

# TECHNICAL MANUAL

## MODEL 2260 LINE/PRINTER

### 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.

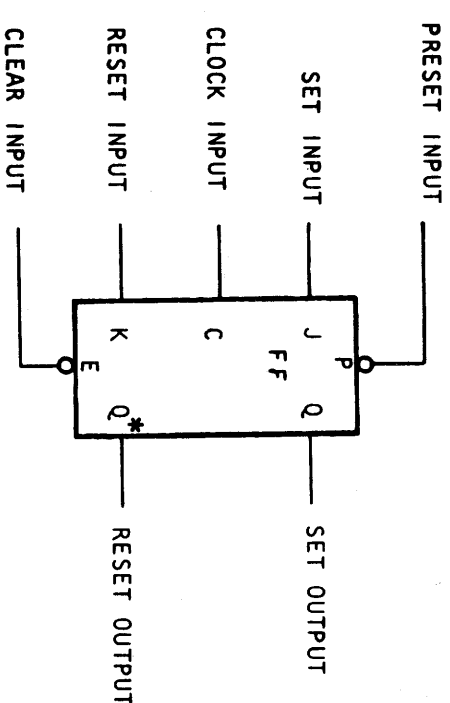
8-8 A small circle at the output of a logic element indicates that the output of the activated function is relatively low. Conversely, the absence of a small circle indicates that the output of the activated function is relatively high.

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

| AND Symbol | OR Symbol | Inputs<br>A B            | Output<br>X      |
|------------|-----------|--------------------------|------------------|
|            |           | H H<br>L L<br>L H<br>H L | L<br>H<br>H<br>H |
|            |           | H L<br>L L<br>L L<br>L L | L<br>L<br>L<br>L |
|            |           | H L<br>L L<br>L L<br>L L | L<br>L<br>L<br>L |
|            |           | H L<br>L L<br>L L<br>L L | L<br>L<br>L<br>L |

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

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



## 8-11 J-K FLIP-FLOP

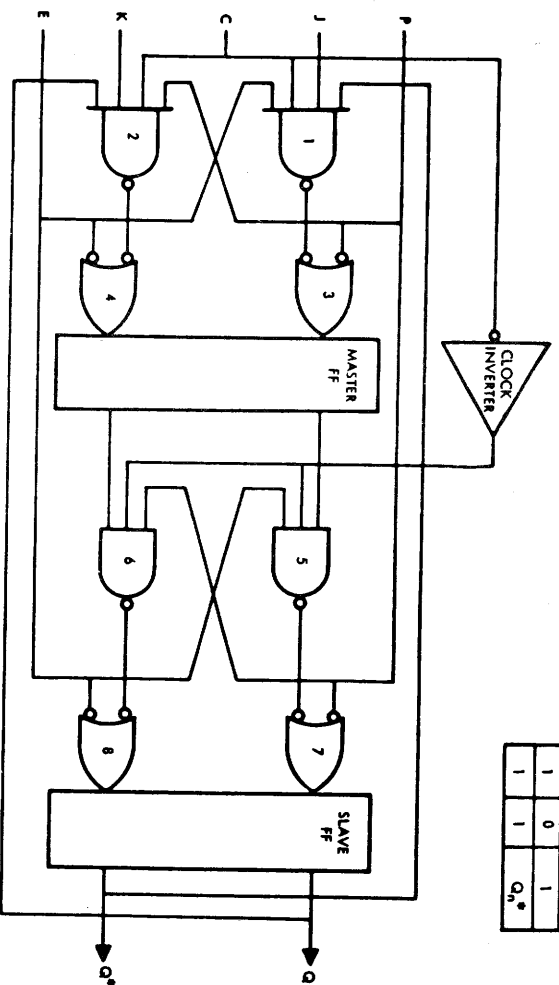
8-12 The following paragraphs are intended as an aid in understanding and troubleshooting the J-K master/slave flip-flop (hereafter called the J-K flip-flop) used throughout the printer logic.

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:

- J = Set input with clock
- K = Reset input with clock
- E = DC clear (reset) input without clock
- P = DC set input without clock
- C = Clock input (clocks on trailing edge of positive pulse)
- Q = Set output
- Q\* = Reset output

| TRUTH TABLE |     |     |       |         |
|-------------|-----|-----|-------|---------|
| $J$         | $K$ | $Q$ | $Q_n$ | $Q_n^*$ |
| 1           | 0   | 0   | 1     | 0       |
| 0           | 1   | 1   | 0     | 1       |
| 1           | 1   | 0   | 1     | 0       |
| 0           | 0   | 1   | 0     | 1       |



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

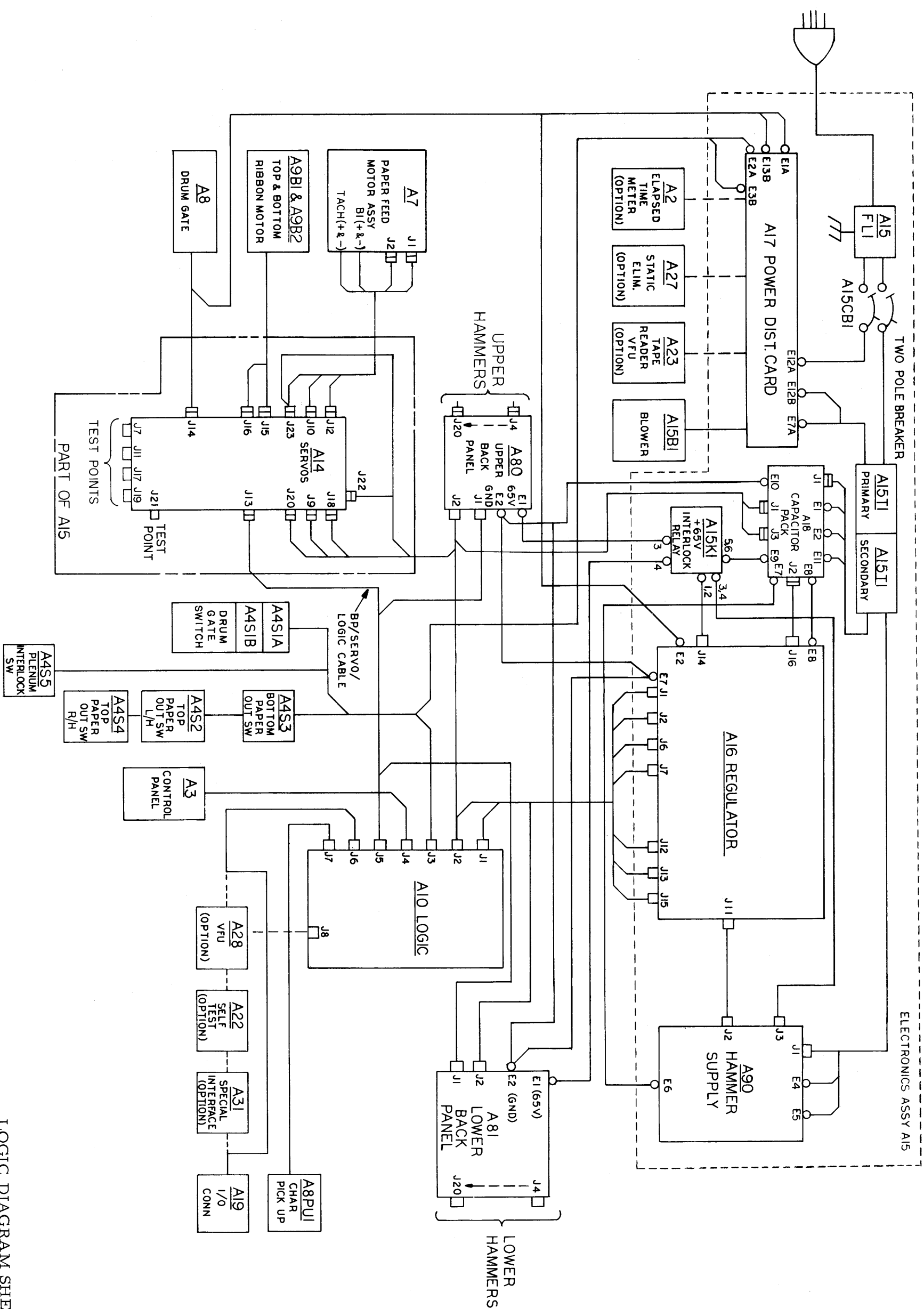
8-33 This is an abnormal operating condition but if E and P should go low simultaneously, the J-K flip-flop acts on both conditions and outputs Q and Q\* go high at the same time.

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.

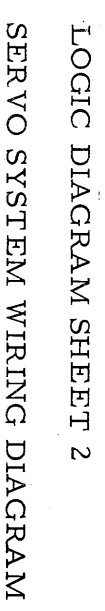
LOGIC DIAGRAM INDEX

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| 13                      | A18     | Capacitor Pack              | 8-23 |
| 14                      | A90     | Zoned Hammer Supply         | 8-24 |
| 15/15A                  | A22     | Self Test Option            | 8-25 |
| 16 - 16C                | A28     | Tape VFU Option             | 8-27 |
| 17                      | A23     | Tape Reader Option          | 8-31 |
| 18                      | A26     | Elapsed Time Meter Option   | 8-32 |
| 19/19A                  | A29     | Exerciser Option            | 8-33 |



LOGIC DIAGRAM SHEET 1

PRINTER WIRING AND CABLING

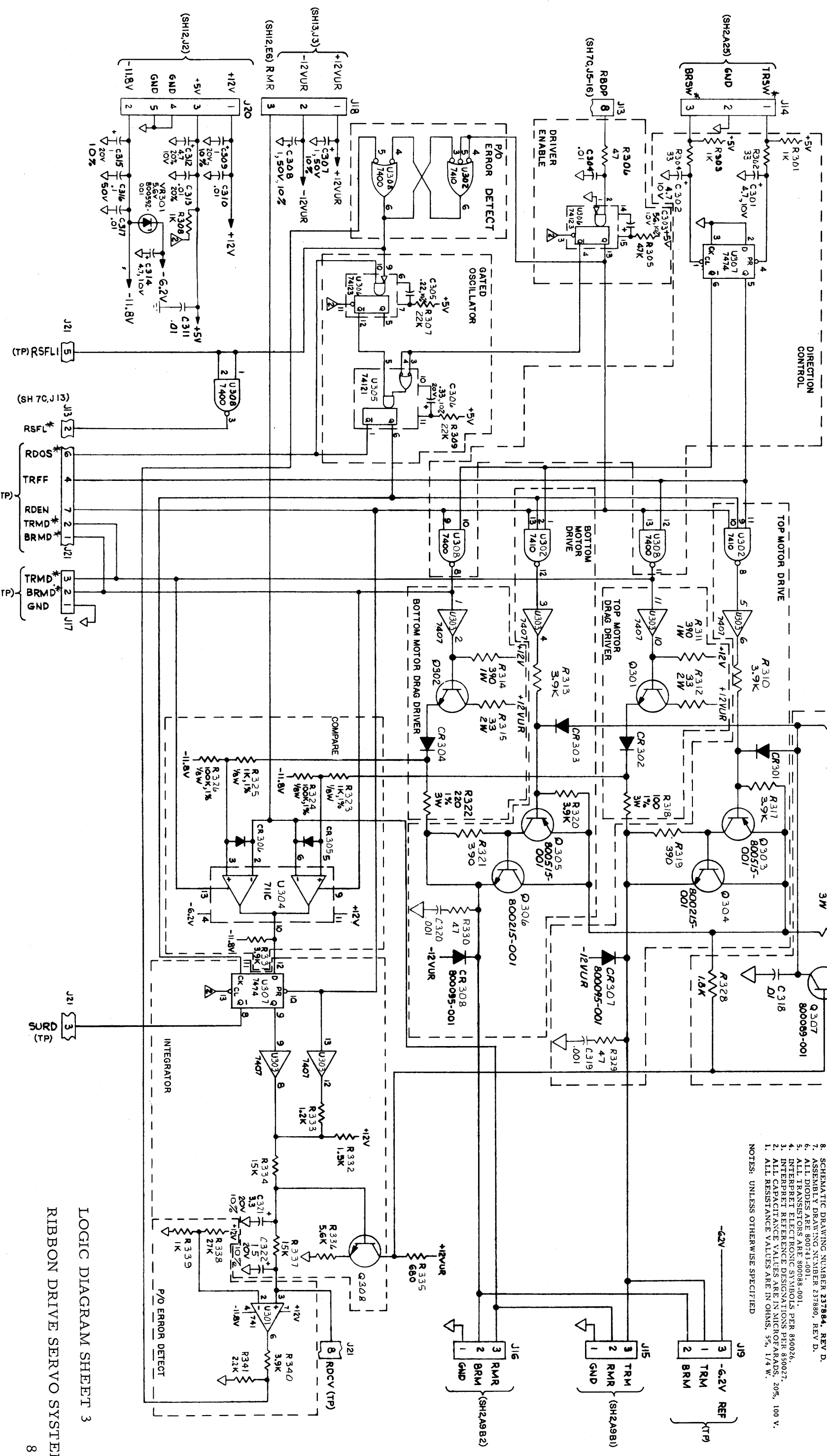


10. INTEGRATED CIRCUITS ARE:

| REF DESIG. | PART NO.   |
|------------|------------|
| U301       | 800733-001 |
| U302       | 800733-001 |
| U303       | 800733-001 |
| U304       | 800733-001 |
| U305       | 800733-001 |
| U306       | 800733-001 |
| U307       | 800733-001 |
| U308       | 800733-001 |

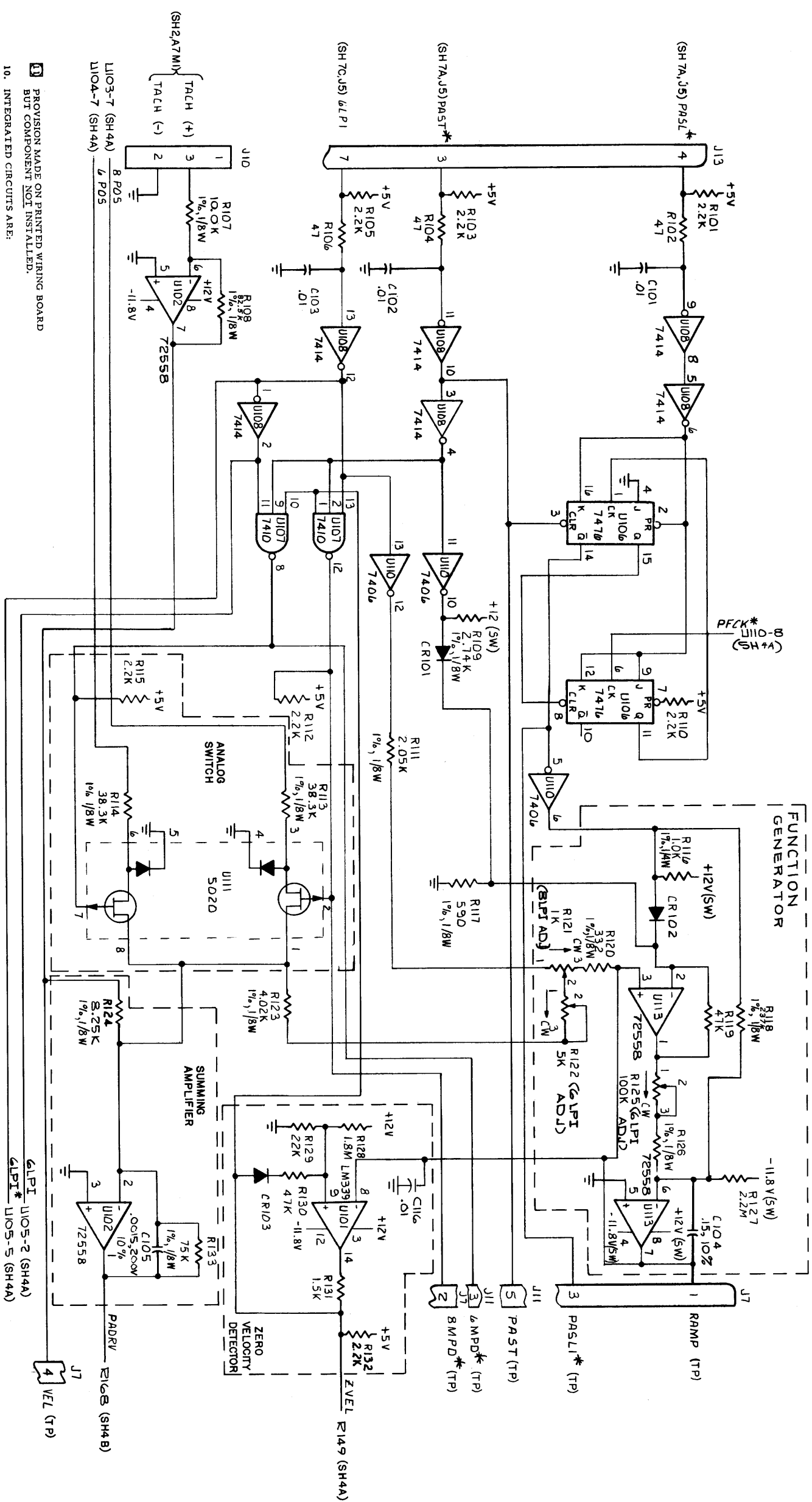
REFER TO LOADING DIAGRAMS

1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 20%, 100 V.
3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
4. ALL TRANSISTORS ARE 800088-001.
5. ALL DIODES ARE 800088-001.
6. ALL DIODES ARE 800088-001.
7. ALL DIODES ARE 800088-001.
8. ALL DIODES ARE 800088-001.
9. RIBBON SERVO GROUND
10. SCHEMATIC DRAWING NUMBER 237804, REV D.
11. ASSEMBLY DRAWING NUMBER 237800, REV D.

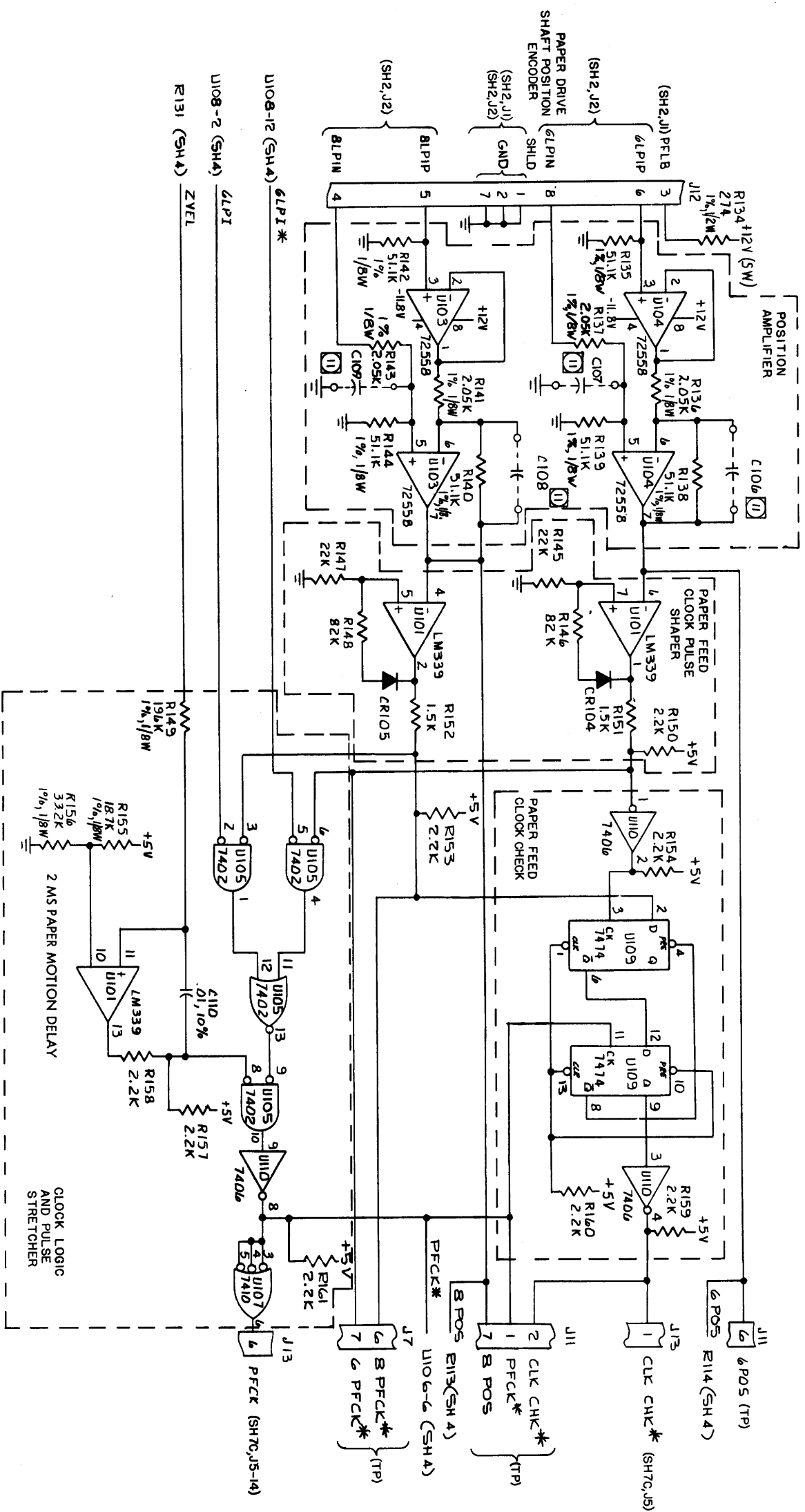


LOGIC DIAGRAM SHEET 3

RIBBON DRIVE SERVO SYSTEM

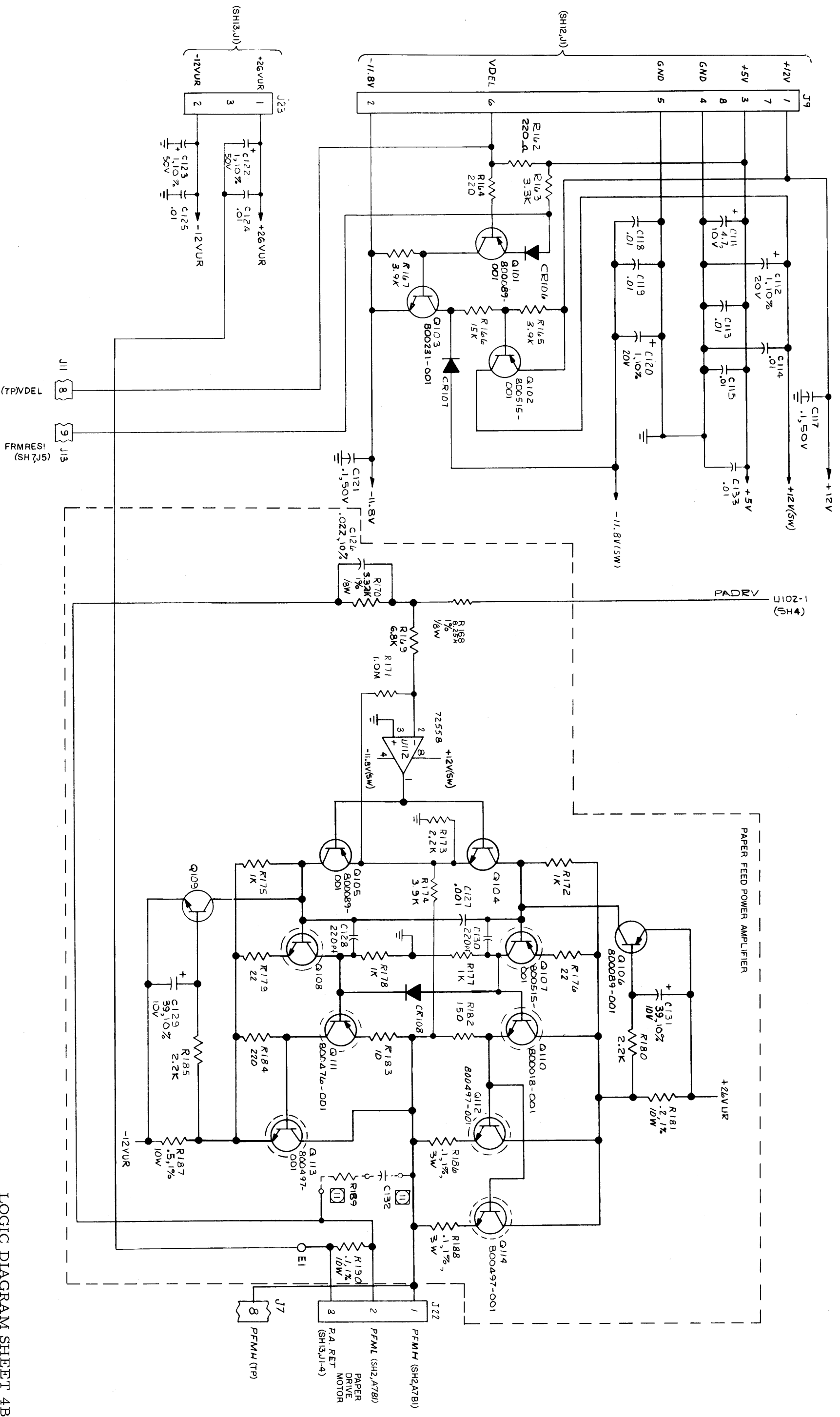


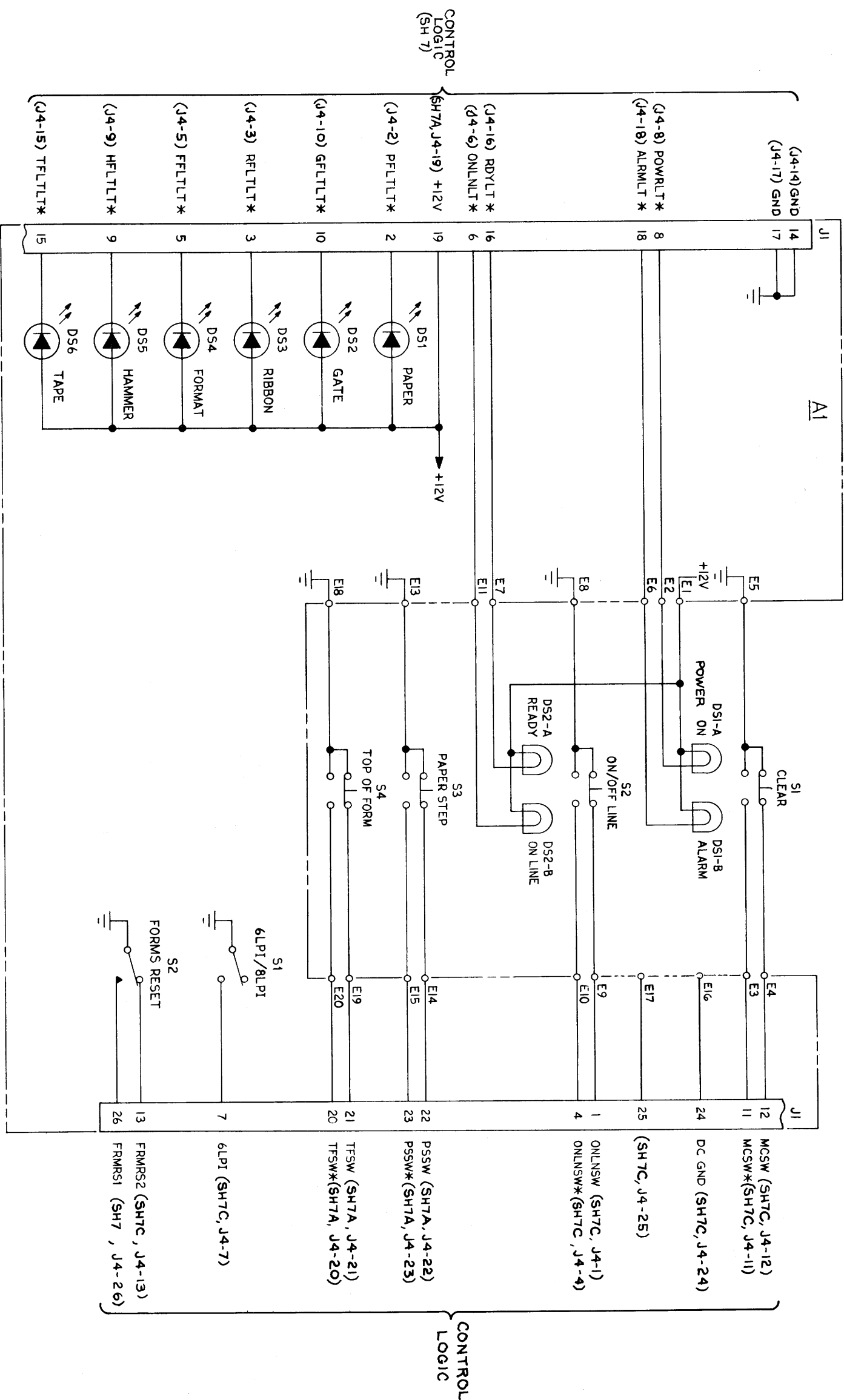
9. PAPER SERVO GROUND
10. INTEGRATED CIRCUITS ARE:
11. PROVISION MADE ON PRINTED WIRING BOARD BUT COMPONENT NOT INSTALLED.
12. SCHEMATIC DRAWING NUMBER 237884, REV D.
13. ASSEMBLY DRAWING NUMBER 237880, REV D.
14. ALL DIODES ARE 800743-001.
15. ALL TRANSISTORS ARE 800083-001.
16. INTERPRET REFERENCE SYMBOLS PER 850026.
17. INTERPRET REFERENCE DESIGNATIONS PER 850027.
18. ALL CAPACITANCE VALUES ARE IN OHMS, 5%, 1/4 W.
19. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.



LOGIC DIAGRAM SHEET 4A

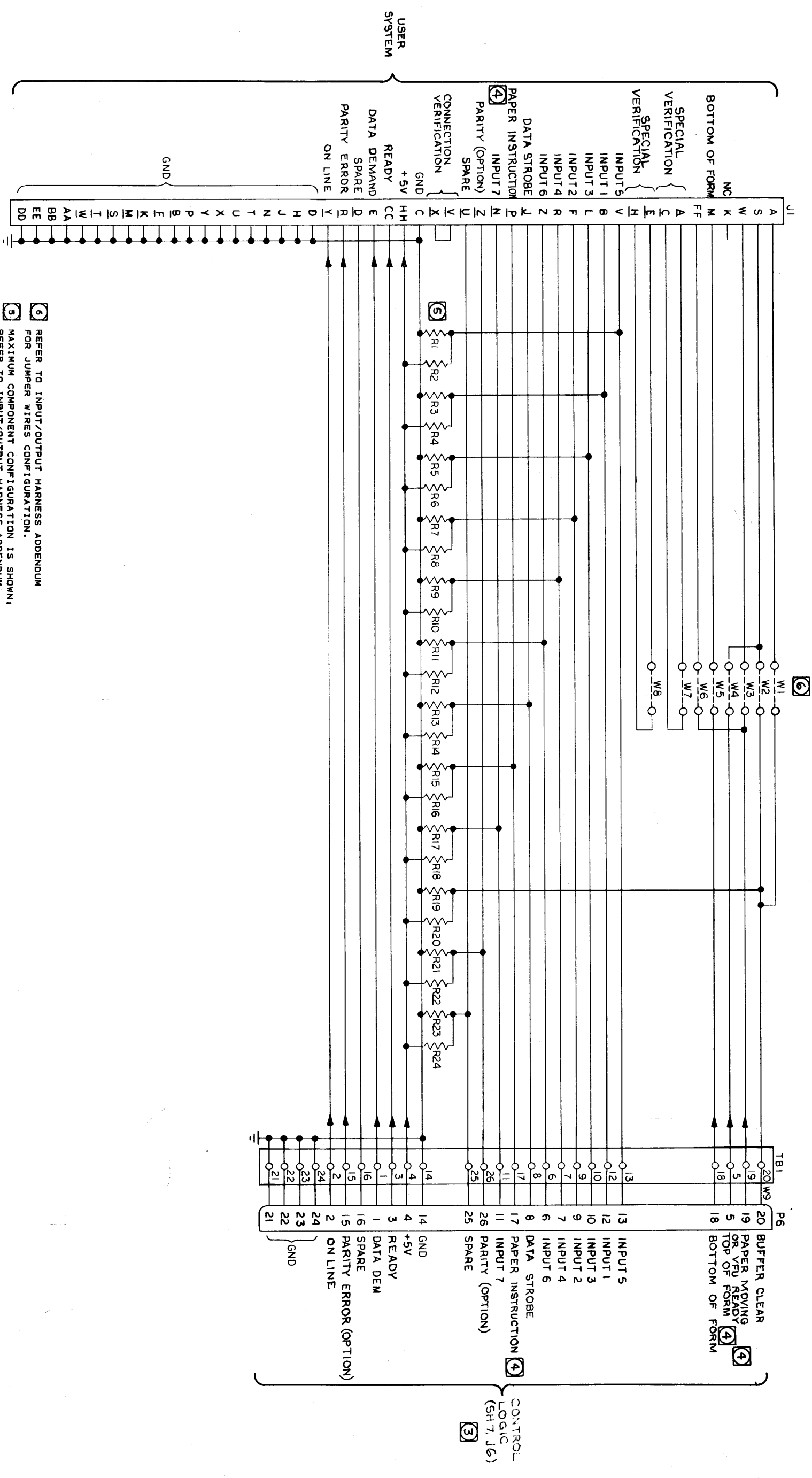
PAPER FEED SERVO SYSTEM





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

NOTES: UNLESS OTHERWISE SPECIFIED



- 6 REFER TO INPUT/OUTPUT HARNESS ADDENDUM FOR JUMPER WIRES CONFIGURATION.
  - 5 MAXIMUM COMPONENT CONFIGURATION IS SHOWN; REFER TO INPUT/OUTPUT HARNESS ADDENDUM FOR COMPONENT CONFIGURATION AND VALUES.
  - 4 AVAILABLE ONLY WHEN A VPU OPTION IS INSTALLED.
  - 3 IF TAPE VPU IS INSTALLED, P6 MATES TO J3, SH 16; IF SELF-TEST IS INSTALLED (WITH OR WITHOUT VPU), P6 MATES TO J1, SH 15.
  - 2. SCHEMATIC DRAWING NUMBER 243474, REV A.
  - 1. ASSEMBLY DRAWING NUMBER 243470, REV D.
- NOTES: UNLESS OTHERWISE NOTED

11. INTEGRATED CIRCUITS ARE:

| REF DESIGNATION    | PART NO.   | REF DESIGNATION    | PART NO.   |
|--------------------|------------|--------------------|------------|
| U1, U2, U3, U16    | 800081-001 | U42, U56           | 801186-001 |
| U4, U8, U18        | 800024-001 | U43, U45, U51, U52 | 800024-001 |
| U5, U10, U23, U29  | 800051-001 | U48, U60, U65      | 800081-001 |
| U6, U9, U23, U29   | 800080-001 | U53, U76, U96      | 800387-001 |
| U7, U89, U98       | 800099-001 | U54, U57, U68      | 800400-001 |
| U11, U44, U46      | 800023-001 | U55, U64, U66      | 800400-001 |
| U12, U14, U17      | 800023-001 | U58, U79           | 800023-001 |
| U13, U31, U47      | 800023-001 | U59, U79           | 800023-001 |
| U15, U31, U47      | 800023-001 | U67, U87           | 800023-001 |
| U16, U22, U78      | 800023-001 | U71, U73, U74      | 800023-001 |
| U20, U21           | 800023-001 | U72, U73, U74      | 800023-001 |
| U24, U27, U62, U88 | 800023-001 | U79                | 800023-001 |
| U25, U31, U41      | 800023-001 | U80                | 800023-001 |
| U26, U28, U33      | 800023-001 | U81, U82, U90, U91 | 800023-001 |
| U30, U61, U69      | 800023-001 | U83, U92           | 800023-001 |
| U32, U36, U37, U38 | 800023-001 | U84, U85, U93, U94 | 800023-001 |
| U34, U40, U86, U95 | 800023-001 | U97                | 800023-001 |
| U35, U49, U50      | 800023-001 | U98                | 800023-001 |

REFER TO LOADING DIAGRAMS

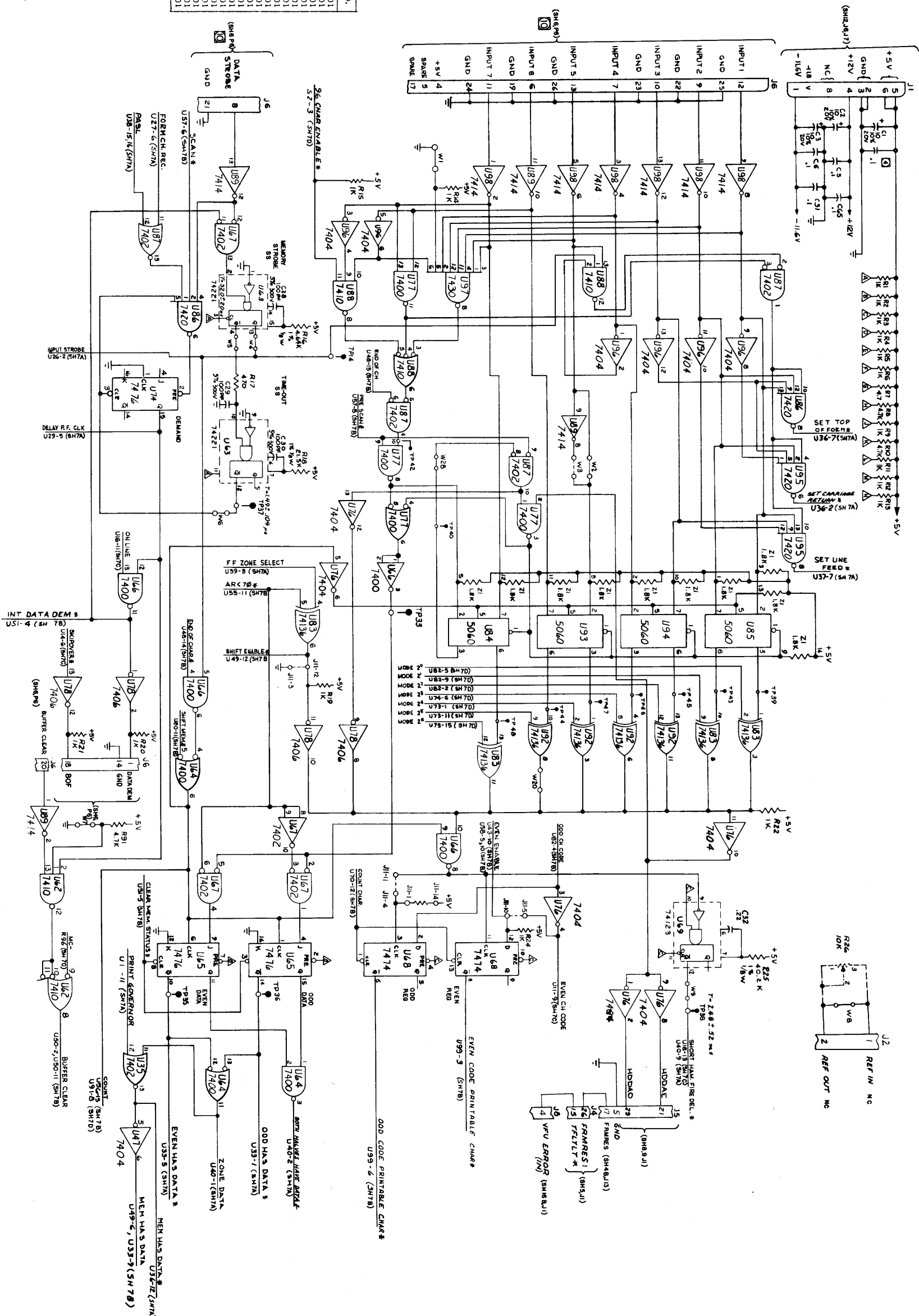
WHEN THE VFO OR SELF-TEST OPTIONS ARE IMPLEMENTED, REFER TO THE FOLLOWING LIST FOR J6 CONNECTIONS:

| OPTION            | J6 MATING CONNECTOR |
|-------------------|---------------------|
| VFO               | SH 16, P1           |
| SELF-TEST         | SH 15, P1           |
| VFO AND SELF-TEST | SH 15, P1           |

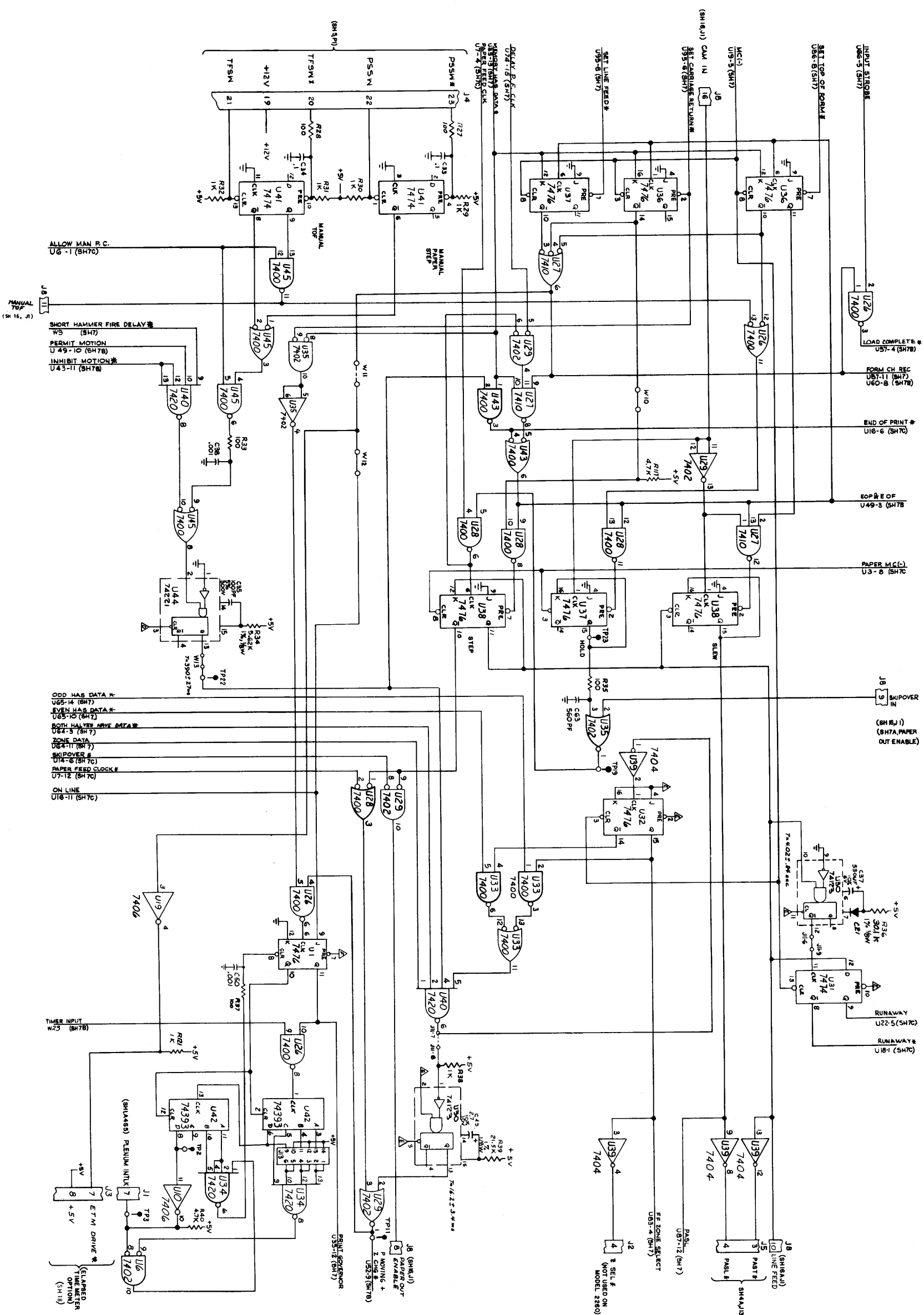
- ALL DEVICES WITH SPECIAL CHARACTERISTICS ARE IDENTIFIED WITH THE MANUFACTURER'S TYPE NUMBER.
- SCHEMATIC DRAWING NUMBER 44700, REV. A.
- ASSEMBLY DRAWING NUMBER 44700, REV. A.
- INTERPRET ELECTRONIC SYMBOLS PER 850026.
- INTERPRET REFERENCE DESIGNATIONS PER 850027.

- CA, CT, C27, C48, C49, C66, C67, C71, C82, C85 ARE FILTER CAPACITORS FOR +5V TO GND.
- ALL DIODES ARE 800743-001.
- ALL CAPACITANCE VALUES ARE IN MICROFARADS, 20%, 100 V.
- ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED

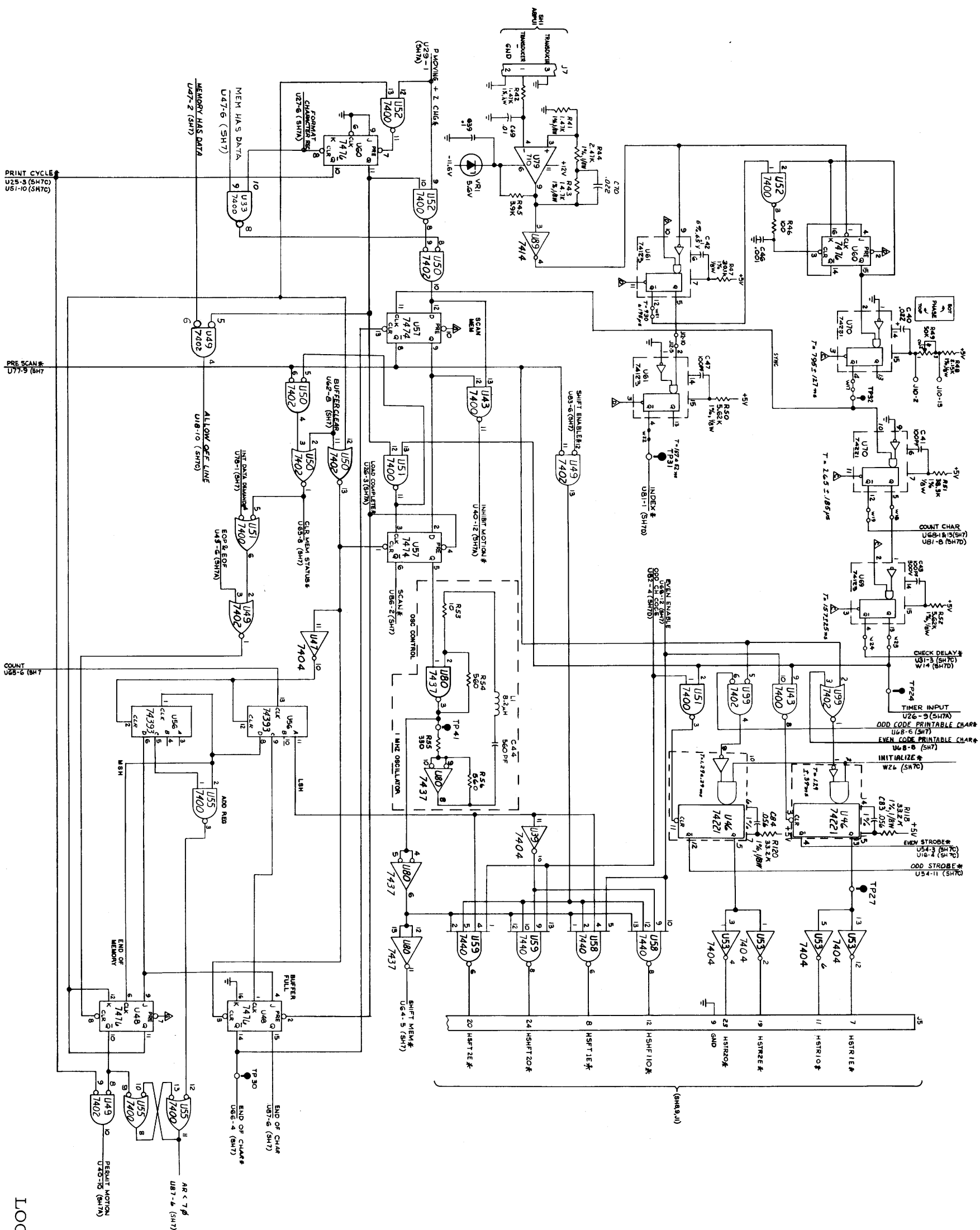


## CONTROL LOGIC



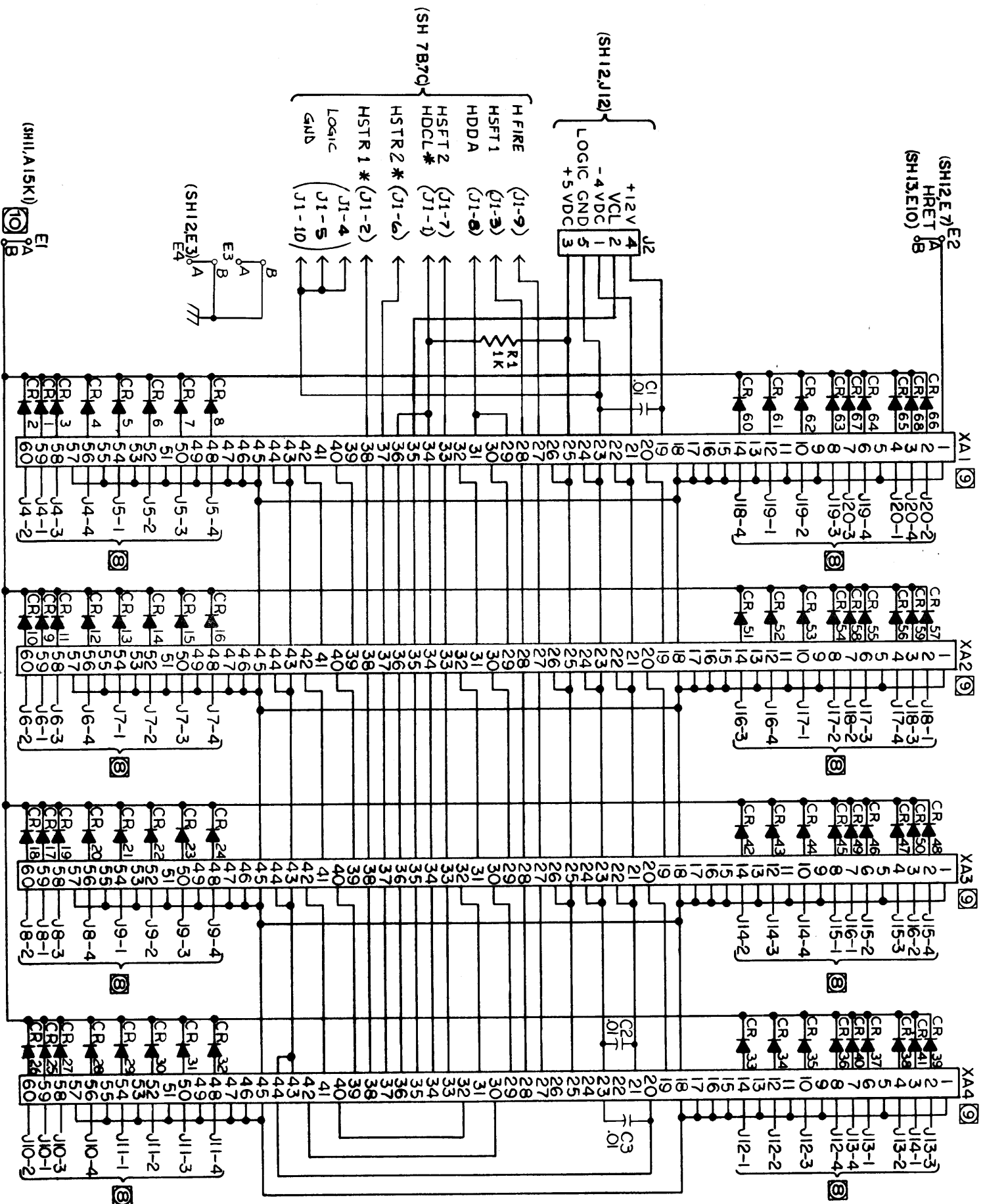
LOGIC DIAGRAM SHEET 7B

CONTROL LOGIC









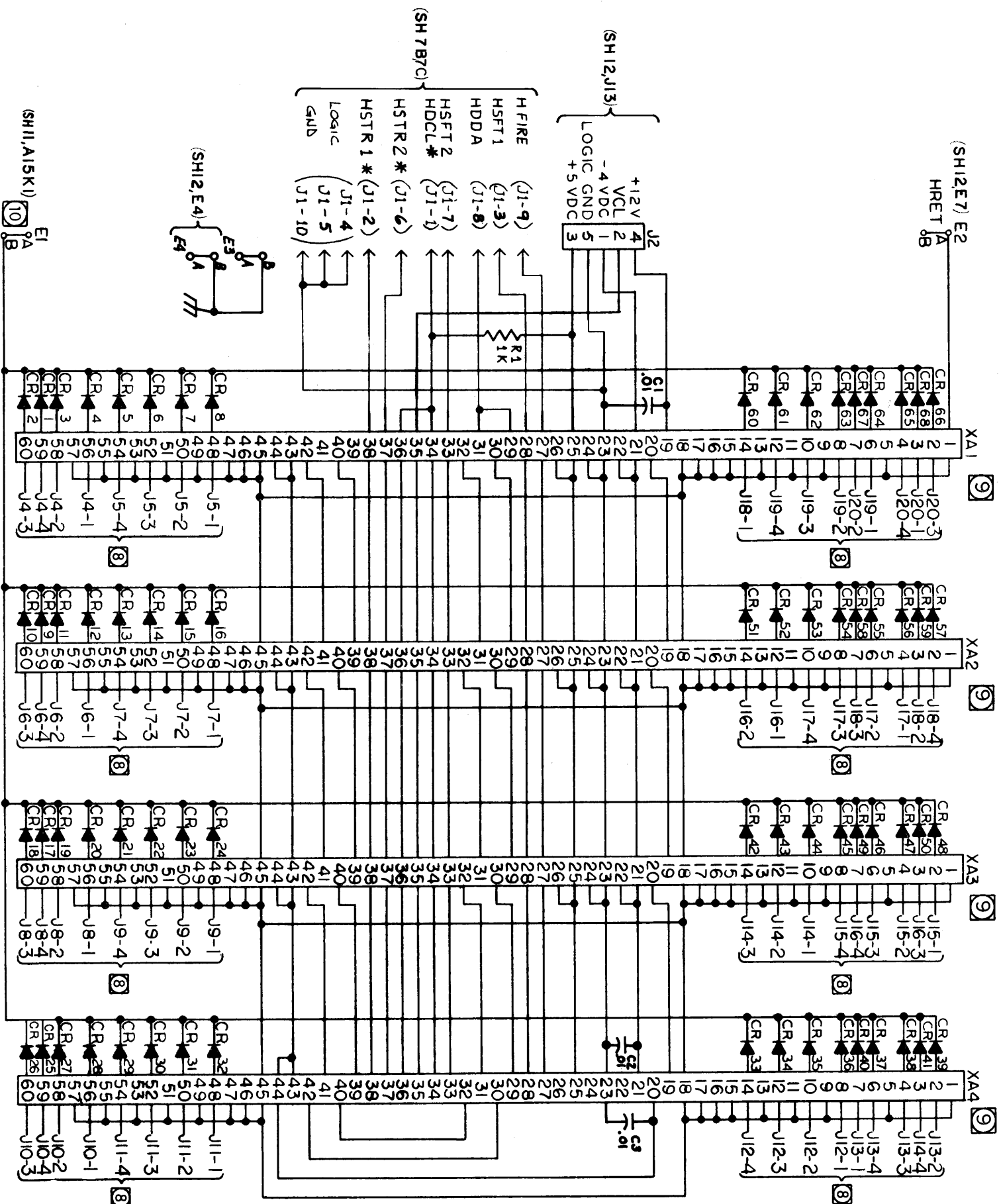
- 10 E1 IS CONNECTED TO PIN 5 OF J1 THRU J20.
- 9 REFER TO P1 ON SHEETS 10 & 10A FOR CIRCUIT DESTINATIONS.
- 8 CONNECTORS J4 THRU J20 ARE OMITTED FOR CLARITY. SEE TABULATIONS FOR CIRCUIT DESTINATIONS.

- 7. SCHEMATIC DRAWING NUMBER 237599, REV. A.
- 6. ASSEMBLY DRAWING NUMBER 237595, REV. A.
- 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, 15%, 100 V.
- 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED

| HAMMER NO. 4     |       |        |  |
|------------------|-------|--------|--|
| TEST POINT NO. 2 | J4-1  | XA1-59 |  |
| 4                | 2     | 60     |  |
| 6                | 3     | 59     |  |
| 8                | J4-4  | 56     |  |
| 10               | J5-1  | 54     |  |
| 12               | 2     | 52     |  |
| 14               | 3     | 50     |  |
| 16               | J5-4  | XA1-48 |  |
| 18               | J6-1  | XA2-59 |  |
| 20               | 2     | 60     |  |
| 22               | 3     | 59     |  |
| 24               | J6-4  | 56     |  |
| 26               | J7-1  | 54     |  |
| 28               | 2     | 52     |  |
| 30               | 3     | 50     |  |
| 32               | J7-4  | XA2-48 |  |
| 34               | J8-1  | XA3-59 |  |
| 36               | 2     | 60     |  |
| 38               | 3     | 59     |  |
| 40               | J8-4  | 56     |  |
| 42               | J9-1  | 54     |  |
| 44               | 2     | 52     |  |
| 46               | 3     | 50     |  |
| 48               | J9-4  | XA3-48 |  |
| 50               | J10-1 | XA4-59 |  |
| 52               | 2     | 60     |  |
| 54               | 3     | 59     |  |
| 56               | J10-4 | 56     |  |
| 58               | J11-1 | 54     |  |
| 60               | 2     | 52     |  |
| 62               | 3     | 50     |  |
| 64               | J11-4 | 48     |  |
| 66               | J12-1 | 14     |  |
| HAMMER NO. 68    |       |        |  |
| TEST POINT NO.   | J12-2 | XA4-12 |  |

| HAMMER NO. 2      |       |        |  |
|-------------------|-------|--------|--|
| TEST POINT NO. 70 | J12-3 | XA4-10 |  |
| 72                | J12-4 | 8      |  |
| 74                | J13-1 | 6      |  |
| 76                | 2     | 4      |  |
| 78                | 3     | 2      |  |
| 80                | J13-4 | 7      |  |
| 82                | J14-1 | XA4-3  |  |
| 84                | 2     | XA3-14 |  |
| 86                | 3     | 12     |  |
| 88                | J14-4 | 10     |  |
| 90                | J15-1 | 8      |  |
| 92                | 2     | 6      |  |
| 94                | 3     | 4      |  |
| 96                | J15-4 | 2      |  |
| 98                | J16-1 | 7      |  |
| 100               | 2     | XA3-3  |  |
| 102               | 3     | XA2-14 |  |
| 104               | J16-4 | 12     |  |
| 106               | J17-1 | 10     |  |
| 108               | 2     | 8      |  |
| 110               | 3     | 6      |  |
| 112               | J17-4 | 4      |  |
| 114               | J18-1 | 2      |  |
| 116               | 2     | 7      |  |
| 118               | 3     | XA2-3  |  |
| 120               | J18-4 | XA1-14 |  |
| 122               | J19-1 | 12     |  |
| 124               | 2     | 10     |  |
| 126               | 3     | 8      |  |
| 128               | J19-4 | 6      |  |
| 130               | J20-1 | 4      |  |
| 132               | 2     | 2      |  |
| 134               | 3     | 7      |  |
| HAMMER NO. 136    |       |        |  |
| TEST POINT NO.    | J20-4 | XA1-3  |  |



7. SCHEMATIC DRAWING NUMBER 237604, REV B.
6. ASSEMBLY DRAWING NUMBER 237600, REV C.
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, 15%, 100 V.
1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

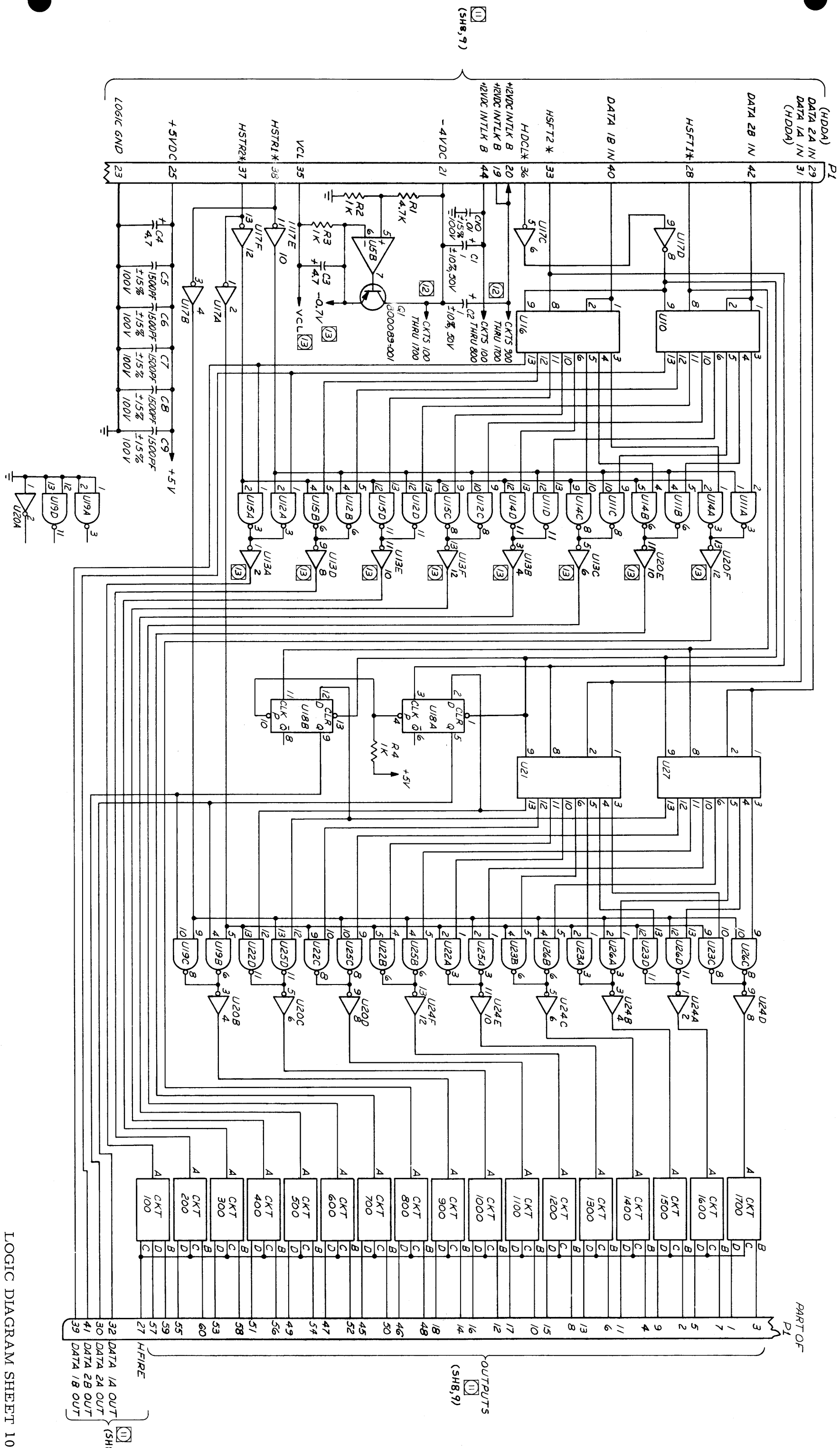
- 10 E1 IS CONNECTED TO PIN 5 OF J1 THRU J20.
- 9 REFER TO P1 ON SHEETS 10 & 10A FOR CIRCUIT DESTINATIONS.
- 8 CONNECTORS J4 THRU J20 ARE OMITTED FOR CLARITY.
- SEE TABULATIONS FOR CIRCUIT DESTINATIONS.

NOTES: UNLESS OTHERWISE SPECIFIED

| HAMMER NO. & TEST POINT NO. 1 | J4-4  | XA1-59 |
|-------------------------------|-------|--------|
| 3                             | 3     | 60     |
| 5                             | 2     | 58     |
| 7                             | J4-1  | 56     |
| 9                             | J5-4  | 54     |
| 11                            | 3     | 52     |
| 13                            | 2     | 50     |
| 15                            | J5-1  | XA1 48 |
| 17                            | J6-4  | XA2 59 |
| 19                            | 3     | 60     |
| 21                            | 2     | 58     |
| 23                            | J6-1  | 56     |
| 25                            | J7-4  | 54     |
| 27                            | 3     | 52     |
| 29                            | 2     | 50     |
| 31                            | J7-1  | XA2 48 |
| 33                            | J8-4  | XA3 59 |
| 35                            | 3     | 60     |
| 37                            | 2     | 58     |
| 39                            | J8-1  | 56     |
| 41                            | J9-4  | 54     |
| 43                            | 3     | 52     |
| 45                            | 2     | 50     |
| 47                            | J9-1  | XA3 48 |
| 49                            | J10-4 | XA4 59 |
| 51                            | 3     | 60     |
| 53                            | 2     | 58     |
| 55                            | J10-1 | 56     |
| 57                            | J11-4 | 54     |
| 59                            | 3     | 52     |
| 61                            | 2     | 50     |
| 63                            | J11-1 | 48     |
| 65                            | J12-4 | 14     |

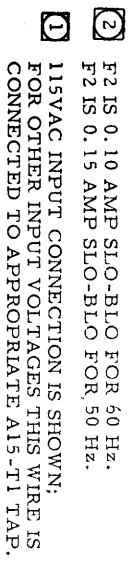
| HAMMER NO. & TEST POINT NO. 2 | J12-2 | XA4-10 |
|-------------------------------|-------|--------|
| 71                            | J13-4 | 6      |
| 73                            | 3     | 4      |
| 75                            | 2     | 2      |
| 77                            | J13-1 | 7      |
| 79                            | J14-4 | XA4 3  |
| 81                            | 3     | XA3 14 |
| 83                            | 2     | 12     |
| 85                            | 2     | 10     |
| 87                            | J14-1 | 8      |
| 89                            | J15-4 | 6      |
| 91                            | 3     | 4      |
| 93                            | 2     | 2      |
| 95                            | J15-1 | 7      |
| 97                            | J16-4 | 3      |
| 99                            | 3     | XA3 3  |
| 101                           | 2     | XA2 14 |
| 103                           | J16-1 | 12     |
| 105                           | J17-4 | 10     |
| 107                           | 3     | 8      |
| 109                           | J17-1 | 6      |
| 111                           | 2     | 4      |
| 113                           | J18-4 | 2      |
| 115                           | 3     | 7      |
| 117                           | 2     | XA2 3  |
| 119                           | J18-1 | XA1 14 |
| 121                           | J19-4 | 12     |
| 123                           | 3     | 10     |
| 125                           | 2     | 8      |
| 127                           | J19-1 | 6      |
| 129                           | J20-4 | 4      |
| 131                           | 3     | 2      |
| 133                           | 2     | 7      |





LOGIC DIAGRAM SHEET 10A

HAMMER DRIVER



1. INTEGRATED CIRCUITS ARE:

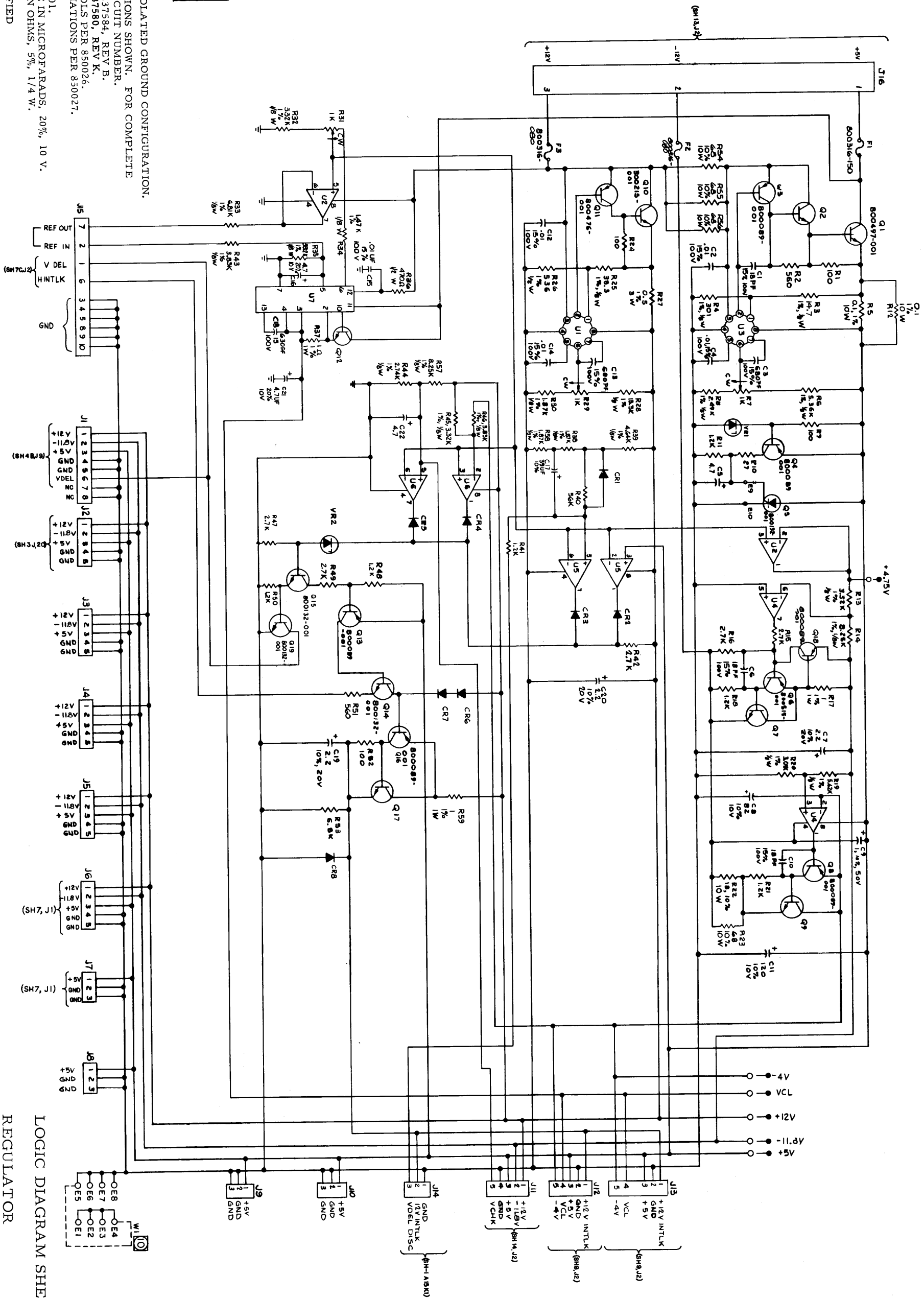
| REF DESIGNATION | PART NO.   |
|-----------------|------------|
| U1, U3          | 800499-001 |
| U2, U4, U5, U6  | 800952-001 |

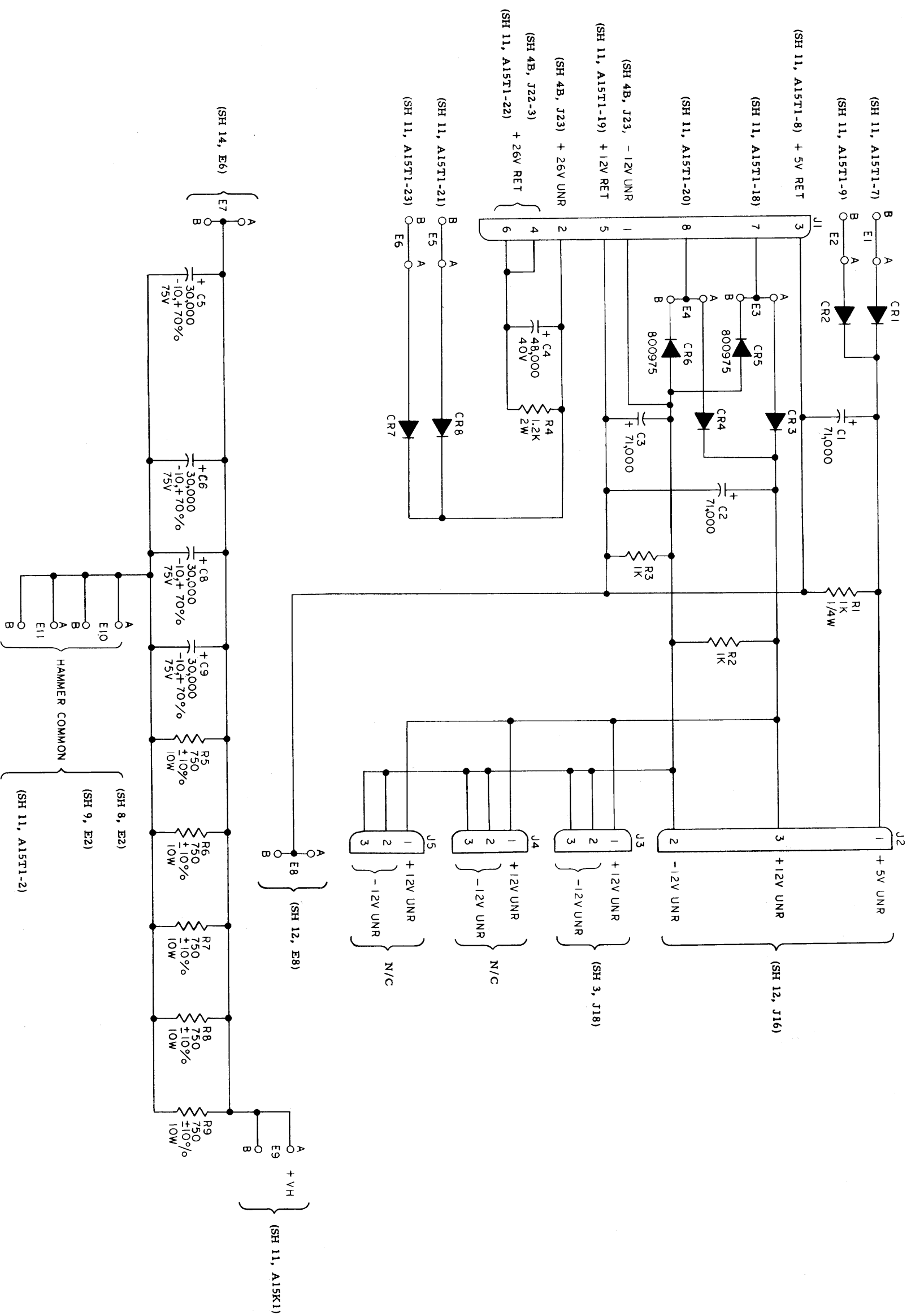
REFER TO LOADING DIAGRAMS

10 JUMPER W1 IS REMOVED FOR ISOLATED GROUND CONFIGURATION.

- PARTIAL REFERENCE DESIGNATIONS SHOWN. FOR COMPLETE DESIGNATION, PREFIX WITH CIRCUIT NUMBER.
- ASSEMBLY DRAWING NUMBER 237584, REV B.
- INTERPRET ELECTRONIC SYMBOLS PER 850026.
- INTERPRET REFERENCE DESIGNATIONS PER 850027.
- ALL DIODES ARE 800743-001.
- ALL TRANSISTORS ARE 800018-001.
- ALL CAPACITANCE VALUES ARE IN MICROFARADS, 20%, 10 V.
- ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

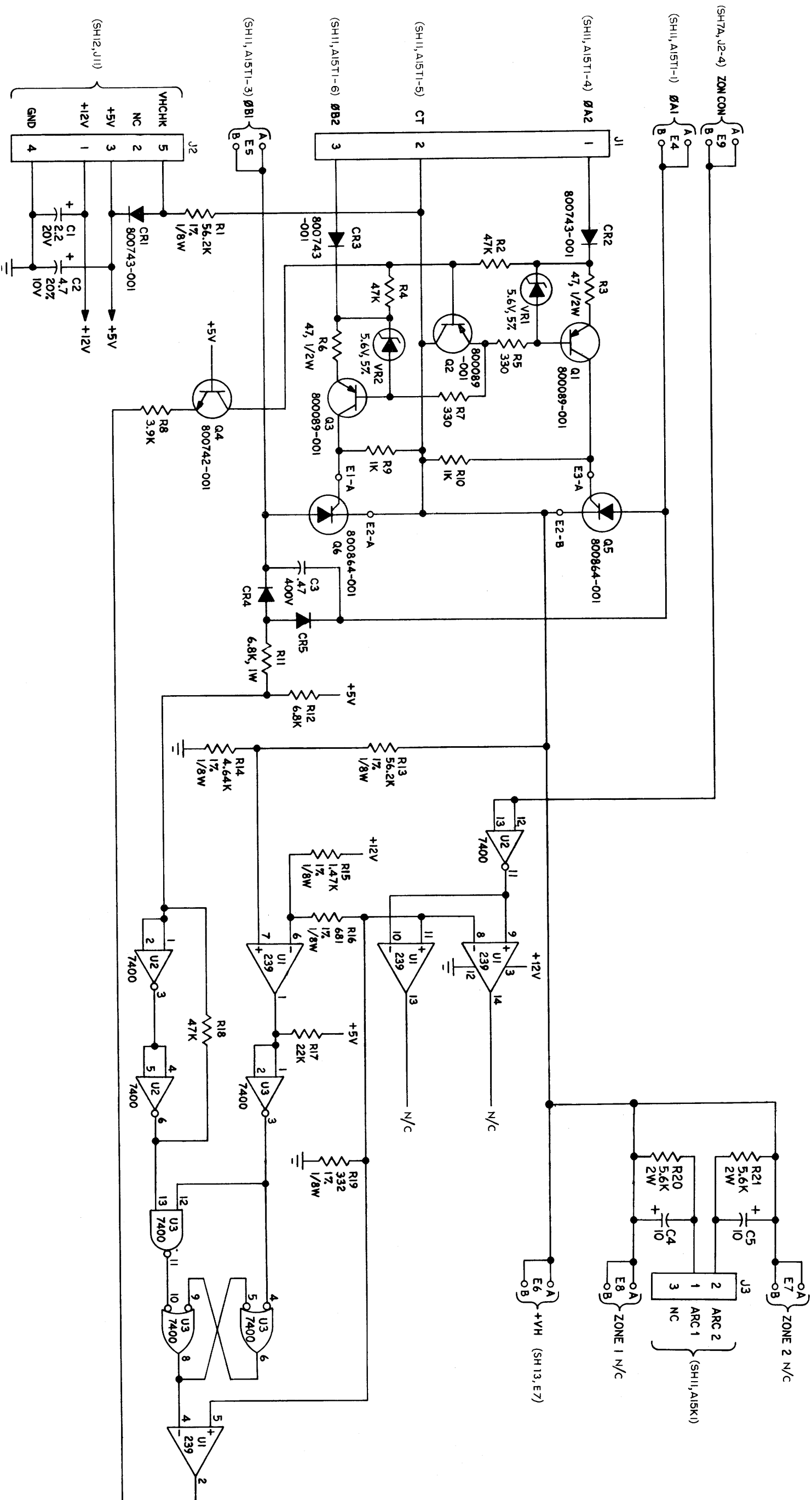
NOTES: UNLESS OTHERWISE SPECIFIED





7. SCHEMATIC DRAWING NUMBER 237979, REV A.
6. ASSEMBLY DRAWING NUMBERS ARE 237718, REV G, & 237680, REV B.
5. INTERPRET ELECTRONIC SYMBOLS PER 850026.
4. INTERPRET REFERENCE DESIGNATIONS PER 850027.
3. ALL DIODES ARE 800927-001.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, -15%, +120%, 25V.
1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1 W.

NOTES: UNLESS OTHERWISE SPECIFIED



9. INTEGRATED CIRCUITS ARE:

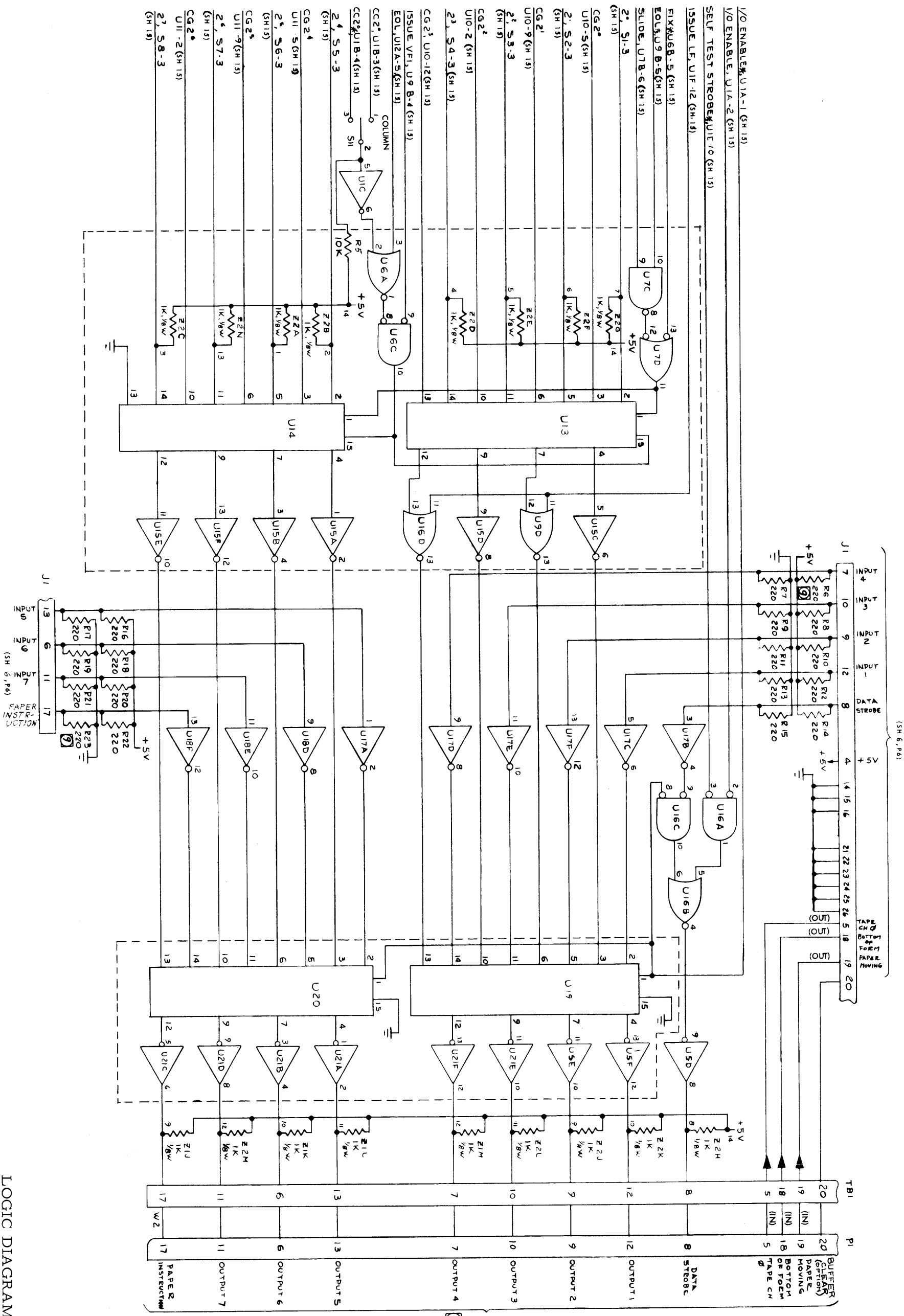
| REF DESIGNATION | PART NO.   |
|-----------------|------------|
| U1              | 801257-001 |
| U2, U3          | 800024-001 |

REFER TO LOADING DIAGRAMS

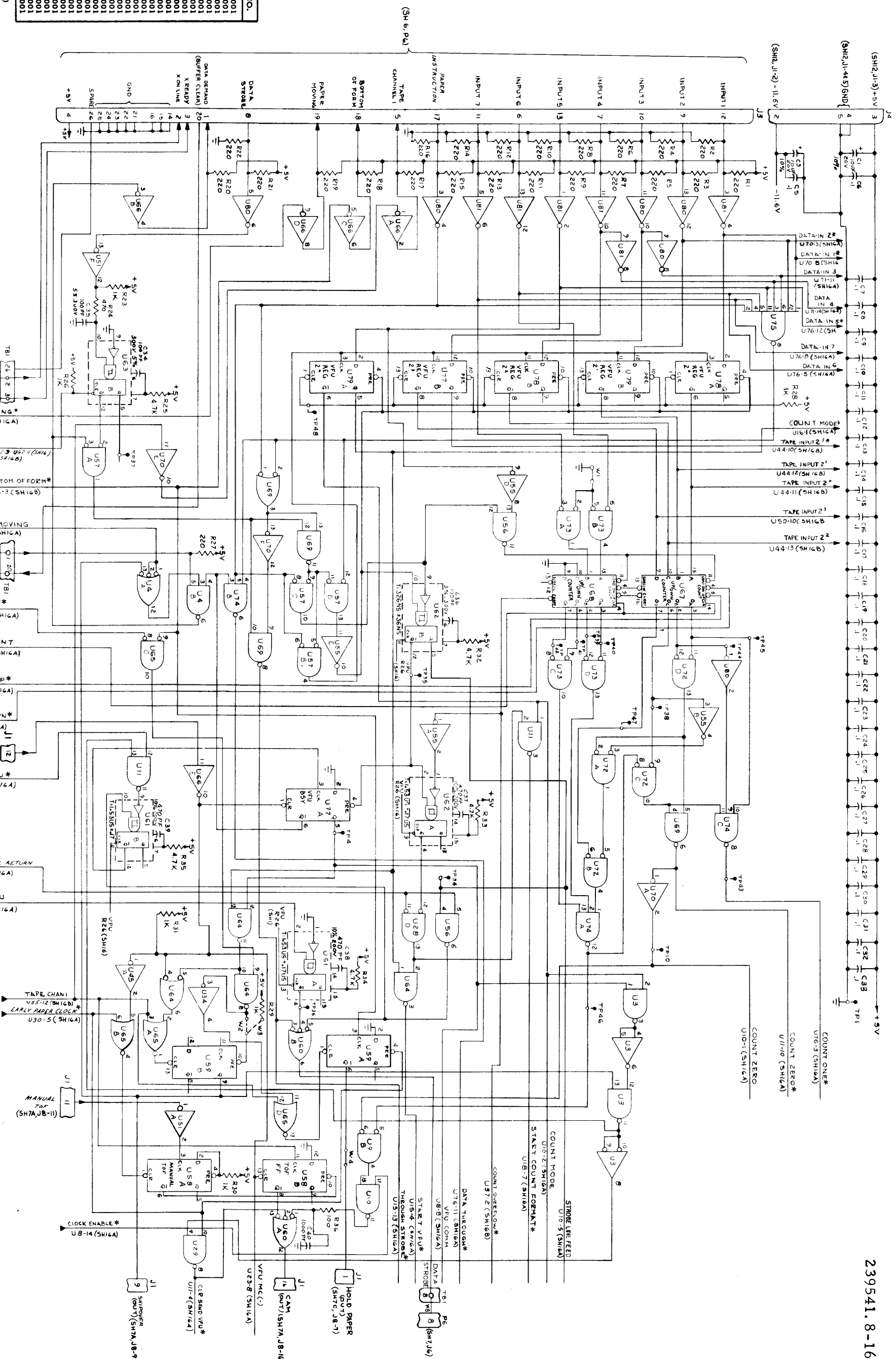
8. SCHEMATIC DRAWING NUMBER 237869, REV B
7. ASSEMBLY DRAWING NUMBER 237865, REV E
6. INTERPRET ELECTRONIC SYMBOLS PER 850026.
5. INTERPRET REFERENCE DESIGNATIONS PER 850027.
4. ALL DIODES ARE 800095-001.
3. ALL TRANSISTORS ARE 800019-001.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 10%, 75 V.
1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED





LOGIC DIAGRAM SHEET 15A  
SELF TEST OPTION



9. INTEGRATED CIRCUITS ARE:

| REF. DESIGNATION        | PART NO.   |
|-------------------------|------------|
| U3, U10, U11, U14, U20  | 800024-001 |
| U7, U17, U21, U38       | 800023-001 |
| U8                      | 800020-001 |
| U9, U12, U26, U28       | 800081-001 |
| U13, U34, U39, U45      | 800080-001 |
| U15, U25                | 800387-001 |
| U16                     | 800400-001 |
| 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           | 801004-001 |
| U43, 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 LOGIC DIAGRAMS)

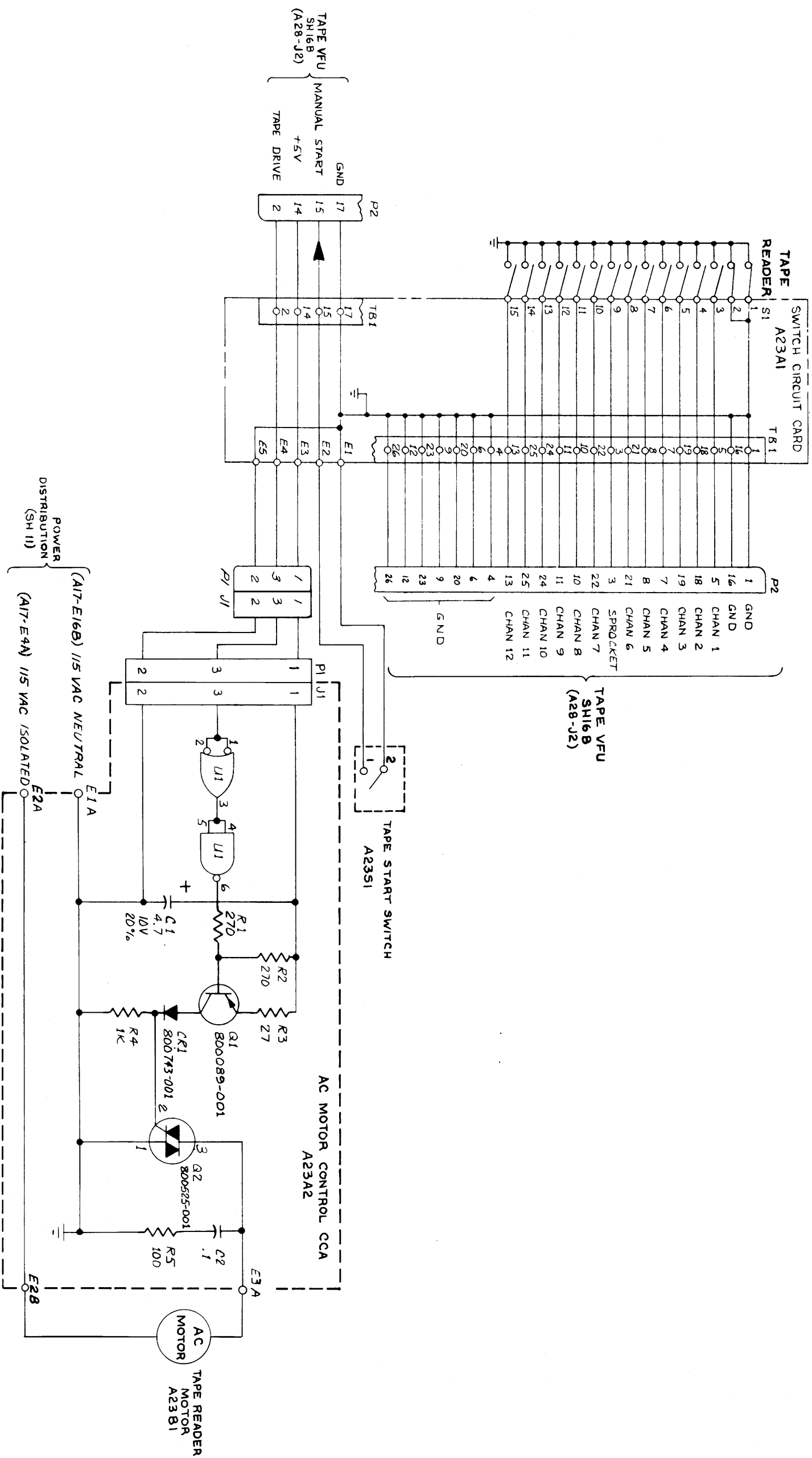
1. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 15%, 100V.
2. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.
3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
4. INTERPRET LOGIC SYMBOLS PER 850025.
5. ASSEMBLY DRAWING NUMBER 238043, REV. C.
6. SCHEMATIC DRAWING NUMBER 238049, REV. E.
7. TEN CONNECTIONS MAXIMUM PER RESISTOR.
8. UNLESS OTHERWISE SPECIFIED





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.

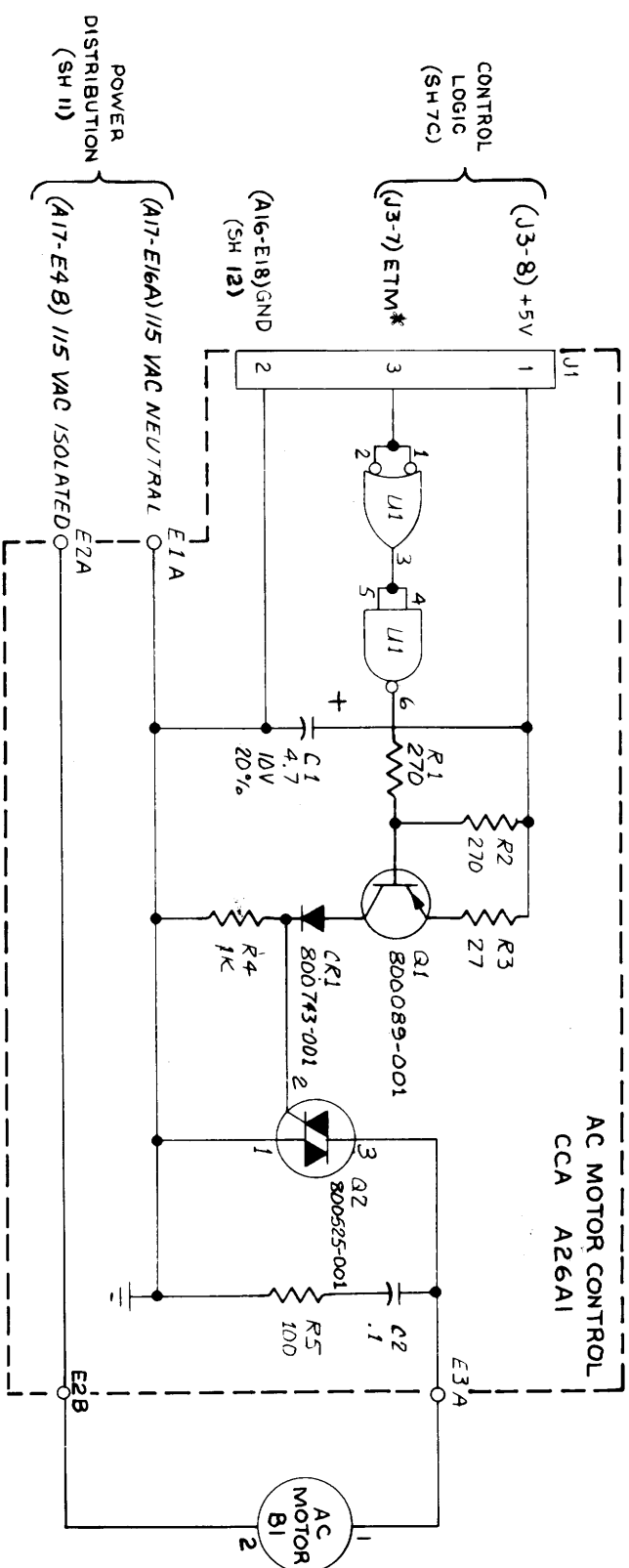
| Configuration | Jumpers Installed |     |     |     |     |     |     |
|---------------|-------------------|-----|-----|-----|-----|-----|-----|
|               | W 1               | W 2 | W 3 | W 4 | W 5 | W 6 | W 7 |
| 238044-001    |                   |     | *   | *   | *   |     | *   |
| -002          | *                 |     | *   | *   | *   |     | *   |
| -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          | *                 | *   |     |     |     | *   |     |



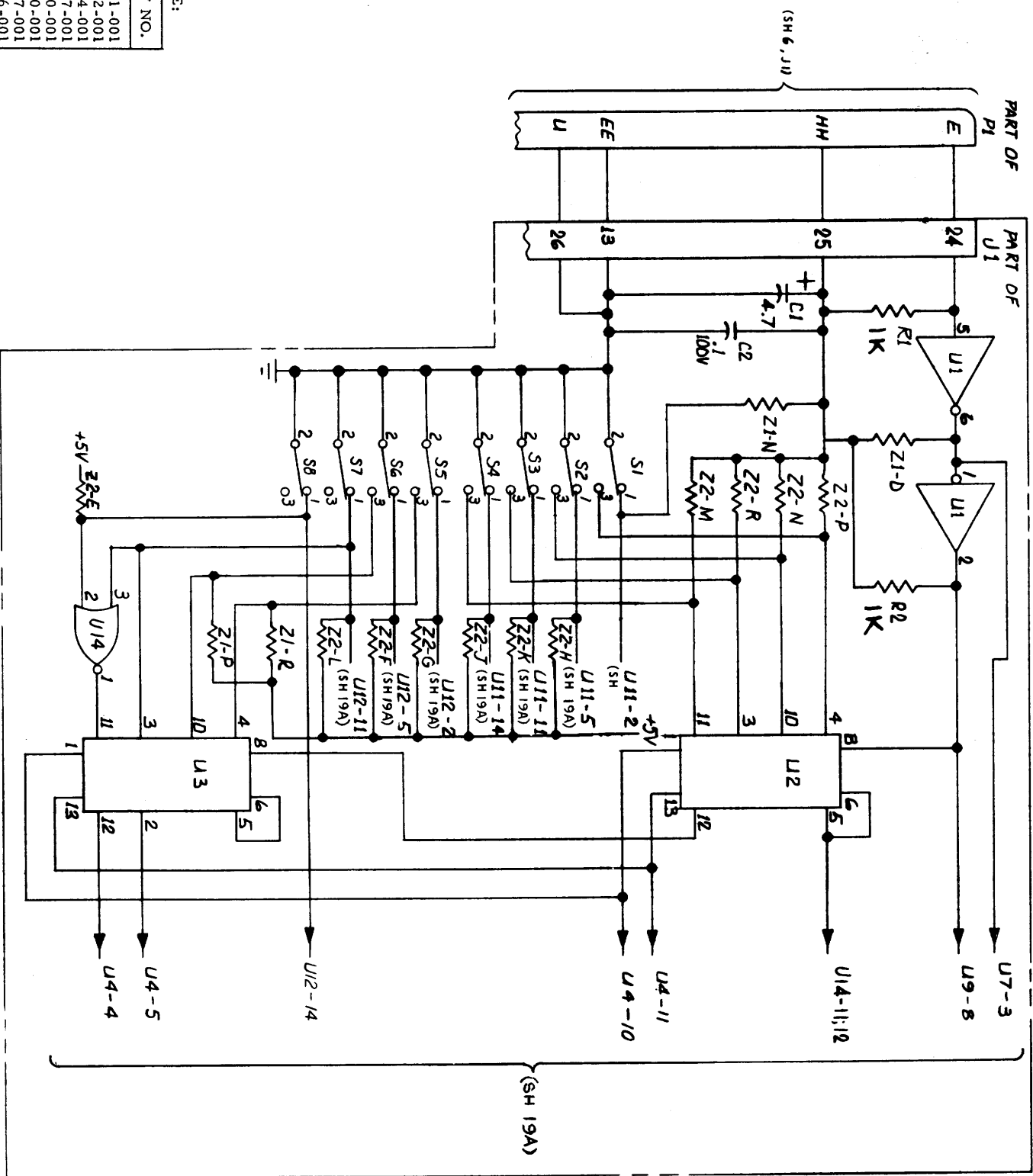
7. INTEGRATED CIRCUIT U1 IS 800024-001 (FIG. 4).
6. SCHEMATIC DRAWING NUMBERS 236859, REV B & 236842, REV A.
5. ASSEMBLY DRAWING NUMBERS 236855, REV J & 236841, REV C.
4. INTERPRET ELECTRONIC SYMBOLS PER 850026.
3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
2. ALL CAPACITANCE VALUES ARE IN MICROFARADS,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

NOTES: UNLESS OTHERWISE SPECIFIED

LOGIC DIAGRAM SHEET 17  
TAPE READER (OPTION)



LOGIC DIAGRAM SHEET 18  
ELAPSED TIME METER (OPTION)



8. INTEGRATED CIRCUITS ARE:

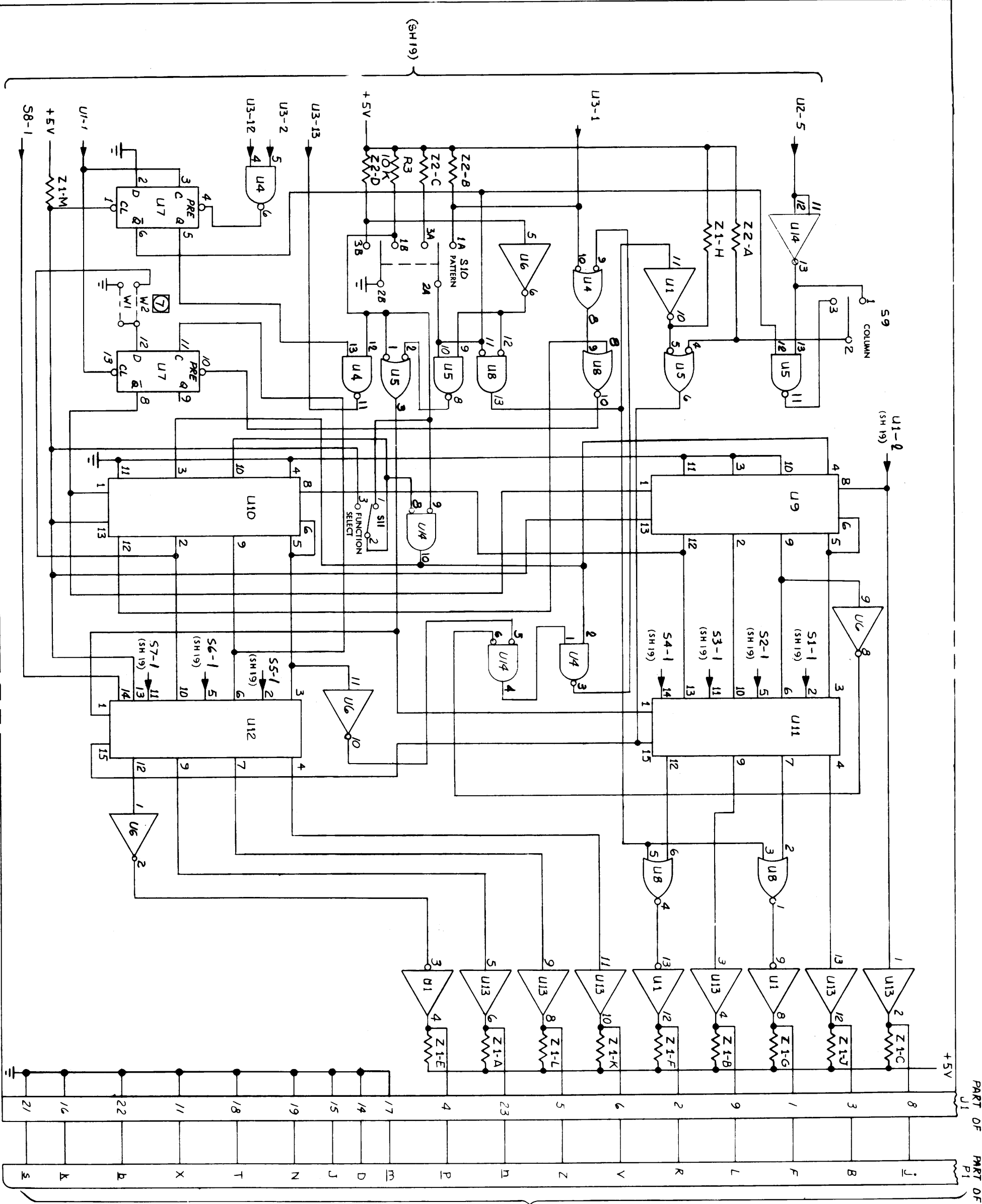
| REF DESIGNATION | PART NO.   |
|-----------------|------------|
| U1              | 800651-001 |
| U2, U3, U9, U10 | 801012-001 |
| U4, U5          | 800024-001 |
| U6              | 800387-001 |
| U7              | 800400-001 |
| U8, U14         | 800080-001 |
| U11, U12        | 800947-001 |
| U13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

REFER TO LOADING DIAGRAMS

- 7 JUMPER W1 INSTALLED FOR 64 CHAR DRUM TEST.
- JUMPER W2 INSTALLED FOR 96 CHAR DRUM TEST.

- 6. SCHEMATIC DRAWING NUMBER 235604, REV. F.
- 5. ASSEMBLY DRAWING NUMBER 237600, REV. F.
- 4. INTERPRET ELECTRONIC SYMBOLS PER 850026.
- 3. INTERPRET REFERENCE DESIGNATIONS PER 850027.
- 2. ALL CAPACITANCE VALUES ARE IN MICROFARADS, 10%, 10 V.
- 1. ALL RESISTANCE VALUES ARE IN OHMS, 5%, 1/4 W.

NOTES: UNLESS OTHERWISE SPECIFIED



LOGIC DIAGRAM SHEET 19A  
EXERCISER 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 DPC 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

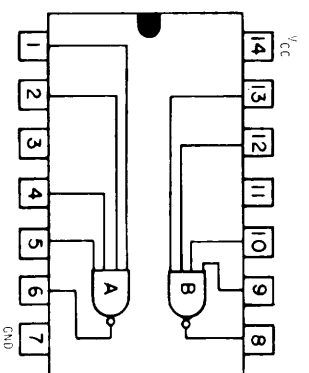
IC NUMBER TO FIGURE NUMBER

| IC   | Fig.  | IC   | Fig. | IC    | Fig. | IC    | Fig. |
|------|-------|------|------|-------|------|-------|------|
| 201A | 20    | 7400 | 4    | 7493  | 60   | 74163 | 74   |
| 339  | 73    | 7402 | 7    | 7494  | 39   | 74164 | 30   |
| 512  | 37    | 7403 | 4    | 7496  | 28   | 74175 | 75   |
| 565  | 55/56 | 7404 | 17   | 8200  | 19   | 74177 | 52   |
| 709C | 10    | 7406 | 17   | 8210  | 25   | 74180 | 51   |
| 710  | 58/59 | 7407 | 17   | 8220  | 18   | 74186 | 69   |
| 711C | 9/57  | 7408 | 80   | 8820A | 44   | 74192 | 38   |
| 723  | 66    | 7410 | 3    | 8830  | 45   | 74193 | 16   |
| 733  | 24    | 7414 | 17   | 9312  | 31   | 74221 | 53   |
| 741  | 32/33 | 7420 | 1    | 9318  | 50   | 74279 | 79   |
| 935  | 17    | 7426 | 4    | 9602  | 36   | 74393 | 68   |
| 944  | 41    | 7430 | 2    | 10124 | 82   | 74H01 | 4    |
| 946  | 4     | 7437 | 4    | 10125 | 81   | 74H05 | 17   |
| 1406 | 72    | 7440 | 1    | 72514 | 35   | 75107 | 27   |
| 1458 | 47/48 | 7442 | 15   | 74121 | 22   | 75109 | 26   |
| 2050 | 23    | 7450 | 6    | 74123 | 49   | 75140 | 70   |
| 2518 | 46    | 7453 | 5    | 74125 | 71   | 75450 | 34   |
| 3002 | 11    | 7474 | 21   | 74136 | 12   |       |      |
| 3003 | 11    | 7475 | 13   | 74148 | 50   |       |      |
| 3341 | 78    | 7476 | 8    | 74151 | 54   |       |      |
| 5020 | 83    | 7483 | 14   | 74153 | 76   |       |      |
| 5060 | 42    | 7486 | 12   | 74154 | 67   |       |      |
| 5203 | 65    | 7488 | 77   | 74155 | 39   |       |      |
| 7220 | 18    | 7489 | 40   | 74157 | 43   |       |      |

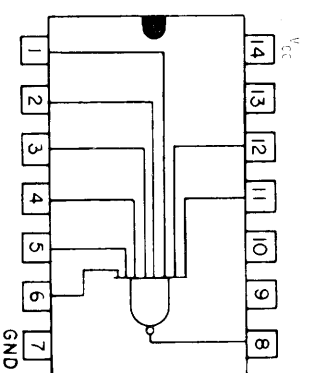
DPC PART NUMBER TO FIGURE NUMBER

| Part No.   | Fig. | Part No.   | Fig. | Part No.   | Fig. | Part No. | Fig. |
|------------|------|------------|------|------------|------|----------|------|
| 800020-    | 1    | 800481-    | 57   | 800920-    | 4    | 801180-  | 67   |
| 800021-    | 2    | 800491-    | 22   | 800940-    | 42   | 801186-  | 68   |
| 800022-    | 1    | 800499-    | 23   | 800947-    | 43   | 801209-  | 72   |
| 800023-    | 3    | 800503-    | 24   | 800949-    | 44   | 801219-  | 70   |
| 800024-    | 4    | 800512-    | 25   | 800950-    | 45   | 801220-  | 78   |
| 800025-    | 5    | 800526-    | 26   | 800951-    | 46   | 801221-  | 71   |
| 800026-    | 6    | 800527-    | 27   | 800952-001 | 47   | 801230-  | 17   |
| 800080-    | 7    | 800591-    | 60   | 800952-002 | 48   | 801231-  | 77   |
| 800081-    | 8    | 800638-    | 28   | 800956-    | 17   | 801242-  | 4    |
| 800186-    | 9    | 800639-    | 29   | 800959-    | 17   | 801257-  | 73   |
| 800195-    | 10   | 800651-    | 17   | 800979-    | 49   | 801278-  | 74   |
| 800232-    | 11   | 800698-    | 30   | 800998-    | 50   | 801279-  | 75   |
| 800233-    | 11   | 800703-    | 31   | 801000-    | 51   | 801280-  | 76   |
| 800370-    | 12   | 800732-001 | 32   | 801006-    | 61   | 801282-  | 81   |
| 800382-    | 13   | 800732-002 | 33   | 801007-    | 62   | 801283-  | 82   |
| 800383-    | 14   | 800741-    | 34   | 801008-    | 63   | 801300-  | 83   |
| 800385-    | 15   | 800788-    | 11   | 801009-    | 64   | 801308-  | 80   |
| 800386-    | 16   | 800805-    | 35   | 801012-    | 52   | 801309-  | 79   |
| 800387-    | 17   | 800806-    | 17   | 801014-    | 12   | 801310-  | 69   |
| 800393-    | 18   | 800810-    | 36   | 801023-    | 53   |          |      |
| 800394-    | 19   | 800814-    | 37   | 801077-    | 54   |          |      |
| 800398-    | 20   | 800818-    | 38   | 801100-    | 65   |          |      |
| 800399-001 | 58   | 800861-    | 39   | 801112-    | 4    |          |      |
| 800399-002 | 59   | 800862-    | 40   | 801113-    | 17   |          |      |
| 800400-    | 21   | 800882-    | 41   | 801114-001 | 55   |          |      |
| 800458-    | 11   | 800883-    | 4    | 801114-002 | 56   |          |      |
| 800480-    | 4    | 800916-    | 17   | 801179-    | 66   |          |      |

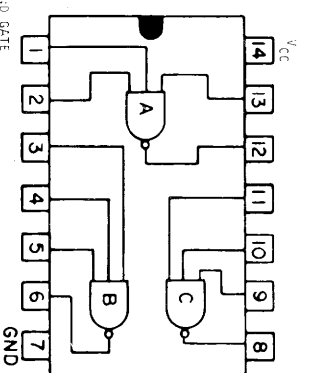
DUAL 4-INPUT  
NAND GATE  
800021-001 DPC 7400  
800022-002 (HERMETICALLY SEALED)  
DUAL 4-INPUT  
NAND BUFFER  
800022-001 DPC 7440  
800022-002 (HERMETICALLY SEALED)



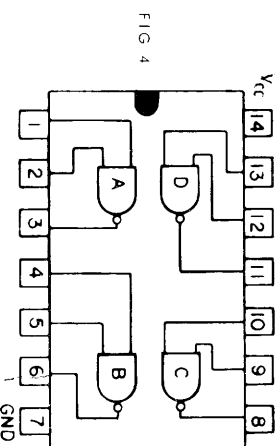
SINGLE 8 INPUT NAND GATE  
800021-001 DPC 7430  
800021-002 (HERMETICALLY SEALED)



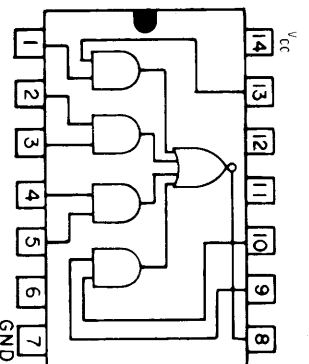
TRIPLE 3-INPUT  
NAND GATE  
800023-001 DPC 7410  
800023-002 (HERMETICALLY SEALED)



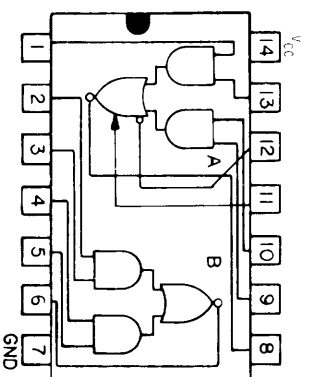
QUAD 3-INPUT NAND GATE  
800023-001 DPC 7400  
800023-002 (HERMETICALLY SEALED)  
QUAD 3-INPUT  
POSITIVE NAND GATE  
800023-001 DPC 7403  
800023-002 (HERMETICALLY SEALED)  
QUAD 3-INPUT  
POSITIVE NAND GATE  
(WITH OPEN-COLLECTOR OUTPUT)  
800112-001 DPC 7461  
800112-002 (HERMETICALLY SEALED)  
QUAD 3-INPUT  
POS. NAND BUFFER  
800112-001 DPC 7461  
800112-002 (HERMETICALLY SEALED)



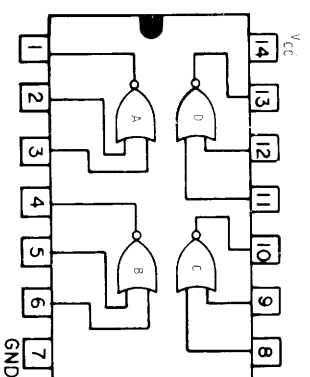
EXPANDABLE SINGLE 2-2-2-2 AND-OR-INVERT  
800025-001 DPC 7453  
800025-002 (HERMETICALLY SEALED)



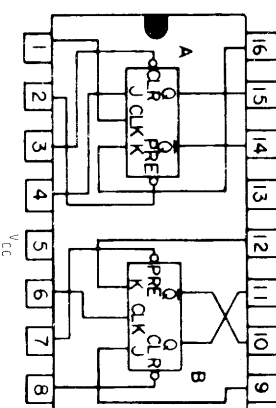
EXPANDABLE DUAL 2-WIDE 2-INPUT  
AND-OR-INVERT GATE  
800026-001 DPC 7450  
800026-002 (HERMETICALLY SEALED)



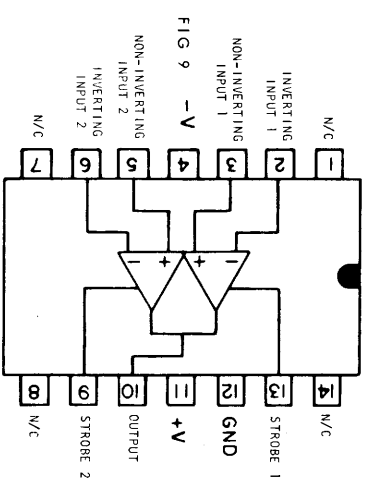
QUAD 2-INPUT  
NOR GATE  
800030-001 DPC 7402  
800030-002 (HERMETICALLY SEALED)



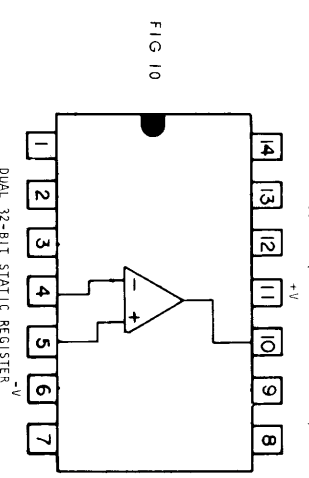
DUAL J-K FLIP FLOP  
800081-001 DPC 7476  
800081-002 (HERMETICALLY SEALED)



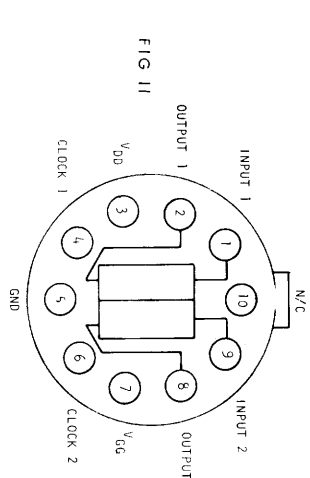
DUAL DIFFERENTIAL COMPARATOR  
800186-001 DPC 711C  
800186-002 (HERMETICALLY SEALED)



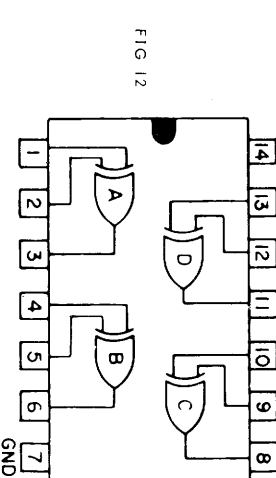
OPERATIONAL AMPLIFIER  
800195-001 DPC 709C  
800195-002 (HERMETICALLY SEALED)



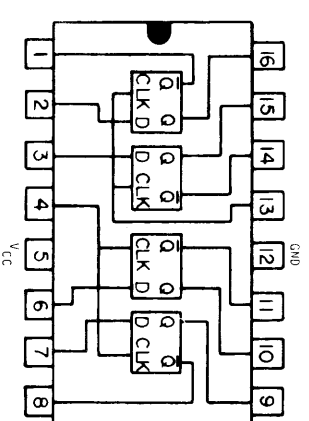
DUAL 32-BIT STATIC REGISTER  
800233-001  
800233-002 (HERMETICALLY SEALED)  
DUAL 25-BIT STATIC REGISTER  
800232-001  
800232-002 (HERMETICALLY SEALED)  
DUAL 100-BIT STATIC REGISTER  
800458-001 DPC 3003  
800458-002 (HERMETICALLY SEALED)  
MOS DUAL 50-BIT STATIC SHIFT REGISTER  
800788-001 DPC 3002  
N/C



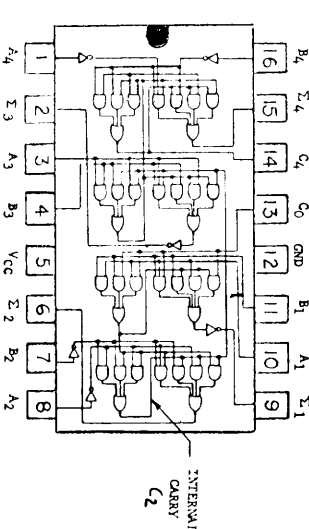
QUAD 2-INPUT EXCLUSIVE-OR GATE  
800370-001 DPC 7486  
800370-002 (HERMETICALLY SEALED)  
QUAD 2-INPUT EXCLUSIVE-OR GATE W/OPEN COL.  
800440-001 DPC 74136  
800440-002 (HERMETICALLY SEALED)



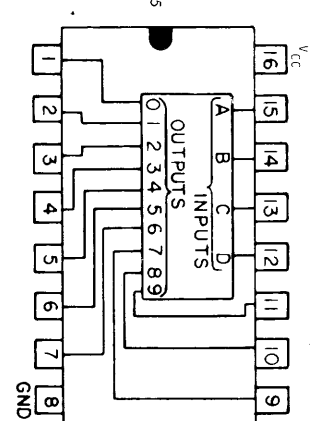
QUAD BISTABLE LATCH  
800382-001 DPC 7475  
800382-002 (HERMETICALLY SEALED)



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



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



LOADING DIAGRAM SHEET 1  
FIGURES 1 THROUGH 15

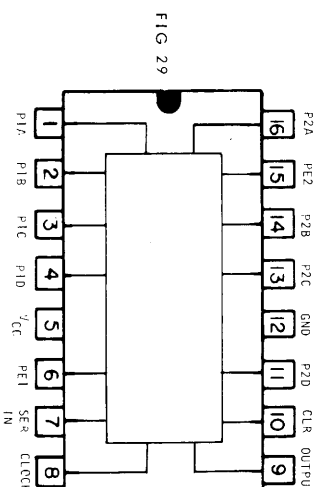
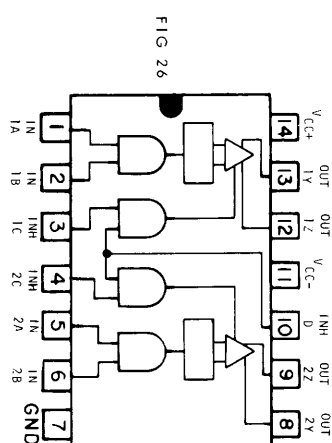
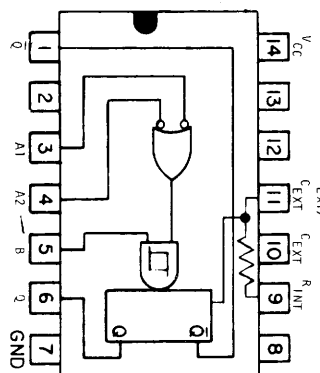
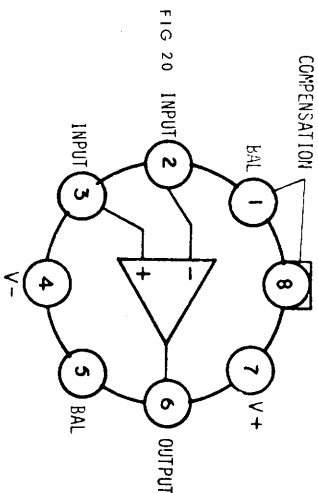
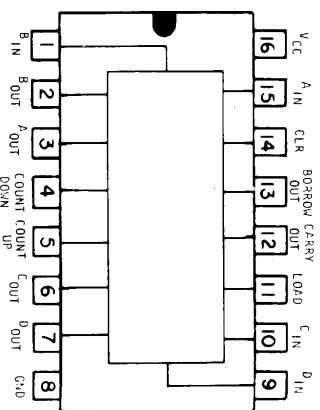
UP/DOWN BINARY COUNTER  
800386-001 DPC 74193  
800386-002 (HERMETICALLY SEALED)

OPERATIONAL AMPLIFIER, HI PERFORMANCE  
800398-001 DPC 201A

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

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

4-BIT SHIFT REGISTER  
800533-001 DPC 7494  
800533-002 (HERMETICALLY SEALED)



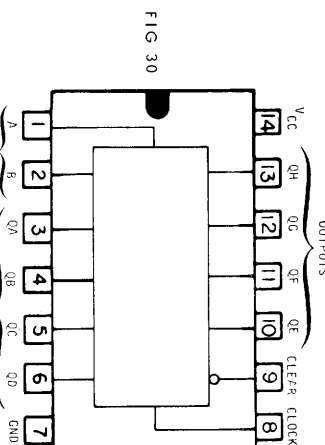
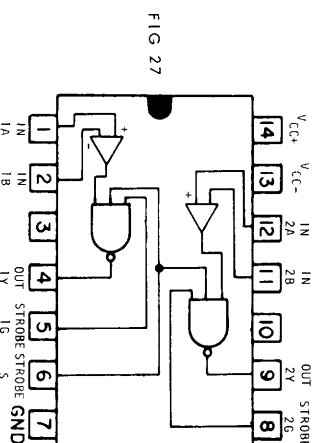
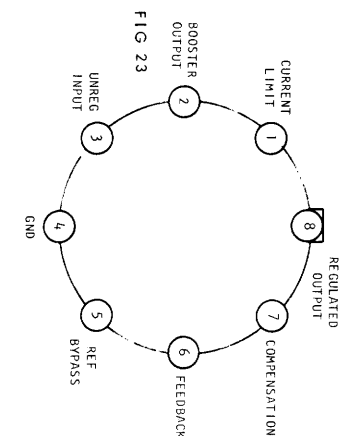
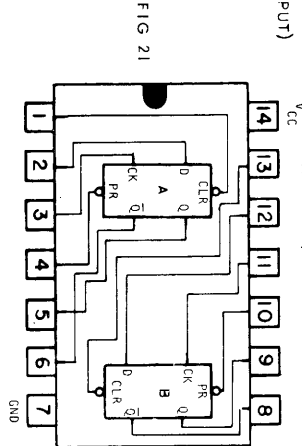
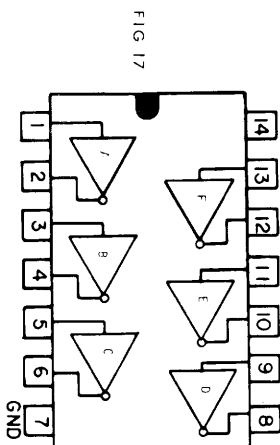
HEX INVERTERS  
800387-001 DPC 7404  
800387-002 (HERMETICALLY SEALED)  
DUAL HEX INVERTER EXTENDABLE  
800355-001 DPC 335  
800355-002 (HERMETICALLY SEALED)  
HEX INVERTER, BUFFER  
800315-001  
800315-002 (HERMETICALLY SEALED)  
HEX BUFFER/DRIVER  
800806-001 DPC 7407  
800806-002 (HERMETICALLY SEALED)

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

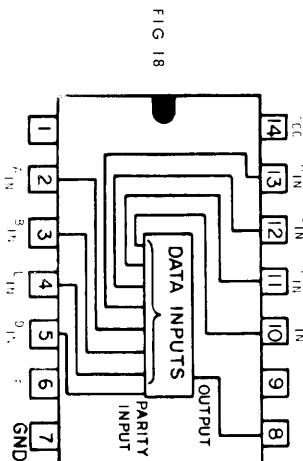
VOLTAGE REGULATOR  
800499-001 DPC 2050

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

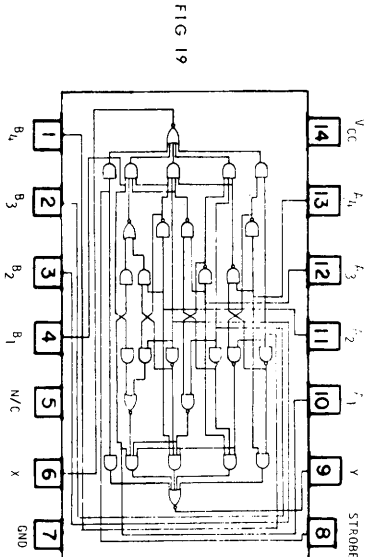
8-BIT S-I-N, P-OUT, SHIFT REGISTER  
800638-001 DPC 74164  
800638-002 (HERMETICALLY SEALED)



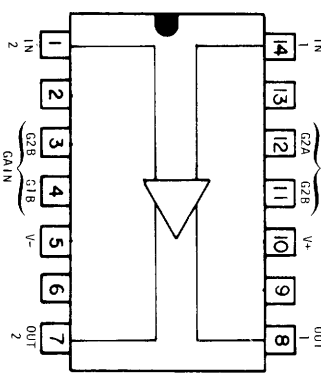
PARITY GENERATOR AND CHECKER  
800393-001 DPC 7220/8220  
800393-002 (HERMETICALLY SEALED)



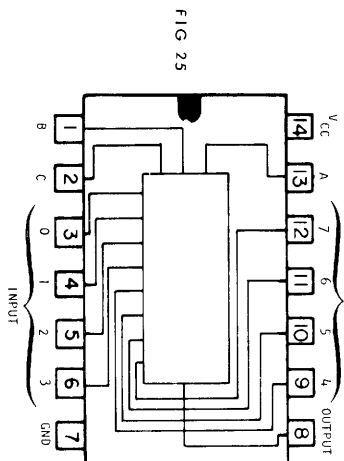
FOUR BIT COMPARATOR  
800394-001 DPC 8200  
800394-002 (HERMETICALLY SEALED)



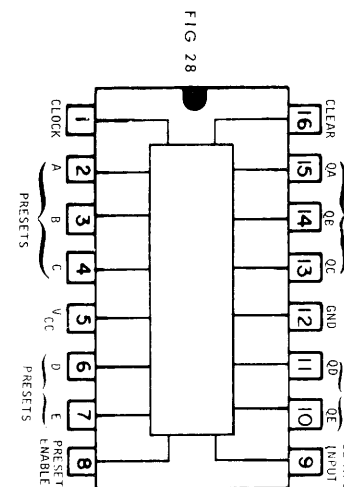
VIDEO AMPLIFIER  
800503-001 DPC 733  
800503-002 (HERMETICALLY SEALED)



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

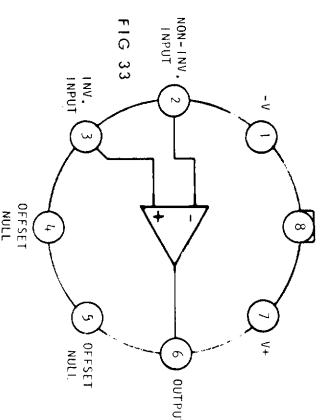
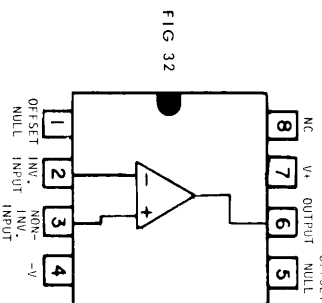


5-BIT SHIFT REGISTER  
800638-001 DPC 7496  
800638-002 (HERMETICALLY SEALED)



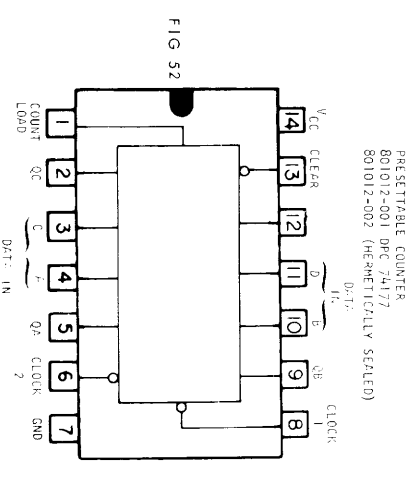
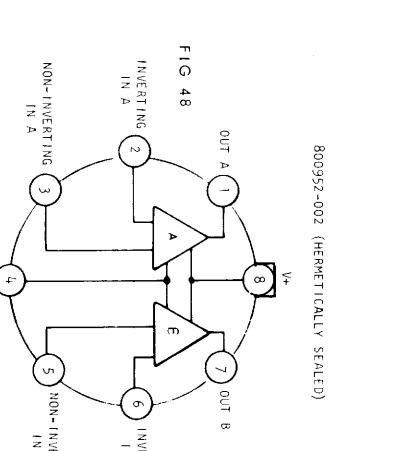
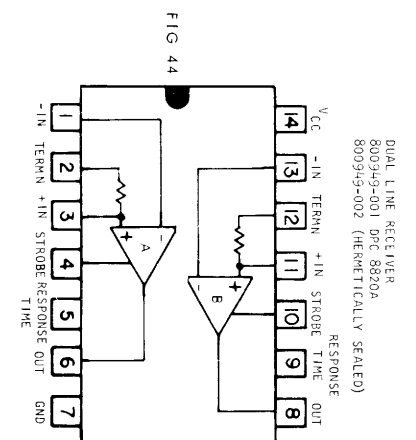
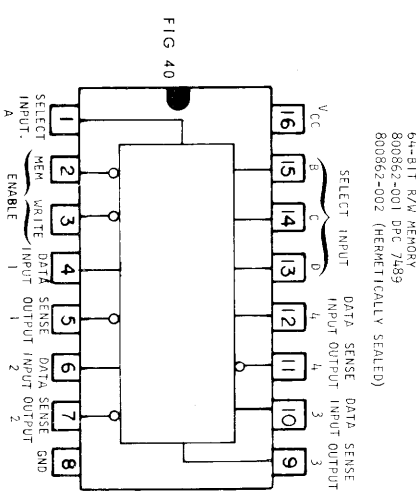
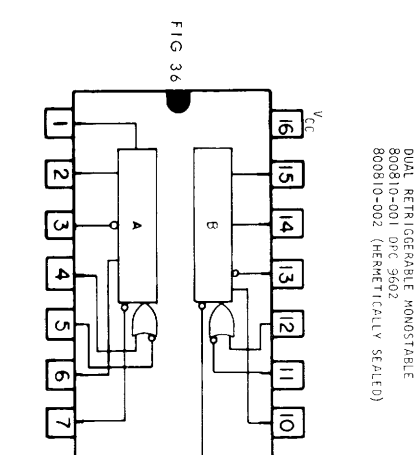
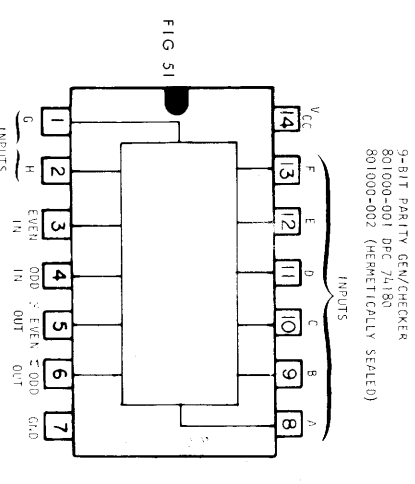
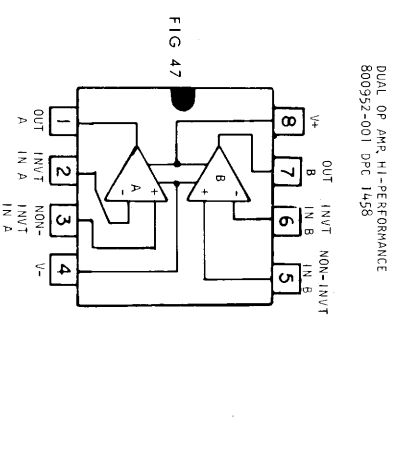
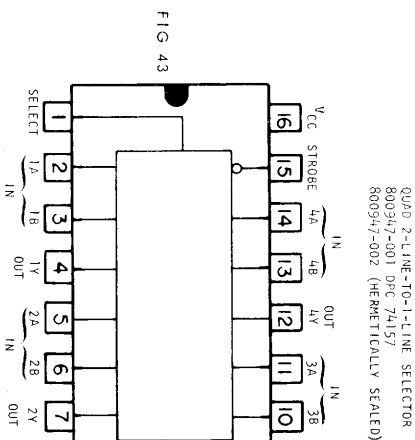
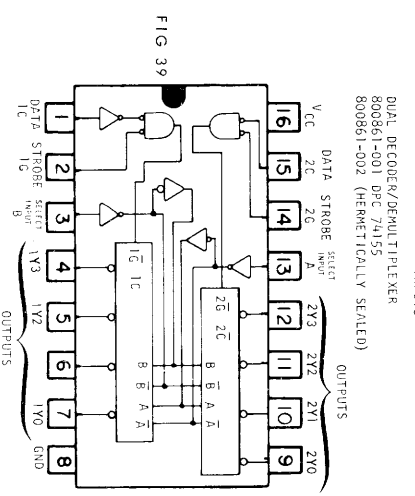
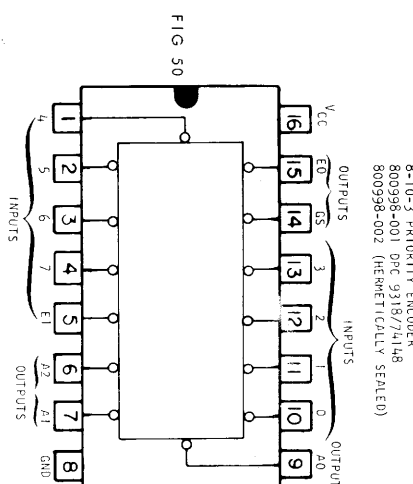
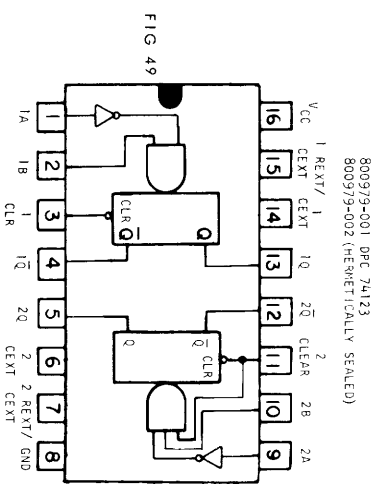
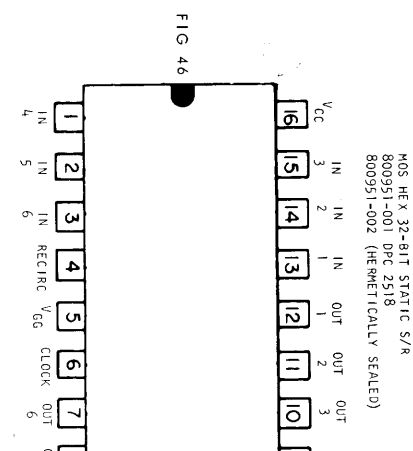
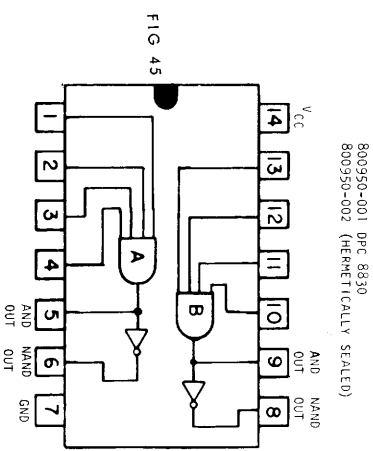
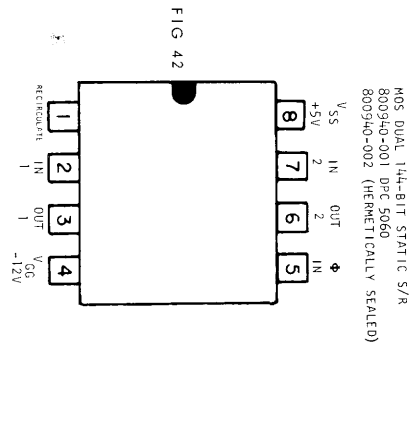
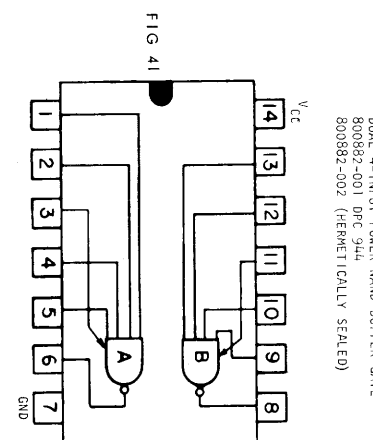
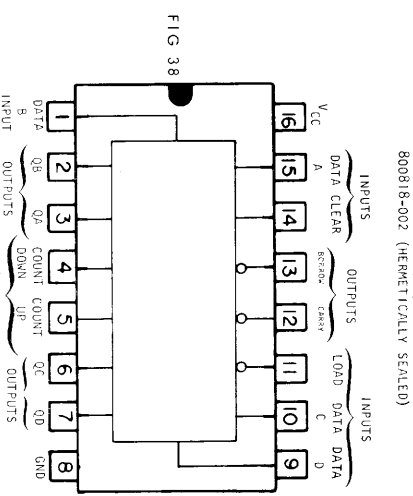
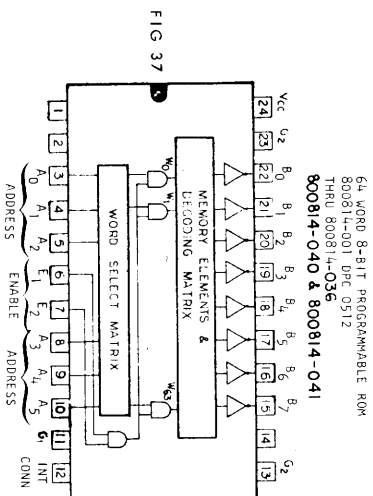
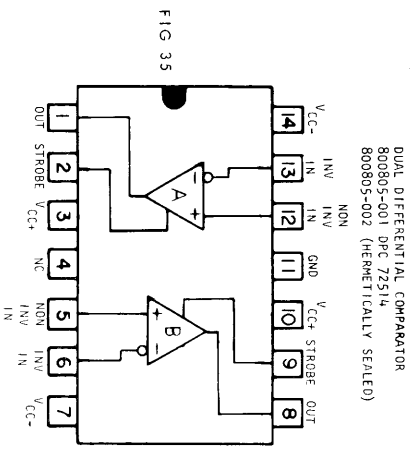
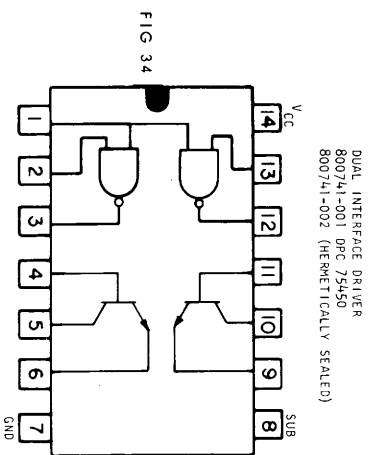
OPERATIONAL AMPLIFIER  
800732-001 DPC 741

800732-002 (HERMETICALLY SEALED)



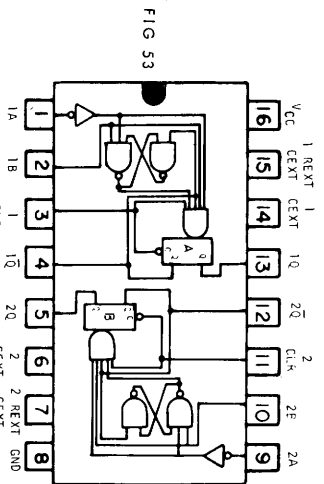
## LOADING DIAGRAM SHEET 2

### FIGURES 16 THROUGH 33

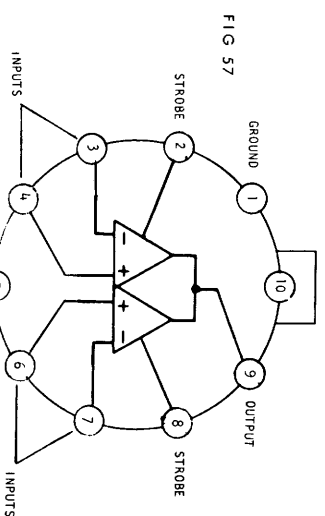


LOADING DIAGRAM SHEET 3  
FIGURES 34 THROUGH 52

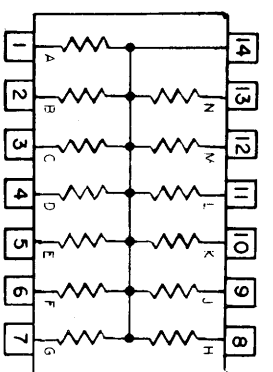
DUAL MONOSTABLE MULTIVIBRATOR w/CLEAR  
801023-001 DPC 74221  
801023-002 (HERMETICALLY SEALED)



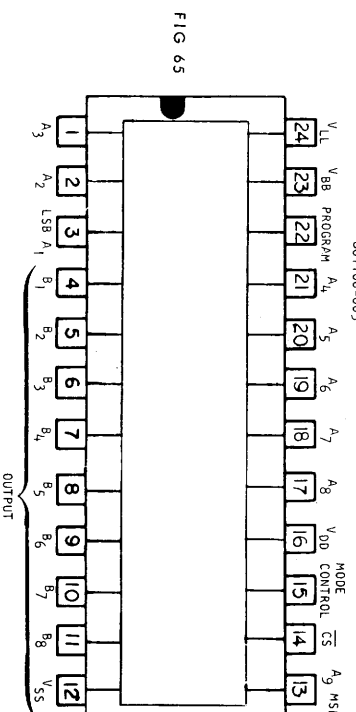
DUAL DIFFERENTIAL COMPARATOR  
800481-001 DPC 711C



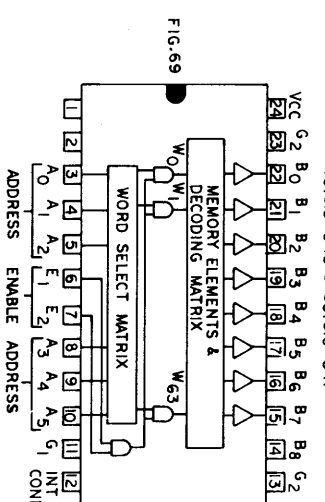
RESISTOR, NETWORK PULL-UP,  
13 RESISTORS  
801006-



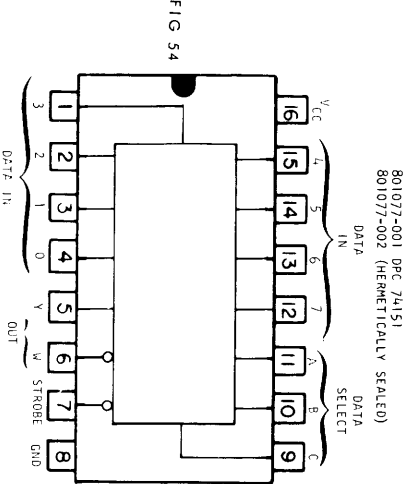
2048-BIT STATIC READ ONLY MEMORY (PROM)  
801100-001 DPC 5203  
801100-002  
801100-003



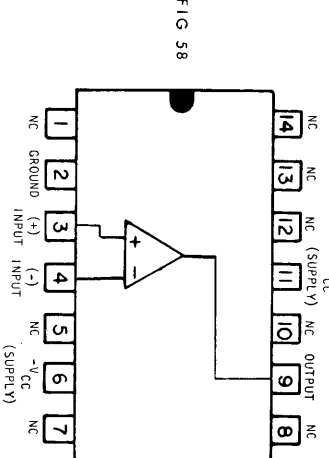
64 WORD 8-BIT PROGRAMMABLE ROM  
801310-001 DPC 74186  
THRU 801310-036  
801310-040 & 801310-041



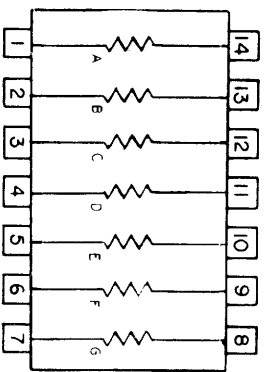
DATA SELECTOR/MULTIPLEXER  
801077-001 DPC 74151  
801077-002 (HERMETICALLY SEALED)



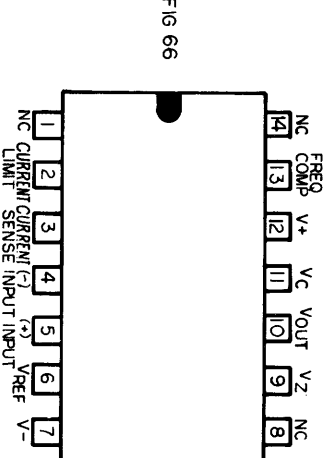
DIFFERENTIAL COMPARATOR  
800399-001 DPC 710



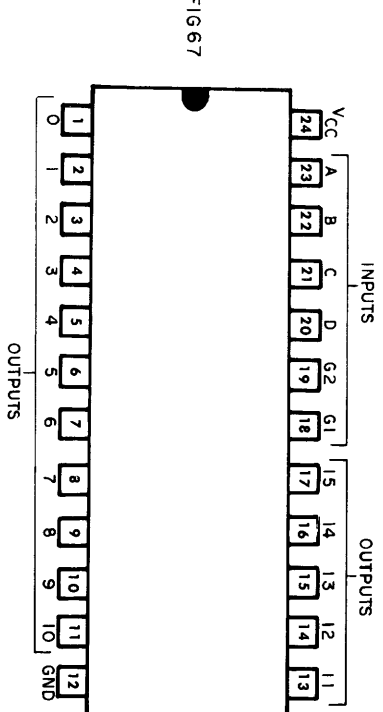
RESISTOR, NETWORK FEED-THRU,  
8 RESISTORS  
801007-



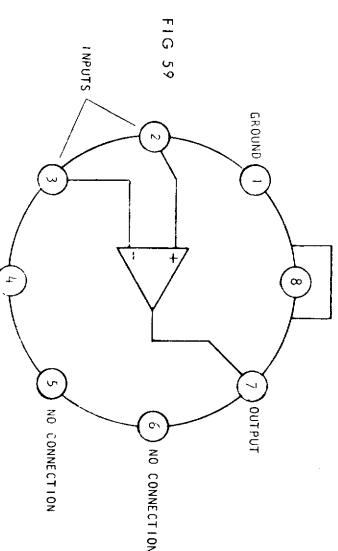
VOLTAGE REGULATOR  
801179-001-002



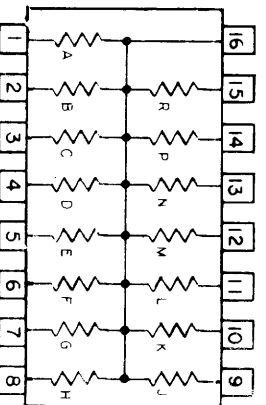
4-LINE-TO-16-LINE DECODER/DEMULPLEXER  
801180-001-002



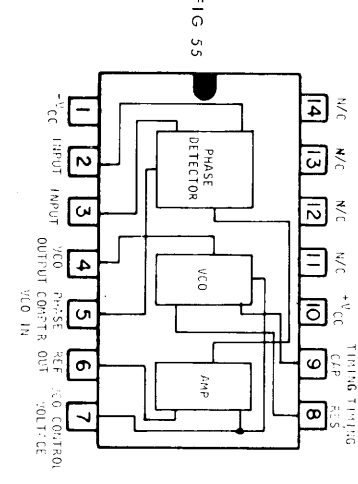
800399-002 (HERMETICALLY SEALED)



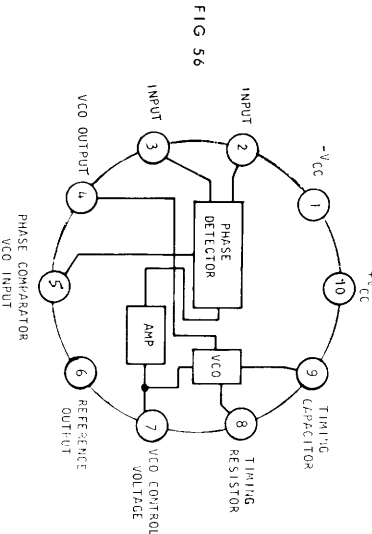
RESISTOR, NETWORK PULL-UP,  
15 RESISTORS  
801008-



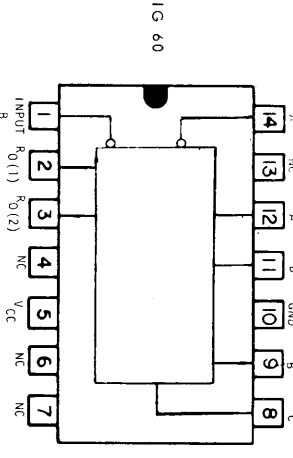
PHASE LOCKED LOOP  
801114-001 DPC 565



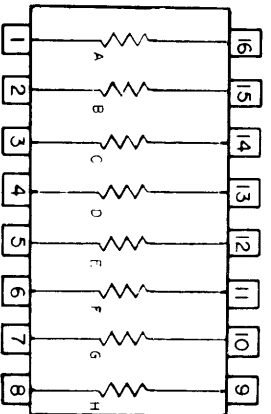
801114-002 (HERMETICALLY SEALED)



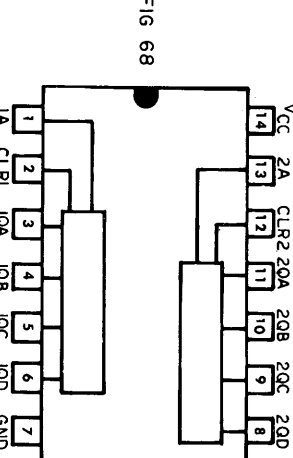
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800531-001 DPC 7493  
800531-002 (HERMETICALLY SEALED)

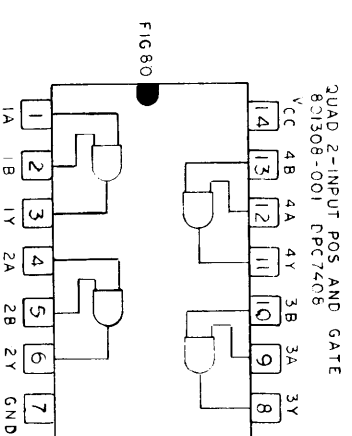
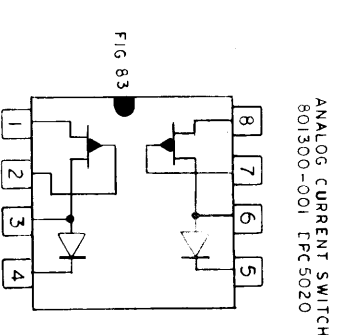
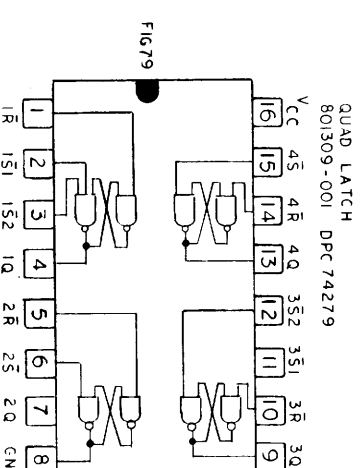
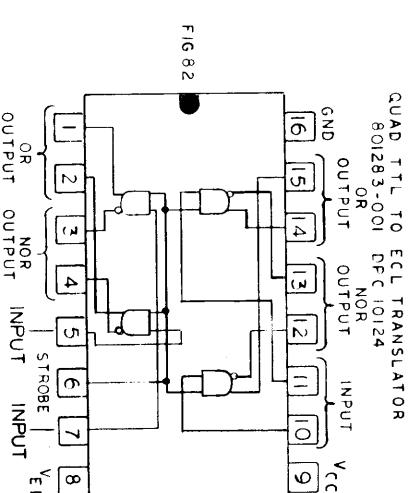
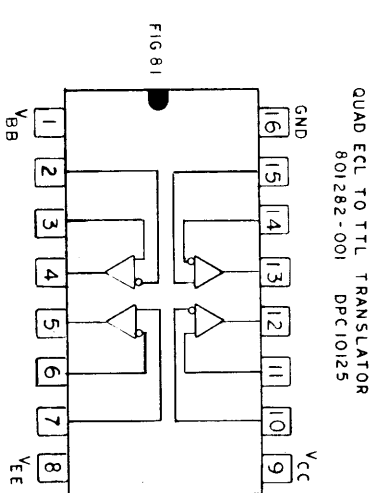
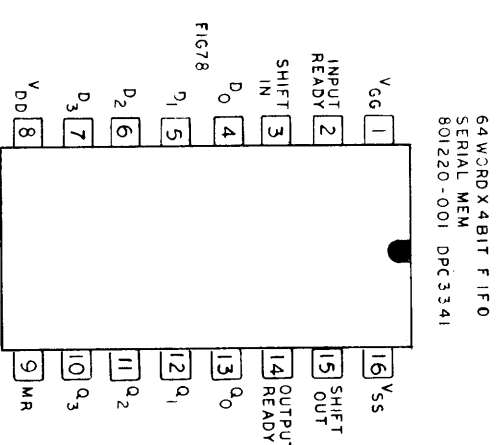
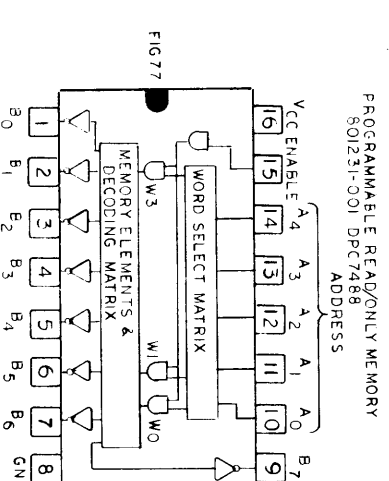
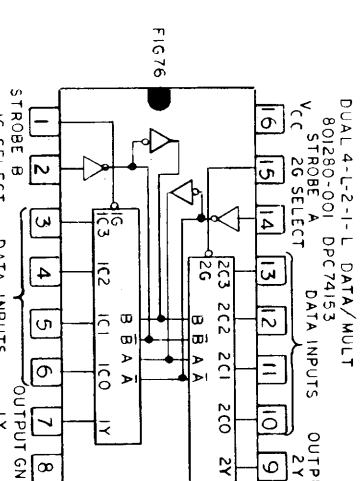
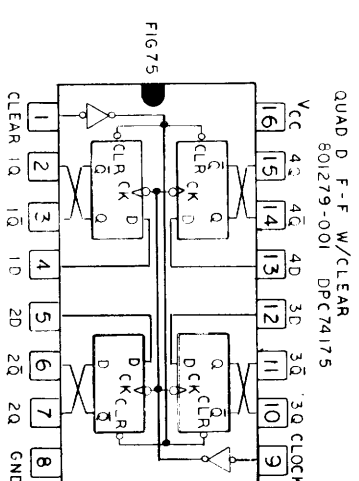
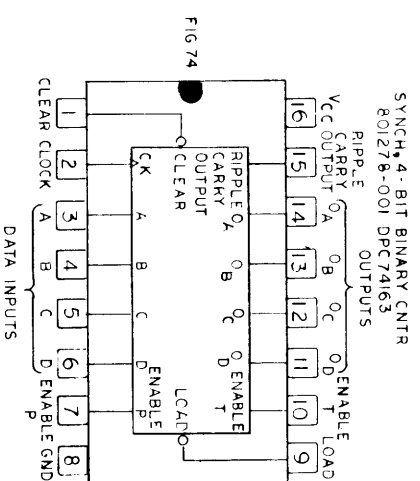
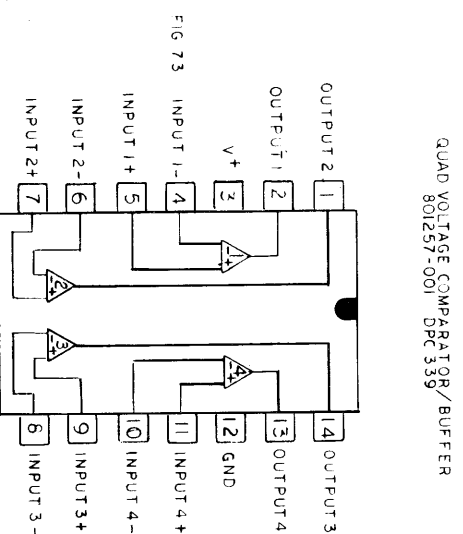
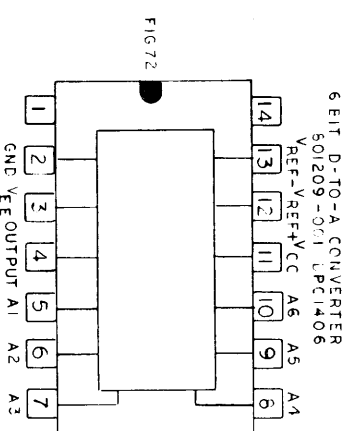
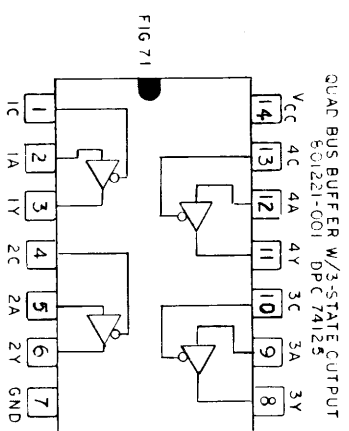
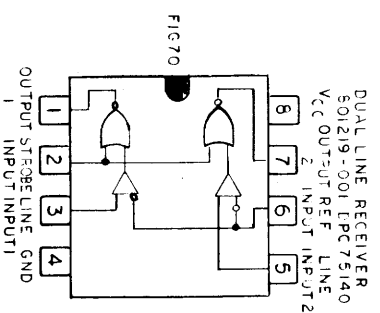


RESISTOR, NETWORK FEED-THRU,  
8 RESISTORS  
801009-



DUAL 4-BIT BINARY COUNTER  
801186-001-002





LOADING DIAGRAM SHEET 5  
FIGURES 70 THROUGH 83

# 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.

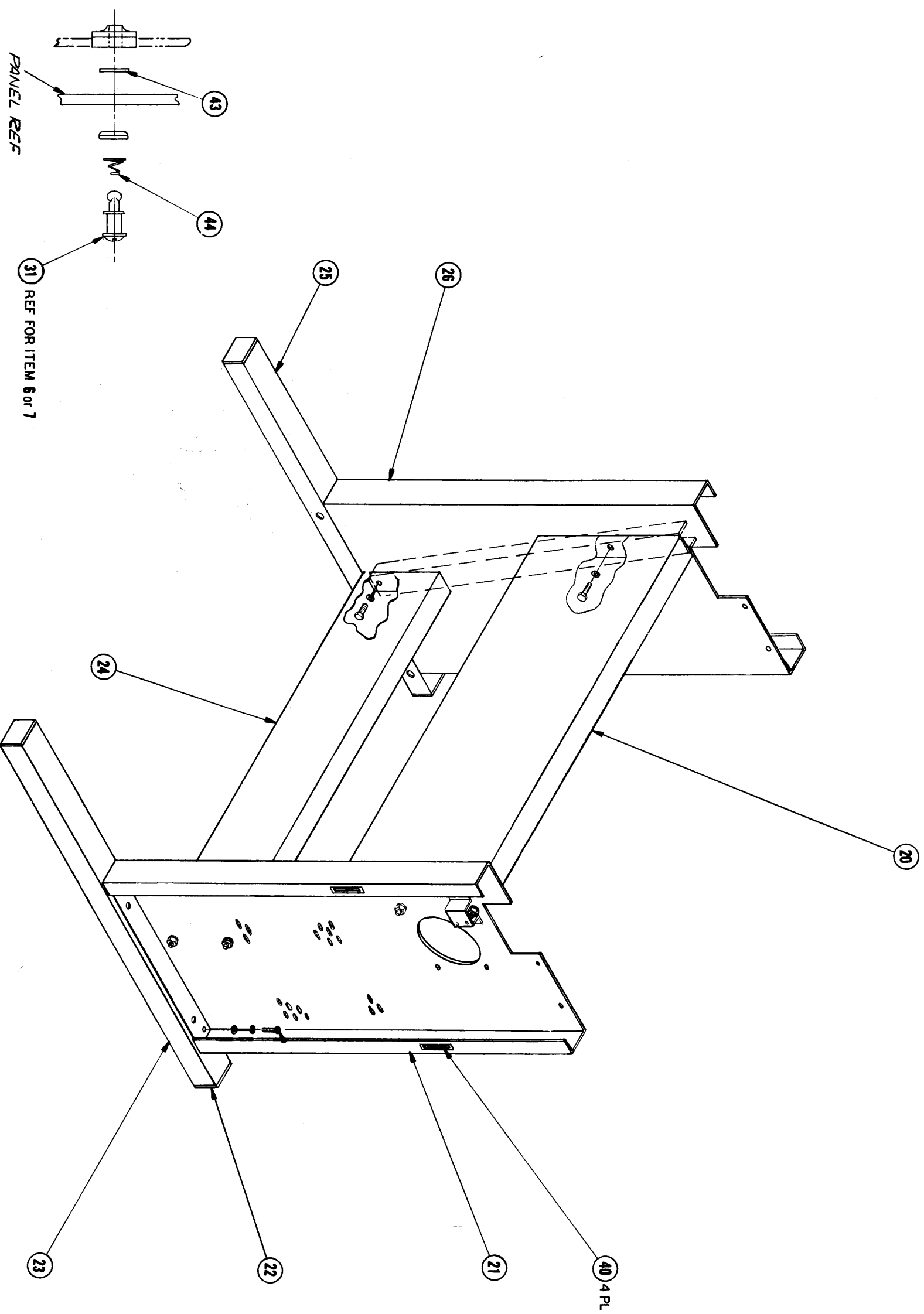
#### PARTS LIST AND LOCATION DRAWING INDEX

| 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            |





DETAIL C  
6 PLACES

Figure 9-1 (Sheet 2 of 4)  
Printer Assembly

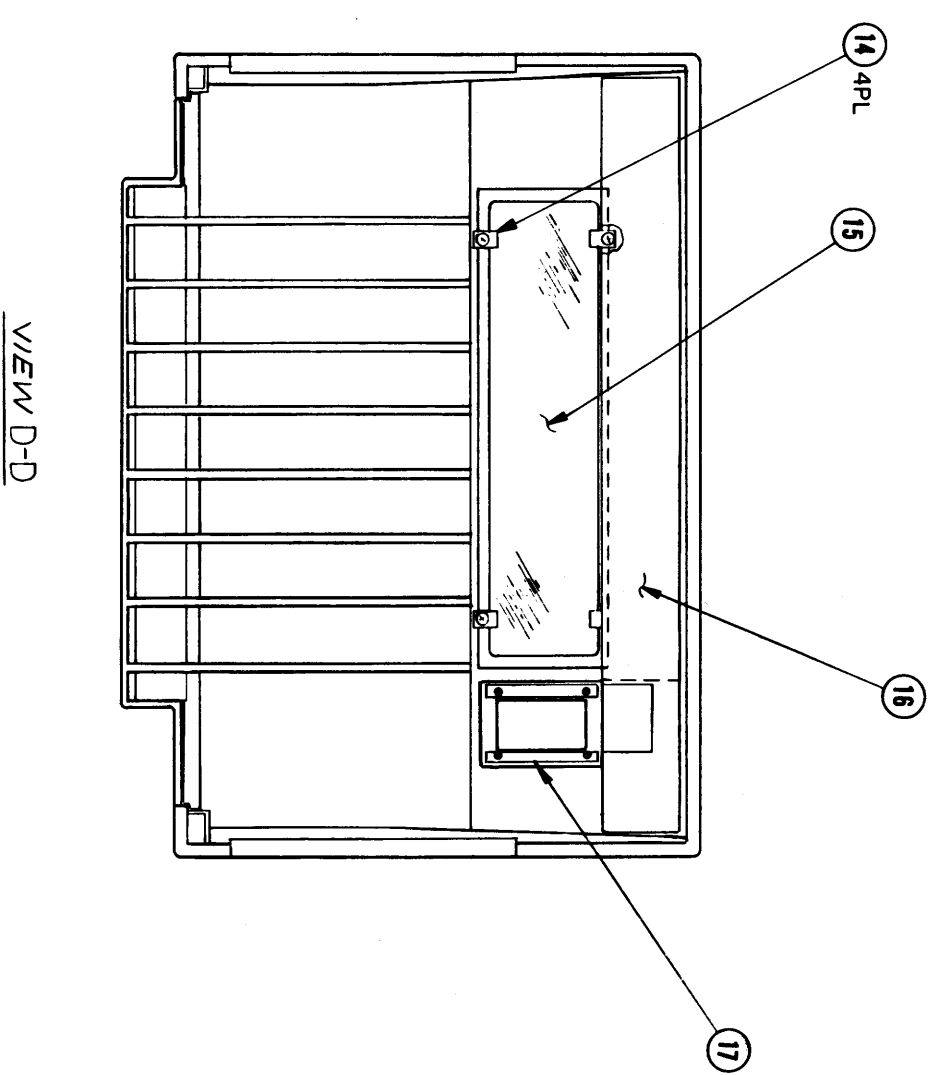
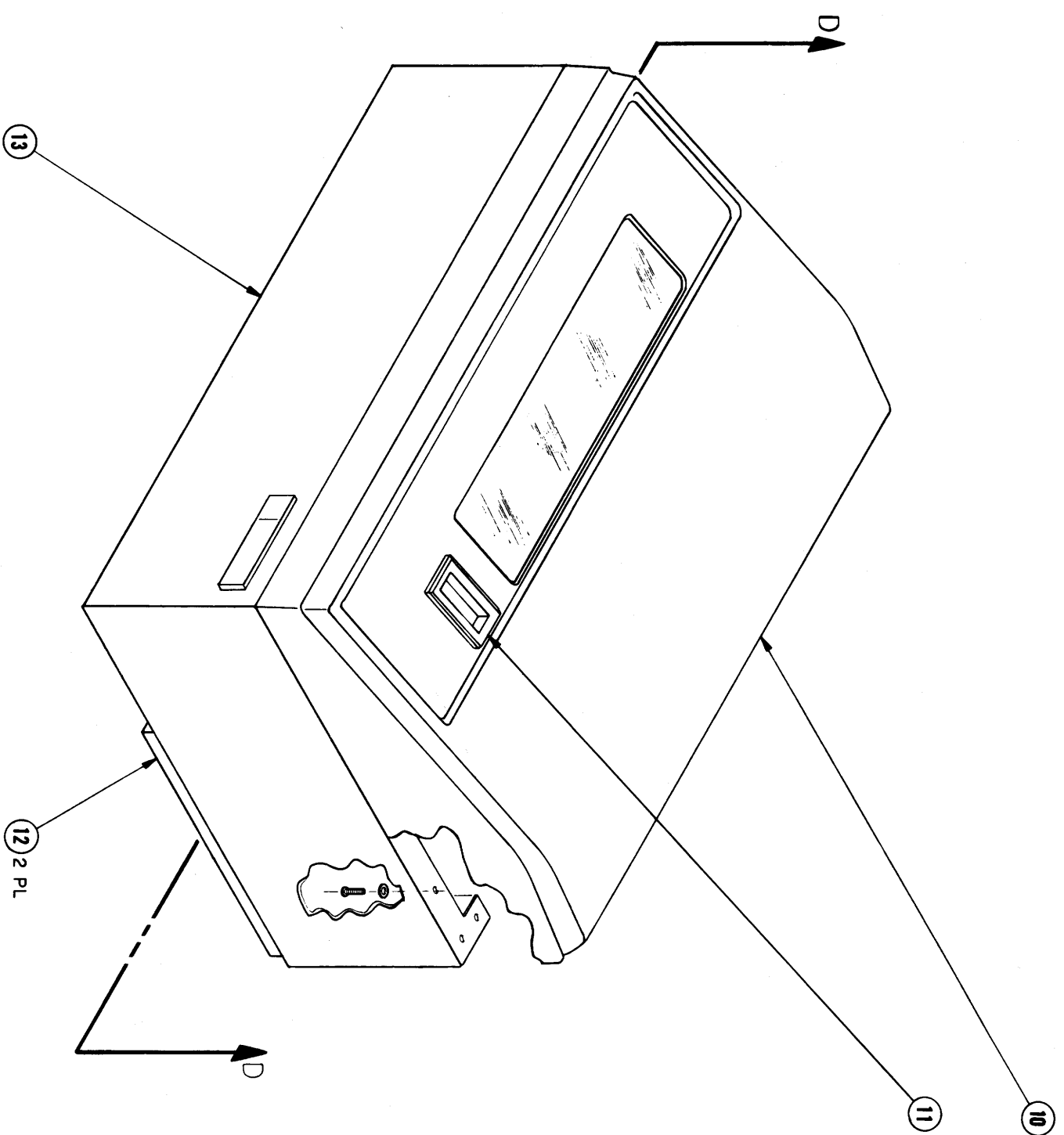
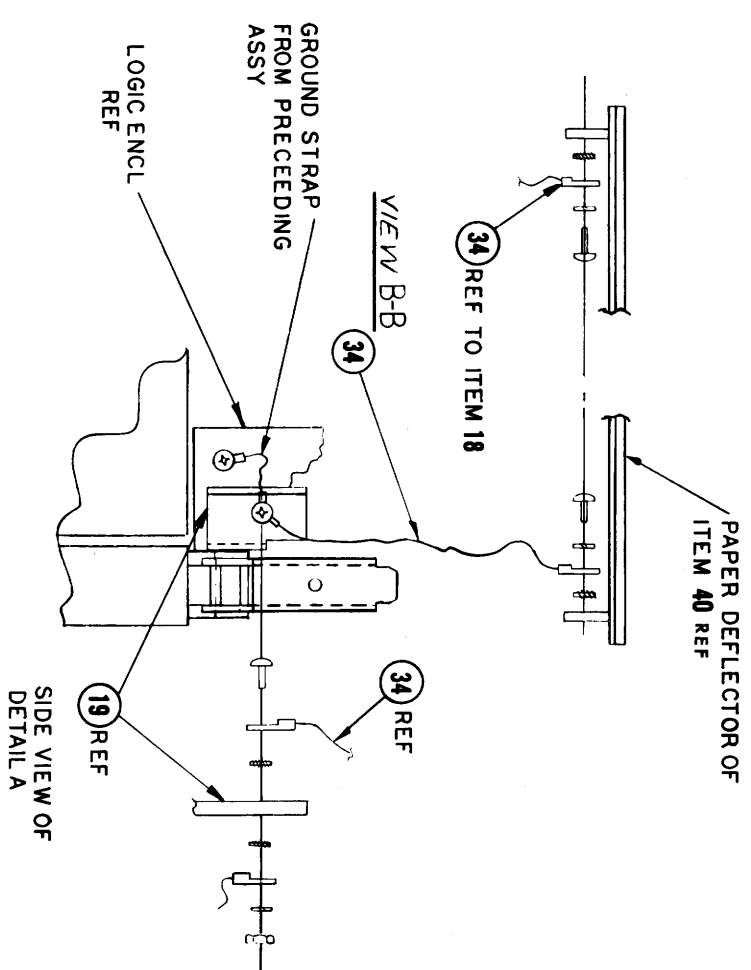
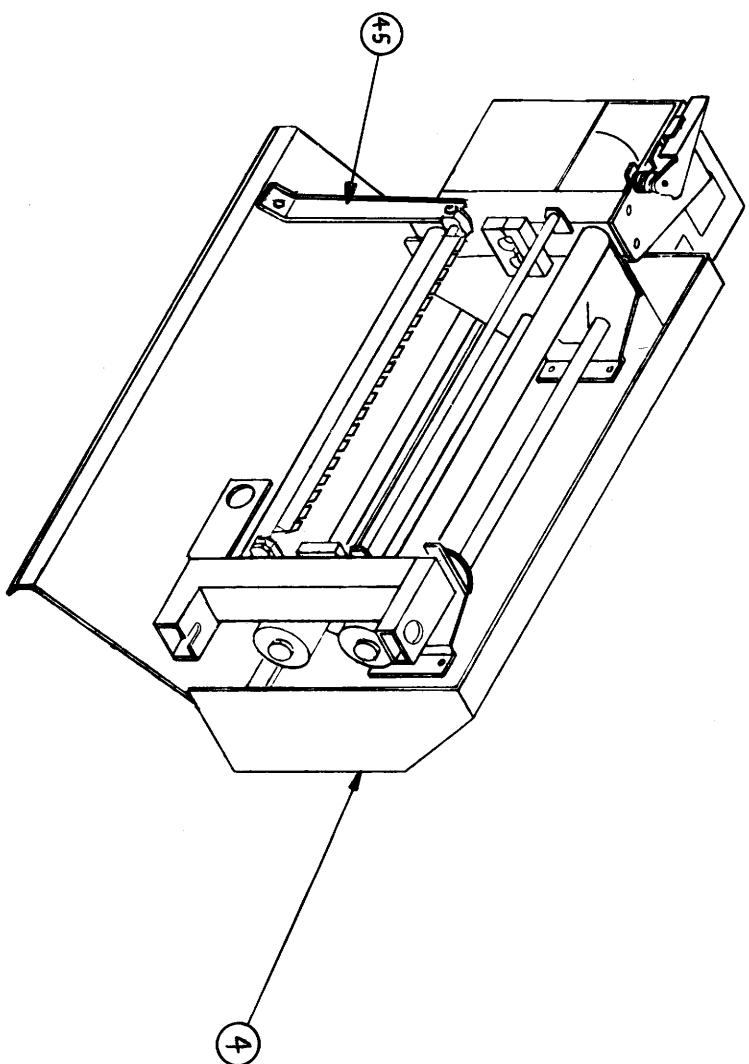


Figure 9-1 (Sheet 3 of 4)  
Printer Assembly



DETAIL A  
VIEWED FROM REAR

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

TABLE 9-1. PRINTER ASSEMBLY

| Figure & Index No. | Description                            | Reference Designator | Part No.    | Qty |
|--------------------|----------------------------------------|----------------------|-------------|-----|
| Fig. 9-1           | Printer Assembly                       |                      | 237530-001  | REF |
| 1.                 | Cabinet Assy (Ref Items 2 - 9)         |                      | 238060-001* | 1   |
| 2.                 | Printer Cover Assy (Ref Items 10 - 16) |                      | 241394-001* | 1   |
| 3.                 | Pedestal Assy (Ref Items 18 - 26)      |                      | 238038-001* | 1   |
| 4.                 | Cover Assy, Drum Gate                  |                      | 241392-001* | 1   |
| 5.                 | Thumbscrew                             |                      | 235157-101* | 2   |
| 6.                 | Panel Assy, Rear                       |                      | 242002-002* | 1   |
| 7.                 | OMITTED                                |                      |             |     |
| 8.                 | Panel Assy, Side Cover, RH             |                      | 241390-002* | 1   |
| 9.                 | Panel Assy, Side Cover, LH             |                      | 241390-001* | 1   |
| 10.                | Cover, Upper                           |                      | 243023-101* | 1   |
| 11.                | Bezel, Control Panel                   |                      | 235564-101* | 1   |
| 12.                | Stop, Top Cover                        |                      | 240813-002  | 2   |
| 13.                | Cover, Lower                           |                      | 240060-101* | 1   |
| 14.                | Clamp, Window                          |                      | 242989-001  | 4   |
| 15.                | Window, Top Cover                      |                      | 243027-001  | 1   |
| 16.                | Foam, Top Cover                        |                      | 237997-022  | 1   |
| 17.                | Retainer, Bezel, Cont Sw               |                      | 235565-001  | 2   |
| 18.                | Hinge Assy, RH (Ref Fig. 9-2)          |                      | 243390-001  | 1   |
| 19.                | Hinge Assy, LH (Ref Fig. 9-2)          |                      | 243390-002  | 1   |
| 20.                | Panel, Front, Upper                    |                      | 237568-101* | 1   |
| 21.                | Leg, Base, RH                          |                      | 237574-102* | 1   |
| 22.                | Bumper Glide                           |                      | 800765-005  | 4   |

TABLE 9-1. PRINTER ASSEMBLY (Cont'd)

| Figure & Index No. | Description                     | Reference Designator | Part No.    | Qty |
|--------------------|---------------------------------|----------------------|-------------|-----|
| 23.                | Foot, Pedestal, RH              |                      | 237430-002  | 1   |
| 24.                | Panel, Horizontal               |                      | 235631-101* | 1   |
| 25.                | Foot, Pedestal, LH              |                      | 237430-001  | 1   |
| 26.                | Leg, Base, LH                   |                      | 237574-101* | 1   |
| 27.                | Omitted                         |                      |             |     |
| 28.                | Omitted                         |                      |             |     |
| 29.                | Omitted                         |                      |             |     |
| 30.                | Deflector, Paper, Lower         |                      | 236772-001  | 1   |
| 31.                | Stud, Fastener                  |                      | 800268-005  | 6   |
| 32.                | Clip, Paper Deflector           |                      | 241530-001  | 2   |
| 33.                | OMITTED                         |                      |             |     |
| 34.                | Strap, Ground, 10" Lg           |                      | 237461-005  | 2   |
| 35.                | Strap, Ground, 15" Lg           |                      | 237461-021  | 1   |
| 36.                | Duct, Venturi                   |                      | 237629-001  | 1   |
| 37.                | Pin, Panel                      |                      | 214417-001  | 4   |
| 38.                | Scabbard                        |                      | 237726-001  | 1   |
| 39.                | Operator Manual                 |                      | 239886-001  | 1   |
| 40.                | Fastener, Magnetic Catch        |                      | 800388-102  | 4   |
| 42.                | Printer Sub Assy (Ref Fig. 9-3) |                      | 237536-001  | 1   |
| 43.                | Stud, Fastener                  |                      | 800270-005  | 6   |
| 44.                | Spring, Ejector                 |                      | 800235-005  | 6   |
| 45.                | Bracket, Ribbon Cover           |                      | 236826-001  | 1   |

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

TABLE 9-2. HINGE ASSEMBLY

| Figure &<br>Index No. | Description                                    | Reference<br>Designator | Part No.                 | Qty<br>* |
|-----------------------|------------------------------------------------|-------------------------|--------------------------|----------|
| Fig. 9-2              | Hinge Assembly<br>Right Hand<br>Left Hand      |                         | 243390-001<br>243390-002 | REF      |
|                       | 1. Bracket, Upper                              |                         | 243327-001               | 1, 1     |
|                       | 2. Bushing, Damper Rod                         |                         | 234050-001               | 2, 2     |
|                       | 3. Damper Rod, Hinge Assy                      |                         | 243454-001               | 1, 1     |
|                       | 4. Pivot Block                                 |                         | 234052-001               | 1, 1     |
|                       | 5. Pin, Pivot                                  |                         | 234055-001               | 1, 1     |
|                       | 6. Pin, Pivot                                  |                         | 234055-002               | 1, 1     |
|                       | 7. Washer, Cap Spring                          |                         | 234087-001               | 4, 4     |
|                       | 8. Spring, Inner Damping                       |                         | 234459-001               | 2, 2     |
|                       | 9. Bracket Assy, Lower, RH                     |                         | 243384-001               | 1        |
|                       | 10. Bracket Assy, Lower, LH                    |                         | 243384-002               | 1        |
|                       | 11. Nut, Sw, 8-32                              |                         | 801098-832               | 2, 2     |
|                       | 12. Screw, Pan Hd, Phil,<br>8-32 x .75 Lg      |                         | 800073-412               | 2, 2     |
|                       | 13. Lockwasher, Split, Helical,<br>No. 8       |                         | 800175-004               | 2, 2     |
|                       | 14. Nut, Hex, Self Locking,<br>1/4-20          |                         | 800218-001               | 2, 2     |
|                       | 15. Retainer Ring, Ext Grip,<br>.250 Dia Shaft |                         | 800254-025               | 1, 1     |
|                       | 16. Receptacle                                 |                         | 800269-002               | 1, 1     |
|                       | 17. Spring, Compression                        |                         | 800279-025               | 2, 2     |

\* When quantity is shown in format X, Y - this refers to (right hand), (left hand).

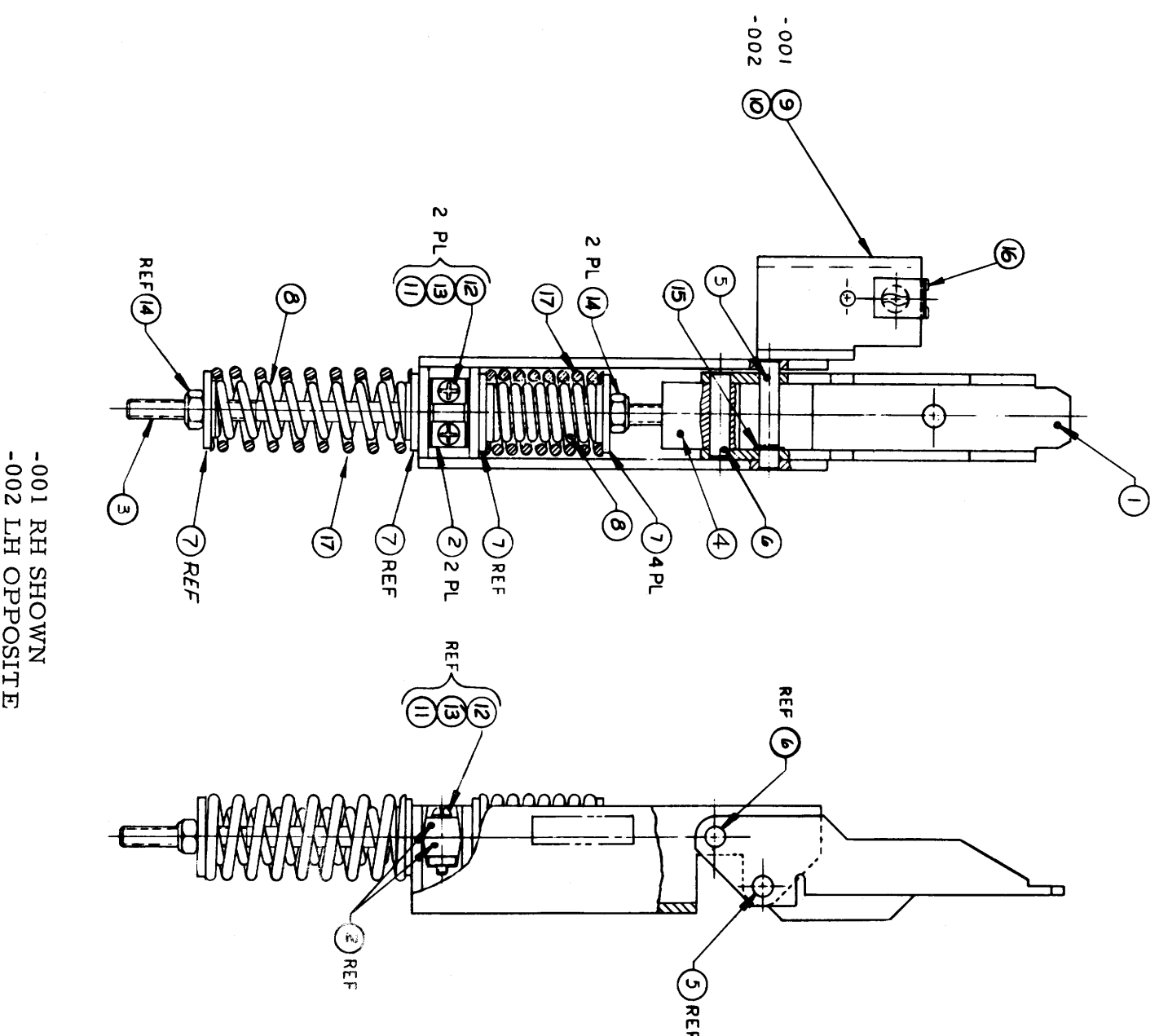


Figure 9-2. Hinge Assembly

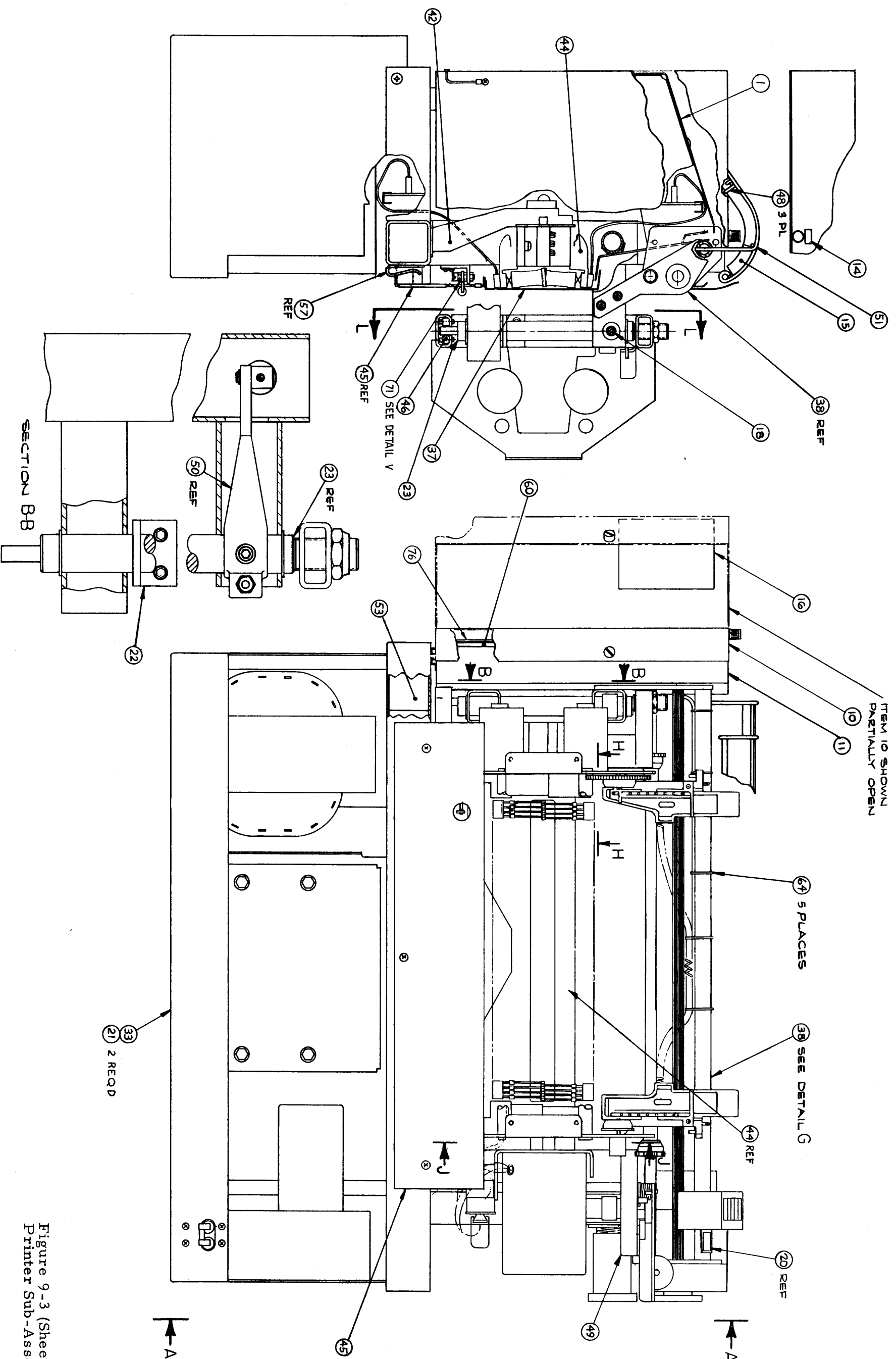
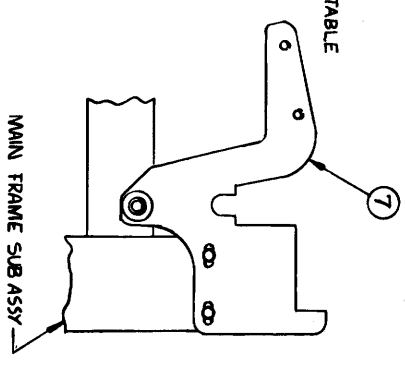
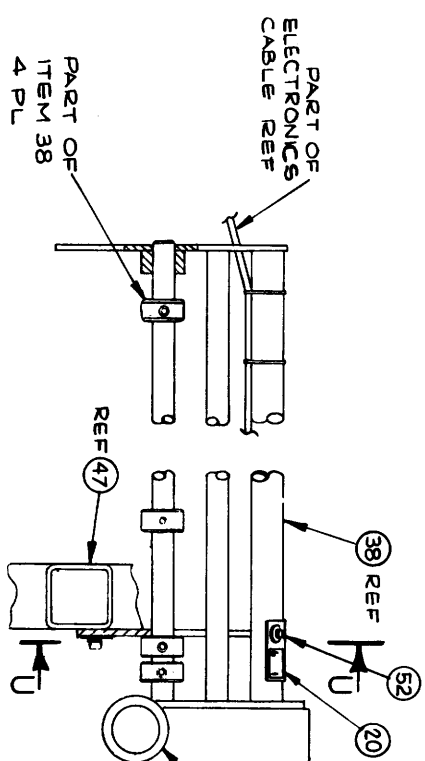
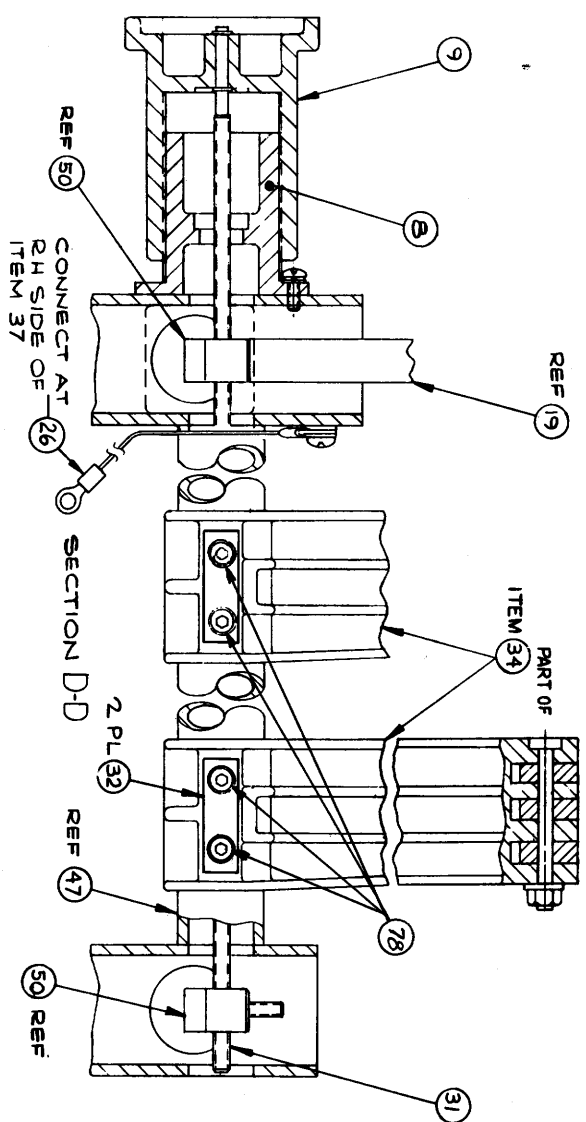
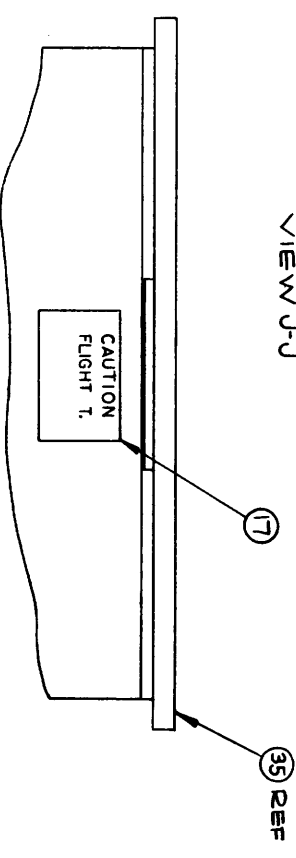
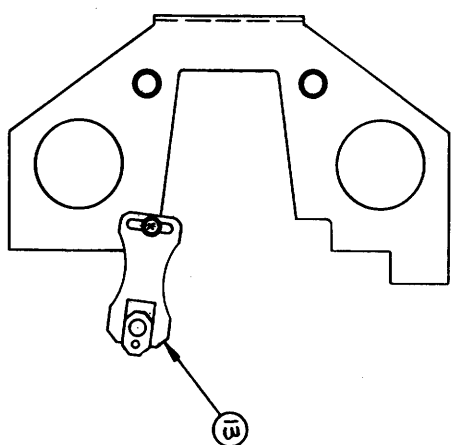
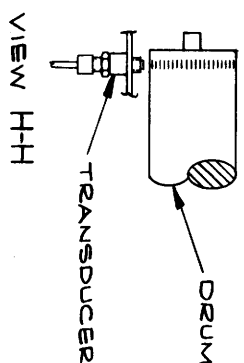


Figure 9-3 (Sheet 1 of 5)  
Printer Sub-Assembly





DETAIL G



SECTION E-E  
ITEM (49) (DRUM GATE ASSY)  
SHOWN IN OPEN POSITION

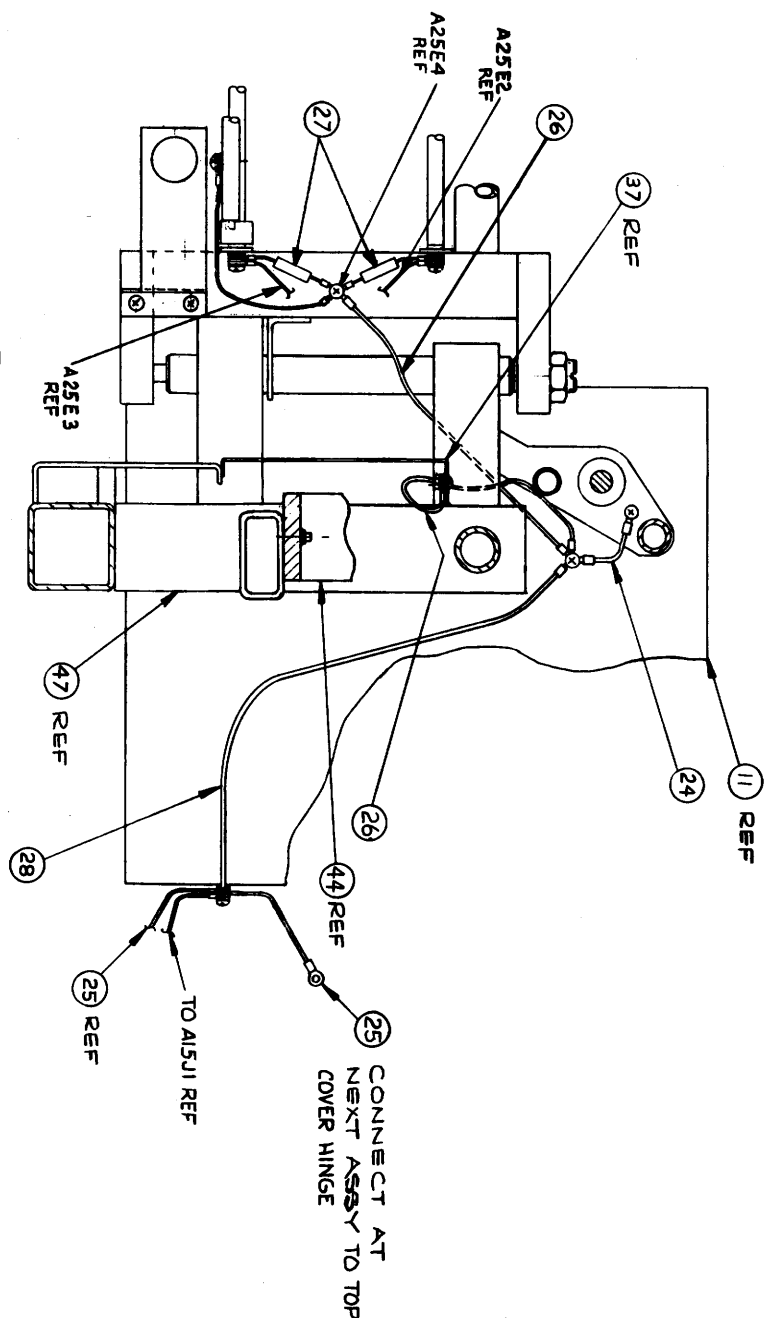


Figure 9-3 (Sheet 3 of 5)  
Printer Sub-Assembly

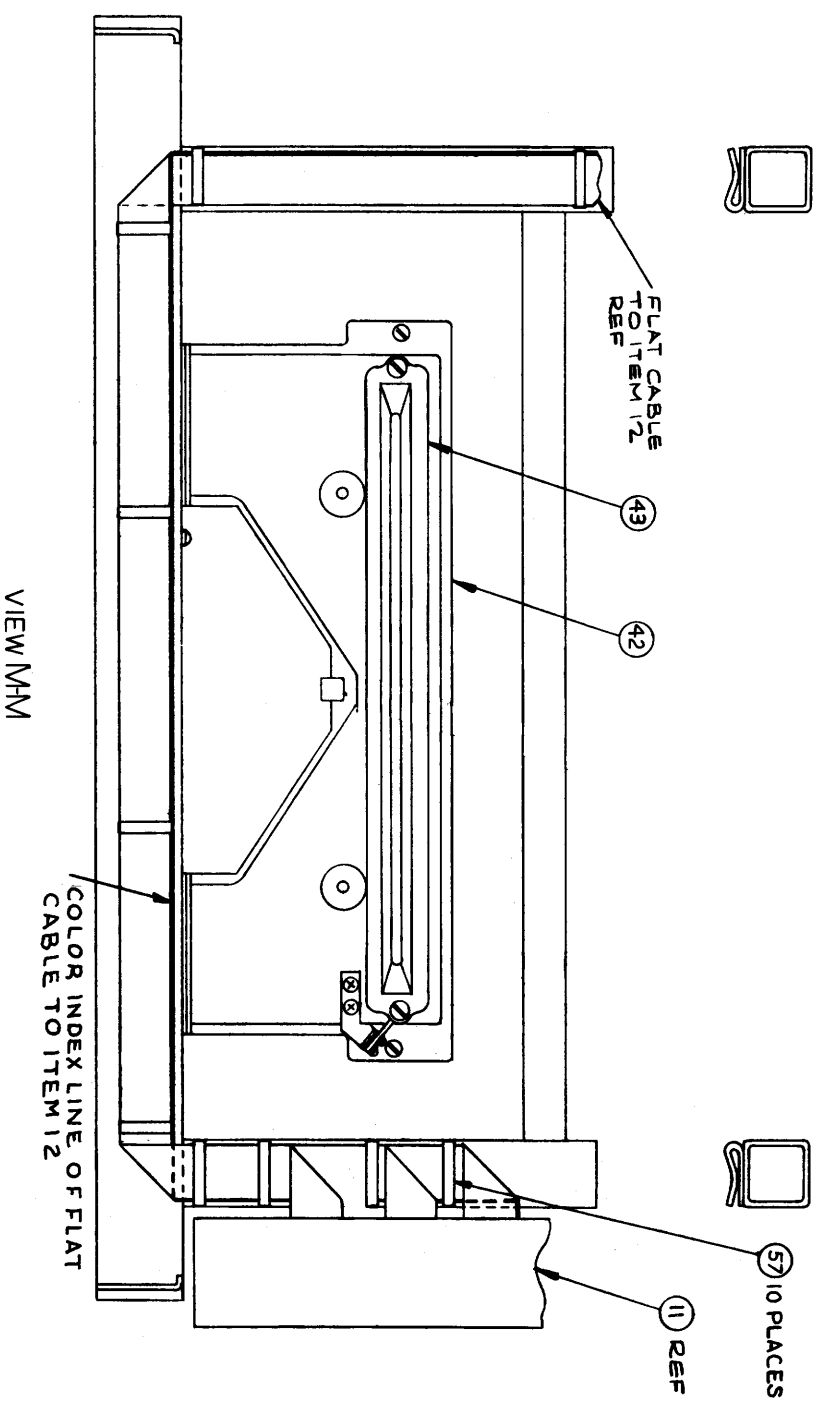
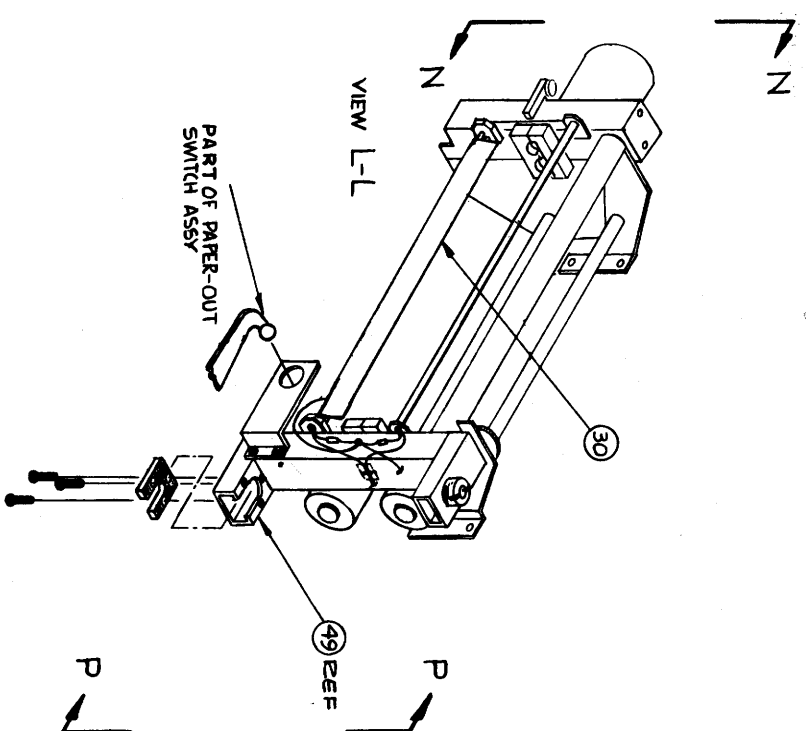


Figure 9-3 (Sheet 4 of 5)  
Printer Sub-Assembly

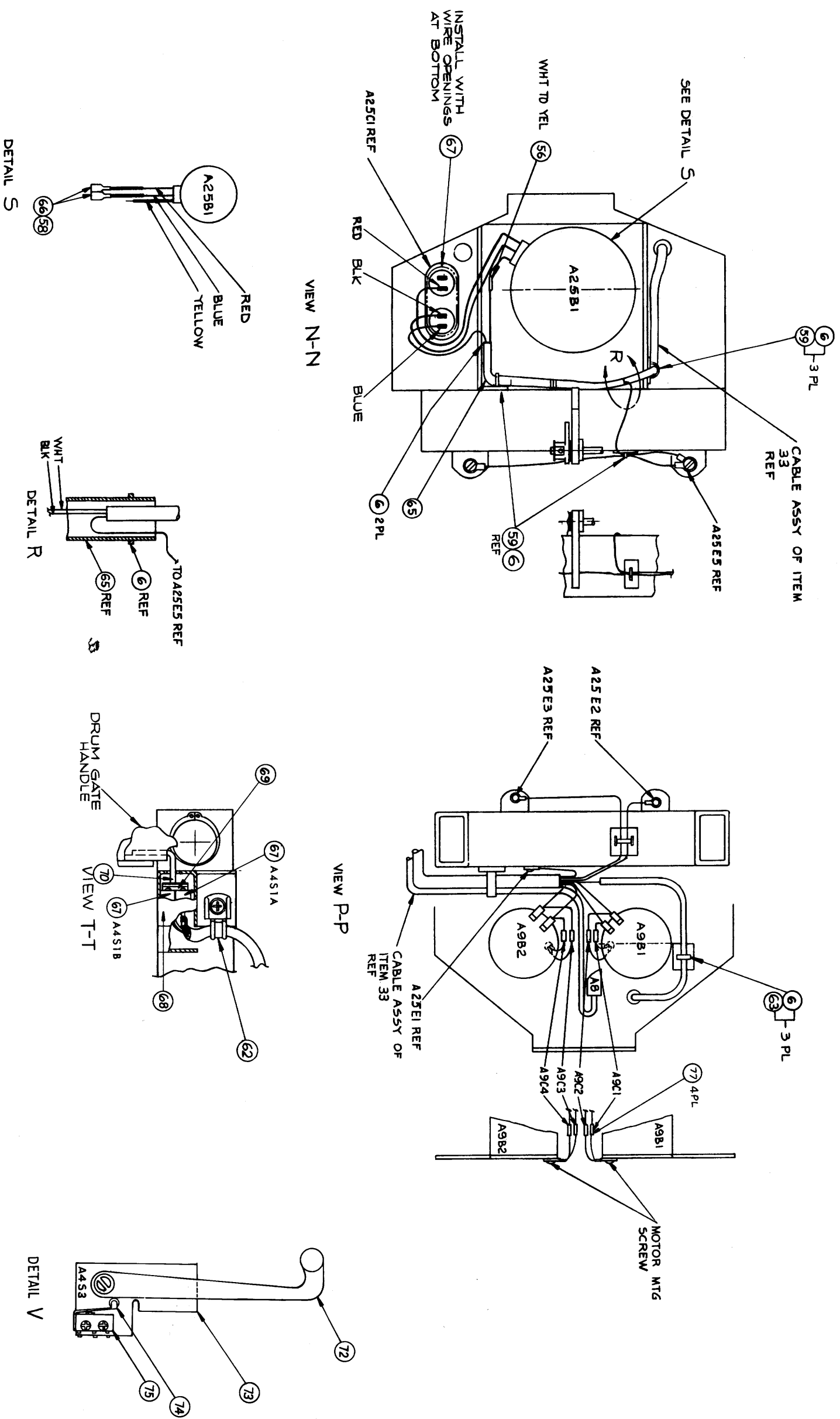


Figure 9-3 (Sheet 5 of 5)  
Printer Sub-Assembly

TABLE 9-3. PRINTER SUB-ASSEMBLY

| Figure & Index No. | Description                                         | Reference Designator | Part No.   | Qty |
|--------------------|-----------------------------------------------------|----------------------|------------|-----|
| Fig. 9-3           | Printer Sub Assembly                                |                      | 237536-001 | REF |
| 1.                 | Cover, Card Cage, H/D                               | A12                  | 238109-001 | 1   |
| 2.                 | Duct, Air                                           |                      | 219647-4   | 1   |
| 3.                 | Duct, Air                                           |                      | 219647-5   | 1   |
| 4.                 | Receptacle, Clip-On                                 |                      | 800269-005 | 2   |
| 5.                 | Hammer Driver Circuit Card Assembly (Ref Fig. 9-25) |                      | 238005-001 | 8   |
| 6.                 | Strap, Cable Tie, 0-5/8                             |                      | 800475-001 | A/R |
| 7.                 | Plate, Paper Drive/Panel Support                    |                      | 235017-001 | 1   |
| 8.                 | Retainer, Copies Control Knob                       |                      | 235068-001 | 1   |
| 9.                 | Knob, Copies Control                                |                      | 235069-001 | 1   |
| 10.                | Door, Logic Enclosure                               |                      | 235088-001 | 1   |
| 11.                | Enclosure, Logic                                    |                      | 235620-001 | 1   |
| 12.                | Control Panel Assembly (Ref Fig. 9-11)              |                      | 241523-001 | 1   |
| 13.                | Bracket, Paper Tension Adj                          | A3                   | 236719-001 | 1   |
| 14.                | Decal, Phasing Control                              |                      | 236723-001 | 1   |
| 15.                | Foam, Paper Deflector                               |                      | 235159-002 | 1   |
| 16.                | Decal, Code Chart                                   |                      | 236783-001 | 1   |
| 17.                | Decal, Flight Time Setting                          |                      | 236800-001 | 1   |
| 18.                | Hinge Pin, Eccentric                                |                      | 236845-001 | 2   |
| 19.                | Pointer, Copies Control                             |                      | 236852-001 | 1   |
| 20.                | Decal, Copies Control                               |                      | 236853-001 | 1   |

TABLE 9-3. PRINTER-SUB ASSEMBLY (Cont'd)

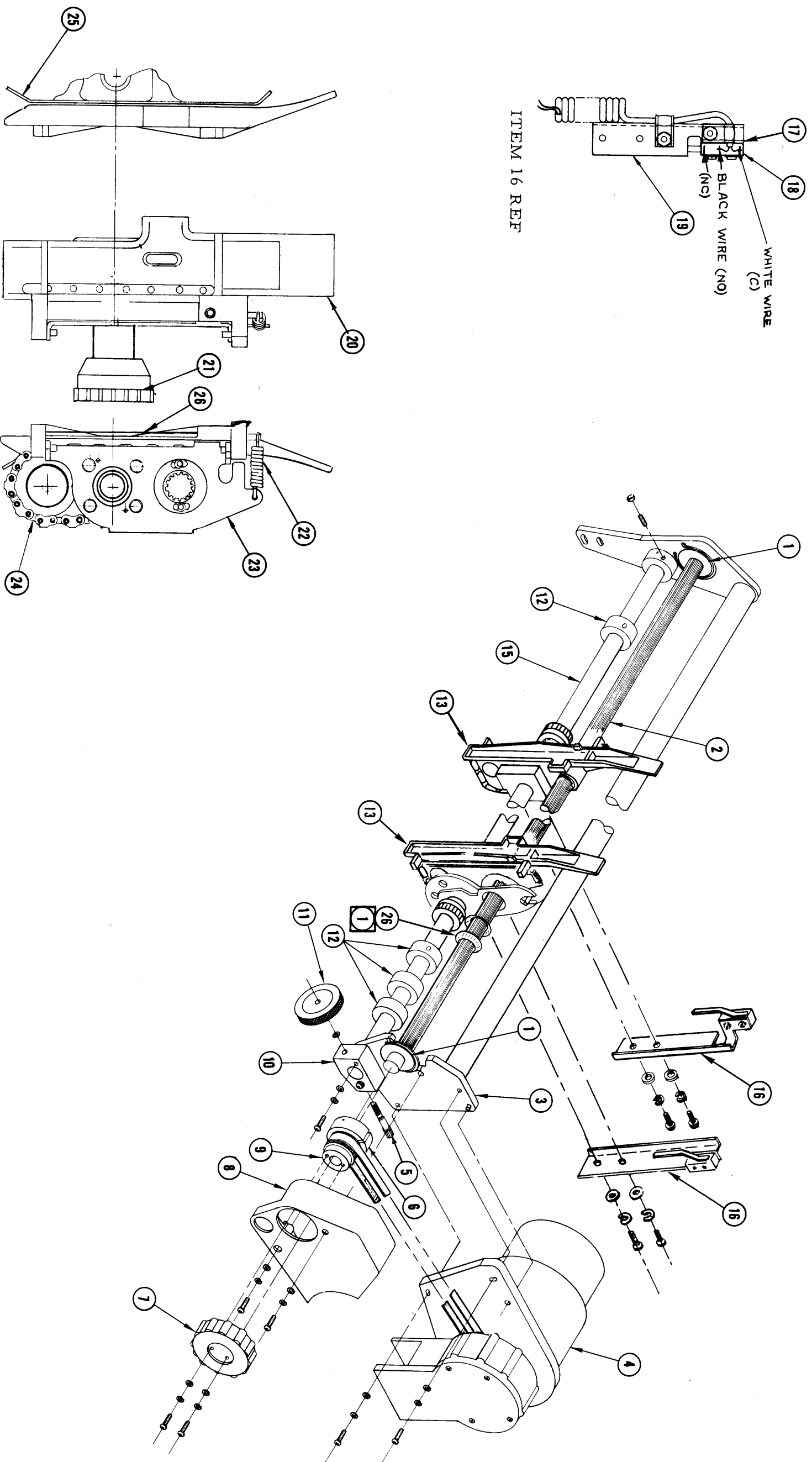
| Figure & Index No. | Description                           | Reference Designator | Part No.   | Qty |
|--------------------|---------------------------------------|----------------------|------------|-----|
| 21.                | Plate, Anchor                         |                      | 237387-001 | 2   |
| 22.                | Stop, Drum Gate                       |                      | 237481-001 | 1   |
| 23.                | Pin Assy, Drum Gate Hinge             |                      | 237421-002 | 1   |
| 24.                | Strap, Grounding, 3.00 Lg             |                      | 237461-001 | 1   |
| 25.                | Strap, Grounding, 4.00 Lg             |                      | 237461-002 | 2   |
| 26.                | Strap, Grounding, 11.00 Lg            |                      | 237461-006 | 3   |
| 27.                | Strap, Grounding, Capacitor           |                      | 237462-001 | 2   |
| 28.                | Strap, Grounding, 18.00 Lg            |                      | 237461-019 | 1   |
| 29.                | Pin Assy, Drum Gate Latch             |                      | 240864-001 | 1   |
| 30.                | Spring Assy, Paper Tension            |                      | 243340-001 | 1   |
| 31.                | Shaft, Copies Control                 |                      | 243046-001 | 1   |
| 32.                | Nut Plate                             |                      | 240094-001 | 2   |
| 33.                | Electronics Assembly (Ref Fig. 9-16)  | A15                  | 238108-001 | 1   |
| 34.                | Card Cage Assy, Upper (Ref. Fig. 9-7) | A80                  | 237533-001 | 1   |
| 35.                | Card Cage Assy, Lower (Ref. Fig. 9-9) | A81                  | 237534-001 | 1   |
| 36.                | Decal, Caution                        | A7                   | 111260-3   | 1   |
| 37.                | Mask, Hammer Bank                     |                      | 243335-001 | 1   |
| 38.                | Paper Drive Assembly (Ref Fig. 9-4)   |                      | 237633-001 | 1   |
| 39.                | Cover, Lower H.D. Cage                |                      | 237660-001 | 1   |
| 40.                | Cable Assy, BP/Servo/Logic            |                      | 237665-001 | 1   |
| 41.                | Cable Assy, Flat, 26 Cond             |                      | 241526-001 | 1   |

TABLE 9-3. PRINTER SUB ASSEMBLY (Cont'd)

| Figure & Index No. | Description                             | Reference Designator | Part No.   | Qty |
|--------------------|-----------------------------------------|----------------------|------------|-----|
| 42.                | Plenum, Hammer Bank                     | A6                   | 237779-001 | 1   |
| 43.                | Cover, Plenum, H.B.                     |                      | 237780-001 | 1   |
| 44.                | Hammer Bank Assembly<br>(Ref Fig. 9-15) |                      | 237847-001 | 1   |
| 45.                | Plate, Paper Guide                      |                      | 237808-001 | 1   |
| 46.                | Clamp                                   | A8, A25              | 240784-001 | 1   |
| 47.                | Main Frame, Sub Assembly                |                      | 240853-001 | 1   |
| 48.                | Hanger, Foam Insulation                 |                      | 236770-001 | 3   |
| 49.                | Drum Gate Assembly<br>(Ref Fig. 9-13)   |                      | 240857-002 | 1   |
| 50.                | Lever Assembly, Copies Control          |                      | 243453-001 | 2   |
| 51.                | Deflector, Paper, .lower                |                      | 240071-001 | 1   |
| 52.                | Washer                                  |                      | 240082-001 | 1   |
| 53.                | Plug, Foam                              |                      | 237818-001 | 1   |
| 54.                | OMITTED                                 |                      | 240868-001 | 1   |
| 55.                | Roller                                  |                      |            |     |
| 56.                | Splice, 14-16 AWG, Blue                 |                      |            |     |
| 57.                | Clamp, Flat Cable                       |                      |            |     |
| 58.                | Terminal, Push-On, Female, 18-16        |                      | 801017-004 | 2   |
| 59.                | Anchor, Cable Tie, Adh Backed           |                      | 800487-002 | 3   |
| 60.                | Channel, Rubber, Extruded               |                      | 800086-006 | A/R |
| 61.                | Clamp, Hose                             |                      | 800212-002 | 4   |
| 62.                | Clamp, Cable                            |                      | 800227-004 | 1   |

TABLE 9-3. PRINTER SUB ASSEMBLY (Cont'd)

| Figure & Index No. | Description                                      | Reference Designator | Part No.   | Qty |
|--------------------|--------------------------------------------------|----------------------|------------|-----|
| 63.                | Anchor, Cable Tie, Press Sens                    | A4S1A, A4S1B         | 800487-001 | 3   |
| 64.                | Strap, Cable Tie, 0 - 1 1/8                      |                      | 800475-002 | A/R |
| 65.                | Tubing, Heat Shrink, .37 Dia                     |                      | 800350-037 | A/R |
| 66.                | Tubing, Heat Shrink, .25 Dia                     |                      | 800350-025 | A/R |
| 67.                | Switch, Snap, Miniature<br>(Drum Gate Switch)    | A4S3                 | 800129-001 | 2   |
| 68.                | Housing, Switch                                  |                      | 238069-001 | 1   |
| 69.                | Insulator                                        |                      | 800955-001 | 1   |
| 70.                | Actuator, Drum Gate Switch                       |                      | 233473-001 | 1   |
| 71.                | Paper Out Switch Assembly<br>(Ref Items 72 - 75) |                      | 237810-001 | 1   |
| 72.                | Actuator Assy, Paper Out Switch                  |                      | 240081-001 |     |
| 73.                | Plate, Mounting                                  |                      | 237809-001 | 1   |
| 74.                | Actuator                                         |                      | 800130-001 | 1   |
| 75.                | Switch                                           | A4S3                 | 800129-001 | 1   |
| 76.                | Control Logic Card Assembly<br>(Ref. Fig 9-24)   | A10                  | 244700-001 | 1   |
| 77.                | Capacitor, 0.01 UF, 10%, 100V                    | A9C1-A9C4            | 800039-113 | 4   |
| 78.                | Screw Cap, Hex Soc, 8-32 x 5/8                   |                      | 800200-110 | 6   |



ITEM 13 REF

- 1 Use Belleville washers as required (4 max, 2 min) to eliminate end play. Ensure two washers nearest bearing are installed as shown.

Figure 9-4  
Paper Drive Assembly

TABLE 9-4. PAPER DRIVE ASSEMBLY

| Figure & Index No. | Description                                                           | Reference Designator | Part No.                 | Qty    |
|--------------------|-----------------------------------------------------------------------|----------------------|--------------------------|--------|
| Fig. 9-4           | Paper Drive Assembly                                                  | A7                   | 237633-001               | REF    |
| 1.                 | Bearing, Ball, Radial, Single Row, Double Seal                        |                      | 800196-003               | 2      |
| 2.                 | Shaft, Tractor Drive                                                  |                      | 235054-001               | 1      |
| 3.                 | Frame, Paper Drive                                                    |                      | 237632-001               | 1      |
| 4.                 | Motor Assembly, Paper Drive (Ref Fig. 9-5)                            | A7A1                 | 238012-001               | 1      |
| 5.                 | Pinion, Tractor, Lateral Adjustment                                   |                      | 235707-001               | 1      |
| 6.                 | Collar, Shaft, Mod                                                    |                      | 236733-001               | 1      |
| 7.                 | Knob, Tractor Shaft                                                   |                      | 235566-001               | 1      |
| 8.                 | Cover, Belt, Paper Drive                                              |                      | 237626-001               | 1      |
| 9.                 | Pulley, 16T, Tractor Shaft                                            |                      | 239104-001               | 1      |
| 10.                | Housing, Tractor, Lateral Adjustment                                  |                      | 235065-001               | 1      |
| 11.                | Knob, Tractor, Lateral Adjustment                                     |                      | 235708-001               | 1      |
| 12.                | Collar, Setscrew, .50 Inch                                            |                      | 800291-002               | 4      |
| 13.                | Tractor Assembly, RH<br>Tractor Assembly, LH<br>(Ref Items 20 - 25)   |                      | 243365-001<br>243365-002 | 1<br>1 |
| 14.                | (Omitted)                                                             |                      |                          |        |
| 15.                | Shaft, Tractor Support                                                |                      | 235076-001               | 1      |
| 16.                | Limit Switch Assy, LH<br>Limit Switch Assy, RH<br>(Ref Items 17 - 19) | A4S2<br>A4S4         | 233585-005<br>233585-006 | 1<br>1 |
| 17.                | Insulator                                                             |                      | 800955-001               | 2      |

TABLE 9-4. PAPER DRIVE ASSEMBLY (Contd)

| Figure & Index No. | Description                                        | Reference Designator | Part No.                 | Qty    |
|--------------------|----------------------------------------------------|----------------------|--------------------------|--------|
| 18.                | Switch                                             |                      | 800944-001               | 2      |
| 19.                | Bracket, Switch Mtg, LH<br>Bracket, Switch Mtg, RH |                      | 233491-001<br>233491-002 | 1<br>1 |
| 20.                | Pressure Plate, RH<br>Pressure Plate, LH           |                      | 237513-001<br>239170-001 | 1<br>1 |
| 21.                | Lock Assy                                          |                      | 240746-001               | 2      |
| 22.                | Spring, Extension                                  |                      | 239198-001               | 2      |
| 23.                | Hinge Plate, RH<br>Hinge Plate, LH                 |                      | 240049-001<br>240049-002 | 1<br>1 |
| 24.                | Tractor Sub-Assy, RH<br>Tractor Sub-Assy, LH       |                      | 239199-001<br>239199-002 | 1<br>1 |
| 25.                | Side Plate, RH<br>Side Plate, LH                   |                      | 240062-001<br>240061-001 | 1<br>1 |
| 26.                | Strip, Impact Absorber                             |                      | 243314-001               | 1      |

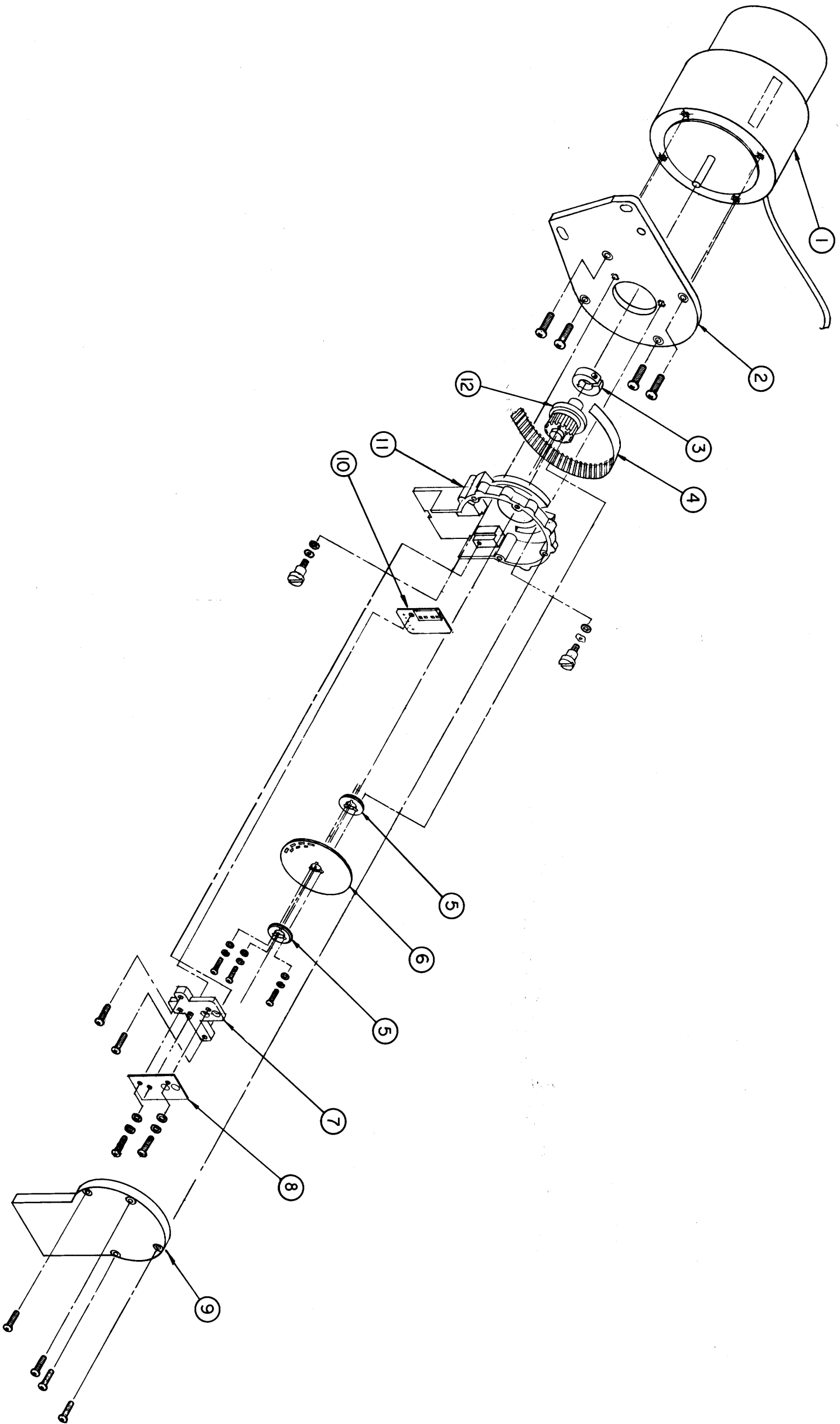


Figure 9-5  
Paper Drive Motor Assembly

TABLE 9-5. PAPER DRIVE MOTOR ASSEMBLY

| Figure &<br>Index No. | Description                                      | Reference<br>Designator | Part No.   | Qty |
|-----------------------|--------------------------------------------------|-------------------------|------------|-----|
| Fig. 9-5              | Paper Drive Motor Assembly                       | A7A1                    | 238012-001 | REF |
| 1.                    | Motor, Tachometer Generator                      | A7B1                    | 801325-002 | 1   |
| 2.                    | Mount, Motor                                     |                         | 237479-001 | 1   |
| 3.                    | Collar, Shaft, Clamp                             |                         | 800291-004 | 1   |
| 4.                    | Drive Belt                                       |                         | 800299-013 | 1   |
| 5.                    | Retainer, Disc                                   |                         | 237458-001 | 2   |
| 6.                    | Encoder Disc                                     |                         | 238011-001 | 1   |
| 7.                    | Bracket, Emitter                                 |                         | 237478-001 | 1   |
| 8.                    | Circuit Card Assembly,<br>Emitter (Ref Fig. 9-6) |                         | 237640-001 | 1   |
| 9.                    | Cover, Encoder                                   |                         | 237491-001 | 1   |
| 10.                   | Circuit Card Assembly,<br>Sensor (Ref Fig. 9-6)  |                         | 237635-001 | 1   |
| 11.                   | Housing, Encoder                                 |                         | 237477-001 | 1   |
| 12.                   | Pulley, Motor                                    |                         | 237456-001 | 1   |

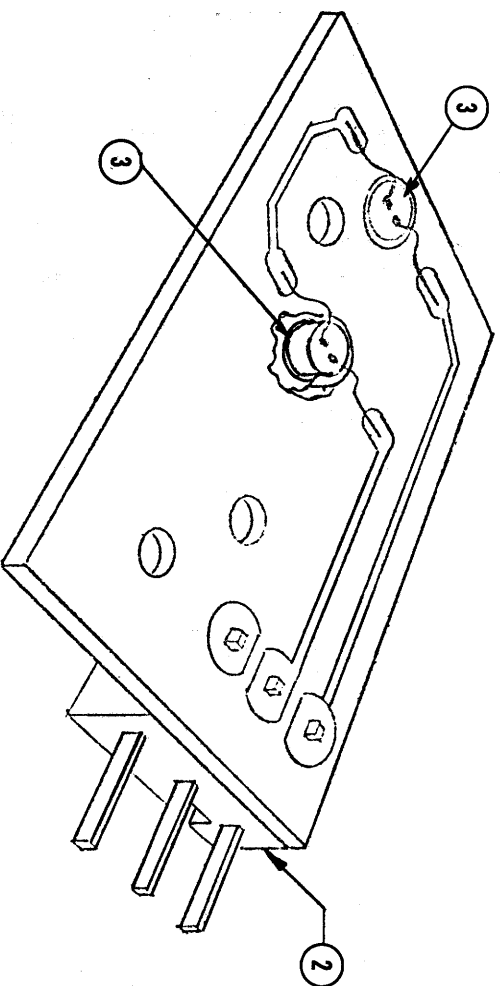


Fig A

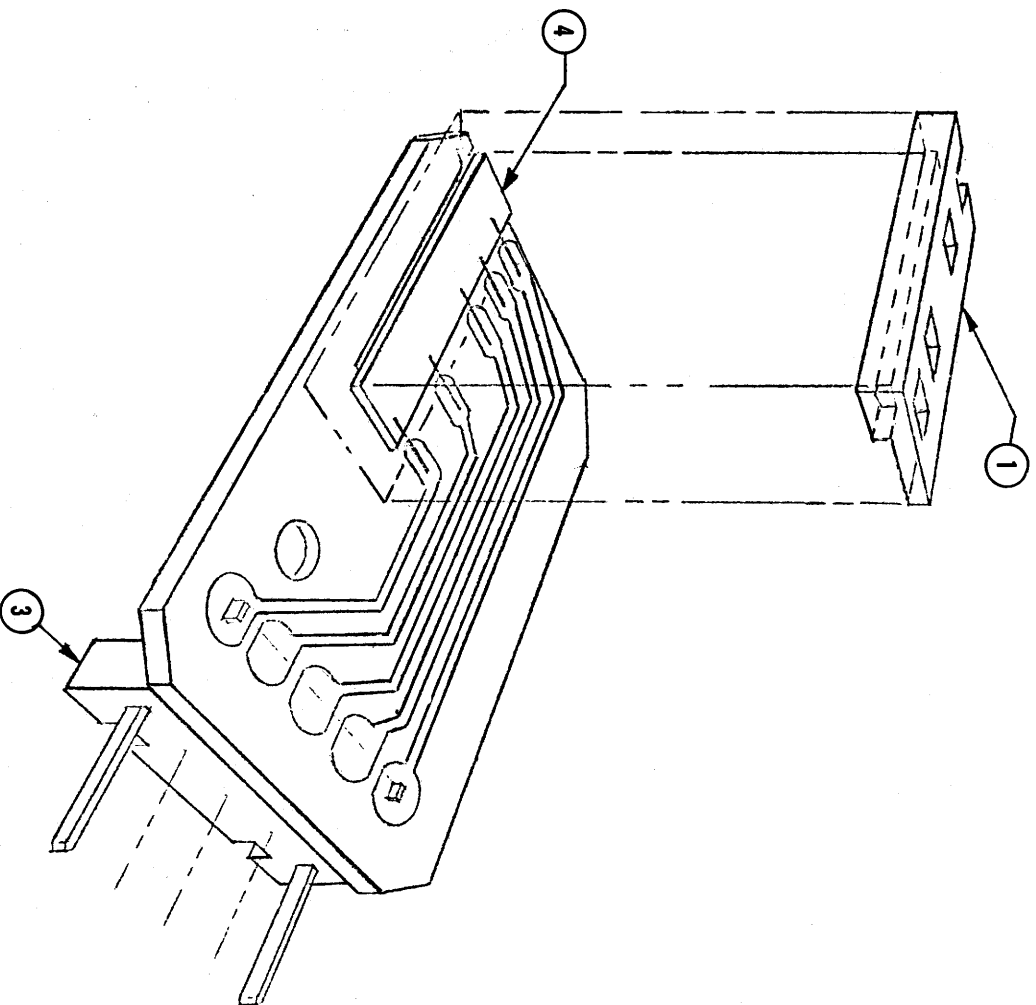


Fig B

Figure 9-6  
Paper Drive Emitter/Sensor Assemblies

TABLE 9-6. PAPER DRIVE EMITTER/SENSOR ASSEMBLIES

| Figure &<br>Index No. | Description                                   | Reference<br>Designator | Part No.    | Qty |
|-----------------------|-----------------------------------------------|-------------------------|-------------|-----|
| Fig. 9-6A             | Circuit Card Assembly,<br>Emitter             |                         | 237640-001  | REF |
| 1.                    | OMITTED                                       |                         |             |     |
| 2.                    | Connector, Right Angle<br>Header, 3 Positions | J1                      | 801034-003  | 1   |
| 3.                    | Diode, IR Source                              | CR1 - CR2               | 801081-001  | 2   |
| Fig. 9-6B             | Circuit Card Assembly,<br>Sensor              |                         | 237635 -001 | REF |
| 1.                    | Mask                                          |                         | 237454-001  | 1   |
| 2.                    | OMITTED                                       |                         |             |     |
| 3.                    | Connector, Right Angle<br>Header, 5 Positions | J1                      | 801034-005  | 1   |
| 4.                    | Photocell                                     | CR1                     | 801084-004  | 1   |

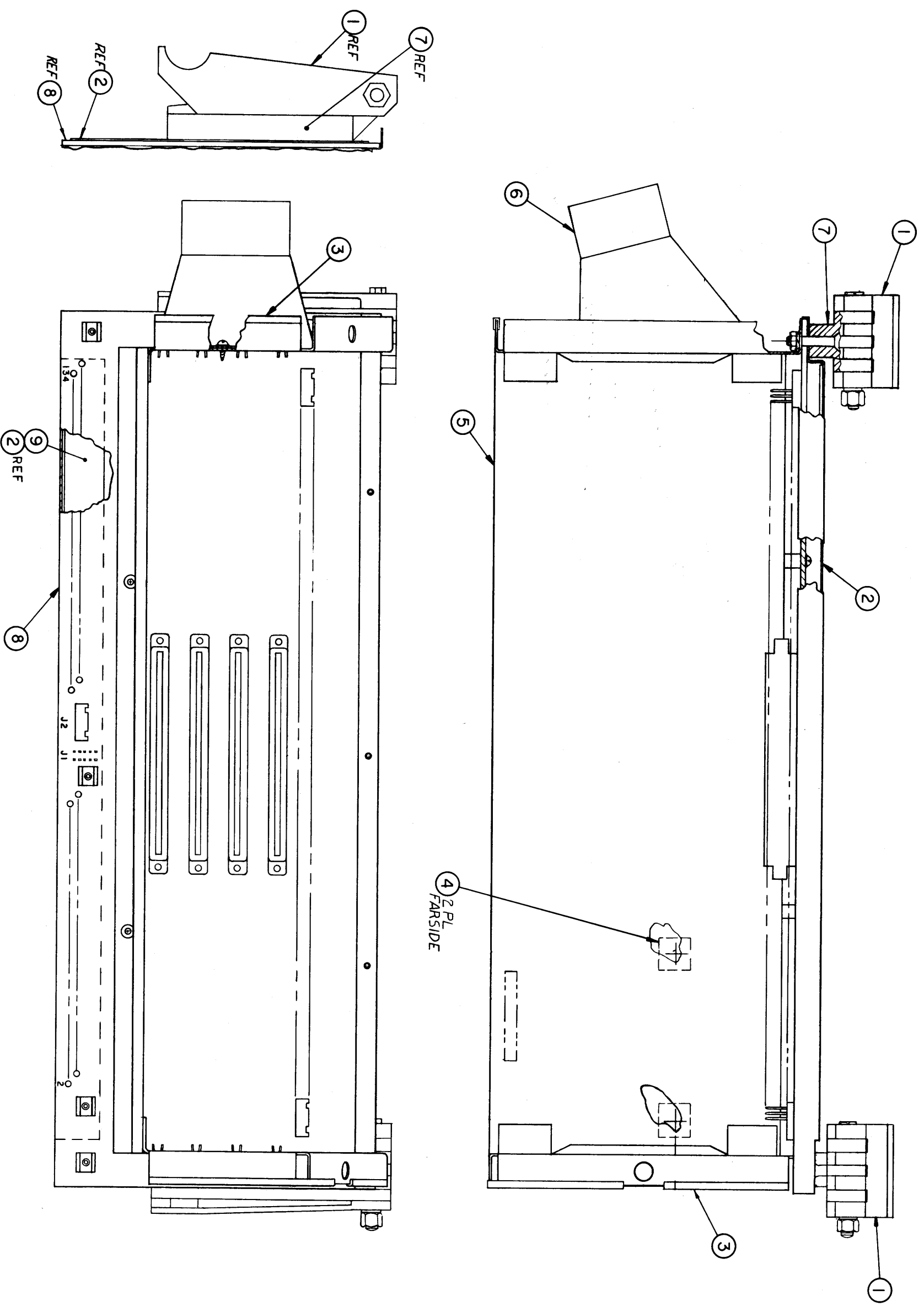


Figure 9-7  
Upper Card Cage Assembly

TABLE 9-7. UPPER CARD CAGE ASSEMBLY

| Figure &<br>Index No. | Description                                                            | Reference<br>Designator | Part No.   | Qty |
|-----------------------|------------------------------------------------------------------------|-------------------------|------------|-----|
| Fig. 9-7              | Upper Card Cage Assembly                                               | A80                     | 237533-001 | REF |
| 1.                    | Swivel, Card Cage                                                      |                         | 237502-001 | 2   |
| 2.                    | Shield, H/D                                                            |                         | 237621-001 | 1   |
| 3.                    | Channel, Rubber Extd                                                   |                         | 800086-006 | A/R |
| 4.                    | Anchor, Cable Tie                                                      |                         | 800487-001 | 2   |
| 5.                    | Weldment, Card Cage                                                    |                         | 237570-001 | 1   |
| 6.                    | Duct, Air                                                              |                         | 237647-001 | 1   |
| 7.                    | Support, Card Cage                                                     |                         | 237503-001 | 2   |
| 8.                    | Circuit Card Assembly, Upper Back Channel, Hammer Driver (Ref 1 . 9-8) |                         | 237595-001 | 1   |
| 9.                    | Tape, Nylon, .005 Thick x 1.38 W de                                    |                         | 800721-006 | A/R |

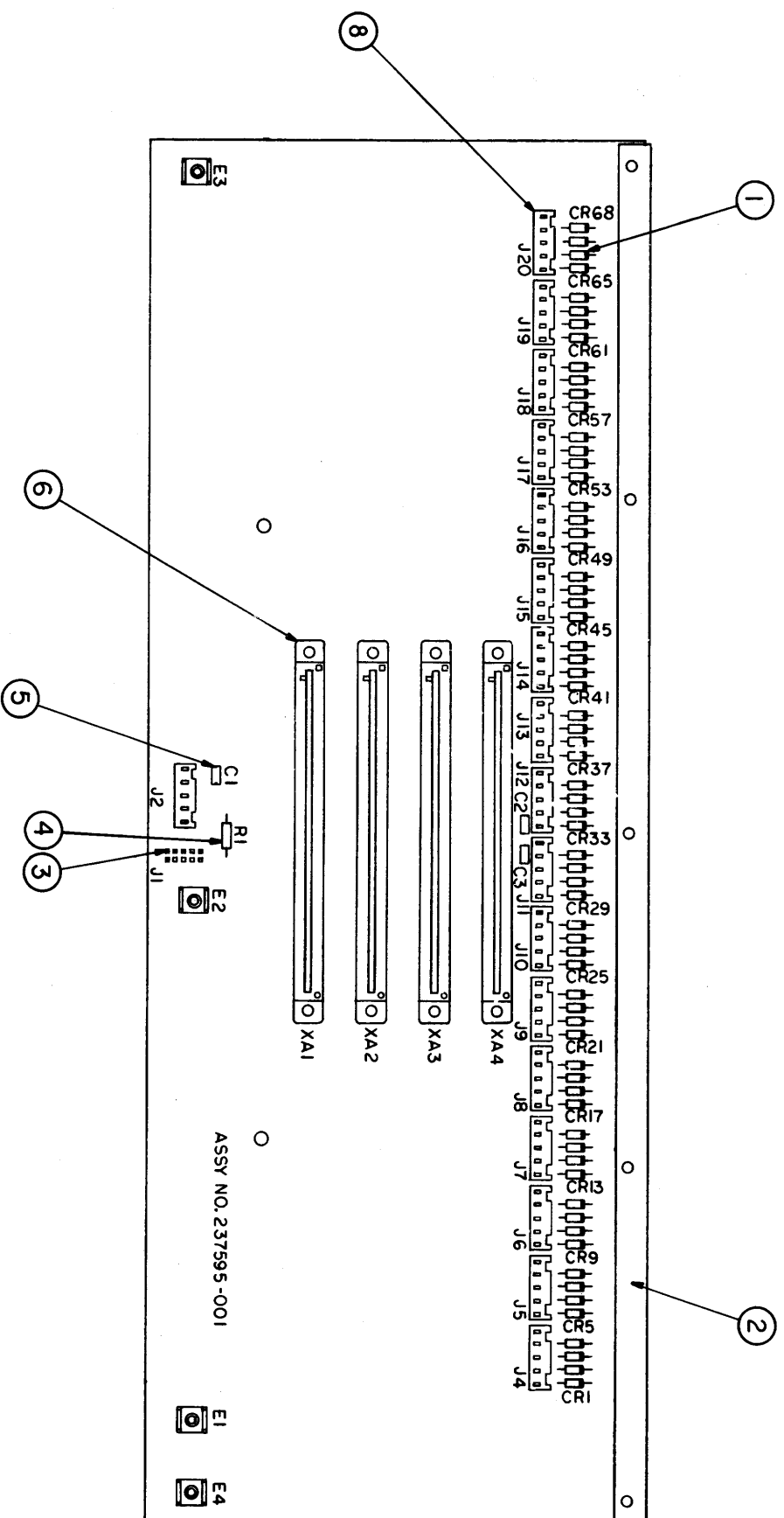


Figure 9-8  
Upper Back Panel Hammer Driver  
Circuit Card Assembly

TABLE 9-8. UPPER BACK PANEL HAMMER DRIVER CIRCUIT CARD ASSEMBLY

| Figure &<br>Index No. | Description                                             | Reference<br>Designator | Part No.   | Qty |
|-----------------------|---------------------------------------------------------|-------------------------|------------|-----|
| Fig. 9-8              | Upper Back Panel Hammer<br>Driver Circuit Card Assembly |                         | 237595-001 | REF |
| 1.                    | Diode                                                   | CR1 - CR68              | 800743-001 | 68  |
| 2.                    | Channel, Wire Support                                   |                         | 237612-001 | 1   |
| 3.                    | Terminal, Post, Square                                  | J1                      | 801055-001 | 10  |
| 4.                    | Resistor, 1K, 5%, 1/4W                                  | R1                      | 800030-102 | 1   |
| 5.                    | Capacitor, .01UF, 20%, 100V                             | C1, C2, C3              | 801024-103 | 3   |
| 6.                    | Connector                                               | XA1 - XA4               | 800042-002 | 4   |
| 7.                    | OMITTED                                                 |                         |            |     |
| 8.                    | Connector, PCB Mtg, Header                              | J2, J4 - J20            | 801037-055 | 18  |

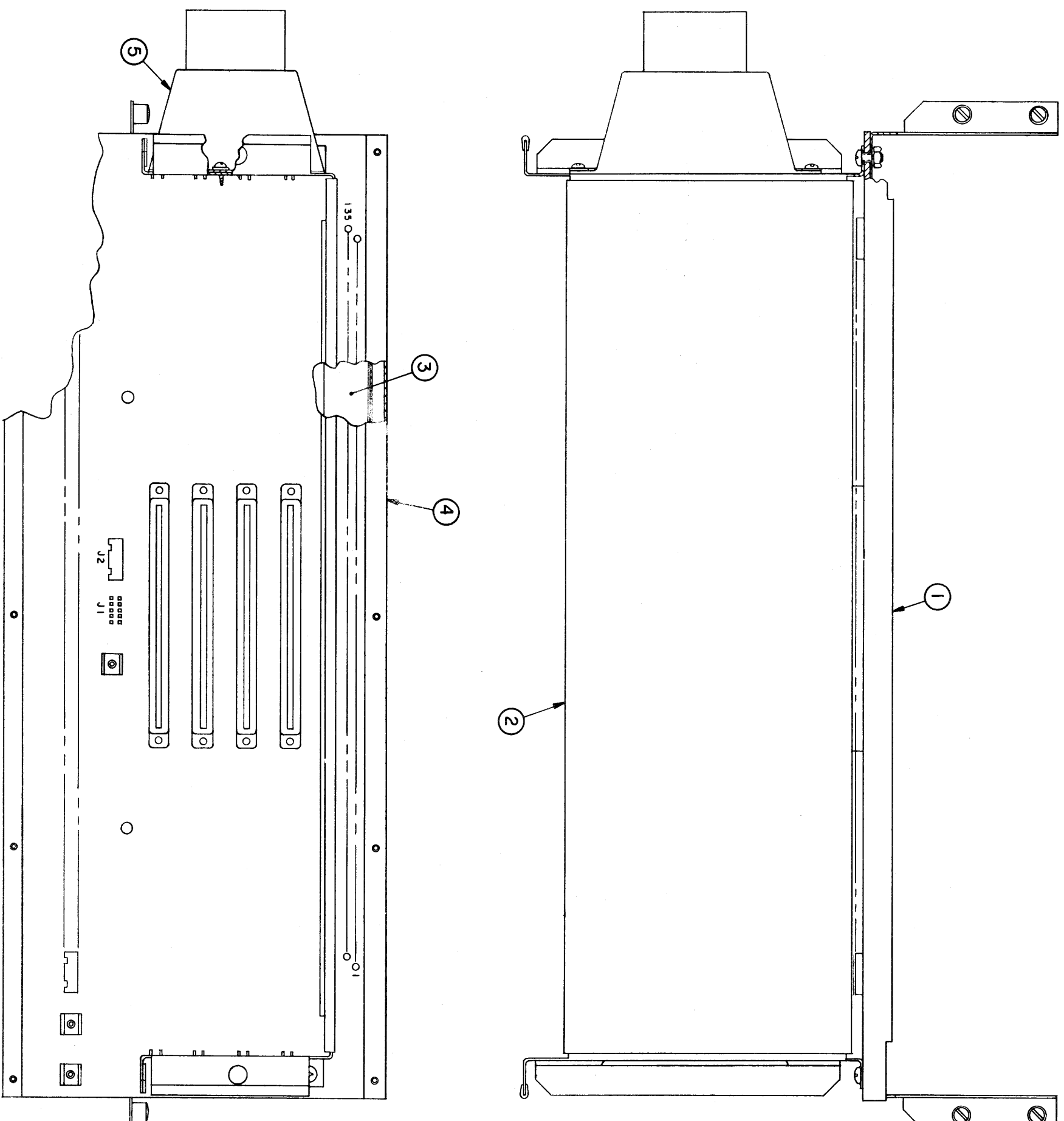


Figure 9-9  
Lower Card Cage Assembly

TABLE 9-9. LOWER CARD CAGE ASSEMBLY

| Figure &<br>Index No. | Description                                                               | Reference<br>Designator | Part No.    | Qty |
|-----------------------|---------------------------------------------------------------------------|-------------------------|-------------|-----|
| Fig. 9-9              | Lower Card Cage Assembly                                                  | A81                     | 237534 -001 | REF |
|                       | 1. Shield, H/D                                                            |                         | 237613-001  | 1   |
|                       | 2. Weldment, Card Cage                                                    |                         | 237570-002  | 1   |
|                       | 3. Tape, Mylar, .005 Thk x 1.38 Wide                                      |                         | 800721-006  | A/R |
|                       | 4. Circuit Card Assembly, Lower Back Panel, Hammer Driver (Ref Fig. 9-10) |                         | 237600-001  | 1   |
| 5.                    | Duct, Air                                                                 |                         | 237647-001  | 1   |
|                       |                                                                           |                         |             |     |

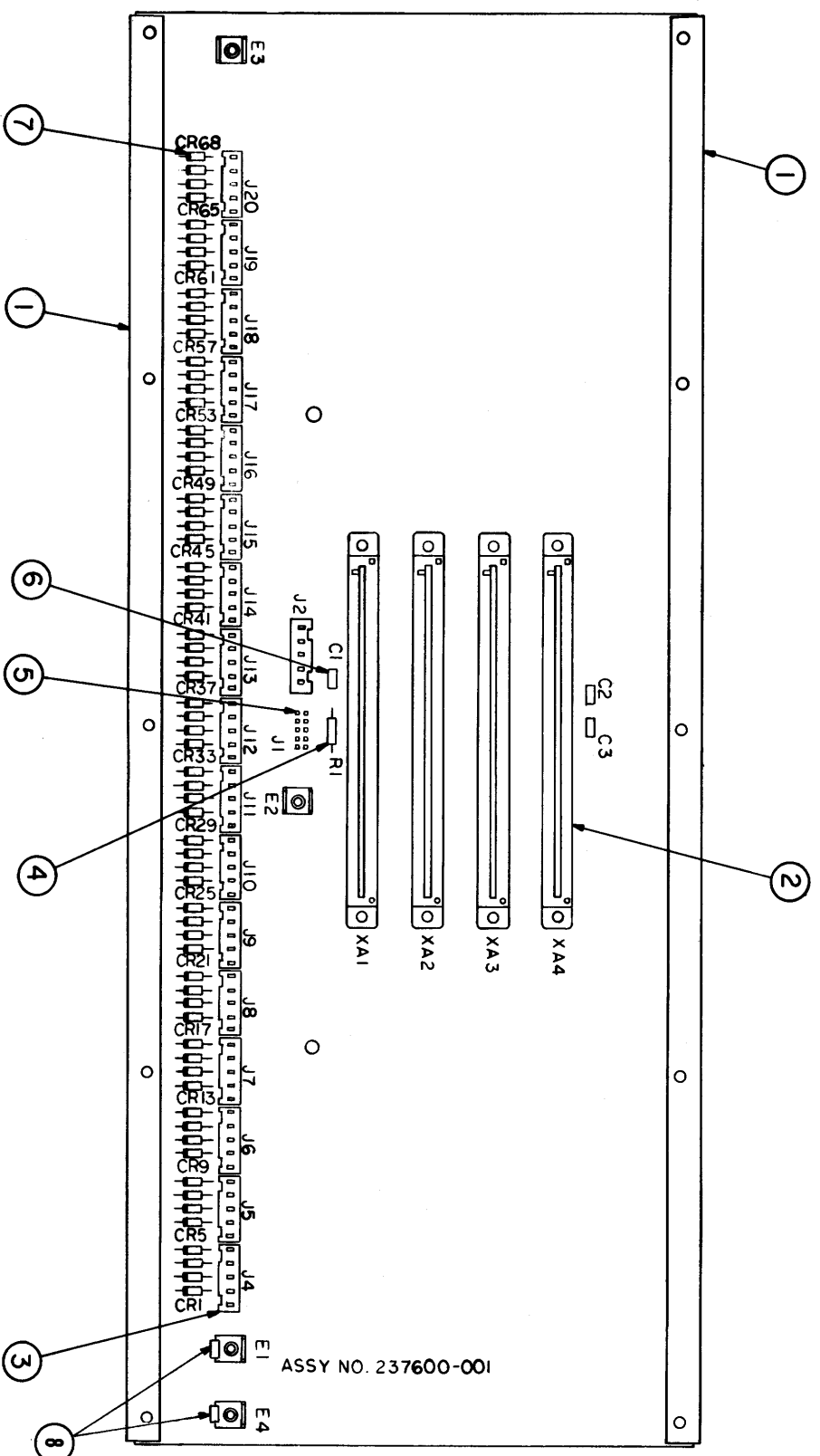


Figure 9-10  
Lower Back Panel Hammer Driver  
Circuit Card Assembly

TABLE 9-10. LOWER BACK PANEL HAMMER DRIVER CIRCUIT CARD  
ASSEMBLY

| Figure &<br>Index No. | Description                                                                    | Reference<br>Designator | Part No.                     | Qty        |
|-----------------------|--------------------------------------------------------------------------------|-------------------------|------------------------------|------------|
| Fig. 9-10             | Lower Back Panel Hammer<br>Driver Circuit Card Assembly                        |                         | 237600-001                   | REF        |
| 1.                    | Channel, Wire Support                                                          |                         | 237612-001                   | 2          |
| 2.                    | Connector                                                                      | XA1 Thru<br>XA4         | 800042-002                   | 4          |
| 3.                    | Connector, PCB Mtg, Header<br>Tin Plated                                       | J2, J4 Thru<br>J20      | 801037-055                   | 18         |
| 4.                    | Resistor, 1K, 5%, 1/4W                                                         | R1                      | 800030-102                   | 1          |
| 5.                    | Terminal, Post, Square                                                         | J1                      | 801055-001                   | 10         |
| 6.                    | Capacitor, .01 Uf, 20%, 100V                                                   | C1, C2, C3              | 801024-103                   | 3          |
| 7.                    | Diode                                                                          | CR1 Thru<br>CR68        | 800743-001                   | 68         |
| 8.                    | Tab Cap, 250 Series,<br>.032 thk Nylon<br>or<br>Heat Shrink Tubing, 1 in. long |                         | 801602-001<br><br>800350-037 | 2<br><br>2 |

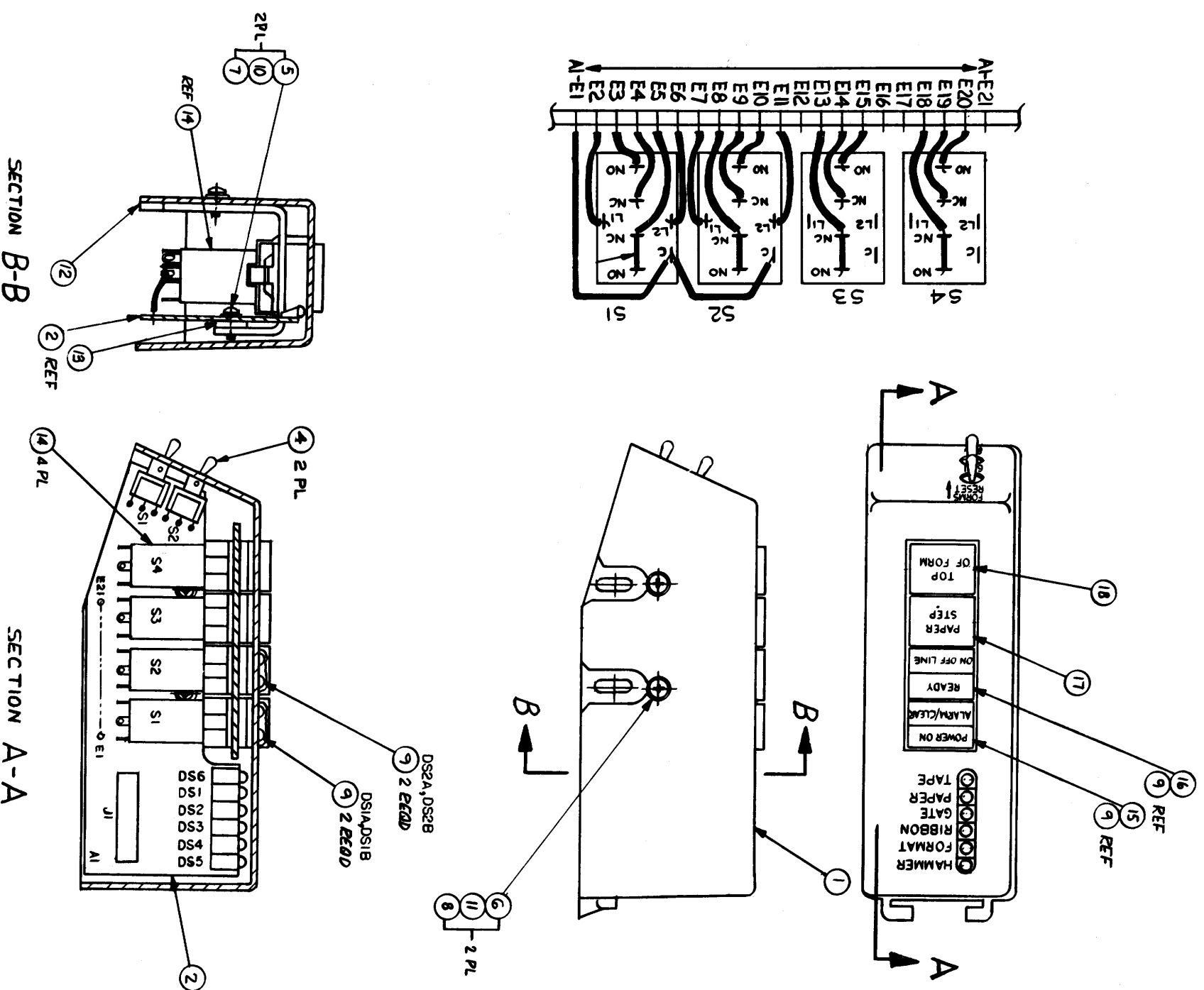


Figure 9-11. Operator Control Panel Assembly

TABLE 9-11. OPERATOR CONTROL PANEL ASSEMBLY

| Figure & Index No. | Description                                      | Reference Designator   | Part No.   | Qty |
|--------------------|--------------------------------------------------|------------------------|------------|-----|
| Fig. 9-11          | Operator Control Panel Assy                      | A3                     | 241523-001 | REF |
| 1.                 | Cover, Control Panel                             |                        | 235552-001 | 1   |
| 2.                 | Circuit Card Assy, Control Panel (Ref Fig. 9-12) | A3A1                   | 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 9-12. CONTROL PANEL CIRCUIT CARD ASSEMBLY

| Figure &<br>Index No. | Description                               | Reference<br>Designator | Part No.   | Qty |
|-----------------------|-------------------------------------------|-------------------------|------------|-----|
| Fig. 9-12             | Control Panel Circuit<br>Card Assembly    | A3A1                    | 241520-001 | REF |
| 1.                    | OMITTED                                   |                         |            |     |
| 4.                    | Lamp, LED, Red                            | DS1-DS6                 | 801082-001 | 6   |
| 7.                    | Connector, Flat Cable,<br>26 Pin, PCB Mtg | J1                      | 801408-026 | 1   |
| 10.                   | Switch, Toggle, SPDT                      | S1                      | 800502-010 | 1   |
| 11.                   | Switch, Toggle, SPDT,<br>Momentary        | S2                      | 800502-011 | 1   |

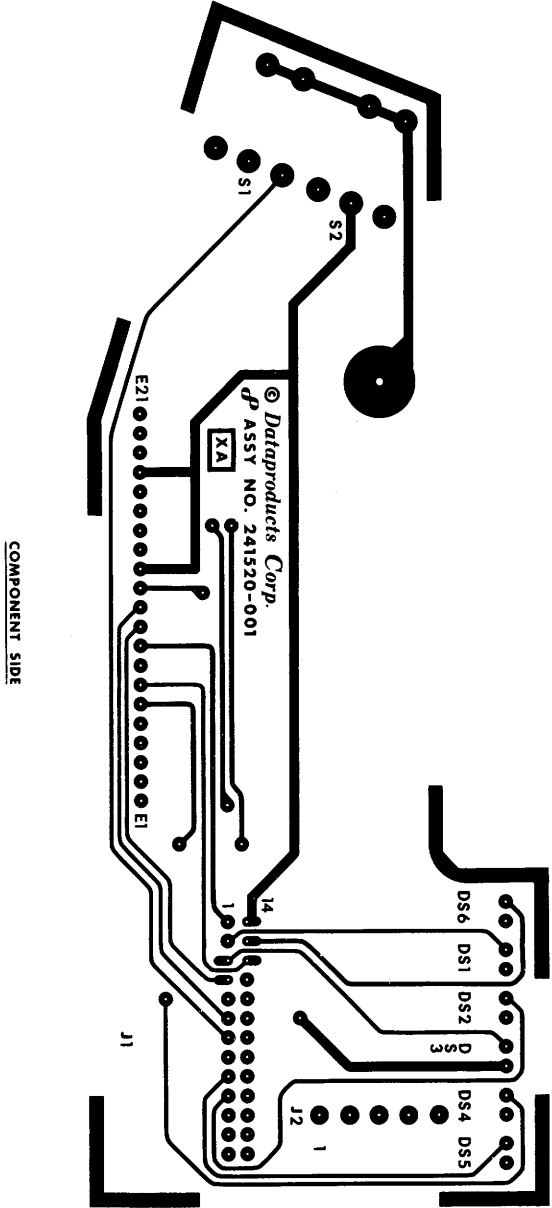
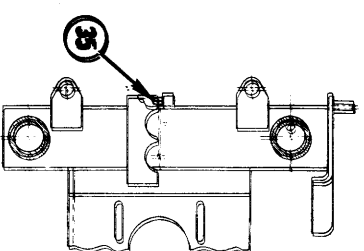
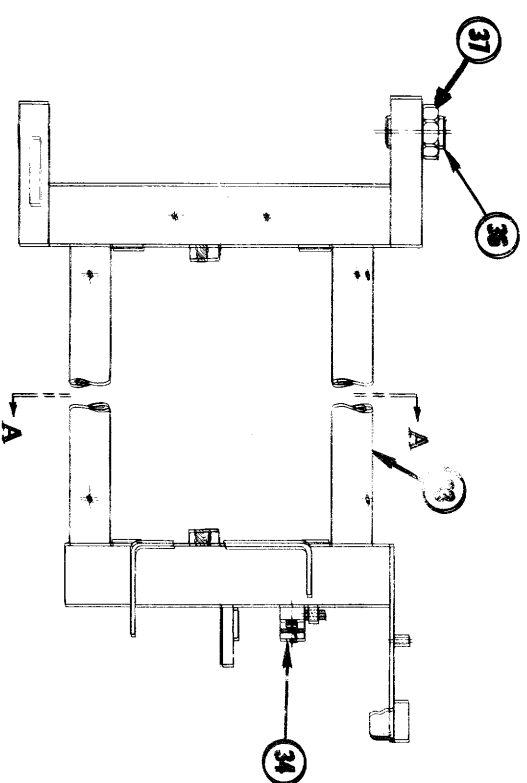


Figure 9-12. Control Panel Circuit Card Assembly

Section A-A



Item 24 Ref



1 Set Screw To Be Positioned On Flat Of Motor Shaft.

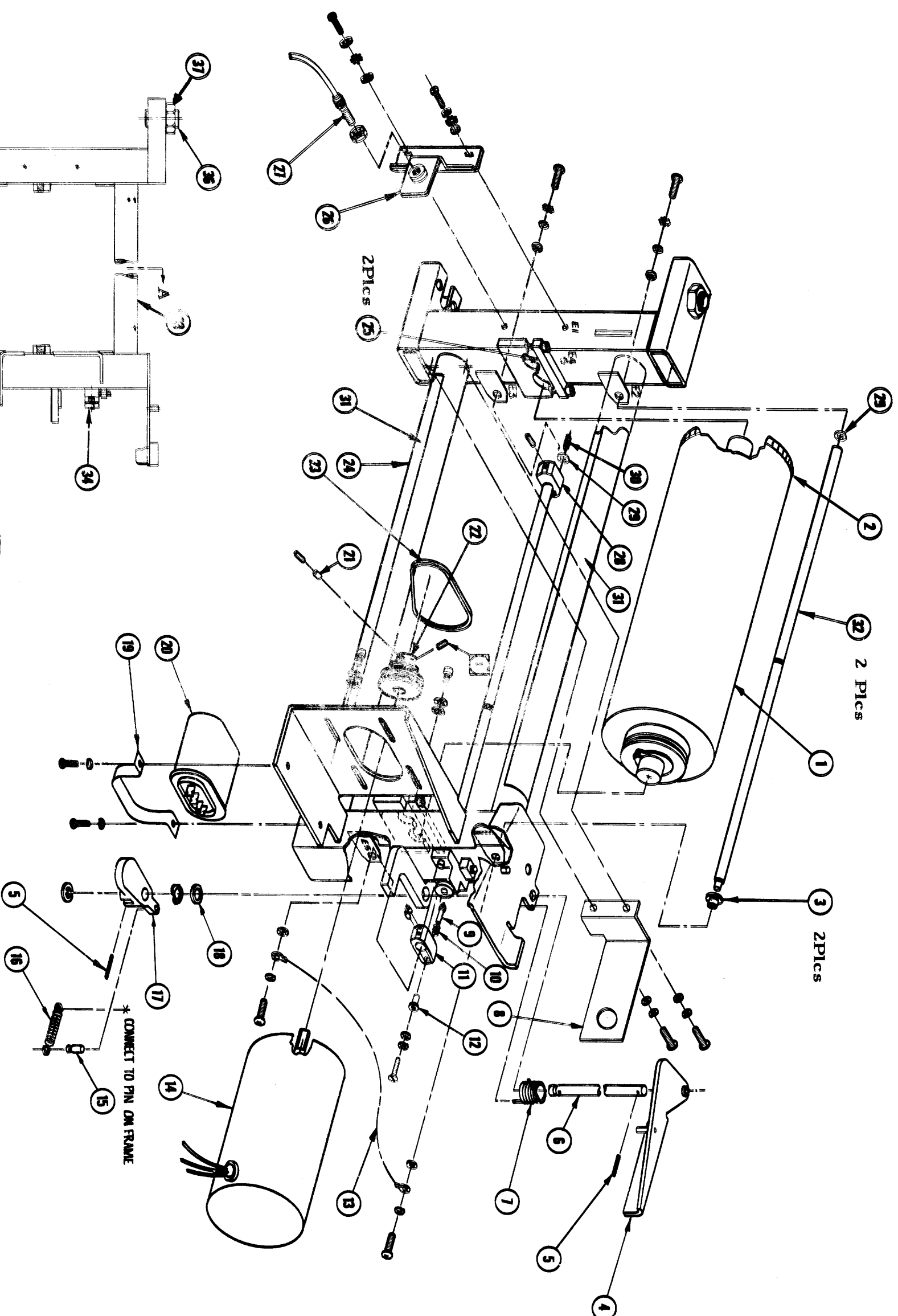


Figure 9-13  
Drum Gate Assembly

TABLE 9-13. DRUM GATE ASSEMBLY

| Figure & Index No. | Description                                                                        | Reference Designator | Part No.     | Qty |
|--------------------|------------------------------------------------------------------------------------|----------------------|--------------|-----|
| Fig. 9-13          | Drum Gate Assembly                                                                 | A8, A25              | 240857-002   | REF |
| 1.                 | Character Drum<br>64 Character<br>96 Character                                     | A25B1                | 236870-XXXX* | 1   |
|                    |                                                                                    |                      | 237480-XXXX* |     |
| 2.                 | Code Disk, 64 Character Drum<br>2.1248" Inside Diameter<br>2.2434" Inside Diameter |                      | 240735-001   | 1   |
|                    |                                                                                    |                      | 240735-002   |     |
|                    | 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                                                                  |                      | 800954-001   | 1   |
| 15.                | Pin, Grooved, Headless                                                             |                      | 800017-003   | 1   |
| 16.                | Spring, Extension                                                                  |                      | 243096-001   | 1   |
| 17.                | Pawl, Drum Latch                                                                   |                      | 240859-001   | 1   |
| 18.                | Washer, Nylon, 1/4                                                                 |                      | 800167-023   | 1   |
| 19.                | Bracket, Capacitor Mtg                                                             |                      | 800184-001   | 1   |

TABLE 9-13. 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<br>64 Character Drum<br>96 Character Drum      |                      | 237747-002 | 1   |
|                    |                                                                   |                      | 237747-005 |     |
| 23.                | Belt, Drum Drive<br>64 Character Drum<br>96 Character Drum        |                      | 800104-002 | 1   |
|                    |                                                                   |                      | 800104-006 |     |
| 24.                | Drum Gate Sub-Assy<br>(Ref Items 32 - 35)                         |                      | 240856-001 | 1   |
| 25.                | Block, Drum Mounting                                              |                      | 240072-001 | 2   |
| 26.                | Bracket, Transducer Mtg<br>64 Character Drum<br>96 Character Drum | A8PU1                | 233469-001 | 1   |
|                    |                                                                   |                      | 233469-002 |     |
| 27.                | Transducer                                                        |                      | 243370-001 | 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<br>x 1/2 Lg                                |                      | 800017-007 | 1   |
| 36.                | Nut, Drum Gate Hinge                                              |                      | 237419-001 | 1   |
| 37.                | Nut, Hex, Jam                                                     |                      | 241413-001 | 1   |

\* XXX - See Character Drum or Sales Order Notice (SON) for appropriate dash number.

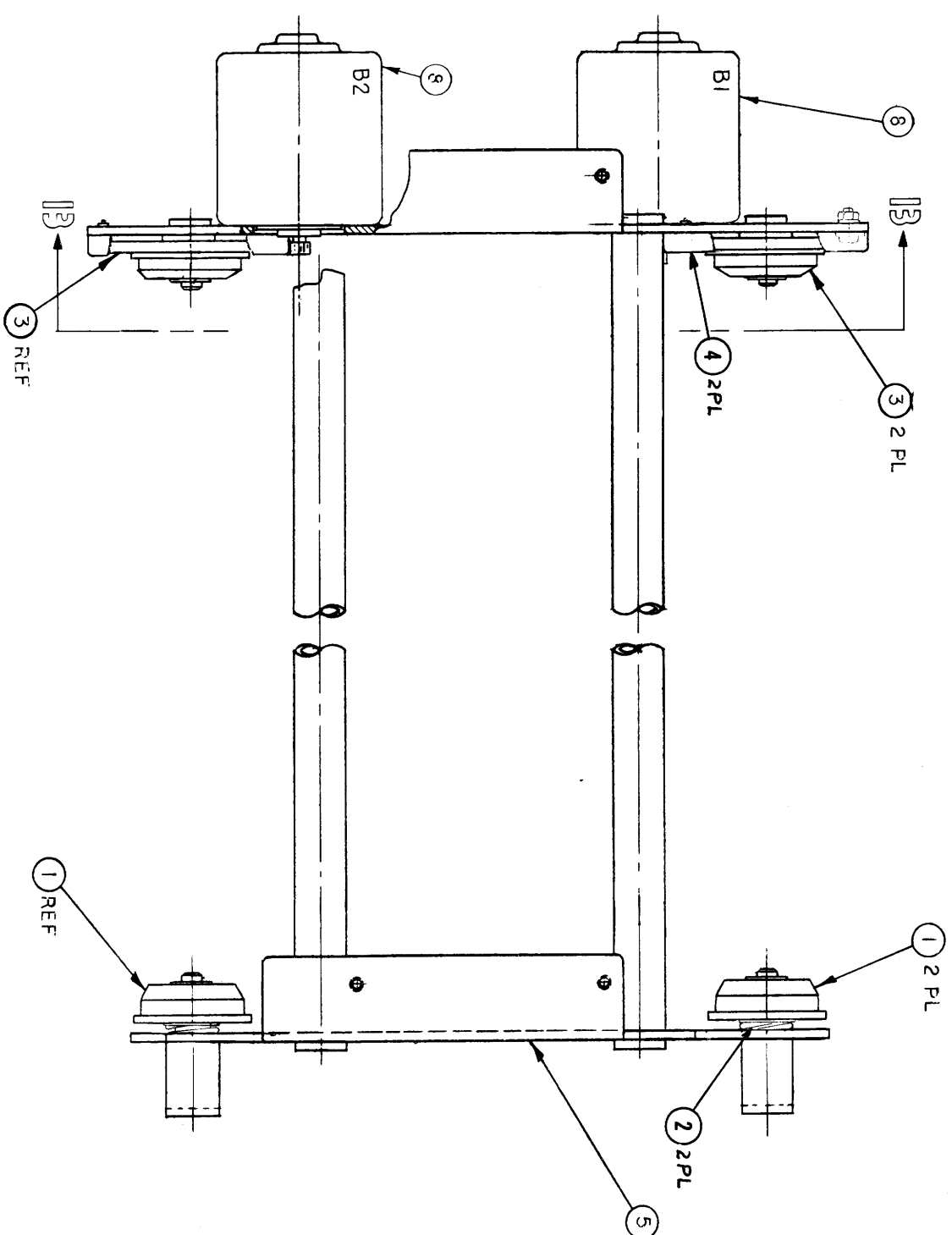


TABLE 9-14. RIBBON DRIVE SYSTEM ASSEMBLY

| Figure & Index No. | Description                  | Reference Designator | Part No.   | Qty |
|--------------------|------------------------------|----------------------|------------|-----|
| Fig. 9-14          | Ribbon Drive System Assembly |                      | 243038-001 | REF |
| 1.                 | Ribbon Holder, Floating      |                      | 231061-001 | 2   |
| 2.                 | Spring, Compression          |                      | 233426-001 | 2   |
| 3.                 | Spool, Ribbon Drive          |                      | 237356-001 | 2   |
| 4.                 | Cover, Gear                  |                      | 242003-001 | 2   |
| 5.                 | Frame, Ribbon System         |                      | 243039-002 | 1   |
| 8.                 | Motor, DC, Servo             | B1, B2               | 801148-001 | 2   |

Figure 9-14. Ribbon Drive System Assembly



TABLE 9-15. HAMMER BANK ASSEMBLY

| Figure & Index No. | Description                       | Reference Designator | Part No.   | Qty |
|--------------------|-----------------------------------|----------------------|------------|-----|
| Fig. 9-15          | Hammer Bank Assembly              | A6                   | 237847-001 | REF |
| 1.                 | Magnet Module                     |                      | 237806-001 | 1   |
| 2.                 | Magnet Module                     |                      | 237806-002 | 1   |
| 3.                 | Bracket, Backstop                 |                      | 237854-001 | 2   |
| 4.                 | Backstop Bar, Reversed            |                      | 219891-1   | 1   |
| 5.                 | Screw Assy, Backstop              |                      | 238840-001 | 136 |
| 6.                 | Marker Strip, Backstop Bar        |                      | 230642-1   | 1   |
| 7.                 | Marker Strip, Backstop Bar        |                      | 230642-2   | 1   |
| 8.                 | Hammer Module                     |                      | 237851-171 | 34  |
| 9.                 | Pin, Locating, Hammer Bank        |                      | 241993-001 | 2   |
| 10.                | Nut, Hex, 8-32                    |                      | 800646-010 | 2   |
| 11.                | Nut, Hex, Self Locking, 10-24     |                      | 801226-001 | 6   |
| 13.                | Screw, Cap, Soc Hd, 10-24 x 2 3/4 |                      | 800411-544 | 6   |
| 14.                | Screw, Cap, Soc Hd, 6-32 x 1 1/4  |                      | 800411-320 | 34  |
| 15.                | Screw, Cap, Soc Hd, 4-40 x 1/2    |                      | 800411-208 | 14  |
| 17.                | Washer, Flat, No. 10              |                      | 800641-005 | 12  |
| 18.                | Washer, Flat, No. 6               |                      | 800641-003 | 34  |
| 19.                | Washer, Flat, No. 4               |                      | 800718-102 | 14  |
| 21.                | Washer, Lock, Split, No. 6        |                      | 800175-003 | 34  |
| 22.                | Washer, Lock, Split, No. 4        |                      | 800175-002 | 14  |

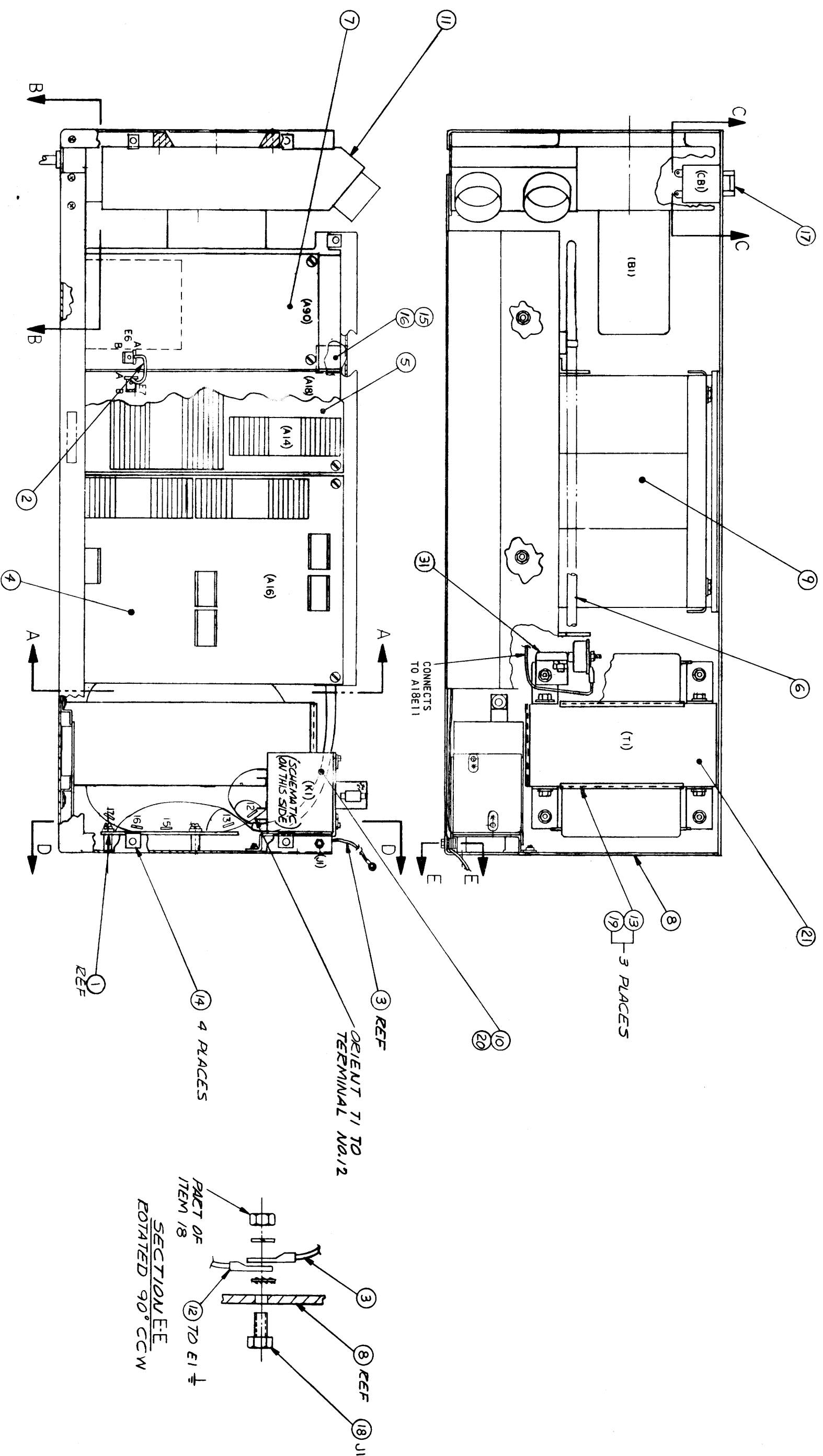
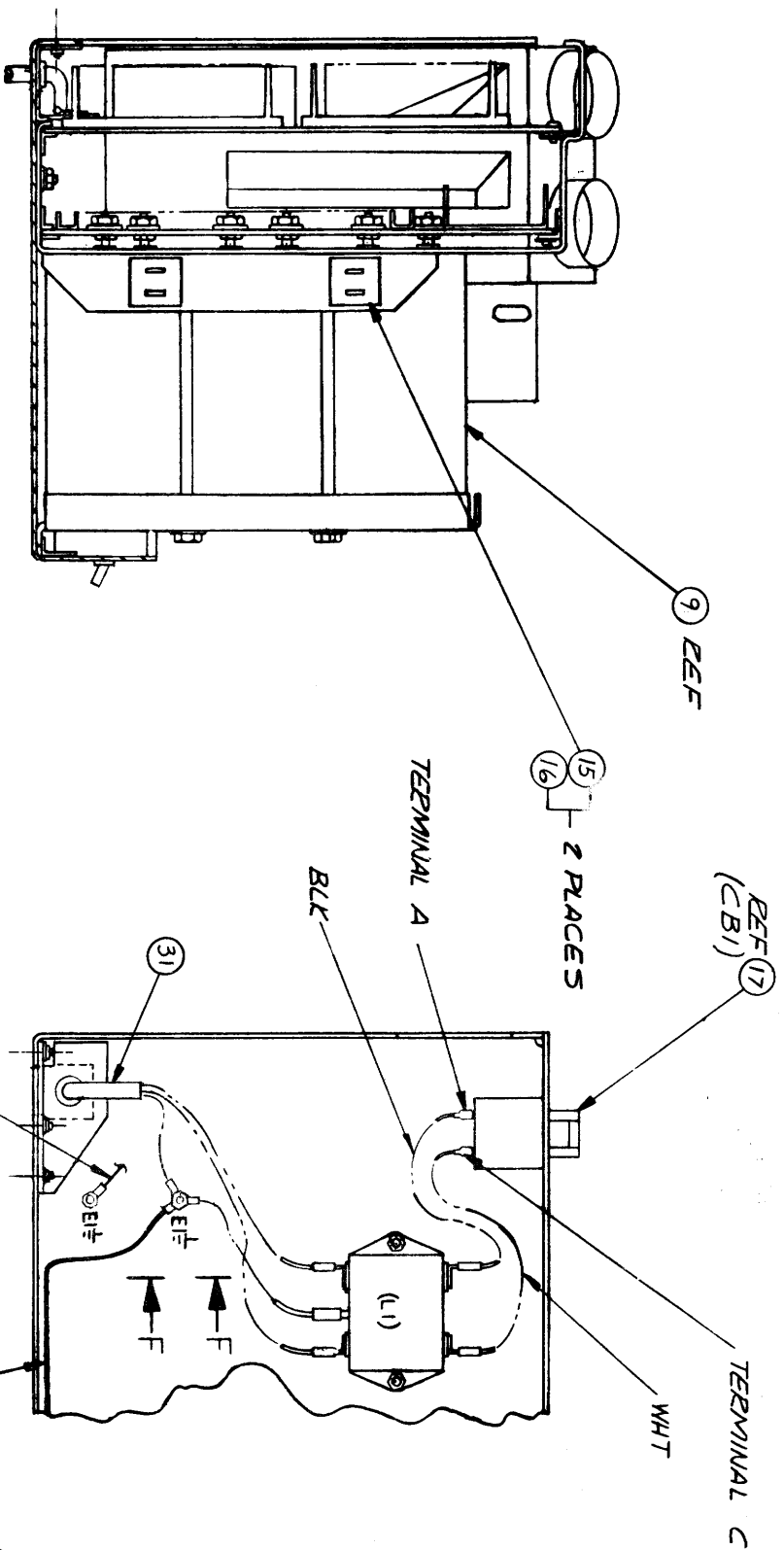
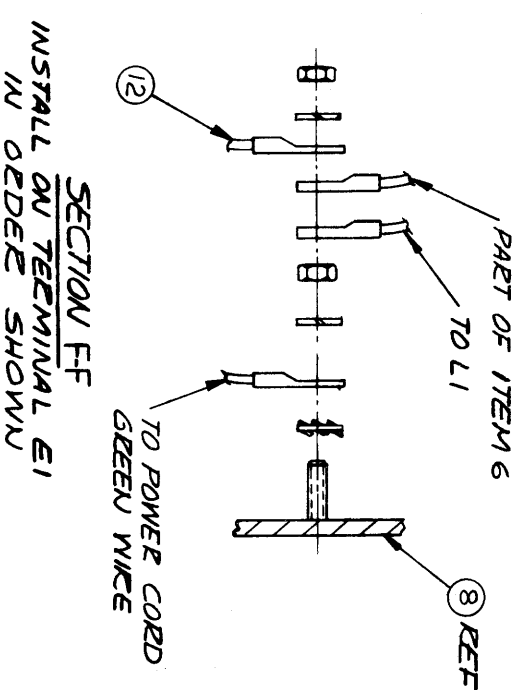


Figure 9-16 (Sheet 1 of 2)  
Electronics Assembly

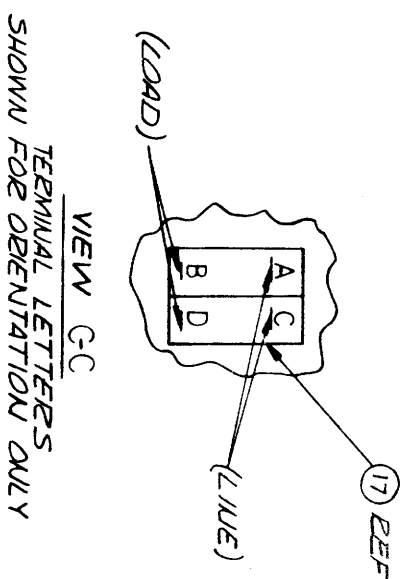


SECTION A-A

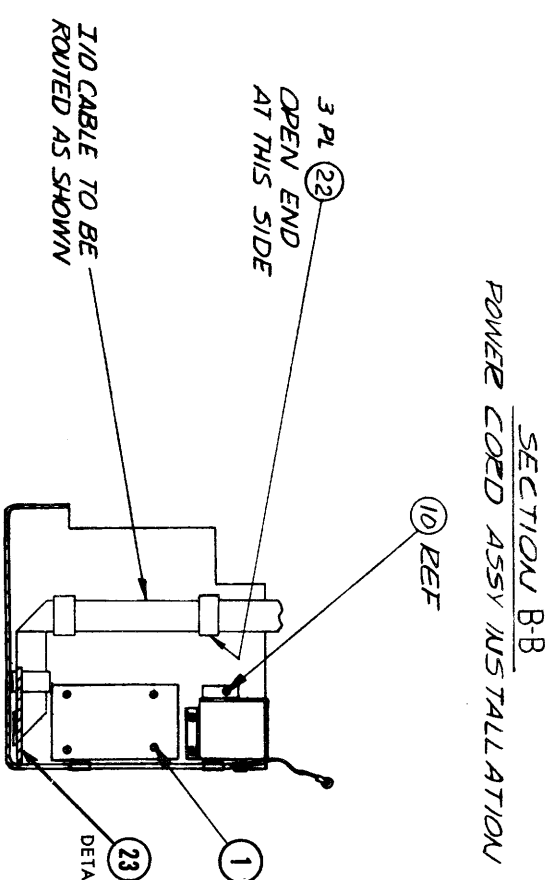
TO B1 (GREEN WIRE)



INSTALL ON TERMINAL EI  
IN ORDER SHOWN



TERMINAL LETTERS  
SHOWN FOR ORIENTATION ONLY



SECTION D-D

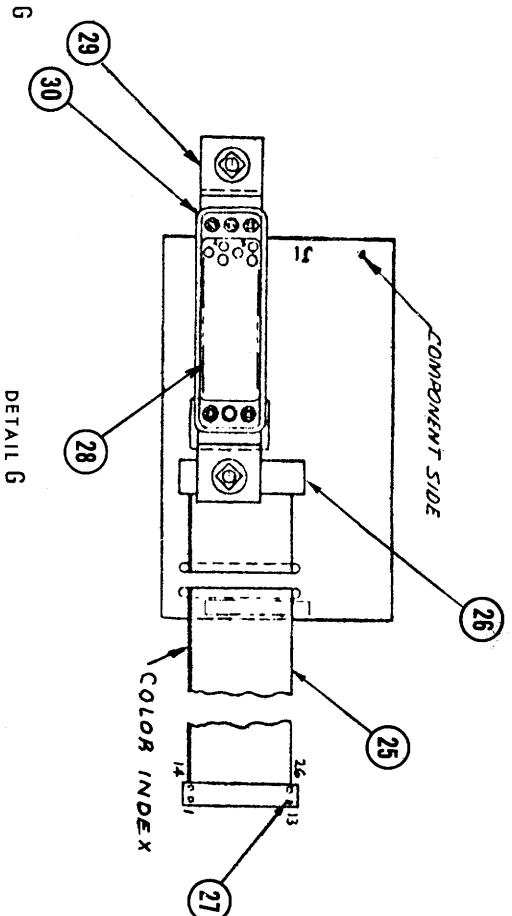


Figure 9-16 (Sheet 2 of 2)  
Electronics Assembly

TABLE 9-16. ELECTRONICS ASSEMBLY

| Figure & Index No. | Description                                                        | Reference Designator | Part No.   | Qty |
|--------------------|--------------------------------------------------------------------|----------------------|------------|-----|
| Fig. 9-16          | Electronics Assembly                                               | A15                  | 238108-001 | REF |
| 1.                 | Power Distribution Card Assembly (Ref Fig. 9-18)                   | A17                  | 236847-001 | 1   |
| 2.                 | Strap, Grounding                                                   |                      | 237461-017 | 1   |
| 3.                 | Strap, Grounding                                                   |                      | 237461-018 | 1   |
| 4.                 | Regulator Circuit Card Assembly (Ref Fig. 9-22)                    | A16                  | 237580-001 | 1   |
| 5.                 | Paper & Ribbon Servo Circuit Card Assembly, 25 MSC (Ref Fig. 9-23) | A14                  | 237880-001 | 1   |
| 6.                 | Electronics Cable Assembly                                         |                      | 238107-001 | 1   |
| 7.                 | Hammer Supply Circuit Card Assembly (Ref Fig. 9-21)                | A90                  | 237865-001 | 1   |
| 8.                 | Chassis, Electronics                                               |                      | 237707-001 | 1   |
| 9.                 | Capacitor Pack Assembly (Ref Fig. 9-19)                            | A18                  | 242060-001 | 1   |
| 10.                | Bracket, Relay                                                     |                      | 244639-001 |     |
| 11.                | Blower Assembly (Ref Fig. 9-17)                                    | A15B1                | 237815-001 | 1   |
| 12.                | Strap, Grounding                                                   |                      | 237461-022 | 1   |
| 13.                | Extrusion, Right Angle, Neoprene                                   |                      | 800086-007 | A/R |
| 14.                | Receptacle, 1/4 Turn                                               |                      | 800269-002 | 4   |
| 15.                | Strap, Cable Tie                                                   |                      | 800475-001 | A/R |
| 16.                | Anchor, Cable Tie                                                  |                      | 800487-001 | 3   |
| 17.                | Circuit Breaker                                                    | A15CB1               | 800797-005 | 1   |

\* XXX - Reference Addendum and SON to determine which is the correct replacement part.

TABLE 9-16. ELECTRONICS ASSEMBLY (Contd)

| Figure & Index No. | Description                                       | Reference Designator | Part No.    | Qty |
|--------------------|---------------------------------------------------|----------------------|-------------|-----|
| 18.                | Jack, Insulated, Banana                           | A15J1                | 800869-001  | 1   |
| 19.                | Adhesive, Contact                                 |                      | 800962-001  | A/R |
| 20.                | Relay, 12 VDC Coil, DPDT                          | A15K1                | 801010-001  | 1   |
| 21.                | Power Transformer                                 | A15T1                | 801199-001  | 1   |
| 22.                | Clamp, Flat Cable                                 |                      | 801267-001  | 3   |
| 23.                | Input/Output Harness Assembly (Ref Items 24 - 30) | A19                  | 243470-XXX* | 1   |
| 24.                | OMITTED                                           |                      |             |     |
| 25.                | Cable, Ribbon, 26 Cond                            |                      | 800507-026  | A/R |
| 26.                | Connector, 26 Pin, Flat Cable                     | TB1                  | 801090-026  | 1   |
| 27.                | Connector, 26 Pin, Flat Cable                     | P6                   | 801088-026  | 1   |
| 28.                | Connector, 50 Pin, Female                         | J1                   | 800562-150  | 1   |
| 29.                | Bracket, I/O Connector                            |                      | 235681-001  | 2   |
| 30.                | Shell, Receptacle                                 |                      | 800313-050  | 1   |
| 31.                | Power Cord Assembly (Ref Addendum)                |                      | -XXX*       | 1   |
| 32.                | Diode Assembly, Logic Ground                      |                      | 244718-001  | 1   |

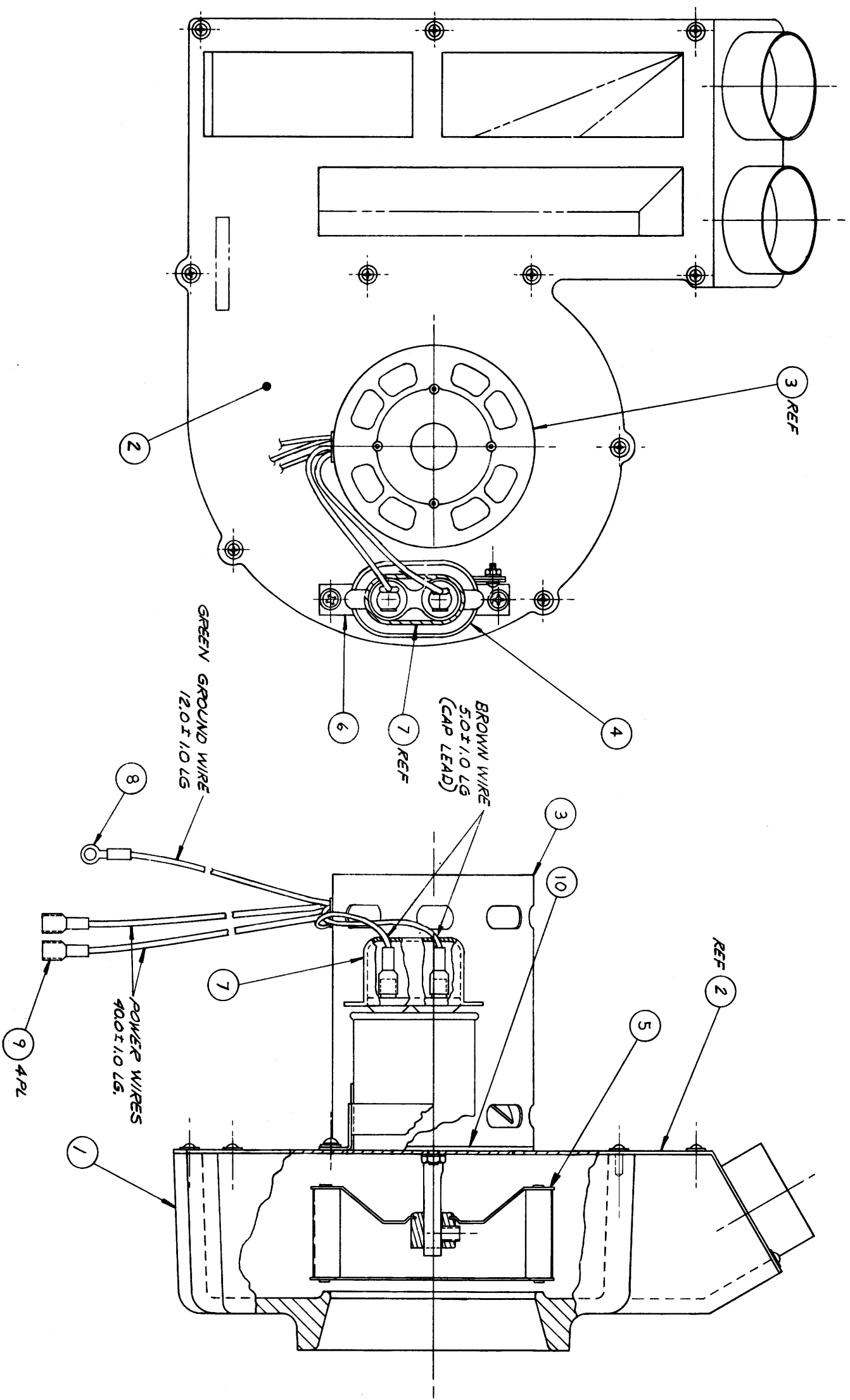


Figure 9-17  
Blower Assembly

TABLE 9-17. BLOWER ASSEMBLY

| Figure &<br>Index No. | Description                              | Reference<br>Designator | Part No.   | Qty |
|-----------------------|------------------------------------------|-------------------------|------------|-----|
| Fig. 9-17             | Blower Assembly                          | A15B1                   | 237815-001 | REF |
| 1.                    | Housing, Blower                          |                         | 237816-001 | 1   |
| 2.                    | Plate, Blower                            |                         | 237817-001 | 1   |
| 3.                    | Motor                                    | B1                      | 801346-001 | 1   |
| 4.                    | Capacitor                                | C1                      | 800183-001 | 1   |
| 5.                    | Wheel, Blower                            |                         | 801227-002 | 1   |
| 6.                    | Bracket, Capacitor Mtg                   |                         | 800555-002 | 1   |
| 7.                    | Boot, Terminal                           |                         | 800670-001 | 1   |
| 8.                    | Terminal, Ring, No. 8,<br>16-22 AWG, Red |                         | 800170-003 | 1   |
| 9.                    | Terminal, Push On, 18-16AWG              |                         | 801017-004 | 4   |
| 10.                   | Gasket, Sealing                          |                         | 801348-002 | 1   |

TABLE 9-18. POWER DISTRIBUTION CARD ASSEMBLY

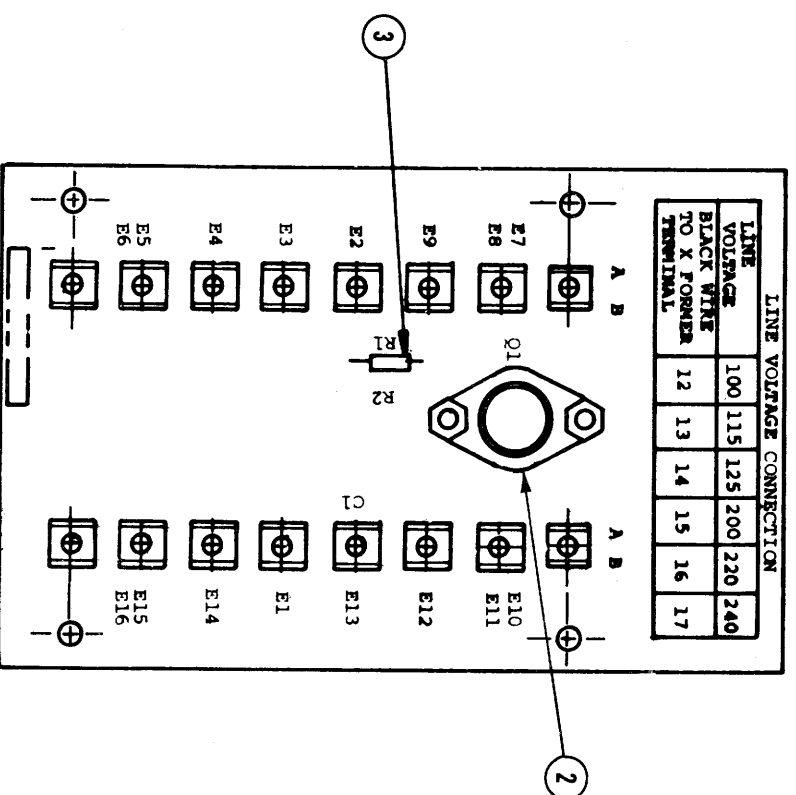
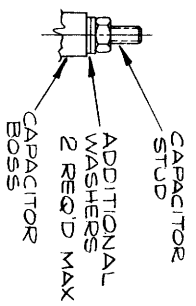


Figure 9-18  
Power Distribution Card Assembly

| Figure &<br>Index No. | Description                  | Reference<br>Designator | Part No.   | Qty |
|-----------------------|------------------------------|-------------------------|------------|-----|
| Fig. 9-18             | Power Distribution Card Assy | A17                     | 236847-001 | REF |
| 1.                    | OMITTED                      |                         |            |     |
| 2.                    | Thyristor, Triac             | Q1                      | 801144-001 | 1   |
| 3.                    | Resistor, 100 Ohms, 5%, 1/4W | R1                      | 800030-101 | 1   |



IN THE EVENT CAPACITORS WITH SHORT BOSSES  
MUST BE USED, ADD TWO FLAT WASHERS, PART NO.  
800075-005, BETWEEN STUD AND CAPACITOR  
BOSS AS SHOWN.

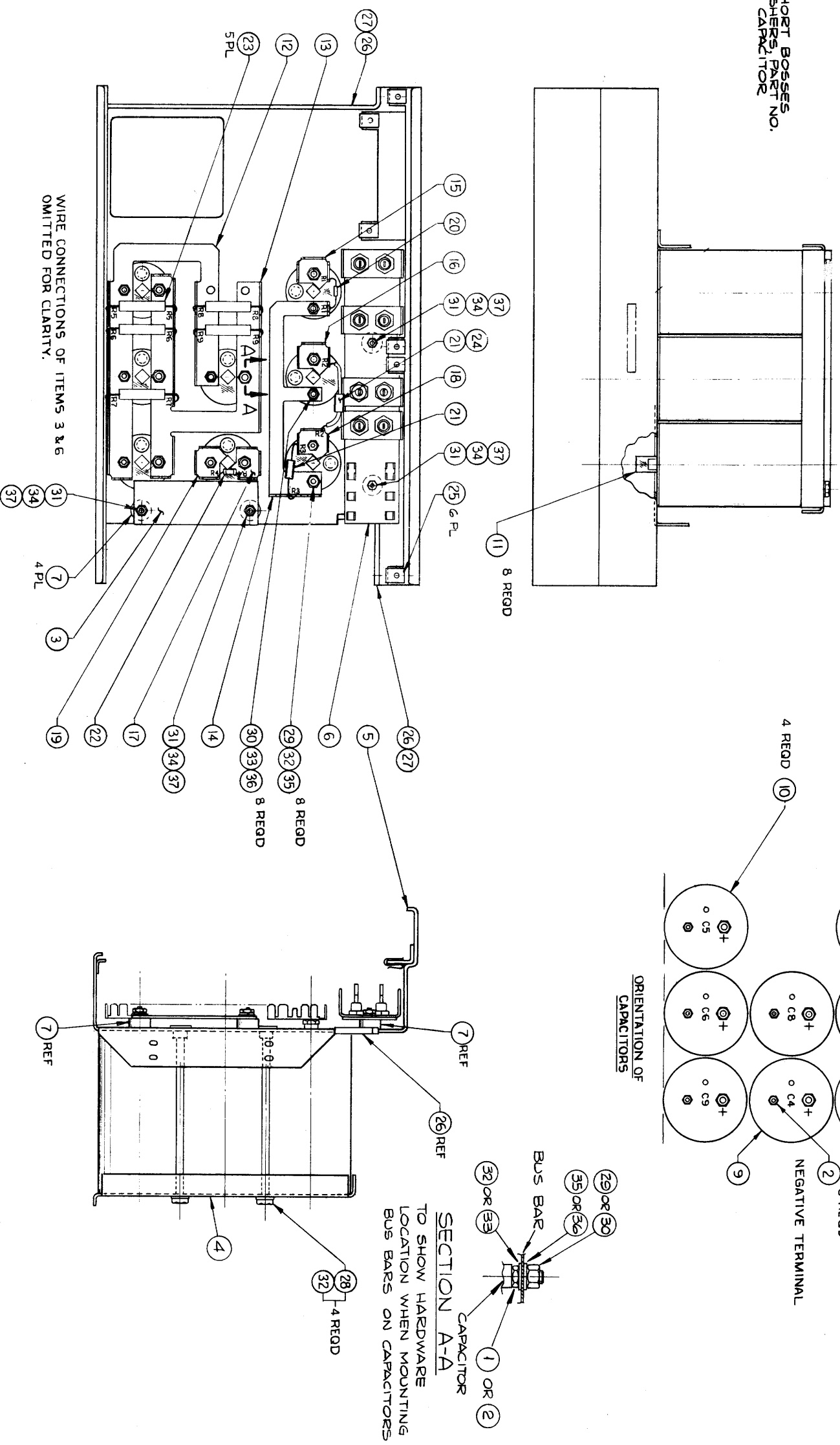


Figure 9-19  
Capacitor Pack Assembly

TABLE 9-19. CAPACITOR PACK ASSEMBLY

| Figure & Index No. | Description                                | Reference Designator | Part No.   | Qty |
|--------------------|--------------------------------------------|----------------------|------------|-----|
| Fig. 9-19          | Capacitor Pack Assembly                    | A18                  | 242060-001 | REF |
| 1.                 | Stud, Capacitor Mtg, 1/4-20                |                      | 215435-001 | 7   |
| 2.                 | Stud, Capacitor Mtg, 10-32                 |                      | 215437-002 | 7   |
| 3.                 | Wiring Harness Assembly, Capacitor Pack    |                      | 243505-001 | 1   |
| 4.                 | Bracket, Bottom                            |                      | 237708-001 | 1   |
| 5.                 | Bracket, Top                               |                      | 243492-001 | 1   |
| 6.                 | Diode Assy, Capacitor Pack (Ref Fig. 9-20) |                      | 243493-001 | 1   |
| 7.                 | Spacer                                     |                      | 242488-001 | 4   |
| 8.                 | Capacitor, Electrolytic, 71,000 UF, 25VDC  | C1, C2, C3           | 800092-257 | 3   |
| 9.                 | Capacitor, Electrolytic, 48,000 UF, 40VDC  | C4                   | 800092-407 | 1   |
| 10.                | Capacitor, Electrolytic, 30,000 UF, 75VDC  | C5, C6, C8, C9       | 800092-758 | 4   |
| 11.                | Deflector                                  |                      | 242058-001 | 7   |
| 12.                | Bus Bar                                    |                      | 242061-001 | 1   |
| 13.                | Bus Bar                                    |                      | 242062-001 | 1   |
| 14.                | Bus Bar                                    |                      | 242059-001 | 1   |
| 15.                | Bus Bar                                    |                      | 242063-001 | 1   |
| 16.                | Bus Bar                                    |                      | 242063-002 | 1   |
| 17.                | Bus Bar                                    |                      | 242063-003 | 1   |
| 18.                | Bus Bar                                    |                      | 242063-004 | 1   |
| 19.                | Bus Bar                                    |                      | 242063-005 | 1   |

TABLE 9-19. CAPACITOR PACK ASSEMBLY (Contd)

| Figure & Index No. | Description                  | Reference Designator | Part No.   | Qty |
|--------------------|------------------------------|----------------------|------------|-----|
| 20.                | Resistor, 1K, 5%, 1/4W       | R1                   | 800030-102 | 1   |
| 21.                | Resistor, 1K, 5%, 1W         | R2, R3               | 800032-102 | 2   |
| 22.                | Resistor, 1.2K, 5%, 2W       | R4                   | 800033-122 | 1   |
| 23.                | Resistor, 750 Ohm, 10%, 10W  | R5 - R9              | 800926-394 | 5   |
| 24.                | Tubing, Teflon, 18 AWG       |                      | 800157-018 | A/R |
| 25.                | Receptacle, 1/4 Turn         |                      | 800269-001 | 6   |
| 26.                | Channel, Rubber, 1/32 Groove |                      | 800086-006 | A/R |
| 28.                | Screw, Hex Hd, 1/4-20 x 6    |                      | 800409-696 | 4   |
| 29.                | Nut, Hex, 1/4-20             |                      | 800074-006 | 7   |
| 30.                | Nut, Hex, 10-32              |                      | 800329-005 | 7   |
| 31.                | Nut, Hex, 8-32               |                      | 800074-004 | 4   |
| 32.                | Washer, Flat, 1/4            |                      | 800075-006 | 11  |
| 33.                | Washer, Flat, No. 10         |                      | 800075-005 | 7   |
| 34.                | Washer, Flat, No. 8          |                      | 800075-004 | 4   |
| 35.                | Washer, Lock, Split, 1/4     |                      | 800175-006 | 7   |
| 36.                | Washer, Lock, Split, No. 10  |                      | 800175-005 | 7   |
| 37.                | Washer, Lock, Split, No. 8   |                      | 800175-004 | 4   |

TABLE 9-20. CAPACITOR PACK DIODE ASSEMBLY

| Figure & Index No. | Description                      | Reference Designator | Part No.   | Qty |
|--------------------|----------------------------------|----------------------|------------|-----|
| Fig. 9-20          | Capacitor Pack Diode Assy        |                      | 243493-001 | REF |
|                    | 1. Diode Support Assy            |                      | 243491-001 | 1   |
|                    | 2. Diode, 35A, 100V              | CR1 - CR4, CR7, CR8  | 800927-001 | 6   |
|                    | 3. Diode, 35A, 100V              | CR5, CR6             | 800975-001 | 2   |
|                    | 4. Heat Sink                     |                      | 237611-001 | 4   |
|                    | 5. Terminal, Push-On, 18-16 AWG  |                      | 801017-004 | 8   |
|                    | 6. Strap, Cable Tie, 5/8         |                      | 800475-001 | A/R |
|                    | 7. Wire, Stranded, 16 AWG, wht   |                      | 800242-916 | A/R |
|                    | 8. Cable Assy                    |                      | 242049-001 | 1   |
|                    | 9. Cable Assy                    |                      | 242049-002 | 3   |
|                    | 10. Bus Bar                      |                      | 243487-001 | 4   |
|                    | 16. Washer, Flat, 1/4            |                      | 800075-006 | 8   |
|                    | 17. Washer, Lock, Int Tooth, 1/4 |                      | 800076-006 | 8   |
|                    | 18. Nut, Hex, 1/4-28             |                      | 800329-006 | 8   |
|                    |                                  |                      |            |     |
|                    |                                  |                      |            |     |
|                    |                                  |                      |            |     |

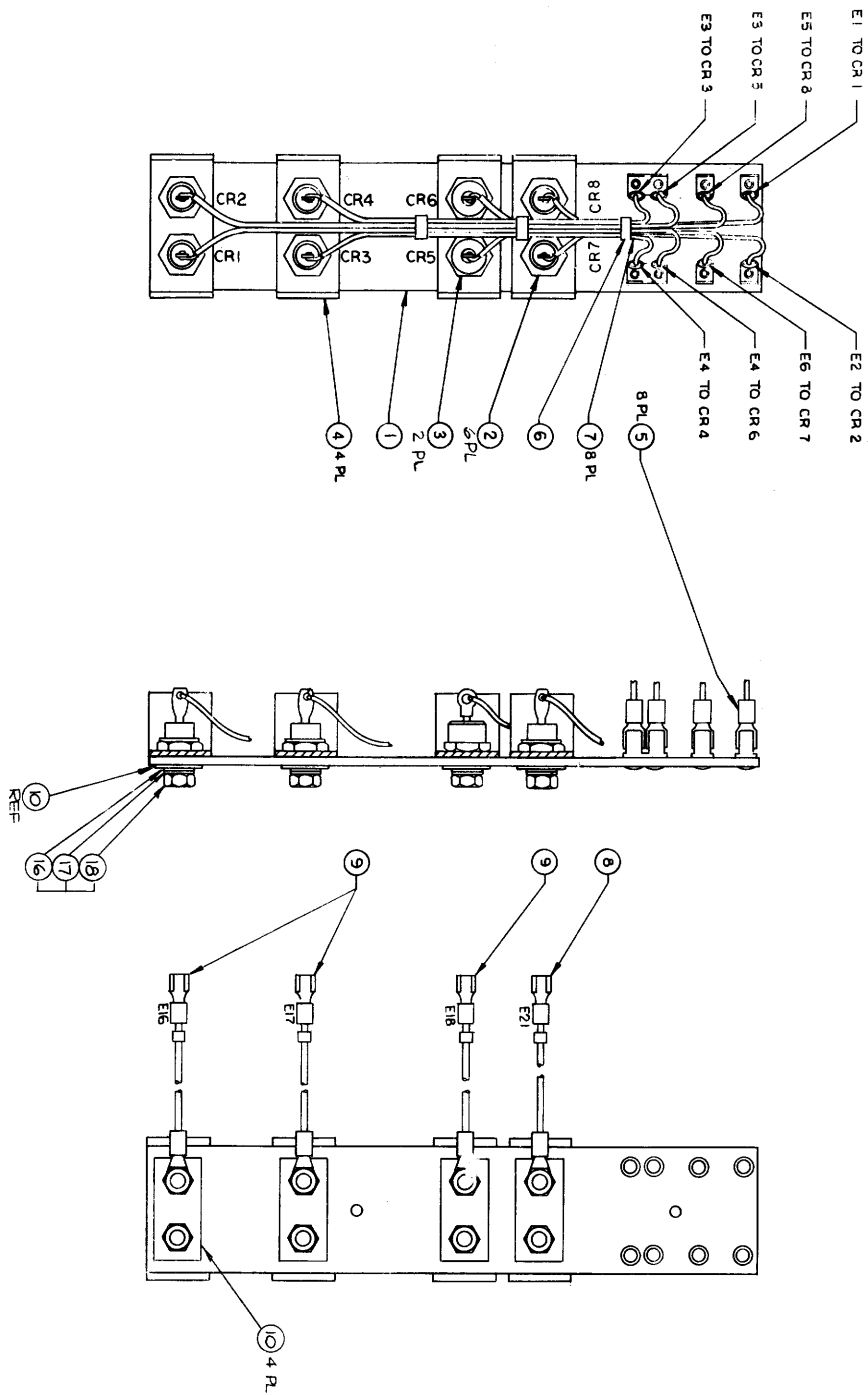


Figure 9-20  
Capacitor Pack Diode Assembly

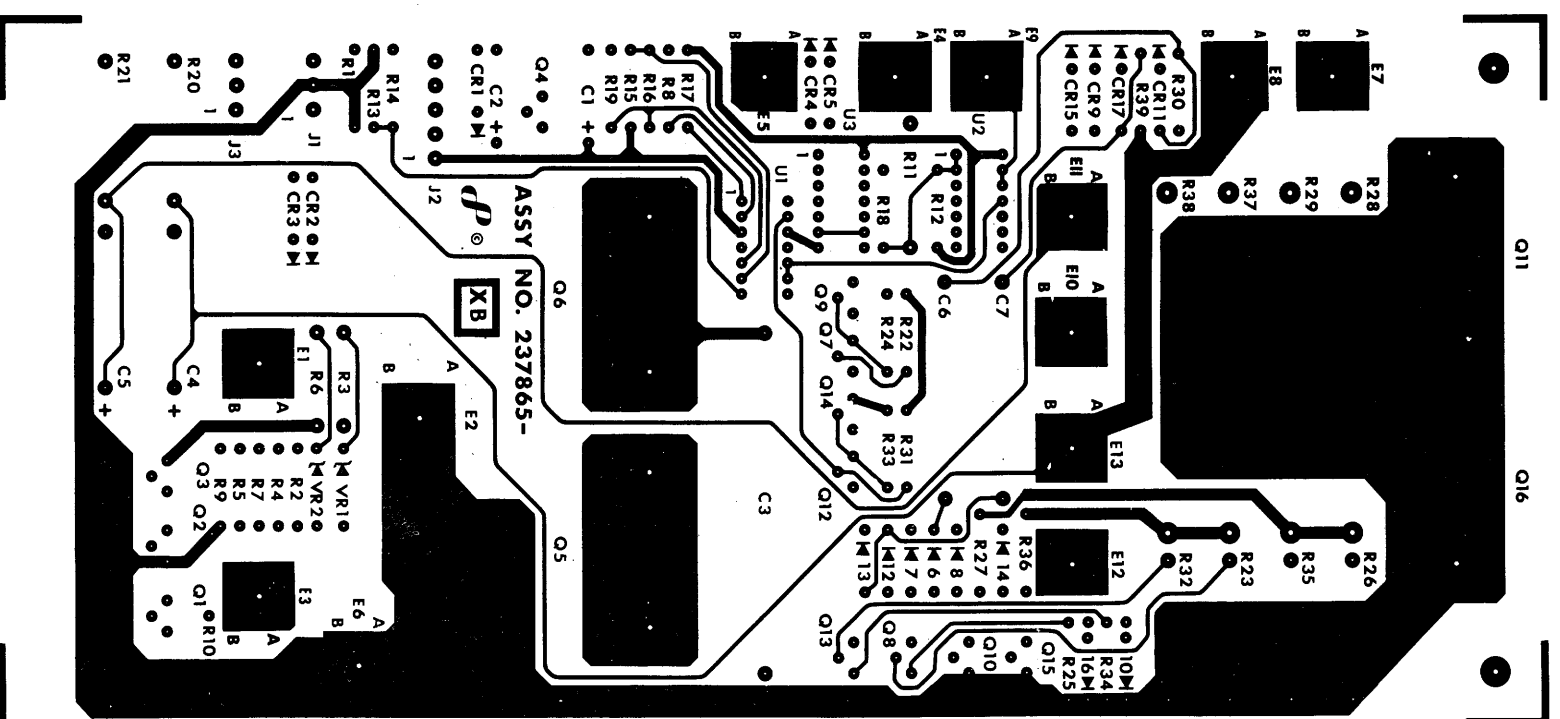


TABLE 9-21. HAMMER SUPPLY CIRCUIT CARD ASSEMBLY

| Figure & Index No. | Description                         | Reference Designator   | Part No.   | Qty |
|--------------------|-------------------------------------|------------------------|------------|-----|
| Fig. 9-21          | Hammer Supply Circuit Card Assembly | A90                    | 237865-001 | REF |
| 1.                 | OMITTED                             |                        |            |     |
| 4.                 | Heat Sink                           | Q5, Q6 (REF)           | 237610-001 | 2   |
| 8.                 | Capacitor, 2.2 UF, 10%, 20V         | C1                     | 800041-225 | 1   |
| 9.                 | Capacitor, 4.7 UF, 20%, 10V         | C2                     | 800091-475 | 1   |
| 10.                | Capacitor, .47 UF, 10%, 400V        | C3                     | 800798-004 | 1   |
| 11.                | Capacitor, 10 UF, 10%, 75V          | C4, C5                 | 800733-106 | 2   |
| 15.                | Diode, Silicon                      | CR1, CR2, CR3          | 800743-001 | 3   |
| 16.                | Diode, Silicon                      | CR4, CR5               | 800095-001 | 2   |
| 18.                | Wire, Jumper, 22 AWG                | CR10, CR16             | 800688-001 | 2   |
| 20.                | Connector, 3 Position, Tin Plated   | J1, J3                 | 801037-053 | 2   |
| 21.                | Connector, 5 Position, Gold Plated  | J2                     | 801037-005 | 1   |
| 24.                | Transistor, PNP                     | Q1, Q2, Q3             | 800089-001 | 3   |
| 25.                | Transistor, NPN                     | Q4                     | 800742-001 | 1   |
| 26.                | Thyristor                           | Q5, Q6                 | 800864-001 | 2   |
| 31.                | Spacer, Transistor                  | Q1 - Q4 (REF)<br>(Ref) | 800240-001 | 4   |
| 34.                | Resistor, 56.2K, 1%, 1/8W           | R1, R13                | 800011-356 | 2   |
| 35.                | Resistor, 47K, 5%, 1/4W             | R2, R4, R18            | 800030-473 | 3   |
| 36.                | Resistor, 47 Ohms, 5%, 1/2W         | R3, R6                 | 800031-470 | 2   |
| 37.                | Resistor, 330 Ohms, 5%, 1/4W        | R5, R7                 | 800030-331 | 2   |

Figure 9-21  
Hammer Supply Circuit Card Assembly

TABLE 9-21. HAMMER SUPPLY CIRCUIT CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                      | Reference Designator | Part No.   | Qty |
|--------------------|----------------------------------|----------------------|------------|-----|
| 38.                | Resistor, 3.9K, 5%, 1/4W         | R8                   | 800030-392 | 1   |
| 39.                | Resistor, 1K, 5%, 1/4W           | R9, R10              | 800030-102 | 2   |
| 41.                | Resistor, 6.8K, 5%, 1W           | R11                  | 800032-682 | 1   |
| 42.                | Resistor, 6.8K, 5%, 1/4W         | R12                  | 800030-682 | 1   |
| 43.                | Resistor, 4.64K, 1%, 1/8W        | R14                  | 800011-327 | 1   |
| 44.                | Resistor, 1.47K, 1%, 1/8W        | R15                  | 800011-159 | 1   |
| 45.                | Resistor, 681 Ohms, 1%, 1/8W     | R16                  | 800011-382 | 1   |
| 46.                | Resistor, 22K, 5%, 1/4W          | R17                  | 800030-223 | 1   |
| 47.                | Resistor, 332 Ohms, 1%, 1/8W     | R19                  | 800011-277 | 1   |
| 48.                | Resistor, 5.6K, 5%, 2W           | R20, R21             | 800033-562 | 2   |
| 54.                | Integrated Circuit               | U1                   | 801257-001 | 1   |
| 55.                | Integrated Circuit               | U2, U3               | 800024-001 | 2   |
| 58.                | Diode, Regulator, 5.6V, 5%       | VR1, VR2             | 800592-001 | 2   |
| 61.                | Terminal, Ring, No. 8, 14-16 AWG |                      | 800170-107 | 2   |
| 62.                | Terminal, Push-On, 14-18 AWG     |                      | 801017-003 | 4   |
| 65.                | Stud, Fastener                   |                      | 800268-001 | 2   |
| 66.                | Retainer, Washer                 |                      | 800270-001 | 2   |
| 67.                | Washer, Nylon, Bl, .420 Dia      |                      | 800235-004 | 2   |
| 68.                | Spring, Ejector, .375 Dia        |                      | 800235-005 | 2   |
| 69.                | Screw, Pan Hd, 6-32 x 3/8        |                      | 800073-306 | 4   |
| 70.                | Screw, Pan Hd, 8-32 x 3/8        |                      | 800073-406 | 2   |
| 71.                | Washer, Lock, Split, No. 6       |                      | 800175-003 | 4   |

TABLE 9-21. HAMMER SUPPLY CIRCUIT CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                       | Reference Designator | Part No.   | Qty |
|--------------------|-----------------------------------|----------------------|------------|-----|
| 72.                | Washer, Flat, Reduced O.D., No. 6 |                      | 800718-003 | 4   |
| 73.                | Washer, Lock, Ext Tooth, No. 8    |                      | 800506-004 | 2   |
| 74.                | Nut, Hex, 8-32                    |                      | 800074-004 | 2   |
| 77.                | Wire, Stranded, White, 14 AWG     |                      | 800463-914 | A/R |
| 78.                | Wire, Stranded, White, 18 AWG     |                      | 800630-918 | A/R |
| 79.                | Tubing, Heat Shrink, Black        |                      | 800350-012 | A/R |

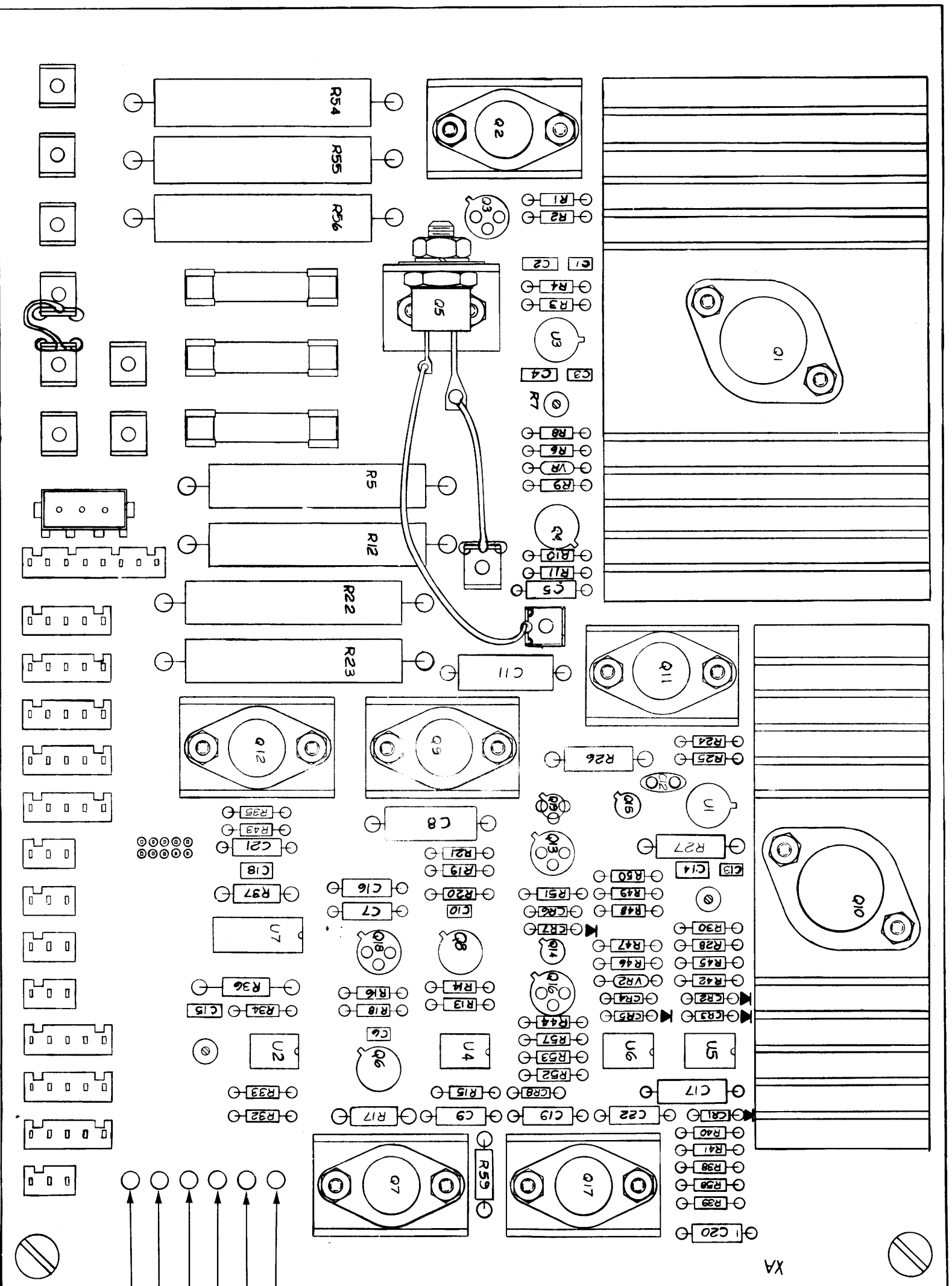


Figure 9-22  
Regulator Card Assembly

TABLE 9-22. REGULATOR CARD ASSEMBLY

| Figure &<br>Index No. | Description                      | Reference<br>Designator | Part No.   | Qty |
|-----------------------|----------------------------------|-------------------------|------------|-----|
| Fig. 9-22             | Regulator Card Assembly          | A16                     | 237580-001 | REF |
| 1.                    | OMITTED                          |                         |            |     |
| 2.                    | Capacitor, 18 pF, 15%, 100V      | C1, 6, 10               | 801024-180 | 3   |
| 3.                    | Capacitor, .01 uF, 15%, 100V     | C2, 4, 12, 14, 15       | 801024-103 | 5   |
| 4.                    | Capacitor, 680 pF, 15%, 100V     | C3, 13, 18              | 801024-681 | 3   |
| 5.                    | Capacitor, 4.7 uF, 20%, 10V      | C5, 16, 21, 22          | 800091-475 | 4   |
| 6.                    | Capacitor, 2.2 uF, 10%, 20V      | C7, 19, 20              | 800041-225 | 3   |
| 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.                   | Diode, Silicon                   | CR1 - CR8               | 800743-001 | 8   |
| 12.                   | Fuse, Fast Acting                | F1                      | 800316-150 | 1   |
| 13.                   | Fuse, Fast Acting                | F2, 3                   | 800316-080 | 2   |
| 14.                   | Connector, PCB Mtg Header, 8 Pin | J1                      | 801037-058 | 1   |
| 15.                   | Connector, PCB Mtg Header, 5 Pin | J2 - J6, 12, 13         | 801037-055 | 7   |
| 16.                   | Connector, PCB Mtg Header, 3 Pin | J7 - J10, 14            | 801037-053 | 5   |
| 17.                   | Connector, PCB Mtg Header, 5 Pin | J11                     | 801037-005 | 1   |
| 18.                   | Terminal, Post, Square           | J15                     | 801055-001 | 10  |

TABLE 9-22. REGULATOR CARD ASSEMBLY (Contd)

| Figure &<br>Index No. | Description                            | Reference<br>Designator | Part No.   | Qty |
|-----------------------|----------------------------------------|-------------------------|------------|-----|
| 19.                   | Connector, PCB Mtg Header, 3 Pin (AMP) | J16                     | 350210-1   | 1   |
| 20.                   | Transistor                             | Q1                      | 800497-001 | 1   |
| 21.                   | Transistor                             | Q2, 7, 9, 12, 17        | 800018-001 | 5   |
| 22.                   | Transistor                             | Q3, 4, 8, 13, 16, 18    | 800089-001 | 6   |
| 23.                   | Thyristor, Triode                      | Q5                      | 800192-001 | 1   |
| 24.                   | Transistor                             | Q6                      | 800515-001 | 1   |
| 25.                   | Transistor                             | Q10                     | 800215-001 | 1   |
| 26.                   | Transistor                             | Q11                     | 800476-001 | 1   |
| 27.                   | Transistor                             | Q14, 15, 19             | 800132-001 | 3   |
| 28.                   | Resistor, 100 Ohms, 5%, 1/4W           | R1, 9, 24, 52           | 800030-101 | 4   |
| 29.                   | Resistor, 560 Ohm, 5%, 1/4W            | R2, 51                  | 800030-561 | 2   |
| 30.                   | Resistor, 14.7 Ohms, 1%, 1/8W          | R3                      | 800011-157 | 1   |
| 31.                   | Resistor, 301 Ohms, 1%, 1/8W           | R4                      | 800011-263 | 1   |
| 32.                   | Resistor, .1 Ohm, 1%, 10W              | R5, 12                  | 800528-091 | 2   |
| 33.                   | Resistor, 5.36K, 1%, 1/8W              | R6                      | 800011-348 | 1   |
| 34.                   | Resistor, Variable, 1K                 | R7, 29, 31              | 800982-102 | 3   |
| 35.                   | Resistor, 2.49K, 1%, 1/8W              | R8                      | 800011-236 | 1   |
| 36.                   | Resistor, 27 Ohms, 5%, 1/4W            | R10                     | 800030-270 | 1   |
| 37.                   | Resistor, 1.2K, 5%, 1/4W               | R11, 18, 21, 41, 48, 50 | 800030-122 | 6   |
| 38.                   | Resistor, 3.32K, 1%, 1/8W              | R13, 32, 45             | 800011-278 | 3   |
| 39.                   | Resistor, 8.25K, 1%, 1/8W              | R14, 57                 | 800011-411 | 2   |

TABLE 9-22. REGULATOR CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                    | Reference Designator | Part No.   | Qty |
|--------------------|--------------------------------|----------------------|------------|-----|
| 40.                | Resistor, 2.7K, 5%, 1/4W       | R15,16,42,47,49      | 800030-272 | 5   |
| 41.                | Resistor, 1 Ohm, 1%, 1W        | R17,37,59            | 800210-100 | 3   |
| 42.                | Resistor, 5.62K, 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  | R25                  | 800011-297 | 1   |
| 46.                | Resistor, 536 Ohms, 1%, 1/2W   | R26                  | 800083-347 | 1   |
| 47.                | Resistor, .5 Ohm, 1%, 3W       | R27                  | 800084-095 | 1   |
| 48.                | Resistor, 13.3K, 1%, 1/8W      | R28                  | 800011-146 | 1   |
| 49.                | Resistor, 1.87K, 1%, 1/8W      | R30,38,58            | 800011-194 | 3   |
| 50.                | Resistor, 6.81K, 1%, 1/8W      | R33                  | 800011-383 | 1   |
| 51.                | Resistor, 1.47K, 1%, 1/8W      | R34                  | 800011-159 | 1   |
| 52.                | Resistor, 33.2K, 1%, 1/8W      | R35                  | 800011-279 | 1   |
| 53.                | Resistor, 470 Ohms, 5%, 1/2W   | R36                  | 800031-471 | 1   |
| 54.                | Resistor, 3.83K Ohms, 1%, 1/8W | R43,46               | 800011-299 | 2   |
| 55.                | Resistor, 4.64K, 1%, 1/8W      | R39                  | 800011-327 | 1   |
| 56.                | Resistor, 56K, 5%, 1/4W        | R40                  | 800030-563 | 1   |
| 57.                | Resistor, 2.74K, 1%, 1/8W      | R44                  | 800011-250 | 1   |
| 58.                | Resistor, 6.8K, 5%, 1/4W       | R53                  | 800030-682 | 1   |
| 59.                | Resistor, 68 Ohms, 10%, 10W    | R23,54,55,56         | 800926-381 | 4   |
| 60.                | Integrated Circuit             | U1,3                 | 800499-001 | 2   |

TABLE 9-22. REGULATOR CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                          | Reference Designator          | Part No.   | Qty |
|--------------------|--------------------------------------|-------------------------------|------------|-----|
| 61.                | Integrated Circuit                   | U2,4,5,6                      | 800952-001 | 4   |
| 62.                | Integrated Circuit                   | U7                            | 801179-001 | 1   |
| 63.                | Diode, Regulator                     | VR1,2                         | 800592-001 | 2   |
| 64.                | Clip, Fuse Holder                    | F1,2,3 (REF)                  | 800934-001 | 6   |
| 65.                | Heat Sink                            | Q1 (REF)                      | 234333-002 | 1   |
| 66.                | Heat Sink                            | Q2,7,9,11,12,17 (REF)         | 800781-002 | 6   |
| 67.                | Heat Sink                            | Q5 (REF)                      | 234332-001 | 1   |
| 68.                | Heat Sink                            | Q10 (REF)                     | 234333-001 | 1   |
| 69.                | Spacer                               | Q3,4,6,8,12,14,17, U1,3 (REF) | 800240-001 | 9   |
| 70.                | Spreader, Transistor                 | Q13,15,16 (REF)               | 800099-001 | 3   |
| 71.                | Terminal, Push On, 14-10 AWG, Female |                               | 801017-001 | 2   |
| 72.                | Terminal, Push On, 22-18 AWG, Female |                               | 801017-002 | 2   |
| 73.                | Stud, Fastener, 1/4 Turn             |                               | 800268-001 | 2   |
| 74.                | Retainer, Washer                     |                               | 800270-001 | 2   |
| 75.                | Washer, Nylon, Blk, .420 Dia         |                               | 800235-004 | 2   |
| 76.                | Spring, Ejector, .375 Dia            |                               | 800235-005 | 2   |

TABLE 9-23. PAPER AND RIBBON SERVO CIRCUIT CARD ASSEMBLY

| Figure & Index No. | Description                                   | Reference Designator                                                                                       | Part No.   | Qty |
|--------------------|-----------------------------------------------|------------------------------------------------------------------------------------------------------------|------------|-----|
| Fig. 9-23          | Circuit Card Assembly, Paper and Ribbon Servo | A14                                                                                                        | 237880-001 | REF |
| 1.                 | OMITTED                                       |                                                                                                            |            |     |
| 2.                 | Capacitor, .01 UF, 20%, 100V                  | C101, C102, C103, C113, C114, C115, C116, C118, C119, C124, C125, C133, C304, C310, C311, C313, C317, C318 | 801024-103 | 18  |
| 3.                 | Capacitor, .15 UF, 10%, 100V                  | C104                                                                                                       | 800039-154 | 1   |
| 4.                 | Capacitor, .0015 UF, 10%, 200V                | C105                                                                                                       | 800039-152 | 1   |
| 5.                 | Capacitor, .01 UF, 10%, 100V                  | C110                                                                                                       | 800039-103 | 1   |
| 6.                 | Capacitor, 4.7 UF, 20%, 10V                   | C111, C301, C302, C312, C314                                                                               | 800091-475 | 5   |
| 7.                 | Capacitor, 1 UF, 10%, 20V                     | C112, C120, C309, C315                                                                                     | 800041-105 | 4   |
| 8.                 | Capacitor, .1 UF, 20%, 50V                    | C114, C121, C316, C132                                                                                     | 801024-104 | 4   |
| 9.                 | Capacitor, 1 UF, 10%, 50V                     | C122, C123, C307, C308                                                                                     | 800090-105 | 4   |
| 10.                | Capacitor, .022 UF, 10%, 100V                 | C126                                                                                                       | 800039-223 | 1   |
| 11.                | Capacitor, .001 UF, 20%, 100V                 | C127                                                                                                       | 801024-102 | 1   |
| 12.                | Capacitor, 220 pF, 20%, 100V                  | C128, C130                                                                                                 | 801024-221 | 2   |
| 13.                | Capacitor, 39 UF, 10%, 10V                    | C129, C131                                                                                                 | 800040-396 | 2   |
| 14.                | Capacitor, 56 UF, 10%, 10V                    | C303                                                                                                       | 800040-566 | 1   |

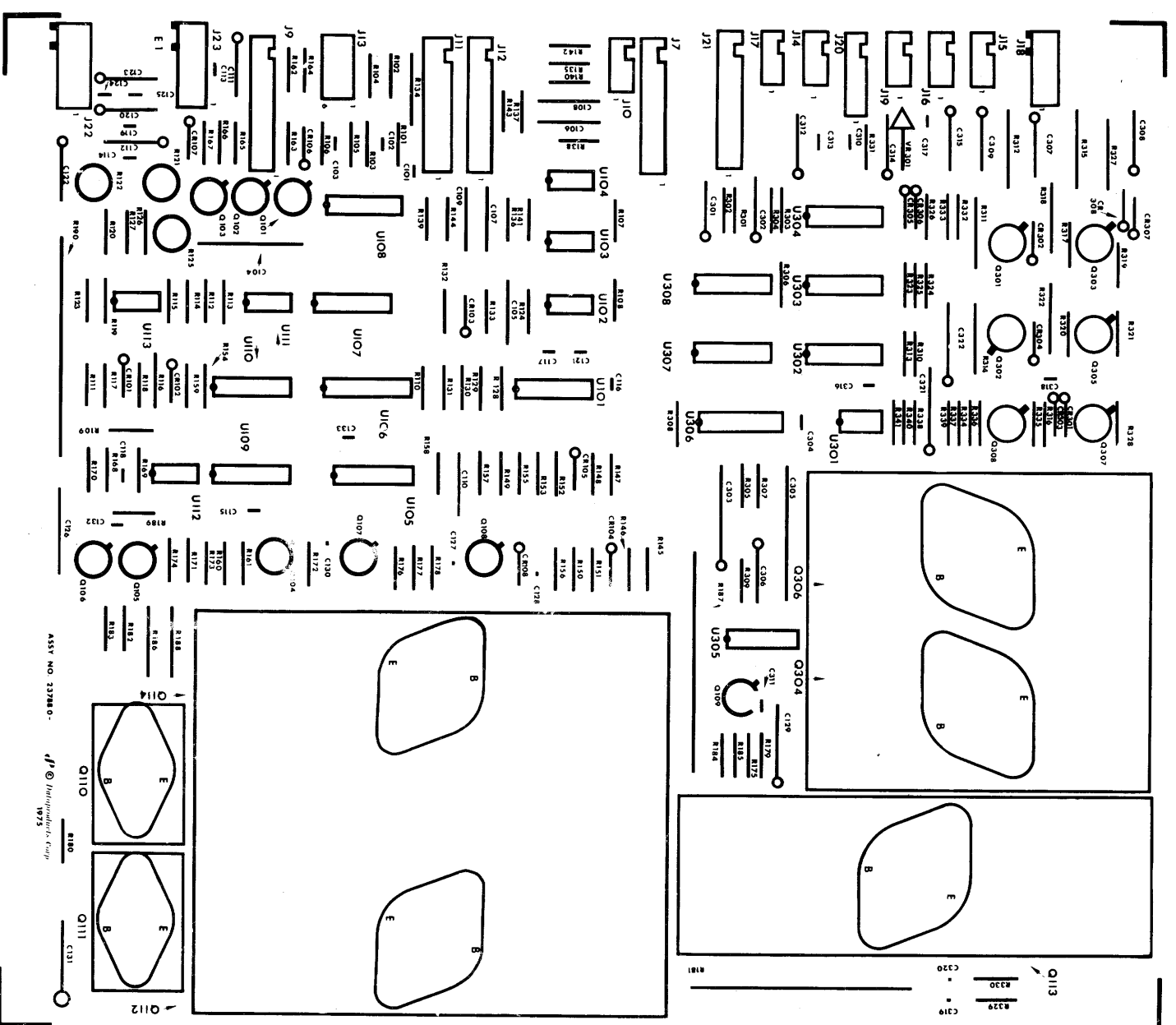


Figure 9-23  
Paper and Ribbon Servo Circuit Card Assembly

TABLE 9-23. PAPER AND RIBBON SERVO CIRCUIT CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                        | Reference Designator                  | Part No.   | Qty |
|--------------------|------------------------------------|---------------------------------------|------------|-----|
| 15.                | Capacitor, .22 UF, 10%, 100V       | C305                                  | 800039-224 | 1   |
| 16.                | Capacitor, .33 UF, 10%, 20V        | C306                                  | 800041-334 | 1   |
| 17.                | Capacitor, .001 UF, 20%, 100V      | C319, C320                            | 801024-102 | 2   |
| 18.                | Capacitor, 3.3 UF, 10%, 20V        | C321                                  | 800041-335 | 1   |
| 19.                | Capacitor, 15 UF, 10%, 20V         | C322                                  | 800041-156 | 1   |
| 20.                | Diode, Silicon                     | CR101 -<br>CR108,<br>CR301 -<br>CR306 | 800743-001 | 14  |
| 21.                | Diode, Silicon                     | CR307, 308                            | 800095-001 | 2   |
| 22.                | Diode, Regulator, 5.6V             | VR301                                 | 800592-001 | 1   |
| 23.                | Connector, 8 Position, Gold Plated | J7, J9, U11,<br>J12, J21              | 801037-008 | 5   |
| 24.                | Connector, 3 Position              | J13, J22, J23                         | 801018-002 | 3   |
| 25.                | Terminal Post, Square              | J13 (REF)                             | 801055-001 | 10  |
| 26.                | Connector, 5 Position, Tin Plated  | J20                                   | 801037-055 | 1   |
| 27.                | Connector, 3 Position, Gold Plated | J10, J14, J17                         | 801037-003 | 3   |
| 28.                | Connector, 3 Position, Tin Plated  | J15, J16, J19                         | 801037-053 | 3   |
| 29.                | Transistor                         | Q101, Q105,<br>Q106, Q307             | 800089-001 | 4   |
| 30.                | Transistor                         | Q102, Q107,<br>Q303, Q305             | 800515-001 | 4   |
| 31.                | Transistor                         | Q103                                  | 800231-001 | 1   |

TABLE 9-23. PAPER AND RIBBON SERVO CIRCUIT CARD ASSEMBLY (Contd)

| Figure & Index No. | Description               | Reference Designator                                                                                                       | Part No.   | Qty |
|--------------------|---------------------------|----------------------------------------------------------------------------------------------------------------------------|------------|-----|
| 32.                | Transistor                | Q104, Q108,<br>Q109, Q301,<br>Q302, Q308                                                                                   | 800088-001 | 6   |
| 33.                | Transistor                | Q110                                                                                                                       | 800018-001 | 1   |
| 34.                | Transistor                | Q111                                                                                                                       | 800476-001 | 1   |
| 35.                | Transistor                | Q112, Q113,<br>Q114                                                                                                        | 800497-001 | 3   |
| 36.                | Transistor                | Q304, Q306                                                                                                                 | 800215-001 | 2   |
| 37.                | Resistor, 2.2K, 5%, 1/4W  | R101, R103,<br>R105, R110,<br>R112, R115,<br>R132, R150,<br>R153, R154,<br>R157 Thru<br>R161, R173,<br>R180, R185,<br>R341 | 800030-222 | 19  |
| 38.                | Resistor, 47, 5%, 1/4W    | R102, R104,<br>R106, R306,<br>R329, R330                                                                                   | 800030-470 | 6   |
| 39.                | Resistor, 10K, 1%, 1/8W   | R107                                                                                                                       | 800011-104 | 1   |
| 40.                | Resistor, 82.5K, 1%, 1/8W | R108                                                                                                                       | 800011-412 | 1   |
| 41.                | Resistor, 2.74K, 1%, 1/8W | R109                                                                                                                       | 800011-250 | 1   |
| 42.                | Resistor, 2.05K, 1%, 1/8W | R111, R136,<br>R137, R141,<br>R143                                                                                         | 800011-208 | 5   |
| 43.                | Resistor, 38.3K, 1%, 1/8W | R113, R114                                                                                                                 | 800011-300 | 2   |
| 44.                | Resistor, 1K, 1%, 1/4W    | R116                                                                                                                       | 800082-103 | 1   |
| 45.                | Resistor, 590, 1%, 1/8W   | R117                                                                                                                       | 800011-361 | 1   |
| 46.                | Resistor, 237K, 1%, 1/8W  | R118                                                                                                                       | 800011-231 | 1   |

TABLE 9-23. PAPER AND RIBBON SERVO CIRCUIT CARD ASSEMBLY (Contd)

| Figure &<br>Index No. | Description                       | Reference<br>Designator                  | Part No.   | Qty |
|-----------------------|-----------------------------------|------------------------------------------|------------|-----|
| 47.                   | Resistor, 47K, 5%, 1/4W           | R119, R130,<br>R305                      | 800030-473 | 3   |
| 48.                   | Resistor, 332 Ohm, 1%, 1/8W       | R120                                     | 800011-277 | 1   |
| 49.                   | Resistor, Variable, 1K, 1/2W      | R121                                     | 800982-102 | 1   |
| 50.                   | Resistor, Variable, 5K, 1/2W      | R122                                     | 800982-502 | 1   |
| 51.                   | Resistor, 4.02K, 1%, 1/8W         | R123                                     | 800011-306 | 1   |
| 52.                   | Resistor, 8.25K, 1%, 1/8W         | R124                                     | 800011-411 | 1   |
| 53.                   | Resistor, Variable, 100K,<br>1/2W | R125                                     | 800982-104 | 1   |
| 54.                   | Resistor, 205K, 1%, 1/8W          | R126                                     | 800011-210 | 1   |
| 55.                   | Resistor, 2.2M. 5%, 1/4W          | R127                                     | 800553-225 | 1   |
| 56.                   | Resistor, 2.8M, 5%, 1/4W          | R128                                     | 800553-185 | 1   |
| 57.                   | Resistor, 22K, 5%, 1/4W           | R129, R145,<br>R147, R307,<br>R309       | 800030-223 | 5   |
| 58.                   | Resistor, 1.5K, 5%, 1/4W          | R131, R151,<br>R152, R332                | 800030-152 | 4   |
| 59.                   | Resistor, 75K, 1%, 1/8W           | R133                                     | 800011-398 | 1   |
| 60.                   | Resistor, 274 Ohm, 1%, 1/2W       | R134                                     | 800083-249 | 1   |
| 61.                   | Resistor, 51.1K, 1%, 1/8W         | R135, R138,<br>R139, R140,<br>R142, R144 | 800011-342 | 6   |
| 62.                   | Resistor, 82K, 5%, 1/4W           | R146, R148                               | 800030-823 | 2   |
| 63.                   | Resistor, 196K, 1%, 1/8W          | R149                                     | 800011-203 | 1   |
| 64.                   | Resistor, 18.7K, 1%, 1/8W         | R155                                     | 800011-195 | 1   |
| 65.                   | Resistor, 33.2K, 1%, 1/8W         | R156                                     | 800011-279 | 1   |

TABLE 9-23. PAPER AND RIBBON SERVO CIRCUIT CARD ASSEMBLY (Contd)

| Figure &<br>Index No. | Description                 | Reference<br>Designator                                          | Part No.   | Qty |
|-----------------------|-----------------------------|------------------------------------------------------------------|------------|-----|
| 66.                   | Resistor, 3.9K, 5%, 1/4W    | R165, R167,<br>R174, R310,<br>R313, R317,<br>R320, R331,<br>R340 | 800030-392 | 9   |
| 67.                   | Resistor, 3.3K, 5%, 1/4W    | R163                                                             | 800030-332 | 1   |
| 68.                   | Resistor, 220 Ohm, 5%, 1/4W | R162, R164,<br>R184                                              | 800030-221 | 3   |
| 69.                   | Resistor, 15K, 5%, 1/4W     | R166, R334,<br>R337                                              | 800030-153 | 3   |
| 70.                   | Resistor, 8.25K, 1%, 1/8W   | R168                                                             | 800011-411 | 1   |
| 71.                   | Resistor, 6.8K, 5%, 1/4W    | R169                                                             | 800030-682 | 1   |
| 72.                   | Resistor, 3.32K, 1%, 1/8W   | R170                                                             | 800011-278 | 1   |
| 73.                   | Resistor, 1K, 5%, 1/4W      | R172, R175,<br>R177, R178,<br>R301, R303,<br>R308, R339          | 800030-102 | 8   |
| 74.                   | Resistor, 22 Ohm, 5%, 1/4W  | R176, 179, 189                                                   | 800030-220 | 3   |
| 75.                   | Resistor, 10K, 5%, 1/4W     | R316                                                             | 800030-103 | 1   |
| 76.                   | Resistor, .2, 1%, 10W       | R181                                                             | 800528-092 | 1   |
| 77.                   | Resistor, 150 Ohm, 5%, 1/4W | R182                                                             | 800030-151 | 1   |
| 78.                   | Resistor, 10 Ohm, 5%, 1/4W  | R183                                                             | 800030-100 | 1   |
| 79.                   | Resistor, 1.0M, 5%, 1/4W    | R171                                                             | 800553-105 | 1   |
| 80.                   | Resistor, .1, 1%, 3W        | R186, R188                                                       | 800084-091 | 2   |
| 81.                   | Resistor, .5, 1%, 10W       | R187                                                             | 800528-095 | 1   |
| 82.                   | Resistor, .1, 1%, 10W       | R190                                                             | 800528-091 | 2   |
| 83.                   | Resistor, 33, 5%, 1/4W      | R302, R304                                                       | 800030-330 | 2   |

TABLE 9-23. PAPER AND RIBBON SERVO CIRCUIT CARD ASSEMBLY (Contd)

| Figure &<br>Index No. | Description                 | Reference<br>Designator            | Part No.   | Qty |
|-----------------------|-----------------------------|------------------------------------|------------|-----|
| 84.                   | Resistor, 390, 5%, 1W       | R311, R314                         | 800032-391 | 2   |
| 85.                   | Resistor, 33, 5%, 2W        | R312, R315                         | 800033-330 | 2   |
| 86.                   | Resistor, 100 Ohm, 1%, 3W   | R318                               | 800084-102 | 1   |
| 87.                   | Resistor, 390 Ohm, 5%, 1/4W | R319, R321                         | 800030-391 | 2   |
| 88.                   | Resistor, 220, 1%, 3W       | R322                               | 800084-214 | 1   |
| 89.                   | Resistor, 1K, 1%, 1/8W      | R323, R325                         | 800011-103 | 2   |
| 90.                   | Resistor, 100K, 1%, 1/8W    | R324, R326                         | 800011-105 | 2   |
| 91.                   | Resistor, 0.5 Ohm, 1%, 3W   | R327                               | 800084-095 | 1   |
| 92.                   | Resistor, 1.8K, 5%, 1/4W    | R328                               | 800030-182 | 1   |
| 93.                   | Resistor, 1.2K, 5%, 1/4W    | R333                               | 800030-122 | 1   |
| 94.                   | Resistor, 680, 5%, 1/4W     | R335                               | 800030-681 | 1   |
| 95.                   | Resistor, 5.6K, 5%, 1/4W    | R336                               | 800030-562 | 1   |
| 96.                   | Resistor, 27K, 5%, 1/4W     | R338                               | 800030-273 | 1   |
| 97.                   | Integrated Circuit          | U101                               | 801257-001 | 1   |
| 98.                   | Integrated Circuit          | U102, J103,<br>U104, U112,<br>U113 | 800952-001 | 5   |
| 99.                   | Integrated Circuit          | U105                               | 800080-001 | 1   |
| 100.                  | Integrated Circuit          | U106                               | 800081-001 | 1   |
| 101.                  | Integrated Circuit          | U107, U302                         | 800023-001 | 2   |
| 102.                  | Integrated Circuit          | U108                               | 800959-001 | 1   |
| 103.                  | Integrated Circuit          | U109, U307                         | 800400-001 | 2   |
| 104.                  | Integrated Circuit          | U110                               | 800651-001 | 1   |

TABLE 9-23. PAPER AND RIBBON SERVO CIRCUIT CARD ASSEMBLY (Contd)

| Figure &<br>Index No. | Description                | Reference<br>Designator                                                  | Part No.   | Qty |
|-----------------------|----------------------------|--------------------------------------------------------------------------|------------|-----|
| 105.                  | Integrated Circuit         | U111                                                                     | 801300-001 | 1   |
| 106.                  | Integrated Circuit         | U301                                                                     | 800732-001 | 1   |
| 107.                  | Integrated Circuit         | U303                                                                     | 800806-001 | 1   |
| 108.                  | Integrated Circuit         | U304                                                                     | 800186-001 | 1   |
| 109.                  | Integrated Circuit         | U305                                                                     | 800491-001 | 1   |
| 110.                  | Integrated Circuit         | U306                                                                     | 800979-001 | 1   |
| 111.                  | Integrated Circuit         | U308                                                                     | 800024-001 | 1   |
| 112.                  | Spreader, Transistor       | Q101 Thru<br>Q109, Q301,<br>Q302, Q303,<br>Q305, Q307,<br>Q308,<br>(REF) | 800099-001 | 15  |
| 113.                  | Heat Sink                  | Q107, Q108,<br>Q301, Q302,<br>Q303, Q305,<br>Q307, Q308<br>(REF)         | 800172-001 | 8   |
| 114.                  | Heat Sink                  | Q110, Q111<br>(REF)                                                      | 800781-002 | 2   |
| 115.                  | Heat Sink                  | Q112, Q114<br>(REF)                                                      | 237645-001 | 1   |
| 116.                  | Heat Sink                  | Q113 (REF)                                                               | 234333-001 | 1   |
| 117.                  | Heat Sink                  | Q304, Q306<br>(REF)                                                      | 235125-001 | 1   |
| 118.                  | Screw, Pan Hd, 6-32 x 7/16 | Q110, Q111<br>(REF)                                                      | 800073-307 | 4   |
| 119.                  | Screw, Pan Hd, 6-32 x 5/8  | Q112, Q113,<br>Q114, Q304,<br>Q306 (REF)                                 | 800073-310 | 10  |

TABLE 9-23. PAPER AND RIBBON SERVO CIRCUIT CARD ASSEMBLY (Contd)

| Figure &<br>Index No. | Description                | Reference<br>Designator                  | Part No.   | Qty |
|-----------------------|----------------------------|------------------------------------------|------------|-----|
| 120.                  | Washer, Lock, Split, No. 6 | Q112, Q113,<br>Q114, Q304,<br>Q306 (REF) | 800175-003 | 14  |
| 121.                  | Nut, Hex, No. 6-32         |                                          | 800074-003 | 14  |
| 122.                  | Stud, Fastener             |                                          | 800268-001 | 2   |
| 123.                  | Silicone Compound          |                                          | 800205-001 | A/R |
| 124.                  | Retainer, Washer           |                                          | 800270-001 | 2   |
| 125.                  | Washer, Nylon              |                                          | 800235-004 | 2   |
| 126.                  | Spring, Ejector            |                                          | 800235-005 | 2   |
|                       |                            |                                          |            |     |

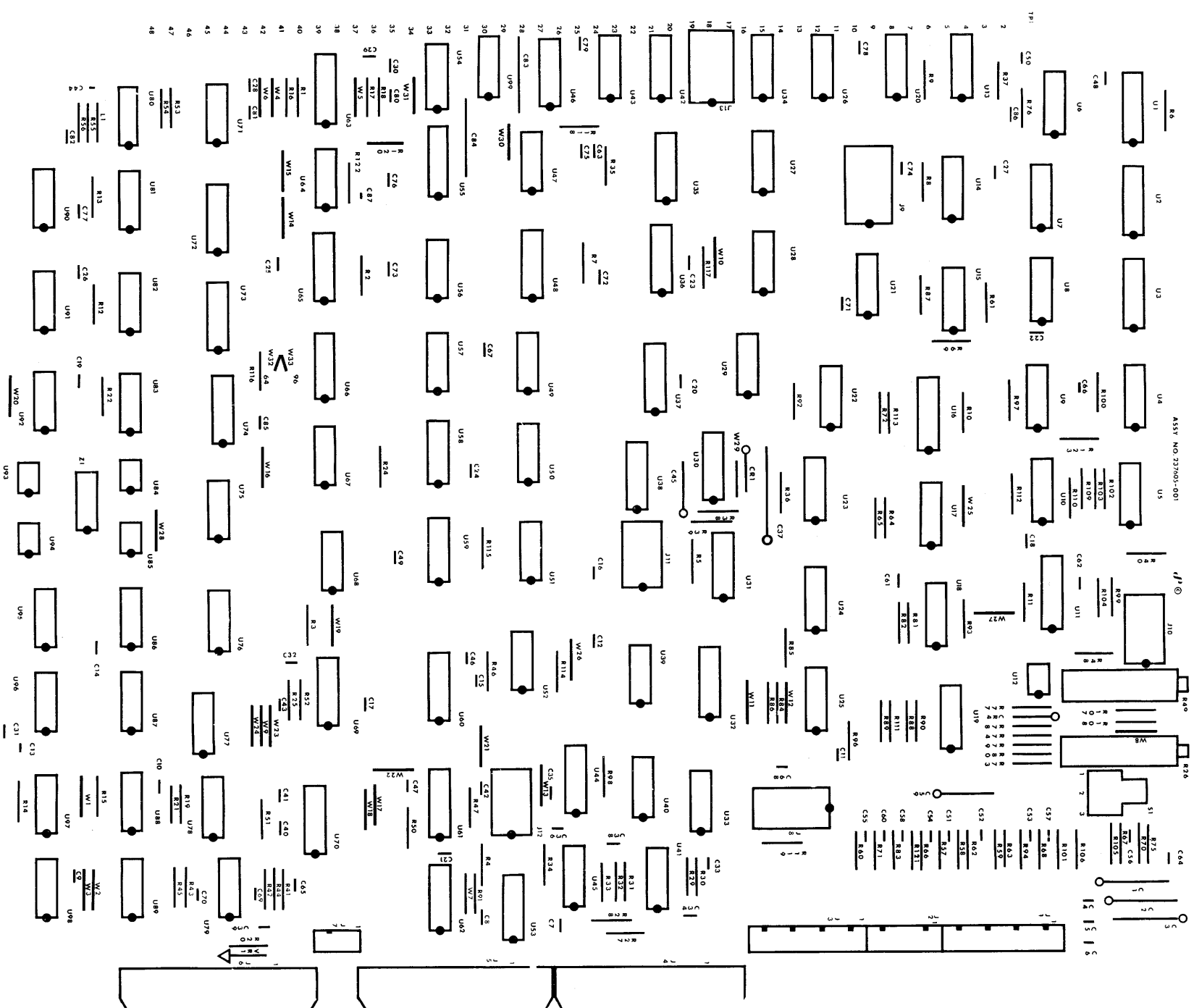


TABLE 9-24. CONTROL LOGIC CARD ASSEMBLY

| Figure & Index No. | Description                                         | Reference Designator                                                        | Part No.    | Qty |
|--------------------|-----------------------------------------------------|-----------------------------------------------------------------------------|-------------|-----|
| Fig. 9-24          | Control Logic Card Configured Circuit Card Assembly | A10                                                                         | 244700-001* | REF |
| 2.                 | Knob                                                |                                                                             | 800699-005  | 1   |
| 3.                 | Capacitor, .10 UF, 10%, 20V                         | C1 - 3                                                                      | 800041-106  | 3   |
| 4.                 | Capacitor, .1 UF, 20%, 100V                         | C4 - 27, 31, 33, 34, 39, 48, 49, 51, 53, - 58, 60, 61, 64 - 68, 71 - 82, 85 | 801024-104  | 58  |
| 5.                 | Capacitor, 100 pF, 5%, 300V                         | C28, 29, 30, 35, 41, 43, 47                                                 | 801026-101  | 7   |
| 6.                 | Capacitor, .22 UF, 20%, 100V                        | C32                                                                         | 801024-224  | 1   |
| 7.                 | Capacitor, .022 UF, 20%, 100V                       | C36, 40, 70                                                                 | 801024-223  | 3   |
| 8.                 | Capacitor, 330 UF, 10%, 6V                          | C37                                                                         | 801028-337  | 1   |
| 9.                 | Capacitor, .1 UF, 5%, 65V                           | C42                                                                         | 801482-104  | 1   |
| 10.                | Capacitor, 1000 pF, 20%, 100V                       | C38, 46, 50, 87                                                             | 801024-102  | 4   |
| 11.                | Capacitor, 560 pF, 20%, 100V                        | C63                                                                         | 801024-561  | 1   |
| 12.                | Capacitor, 2.7 UF, 10%, 10V                         | C45                                                                         | 800040-275  | 1   |
| 13.                | Capacitor, 4.7 UF, 20%, 10V                         | C59                                                                         | 800091-475  | 1   |
| 14.                | Capacitor, .047 UF, 20%, 100V                       | C462                                                                        | 801024-473  | 1   |
| 15.                | Capacitor, 680 pF, 20%, 100V                        | C44                                                                         | 801024-681  | 1   |
| 16.                | Capacitor, .01 UF, 20%, 100V                        | C52, 69                                                                     | 801024-103  | 2   |
| 17.                | Capacitor, .056 UF, 1%, 100V                        | C83, 84                                                                     | 801025-563  | 2   |

Figure 9-24  
Control Logic Card Assembly

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

TABLE 9-24. CONTROL LOGIC CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                  | Reference Designator                                                               | Part No.   | Qty |
|--------------------|------------------------------|------------------------------------------------------------------------------------|------------|-----|
| 18.                | Diode                        | CR1, CR4                                                                           | 800743-001 | 2   |
| 19.                | Connector, Rt. Angle, 8 Pin  | J1, J3                                                                             | 801034-008 | 2   |
| 20.                | Connector, Rt. Angle, 5 Pin  | J2                                                                                 | 801034-005 | 1   |
| 21.                | Connector, 26 Pin            | J4, J5, J6                                                                         | 801089-026 | 3   |
| 22.                | Connector, Rt. Angle, 3 Pin  | J7                                                                                 | 801034-003 | 1   |
| 23.                | Socket, Dual-In-Line, 16 Pin | J8, J9                                                                             | 800650-002 | 2   |
| 24.                | Socket, Dual-In-Line, 14 Pin | J10 - J13                                                                          | 800650-001 | 4   |
| 25.                | Choke, 8.2 UH, 10%           | L1                                                                                 | 800001-822 | 1   |
| 26.                | Resistor, 1K, 5%, 1/4W       | R1-6, 9, 11-15, 19-22, 24, 29, 30-32, 38, 65, 86, 93, 97, 100, 111, 116, 119, 121, | 800030-102 | 31  |
| 27.                | Resistor, 4.7K, 5%, 1/4W     | R7, 8, 10, 40, 61, 62, 63, 64, 69, 70, 72, 76, 85, 91, 117, 122                    | 800030-472 | 16  |
| 28.                | Resistor, 4.64K, 1%, 1/8W    | R16                                                                                | 800011-327 | 1   |
| 29.                | Resistor, 470 Ohms, 5%, 1/4W | R17                                                                                | 800030-471 | 1   |
| 30.                | Resistor, 21.5K, 1%, 1/8W    | R18, 39                                                                            | 800011-216 | 2   |
| 31.                | Resistor, 40.2K, 1%, 1/8W    | R25                                                                                | 800011-307 | 1   |
| 32.                | Resistor, 100 Ohms, 5%, 1/4W | R27, 28, 33, 35, 37, 46, 83, 102, 103                                              | 800030-101 | 9   |
| 33.                | Resistor, 5.62K, 1%, 1/8W    | R34, 50, 52                                                                        | 800011-355 | 3   |

TABLE 9-24. CONTROL LOGIC CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                  | Reference Designator                                                | Part No.   | Qty |
|--------------------|------------------------------|---------------------------------------------------------------------|------------|-----|
| 34.                | Resistor, 30.1K, 1%, 1/8W    | R36, R47                                                            | 800011-265 | 2   |
| 35.                | Resistor, 1.47K, 1%, 1/8W    | R41, 42                                                             | 800011-159 | 2   |
| 36.                | Resistor, 14.7K, 1%, 1/8W    | R43                                                                 | 800011-160 | 1   |
| 37.                | Resistor, 2.74K, 1%, 1/8W    | R44                                                                 | 800011-250 | 1   |
| 38.                | Resistor, 3.9K, 5%, 1/4W     | R45, 79, 92                                                         | 800030-392 | 3   |
| 39.                | Resistor, 33.2K, 1%, 1/8W    | R118, 120                                                           | 800011-279 | 2   |
| 40.                | Resistor, 2.15K, 1%, 1/8W    | R48                                                                 | 800011-215 | 1   |
| 41.                | Resistor, Variable, 50K      | R49                                                                 | 801083-503 | 1   |
| 42.                | Resistor, 38.3K, 1%, 1/8W    | R51                                                                 | 800011-300 | 1   |
| 43.                | Resistor, 10 Ohms, 5%, 1/4W  | R53                                                                 | 800030-100 | 1   |
| 44.                | Resistor, 560 Ohms, 5%, 1/4W | R54, 56, 89, 90, 94, 101, 104, 106, 108, 112, 113                   | 800030-561 | 11  |
| 45.                | Resistor, 330 Ohms, 5%, 1/4W | R55, 78                                                             | 800030-331 | 2   |
| 46.                | Resistor, 47 Ohms, 5%, 1/4W  | R57, 58, 59, 60, 66, 67, 68, 71, 75, 81, 84, 88, 105, 107, 114, 115 | 800030-470 | 16  |
| 47.                | Resistor, 2.2K, 5%, 1/4W     | R73, 74                                                             | 800030-222 | 2   |
| 48.                | Resistor, 5.6K, 5%, 1/4W     | R77                                                                 | 800030-562 | 1   |
| 49.                | Resistor, 7.5K, 1%, 1/8W     | R80                                                                 | 800011-397 | 1   |
| 50.                | Resistor, 33K, 5%, 1/4W      | R82                                                                 | 800030-333 | 1   |
| 51.                | Resistor, 10K, 5%, 1/4W      | R87, 96                                                             | 800030-103 | 2   |
| 52.                | Resistor, 39K, 5%, 1/4W      | R98                                                                 | 800030-393 | 1   |

TABLE 9-24. CONTROL LOGIC CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                  | Reference Designator                                          | Part No.   | Qty |
|--------------------|------------------------------|---------------------------------------------------------------|------------|-----|
| 53.                | Resistor, 46.4K, 1%, 1/8W    | R99                                                           | 800011-328 | 1   |
| 54.                | Resistor, 220 Ohms, 5%, 1/4W | R109, 110                                                     | 800030-221 | 2   |
| 55.                | Switch, SPDT                 | S1                                                            | 800502-003 | 1   |
| 56.                | OMITTED                      |                                                               |            |     |
| 57.                | Integrated Circuit           | U1, 2, 3, 16, 32, 36, 37, 38, 48, 60, 65, 72, 73, 74          | 800081-001 | 14  |
| 58.                | Integrated Circuit           | U4, 8, 18, 26, 28, 33, 43, 45, 51, 52, 55, 64, 66, 71, 75, 77 | 800024-001 | 16  |
| 59.                | Integrated Circuit           | U5, 10, 19, 22, 78                                            | 800651-001 | 5   |
| 60.                | Integrated Circuit           | U6, 9, 23, 29, 35, 49, 50, 67, 87, 99                         | 800080-001 | 10  |
| 61.                | Integrated Circuit           | U7, 89, 98                                                    | 800959-001 | 3   |
| 62.                | Integrated Circuit           | U11, 44, 46, 63, 70                                           | 801023-001 | 5   |
| 63.                | Integrated Circuit           | U12                                                           | 800732-001 | 1   |
| 64.                | Integrated Circuit           | U13, 14, 17, 25, 31, 41, 54, 57, 68                           | 800400-001 | 9   |
| 65.                | Integrated Circuit           | U15, 39, 47, 53, 76, 96                                       | 800387-001 | 6   |
| 66.                | Integrated Circuit           | U20, 21, 81, 82, 90, 91                                       | 801012-001 | 6   |
| 67.                | Integrated Circuit           | U24, 27, 88, 62                                               | 800023-001 | 4   |

TABLE 9-24. CONTROL LOGIC CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                   | Reference Designator | Part No.   | Qty |
|--------------------|-------------------------------|----------------------|------------|-----|
| 68.                | Integrated Circuit            | U30, 61, 69          | 800979-001 | 3   |
| 69.                | Integrated Circuit            | U34, 40, 86, 95      | 800020-001 | 4   |
| 70.                | Integrated Circuit            | U42, 56              | 801186-001 | 2   |
| 71.                | Integrated Circuit            | U80                  | 800920-001 | 1   |
| 72.                | Integrated Circuit            | U58, 59              | 800022-001 | 2   |
| 73.                | Integrated Circuit            | U79                  | 800399-001 | 1   |
| 74.                | Integrated Circuit            | U83, 92              | 801014-001 | 2   |
| 75.                | Integrated Circuit            | U84, 85, 93, 94      | 800940-001 | 4   |
| 76.                | Integrated Circuit            | U97                  | 800021-001 | 1   |
| 77.                | Diode, Regulator, 5.6V, 5%    | VR1                  | 800592-001 | 1   |
| 78.                | Resistor Network, 1.8K        | Z1                   | 801006-182 | 1   |
| 79.                | Hinge, Spr Ld Pin, Left Hand  |                      | 800599-005 | 2   |
| 80.                | Hinge, Spr Ld Pin, Right Hand |                      | 800599-006 | 2   |

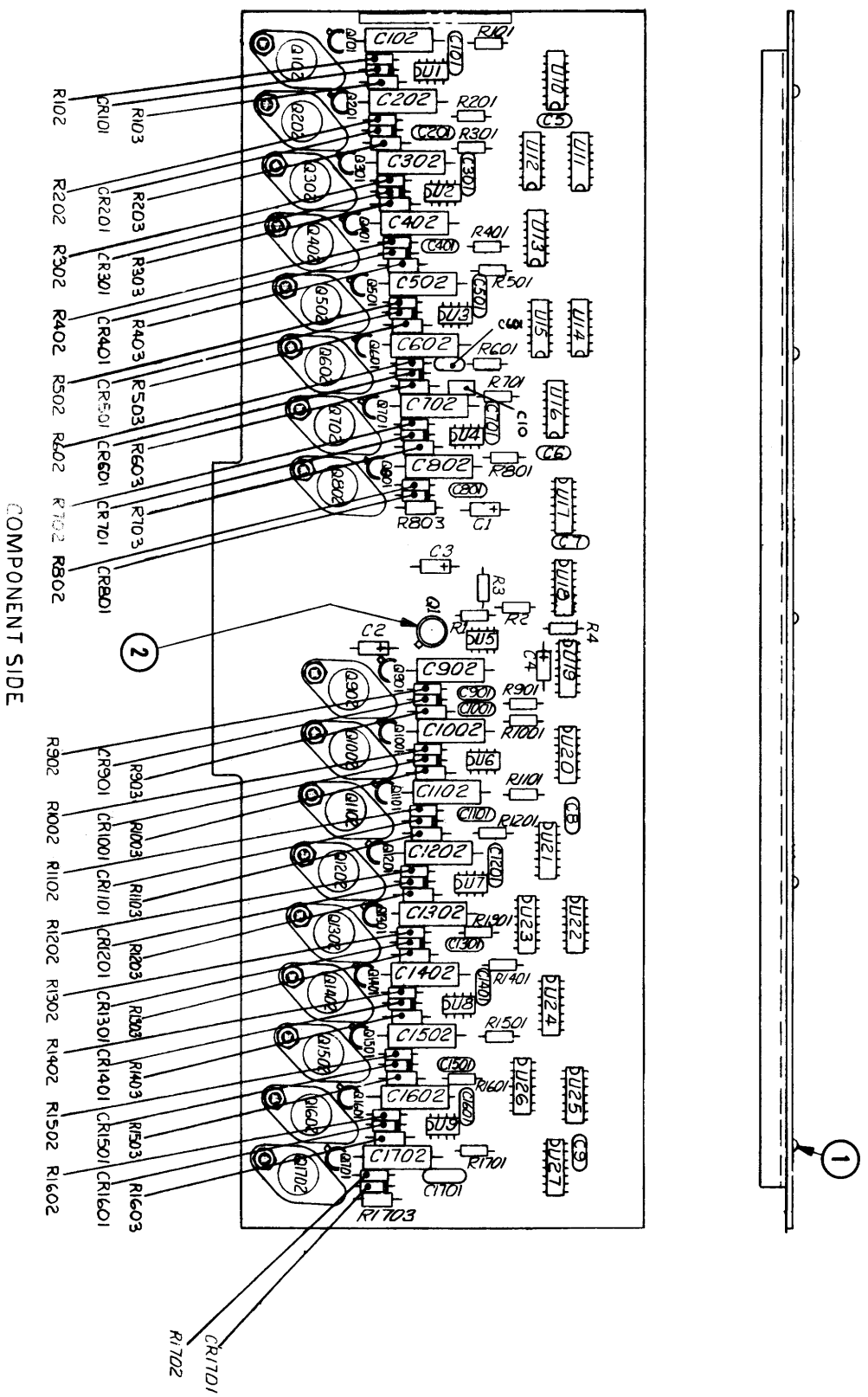


Figure 9-25  
Hammer Driver Card Assembly

TABLE 9-25. HAMMER DRIVER CARD ASSEMBLY

| Figure & Index No. | Description                 | Reference Designator                                                                                     | Part No.    | Qty |
|--------------------|-----------------------------|----------------------------------------------------------------------------------------------------------|-------------|-----|
| Fig. 9-25          | Hammer Driver Card Assy     | Al2                                                                                                      | 238005 -001 | REF |
| 1.                 | Angle, Circuit Card Support |                                                                                                          | 232312-001  | 1   |
| 2.                 | Transistor, Spreader        |                                                                                                          | 800099-001  | 1   |
| 3.                 | N/A                         |                                                                                                          |             |     |
| 4.                 | Capacitor, 4.7UF, 20%, 10V  | C3, C4                                                                                                   | 800091-474  | 2   |
| 5.                 | Capacitor, 1 UF, 10%, 50V   | C1, C2                                                                                                   | 800090-105  | 2   |
| 6.                 | Capacitor, 1500 pF, 15%,    | C5 Thru C9, C101, 201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701 | 801024-152  | 22  |
| 7.                 | Diode                       | CR101, 201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701            | 800743-001  | 17  |
| 8.                 | Transistor                  | Q1                                                                                                       | 800089-001  | 1   |
| 9.                 | Transistor                  | Q101, 201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701             | 800019-001  | 17  |

TABLE 9-25. HAMMER DRIVER CARD ASSEMBLY (Contd)

| Figure & Index No. | Description                  | Reference Designator                                                                          | Part No.   | Qty |
|--------------------|------------------------------|-----------------------------------------------------------------------------------------------|------------|-----|
| 10.                | N/A                          |                                                                                               |            |     |
| 11.                | Transistor                   | Q102, 202, 302, 402, 502, 602, 702, 802, 902, 1002, 1102, 1202, 1302, 1402, 1502, 1602, 1702  | 800018-001 | 17  |
| 12.                | 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  |
| 13.                | Resistor, 1K, 5%, 1/4W       | R2, R3, R4                                                                                    | 800030-102 | 3   |
| 14.                | Resistor, 2 Ohms, 1%, 1W     | R103, R203, 303, 403, 503, 603, 703, 803, 903, 1003, 1103, 1203, 1303, 1403, 1503, 1603, 1703 | 800210-205 | 17  |
| 15.                | Resistor, 39K, 5%, 1/4W      | R101, R201, 301, 401, 501, 601, 701, 801, 901, 1001, 1101, 1201, 1301, 1401, 1501, 1601, 1701 | 800030-393 | 17  |
| 16.                | Resistor, 4.7K, 5%, 1/4W     | R1                                                                                            | 800030-471 | 1   |

TABLE 9-25. HAMMER DRIVER CARD ASSEMBLY (Contd)

| Figure &<br>Index No. | Description                  | Reference<br>Designator                   | Part No.   | Qty |
|-----------------------|------------------------------|-------------------------------------------|------------|-----|
| 17.                   | Integrated Circuit           | U11, 12, 14,<br>15, 19, 22,<br>23, 25, 26 | 800480-001 | 9   |
| 18.                   | Integrated Circuit           | U18                                       | 800400-001 | 1   |
| 19.                   | Integrated Circuit           | U13, 20, 24                               | 800956-001 | 3   |
| 20.                   | Integrated Circuit           | U10, 16, 21,<br>27                        | 800698-001 | 4   |
| 21.                   | Integrated Circuit           | U1 - U9                                   | 800952-001 | 9   |
| 22.                   | Integrated Circuit           | U17                                       | 800387-001 | 1   |
| 23.                   | OMITTED                      |                                           |            |     |
| 24.                   | Capacitor, .01 UF, 15%, 100V | C10                                       | 801024-103 | 1   |
| 25.                   | Washer, Nylon, Blk, .420 Dia |                                           | 800235-004 | 2   |
| 26.                   | Spring, Ejector, .375 Dia    |                                           | 800235-005 | 2   |



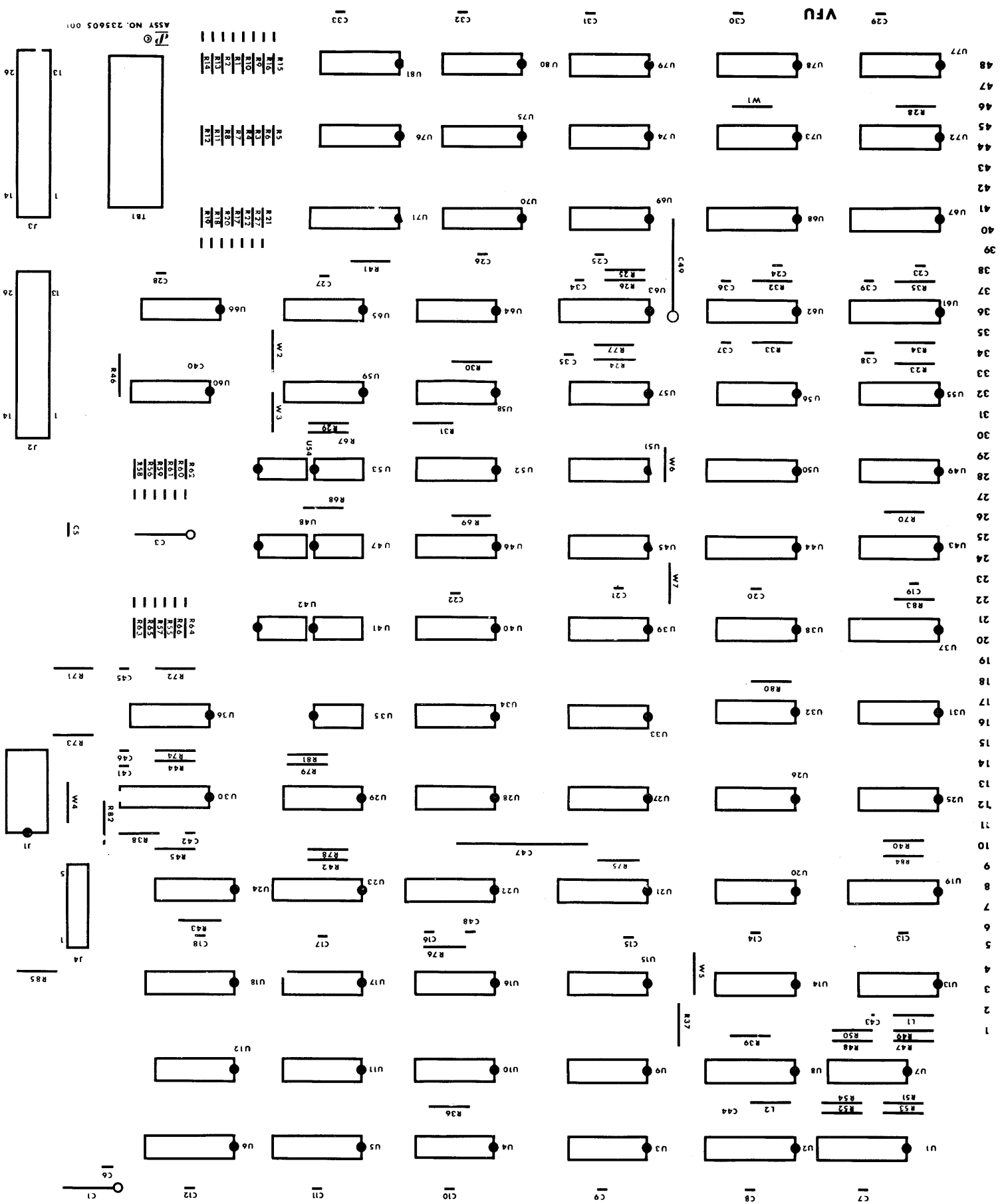


Figure 9-26 (Sheet 2 of 2)  
Tape VFU Option

TABLE 9-26. TAPE VFU OPTION

| Figure & Index No. | Description                                        | Reference Designator                                              | Part No.    | Qty |
|--------------------|----------------------------------------------------|-------------------------------------------------------------------|-------------|-----|
| Fig. 9-26          | Tape VFU Option Kit                                |                                                                   | 240908-XXX* | REF |
| 1.                 | Tape Reader Assembly (Ref Fig. 9-27)               | A23                                                               | 240125-002  | 1   |
| 2.                 | Tape VFU Assy, Configured                          |                                                                   | 238044-XXX* | 1   |
| 3.                 | Circuit Card Assy, Tape VFU Logic (Ref Items 4-53) | A28                                                               | 238045-001  | 1   |
| 4.                 | OMITTED                                            |                                                                   |             |     |
| 5.                 | Capacitor, 10 Uf, 10%, 20V                         | C1, C3                                                            | 800041-106  | 2   |
| 6.                 | Capacitor, .1 Uf, 15%, 100V                        | C5 - 33, 45, 48                                                   | 801024-104  | 31  |
| 7.                 | Capacitor, 100 Pf, 5%, 300V                        | C34, 35, 36, 41, 48                                               | 801026-101  | 5   |
| 8.                 | Capacitor, 470 Pf, 10%, 200V                       | C37, 38, 39, 42                                                   | 800465-471  | 4   |
| 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, 5%, 1/4W                            | R17 - R20                                                         | 800030-221  | 4   |
| 15.                | Resistor, 1K, 5%, 1/4W                             | R23, 26, 28, 29, 30, 31, 37 - 43, 46, 55-66 69, 70, 78 83, 84, 85 | 800030-102  | 32  |

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

TABLE 9-26. TAPE VFU OPTION (Contd)

| Figure & Index No. | Description                         | Reference Designator                       | Part No.   | Qty |
|--------------------|-------------------------------------|--------------------------------------------|------------|-----|
| 16.                | Resistor, 470, 5%, 1/4W             | R24                                        | 800030-471 | 1   |
| 17.                | Resistor, 4.7K, 5%, 1/4W            | R25, 32-33 44, 45, 74                      | 800030-472 | 8   |
| 18.                | Resistor, 100, 5%, 1/4W             | R36, 71, 73                                | 800030-101 | 3   |
| 19.                | Resistor, 10, 5%, 1/4W              | R47, 51                                    | 800030-100 | 2   |
| 20.                | Resistor, 560, 5%, 1/4W             | R48, 49, 53, 54, 82                        | 800030-561 | 5   |
| 21.                | Resistor, 330, 5%, 1/4W             | R50, 52                                    | 800030-331 | 2   |
| 22.                | Resistor, 1.8K, 5%, 1/4W            | R67, 68, 79, 80, 81                        | 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, 77                                    | 800030-473 | 2   |
| 26.                | Socket, Dual-In-Line IC, 16 Leads   | J1                                         | 800650-002 | 1   |
| 27.                | Connector, Rt Angle Contact, 26 Pin | J2, J3                                     | 801089-026 | 2   |
| 28.                | Header, Rt Angle, 5 Positions       | J4                                         | 801034-005 | 1   |
| 29.                | Connector, PCB, 26 Positions        | TB1                                        | 801090-026 | 1   |
| 30.                | Connector, 26 Pin                   | P6                                         | 801088-026 | 1   |
| 31.                | Connector, PCB, Male, 16 Pin        | A10P8, A23P1                               | 801090-016 | 2   |
| 32.                | Integrated Circuit, DPC 7400        | U3, 10, 11, 14, 20, 29, 32, 36, 56, 64, 69 | 800024-001 | 11  |
| 33.                | Integrated Circuit, DPC 7410        | U4, 17, 27, 38, 60, 74                     | 800023-001 | 6   |

TABLE 9-26. TAPE VFU OPTION (Contd)

| Figure & Index No. | Description                   | Reference Designator                       | Part No.   | Qty |
|--------------------|-------------------------------|--------------------------------------------|------------|-----|
| 34.                | Integrated Circuit, DPC 7437  | U7                                         | 800920-001 | 1   |
| 35.                | Integrated Circuit, DPC 7476  | U8, 18, 19, 21, 23, 37                     | 800081-001 | 6   |
| 36.                | Integrated Circuit, DPC 7402  | U9, 12, 26, 28, 31, 33, 57, 65, 72, 73, 76 | 800080-001 | 11  |
| 37.                | Integrated Circuit, DPC 7404  | U13, 34, 39, 45, 51, 55, 70                | 800387-001 | 7   |
| 38.                | Integrated Circuit, DPC 7474  | U15, 25, 58, 59, 77, 78, 79                | 800400-001 | 7   |
| 39.                | Integrated Circuit, DPC 7420  | U16                                        | 800020-001 | 1   |
| 40.                | Integrated Circuit, DPC 74123 | U22                                        | 800979-001 | 1   |
| 41.                | Integrated Circuit, DPC 7406  | U24, 66                                    | 800651-001 | 2   |
| 42.                | Integrated Circuit, DPC 74221 | U30, 61, 62, 63                            | 801023-001 | 4   |
| 43.                | Integrated Circuit, DPC 3132  | U35, 41, 42, 47, 48, 53, 54                | 800940-001 | 7   |
| 44.                | Integrated Circuit, DPC 74136 | U40, 46, 52                                | 801014-001 | 3   |
| 45.                | Integrated Circuit, DPC 74180 | U43, 49                                    | 801000-001 | 2   |
| 46.                | Integrated Circuit, DPC 9312  | U44, 50                                    | 800703-001 | 2   |
| 47.                | Integrated Circuit, DPC 74193 | U67, 68                                    | 800386-001 | 2   |
| 48.                | Integrated Circuit, DPC 74157 | U71                                        | 800947-001 | 1   |
| 49.                | Integrated Circuit, DPC 7430  | U75                                        | 800021-001 | 1   |
| 50.                | Integrated Circuit, DPC 7414  | U80, 81                                    | 800959-001 | 2   |

TABLE 9-26. TAPE VFU OPTION (Contd)

| Figure & Index No. | Description              | Reference Designator | Part No.   | Qty |
|--------------------|--------------------------|----------------------|------------|-----|
| 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 Assembly | A28P1-A10P8          | 235640-001 | 1   |
| 55.                | Option Board Power Cable | A28P4-A16P7          | 237716-001 | 1   |

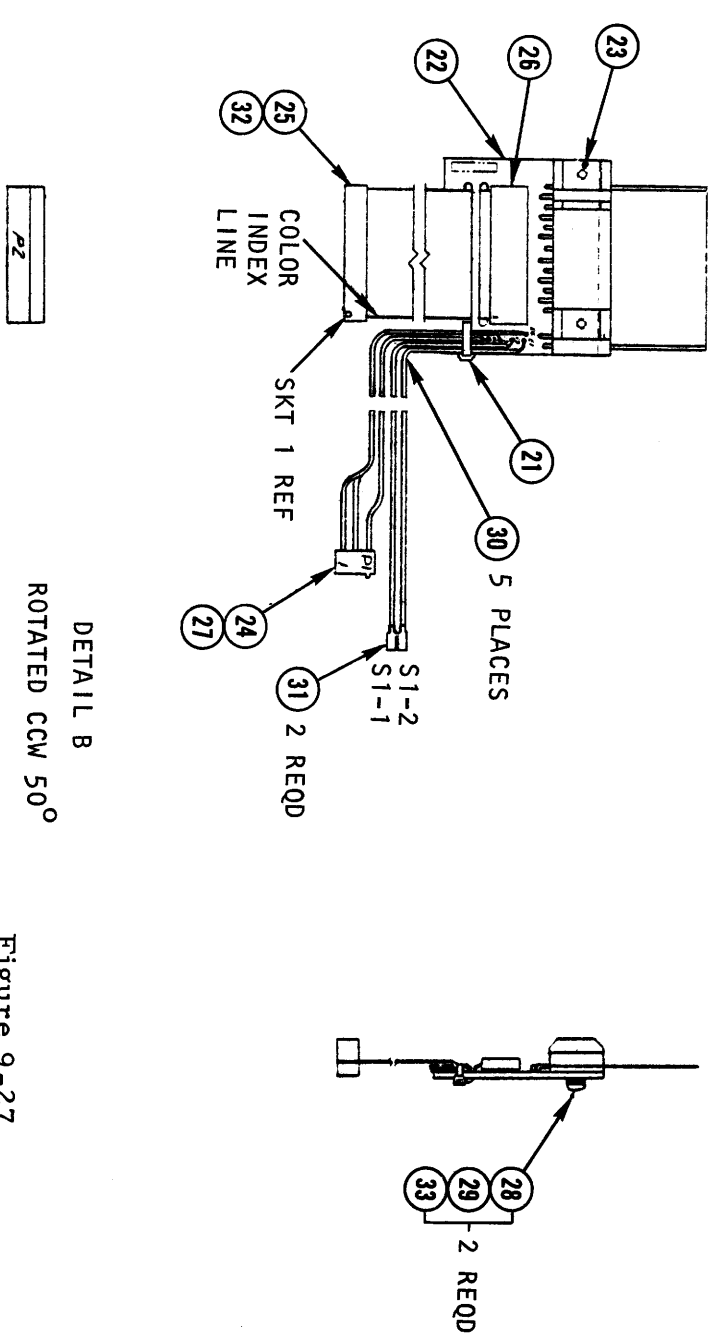
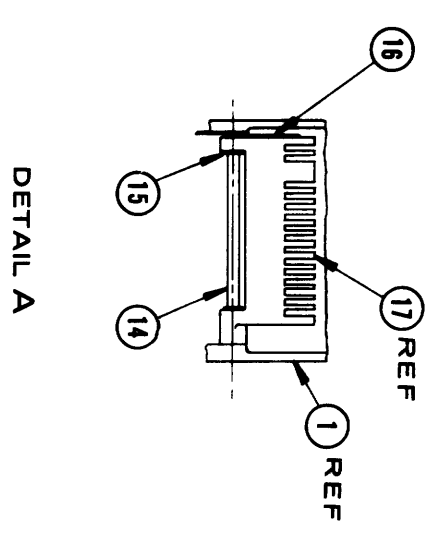
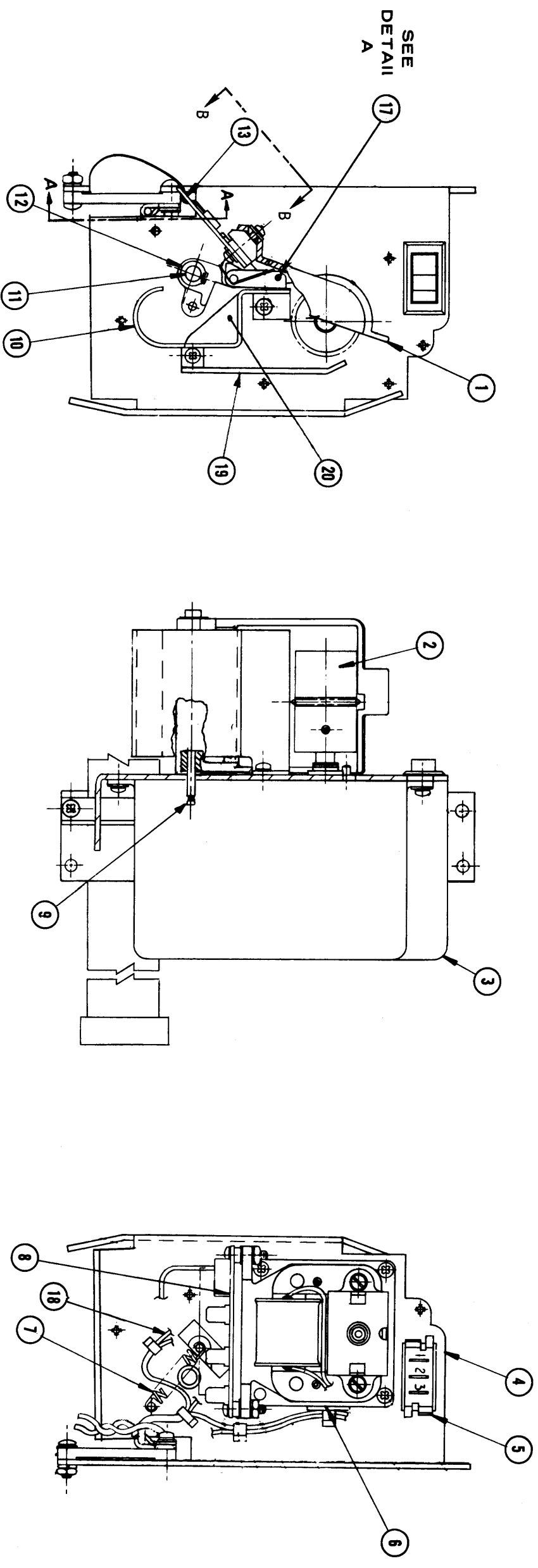


Figure 9-27  
Tape Reader Assembly

TABLE 9-27. TAPE READER ASSEMBLY

| Figure & Index No. | Description                                             | Reference Designator | Part No.   | Qty |
|--------------------|---------------------------------------------------------|----------------------|------------|-----|
| Fig. 9-27          | Tape Reader Assembly                                    | A23                  | 240125-002 | REF |
| 1.                 | Cover, Tape Reader                                      | A23A1                | 235177-001 | 1   |
| 2.                 | Sprocket Assembly, Tape Reader Drive                    |                      | 235591-001 | 1   |
| 3.                 | Cover, Tape Reader Motor                                |                      | 235588-001 | 1   |
| 4.                 | Base Plate, Tape Reader                                 |                      | 235725-001 | 1   |
| 5.                 | Switch, Rocker, Snap-In Mtg                             |                      | 800931-001 | 1   |
| 6.                 | Motor                                                   |                      | 236820-001 | 1   |
| 7.                 | Spring, Extension                                       |                      | 236799-001 | 1   |
| 8.                 | Circuit Card Assembly, AC Motor Control (Ref Fig. 9-31) |                      | 236841-001 | 1   |
| 9.                 | Pin, Grooved                                            |                      | 800017-037 | 1   |
| 10.                | Bracket, Contact Strip                                  |                      | 240126-001 | 1   |
| 11.                | Pin, Cover Mounting                                     | A23A2                | 235176-001 | 1   |
| 12.                | Ring, Retaining, External Grip .250 Shaft Dia           |                      | 800711-025 | 1   |
| 13.                | Circuit Card Assembly, Tape Reader (Ref. Items 21-34)   |                      | 236855-001 | 1   |
| 14.                | Pin, Brush Guard                                        |                      | 235181-001 | 1   |
| 15.                | Ring, Retaining, External, Type E                       |                      | 800254-012 | 2   |
| 16.                | Spring, Switch Guard                                    |                      | 235180-001 | 1   |
| 17.                | Guard, Switch                                           |                      | 235179-001 | 1   |
| 18.                | Cable Assy, Tape Reader, AC Distribution                |                      | 236824-002 | 1   |
| 19.                | Stripper, Tape Reader                                   |                      | 240127-001 | 1   |
| 20.                | Gasket, Insulating                                      |                      | 240124-001 | 1   |

TABLE 9-27. TAPE READER ASSEMBLY (Contd)

| Figure & Index No. | Description                                                    | Reference Designator | Part No.   | Qty |
|--------------------|----------------------------------------------------------------|----------------------|------------|-----|
| 21                 | Strap, Cable TIG                                               | P1                   | 800475-001 | 1   |
| 22                 | Printed Wiring Board                                           |                      | 236856-001 | 1   |
| 23                 | Brush Assy, Tape Reader                                        |                      | 235178-001 | 1   |
| 24                 | Connector, 3 Pin                                               |                      | 801035-003 | 1   |
| 25                 | Connector, 26 Pin, Flat Cable                                  |                      | 801088-026 | 1   |
| 26                 | Connector, 26 Pin, Flat Cable, PWB                             |                      | 801090-026 | 1   |
| 27                 | Contact, Crimp Insert                                          |                      | 801036-002 | 3   |
| 28                 | Washer, Flat, No. 4                                            |                      | 800641-002 | 2   |
| 29                 | Washer, Lock, No. 4                                            |                      | 800175-002 | 2   |
| 30                 | Wire, 22 AWG, White Insul.                                     |                      | 800242-922 | A/R |
| 31                 | Terminal, Push On, Uninsulated                                 | TB1                  | 801017-005 | 2   |
| 32                 | Cable, Flat, 26 Conductor                                      |                      | 800507-026 | A/R |
| 33                 | Screw, Phillips, PH 4-40 x .312 Lg, 300 Series Stainless Steel |                      | 800422-205 | 2   |



TABLE 9-28. SELF TEST OPTION

| Figure & Index No. | Description                                                                                  | Reference Designator | Part No.                 | Qty |
|--------------------|----------------------------------------------------------------------------------------------|----------------------|--------------------------|-----|
| Fig. 9-28          | Self Test Kit<br>64 Character<br>96 Character                                                |                      | 244446-003<br>244446-004 | REF |
|                    | Circuit Card Assy, Self Test<br>(Ref Items 2 - 24)<br>64 Character Drum<br>96 Character Drum | A22                  | 244455-001<br>244455-003 | 1   |
| 2.                 | OMITTED                                                                                      |                      |                          |     |
| 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               | 800030-221               | 2   |
| 6.                 | Resistor, 1K, 5%, 1/4W                                                                       | R3, R4               | 800030-102               | 2   |
| 7.                 | Resistor, 10K, 5%, 1/4W                                                                      | R5                   | 800030-103               | 1   |
| 8.                 | Switch, SPDT                                                                                 | S1 - S8              | 800502-015               | 8   |
| 9.                 | Switch, SPDT                                                                                 | S9 - S11             | 800502-016               | 3   |
| 10.                | Integrated Circuit, DPC 7404                                                                 | U1, U15, U21         | 800387-001               | 3   |
| 11.                | Integrated Circuit, DPC 7400                                                                 | U2, U7               | 800024-001               | 2   |
| 12.                | Integrated Circuit, DPC 74177                                                                | U3, U4, U10, U11     | 801012-001               | 4   |
| 13.                | Integrated Circuit, DPC 7406                                                                 | U5                   | 800651-001               | 1   |
| 14.                | Integrated Circuit, DPC 7402                                                                 | U6, U9, U16          | 800080-001               | 3   |
| 15.                | Integrated Circuit, DPC 7410                                                                 | U8                   | 800023-001               | 1   |
| 16.                | Integrated Circuit, DPC 7474                                                                 | U12                  | 800400-001               | 1   |
| 17.                | Integrated Circuit, DPC 74157                                                                | U13, U14, U19, U20   | 800947-001               | 4   |
| 18.                | Integrated Circuit                                                                           | U17, U18             | 801230-001               | 2   |

TABLE 9-28. SELF TEST OPTION (Contd)

| Figure & Index No. | Description                                 | Reference Designator | Part No.   | Qty   |
|--------------------|---------------------------------------------|----------------------|------------|-------|
| 19.                | Resistor Network, 1K, 5%, 1/8W              | Z1, Z2               | 801006-102 | 2     |
| 20.                | Connector, 26 Pin                           | J1                   | 801089-001 | 1     |
| 21.                | Connector, 5 Pin, Rt Angle                  | J2                   | 801034-005 | 1     |
| 22.                | Connector, Flat Cable to PCB, 26 Pin        | TB1                  | 801090-026 | 1     |
| 23.                | Cable, Flat, 26 Conductor                   | W2                   | 800507-026 | 81/2' |
| 24.                | Connector, 26 Pin                           | P1(A10J6)            | 801088-026 | 1     |
| 25.                | Power Cable Assembly<br>(Ref Items 26 & 27) |                      | 237717-001 | 1     |
| 26.                | Connector Housing, 5 Position               | A22P2                | 801035-005 | 1     |
| 27.                | Connector Housing, 3 Position               | A16P10               | 801035-003 | 1     |

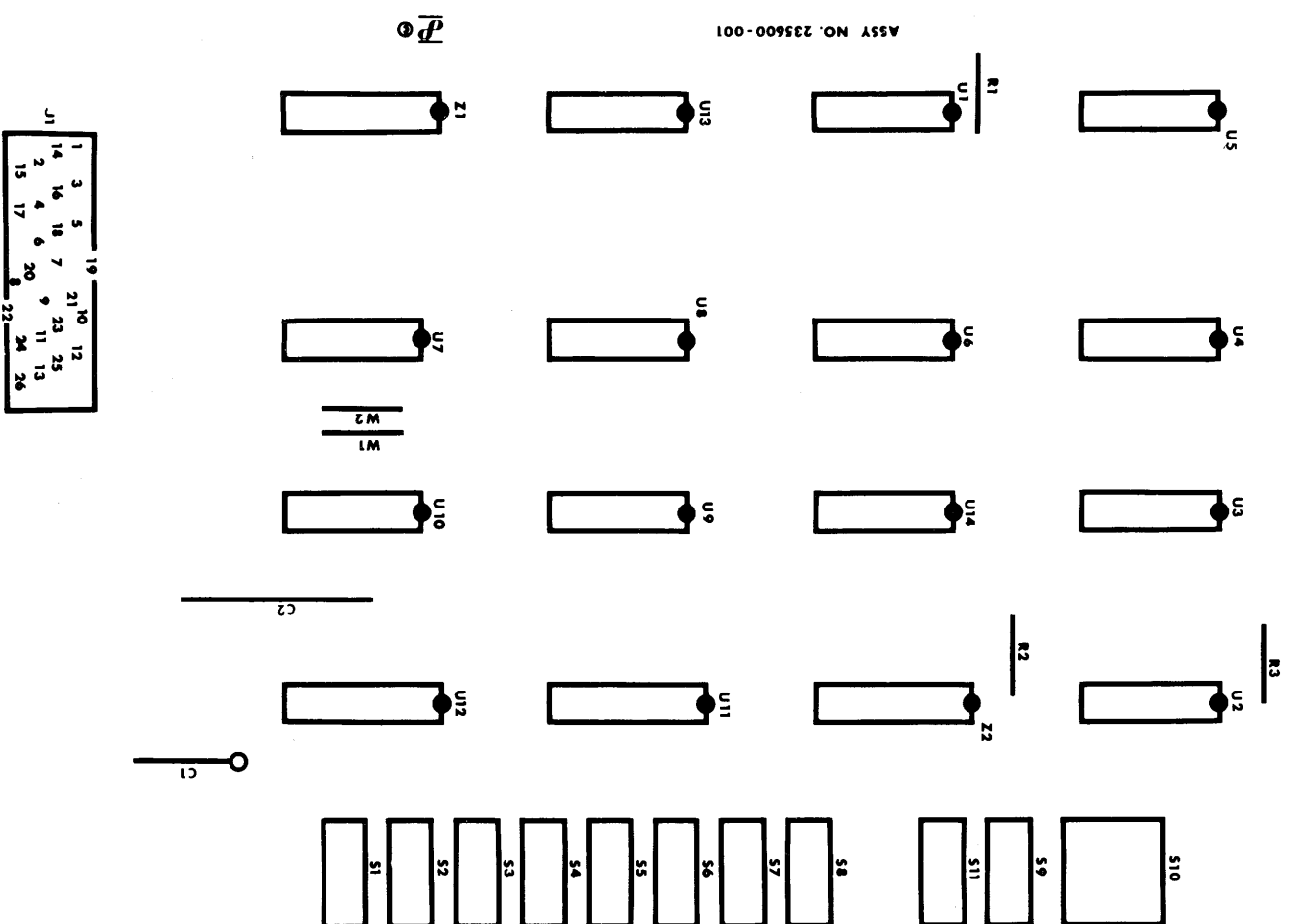
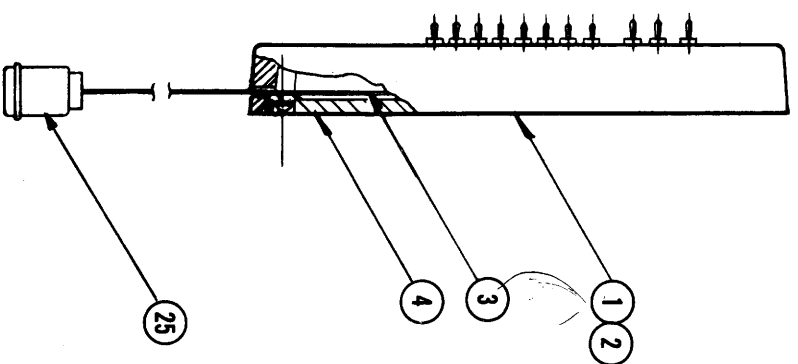


Figure 9-29  
Exerciser Option

TABLE 9-29. EXERCISER OPTION

| Figure & Index No. | Description                                                  | Reference Designator    | Part No.                 | Qty |
|--------------------|--------------------------------------------------------------|-------------------------|--------------------------|-----|
| Fig. 9-29          | Exerciser Kit                                                | A29                     | 234491-001               | REF |
| 1.                 | Exerciser Assembly<br>64 Character Drum<br>96 Character Drum |                         | 236707-001<br>236707-002 | REF |
| 2.                 | Enclosure, Exerciser                                         |                         | 236708-001               | 1   |
| 3.                 | Cover, Exerciser                                             |                         | 236709-001               | 1   |
| 4.                 | Circuit Card Assembly,<br>Exerciser                          |                         | 235600-001               | 1   |
| 5.                 | OMITTED                                                      |                         |                          |     |
| 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               | 1   |
| 9.                 | Resistor, 10K, 5%, 1/4W                                      | R3                      | 800030-103               | 1   |
| 10.                | Switch                                                       | S1,2,3,4,5,<br>6,7,8,11 | 800572-010               | 9   |
| 11.                | Switch                                                       | S9                      | 800572-009               | 1   |
| 12.                | Switch                                                       | S10                     | 800572-008               | 1   |
| 13.                | Integrated Circuit                                           | U1                      | 800651-001               | 1   |
| 14.                | Integrated Circuit                                           | U2,3,9,10               | 801012-001               | 4   |
| 15.                | Integrated Circuit                                           | U4, U5                  | 800024-001               | 2   |
| 16.                | Integrated Circuit                                           | U6                      | 800387-001               | 1   |
| 17.                | Integrated Circuit                                           | U7                      | 800400-001               | 1   |
| 18.                | Integrated Circuit                                           | U8, U14                 | 800080-001               | 2   |
| 19.                | Integrated Circuit                                           | U11, U12                | 800947-001               | 2   |

TABLE 9-29. EXERCISER OPTION (Contd)

| Figure & Index No. | Description             | Reference Designator | Part No.   | Qty |
|--------------------|-------------------------|----------------------|------------|-----|
| 20.                | Integrated Circuit      | 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   |

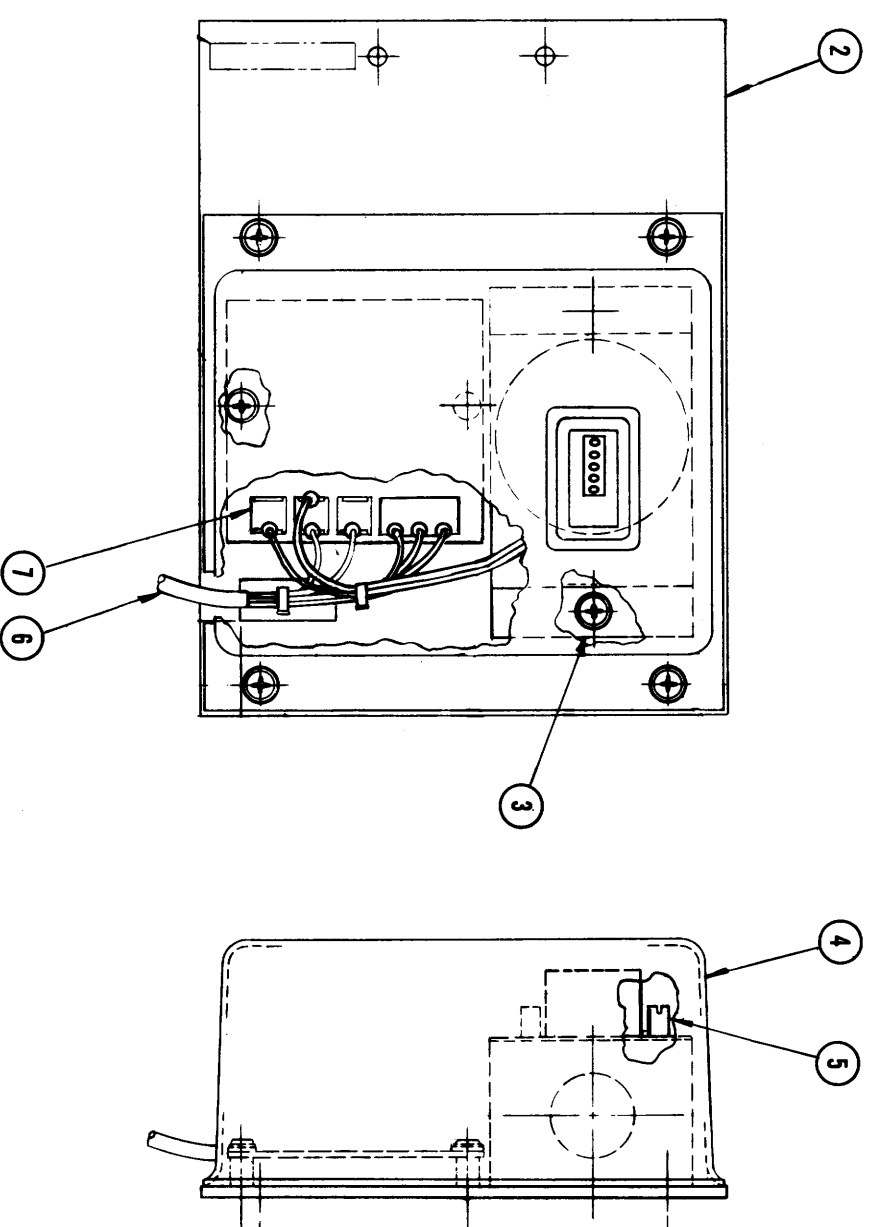
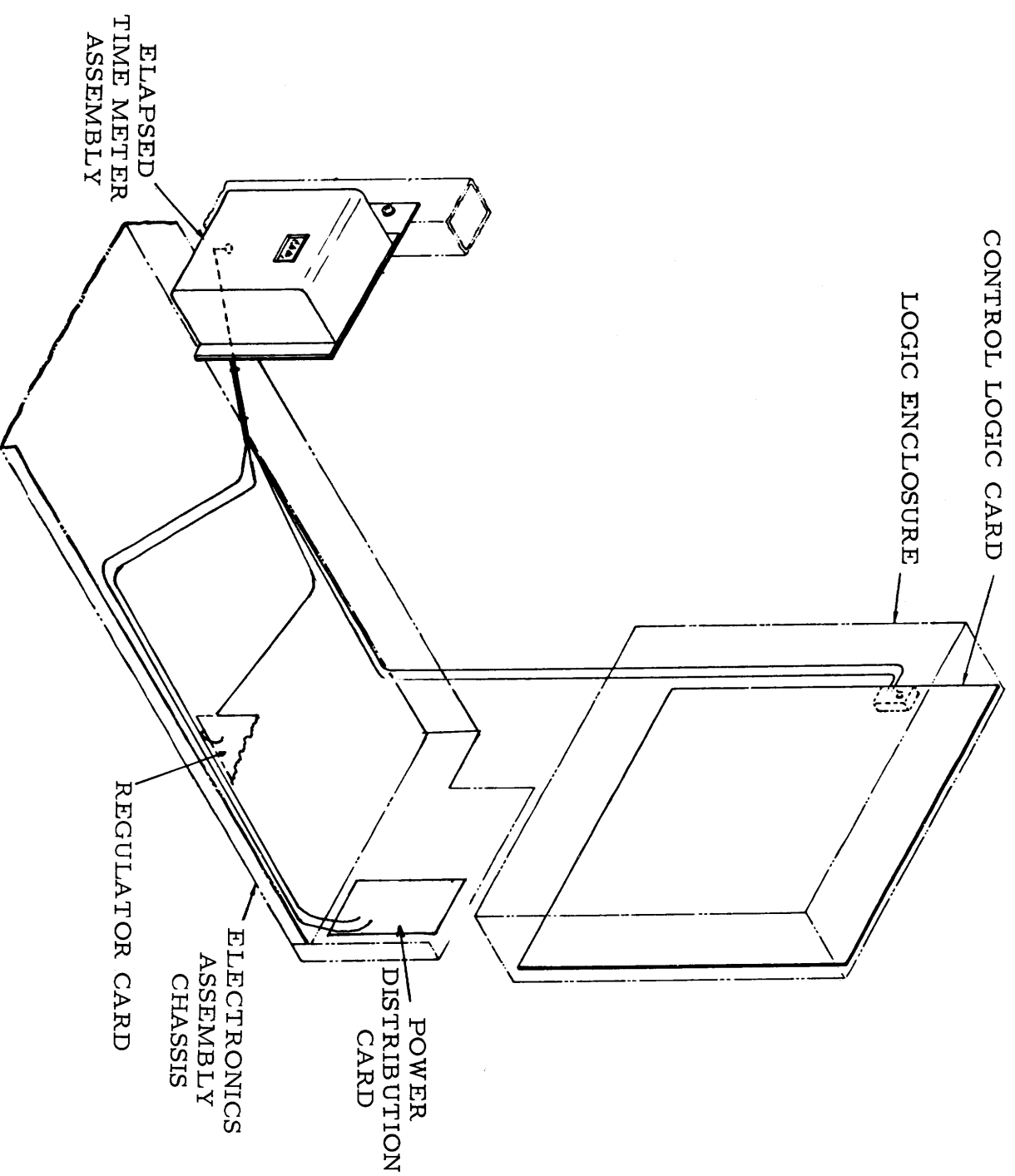


Figure 9-30  
Elapsed Time Meter Option

TABLE 9-30. ELAPSED TIME METER OPTION

| Figure &<br>Index No. | Description                                                | Reference<br>Designator | Part No.                 | Qty |
|-----------------------|------------------------------------------------------------|-------------------------|--------------------------|-----|
| Fig. 9-30             | Elapsed Time Meter Kit<br>60 Hz<br>50 Hz                   | A26                     | 234486-003<br>234486-004 | REF |
|                       | 1. Elapsed Time Meter Assembly<br>60 Hz<br>50 Hz           |                         | 237385-001<br>237385-002 | 1   |
|                       | 2. Bracket, Time Meter                                     |                         | 236713-001               | 1   |
|                       | 3. Bracket Support                                         |                         | 236787-001               | 1   |
|                       | 4. Cover, Time Meter                                       |                         | 236014-001               | 1   |
|                       | 5. Indicator, Elapsed Time<br>60 Hz<br>50 Hz               |                         | 801133-001<br>801133-002 | 1   |
|                       | 6. Cable Assembly                                          |                         | 237336-002               | 1   |
| 7.                    | Circuit Card Assembly, AC<br>Motor Control (Ref Fig. 9-31) | A26A1                   | 236841-001               | 1   |

TABLE 9-31. AC MOTOR CONTROL CARD

| Figure &<br>Index No. | Description                                | Reference<br>Designator | Part No.   | Qty |
|-----------------------|--------------------------------------------|-------------------------|------------|-----|
| Fig. 9-31             | Circuit Card Assembly,<br>AC Motor Control | A23A1,<br>A26A1         | 236841-001 | REF |
| 1.                    | OMITTED                                    |                         |            |     |
| 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                                 | Q1                      | 800089-001 | 1   |
| 6.                    | Thyristor, Triode                          | Q2                      | 800525-001 | 1   |
| 7.                    | Resistor, 270 Ohm, 1/4W, 5%                | R1, R2                  | 800030-271 | 2   |
| 8.                    | Resistor, 27 Ohm, 1/4W, 5%                 | R3                      | 800030-270 | 1   |
| 9.                    | Resistor, 1K Ohm, 1/4W, 5%                 | R4                      | 800030-102 | 1   |
| 10.                   | Resistor, 100 Ohm, 1/4W, 5%                | R5                      | 800030-101 | 1   |
| 11.                   | Integrated Circuit                         | U1                      | 800024-001 | 1   |

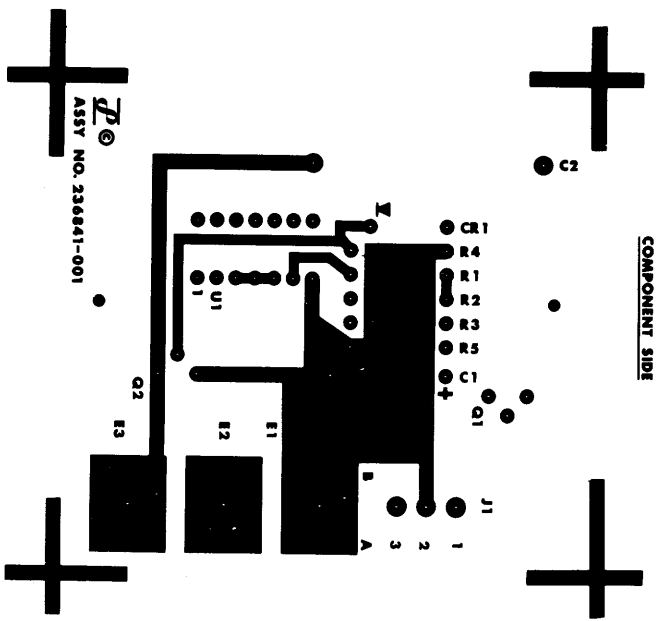


Figure 9-31  
AC Motor Control Card

TABLE 9-32. STATIC ELIMINATOR OPTION

| Figure &<br>Index No. | Description                                  | Reference<br>Designator | Part No.   | Qty |
|-----------------------|----------------------------------------------|-------------------------|------------|-----|
| Fig. 9-32             | Static Eliminator Kit                        |                         | 237695-001 | REF |
|                       | 1. Bracket, Mounting, Static Eliminator      |                         | 237634-001 | 1   |
|                       | 2. Bracket, Support, Static Eliminator       |                         | 237674-001 | 1   |
|                       | 3. Bar, Static Eliminator                    |                         | 801095-001 | 1   |
|                       | 4. Power Pack                                |                         | 801096-003 | 1   |
| 5.                    | Bracket, Mtg, Static Eliminator Bar, Locking |                         | 242982-001 | 2   |

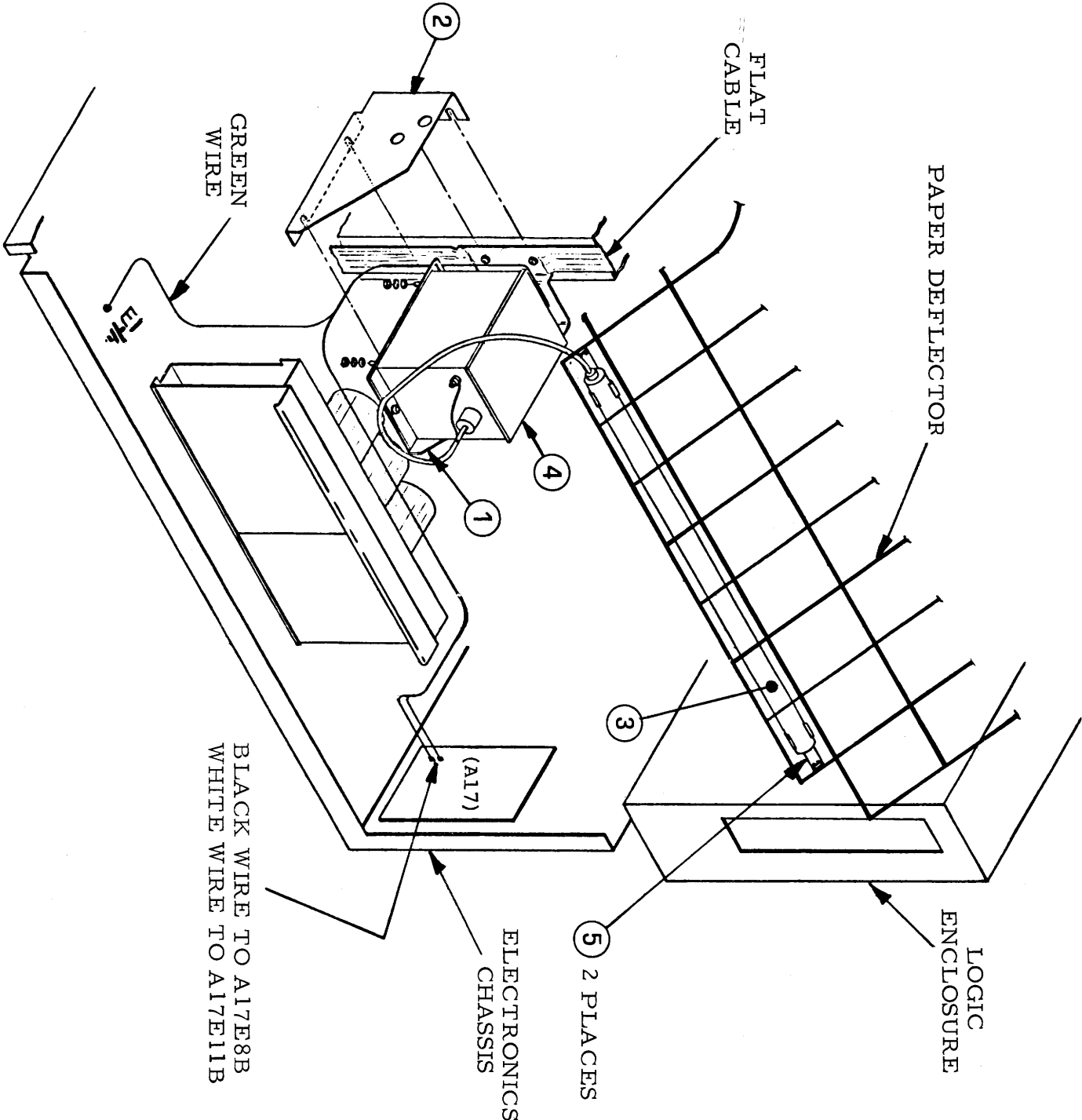


Figure 9-32  
Static Eliminator Option

TABLE 9-33. PAPER RECEPTACLE OPTION

| Figure &<br>Index No. | Description              | Reference<br>Designator | Part No.   | Qty |
|-----------------------|--------------------------|-------------------------|------------|-----|
| Fig. 9-33             | Paper Receptacle Option  |                         | 234445-001 | REF |
|                       | 1. Basket, Paper         |                         | 230739-001 | 1   |
|                       | 2. Cord, Patch, 12" Long |                         | 800870-012 | 1   |

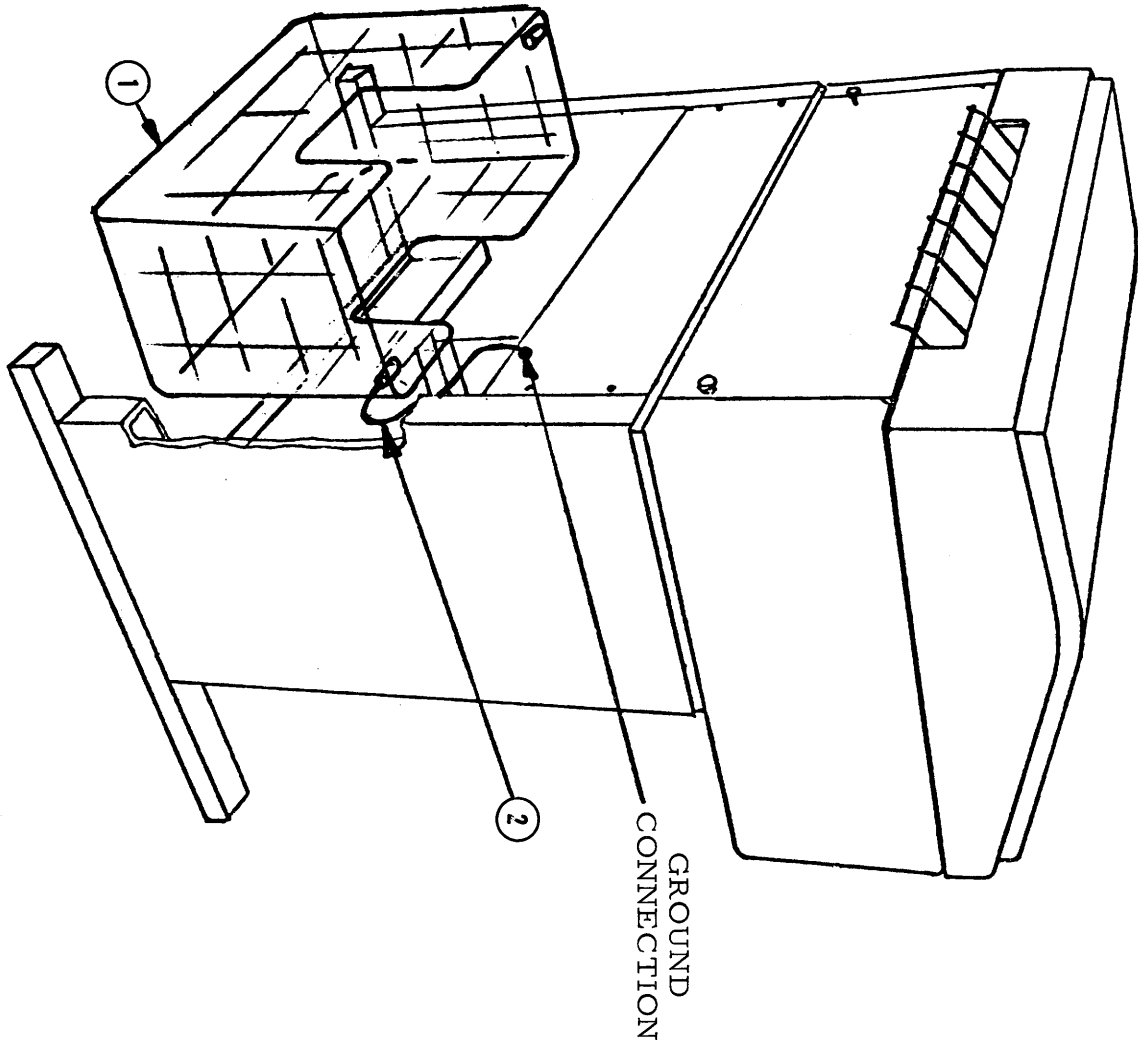


Figure 9-33  
Paper Receptacle Option