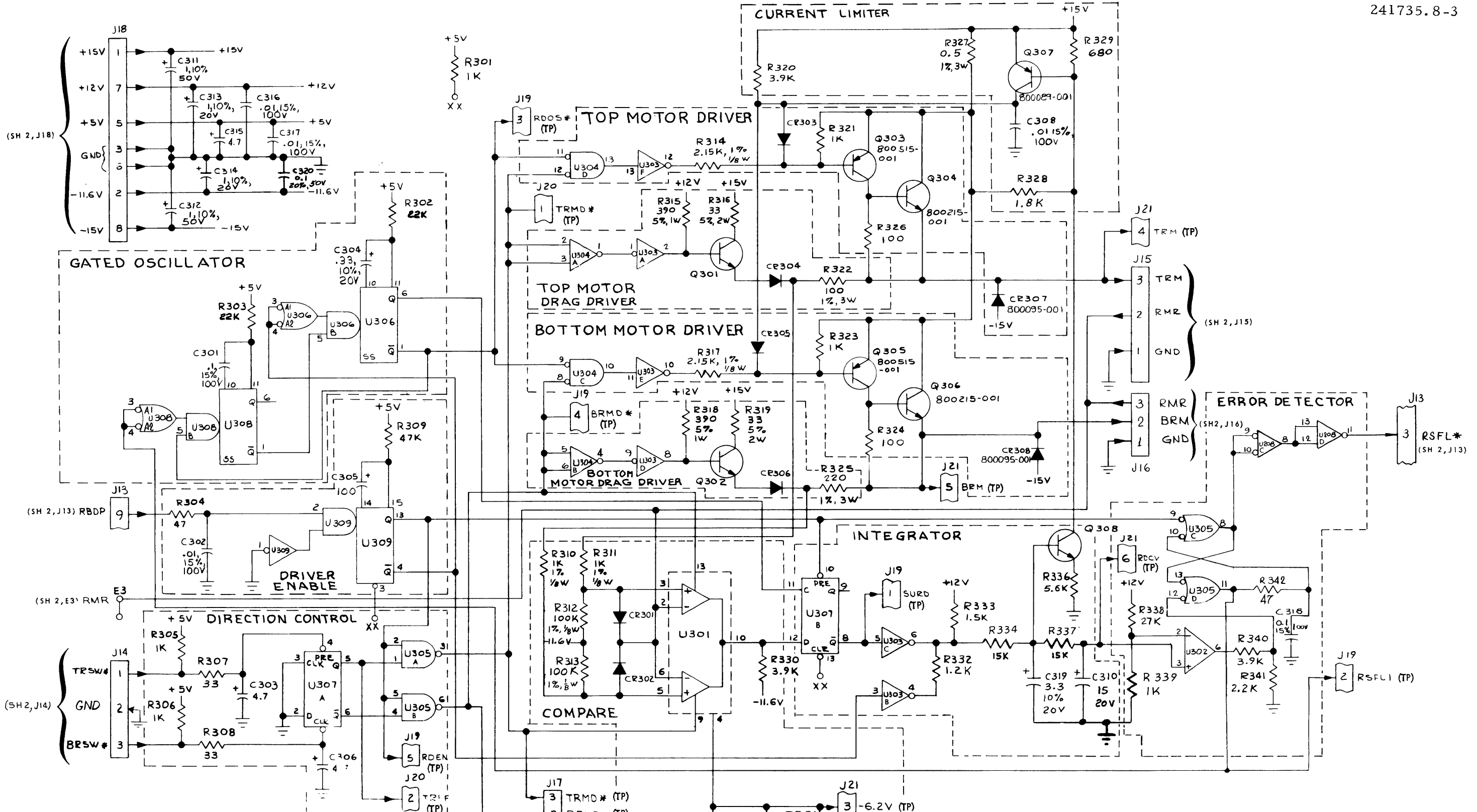
NOTE: SYSTEM WIRING DIAGRAM DWG NO. 240763, REV B.



TABULATION	
CONNECTOR	SHEET
J1	4 & 5
J2, J3	5
J4, J5, J6	5A
J7, J8, J9	4A
J10, J11, J12	4
J13	3 & 4
J14, J15, J16	3
J17, J18, J19	3
J20, J21	3 & 4
J22, J23	5
E1	5A
E2	4A
E3	3

LOGIC DIAGRAM SHEET 2
SERVO SYSTEMS WIRING

NOTE: SCHEMATIC DRAWING NUMBER 236747, REV F.



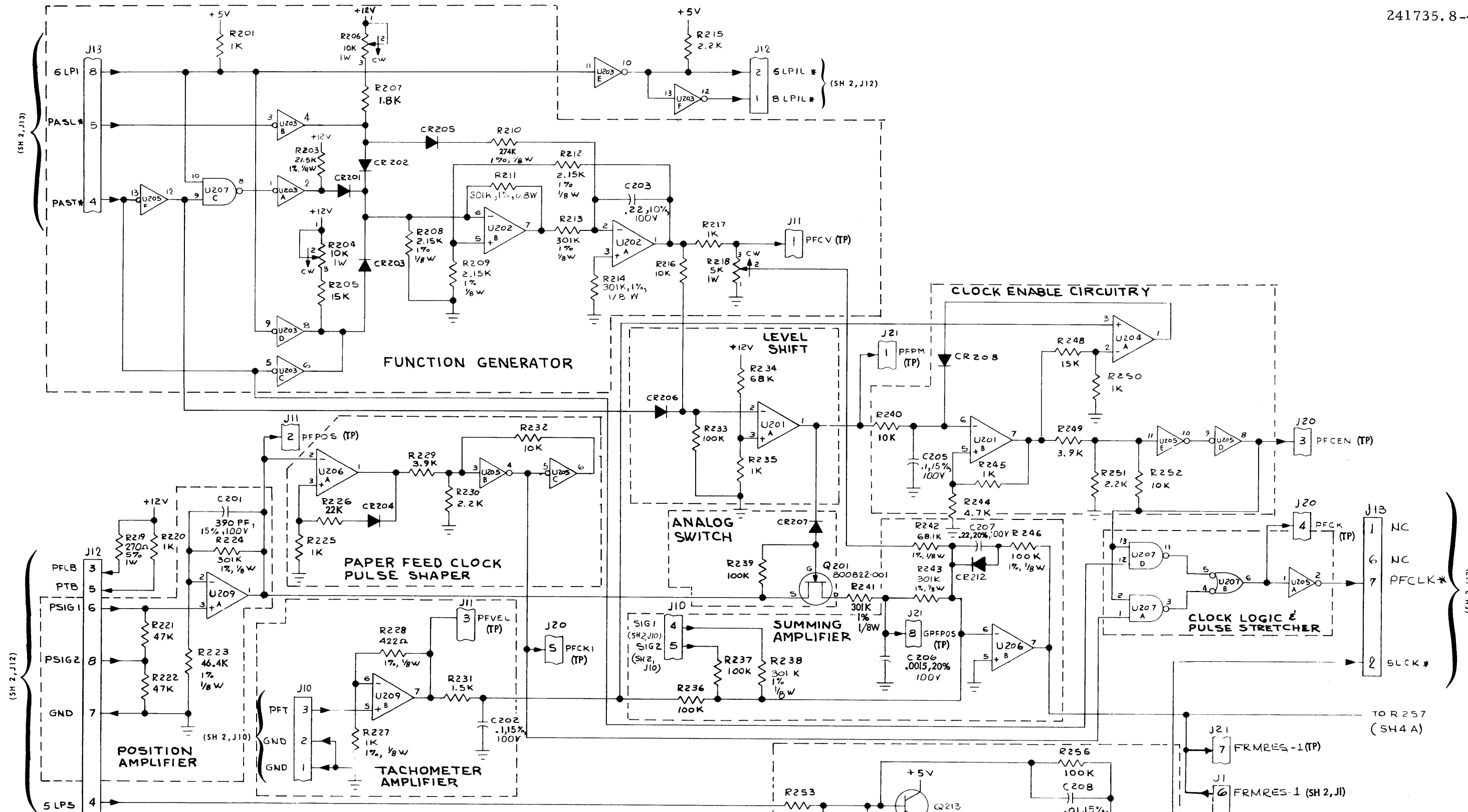
8. SCHEMATIC DRAWING NUMBER: 235649, REV. Y.
 7. ASSEMBLY DRAWING NUMBER: 235645, REV. W.
 6. INTERPRET ELECTRONIC SYMBOLS PER 850026.
 5. INTERPRET REFERENCE DESIGNATIONS PER 850027.
 4. ALL DIODES ARE 800743-001.
 3. ALL TRANSISTORS ARE 800088-001.
 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 10%, 10V.
 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED

9. INTEGRATED CIRCUITS ARE

REF DESIG	PART NO.
U208, U305	800024-001
U301	800186-001
U302	800732-001
U304	800080-001
U306, U308	800491-001
U307	800400-001
U309	800979-001

LOGIC DIAGRAM SHEET 3
 RIBBON DRIVE SERVO SYSTEM



8. SCHEMATIC DRAWING NUMBER 235649, REV. Y.
 7. ASSEMBLY DRAWING NUMBER 235645, REV. W.
 6. INTERPRET ELECTRONIC SYMBOLS PER 850026.
 5. INTERPRET REFERENCE DESIGNATIONS PER 850027.
 4. ALL DIODES ARE 800743-001.
 3. ALL TRANSISTORS ARE 800088-001.
 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 10%, 10V.
 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

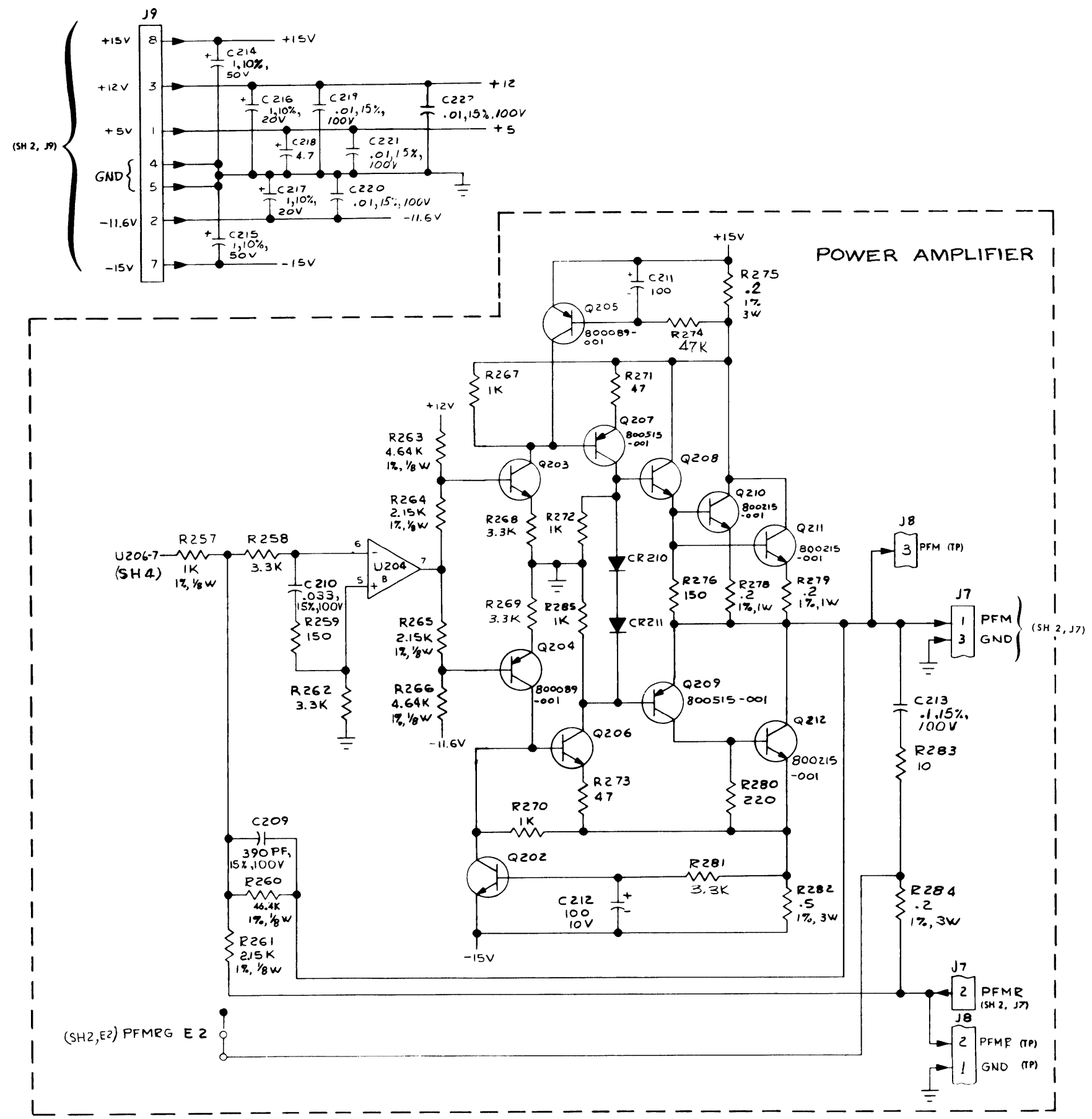
NOTES: UNLESS OTHERWISE SPECIFIED

9. INTEGRATED CIRCUITS ARE AS FOLLOWS:

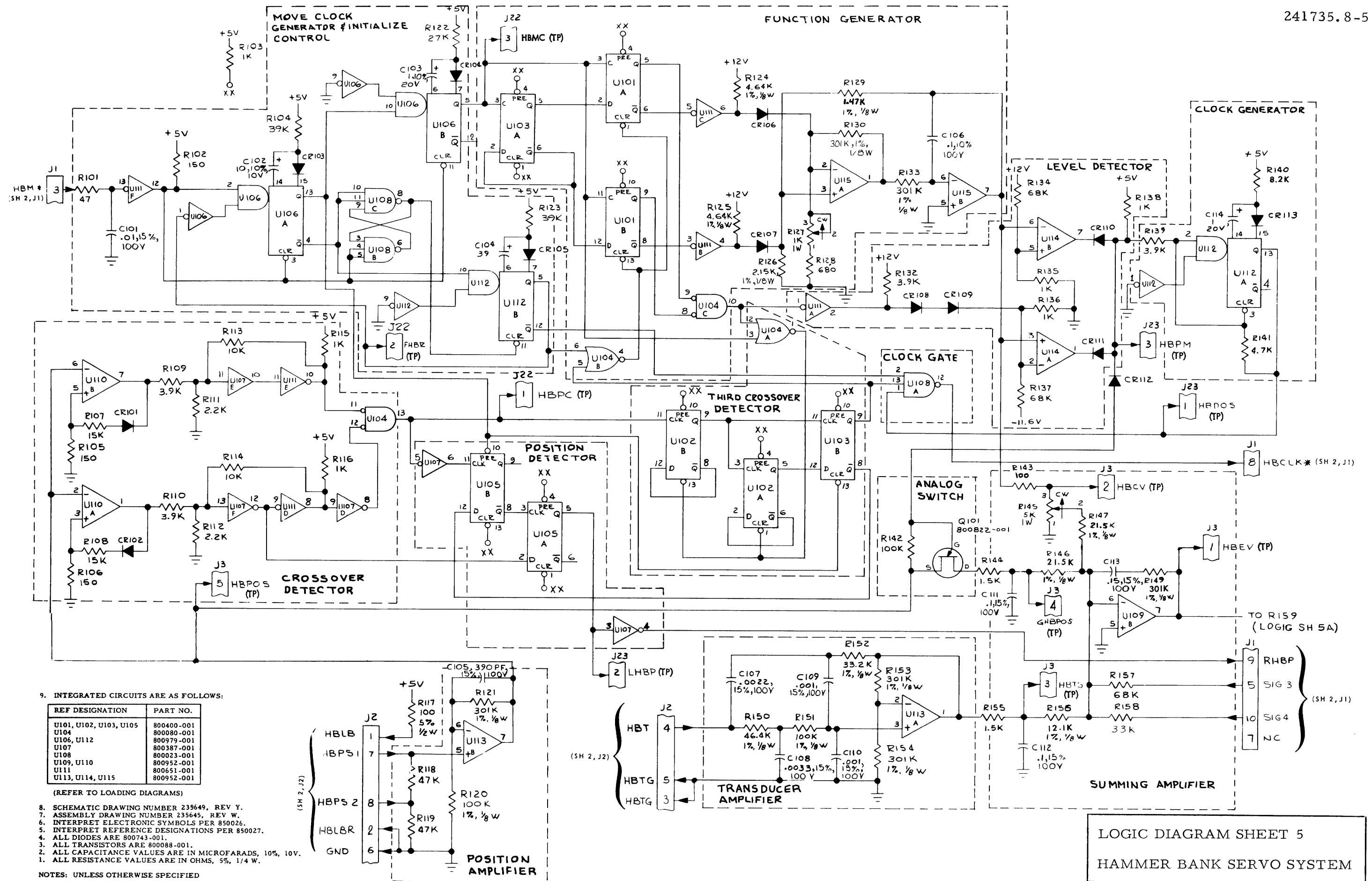
REF DESIG	PART NO.
U201, U202	800952-001
U203	800651-001
U204, U206, U209	800952-001
U205	800387-001
U207, U208	800024-001

(REFER TO LOADING DIAGRAMS)

LOGIC DIAGRAM SHEET 4
 PAPER FEED SERVO SYSTEM



LOGIC DIAGRAM SHEET 4A
PAPER FEED SERVO SYSTEM



9. INTEGRATED CIRCUITS ARE AS FOLLOWS:

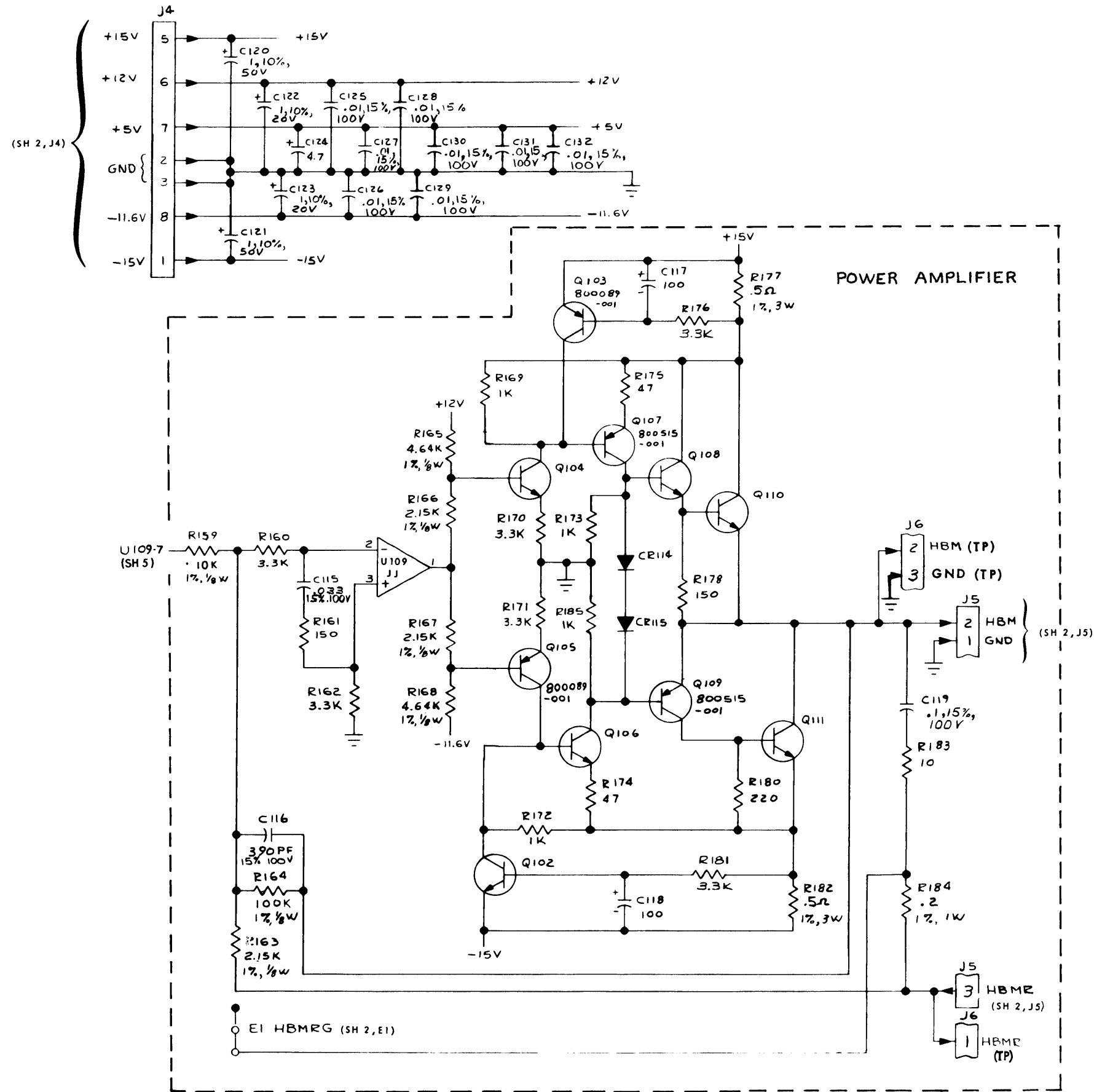
REF DESIGNATION	PART NO.
U101, U102, U103, U105	800400-001
U104	800080-001
U106, U112	800979-001
U107	800387-001
U108	800023-001
U109, U110	800952-001
U111	800651-001
U113, U114, U115	800952-001

(REFER TO LOADING DIAGRAMS)

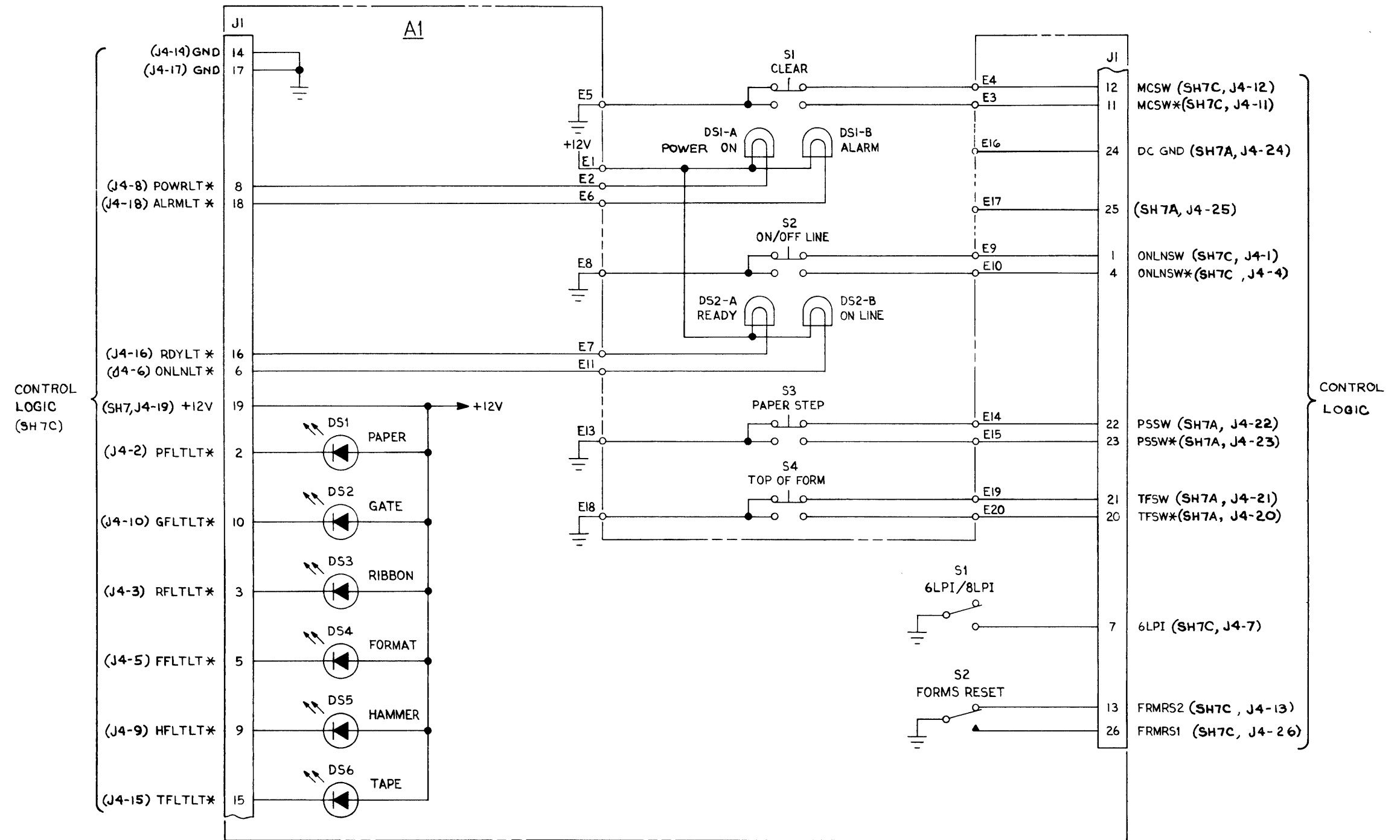
8. SCHEMATIC DRAWING NUMBER 235649, REV Y.
7. ASSEMBLY DRAWING NUMBER 235645, REV W.
6. INTERPRET ELECTRONIC SYMBOLS PER 850026.
5. INTERPRET REFERENCE DESIGNATIONS PER 850027.
4. ALL DIODES ARE 800743-001.
3. ALL TRANSISTORS ARE 800088-001.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 10%, 10V.
1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED

LOGIC DIAGRAM SHEET 5
HAMMER BANK SERVO SYSTEM



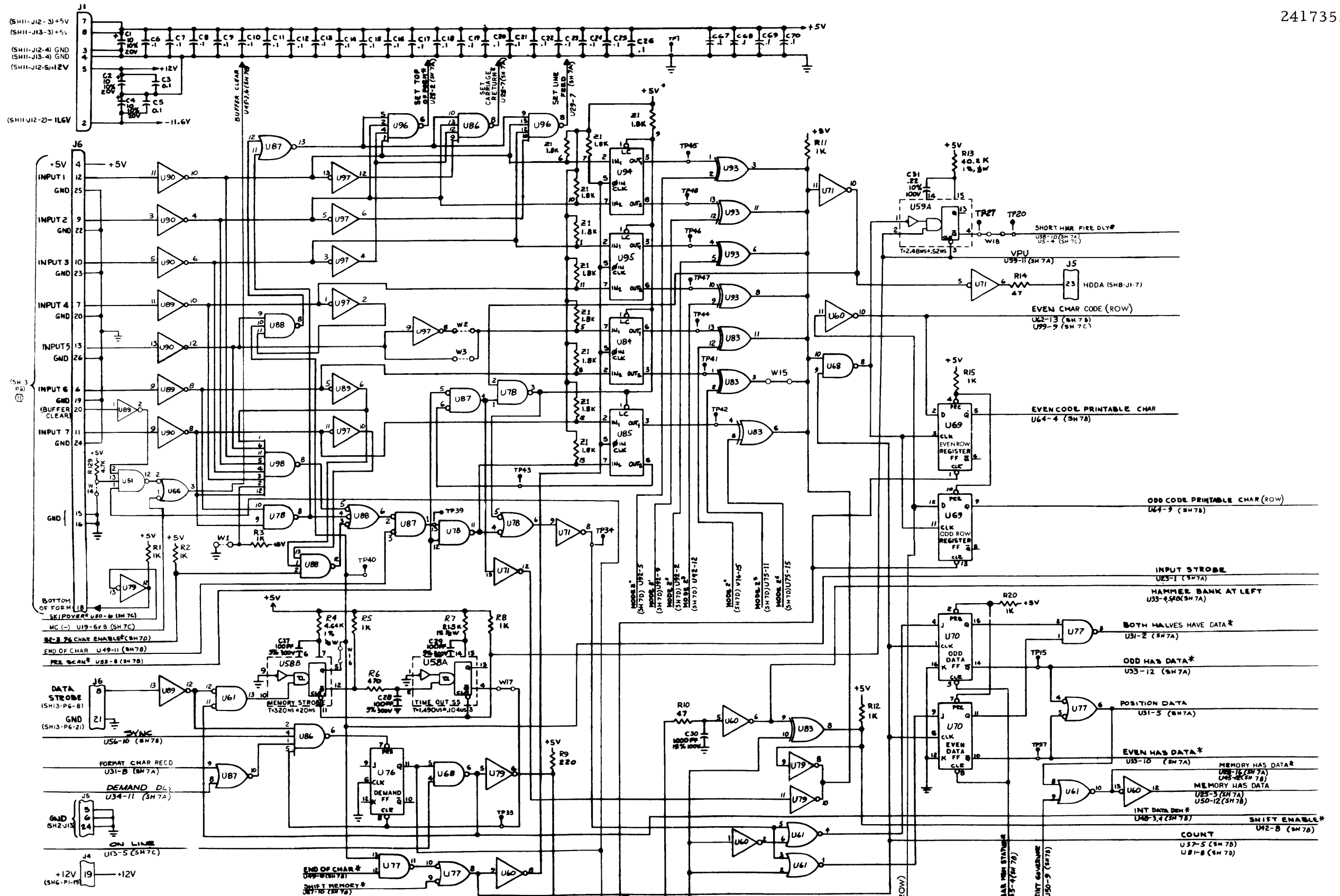
LOGIC DIAGRAM SHEET 5A
HAMMER BANK SERVO SYSTEM



4. SCHEMATIC DRAWING NUMBER 241524, REV XA.
3. ASSEMBLY DRAWING NUMBER 241520, REV XA & 241523 REV XA.
2. INTERPRET ELECTRONIC SYMBOLS PER 850026.
1. INTERPRET REFERENCE DESIGNATIONS PER 850027.

NOTES: UNLESS OTHERWISE SPECIFIED

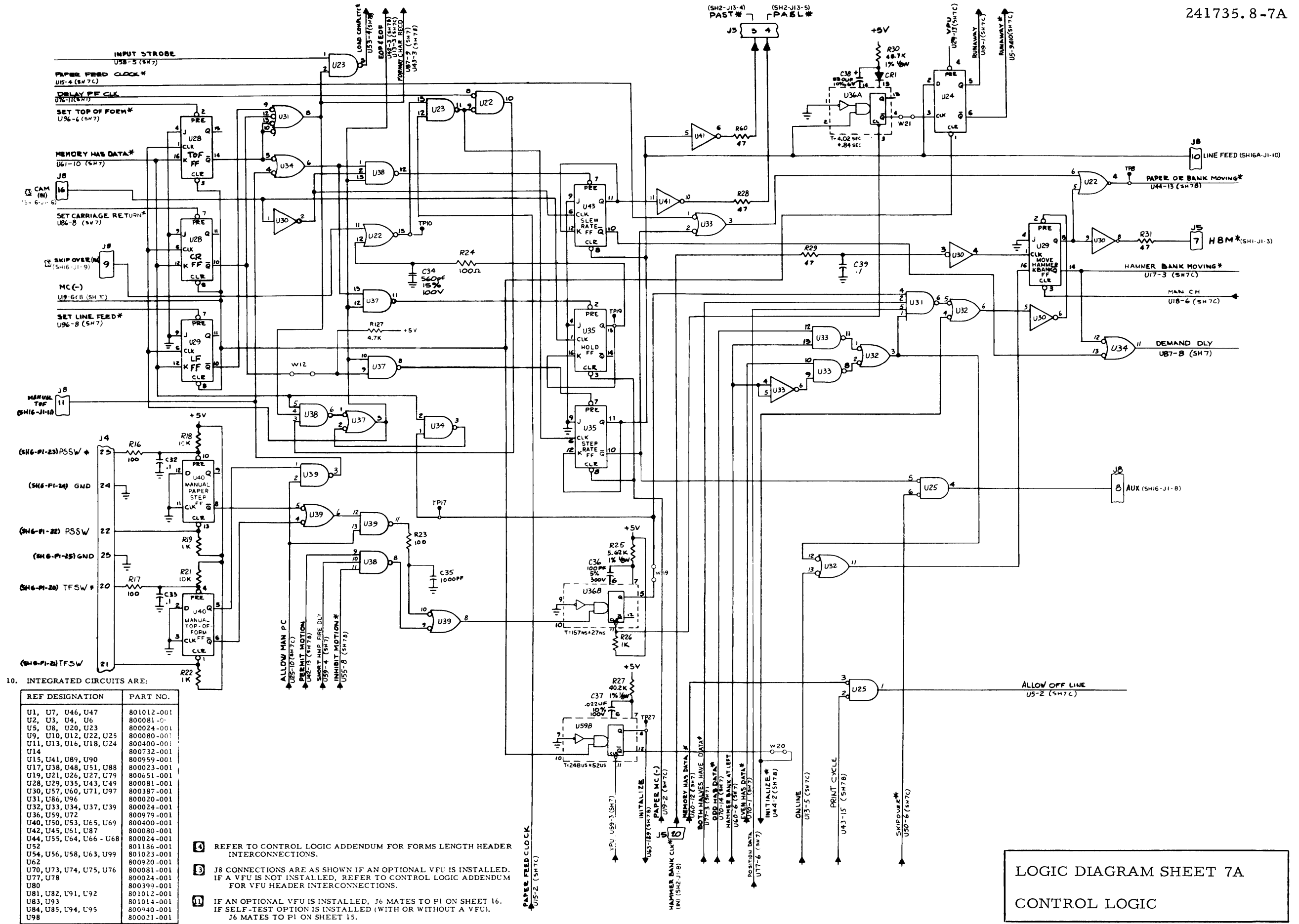
LOGIC DIAGRAM SHEET 6
OPERATOR CONTROL PANEL



- (NOTES CONTINUED ON SHEET 7A)
- 9. JUMPER W1 IS INSTALLED AS SHOWN; RESISTOR R95 IS AN OPTION.
 - 8. SCHEMATIC DRAWING NUMBER 237519, REV G.
 - 7. ASSEMBLY DRAWING NUMBER 237515, REV R.
 - 6. INTERPRET ELECTRONIC SYMBOLS PER 850026.
 - 5. INTERPRET REFERENCE DESIGNATIONS PER 850027.
 - 3. ALL DIODES ARE 800743-001.
 - 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 15%, 10V.
 - 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED

LOGIC DIAGRAM SHEET 7
CONTROL LOGIC

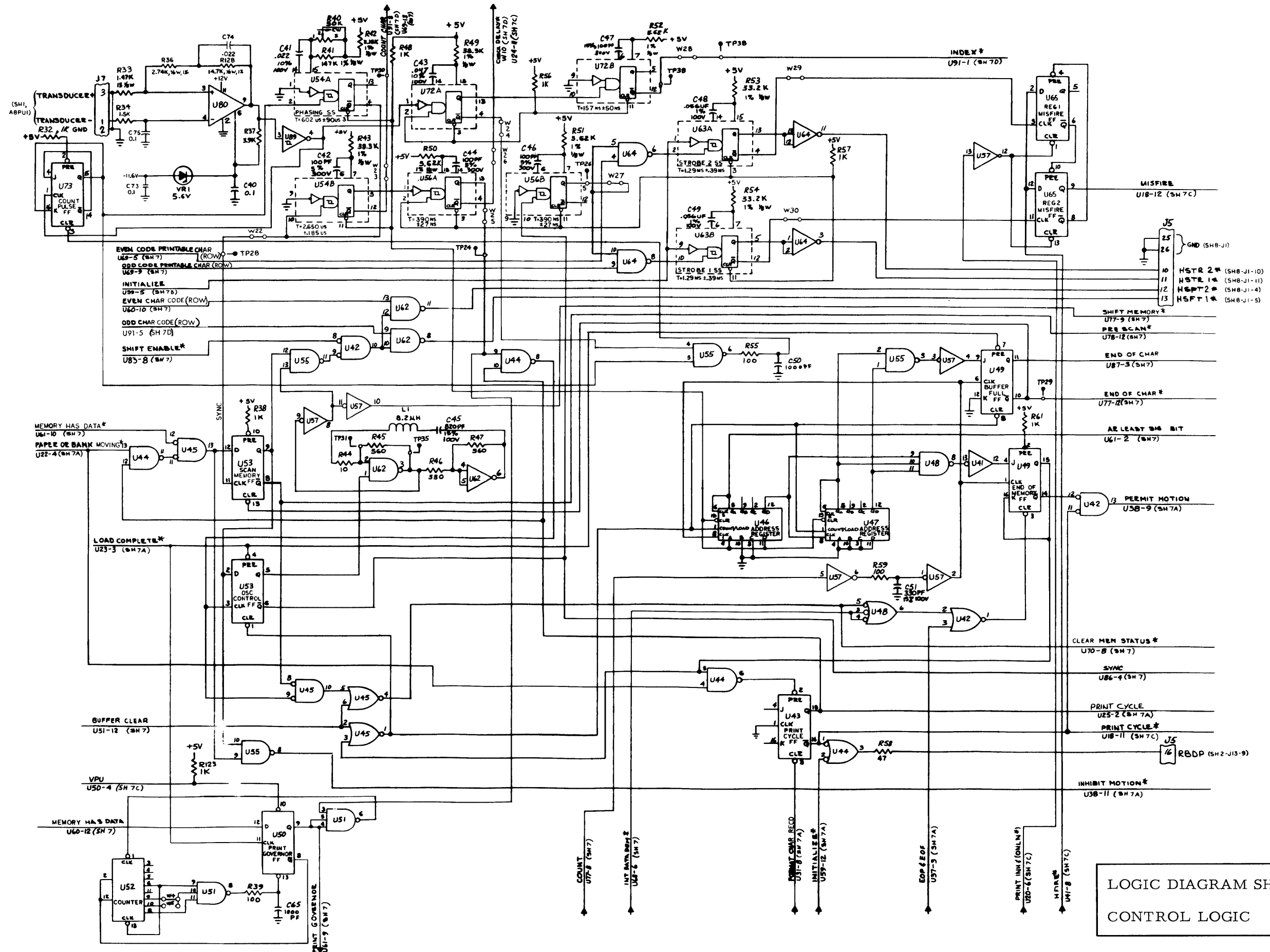


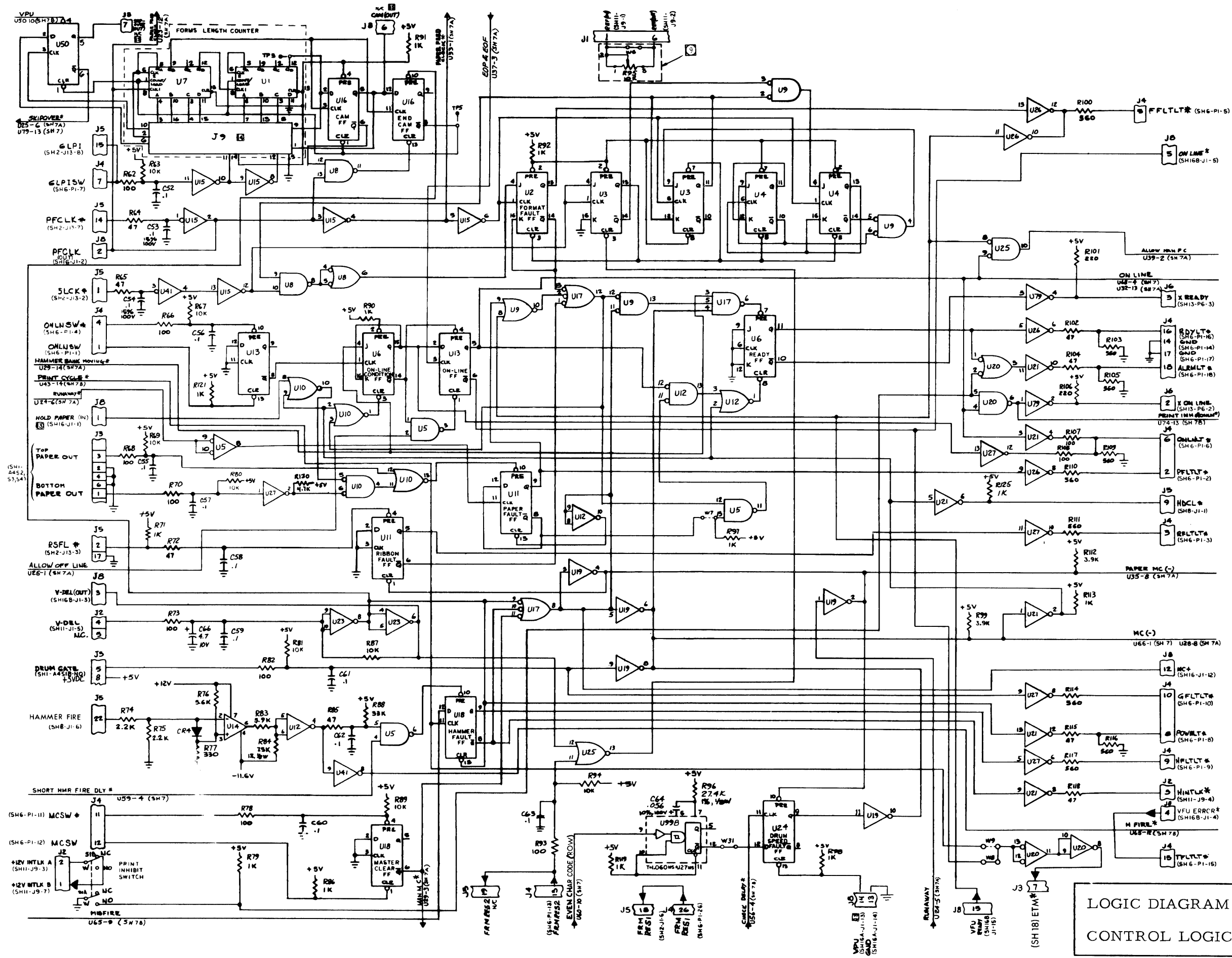
10. INTEGRATED CIRCUITS ARE:

REF DESIGNATION	PART NO.
U1, U7, U46, U47	801012-001
U2, U3, U4, U6	800081-001
U5, U8, U20, U23	800024-001
U9, U10, U12, U22, U25	800080-001
U11, U13, U16, U18, U24	800400-001
U14	800732-001
U15, U41, U89, U90	800959-001
U17, U38, U48, U51, U88	800023-001
U19, U21, U26, U27, U79	800651-001
U28, U29, U35, U43, U49	800081-001
U30, U57, U60, U71, U97	800387-001
U31, U86, U96	800020-001
U32, U33, U34, U37, U39	800024-001
U36, U59, U72	800979-001
U40, U50, U53, U65, U69	800400-001
U42, U45, U61, U87	800080-001
U44, U55, U64, U66 - U68	800024-001
U52	801186-001
U54, U56, U58, U63, U99	801023-001
U62	800920-001
U70, U73, U74, U75, U76	800081-001
U77, U78	800024-001
U80	800399-001
U81, U82, U91, U92	801012-001
U83, U93	801014-001
U84, U85, U94, U95	800940-001
U98	800021-001

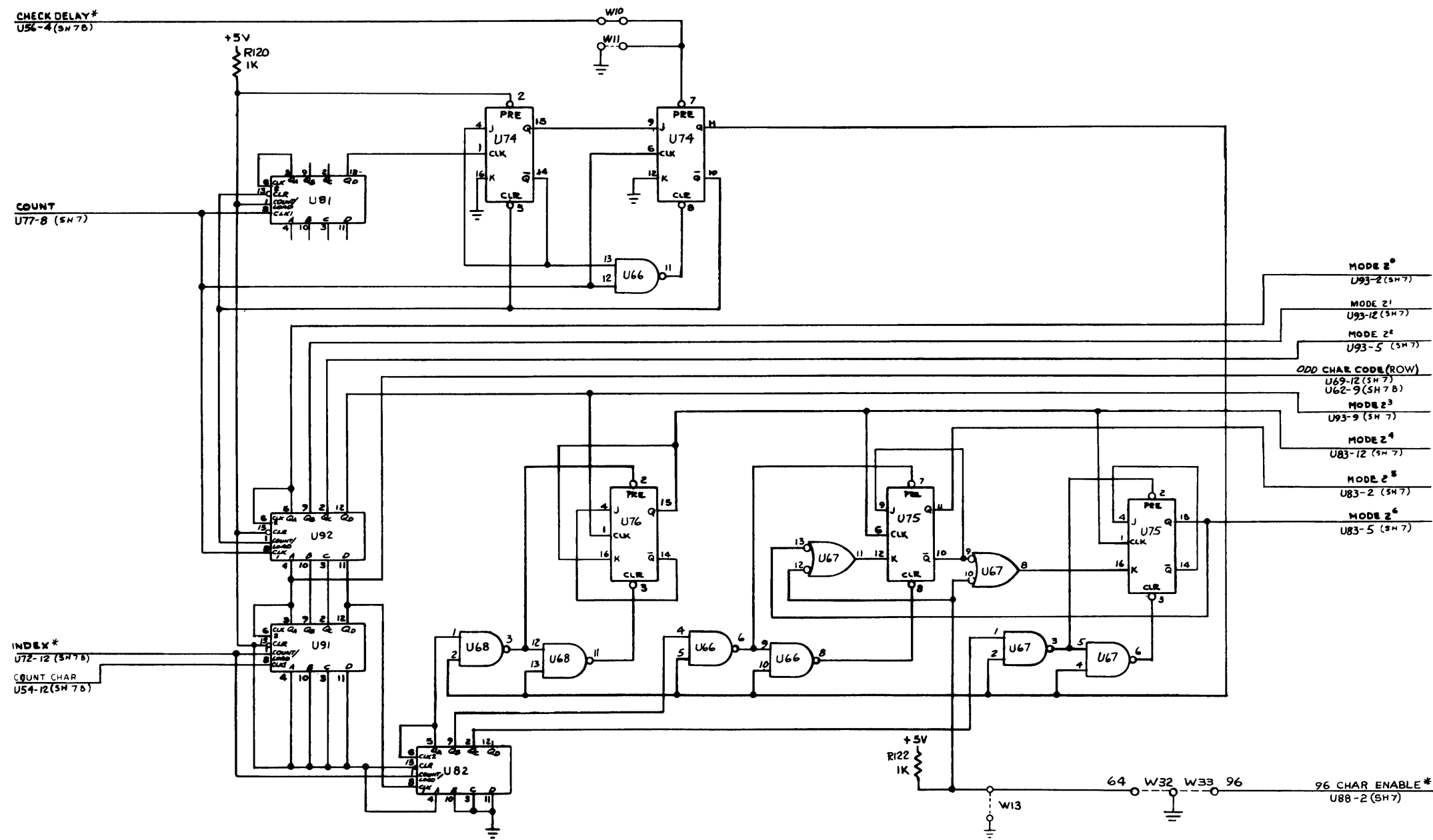
- ④ REFER TO CONTROL LOGIC ADDENDUM FOR FORMS LENGTH HEADER INTERCONNECTIONS.
- ⑤ J8 CONNECTIONS ARE AS SHOWN IF AN OPTIONAL VFU IS INSTALLED. IF A VFU IS NOT INSTALLED, REFER TO CONTROL LOGIC ADDENDUM FOR VFU HEADER INTERCONNECTIONS.
- ⑥ IF AN OPTIONAL VFU IS INSTALLED, J6 MATES TO P1 ON SHEET 16. IF SELF-TEST OPTION IS INSTALLED (WITH OR WITHOUT A VFU), J6 MATES TO P1 ON SHEET 15.

LOGIC DIAGRAM SHEET 7A
CONTROL LOGIC

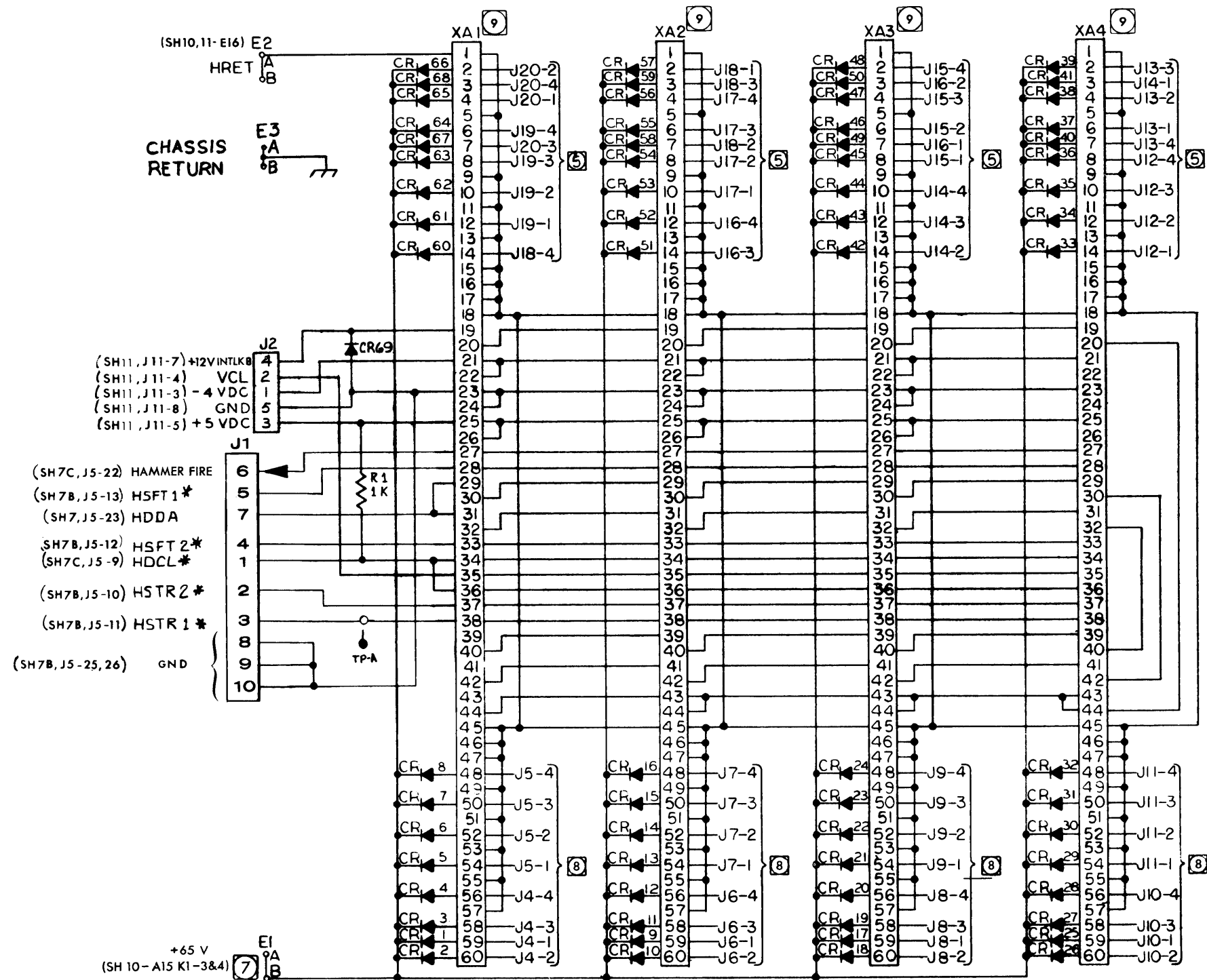




LOGIC DIAGRAM SHEET 7C
CONTROL LOGIC



LOGIC DIAGRAM SHEET 7D
CONTROL LOGIC

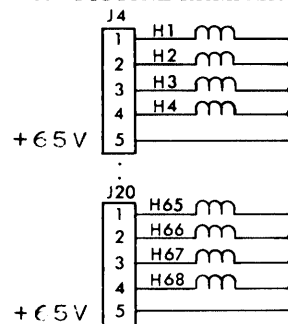


HAMMER NO. 1	J4-1	XA1-59
2	2	60
3	3	58
4	J4-4	56
5	J5-1	54
6	2	52
7	3	50
8	J5-4	XA1 48
9	J6-1	XA2 59
10	2	60
11	3	58
12	J6-4	56
13	J7-1	54
14	2	52
15	3	50
16	J7-4	XA2 48
17	J8-1	XA3 59
18	2	60
19	3	58
20	J8-4	56
21	J9-1	54
22	2	52
23	3	50
24	J9-4	XA3 48
25	J10-1	XA4 59
26	2	60
27	3	58
28	J10-4	56
29	J11-1	54
30	2	52
31	3	50
32	J11-4	48
33	J12-1	14
HAMMER NO. 34	J12-2	XA4-12

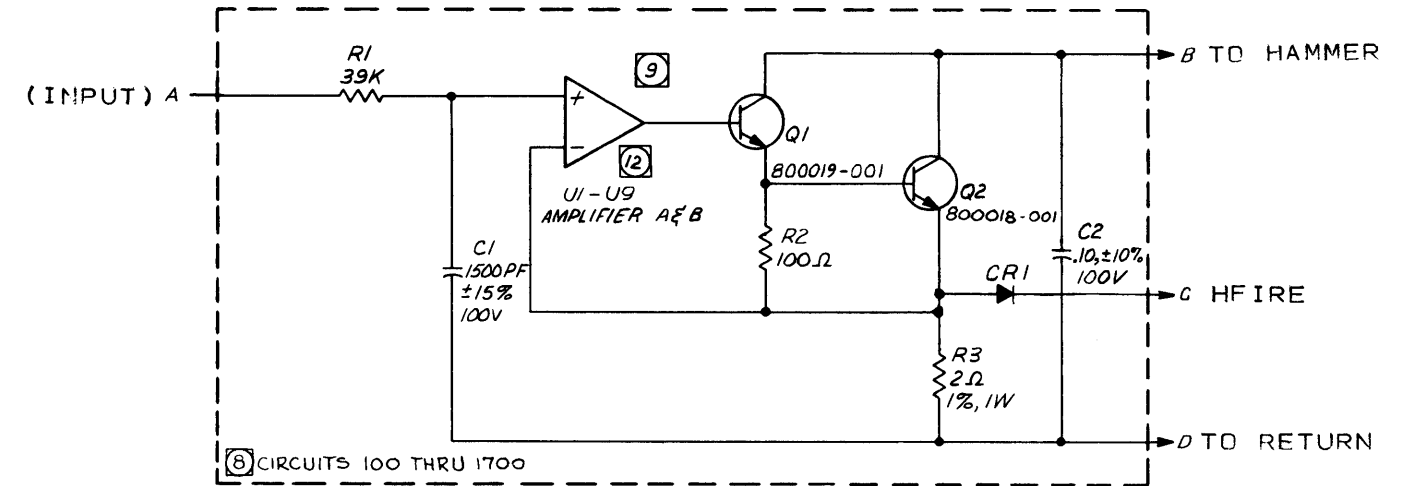
HAMMER NO. 35	J12-3	XA4-10
36	J12-4	8
37	J13-1	6
38	2	4
39	3	2
40	J13-4	7
41	J14-1	XA4 3
42	2	XA3 14
43	3	12
44	J14-4	10
45	J15-1	8
46	2	6
47	3	4
48	J15-4	2
49	J16-1	7
50	2	XA3 3
51	3	XA2 14
52	J16-4	12
53	J17-1	10
54	2	8
55	3	6
56	J17-4	4
57	J18-1	2
58	2	7
59	3	XA2 3
60	J18-4	XA1 14
61	J19-1	12
62	2	10
63	3	8
64	J19-4	6
65	J20-1	4
66	2	2
67	3	7
HAMMER NO. 68	J20-4	XA1-3

- ⑨ REFER TO P1 ON SHEET 9A FOR CIRCUIT DESTINATIONS.
 - ⑧ CONNECTORS J4 THRU J20 ARE OMITTED FOR CLARITY. SEE TABULATIONS FOR CIRCUIT DESTINATIONS.
 - ⑦ E1 IS CONNECTED TO PIN 5 OF J1 THRU J20.
6. SCHEMATIC DRAWING NUMBER IS 236793, REV B.
 5. ASSEMBLY DRAWING NUMBER IS 236790, REV D.
 4. INTERPRET ELECTRONIC SYMBOLS PER 850026.
 3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
 2. ALL DIODES ARE 800743-001.
 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.
- NOTES: UNLESS OTHERWISE SPECIFIED.

10. TYPICAL HAMMER CONNECTION:



LOGIC DIAGRAM SHEET 8
HAMMER DRIVER BACK PANEL



REFERENCE DESIGNATION TO CIRCUIT LOCATION TABLE

CIRCUIT LOCATION	CIRCUIT ELEMENT REFERENCE DESIGNATION
100	U1 B
200	U1 A
300	U2 B
400	U2 A
500	U3 B
600	U3 A
700	U4 B
800	U4 A
900	U5 A: FOR U5 B SEE SHEET 2 OF 2
1000	U6 B
1100	U6 A
1200	U7 B
1300	U7 A
1400	U8 B
1500	U8 A
1600	U9 B
1700	U9 A

1) REFER TO CONNECTORS XA1 AND XA2, AS APPLICABLE, ON SHEET 8 FOR CIRCUIT DESTINATIONS.

10. INTEGRATED CIRCUITS ARE:

REF DESIGNATION	PART NO.
U1 THRU U9	800952-001
U10, U16, U21, U27	800698-001
U11, U12, U14, U15, U19	800480-001
U13, U20, U24	800956-001
U17	800387-001
U18	800400-001
U22, U23, U25, U26	800480-001

(REFER TO LOADING DIAGRAMS)

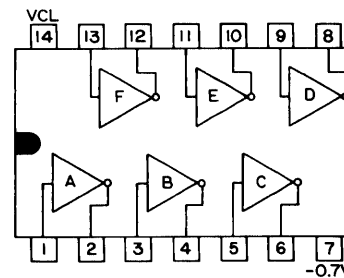
9) FOR COMPLETE REFERENCE DESIGNATION TO RELATED CIRCUIT LOCATION, SEE TABLE.

8) PARTIAL REFERENCE DESIGNATIONS ARE SHOWN FOR CIRCUITS 100 THROUGH 1700. FOR COMPLETE DESIGNATION, USE NUMBER PREFIX FOR APPROPRIATE CIRCUIT. (EX: R101 = R1 OF CIRCUIT 100)

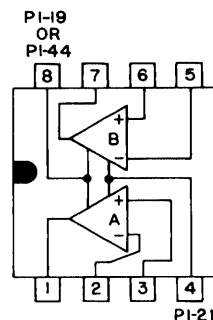
- 7. SCHEMATIC DRAWING NUMBER 238009, REV XC.
- 6. ASSEMBLY DRAWING NUMBER 238005, REV XD.
- 5. INTERPRET ELECTRONIC SYMBOLS PER 850026.
- 4. INTERPRET REFERENCE DESIGNATIONS PER 850027.
- 3. ALL DIODES ARE 800743-001.
- 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 20%, 10V.
- 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED

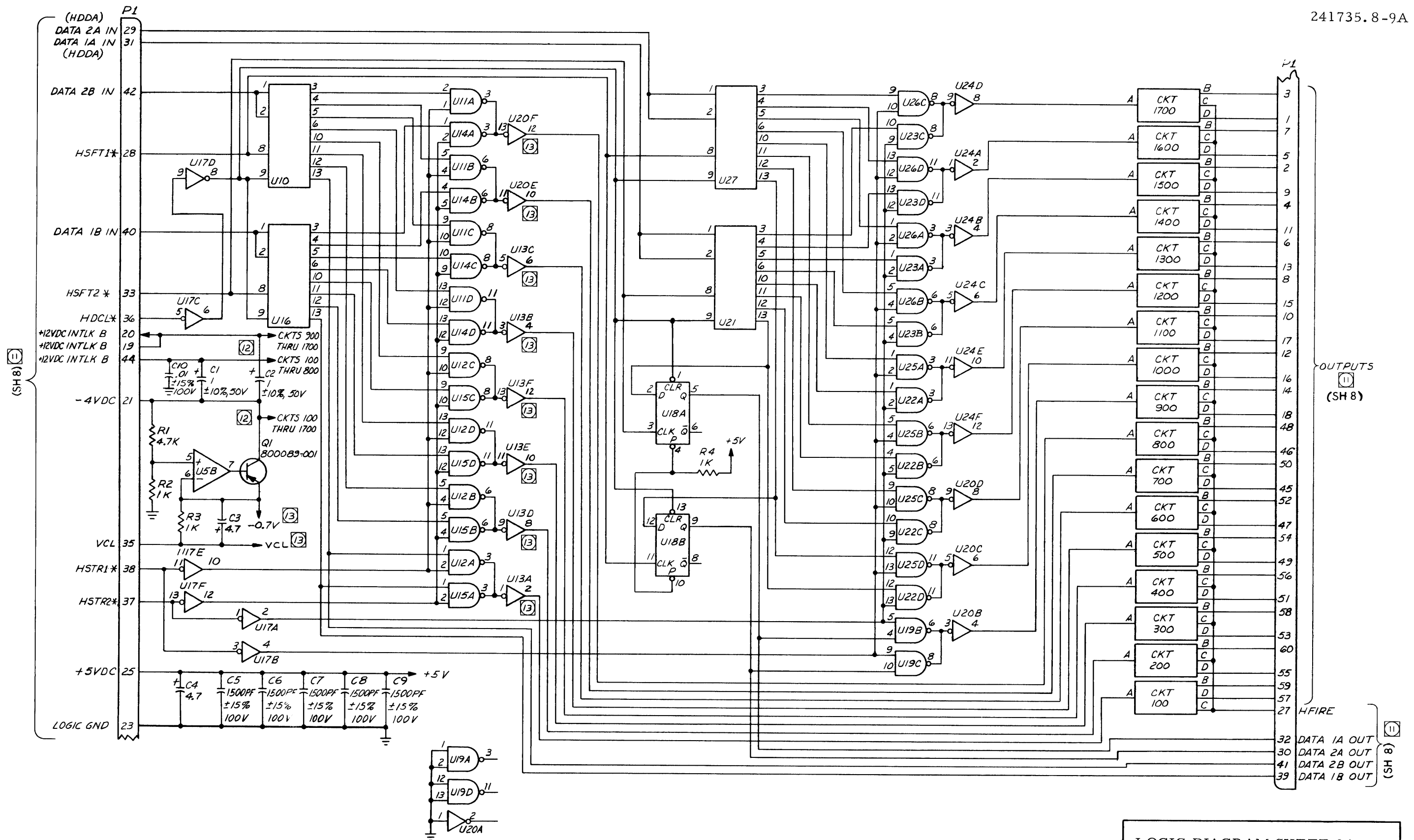
13) POWER CONNECTIONS TO U13 AND U20 ARE AS FOLLOWS:



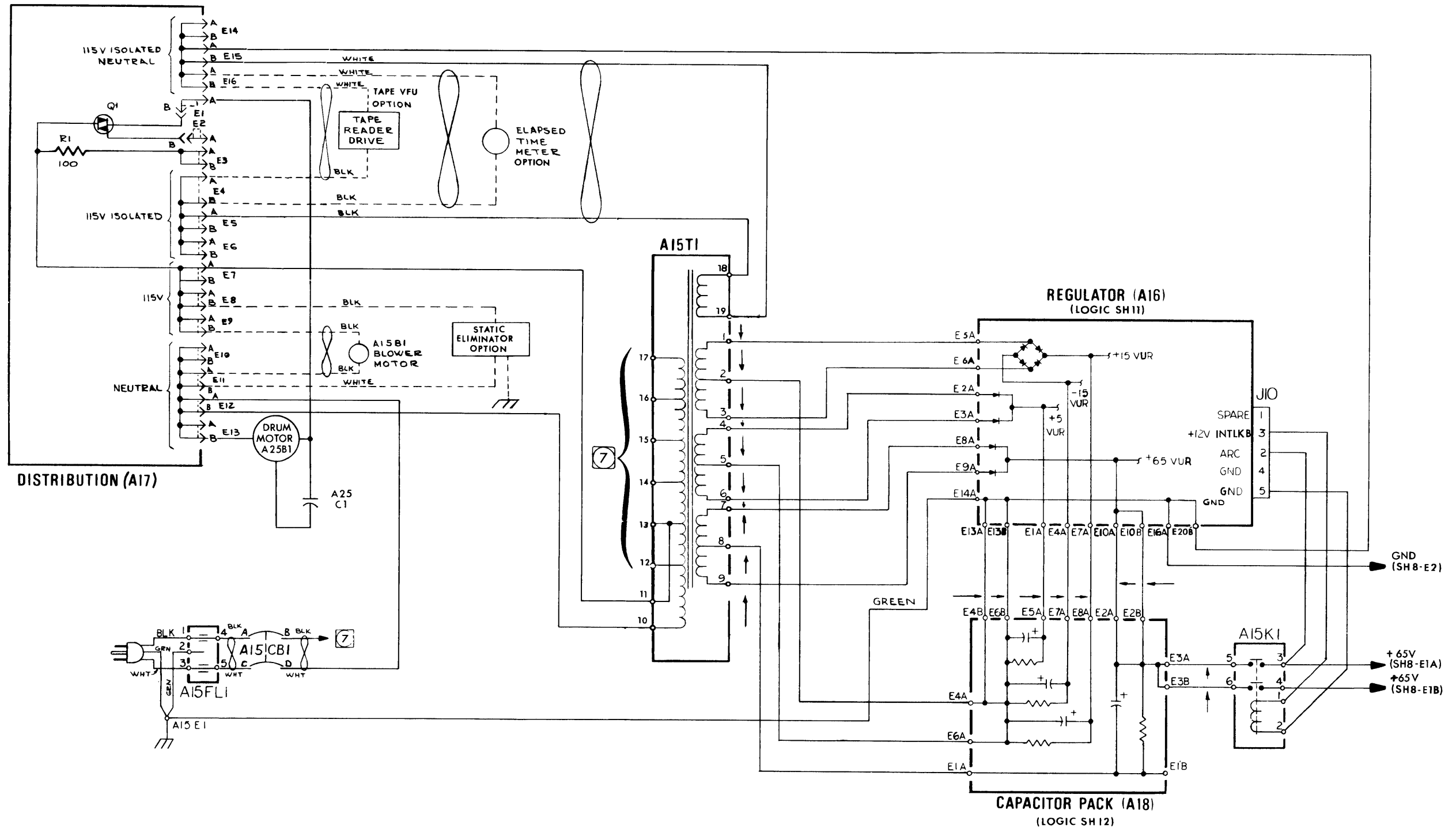
12) POWER CONNECTIONS TO U1-U9 ARE AS FOLLOWS:



LOGIC DIAGRAM SHEET 9
HAMMER DRIVERS



LOGIC DIAGRAM SHEET 9A
HAMMER DRIVERS

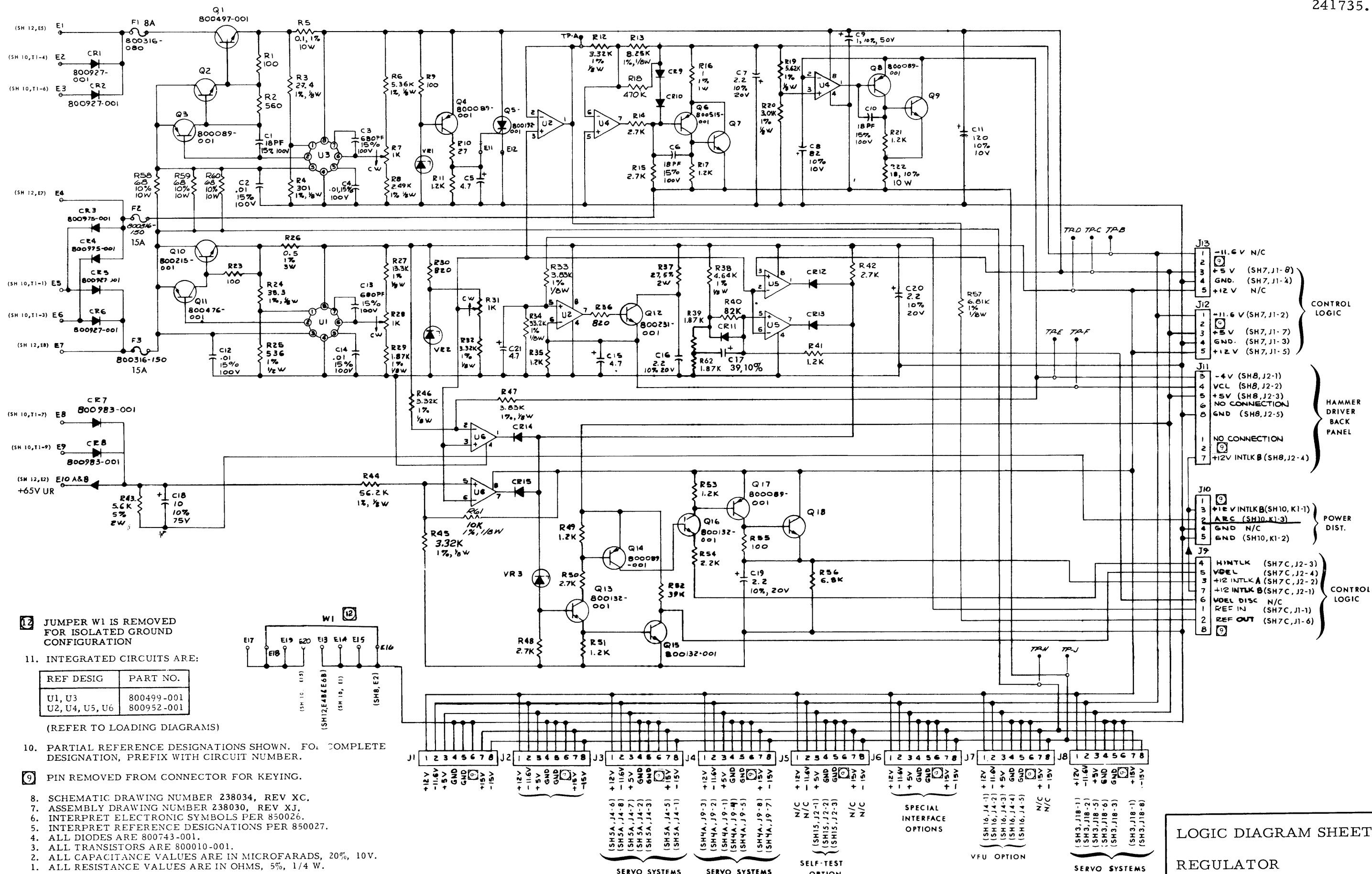


- ⑦ INPUT VOLTAGE DETERMINES CONNECTION. SEE TABULATION.
6. INDIVIDUAL SCHEMATICS ARE SHOWN FOR REFERENCE ONLY. REFER TO ACTUAL LOGIC DIAGRAM FOR COMPONENT VALUES.
 5. SCHEMATIC DRAWING NUMBER 237352. REV B.
 4. ASSEMBLY DRAWING NUMBER 241409, REV XC.
 3. INTERPRET ELECTRONIC SYMBOLS PER 850026.
 2. INTERPRET REFERENCE DESIGNATIONS PER 850027.
 1. ALL WIRE 16 AWG AND WHITE.

NOTES: UNLESS OTHERWISE SPECIFIED

TABULATION	
INPUT VOLTS	⑦
100	A15T1-12
115	A15T1-13
125	A15T1-14
200	A15T1-15
220	A15T1-16
240	A15T1-17

LOGIC DIAGRAM SHEET 10
POWER DISTRIBUTION



LOGIC DIAGRAM SHEET 11
REGULATOR

12 JUMPER W1 IS REMOVED FOR ISOLATED GROUND CONFIGURATION

11. INTEGRATED CIRCUITS ARE:

REF DESIG	PART NO.
U1, U3	800499-001
U2, U4, U5, U6	800952-001

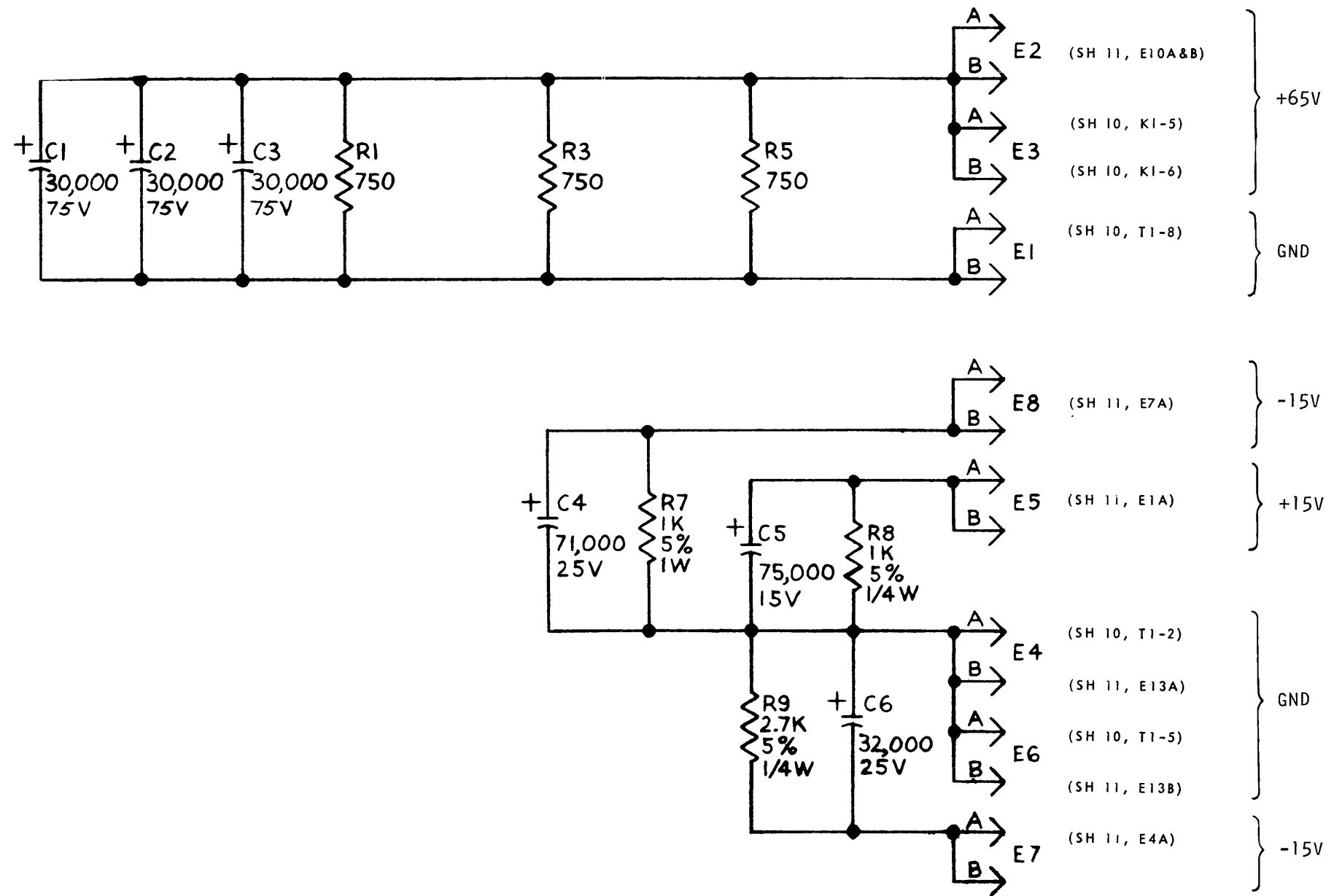
(REFER TO LOADING DIAGRAMS)

10. PARTIAL REFERENCE DESIGNATIONS SHOWN. FOR COMPLETE DESIGNATION, PREFIX WITH CIRCUIT NUMBER.

9. PIN REMOVED FROM CONNECTOR FOR KEYING.

- 8. SCHEMATIC DRAWING NUMBER 238034, REV XC.
- 7. ASSEMBLY DRAWING NUMBER 238030, REV XJ.
- 6. INTERPRET ELECTRONIC SYMBOLS PER 850026.
- 5. INTERPRET REFERENCE DESIGNATIONS PER 850027.
- 4. ALL DIODES ARE 800743-001.
- 3. ALL TRANSISTORS ARE 800010-001.
- 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 20%, 10V.
- 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

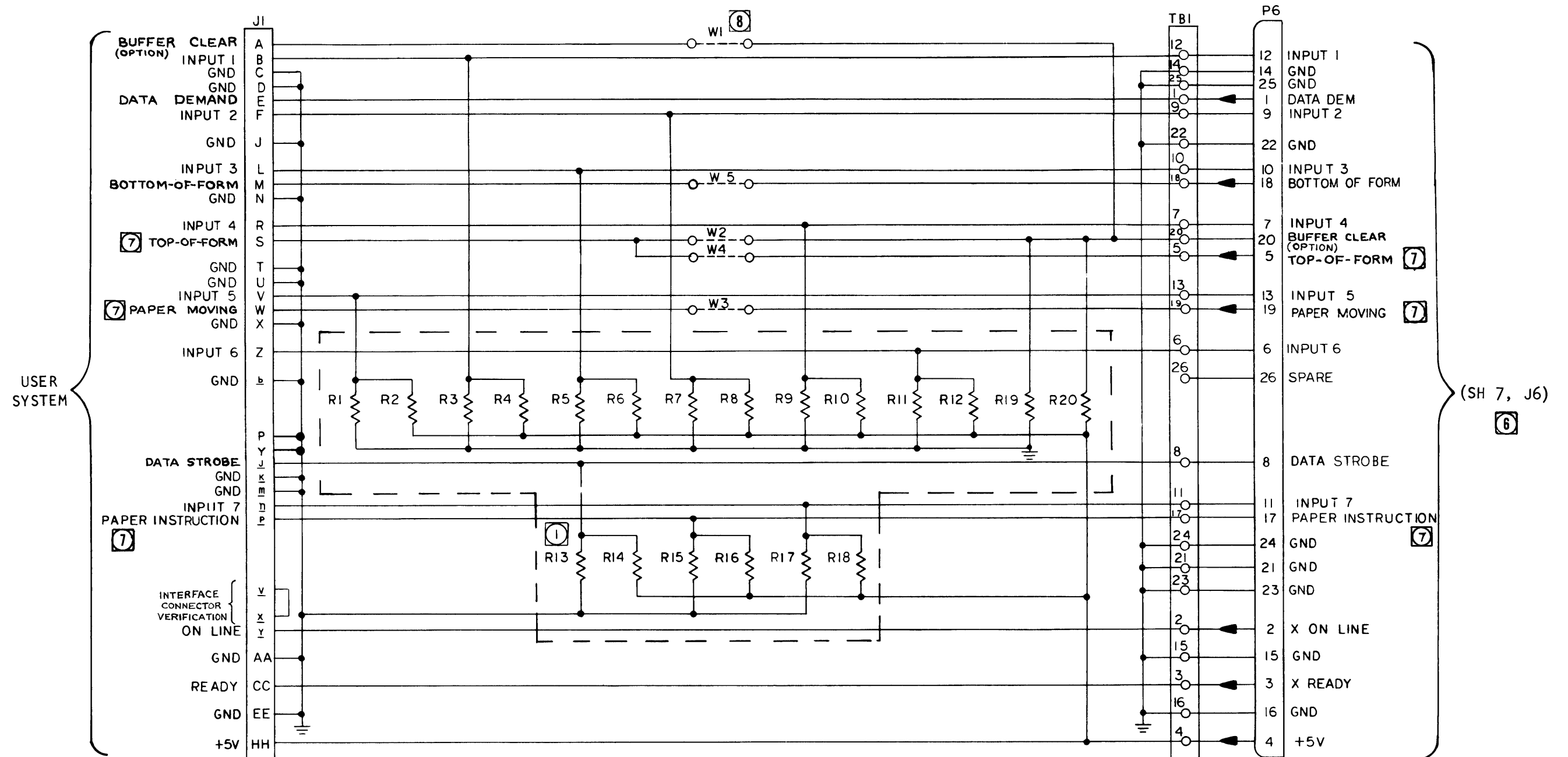
NOTES: UNLESS OTHERWISE SPECIFIED



6. SCHEMATIC DRAWING NUMBER 235028, REV E.
5. ASSEMBLY DRAWING NUMBER 235025, REV G & 235029, REV G.
4. INTERPRET ELECTRONIC SYMBOLS PER 850026.
3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, +120%, -10%, 75V.
1. ALL RESISTANCE VALUES ARE IN OHMS, 10%, 10 W.

NOTES: UNLESS OTHERWISE SPECIFIED

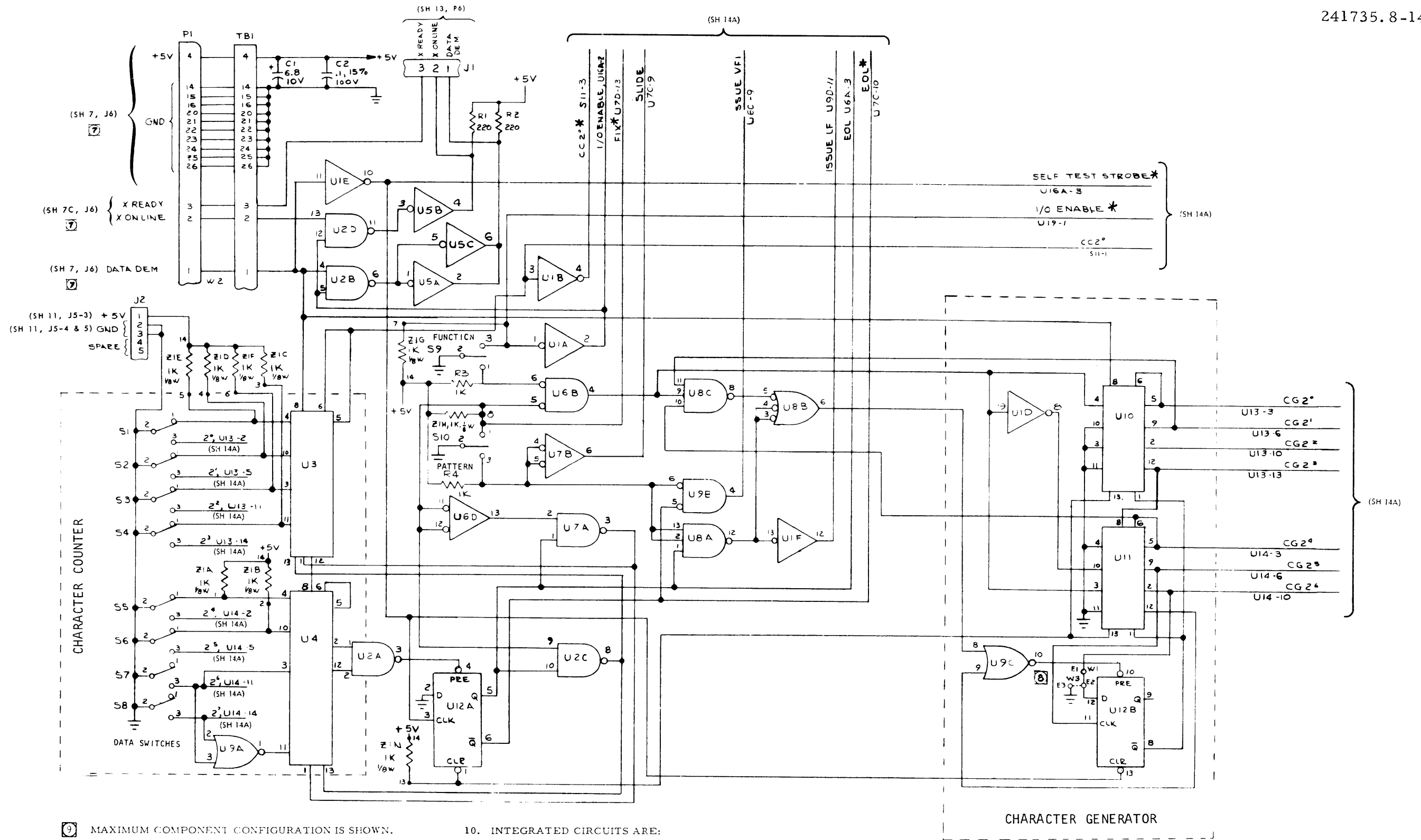
LOGIC DIAGRAM SHEET 12
CAPACITOR PACK



- ⑧ REFER TO INPUT/OUTPUT HARNESS ADDENDUM FOR JUMPER CONFIGURATION.
- ⑦ AVAILABLE ONLY WHEN AN OPTIONAL VFU IS INSTALLED
- ⑥ IF TAPE VFU IS INSTALLED, P6 MATES TO J3 ON SHEET 16
IF SELF-TEST OPTION IS INSTALLED (WITH OR WITHOUT VFU),
P6 MATES TO J1 ON SHEET 14.
- 5. SCHEMATIC DRAWING NUMBER 240849, REV XB.
- 4. ASSEMBLY DRAWING NUMBER 240845, REV XF.
- 3. INTERPRET ELECTRONIC SYMBOLS PER 850026.
- 2. INTERPRET REFERENCE DESIGNATIONS PER 850027.
- ① MAXIMUM COMPONENT CONFIGURATION IS SHOWN;
REFER TO INPUT/OUTPUT HARNESS ADDENDUM FOR
COMPONENT CONFIGURATION.

NOTES: UNLESS OTHERWISE SPECIFIED

LOGIC DIAGRAM SHEET 13
 INPUT/OUTPUT HARNESS



- 9. MAXIMUM COMPONENT CONFIGURATION IS SHOWN.
- 8. JUMPER W1 INSTALLED FOR 64 CHAR DRUM TEST; JUMPER W3 INSTALLED FOR 96 CHAR DRUM TEST.
- 7. IF TAPE VFU INSTALLED, P1 MATES TO J3 ON SHEET 16.
- 6. SCHEMATIC DRAWING NUMBER 235636, REV K.
- 5. ASSEMBLY DRAWING NUMBER 235632, REV N.
- 4. INTERPRET ELECTRONIC SYMBOLS PER 859026.
- 3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
- 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 10%, 10V
- 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

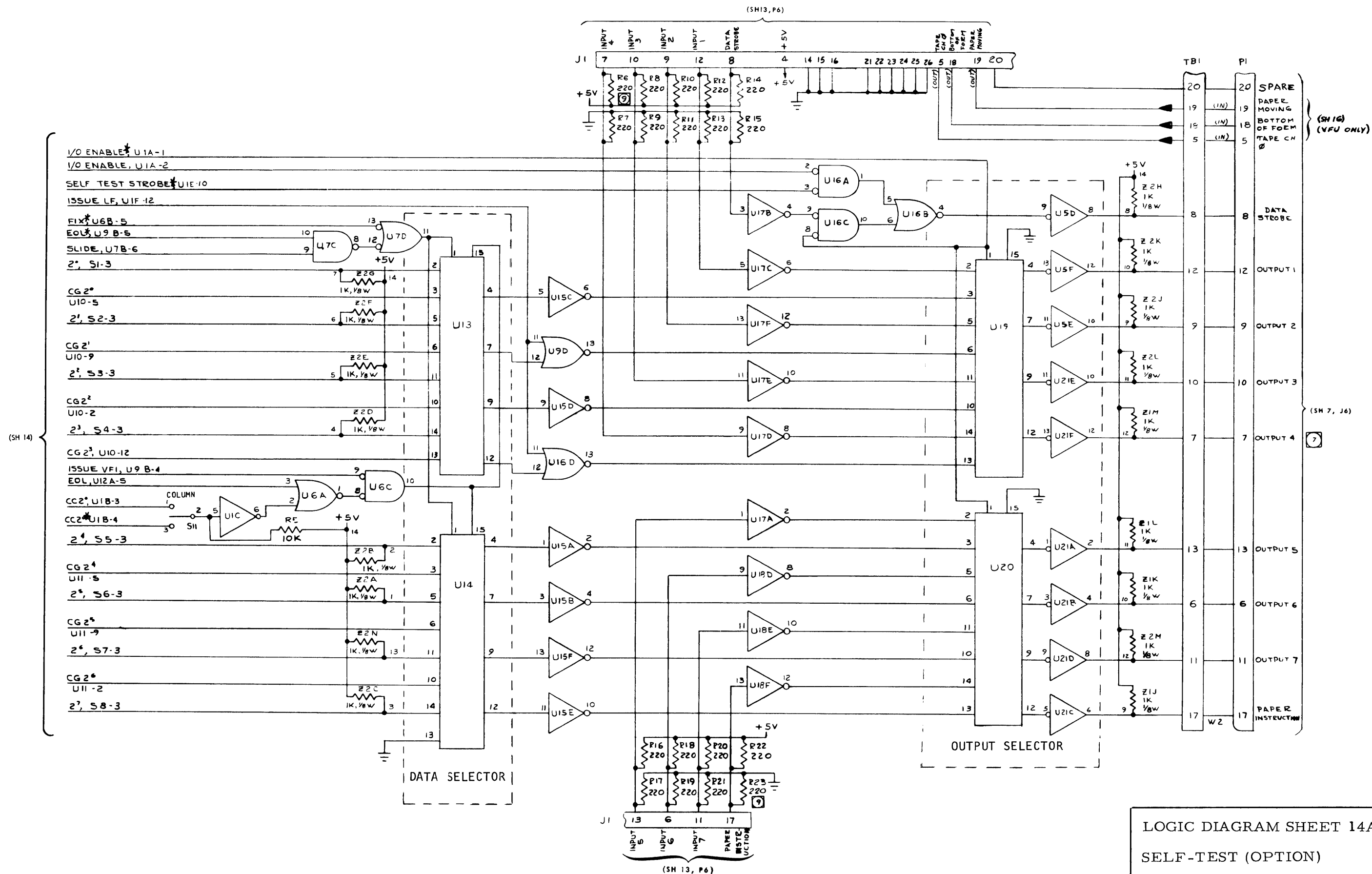
NOTES: UNLESS OTHERWISE SPECIFIED

10. INTEGRATED CIRCUITS ARE:

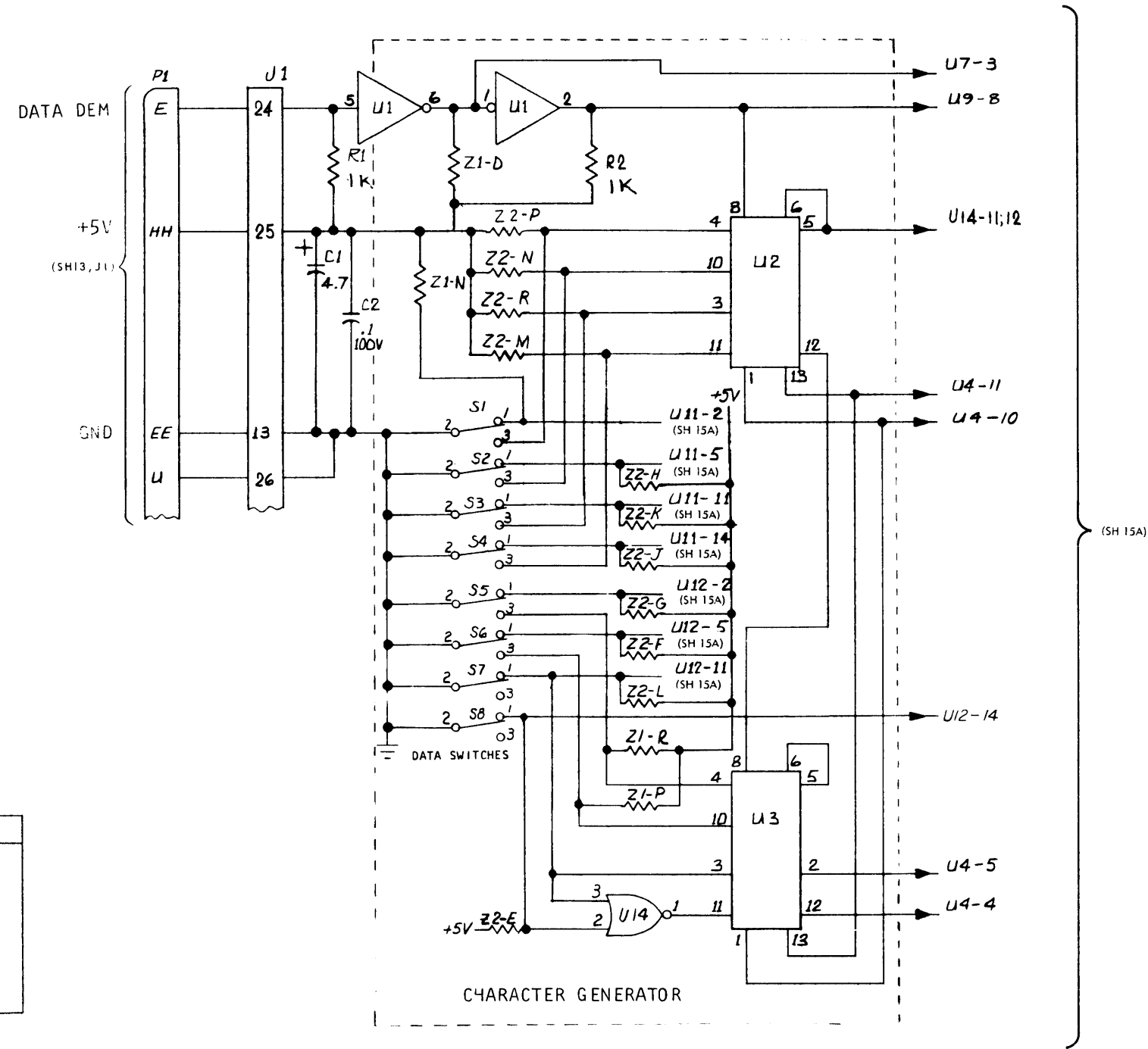
REF DESIGNATION	PART NO.
U1, U5, U15, U21	800387-001
U2, U7	800024-001
U3, U4, U10, U11	801012-001
U6, U9, U16	800080-001
U8	800023-001
U12	800400-001
U13, U14, U19, U20	800947-001
U17, U18	801230-001
Z1, Z2	801000-102

(REFER TO LOADING DIAGRAMS)

LOGIC DIAGRAM SHEET 14
SELF-TEST (OPTION)



LOGIC DIAGRAM SHEET 14A
SELF-TEST (OPTION)



8. INTEGRATED CIRCUITS ARE:

REF DESIGNATION	PART NO.
U1	800651-001
U2, U3, U9, U10	801012-001
U4, U5	800024-001
U6	800387-001
U7	800400-001
U8, U14	800080-001
U11, U12	800947-001
U13	800806-001
Z1	801008-102
Z2	801008-003

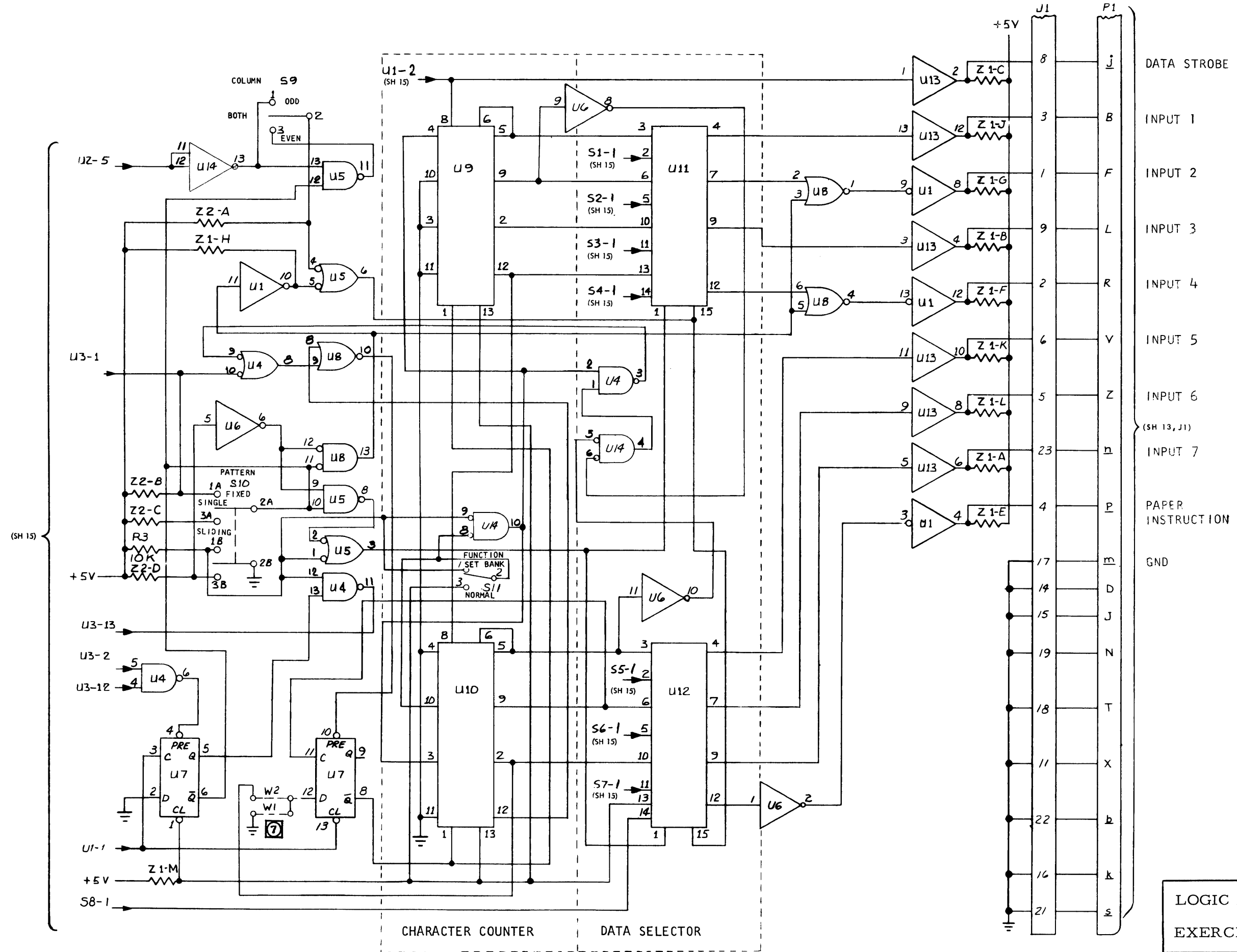
(REFER TO LOADING DIAGRAMS)

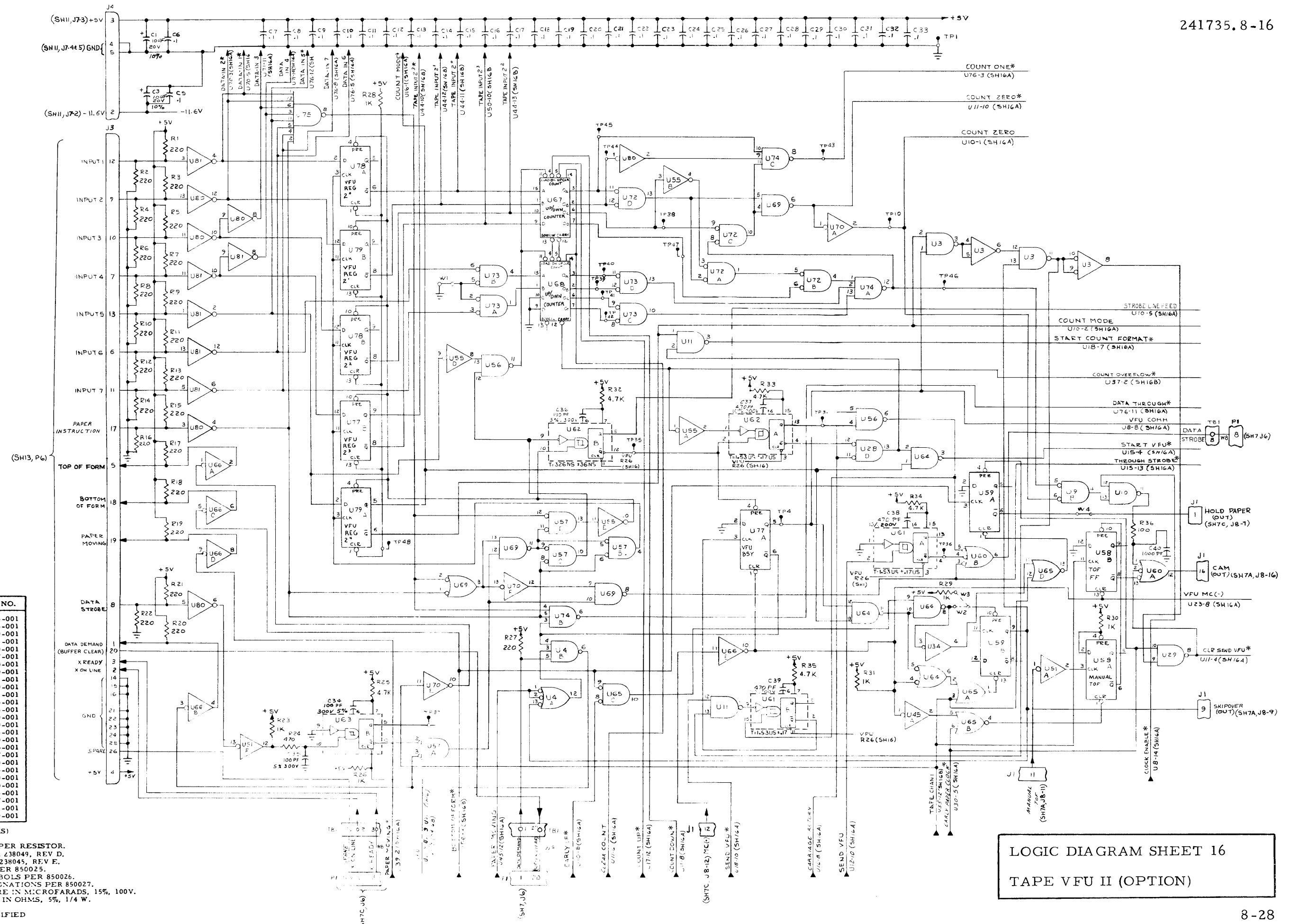
7. JUMPER W1 INSTALLED FOR 14 CHAR DRUM TEST;
JUMPER W2 INSTALLED FOR 96 CHAR DRUM TEST.

6. SCHEMATIC DRAWING NUMBER 235604, REV F.
5. ASSEMBLY DRAWING NUMBER 235600, REV F.
4. INTERPRET ELECTRONIC SYMBOLS PER 550926.
3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 10%, 10V.
1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED

LOGIC DIAGRAM SHEET 15
EXERCISER (OPTION)





9. INTEGRATED CIRCUITS ARE:

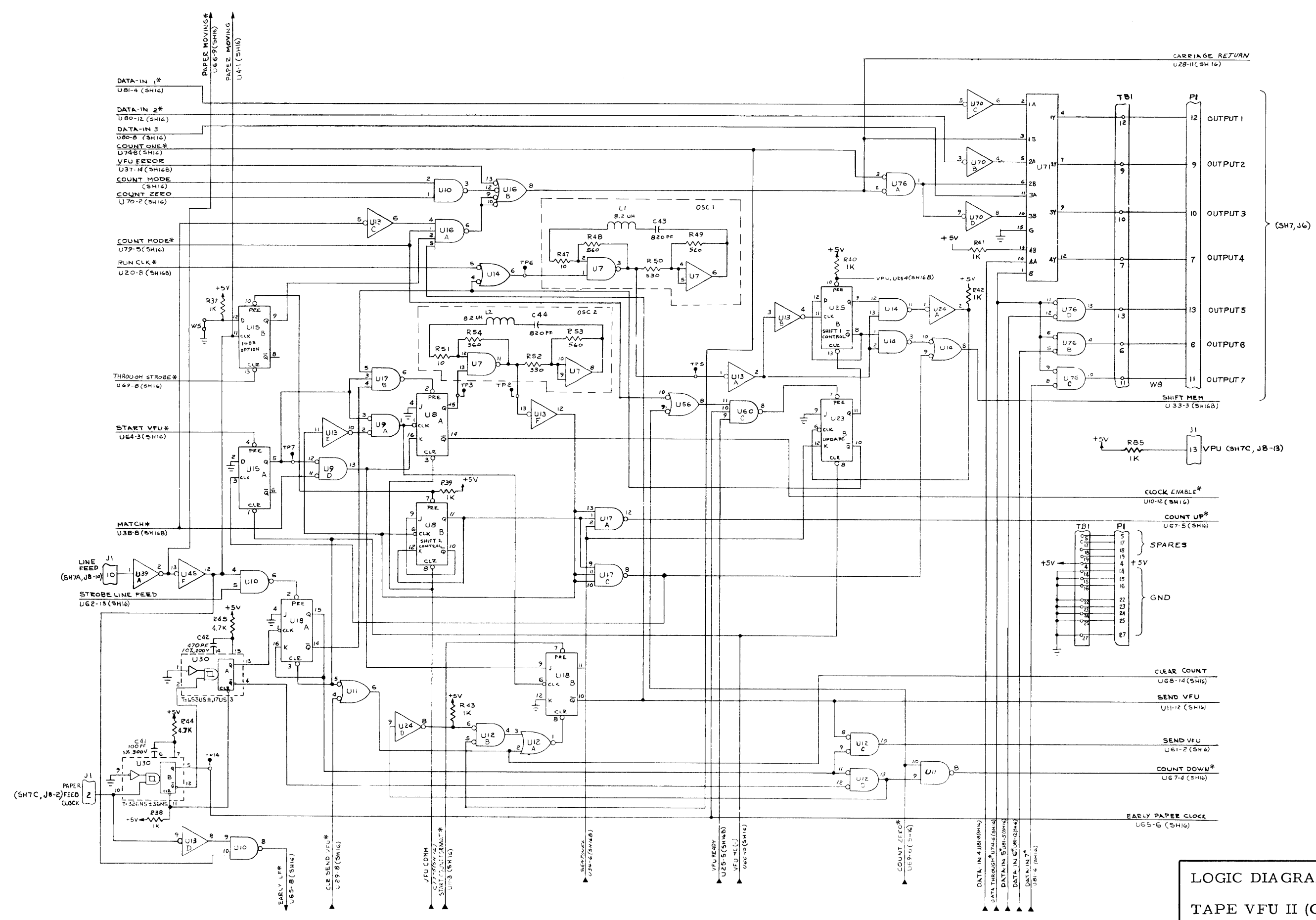
REF DESIGNATION	PART NO.
U3, U10, U11, U14, U20	800024-001
U4, U17, U27, U38	800023-001
U7	800920-001
U8	800081-001
U9, U12, U26, U28	800080-001
U13, U34, U39, U45	800387-001
U15, U25	800400-001
U16	800020-001
U18, U19, U21, U23, U37	800081-001
U22	800979-001
U24, U66	800651-001
U29, U32, U36	800024-001
U30, U61, U62, U63	801023-001
U31, U33	800080-001
U35, U41, U42, U47, U48	800940-001
U40, U46, U52	801014-001
U43, U49	801000-001
U44, U50	800703-001
U51, U55, U70	800387-001
U53, U54	800940-001
U56, U64, U69	800024-001
U57, U65, U72, U73, U76	800080-001
U58, U59, U77, U78, U79	800400-001
U67, U68	800386-001
U71	800947-001
U75	800021-001
U80, U81	800959-001

(REFER TO LOADING DIAGRAMS)

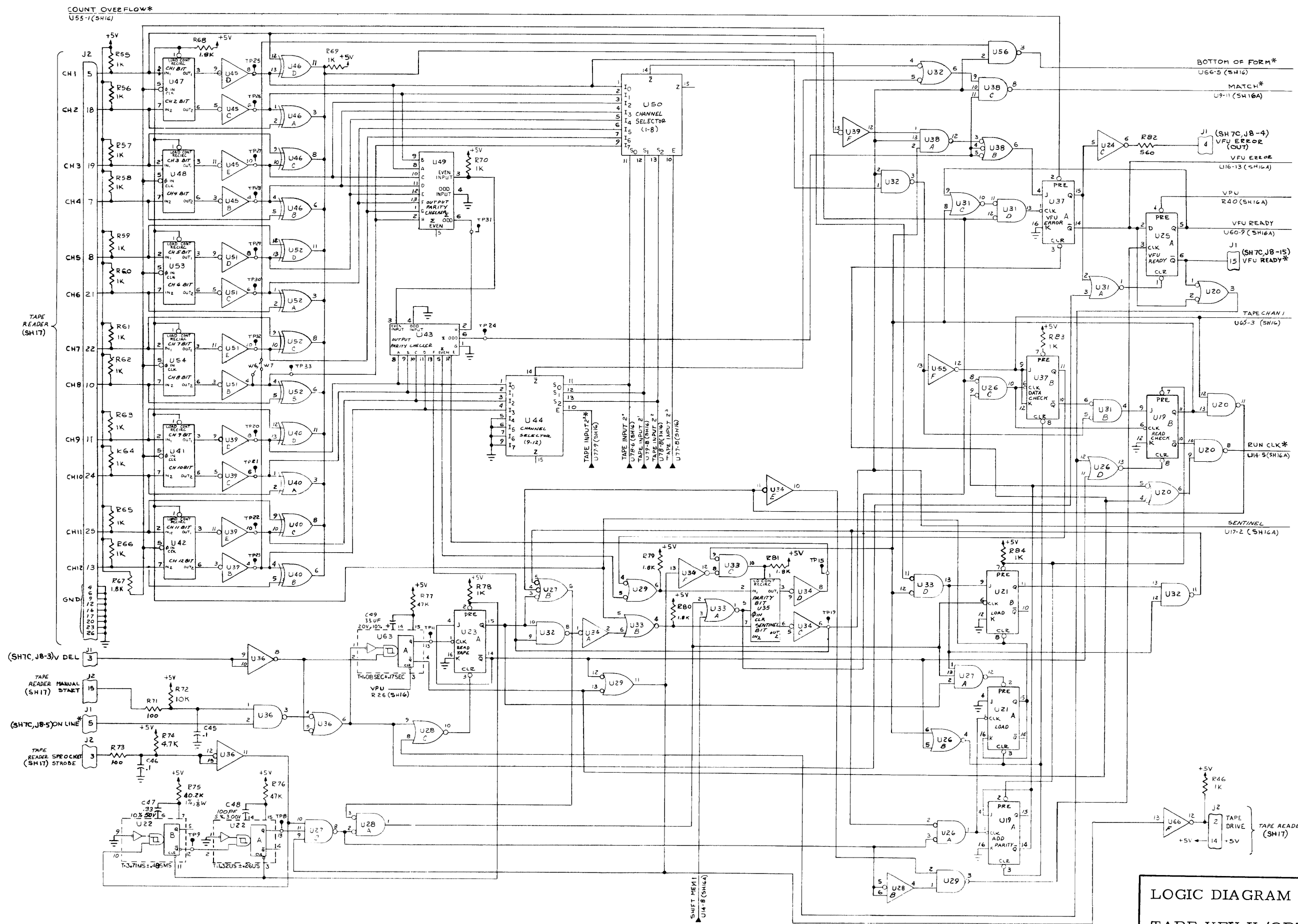
- TEN CONNECTIONS MAXIMUM PER RESISTOR.
- SCHEMATIC DRAWING NUMBER 238049, REV D.
- ASSEMBLY DRAWING NUMBER 238045, REV E.
- INTERPRET LOGIC SYMBOLS PER 850025.
- INTERPRET ELECTRONIC SYMBOLS PER 850026.
- INTERPRET REFERENCE DESIGNATIONS PER 850027.
- ALL CAPACITANCE VALUES ARE IN MICROFARADS, 15%, 100V.
- ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED

LOGIC DIAGRAM SHEET 16
 TAPE VFU II (OPTION)



LOGIC DIAGRAM SHEET 16A
TAPE VFU II (OPTION)

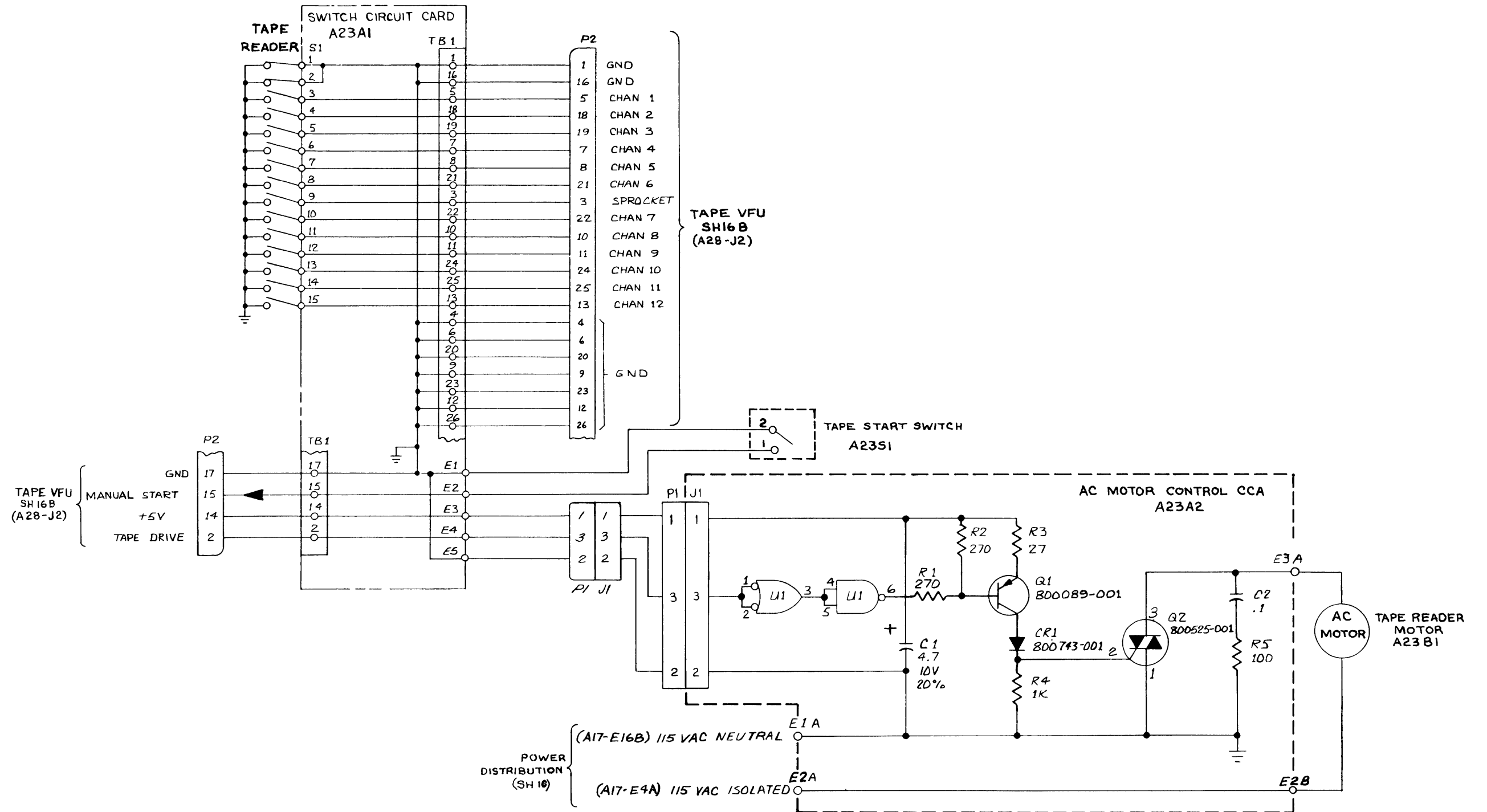


LOGIC DIAGRAM SHEET 16B
 TAPE VFU II (OPTION)

This tabulation lists the jumpers installed for each configuration of the Tape VFU II logic. The configuration number is stamped on the Tape VFU II logic card.

Configuration	Jumpers Installed						
	W1	W2	W3	W4	W5	W6	W7
238044-001			*	*	*		*
-002	*		*	*	*		*
-003		*		*	*		*
-004	*	*		*	*		*
-005			*		*		*
-006	*		*		*		*
-007		*			*		*
-008	*	*			*		*
-009			*	*			*
-010	*		*	*			*
-011		*		*			*
-012	*	*		*			*
-013			*				*
-014	*		*				*
-015		*					*
-016	*	*					*
-017			*	*	*	*	
-018	*		*	*	*	*	
-019		*		*	*	*	
-020	*	*		*	*	*	
-021			*	*		*	
-022	*		*	*		*	
-023		*		*		*	
-024	*	*		*		*	
-025			*		*	*	
-026	*		*		*	*	
-027		*			*	*	
-028	*	*			*	*	
-029			*			*	
-030	*		*			*	
-031		*				*	
-032	*	*				*	

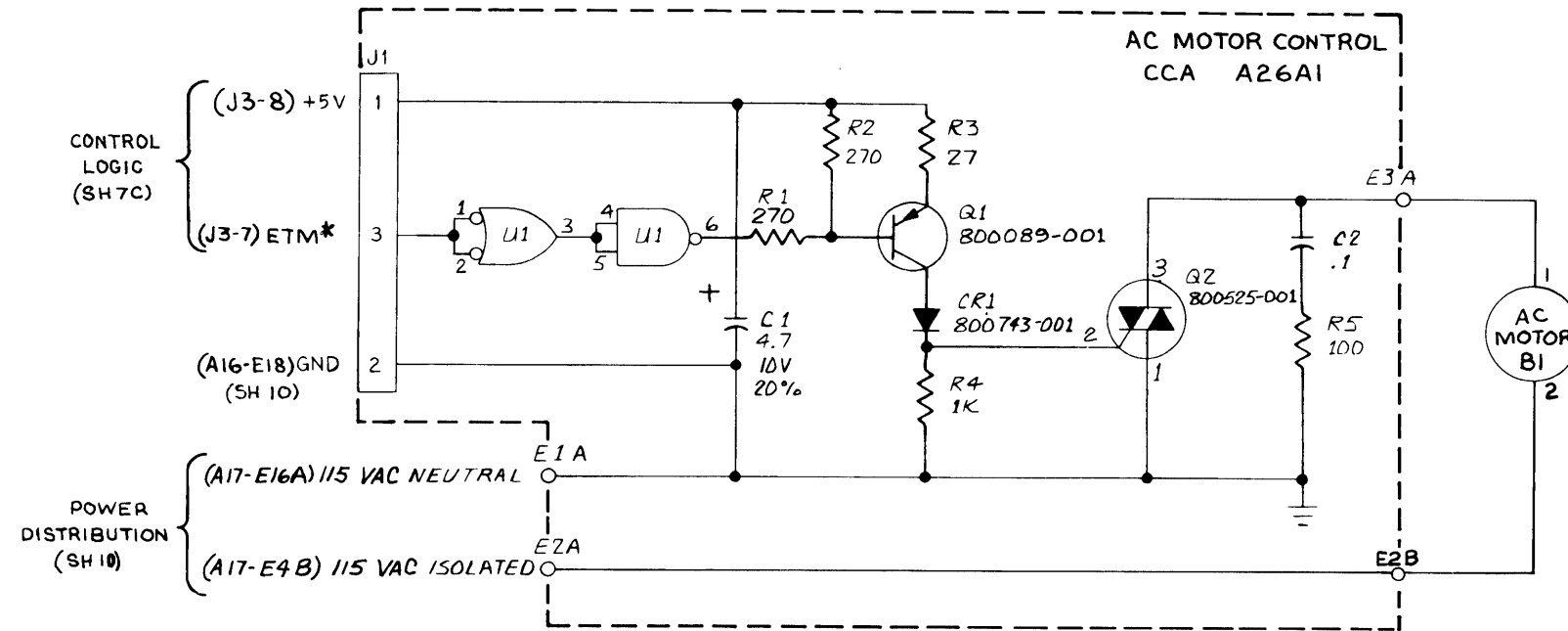
LOGIC DIAGRAM SHEET 16C
TAPE VFU II (OPTION)



7. INTEGRATED CIRCUIT U1 IS 800024-001 (FIG. 4).
6. SCHEMATIC DRAWING NUMBERS 236859, REV B & 236842, REV A.
5. ASSEMBLY DRAWING NUMBERS 236855, REV J & 236841, REV C.
4. INTERPRET ELECTRONIC SYMBOLS PER 850026.
3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 20%, 400V.
1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4W.

NOTES: UNLESS OTHERWISE SPECIFIED

LOGIC DIAGRAM SHEET 17
TAPE READER (OPTION)



- 7. INTEGRATED CIRCUIT U1 IS 800024-001 (FIG. 4).
- 6. SCHEMATIC DRAWING NUMBER 236842, REV A.
- 5. ASSEMBLY DRAWING NUMBER 236841, REV C.
- 4. INTERPRET ELECTRONIC SYMBOLS PER 850026.
- 3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
- 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 20%, 400V.
- 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4W.

NOTES: UNLESS OTHERWISE SPECIFIED

LOGIC DIAGRAM SHEET 18
ELAPSED TIME METER (OPTION)

8-36 LOADING DIAGRAM INDEX

8-37 The index below provides a listing of the loading diagrams contained in this section. The first tabulation locates the correct figure number when the actual integrated circuit (IC) number is known. The second tabulation locates the correct figure number when only the DPC part number for the IC is known.

LOADING DIAGRAM INDEX

IC	Figure	IC	Figure	IC	Figure	IC	Figure
201A	20	7400	4	7489	40	74157	43
512	37	7402	7	7493	60	74163	
565	55/56	7403	4	7494	29	74164	30
709C	10	7404	17	7496	28	74175	
710	58/59	7406	17	8200	19	74177	52
711C	9/57	7407	17	8210	25	74180	51
723	66	7410	3	8220	18	74186	
733	24	7414	17	8820A	44	74192	38
741	32/33	7420	1	8830	45	74193	16
935	17	7430	2	9312	31	74221	53
944	41	7437	4	9318	50	74393	68
946	4	7440	1	9602	36	74H01	4
1458	47/48	7442	15	72514	35	74H05	17
2050	23	7450	6	74121	22	75107	27
2518	46	7453	5	74123	49	75109	26
3002	11	7474	21	74136	12	75450	34
3003	11	7475	13	74148	50		
5060	42	7476	8	74151	54		
5203	65	7483	14	74154	67		
7220	18	7486	12	74155	39		

Part Number	Fig.	Part Number	Fig.	Part Number	Fig.	Part Number	Fig.
800020-	1	800458-	11	800862-	40	801100-	65
800021-	2	800480-	4	800882-	41	801112-	4
800022-	1	800481-	57	800883-	4	801113-	17
800023-	3	800491-	22	800916-	17	801114-001	55
800024-	4	800499-	23	800920-	4	801114-002	56
800025-	5	800503-	24	800940-	42	801179-	66
800026-	6	800512-	25	800947-	43	801180-	67
800080-	7	800526-	26	800949-	44	801186-	68
800081-	8	800527-	27	800950-	45		
800186-	9	800591-	60	800951-	46		
800195-	10	800638-	28	800952-001	47		
800232-	11	800639-	29	800952-002	48		
800233-	11	800651-	17	800956-	17		
800370-	12	800698-	30	800959-	17		
800382-	13	800703-	31	800979-	49		
800383-	14	800732-001	32	800998-	50		
800385-	15	800732-002	33	801000-	51		
800386-	16	800741-	34	801006-	61		
800387-	17	800788-	11	801007-	62		
800393-	18	800805-	35	801008-	63		
800394-	19	800806-	17	801009-	64		
800398-	20	800810-	36	801012-	52		
800399-001	58	800814-	37	801014-	12		
800399-002	59	800818-	38	801023-	53		
800400-	21	800861-	39	801077-	54		

DUAL 4-INPUT NAND GATE
 800020-001 DPC 7420
 800020-002 (HERMETICALLY SEALED)

DUAL 4-INPUT NAND BUFFER
 800022-001 DPC 7440
 800022-002 (HERMETICALLY SEALED)

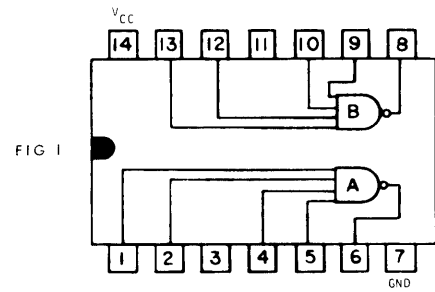


FIG 1

EXPANDABLE SINGLE 2-2-2-2 AND-OR-INVERT
 800025-001 DPC 7453
 800025-002 (HERMETICALLY SEALED)

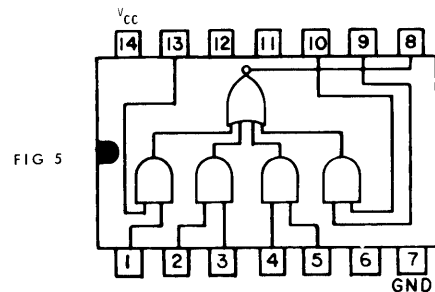


FIG 5

DUAL DIFFERENTIAL COMPARATOR
 800186-001 DPC 711C
 800186-002 (HERMETICALLY SEALED)

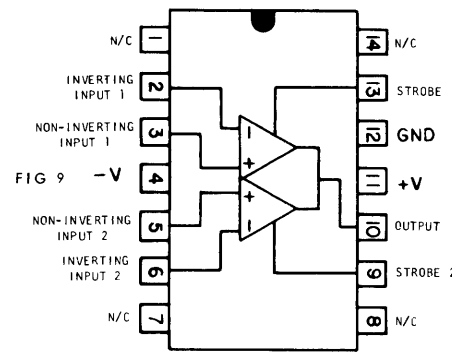


FIG 9

QUAD BISTABLE LATCH
 800382-001 DPC 7475
 800382-002 (HERMETICALLY SEALED)

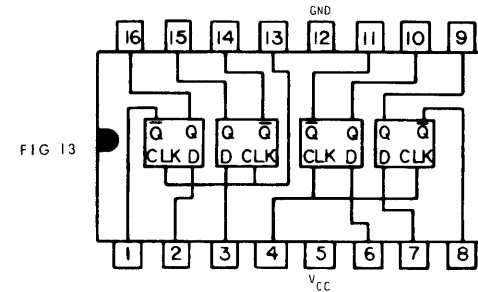


FIG 13

SINGLE 8-INPUT NAND GATE
 830021-001 DPC 7430
 800021-002 (HERMETICALLY SEALED)

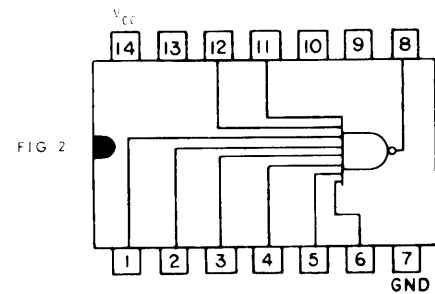


FIG 2

EXPANDABLE DUAL 2-WIDE 2-INPUT AND-OR-INVERT GATE
 800026-001 DPC 7450
 800026-002 (HERMETICALLY SEALED)

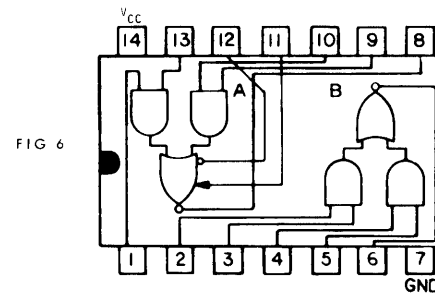


FIG 6

OPERATIONAL AMPLIFIER
 800195-001 DPC 709C
 800195-002 (HERMETICALLY SEALED)

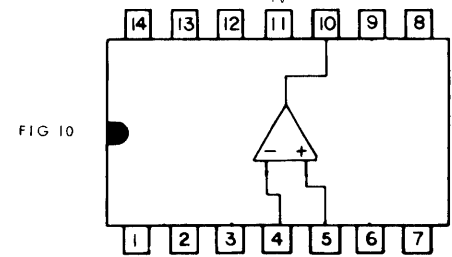


FIG 10

4-BIT BINARY FULL ADDER
 800383-001 DPC 7483
 800383-002 (HERMETICALLY SEALED)

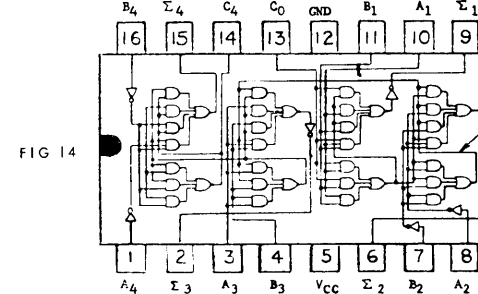


FIG 14

TRIPLE 3-INPUT NAND GATE
 830023-001 DPC 7410
 800023-002 (HERMETICALLY SEALED)

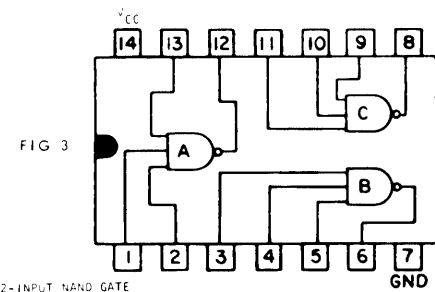


FIG 3

QUAD 2-INPUT NOR GATE
 800030-001 DPC 7402
 800030-002 (HERMETICALLY SEALED)

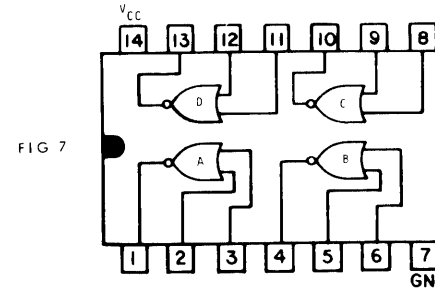


FIG 7

DUAL 32-BIT STATIC REGISTER
 800233-001
 DUAL 25-BIT STATIC REGISTER
 800232-001
 DUAL 100-BIT STATIC REGISTER
 800458-001 DPC 3003
 MOS DUAL 50-BIT STATIC SHIFT REGISTER
 800788-001 DPC 3002

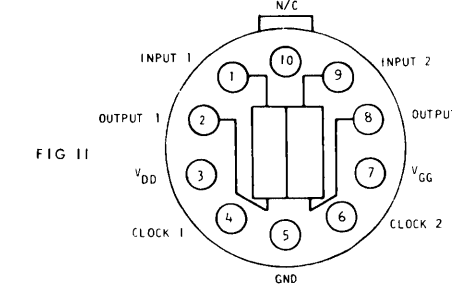


FIG 11

BCD TO DECIMAL DECODER
 800385-001 DPC 7442
 800385-002 (HERMETICALLY SEALED)

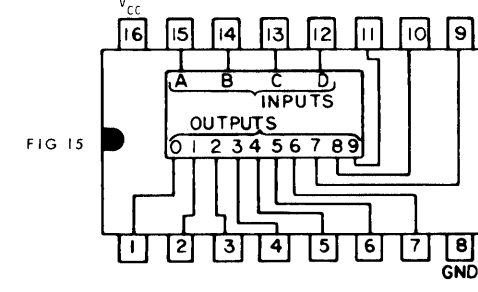


FIG 15

QUAD 2-INPUT NAND GATE
 800024-001 DPC 7400
 800024-002 (HERMETICALLY SEALED)

QUAD 2-INPUT POS. NAND BUFFER
 800022-001 DPC 7-37
 800022-002 (HERMETICALLY SEALED)

QUAD 2-INPUT POS. NAND GATE
 800022-001 DPC 7440
 800022-002 (HERMETICALLY SEALED)

QUAD 2-INPUT POS. NAND GATE (WITH OPEN-COLLECTOR OUTPUT)
 801112-001 DPC 74H01
 801112-002 (HERMETICALLY SEALED)

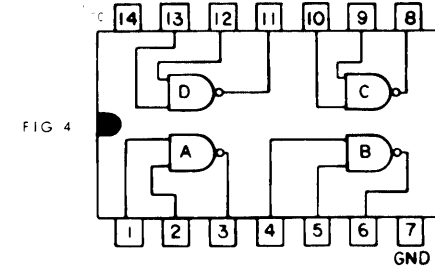


FIG 4

DUAL J-K FLIP FLOP
 800081-001 DPC 7476
 800081-002 (HERMETICALLY SEALED)

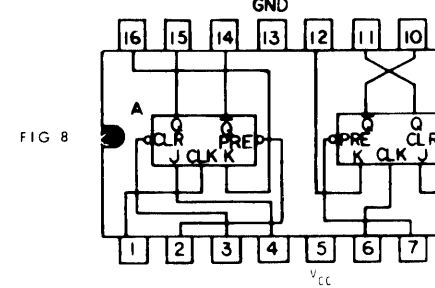


FIG 8

QUAD 2-INPUT EXCLUSIVE-OR GATE
 800370-001 DPC 7486
 800370-002 (HERMETICALLY SEALED)

QUAD 2-INPUT EXCLUSIVE-OR GATE W/OPEN COL.
 801014-001 DPC 74136
 801014-002 (HERMETICALLY SEALED)

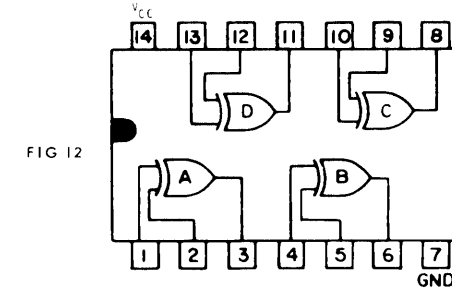
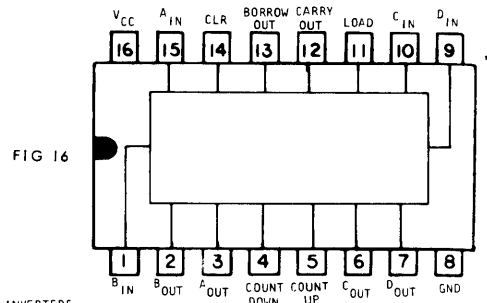


FIG 12

LOADING DIAGRAM SHEET 1
 FIGURES 1 THROUGH 15

UP/DOWN BINARY COUNTER
800386-001 DPC 74193
800386-002 (HERMETICALLY SEALED)



HEX INVERTERS
800387-001 DPC 7404
800387-002 (HERMETICALLY SEALED)
DTL HEX INVERTER EXTENDABLE
800956-001 DPC 935
800956-002 (HERMETICALLY SEALED)
HEX INVERTER, BUFFER
800916-001
800916-002 (HERMETICALLY SEALED)
HEX BUFFER/DRIVER
800806-001 DPC 7407
800806-002 (HERMETICALLY SEALED)

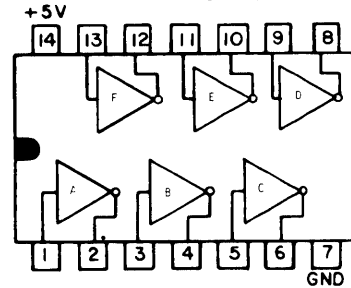


FIG 17

PARITY GENERATOR AND CHECKER
800393-001 DPC 7220/8220
800393-002 (HERMETICALLY SEALED)

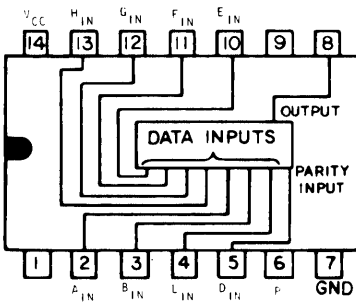


FIG 18

FOUR BIT COMPARATOR
800394-001 DPC 8200
800394-002 (HERMETICALLY SEALED)

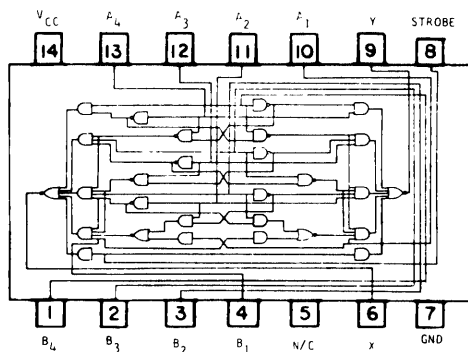


FIG 19

OPERATIONAL AMPLIFIER, HI PERFORMANCE
800398-001 DPC 201A

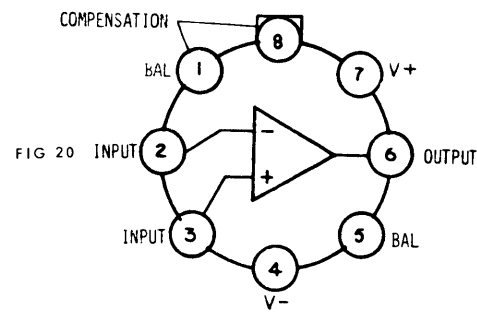


FIG 20

DUAL D-TYPE FLIP FLOP
800400-001 DPC 7474
800400-002 (HERMETICALLY SEALED)

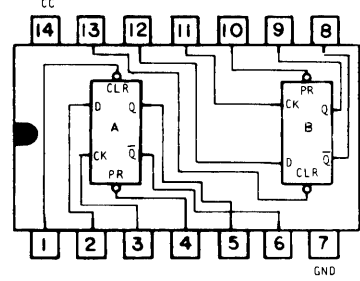


FIG 21

MONOSTABLE MULTIVIBRATOR
800491-001 DPC 74121
800491-002 (HERMETICALLY SEALED)

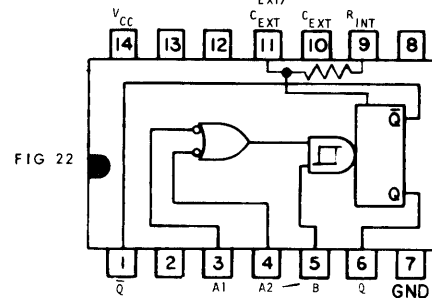


FIG 22

VOLTAGE REGULATOR
800499-001 DPC 2050

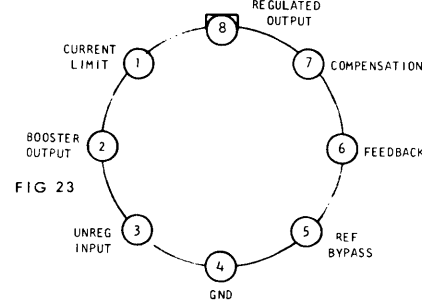


FIG 23

VIDEO AMPLIFIER
800503-001 DPC 733
800503-002 (HERMETICALLY SEALED)

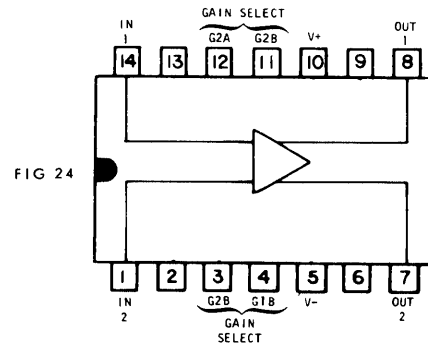


FIG 24

EIGHT CHANNEL SWITCH
800512-001 DPC 8210
800512-002 (HERMETICALLY SEALED)

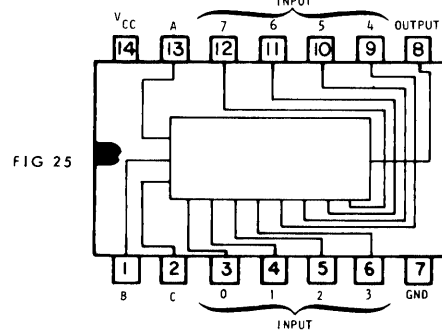


FIG 25

DUAL LINE DRIVER
800526-001 DPC 75109
800526-002 (HERMETICALLY SEALED)

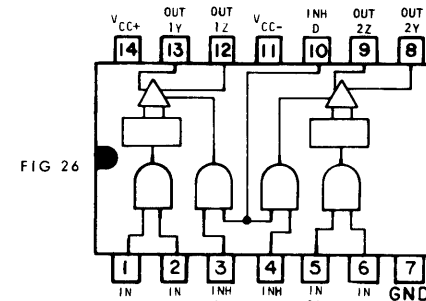


FIG 26

DUAL LINE RECEIVER
800527-001 DPC 75107
800527-002 (HERMETICALLY SEALED)

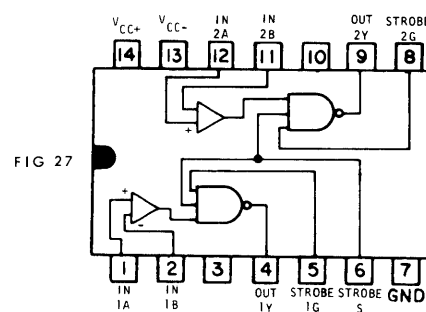


FIG 27

4-BIT SHIFT REGISTER
800639-001 DPC 7494
800639-002 (HERMETICALLY SEALED)

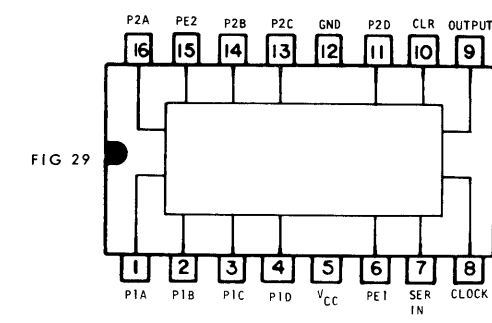


FIG 29

8-BIT S-IN, P-OUT, SHIFT REGISTER
800698-001 DPC 74164
800698-002 (HERMETICALLY SEALED)

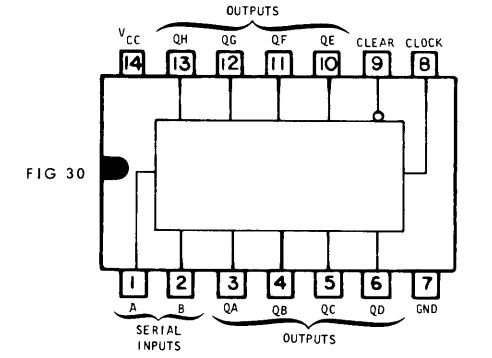


FIG 30

8 INPUT DIGITAL MULTIPLEXER
800703-001 DPC 9312
800703-002 (HERMETICALLY SEALED)

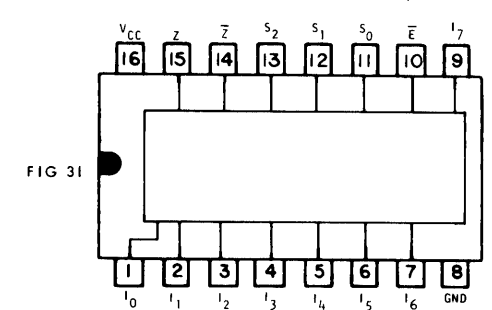


FIG 31

5-BIT SHIFT REGISTER
800638-001 DPC 7496
800638-002 (HERMETICALLY SEALED)

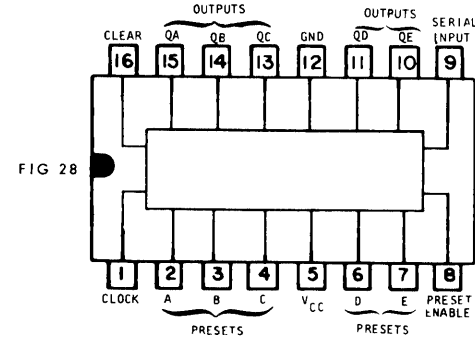


FIG 28

OPERATIONAL AMPLIFIER
800732-001 DPC 741

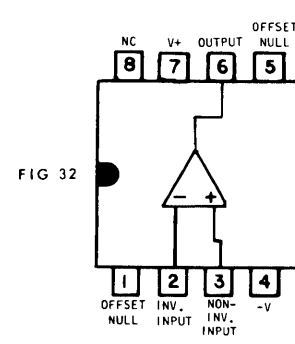


FIG 32

800732-002 (HERMETICALLY SEALED)

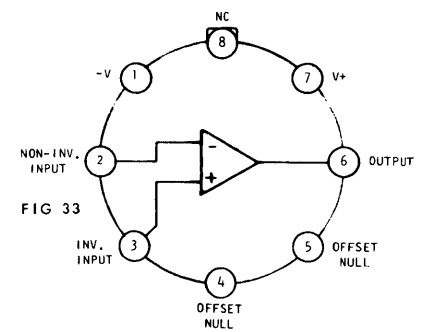
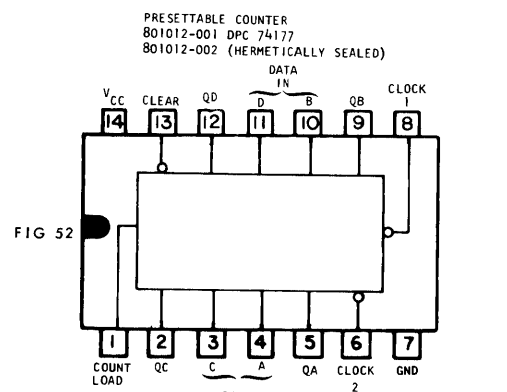
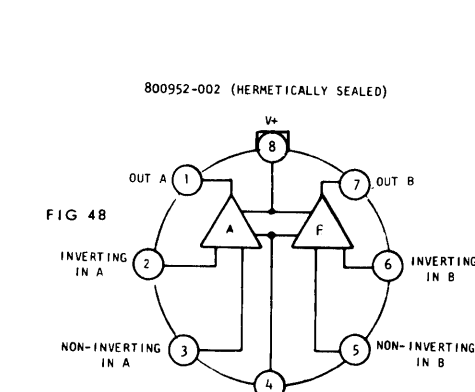
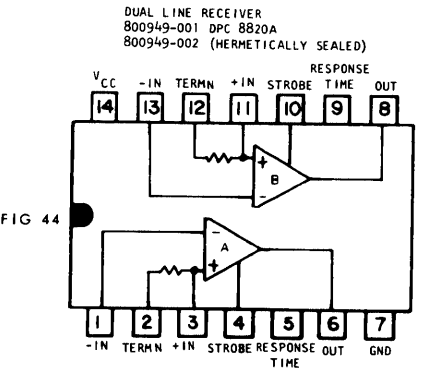
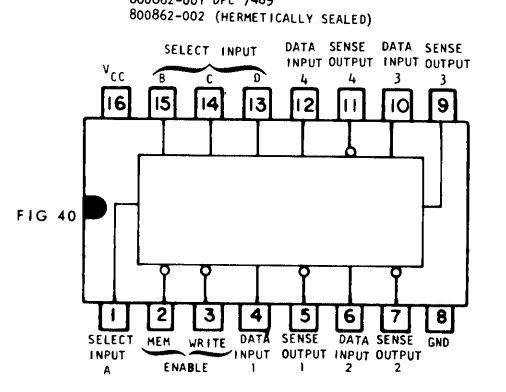
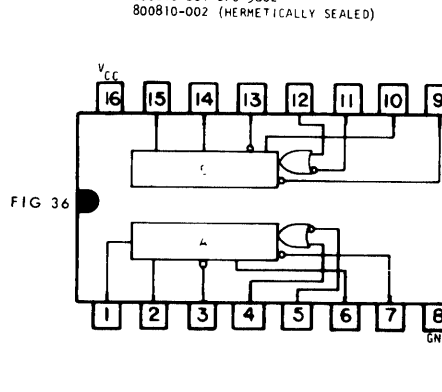
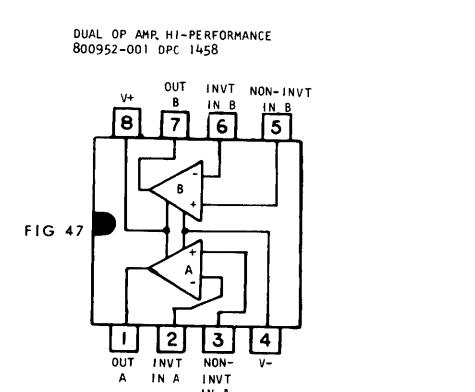
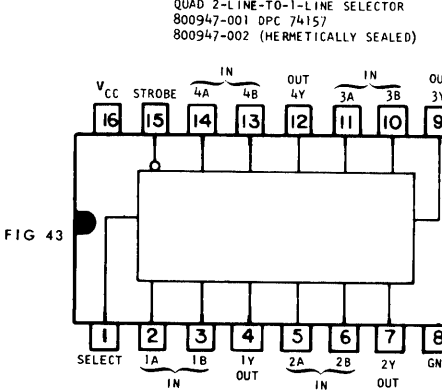
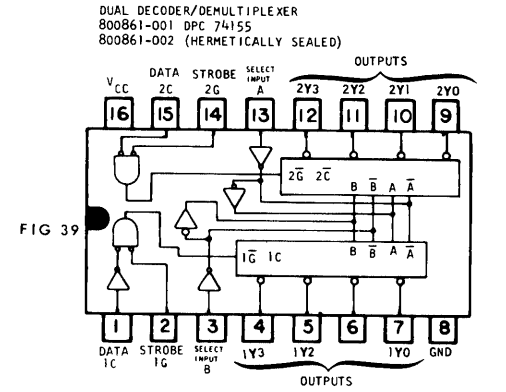
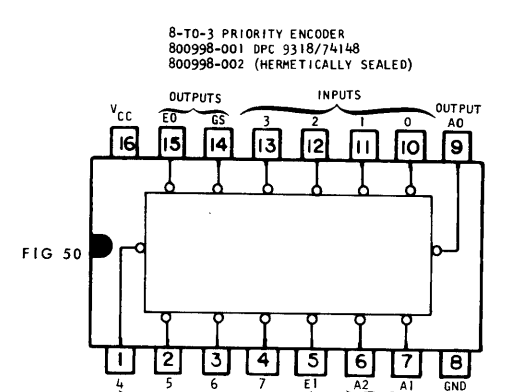
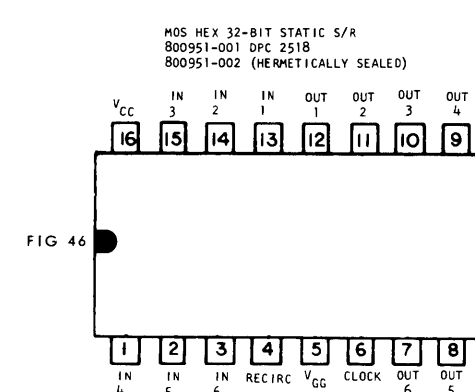
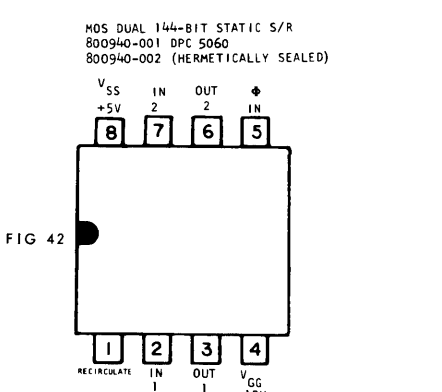
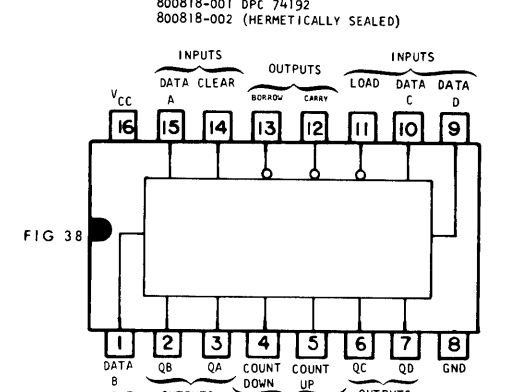
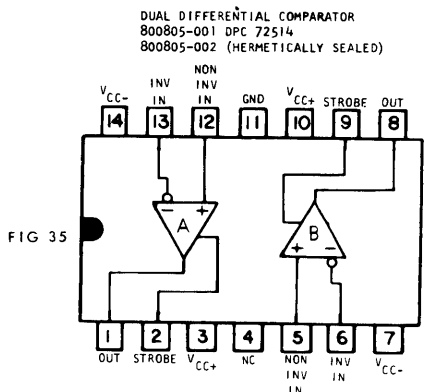
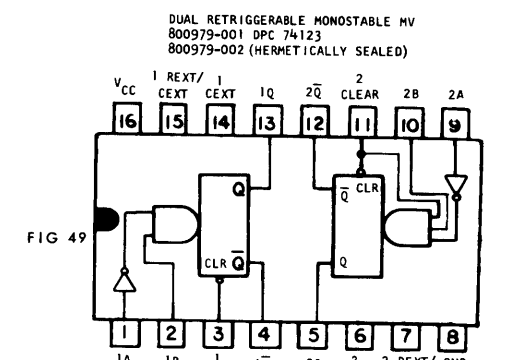
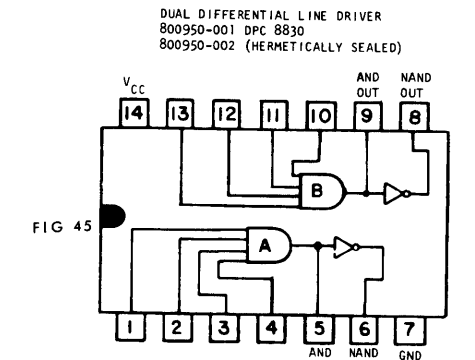
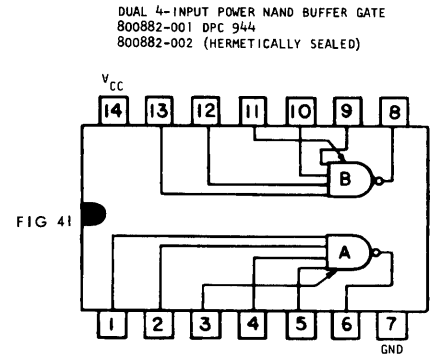
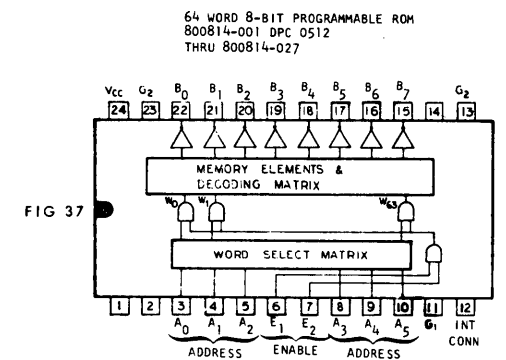
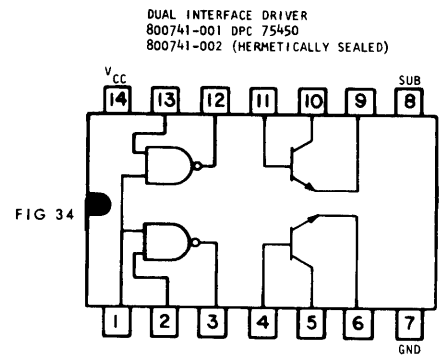
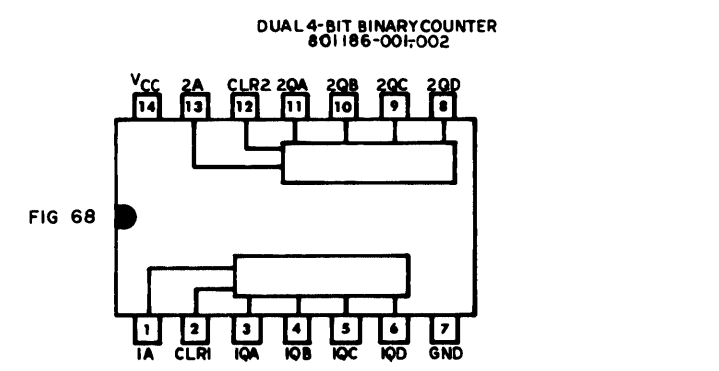
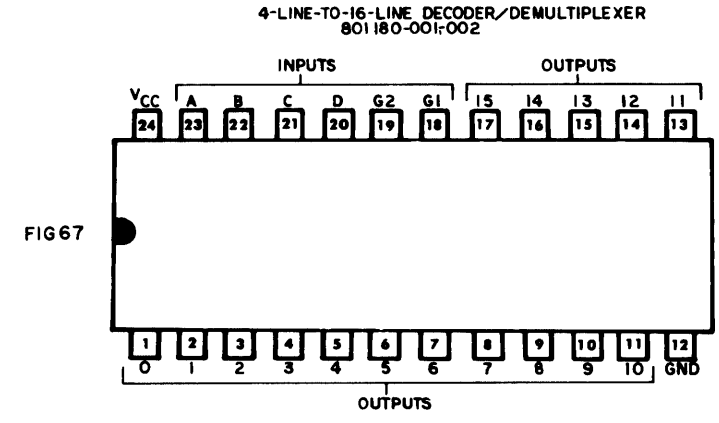
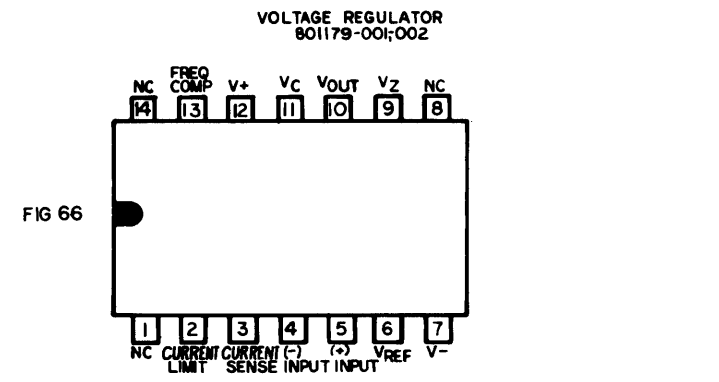
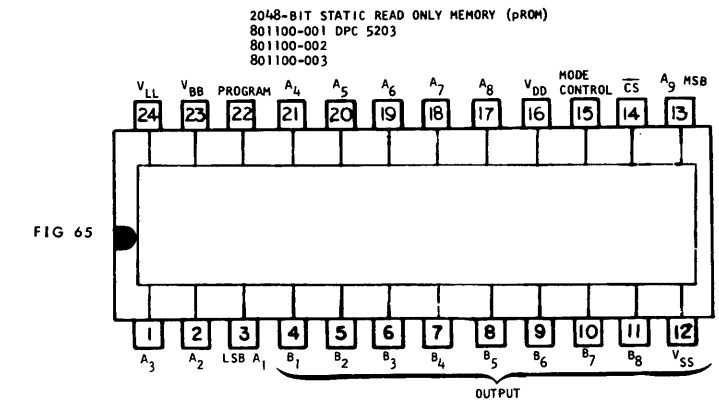
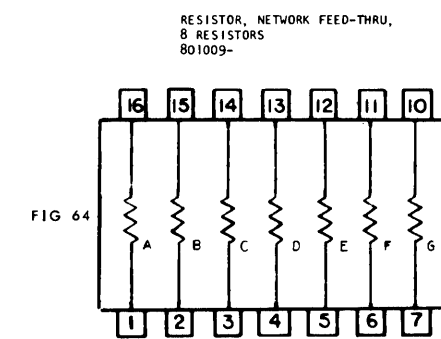
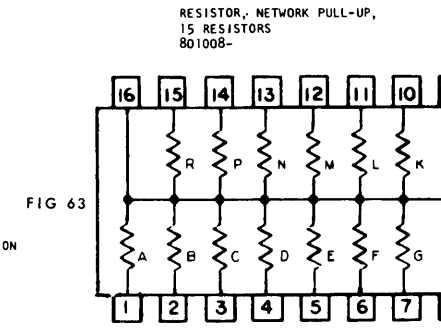
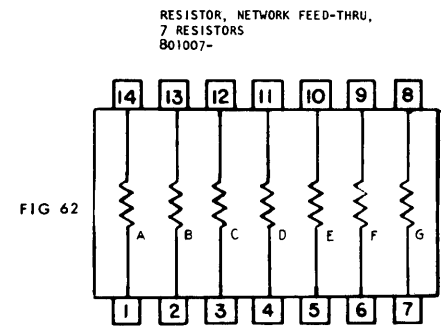
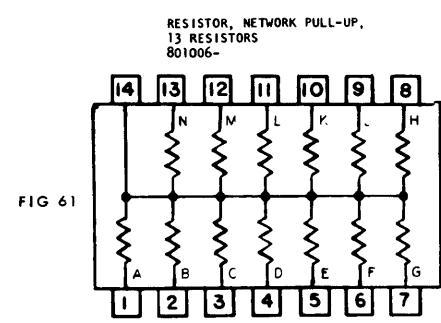
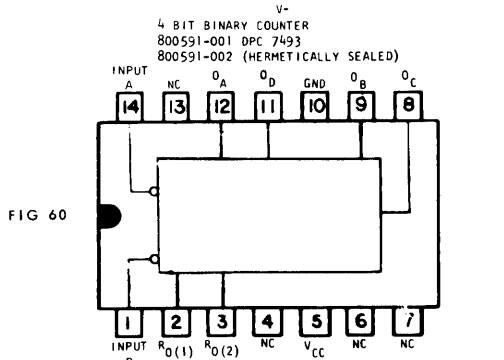
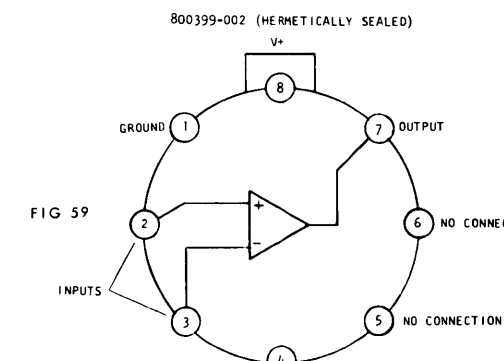
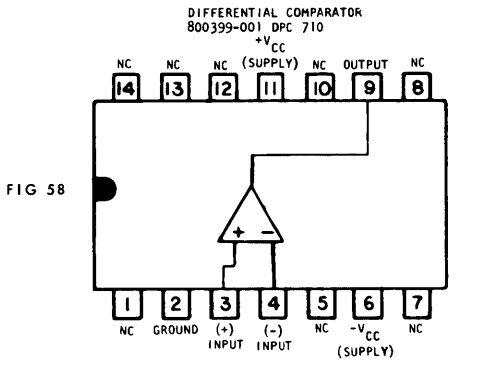
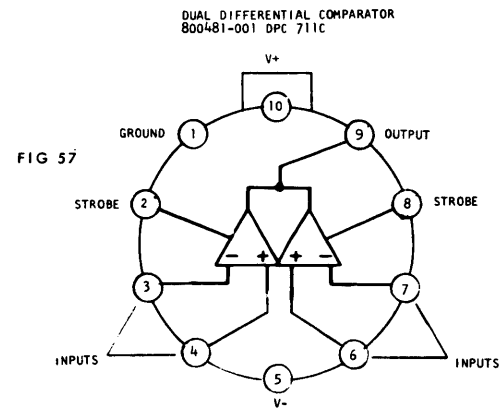
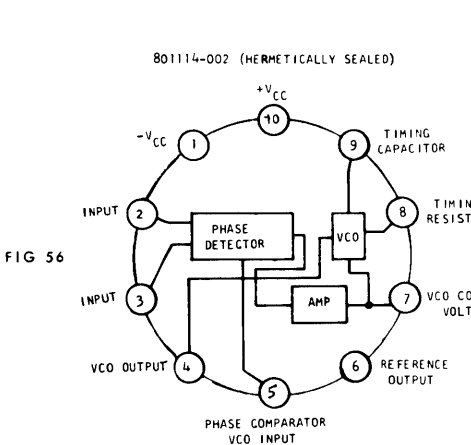
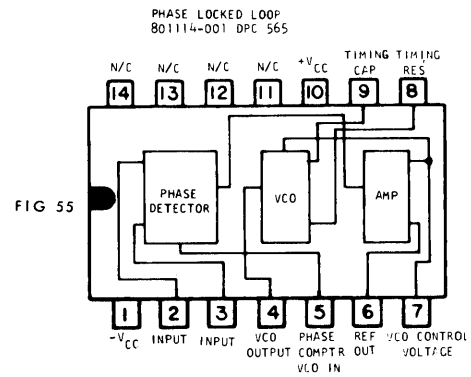
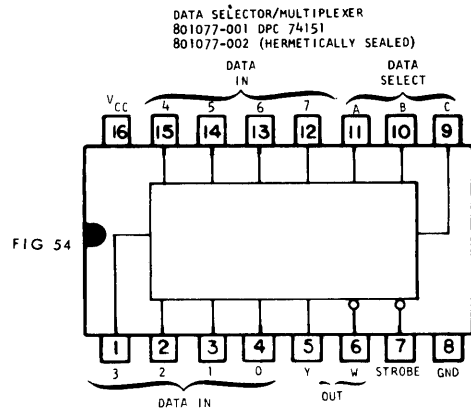
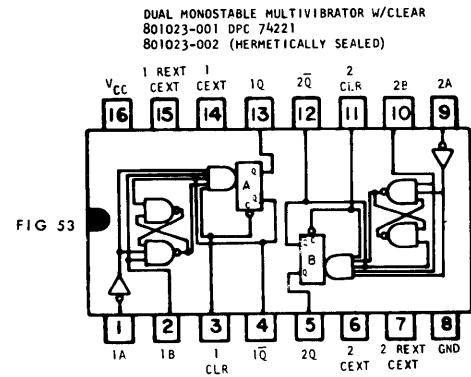


FIG 33

LOADING DIAGRAM SHEET 2
FIGURES 16 THROUGH 33



LOADING DIAGRAM SHEET 3
FIGURES 34 THROUGH 52



LOADING DIAGRAM SHEET 4
FIGURES 53 THROUGH 68

SECTION IX
PARTS LISTS AND LOCATION DRAWINGS

9-1 PARTS LIST AND LOCATION DRAWING INDEX

9-2 The index below lists the parts listings and location drawings that are provided in this section for the standard printer configuration and selected optional equipment.

PARTS LIST AND LOCATION DRAWING INDEX

Figure & Table No.	Description	Figure Page No.
9-1	Printer Assembly	9-2
9-2	Hinge Assembly	9-6
9-3	Printer Sub-Assembly	9-7
9-4	Hammer Bank & Support Assembly	9-13
9-5	Paper Drive Assembly	9-15
9-6	Paper Drive Motor Assembly	9-17
9-7	Drum Gate Assembly	9-18
9-8	Ribbon Drive System Assembly	9-20
9-9	Operator Control Panel Assembly	9-21
9-10	Operator Control Panel Card Assembly	9-22
9-11	Card Cage Assembly	9-23
9-12	Electronics Assembly	9-25
9-13	Blower Assembly	9-27

PARTS LIST AND LOCATION DRAWING INDEX (Contd)

Figure & Table No.	Description	Figure Page No.
9-14	Capacitor Pack Assembly	9-28
9-15	Regulator Card Assembly	9-29
9-16	Hammer Driver Card Assembly	9-32
9-17	Servo System Card Assembly	9-35
9-18	Control Logic Card Assembly	9-40
9-19	Tape VFU Assembly (Option)	9-44
9-20	Tape Reader Assembly (Option)	9-48
9-21	AC Motor Control Card Assembly (Option)	9-50
9-22	Self-Test Assembly (Option)	9-51
9-23	Exerciser Assembly (Option)	9-53
9-24	Elapsed Time Meter Assembly (Option)	9-55
9-25	Static Eliminator (Option)	9-57
9-26	Paper Receptacle (Option)	9-58

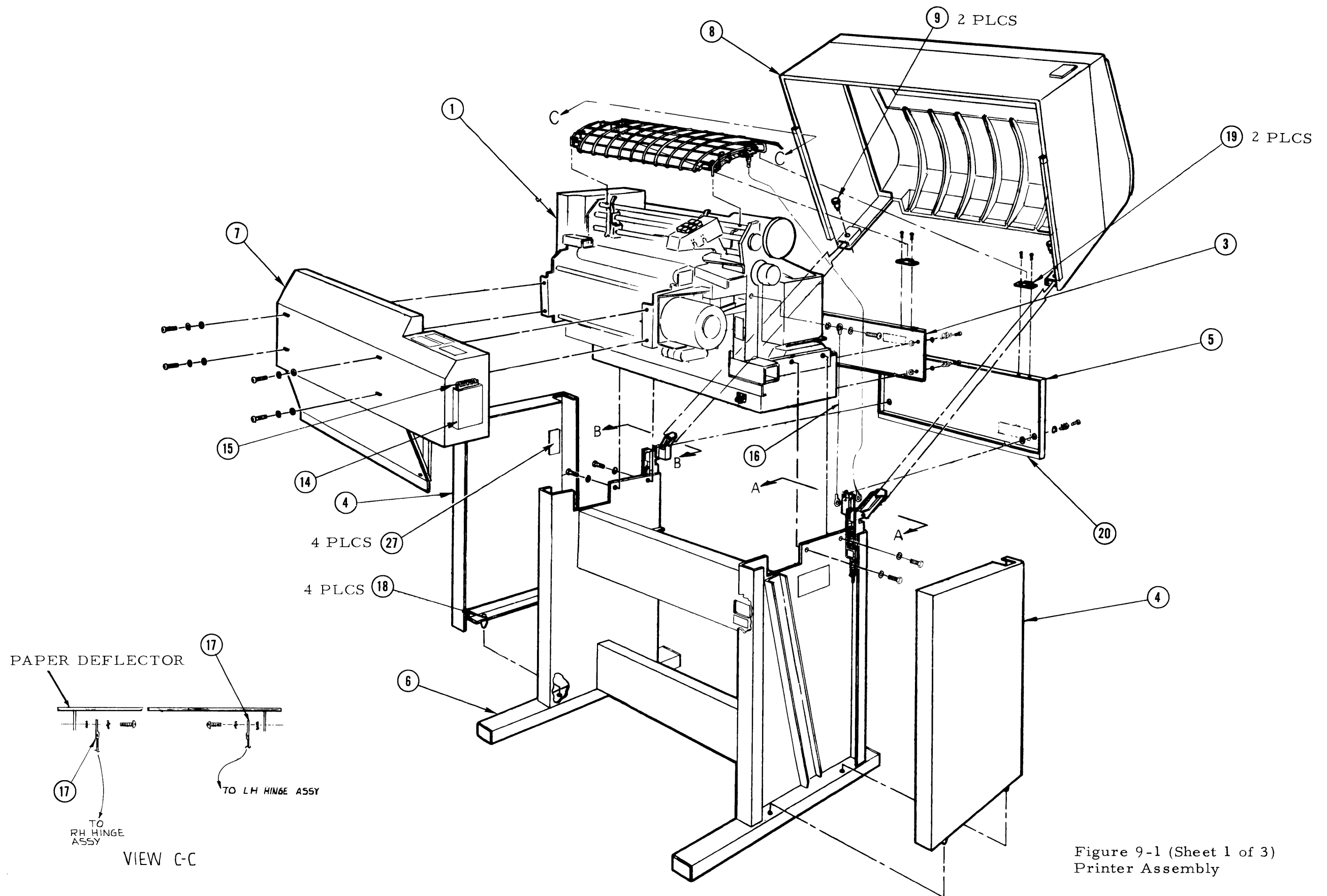


Figure 9-1 (Sheet 1 of 3)
Printer Assembly

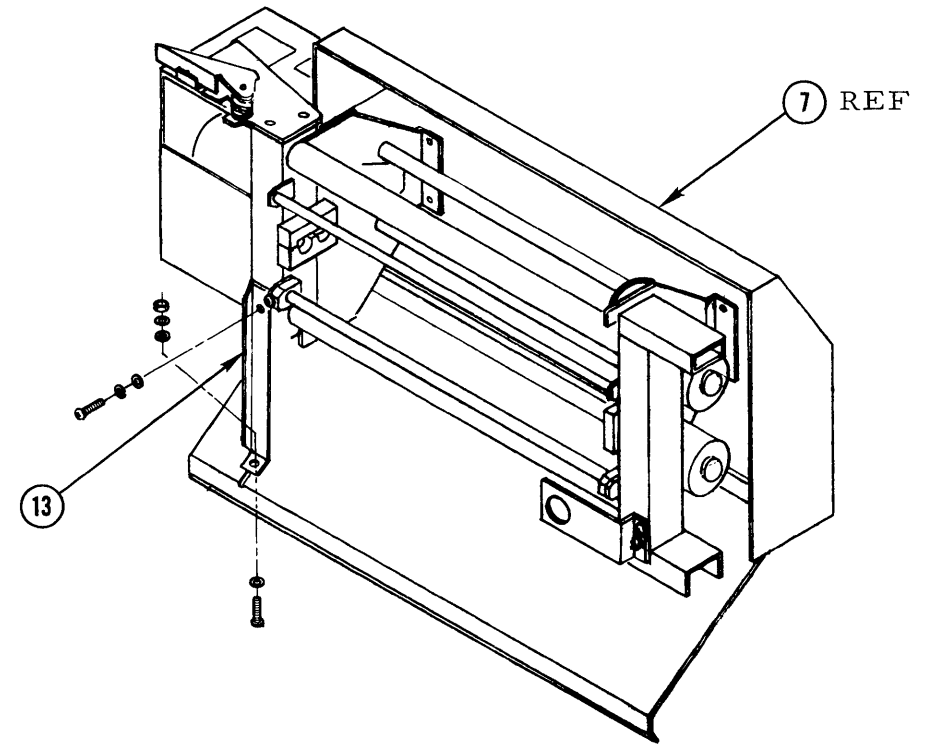
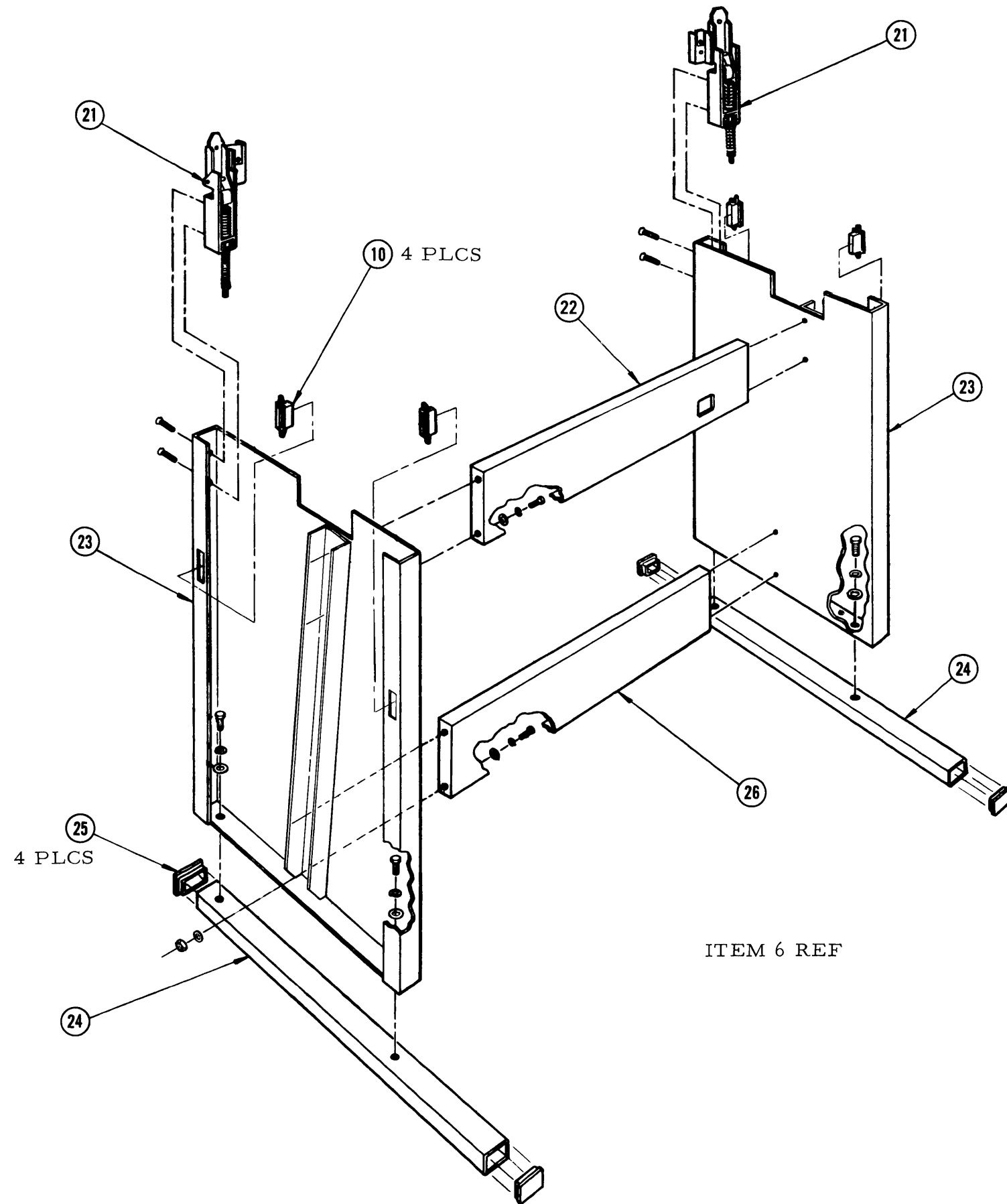


Figure 9-1 (Sheet 2 of 3)
Printer Assembly

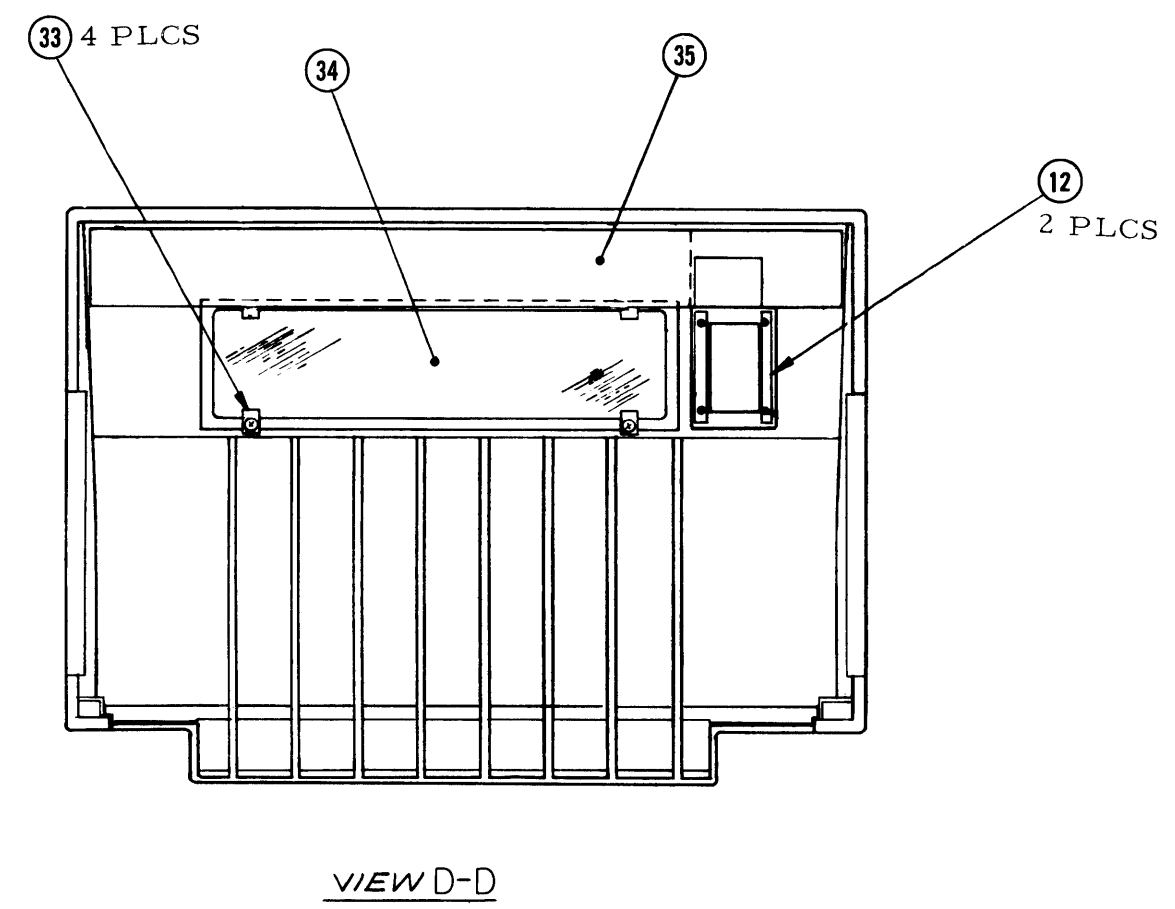
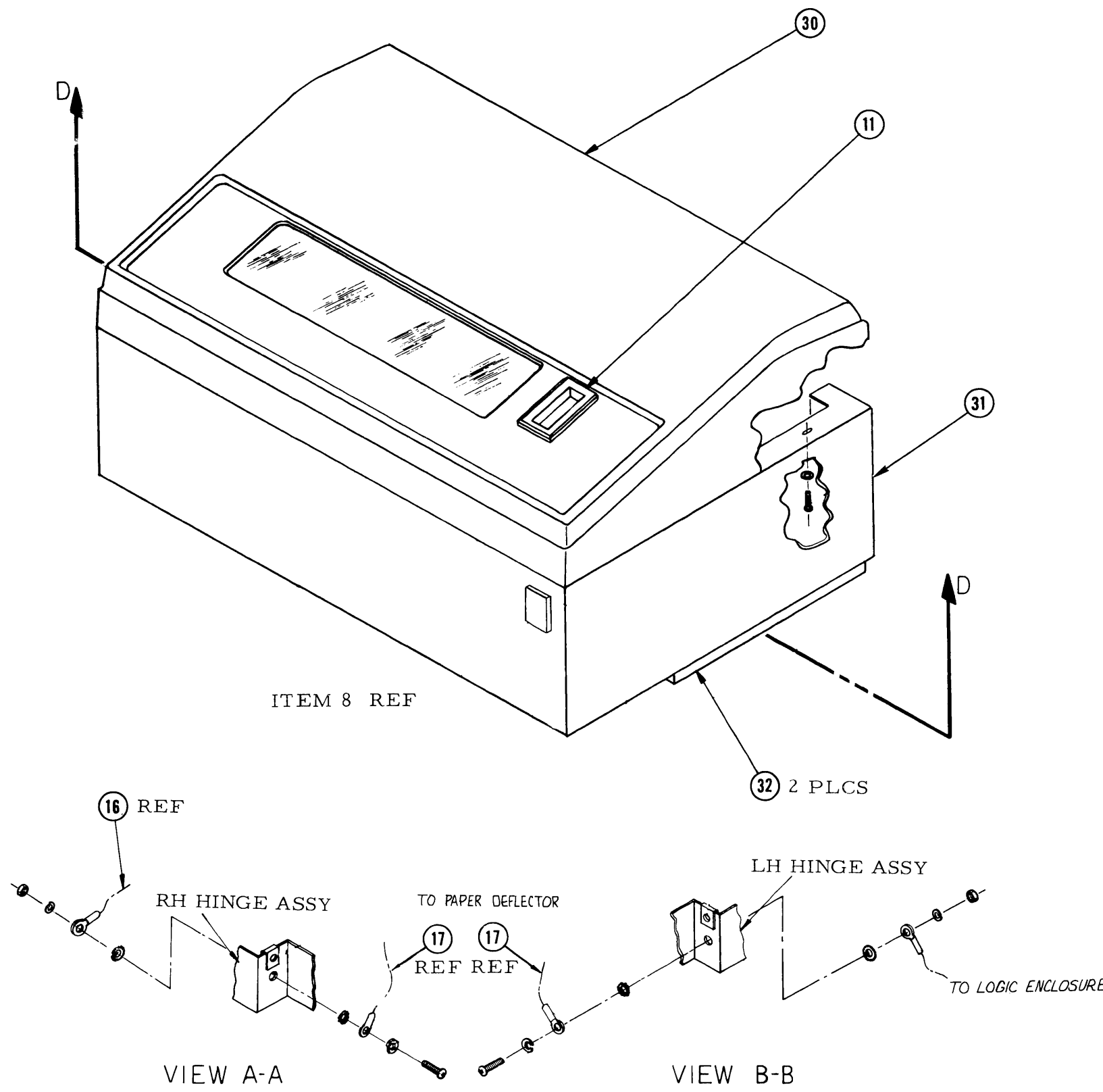


Figure 9-1 (Sheet 3 of 3)
Printer Assembly

TABLE 9-1. PRINTER ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-1	Printer Assembly		239141-001	REF
1.	Printer Sub-Assy (Ref Fig. 9-3)		241410-001	1
2.	Cabinet Assy (Ref Items 3 - 12)		241396-001*	1
3.	Rear Chassis Panel Assy		241393-001*	1
4.	Side Cover Panel Assy, LH Side Cover Panel Assy, RH		241390-001* 241390-002*	1 1
5.	Back Cover Panel Assy (Ref Items 19 & 20)		241391-001*	1
6.	Pedestal Assy (Ref Items 21 - 26)		241388-001*	1
7.	Drum Gate Cover Assy		241392-001*	1
8.	Printer Cover Assy (Ref Items 30 - 35)		241394-001*	1
9.	Thumbscrew		235157-001	2
10.	Fastener, Magnetic Catch		800388-102	4
11.	Bezel, Control Panel		235564-101*	1
12.	Retainer, Bezel		235565-001	2
13.	Bracket, Ribbon Cover		236826-001	1
14.	Scabbard		237726-001	1
15.	Operator Manual		239886-001	1
16.	Ground Strap, 15" Long		237461-021	1
17.	Ground Strap, 10" Long		237461-005	2
18.	Pin, Side Cover Panel		214417-001	4
19.	Clip, Paper Deflector		241530-001	2

TABLE 9-1. PRINTER ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
20.	Foam, Back Panel		235159-007	1
21.	Hinge Assy, LH Hinge Assy, RH (Ref Fig. 9-2)		240769-002 240769-001	1 1
22.	Panel, Horizontal, Upper		235631-105*	1
23.	Leg, Base, LH Leg, Base, RH		235114-101* 235114-102*	1 1
24.	Foot, Pedestal, LH Foot, Pedestal, RH		237430-001 237430-002	1 1
25.	Closure, Glide Tube		800765-005	4
26.	Panel, Horizontal, Upper		235631-101*	1
27.	Striker Plate, Magnetic Catch		800388-104	4
28.	Omitted			
29.	Omitted			
30.	Cover, Upper		243023-101*	1
31.	Cover, Lower		240060-101*	1
32.	Stop, Printer Cover		240813-002	2
33.	Clamp, Window		242989-001	4
34.	Window, Printer Cover		243027-001	1
35.	Foam, Printer Cover		237997-022	1

* Painted part(s); specify color(s) when ordering. Color specification number is found on Sales Order Notice (SON).

TABLE 9-2. HINGE ASSEMBLY

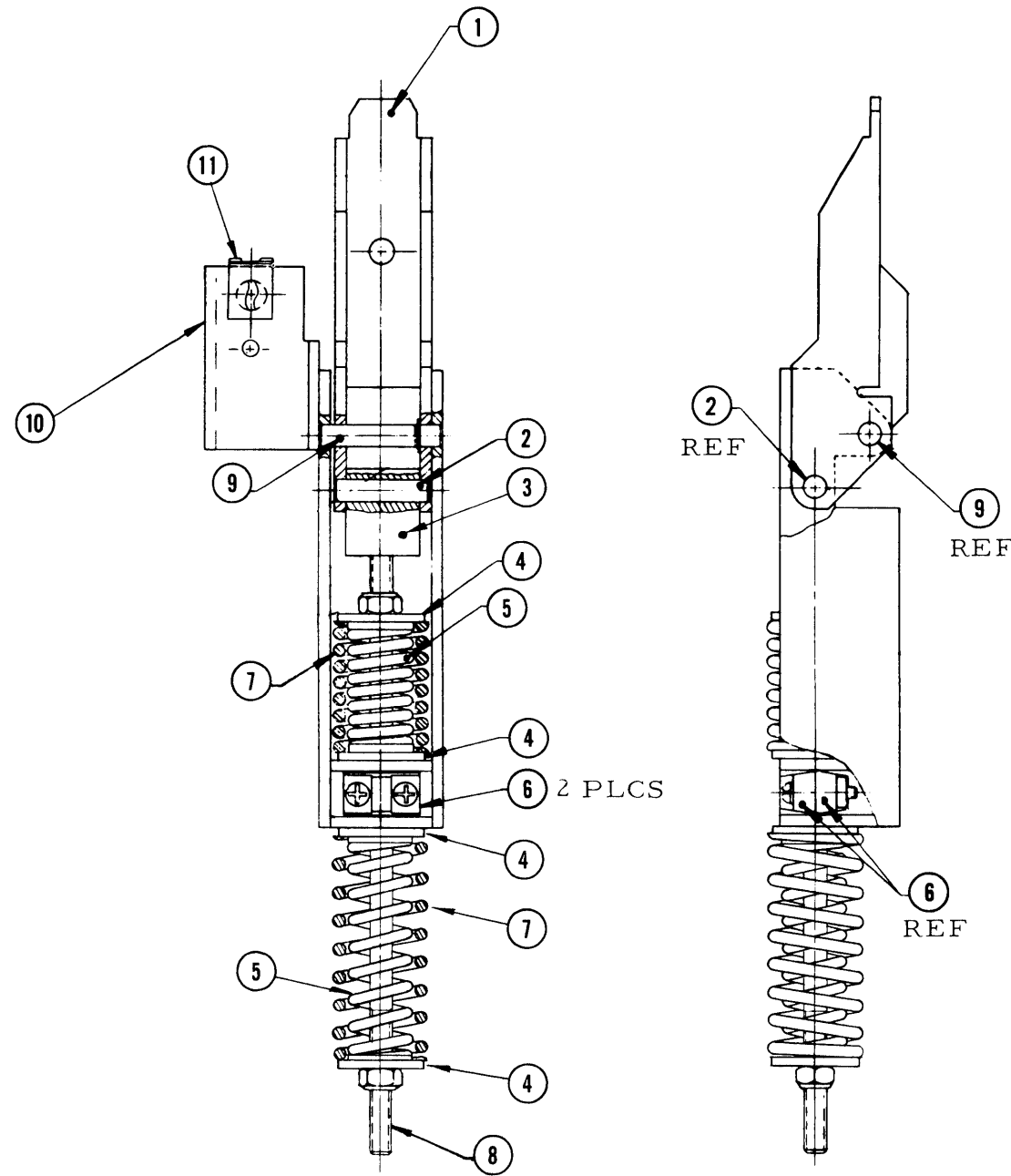


Figure 9-2
Hinge Assembly

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-2	Hinge Assembly Right Hand Left Hand		240769-001 240769-002	REF
1.	Bracket, Upper		234041-001	1
2.	Pivot Pin		234055-002	1
3.	Pivot Block		234052-001	1
4.	Washer, Cap Spring		234087-001	4
5.	Spring, Inner Damping		234459-001	2
6.	Bushing, Damper Rod		234050-001	2
7.	Spring, Compression		800279-025	2
8.	Damper Rod		234051-001	1
9.	Pivot Pin		234055-001	1
10.	Bracket, Lower, RH Bracket, Lower, LH		240040-001 240040-002	1 1
11.	Receptacle		800269-002	1

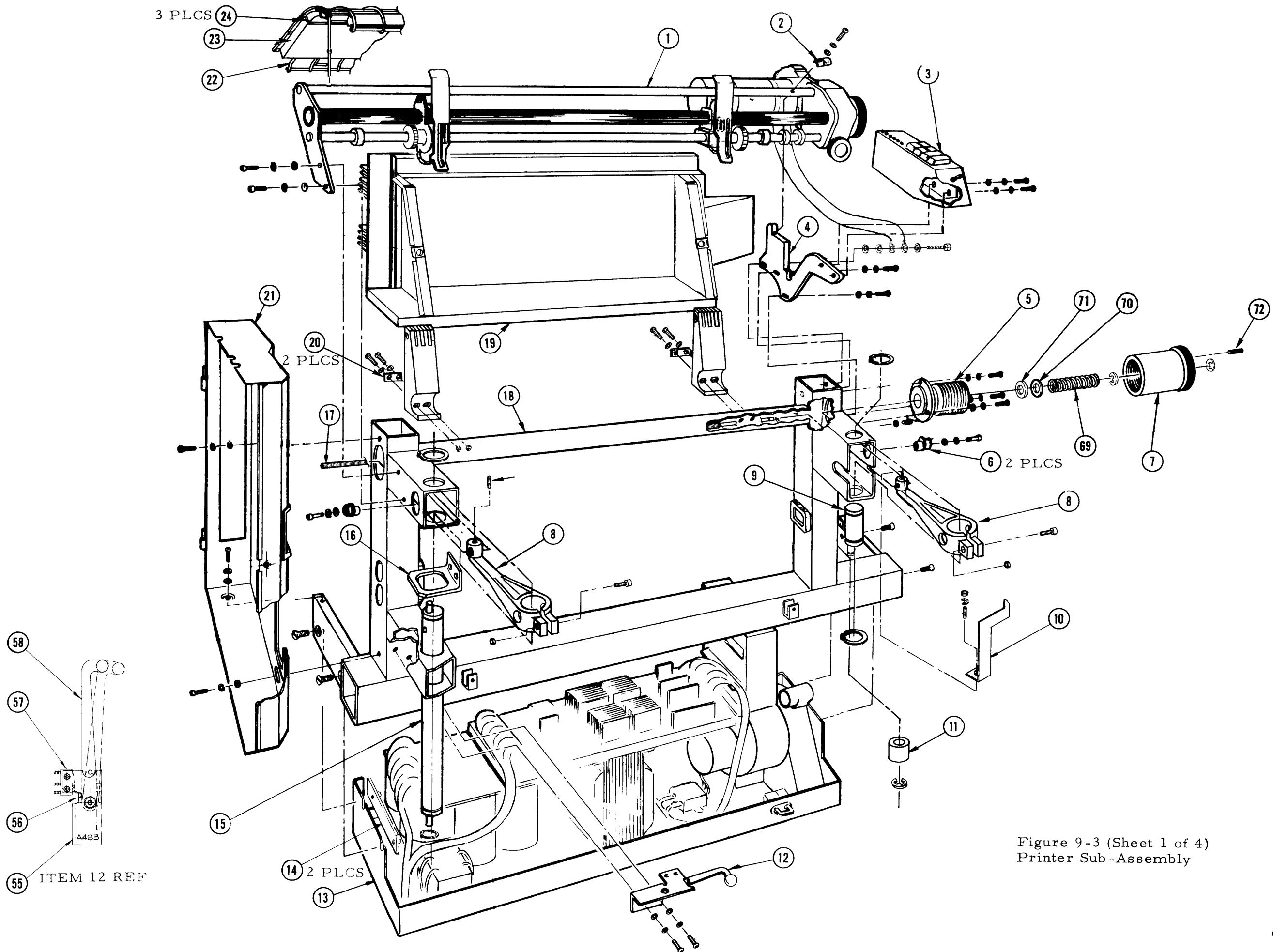


Figure 9-3 (Sheet 1 of 4)
Printer Sub-Assembly

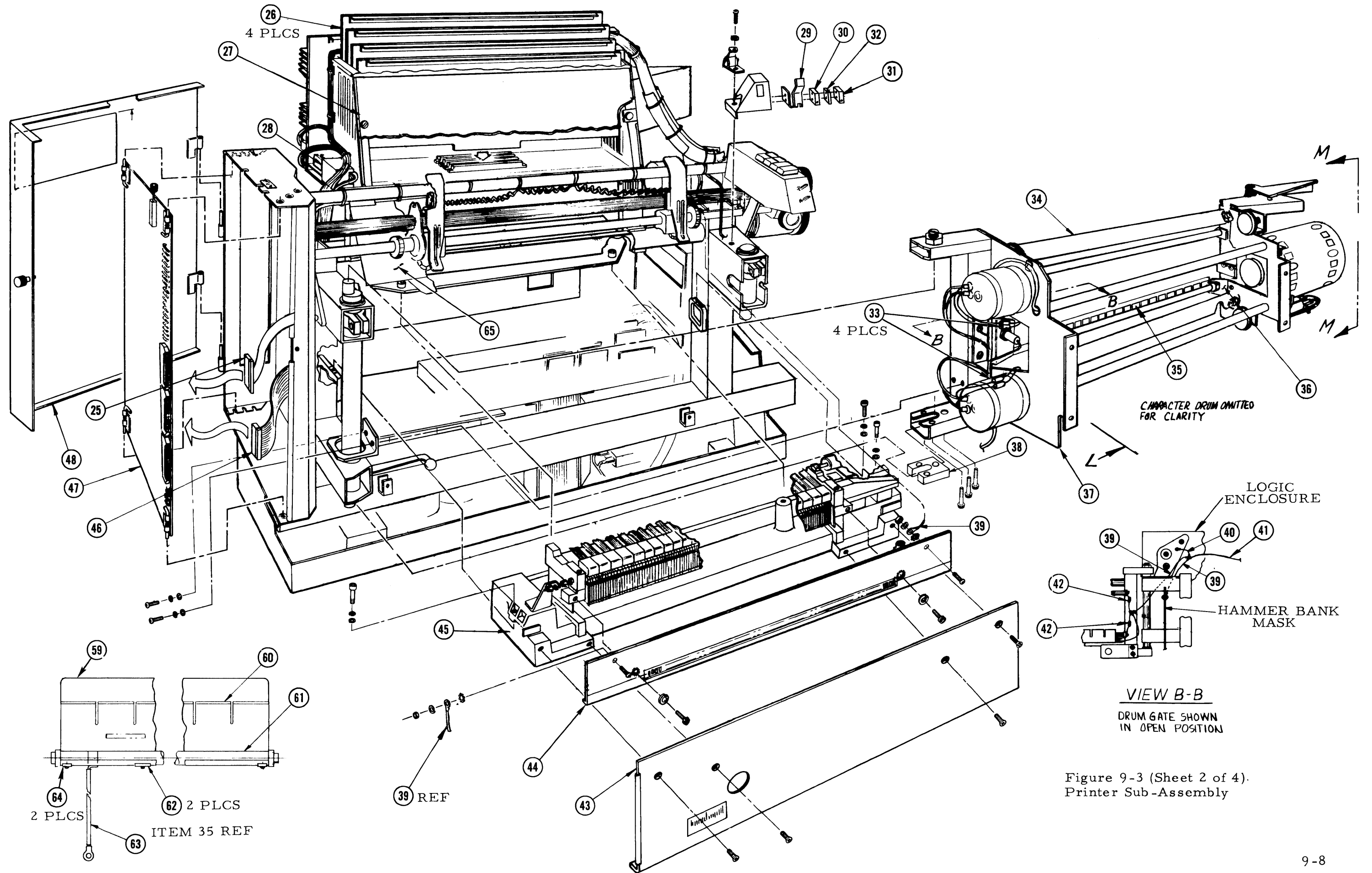


Figure 9-3 (Sheet 2 of 4).
Printer Sub-Assembly

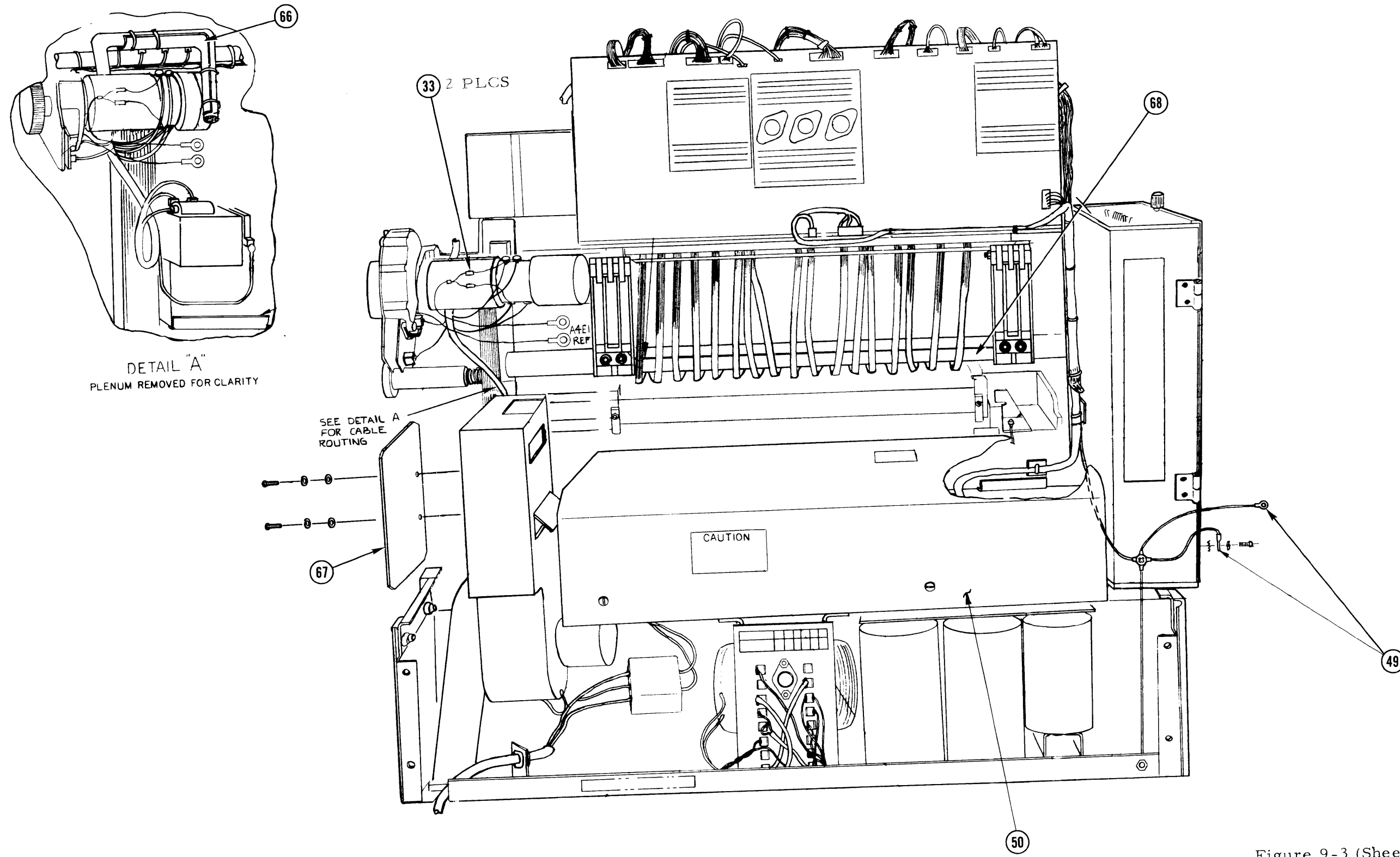


Figure 9-3 (Sheet 3 of 4)
Printer Sub-Assembly

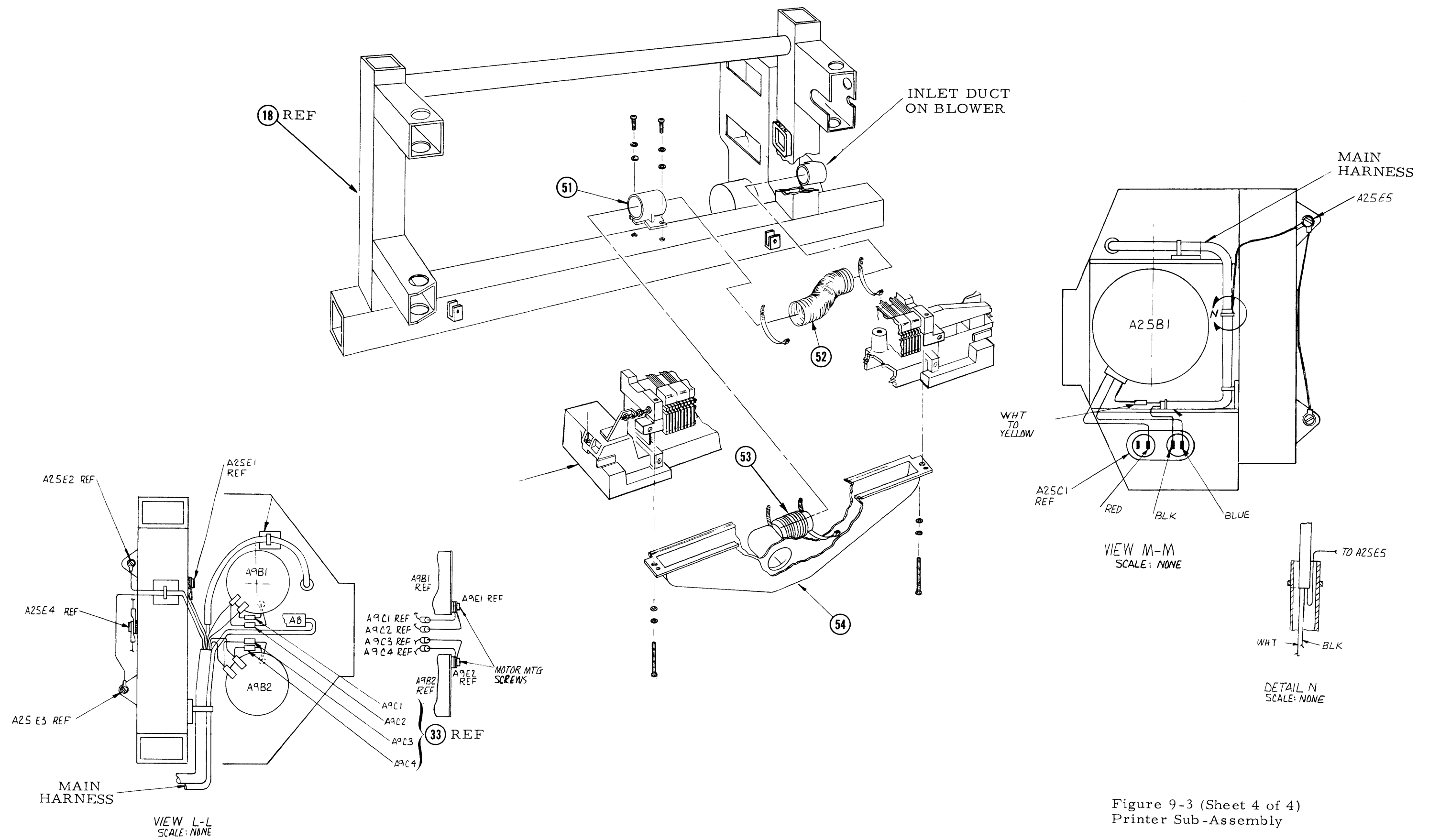


Figure 9-3 (Sheet 4 of 4)
Printer Sub-Assembly

TABLE 9-3. PRINTER SUB-ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-3	Printer Sub-Assembly		241410-001	REF
1.	Paper Drive Assy (Ref Fig. 9-5)	A7	240065-001	1
2.	Washer, Paper Drive Frame		240082-001	1
3.	Operator Control Panel Assy (Ref Fig. 9-9)	A3	241523-001	1
4.	Plate, Paper Drive/Panel Sup		235017-001	1
5.	Retainer, Copies Control Knob		235068-001	1
6.	Hinge Pin, Eccentric		236845-001	2
7.	Knob, Copies Control		235069-001	1
8.	Lever Assy, Copies Control		239713-001	2
9.	Pin Assy, Drum Gate Latch		240864-001	1
10.	Pointer, Copies Control		236852-001	1
11.	Roller, Latch		240868-001	1
12.	Paper Out Switch Assy (Ref Items 55-58)	A4S3	237810-001	1
13.	Electronics Assembly (Ref Fig. 9-12)	A15	241409-001	1
14.	Plate, Anchor		237387-001	2
15.	Pin Assy, Drum Gate Hinge		237421-002	1
16.	Stop, Drum Gate		237481-001	1
17.	Shaft, Copies Control		237489-001	1
18.	Main Frame		240853-001	1
19.	Card Cage Assembly (Ref Fig. 9-11)		240154-001	1

TABLE 9-3. PRINTER SUB-ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
20.	Plate, Doubler		240094-001	1
21.	Enclosure, Logic		235620-001	1
22.	Deflector, Paper, Lower		240071-001	1
23.	Foam, Paper Deflector		235159-002	1
24.	Hanger, Foam Insulation		236770-001	3
25.	Cable Assy, Flat, 26 Cond		241526-001	1
26.	Circuit Card Assy, Hammer Driver (Ref Fig. 9-16)	A12	238005-001	4
27.	Cover, HD Card Cage		238109-001	1
28.	Cover, HD Terminals		236898-001	1
29.	Housing, Drum Gate Switch		238069-001	1
30.	Actuator, Drum Gate Switch		233473-001	1
31.	Switch, Drum Gate	A4S1A, A4S1B	800129-001	2
32.	Insulator, Drum Gate Switch		800955-001	2
33.	Capacitor, 0.01 UF, 10%, 100V	A7C1, A7C2, A9C1, A9C2, A9C3, A9C4	800039-103	6
34.	Drum Gate Assembly (Ref Fig. 9-7)	A8, A25	240857-002	1
35.	Paper Tension Spring Assy (Ref Items 59-64)		238039-001	1
36.	Bracket, Paper Tension		236719-001	1
37.	Ribbon Drive System Assy (Ref Fig. 9-8)		236780-001	1

TABLE 9-3. PRINTER SUB-ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
38.	Clamp		240784-001	1
39.	Ground Strap, 11" Lg		237461-006	3
40.	Ground Strap, 3" Lg		237461-001	1
41.	Ground Strap, 18" Lg		237461-019	1
42.	Ground Strap, Capacitor	A25C2, A25C3	237462-001	2
43.	Plate, Paper Guide		240101-001	1
44.	Mask, Hammer Bank 136 Column 132 Column		240861-001 240861-002	1
45.	Hammer Bank & Support Assy (Ref Fig. 9-4)	A6	239154-001	1
46.	Cable Assy, BP/Servo/Logic	A4W3	235579-001	1
47.	Circuit Card Assy, Control Logic (Ref Fig. 9-18)	A28	237515-002	1
48.	Door, Logic Enclosure		235088-001	1
49.	Ground Strap, 4" Lg		237461-002	2
50.	Cover, Regulator Card		235169-001	1
51.	Connector, Hose		239077-001	1
52.	Hose, Cooling		240777-001	1
53.	Bellows, Hammer Bank Cooling		239081-001	1
54.	Duct, Hammer Bank		239071-001	1
55.	Bracket, Mounting		237809-001	1
56.	Actuator, Switch		800130-001	1

TABLE 9-3. PRINTER SUB-ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
57.	Switch, Paper Out	A4S3	800129-001	1
58.	Actuator Assy, Paper Out Sw		240081-001	1
59.	Mask, Paper		238010-001	1
60.	Spring		236717-001	1
61.	Shaft		236716-001	1
62.	Doubler		237447-001	2
63.	Ground Strap		237461-003	1
64.	Doubler		237447-002	2
65.	Cover, Hammer Module Wires		238110-001	1
66.	Tray, Cable		240914-001	1
67.	Plate, Protection		238111-001	1
68.	Tape, Insulating		241575-001	1
69.	Spring, Compression		800279-030	1
70.	Washer, Flat, Teflon		800470-012	1
71.	Washer, Flat, Special		800278-013	1
72.	Screw, Set, Self-Locking, 10-32		241541-001	1

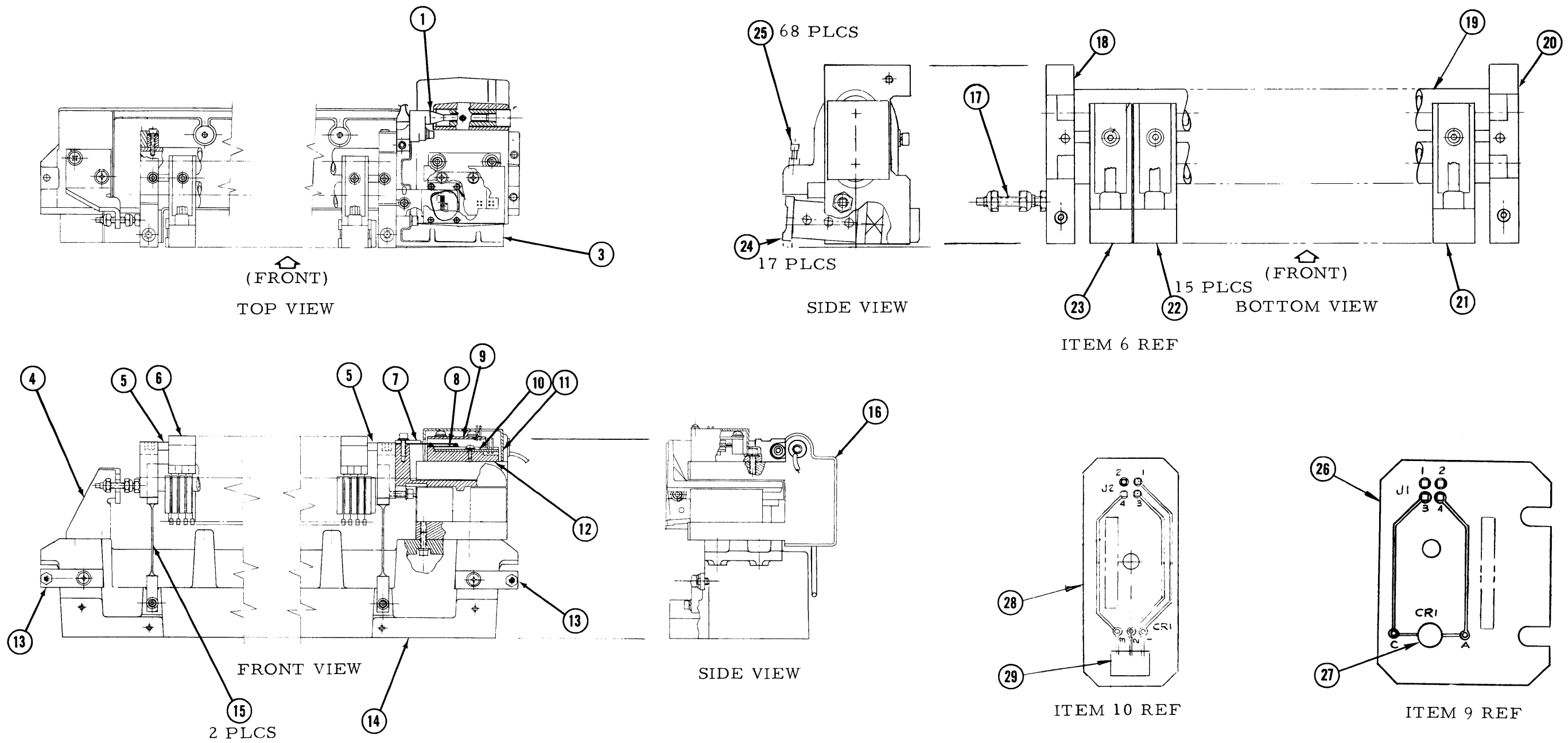


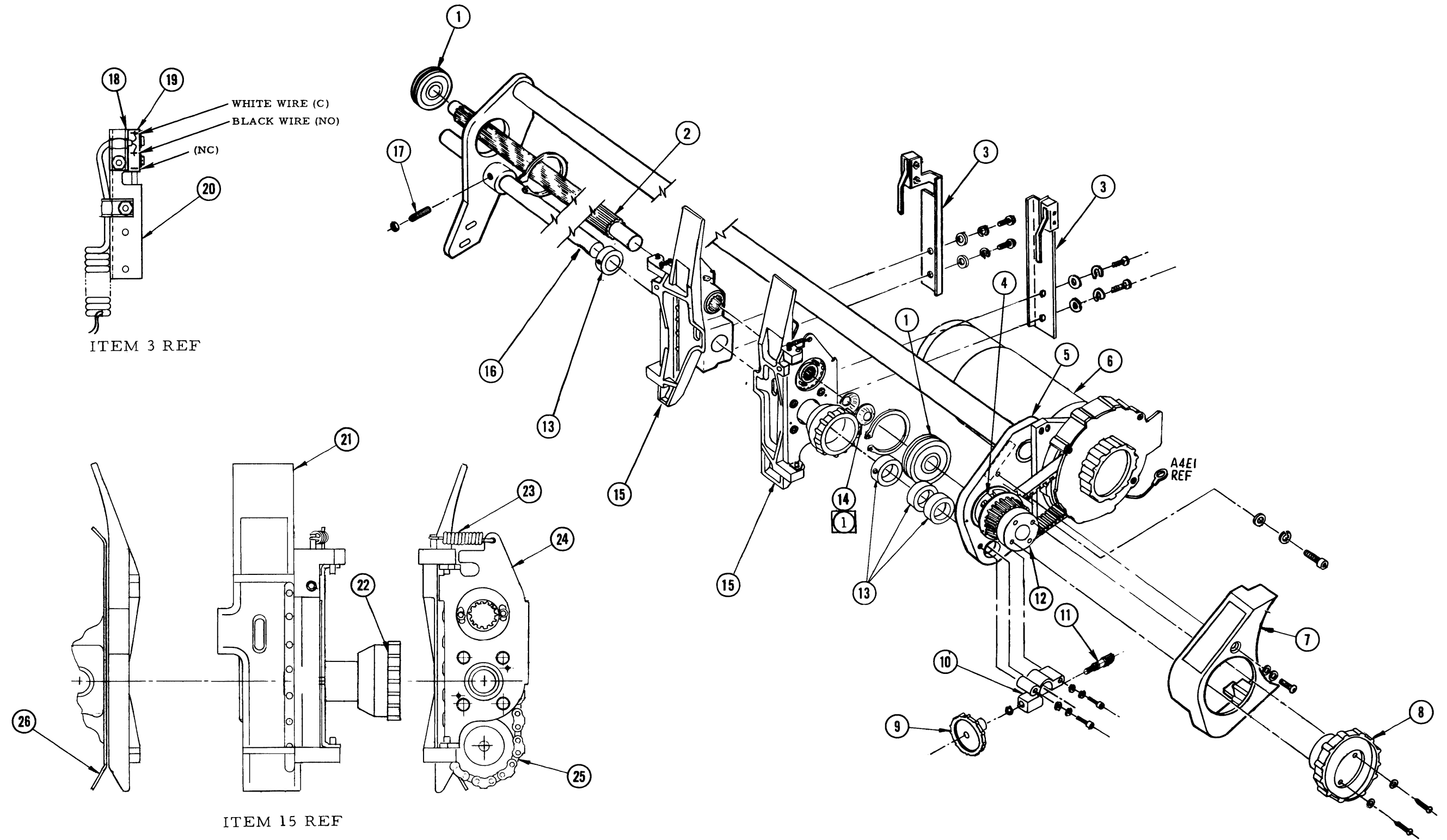
Figure 9-4
Hammer Bank & Support Assembly

TABLE 9-4. HAMMER BANK AND SUPPORT ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-4	Hammer Bank & Support Assy	A6	239154-001	REF
1.	Magnet Module, Transducer		240787-001	1
2.	Omitted			
3.	Coil Assy, Hammer Bank		240179-001	1
4.	Bracket, Stop, Hammer Bank		234769-001	1
5.	Plug		240915-001	2
6.	Hammer Bank Assy (Ref Items 17-25)		239153-001	1
7.	Flag, Hammer Bank		235677-001	1
8.	Aperture		241386-001	1
9.	Emitter Assy, Hammer Bank (Ref Items 26 & 27)		235661-001	1
10.	Sensor Assy, Hammer Bank (Ref Items 28 & 29)		235664-001	1
11.	Cover, Sensor		239710-001	1
12.	Holder, Sensor		240039-001	1
13.	Stop, Hammer Bank Support		240032-001	2
14.	Hammer Bank Support		239041-001	1
15.	Spring		239201-001	2
16.	Magnet Assy, Hammer Bank		239148-001	1
17.	Stud		236766-001	1
18.	Spacer, Duct, LH		240913-001	1
19.	Frame, Hammer Bank		239151-001	1
20.	Spacer, Duct, RH		240913-002	1

TABLE 9-4. HAMMER BANK AND SUPPORT ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
21.	Magnet Sub-Assy, Right End		234771-003	1
22.	Magnet Sub-Assy, Center		234771-001	15
23.	Magnet Sub-Assy, Left End		234771-002	1
24.	Hammer/Foot Module Assy		237851-001	17
25.	Backstop Screw		238840-001	68
26.	Printed Wiring Board, Emitter		235662-001	1
27.	Diode, Light Emitting	CR1	801081-001	1
28.	Printed Wiring Board, Sensor		240104-001	1
29.	Photocell, Optical Sensor	CR1	801084-102	1
30.	Omitted			
31.	Decal, Hammer Identification		237661-003	1



④ USE BELLEVILLE WASHERS AS REQUIRED (4 MAX, 2 MIN) TO ELIMINATE END PLAY. ENSURE TWO WASHERS NEAREST BEARING ARE INSTALLED AS SHOWN.

Figure 9-5
Paper Drive Assembly

TABLE 9-5. PAPER DRIVE ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-5	Paper Drive Assembly	A7	240065-001	REF
1.	Bearing, Ball, Radial		800196-003	2
2.	Shaft, Tractor Drive		235054-001	1
3.	Limit Switch Assy, LH Limit Switch Assy, RH (Ref Items 18 - 20)	A4S2 A4S4	233585-005 233585-006	1 1
4.	Collar, Shaft, Mod		236733-001	1
5.	Frame, Paper Drive		237632-001	1
6.	Paper Drive Motor Assy (Ref Fig. 9-6)	A7A1	240064-001	1
7.	Belt Cover, Paper Drive		240107-001	1
8.	Knob, Tractor Shaft		235566-001	1
9.	Knob, Tractor, Lateral Adj		235708-001	1
10.	Housing, Tractor, Lateral Adj		235065-001	1
11.	Pinion, Tractor, Lateral Adj		235707-001	1
12.	Pulley, Tractor Shaft, 16T		239104-001	1
13.	Collar, Shaft Clamp		800291-002	4
14.	Washer, Belleville		800295-001	2-4
15.	Tractor Assy, RH Tractor Assy, LH (Ref Items 21 - 26)		239200-001 239200-002	1 1
16.	Shaft, Tractor Support		235076-001	1
17.	Plunger, Ball		800294-002	1
18.	Insulator		800955-001	1
19.	Switch		800944-001	1

TABLE 9-5. PAPER DRIVE ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
20.	Bracket, Switch Mtg, LH Bracket, Switch Mtg, RH		233491-001 233491-002	1 1
21.	Pressure Plate, RH Pressure Plate, LH		237513-001 239170-001	1 1
22.	Lock Assy		240746-001	1
23.	Spring, Extension		239198-001	1
24.	Hinge Plate, RH Hinge Plate, LH		240049-001 240049-002	1 1
25.	Tractor Sub-Assy, RH Tractor Sub-Assy, LH		239199-001 239199-002	1 1
26.	Slide Plate, RH Slide Plate, LH		240062-001 240061-001	1 1

TABLE 9-6. PAPER DRIVE MOTOR ASSEMBLY

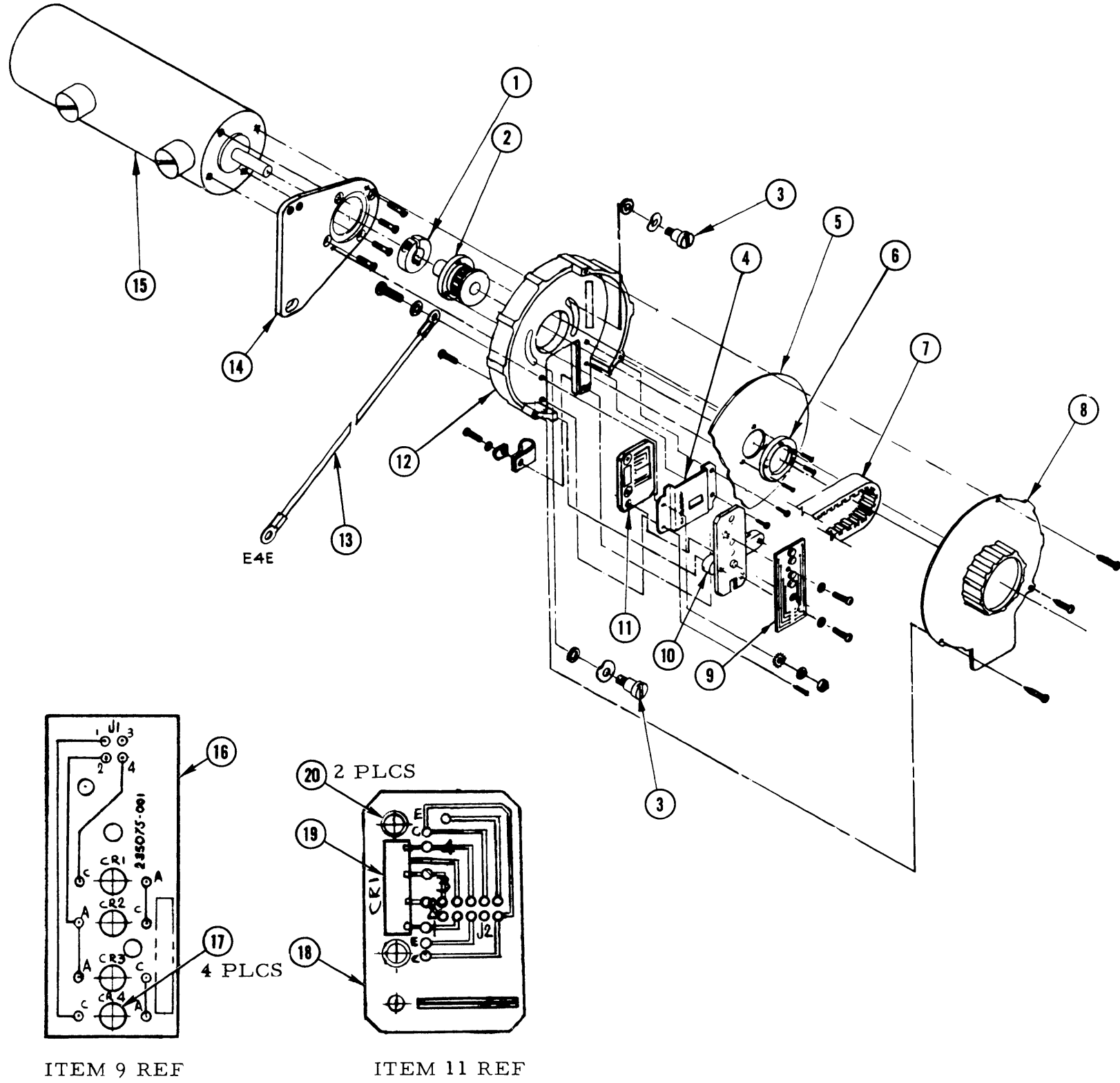


Figure 9-6
Paper Drive Motor Assembly

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-6	Paper Drive Motor Assembly	A7A1	240064-001	REF
1.	Collar, Shaft Clamp		800291-004	1
2.	Pulley, Paper Drive Motor		239102-001	1
3.	Screw, Shoulder		235077-001	2
4.	Mask, Sensor		235143-001	1
5.	Encoder Disc		233367-001	1
6.	Retainer, Encoder Disc		235078-001	1
7.	Belt, Timing Drive		800299-003	1
8.	Cover, Paper Drive		235695-001	1
9.	Emitter Assy, Paper Drive (Ref Items 16 & 17)		235580-001	1
10.	Holder, Emitter		233385-001	1
11.	Sensor Assy, Paper Drive (Ref Items 18 - 20)		235146-001	1
12.	Housing, Encoder		233384-001	1
13.	Ground Strap		237461-027	1
14.	Motor Mount, Paper Drive		240063-001	1
15.	Motor, Tach/Gen	A7B1	801040-001	1
16.	Printed Wiring Board, Emitter		235075-001	1
17.	Diode, Light Emitting	CR1 - CR4	801081-001	4
18.	Printed Wiring Board, Sensor		240102-001	1
19.	Diode, Optical Sensor	CR1	801084-104	1
20.	Transistor, Photo	Q1, Q2	801062-001	2

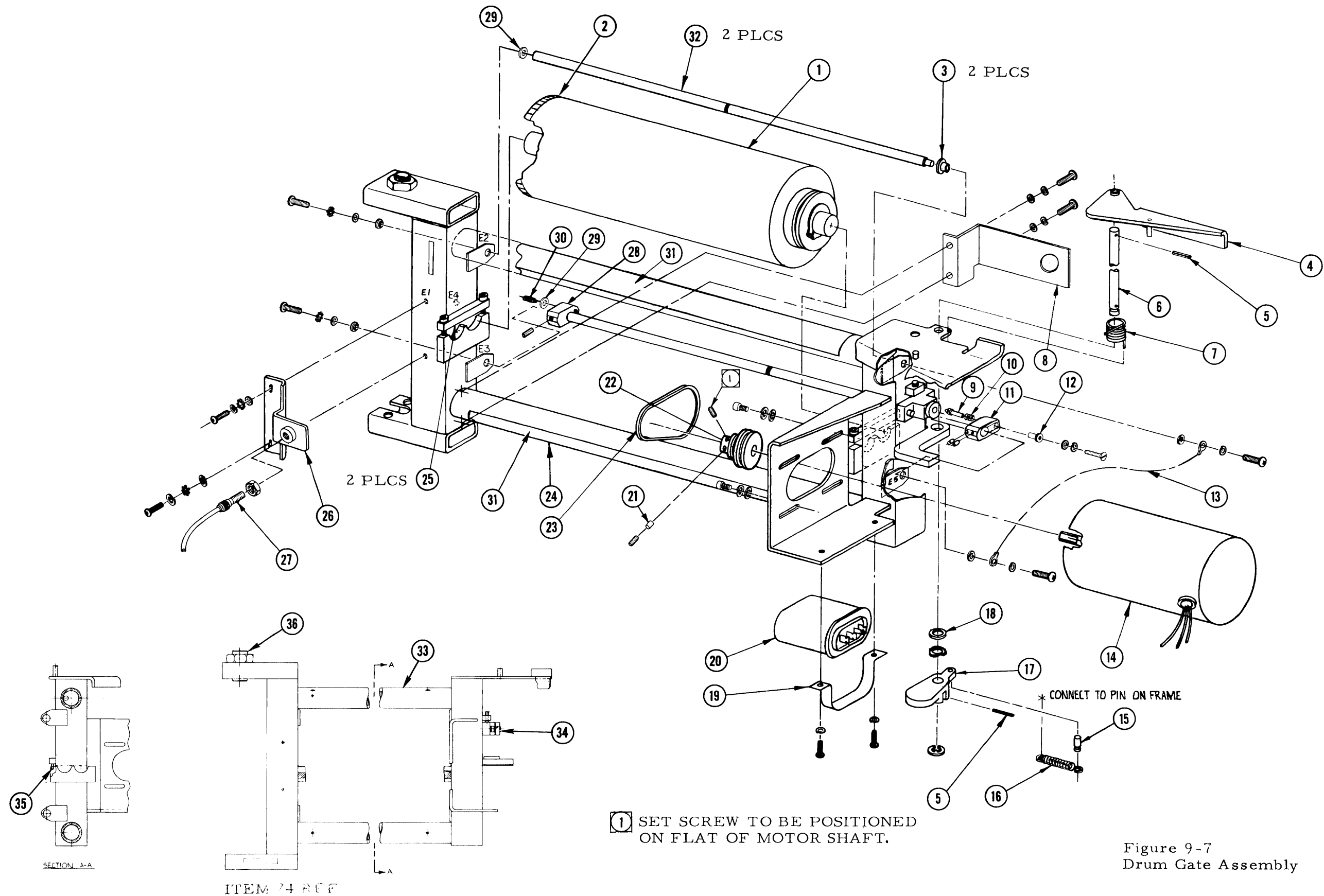


Figure 9-7
Drum Gate Assembly

TABLE 9-7. DRUM GATE ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-7	Drum Gate Assembly	A8, A25	240857-002	REF
1.	Character Drum 64 Character 96 Character		236870-XXX* 237480-XXX*	1
2.	Code Disk, 64 Character Drum 2.1248" Inside Diameter 2.2434" Inside Diameter		240735-001 240735-002	1
	Code Disk, 96 Character Drum		240744-001	1
3.	Washer, Shoulder		234304-002	2
4.	Handle, Drum Latch		240860-002	2
5.	Pin, Spring, 3/32 Dia x 1/2 Lg		800267-003	2
6.	Shaft, Pawl Actuator		240858-001	1
7.	Spring, Latch Handle		239168-001	1
8.	Backup Bracket, Paper Out Sw		236715-001	1
9.	Plunger, Paper Tension Block		236750-001	1
10.	Spring, Compression		236720-001	1
11.	Block, Paper Tension Mtg		236739-001	1
12.	Knob, Paper Tension Plunger		236751-001	1
13.	Ground Strap		237461-025	1
14.	Motor, Drum Drive	A25B1	800954-001	1
15.	Pin, Grooved, Headl s		800017-003	1
16.	Spring, Extension		800328-026	1
17.	Pawl, Drum Latch		240859-001	1
18.	Washer, Nylon, 1/4		800167-023	1
19.	Bracket, Capacitor Mtg		800184-001	1

TABLE 9-7. DRUM GATE ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
20.	Capacitor	A25C1	800183-001	1
21.	Slug, Setscrew		213248-004	1
22.	Pulley, Drum Motor 64 Character Drum 96 Character Drum		237747-002 237747-005	1
23.	Belt, Drum Drive 64 Character Drum 96 Character Drum		800104-002 800104-006	1
24.	Drum Gate Sub-Assy (Ref Items 32 - 35)		240856-001	1
25.	Block, Drum Mounting		240072-001	2
26.	Bracket, Transducer Mtg 64 Character Drum 96 Character Drum		233469-001 233469-002	1
27.	Transducer	A8PU1	800153-002	1
28.	Block, Paper Tensioner Mtg		236718-001	1
29.	Washer, Nylon, No. 8		800167-004	2
30.	Plunger, Ball		800294-007	1
31.	Tape, Ribbon Insulating		240871-001	2
32.	Guide, Ribbon Reversing		240155-001	2
33.	Frame, Drum Gate		240855-001	1
34.	Roller Assy, Drum Gate		240866-001	1
35.	Pin, Grooved, .101 Dia x 1/2 Lg		800017-007	1
36.	Nut, Drum Gate Hinge		237419-001	1

* XXX - See Sales Order Notice (SON) for appropriate dash number.

TABLE 9-8. RIBBON DRIVE SYSTEM ASSEMBLY

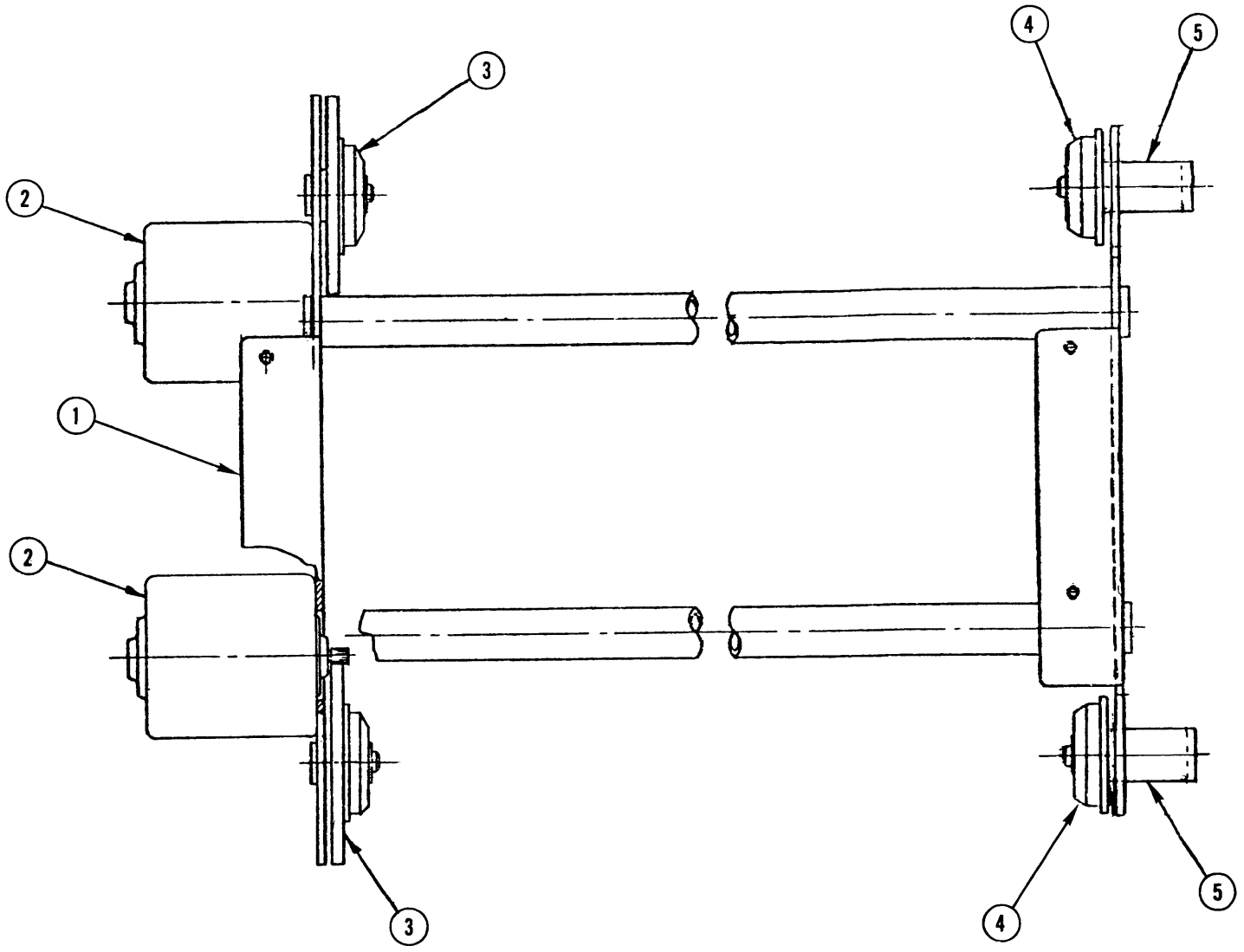


Figure 9-8
Ribbon Drive System Assembly

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-8	Ribbon Drive System Assembly	A9	236780-001	REF
1.	Frame		237450-001	1
2.	Motor, DC, Ribbon Drive	A9B1, A9B2	801148-001	2
3.	Spool, Ribbon Drive		237356-001	2
4.	Ribbon Holder, Floating		231061-001	2
5.	Spring		233426-001	2

TABLE 9-9. OPERATOR CONTROL PANEL ASSEMBLY

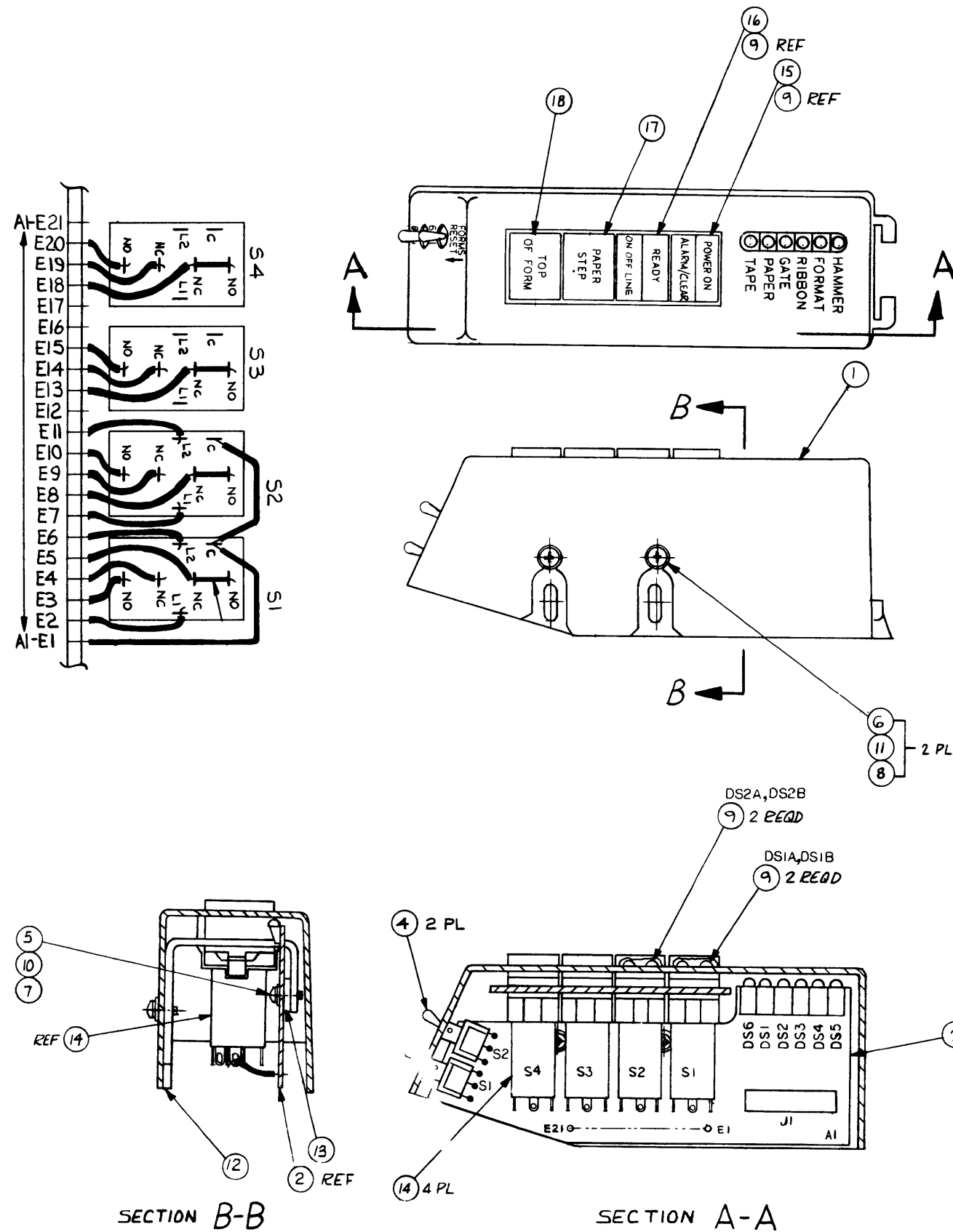


Figure 9-9. Operator Control Panel Assembly

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-9	Operator Control Panel Assy		241523-001	REF
1.	Cover, Control Panel		235552-001	1
2.	Circuit Card Assy, Operator Control Panel (Ref Fig. 9-10)	A1	241520-001	1
4.	Cap, Switch, Toggle Handle		801452-001	2
5.	Screw, Pan Hd, 4-40 x 7/16		800073-207	2
6.	Screw, Pan Hd, 8-32 x 3/8		800073-406	2
7.	Washer, Flat, No. 4		800075-002	2
8.	Washer, Flat, No. 8		800075-004	2
9.	Lamp, T-1 3/4, 12V, 40MA	DS1A, DS1B, DS2A, DS2B	800163-006	4
10.	Washer, Lock, Split, No. 4		800175-002	2
11.	Washer, Lock, Split, No. 8		800175-004	2
12.	Bracket, Switch		801401-001	1
13.	Spacer		801402-001	1
14.	Base, Switch	S1, S2, S3, S4	801403-001	4
15.	Indicator Lens, Power On/Alarm Clear		801404-001	1
16.	Indicator Lens, Ready/On/Off Line		801404-002	1
17.	Indicator Lens, Paper Step		801404-003	1
18.	Indicator Lens, Top of Form		801404-004	1

TABLE 9-10. OPERATOR CONTROL PANEL CARD ASSEMBLY

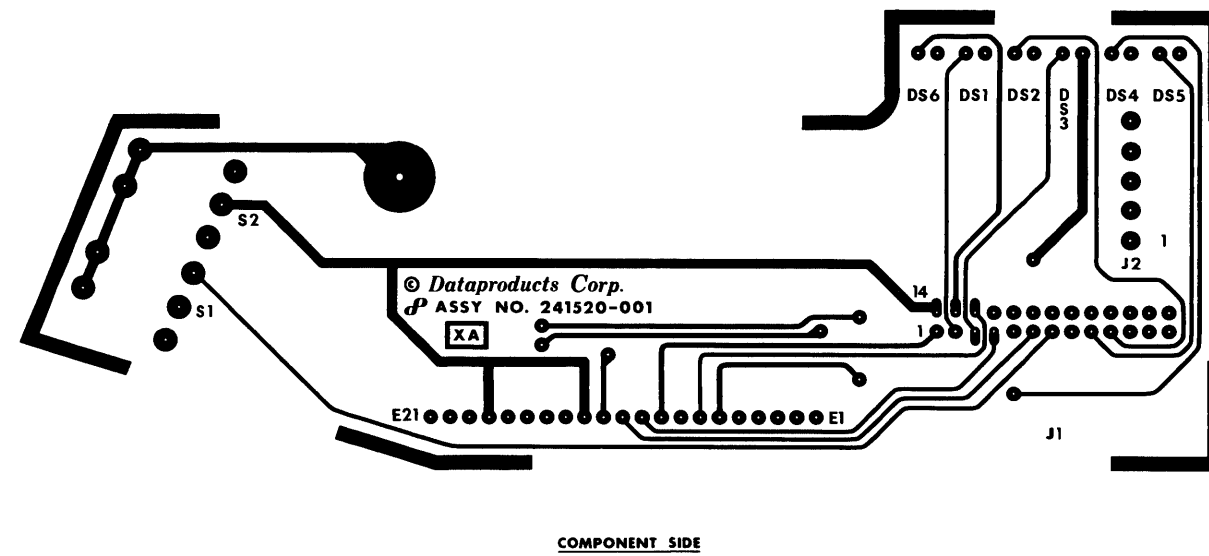


Figure 9-10. Operator Control Panel Card Assembly

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-10	Operator Control Panel Card Assembly		241520-001	REF
1.	Printed Wiring Board, Operator Control Panel		241521-001	1
4.	Lamp, LED, Red	DS1-DS6	801082-001	6
7.	Connector, Flat Cable, 26 Pin, PCB Mtg	J1	801408-026	1
10.	Switch, Toggle, SPDT	S1	800502-010	1
11.	Switch, Toggle, SPDT, Momentary	S2	800502-011	1

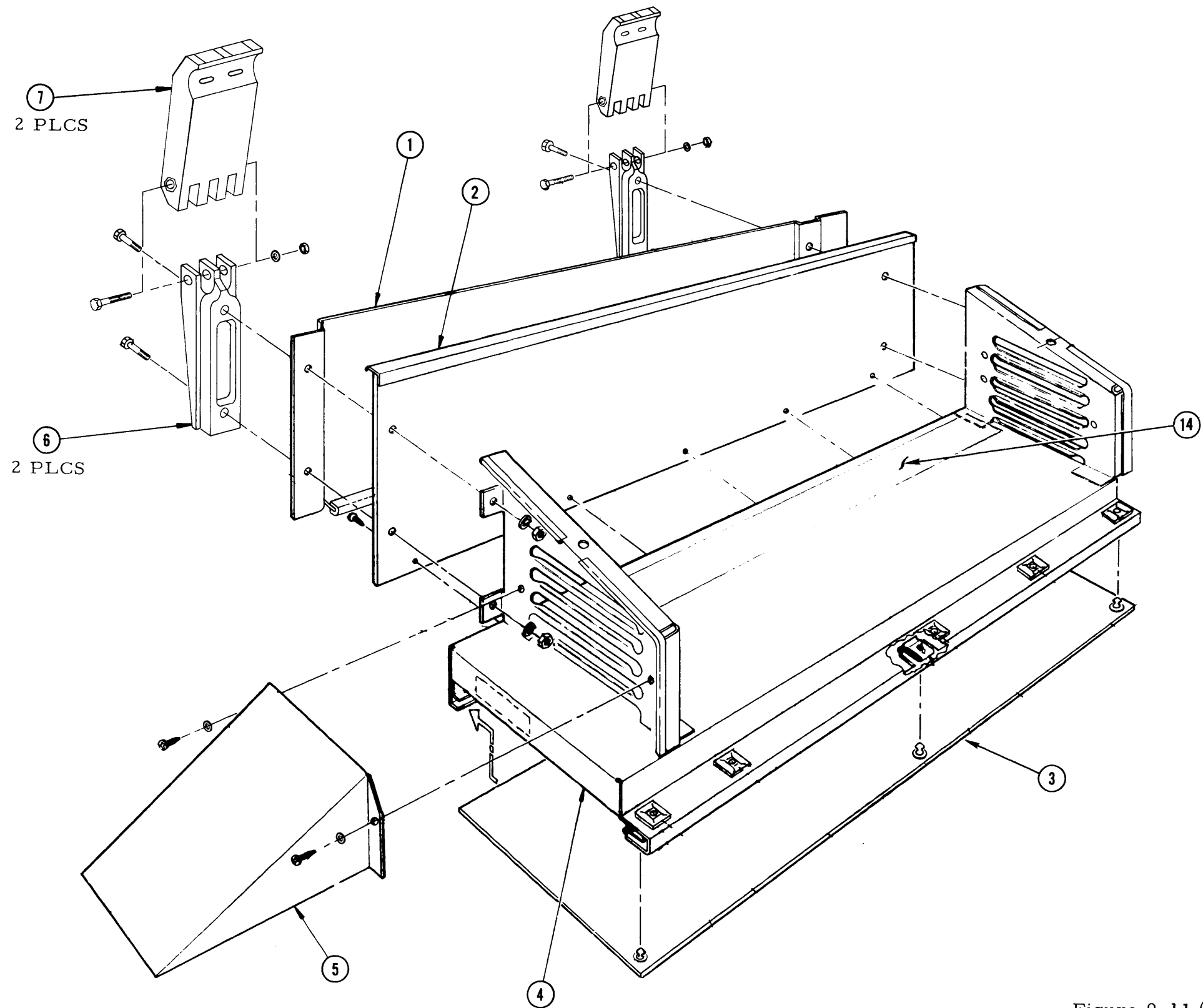
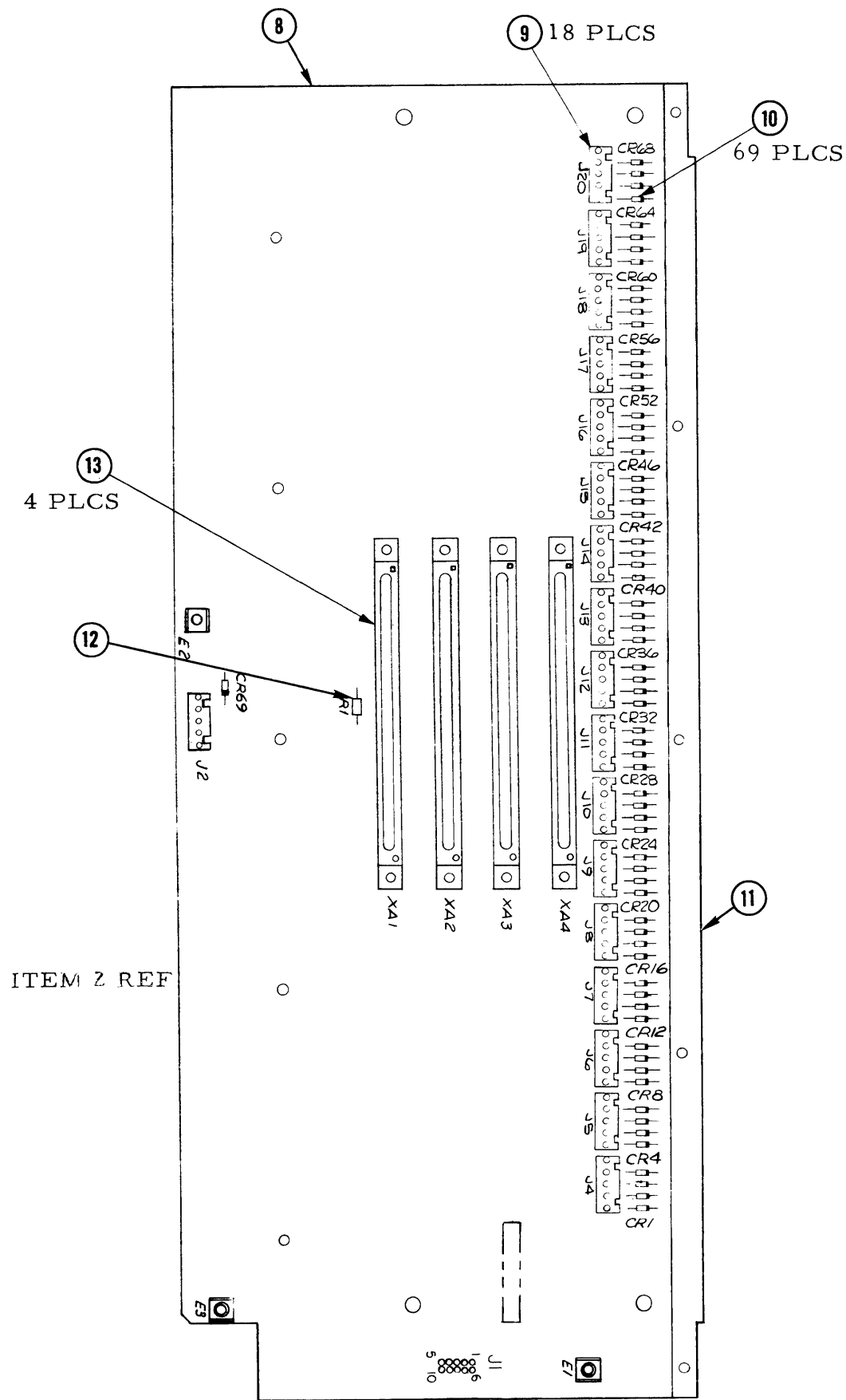


Figure 9-11 (Sheet 1 of 2)
Card Cage Assembly



ITEM 2 REF

Figure 9-11 (Sheet 2 of 2)
Card Cage Assembly

TABLE 9-11. CARD CAGE ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-11	Card Cage Assembly		240154-001	REF
1.	Shield, HD Card Cage		235098-001	1
2.	Circuit Card Assy, Hammer Driver Back Panel, Isolated (Ref Items 8-13)	A12	236790-001	1
3.	Circuit Card Assy, Servo System (Ref Fig. 9-17)	A14	235645-001	1
4.	Card Cage		240143-001	1
5.	Duct, Air		235097-001	1
6.	Support, Card Cage		237503-001	2
7.	Swivel, Card Cage		237502-001	2
8.	Printed Wiring Board, Hammer Driver Back Panel		236791-001	1
9.	Connector, PCB Mtg, Header	J2, J4 - J20	801037-055	18
10.	Diode	CR1 - CR69	800743-001	69
11.	Channel, Wire Support		235102-001	1
12.	Resistor, 1K, 1/4W, 5%	R1	800030-102	1
13.	Connector	XA1 - XA4	800042-002	4
14.	Tape, Mylar		800721-006	A/R

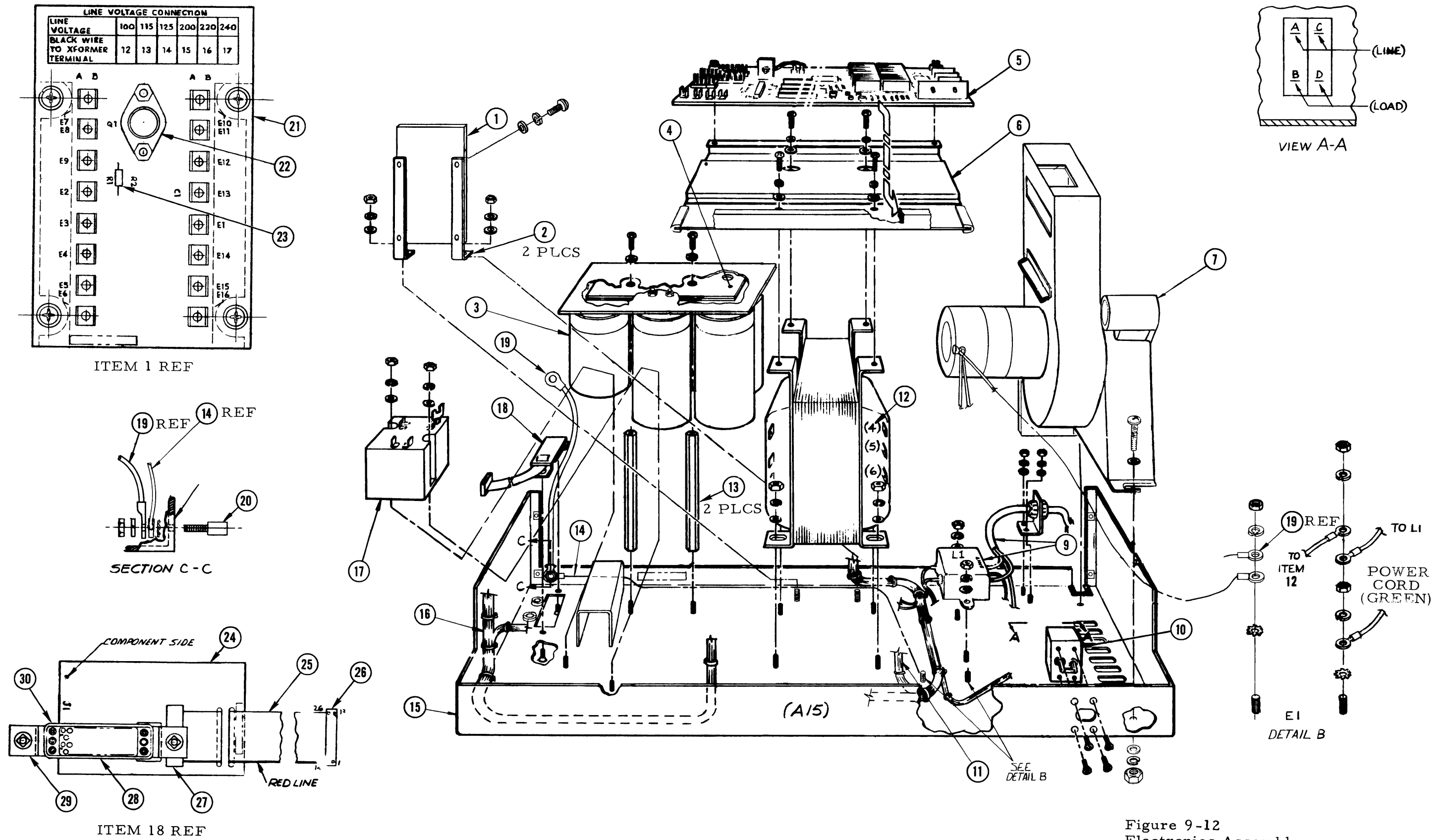


TABLE 9-12. ELECTRONICS ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-12	Electronics Assembly	A15	241409-001	REF
1.	Circuit Card Assembly, Power Distribution (Ref Items 21-23)	A17	236847-001	1
2.	Bracket, Pwr Dist Card		236846-001	2
3.	Capacitor Pack Assembly (Ref Fig. 9-14)	A18	235029-001	1
4.	Strap, Capacitor		232326-001	1
5.	Circuit Card Assy, Regulator (Ref Fig. 9-15)	A16	238030-YYY**	1
6.	Support, Regulator Card		235107-001	1
7.	Blower Assembly (Ref Fig. 9-13)	A15B1	237348-001	1
8.	OMITTED			
9.	Power Cord Assembly (Ref Addendum)		235142-XXX*	1
10.	Circuit Breaker, 2-Pole	A15CB1	800797-003	1
11.	Wiring Harness, Electronics		240188-001	1
12.	Transformer, Power	A15T1	800942-003	1
13.	Hex Spacer		234348-002	2
14.	Ground Strap, 24" Lg		237461-020	1
15.	Chassis, Electronics		239085-001	1
16.	Wiring Harness, Main		241406-001	1
17.	Relay, 12VDC	A15K1	801010-001	1
18.	Input/Output Harness Assy (Ref Items 24-30 & Addendum)	A19	240845-XXX*	1

TABLE 9-12. ELECTRONICS ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
19.	Ground Strap, 7.25" Lg		237461-004	1
20.	Jack, Banana, Uninsulated	A15J1	800869-001	1
21.	Printed Wiring Board, Power Distribution		236816-001	1
22.	Thyristor, Triac	Q1	801144-001	1
23.	Resistor, 100 Ohms, 5%, 1/4W	R1	800030-101	1
24.	Printed Wiring Board, Input/Output Harness		240846-001	1
25.	Cable, Ribbon, 26 Cond		800507-026	A/R
26.	Connector, 26 Pin, Flat Cable	P2	801088-026	1
27.	Connector, 26 Pin, Flat Cable	TB1	801090-026	1
28.	Connector, 50 Pin, Female	J1	800562-150	1
29.	Bracket, Connector		235681-001	2
30.	Shell, Receptacle		800313-050	1

* XXX - See Sales Order Notice (SON) for appropriate dash number.

** YYY = -001 if jumper W1 is installed on regulator card.

YYY = -002 if jumper W2 is removed from regulator card to provide DC ground isolation.

TABLE 9-13. BLOWER ASSEMBLY

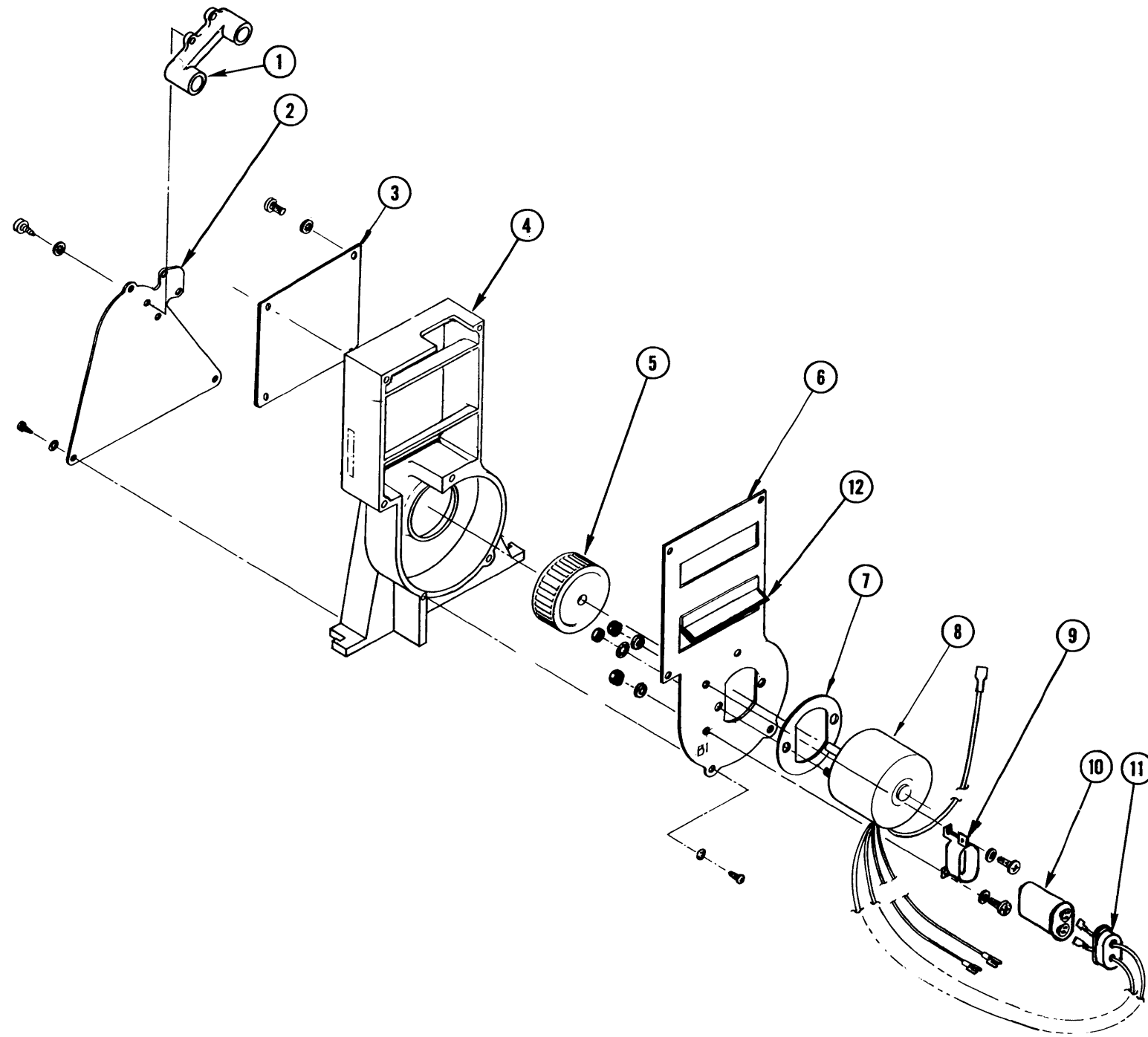


Figure 9-13
Blower Assembly

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-13	Blower Assembly	A15B1	240910-001	REF
1.	Duct, Vacuum		239073-001	1
2.	Cover, Intake Plenum		237342-001	1
3.	Cover, Housing		239068-001	1
4.	Housing, Blower		240917-001	1
5.	Wheel, Blower		801227-004	1
6.	Panel, Blower Mtg		240761-001	1
7.	Gasket, Sealing		801348-002	1
8.	Motor, AC, Induction		801346-001	1
9.	Bracket, Capacitor Mtg		800555-002	1
10.	Capacitor		800183-001	1
11.	Boot, Terminal		800670-001	1
12.	Extrusion, Rubber, Neoprene		800086-006	A/R

TABLE 9-14. CAPACITOR PACK ASSEMBLY

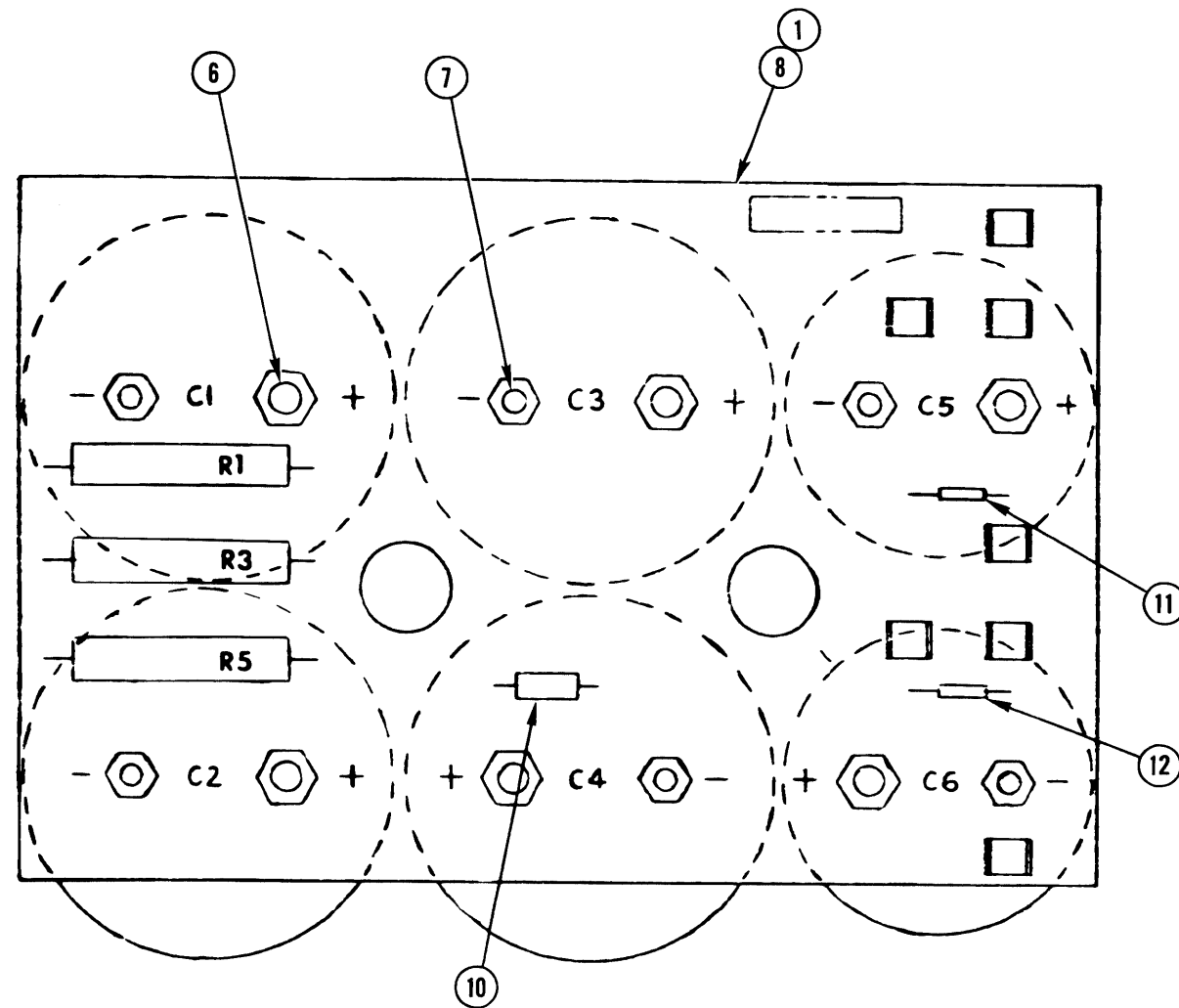


Figure 9-14
Capacitor Pack Assembly

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-14	Capacitor Pack Assembly	A18	235029-001	REF
1.	Circuit Card Assy, Capacitor Pack (Ref Items 8 - 12)		235025-001	1
2.	Capacitor, Electrolytic, 30,000 UF, +120% -10%, 75VDC	C1, C2, C3	800092-758	3
3.	Capacitor, Electrolytic, 71,000 UF, +120% -10%, 15VDC	C4	800092-257	1
4.	Capacitor, Electrolytic, 75,000 UF, +120% -10%, 15VDC	C5	800092-157	1
5.	Capacitor, Electrolytic, 32,000 UF, +120% -10%, 25VDC	C6	800092-255	1
6.	Stud, Capacitor Mtg, 1/4-20 Thd		215435-001	6
7.	Stud, Capacitor Mtg, 10-32 Thd		215435-002	6
8.	Printed Wiring Board, Capacitor Pack		235026-001	1
9.	Resistor, 750 Ohms, 15%, 10W	R1, R3, R5	800926-394	3
10.	Resistor, 1K, 5%, 1W	R7	800032-102	1
11.	Resistor, 1K, 5%, 1/4W	R8	800030-102	1
12.	Resistor, 2.7K, 5%, 1/4W	R9	800030-272	1

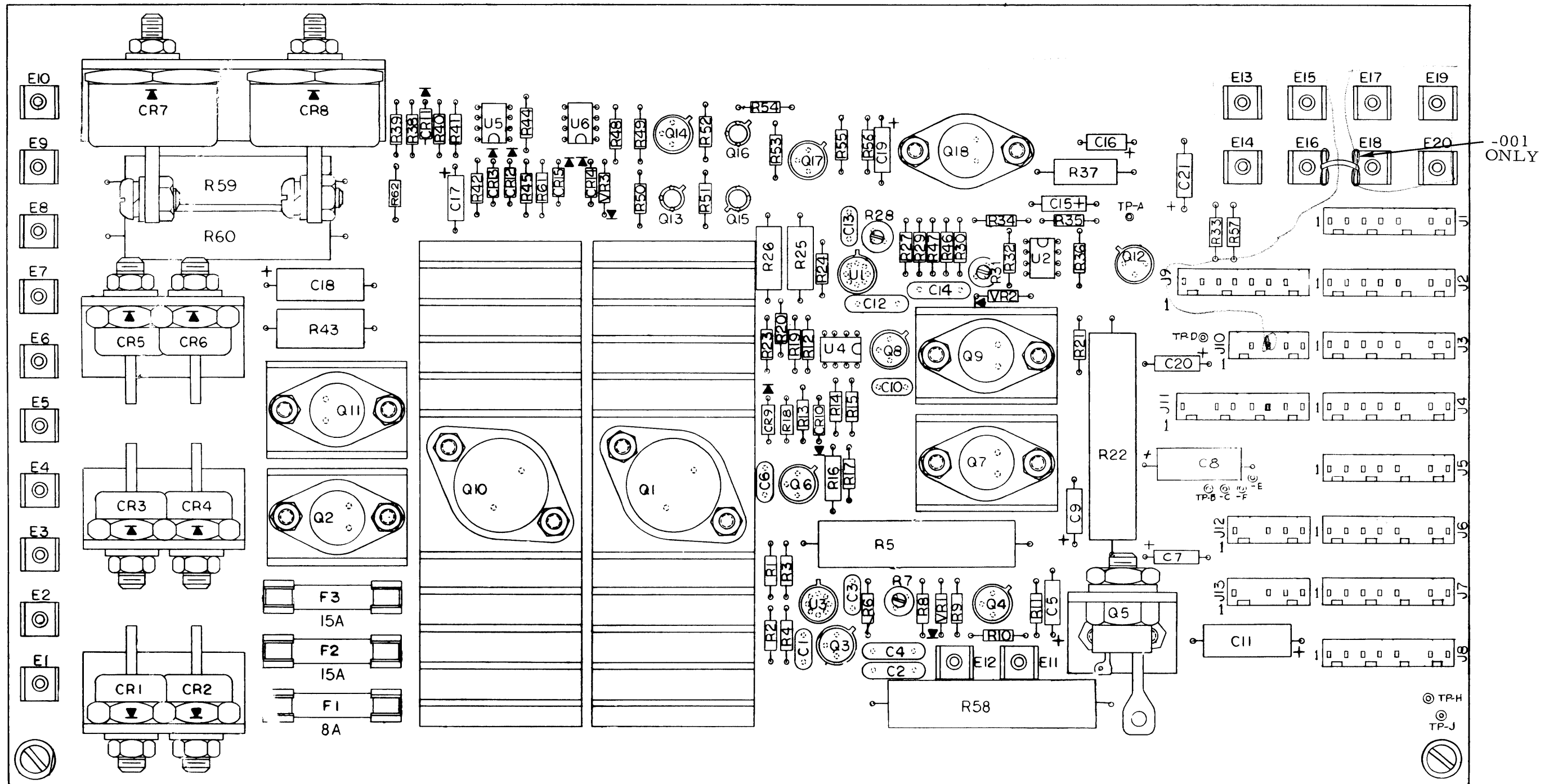


Figure 9-15
Regulator Card Assembly

TABLE 9-15. REGULATOR CARD ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-15	Regulator Card Assembly Non-Isolated DC Ground Isolated DC Ground	A16	238030-001 238030-002	REF
1.	Printed Wiring Board, Regulator		238031-001	1
2.	Capacitor, 18 PF, 15%, 100V	C1, C6, C10	801024-180	3
3.	Capacitor, .01 UF, 15%, 100V	C2, C4, C12, C14	801024-103	4
4.	Capacitor, 680 PF, 15%, 100V	C3, C13	801024-681	2
5.	Capacitor, 4.7 UF, 20%, 10V	C5, C15, C21	800091-475	3
6.	Capacitor, 2.2 UF, 10%, 20V	C7, C16, C19, C20	800041-225	4
7.	Capacitor, 82 UF, 10%, 10V	C8	800040-826	1
8.	Capacitor, 1 UF, 10%, 50V	C9	800090-105	1
9.	Capacitor, 120 UF, 10%, 10V	C11	800040-127	1
10.	Capacitor, 39 UF, 10%, 10V	C17	800040-396	1
11.	Capacitor, 10 UF, 10%, 75V	C18	800733-106	1
12.	Diode, Rectifier	CR1, CR2, CR5, CR6	800927-001	4
13.	Diode, Rectifier	CR3, CR4	800975-001	2
14.	Diode, Rectifier	CR7, CR8	800983-001	2
15.	Diode, Silicon	CR9 - CR15	800743-001	7
16.	Fuse, Fast Acting, 8 Amp	F1	800316-080	1
17.	Fuse, Fast Acting, 15 Amp	F2, F3	800316-150	2
18.	Transistor, DPC 217	Q1	800497-001	1

TABLE 9-15. REGULATOR CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
19.	Transistor, DPC 202	Q2, Q7, Q9, Q18	800018-001	4
20.	Transistor, DPC 204	Q3, Q4, Q8, Q14, Q17	800089-001	5
21.	Thyristor, Triode, DPC 209	Q5	800192-001	1
22.	Transistor, DPC 218	Q6	800515-001	1
23.	Transistor, DPC 210	Q10	800215-001	1
24.	Transistor, DPC 216	Q11	800476-001	1
25.	Transistor, DPC 211	Q12	800231-001	1
26.	Transistor, DPC 205	Q13, Q15, Q16	800132-001	3
27.	Resistor, 100 Ohms, 5%, 1/4W	R1, R9, R23, R55	800030-101	4
28.	Resistor, 560 Ohms, 5%, 1/4W	R2	800030-561	1
29.	Resistor, 27.4 Ohms, 1%, 1/8W	R3	800011-248	1
30.	Resistor, 301 Ohms, 1%, 1/8W	R4	800011-263	1
31.	Resistor, .1 Ohm, 1%, 10W	R5	800528-091	1
32.	Resistor, 5.36K, 1%, 1/8W	R6	800011-348	1
33.	Resistor, Variable, 1K	R7, R28, R31	800982-102	3
34.	Resistor, 2.49K, 1%, 1/8W	R8	800011-236	1
35.	Resistor, 27 Ohms, 5%, 1/4W	R10	800030-270	1
36.	Resistor, 1.2K, 5%, 1/4W	R11, R17, R21, R35, R41, R49, R51, R53	800030-122	8

TABLE 9-15. REGULATOR CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
37.	Resistor, 3.32K, 1%, 1/8W	R12, R32, R45, R46	800011-278	4
38.	Resistor, 8.25K, 1%, 1/8W	R13	800011-411	1
39.	Resistor, 2.7K, 5%, 1/4W	R14, R15, R42, R48, R50	800030-272	5
40.	Resistor, 1 Ohm, 1%, 1W	R16	800210-100	1
41.	Resistor, 470K, 5%, 1/4W	R18	800553-474	1
42.	Resistor, 5.62 Ohms, 1%, 1/8W	R19	800011-355	1
43.	Resistor, 3.01K, 1%, 1/8W	R20	800011-264	1
44.	Resistor, 18 Ohms, 10%, 10W	R22	800926-185	1
45.	Resistor, 38.3 Ohms, 1%, 1/8W	R24	800011-297	1
46.	Resistor, 536 Ohms, 1%, 1/2W	R25	800083-347	1
47.	Resistor, .5 Ohm, 1%, 3W	R26	800084-095	1
48.	Resistor, 13.3K, 1%, 1/8W	R27	800011-146	1
49.	Resistor, 1.87K, 1%, 1/8W	R29, R39, R62	800011-194	3
50.	Resistor, 820 Ohms, 5%, 1/4W	R30, R36	800030-821	2
51.	Resistor, 3.83K, 1%, 1/8W	R33, R47	800011-299	2
52.	Resistor, 33.2K, 1%, 1/8W	R34	800011-279	1
53.	Resistor, 27 Ohms, 5%, 2W	R37	800033-270	1
54.	Resistor, 4.64K, 1%, 1/8W	R38	800011-327	1
55.	Resistor, 82K, 5%, 1/4W	R40	800030-823	1

TABLE 9-15. REGULATOR CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
56.	Resistor, 5.6K, 5%, 2W	R43	800033-562	1
57.	Resistor, 56.2K, 1%, 1/8W	R44	800011-356	1
58.	Resistor, 39K, 5%, 1/4W	R52	800030-393	1
59.	Resistor, 2.2K, 5%, 1/4W	R54	800030-222	1
60.	Resistor, 6.8K, 5%, 1/4W	R56	800030-682	1
61.	Resistor, 6.81K, 1%, 1/8W	R57	800011-383	1
62.	Resistor, 68 Ohms, 10%, 10W	R58, R59, R60	800926-381	3
63.	Resistor, 10K, 1%, 1/8W	R61	800011-104	1
64.	Integrated Circuit, DPC 2050	U1, U3	800499-001	2
65.	Integrated Circuit, DPC 1458	U2, U4, U5, U6	800952-001	4
66.	Diode, Regulator	VR1, VR2, VR3	800592-001	3
67.	Connector, PCB Mtg, 8 Pin	J1 - J8, J11	801037-058	9
68.	Connector, PCB Mtg, 8 Pin	J9	801037-008	1
69.	Connector, PCB Mtg, 5 Pin	J10, J12, J13	801037-055	3
70.	Heat Dissipator	CR1 - CR6 (Ref)	234303-001	3
71.	Heat Dissipator	CR7, CR8 (Ref)	234334-001	1
72.	Heat Dissipator	Q1, Q10 (Ref)	234333-001	2
73.	Heat Dissipator	Q2, Q7, Q9, Q11 (Ref)	800781-002	4
74.	Heat Dissipator	Q5 (Ref)	234332-001	1
75.	Heat Dissipator	Q12 (Ref)	800172-001	1

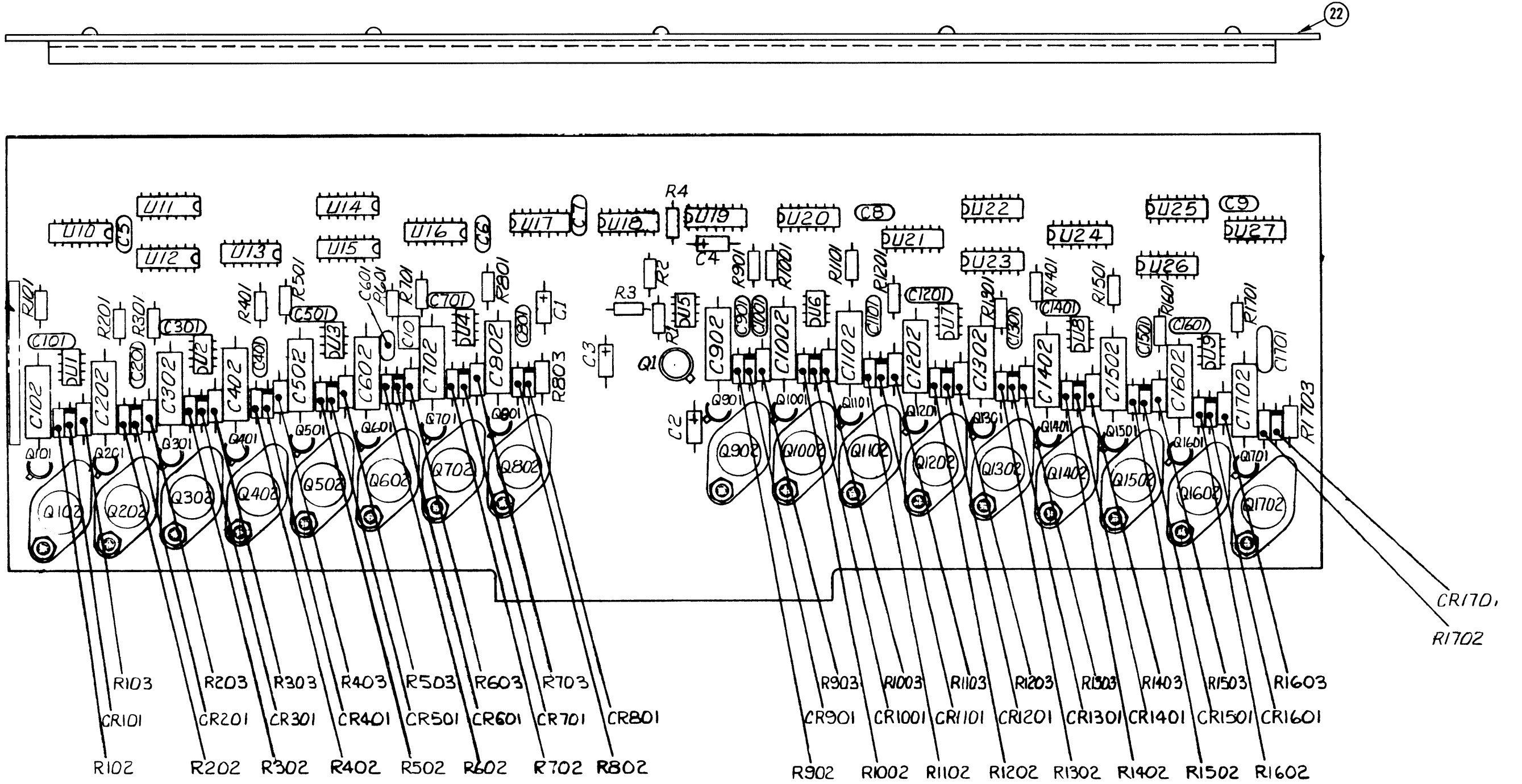


Figure 9-16
Hammer Driver Card Assembly

TABLE 9-16. HAMMER DRIVER CARD ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-16	Hammer Driver Card Assy	A12	238005-001	REF
1.	Printed Wiring Board, Hammer Driver		234006-001	1
2.	Capacitor, 1 UF, 10%, 50V	C1, C2	800090-105	2
3.	Capacitor, 4.7 UF, 20%, 10V	C3, C4	800091-475	2
4.	Capacitor, 1500 PF, 15%, 100V	C5 - C9, C101, 201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701	801024-152	22
5.	Capacitor, .01 UF, 15%, 100V	C10	801024-103	1
6.	Capacitor, .10 UF, 10%, 100V	C102, 202, 302, 402, 502, 602, 702, 802, 902, 1002, 1102, 1202, 1302, 1402, 1502, 1602, 1702	800039-104	17
7.	Diode	CR101, 201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701	800743-001	17
8.	Transistor, DPC 204	Q1	800089-001	1

TABLE 9-16. HAMMER DRIVER CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
9.	Transistor, DPC 201	Q101, 201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701	800019-001	17
10.	Transistor, DPC 202	Q102, 202, 302, 402, 502, 602, 702, 802, 902, 1002, 1102, 1202, 1302, 1402, 1502, 1602, 1702	800018-001	17
11.	Resistor, 4.7K, 5%, 1/4W	R1	800030-472	1
12.	Resistor, 1K, 5%, 1/4W	R2, R3, R4	800030-102	3
13.	Resistor, 39K, 5%, 1/4W	R101, 201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701	800030-393	17
14.	Resistor, 100 Ohms, 5%, 1/4W	R102, 202, 302, 402, 502, 602, 702, 802, 902, 1002, 1102, 1202, 1302, 1402, 1502, 1602, 1702	800030-101	17

TABLE 9-16. HAMMER DRIVER CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
15.	Resistor, 2 Ohms, 1%, 1W	R103, 203, 303, 403, 503, 603, 703, 803, 903, 1003, 1103, 1203, 1303, 1403, 1503, 1603, 1703	800210-205	17
16.	Integrated Circuit, DPC 1458	U1 - U9	800952-001	9
17.	Integrated Circuit, DPC 74164	U10, U16, U21, U27	800698-001	4
18.	Integrated Circuit, DPC 7403	U11, U12, U14, U15, U19, U22, U23, U25, U26	800480-001	9
19.	Integrated Circuit, DPC 935	U13, U20, U24	800956-001	3
20.	Integrated Circuit, DPC 7402	U17	800387-001	1
21.	Integrated Circuit, DPC 7404	U18	800400-001	1
22.	Angle, Circuit Card Support		232312-001	1

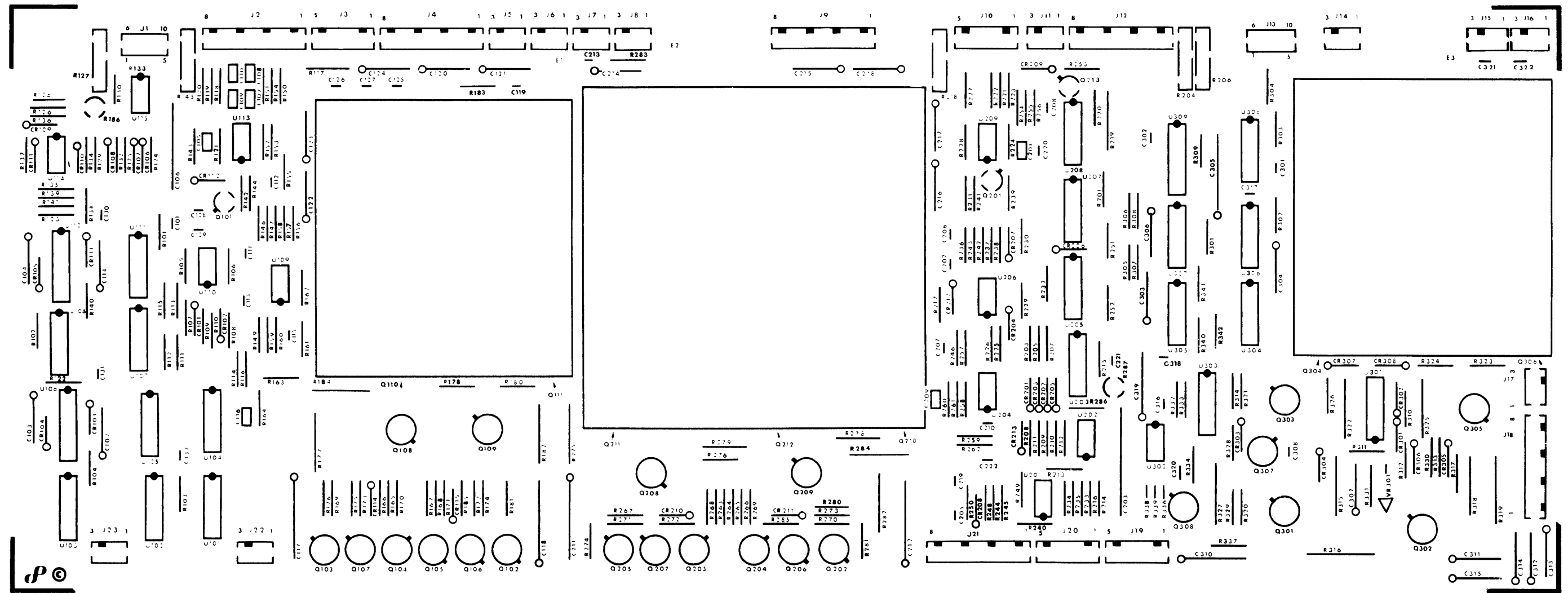


Figure 9-17
Servo System Card Assembly

TABLE 9-17. SERVO SYSTEM CARD ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-17	Servo System Card Assembly	A14	235645-001	REF
1.	Printed Wiring Board, Servo System		237526-001	1
2.	Capacitor, .01 UF, 15%, 100V	C101, C125 - C132, C208, C219 - C222, C302, C308, C316, C317	801024-103	18
3.	Capacitor, 10 UF, 10%, 10V	C102	800040-106	1
4.	Capacitor, 1 UF, 10%, 20V	C103, C114, C122, C123, C216, C217, C313, C314	800041-105	8
5.	Capacitor, 39 UF, 10%, 10V	C104	800040-396	1
6.	Capacitor, 390 PF, 15%, 100V	C105, C116, C201, C209	801024-391	4
7.	Capacitor, .1 UF, 10%, 100V	C106	800039-104	1
8.	Capacitor, .0022 UF, 15%, 100V	C107	801024-222	1
9.	Capacitor, .0033 UF, 15%, 100V	C108	801024-332	1
10.	Capacitor, .001 UF, 15%, 100V	C109, C110,	801024-102	2
11.	Capacitor, .1 UF, 20%, 50V	C111, C112, C119, C202, C205, C213, C301, C318, C320	801024-104	9
12.	Capacitor, .15 UF, 20%, 50V	C113	801024-154	1
13.	Capacitor, .033 UF, 20%, 100V	C115, C210	801024-333	2

TABLE 9-17. SERVO SYSTEM CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
14.	Capacitor, 100 UF, 10%, 10V	C117, C118, C211, C212	800040-107	4
15.	Capacitor, 1 UF, 10%, 50V	C120, C121, C214, C215, C311, C312	800090-105	6
16.	Capacitor, 4.7 UF, 10%, 10V	C124, C218, C303, C306, C307, C315	800040-475	6
17.	Capacitor, .22 UF, 10%, 100V	C203	800039-224	1
18.	Capacitor, .0015 UF, 20%, 100V	C206	801024-152	1
19.	Capacitor, .22 UF, 20%, 50V	C207	801024-224	1
20.	Capacitor, .33 UF, 10%, 20V	C304	800041-334	1
21.	Capacitor, 100 UF, 10%, 10V	C305	800040-107	1
22.	Capacitor, 15 UF, 10%, 20V	C310	800041-156	1
23.	Capacitor, 3.3 UF, 10%, 20V	C319	800041-335	1
24.	Diode	CR101 - 115, 201 - 212, 301 - 306	800743-001	33
25.	Diode	CR307, 308	800095-001	2
26.	Transistor, DPC 225	Q101, Q201	800822-001	2
27.	Transistor, DPC 203	Q102, Q104, Q202, Q203, Q206, Q208, Q301, Q302, Q308	800088-001	9
28.	Transistor, DPC 204	Q103, Q105, Q204, Q205, Q307	800089-001	5

TABLE 9-17. SERVO SYSTEM CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
29.	Transistor, DPC 220	Q106, Q108	800742-001	2
30.	Transistor, DPC 218	Q107, Q109, Q207, Q209, Q303, Q305	800515-001	6
31.	Transistor, DPC 217	Q110, Q111	800497-001	2
32.	Transistor, DPC 210	Q210, Q211, Q212, Q304, Q306	800215-001	5
33.	Transistor, DPC 205	Q213	800132-001	1
34.	Resistor, 47 Ohms, 5%, 1/4W	R101, R174, R175, R271, R273, R304, R342	800030-470	7
35.	Resistor, 150 Ohms, 5%, 1/4W	R102, R105, R106, R161, R178, R259, R276	800030-151	7
36.	Resistor, 1K, 5%, 1/4W	R103, R115, R116, R135, R136, R138, R169, R172, R173, R185, R201, R217, R220, R225, R235, R245, R250, R267, R270, R272, R285, R301, R305, R306, R321, R323, R339	800030-102	27
37.	Resistor, 39K, 5%, 1/4W	R104, R123	800030-393	2
38.	Resistor, 15K, 5%, 1/4W	R107, R108, R205, R248, R334, R337	800030-153	6

TABLE 9-17. SERVO SYSTEM CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
39.	Resistor, 3.9K, 5%, 1/4W	R109, R110, R132, R139, R229, R249, R320, R330, R340	800030-392	9
40.	Resistor, 2.2K, 5%, 1/4W	R111, R112, R215, R230, R251, R341	800030-222	6
41.	Resistor, 10K, 5%, 1/4W	R113, R114, R216, R232, R240, R252	800030-103	6
42.	Resistor, 100 Ohms, 5%, 1/2W	R117	800031-101	1
43.	Resistor, 47K, 5%, 1/4W	R118, R119, R221, R222, R274, R309	800030-473	6
44.	Resistor, 100K, 1%, 1/8W	R120, R151, R164, R236, R246, R312, R313	800011-105	7
45.	Resistor, 301K, 1%, 1/8W	R121, R130, R133, R149, R153, R154, R210, R211, R214, R224, R238, R241, R243	800011-266	13
46.	Resistor, 27K, 5%, 1/4W	R122, R338	800030-273	2
47.	Resistor, 4.64K, 1%, 1/8W	R124, R125, R165, R168, R263, R266	800011-327	6
48.	Resistor, 2.15K, 1%, 1/8W	R126, R163, R166, R167, R208, R209, R212, R261, R264, R265, R314, R317	800011-215	12

TABLE 9-17. SERVO SYSTEM CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
49.	Resistor, Variable, 1K, 1W	R127	800150-102	1
50.	Resistor, 680 Ohms, 5%, 1/4W	R128, R329	800030-681	2
51.	Resistor, 1.47K, 1%, 1/8W	R129	800011-159	1
52.	Resistor, 68K, 5%, 1/4W	R134, R137, R157, R234	800030-683	4
53.	Resistor, 8.2K, 5%, 1/4W	R140	800030-822	1
54.	Resistor, 4.7K, 5%, 1/4W	R141, R244	800030-472	2
55.	Resistor, 100K, 5%, 1/4W	R142, R233, R237, R239, R256	800030-104	5
56.	Resistor, 100 Ohms, 5%, 1/4W	R143, R325, R326	800030-101	3
57.	Resistor, 1.5K, 5%, 1/4W	R144, R155, R231, R333	800030-152	4
58.	Resistor, Variable, 5K, 1W	R145, R218	800150-502	2
59.	Resistor, 21.5K, 1%, 1/8W	R146, R147, R203	800011-216	3
60.	Resistor, 46.4K, 1%, 1/8W	R150, R223, R260	800011-328	3
61.	Resistor, 33.2K, 1%, 1/8W	R152	800011-279	1
62.	Resistor, 12.1K, 1%, 1/8W	R156	800011-132	1
63.	Resistor, 33K, 5%, 1/4W	R158	800030-333	1
64.	Resistor, 10K, 1%, 1/8W	R159	800011-104	1
65.	Resistor, 3.3K, 5%, 1/4W	R160, R162, R170, R171, R176, R181, R253, R258, R262, R268, R269, R281	800030-332	12

TABLE 9-17. SERVO SYSTEM CARD ASSEMBLY (Contd)

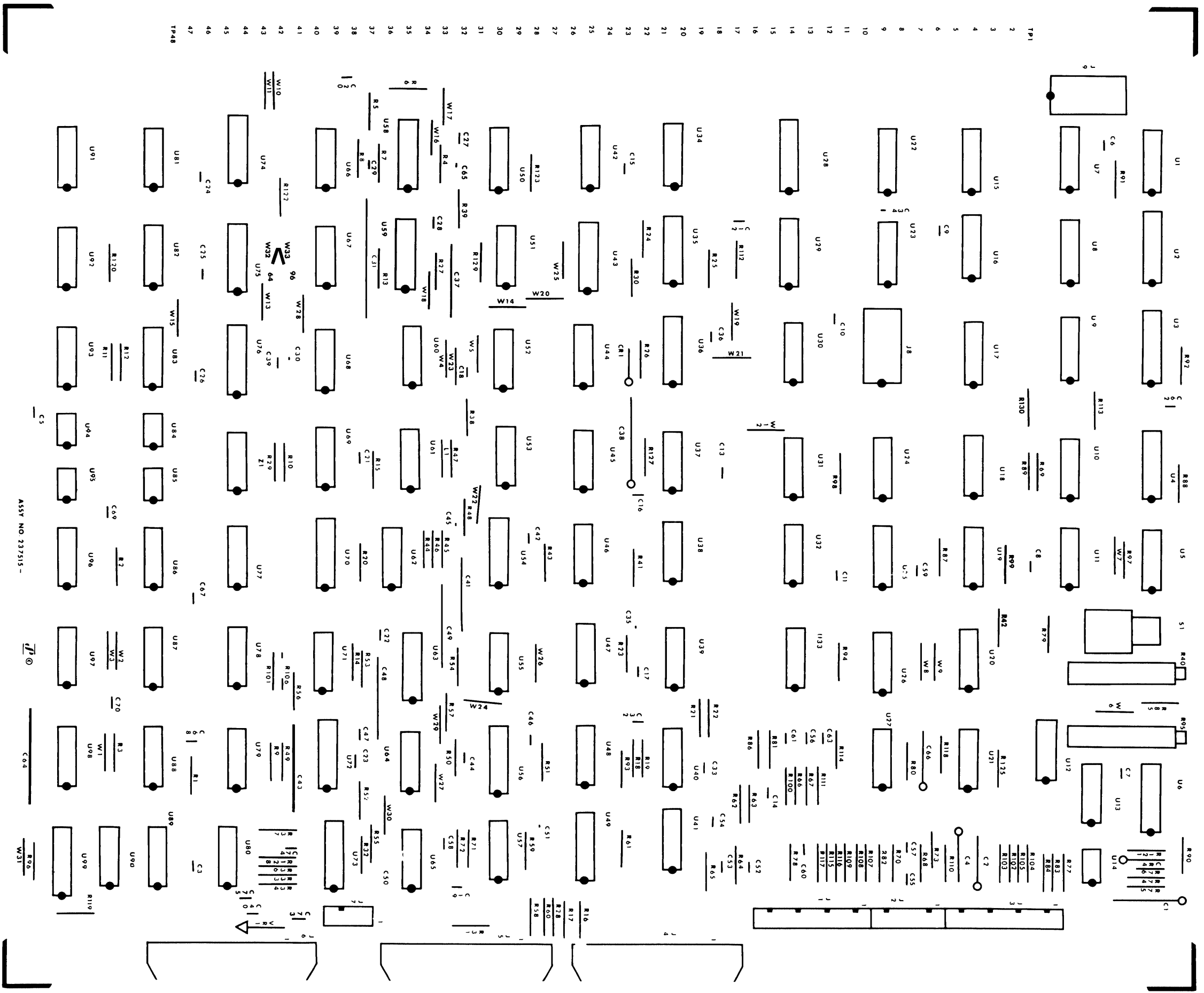
Figure & Index No.	Description	Reference Designator	Part No.	Qty
66.	Resistor, .5 Ohm, 1%, 3W	R177, R182, R282, R327	800084-095	4
67.	Resistor, 10 Ohms, 5%, 1/4W	R183, R283	800030-100	2
68.	Resistor, 220 Ohms, 5%, 1/4W	R180, R280	800030-221	2
69.	Resistor, .2 Ohm, 1%, 1W	R184, R278, R279	800210-092	3
70.	Resistor, Variable, 10K, 1W	R204, R206	800150-103	2
71.	Resistor, 1.8K, 5%, 1/4W	R207	800030-182	1
72.	Resistor, 274K, 1%, 1/8W	R213	800011-252	1
73.	Resistor, 270 Ohms, 5%, 1W	R219	800032-271	1
74.	Resistor, 22K, 5%, 1/4W	R226, R302, R303	800030-223	3
75.	Resistor, 1K, 1%, 1/8W	R227, R257, R310, R311	800011-103	4
76.	Resistor, 422 Ohms, 1%, 1/8W	R228	800011-312	1
77.	Resistor, 68.1K, 1%, 1/8W	R242	800011-384	1
78.	Resistor, 147K, 1%, 1/8W	R254	800011-161	1
79.	Resistor, 6.8 K, 5%, 1/4W	R255	800030-682	1
80.	Resistor, 0.2 Ohm, 1%, 3W	R275, R284	800084-092	2
81.	Omitted			
82.	Resistor, 33 Ohms, 5%, 1/4W	R307, R308	800030-330	2
83.	Resistor, 390 Ohms, 5%, 1W	R315, R318	800032-391	2
84.	Resistor, 33 Ohms, 5%, 2W	R316, R319	800033-330	2
85.	Resistor, 100 Ohms, 1%, 3W	R322	800084-102	1

TABLE 9-17. SERVO SYSTEM CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
86.	Resistor, 220 Ohms, 1%, 3W	R325	800084-214	1
87.	Resistor, 1.8K, 5%, 1/4W	R328	800030-182	1
88.	Resistor, 330 Ohms, 5%, 1/2W	R331	800031-331	1
89.	Resistor, 1.2K, 5%, 1/4W	R332	800030-122	1
90.	Resistor, 5.6K, 5%, 1/4W	R336	800030-562	1
91.	Integrated Circuit, DPC 7474	U101, U102, U103, U105, U307	800400-001	5
92.	Integrated Circuit, DPC 7402	U104, U304	800080-001	2
93.	Integrated Circuit, DPC 74123	U106, U112, U309	800979-001	3
94.	Integrated Circuit, DPC 7404	U107, U205	800387-001	2
95.	Integrated Circuit, DPC 7410	U108	800023-001	1
96.	Integrated Circuit, DPC 1458	U109, U110, U113, U114, U115, U201, U202, U204, U206, U209	800952-001	10
97.	Integrated Circuit, DPC 7406	U111, U203, U303	800651-001	3
98.	Integrated Circuit, DPC 7400	U207, U208, U305	800024-001	3
99.	Integrated Circuit, DPC 711C	U301	800186-001	1
100.	Integrated Circuit, DPC 741	U302	800732-001	1
101.	Integrated Circuit, DPC 74121	U306, U308	800491-001	2
102.	Diode, Regulator, 6.2V	VR301	800319-001	1
103.	Connector, PCB Mtg, 8 Pin	J2, J12, J21	801037-008	3

TABLE 9-17. SERVO SYSTEM CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
104.	Connector, PCB Mtg, 5 Pin	J3, J10, J19, J20	801037-005	4
105.	Connector, PCB Mtg, 8 Pin	J4, J9, J18	801037-058	3
106.	Connector, PCB Mtg, 3 Pin	J5, J6, J7, J8, J11, J14, J15, J16, J17, J22, J23	801037-003	11
107.	Heat Dissipator	Q108, Q109, Q208, Q209, Q301, Q302, Q303, Q305 (Ref)	800172-001	8
108.	Heat Dissipator	Q110, Q111, Q304, Q306 (Ref)	235125-001	2
109.	Heat Dissipator	Q210, Q211, Q212 (Ref)	235126-001	1



ASSY NO 237515 -

Figure 9-18
Control Logic Card Assembly

TABLE 9-18. CONTROL LOGIC CARD ASSEMBLY

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-18	Control Logic Card, Configured	A10	240817-XXX*	REF
	Control Logic Card Assembly	A10	237515-002	REF
1.	Printed Wiring Board, Control Logic		237516-001	1
2.	Capacitor, 10 UF, 10%, 20V	C1, C2, C4	800041-106	3
3.	Capacitor, .1 UF, 15%, 100V	C3, C5, C6 - C26, C32, C33, C39, C40, C52 - C63, C67 - C70, C73	801024-104	44
4.	Capacitor, 100 PF, 5%, 300V	C27, C28, C29, C36, C42, C44, C46, C47	801026-101	8
5.	Capacitor, 1000 PF, 15%, 100V	C30, C35, C50, C65,	801024-102	4
6.	Capacitor, .22 UF, 10%, 100V	C31	800039-224	1
7.	Capacitor, 560 PF, 15%, 100V	C34	801024-561	1
8.	Capacitor, .022 UF, 10%, 100V	C37, C41	800039-223	2
9.	Capacitor, 330 UF, 10%, 6V	C38	801028-337	1
10.	Capacitor, .047 UF, 10%, 100V	C43	800039-473	1
11.	Capacitor, 820 PF, 15%, 100V	C45	801024-821	1
12.	Capacitor, .056 UF, 1%, 100V	C48, C49	801025-563	2
13.	Capacitor, 330 PF, 15%, 100V	C51	801024-331	1
14.	Capacitor, .056 UF, 10%, 100V	C64	800039-563	1
15.	Capacitor, 4.7 UF, 10%, 10V	C66	800040-475	1

* XXX - See Control Logic circuit card, Control Logic Addendum, or Sales Order Notice (SON) for the dash number that should be used when ordering replacement card.

TABLE 9-18. CONTROL LOGIC CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
16.	Capacitor, .022 UF, 20%, 100V	C74	801024-223	1
17.	Capacitor, .01 UF, 20%, 100V	C75	801024-103	1
18.	Diode	CR1, CR4	800743-001	2
19.	Diode, Regulator, 5.6V	VR1	800592-001	1
20.	Inductor, 8.2 UH, 10%	L1	800001-822	1
21.	Resistor, 1K, 5%, 1/4W	R1, R2, R3, R5, R8, R11, R12, R15, R19, R20, R22, R26, R32, R38, R48, R56, R57, R61, R71, R79, R86, R90, R91, R92, R97, R98, R113, R119 - R123, R125	800030-102	33
22.	Resistor, 4.64K, 1%, 1/8W	R4	800011-327	1
23.	Resistor, 470 Ohms, 5%, 1/4W	R6	800030-471	1
24.	Resistor, 21.5K, 1%, 1/8W	R7	800011-216	1
25.	Resistor, 220 Ohms, 5%, 1/4W	R9, R101, R106	800030-221	3
26.	Resistor, 47 Ohms, 5%, 1/4W	R10, R14, R28, R29, R31, R58, R60, R64, R65, R72, R85, R102, R104, R115, R118	800030-470	15
27.	Resistor, 40.2K, 1%, 1/8W	R13, R27	800011-307	2

TABLE 9-18. CONTROL LOGIC CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
28.	Resistor, 100 Ohms, 5%, 1/4W	R16, R17, R23, R24, R39, R55, R59, R62, R66, R68, R70, R73, R78, R82, R93, R107, R108	800030-101	17
29.	Resistor, 10K, 5%, 1/4W	R18, R21, R63, R67, R69, R80, R81, R87, R89, R94	800030-103	10
30.	Resistor, 5.62K, 1%, 1/8W	R25, R50, R51, R52	800011-355	4
31.	Resistor, 48.7K, 1%, 1/8W	R30	800011-335	1
32.	Resistor, 1.47K, 1%, 1/8W	R33	800011-159	1
33.	Resistor, 1.5K, 5%, 1/4W	R34	800030-152	1
34.	Resistor, 2.74K, 1%, 1/8W	R36	800011-250	1
35.	Resistor, 3.9K, 5%, 1/4W	R37, R83, R99, R112	800030-392	4
36.	Resistor, Variable, 50K	R40	801083-503	1
37.	Resistor, 147K, 1%, 1/8W	R41	800011-161	1
38.	Resistor, 2.15K, 1%, 1/8W	R42	800011-215	1
39.	Resistor, 38.3K, 1%, 1/8W	R43, R49	800011-300	2
40.	Resistor, 10 Ohms, 5%, 1/4W	R44	800030-100	1

TABLE 9-18. CONTROL LOGIC CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
41.	Resistor, 560 Ohms, 5%, 1/4W	R45, R47, R100, R103, R105, R109, R110, R111, R114, R116, R117	800030-561	11
42.	Resistor, 330 Ohms, 5%, 1/4W	R46, R77	800030-331	2
43.	Resistor, 33.2K, 1%, 1/8W	R53, R54	800011-279	2
44.	Resistor, 2.2K, 5%, 1/4W	R74, R75	800030-222	2
45.	Resistor, 5.6K, 5%, 1/4W	R76	800030-562	1
46.	Resistor, 7.5K, 1%, 1/8W	R84	800011-397	1
47.	Resistor, 33K, 5%, 1/4W	R88	800030-333	1
48.	Resistor, 27.4K, 1%, 1/8W	R96	800011-251	1
49.	Resistor, 4.7K, 5%, 1/4W	R127, R129, R130	800030-472	3
50.	Resistor, 14.7K, 1%, 1/8W	R128	800011-160	1
51.	Resistor Network, 1.8K	Z1	801006-182	1
52.	Switch, DPDT	S1	800502-005	1
53.	Omitted			
54.	Integrated Circuit, DPC 74177	U1, U7, U46, U47, U81, U82, U91, U92	801012-001	8
55.	Integrated Circuit, DPC 7476	U2, U3, U4, U6, U28, U29, U35, U43, U49, U70, U73 - U76	800081-001	14

TABLE 9-18. CONTROL LOGIC CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
56.	Integrated Circuit, DPC 7400	U5, U8, U20, U23, U32, U33, U34, U37, U39, U44, U55, U64, U66, U67, U68, U77, U78	800024-001	17
57.	Integrated Circuit, DPC 7402	U9, U10, U12, U22, U25, U42, U45, U61, U87	800080-001	9
58.	Integrated Circuit, DPC 7474	U11, U13, U16, U18, U24, U40, U50, U53, U65, U69	800400-001	10
59.	Integrated Circuit, DPC 741	U14	800732-001	1
60.	Integrated Circuit, DPC 7414	U15, U41, U89, U90	800959-001	4
61.	Integrated Circuit, DPC 7410	U17, U38, U48, U51, U88	800023-001	5
62.	Integrated Circuit, DPC 7406	U19, U21, U26, U27, U79	800651-001	5
63.	Integrated Circuit, DPC 7404	U30, U57, U60, U71, U97	800387-001	5
64.	Integrated Circuit, DPC 7420	U31, U86, U96	800020-001	3
65.	Integrated Circuit, DPC 74123	U36, U59, U72	800979-001	3
66.	Integrated Circuit, DPC 74393	U52	801186-001	1

TABLE 9-18. CONTROL LOGIC CARD ASSEMBLY (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
67.	Integrated Circuit, DPC 74221	U54, U56, U58, U63, U99	801023-001	5
68.	Integrated Circuit, DPC 7437	U62	800920-001	1
69.	Integrated Circuit, DPC 710	U80	800399-001	1
70.	Integrated Circuit, DPC 74136	U83, U93	801014-001	2
71.	Integrated Circuit, DPC 7430	U98	800021-001	1
72.	Integrated Circuit, DPC 3132	U84, U85, U94, U95	800940-001	4
73.	Connector, PCB Mtg, 8 Pin, Rt Angle	J1, J3	801034-008	2
74.	Connector, PCB Mtg, 5 Pin, Rt Angle	J2	801034-005	1
75.	Connector, 26 Pin	J4, J5, J6	801089-026	3
76.	Connector, PCB Mtg, 3 Pin, Rt Angle	J7	801034-003	1
77.	Socket, 16 Pin	J8, J9	800650-002	2
78.	Knob, Phase Control		800669-005	1
79.	Hinge, Spr Ld Pin, RH		800599-006	2
80.	Hinge, Spr Ld Pin, LH		800599-005	2
81.	Insulator, Tape		241387-001	A/R

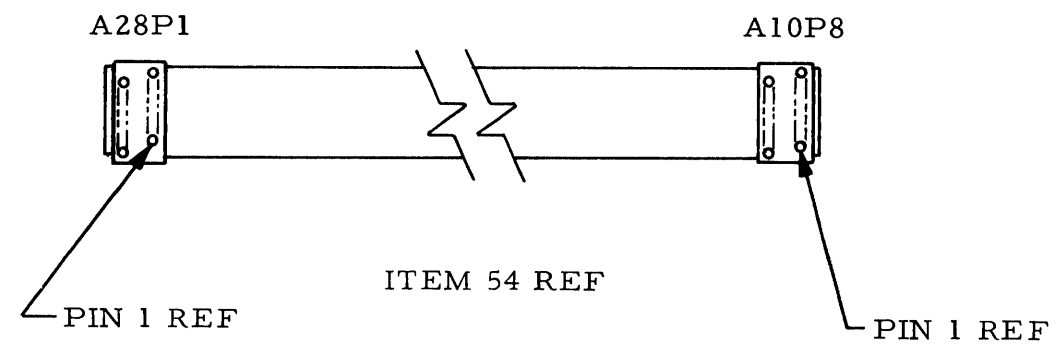
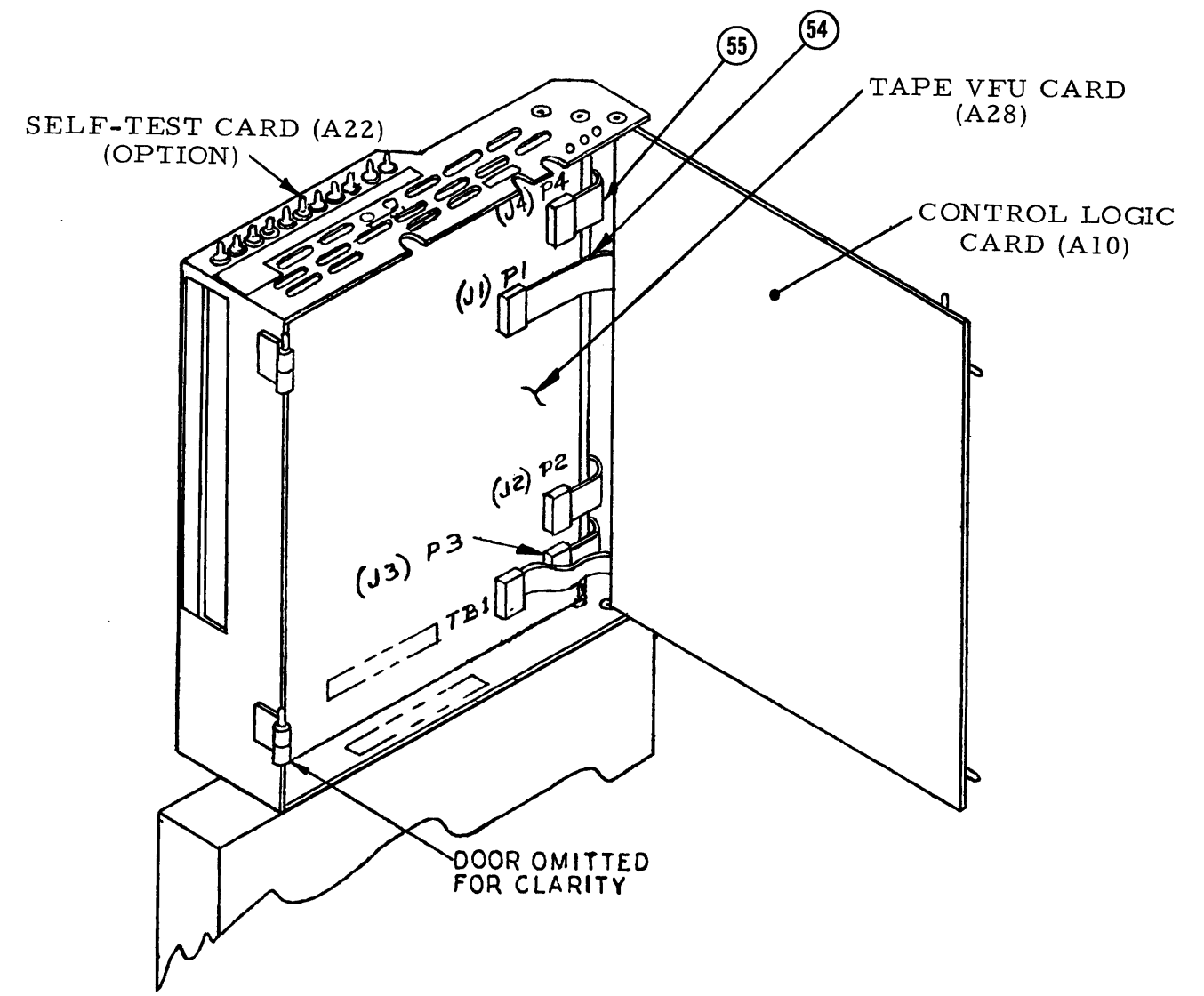
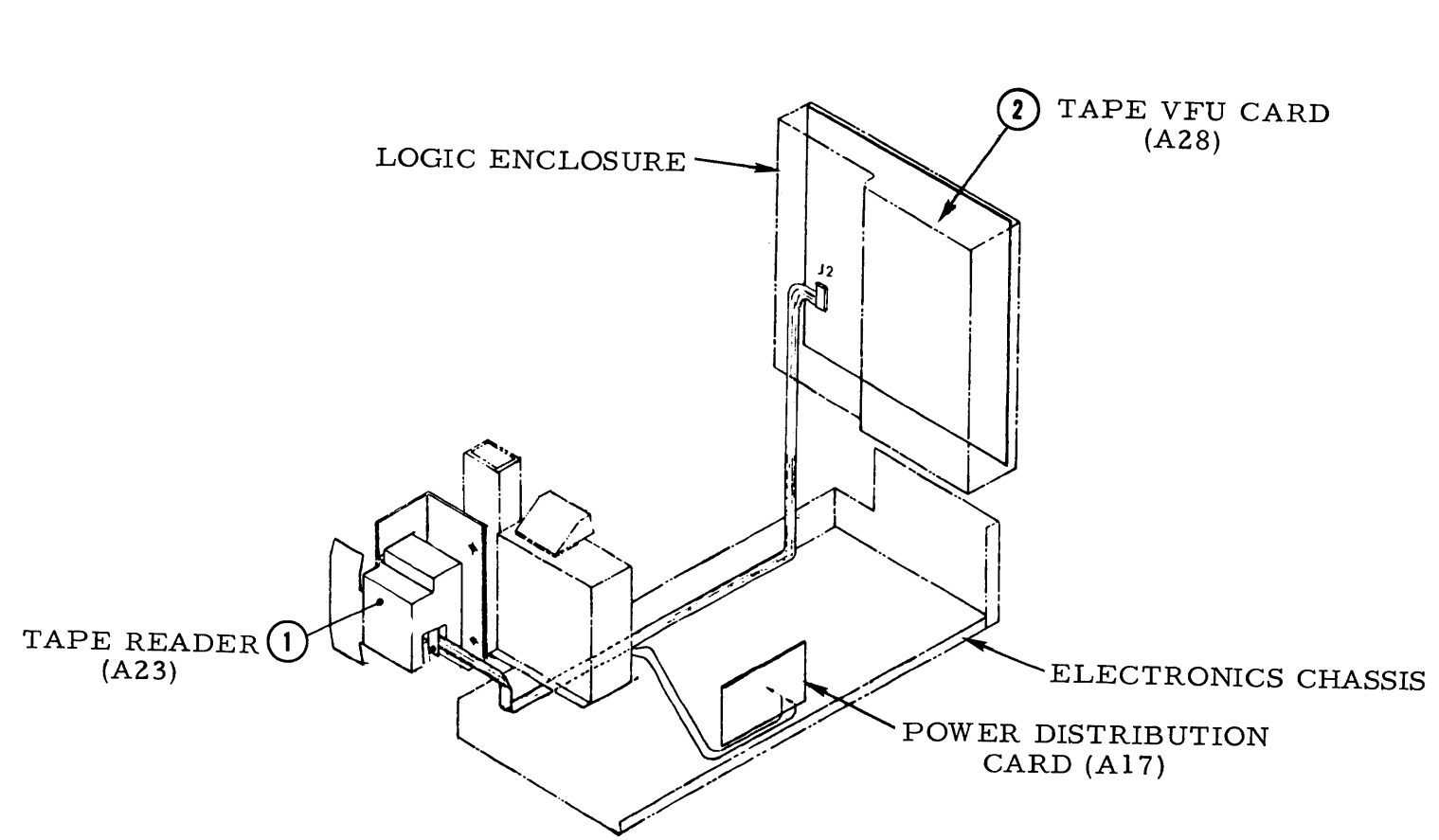


Figure 9-19 (Sheet 1 of 2)
Tape VFU Assembly (Option)

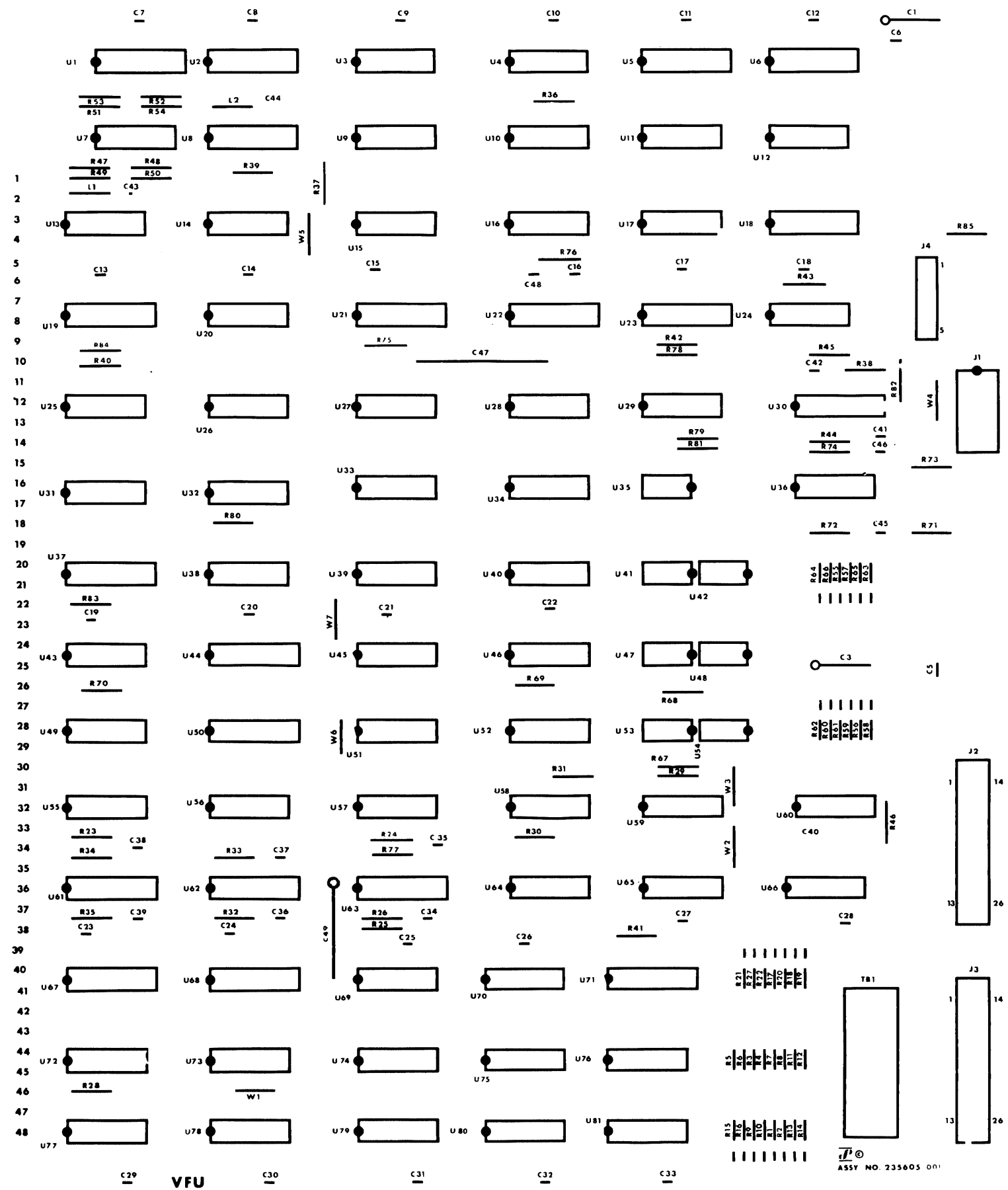


Figure 9-19 (Sheet 2 of 2)
Tape VFU Assembly (Option)

TABLE 9-19. TAPE VFU ASSEMBLY (OPTION)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-19	Tape VFU Kit		240908-XXX*	REF
1.	Tape Reader Assembly (Ref Fig. 9-20)	A23	240125-001	1
2.	Tape VFU Assy, Configured	A28	238044-XXX*	1
3.	Circuit Card Assy, Tape VFU (Ref Items 4 - 53)	A28	238045-001	1
4.	Printed Wiring Bd, Tape VFU		238046-001	1
5.	Capacitor, 10 UF, 10%, 20V	C1, C3	800041-106	2
6.	Capacitor, .1 UF, 15%, 100V	C5 - C33, C45, C46	801024-104	31
7.	Capacitor, 470 PF, 10%, 200V	C39, C42	800465-471	2
8.	Capacitor, 100 PF, 5%, 300V	C34, C35, C36, C37, C38, C41, C48	801026-101	7
9.	Capacitor, 1000 PF, 15%, 200V	C40	801024-102	1
10.	Capacitor, 820 PF, 15%, 200V	C43, C44	801024-821	2
11.	Capacitor, .33 UF, 10%, 50V	C47	800039-334	1
12.	Capacitor, 33 UF, 10%, 20V	C49	800041-336	1
13.	Inductor, 8.2 UH, 10%	L1, L2	800001-822	2
14.	Resistor, 220 Ohms, 5%, 1/4W	R17 - R20	800030-221	4
15.	Resistor, 1K, 5%, 1/4W	R23, R26, R28, R29, R30, R31, R37 - R43, R46, R55 - R66, R69, R70, R78, R83, R84, R85	800030-102	32

TABLE 9-19. TAPE VFU ASSEMBLY (OPTION) (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
16.	Resistor, 470 Ohms, 5%, 1/4W	R24	800030-471	1
17.	Resistor, 4.7K, 5%, 1/4W	R25, R32 - R35, R44, R45, R74	800030-472	8
18.	Resistor, 100 Ohms, 5%, 1/4W	R36, R71, R73	800030-101	3
19.	Resistor, 10 Ohms, 5%, 1/4W	R47, R51	800030-100	2
20.	Resistor, 560 Ohms, 5%, 1/4W	R48, R49, R53, R54, R82	800030-561	5
21.	Resistor, 330 Ohms, 5%, 1/4W	R50, R52	800030-331	2
22.	Resistor, 1.8K, 5%, 1/4W	R67, R68, R79, R80, R81	800030-182	5
23.	Resistor, 10K, 5%, 1/4W	R72	800030-103	1
24.	Resistor, 40.2K, 1%, 1/8W	R75	800011-307	1
25.	Resistor, 47K, 5%, 1/4W	R76, R77	800030-473	2
26.	Integrated Circuit, DPC 7400	U3, U10, U11, U14, U20, U29, U32, U36, U56, U64, U69	800024-001	11
27.	Integrated Circuit, DPC 7410	U4, U17, U27, U38, U60, U74	800023-001	6
28.	Integrated Circuit, DPC 7437	U7	800920-001	1
29.	Integrated Circuit, DPC 7476	U8, U18, U19, U21, U23, U37	800081-001	6

* XXX - See Tape VFU circuit card or Sales Order Notice (SON) for the dash number that should be used when ordering replacement card. (Configured dash number is the same as the kit dash number.)

TABLE 9-19. TAPE VFU ASSEMBLY (OPTION) (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
30.	Integrated Circuit, DPC 7402	U9, U12, U26, U28, U31, U33, U57, U65, U72, U73, U76	800080-001	11
31.	Integrated Circuit, DPC 7404	U13, U34, U39, U45, U51, U55, U70	800387-001	7
32.	Integrated Circuit, DPC 7474	U15, U25, U58, U59, U77, U78, U79	800400-001	7
33.	Integrated Circuit, DPC 7420	U16	800020-001	1
34.	Integrated Circuit, DPC 74123	U22	800979-001	1
35.	Integrated Circuit, DPC 7406	U24, U66	800651-001	2
36.	Integrated Circuit, DPC 74221	U30, U61, U62, U63	801023-001	4
37.	Integrated Circuit, DPC 3132	U35, U41, U42, U47, U48, U53, U54	800940-001	7
38.	Integrated Circuit, DPC 74136	U40, U46, U52	801014-001	3
39.	Integrated Circuit, DPC 74180	U43, U49	801000-001	2
40.	Integrated Circuit, DPC 9312	U44, U50	800703-001	2
41.	Integrated Circuit, DPC 74193	U67, U68	800386-001	2
42.	Integrated Circuit, DPC 74157	U71	800947-001	1
43.	Integrated Circuit, DPC 7430	U75	800021-001	1
44.	Integrated Circuit, DPC 7414	U80, U81	800959-001	2

TABLE 9-19. TAPE VFU ASSEMBLY (OPTION) (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
45.	Socket, 16 Pin	J1	800650-002	1
46.	Connector, 26 Pin, Rt Angle	J2, J3	801089-026	2
47.	Connector, 5 Pin, Rt Angle	J4	801034-005	1
48.	Connector, PCB Mtg, 26 Pin	TB1	801090-026	1
49.	Cable, Flat, 26 Cond	W8	800507-026	A/R
50.	Connector, 26 Pin	P6	801088-026	1
51.	Hinge, Spr Ld Pin, RH		800599-006	2
52.	Hinge, Spr Ld Pin, LH		800599-005	2
53.	Insulator, Tape		241387-001	A/R
54.	Logic/VFU Cable	A28P1→A10P8	235640-002	1
55.	Option Board Power Cable	A28P4→A16P7	236785-001	1

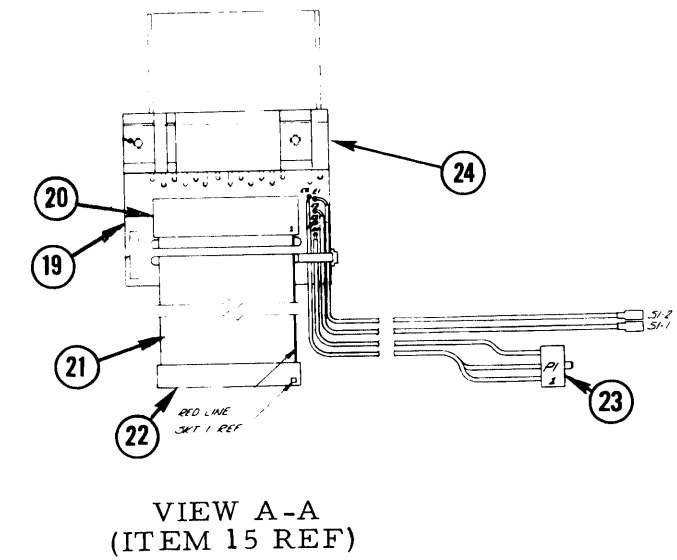
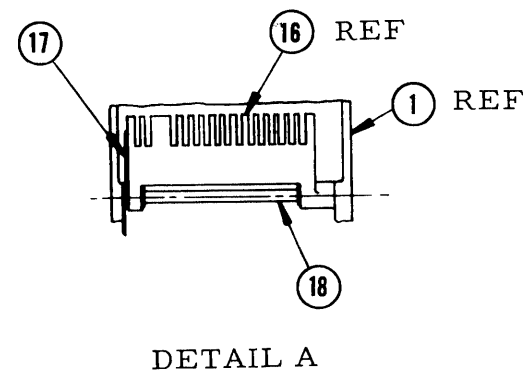
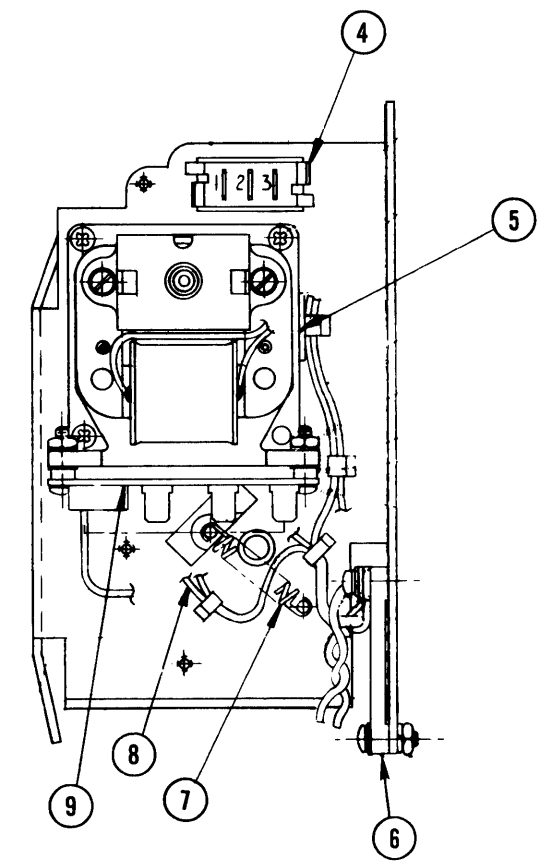
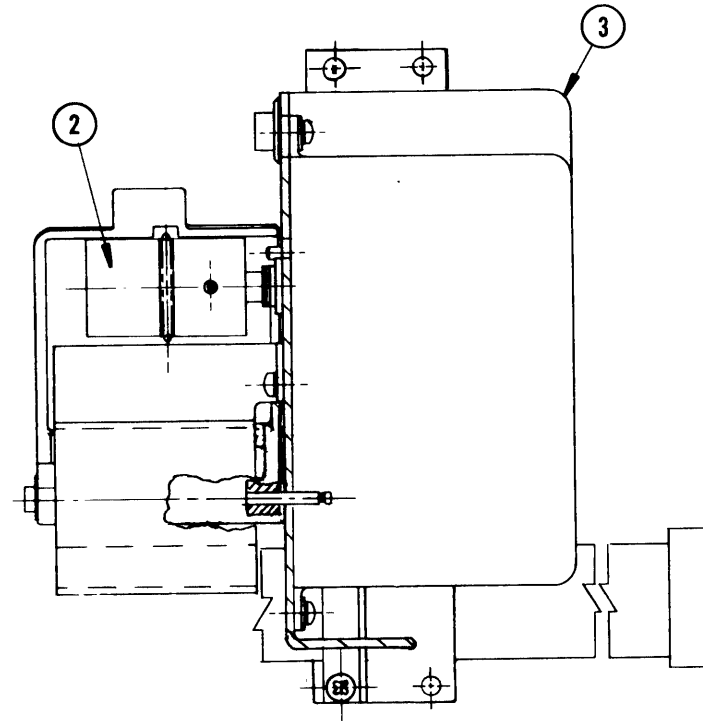
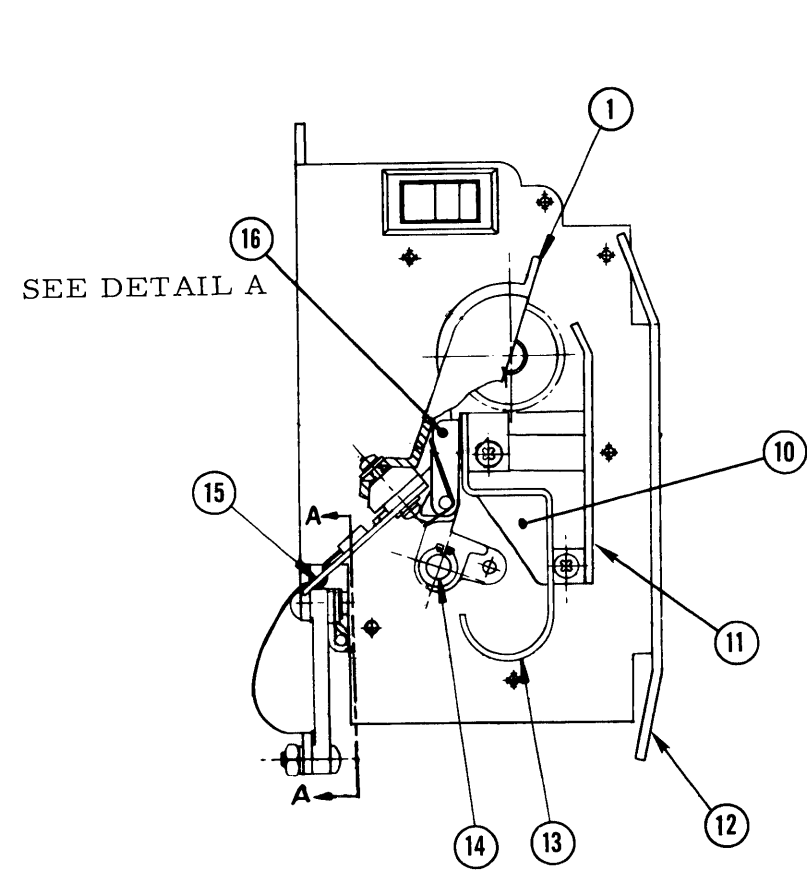


Figure 9-20
Tape Reader Assembly (Option)

TABLE 9-20. TAPE READER ASSEMBLY (OPTION)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-20	Tape Reader Assembly	A23	240125-001	REF
1.	Cover, Tape Reader		235177-001	1
2.	Drive Sprocket, Tape Reader		235591-001	1
3.	Cover, Motor, Tape Reader		235588-001	1
4.	Switch, Rocker	A23S1	800931-001	1
5.	Motor, Tape Reader	A23B1	236820-001	1
6.	Clamp, Cable		235727-001	1
7.	Spring, Extension		236799-001	1
8.	Cable Assy, Tape Reader, AC Dist		236824-001	1
9.	Circuit Card Assembly, AC Motor Control (Ref Fig. 9-21)	A23A2	236841-001	1
10.	Gasket, Insulating		240124-001	1
11.	Stripper, Tape Reader		240127-001	1
12.	Base Plate, Tape Reader		235725-001	1
13.	Bracket, Contact Strip		240126-001	1
14.	Pin, Cover Mtg		235176-001	1
15.	Circuit Card Assembly, Tape Reader (Ref Items 19 - 24)	A23A1	236855-001	1
16.	Guard, Switch		235179-001	1
17.	Spring, Switch Guard		235180-001	1
18.	Pin, Brush Guard		235181-001	1
19.	Printed Wiring Board, Tape Reader		236856-001	1

TABLE 9-20. TAPE READER ASSEMBLY (OPTION) (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
20.	Connector, 26 Pin	TB1	801090-026	1
21.	Cable, Flat, 26 Cond		800507-026	A/R
22.	Connector, 26 Pin	P2	801088-026	1
23.	Connector, 3 Pin	P1	801035-003	1
24.	Brush Assembly, Tape Reader		235178-001	1

TABLE 9-21. AC MOTOR CONTROL CARD ASSEMBLY (OPTION)

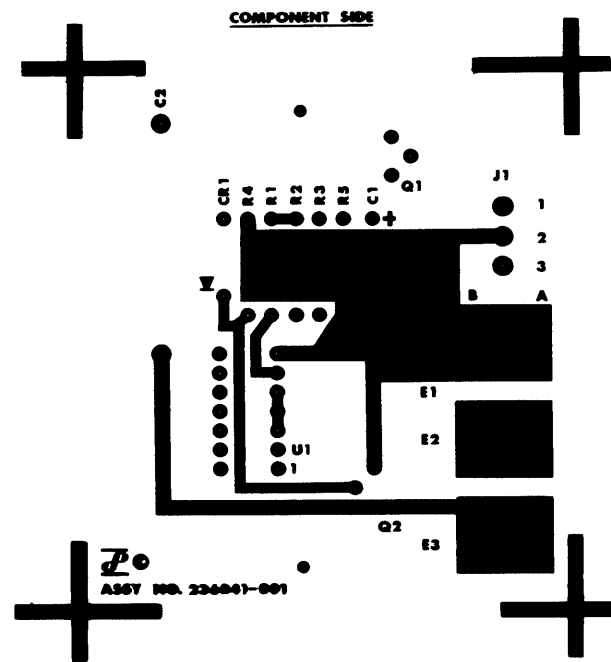
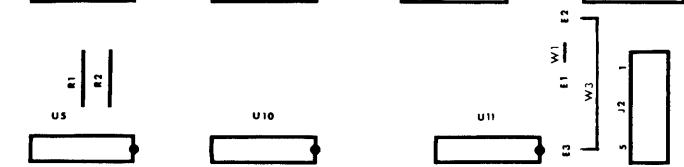
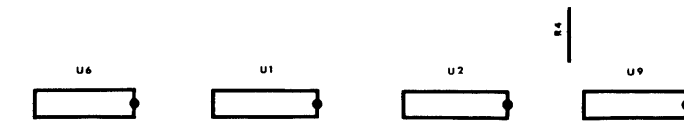
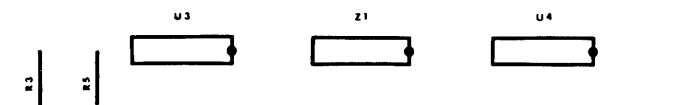
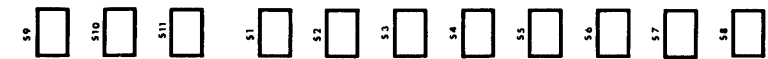
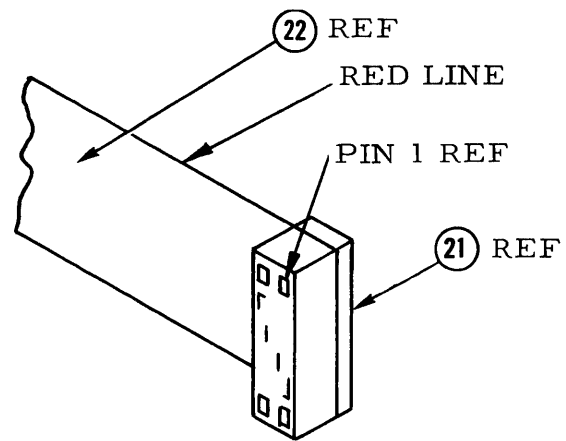
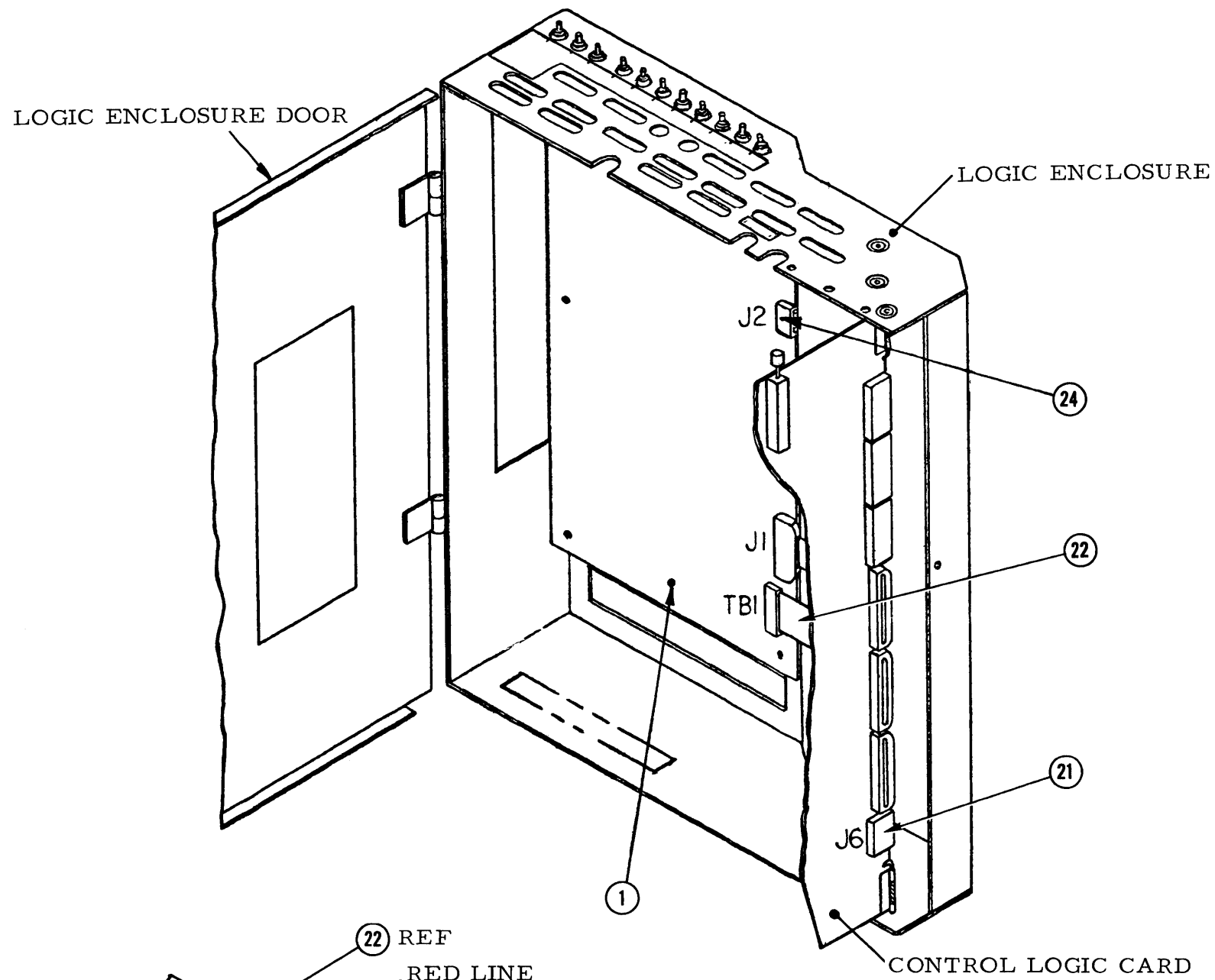


Figure 9-21
AC Motor Control Card Assembly (Option)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-21	Circuit Card Assembly, AC Motor Control		236841-001	REF
1.	Printed Wiring Board, AC Motor Control		236835-001	1
2.	Capacitor, 4.7 UF, 10V, 20%	C1	800091-475	1
3.	Capacitor, .1 UF, 400V, 20%	C2	800466-104	1
4.	Diode	CR1	800743-001	1
5.	Transistor, DPC 204	Q1	800089-001	1
6.	Thyristor, Triode	Q2	800525-001	1
7.	Resistor, 270 Ohms, 5%, 1/4W	R1, R2	800030-271	2
8.	Resistor, 27 Ohms, 5%, 1/4W	R3	800030-270	1
9.	Resistor, 1K, 5%, 1/4W	R4	800030-102	1
10.	Resistor, 100 Ohms, 5%, 1/4W	R5	800030-101	1
11.	Integrated Circuit, DPC 7400	U1	800024-001	1



A22 ASSY NO. 235632-001

ITEM 1 REF

Figure 9-22
Self-Test Assembly (Option)

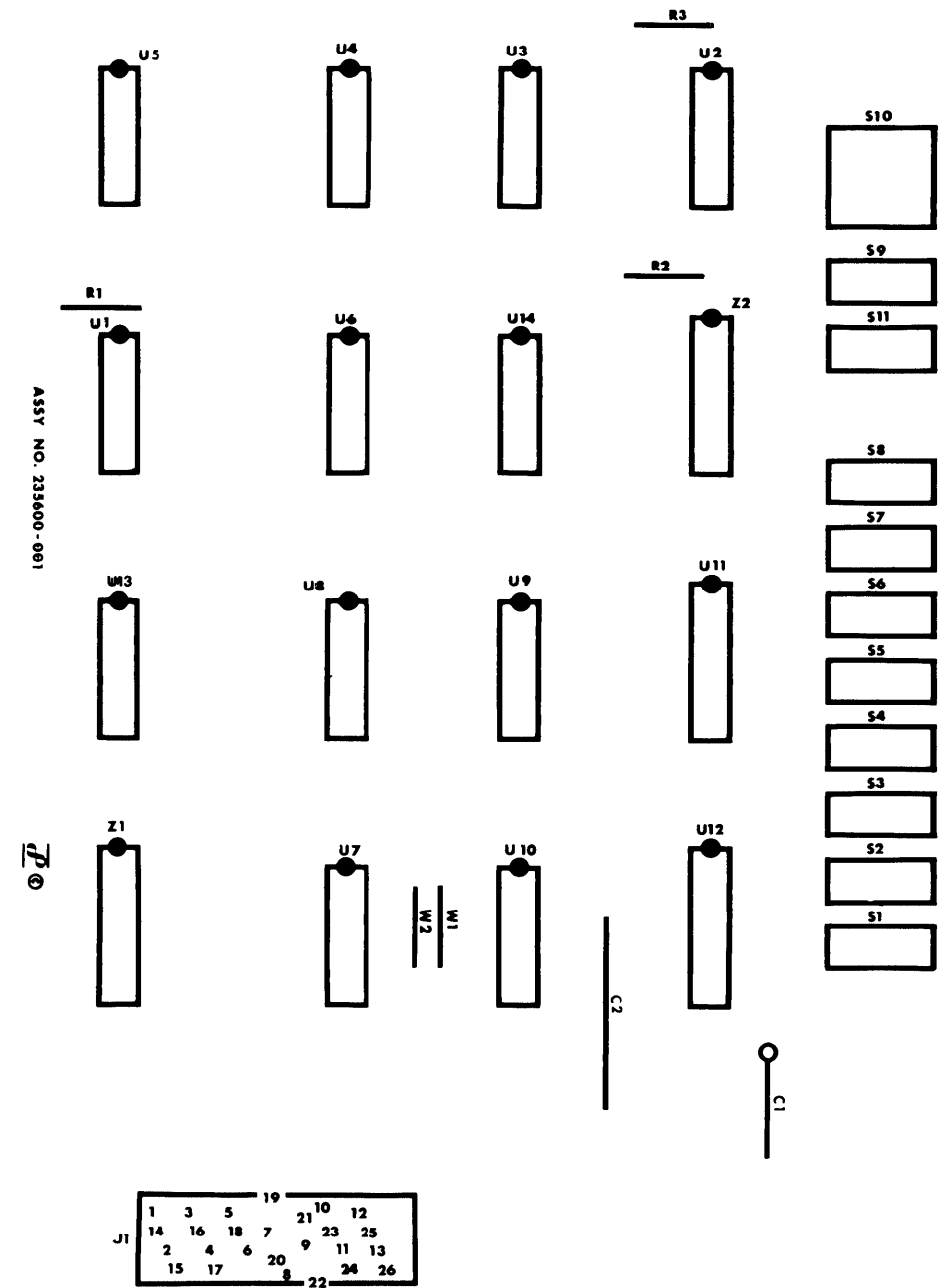
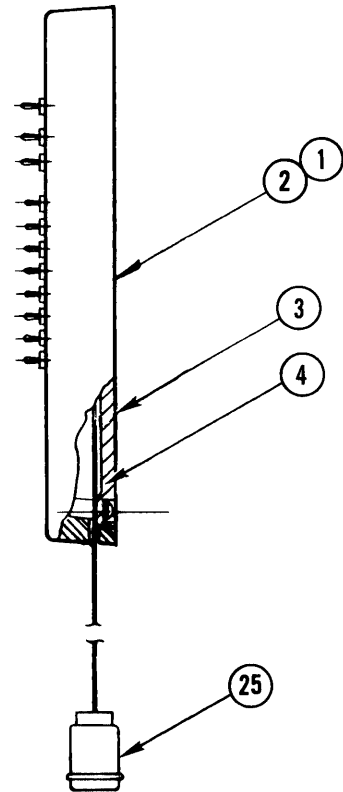
TABLE 9-22. SELF-TEST ASSEMBLY (OPTION)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-22	Self-Test Kit		234493-001	REF
1.	Circuit Card Assy, Self-Test 64 Character Drum 96 Character Drum 64 Character with Pull-Up Resistors	A22	235632-001 235632-003 235632-002	1
2.	Printed Wiring Board, Self-Test		235633-001	1
3.	Capacitor, 6.8 UF, 10%, 10V	C1	800040-685	1
4.	Capacitor, .1 UF, 5%, 100V	C2	801024-104	1
5.	Resistor, 220 Ohms, 5%, 1/4W	R1, R2, R6 - R23	800030-221	20*
6.	Resistor, 1K, 5%, 1/4W	R3, R4	800030-102	2
7.	Resistor, 10K, 5%, 1/4W	R5	800030-103	1
8.	Integrated Circuit, DPC 7404	U1, U15, U21	800387-001	3
9.	Integrated Circuit, DPC 7400	U2, U7	800024-001	2
10.	Integrated Circuit, DPC 74177	U3, U4, U10, U11	801012-001	4
11.	Integrated Circuit, DPC 7406	U5	800651-001	1
12.	Integrated Circuit, DPC 7402	U6, U9, U16	800080-001	3
13.	Integrated Circuit, DPC 7410	U8	800023-001	1
14.	Integrated Circuit, DPC 7474	U12	800400-001	1
15.	Integrated Circuit, DPC 74157	U13, U14, U19, U20	800947-001	4
16.	Integrated Circuit	U17, U18	801230-001	2
17.	Switch, SPDT	S1 - S8	800502-015	8
18.	Switch, SPDT	S9 - S11	800502-016	3

* Quantity varies depending on dash number configuration.

TABLE 9-22. SELF-TEST ASSEMBLY (OPTION) (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
19.	Connector, 26 Pin, Rt Angle	J1	801089-026	1
20.	Connector, 5 Pin, Rt Angle	J2	801034-005	1
21.	Connector, 26 Pin	TB1	801090-026	1
22.	Cable, Flat, 26 Cond	W2	800507-026	A/R
23.	Connector, 26 Pin	P1	801088-026	1
24.	Power Cable Assembly	A22J2→A16J5	236710-001	1



ITEM 4 REF

Figure 9-23
Exerciser Assembly (Option)

TABLE 9-23. EXERCISER ASSEMBLY (OPTION)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-23	Exerciser Kit		234491-001	REF
1.	Exerciser Assembly 64 Character Drum 96 Character Drum		236707-001 236707-002	REF
2.	Enclosure, Exerciser		236708-001	1
3.	Cover, Exerciser		236709-001	1
4.	Circuit Card Assy, Exerciser		235600-001	1
5.	Printed Wiring Board, Exerciser		235601-001	1
6.	Capacitor, 4.7 UF, 20%, 10V	C1	800091-475	1
7.	Capacitor, .1 UF, 10%, 100V	C2	800039-104	1
8.	Resistor, 1K, 5%, 1/4W	R1, R2	800030-102	2
9.	Resistor, 10K, 5%, 1/4W	R3	800030-103	1
10.	Switch, SPDT	S1 - S8, S11	800572-010	9
11.	Switch, SPDT	S9	800572-009	1
12.	Switch, DPDT	S10	800572-008	1
13.	Integrated Circuit, DPC 7406	U1	800651-001	1
14.	Integrated Circuit, DPC 74177	U2, U3, U9, U10	801012-001	4
15.	Integrated Circuit, DPC 7400	U4, U5	800024-001	2
16.	Integrated Circuit, DPC 7404	U6	800387-001	1
17.	Integrated Circuit, DPC 7474	U7	800400-001	1
18.	Integrated Circuit, DPC 7402	U8, U14	800080-001	2
19.	Integrated Circuit, DPC 74157	U11, U12	800947-001	2

TABLE 9-23. EXERCISER ASSEMBLY (OPTION) (Contd)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
20.	Integrated Circuit, DPC 7407	U13	800806-001	1
21.	Resistor Network	Z1	801008-102	1
22.	Resistor Network	Z2	801008-103	1
23.	Connector, 26 Pin	J1	801090-026	1
24.	Cable, Flat, 26 Cond		800507-026	A/R
25.	Connector, Plug, 50 Pin	P1	800201-050	1

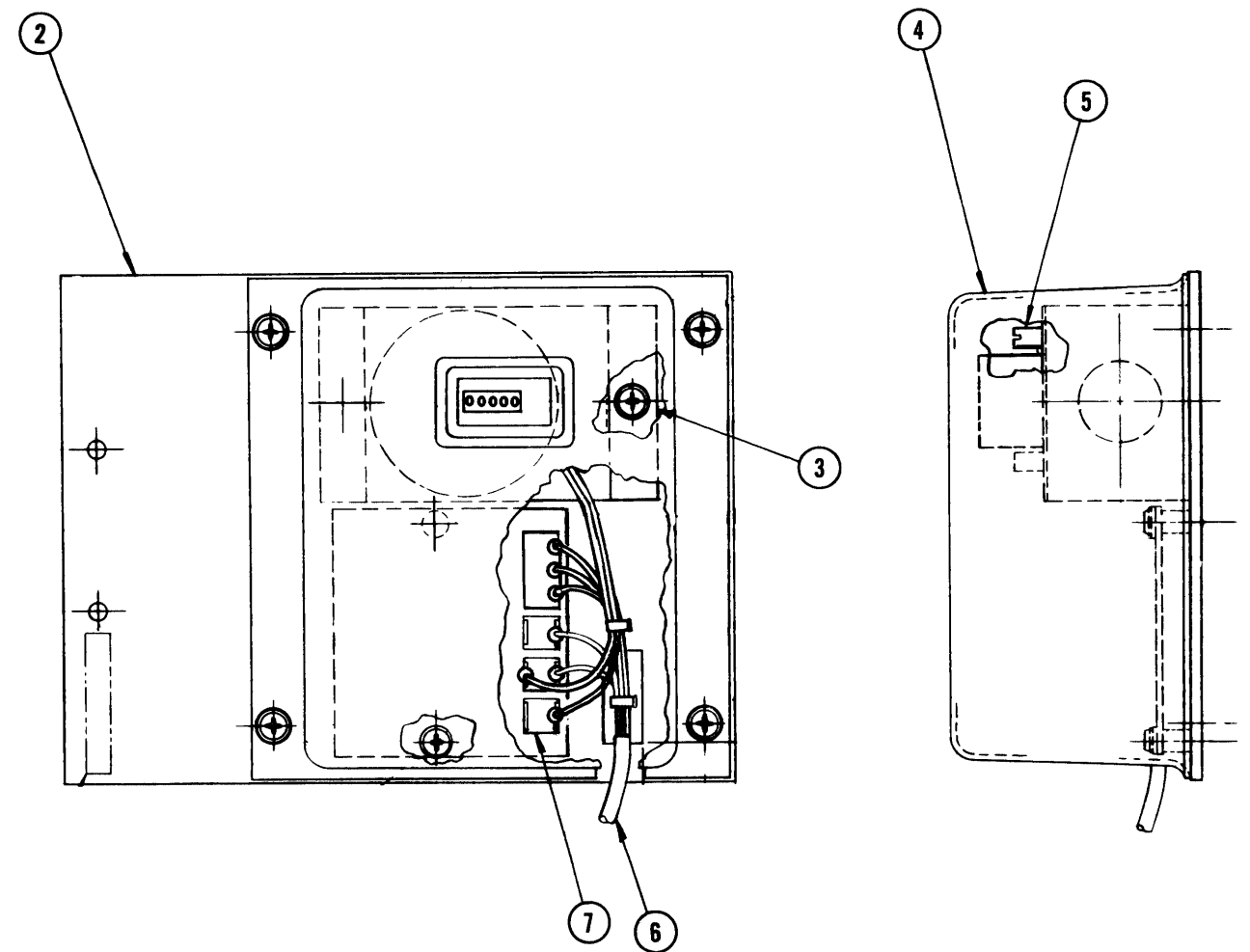
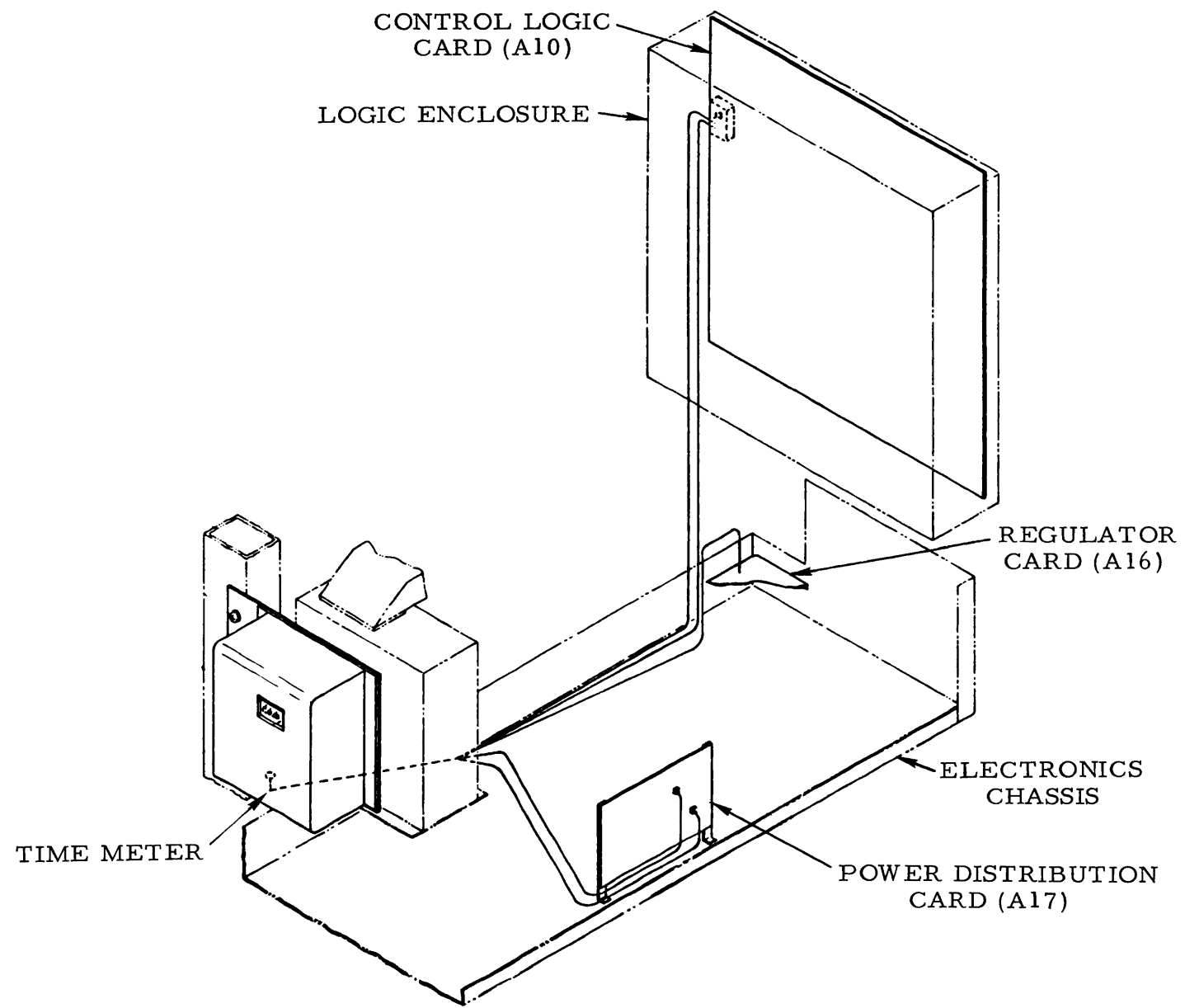
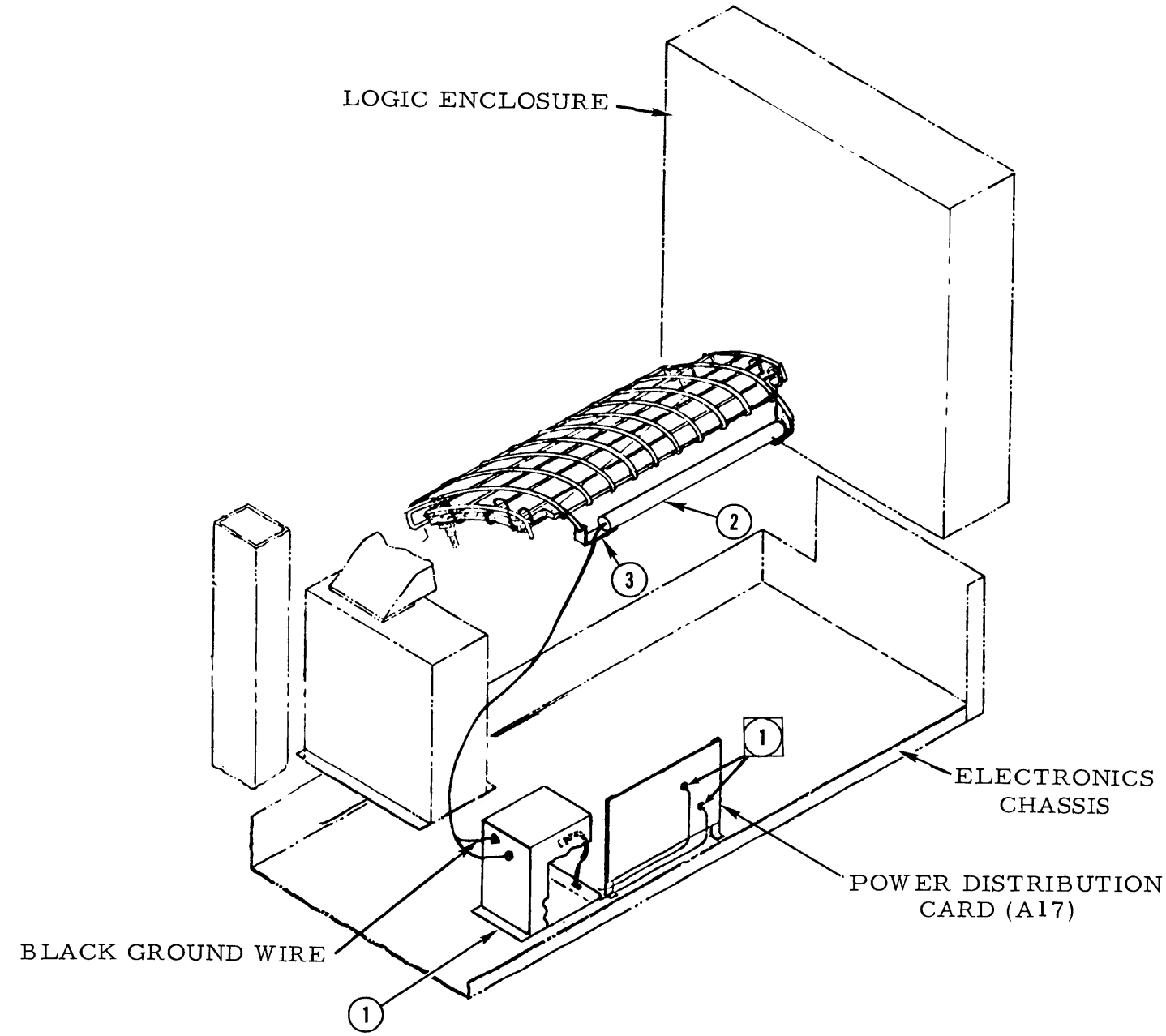


Figure 9-24
 Elapsed Time Meter Assembly (Option)

TABLE 9-24. ELAPSED TIME METER ASSEMBLY (OPTION)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-24	Elapsed Time Meter Kit 60 Hz 50 Hz		234486-001 234486-002	REF
1.	Elapsed Time Meter Assembly 60 Hz 50 Hz	A26	237385-001 237385-002	REF
2.	Bracket, Time Meter		236713-001	1
3.	Bracket Support		236787-001	1
4.	Cover, Time Meter		236714-001	1
5.	Indicator, Elapsed Time 60 Hz 50 Hz		801133-001 801133-002	1
6.	Cable Assembly		237336-001	1
7.	Circuit Card Assembly, AC Motor Control (Ref Fig. 9-21)		236841-001	1

TABLE 9-25. STATIC ELIMINATOR (OPTION)



① WIRE CONNECTIONS:
 WHITE TO A17-E11B
 BLACK TO A17-E8B

Figure 9-25
 Static Eliminator (Option)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-25	Static Eliminator Kit		234485-001	REF
1.	Power Supply Pack		801096-001	1
2.	Bar, Static Eliminator		801095-001	1
3.	Bracket Mtg, Static Eliminator Bar, Locking Type		242982-001	2

TABLE 9-26. PAPER RECEPTACLE (OPTION)

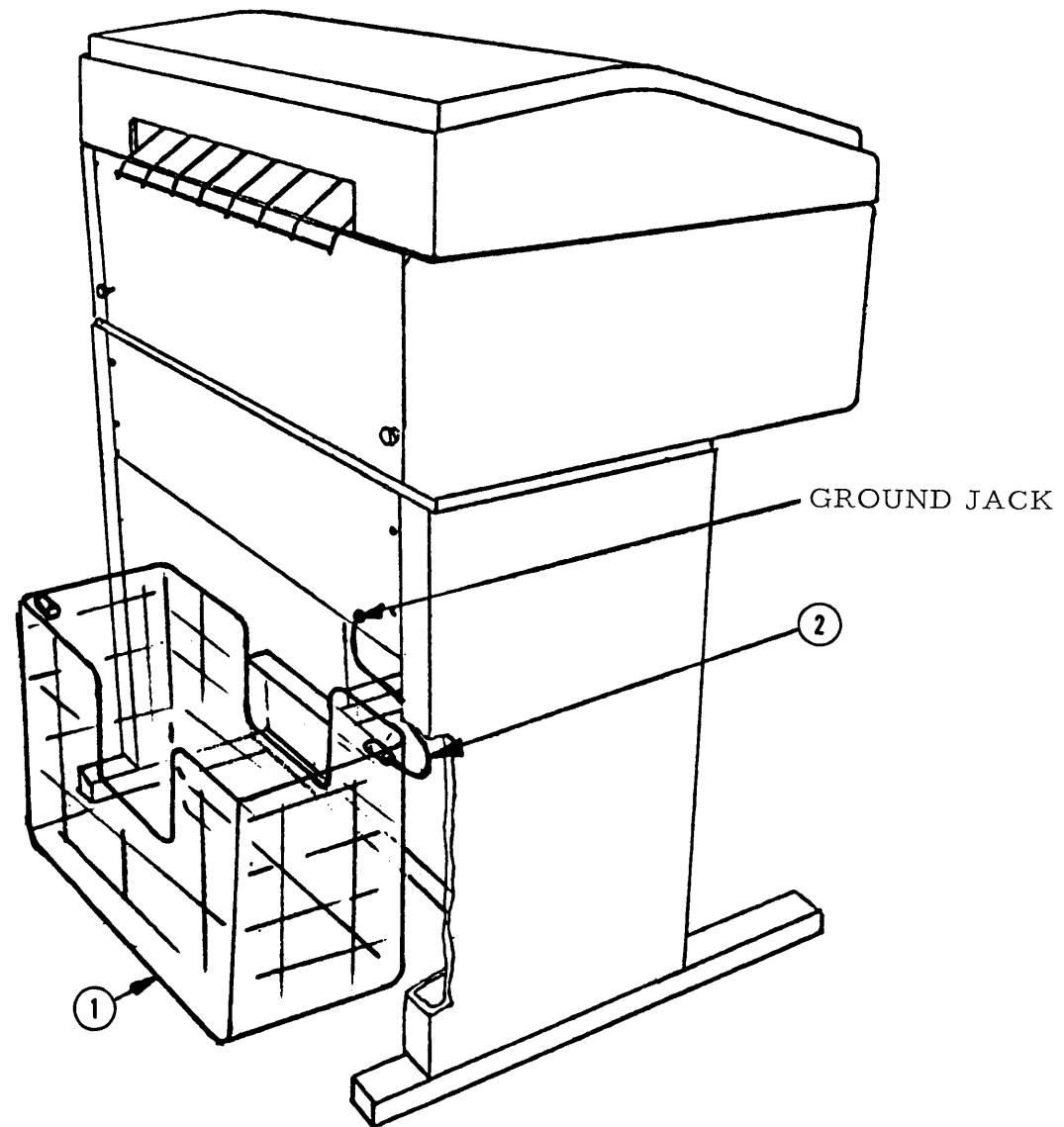


Figure 9-26
Paper Receptacle (Option)

Figure & Index No.	Description	Reference Designator	Part No.	Qty
Fig. 9-26	Paper Receptacle Kit		234445-001	REF
1.	Basket, Paper		230739-001	1
2.	Cord, Patch (1 Ft Lg)		800870-012	1