

MODEL

PRINTER

40



Installation Manual 426

On the following page is a list of Teletype Corporation Product Service locations which provide maintenance service and repair on all Teletype Corporation products. For more information call toll free (US 800-323-4226) (IL 800-942-4192) 7:00 A.M. — 4:00 P.M. CST.

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▲ CHICAGO	2900 21st AVE., BROADVIEW, IL 60153	(312) 345-7920
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SANTA CLARA	3285 KIFER RD. SANTA CLARA, CA 95051	(408) 737-7575
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CANADA

▲ TORONTO	31 KLONDIKE DR., WESTON, ONTARIO, CANADA M9L 1S1	(416) 745-9474
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▲ REGION HEADQUARTERS

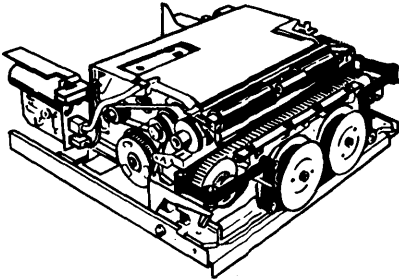
MODEL 40 PRINTER
INSTALLATION

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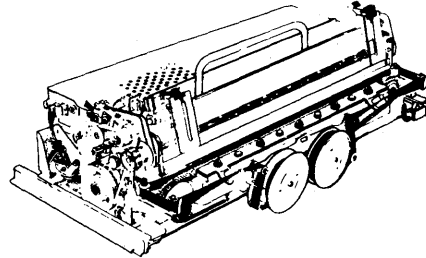
1. GENERAL

1.02 Supplemental information can be found in Model 40 Printer Service Manual 399.

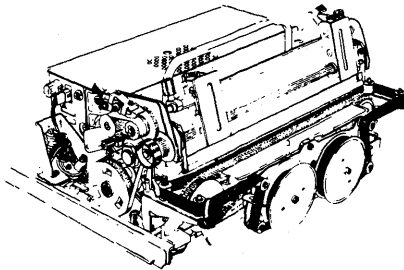
1.01 This manual provides installation for the Model 40 printer, friction and tractor feed, 80- and 132-column (Fig. 1).



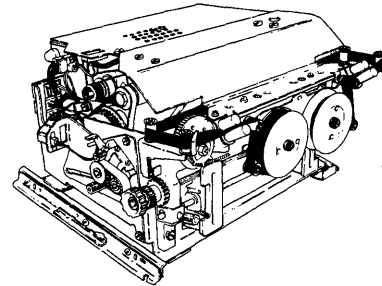
40P101 or 40P102
Friction Feed Printer
(80-Column)



40P201 Through 40P203
Tractor Feed Printer
(132-Column)



40P150 Through
40P154 Tractor Feed
Printer (80-Column)



40P252 Through 40P255
Forms Access
Tractor Feed Printer
(80-Column)

Fig. 1--Model 40 Printers

1.03 When ordering replaceable components, unless otherwise specified, prefix each part number with the letters "TP" (ie, TP410075).

2. UNPACKING

FRICITION FEED PRINTER

2.01 Open carton and remove polysterene pack. Remove printer from polysterene pack (Fig. 2).

Note: Retain polysterene pack for transporting the printer locally.

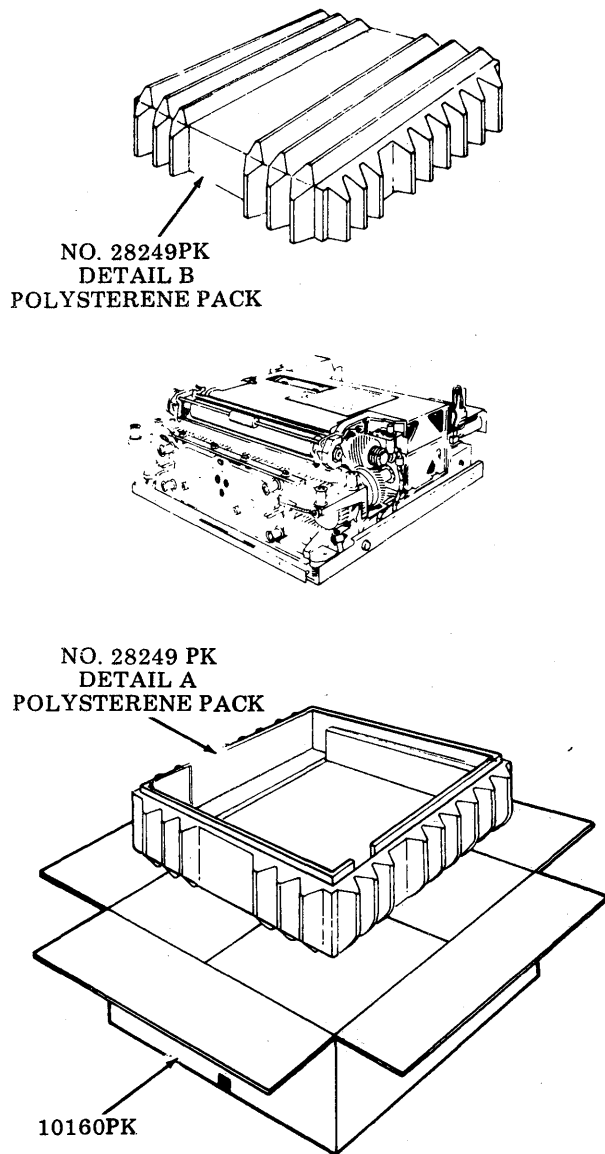


Fig. 2—Printer Carton and Pack

FRICITION FEED PRINTER CABINET

2.02 Unpack the cabinet and open the lid.

Danger: Shipping bar is under heavy spring tension — **RELEASE SLOWLY** (Fig. 3).

Carefully depress the bar, disengage latch from bar and slowly release the bar. Remove shipping latch and bar. Discard. If printer is to be shipped at a later date, retain bar and latch.

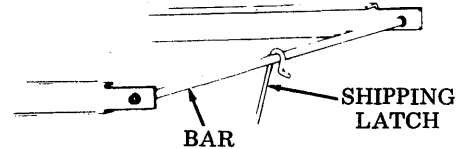


Fig. 3—Shipping Bar and Latch

TRACTOR FEED PRINTER

2.03 80-Column — Open carton and remove pack. Remove printer from polysterene pack (Fig. 4).

Note: Retain polysterene pack for transporting the printer locally.

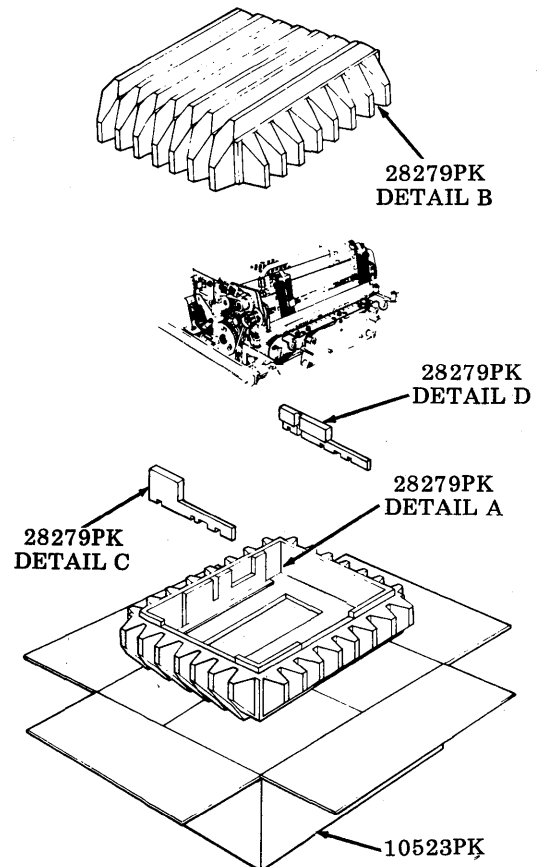


Fig. 4—Printer Carton and Pack

2.04 132-Column and Forms Access — Open printer carton and remove corner details (Fig. 5).

2.05 Lift printer carton out, open it, and remove packing detail (Fig. 6). Lift printer out.

2.06 Remove packing details from the printer (Fig. 6).

2.07 40P203 Printer — Remove ribbon cartridge set and meter roller set from well in top packing detail. Installation instructions for these reinking mechanism parts are included in the carton.

3. VISUAL INSPECTION

3.01 Look for any pinched or crimped wires or cables. Check that no terminal pins are bent or damaged. Make sure all connectors are seated properly and securely.

4. GROUNDING PRECAUTIONS

4.01 The 410071, 410072, 410076, 410640 and 410729 printer circuit cards contain MOS logic which requires careful handling. If the printer card is not already installed in the unit it should be handled while stored in its protective 406260 static bag (Fig. 7).

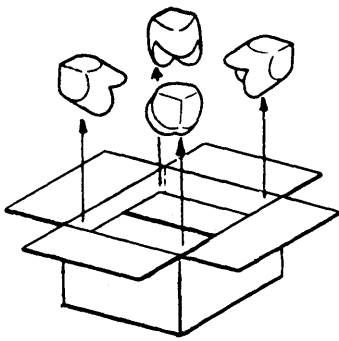


Fig. 5—Printer Carton Packing Details

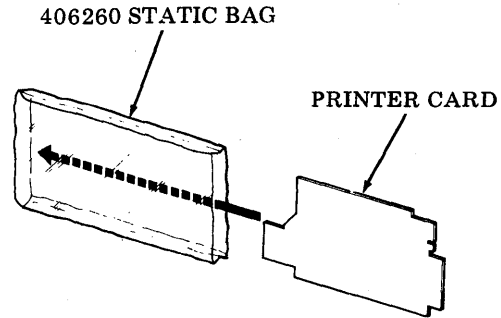


Fig. 7—Circuit Card Protective Bag

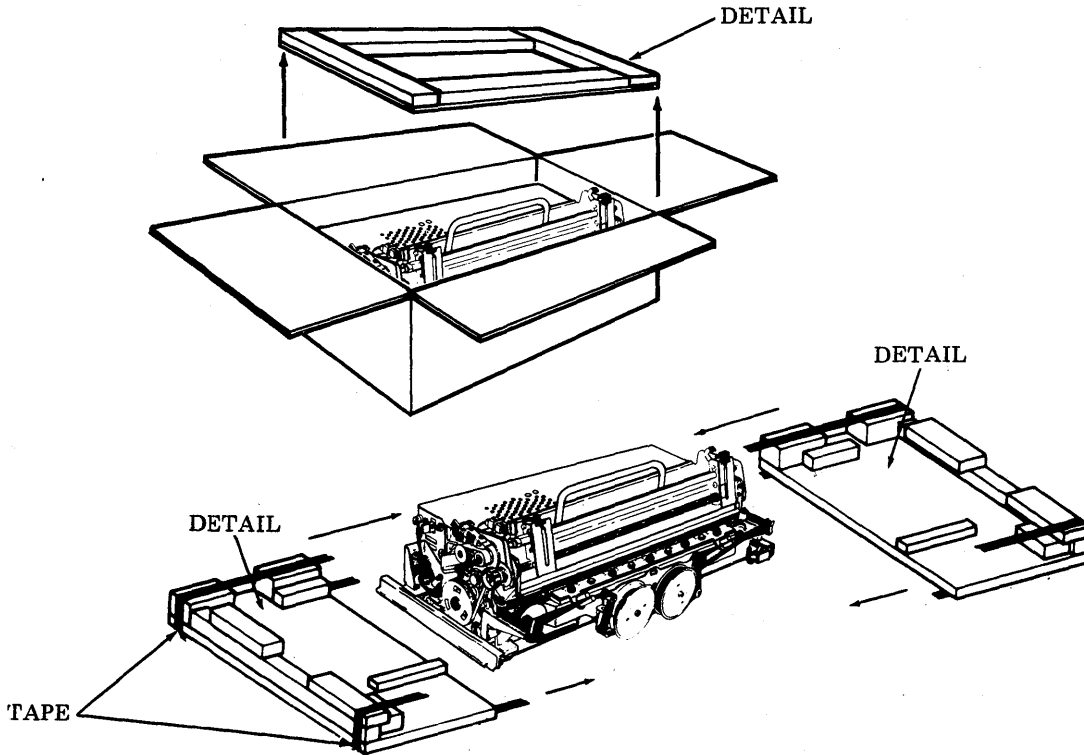


Fig. 6—Printer Packing Details

4.02 The 346392 static discharge strap must be worn when handling the printer card outside its protective bag. Attach the strap tightly to wrist as shown in Fig. 8. Attach clip end of static discharge strap to frame ground.

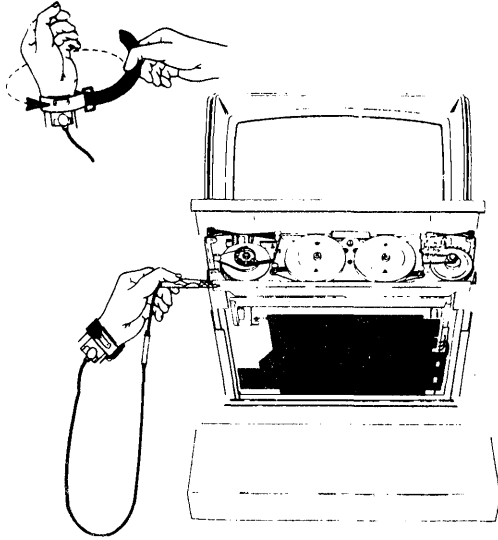


Fig. 8—346392 Static Discharge Strap

5. OPTION CIRCUIT CARD

GENERAL

Warning: Install the 346392 static discharge strap before removing the 410076 or 410640 circuit card.

5.01 This part includes all printer options that are utilized in the printer. It also covers handling of circuit cards, removal of the 410076 or 410640 circuit card, location of the circuit card switch packs, and information on how to activate or change switch positions.

5.02 The options enabled should be checked on the Printer Options Record. (See 5.14.)

REMOVE 410076 OR 410640 CIRCUIT CARD FROM 80-COLUMN FRICTION FEED PRINTER

5.03 Remove two screws that secure circuit card cover to the bottom of the printer and allow cover to hang down (Fig. 9).

5.04 Using finger hold and a firm grip of the card edge on opposite side as shown in Fig. 9, apply an even pulling force and unplug card from the two rows of magnet assembly contacts.

5.05 Lift left (bottom) end of card up and out of channel (bypassing printer base shipping screws) first, then right side of card up and out. Remove card from connector.

Note: During reassembly, make certain that the connector is plugged onto the card and that the card is located within the channel before plugging it into the two rows of magnet assembly contacts. Apply slight pressure at both ends and middle of card to fully seat it on magnet contacts.

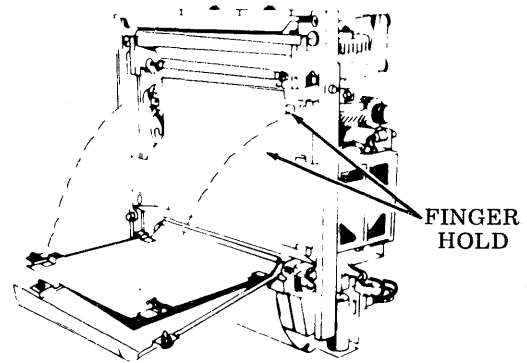


Fig. 9—Circuit Card Removal

REMOVE 410076 OR 410640 CIRCUIT CARD FROM 80-COLUMN TRACTOR FEED PRINTER (Fig. 10)

5.06 Remove two top screws and loosen three bottom screws.

5.07 Slide bottom plate out.

5.08 Remove connector from card; using pull points, pull card down and out.

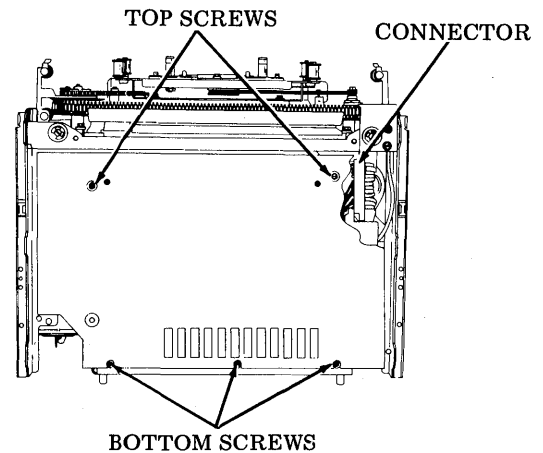


Fig. 10—Tractor Feed Printer Bottom Plate

OPTIONING THE 410071 CIRCUIT CARD FOR 40P252 THROUGH 40P255 80-COLUMN FORMS ACCESS TRACTOR FEED PRINTER OR 40P154 80-COLUMN TRACTOR FEED PRINTER

5.09 It is not necessary to remove the 410071 circuit card from the printer in order to option it. Option switches on the card are accessible through openings in the bottom plate of the printer (Fig. 11 and 12).

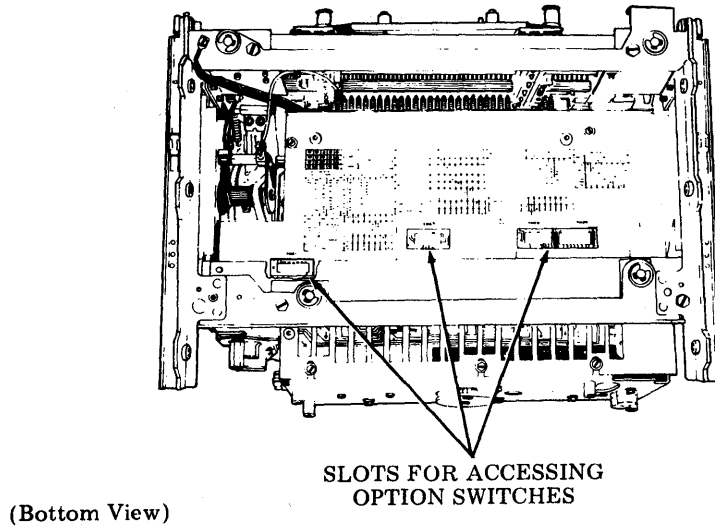


Fig. 11—Forms Access Printer (80-Column)

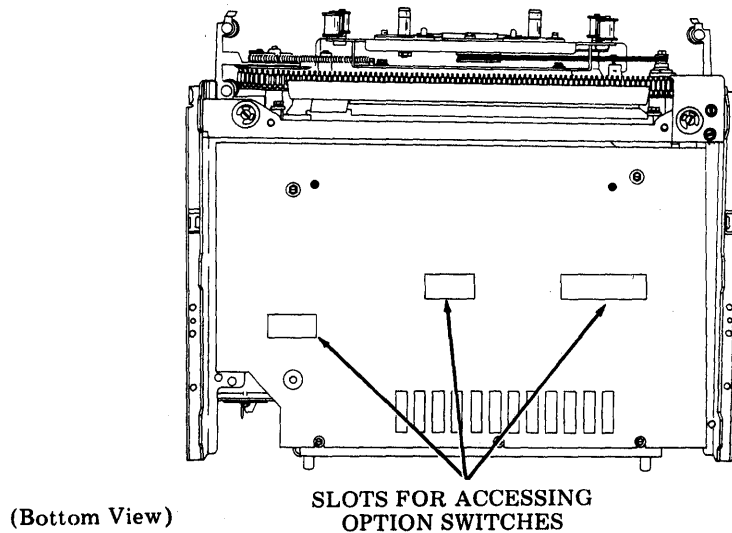
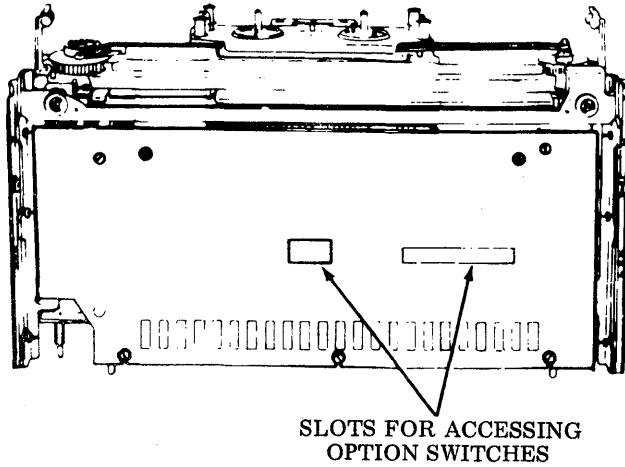


Fig. 12—40P154 Printer (80-Column)

OPTIONING THE 410072 OR 410729 CIRCUIT CARD FOR 132-COLUMN TRACTOR FEED PRINTER

5.10 It is not necessary to remove the 410072 or 410729 circuit card from the printer in order to option it. Option switches on the card are accessible through openings in the bottom plate of the printer (Fig. 13).



(Bottom View)

Fig. 13—132-Column Printer

PRINTER OPTIONS

5.11 Options are presented in a tabular format as illustrated in Fig. 14.

OPTION NO.	ROCKER SWITCH NUMBERS (See Fig. 15)	LOCATION OF SWITCH ON CIRCUIT CARD					INDICATES FACTORY PROGRAMMED OPTION
		A-10					
a.		1	2	3	4	5	*
b.		●	-	-	-	-	*
c.		○	-	-	-	-	*
d.		-	●	-	-	-	*
e.		-	○	-	-	-	*
f.		-	-	●	-	-	*

Legend:

- Indicates switch ON — dot end of rocker switch depressed.
- Indicates switch OFF — blank end of rocker switch depressed.
- Switch position does not affect option.
- * Factory programmed.

Fig. 14

5.12 Printer card option switches are addressed as in the illustrations accompanying the specific option activation information (Fig 15).

5.13 A number of different switches have been used to option cards. Fig. 15 shows rocker switch (A), and toggle switch (B), and their respective ON/OFF positions.

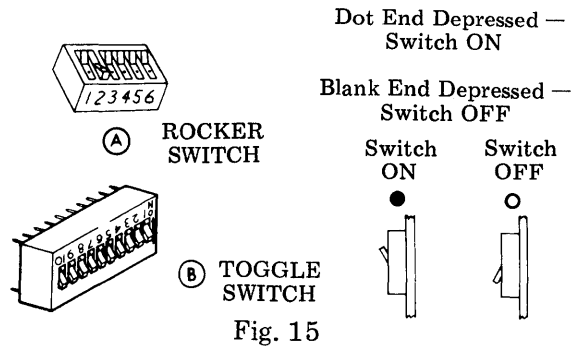
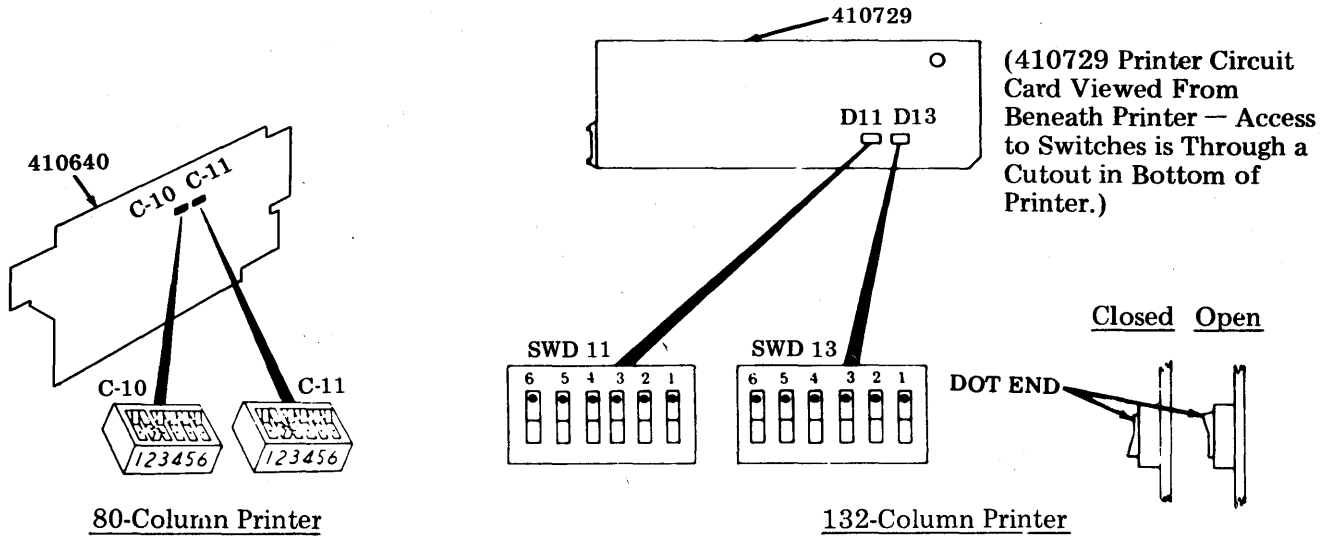


Fig. 15



410640 — 80-Column Printer Logic Circuit Card

17. Printer Margin and Form Width		C-10						C-11					
		1	2	3	4	5	6	1	2	3	4	5	6
c.	Last Character on 80th Column	—	—	—	—	—	—	○	●	●	○	—	—
d.79.	Last Character on 79th Column	—	—	—	—	—	—	○	●	●	●	—	—
d.78.	Last Character on 78th Column	—	—	—	—	—	—	●	○	○	●	—	—
d.77.	Last Character on 77th Column	—	—	—	—	—	—	●	○	●	○	—	—
d.76.	Last Character on 76th Column	—	—	—	—	—	—	●	○	●	●	—	—
d.75.	Last Character on 75th Column	—	—	—	—	—	—	●	●	○	●	—	—
d.74.	Last Character on 74th Column	—	—	—	—	—	—	●	●	●	○	—	—
d.73.	Last Character on 73rd Column	—	—	—	—	—	—	●	●	●	●	—	—

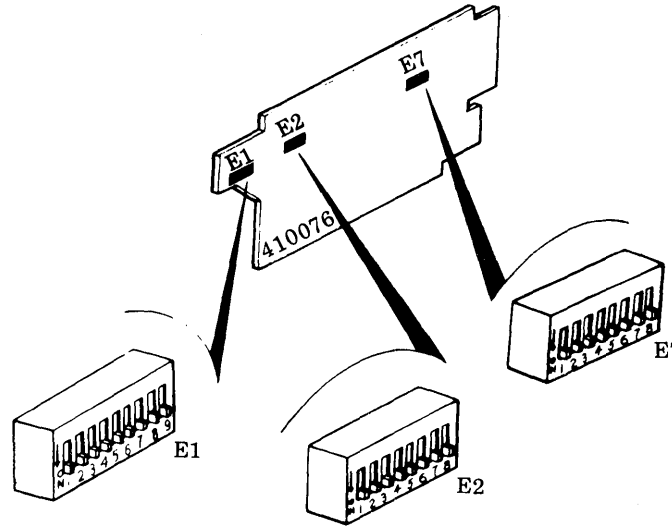
Note: Options 17a and 17b are not used.

410729 — 132-Column Printer Logic Circuit Card

17. Printer Margin and Form Width		D11						D13					
		6	5	4	3	2	1	6	5	4	3	2	1
e.	Last Character on Column 132	—	—	—	—	—	—	○	○	○	●	—	—
f.131.	Last Character on Column 131	—	—	—	—	—	—	○	○	●	○	—	—
f.130.	Last Character on Column 130	—	—	—	—	—	—	○	○	●	●	—	—
f.129.	Last Character on Column 129	—	—	—	—	—	—	○	●	○	●	—	—
f.128.	Last Character on Column 128	—	—	—	—	—	—	○	●	●	○	—	—
f.127.	Last Character on Column 127	—	—	—	—	—	—	○	●	●	●	—	—
f.126.	Last Character on Column 126	—	—	—	—	—	—	●	○	○	●	—	—
f.125.	Last Character on Column 125	—	—	—	—	—	—	●	○	●	○	—	—
f.124.	Last Character on Column 124	—	—	—	—	—	—	●	○	●	●	—	—
f.123.	Last Character on Column 123	—	—	—	—	—	—	●	●	○	●	—	—
f.122.	Last Character on Column 122	—	—	—	—	—	—	●	●	●	○	—	—
f.121.	Last Character on Column 121	—	—	—	—	—	—	●	●	●	●	—	—

Note: Options 17a, 17b, 17c and 17d are not used.

See Legend in Fig. 14.



410076 — 80-Column Printer Logic Circuit Card

17. Printer Left Margin and Form Width		E7									
		1	2	3	4	5	6	7	8		
a.	First Printed Column — Column 1	—	—	●	●	●	—	—	—	—	*
b.2.	First Printed Column — Column 2	—	—	●	●	○	●	—	—	—	
b.3.	First Printed Column — Column 3	—	—	●	●	○	○	—	—	—	
b.4.	First Printed Column — Column 4	—	—	●	○	○	○	—	—	—	
b.5.	First Printed Column — Column 5	—	—	○	○	●	○	—	—	—	
b.6.	First Printed Column — Column 6	—	—	○	○	○	●	—	—	—	
b.7.	First Printed Column — Column 7	—	—	○	●	○	○	—	—	—	
b.8.	First Printed Column — Column 8	—	—	●	○	●	○	—	—	—	
b.9.	First Printed Column — Column 9	—	—	○	○	●	●	—	—	—	
b.10.	First Printed Column — Column 10	—	—	○	●	○	●	—	—	—	
b.11.	First Printed Column — Column 11	—	—	●	●	●	○	—	—	—	
b.12.	First Printed Column — Column 12	—	—	●	○	○	●	—	—	—	
b.13.	First Printed Column — Column 13	—	—	○	●	●	○	—	—	—	

410076 — 80-Column Printer Logic Circuit Card

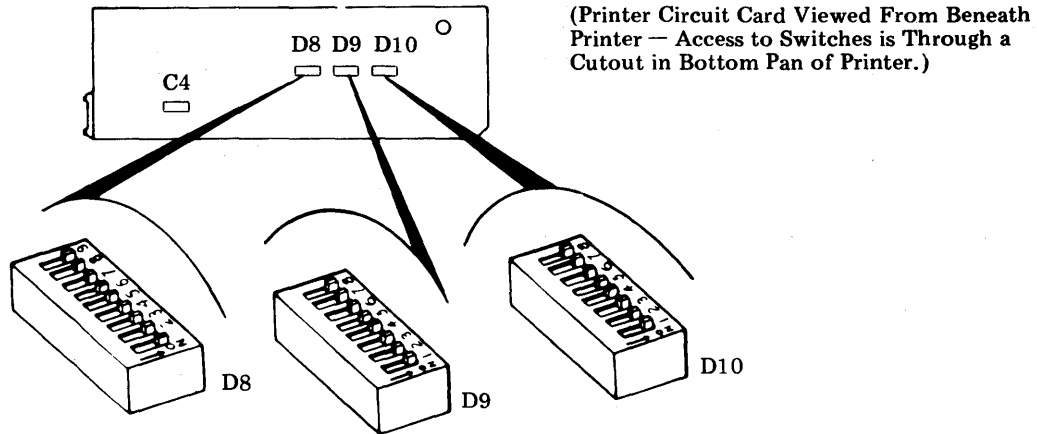
17. Printer Right Margin and Form Width		E1									E2								E7								
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8	
c.	Last Char Printed Column Number	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
d. (X)	80	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	73 61 49 37 25	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	74 62 50 38 26	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	75 63 51 39 27	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	76 64 52 40 28	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	77 65 53 41 29	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	78 66 54 42 30	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	79 67 55 43 31	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	68 56 44 32	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	69 57 45 33	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	70 58 46 34	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	71 59 47 35	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—
	72 60 48 36	—	—	—	—	○	○	—	○	○	—	—	—	—	—	—	—	●	●	●	—	—	—	—	—	—	—

To obtain counts:

- 73 through 80 program as shown.
- 61 through 72 program as shown, then operate E7 position 2 to OFF.
- 49 through 60 program as shown, then operate E7 position 1 to OFF.
- 37 through 48 program as shown, then operate E2 position 7 to OFF.
- 25 through 36 program as shown, then operate E2 position 8 to OFF.

(X) Indicates desired column number.

See Legend in Fig. 14.



410072 — 132-Column Printer Logic Circuit Card

17. Printer Left Margin and Form Width		D8								
		1	2	3	4	5	6	7	8	9
a.	First Printed Column — Column 1	—	—	●	●	●	●	—	—	—
b.2.	First Printed Column — Column 2	—	—	●	●	○	●	—	—	—
b.3.	First Printed Column — Column 3	—	—	●	●	○	○	—	—	—
b.4.	First Printed Column — Column 4	—	—	●	○	○	○	—	—	—
b.5.	First Printed Column — Column 5	—	—	○	○	○	○	—	—	—
b.6.	First Printed Column — Column 6	—	—	○	○	○	●	—	—	—
b.7.	First Printed Column — Column 7	—	—	○	●	○	○	—	—	—
b.8.	First Printed Column — Column 8	—	—	●	○	●	○	—	—	—
b.9.	First Printed Column — Column 9	—	—	○	○	○	●	—	—	—
b.10.	First Printed Column — Column 10	—	—	○	●	○	●	—	—	—
b.11.	First Printed Column — Column 11	—	—	●	●	●	○	—	—	—
b.12.	First Printed Column — Column 12	—	—	●	○	○	●	—	—	—
b.13.	First Printed Column — Column 13	—	—	○	●	●	○	—	—	—

410072 — 132-Column Printer Logic Circuit Card

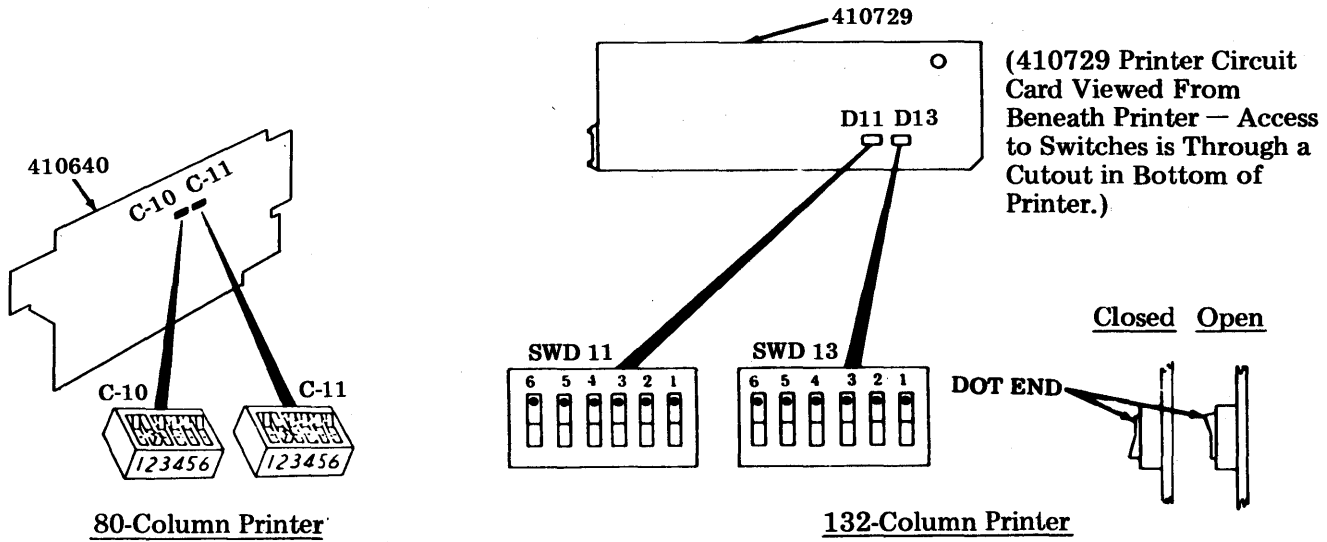
17. Printer Right Margin and Form Width		D8									D9								D10							
Last Char Printed Column Number		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
e.	132	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
f.(X)	121 109 97 85 73	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	122 110 98 86 74	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	123 111 99 87 75	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	124 112 100 88 76	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	125 113 101 89 77	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	126 114 102 90 78	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	127 115 103 91 79	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	128 116 104 92 80	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	129 117 105 93 81	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	130 118 106 94 82	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	131 119 107 95 83	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	120 108 96 84	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

To obtain counts:

- 121 through 132 program as shown.
- 109 through 120 program as shown, then operate D9 position 7 OFF.
- 97 through 108 program as shown, then operate D9 position 8 OFF.
- 85 through 96 program as shown, then operate D8 position 7 OFF.
- 73 through 84 program as shown, then operate D8 position 8 OFF.

(X) Indicates desired column number.

See Legend in Fig. 14.



410640 — 80-Column Printer Logic Circuit Card

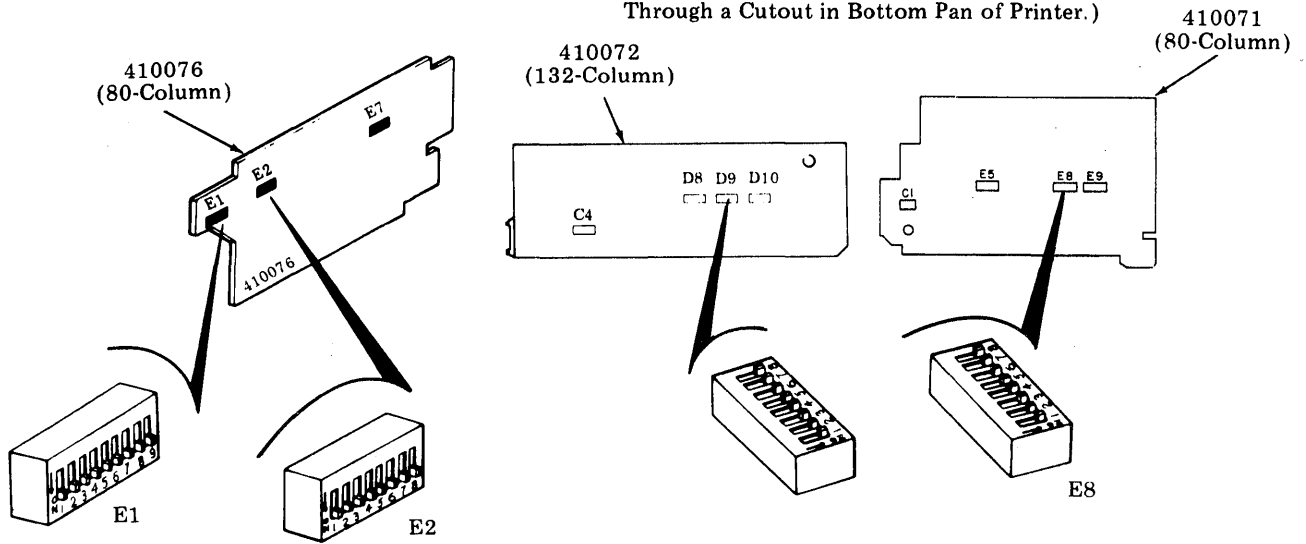
18. Printer Paper Feedout		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	No Paper Feedout	●	—	—	—	—	—	—	—	—	—	—	—	○
b.	Paper Feedout on DSR or RM Loss — 16 Lines or One Form	○	—	—	—	—	—	—	—	—	—	—	—	○
c.	Paper Feedout on DSR or RM Loss or ETX — 16 Lines or One Form	○	—	—	—	—	—	—	—	—	—	—	—	●*

410729 — 132-Column Printer Logic Circuit Card

18. Printer Paper Feedout		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
a.	No Paper Feedout	—	—	●	—	—	—	—	—	—	—	—	—	○
b.	Paper Feedout on DSR or RM Loss — 16 Lines or One Form	—	—	○	—	—	—	—	—	—	—	—	—	○
c.	Paper Feedout on DSR or RM Loss or ETX — 16 Lines or One Form	—	—	○	—	—	—	—	—	—	—	—	—	●*

See Legend in Fig. 14.

(410072 and 410071 Printer Circuit Cards Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)



410076 — 80-Column Printer Logic Circuit Card

18. Printer Paper Feedout		E1									E2							
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8
a.	No Paper Feedout	●	—	—	—	—	—	—	—	—	—	—	—	—	—	○	—	—
b.	Paper Feedout on DSR or RM Loss — 16 Lines or One Form	○	—	—	—	—	—	—	—	—	—	—	—	—	—	○	—	—
c.	Paper Feedout on DSR or RM Loss or ETX — 16 Lines or One Form	○	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—	—

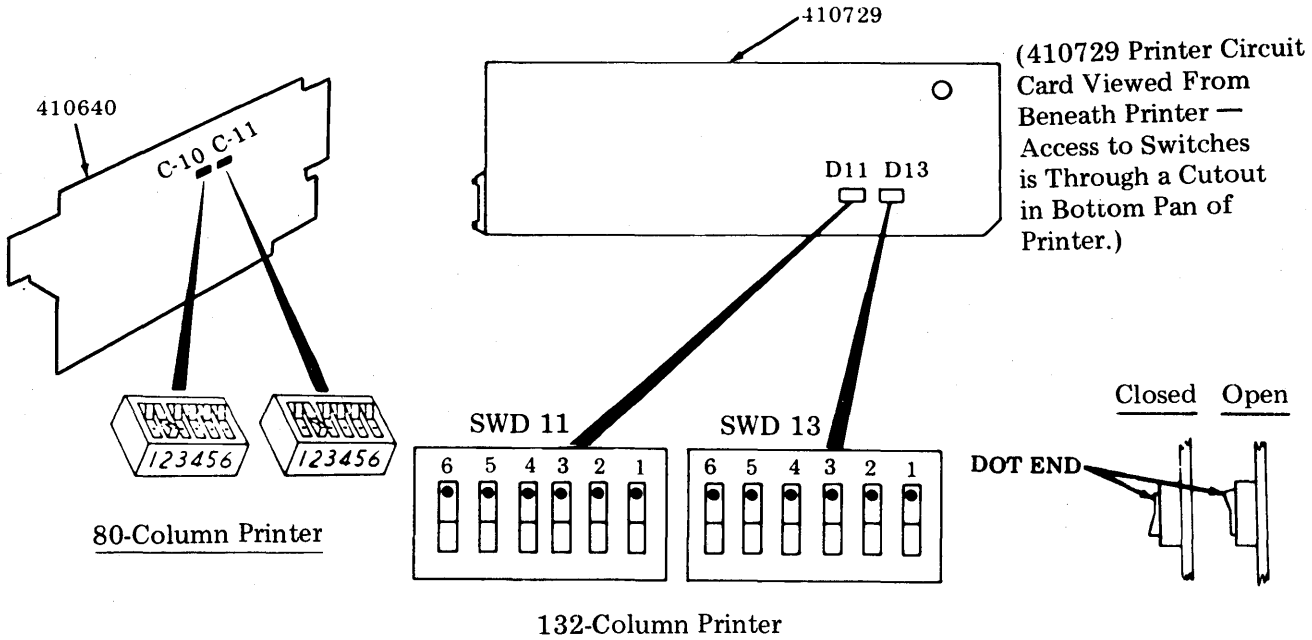
410072 — 132-Column Printer Logic Circuit Card

18. Printer Paper Feedout		D9							
		1	2	3	4	5	6	7	8
a.	No Paper Feedout	—	—	●	—	—	—	—	—
b.	Paper Feedout on DSR or RM Loss — 16 Lines or One Form	—	○	○	—	—	—	—	—
c.	Paper Feedout on DSR or RM Loss or ETX — 16 Lines or One Form	—	●	○	—	—	—	—	—

410071 -- 80-Column Tractor Feed Printer Logic Circuit Card

18. Printer Paper Feedout		E8							
		1	2	3	4	5	6	7	8
a.	No Paper Feedout	—	—	●	—	—	—	—	—
b.	Paper Feedout on DSR or RM Loss — 16 Lines or One Form	—	○	○	—	—	—	—	—
c.	Paper Feedout on DSR or RM Loss or ETX — 16 Lines or One Form	—	●	○	—	—	—	—	—

See Legend in Fig. 14.



410640 — 80-Column Printer Logic Circuit Card

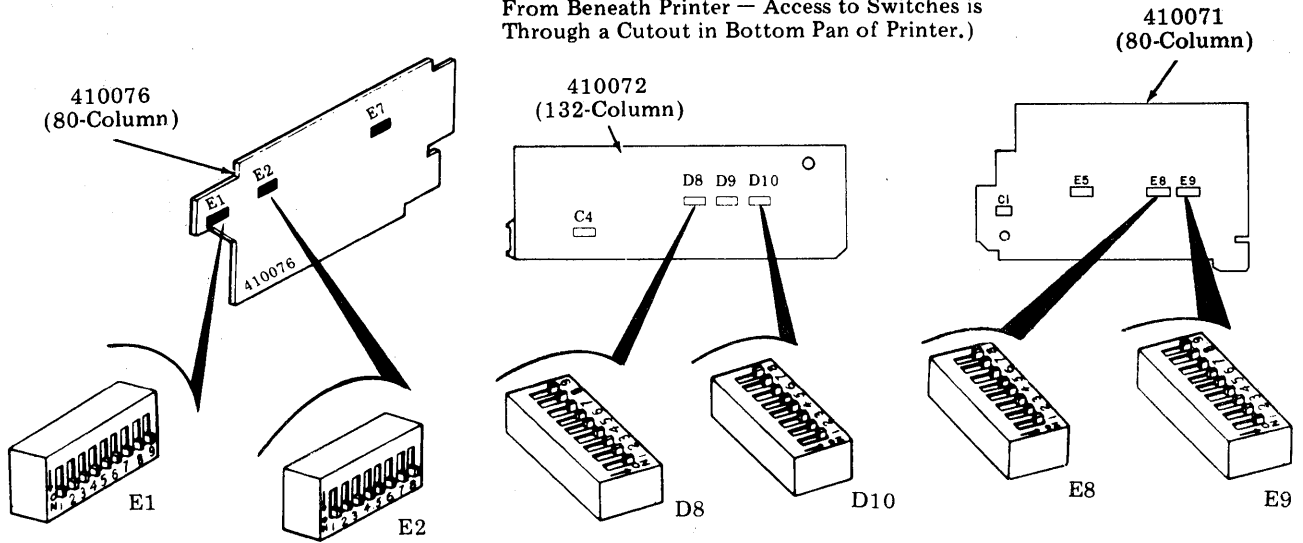
19. Printer Errored Character Symbol	C-10						C-11					
	1	2	3	4	5	6	1	2	3	4	5	6
a. Printed on Even Parity Error	-	-	-	●	○	-	-	-	-	-	-	-
b. Printed on Odd Parity Error	-	-	-	○	●	-	-	-	-	-	-	-
c. Not Printed on Parity Error	-	-	-	●	●	-	-	-	-	-	-	-
d. Printers With 96-Character Set	-	●	○	-	-	-	-	-	-	-	-	-
e. Printers With 64-Character Set	-	○	●	-	-	-	-	-	-	-	-	-
f. Printers With Extended ASCII Character Set	-	○	○	-	-	-	-	-	-	-	-	-

410729 — 132-Column Printer Logic Circuit Card

19. Printer Errored Character Symbol	D11						D13					
	6	5	4	3	2	1	6	5	4	3	2	1
a. Printed on Even Parity Error	-	-	-	●	○	-	-	-	-	-	-	-
b. Printed on Odd Parity Error	-	-	-	○	●	-	-	-	-	-	-	-
c. Not Printed on Parity Error	-	-	-	●	●	-	-	-	-	-	-	-
d. Printers With 96-Character Set	●	○	-	-	-	-	-	-	-	-	-	-
e. Printers With 64-Character Set	○	●	-	-	-	-	-	-	-	-	-	-
f. Printers With Extended ASCII Character Set	○	○	-	-	-	-	-	-	-	-	-	-
g. Printers With Longest Char. Set Having Less Than 64 Char.	○	●	-	-	-	-	-	-	-	-	-	-

See Legend in Fig. 14.

(410072 and 410071 Printer Circuit Cards Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)



410076 — 80-Column Printer Logic Circuit Card

19. Printer Errored Character Symbol		E1								
		1	2	3	4	5	6	7	8	9
a.	Printed on Even Parity Error	-	-	●	○	-	-	-	-	-
b.	Printed on Odd Parity Error	-	-	○	●	-	-	-	-	-
c.	Not Printed on Parity Error	-	-	●	●	-	-	-	-	-

19. Character Set		E2							
		1	2	3	4	5	6	7	8
d.	Printers With 96-Character Set	-	-	-	○	●	-	-	-
e.	Printers With 64-Character Set	-	-	-	●	○	-	-	-
f.	Printers With Extended ASCII Character Set	-	-	-	○	○	-	-	-
g.	Printers With Longest Character Set Having Less Than 64 Characters	-	-	-	○	○	-	-	-

410072 — 132-Column Printer Logic Circuit Card

19. Printer Errored Character Symbol		D10							
		1	2	3	4	5	6	7	8
a.	Printed on Even Parity Error	-	-	-	-	-	○	●	-
b.	Printed on Odd Parity Error	-	-	-	-	-	●	○	-
c.	Printed on Parity Error	-	-	-	-	-	●	●	-

19. Character Set		D8								
		1	2	3	4	5	6	7	8	9
d.	Printers With 96-Character Set	●	○	-	-	-	-	-	-	-
e.	Printers With 64-Character Set	○	●	-	-	-	-	-	-	-
f.	Printers With Extended ASCII Character Set	○	○	-	-	-	-	-	-	-
g.	Printers With Longest Character Set Having Less Than 64 Characters	○	○	-	-	-	-	-	-	-

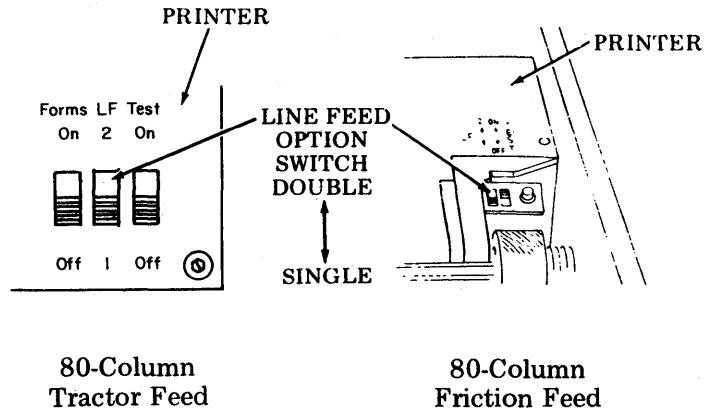
410071 — 80-Column Tractor Feed Printer Logic Circuit Card

19. Printer Errored Character Symbol		E9								
		1	2	3	4	5	6	7	8	9
a.	Printed on Even Parity Error	-	-	-	-	-	○	●	-	-
b.	Printed on Odd Parity Error	-	-	-	-	-	●	○	-	-
c.	Not Printed on Parity Error	-	-	-	-	-	●	●	-	-

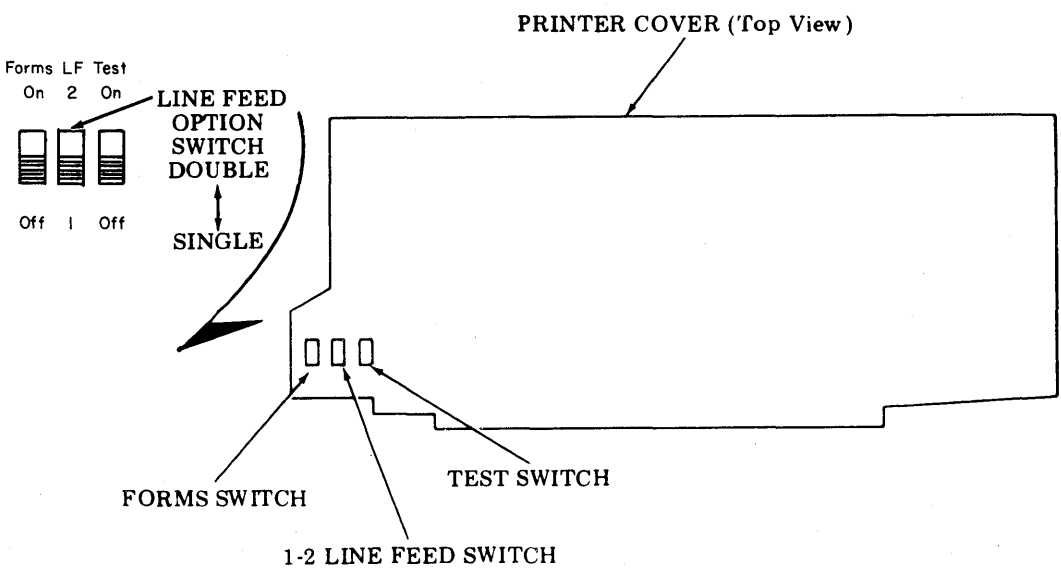
19. Character Set		E8							
		1	2	3	4	5	6	7	8
d.	Printers With 96-Character Set	-	-	-	-	●	○	-	-
e.	Printers With 64-Character Set	-	-	-	-	○	●	-	-
f.	Printers With Extended ASCII Character Set	-	-	-	-	○	○	-	-
g.	Printers With Longest Character Set Having Less Than 64 Characters	-	-	-	-	○	○	-	-

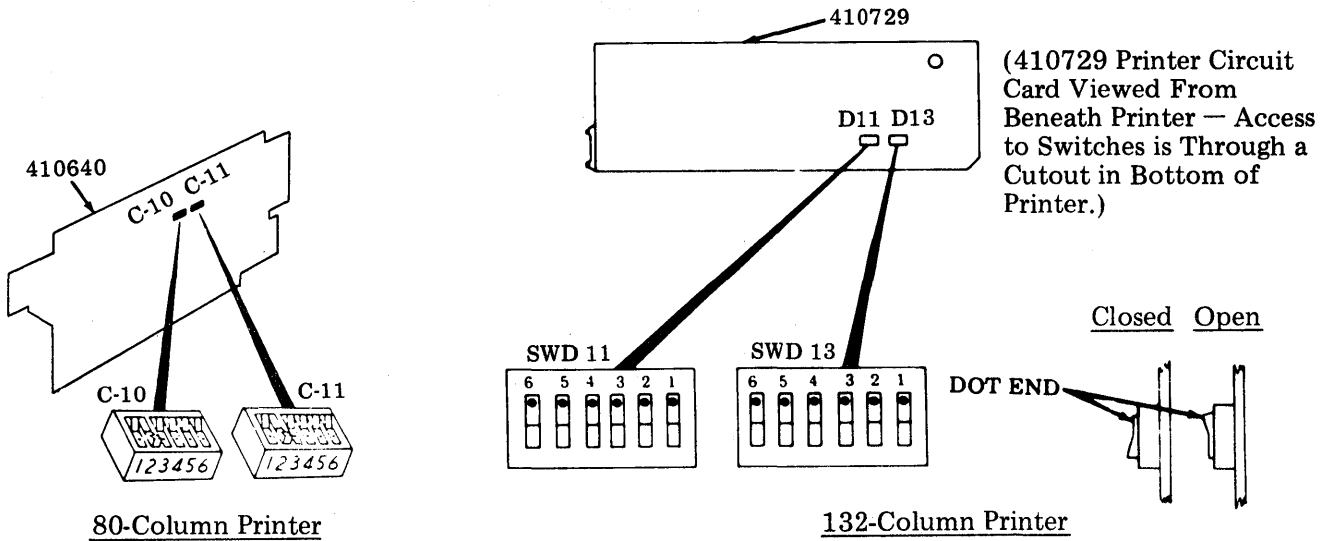
See Legend in Fig. 14.

20. Line Feed on 80-Column Printer (See adjacent figure.)	
a.	Single
b.	Double



20. Line Feed on 132-Column Printer (See figure below.)	
a.	Single
b.	Double





410640 — 80-Column Printer Logic Circuit Card

21. Foldover on Up-Low Printer		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	Lower Case and Upper Case Print	-	-	-	-	-	-	-	-	-	-	○	-	*
b.	Lower Case Prints as Upper Case	-	-	-	-	-	-	-	-	-	-	●	-	

22. Foldover on Monocase Printer		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	Lower Case Not Folded Over	-	-	-	-	-	-	-	-	-	-	○	-	
b.	Lower Case Printed as Upper Case	-	-	-	-	-	-	-	-	-	-	●	-	*

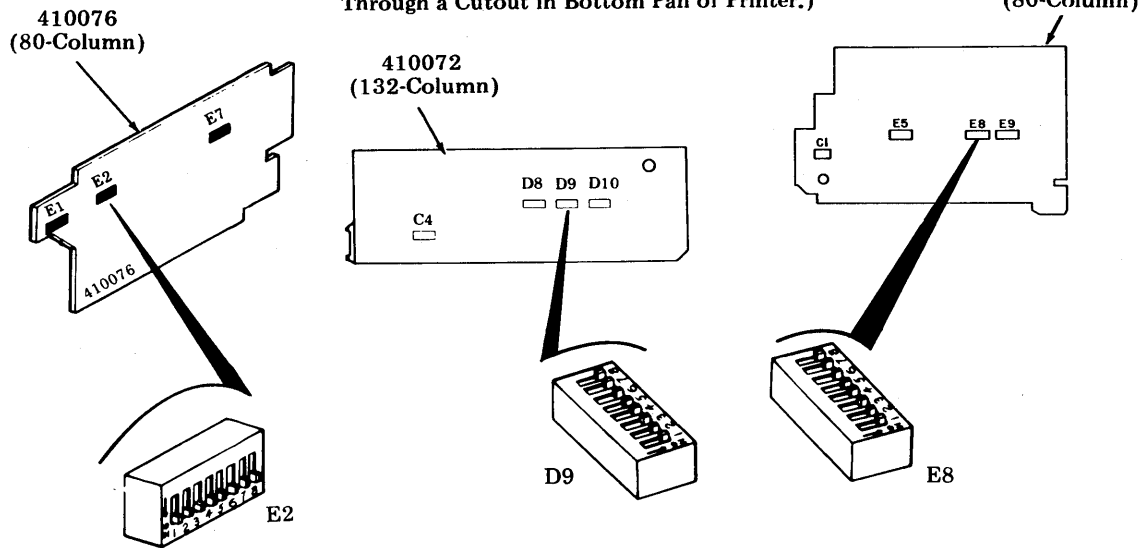
410729 — 132-Column Printer Logic Circuit Card

21. Foldover on Up-Low Printer		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
a.	Lower Case and Upper Case Print	-	-	-	-	-	-	-	-	-	-	○	-	*
b.	Lower Case Prints as Upper Case	-	-	-	-	-	-	-	-	-	-	●	-	

22. Foldover on Monocase Printer		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
a.	Lower Case Prints as Error Symbol	-	-	-	-	-	-	-	-	-	-	○	-	
b.	Lower Case Prints as Upper Case	-	-	-	-	-	-	-	-	-	-	●	-	*

See Legend in Fig. 14.

(410072 and 410071 Printer Circuit Cards Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)



410076 — 80-Column Printer Logic Circuit Card

21. Foldover on Up-Low Printer	E2							
	1	2	3	4	5	6	7	8
a. Lower Case and Upper Case Print	—	—	○	—	—	—	—	*
b. Lower Case Prints as Upper Case	—	—	●	—	—	—	—	
22. Foldover on Monocase Printer	E2							
	1	2	3	4	5	6	7	8
a. Lower Case Prints as Error Symbol	—	—	○	—	—	—	—	
b. Lower Case Prints as Upper Case	—	—	●	—	—	—	—	*

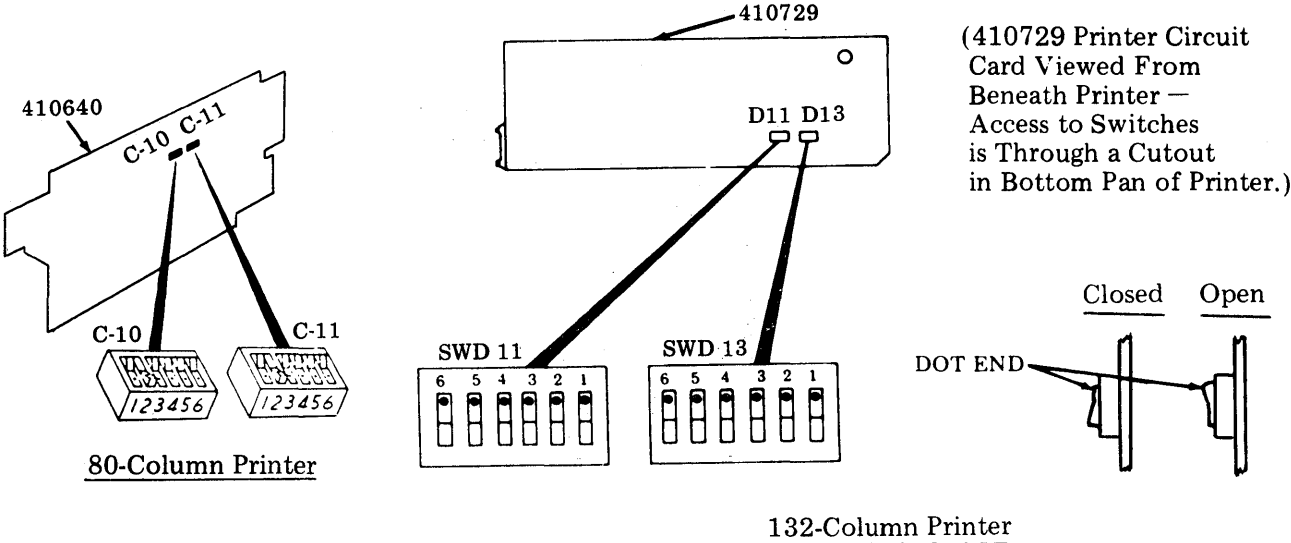
410072 — 132-Column Printer Logic Circuit Card

21. Foldover on Printers With 96-Character Set	D9							
	1	2	3	4	5	6	7	8
a. Lower Case and Upper Case	○	—	—	—	—	—	—	*
b. Lower Case Prints as Upper Case	●	—	—	—	—	—	—	
22. Foldover on Printers With 64-Character Set	D9							
	1	2	3	4	5	6	7	8
a. Lower Case Prints as Error Symbol	○	—	—	—	—	—	—	
b. Lower Case Prints as Upper Case	●	—	—	—	—	—	—	*

410071 — 80-Column Tractor Feed Printer Logic Circuit Card

21. Foldover on Printers With 96-Character Set	E8							
	1	2	3	4	5	6	7	8
a. Lower Case and Upper Case Print	○	—	—	—	—	—	—	*
b. Lower Case Prints as Upper Case	●	—	—	—	—	—	—	
22. Foldover on Printers With 64-Character Set	E8							
	1	2	3	4	5	6	7	8
a. Lower Case Prints as Error Symbol	○	—	—	—	—	—	—	
b. Lower Case Prints as Upper Case	●	—	—	—	—	—	—	*

See Legend in Fig. 14.



410640 — 80-Column Printer Logic Circuit Card

23. Extended ASCII on Printer (Extended ASCII)		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	†Prints Extended ASCII Characters (No Parity Check)	—	—	—	○	○	—	—	—	—	—	—	—	—
b.	Does Not Print Extended Characters (See Option 19a, b, or c.)	—	—	—	—	—	—	—	—	—	—	—	—	*

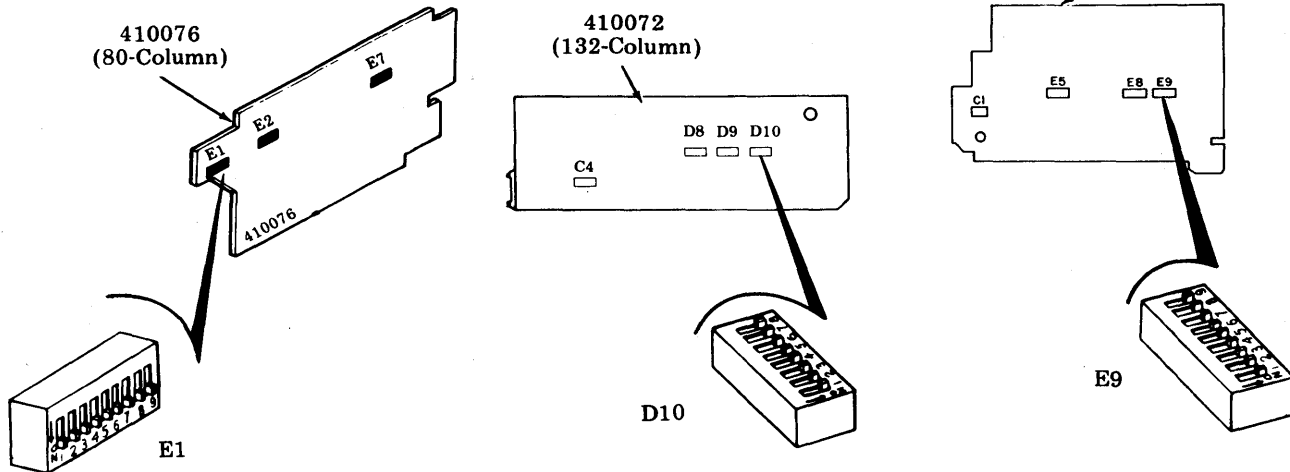
†Option 23a requires local engineering.

410729 — 132-Column Printer Logic Circuit Card

23. Extended ASCII on Printer (Extended ASCII)		D11						D13						
		6	5	4	3	2	1	6	5	4	3	2	1	
a.	Prints Extended ASCII Characters (No Parity Check)	—	—	—	○	○	—	—	—	—	—	—	—	—
b.	Does Not Print Extended ASCII (See Option 19a, b, or c.)	—	—	—	(As in 19.)	—	—	—	—	—	—	—	—	*

See Legend in Fig. 14.

(410072 and 410071 Printer Circuit Cards Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)



410076 — 80-Column Printer Logic Circuit Card

23. Extended ASCII on Printer (Extended ASCII)		E1								
		1	2	3	4	5	6	7	8	9
a.	Prints Extended ASCII Characters (No Parity Check)	—	—	○	○	—	—	—	—	—
b.	Does Not Print Extended ASCII (See Option 19a, b, or c.)	—	—	—	(As in 19.)	—	—	—	—	*

410072 — 132-Column Printer Logic Circuit Card

23. Extended ASCII on Printer (Extended ASCII)		D10							
		1	2	3	4	5	6	7	8
a.	Prints Extended ASCII Characters (No Parity Check)	—	—	—	—	—	○	○	—
b.	Does Not Print Extended ASCII (See Option 19a, b, or c.)	—	—	—	(As in 19.)	—	—	—	*

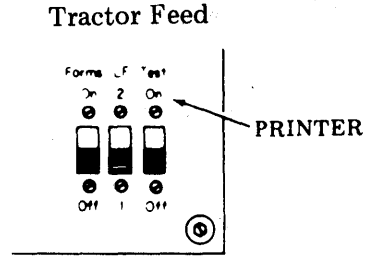
410071 — 80-Column Tractor Feed Printer Logic Circuit Card

23. Extended ASCII on Printer (Extended ASCII)		E9								
		1	2	3	4	5	6	7	8	9
a.	Prints Extended ASCII Characters (No Parity Check)	—	—	—	—	—	○	○	—	—
b.	Does Not Print Extended ASCII (See Option 19a, b, or c.)	—	—	—	(As in 19.)	—	—	—	—	*

See Legend in Fig. 14.

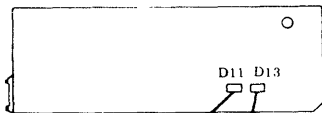
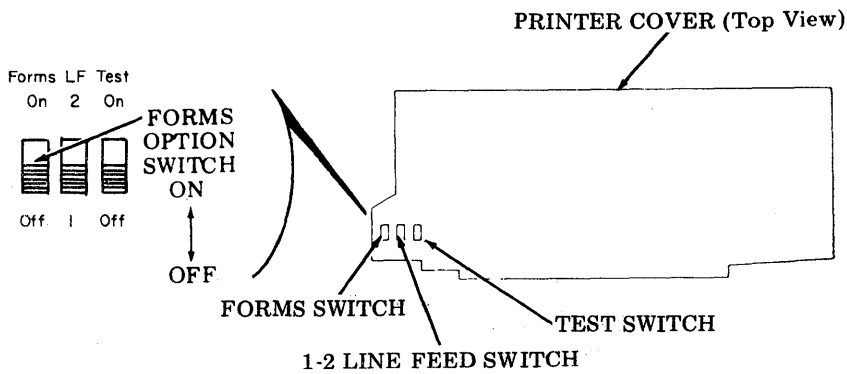
Forms Switch (Under Tractor Feed Printer Cover)
(80-Column Printer)

39. Forms (Tractor Feed Printer Only)	
a.	On
b.	Off

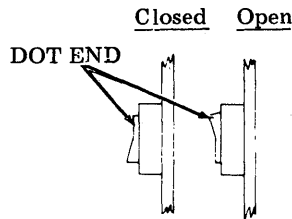
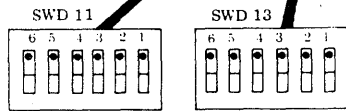


Forms Switch (132-Column Printer)

39. Forms	
a.	On
b.	Off



(Printer Circuit Card Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)

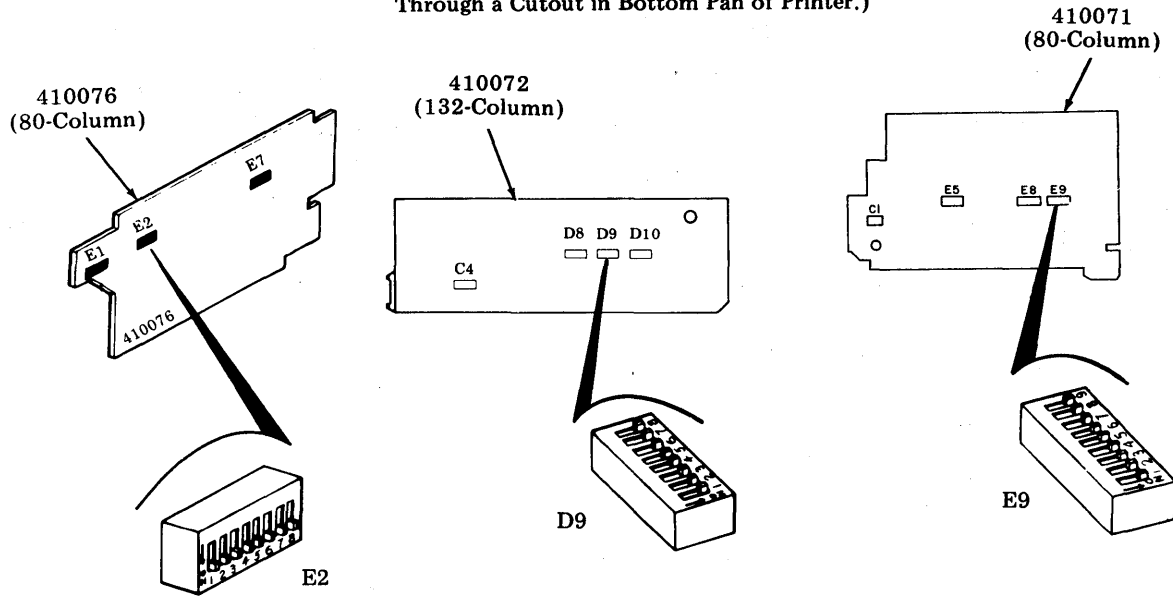


410729 — Printer Logic Circuit Card (132-Column Printer)

48. Incomplete Form Suppresses Paper Alarm		D11					D13						
		6	5	4	3	2	1	6	5	4	3	2	1
a.	No (Paper-Out Not Gated With Formout)	-	-	-	-	-	●	-	-	-	-	-	-
b.	Yes (Paper-Out Gated With Formout)	-	-	-	-	-	○	-	-	-	-	-	-

*Factory programmed.
See Legend in Fig. 14.

(410072 and 410071 Printer Circuit Cards Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)



410076 — 80-Column Printer Logic Circuit Card

48. Incomplete Form Suppresses Paper Alarm		E2							
		1	2	3	4	5	6	7	8
a.	No (Paper-Out Not Gated With Form-Out)	—	●	—	—	—	—	—	—
b.	Yes (Paper-Out Gated With Form-Out)	—	○	—	—	—	—	—	—

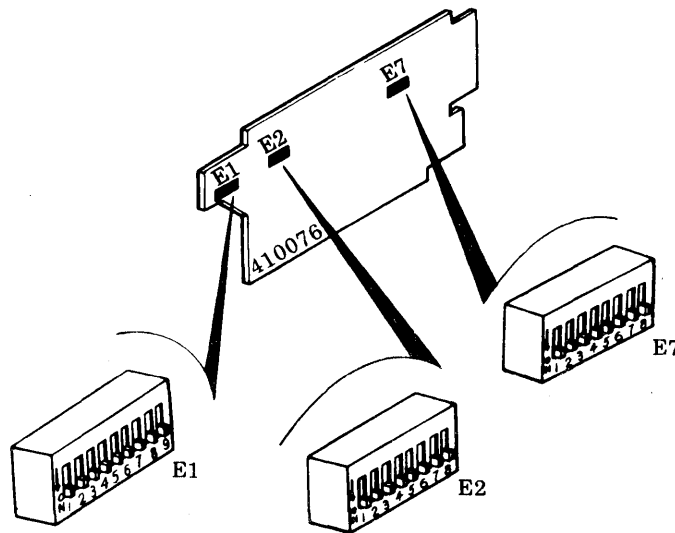
410072 — 132-Column Printer Logic Circuit Card

48. Incomplete Form Suppresses Paper Alarm		D9							
		1	2	3	4	5	6	7	8
a.	No (Paper-Out Not Gated With Form-Out)	—	—	—	●	—	—	—	—
b.	Yes (Paper-Out Gated With Form-Out)	—	—	—	○	—	—	—	—

410071 — 80-Column Tractor Feed Printer Logic Circuit Card

48. Incomplete Form Suppresses Paper Alarm		E9								
		1	2	3	4	5	6	7	8	9
a.	No (Paper-Out Not Gated With Form-Out)	—	—	—	—	—	—	—	—	●
b.	Yes (Paper-Out Gated With Form-Out)	—	—	—	—	—	—	—	—	○

See Legend in Fig. 14.

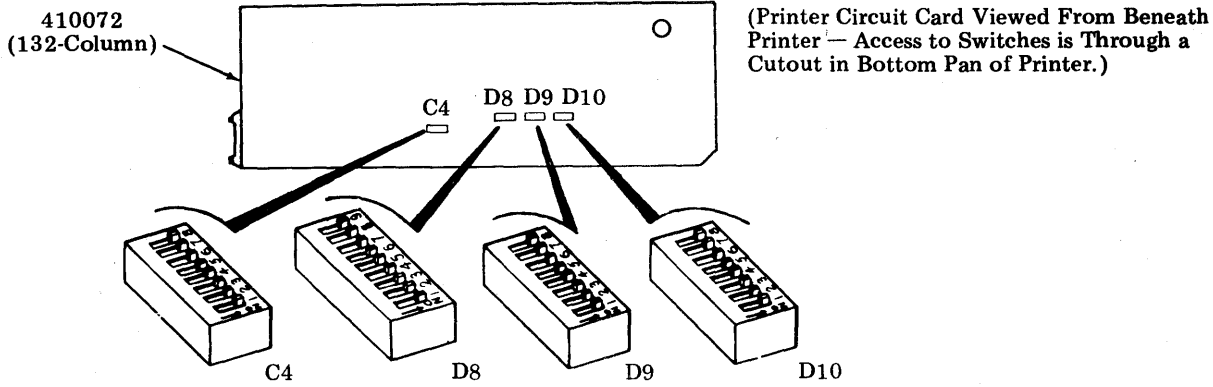


410076 — 80-Column Printer Logic Circuit Card

54. Printing of Escape Sequences Suppressed		E1									
		1	2	3	4	5	6	7	8	9	
a.	Character After ESC Printed as Received	—	○	—	—	—	—	—	—	—	*
b.	Printing of Character After ESC Suppressed	—	●	—	—	—	—	—	—	—	
55. Shift In/Shift Out Detection		E1									
		1	2	3	4	5	6	7	8	9	
a.	SI/SO Detection Not Used	—	—	—	—	—	—	○	—	—	*
b.	SI/SO Detection Enables Printing Additional Characters	—	—	—	—	—	—	●	—	—	
56. Friction Feed/Tractor Feed Printer		E2									
		1	2	3	4	5	6	7	8		
a.	Friction Feed Printer — Motor Held On After Paper Alarm	○	—	—	—	—	—	—	—	*	
b.	Tractor Feed Printer — Motor Turned Off After Paper Alarm	●	—	—	—	—	—	—	—		
57. SSI/OEM Interface		E7									
		1	2	3	4	5	6	7	8		
a.	SSI	—	—	—	—	—	—	●	—	*	
b.	OEM	—	—	—	—	—	—	○	—	++	
58. Idle Line Motor Control		E7									
		1	2	3	4	5	6	7	8		
a.	Disabled — Motor Held On Indefinitely During Idle Line	—	—	—	—	—	—	—	○	*	
b.	Enabled — Motor Turned Off After 40-Second Idle Line	—	—	—	—	—	—	—	●		

++Requires use of 410085 OEM Card and selection of Option 61b or 61c.

See Legend in Fig. 14.



410072 — 132-Column Printer Logic Circuit Card

54. Printing of Escape Sequences Suppressed		D10							
		1	2	3	4	5	6	7	8
a.	Character After ESC Printed as Received	—	—	—	—	—	—	—	○
b.	Printing of Character After ESC Suppressed	—	—	—	—	—	—	—	●

55. SI/SO Detection		D10							
		1	2	3	4	5	6	7	8
a.	SI/SO Detection Not Used	—	—	○	—	—	—	—	—
b.	SI/SO Detection Enables Printing Additional Characters	—	—	●	—	—	—	—	—

57. SSI/OEM Detection		D8								
		1	2	3	4	5	6	7	8	9
a.	SSI	—	—	—	—	—	—	—	—	●
b.	OEM †	—	—	—	—	—	—	—	—	○

†An option screw change may be required on 410151 circuit card in power module. If Option 57b is selected, option screw B on 410151 must be installed from the component side.

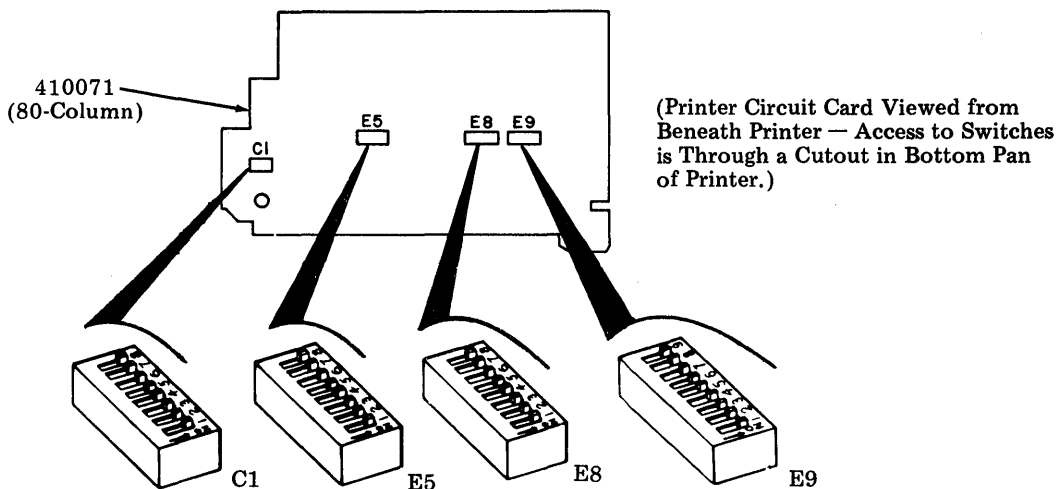
58. Idle Line Motor Control		D9							
		1	2	3	4	5	6	7	8
a.	Disabled — Motor Held On Indefinitely During Idle Line	—	—	—	—	—	○	—	—
b.	Enabled — Motor Turned Off After 40-Second Idle Line	—	—	—	—	—	●	—	—

59. Speed Selection (Applies Only if Option 57. b. is Selected)		C4							
		1	2	3	4	5	6	7	8
a.	75 Baud	●	○	○	○	○	○	○	○
b.	150 Baud	○	●	○	○	○	○	○	○
c.	300 Baud	○	○	○	●	○	○	○	○
d.	600 Baud	○	○	●	○	○	○	○	○
e.	1200 Baud	○	○	○	○	○	○	●	○
f.	2400 Baud	○	○	○	○	●	○	○	○
g.	4800 Baud	○	○	○	○	○	●	○	○
h.	9600 Baud	○	○	○	○	○	○	○	●

60. Aux Alarm (See Note)		D9							
		1	2	3	4	5	6	7	8
a.	Enable	—	—	—	—	○	—	—	—
b.	Disable	—	—	—	—	●	—	—	—

Note: Switch must be closed when paper jam alarm mechanism is not present. Switch must be opened when 402920 paper jam alarm modification kit is present.

See Legend in Fig. 14.



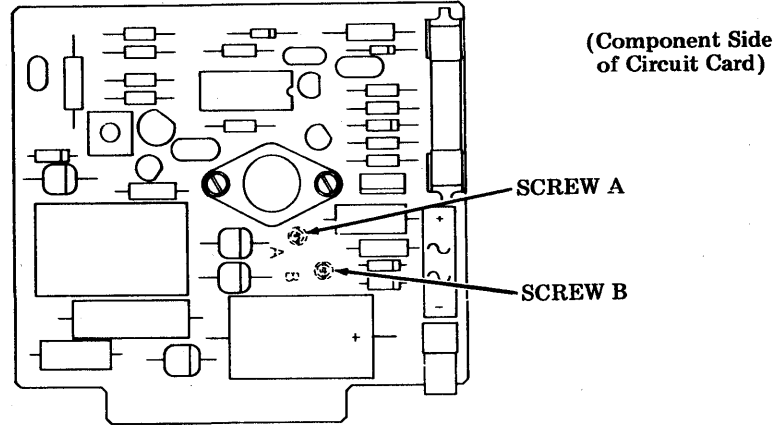
410071 — 80-Column Tractor Feed Printer Logic Circuit Card

54. Printing of Escape Sequences Suppressed		E9								
		1	2	3	4	5	6	7	8	9
a.	Character After ESC Printed as Received	—	—	—	—	—	—	—	—	○
b.	Printing of Character After ESC Suppressed	—	—	—	—	—	—	—	—	●
55. SI/SO Detection		E9								
		1	2	3	4	5	6	7	8	9
a.	SI/SO Detection Not Used	—	—	○	—	—	—	—	—	—
b.	SI/SO Detection Enables Printing Additional Characters	—	—	●	—	—	—	—	—	—
57. SSI/OEM Interface		E8								
		1	2	3	4	5	6	7	8	
a.	SSI	—	—	—	—	—	—	●	—	
b.	OEM†	—	—	—	—	—	—	○	—	
58. Idle Line Motor Control		E8								
		1	2	3	4	5	6	7	8	
a.	Disabled — Motor Held On Indefinitely During Idle Line				○					
b.	Enabled — Motor Turned Off After 40-Second Idle Line				●					
59. Speed Selection (Applies only if Option 57.b. is selected)		C1								
		1	2	3	4	5	6	7	8	
a.	75 Baud	●	○	○	○	○	○	○	○	
b.	150 Baud	○	●	○	○	○	○	○	○	
c.	300 Baud	○	○	○	○	○	○	○	●	
d.	600 Baud	○	○	○	●	○	○	○	○	
e.	1200 Baud	○	○	○	○	○	●	○	○	
f.	2400 Baud	○	○	○	○	●	○	○	○	
g.	4800 Baud	○	○	○	○	○	●	○	○	
h.	9600 Baud	○	○	○	○	○	○	○	●	
60. Aux Alarm (See Note)		E5								
		1	2	3	4	5	6	7	8	
a.	Enable	—	○	—	—	—	—	—	—	
b.	Disable	—	●	—	—	—	—	—	—	

†An option screw change may be required on 410151 circuit card in power module. If Option 57b is selected, option screw B on 410151 must be installed from the component side.

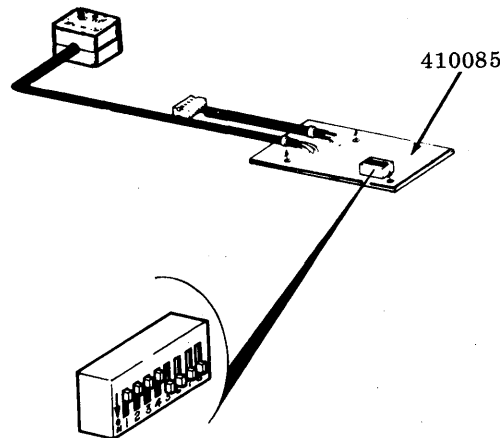
Note: Switch must be closed when paper jam alarm mechanism is not present. Switch must be opened when 402920 paper jam alarm modification kit is present.

See Legend in Fig. 14.



410151 Circuit Card (Located in Printer Power Module or Power Supply)

61. Regulator Grounding		Screw A		Screw B	
		Component	Noncomponent	Component	Noncomponent
a.	SSI (Circuit and Frame Ground at PTR)	In	—	—	In
b.	SSI/OEM (Circuit and Frame Ground at PTR, +12 V)	In	—	In	—
c.	OEM (Circuit Ground External to PTR, +12 V)	—	In	In	—



410085 Circuit Card (OEM) (Required only if Option 57b on 410076 card is selected. See Note.)

59. Speed Selection		SWC-3							
		1	2	3	4	5	6	7	8
a.	75 Baud	●	○	○	○	○	○	○	○
b.	150 Baud	○	●	○	○	○	○	○	○
c.	300 Baud	○	○	○	●	○	○	○	○
d.	600 Baud	○	○	○	○	●	○	○	○
e.	1200 Baud	○	○	○	○	○	○	●	○
f.	2400 Baud	○	○	○	○	○	●	○	○
g.	4800 Baud	○	○	○	○	○	○	●	○
h.	9600 Baud	○	○	○	○	○	○	○	●

Note: The 410085 circuit card (part of 346745 modification kit) is mounted on the 410076 printer logic circuit card in OEM application. (The installation specification for 346745 modification kit is Specification 50906S.)

See Legend in Fig. 14.

426, 28

Notes:

6. INSTALL PRINTER INTO CABINET

FRICION FEED PRINTER

6.01 Loosen four immobilizing screws a minimum of four turns until base rides freely on the shock mounts (Fig. 16).

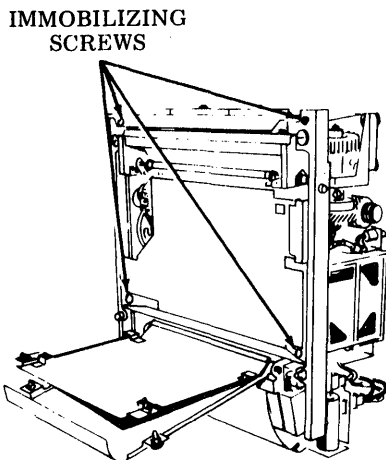


Fig. 16—Friction Feed Immobilization

6.02 Slide printer into track. Make sure ac and SSI cables are not pinched. Make sure detents snap into place (Fig. 17).

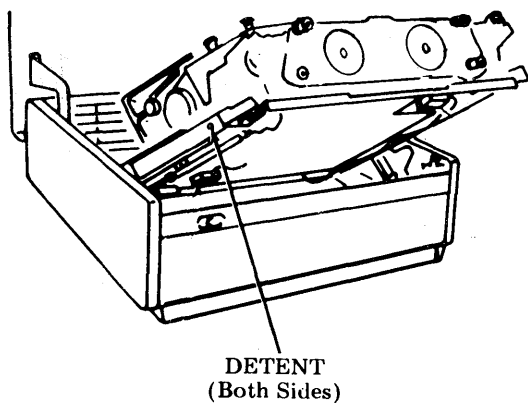


Fig. 17—Printer Tracks

6.03 Connect ac power cable and SSI cable (Fig. 18).

6.04 Depress latchlevers, and push printer down until it latches. Connect interlock cable at right rear corner of printer (Fig. 19).

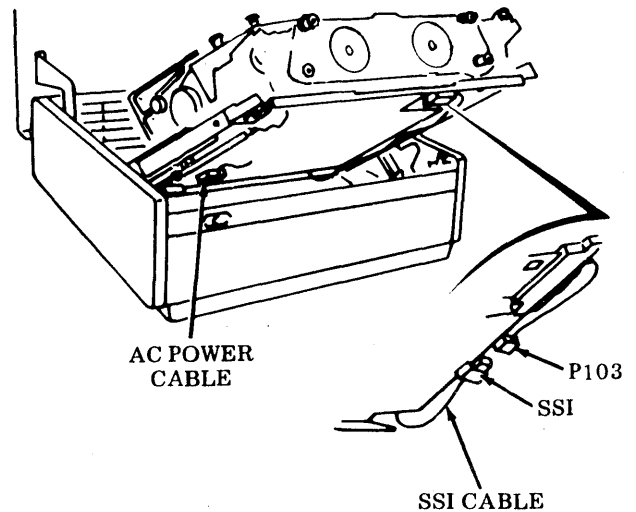


Fig. 18—Cable Connections

Note: Installation of printer under monitor and printer adjacent is similar. For printer under monitor arrangement the printer mounting tracks slide out by releasing latches on both sides of the cabinet and pulling forward. See Fig. 19 for location of latches.

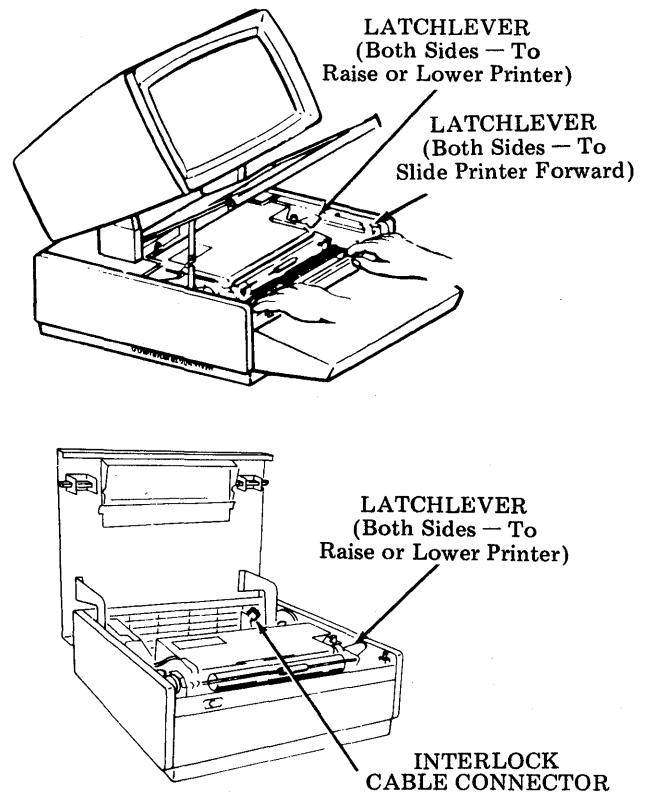
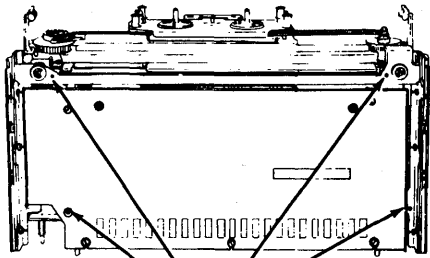


Fig. 19—Printer Under Monitor and Printer Adjacent

TRACTOR FEED PRINTER

6.05 Loosen four immobilizing screws a minimum of four turns until base rides freely on the shock mounts (Fig. 20).

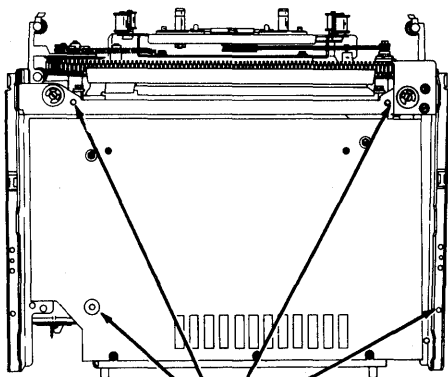
132 Column



(Bottom View)

IMMOBILIZING SCREWS (4 Places)

80 Column

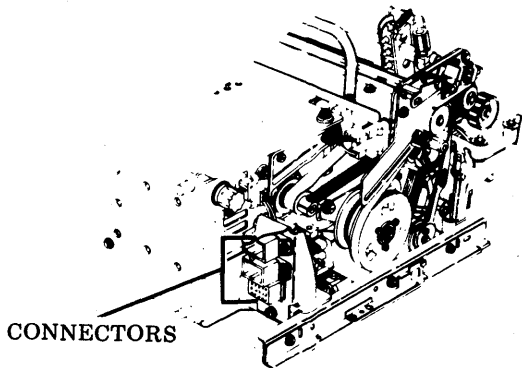


(Bottom View)

IMMOBILIZING SCREWS (4 Places)

Fig. 20—Immobilizing Screws

6.06 Slide the printer in place. Make sure two latches on either side are fully engaged; also make sure three connectors at the rear of the printer are fully seated (Fig. 21).

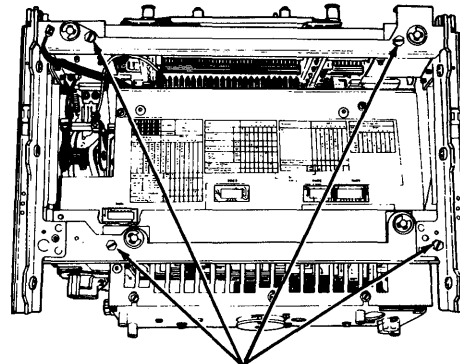


CONNECTORS

Fig. 21—Connectors on Tractor Feed Printer

FORMS ACCESS PRINTER

6.07 Loosen four immobilizing screws far enough so that the base rides freely on the shock mounts (Fig. 22).



IMMOBILIZING SCREWS (4 Places)

Fig. 22

6.08 The 40CAB302 forms access printer cabinet is provided with three security features that customers may desire for their installation: (a) holes for securing cabinet to the floor, (b) an entry security lock knockout in the left front access door and (c) a secure location for the FORM switch.

(a) Cabinet floor securing hole data (Fig. 23).

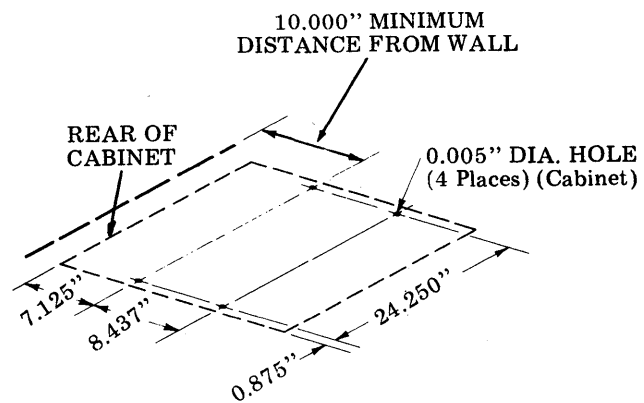


Fig. 23—Securing Hole Data

(b) To acquire entry security, remove the lock mounting hole knockout plug located in the handle well of the left front access door and install lock (Fig. 24).

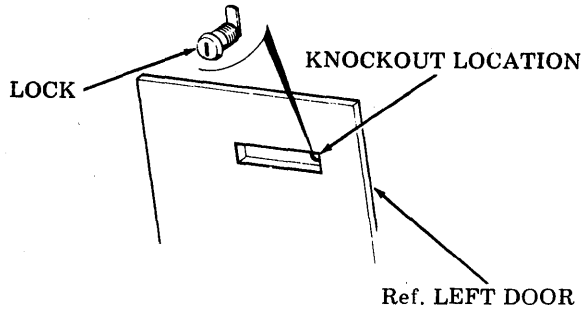
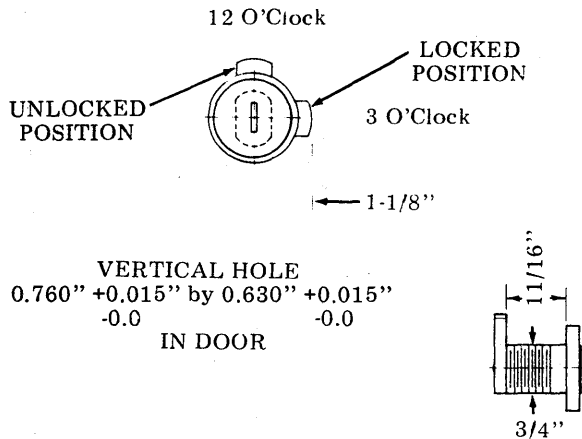


Fig. 24—Lock Knockout Plug Location

Note: Teletype Corporation does not supply the lock. The lock configuration is shown in Fig. 25 and a list of sources with readily available locks that meet the cabinet design follows.



Key Removable in Locked Position Only

Fig. 25—Lock Configuration

Lock sources: List is representative — not an endorsement — many others available.

Chicago Lock Company — Chicago, Illinois

- * K-4153 — AR
- K-3786 — 6TH — AR
- K-3786 — 6T — AR
- K-3786 — AR

- * 4153 — AR
 - 4198 — AR
 - 3786 — 6TH — AR
 - 3786 — 6T — AR
 - 3786 — AR
- Must also order
2693 flat washer

Corbin Cabinet Lock — Berlin, Connecticut

- 15751 — C2L
 - C15751 — C2L
- 90 Degree Rotation
Lock at 3 o'clock
Unlock at 12 o'clock
Key removed at lock position

National Lock Hardware — Rockford, Illinois

- M4 — 0052 — 1-1/8 — R Type 1
 - M4 — 0054 — 1-1/8 — R Type 1
- Must also order
M5-0022-100
flat washer

* Greater degree of security obtainable with these locks.

All locks listed may be keyed alike or separately. Refer to manufacturer for ordering information.

(c) The FORM switch securing procedure is as follows: Disassemble cover plate with filler plug from the bottom side of cabinet top cover by removing two screws, lockwashers and flat washers (Fig. 26). Disconnect the two terminals of the FORM switch and carefully remove FORM switch from top cover forms chute (Fig. 27). Remove the shim and nut that secure the filler plug to the cover plate and reassemble the filler plug in the hole vacated by FORM switch on the top cover form chute. Insert FORM switch in cover plate and reconnect the two terminals. Reassemble the cover plate to the top cover and tighten mounting screws.

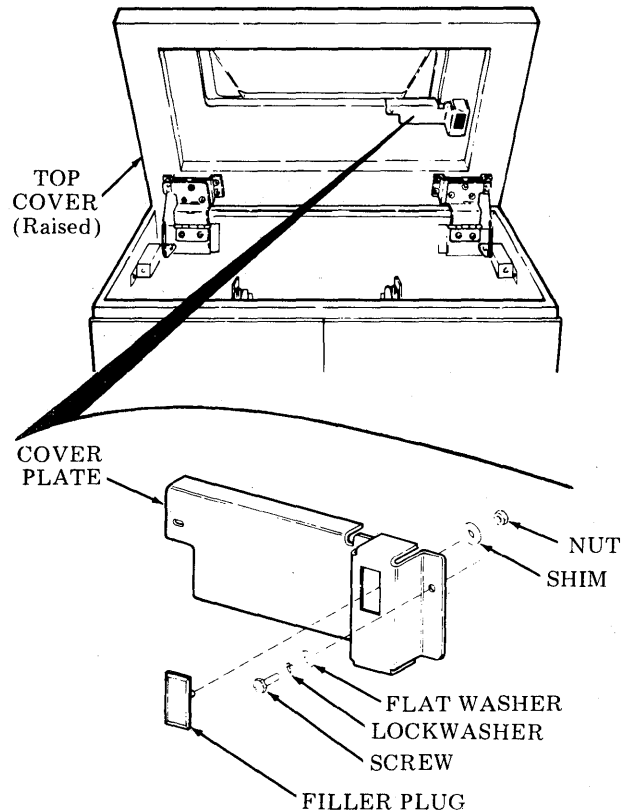


Fig. 26—Cover Plate with Filler Plug

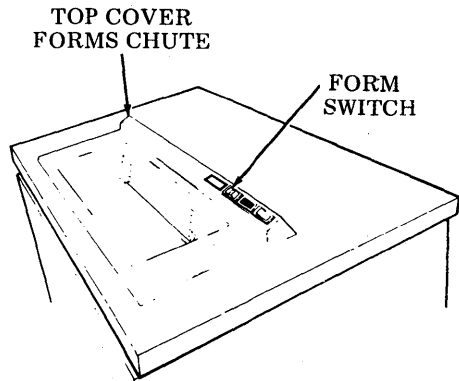


Fig. 27—FORM Switch

6.09 Lower printer into cabinet and onto the rail assemblies. Slide the printer rearward making sure two latches (one on each side) are fully engaged. Connect cabinet connector bracket (left rear) to the printer (Fig. 28).

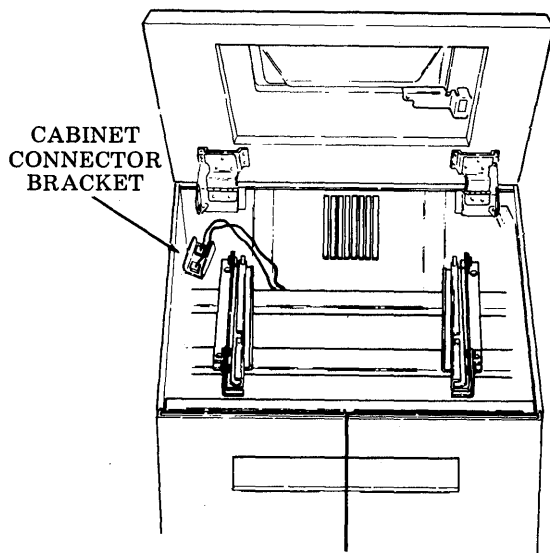
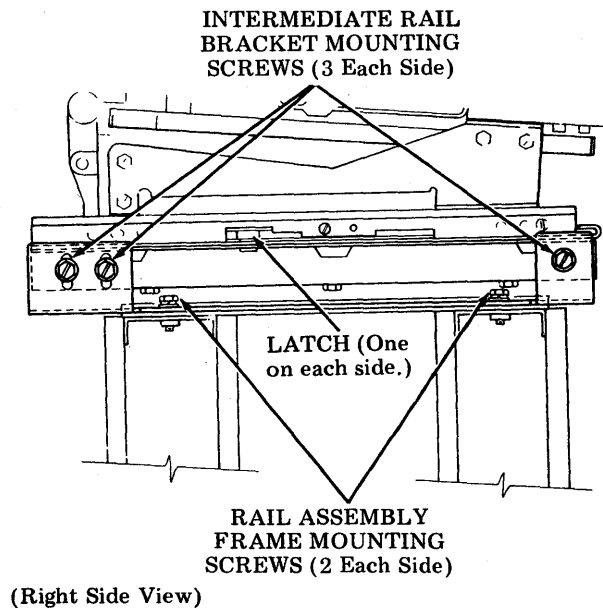


Fig. 28

6.10 Installation of a forms access printer requires the following positioning adjustments of the printer to the cabinet.

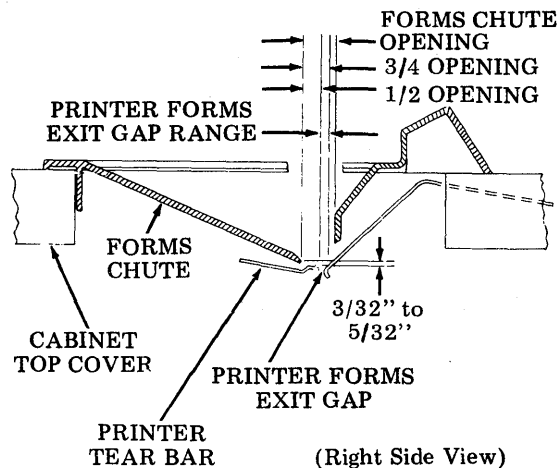
(a) With the printer positioned and latched in its rearmost location on the rail assembly frame, loosen the four rail assembly frame mounting screws friction tight (Fig. 29).



(Right Side View)

Fig. 29

(b) Move the printer rail assembly frame forward or rearward so that the printer forms exit gap is located half to three-fourths of the way back in the forms chute opening (as gauged by eye) (Fig. 30).



(Right Side View)

Fig. 30

(c) Tighten the four mounting screws.

(d) With a scale resting on the printer tear bar top surface and against the front edge of the forms chute opening, the tear bar should be located $\frac{3}{32}$ inch to $\frac{5}{32}$ inch below the form of the cabinet forms chute opening (Fig. 30).

(e) To adjust, loosen the six intermediate rail bracket mounting screws friction tight (Fig. 29). Place the blade of a screwdriver between the frame and the intermediate rail. Pry intermediate rail assembly up at alternate left and right front corners until requirement in 6.09 (d) is met. Tighten the forward most screws.

(f) After making adjustment, tighten remaining screws.

7. INSTALL TYPE CARRIER

TYPE CARRIER PALLET ALIGNMENT

7.01 Prior to installation, align all type carrier pallets as follows, using 402878 gauge:

(a) Position the stem end of all pallets against the rear surface of the carrier (from Position No. 1 to Position No. 2) (Fig. 31).

Position No. 1 

Position No. 2 

Fig. 31

(b) Place type carrier into proper slot on the 402878 gauge (0.125 inch slot for 80-column printer and 0.070 inch slot for 132-column printer). Seat all pallets into bottom of channel (Fig. 32).

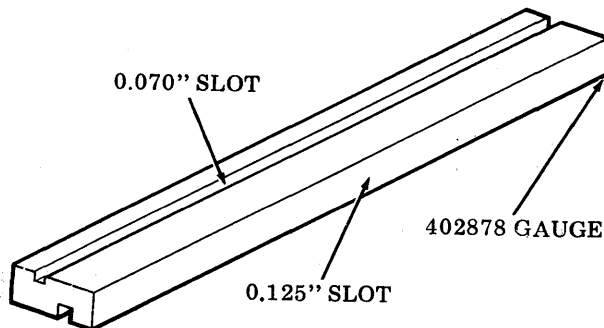


Fig. 32

FRICITION FEED PRINTER

7.02 Install type carrier as follows:

(a) Release the thumb lever on the left ribbon guide bracket allowing the guide to spring to left (Fig. 33).

(b) Loosen the thumbscrew on the right ribbon guide bracket and swing the guide to the right (Fig. 33).

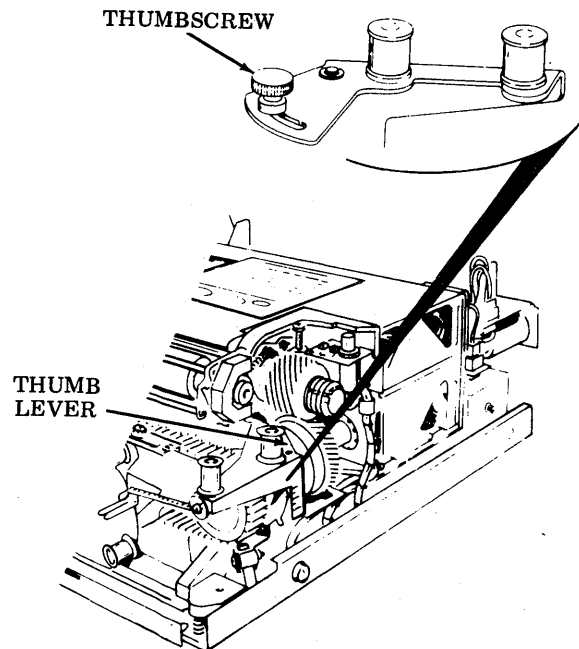


Fig. 33—Thumb Lever and Thumbscrew

(c) On late design units (carrier top guide secured to backup bar with three thumbscrews), remove the carrier top guide (Fig. 35).

(d) Start carrier at left pulley. Lift arm at left pulley.

(e) Position carrier over right pulley (Fig. 36).

(f) On early design units (carrier top guide not secured with three thumbscrews), make sure all pallet stems at the top of the belt are under the top guide.

(g) Rotate carrier one revolution by turning impeller gear clockwise.

- (h) Align all pallets against left pulley flange (Fig. 37).

Warning: Damage to the type carrier or printer will result if any protruding type pallet is left unchecked (Fig. 37).

- (i) On late design units, reinstall carrier top guide. With the three thumbscrews loosened, apply slight pressure to the top guide, down and toward the front of the unit. Hold in this position while tightening thumb-screws. Run approximately one page of internal test or 30 seconds of carrier idle. Repeat the top guide positioning procedure. For correct carrier tracking, it is essential that the top guide be positioned against the backup bar.

TRACTOR FEED PRINTER — 80- AND 132-COLUMN

7.03 Install type carrier as follows:

- (a) Release thumb levers on left and right ribbon guide brackets allowing guides to spring open (Fig. 34).

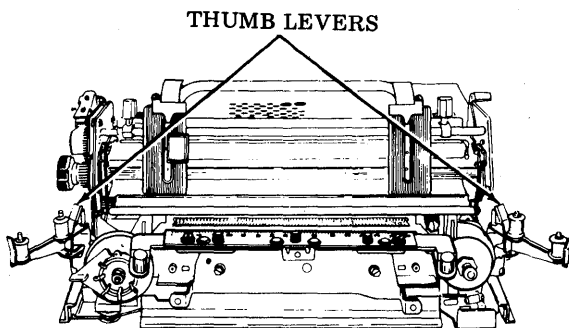


Fig. 34—Ribbon Guides Thumb Levers

- (b) Remove three thumbscrews and lock-washers securing carrier top guide and remove guide (guide not present on 132-column) (Fig. 35).
- (c) Install type carrier starting at left pulley. Lift finger lever on left pulley and position carrier over right pulley (Fig. 36).
- (d) Rotate type carrier one revolution by turning impeller gear by hand clockwise. At the same time align any protruding type pallets against the left pulley flange (Fig. 37).

Warning: Damage to the type carrier or printer will result if any protruding type pallet is left unchecked (Fig. 37).

- (e) Reinstall carrier top guide on 80-column printer per instructions on the top guide. Run approximately one page of internal test or 30 seconds of carrier idle. Repeat the top guide positioning procedure. For correct carrier tracking, it is essential that the top guide be positioned against the backup bar.

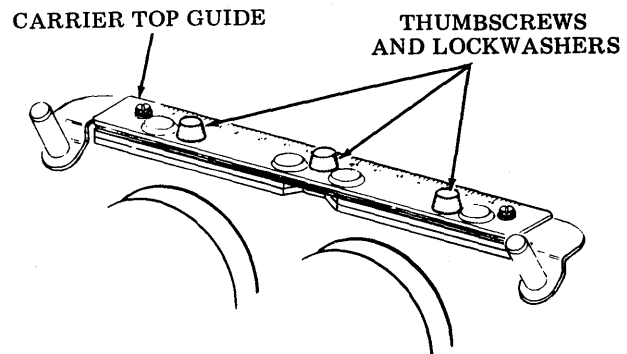


Fig. 35—Top Guide

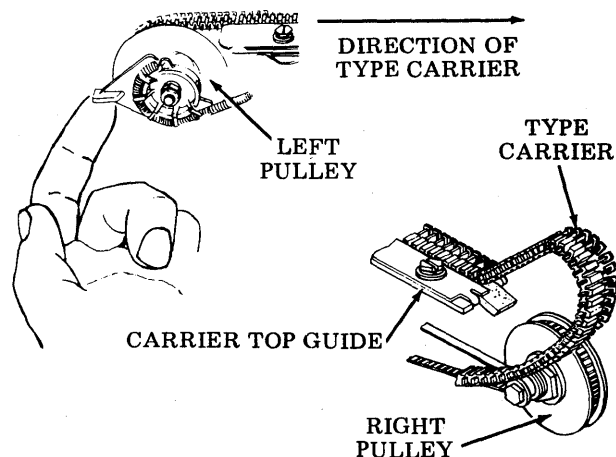


Fig. 36—Type Carrier Installation

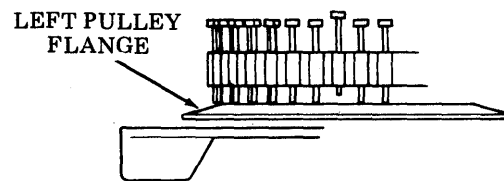


Fig. 37—Type Carrier Alignment

FORMS ACCESS TRACTOR FEED PRINTER --
80-COLUMN

7.04 Install type carrier as follows:

- (a) Depress thumb lever on right ribbon guide bracket allowing the guide to spring open (Fig. 38).
- (b) Remove the tear bar assembly by removing the two securing screws, lockwashers and flat washers (Fig. 39).

Danger: Exercise care in handling tear bar to prevent injury from the tear edge. Careless handling of the tear bar may produce a burr on the tearing edge which may impair feeding of paper forms.

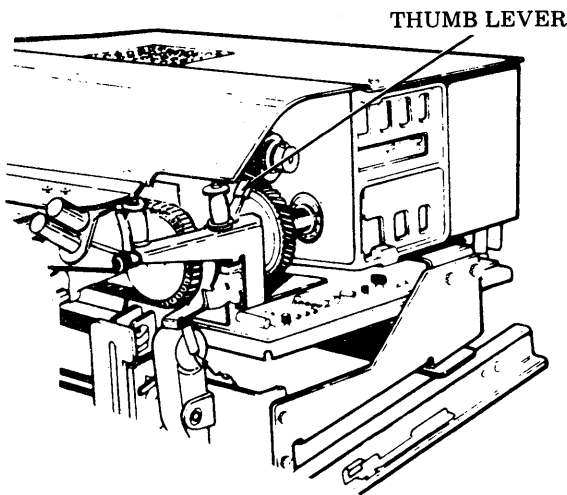


Fig. 38—Thumb Lever

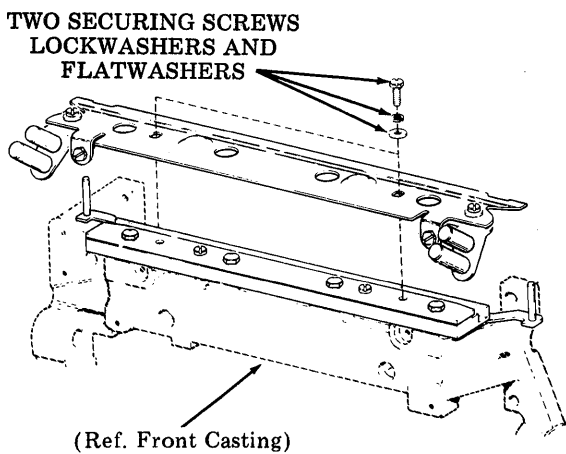


Fig. 39—Tear Bar Assembly

- (c) Install type carrier starting at left pulley. Lift finger lever on left pulley and position carrier over right pulley (Fig. 40).
- (d) Reinstall the tear bar assembly (Fig. 39) and tighten the two securing screws while holding the tear bar assembly toward the rear of the unit.
- (e) Rotate type carrier one revolution by turning impeller gear by hand clockwise. At the same time, align any protruding type pallets against the left pulley flange (Fig. 41).

Caution: Damage to type carrier or printer will result if any protruding type pallet is left unchecked.

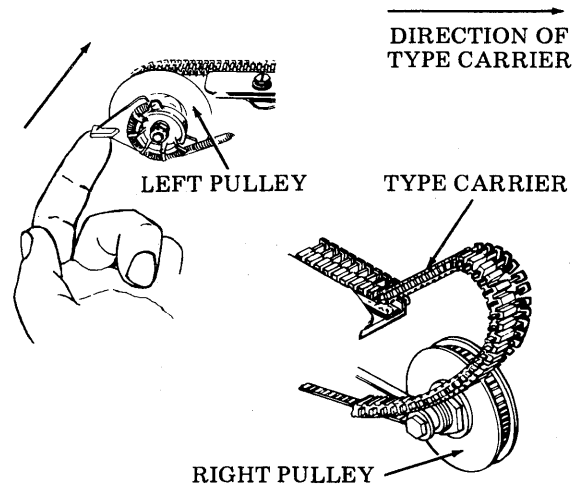


Fig. 40—Type Carrier Installation

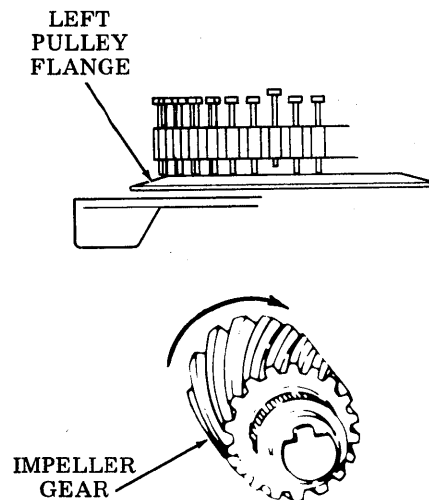


Fig. 41—Type Carrier Alignment

8. INSTALL RIBBON

FRICITION, TRACTOR FEED AND FORMS ACCESS PRINTERS

8.01 Rotate spindles by hand to determine which one turns freely. Place full spool on free-turning spindle so that ribbon feeds off bottom of spool.

8.02 Hold empty spool (with ribbon attached) in one hand and thread the ribbon as shown in Fig. 42, 43, 44 and 45.

Note 1: On tractor feed printer the ribbon must pass between the clear plastic strip and the type carrier.

Note 2: Two wire guides are present on 80-column tractor only — make sure ribbon does not become tangled in the guides.

Note 3: On 80-column forms access printer, the ribbon must pass between the plastic shield and the steel tear edge.

Note 4: On 80-column friction feed printer equipped with acoustical noise-reduction parts, ribbon must be located between the mask and type pallets.

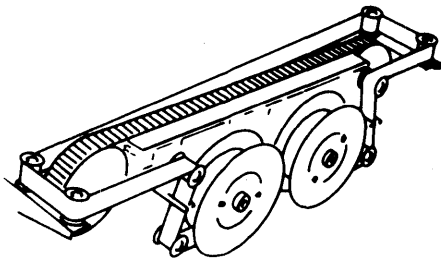


Fig. 42—Friction Feed — 80-Column

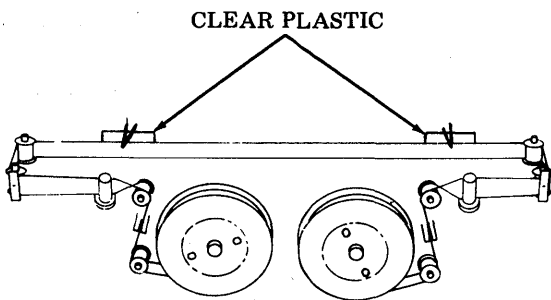


Fig. 43—Tractor Feed — 80-Column

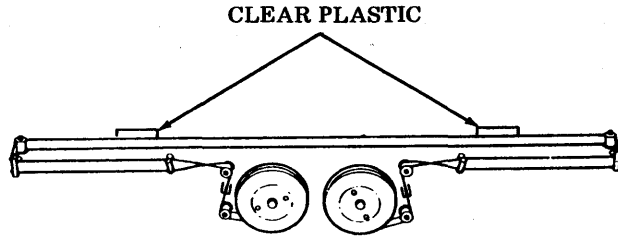


Fig. 44—Tractor Feed — 132-Column

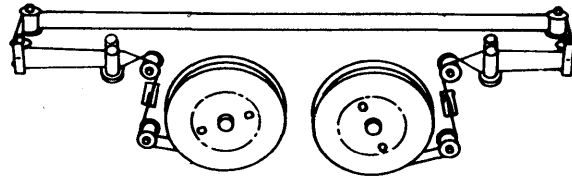


Fig. 45—Forms Access—80-Column

8.03 Wind sufficient ribbon on empty spool so that second eyelet is wound on spool. Place empty spool on the other spindle with the ribbon feeding into the bottom of the spool.

8.04 Rotate full spool to take up all slack.

8.05 The Teletype Part No. for the ribbon is 402444. Other authorized ribbon suppliers are:

Addressograph-Multigraph Corp.
 (312-527-2025)
 443 N. Wabash
 Chicago, Illinois 60611
 OFFICE SUPPLIES DIVISION
 Specify part number:
 120-2230-123R

Roytype (312-266-5835)
 100 W. Erie
 Chicago, Illinois 60610
 Specify part number: Formula 43

Aetna Products Co. Inc.
 11 Commercial St.
 Hicksville, New York 11801
 (516) 931-3120
 (212) 886-0415
 Specify part number: TF135

9. INSTALL PAPER

FRICITION FEED PRINTER

9.01 Pull pressure roller release lever up and to the front (Fig. 46).

9.02 Insert spindle in new roll; crease end of paper as shown and install paper roll into printer enclosure (Fig. 47).

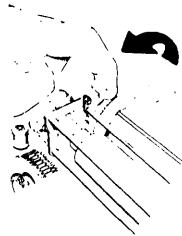


Fig. 46—Pressure Roller Release Lever

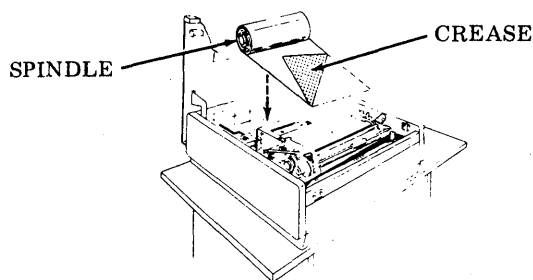


Fig. 47—Paper Forming Prior to Installation

9.03 Back up roll until point of paper drops behind lip of paper access chute (Fig. 48).

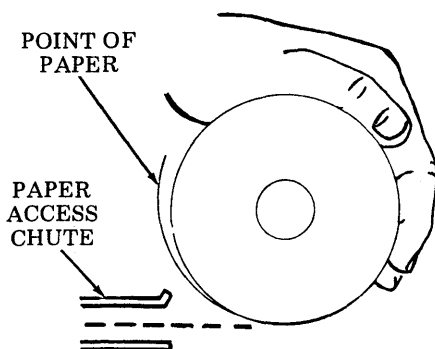


Fig. 48—Feeding Paper in Chute

9.04 Rotate paper roll as shown to feed paper through printer. It will be necessary to push and pull paper roll slightly. Use both hands on paper roll for even pressure on paper (Fig. 49).

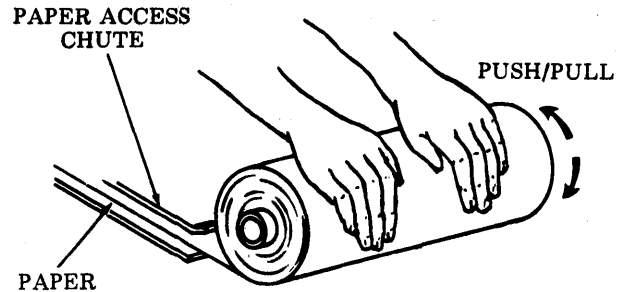


Fig. 49—Rotating Paper Roll

Note: If printer is not equipped with acoustical noise-reduction parts, proceed as follows:

9.05 Rotate paper until leading edge appears under pressure roller shaft. Be sure paper is not between type pallets and ribbon (Fig. 50).

9.06 Pull through approximately 12 inches of paper and align edge of paper with edge of roll. Return pressure roller release lever to engaged position, insert paper through window opening and close cover.

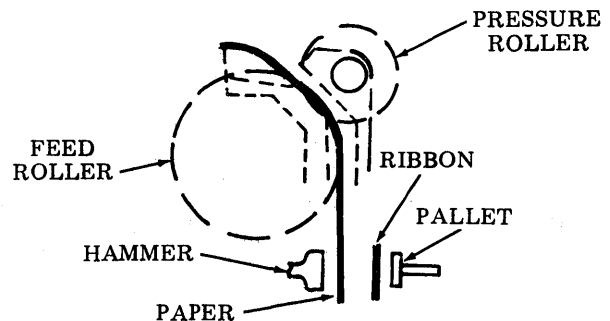


Fig. 50—Friction Feed Printer Without Noise-Reduction Parts

Note: If printer is equipped with acoustical noise-reduction parts, proceed as follows:

9.07 With printer raised and paper access chute opened, feed paper up by hand behind the mask and between the feed roller and pressure roller, making sure point of paper does not enter opening in mask (Fig. 51). (The mask is a plastic piece mounted between the ribbon and the feed roller. An opening in the mask allows for the ribbon to contact the paper during printing.)

9.08 Grasp end of paper and pull through (approximately 12 inches). Close the paper access chute and lower the printer. Align edge of paper with edge of roll and return pressure roller release lever to engaged position. Feed the end of the paper through the opening in the cover and close the cover while keeping the paper taut.

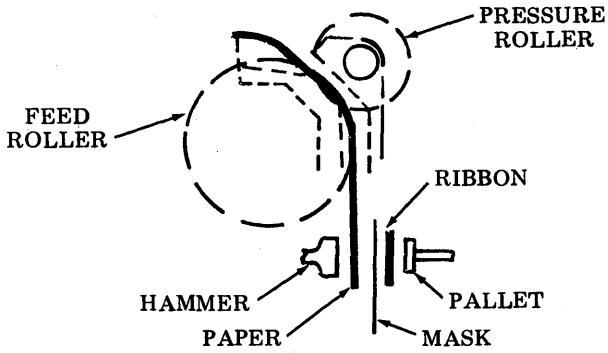


Fig. 51—Friction Feed Printer Equipped With Noise-Reduction Parts

TRACTOR FEED PRINTER -- 80- AND 132-COLUMN

9.09 Install paper forms:

- (a) Release paper guides and open tractor covers (Fig. 52).

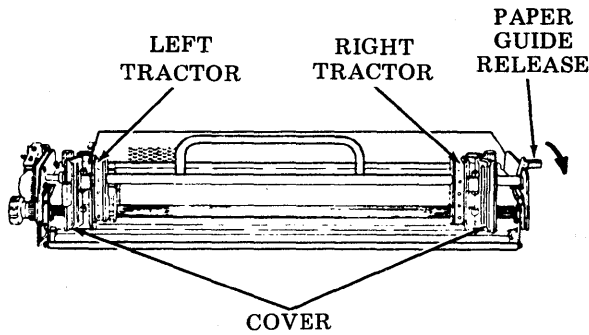


Fig. 52—Guides and Tractors

- (b) Insert sprocket paper in slot under the table in front of the set.

Note: If multiple forms separate, fold one form down and insert paper.

- (c) Feed paper up through printer, guide paper in back of ribbon and between upper paper guides (Fig. 53).
- (d) Pull paper up and align holes on the paper with the pins on the left tractor. Close the left tractor lid.
- (e) Set the left tractor for the left margin (Fig. 54). Note that the left tractor can be placed in position one through seven.

- (1) Loosen the left tractor release knob and slide the tractor to the desired left margin position using the scale on the printer as reference.

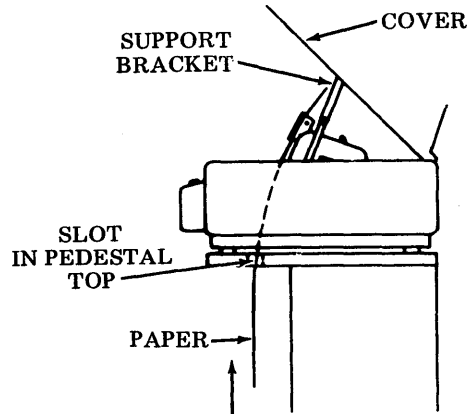


Fig. 53—Paper Routing

- (2) Tighten the left tractor release knob.
- (3) Close the tractor cover.

- (f) Position the right tractor to accept the form width:

- (1) Loosen the right tractor release knob.
- (2) Align tractor pins with holes in paper.
- (3) Close tractor cover.

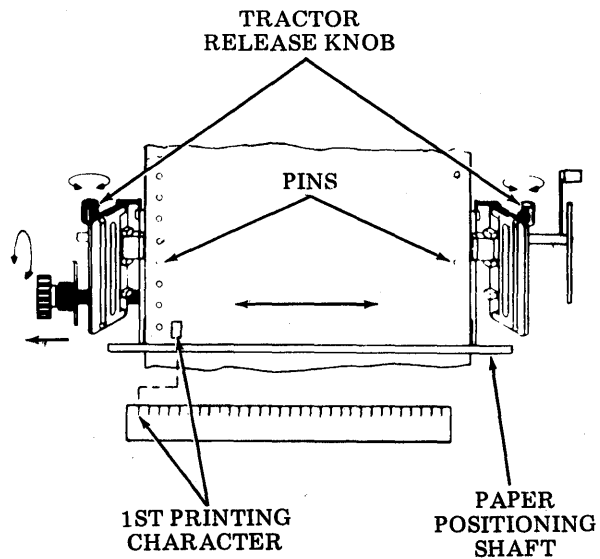


Fig. 54—Left Tractor Positioning

(g) The 80-column tractor feed printer is factory adjusted with a standard original plus five copies. The 132-column tractor feed printer is factory adjusted with a standard original plus three copies. This adjustment may suffice for most installations, including installations requiring single copy. Examine copy for print quality (ink smudge). If necessary, refine the following Paper Positioner adjustment using the paper required in the particular installation.

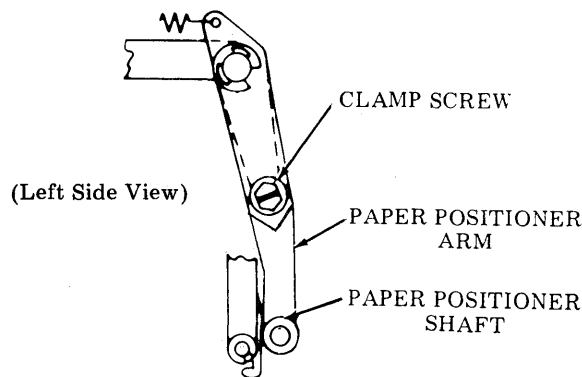
PAPER POSITION (Under Power)
(80- and 132-Column Tractor Feed)

Requirement (A)

The paper should be positioned as close to ribbon as possible without causing printed copy to become illegible due to ribbon smudging after a one minute printer idle period.

Requirement (B)

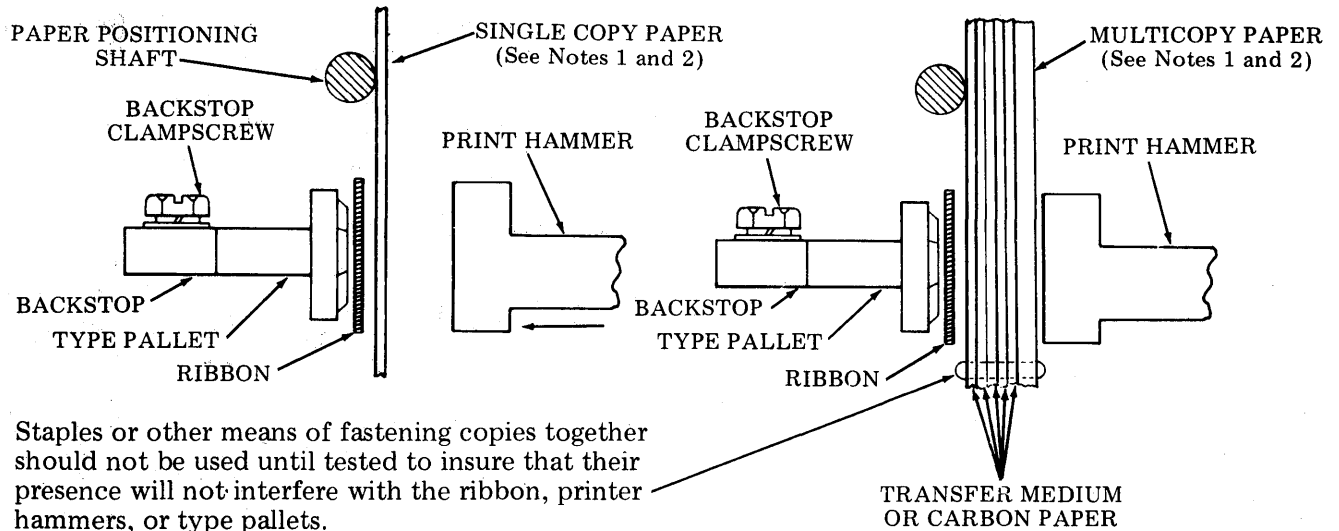
There should be no smudge when printing a text message (not the font identification symbol).



Note 1: These requirements do not apply when printing within two lines of a fold of fanfold paper.

To Adjust

Loosen clamp screws on left and right paper positioner arms and adjust arms to just eliminate marking on either side of paper. Paper should remain as close as possible to ribbon without marking to minimize impact noise and vertical misalignment. Tighten clamp screws.



Staples or other means of fastening copies together should not be used until tested to insure that their presence will not interfere with the ribbon, printer hammers, or type pallets.

Note 2: The factory final adjustment is made with a standard original plus three copies paper on the 132-column printer and with a standard original plus five copies paper on 80-column printer. Upon installation a refinement of this adjustment may be necessary dictated by the actual paper weight and number of copies being used.

FORMS ACCESS PRINTER — 80-COLUMN

9.10 Install paper forms:

- (a) Open left and right tractor lids.
- (b) If multiple forms separate, fold one form down and insert paper.
- (c) Insert paper up through the paper guide chute, behind the ribbon shield and out the slot between the tear bar and top cover before engaging feed holes (Fig. 55).

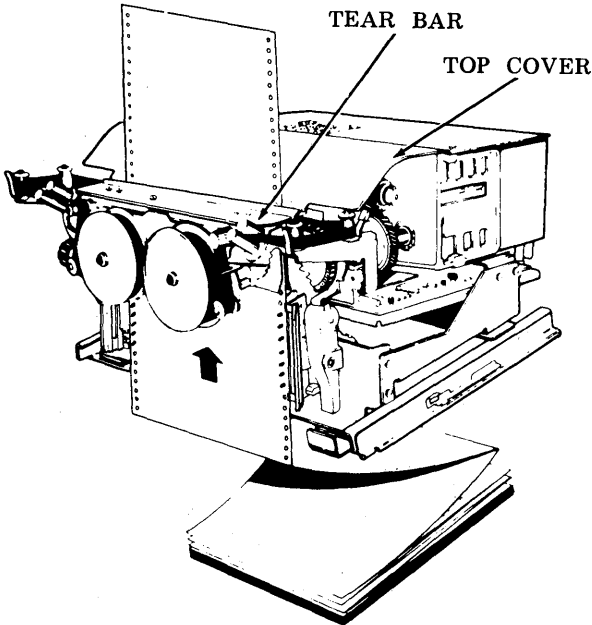


Fig. 55—Paper Routing

- (d) Unlock and set the right tractor for paper width as follows:
 - (1) Lift clamp on the right tractor assembly.
 - (2) Position the right tractor to align tractor pins in paper feed holes.
 - (3) Close right tractor lid and close clamp lever (Fig. 56).

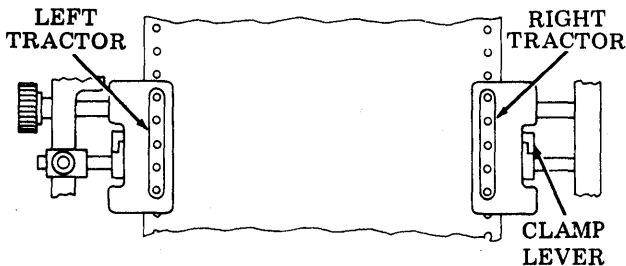


Fig. 56—Right Tractor Positioning

- (e) To align forms to desired first column printing, loosen blue thumbscrew clamp (Fig. 57) and position forms drive assembly to align first position on paper with first printing character position. Tighten thumbscrew clamp.

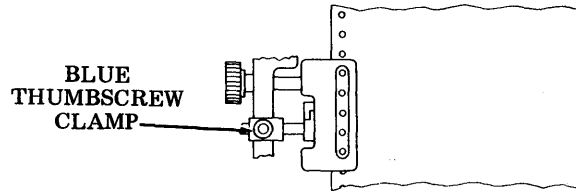


Fig. 57—Thumbscrew Clamp

- (f) Pull out paper advance knob (blue) and turn to position form tearline perforation directly behind the edge of the printer tear bar.

Note: If a new form length has been installed, perform one form feed and repeat 9.10 (f).

- (g) The forms access printer is factory adjusted to accept 0.005 to 0.010 inch form stock. If other form stock thickness is being used in the particular installation, paper jams may be experienced or print quality may not be satisfactory due to ink smudge. If necessary check and refine the following adjustments:

40P254 and 40P255 Printer (Ribbonless)
 TEAR BAR (Preliminary)
 TOP COVER (Preliminary)

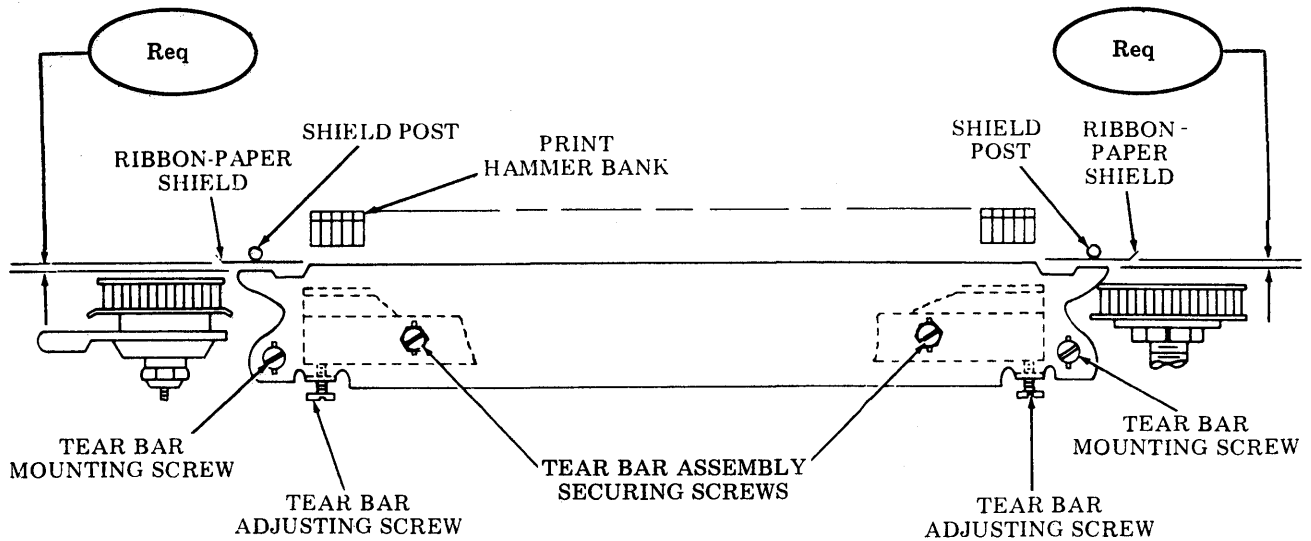
40P252 and 40P253 Printer
 TOP COVER (Preliminary)
 TEAR BAR AND TOP COVER (Final)

10. FORM-OUT BELT SELECTION — 80- AND 132-COLUMN TRACTOR FEED PRINTER AND 80-COLUMN FORMS ACCESS PRINTER.

10.01 The blue 402572 form-out belt is supplied with the printer. Refer to the following table for selecting a different belt that may be requested by the customer.

Form Selector Setting				Color of Belt	Part No.
4	3	2	1		
Length of Form					
+3-1/3	2-1/2	5	10	Amber	402571
+3-2/3	*2-3/4	5-1/2	11	Dk Blue	402572
1	3	6	12	Yellow	402573
+4-1/3	*3-1/4	6-1/2	13	Brown	402574
+4-2/3	3-1/2	7	14	Red	402575
5	*3-3/4	7-1/2	15	Pink	402576
+5-1/3	4	8	16	Lt Green	402577
+5-2/3	*4-1/4	8-1/2	17	Green	402578
6	4-1/2	9	18	Lt Blue	402579
+7-1/3	5-1/2	11	22	White	402580

+ For six lines per inch
 *For eight lines per inch



TEAR BAR (Preliminary)
 (40P252 through 40P255 Forms Access Printer)

Note: This adjustment is considered Final for 40P254 and 40P255 Forms Access Printers.

Requirement

There should be a gap of

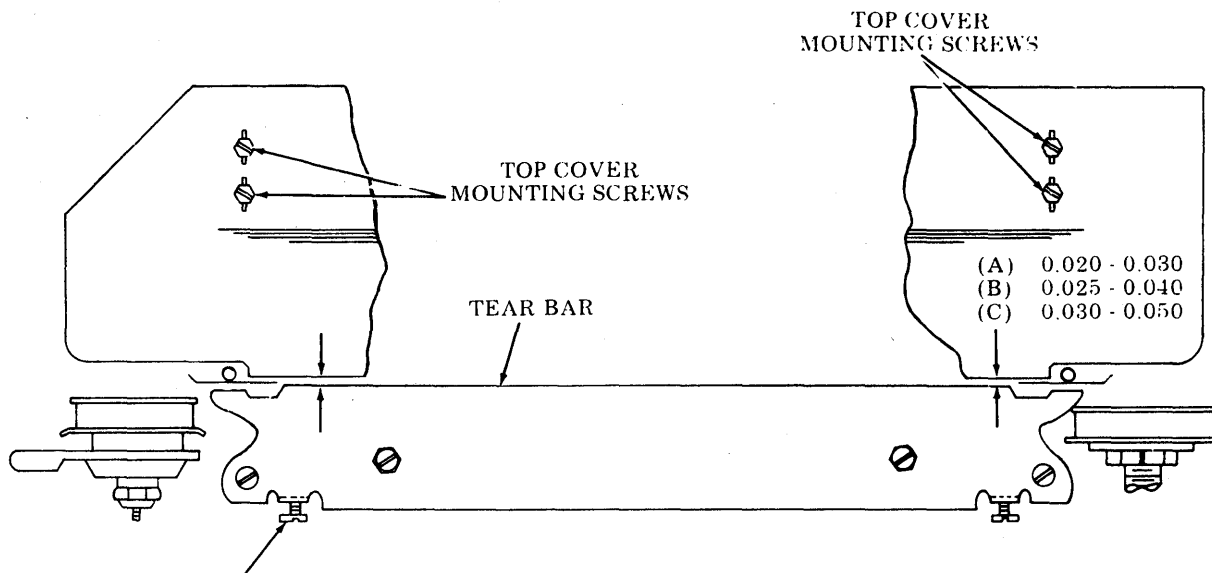
Min 0.045 inch — Max 0.050 inch (40P252 and 40P253)

Min 0.075 inch — Max 0.080 inch (40P254 and 40P255)

between ribbon paper shield and tear bar.

To Adjust

The tear bar mounting screws (2) and tear bar assembly securing screws (2) should be friction tight and the tear bar adjusting screws turned counterclockwise to make the measured gap less than the requirement. Turn tear bar adjusting screws clockwise until the minimum gauge just passes freely. Tighten four mounting screws.



Note: Tear bar adjusting screws should not be disturbed. See **TEAR BAR AND TOP COVER (Final) adjustment.**

TOP COVER (Preliminary)
(40P252 through 40P255 Forms Access Printer)

Note 1: This adjustment is considered Final for 40P254 and 40P255 Forms Access Printer.

Requirement

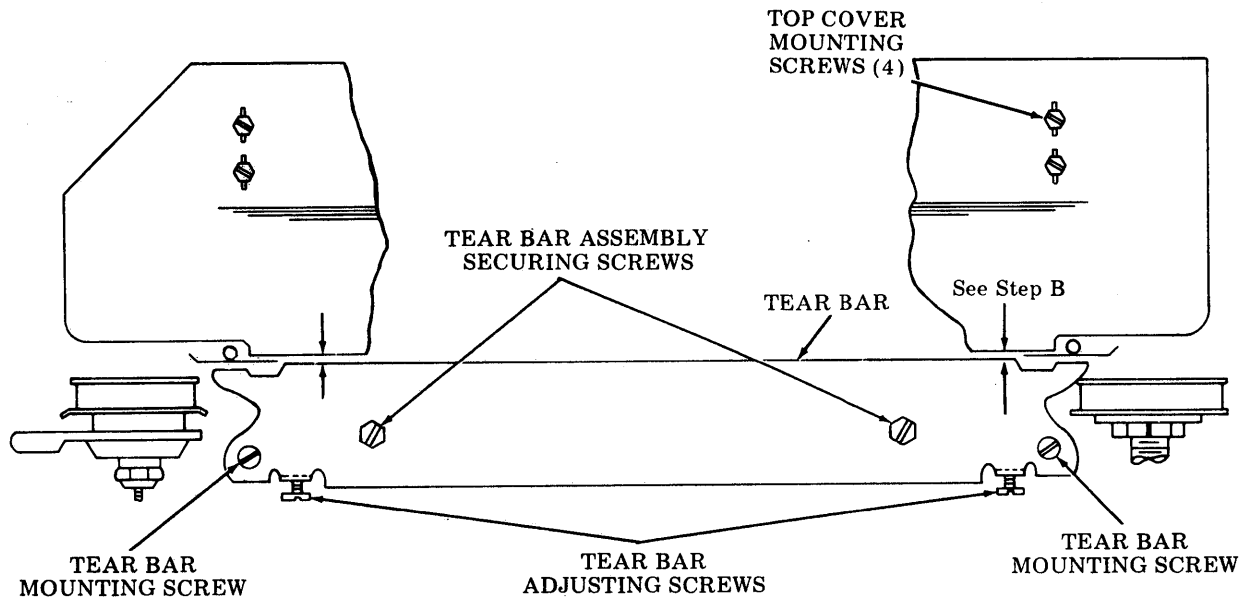
The gap requirement between the top cover and tear bar is determined by the thickness of the forms stock used, as follows:

- (A) If form thickness is 0.005 inch to 0.010 inch, gap should be
Min 0.020 inch — Max 0.030 inch
- (B) If form thickness is 0.010 to 0.018 inch, gap should be
Min 0.025 inch — Max 0.040 inch
- (C) If form thickness is 0.018 inch to 0.025 inch, gap should be
Min 0.030 inch — Max 0.050 inch

To Adjust

With the top cover mounting screws (4) friction tight, position the top cover to meet required gap (per form thickness used) when measured near ends of tear bar. Tighten the top cover mounting screws and recheck gap.

Note 2: Printer is factory adjusted to meet Requirement (A).



TEAR BAR AND TOP COVER (Final)
 (40P252 and 40P253 Forms Access Printer)

Requirement

The printed character in a line of copy should not become illegible due to ink being deposited on the paper when printer is running idle for one minute.

To Adjust

Step (A) With printer power off, loosen tear bar mounting screws (2) and tear bar assembly securing screws (2). Reduce the gap between tear bar and top cover by turning adjusting screws counterclockwise in increments of 1/6 turn (one flat of hex), but not more than three, while applying finger pressure on tear bar to reduce gap. Tighten the tear bar assembly securing screws (2) after each increment and recheck requirement. When requirement is met, tighten tear bar mounting screws (2).

Step (B) Reposition the top cover to provide applicable top cover to tear bar gap, dependent on thickness of forms stock used. See **TOP COVER (Preliminary)** requirement. Tighten the top cover mounting screws (4) and recheck gap.

Note: When refinement of these adjustments is required, some increase in audible noise and a lessening of print density may occur.

(a) If a form-out belt different from the one on the printer is required, change belt as follows:

- (1) Loosen thumbscrew and move rear (idler) wheel forward (Fig. 58).
- (2) Hold form selector lever depressed and slide off old belt.
- (3) Place new belt on wheels with arrow on belt pointed inward.
- (4) Position rear wheel back to remove slack in belt keeping bracket to which wheel is mounted at right angles to the slot.
- (5) Tighten thumbscrew and place form selector pointer at proper scale setting for proper form length.
- (6) Depress the FORM ADVANCE button and position the form at the first printing line.

(2) The distance from the tear line to the first printing centerline is 0.250 inch (Fig. 61).

(3) Printing in other lines is accomplished by inserting New Lines in the format.

(b) On 80- or 132-column tractor feed printer, pull out paper advance knob (blue) and turn to position form for first line of printing as follows (Fig. 59):

- (1) Position the paper so first line to be printed is just above the paper positioning shaft (Fig. 59).
- (2) Position the top of the alignment clip to any reference mark on the paper (or make a pencil mark on the paper in line with the top of the alignment clip).
- (3) Using the blue paper adjusting knob move the paper down so that the reference mark (or pencil mark) on the paper is in line with the bottom of the alignment clip (Fig. 59).
- (4) Return paper guide to operating condition.

(c) On 80-column forms access printer, pull out paper advance knob (blue) and turn to position form for first line of printing as follows (Fig. 60):

- (1) Align the start of form (tear line perforation) directly behind the tear edge of the tear bar (Fig. 60).

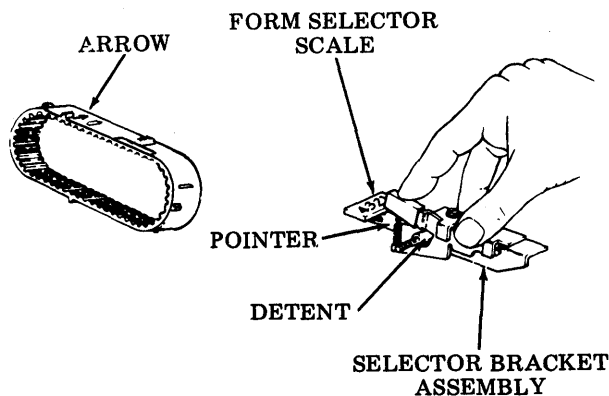
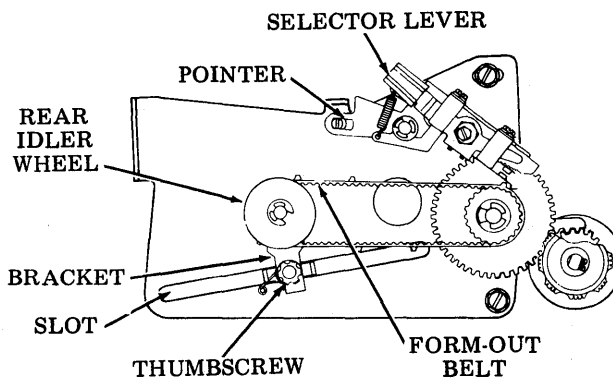
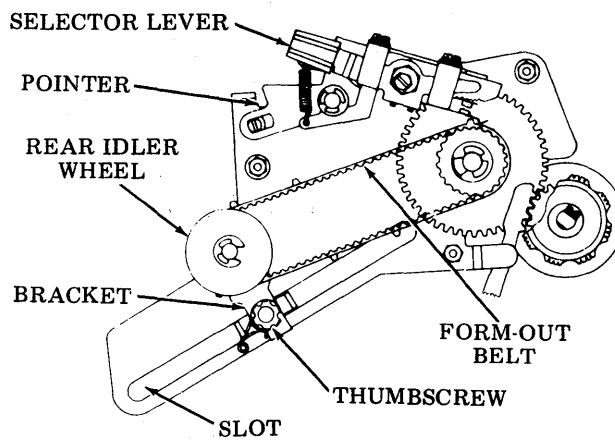


Fig. 58—Form-Out Mechanism

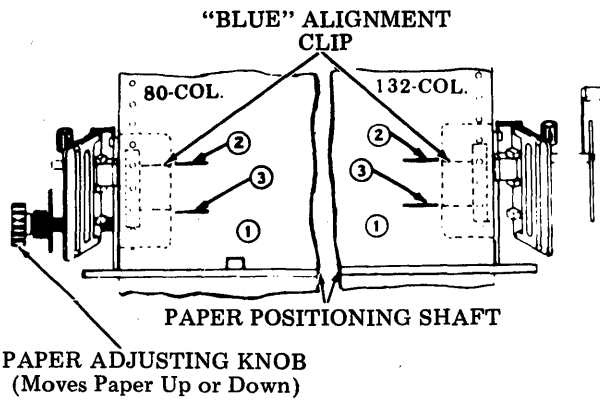


Fig. 59—Paper Positioning for First Printing Line (80- add 132-Column)

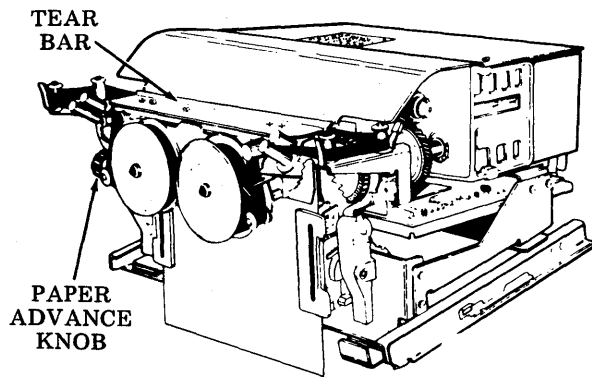


Fig. 60—Paper Positioning for First Printing Line (80-Column)

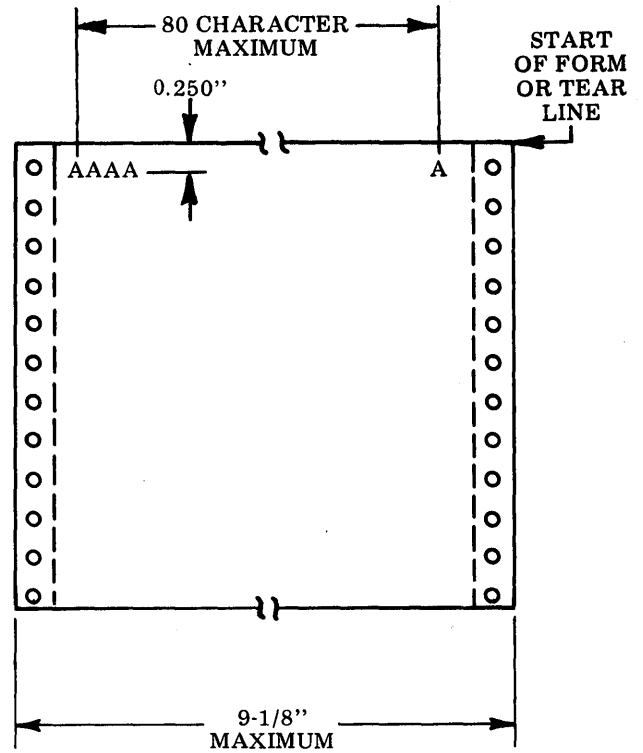


Fig. 61

11. PRINTER TESTING

11.01 When installation of the printer is completed the printer should be tested. Refer to Model 40 Printer Service Manual 399, Printer Testing and Troubleshooting; if printer is part of a station refer to the appropriate station service manual for testing procedures.

MANUAL 492
T.O.31W4-4-300-147
Issue 1, July 1981

TEMPEST

model 40/8A

ROP - KP - KP3

INSTALLATION MANUAL 492

Teletype Corporation Product Service and Education Services

On the following page is a list of Teletype Corporation Product Service locations which provide maintenance service and repair on all Teletype Corporation products. For more information call toll free (US 800-323-4226) (IL 800-942-4192) 7:00 A.M. — 4:00 P.M. CST.

In addition, Teletype Corporation provides customer technical training at its headquarters at 5555 W. Touhy Avenue, Skokie, IL in the northwest suburban area of Chicago. The training covers the installation, maintenance and repair of all Teletype Corporation products. Arrangements can also be made for training to be conducted at customer-selected field sites.

For information about class schedules, enrollment, tuition, on-site training or any special training needs, please contact:

Education Services
Teletype Corporation
5555 W. Touhy Avenue
Skokie, Illinois 60077
Telephone (312) 982-3940
TLX 25-4051
TWX 901-223-3611

SERVICE CENTERS

ALABAMA	BIRMINGHAM	230 OXMOOR CIRCLE SUITE 1113, HOMEWOOD, AL 35209	(205) 942-2574
	MOBILE	3207 INTERNATIONAL DR., SUITE B, MOBILE, AL 36606	(205) 473-8888
ARIZONA	PHOENIX	2113 S. 48TH ST., SUITE 104, TEMPE, AZ 85282	(602) 894-9891
	TUCSON	2015 N. FORBES BLVD., TUCSON, AZ 85705	(602) 623-6419
ARKANSAS	LITTLE ROCK	7501 INTERSTATE 30, SUITE 43, LITTLE ROCK, AR 72209	(501) 562-0266
CALIFORNIA	▲ LOS ANGELES	5445 SHEILA, CITY OF COMMERCE, CA 90040	(213) 728-2222
	OAKLAND	7305 EDGEWATER, SUITE C, OAKLAND, CA 94621	(415) 430-0202
	ORANGE COUNTY	11552 KNOTT, SUITE 9, GARDEN GROVE, CA 92641	(714) 891-2628
	SACRAMENTO	4221 NORTHGATE BLVD. NO. 4, SACRAMENTO, CA 95834	(916) 924-1933
	SAN DIEGO	7283 ENGINEER RD., SUITE B, SAN DIEGO, CA 92111	(714) 565-4375
	SANTA CLARA	3285 KIFER RD., SANTA CLARA, CA 95051	(408) 730-9083
	VENTURA COUNTY	2696 LAVERY COURT, SUITE 1, NEWBURY PARK, CA 91320	(805) 498-9655
COLORADO	▲ COLORADO SPRINGS	905 GARDEN OF THE GODS RD., SUITE B, COLORADO SPRINGS, CO 80907	(303) 593-1222
	DENVER	7100 BROADWAY, BUILDING 3-J, DENVER, CO 80221	(303) 429-9555
CONNECTICUT	▲ HARTFORD	441 GOVERNORS HWY., SOUTH WINDSOR, CT 06074	(203) 568-9610
DIST. OF COLUMBIA	▲ LORTON, VA	9022 TELEGRAPH RD., LORTON, VA 22079	(703) 550-7507
FLORIDA	▲ FT. LAUDERDALE	6858 N.W. 20TH AVE., FT. LAUDERDALE, FL 33309	(305) 974-4660
	JACKSONVILLE	9951 ATLANTIC BLVD., SUITE 424, JACKSONVILLE, FL 32211	(904) 721-1847
	MIAMI	12802 S.W. 122ND AVE., MIAMI, FL 33186	(305) 252-1370
	ORLANDO	102 LIVE OAKS BLVD., CASSELBERRY, FL 32707	(305) 834-3818
	TAMPA	5474 JETPORT INDUSTRIAL BLVD., TAMPA, FL 33614	(813) 885-7413
GEORGIA	▲ ATLANTA	2520 PARK CENTRAL BLVD., DECATUR, GA 30035	(404) 981-7267
IDAHO	BOISE	172 S. COLE RD., BOISE, ID 83709	(208) 343-3629
ILLINOIS	▲ CHICAGO NORTH	2330 EASTERN AVE., ELK GROVE VILLAGE, IL 60007	(312) 860-5602
	▲ CHICAGO SOUTH	2900 21ST AVE., BROADVIEW, IL 60153	(312) 345-7920
	DECATUR	3501 RUPP PKWY., DECATUR, IL 62526	(217) 875-1092
	INDIANAPOLIS	6240 LAS PAS TRAIL, INDIANAPOLIS, IN 46268	(317) 255-4566
INDIANA	DES MOINES	8345 UNIVERSITY BLVD., DES MOINES, IA 50311	(515) 223-8444
IOWA	KANSAS CITY	6339 W. 110TH ST., OVERLAND PARK, KS 66211	(913) 383-3370
KANSAS	LOUISVILLE	3600 CHAMBERLAIN, SUITE 348, LOUISVILLE, KY 40222	(502) 426-4312
KENTUCKY	NEW ORLEANS	5626 JEFFERSON HWY., HARAHAN, LA 70123	(504) 733-4823
LOUISIANA	SHREVEPORT	5150 INTERSTATE P.O. 9128, SHREVEPORT, LA 71109	(318) 636-7104
	BALTIMORE	8980 ROUTE 108, COLUMBIA, MD 21045	(301) 796-1166
MARYLAND	BOSTON	131 FLANDERS RD., P.O. BOX 566, WESTBORO, MA 01581	(617) 366-8881
MASSACHUSETTS	DETROIT	12916 FARMINGTON RD., LIVONIA, MI 48150	(313) 525-5356
MICHIGAN	KALAMAZOO	126 E. KILGORE RD., KALAMAZOO, MI 49001	(616) 344-1944
	LANSING	3202 S. PENNSYLVANIA AVE., LANSING, MI 48910	(517) 394-6250
	DULUTH	HWY 61 & CANOSIA RD., ESKO, MN 55733	(218) 879-1225
MINNESOTA	MINNEAPOLIS	8824 SEVENTH AVE., NO., GOLDEN VALLEY, MN 55427	(612) 546-0808
MISSISSIPPI	JACKSON	137 TURN-POWE PLAZA, PEARL, MS 39208	(601) 932-1273
MISSOURI	KANSAS CITY	6339 W. 110TH ST., OVERLAND PARK, KANSAS CITY, MO 66211	(913) 383-3370
	ST. LOUIS	11766 W. LINE INDUSTRIAL DR., ST. LOUIS, MO 63141	(314) 567-5910
	OMAHA	13415 B STREET BAY 2, OMAHA, NE 68144	(402) 330-3606
NEBRASKA	RENO	23 GLEN-CARRAN CIRCLE, SPARKS, NV 89431	(702) 356-8022
NEVADA	MANCHESTER	90 CLINTON ROAD, FAIRFIELD, NJ 07006	(800) 323-4226
NEW HAMPSHIRE	▲ FAIRFIELD	1245 ROUTE 1, EDISON, NJ 08817	(201) 575-8240
NEW JERSEY	EDISON	2820 BROADBENT PKWY., N.E., ALBUQUERQUE, NM 87107	(201) 494-8288
NEW MEXICO	ALBUQUERQUE	4 NORMANSKILL BLVD., ELSMERE, NY 12054	(505) 345-1854
NEW YORK	ALBANY	1505 CLEVELAND DR., CHEEKTOWAGA, NY 14225	(518) 462-9937
	BUFFALO	195 PARK AVENUE, BETHPAGE, NY 11714	(716) 634-7233
	LONG ISLAND	42 BROADWAY, SUITE 1633, NEW YORK, NY 10004	(516) 822-3533
	MANHATTAN	115 METRO PARK, ROCHESTER, NY 14623	(212) 344-3527
	ROCHESTER	5 ADLER DR., EAST SYRACUSE, NY 13057	(716) 475-1740
	SYRACUSE	11190 DOWNS RD., PINEVILLE, NC 28134	(315) 463-4666
NORTH CAROLINA	CHARLOTTE	500 E. WILLIAMS ST., APEX, NC 27502	(704)588-3297
	DURHAM	727 E. MOUNTAIN ST., KERNERSVILLE, NC 27284	(919) 362-4469
	GREENSBORO	4890 DUFF DR., SUITE E, CINCINNATI, OH 45246	(919) 996-4934
	CINCINNATI	5325 NAIMAN PKWY, SUITE F, SOLON, OH 44139	(513) 874-2586
	CLEVELAND	6969 WORTHINGTON, GALENA RD., WORTHINGTON, OH 43085	(216) 248-0288
	COLUMBUS	1000 S. REYNOLDS RD., TOLEDO, OH 43615	(614) 436-2065
	TOLEDO	1000 CORNELL PKWY., SUITE 700, OKLAHOMA CITY, OK 73108	(419) 381-9900
OKLAHOMA	OKLAHOMA CITY	2002 S. 114TH EAST AVE., TULSA, OK 74128	(405) 947-0969
	TULSA	7950 S. W. CIRrus DR., BEAVERTON, OR 97005	(918) 437-2010
OREGON	PORTLAND	4407-D CARLISLE PIKE, CAMPHILL, PA 17011	(503) 641-9575
PENNSYLVANIA	HARRISBURG	103 ROCK ROAD, HORSHAM, PA 19044	(717) 737-0405
	PHILADELPHIA	780 PINE VALLEY DR., PITTSBURGH, PA 15239	(215) 674-2181
	PITTSBURGH	6007 TWO NOTCH RD., COLUMBIA, SC 29204	(412) 325-4403
SOUTH CAROLINA	COLUMBIA	1835 NONCONNAH BLVD., SUITE 121, MEMPHIS, TN 38132	(803) 786-2927
TENNESSEE	MEMPHIS	220 GREAT CIRCLE RD., SUITE 134, NASHVILLE, TN 37228	(901) 346-8840
	NASHVILLE	222 N. STORY RD., SUITE 126, IRVING, TX 75061	(615) 254-0546
	DALLAS	8998 KIRBY DRIVE, HOUSTON, TX 77054	(214) 254-4189
TEXAS	▲ HOUSTON	4243 CENTER GATE, SAN ANTONIO, TX 78217	(713) 641-3295
	SAN ANTONIO	3650 W. 2100 SOUTH, SALT LAKE CITY, UT 84120	(512) 656-9370
UTAH	SALT LAKE CITY	9022 TELEGRAPH RD., LORTON, VA 22079	(801) 972-6332
VIRGINIA	LORTON (DC AREA)	5308-D VIRGINIA BEACH BLVD., NORFOLK, VA 23502	(703) 550-7507
	NORFOLK	8427 GLAZEBROOK AVE., RICHMOND, VA 23228	(804) 461-1778
	RICHMOND	635 STRANDER BLVD., SEATTLE, WA 98188	(804) 262-4062
	SEATTLE	808 MAIN STREET, NITRO, WV 25143	(206) 575-4515
WASHINGTON	CHARLESTON	324 W. WISCONSIN AVE., SUITE 3, APPLETON, WI 54911	(304) 755-3300
WEST VIRGINIA	APPLETON	1806 WARDEN ST., EAU CLAIRE, WI 54701	(414) 731-1494
WISCONSIN	EAU CLAIRE	3680 KINSMAN BLVD., MADISON, WI 53704	(715) 832-4431
	MADISON	448 W. RAWSON AVE., OAK CREEK, WI 53154	(608) 249-5999
	MILWAUKEE	120 E. STEWART AVE., WAUSAU, WI 54401	(414) 764-6500
	WAUSAU	31 KLONDIKE DR., WESTON, ONTARIO, CANADA M9L 1S1	(715) 845-8688
CANADA	▲ TORONTO		(416) 745-9474

▲ REGIONAL OFFICES



QUALITY TRACKING

Did the Installation go OK?

We believe Teletype Corporation Products are the best available, but we would like to keep improving and need your help to do so.

Please call one of the following if you find trouble during installation:

(Collect calls accepted from continental United States)

Mr. Edward Kolasa

(312) 982-3216

Mr. Walter Lotz

(312) 982-3214

Mrs. Naomi Dockery

(312) 982-3232

Thank you for your assistance.

40/8A
(MARK II PROGRAM)



**J.J. Pappas
President**

40/8A MARK II PROGRAM
FIELD QUALITY TRACKING

INSTALLATION
ON-GOING TROUBLES

DATE _____

CUSTOMER NAME _____ PHONE # _____

LOCATION _____ ROOM # _____ FLOOR _____

CITY _____ STATE _____ ZIP _____

IS ROP, KP, OR KP3 (Circle one) OPERATIONAL NOW? YES NO

TYPE OF FAILURE

SERIAL NUMBER

TERMINAL FAILURE _____

KEYBOARD _____

PRINTER; 80-C OR 132-C, TF OR FF _____

PRINTER CABINET _____

PEDESTAL _____

INTERFACE ASSEMBLY _____

CONTROLLER _____

POWER SUPPLY _____

OTHER _____

TROUBLE _____

FIX IF ANY _____

INSTALLER OR
MAINTENANCE PERSON'S NAME _____ PHONE NO. _____

PLEASE PHONE OR FORWARD THIS INFORMATION TO:

TELETYPE CORPORATION
QUALITY TRACKING DEPARTMENT 5412
5555 TOUHY AVENUE
SKOKIE, ILLINOIS 60077 AREA CODE 312 982-3232

INTRODUCTION

This manual covers the installation of the Tempest Model 40 Sets shown on Pages 6 through 16,

1. IDENTIFICATION.

A thorough review of this manual should be completed before installation of Tempest Model 40 equipment is undertaken.

This manual consists of two parts, Introduction and Installation. The Installation part provides information necessary to install and convert the Tempest Model 40 Sets. It begins with a contents page which lists the information contained therein.

Tempest Manual 493 contains field level information for operational checkout, troubleshooting, adjusting, disassembly/reassembly and routine maintenance.

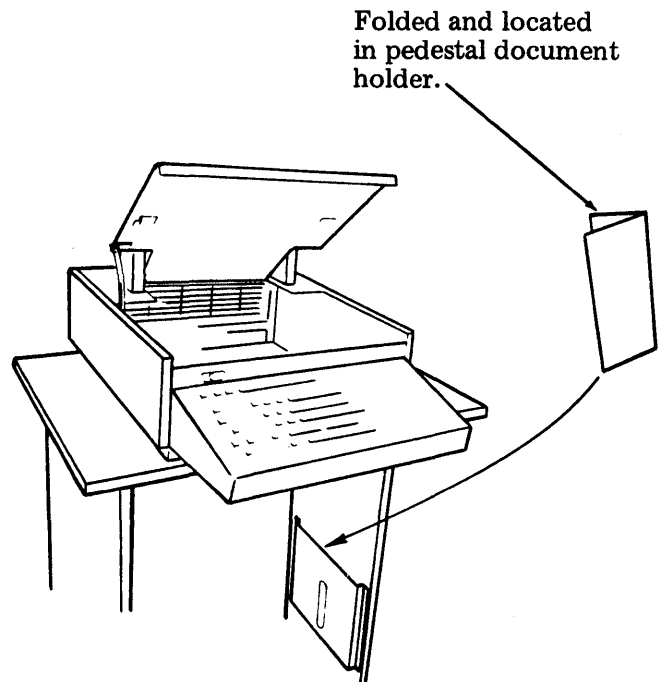
Danger: All power to the set should be turned off when any components are replaced, however, when alignment adjustments are performed, power must be on.

Feature and Option Record

Before proceeding with installation, a review of the features and field options or other descriptions and records should be made to determine which options, if any, should be changed from the way they were furnished by the factory, applied at a service location, or altered during earlier service applications.

On Page 134, 4. FEATURE AND OPTION RECORD, a Feature and Option Record for the set should be maintained and attached to the equipment to facilitate checkout or operation.

Conversion information, to change features in the field, is not provided in this manual. For information to add or change the features originally ordered, refer to the Teletype Corporation catalog, modification kit specifications, or other instructions and make proper entries on the Feature and Option Record.



TECHNICAL DATA

Power Source Requirements

115 V ac $\pm 10\%$, 50/60 Hz ± 0.5 Hz from an unswitched, standard 3-wire system.

Note: When operating from a 50 hertz power source, a pulley change is required on the printer.

Danger: Sets must be properly grounded to prevent shock hazard.

TECHNICAL DATA (Contd)

Power Consumption and Heat Dissipation

			<u>Approximate Current Draw</u>
ROP-KP-KP3	330 Watts	1130BTU/Hr	3.65 Amps

Environmental Restrictions (Operating)

Ambient Temperature	+40°F to +110°F
Relative Humidity	2% to 95% (noncondensing)

Weight (Approximate)

	<u>Unpacked</u>
Terminal Logic	50 lbs
Printer and Printer Logic	40 lbs
Housing for Terminal Logic or Printer	15 lbs
Operator Console W/Cover	5 lbs
Pedestal	56 lbs

SUPPLEMENTARY INFORMATION

Supplementary information can be found in the How To Operate Manual 491, Service Manual 493 and Section 570-005-800TC, Maintenance Tools.

The following wiring diagram packages (WDP), covering the component, are supplied with the set.

WDP0435	40P Printer, 80 Column
WDP0453	40CAB202/RA, RC, RD Friction Feed Printer Cabinet
WDP0454	40CAB352/RA, RC, RD Tractor Feed Printer Cabinet
WDP0456	40CAB354/RA, 132 Column Tractor Feed Printer Cabinet
WDP0457	40CAB903 Pedestal
WDP0462	40P Printer, 132 Column
WDP0525	40K/108/RDJ Opcon
WDP0582	40C431/AEM/103 Controller w/Cards
WDP0583	40C432/AEL/104 Controller w/Cards (Includes 40K002/RAA/DC ROP-Opcon)
WDP0584	
+ 0585	40C438/AEP/105 Controller W/O Cards

TOOLS AND SUPPLIES

The following tools and supplies may be required for installation or servicing of Tempest Model 40 apparatus. Most of these items should normally be present in standard maintenance tool kits.

Tools

Wrench	3/16" socket	125752
Open-end wrench	3/8"	125765
Open-end wrench	3/16" and 1/4"	129534
Open-end wrench	5/16" and 3/8"	152835
Open-end wrench	3/4"	129537
Nut driver handle		135676
Nut driver	1/4"	89954
Nut driver	5/16"	89955
Nut driver	1/4"	135677

Tools (Contd)

Nut driver	5/16"	135678
Screwdriver	1/8", 2" blade	95368
Screwdriver	1/4", 6" blade	100982
Screwdriver	(Blade less than 5/32")	94647
Allen wrench	0.050	104457
Allen wrench	0.078	110271
Tweezers		151392
Spring hook (pull)		142554
Spring hook (pull)		75765
Spring hook (push)		75503
Spring scales (8 oz)		110443
Ruler	6"	95960
Cleaning brush (type face)		151394
Long-nose pliers		108285
Cutting pliers		108286
Terminal extractor		182697
Retaining ring pliers		160396
Terminal extractor		341983
Keypress extractor		346257
Keypress extractor		346260
Gauge		402617
Gauge		402868
Terminal extractor		(MOLEX HT2285)
Card extender		410499
Static discharge strap		346392

Supplies

Grease — 145867 (4 oz can) or 143484 (one lb can)
Oil — 88970 (1 qt can)
Ribbon — 402444 for Model 40 Printer
Paper (tractor feed)
Degreaser (Freon TF) — 337449 (6 oz aerosol can)

INSTALLATION

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A. IDENTIFICATION

1. GENERAL

Knowing what features are provided and how those features are programmed to operate provide the basic understanding necessary for installation, operational checkout, or "in the field" service call routines. Several methods are presented in the following paragraphs for determining terminal features and programming.

Features included in a terminal can be identified by observing if certain keytops are provided on the operator console, or if a certain type or quantity of printed circuit boards are present in the display controller.

Programming on this terminal should be recorded on Page 134, 4. FEATURE AND OPTION RECORD. Features, options, or special notations must be recorded by checking on the variable number (eg. Option 17.d. for a right-hand margin) in the appropriate square.

References in this manual to TELETYPE® Standard Serial Interface (SSI) describe input/output signaling characteristics for devices using high speed SSI signals.

2. SET IDENTIFICATION

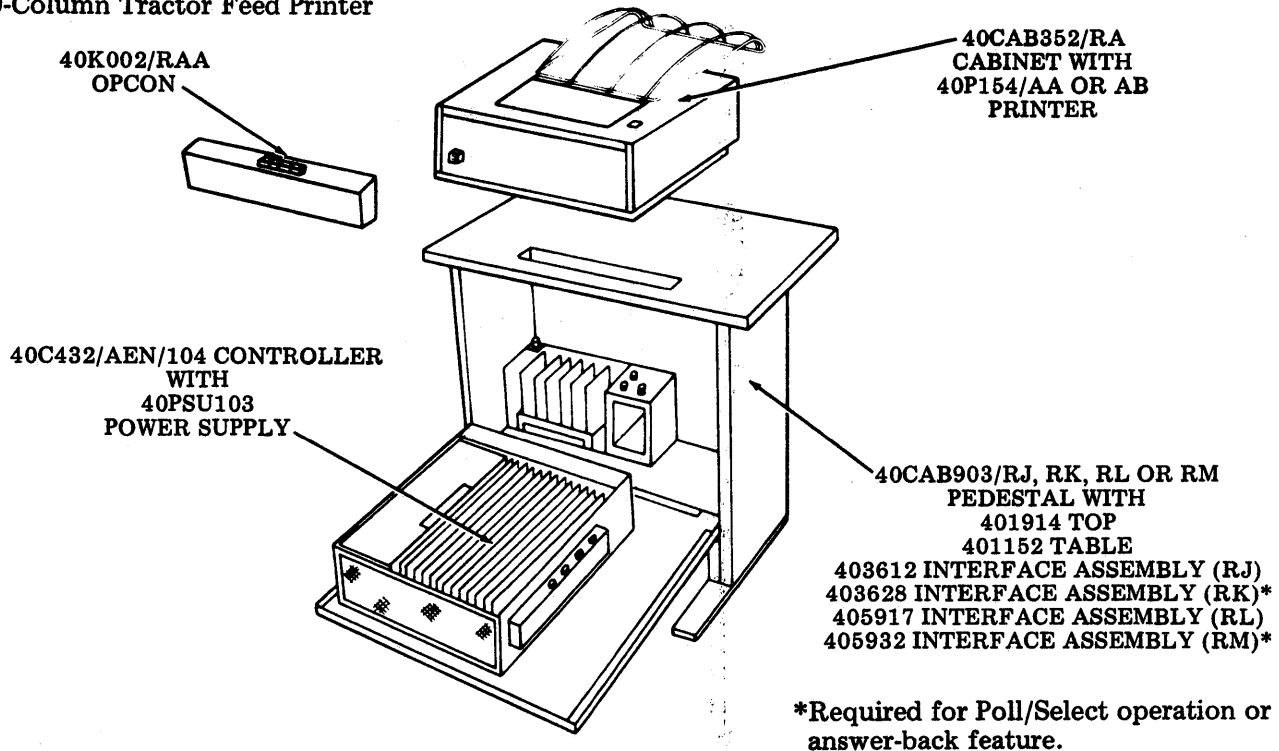
SETS	Floor Mount CODE	INTER-FACE			PRINTER						SALES CODE
		188	INVERTED CTS AND TR	FRICION FEED MONOCASE	FRICION FEED UP-LOW	80-COLUMN TRACTOR FEED MONOCASE	80-COLUMN TRACTOR FEED UP-LOW	132-COLUMN TRACTOR FEED MONOCASE	132-COLUMN TRACTOR FEED UP-LOW		
ROP	4010RD/005/RE	●		●							4010-8COA
	4010RD/005/RQ		●	●							4010-8COA1
	4010RD/006/RE	●			●						4010-8FOA
	4010RD/006/RQ		●		●						4010-8FOA1
	4010RF/006/RD	●				●					4010-8HOA
	4010RF/006/RF		●			●					4010-8HOA1
	4010RF/007/RD	●					●				4010-8KOA
	4010RF/007/RF		●				●				4010-8KOA1
	4010RG/006/RG	●						●			4010-8LOA
	4010RG/006/RH		●					●			4010-8LOA1
	4010RG/007/RG	●								●	4010-8MOA
4010RG/007/RH		●							●	4010-8MOA1	
KP	4020RF/001/RE	●		●							4020-8COA
	4020RF/001/RL		●	●							4020-8COA1
	4020RF/002/RE	●			●						4020-8FOA
	4020RF/002/RL		●		●						4020-8FOA1
	4020RG/001/RD	●				●					4020-8HOA
	4020RG/001/RF		●			●					4020-8HOA1
	4020RG/002/RD	●					●				4020-8KOA
	4020RG/002/RF		●				●				4020-8KOA1
	4020RH/001/RM	●						●			4020-8LOA
	4020RH/001/RN		●					●			4020-8LOA1
	4020RH/002/RM	●								●	4020-8MOA
4020RH/002/RN		●							●	4020-8MOA1	

SETS	Rack Mount Fixed Station CODE	INTER-FACE		PRINTER						SALES CODE
		188	INVERTED CTS AND TR	FRICION FEED MONOCASE	FRICION FEED UP-LOW	80-COLUMN TRACTOR FEED MONOCASE	80-COLUMN TRACTOR FEED UP-LOW	132-COLUMN TRACTOR FEED MONOCASE	132-COLUMN TRACTOR FEED UP-LOW	
ROP	4010RD/007/RJ	●		●						4010-8COB
	4010RD/007/RK		●	●						4010-8COB1
	4010RD/008/RJ	●			●					4010-8FOB
	4010RD/008/RK		●		●					4010-8FOB1
	4010RF/008/RL	●				●				4010-8HOB
	4010RF/008/RM		●			●				4010-8HOB1
	4010RF/009/RL	●					●			4010-8KOB
	4010RF/009/RM		●				●			4010-8KOB1
KP	4020RJ/001/RJ	●		●						4020-8COE
	4020RJ/001/RH		●	●						4020-8COE1
	4020RJ/002/RG	●			●					4020-8FOE
	4020RJ/002/RH		●		●					4020-8FOE1
	4020RK/001/RJ	●				●				4020-8HOE
	4020RK/001/RK		●			●				4020-8HOE1
	4020RJ/002/RJ	●					●			4020-8KOE
	4020RJ/002/RK		●				●			4020-8KOE1
	Ruggedized Rack Mount									
ROP	4010RD/007/RJ	●		●						4010-8COG
	4010RD/007/RK		●	●						4010-8COG1
	4010RD/008/RJ	●			●					4010-8FOG
	4010RD/008/RK		●		●					4010-8FOG1
KP	4020RJ/001/RG	●		●						4020-8COF
	4020RJ/001/RH		●	●						4020-8COF1
	4020RJ/002/RG	●			●					4020-8FOF
	4020RJ/002/RH		●		●					4020-8FOF1

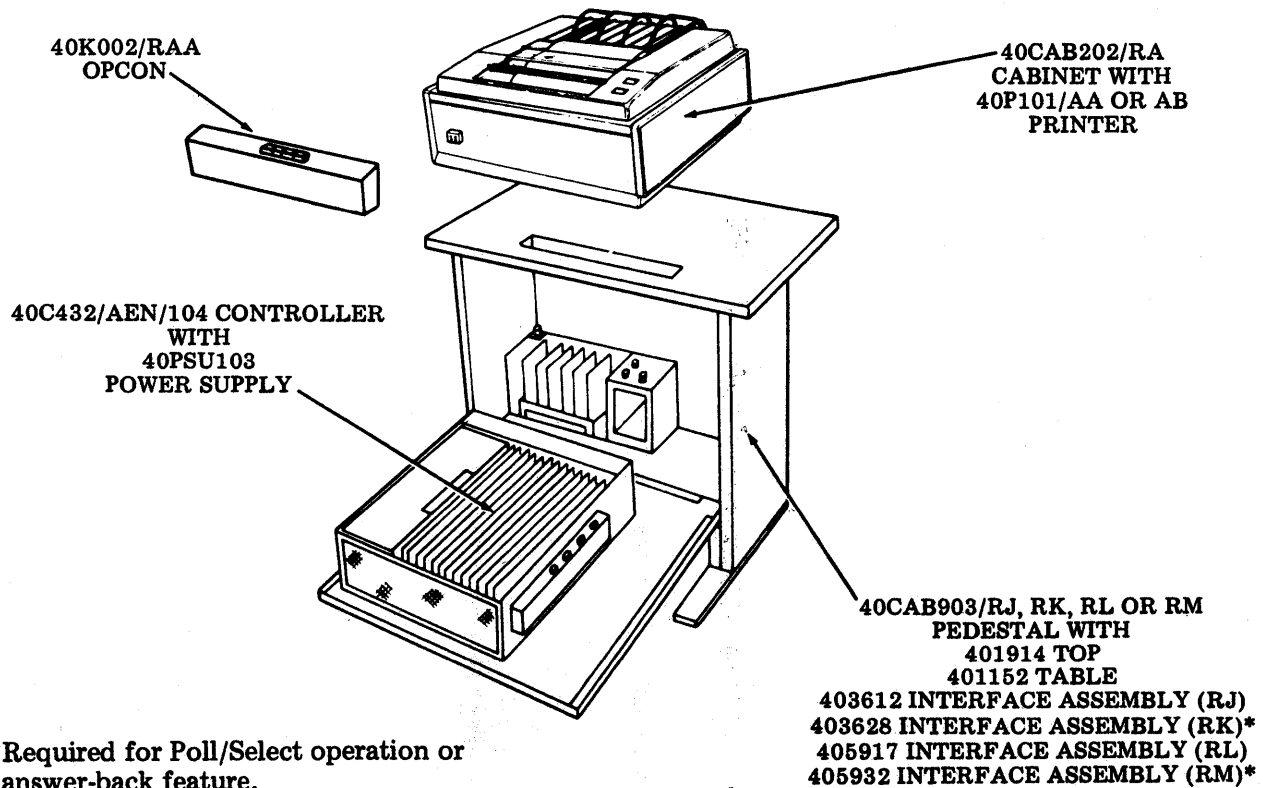
A. IDENTIFICATION (Contd)

3. PEDESTAL MOUNTED ROP SETS

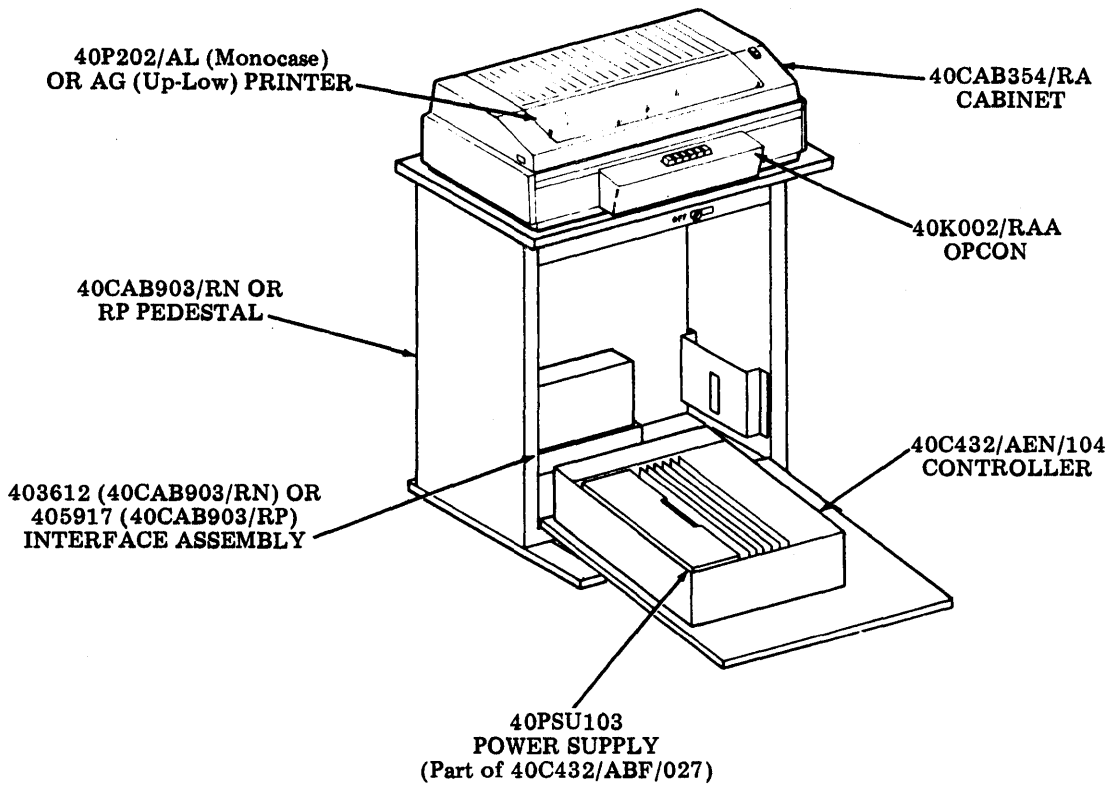
80-Column Tractor Feed Printer



80-Column Friction Feed Printer

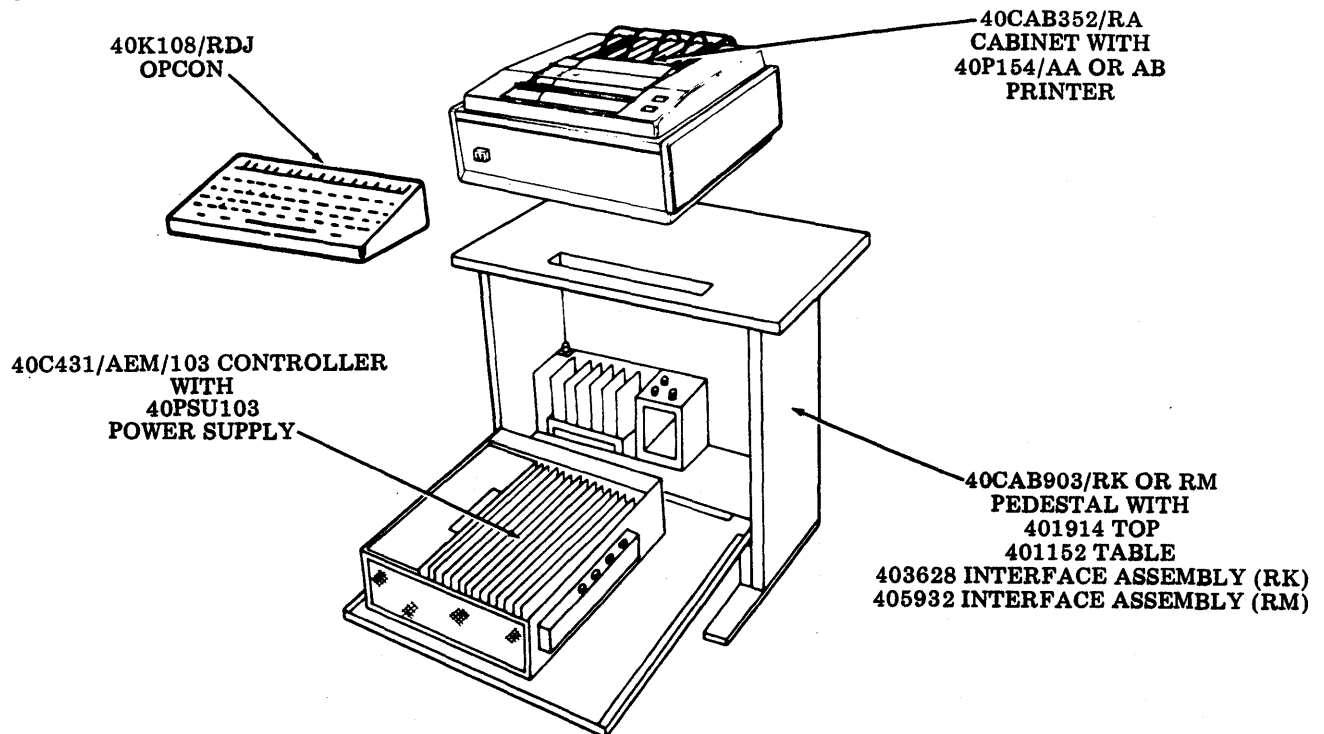


132-Column Tractor Feed Printer



4. PEDESTAL MOUNTED KEYBOARD PRINTER SET

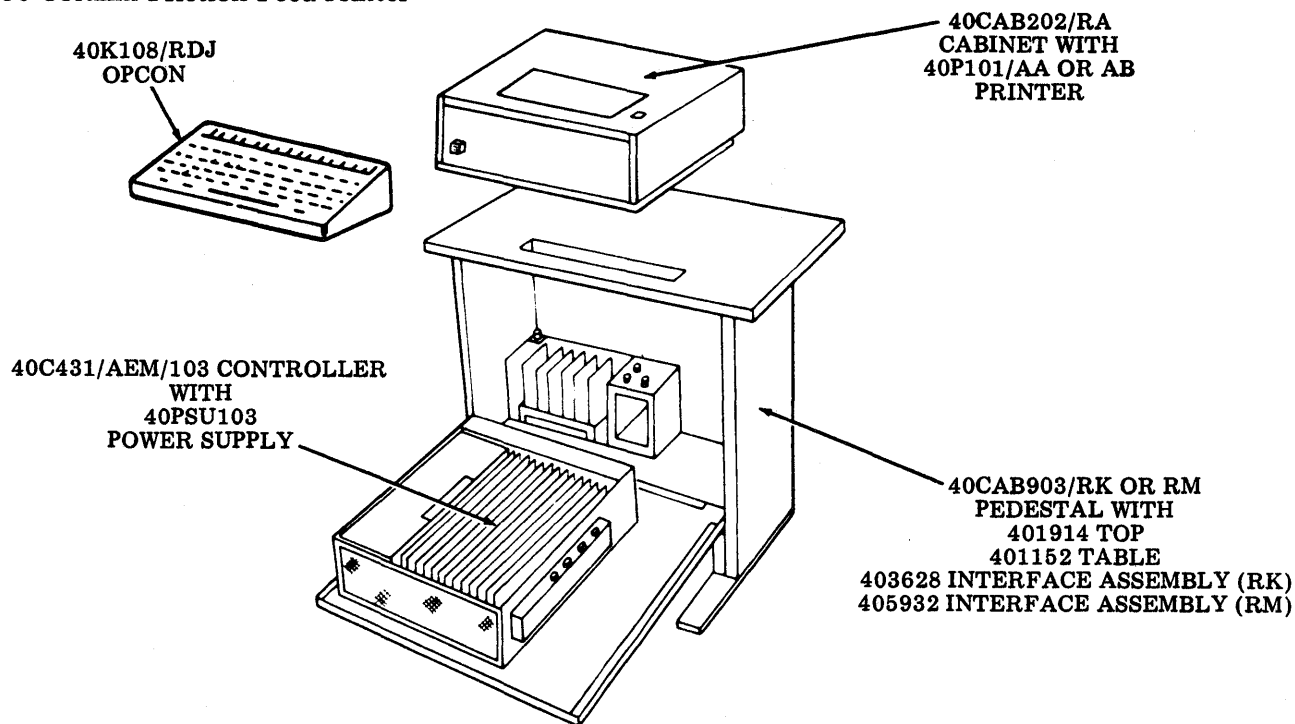
80-Column Tractor Feed Printer



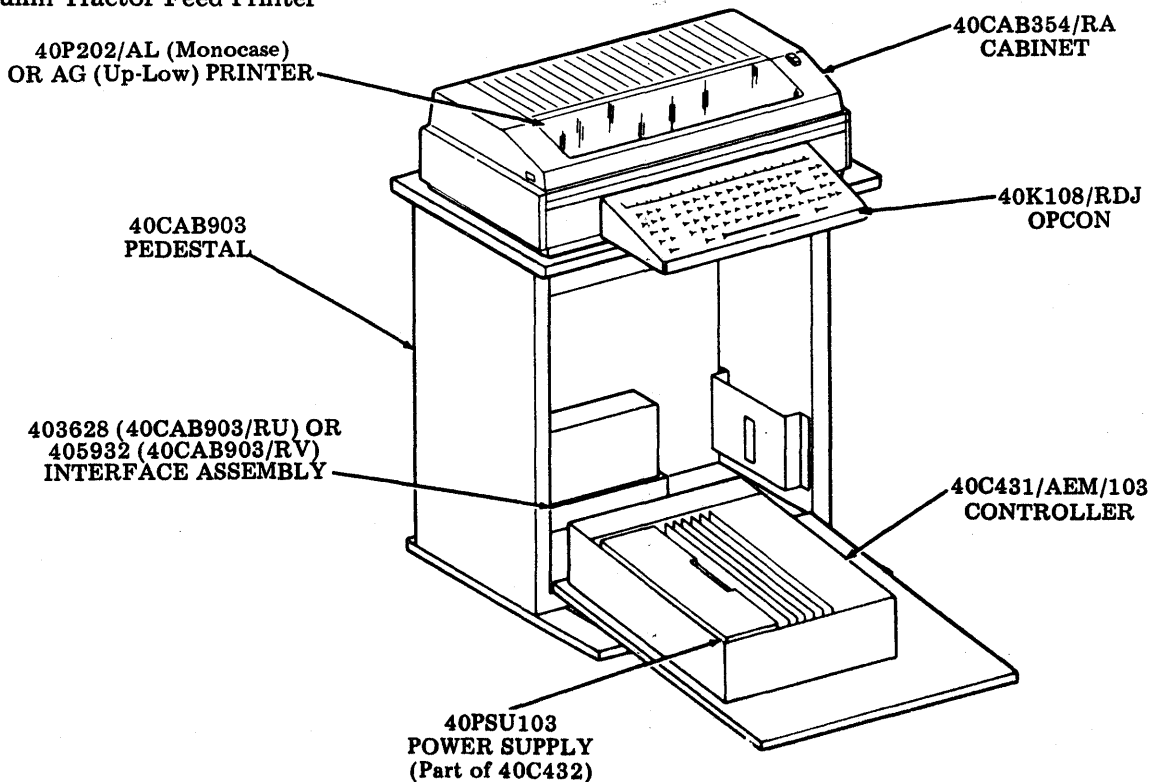
A. IDENTIFICATION (Contd)

4. PEDESTAL MOUNTED KEYBOARD PRINTER SET (Contd)

80-Column Friction Feed Printer



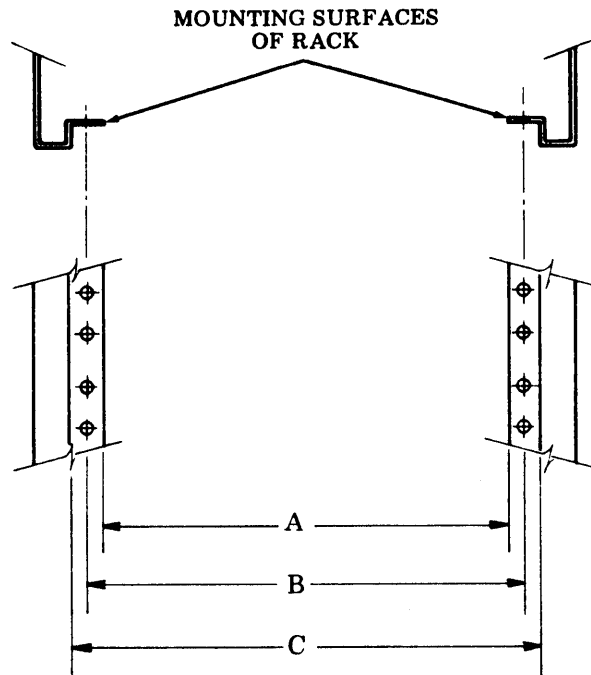
132-Column Tractor Feed Printer



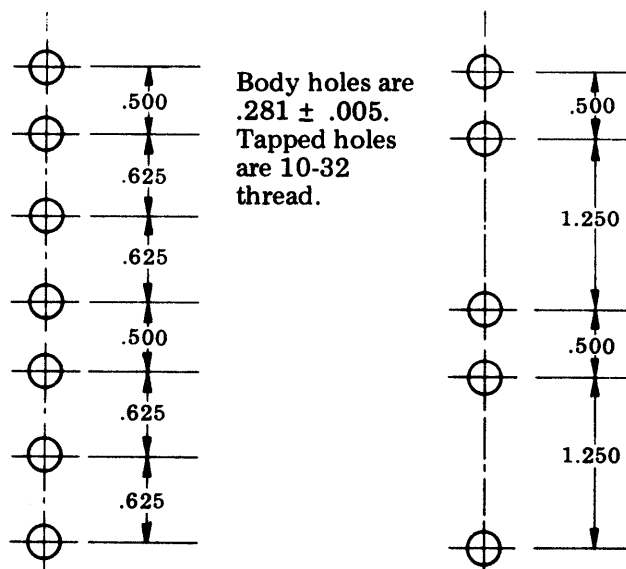
5. RACK REQUIREMENTS

These modification kits are designed to be used in racks that conform to EIA standards with respect to hole spacing. Provisions are made for mounting the slide assemblies on threaded and nonthreaded racks.

Hole Spacing:



DIMENSION	19" RACKS	24" RACKS
A	17-15/16	22-15/16
B	18-5/16	23-5/16
C	19-1/16	24-1/16



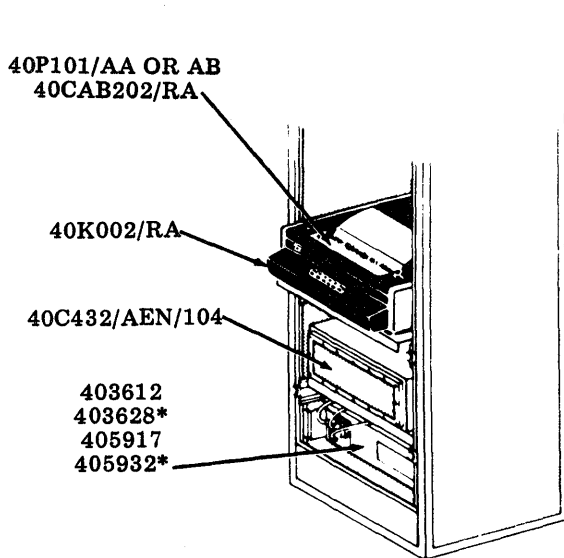
Universe Hole Spacing

Wide Mounting Hole Spacing Arrangement

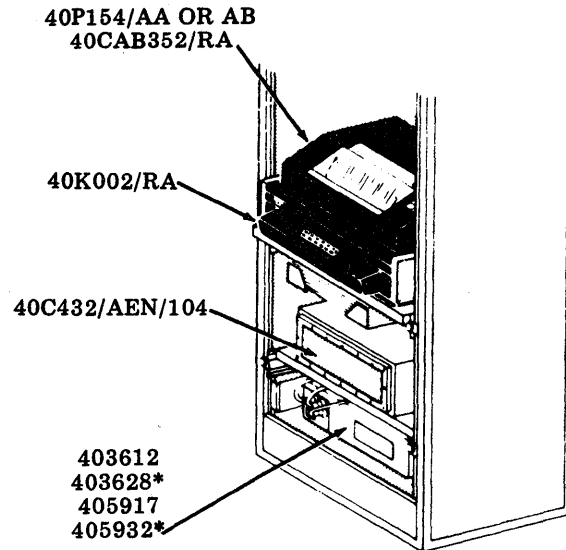
A. IDENTIFICATION (Contd)

6. ROP — FIXED STATION RACK MOUNT

Note: All mounting racks are customer provided.



**40/8A ROP Friction Feed
19 or 24 Inch Wide Rack**



**40/8A ROP Tractor Feed
(80-Column)
24 Inch Wide Rack**

Modification Kits Included With Terminal

19 Inch Rack Applications

- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount
- 406864 — Printer (Friction Feed) Rack Mount

24 Inch Rack Applications

- 406859 — 19 to 24 Inch Extender Controller and Interface
- 406860 — 19 to 24 Inch Extender Printer (Friction Feed)
- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount
- 406864 — Printer (Friction Feed) Rack Mount

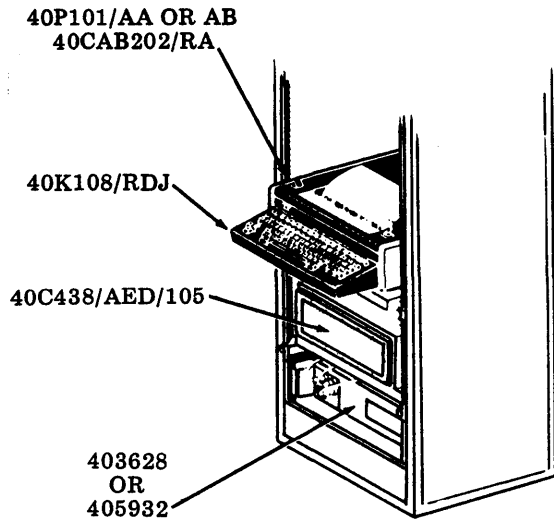
Modification Kits Included With Terminal

24 Inch Rack Applications

- 406858 — Printer (Tractor Feed) Rack Mount
- 406859 — 19 to 24 Inch Extender Controller and Interface
- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount

*Required for Poll/Select operation or answer-back feature.

7. KP — FIXED STATION RACK MOUNT



40/8A KP Friction Feed
19 or 24 Inch Wide Rack

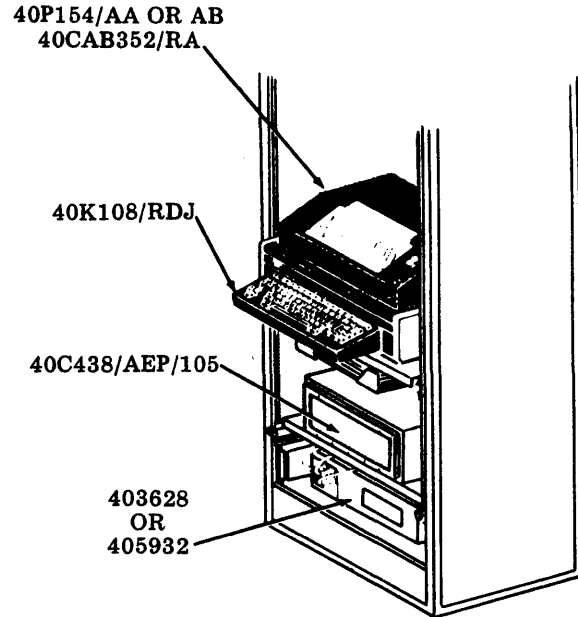
Modification kits Included With
Terminals

19 Inch Rack Applications

- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount
- 406864 — Printer (Friction Feed)
Rack

24 Inch Rack Applications

- 406859 — 19 to 24 Inch Extender Controller
and Interface
- 406860 — 19 to 24 Inch Extender Printer
(Friction Feed)
- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount
- 406864 — Printer (Friction Feed)
Rack Mount



40/8A KP Tractor Feed (80-Column)
24 Inch Wide Rack

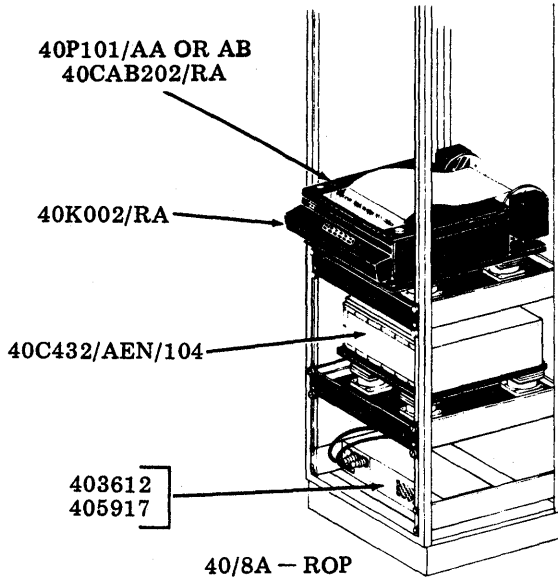
Modification Kits Included With
Terminals

24 Inch Rack Applications

- 406858 — Printer (Tractor Feed)
Rack Mount
- 406859 — 19 to 24 Inch Extender Controller
and Interface
- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount

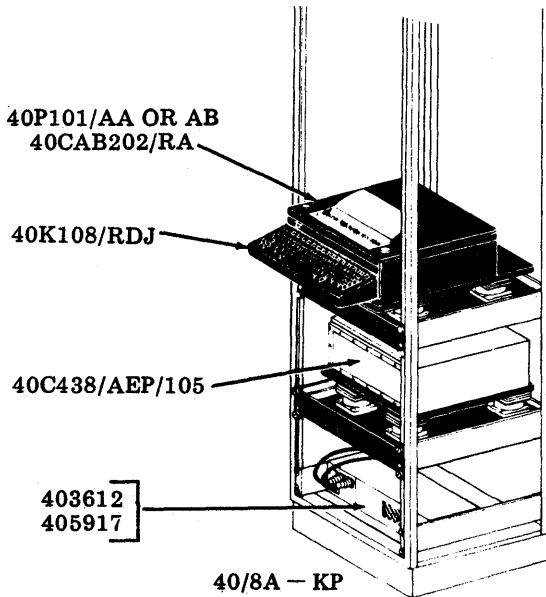
A. IDENTIFICATION (Contd)

8. RUGGEDIZED RACK MOUNT — ROP, KP



Modification Kits Included With Set

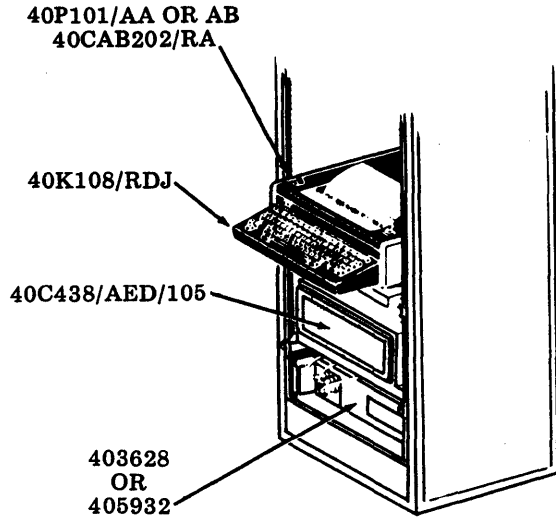
- 406660 — Printer Isolation
- 406670 — Controller Isolation
- 406680 — Interface Isolation
- 406690 — Printer Ruggedization
- 406700 — ROP Opcon Ruggedization
- 406705 — Printer Cabinet Ruggedization
- 406720 — Controller Ruggedization
- 406725 — Interface Ruggedization



Modification Kits Included With Set

- 406660 — Printer Isolation
- 406670 — Controller Isolation
- 406680 — Interface Isolation
- 406690 — Printer Ruggedization
- 406705 — Printer Cabinet Ruggedization
- 406715 — Keyboard Ruggedization
- 406720 — Controller Ruggedization
- 406725 — Interface Ruggedization

7. KP — FIXED STATION RACK MOUNT



40/8A KP Friction Feed
19 or 24 Inch Wide Rack

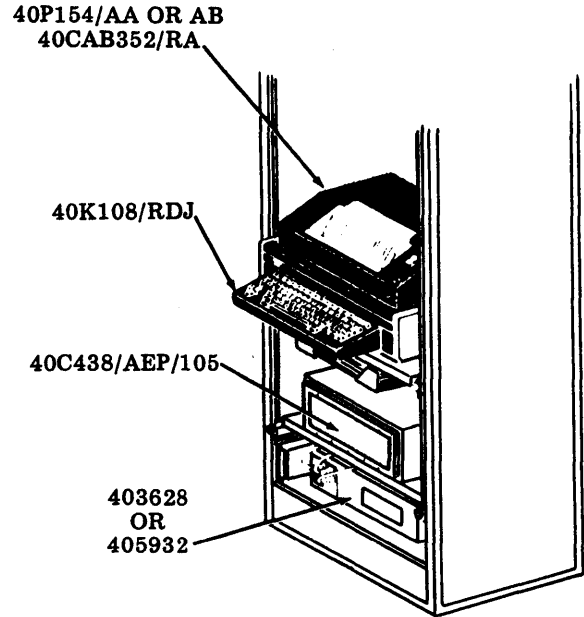
Modification kits Included With
Terminals

19 Inch Rack Applications

- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount
- 406864 — Printer (Friction Feed)
Rack

24 Inch Rack Applications

- 406859 — 19 to 24 Inch Extender Controller
and Interface
- 406860 — 19 to 24 Inch Extender Printer
(Friction Feed)
- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount
- 406864 — Printer (Friction Feed)
Rack Mount



40/8A KP Tractor Feed (80-Column)
24 Inch Wide Rack

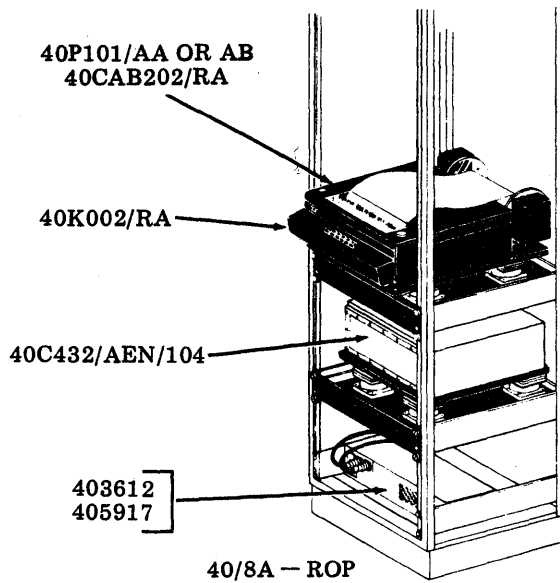
Modification Kits Included With
Terminals

24 Inch Rack Applications

- 406858 — Printer (Tractor Feed)
Rack Mount
- 406859 — 19 to 24 Inch Extender Controller
and Interface
- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount

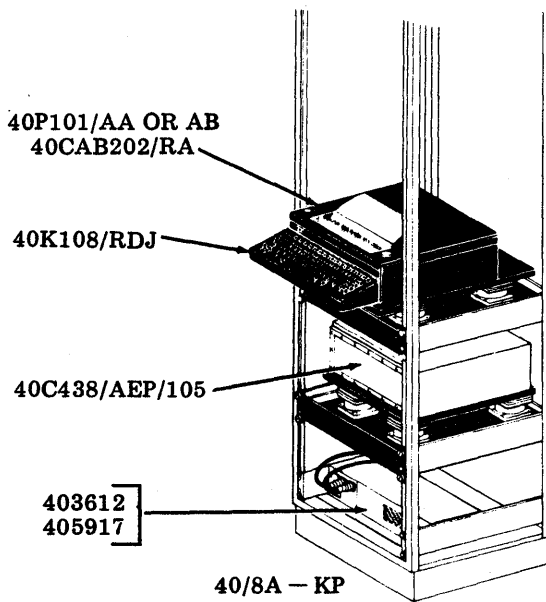
A. IDENTIFICATION (Contd)

8. RUGGEDIZED RACK MOUNT — ROP, KP



Modification Kits Included With Set

- 406660 — Printer Isolation
- 406670 — Controller Isolation
- 406680 — Interface Isolation
- 406690 — Printer Ruggedization
- 406700 — ROP Opcon Ruggedization
- 406705 — Printer Cabinet Ruggedization
- 406720 — Controller Ruggedization
- 406725 — Interface Ruggedization

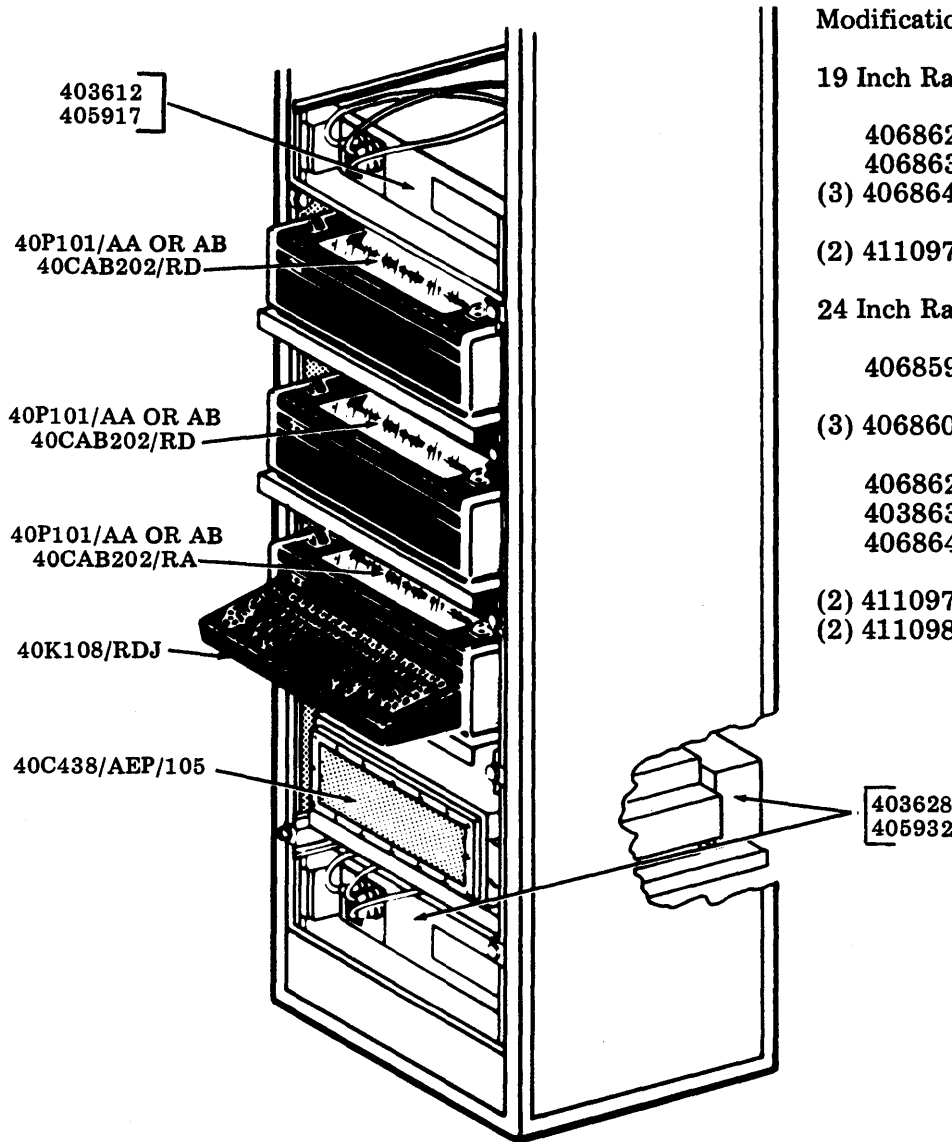


Modification Kits Included With Set

- 406660 — Printer Isolation
- 406670 — Controller Isolation
- 406680 — Interface Isolation
- 406690 — Printer Ruggedization
- 406705 — Printer Cabinet Ruggedization
- 406715 — Keyboard Ruggedization
- 406720 — Controller Ruggedization
- 406725 — Interface Ruggedization

9. KP3 — FIXED STATION RACK MOUNT

Friction Feed Printers



Modification Kits Included With Set

19 Inch Rack Applications

- 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount
- (3) 406864 — Printer (Friction Feed) Rack Mount
- (2) 411097 — Interface Rack Mount

24 Inch Rack Applications

- 406859 — 19 to 24 Inch Extender Controller and Interface
- (3) 406860 — 19 to 24 Inch Extender Printer (Friction Feed)
- 406862 — Controller Rack Mount
- 403863 — Interface Rack Mount
- 406864 — Printer (Friction Feed) Rack Mount
- (2) 411097 — Interface Rack Mount
- (2) 411098 — Extender Interface

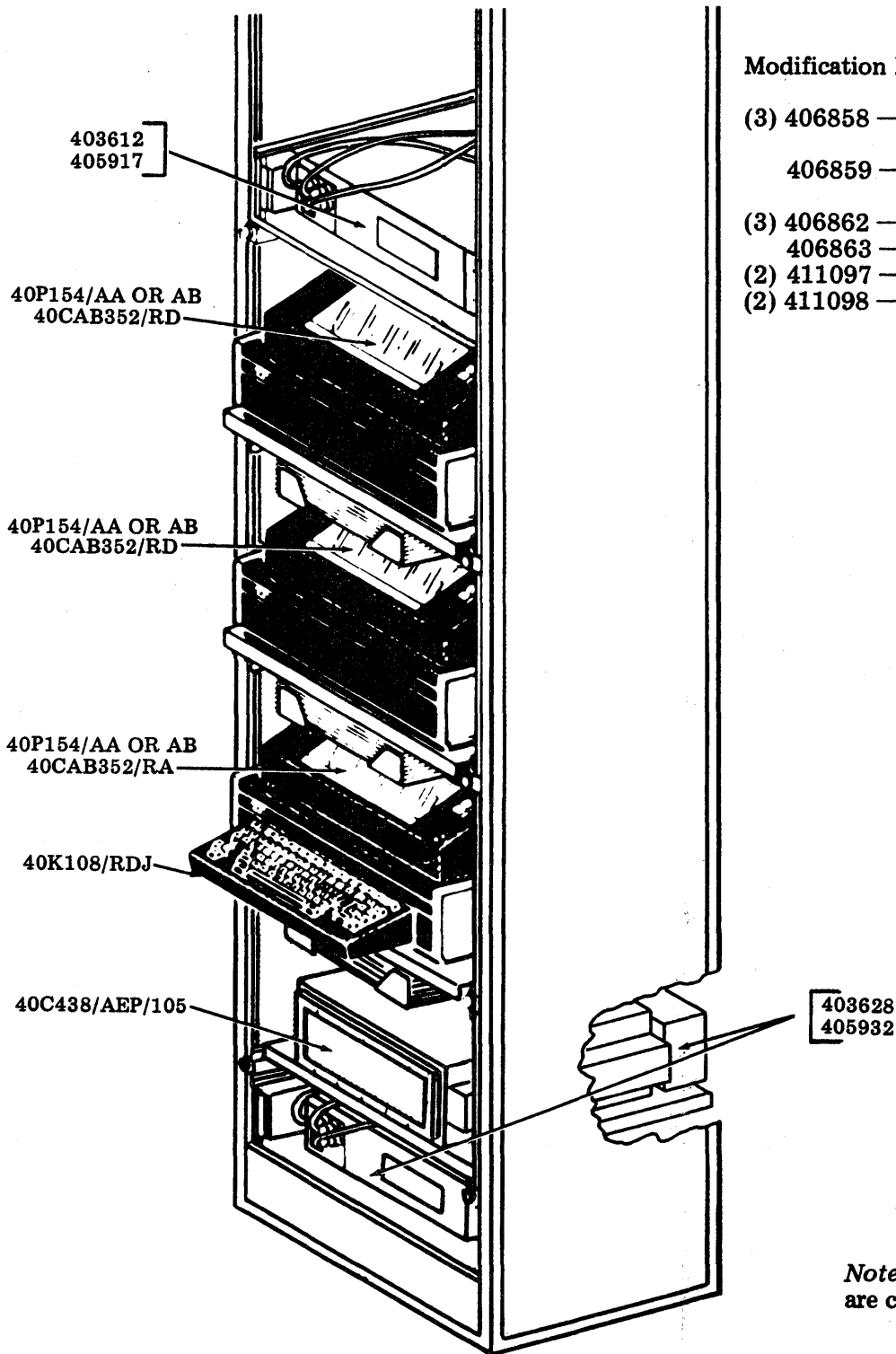
**KP3 Rack Mounted
Friction Feed
19 or 24 Inch**

Note: All mounting racks are customer provided.

A. IDENTIFICATION (Contd)

9. KP3 — FIXED STATION RACK MOUNT (Contd)

80-Column Tractor Feed Printer



Modification Kits Included With Set

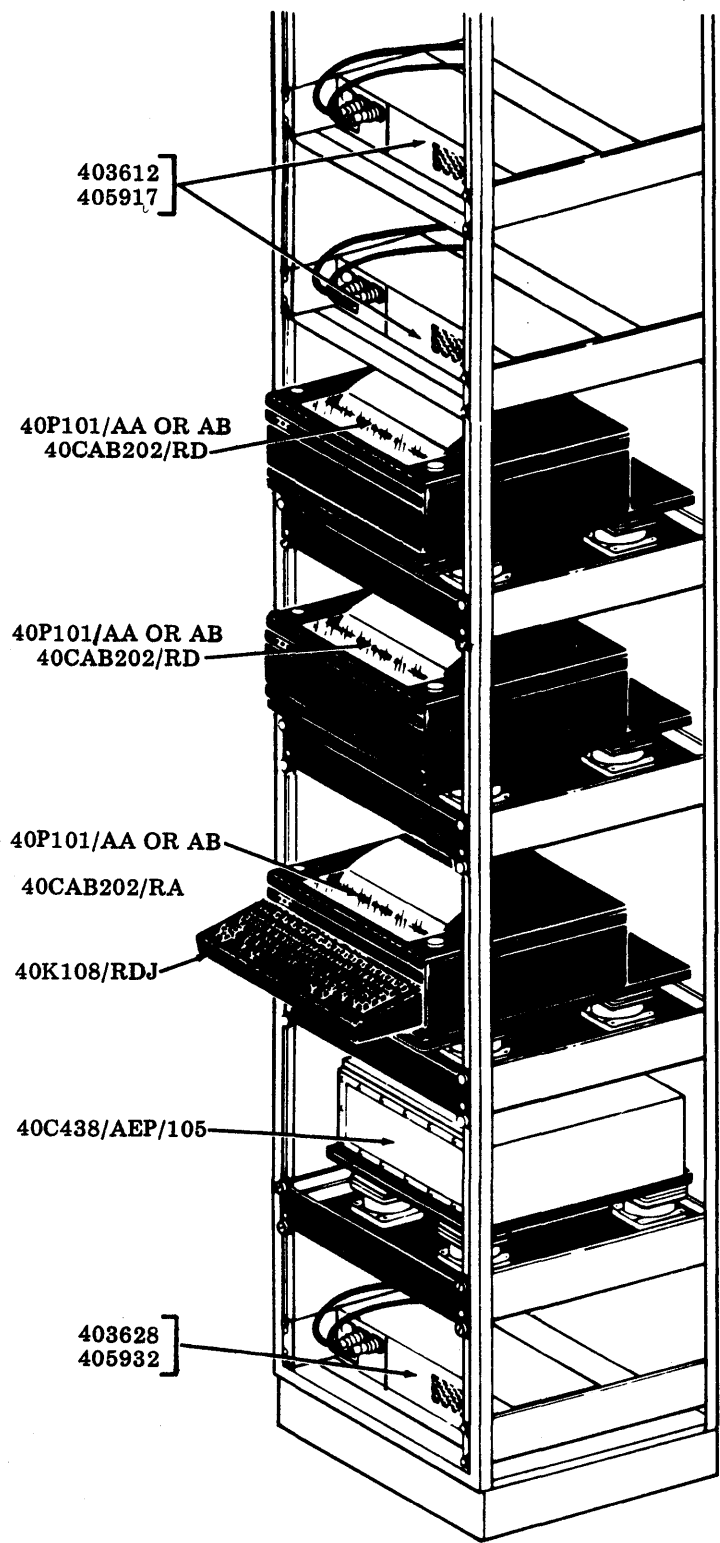
- (3) 406858 — Printer (Tractor Feed) Rack Mount
- 406859 — 19 to 24 Inch Extender Controller and Interface
- (3) 406862 — Controller Rack Mount
- 406863 — Interface Rack Mount
- (2) 411097 — Interface Rack Mount
- (2) 411098 — Extender Interface

KP3
Rack Mounted
Tractor Feed — 80-Column
24 Inch Rack

Note: All mounting racks are customer provided.

10. KP3 — RUGGEDIZED RACK MOUNT

Friction Feed Printers



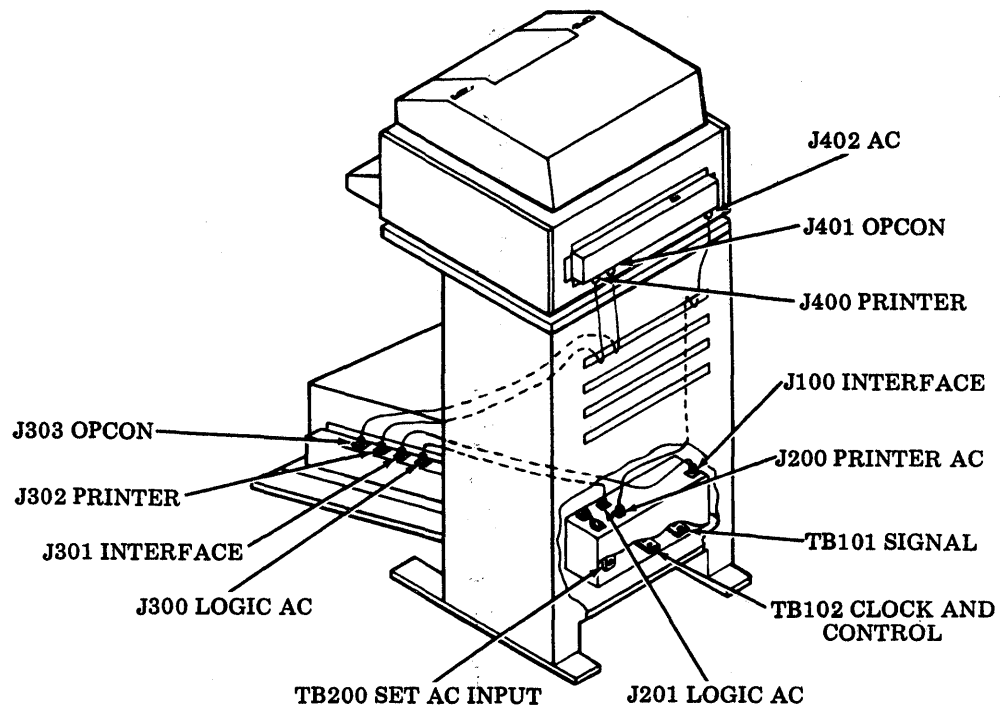
Modification Kits

- (3) 406660 — Printer Isolation
- 406670 — Controller Isolation
- (3) 406680 — Interface Isolation
- (3) 406690 — Printer Ruggedization
- (3) 406705 — Printer Cabinet Ruggedization
- 406715 — Keyboard Ruggedization
- 406720 — Controller Ruggedization
- (3) 406725 — Interface Ruggedization

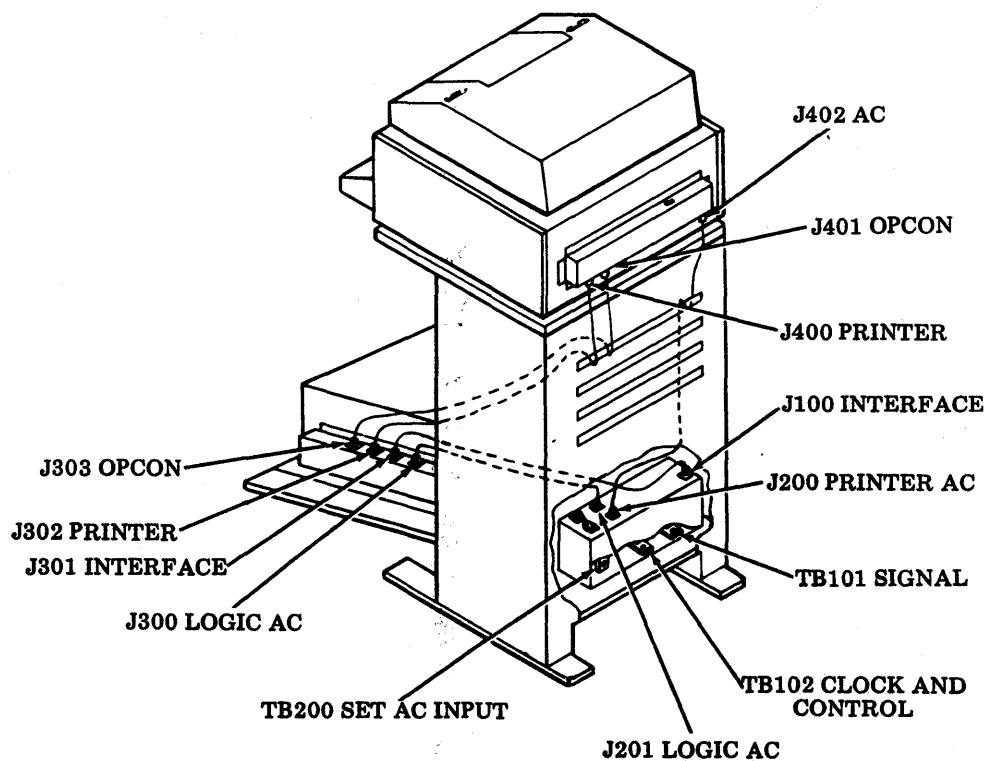
KP3
Rack Mounted, Ruggedized
Friction Feed
19 Inch Rack

A. IDENTIFICATION (Contd)11. CABLING FOR RECEIVE-ONLY PRINTER (ROP) – FLOOR MOUNTCables Required

405710 Logic AC
 405711 Printer AC
 405780 Interface
 405781 Opcon
 405785 Printer

12. CABLING FOR KEYBOARD PRINTER (KP) – FLOOR MOUNTCables Required

405710 Logic AC
 405711 Printer AC
 405780 Interface
 405781 Opcon
 405785 Printer

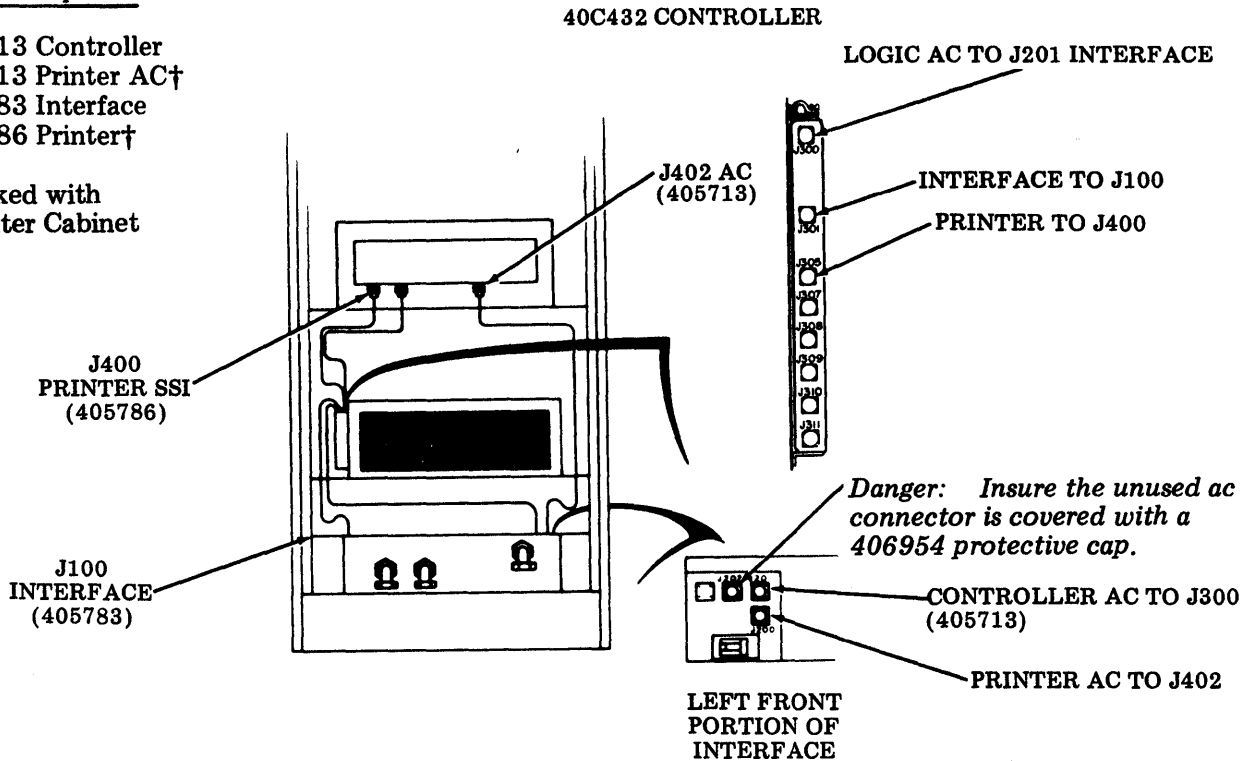


13. CABLING FOR RECEIVE-ONLY PRINTER (ROP) – RACK MOUNT

Cables Required

- 405713 Controller
- 405713 Printer AC†
- 405783 Interface
- 405786 Printer†

†Packed with Printer Cabinet

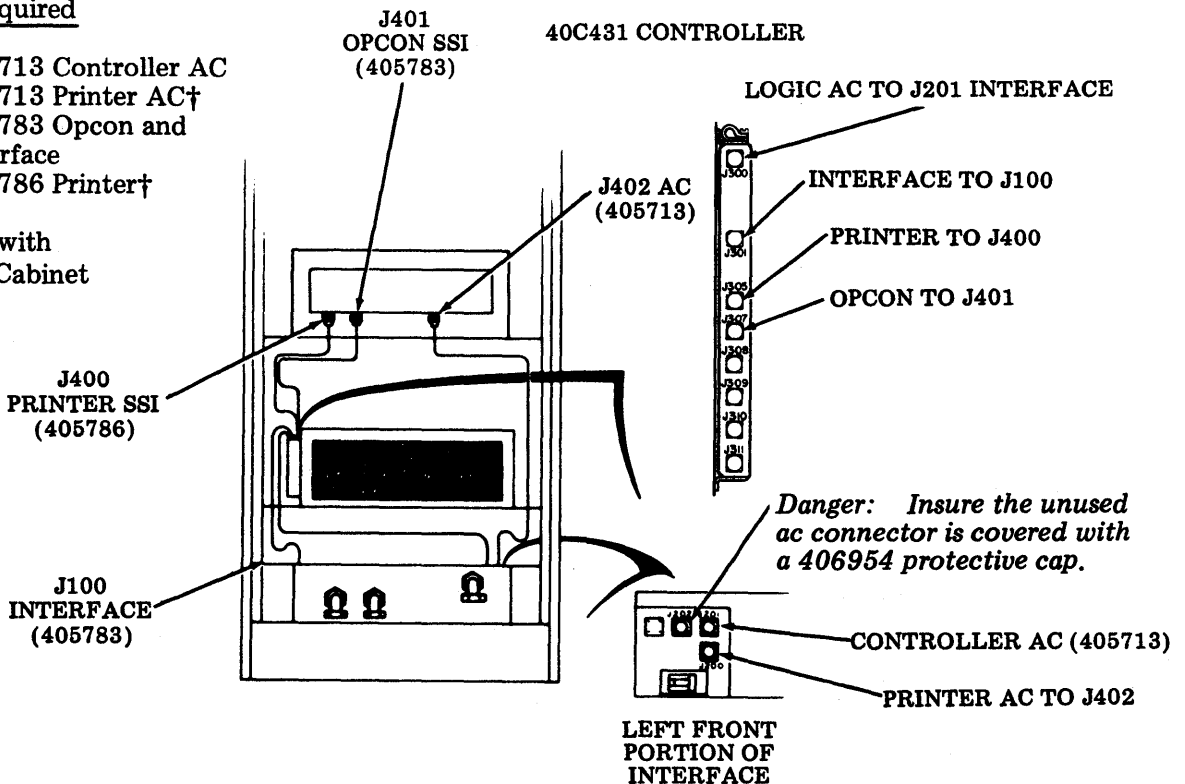


14. CABLING FOR KEYBOARD PRINTER (KP) – RACK MOUNT

Cable Required

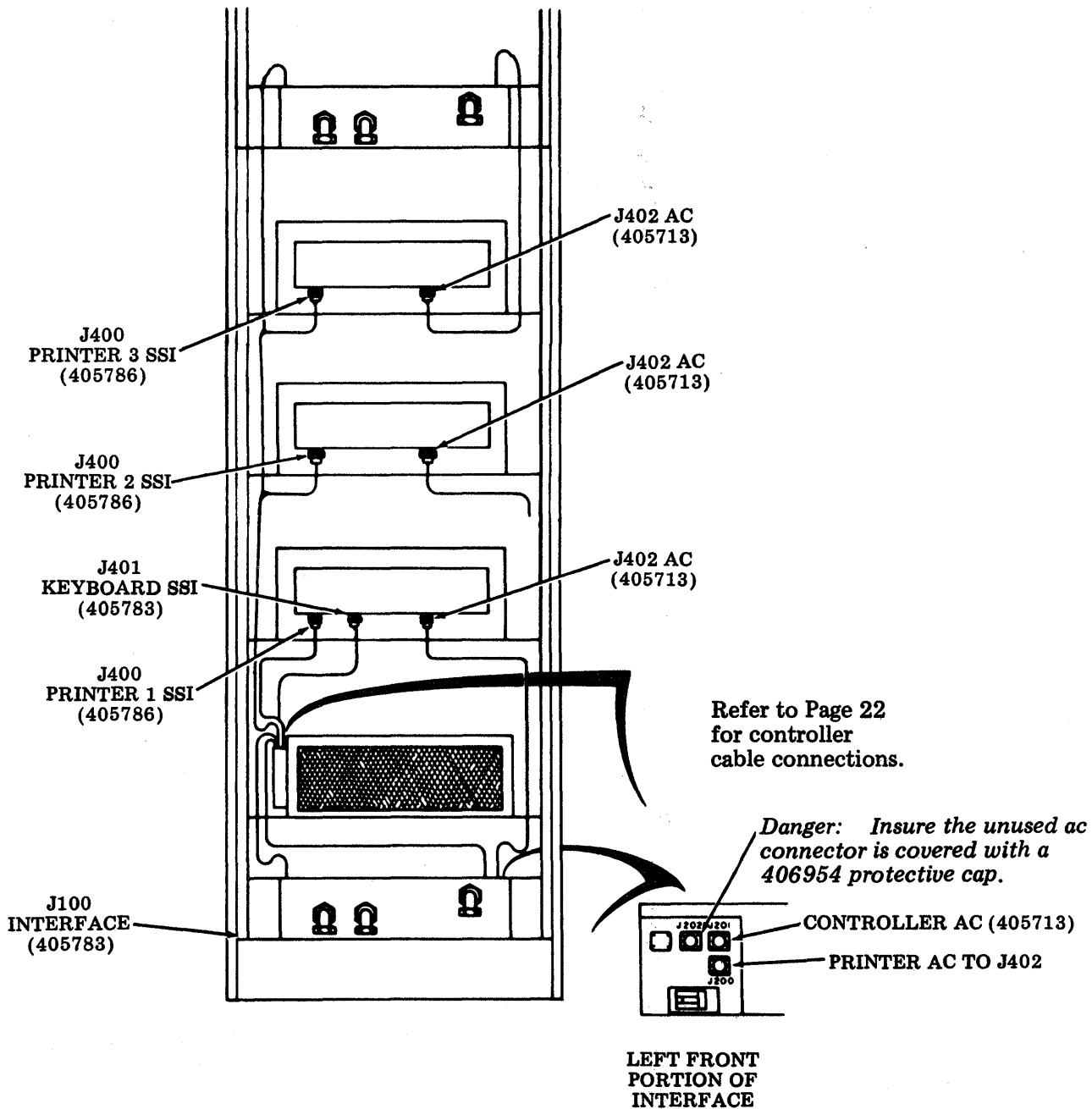
- 405713 Controller AC
- 405713 Printer AC†
- (2) 405783 Opcon and Interface
- 405786 Printer†

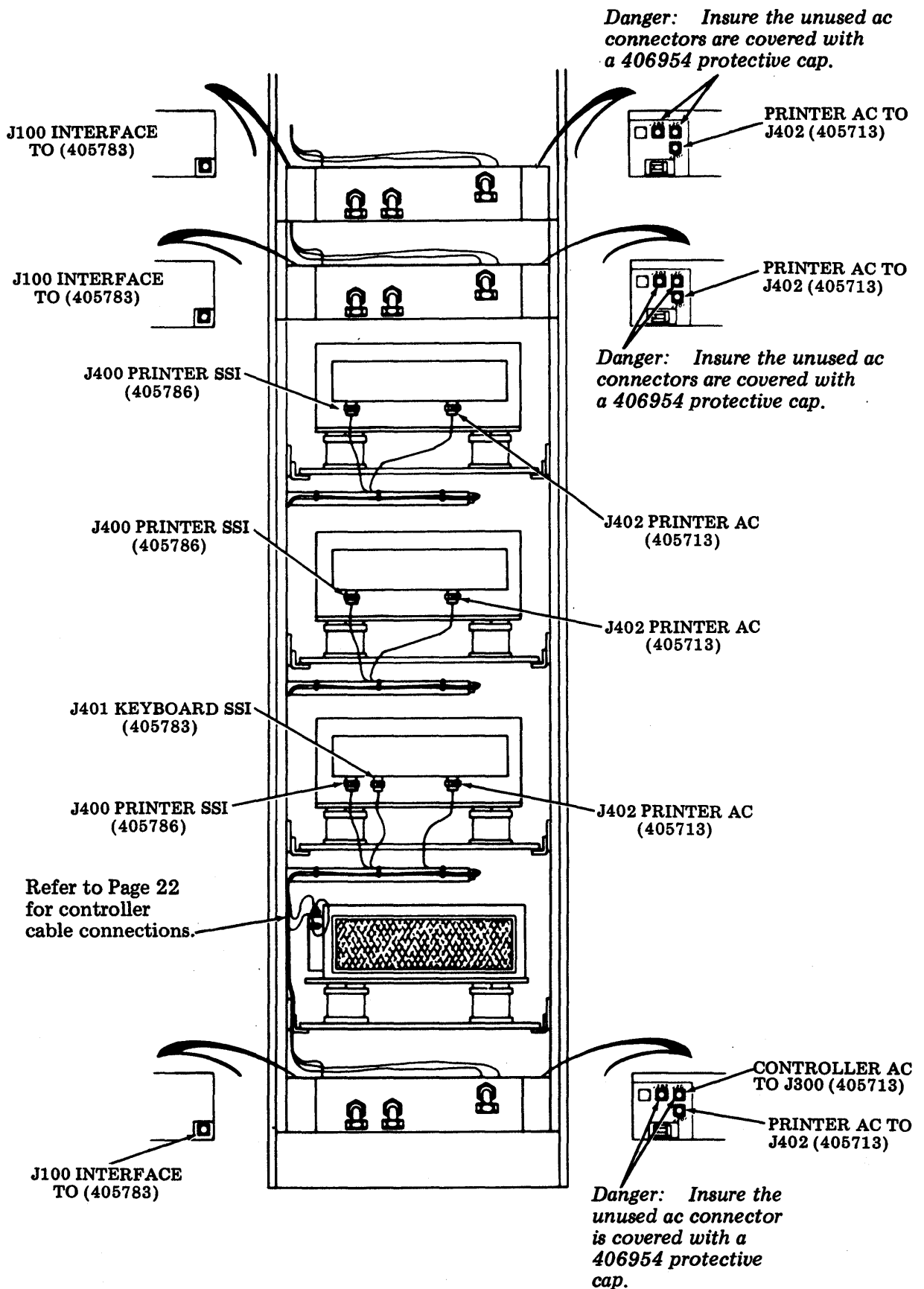
†Packed with Printer Cabinet



A. IDENTIFICATION (Contd)

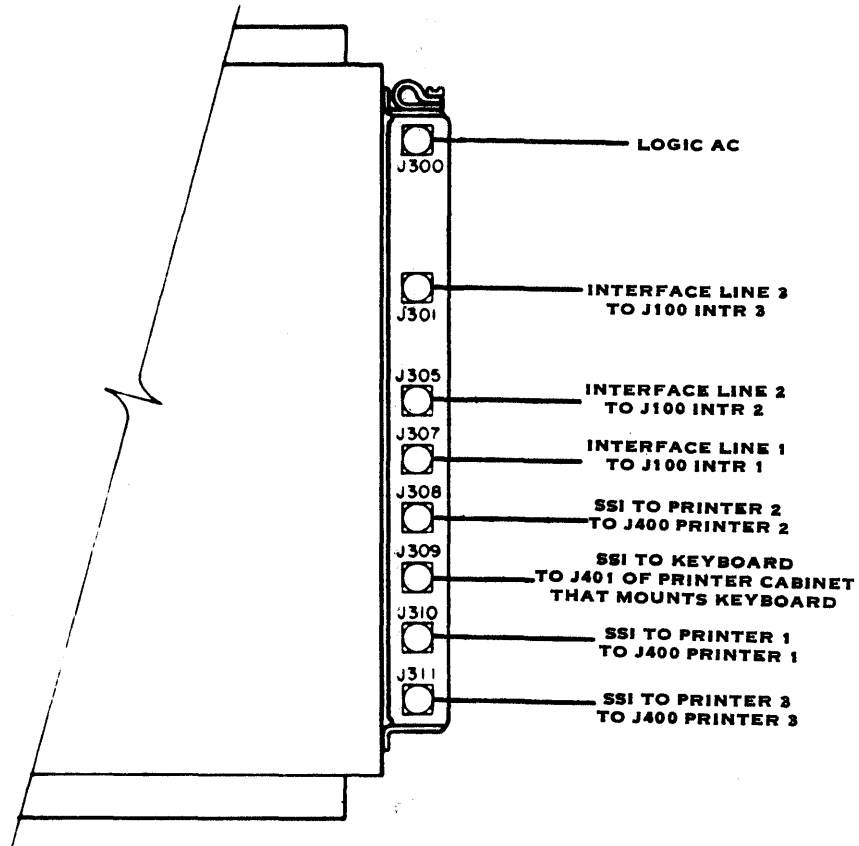
15. CABLING FOR KP3 - RACK MOUNT





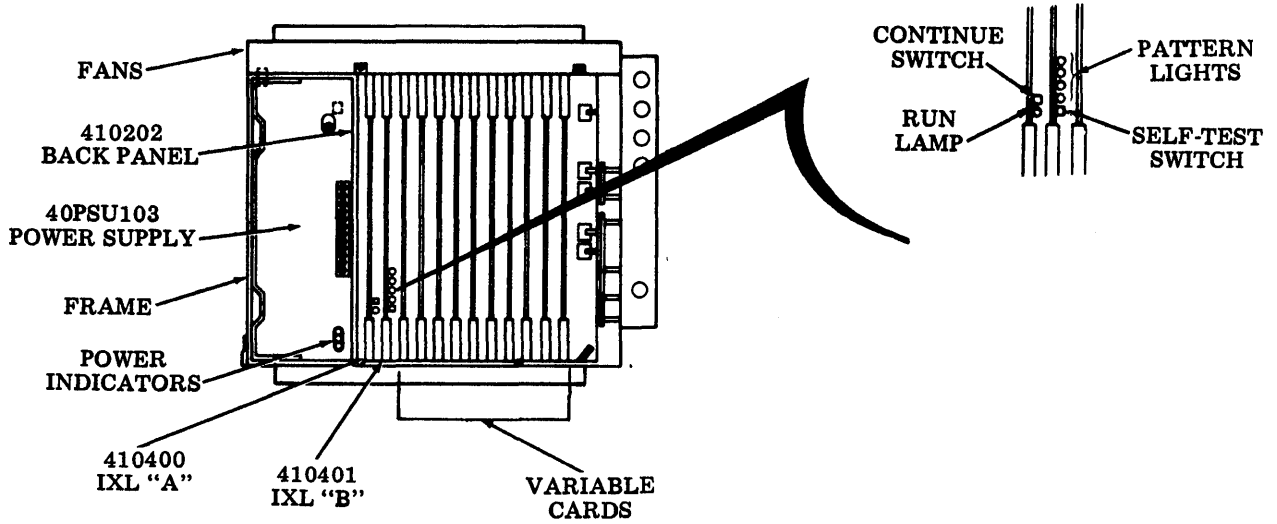
A. IDENTIFICATION (Contd)

15. CABLING FOR KP3 - RACK MOUNT (Contd)



Cable Connections for
the 40C438 AEP 105
Controller

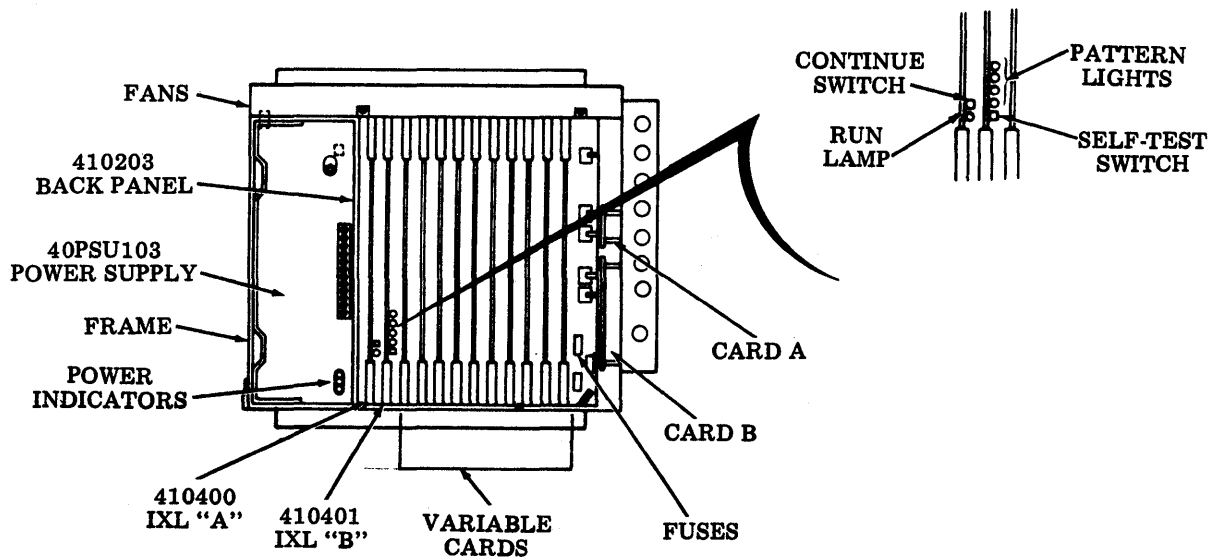
16. CONTROLLER



CONTROLLER CODE	CARD SLOT											
	1	2	3	4	5	6	7	8	9	10	11	12
40C431/AEM/103	410400	410401	410411	410406	—	410464	410536	—	—	—	—	—

KP Controller

40C438/AEP/105



KP³ Controller

A. IDENTIFICATION (Contd)

16. CONTROLLER (Contd)

BUFFER	CONTROLLER CODE	CARD SLOT											
		1	2	3	4	5	6	7	8	9	10	11	12
	40C438/AEP/105												
1K or 5K	Basic - 1 Line	410400	410401	410421	410406	410403			410464				410536
RECEIVE	2 Line - KP2	410400	410401	410421	410406	410403	410403		410464				410536
BUFFER	3 Line - KP3	410400	410401	410421	410406	410403	410403	410403	410464				410536
9K	1 Line KP	410400	410401	410421	410406	410403			410464				410536
RECEIVE	2 Line KP2	410400	410401	410421	410406	410403	410403		410464	410464			410536
BUFFER	3 Line KP3	410400	410401	410421	410406	410403	410403	410403	410464	410464			410536
1K or 5K	1 Line KP	410400	410401	410421	410406	410403			410464			410403	410536
RECEIVE	2 Line KP2	410400	410401	410421	410406	410403	410403		410464		410403	410403	410536
BUFFER	3 Line KP3	410400	410401	410421	410406	410403	410403	410403	410464	410403	410403	410403	410536
W/UTDS													
9K RECEIVE	1 Line KP	410400	410401	410421	410406	410403			410464			410403	410536
BUFFER	2 Line KP2	410400	410401	410421	410406	410403	410403		410464	410464	410403	410403	410536
W/UTDS	3 Line KP3 ‡	410400	410401	410421	410406	410403	410403	410403	410464	410464	410403	410403	410536
	3 Line KP3 †	410400	410401	410421	410406	410403	410403	410403	410464	410403	410464	410403	410536
	3 Line KP3 ¶	410400	410401	410421	410406	410403	410403	410403	410464	410403	410403	410464	410536

‡UTDs on lines one and two only.

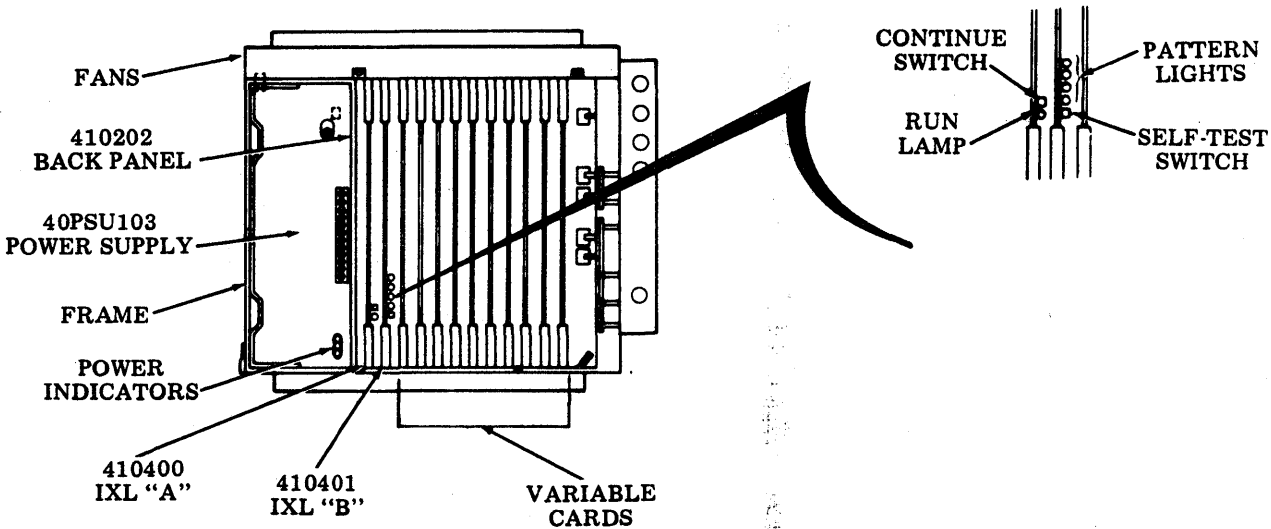
†UTDs on lines 1 and 3 only.

¶UTDs on lines 2 and 3 only.

Note 1: The line option circuit card 410403, (slots 6 and 7) are supplied with the printer set.

Note 2: The extra 410464 circuit card required for 9K receive buffers is a separately edited item.

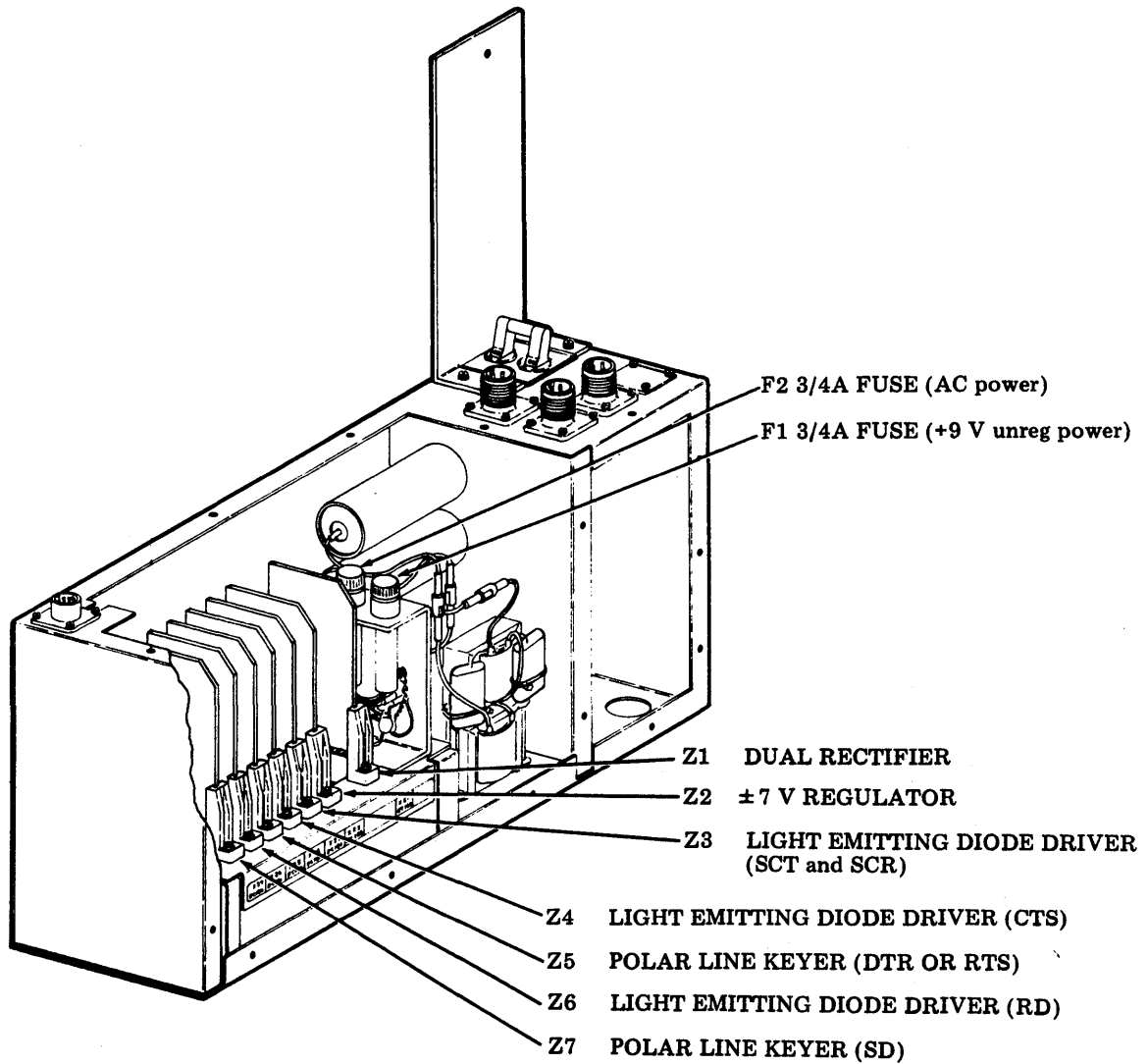
Note 3: The 410403 circuit card used for Urgent Traffic Detection is a separately edited item.



CONTROLLER CODE	CARD SLOT											
	1	2	3	4	5	6	7	8	9	10	11	12
40C432/AEM/104	410400	410401	410411	410597	—	410464	410536	—	—	—	—	—

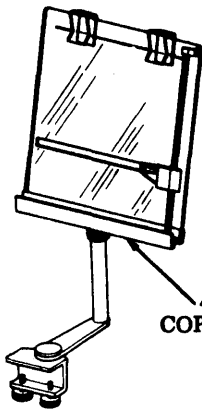
ROP CONTROLLER

17. INTERFACE MODULES



INTERFACE ASSEMBLY PART NO.	CARD SLOT						
	Z1	Z2	Z3	Z4	Z5	Z6	Z7
403612	303169	303168	303181	———	303180	303181	———
403628	303169	303168	303181	303181	303180	303181	303180
405917	303169	303168	303181	———	303185	303181	———
405932	303169	303168	303181	303184	303185	303181	303180

19. ACCESSORIES

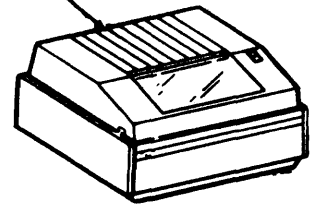


401200
COPYHOLDER

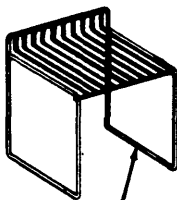
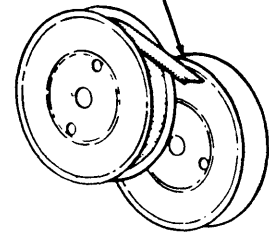


407060
PAPER GUIDE
(Mounts on top
of cabinet)

40CAB352/RA
CABINET



402444
RIBBON
(With two spools)



405544
OPTIONAL PAPER
ACCUMULATING RACK
(Mounts on floor)

Form-Out Belt Selection

Form Selector Setting				Color of Belt
4	3	2	1	
Length of Form, Inches				
3-1/3 ¶	2-1/2	5	10	Amber
3-2/3 ¶	2-3/4 §	5-1/2	11	Blue
4	3	6	12	Yellow
4-1/3 ¶	3-1/4 §	6-1/2	13	Brown
4-2/3 ¶	3-1/2	7	14	Red
5	3-3/4 §	7-1/2	15	Pink
5-1/3 ¶	4	8	16	Lt Green
5-2/3 ¶	4-1/4 §	8-1/2	17	Green
6	4-1/2	9	18	Lt Blue
7-1/3 ¶	5-1/2	11	22	White

§ These settings are not used on 6-line-per-inch printers.

¶ These settings are not used on 8-line-per-inch printers.

Blue belt is factory furnished. See Page 43, C. Form-Out Belt — Tractor Feed for belt part numbers.

B. UNPACKING

Any special instructions necessary to open a box will be affixed to the top of the box. A sample instructions label is shown.

If no label appears on the box, use these common sense procedures.

- (a) With box in upright position, open top flaps and fold outward.
- (b) Lift contents out of box. Remove inner packing details from around product.
- (c) Remove plastic bag and all tape from product.

UNPACKING INSTRUCTIONS

1. TURN BOX BOTTOM SIDE UP. OPEN BOTTOM FLAPS AND FOLD OUTWARD.
2. RETURN BOX AND CONTENTS TO AN UPRIGHT POSITION, KEEPING BOTTOM FLAPS FOLDED OUTWARD.
3. REMOVE BOX AND PLACE ASIDE. REMOVE INNER PACKING DETAILS FROM AROUND PRODUCT.
4. REMOVE PLASTIC BAG AND ALL TAPE FROM PRODUCT.

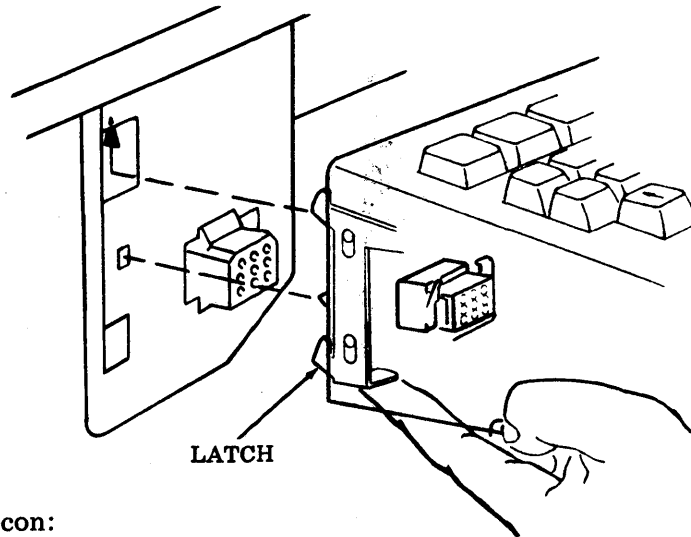
28130PK

40CAB

C. KP INSTALLATION — FLOOR MOUNTED

1. OPCON INTO CABINET (40CAB202/RA)

- ① Position opcon so that connectors are aligned and latches on left and right sides are fully engaged.
- ② Slide latches upward and check that opcon is firmly attached on both sides before releasing.



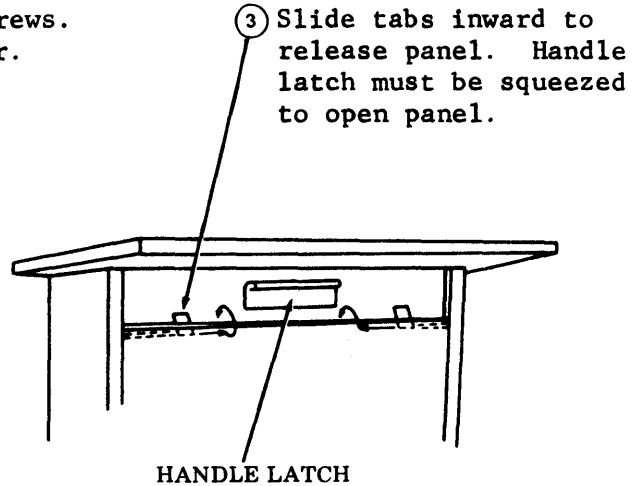
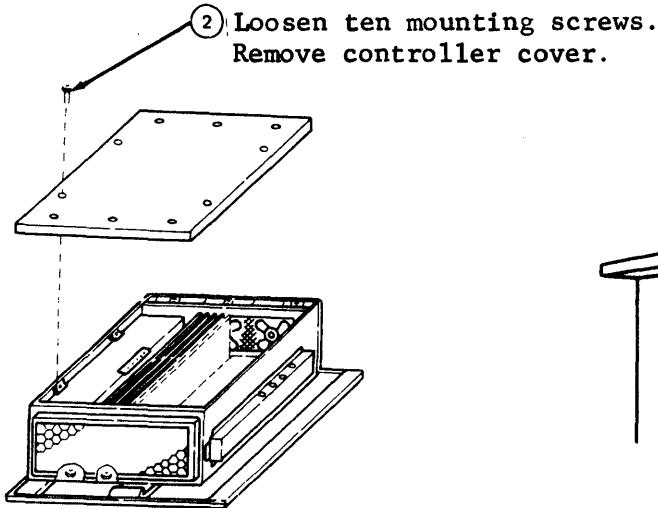
Opcon:
 40K108/RDJ for KP or
 40K002/RA for ROP

Note: On KP3 Terminals, any one of the printers may be optioned as a spare. This is achieved by disabling the communication line associated with the printer in question and making the printer available as a spare. The line cluster keytop associated with this spare printer should be replaced with one of the spare keytops included with the keyboard and the TERM READY and PARITY ERROR keytops associated with the spare "line" should be replaced by blocking keytops. Refer to Page 26 for various keytop arrangements.

2. INSTALLATION OF CONTROLLER INTO PEDESTAL

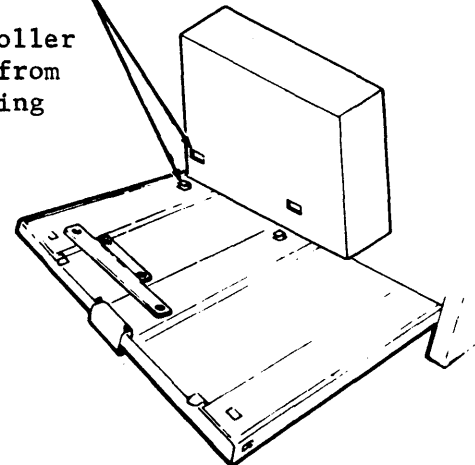
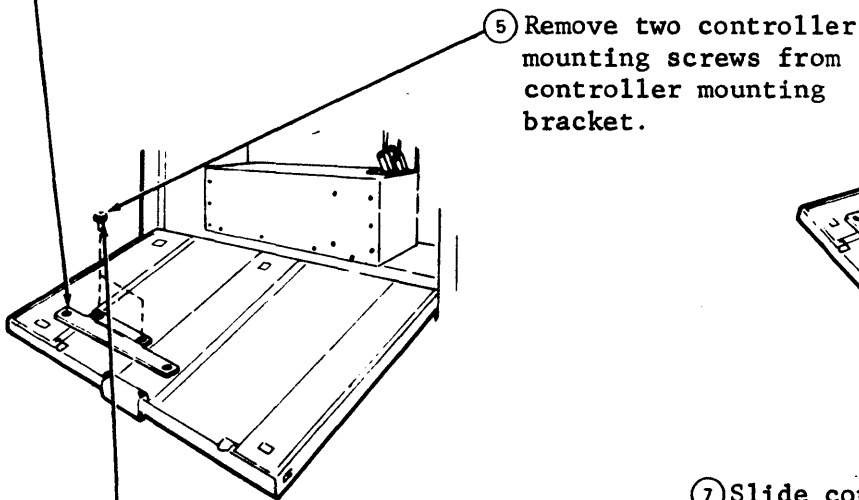
To install the controller perform the following:

- ① Unpack controller per instructions on outside of carton.



- ④ Loosen the two screws which mount the controller mounting bracket to the door. Position bracket as far as possible toward the top of the door. Tighten mounting screws.

- ⑥ Position controller on pedestal door so that the mounting hooks on rear of pedestal door fall into mounting slots in rear of controller.

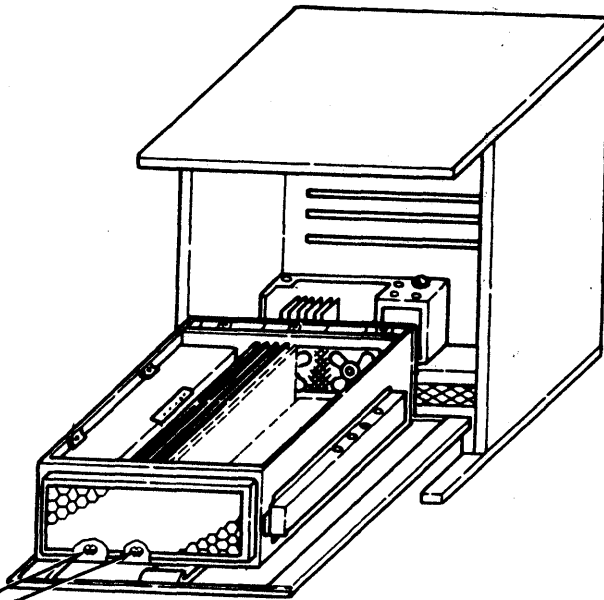


- ⑦ Slide controller slightly rearward so that pedestal door mounting hooks engage controller.

181242 (2)
CONTROLLER
MOUNTING
SCREWS

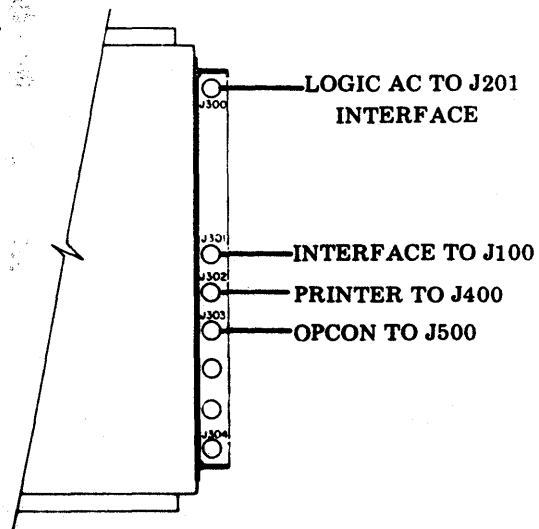
C. KP INSTALLATION -- FLOOR MOUNT (Cont)

2. INSTALLATION OF CONTROLLER INTO PEDESTAL (Cont)



- ⑧ Secure the front of controller to the controller bracket mounting with the two screws removed in Step ④.
- ⑨ Route the ac cable from the controller, J300, to J201 of the interface assembly.
- ⑩ Route the interface signal cable from the controller (J301) to J100 of the interface assembly.
- ⑪ Route the remaining device cable out the rear of the pedestal through the top ventilation slot. Refer to Pages 17 through 20 for routing. Dress the cables so that they do not interfere with the action of the ac power switch lever.

40C431 or 40C432
Controller



D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED

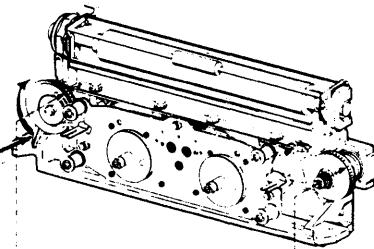
1. TYPE CARRIER ASSEMBLY – FRICTION FEED

- ① Loosen thumbscrew on right ribbon guide bracket and swing guide to right.

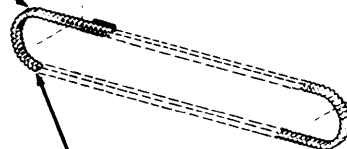


NOTE: Ribbon should be off when installing type carrier.

- ③ Lift up arm on left type carrier pulley to release spring bias on pulley.



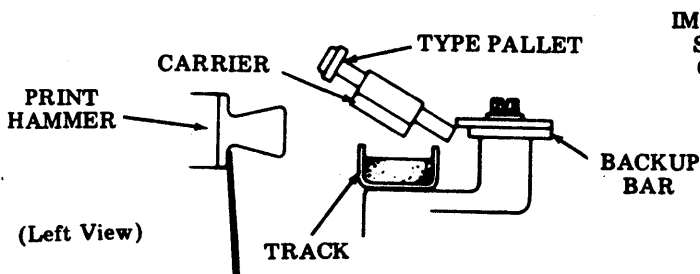
- ④ Place the carrier on the left pulley first and make sure the pallet stems at the top of the carrier are positioned under the backup bar.



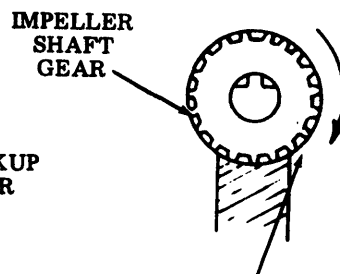
TYPE CARRIER

- ② Release thumb lever on left ribbon guide bracket allowing guide to spring to left.

- ⑤ Place carrier on right pulley and release left carrier pulley.



(Left View)



(Right View)

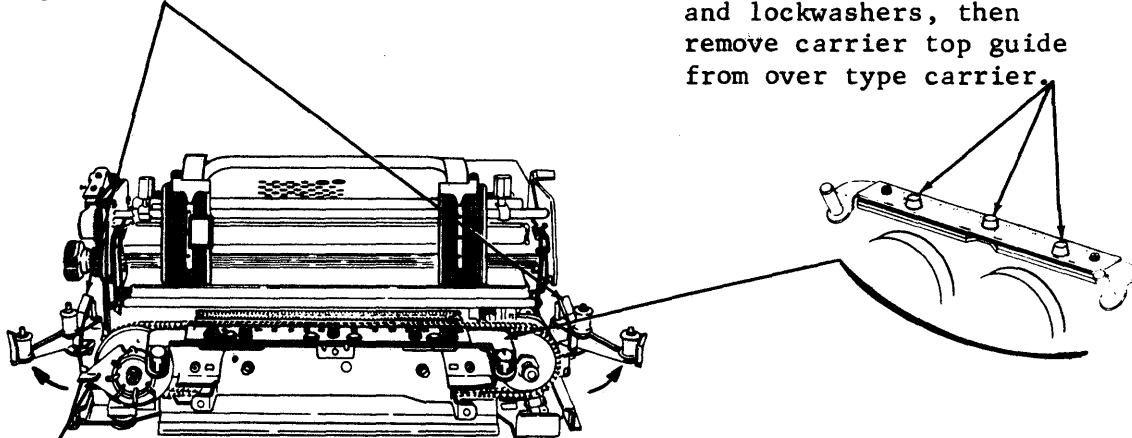
- ⑦ Install 402444 ribbon using instructions on printer cover.

- ⑥ Rotate impeller shaft by hand to make sure pallets are properly seated.

D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)2. TYPE CARRIER ASSEMBLY – TRACTOR FEED

- ① Release thumb levers on left and right ribbon guide brackets allowing guides to spring to sides of printer.

- ② Remove three thumbscrews and lockwashers, then remove carrier top guide from over type carrier.



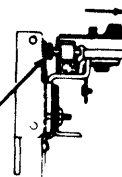
- ③ Lift up arm on left type carrier pulley to release spring bias on pulley.

- ⑤ Place carrier on right pulley and release left carrier pulley.

- ④ Place the carrier on the left pulley first and make sure the pallet stems at the top of the carrier are positioned under the backup bar (see Page 31, 1. TYPE CARRIER ASSEMBLY -- FRICTION FEED)

- ⑥ Rotate impeller shaft by hand to make sure pallets are properly seated. (Carrier moves to right, see Page 31).

(Left View of Printer)



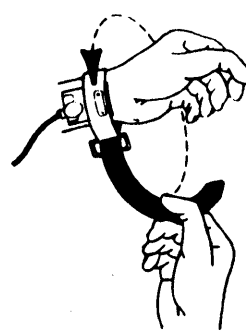
- ⑦ When replacing the carrier top guide, make sure it is positioned to front. This insures that type carrier is positioned against backup bar.

- ⑧ Install 402444 ribbon using instructions on printer cover.

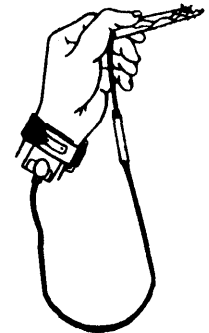
3. PRINTER OPTIONS AND FEATURES – FRICTION AND TRACTOR FEED

CAUTION 1: TURN OFF ALL POWER OR SIGNAL SOURCES BEFORE REMOVING OR REPLACING ANY COMPONENT.

CAUTION 2: TO AVOID POSSIBLE INTERNAL DAMAGE TO CIRCUITRY, WEAR A 346392 STATIC DISCHARGE STRAP CONNECTED TO GROUND TO ALLOW STATIC DISCHARGE BEFORE HANDLING CIRCUIT CARDS FOR REMOVAL OR REPLACEMENT. AVOID TOUCHING CIRCUIT LANDS OR COMPONENTS AS MUCH AS POSSIBLE.

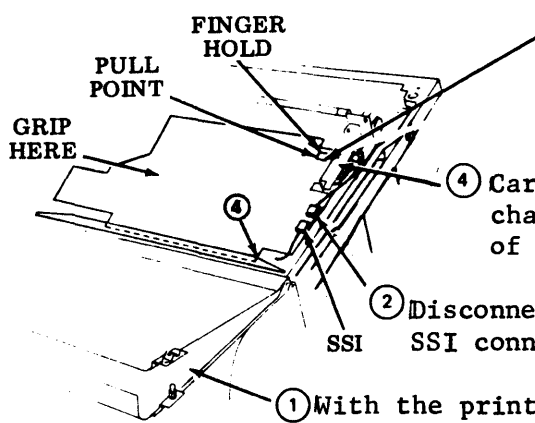


Attach static ground strap tightly to wrist as shown.



Attach clip end of static discharge strap to frame ground.

410640 or 410076 Printer Logic Circuit Card Removal -- Friction Feed

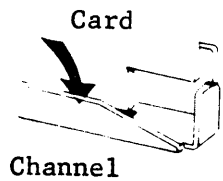


③ Using finger hold and a firm grip of card edge on opposite side as shown, use an even pulling force and unplug 410640 card from two rows of magnet assembly contacts.

④ Carefully lift bottom edge of card out from metal channel and unplug J3 connector from edge contacts of card. Remove card.

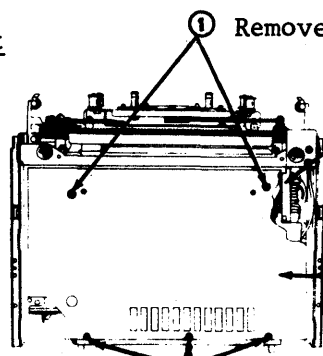
② Disconnect printer P103 cable connector from the 400921 SSI SSI connector.

① With the printer in the upright position, remove two screws that secure paper chute to bottom of printer and allow the chute to hinge down.



NOTE: During reassembly, make certain that the J3 connector is plugged onto the card and that the card is located within the channel before plugging it into the two rows of magnet assembly contacts. Apply slight pressure at both ends and middle of card to fully seat it on magnet contacts.

410640 or 410076 Printer Logic Circuit Card Removal -- Tractor Feed



① Remove two screws.

④ Remove connector from card, and using pull points, pull card down and out.

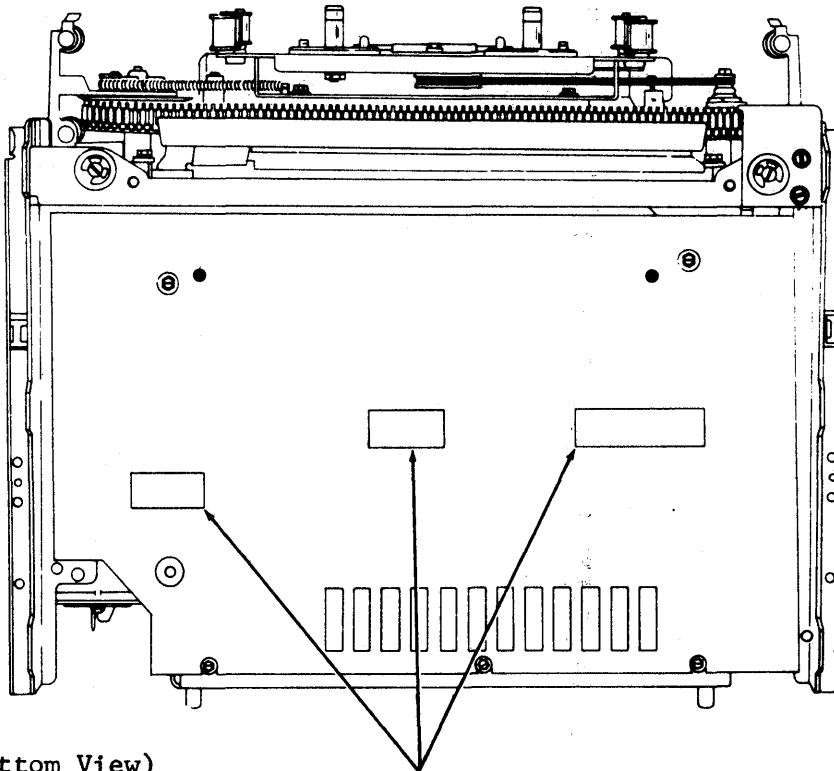
③ Slide plate out.

② Loosen three screws.

40P151

D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)**3. PRINTER OPTIONS AND FEATURES – FRICTION AND TRACTOR FEED (Contd)****Optioning the 40P154 80-Column Tractor Feed Printer**

It is not necessary to remove the 410071 circuit card from the printer in order to option it. Option switches on the card are accessible through openings in the bottom plate of the printer.



(Bottom View)

SLOTS FOR ACCESESING
OPTION SWITCHES

40P154 Printer (80 Column)

Printer Option Reference Guide

PRINTER CODE	DESCRIPTION	COMPATIBLE PRINTER LOGIC CIRCUIT CARD	FOR OPTIONS, REFER TO THE FOLLOWING PAGES
40P101/ZZ	FF 80-Column	410640	36 and 37
		410076	42 thru 46
40P151/ZZ	TF 80-Column	410640	36 and 37
		410076	42 thru 46
40P154/ZZ	TF 80-Column	410071	43 thru 51
40P201/ZZ	TF 132-Column	410729	39, 40 and 41
		410072 **	52 and 57
40P202/ZZ	TF 132-Column	410072	52 thru 57

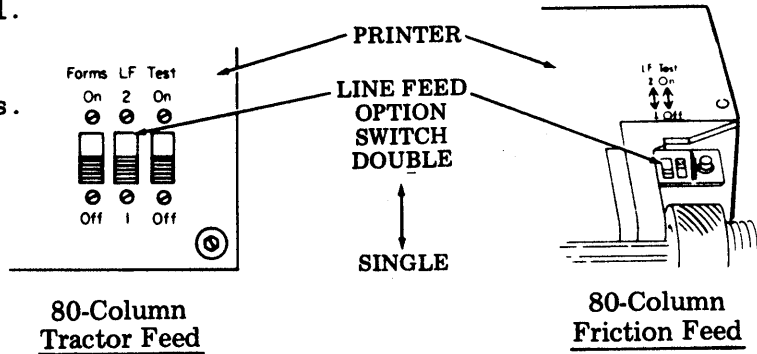
FF-Friction Feed

TF-Tractor Feed

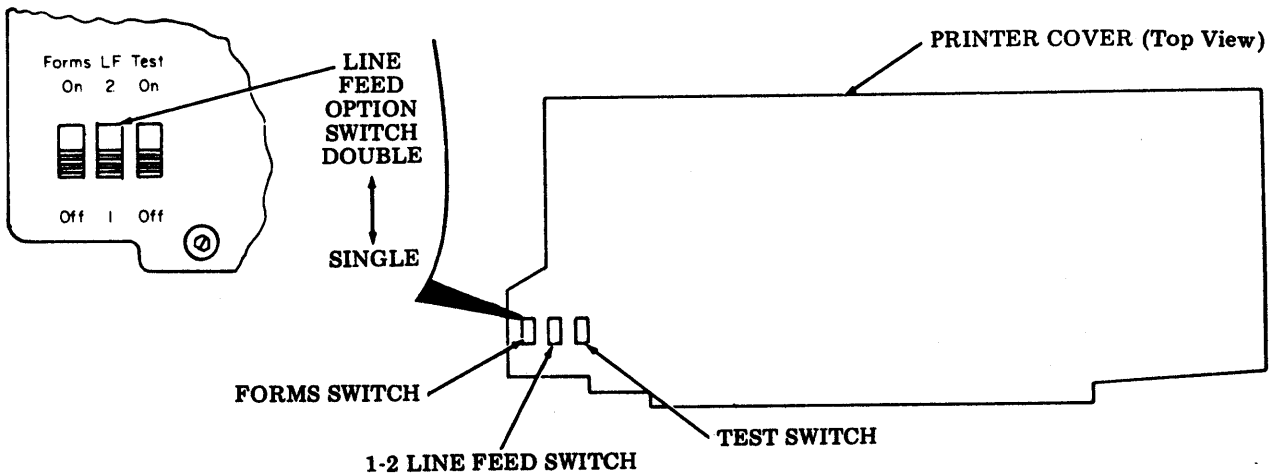
**Use of the 410072 card in a 40P201/ZZ Printer requires use of a 402980 lower pan assembly. The 402887 modification kit includes both a 410072 card and a 402980 lower pan assembly. The 402980 lower pan assembly is compatible with either the 410729 or 410072 circuit cards.

NOTE: Selected printer options must be entered on the Feature and Option Record located in the controller pedestal.

Location of "Forms" and "LF" Switches on All 80-Column Printers.



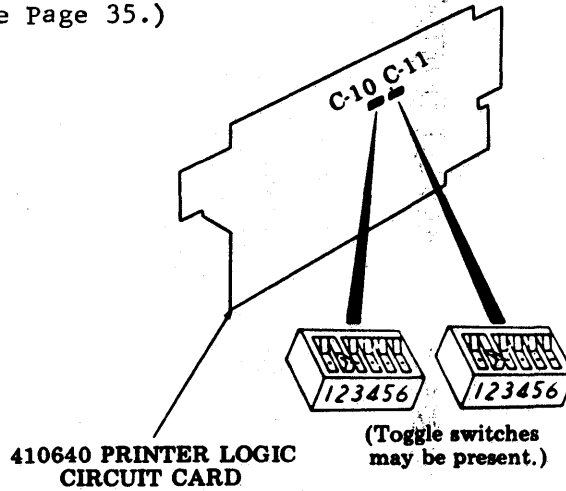
Location of "Forms" and "LF" Switches on All 132-Column Printers.



D. PRINTER ASSEMBLY INSTALLATION — FRICTION OR TRACTOR FEED (Contd)

3. PRINTER OPTIONS AND FEATURES — FRICTION AND TRACTOR FEED (Contd)

410640 Circuit Card (See Page 35.)



17. Printer Right Margin and Form Length		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
c.	Last Character on 80th Column	—	—	—	—	—	—	○	●	●	○	—	—	*
d.(X)	Last Character on 79th Column	—	—	—	—	—	—	○	●	●	●	—	—	
	Last Character on 78th Column	—	—	—	—	—	—	●	○	○	●	—	—	
	Last Character on 77th Column	—	—	—	—	—	—	●	○	●	○	—	—	
	Last Character on 76th Column	—	—	—	—	—	—	●	○	●	●	—	—	
	Last Character on 75th Column	—	—	—	—	—	—	●	●	○	●	—	—	
	Last Character on 74th Column	—	—	—	—	—	—	●	●	●	○	—	—	
	Last Character on 73rd Column	—	—	—	—	—	—	●	●	●	●	—	—	

Unless otherwise specified, choose 17.c.

(X) — Indicates desired column number.

Note: If printer right margin specified is 36 through 72, a 410076 circuit card must be used.

18. Printer Paper Feed Out		C-10						C-11							
		1	2	3	4	5	6	1	2	3	4	5	6		
a.	No Paper Feed Out	●	—	—	—	—	—	—	—	—	—	—	—	○	
b.	Paper Feed Out on "RM" Loss — 16 Lines	○	—	—	—	—	—	—	—	—	—	—	—	○	
c.	Paper Feed Out on "RM" Loss or ETX	○	—	—	—	—	—	—	—	—	—	—	—	●	*

Unless otherwise specified, choose 18.c.

● Indicates on.

○ Indicates off.

— Position of switch does not affect option.

* Factory optioned.

19. Printer Errored Character Symbol		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
c.	Not Printed on Parity Error	-	-	-	●	●	-	-	-	-	-	-	-	-

Required Selection

19. Character Set		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
d.	Printers With 96 Character Set (Up-Low)	-	●	○	-	-	-	-	-	-	-	-	-	-
e.	Printers with 64 Character Set (Monocase)	-	○	●	-	-	-	-	-	-	-	-	-	-
f.	Printers with Extended ASCII Character Set	-	○	○	-	-	-	-	-	-	-	-	-	-

Use of 400629 ($\begin{smallmatrix} \text{A:} \\ \text{B:} \end{smallmatrix}$) or 400784 ($\begin{smallmatrix} \text{A:} \\ \text{ME} \end{smallmatrix}$) type carriers required selection of 19.d.
 Use of 400645 ($\begin{smallmatrix} \text{A:} \\ \text{A:} \end{smallmatrix}$) or 400785 ($\begin{smallmatrix} \text{A:} \\ \text{O:} \end{smallmatrix}$) type carriers require selection of 19.e.
 Use of 400775 ($\begin{smallmatrix} \text{A:} \\ \text{O:} \end{smallmatrix}$) type carrier requires selection of 19.f. (internal use only).

20. Line Feed on Printer		See Page 35															
a.	Single																*
b.	Double																

Unless otherwise specified, choose 20.a.

21. Foldover on Up-Low Printer		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	Lower Case and Upper Case Print	-	-	-	-	-	-	-	-	-	-	○	-	*
b.	Lower Case Prints as Upper Case	-	-	-	-	-	-	-	-	-	-	●	-	

Consider only with selection of 19.d. or 19.f.

Unless otherwise specified, choose 21.a.

22. Foldover on Monocase Printer		C-10						C-11					
		1	2	3	4	5	6	1	2	3	4	5	6
a.	Lower Case Not Folded Over	-	-	-	-	-	-	-	-	-	-	○	-
b.	Lower Case Printed as Upper Case	-	-	-	-	-	-	-	-	-	-	●	*

Consider only with selection of 19.e.

Unless otherwise specified, choose 22.b.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)

3. PRINTER OPTIONS AND FEATURES – FRICTION AND TRACTOR FEED (Contd)

410640 Circuit Card (Contd)

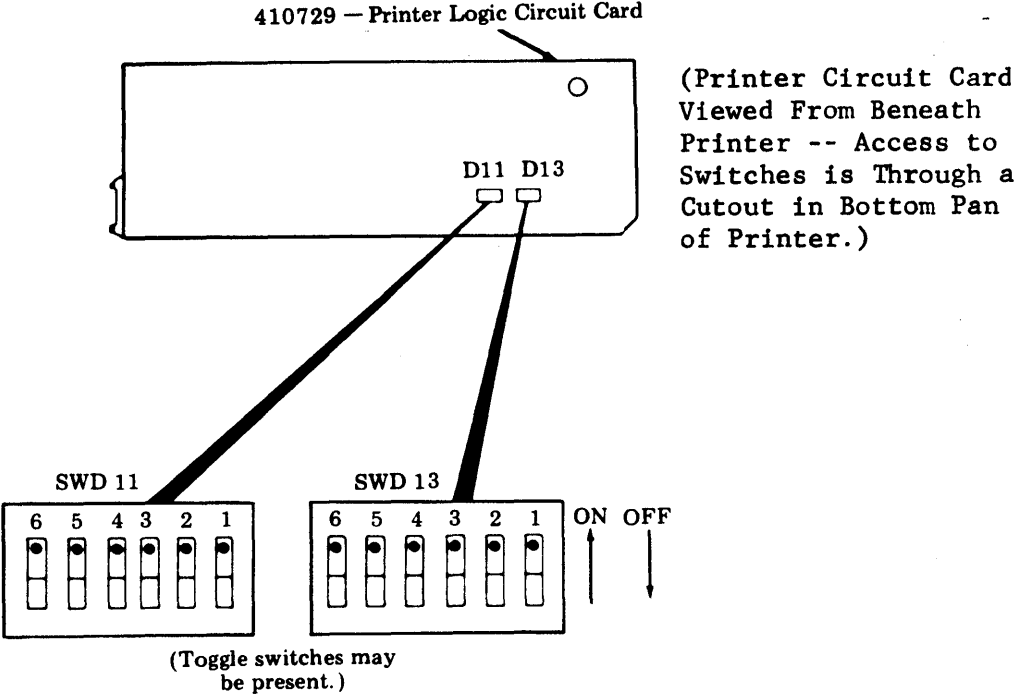
23. Extended ASCII on Printer (Extended ASCII)		C-10						C-11						
		1	2	3	4	5	6	1	2	3	4	5	6	
a.	Prints Extended ASCII Characters (No Parity Check)	—	—	—	○	○	—	—	—	—	—	—	—	†
b.	Does Not Print Extended Characters (See Option 19.c.)	—	—	—	—	—	—	—	—	—	—	—	—	

39. Forms		See Page 35													
a.	On														
b.	Off														*

Unless otherwise specified, choose 39.a.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.
- † Option 23.a. requires local engineering.

410729 Circuit Card (See Page 35.)



17.	Printer Right Margin and Form Width	D11					D13							
		6	5	4	3	2	1	6	5	4	3	2	1	
e.	Last Character on Column 132	-	-	-	-	-	-	○	○	○	●	-	-	*
f.(X)	Last Character on Column 131	-	-	-	-	-	-	○	○	●	○	-	-	
	Last Character on Column 130	-	-	-	-	-	-	○	○	●	●	-	-	
	Last Character on Column 129	-	-	-	-	-	-	○	●	○	●	-	-	
	Last Character on Column 128	-	-	-	-	-	-	○	●	●	○	-	-	
	Last Character on Column 127	-	-	-	-	-	-	○	●	●	●	-	-	
	Last Character on Column 126	-	-	-	-	-	-	●	○	○	●	-	-	
	Last Character on Column 125	-	-	-	-	-	-	●	○	●	○	-	-	
	Last Character on Column 124	-	-	-	-	-	-	●	○	●	●	-	-	
	Last Character on Column 123	-	-	-	-	-	-	●	●	○	●	-	-	
	Last Character on Column 122	-	-	-	-	-	-	●	●	●	○	-	-	
Last Character on Column 121	-	-	-	-	-	-	●	●	●	●	-	-		

Unless otherwise specified, choose 17.e.

(X) -- Indicates desired column number.

NOTE: If right margin specified is 73 through 120, a 410072 circuit card must be used.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

22. Foldover on Monocase Printer		D11					D13						
		6	5	4	3	2	1	6	5	4	3	2	1
a.	Lower Case Prints as Error Symbol	-	-	-	-	-	-	-	-	-	-	○	-
b.	Lower Case Prints as Upper Case	-	-	-	-	-	-	-	-	-	-	●	-

Consider only with selection of 19.e.
Unless otherwise specified, choose 22.b.

23. Extended ASCII or Printer (Extended ASCII)		D11					D13						
		6	5	4	3	2	1	6	5	4	3	2	1
a.	Prints Extended ASCII Characters (No Parity Check)	-	-	-	○	○	-	-	-	-	-	-	-
b.	Does Not Print Extended ASCII (See Option 19.c.)	-	-	-	(As in 19.)	-	-	-	-	-	-	-	-

39. Forms		See Page 35													
a.	On														
b.	Off														

Unless otherwise specified, choose 39.a.

48. Incomplete Form Suppresses Paper Alarm		D11					D13						
		6	5	4	3	2	1	6	5	4	3	2	1
a.	No (Paper Out Not Gated With Form Out)	-	-	-	-	-	●	-	-	-	-	-	-
b.	Yes (Paper Out Gated With Form Out)	-	-	-	-	-	○	-	-	-	-	-	-

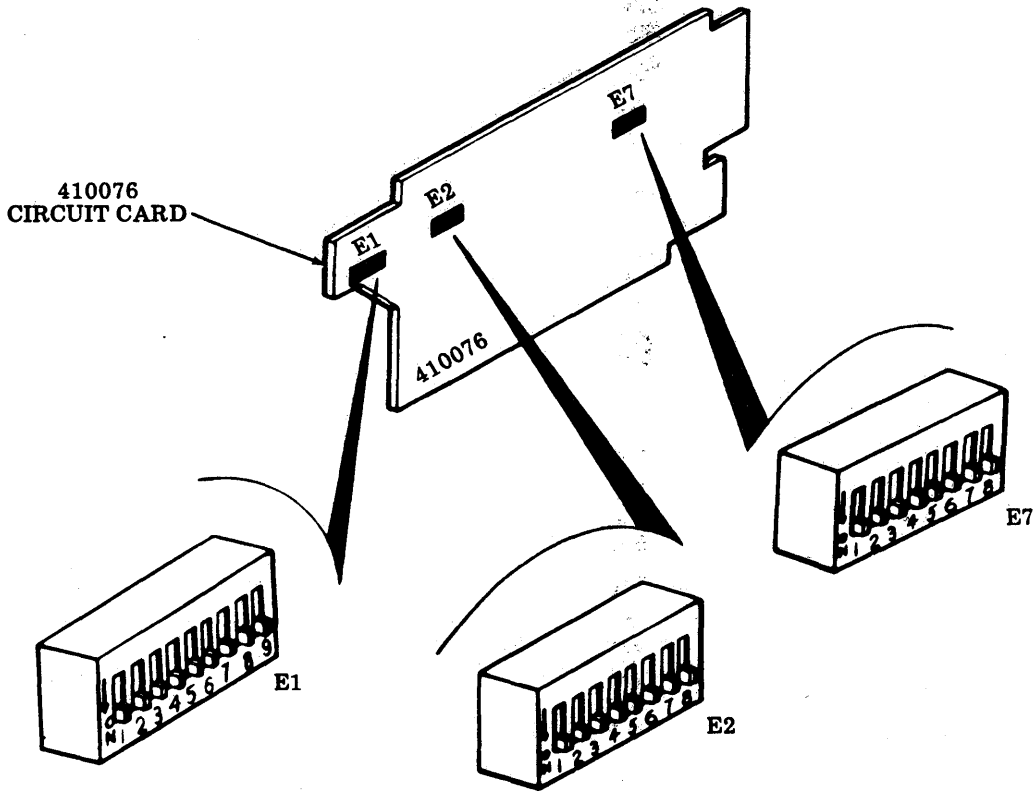
Unless otherwise specified, choose 48.b.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)

3. PRINTER OPTIONS AND FEATURES – FRICTION AND TRACTOR FEED (Contd)

410076 Circuit Card (See Page 35.)



17. Printer Left Margin and Form Width		E7								
		1	2	3	4	5	6	7	8	
a.	First Printer Column – Column 1	—	—	●	●	●	●	—	—	*
b.(X)	First Printer Column – Column 2	—	—	●	●	○	●	—	—	
	First Printer Column – Column 3	—	—	●	●	○	○	—	—	
	First Printer Column – Column 4	—	—	●	○	○	○	—	—	
	First Printer Column – Column 5	—	—	○	○	●	○	—	—	
	First Printer Column – Column 6	—	—	○	○	○	●	—	—	
	First Printer Column – Column 7	—	—	○	●	○	○	—	—	
	First Printer Column – Column 8	—	—	●	○	●	○	—	—	
	First Printer Column – Column 9	—	—	○	○	●	●	—	—	
	First Printer Column – Column 10	—	—	○	●	○	●	—	—	
	First Printer Column – Column 11	—	—	●	●	●	○	—	—	
	First Printer Column – Column 12	—	—	●	○	○	●	—	—	
	First Printer Column – Column 13	—	—	○	●	●	○	—	—	

Unless otherwise specified, choose 17.a.

(X) – Indicates desired column number.

● Indicates on.

○ Indicates off.

— Position of switch does not affect option.

* Factory optioned.

17. Printer Right Margin and Form Width		E1									E2								E7							
c.	Last Char Printed	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
	Column Number																									
	80	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
d.(X)	73 61 49 37 25	—	—	—	—	●	●	—	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	74 62 50 38 26	—	—	—	—	●	●	—	●	○	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	75 63 51 39 27	—	—	—	—	●	●	—	○	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	76 64 52 40 28	—	—	—	—	●	○	—	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	77 65 53 41 29	—	—	—	—	●	○	—	●	○	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	78 66 54 42 30	—	—	—	—	●	○	—	○	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	79 67 55 43 31	—	—	—	—	○	●	—	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	68 56 44 32	—	—	—	—	○	●	—	●	○	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	69 57 45 33	—	—	—	—	○	●	—	○	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	70 58 46 34	—	—	—	—	○	○	—	●	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	71 59 47 35	—	—	—	—	○	○	—	●	○	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—
	72 60 48 36	—	—	—	—	○	○	—	○	●	—	—	—	—	—	—	●	●	●	●	—	—	—	—	—	—

To obtain counts:

- 73 through 80 program as shown.
- 61 through 72 program as shown, then operate E7 position 2 to OFF.
- 49 through 60 program as shown, then operate E7 position 1 to OFF.
- 37 through 48 program as shown, then operate E2 position 7 to OFF.
- 25 through 36 program as shown, then operate E2 position 8 to OFF.

Unless otherwise specified, choose 17.c.

X — Indicates desired column number.

18. Printer Paper Feed Out		E1									E2						
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7
a.	No Paper Feed Out	●	—	—	—	—	—	—	—	—	—	—	—	—	—	○	—
b.	Paper Feed Out on RM Loss — 16 Lines or One Form	○	—	—	—	—	—	—	—	—	—	—	—	—	—	○	—
c.	Paper Feed Out on RM Loss or ETX — 16 Lines or One Form	○	—	—	—	—	—	—	—	—	—	—	—	—	—	●	—

Unless otherwise specified, choose 18.c.

19. Printer Errored Character Symbol		E1								
		1	2	3	4	5	6	7	8	9
c.	Not Printed on Parity Error	—	—	●	●	—	—	—	—	—

Required Selection

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION — FRICTION OR TRACTOR FEED (Contd)**3. PRINTER OPTIONS AND FEATURES — FRICTION AND TRACTOR FEED (Contd)****410076 Circuit Card (Contd)**

19. Character Set		E2							
		1	2	3	4	5	6	7	8
d.	Printers With 96-Character Set (Up-Low)	-	-	-	○	●	-	-	-
e.	Printers With 64-Character Set (Monocase)	-	-	-	●	○	-	-	-
f.	Printers With Extended ASCII Character Set	-	-	-	○	○	-	-	-

Use of 400629 $\begin{smallmatrix} \text{EAE} \\ \text{EAE} \\ \text{EAE} \end{smallmatrix}$ or 400784 $\begin{smallmatrix} \text{EAE} \\ \text{EAE} \\ \text{EAE} \end{smallmatrix}$ type carriers require selection of 19.d.

Use of 400645 $\begin{smallmatrix} \text{EAE} \\ \text{EAE} \\ \text{EAE} \end{smallmatrix}$ or 400785 $\begin{smallmatrix} \text{EAE} \\ \text{EAE} \\ \text{EAE} \end{smallmatrix}$ type carriers require selection of 19.e.

Use of 400775 $\begin{smallmatrix} \text{EAE} \\ \text{EAE} \\ \text{EAE} \end{smallmatrix}$ type carrier requires selection of 19.f. (internal use only).

20. Line Feed on Printer		See Page 35							
a.	Single								
b.	Double								

Unless otherwise specified, choose 20.a.

21. Foldover on Up-Low Printer		E2							
		1	2	3	4	5	6	7	8
a.	Lower Case and Upper Case Print	-	-	○	-	-	-	-	-
b.	Lower Case Prints as Upper Case	-	-	●	-	-	-	-	-

Consider only with selection of 19.d. or 19.f.

Unless otherwise specified, choose 21.a.

22. Foldover on Monocase Printer		E2							
		1	2	3	4	5	6	7	8
a.	Lower Case Prints as Error Symbol	-	-	○	-	-	-	-	-
b.	Lower Case Prints as Upper Case	-	-	●	-	-	-	-	-

Consider only with selection of 19.c.

Unless otherwise specified, choose 22.b.

● Indicates on.

○ Indicates off.

- Position of switch does not affect option.

* Factory optioned.

23. Extended ASCII on Printer (Extended ASCII)		E-1								
		1	2	3	4	5	6	7	8	9
a.	Prints Extended ASCII Characters (No Parity Check)	—	—	○	○	—	—	—	—	—
b.	Does Not Print Extended ASCII (See Option 19.c.)	—	—	—	(As in 19.)	—	—	—	—	—

39. Forms		Refer to Page 35								
a.	On									
b.	Off									

Unless otherwise specified, choose 39.a.

48. Incomplete Form Suppresses Paper Alarm		E2							
		1	2	3	4	5	6	7	8
a.	No (Paper Out Not Gated With Form Out)	—	●	—	—	—	—	—	—
b.	Yes (Paper Out Gated With Form Out)	—	○	—	—	—	—	—	—

Position of switch has no effect with Friction Feed Printer.
For Tractor Feed Printer, unless otherwise specified, choose 48.b.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)3. PRINTER OPTIONS AND FEATURES – FRICTION AND TRACTOR FEED (Contd)410076 Circuit Card (Contd)

54. Printing of Escape Sequences Suppressed		E1									
		1	2	3	4	5	6	7	8	9	
a.	Character After ESC Printed as Received	—	○	—	—	—	—	—	—	—	*
b.	Printing of Character After ESC Suppressed	—	●	—	—	—	—	—	—	—	

→ Not Applicable – Position of switch does not affect operation.

55. SI/SO Detection		E1									
		1	2	3	4	5	6	7	8	9	
a.	SI/SO Detection Not Used	—	—	—	—	—	—	○	—	—	*
b.	SI/SO Detection Enables Printing Additional Characters	—	—	—	—	—	—	●	—	—	

56. Friction Feed /Tractor Feed Printer		E2								
		1	2	3	4	5	6	7	8	
a.	Friction Feed Printer – Motor Held on After Paper Alarm	○	—	—	—	—	—	—	—	*
b.	Tractor Feed Printer – Motor Turned Off After Paper Alarm	●	—	—	—	—	—	—	—	

→ Friction Feed Printer – Choose 56.a.
Tractor Feed Printer – Choose 56.b.

57. SSI/OEM Interface		E7								
		1	2	3	4	5	6	7	8	
a.	SSI	—	—	—	—	—	—	●	—	*

→ Required Selection

58. Idle Line Motor Control		E7								
		1	2	3	4	5	6	7	8	
a.	Disabled – Motor Held On Indefinitely During Idle Line	—	—	—	—	—	—	—	○	*
b.	Enabled – Motor Turned Off After 40-Second Idle Line	—	—	—	—	—	—	—	●	

Unless otherwise specified, choose 58.b.

● Indicates on.

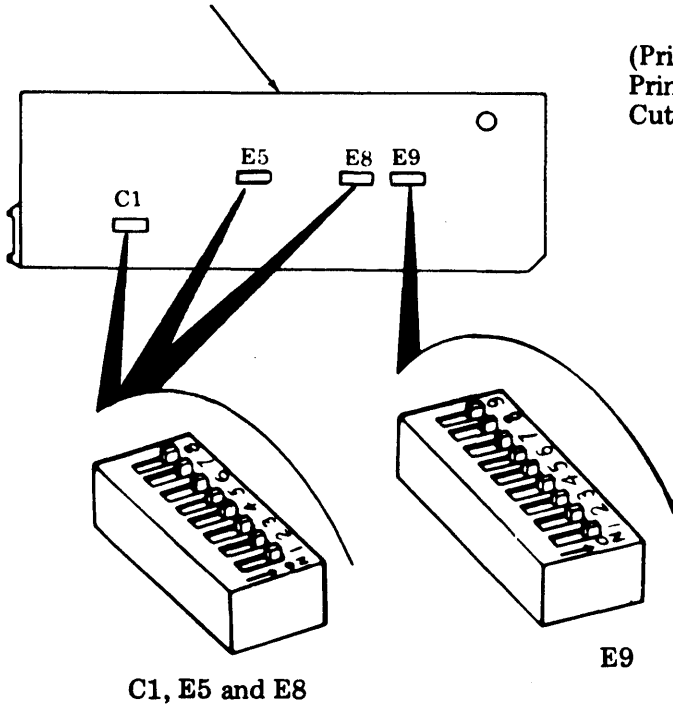
○ Indicates off.

— Position of switch does not affect option.

* Factory optioned.

410071 Circuit Card (See Page 35)

410071 Printer Logic Circuit Card



(Printer Circuit Card Viewed From Beneath Printer — Access to Switches is Through a Cutout in Bottom Pan of Printer.)

17. Printer Left Margin and Form Width		E5								
		1	2	3	4	5	6	7	8	
a.	First Printed Column — Column 1	—	—	●	●	●	●	—	—	*
	First Printed Column — Column 2	—	—	●	●	○	●	—	—	
	First Printed Column — Column 3	—	—	●	●	○	○	—	—	
	First Printed Column — Column 4	—	—	●	○	○	○	—	—	
	First Printed Column — Column 5	—	—	○	○	●	○	—	—	
	First Printed Column — Column 6	—	—	○	○	○	●	—	—	
b.(X)	First Printed Column — Column 7	—	—	○	●	○	○	—	—	
	First Printed Column — Column 8	—	—	●	○	●	○	—	—	
	First Printed Column — Column 9	—	—	○	○	●	●	—	—	
	First Printed Column — Column 10	—	—	○	●	○	●	—	—	
	First Printed Column — Column 11	—	—	●	●	●	○	—	—	
	First Printed Column — Column 12	—	—	●	○	○	●	—	—	
	First Printed Column — Column 13	—	—	○	●	●	○	—	—	

Unless otherwise specified, choose 17.a.

(X) — indicates desired column number.

● Indicates on.

○ Indicates off.

— Position of switch does not affect option.

* Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)

3. PRINTER OPTIONS AND FEATURES – FRICTION AND TRACTOR FEED (Contd)

17. Printer Right Margin and Form Width		E9								E5								E8								
c.	Last Char Printed Column Number	1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8
		80	○	●	—	●	○	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●
d. (X)	73 61 49 37 25	●	●	—	●	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	74 62 50 38 26	○	●	—	●	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	75 63 51 39 27	●	○	—	○	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	76 64 52 40 28	●	●	—	○	○	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	77 65 53 41 29	○	●	—	○	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	78 66 54 42 30	●	○	—	○	●	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	79 67 55 43 31	●	●	—	●	○	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	68 56 44 32	○	●	—	●	○	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	69 57 45 33	●	○	—	●	○	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	70 58 46 34	●	●	—	○	○	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	71 59 47 35	○	●	—	○	○	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	
	72 60 48 36	●	○	—	○	○	—	—	—	—	●	—	—	—	—	—	●	●	—	—	—	—	—	—	●	

To obtain counts:

- 73 through 80 program as shown.
- 61 through 72 program as shown, then operate E8 position 8 to OFF.
- 49 through 60 program as shown, then operate E5 position 1 to OFF.
- 37 through 48 program as shown, then operate E5 position 7 to OFF.
- 25 through 36 program as shown, then operate E5 position 8 to OFF.

Unless otherwise specified, choose 17.c.
(X) – Indicates desired column number.

18. Printer Paper Feed Out		E8							
		1	2	3	4	5	6	7	8
a.	No Paper Feed Out	—	—	●	—	—	—	—	—
b.	Paper Feed Out on DSR or RM Loss – 16 Lines or One Form	—	○	○	—	—	—	—	—
c.	Paper Feed Out on DSR or RM Loss or ETX – 16 Lines or One Form	—	●	○	—	—	—	—	—

Unless otherwise specified, choose 18.c.

19. Printer Errored Character Symbol		E9								
		1	2	3	4	5	6	7	8	9
c.	Not Printed on Parity Error	—	—	—	—	—	●	●	—	—

Required Selection

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

19. Character Set		E8							
		1	2	3	4	5	6	7	8
d.	Printers With 96-Character Set (Up-Low)	-	-	-	-	●	○	-	-
e.	Printers With 64-Character Set (Monocase)	-	-	-	-	○	●	-	-
f.	Printers With Special Carrier (Line Drawing)	-	-	-	-	○	○	-	-

Use of 400629 ^A or 400784 ^A type carriers require selection of 19.d.
 Use of 400645 ^A or 400785 ^A type carriers require selection of 19.e.
 Use of 400775 ^A type carrier requires selection of 19.f. (internal use only).

20. Line Feed on Printer		See Page 35							
a.	Single								
b.	Double								

Unless otherwise specified, choose 20.a.

21. Foldover on Printers With 96-Character Set		E8							
		1	2	3	4	5	6	7	8
a.	Lower Case and Upper Case Print	○	-	-	-	-	-	-	-
b.	Lower Case Prints as Upper Case	●	-	-	-	-	-	-	-

Consider only with selection of 19.d. or 19.f.

Unless otherwise specified, choose 21.a.

22. Foldover on Printers With 64-Character Set		E8							
		1	2	3	4	5	6	7	8
a.	Lower Case Prints as Error Symbol	○	-	-	-	-	-	-	-
b.	Lower Case Prints as Upper Case	●	-	-	-	-	-	-	-

Consider only with selection of 19.e.

Unless otherwise specified, choose 22.b.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)**3. PRINTER OPTIONS AND FEATURES – FRICTION AND TRACTOR FEED (Contd)****410071 Circuit Card (Contd)**

23. Extended ASCII on Printer (Extended ASCII)		E-9								
		1	2	3	4	5	6	7	8	9
a.	Prints Extended ASCII Characters (No Parity Check)	—	—	—	—	—	○	○	—	—
b.	Does Not Print Extended ASCII (See Option 19.c.)	—	—	—	(As in 19.c.)	—	—	—	—	—

39. Forms (Tractor Printer Only)		See Page 35								
		1	2	3	4	5	6	7	8	9
a.	On									
b.	Off									

*

Unless otherwise specified, choose 39.a.

48. Incomplete Form Suppresses Paper Alarm		E9								
		1	2	3	4	5	6	7	8	9
a.	No (Paper Out Not Gated With Form Out)	—	—	—	—	—	—	—	—	●
b.	Yes (Paper Out Gated With Form Out)	—	—	—	—	—	—	—	—	○

Unless otherwise specified, choose 48.b.

● Indicates on.

○ Indicates off.

- Position of switch does not affect option.

* Factory optioned.

54. Printing of Escape Sequences Suppressed		E9								
		1	2	3	4	5	6	7	8	9
a.	Character After ESC Printed as Received	—	—	—	—	—	—	—	○	—
b.	Printing of Character After ESC Suppressed	—	—	—	—	—	—	—	●	—

Not Applicable — Position of switch does not affect operation.

55. SI/SO Detection		E9								
		1	2	3	4	5	6	7	8	9
a.	SI/SO Detection Not Used	—	—	○	—	—	—	—	—	—
b.	SI/SO Detection Enables Printing Additional Characters	—	—	●	—	—	—	—	—	—

57. SSI/OEM Interface		E8							
		1	2	3	4	5	6	7	8
a.	SSI	—	—	—	—	—	—	●	—

Required Selection

58. Idle Line Motor Control		E8							
		1	2	3	4	5	6	7	8
a.	Disabled — Motor Held On Indefinitely During Idle Line				○				
b.	Enabled — Motor Turned Off After 40-Second Idle Line				●				

Unless otherwise specified, choose 58.b.

59. Speed Selection (Applies only if Option 57.b. is selected)		C1							
		1	2	3	4	5	6	7	8
a.	75 Baud	●	○	○	○	○	○	○	○
b.	150 Baud	○	●	○	○	○	○	○	○
c.	300 Baud	○	○	○	○	○	○	○	●
d.	600 Baud	○	○	●	○	○	○	○	○
e.	1200 Baud	○	○	○	○	○	●	○	○
f.	2400 Baud	○	○	○	●	○	○	○	○
g.	4800 Baud	○	○	○	○	●	○	○	○
h.	9600 Baud	○	○	○	○	○	○	●	○

Not Applicable — Position of switches do not affect operation.

60. Aux Alarm		E5							
		1	2	3	4	5	6	7	8
a.	Enable	—	○	—	—	—	—	—	—
b.	Disable	—	●	—	—	—	—	—	—

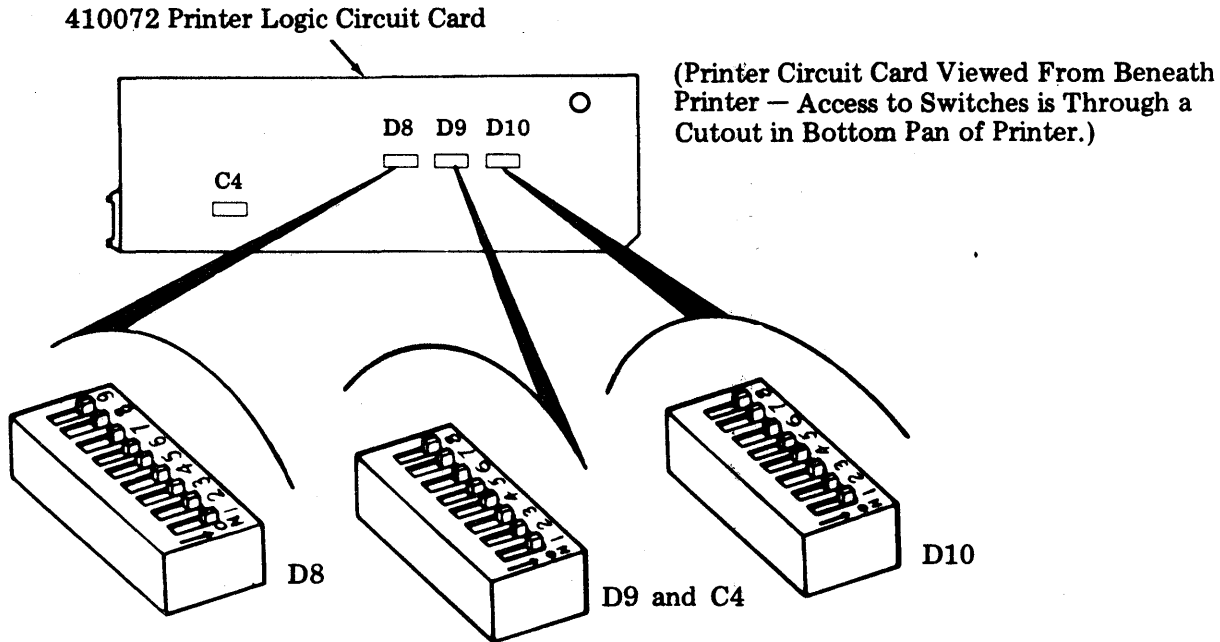
Unless otherwise specified, choose 60.b.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION — FRICTION OR TRACTOR FEED (Contd)

3. PRINTER OPTIONS AND FEATURES — FRICTION AND TRACTOR FEED (Contd)

410072 Circuit Card (See Page 35.)



17. Printer Left Margin and Form Width		D8									
		1	2	3	4	5	6	7	8	9	
a.	First Printed Column — Column 1	—	—	●	●	●	●	—	—	—	*
	First Printed Column — Column 2	—	—	●	●	○	●	—	—	—	
	First Printed Column — Column 3	—	—	●	●	○	○	—	—	—	
	First Printed Column — Column 4	—	—	●	○	○	○	—	—	—	
b.(X)	First Printed Column — Column 5	—	—	○	○	●	○	—	—	—	
	First Printed Column — Column 6	—	—	○	○	○	●	—	—	—	
	First Printed Column — Column 7	—	—	○	●	○	○	—	—	—	
	First Printed Column — Column 8	—	—	●	○	●	○	—	—	—	
	First Printed Column — Column 9	—	—	○	○	●	●	—	—	—	
	First Printed Column — Column 10	—	—	○	●	○	●	—	—	—	
	First Printed Column — Column 11	—	—	●	●	●	○	—	—	—	
	First Printed Column — Column 12	—	—	●	○	○	●	—	—	—	
	First Printed Column — Column 13	—	—	○	●	●	○	—	—	—	

Unless otherwise specified, choose 17.a.

(X) — Indicates desired column number.

● Indicates on.

○ Indicates off.

— Position of switch does not affect option.

* Factory optioned.

17. Printer Right Margin and Form Width																												
	Last Char Printed Column Number	D8								D9								D10										
		1	2	3	4	5	6	7	8	9	1	2	3	4	5	6	7	8	1	2	3	4	5	6	7	8		
e.	132	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	○	—	○	○	—	—	—	*
f.(X)	121 109 97 85 73	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	○	—	●	●	—	—	—	
	122 110 98 86 74	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	○	●	—	●	●	—	—	—	
	123 111 99 87 75	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	○	—	●	●	—	—	—	
	124 112 100 88 76	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	●	—	○	●	—	—	—	
	125 113 101 89 77	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	○	●	—	○	●	—	—	—	
	126 114 102 90 78	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	○	—	○	●	—	—	—	
	127 115 103 91 79	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	●	—	●	○	—	—	—	
	128 116 104 92 80	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	○	●	—	●	○	—	—	—	
	129 117 105 93 81	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	○	—	●	○	—	—	—	
	130 118 106 94 82	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	●	—	○	○	—	—	—	
	131 119 107 95 83	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	○	●	—	○	○	—	—	—	
	120 108 96 84	—	—	—	—	—	—	●	●	—	—	—	—	—	—	—	—	●	●	●	○	—	○	○	—	—	—	

To obtain counts:

- 121 through 132 program as shown.
- 109 through 120 program as shown, then operate D9 position 7 off.
- 97 through 108 program as shown, then operate D9 position 8 off.
- 85 through 96 program as shown, then operate D8 position 7 off.
- 73 through 84 program as shown, then operate D8 position 8 off.

(X) — Indicates desired column number.

Unless otherwise specified, choose 17.e.

18. Printer Paper Feed Out		D9							
		1	2	3	4	5	6	7	8
a.	No Paper Feed Out	—	—	●	—	—	—	—	—
b.	Paper Feed Out on DSR or RM Loss — 16 Lines or One Form	—	○	○	—	—	—	—	—
c.	Paper Feed Out on DSR or RM Loss or ETX — 16 Lines or One Form	—	●	○	—	—	—	—	—

Unless otherwise specified, choose 18.c.

19. Printer Errored Character Symbol		D10							
		1	2	3	4	5	6	7	8
c.	Not Printed on Parity Error	—	—	—	—	—	●	●	—

→ Required Selection

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)

3. PRINTER OPTIONS AND FEATURES – FRICTION AND TRACTOR FEED (Contd)

410072 Circuit Card (Contd)

19. Character Set		D8								
		1	2	3	4	5	6	7	8	9
d.	Printers With 96-Character Set (Up-Low)	●	○	—	—	—	—	—	—	—
e.	Printers With 64-Character Set (Monocase)	○	●	—	—	—	—	—	—	—
f.	Printers With Extended ASCII Character Set	○	○	—	—	—	—	—	—	—

Use of 400777 (A₁D₂) or 400783 (A₁M₂) type carriers, require selection of 19.d.
 Use of 400780 (A₁L₂) or 400887 (A₁Q₂) type carriers, require selection of 19.e.

20. Line Feed on Printer		See Page 35								
a.	Single									
b.	Double									

Unless otherwise specified, choose 20.a.

21. Foldover on Printers With 96-Character Set		D9							
		1	2	3	4	5	6	7	8
a.	Lower Case and Upper Case	○	—	—	—	—	—	—	—
b.	Lower Case Prints as Upper Case	●	—	—	—	—	—	—	—

Consider only with selection of 19.d.
 Unless otherwise specified, choose 21.a.

22. Foldover on Printers With 64-Character Set		D9							
		1	2	3	4	5	6	7	8
a.	Lower Case Prints as Error Symbol	○	—	—	—	—	—	—	—
b.	Lower Case Prints as Upper Case	●	—	—	—	—	—	—	—

Consider only with selection of 19.e.
 Unless otherwise specified, choose 22.b.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

23. Extended ASCII on Printer (Extended ASCII)		D-10							
		1	2	3	4	5	6	7	8
a.	Prints Extended ASCII Characters (No Parity Check)	-	-	-	-	-	○	○	-
b.	Does Not Print Extended ASCII (See Option 19.c.)	-	-	-	(As in 19.c.)	-	-	-	-

39. Forms (Tractor Printer Only)		See Page 35												
a.	On													
b.	Off													

Unless otherwise specified, choose 39.a.

48. Incomplete Form Suppresses Paper Alarm		D9							
		1	2	3	4	5	6	7	8
a.	No (Paper Out Not Gated With Form Out)	-	-	-	●	-	-	-	-
b.	Yes (Paper Out Gated With Form Out)	-	-	-	○	-	-	-	-

Unless otherwise specified, choose 48.b.

54. Printing of Escape Sequences Suppressed		D10							
		1	2	3	4	5	6	7	8
a.	Character After ESC Printed as Received	-	-	-	-	-	-	-	○
b.	Printing of Character After ESC Suppressed	-	-	-	-	-	-	-	●

→ Not Applicable — Position of switch does not affect operation.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

D. PRINTER ASSEMBLY INSTALLATION — FRICTION OR TRACTOR FEED (Contd)3. PRINTER OPTIONS AND FEATURES — FRICTION AND TRACTOR FEED (Contd)410072 Circuit Card (Contd)

55. SI/SO Detection		D10								
		1	2	3	4	5	6	7	8	
a.	SI/SO Detection Not Used	—	—	○	—	—	—	—	—	*
b.	SI/SO Detection Enables Printing Additional Characters	—	—	●	—	—	—	—	—	

57. SSI/OEM Interface		D8									
		1	2	3	4	5	6	7	8	9	
a.	SSI	—	—	—	—	—	—	—	—	●	*

→ Required Selection

58. Idle Line Motor Control		D9								
		1	2	3	4	5	6	7	8	
a.	Disabled — Motor Held On Indefinitely During Idle Line	—	—	—	—	—	○	—	—	*
b.	Enabled — Motor Turned Off After 40-Second Idle Line	—	—	—	—	—	●	—	—	

Unless otherwise specified, choose 58.b.

59. Speed Selection (Applies Only if Option 57.b. is Selected)		C4								
		1	2	3	4	5	6	7	8	
a.	75 Baud	●	○	○	○	○	○	○	○	
b.	150 Baud	○	●	○	○	○	○	○	○	
c.	300 Baud	○	○	○	●	○	○	○	○	
d.	600 Baud	○	○	●	○	○	○	○	○	
e.	1200 Baud	○	○	○	○	○	○	●	○	
f.	2400 Baud	○	○	○	○	●	○	○	○	*
g.	4800 Baud	○	○	○	○	○	●	○	○	
h.	9600 Baud	○	○	○	○	○	○	○	●	

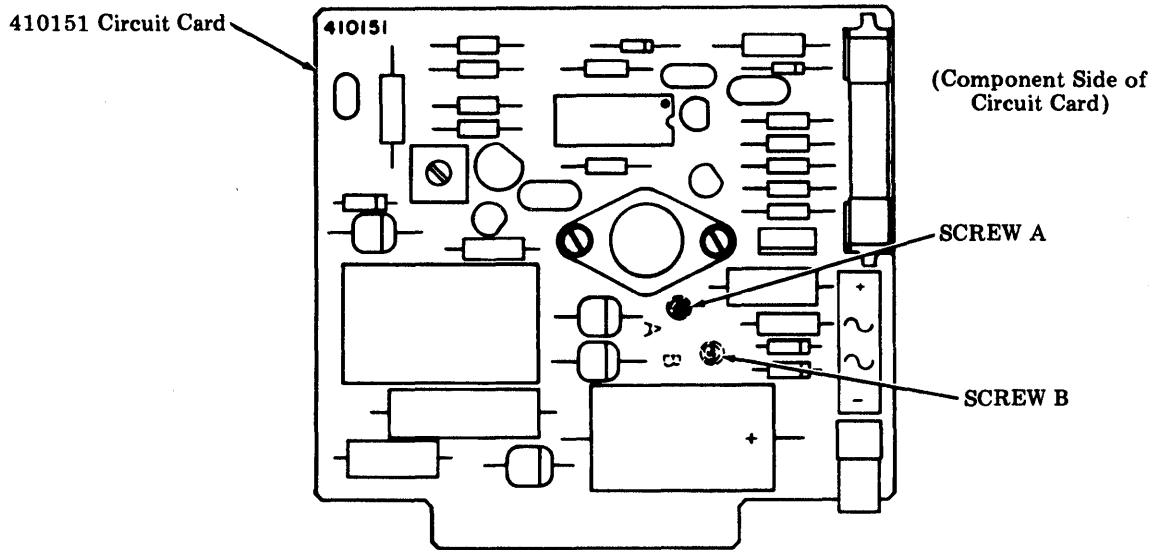
→ Not Applicable — Position of switches do not affect operation.

60. Aux Alarm		D9								
		1	2	3	4	5	6	7	8	
a.	Enable	—	—	—	—	○	—	—	—	
b.	Disable	—	—	—	—	●	—	—	—	*

Unless otherwise specified, choose 60.b.

- Indicates on.
- Indicates off.
- Position of switch does not affect option.
- * Factory optioned.

410072 Circuit Card (See Page 35.)



61. Regulator Grounding Circuit Gnd to Frame Gnd)		Screw A		Screw B	
		Component	Noncomponent	Component	Noncomponent
a.	SSI	In	—	—	In
b.	(OEM) At Printer	In	—	In	—
c.	(OEM) Ext to Printer	—	In	In	—

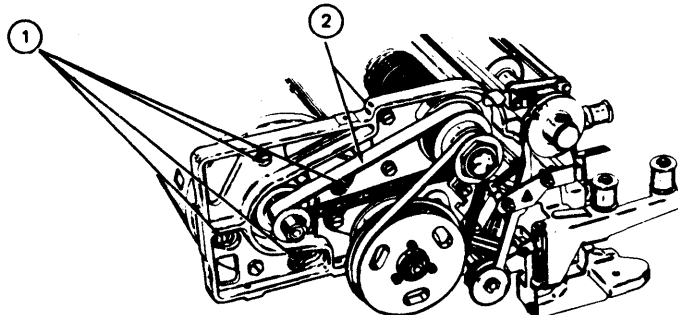
→ Either 61.a. or 61.b. must be chosen for proper operation.

*Factory optioned.

4. PRINTER FOR 50 HERTZ OPERATION

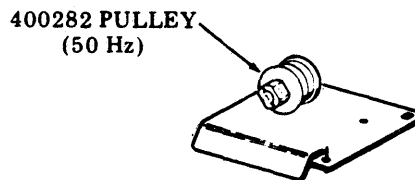
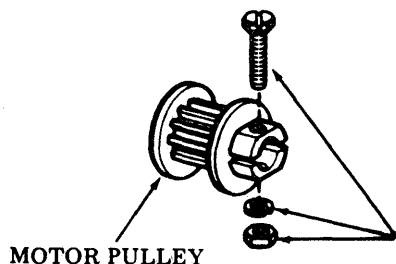
For 50 hertz operation the printer motor pulley must be changed:

- ① Loosen four motor mounting screws.
- ② Remove 400631 impeller drive belt from motor pulley.



D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)

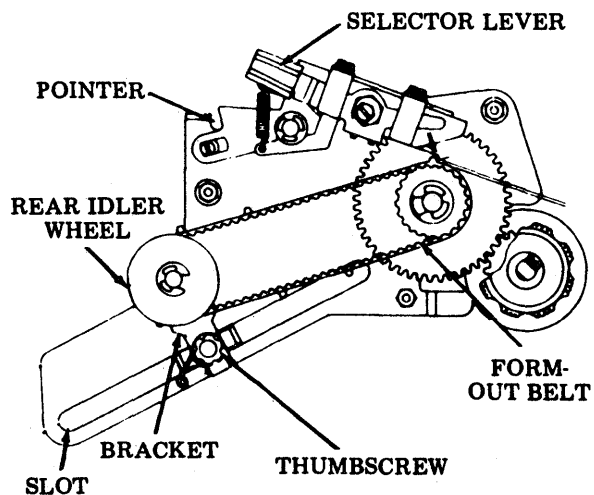
4. PRINTER FOR 50 HERTZ OPERATION (Contd)



- ③ Remove and retain 153841 screw, 2191 lockwasher and 3598 nut that mount motor pulley to motor shaft.
- ④ Remove the 400282 motor pulley (50 hertz) from the mounting plate adjacent to the motor shaft by cutting cable strap.
- ⑤ Install the 400282 motor pulley on the motor shaft with the mounting flange away from the motor housing. Secure with retained hardware of Step 3.
- ⑥ Replace the 400631 impeller shaft belt over the motor pulley.
- ⑦ Tie the 400280 motor pulley (60 hertz) on the mounting plate.
- ⑧ Remake IMPELLER SHAFT DRIVE BELT TENSION adjustment, refer to Part 5, ADJUSTMENTS, in Service Manual 493.

5. FORM-OUT BELT -- TRACTOR FEED

- ① Refer to the Station Configuration Worksheet and determine if tractor feed printer requires use of form-out belt other than 402572 (blue belt) which is part of 40P151 or 40P154 tractor feed printer. This will be indicated by use of belt number.



FORM SELECTOR SETTING				BELT COLOR	PART NO.
4	3	2	1		
FORM LENGTHS (INCHES)					
3-1/3	2-1/2	5	10	Amber	402571
3-2/3		5-1/2	11	Blue††	402572
4	3	6	12	Yellow	402573
4-1/3		6-1/2	13	Brown	402574
4-2/3	3-1/2	7	14	Red	402575
5		7-1/2	15	Pink	402576
5-1/3	4	8	16	Lt Green	402577
5-2/3		8-1/2	17	Green	402578
6	4-1/2	9	18	Lt Blue	402579
7-1/3	5-1/2	11	22	White	402580

†† Shipped with 40P151 or 40P154 -- tractor feed printers

- ② Loosen thumbscrew and move rear idler wheel forward.

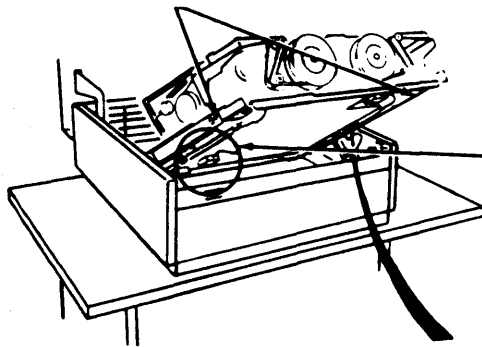
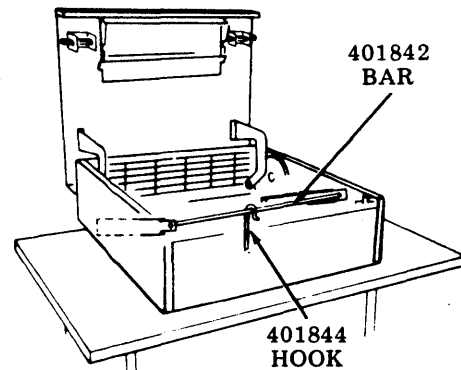
- ③ Hold form selector lever depressed until old belt is removed and new belt is placed on wheels.

NOTE: Arrow on belt should point inward.

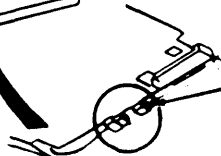
- ④ Position rear wheel back to remove slack in belt keeping bracket to which wheel is mounted at right angles to the slot.
- ⑤ Tighten thumbscrew and place form selector pointer at proper scale setting for proper form length.

6. PRINTER INTO CABINET – FRICTION FEED

- ① Press down on 401842 bar. Detach 401844 hook, then release track up slowly. Remove bar and hook and retain for shipping purposes.
- ② Install printer in tracks until detents are seated.

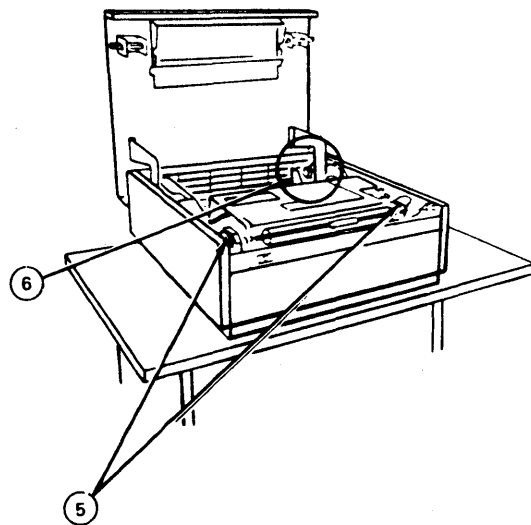


③ Connect 115 V ac connector.



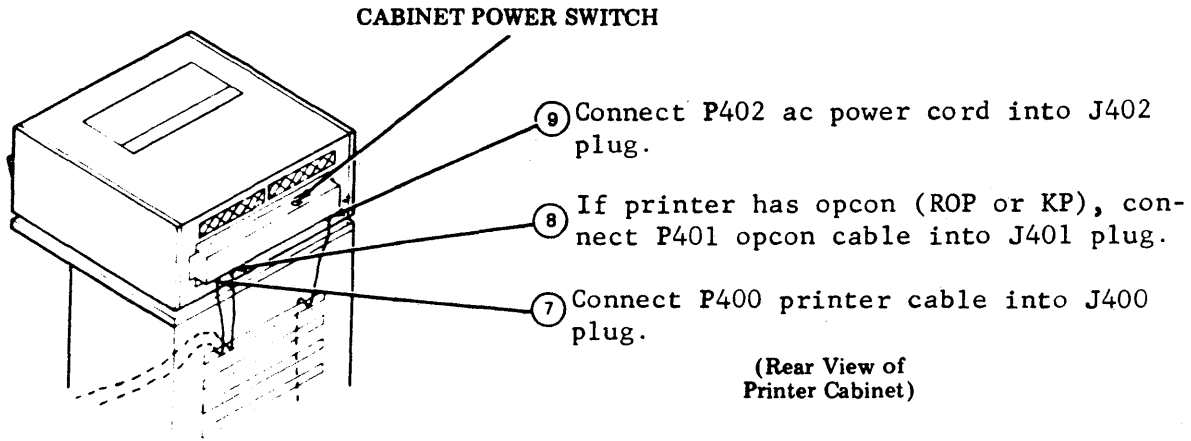
④ Connect printer to SSI cable.

- ⑤ Lower printer by depressing the left and right release levers, and then press down on printer until it latches.
- ⑥ Connect interlock cable.

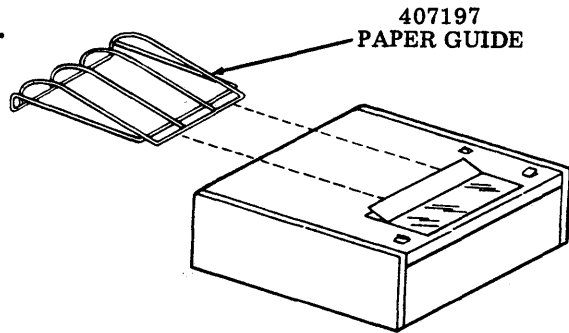


D. PRINTER ASSEMBLY INSTALLATION — FRICTION OR TRACTOR FEED (Contd)

6. PRINTER INTO CABINET — FRICTION FEED (Contd)

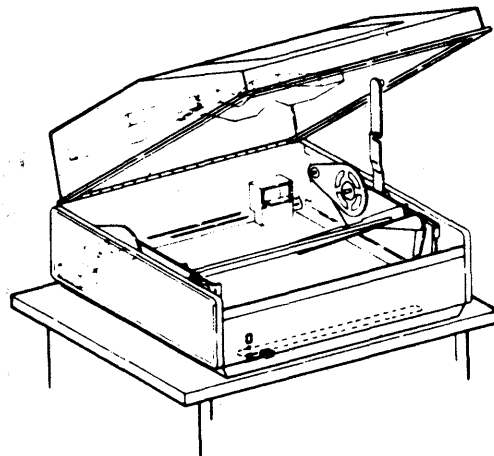
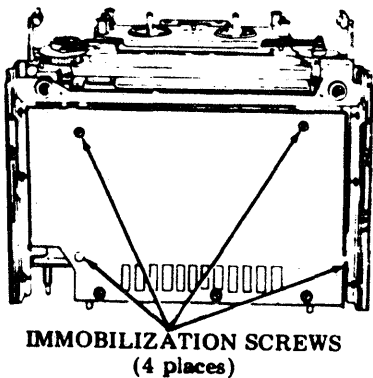


⑩ Install 407197 paper guide as shown.



7. PRINTER INTO CABINET — TRACTOR FEED

① Place cabinet on pedestal with opening in bottom of cabinet over slot in pedestal. Open lid by depressing latches on either side of lid and then raising it until it locks.



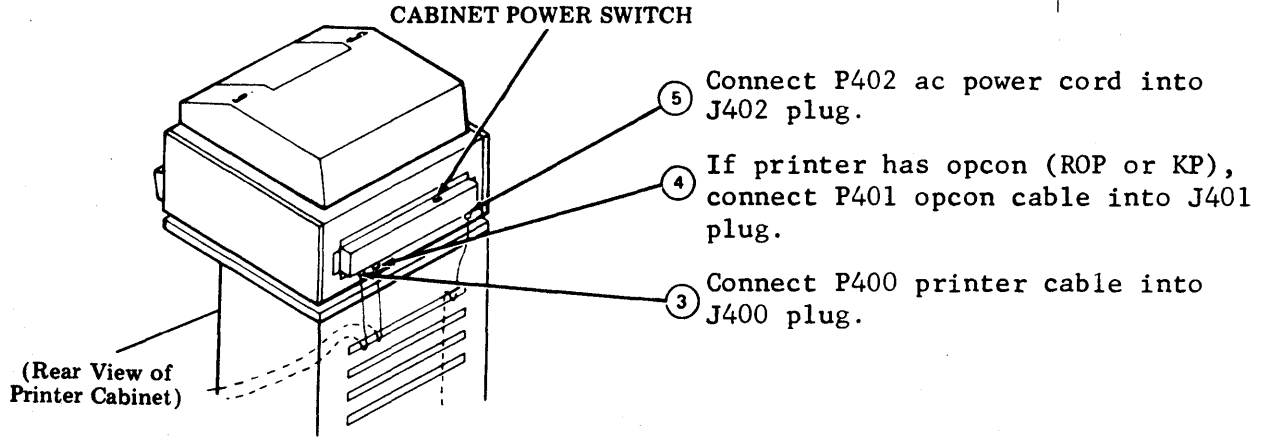
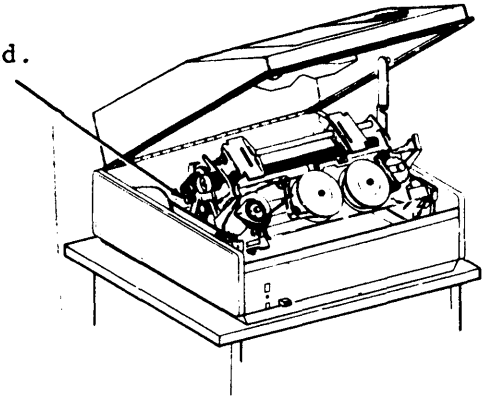
CAUTION: BEFORE INSTALLING PRINTER IN CABINET BACK OFF THE FOUR BLACK SHOCK MOUNT IMMOBILIZING SCREWS SEVEN OR EIGHT TURNS.

- ② Install printer in tracks until detents are seated.

NOTE: With printer properly seated all power and SSI connections will be made.

ROP or KP Set

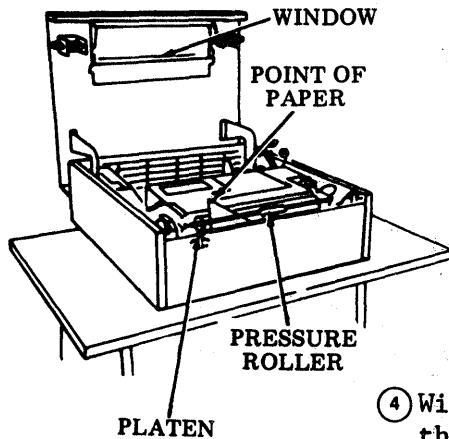
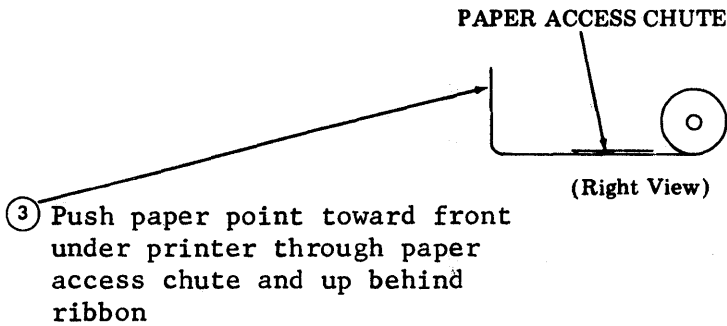
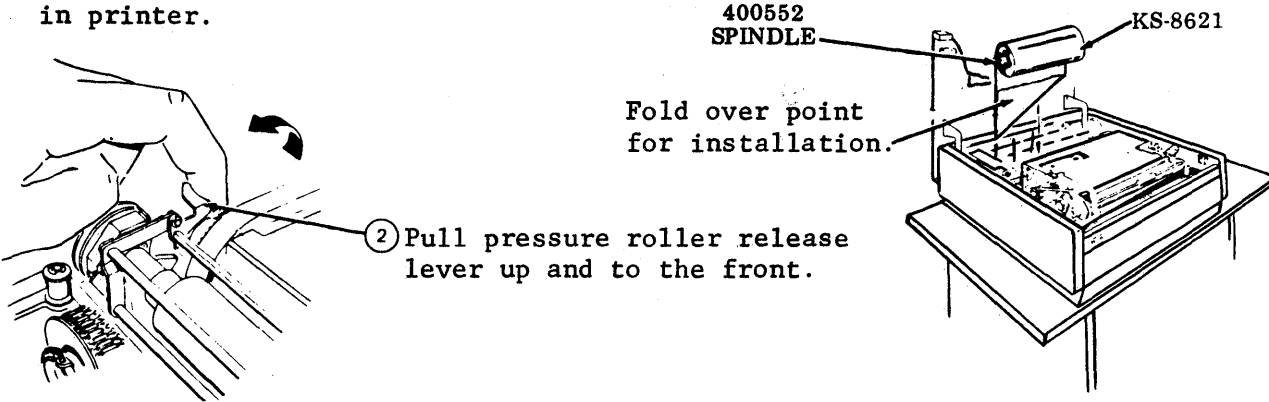
Perform Step 1 on Page 60 and Step 2 above then continue with Steps shown.



D. PRINTER ASSEMBLY INSTALLATION – FRICTION OR TRACTOR FEED (Contd)

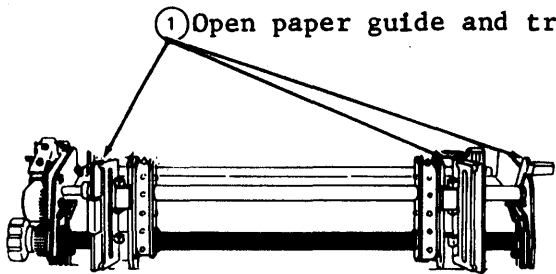
8. PAPER INTO PRINTER – FRICTION FEED

- ① Install paper roll on spindle and place in printer.

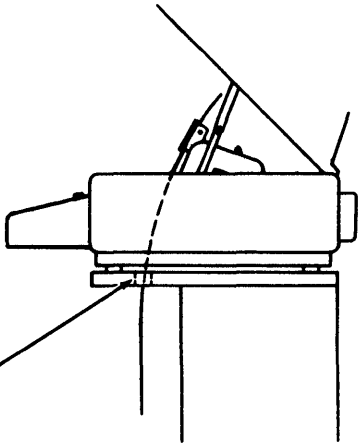


- ④ With paper extending out, thread paper through window, close paper release lever and while holding point of paper, close cover.

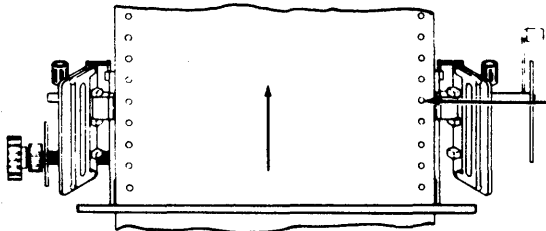
9. PAPER INTO PRINTER — TRACTOR FEED



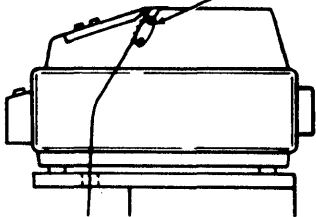
NOTE: If multiple forms are used, separate and fold one form down before inserting.



② Insert paper up through slot in pedestal, through opening in bottom of printer cabinet, and feed through printer.



③ Align holes in paper over pins on tractor and close tractor covers and paper guide.

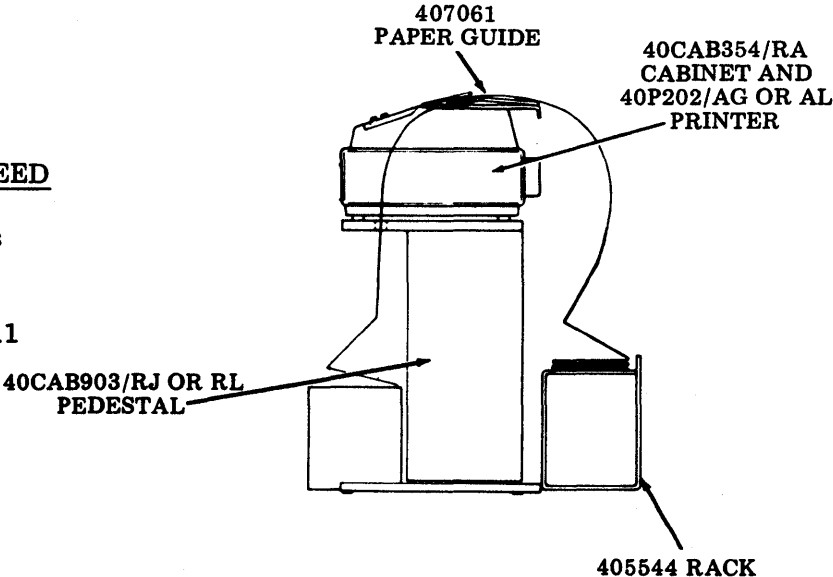


④ Manually advance and feed through slot in cabinet cover and then close cover.

10. PAPER GUIDE — TRACTOR FEED

Assemble 407060 paper guide as shown (if supplied).

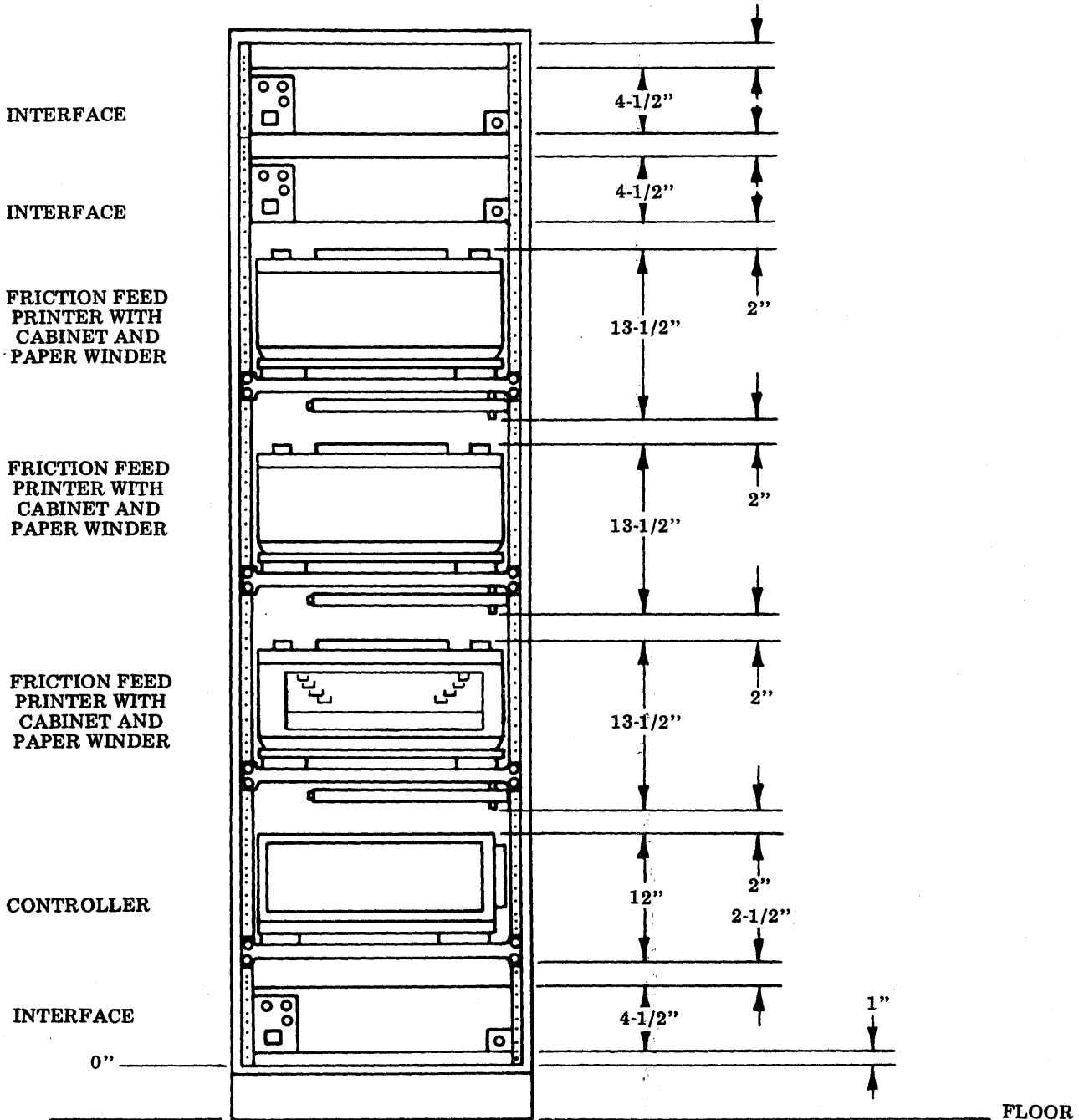
If included with order, install 405544 rack as shown.



E. RACK MOUNT INSTALLATION

Before starting the rack installation, the entire rack layout should be determined. Also, the front or rear accessibility of the interface assembly should be determined. If front accessibility is desired, start the installation at 2. If rear accessibility is desired, start the installation with installation of the 406862 controller rack mount modification kit, 4.

1. SPACE REQUIREMENTS FOR RACK MOUNTED EQUIPMENT

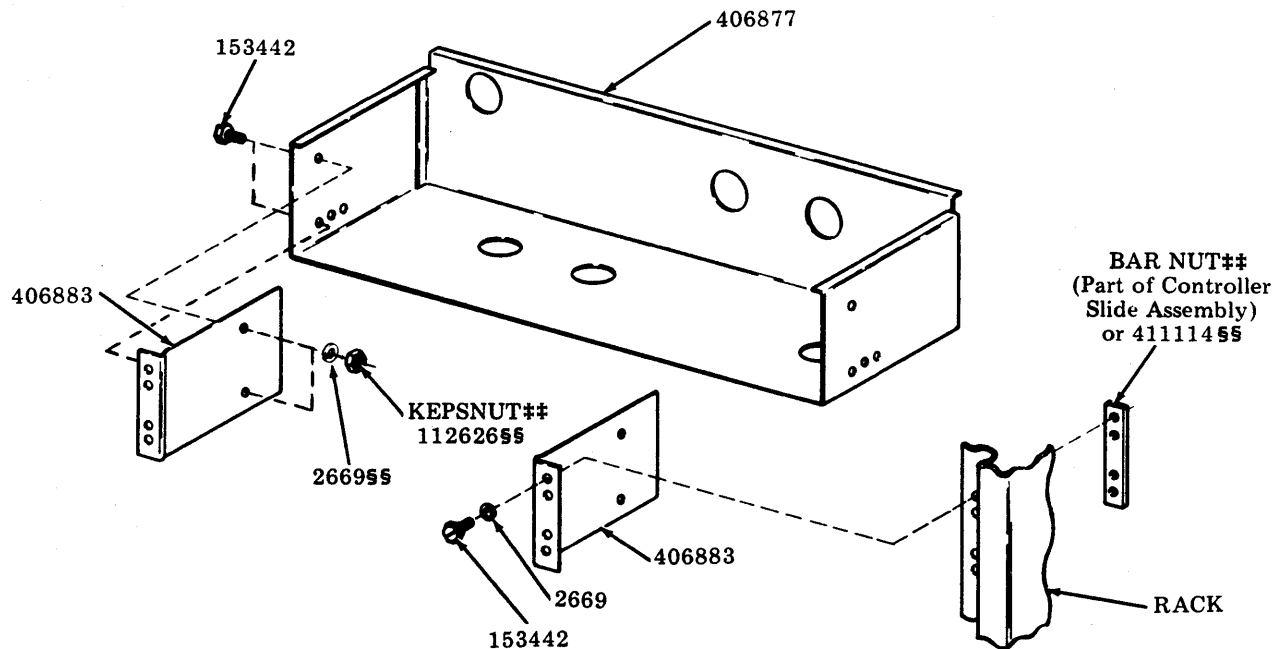


2. INSTALLATION OF 406863 MODIFICATION KIT (INTERFACE) 19 AND 24 INCH RACKS

Each of the modification kits for the various units basically consists of a set of slide assemblies, mounting brackets, a unit mounting plate, and miscellaneous mounting hardware. The slide assemblies supplied are gusset type requiring front mounting only. The modification kits which adapts the basic modification kits for 19 inch rack for use in 24 inch racks consists basically of extender plates, a slide cross brace and mounting hardware. The modification kits for mounting the interface assembly does not contain slide assemblies. The 406863 modification kit provides mounting hardware for front or rear accessibility of the interface assembly and is intended to be used with the 406862 controller mounting modification kit. In 24 inch rack applications the 406863 modification kit is intended to be used with the 406862 controller mounting and 406859 controller extender modification kits. The 411097 modification kit provides complete mounting hardware for front accessibility only for the interface assembly in 19 inch rack applications and is intended to be used with multiple interface terminals (KP3 application). For 24 inch rack installation, the 411098 extender modification kit is used in conjunction with the 411097 modification kit and supplies the necessary extender parts.

406863 modification kit (interface) front accessibility 19 inch rack (part of 406862 modification kit required) and 411097 modification kit.

- ① Mount a 406883 bracket to each side of the 406877 interface pan. For 406863 modification kits secure each bracket with two 153442 screws and two Kepsnuts® from controller slide assembly mounting hardware. For 411097 modification kit secure each bracket with two 153442 screws, 2669 lockwashers and 112626 nuts.



##Hardware used for the 406863 modification kit.

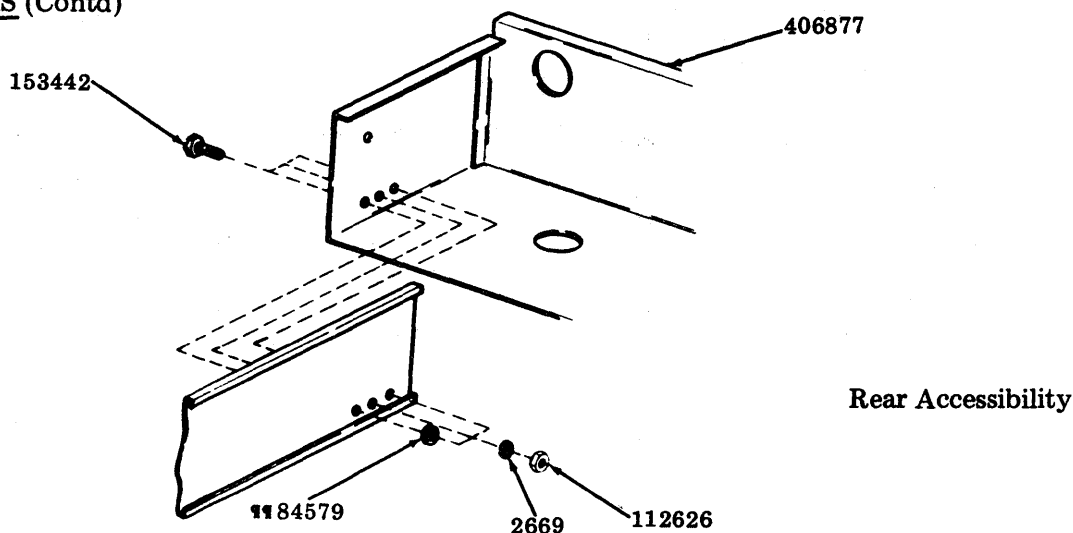
##Hardware used for the 411097 modification kit.

- ② Mount the bracket and interface pan to rack using eight 153442 screws (4 each side) and eight 2669 lockwashers.

Note: If rack is not tapped, for the 406863 modification use two bar nuts part of controller slide assembly, for the 411097 modification kit use two 411114 nut plate (one each side) to secure the 153442 screws.

E. RACK MOUNT INSTALLATION (Contd)

2. INSTALLATION OF 406863 MODIFICATION KIT (INTERFACE) 19 AND 24 INCH RACKS (Contd)



Left Side Shown

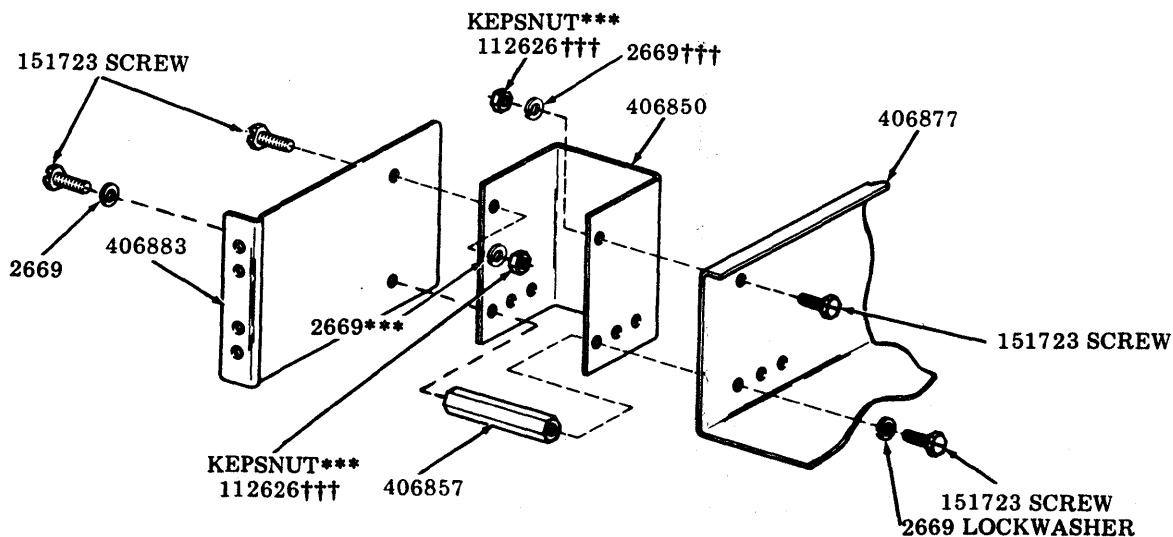
††† Front hole on each slide assembly only.

When rear accessibility for the interface assembly is desired, the interface pan is mounted on the rear of the controller slide assemblies and replaces the rear slide brace.

① Slide the 406877 interface pan over the ends of the controller slides.

② Secure the interface pan to the slide using six (three each side) 153442 screws, 2669 lockwashers and 112626 nuts. On each of the front mountings install a 84579 flat washer on the inside of each slide.

24 inch rack front accessibility for 406863 modification kits part of 406859 modification kit required. For 411097 modification kits the 411098 modification kit is required.



Left Side Shown

***Mounting hardware for 406863 modification kit, part of 406859 modification kit required.

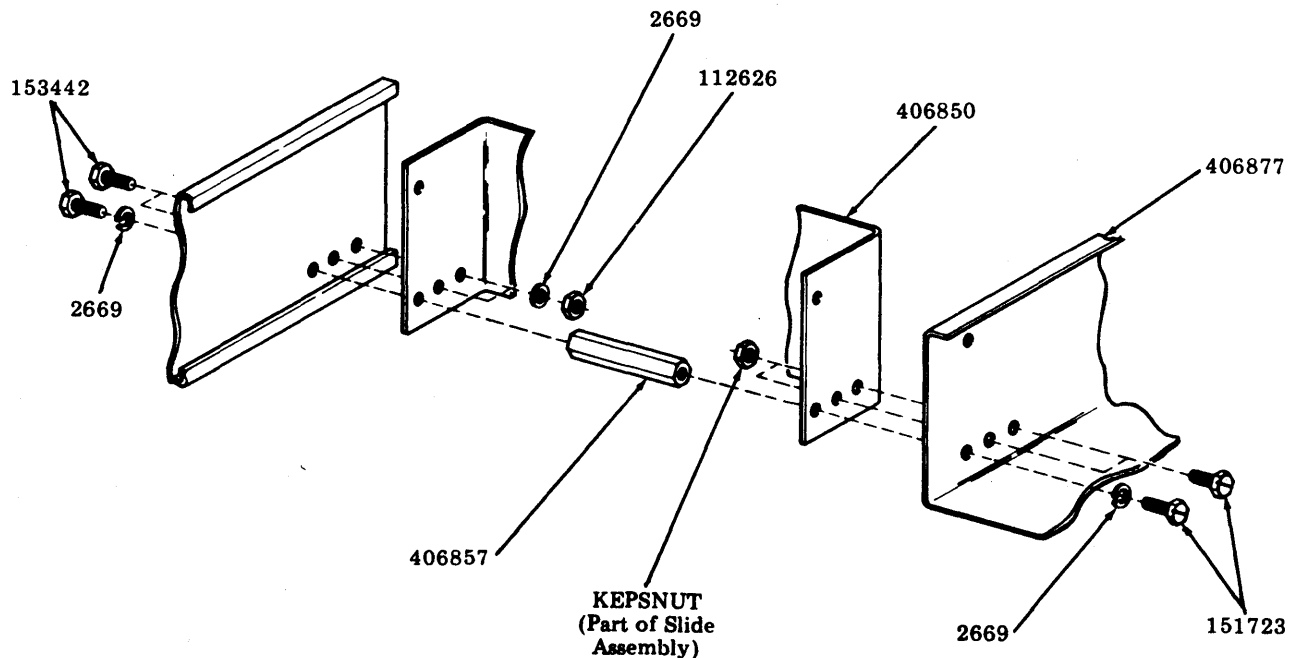
†††Mounting hardware for 411097 modification kit using 411098 extender modification kit.

- ① Insert a 406857*** post in each 406850*** extender bracket. Position post over lower front mounting holes.
- ② Mount a 406883 bracket on the extender bracket. Secure the 406883 bracket, 406857 post and 406850 extender bracket together with a 151723 screw, and 2669 lockwasher in the lower mounting hole and a 151723 screw and a Kepsnut for the 406863 modification kit or a 151723 screw, 2669 lockwasher and 112626 nut for the 411097 modification kit for the top mounting hole.
- ③ Mount the assembled parts to 406877 interface pan (one each end). Secure the assembled part and pan with a 151723 screw and 2669 lockwasher in the lower mounting hole and a 151723 screw and Kepsnut for the 406863 modification kit or a 151723 screw, 2669 lockwasher and 112626 nut for the 411097 modification kit.
- ④ Mount the interface pan with extender brackets to the rack using eight (four each side) 153442 screws and 2669 lockwashers.

Note: If rack is not tapped use two (one each side) bar nuts (part of controller slide assembly) for 406863 modification kit or 411114 nut plate for 411097 modification kit to secure the screws.

***Part of 19 inch to 24 inch extender modification kit for controller when installing the 406863 modification kit. Part of 411098 modification kit when installing 411097 modification kit.

24 inch rack rear accessibility (Part of 406859 modification kit required.)



Left Side Shown

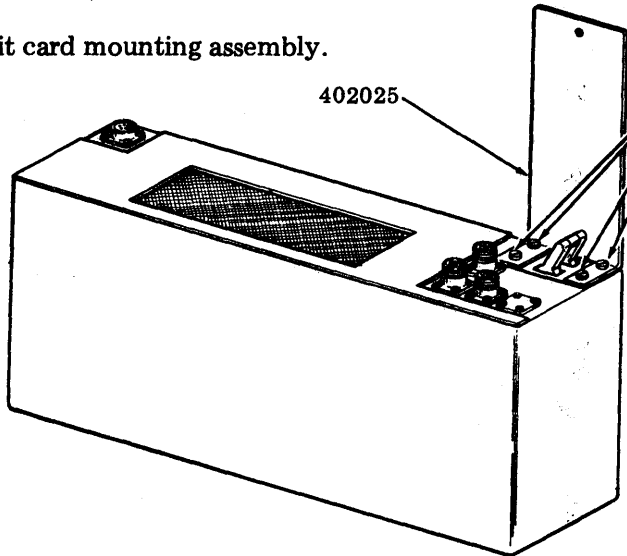
- ① Insert the 406857 post in the 406850 extender bracket. Position post over front mounting hole.
- ② Mount the extender brackets on the inside rear of the controller slide assemblies (one each side). Secure the extender bracket and post with a 153442 screw and 2669 lockwasher in front hole and two 153442 screws, 2669 lockwashers, and 112626 nuts in rear two mounting holes.
- ③ Mount each end of the 406877 interface pan to the extender brackets with a 151723 screw and 2669 lockwasher in the front mounting hole and two 151723 screws and two Kepsnuts in the rear two mounting holes.

E. RACK MOUNT INSTALLATION (Contd)

3. INTERFACE INSTALLATION

① Remove interface cover.

② Remove circuit card mounting assembly.



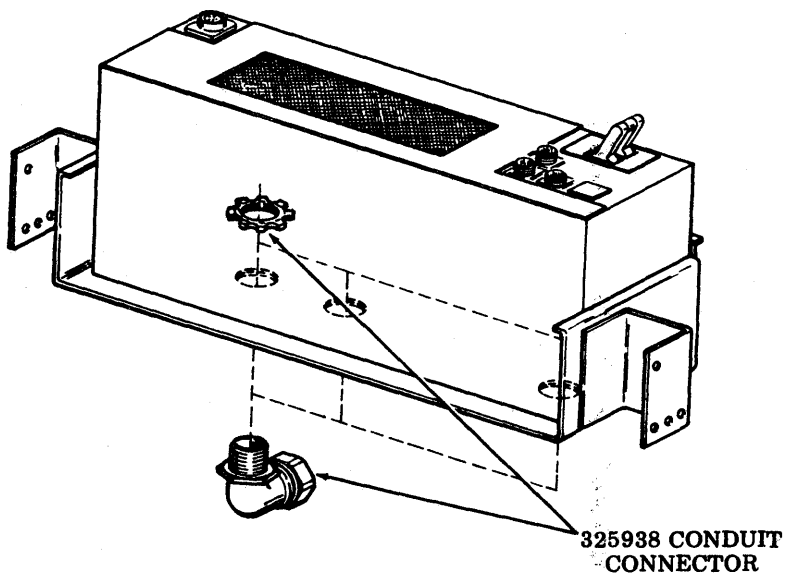
③ Remove four 1158 screws and retain four 2191 lockwashers. Support the circuit breakers by holding the handle or supporting from underneath.

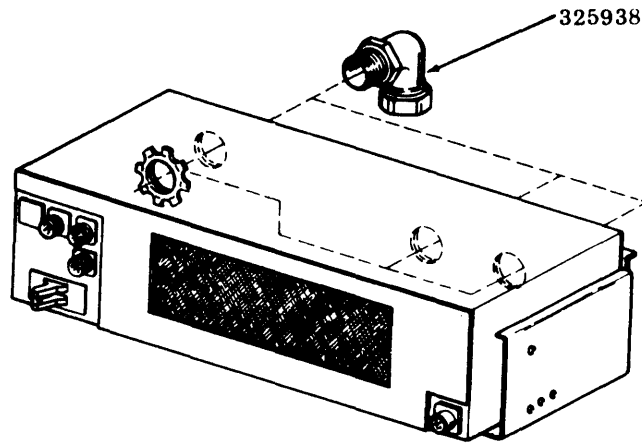
④ Remove 402025 switch bracket.

⑤ Secure the circuit breaker with four 125279 screws and four 2191 lockwashers retained from ③ .

⑥ Mount interface assembly to interface pan, using three 325938 conduit connectors.

Rear Accessibility





Front Accessibility

- ⑦ Make signal line and power line connections at this time. Refer to wiring diagram packages and manuals accompanying units.

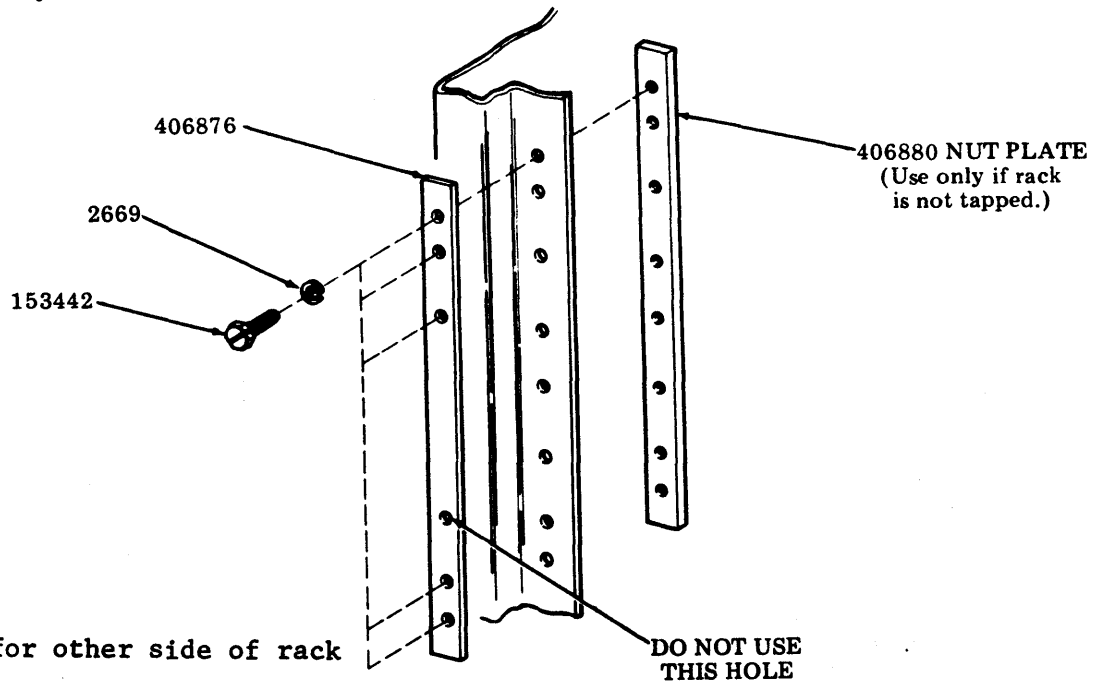
NOTE: Add appropriate circuit cards if answer-back or poll/select options are to be used. Refer to Page 25 for circuit card arrangements.

- ⑧ Replace circuit card mounting assembly.

- ⑨ Replace interface cover.

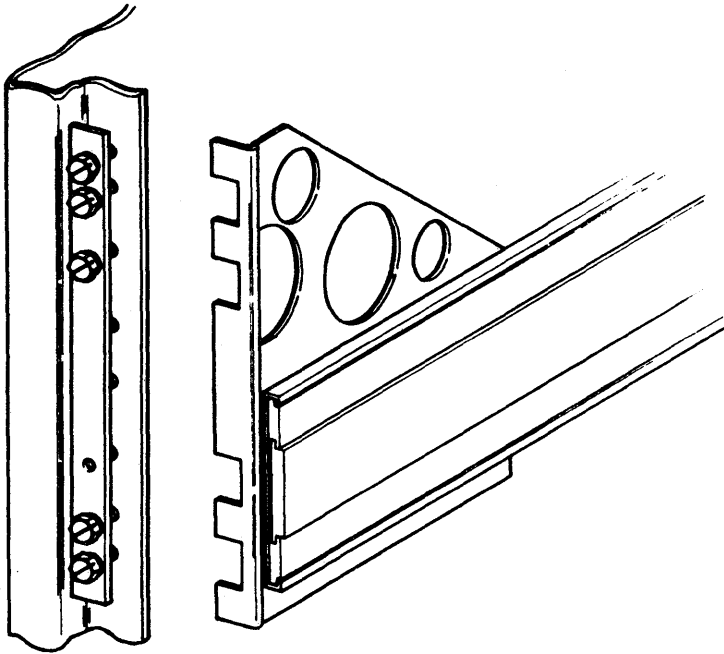
4. INSTALLATION OF THE 406862, 406864, 406865, or 406866 MODIFICATION KITS.

The assembly and installation is similar for these modification kits.



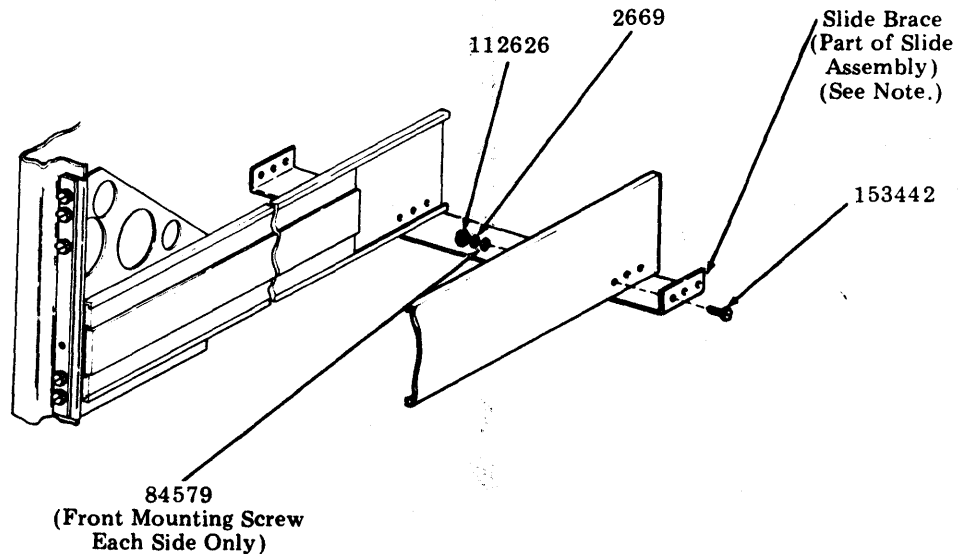
E. RACK MOUNT INSTALLATION (Contd)

4. INSTALLATION OF THE 406862, 406864, 406865, OR 406866 MODIFICATION KITS (Contd)



- ② Insert the gusset mounting portion of the 406882 slide assembly between the slide mounting plate and the rack vertical. Tighten mounting screws.

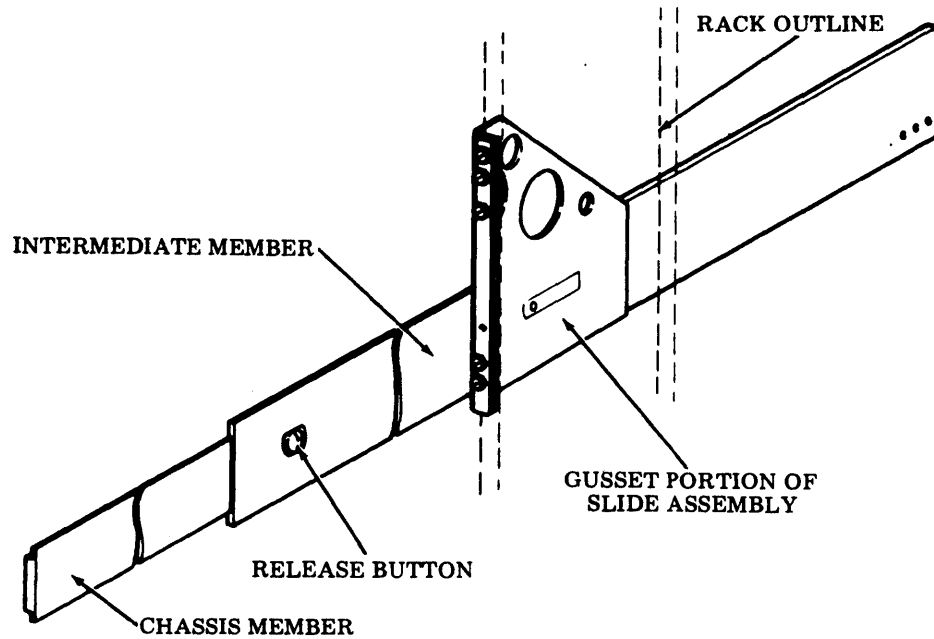
Repeat for other side.



- ③ Mount the slide brace (part of slide assembly) to the rear of the slides. Secure to slides using six 153442 screws (three each side), six 2669 lockwasher and two 84579 flat washers and six 112626 nuts. The 84579 flat washers are used only on the front mounting holes of the slide brace.

NOTE: Use the 406854 slide brace from the associated extender modification kit when installing slides in a 24 inch rack. If rear accessibility is desired for the interface unit (mounted on the rear of controller slides) refer to 19 inch racks or 24 inch racks.

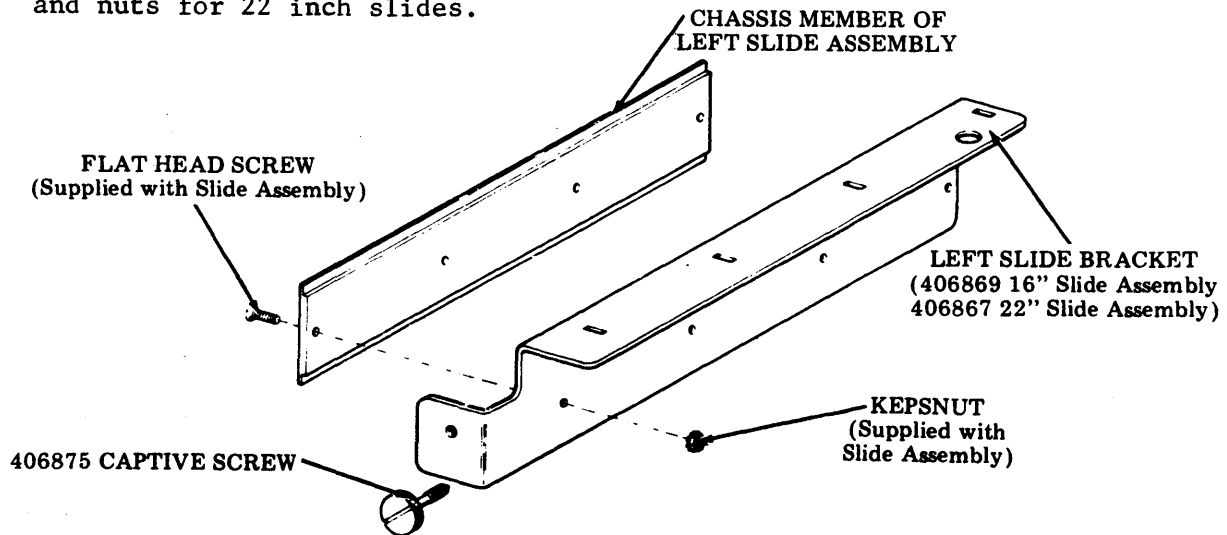
- ④ Remove the chassis (center) member of the slide. Remove by extending slide, then push the release button while pulling center section forward.



- ⑤ Mount a slide bracket to each of the chassis members.

	LEFT SLIDE	RIGHT SLIDE	SLIDE ASSEMBLY
16"	406869	406870	406882
22"	406867	406868	406811

Mount the slide bracket using flat head screws and Kepsnuts supplied with slide assembly. Use four screws and nuts for 16 inch slides; five screws and nuts for 22 inch slides.

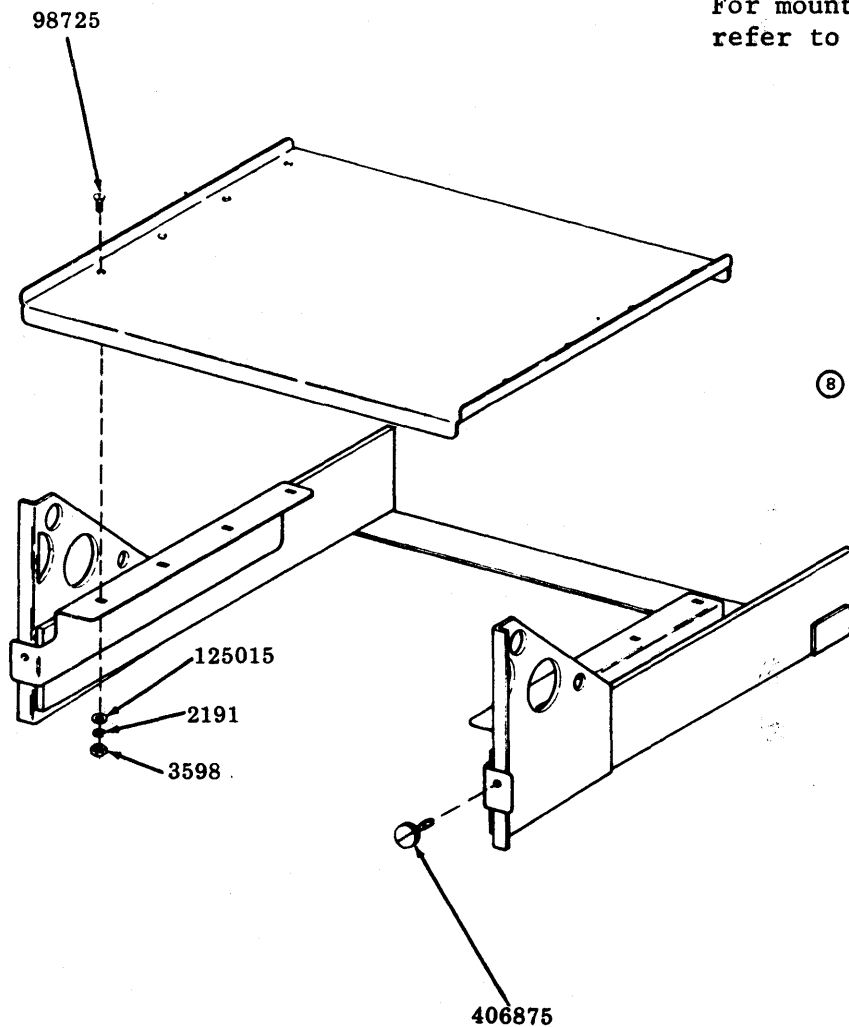


- ⑥ Replace chassis in slides.

E. RACK MOUNT INSTALLATION (Contd)4. INSTALLATION OF THE 406862, 406864, 406865, OR 406866 MODIFICATION KITS (Contd)

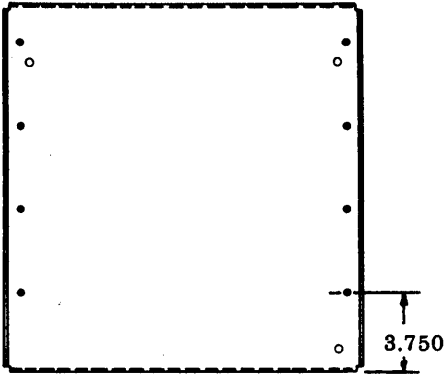
- ⑦ Mount the modification kit mounting plate to the slide brackets. Secure the mounting plate to the slide brackets with eight 98725 flat head screws, 125015 flat washers, 2191 lockwashers and 3598 nuts.

For mounting plate identification, refer to Page 73.

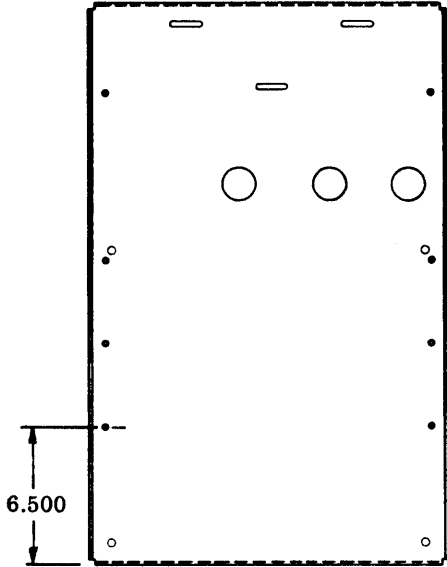


- ⑧ Install a 406875 captive screw in each of the returns of the slide brackets.

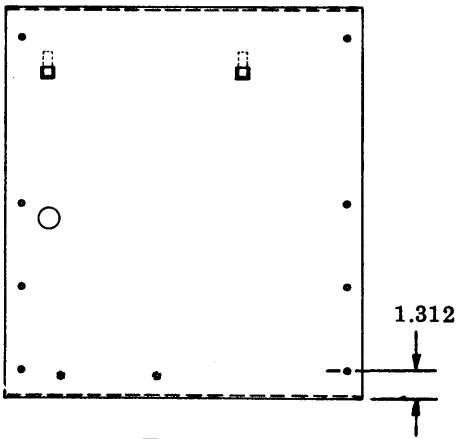
Mounting Plate Identification



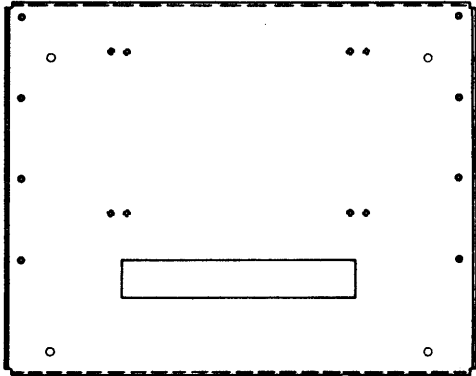
Front
406873
Keyboard Display
Mounting Plate



Front
406872
Printer Mounting Plate
(80-Column Friction Feed)



Front
406871
Controller Mounting Plate

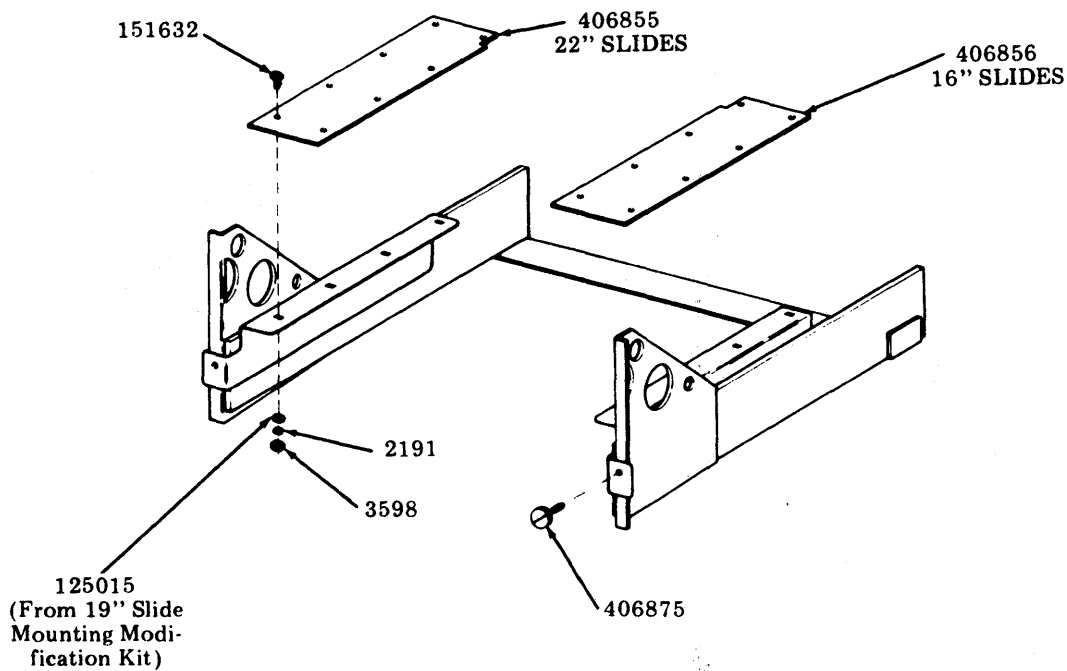


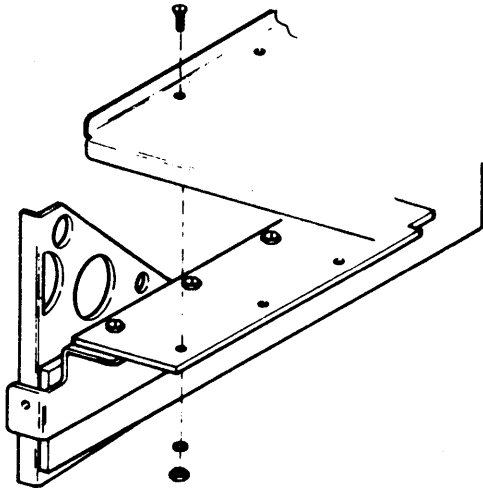
Front
406851
Printer Mounting Plate
(80-Column Tractor Feed)

E. RACK MOUNT INSTALLATION (Contd)

5. INSTALLATION OF THE 406859, 406860, AND 406861 MODIFICATION KITS 19 TO 24 INCH EXTENDERS

- ① The 19 inch rack mounting hardware is installed in the 24 inch rack as outlined in 4. up to Step 7.
- ② Mount a 406855 extender plate (for 22 inch slides) or 406856 extender plate (for 16 inch slides) on each of the slide brackets.
- ③ Secure the extender plate to the slide bracket using four 151632 screws, four 125015 flat washers (from the 19 inch slide hardware modification kit), four 2191 lockwashers and four 3598 nuts.





- ① Mount the 19 inch rack mounting plate on the extender plates. Secure to the extender plates using the eight 98725 flat head screws, 2191 lockwashers and 3598 nuts from the 19 inch rack mounting modification kit.

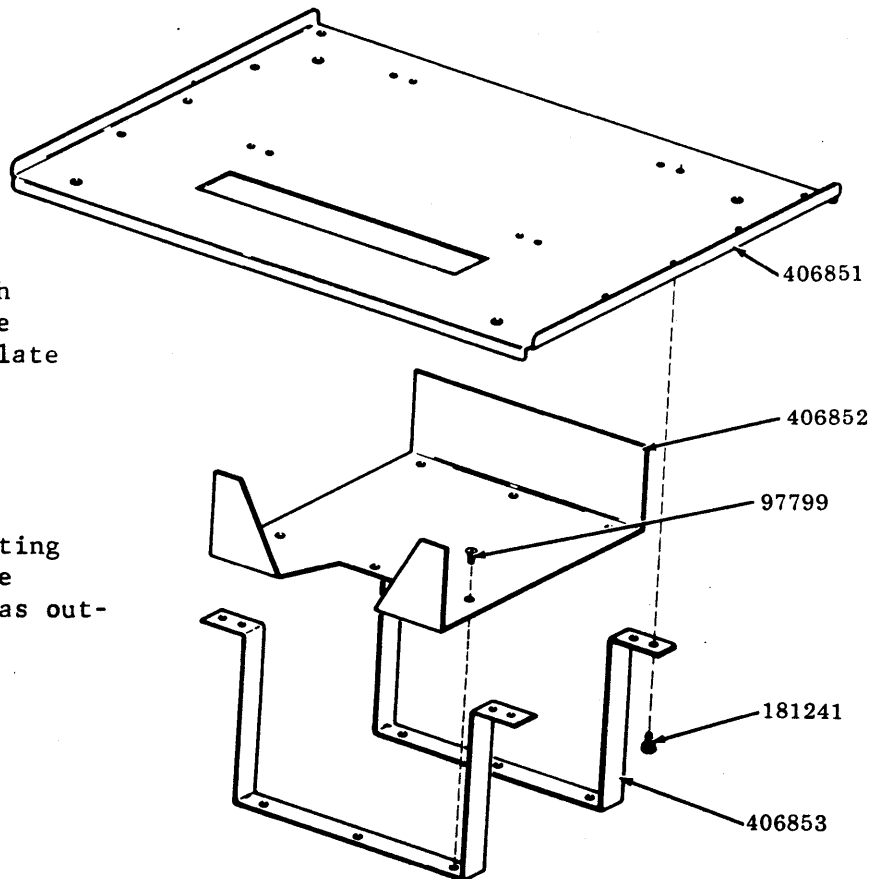
6. INSTALLATION OF THE 406858 MODIFICATION KIT – 80-COLUMN TRACTOR FEED PRINTER

- ① Install the slide assemblies of the modification kit in the rack as outlined in 4. up to Step 7.

- ② Mount two 406853 tray brackets to the 406852 paper tray. Secure the tray bracket with six (three on each bracket) 97799 flat head screws.

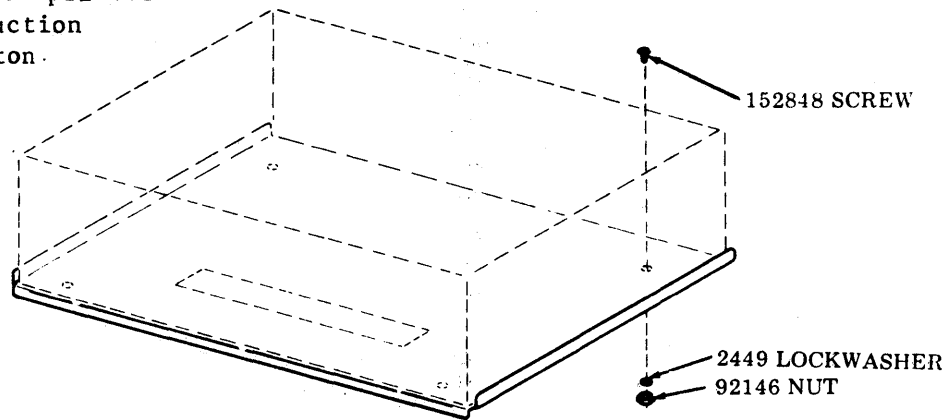
- ③ Mount the paper tray with brackets to the underside of the 406851 mounting plate (80-column tractor feed printer) and secure with eight 181241 screws.

- ④ Mount the mounting plate with paper tray and mounting brackets assembled to the slide mounting brackets as outlined in Step 7 of 4.

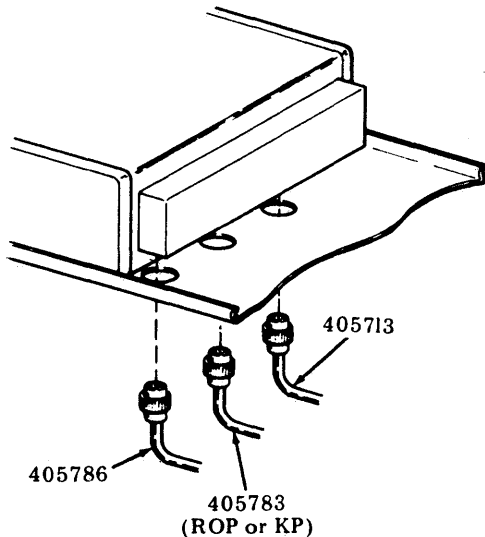


E. RACK MOUNT INSTALLATION (Contd)7. FRICTION FEED PRINTER AND PRINTER CABINET INSTALLATION

- ① Unpack friction feed printer cabinet per instruction on outside of carton.



- ② Position the printer cabinet on the mounting plate so that the mounting holes in the cabinet are aligned with the mounting holes (0.312 diameter) of the mounting plate.
- ③ Secure the cabinet to the plate using four 152848 truss head screws, 2449 lockwashers and 92146 nuts.

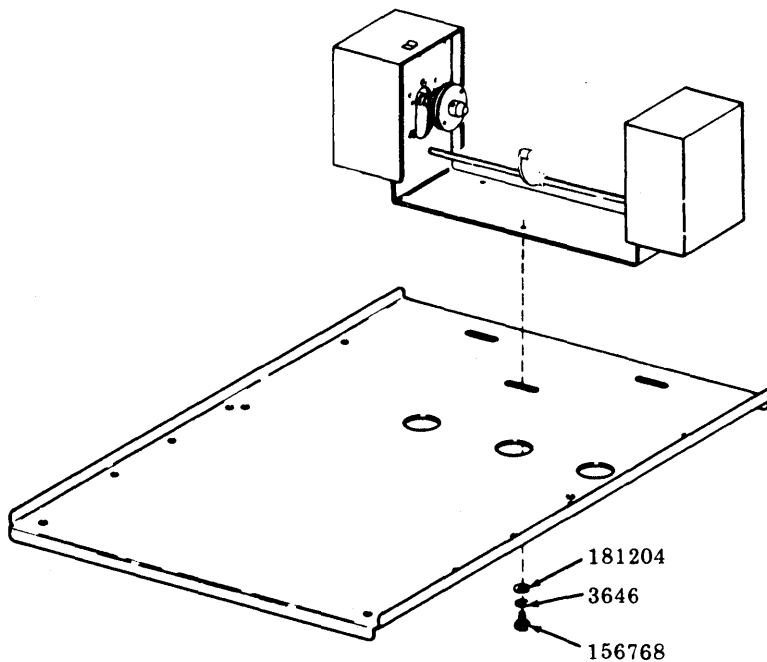


- ④ Route one end of the 405713 printer ac cable through the access hole in the printer mounting plate and connect it to J402 connector on the printer cabinet. Route the other end of the cable to the interface assembly and connect to J201 of the interface.
- ⑤ Route one end of the 405786 printer SSI cable through the access hole in the printer mounting plate and connect it to J400 connector on the printer cabinet. Route the other end of the cable to the controller and connect it to J302 connector on the controller interconnection module.

- ⑥ If ROP or KP set, route one end of the 405783 opcon cable through the access hole in the mounting plate and connect it to J401 connector on the printer cabinet. Route the other end of the cable to the controller and connect it to J303 on the controller interconnection module.
- ⑦ Unpack friction feed printer (40P101/AA or AB) per instructions on outside of carton.
- ⑧ Option printer, refer to Page 35 for procedure.

Mount paper winder to printer mounting plate (if supplied with terminal).

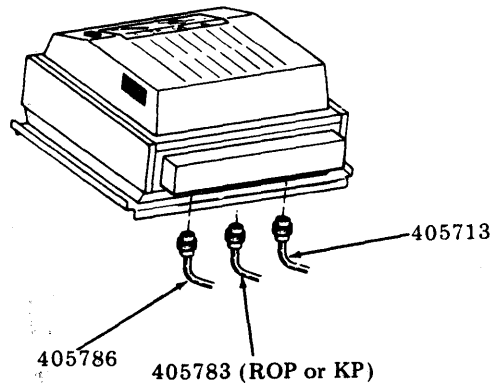
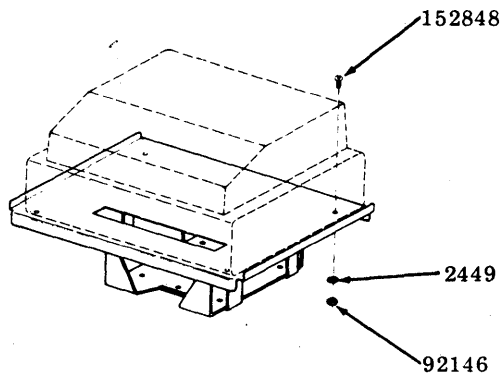
- ① On 40PWU101 paper winders, remove and retain the three 156768 screws, 3646 lockwashers and 181204 flat washers which mount the paper winder to the 403354 mounting bracket. Remove and discard the bracket. On 40PWU102 paper winders, remove the four 156768 screws, 3646 lockwashers and 181204 flat washers which mount the 407478 and 407479 right and left mounting brackets. Retain three 156768 screws, 3646 lockwashers and 181204 flat washers. Discard the 407478 and 407479 mounting bracket and one 156768 screw, 3646 lockwasher and 181204 flat washer.
- ② Position the paper winder unit over the elongated holes at the rear of the printer mounting plate. Secure the paper winder to the mounting plate using three 156768 screws, 3646 lockwashers and 181204 flat washers.



E. RACK MOUNT INSTALLATION (Contd)

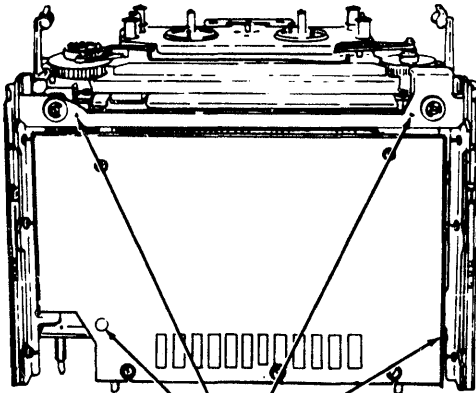
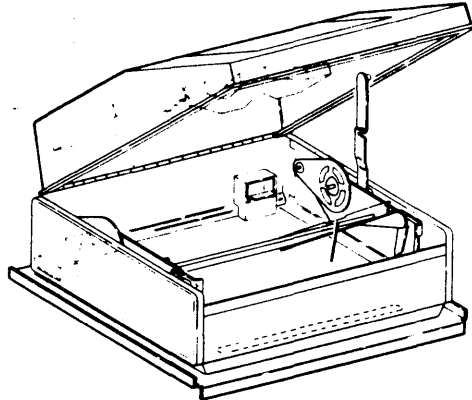
8: TRACTOR FEED PRINTER AND PRINTER CABINET INSTALLATION

- ① Unpack tractor feed printer cabinet (40CAB352/RA or RD) per instruction on outside of carton.
- ② Position the printer cabinet on mounting plate so that the cabinet mounting holes line up with the mounting holes (0.312 diameter) of the mounting plate.
- ③ Secure the cabinet to the mounting plate using four 152848 truss head screws, 2449 lockwashers and 92146 nuts.
- ④ Connect one end of the 405713 printer ac cable to J402 connector of the printer cabinet. Route the other end of the cable to the interface assembly and connect it to the J200 connector of the interface assembly.
- ⑤ Connect one end of the 405786 printer SSI cable to J400 connector of the printer cabinet. Route the other end of the cable to the controller and connect it to the J302 connector of the controller.
- ⑥ Unpack the tractor feed printer (40P154/AA or AB) per instructions on outside of carton.
- ⑦ Option printer, refer to Page 35 for procedure.



- ⑧ If ROP or KP set, connect one end of the 405783 opcon cable to J401 connector of the printer cabinet. Route the other end of the cable to the controller and connect it to J303 connector of the controller interconnection module.

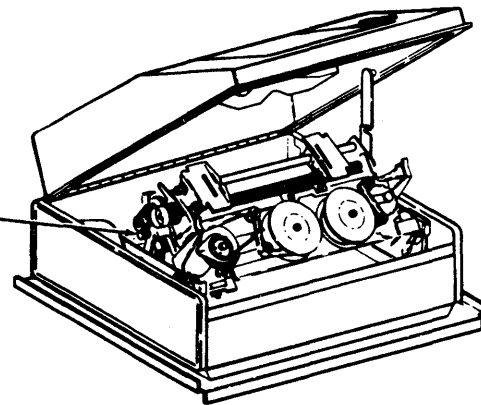
- ⑨ Open lid by depressing latches on either side of lid and then raising it until it locks.



IMMOBILIZATION SCREWS
(4 Places)

CAUTION: BEFORE INSTALLING PRINTER IN CABINET BACK OFF THE FOUR BLACK SHOCK MOUNT IMMOBILIZING SCREWS SEVEN OR EIGHT TURNS.

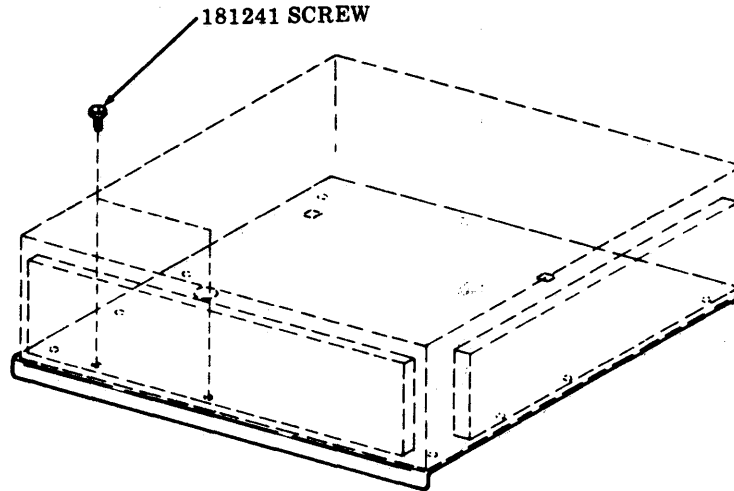
- ⑩ Install printer in tracks until detents are seated.



NOTE: With printer properly seated all power and SSI connections will be made.

E. RACK MOUNT INSTALLATION (Contd)9. CONTROLLER INSTALLATION – RACK MOUNT

- ① Unpack controller per instructions on outside of carton.
- ② Remove controller cover.



Controller

- ③ Position controller on mounting plate so that the mounting hook on rear of mounting plate falls into mounting slots in rear of controller. Make certain that hooks are not depressed into plate but are raised sufficiently to engage controller without interfering with backpanel.
- ④ Slide controller slightly rearward so that mounting plate mounting hook engages controller.
- ⑤ Secure the front of controller to mounting plate using two 181241 screws.
- ⑥ Option controller refer to H. CONTROLLER OPTIONING Page 128.

NOTE: Add appropriate circuit cards if answer-back option is to be used or if controller contains extended memory. Refer to Page 23 for circuit card arrangements.

- ⑦ Replace controller cover.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION

1. GENERAL

When assembling the isolation modification kits into the rack it is recommended that the installation be started at the bottom of the rack and work toward the top.

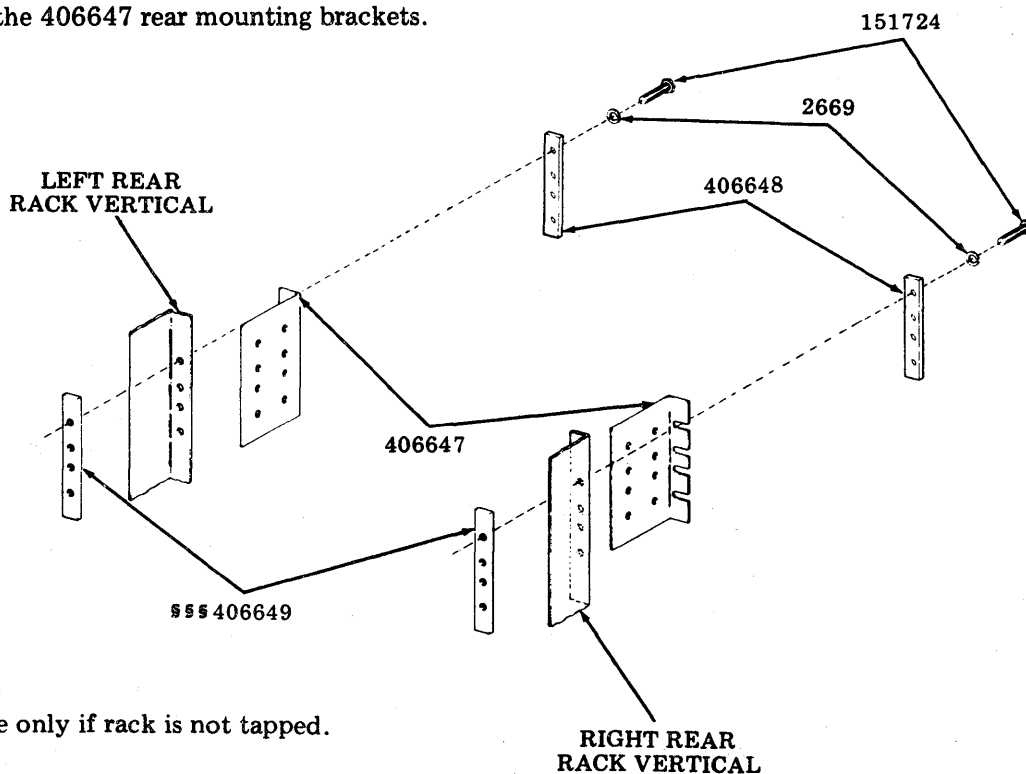
The 406694 isolation assembly, part of the 406670 modification kit to mount the controller, is assembled so that the air exhausting from the controller is blown forward toward the front of the rack. If the air flow toward the front of the rack is undesirable, the controller can be turned around to reverse the air flow so that the air is exhausted to the rear of the rack. To accomplish this the isolation assembly must be disassembled so the top mounting plate can be turned around. (See Page 90).

The installation of the ruggedization modification kits requires the addition of holes to certain components. The installation of these modification kits should be performed only when appropriate shop facilities and trained personnel are available. It is recommended that the components be moved to a suitable work area and the ruggedization modification kits be installed prior to assembling into racks. Installation of these modification kits can be implemented by the Teletype Product Services Organization.

Note: Late design displays and controllers have holes added for installation of the ruggedizing components.

2. INSTALLATION OF THE 406680 MODIFICATION KIT INTERFACE ISOLATION

Mount the 406647 rear mounting brackets.

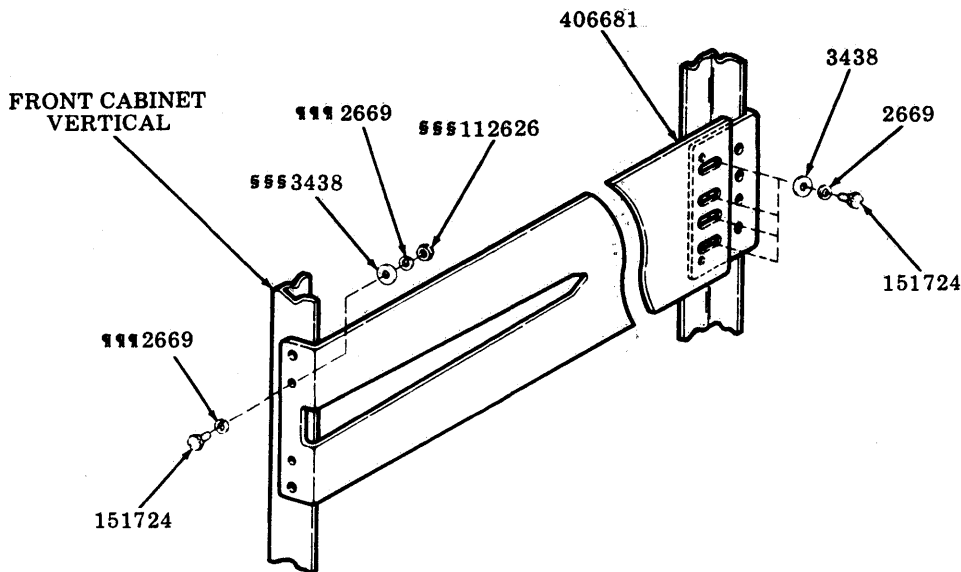


Mount the two 406647 rear mounting brackets to the rear rack verticals (one each side). Mount each mounting bracket with four 151724 screws, four 2669 lockwashers and one 406648 washer plate. If rack is not tapped use a 406649 nut plate to secure the mounting screws.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

2. INSTALLATION OF THE 406680 MODIFICATION KIT INTERFACE ISOLATION (Contd)

Mount 406681 rails in rack.



§§§ Use only if rack is not tapped.

¶¶¶ Same lockwasher but at a different location if rack is not tapped.

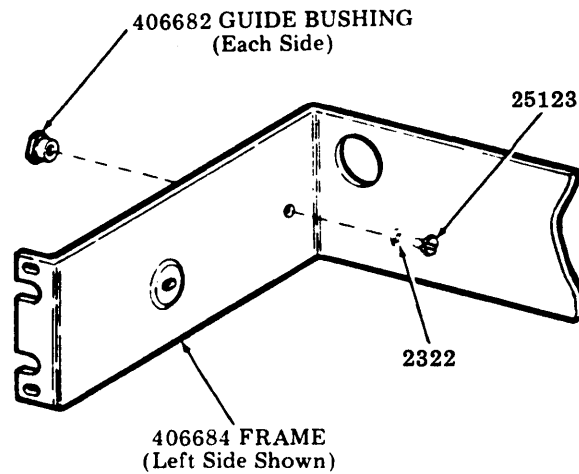
Left Side Shown

- ① Mount the two 406681 rails to the front verticals of the rack (one each side). Secure the rail to the front rack vertical using two 151724 screws and 2669 lockwashers. Use the center two mounting holes. If rack is not tapped, secure the 151724 mounting screws with two 3438 flat washers, 2669 lockwashers and 112626 nuts behind the front rack verticals.
- ② Secure the rear of the 406681 rail to the rear mounting bracket using four 151724 screws, 2669 lockwashers and 3438 flat washers.

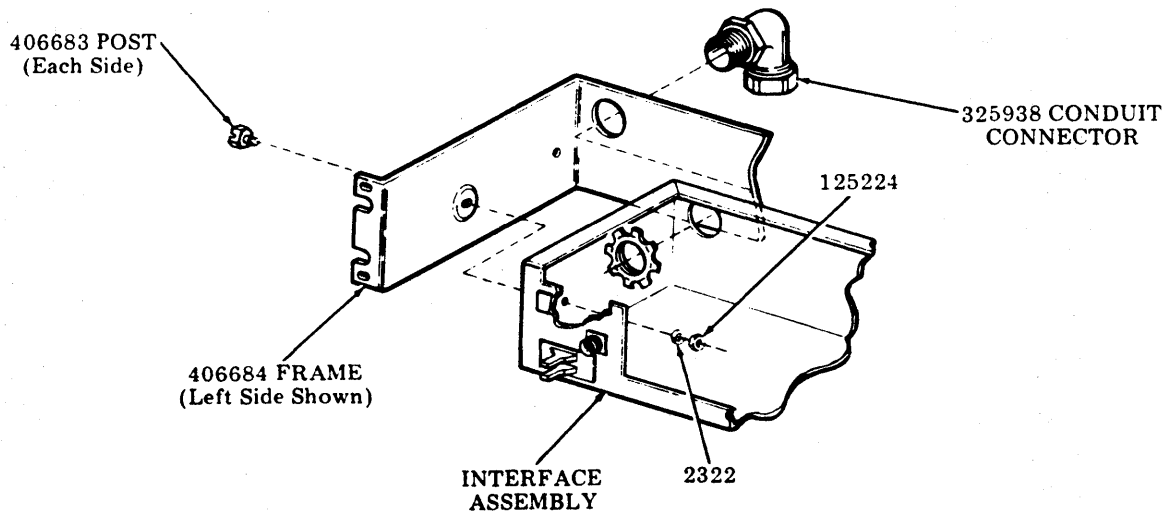
Repeat for right side.

Assemble Interface Frame

To each side of the 406684 interface frame mount a 406682 guide bushing. Secure each bushing with a 25123 screw and 2322 lockwasher.



Mount the interface assembly which has been modified as described in F., 6. of this manual, to the 406684 frame. Remove interface cover if not already removed. Secure the top of the interface assembly to the frame using two 406683 posts, 2322 lockwashers and 125224 nuts (one each side).



Remove and retain three screws which mount the interface circuit card mounting assembly. Rest mounting assembly on rear wall of interface for access to terminal block and mounting holes for conduit connector.

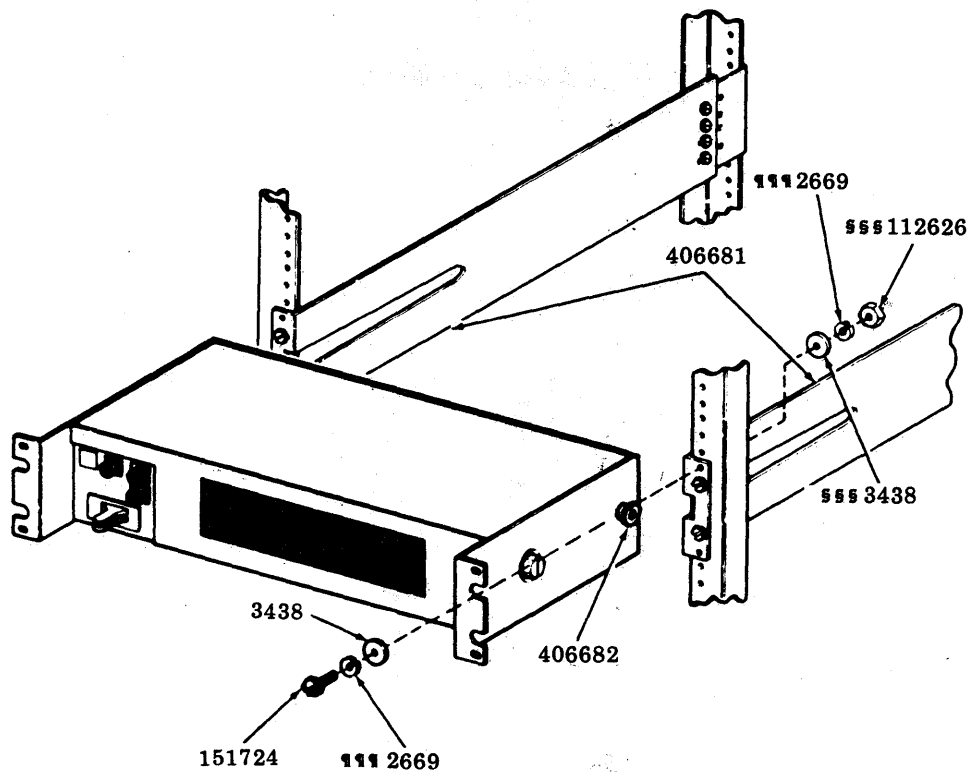
F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

2. INSTALLATION OF THE 406680 MODIFICATION KIT INTERFACE ISOLATION (Contd)

Mount the three 325938 conduit connectors in the mounting holes in the interface assembly and interface frame. Secure the conduit connectors with the lock nut supplied with each connector. Position the conduit connector with the locking nut for the flexible conduit down.

Note: Do not replace circuit card mounting assembly or interface cover until signal and power line connections have been made.

Mount the interface assembly with frame into rack.



555 Use only if rack is not tapped.

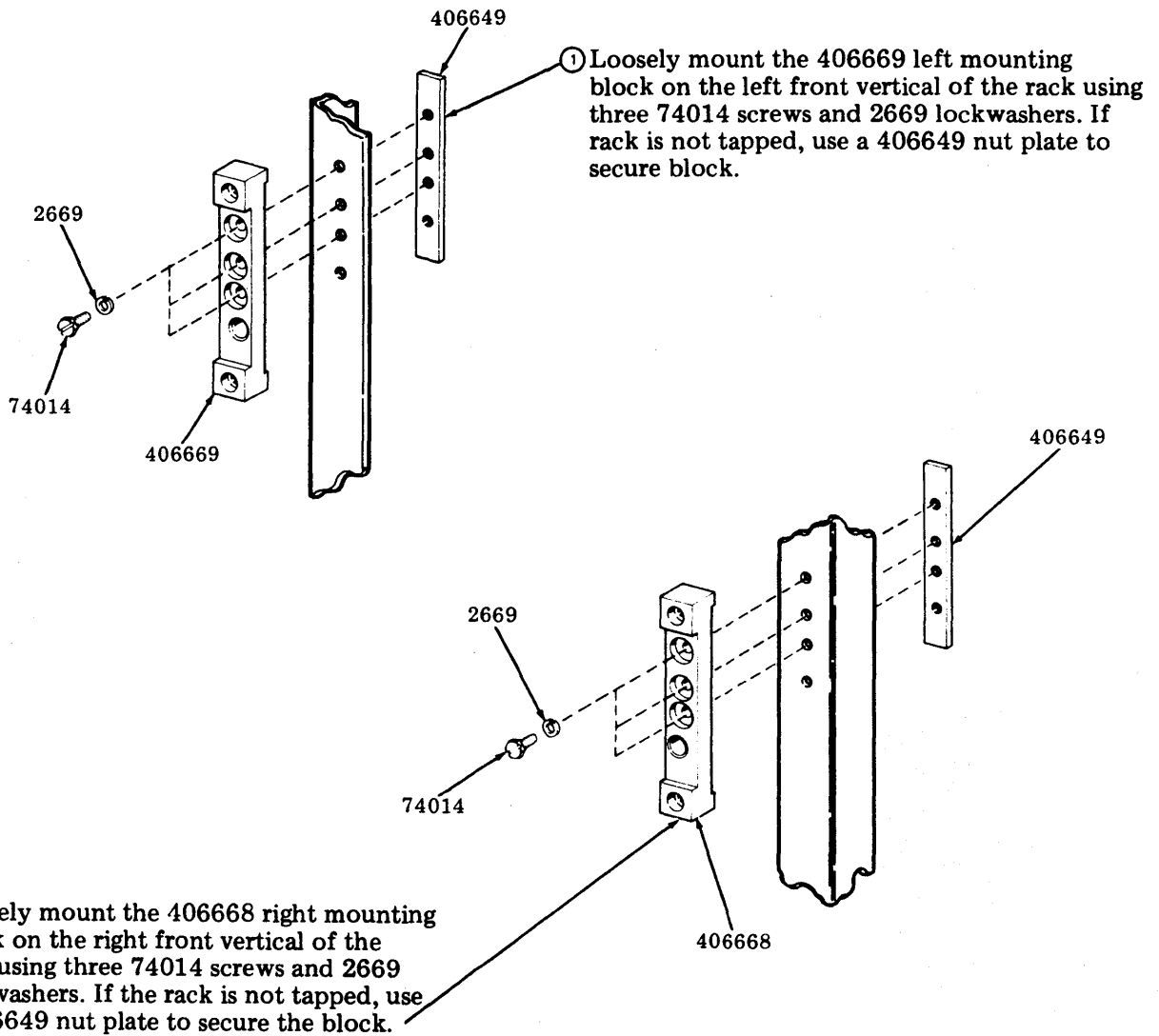
111 Same lockwasher but at a different location if rack is not tapped.

- ① Slide assembled interface and frame into rails on rack. Be sure 406682 guide bushings are in the slots of the 406681 rails (both sides).
- ② Secure the interface assembly and frame in rack using four (two each side) 151724 screws, 2669 lockwashers and 3438 flat washers.

If rack is not tapped, secure the mounting screws with four 3438 flat washers, 2669 lockwashers and 112626 nuts behind the front rack verticals.

3. INSTALLATION OF THE 406660 AND 406670 ISOLATION MODIFICATION KITS

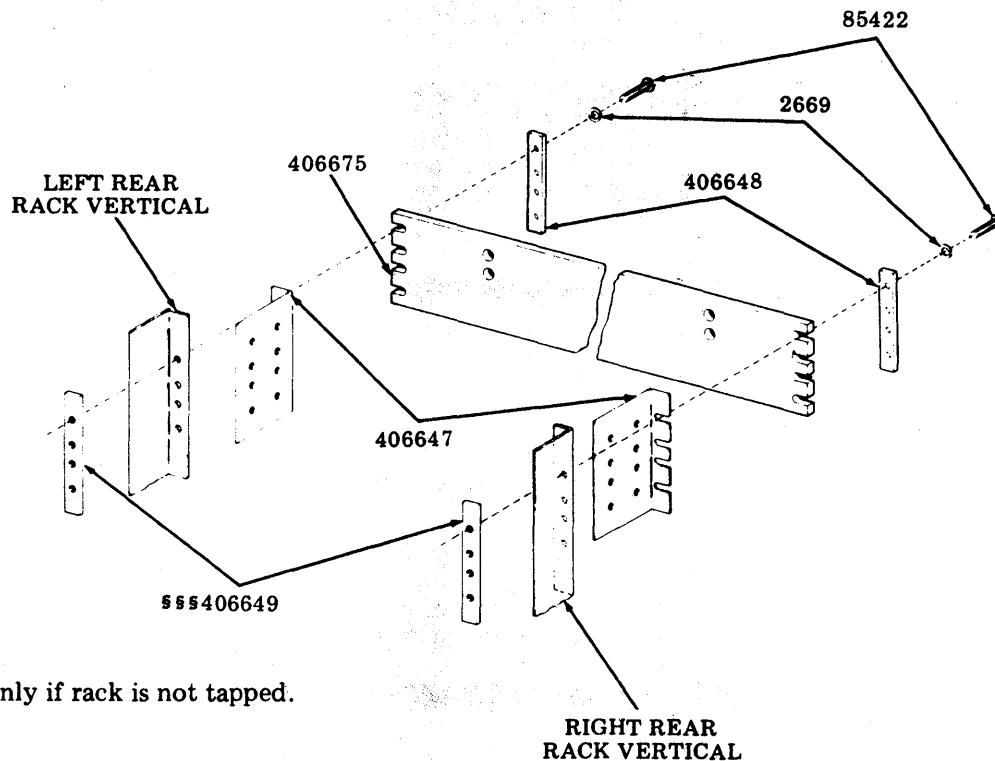
For 406680 and 406670 modification kits mount the 406668 mounting block (right) and the 406669 mounting block (left).



F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

3. INSTALLATION OF THE 406660 AND 406670 ISOLATION MODIFICATION KITS (Contd)

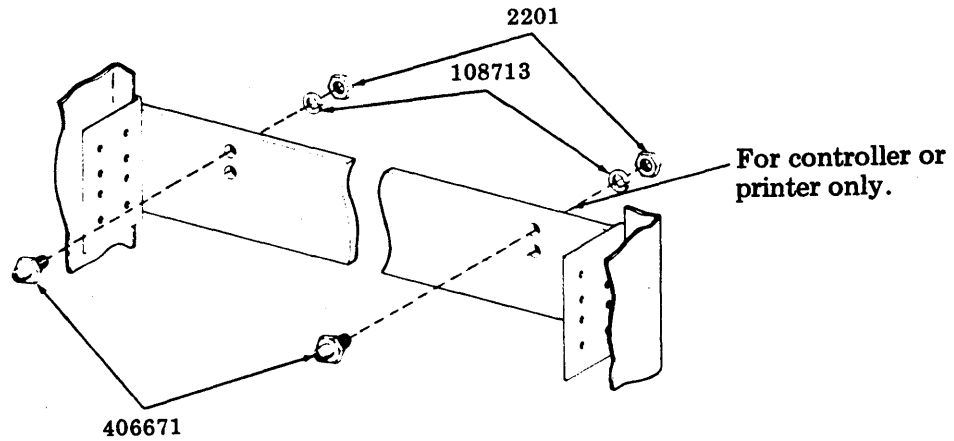
Mount the 406647 rear mounting brackets and 406675 rear plate.



§§§Use only if rack is not tapped.

Mount the two 406647 rear mounting brackets and the 406675 rear plate to the rear verticals of the rack cabinet. Mount the 406647 brackets next to the vertical with the 406675 rear plate on the outside of the brackets. Secure the brackets and rear plate to the rack verticals with eight (four on each side) 85422 screws, 2669 lockwashers and two (one each side) 406648 washer plates. If rack is not tapped, use two (one each side) 406649 nut plates to secure the screws.

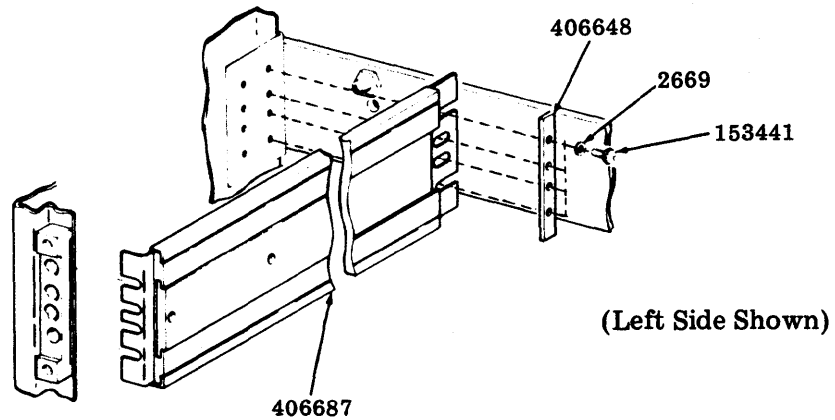
Mount the rear two 406671 shock pins on the rear plate.



Mount two 406671 shock pins in the rear plate. For printer or controller applications mount the shock pins in the top pair of holes. Secure the shock pins with two 2201 nuts and 108713 lockwashers.

Mount the 406687 slide assembly.

For 406660 or 406670 modification kits.



- ① Slip the formed mounting portion of the slide assembly between the mounting bar and the front vertical of the rack. Install the slide so the mounting fingers on the slide engages the top three mounting screws of the mounting bar. Tighten the mounting bar mounting screws.
- ② Secure the rear of the slide assembly to the rear bracket with four 153441 screws, 2669 lockwashers and one 406648 washer plate.
- ③ Repeat for right side.

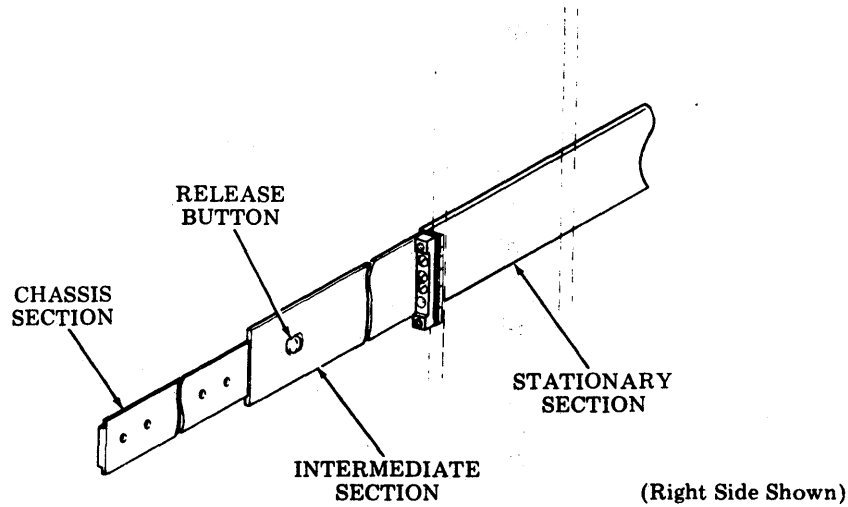
F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

3. INSTALLATION OF THE 406660 AND 406670 ISOLATION MODIFICATION KITS (Contd)

Mount isolation assembly to slides.

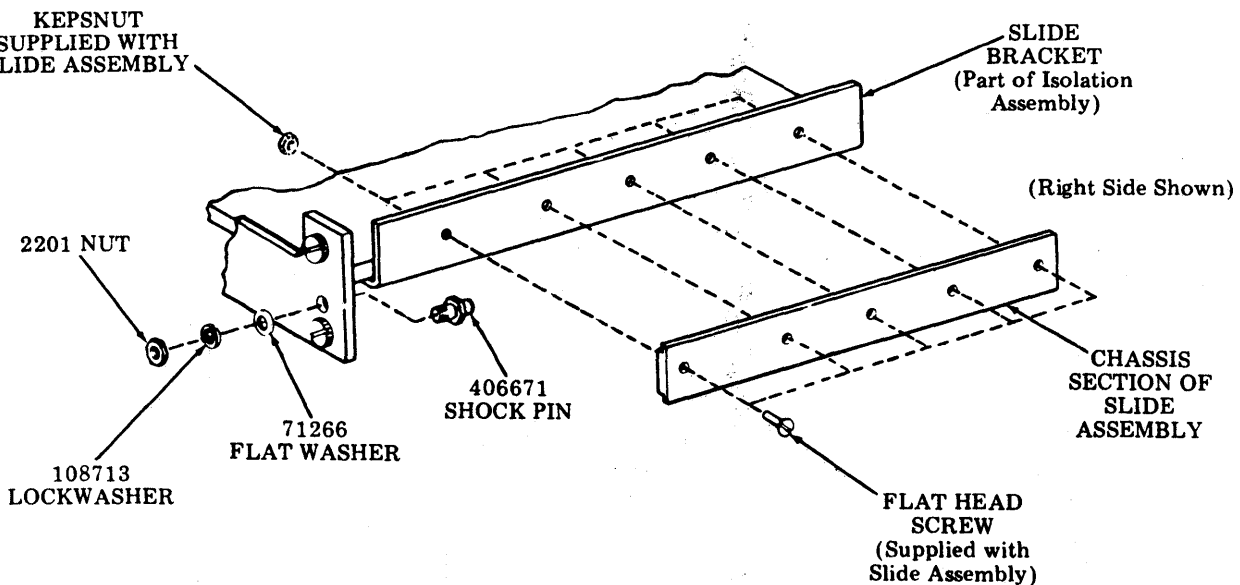
Note: If air flow from the controller is to be exhausted to the rear of the rack, go to 4., Page 90 prior to installing the controller isolation assembly.

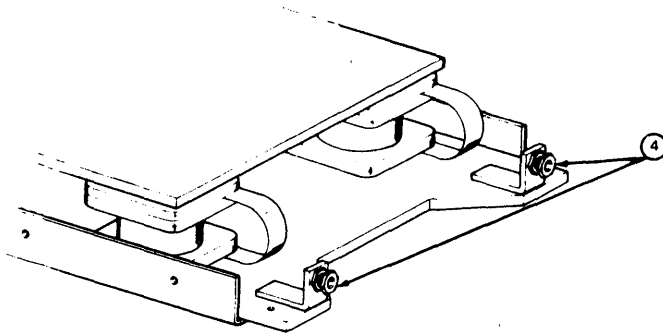
- ① Remove the chassis section of each slide by extending the slide and depressing the latch button while pulling the chassis section forward.



- ② Mount the chassis section of the slide to the isolation assembly of the modification kit. Secure the chassis sections with five flat head screws and five Kepsnuts supplied with slide assembly (each side).

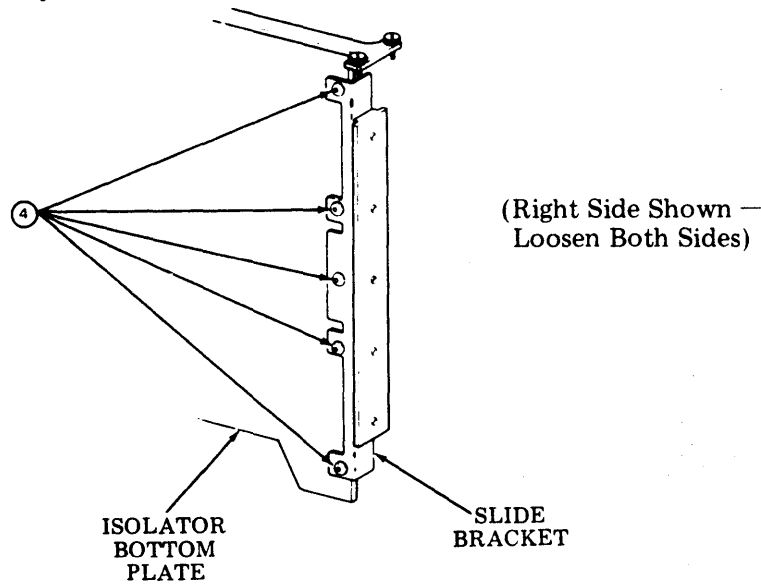
- ③ Install the remaining two 406671 shock pins in the isolation assembly front plate (one each side). Loosely secure the shock pins with two 71266 flat washers, 108713 lockwashers and 2201 nuts.





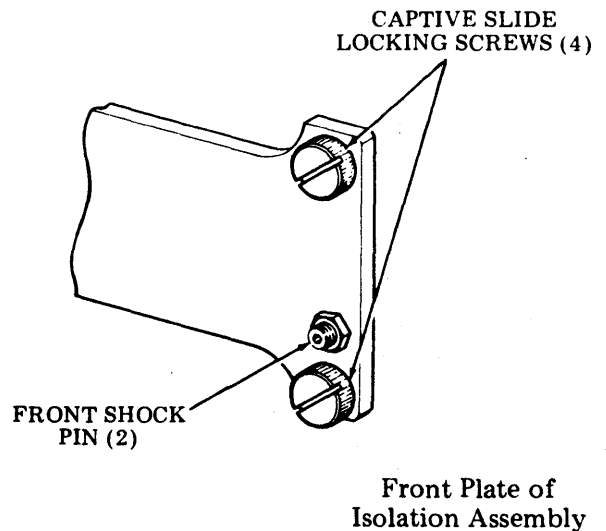
④ Prior to installing the isolation assembly with chassis section of slide assemblies into the intermediate section of the slides loosen the locking nuts on the shock bushings on the rear of isolation assembly. Also, loosen the mounting screws which mount the slide brackets to the underside of the bottom plate of the isolation assembly.

Rear of Isolation Assembly



(Right Side Shown — Loosen Both Sides)

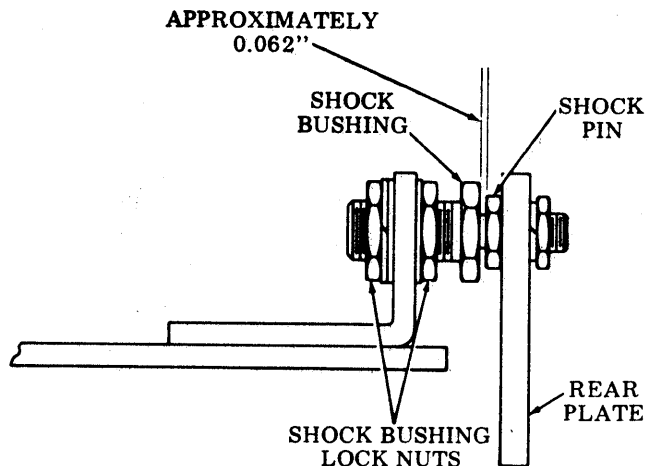
⑤ Insert the chassis sections of the isolation/chassis assembly into the intermediate sections of the slide assemblies. When the chassis sections are fully inserted in the intermediate sections of the slide assemblies and the slides are in their closed position, center the bottom plate (left to right) between the slide assemblies and tighten the slide bracket mounting screws under the bottom plate of the isolation assembly. If an alignment problem exists, it may be necessary to reposition the left and right mounting blocks to insure alignment to the captive slide locking screws on the front of the controller isolation assembly. Tighten the front shock pins mounting nuts (both sides). Insert a 0.125 Allen Head wrench in socket at end of shock pin to hold pin while tightening nut.



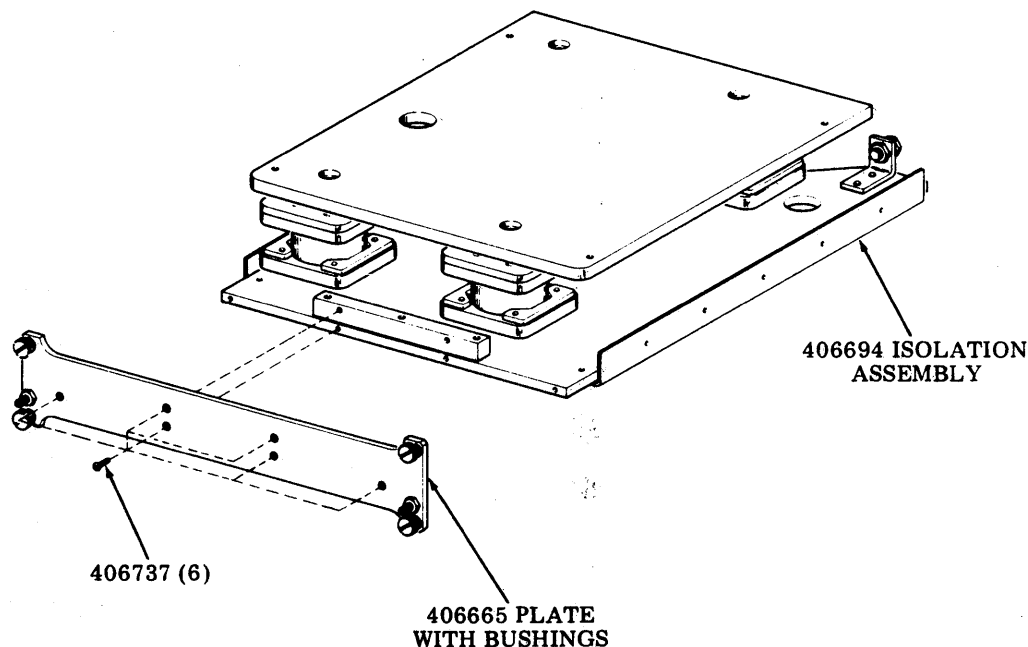
F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

3. INSTALLATION OF THE 406660 AND 406670 ISOLATION MODIFICATION KITS (Contd)

- ⑥ With the slides in the closed position, adjust the shock bushing on the rear of the isolation assembly by means of the locking nuts so that there is a gap of approximately 0.062 inches between the flange on the shock bushings and the flange on the shock pins mounted on the rear plate. Tighten the shock bushing locking nuts (both sides).

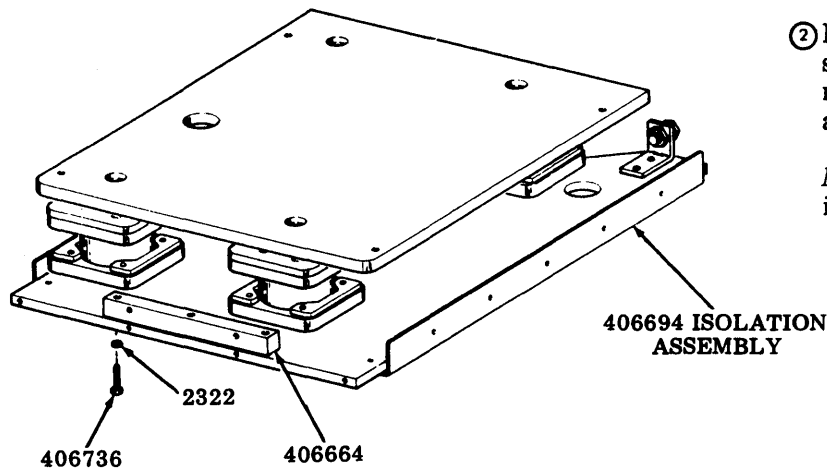


4. REVERSING CONTROLLER ISOLATION ASSEMBLY (IF REQUIRED)



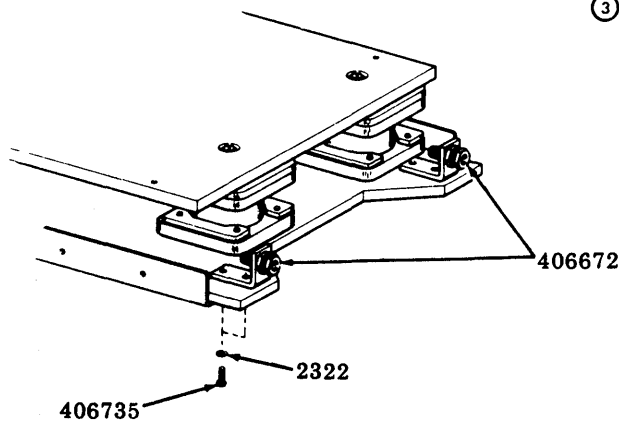
- ① Remove and retain the six 406737 flat head screws which mount the 406665 plate with bushings to the front of the isolation assembly. Remove and retain plate.

Note: A 1/8 inch Allen Head wrench is required to remove these screws.



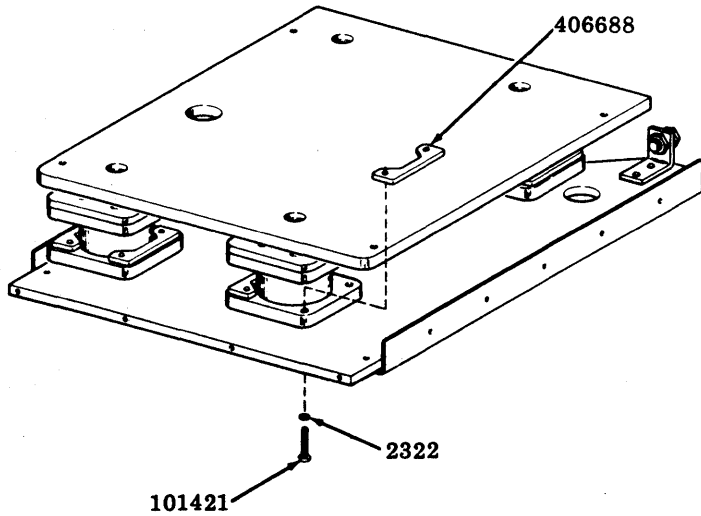
- ② Remove and retain the three 406736 screws and 2322 lockwashers which mount the 406664 support. Remove and retain the support.

Note: A 1/8 inch Allen Head wrench is required to remove these screws.



- ③ Remove and retain the four 406735 screws and 2322 lockwashers which mount the two 406672 rear shock brackets with bushings. Remove and retain the brackets with bushings.

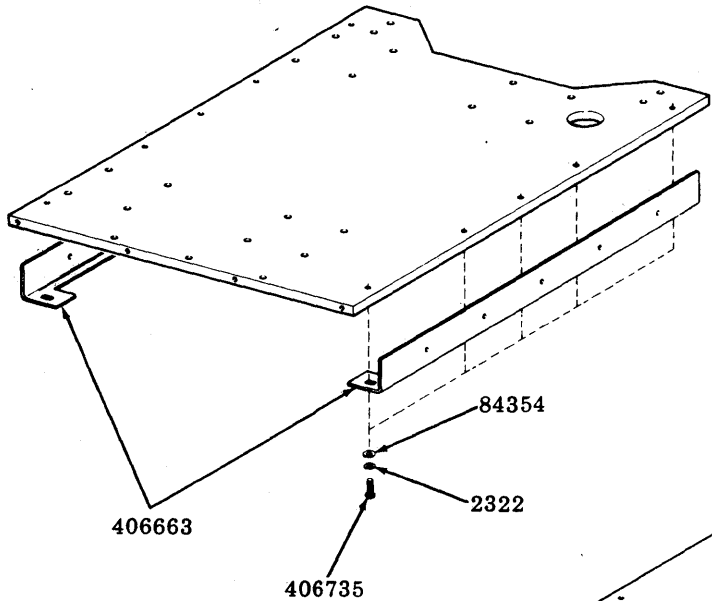
Note: A 1/8 inch Allen Head wrench is required to remove these screws.



- ④ From each of the four shock mounts, remove and retain four 101421 screws, 2322 lockwasher and two 406688 nut plates. Remove the top plate assembly.

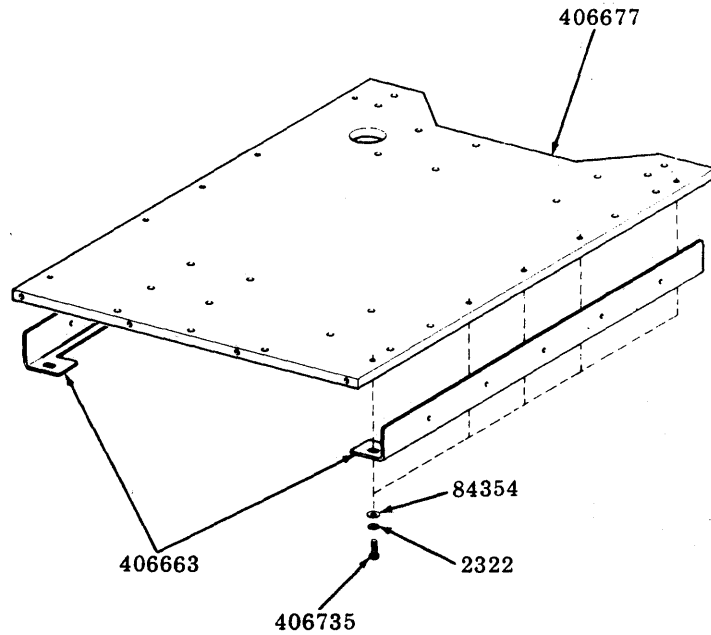
F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

4. REVERSING CONTROLLER ISOLATION ASSEMBLY (IF REQUIRED) (Contd)

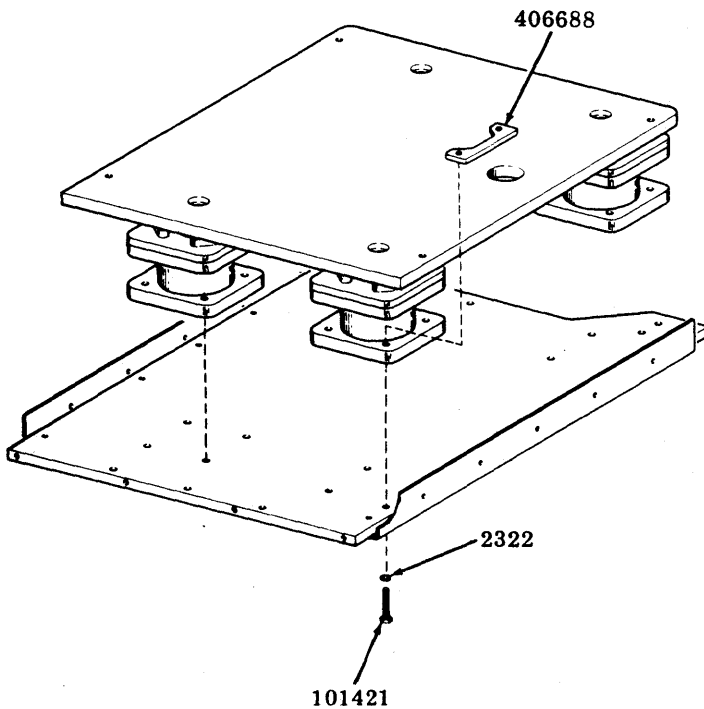


- ⑤ From each of the 406663 slide brackets, remove and retain five 406735 screws, 84354 flat washers, and 2322 lockwashers. Remove and retain the two slide brackets.

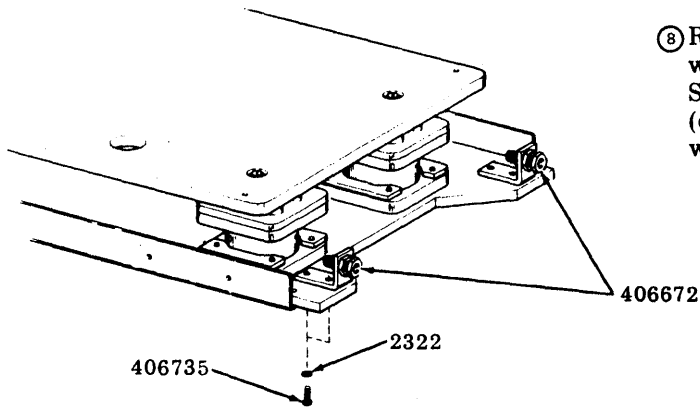
Note: A 1/8 inch Allen Head wrench is required to remove these screws.



- ⑥ Turn the 406677 bottom plate over so that the 1.500 diameter hole at the rear of the plate is to the left. Install the two 406663 slide brackets using the 406735 screws, 84354 flat washers and 2322 lockwashers retained in ⑤.

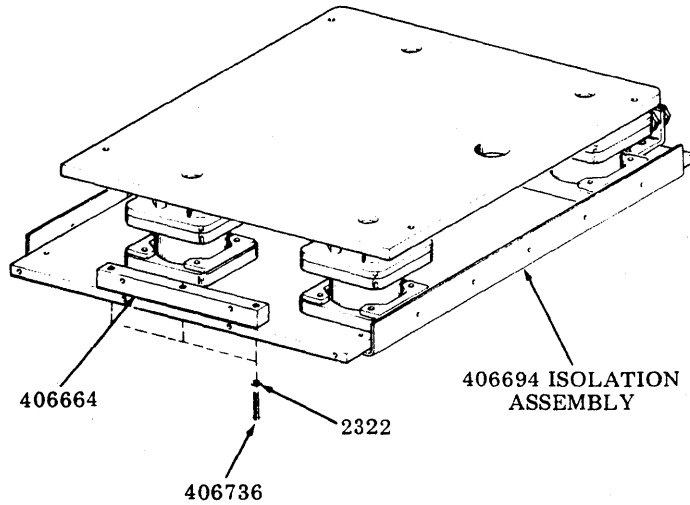


- ⑦ Position the 406678 top plate with isolators on the 406677 bottom plate so the 1.500 diameter hole in the top is to the right. Align the mounting holes in each of the isolators with the mounting holes in the bottom plate. Secure each isolator to the bottom plate with four 101421 screws, 2322 lockwashers and two 406688 nut-plates retained in ④.

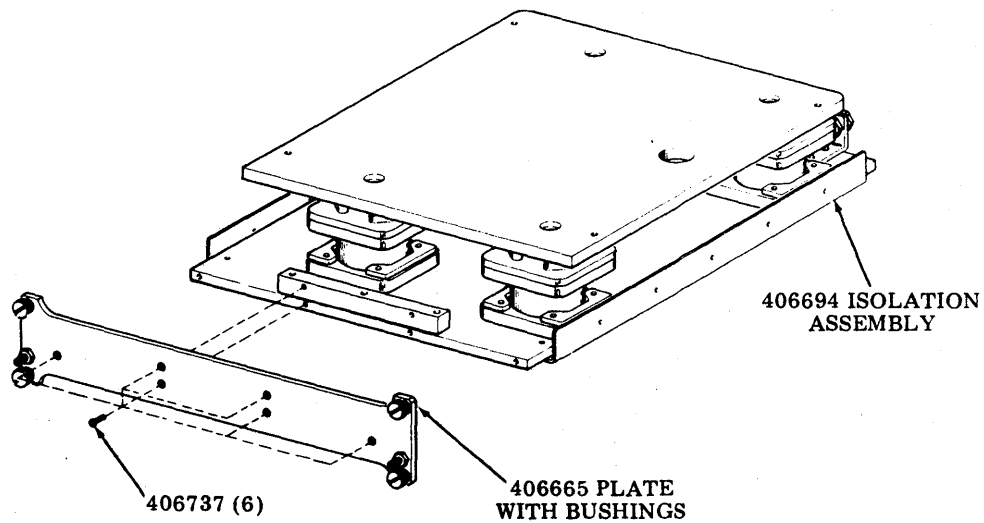


- ⑧ Replace the two 406672 rear shock brackets with bushings on the rear of the bottom plate. Secure the brackets to the plate using two (each bracket) 406735 screws and 2322 lockwashers retained in ③.

- ⑨ Replace the 406664 support on the front of the bottom plate. Secure the support to the plate using three 406736 screws and 2322 lockwashers retained in ②.



- ⑩ Replace the 406665 plate with bushings on the front of the bottom plate. Secure the plate using six 406737 flat head screws retained in ①.

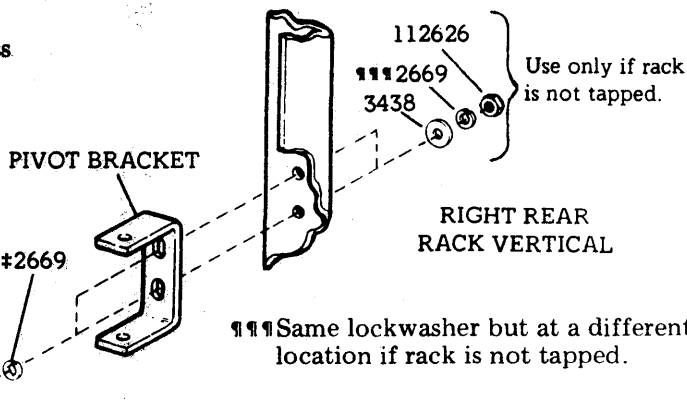
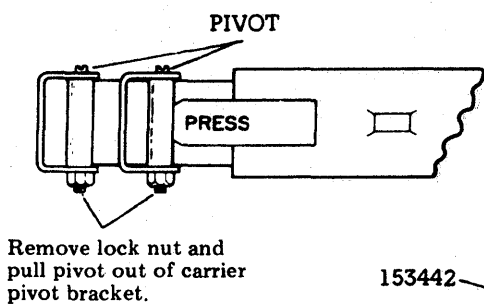


F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

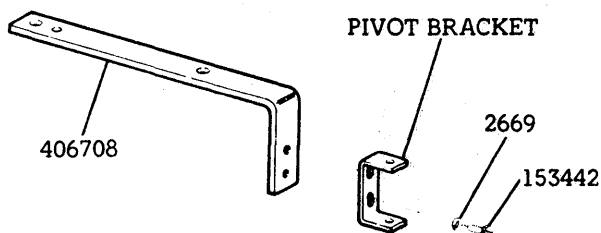
5. MOUNTING OF CABLE CARRIERS

Mount Cable Carrier (on Printer Isolation Assembly)

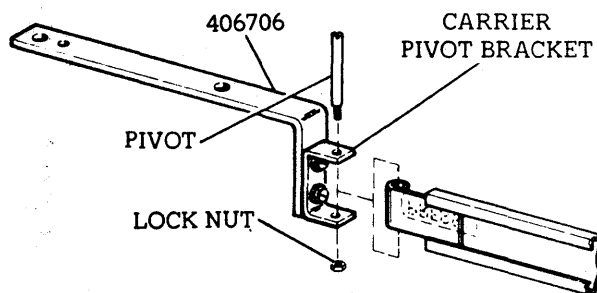
- ① To facilitate mounting remove the pivot posts from each end of the 406706 cable carrier.



- ② Mount one of the pivot brackets from the cable carrier on the 406708 carrier mounting bracket. Secure the pivot bracket with two 153442 screws and 2669 lockwashers.



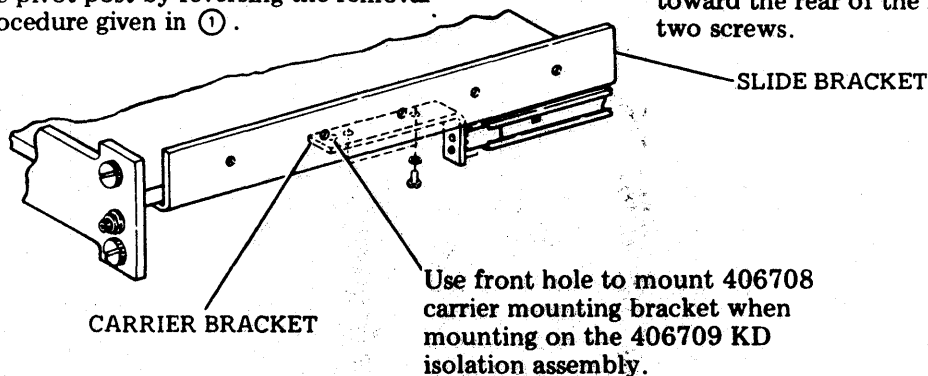
- ③ Mount the other pivot bracket from the cable carrier to the right rear vertical of the rack under the rear plate and slide mounting bracket. Secure the carrier pivot bracket with two 153442 screws and 2669 lockwashers. If rack is not tapped, secure the two 153442 screws with two 3438 flat washers, 2669 lockwashers and 112626 nuts.



- ④ Mount the shorter of the two arms of the cable carrier with the "Quick Disconnect" lever labeled "PRESS" to the carrier pivot bracket that was mounted to the 406706 carrier mounting bracket. Mount by replacing the pivot post by reversing the removal procedure given in ①.

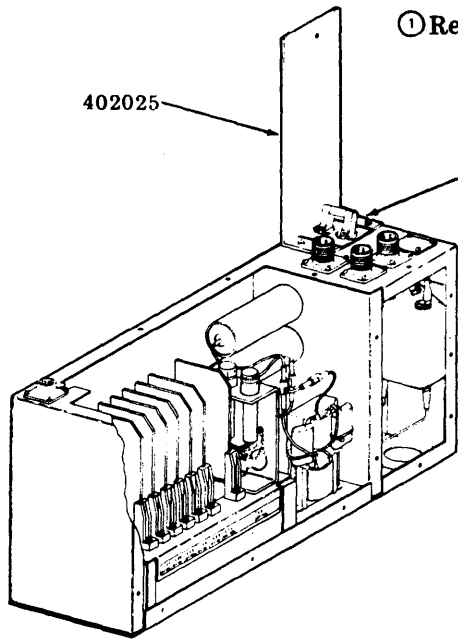
- ⑥ Mount the other end of the cable carrier to the carrier pivot bracket mounted to the right rear rack vertical. Mount the carrier by replacing the pivot post by reversing the removal procedure given in ①.

- ⑤ Mount the carrier mounting bracket with carrier to the underside of the isolation assembly. Mount the assembly on the right side using the second and third mounting screws from rear of the slide bracket. Remove these two screws. Mount bracket and carrier so that the carrier is pointing toward the rear of the rack. Replace the two screws.



6. INSTALLATION OF THE 406725 MODIFICATION KIT – INTERFACE RUGGEDIZATION

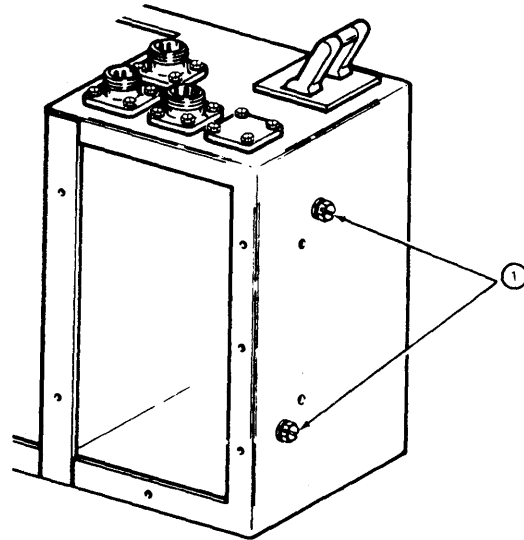
Remove 402025 switch bracket.



① Remove the interface assembly cover.

② While supporting the interface circuit breaker from the inside of the ac compartment, remove four 1158 screws and 2191 lockwashers which mount the circuit breaker and discard the 402025 bracket and 1158 screws. Retain the 2191 lockwashers.

③ Remount the interface circuit breaker using the four 125179 screws and the 2191 lockwashers retained in ②.



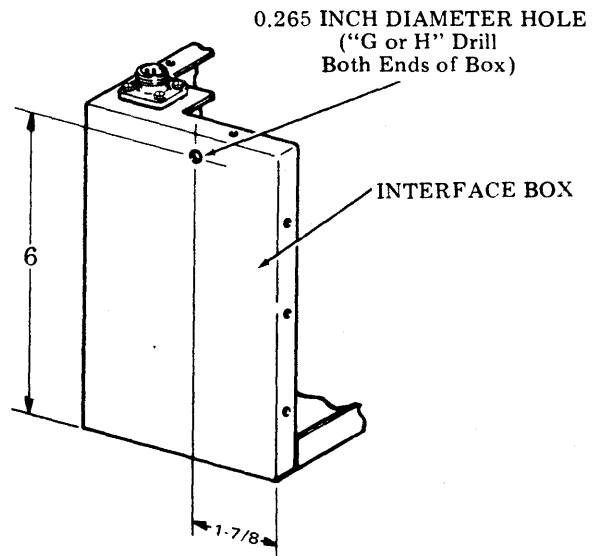
Add mounting holes to interface assembly.

① Remove and retain the two 181241 screws which mount the ac choke assembly to the inner right wall of the ac compartment of the interface assembly.

② At both ends of interface assembly add a 0.265 inch diameter hole (17/16 "G or H" Drill) as shown in the figure.

Insure that no metal chips fall on circuit cards or terminals which will cause shorting of leads.

Deburr the added holes with suitable tool.

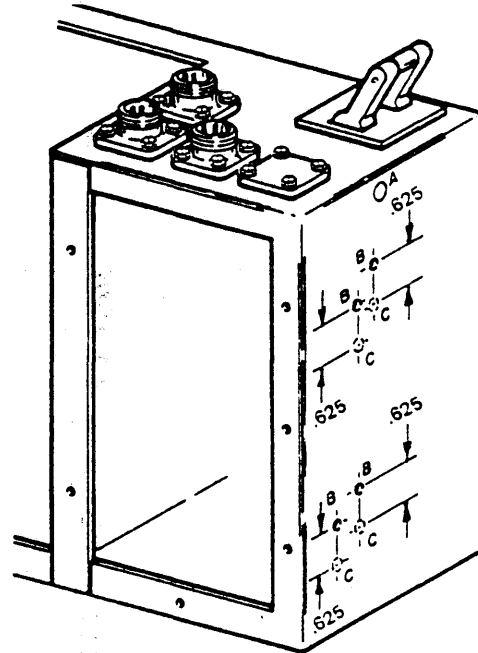


F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

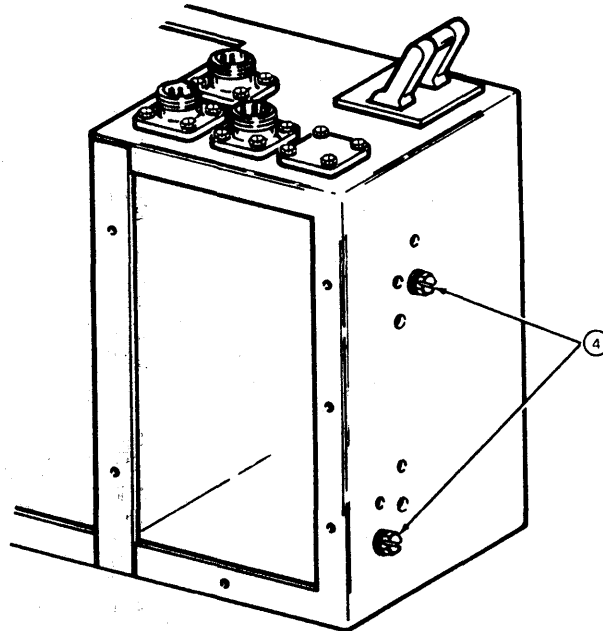
6. INSTALLATION OF THE 406725 MODIFICATION KIT - INTERFACE RUGGEDIZATION (Contd)

- ③ At the right end of the interface assembly, add four 0.166 inch diameter holes (#19 drill) to relocate ac choke assembly 0.625 of an inch down.

- A - 0.265 inch diameter hole added in ②.
 B - Existing holes.
 C - Added 0.166 inch diameter holes (4).



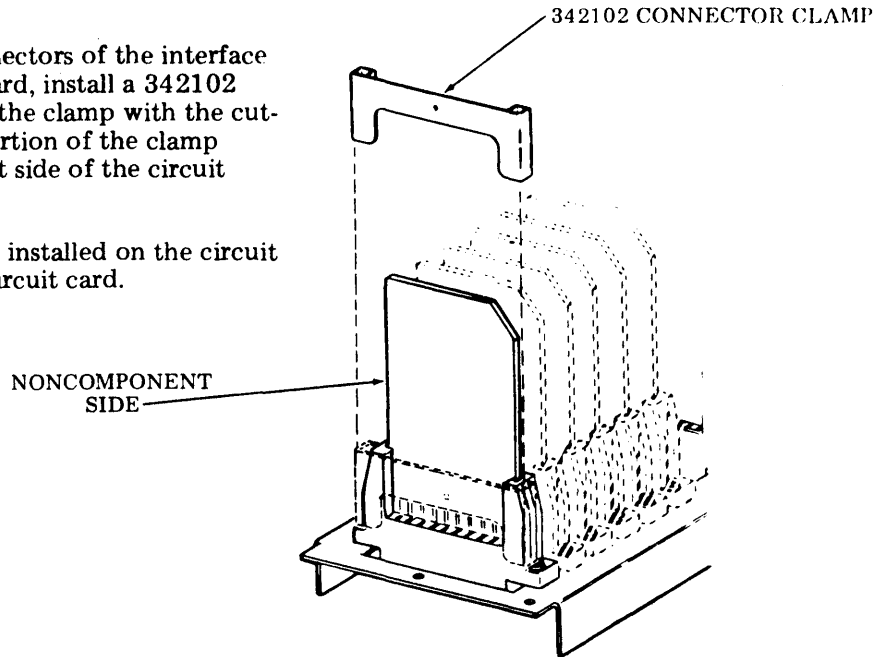
- ④ Remount the ac choke assembly using the set of holes added in ③. Secure the choke assembly using the two 181241 screws retained in ①.



Add connector clamps to interface assembly.

On each of the card connectors of the interface that contains a circuit card, install a 342102 connector clamp. Install the clamp with the cut-out down and the flat portion of the clamp facing the noncomponent side of the circuit board.

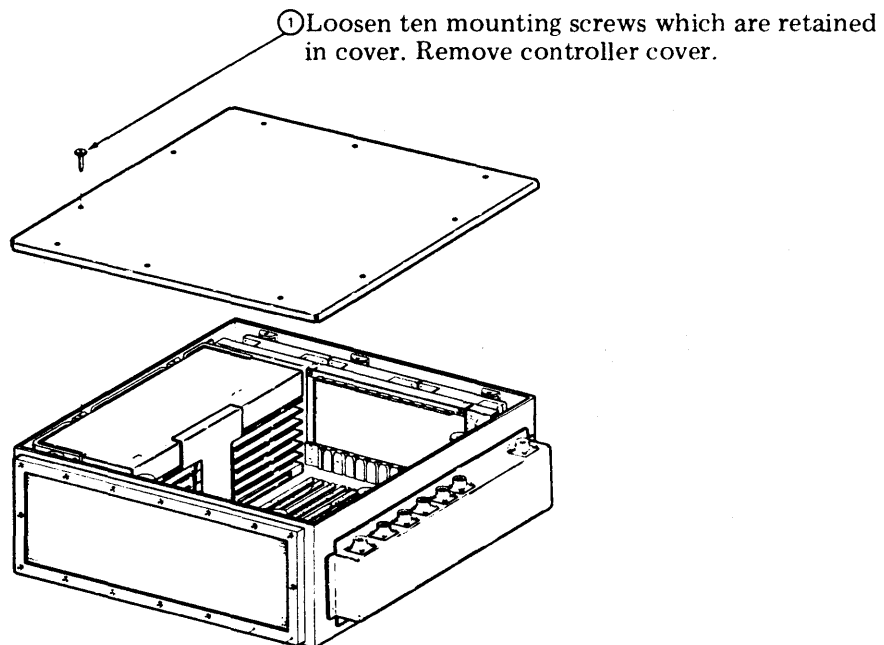
Note: The clamp is to be installed on the circuit card connector not the circuit card.



Interface is now ready to be installed in rack. Do not replace interface cover.

7. INSTALLATION OF THE 406720 MODIFICATION KIT — CONTROLLER RUGGEDIZATION

Remove controller cover.



F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

7. INSTALLATION OF THE 406720 MODIFICATION KIT - CONTROLLER RUGGEDIZATION (Contd)

Remove controller power supply.

① Turn main power switch off.

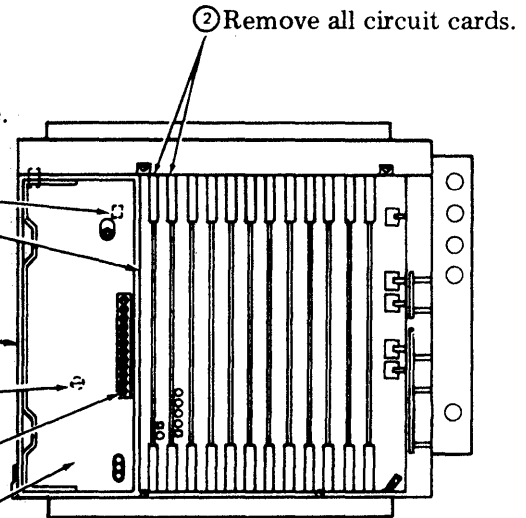
⑥ Lift power supply and rest on edge of frame.
Reach in at rear of power supply and disconnect ac connector.

⑤ Release power supply handle latch and power supply latch on side of frame.

③ Remove power supply shipping bolt from under side of controller.

④ Disconnect leads from power supply to controller back panel.

⑦ Remove power supply from controller.



Remove controller back panel.

① Turn main power switch off.

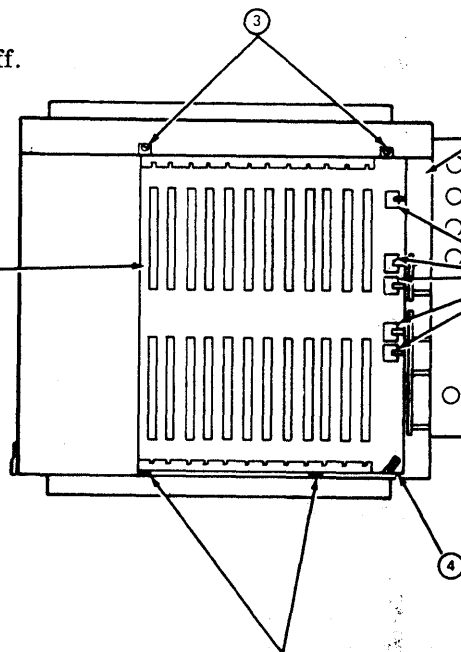
410203
BACK PANEL

⑤ Remove back panel from controller.

② Disconnect flat wire from back panel.

④ Disconnect back panel ground strap.

③ Remove four 341819 shoulder screws which mount back panel.

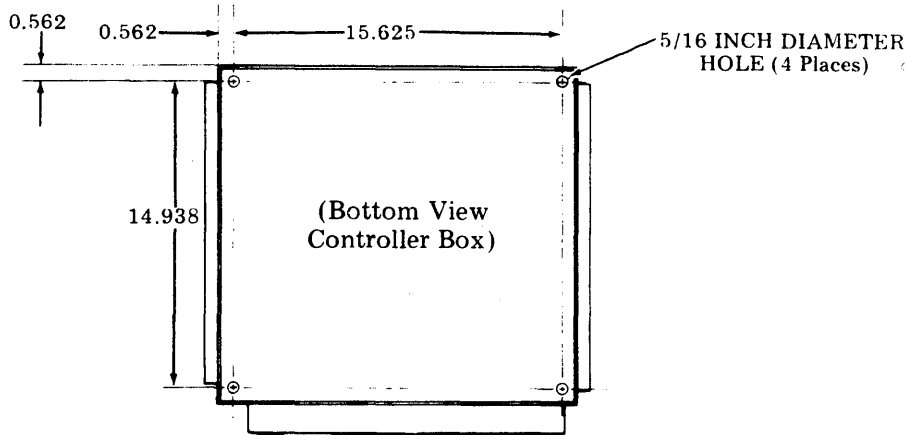


Note: Late design controllers have mounting holes added to controller container. Check controller to see if holes have been added. If holes are present, go to Page 99.

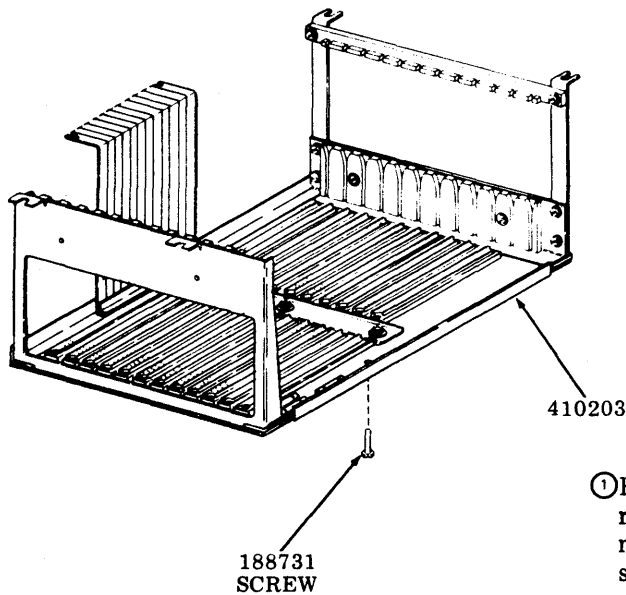
Add mounting holes to controller housing.

Caution: Be sure ac leads for fan assembly are dressed out of the way before drilling rear mounting holes.

From the bottom outside of the controller add four 5/16 inch diameter holes per dimension on figure. Do not allow metal chips to fall into fan assembly or on circuit cards or terminals. Deburr holes with suitable tools.



410203 Back Panel Modification (40C438 Controller)



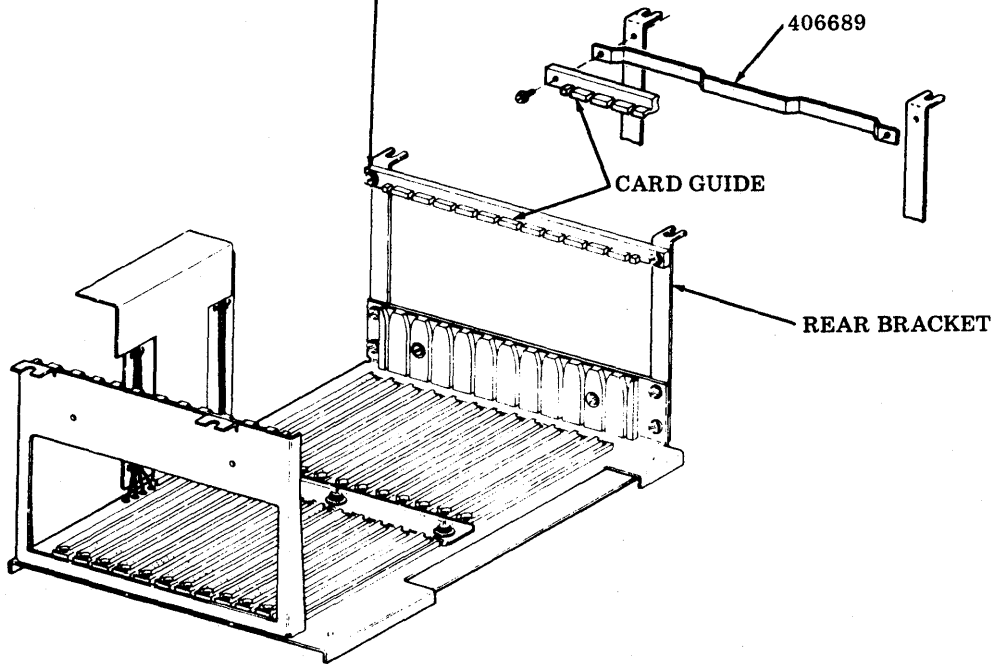
① From the underside of the 410203 back panel, remove the front right 188730 circuit card mounting screw and replace it with the 188731 screw.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

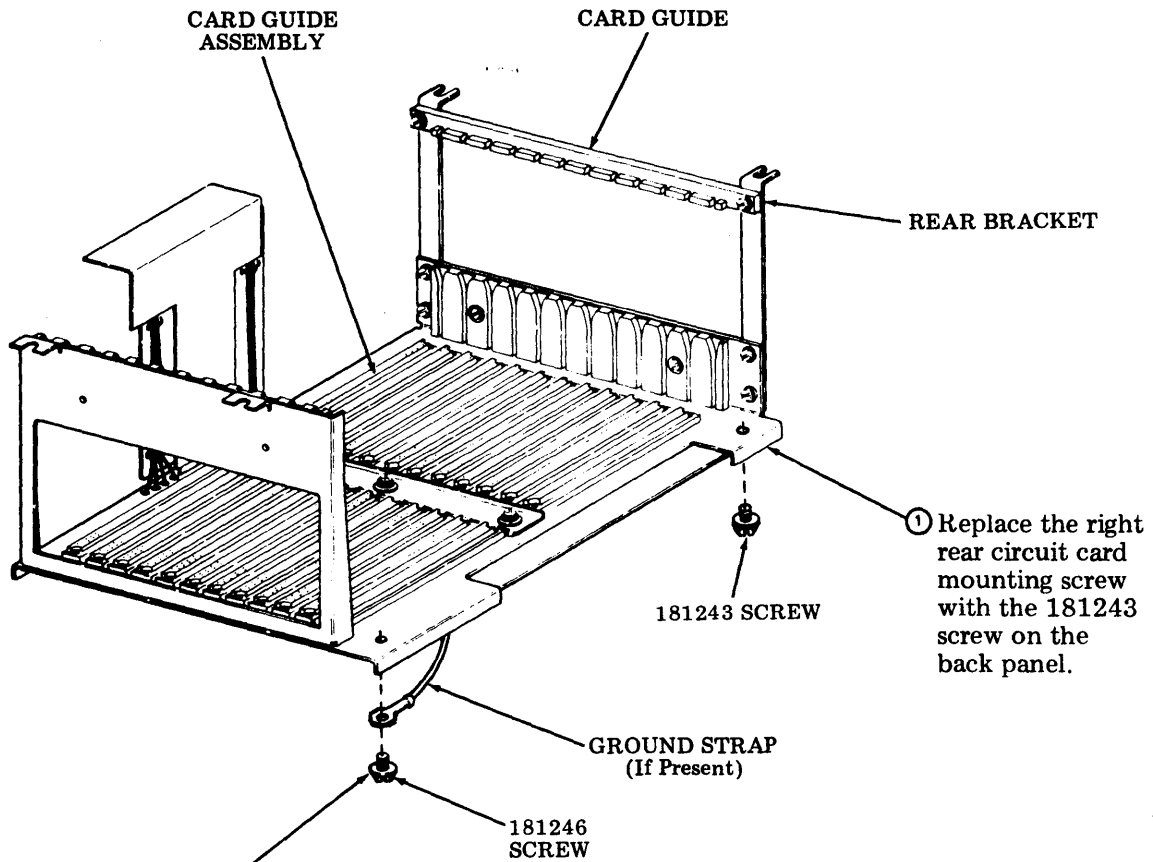
7. INSTALLATION OF THE 406720 MODIFICATION
KIT - CONTROLLER RUGGEDIZATION (Contd)

Back Panel Modification

① Remove and retain the two screws which mount the top rear card guide. Remove and retain the card guide. Install the 406689 spacer behind the card guide with forms in the spacer (to the rear) from the card guide. Reassemble the 406689 spacer and card guide using the retained hardware.



410202 Back Panel Modification



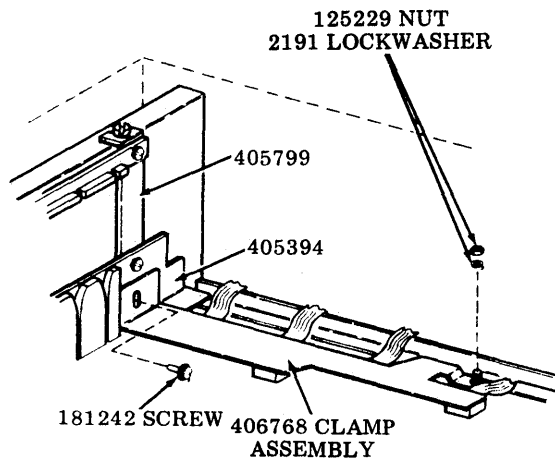
① Replace the right rear circuit card mounting screw with the 181243 screw on the back panel.

② Remove and retain the ground tab terminal, nut, star washer, and lockwasher. Remove the 181245 existing screw and replace it with the 181246 screw. Be sure to mount the ground strap (if present) on the underside of the back panel with the 181246 screw. Do not install the ground tab, star washer, lockwasher or nut until the 406718 terminal clamp is installed. Refer to Page 105.

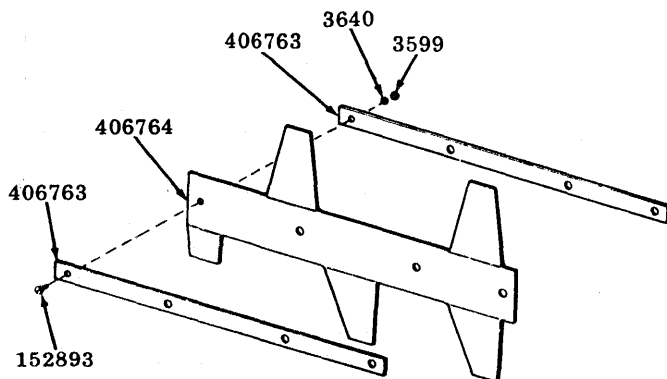
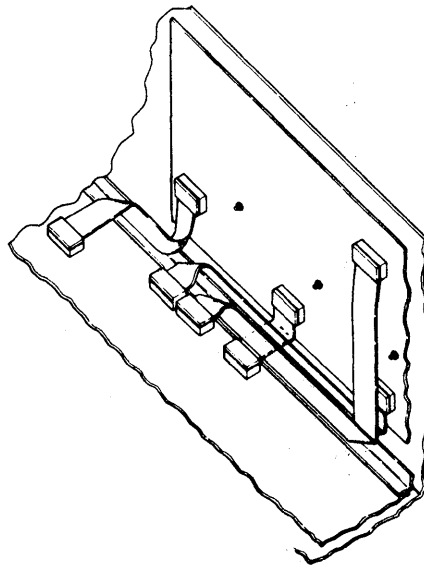
F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

7. INSTALLATION OF THE 406720 MODIFICATION KIT - CONTROLLER RUGGEDIZATION (Contd)

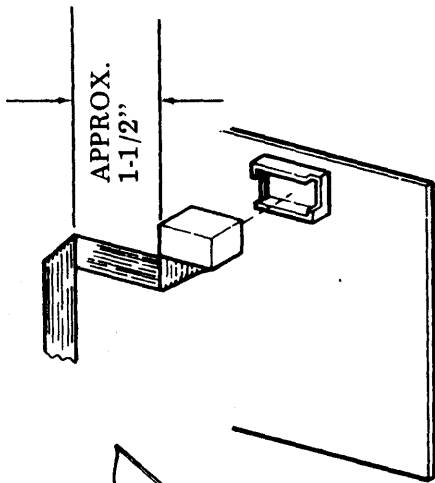
① Replace the 410203 controller back panel by reversing the removal procedure.



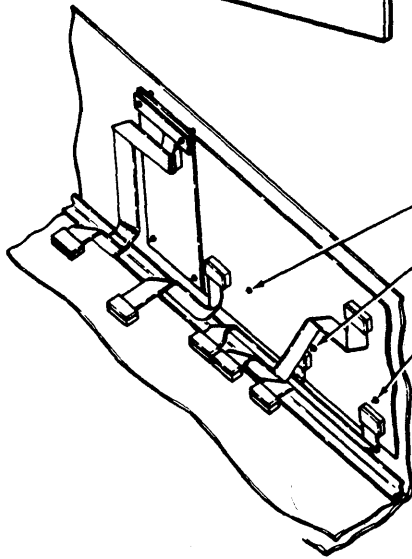
② Remove the lower 181241 screw which mounts the 405799 rear bracket to the 405394 bracket. Position the 406768 clamp assembly over the flat cable connectors on the 410203 back panel and the 188731 screw added previously. Secure the clamp assembly with a 181242 screw in the rear and a 125229 nut and 2191 lockwasher in the front.



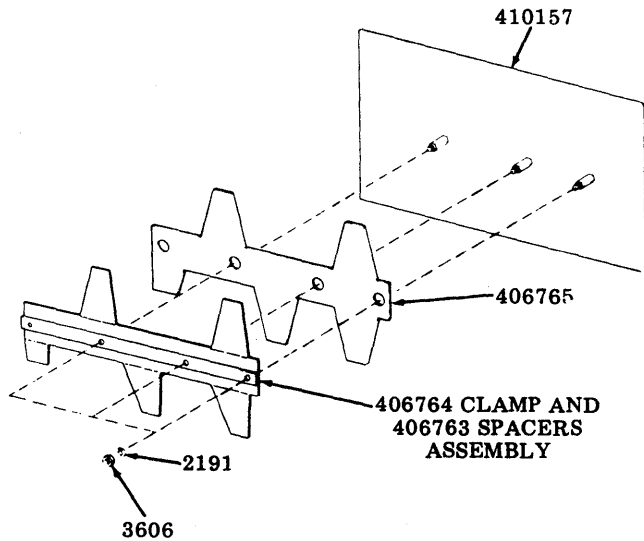
③ Place a 406763 spacer on each side of the 406764 connector clamp. Secure the two spacers to the connector clamp with one 152893 screw, 3640 lockwasher and 3599 nut in the left mounting hole only. (As viewed with three mounting fingers of the 406764 connector clamp down).



- ④ Remove the top front flat wire cable connector from the 410157 circuit card. Reroute the cable by adding two 90 fold over bend as shown in the adjacent figure. Reconnect the flat wire cable.



- ⑤ Remove and discard the three 100011 nuts which mount the 410157 circuit card. Do not remove the lockwashers. On each of the mounting studs install a 336493 post.



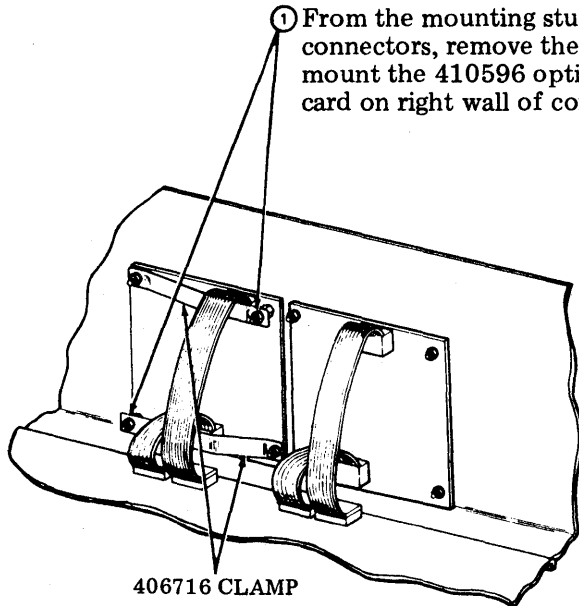
- ⑥ Mount the 406765 insulator on the three posts added in ⑤. Mount the 406764 clamp and 406763 spacer assembly over the 406765 insulator. Be sure the fingers of the insulator and clamp assembly engage the flat cable connectors. Secure the clamp assembly and insulator with three 3606 nuts and three 2191 lockwashers from the modification kit.

- ⑦ Replace the controller power supply by reversing the removal procedure.
- ⑧ Reconnect leads from controller back panel to power supply.
- ⑨ Reinstall all removed circuit cards.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

7. INSTALLATION OF THE 406720 MODIFICATION KIT - CONTROLLER RUGGEDIZATION (Contd)

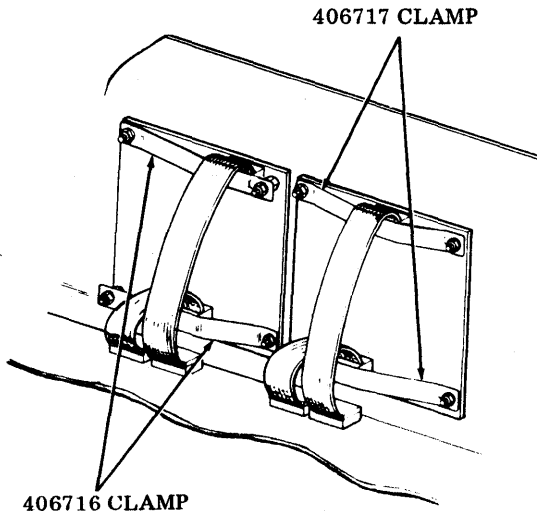
Install the 406716, 406717 and 406726 connector clamps (410202 back panel, 40C431 and 40C432 controllers).



Note: Early design controllers mount circuit card with four 3599 nuts, 3640 lockwashers and 125011 flat washers. From the mounting studs closest to the flat cable connectors remove two 3599 nuts. Do not remove the two 3640 lockwashers and the 125011 flat washers.

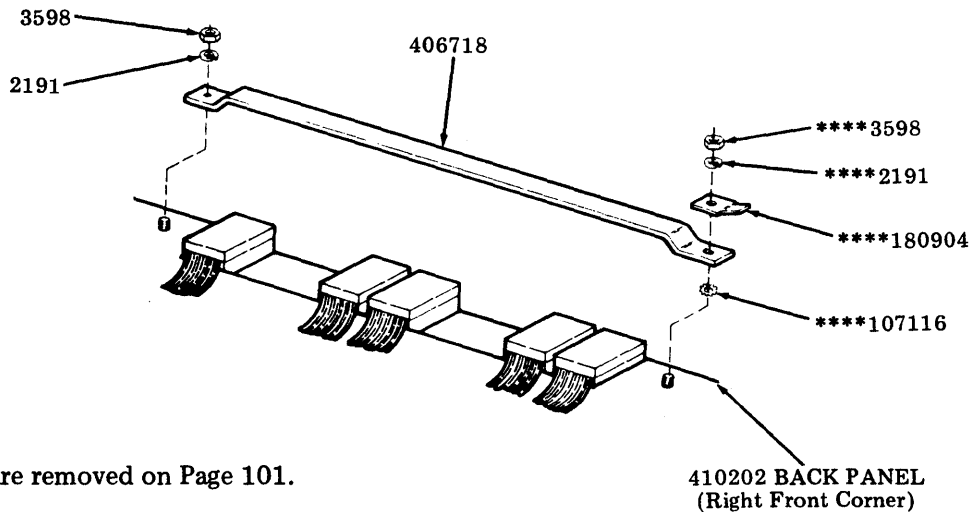
② On the mounting stud closest to the flat cable connector (upper front and lower rear) mount either a 336493 post if the controller container is equipped with 6-40 mounting studs or a 151926 nut if controller container is equipped with 4-40 mounting studs.

③ Install a 406716 clamp across the upper two mounting studs and one across the lower two mounting studs. Be sure the clamp covers the associated flat cable connector. If the controller container is equipped with 6-40 mounting studs, secure the clamps and circuit card with four 100011 nuts and 2191 lockwashers. If the controller container is equipped with 4-40 mounting studs, secure the clamps over the 151926 nuts with two 125011 flat washers, 3640 lockwashers and 151152 screws. Secure the other end of the clamps with two 125011 flat washers, 3640 lockwashers and 3599 nuts.



On the transformer circuit card (410590, 410592 or 410593), center card on right wall of controller, install a 406717 clamp across the upper two mounting studs and one across the lower two mounting studs. Be sure the clamp covers the associated flat cable connector. If the controller container is equipped with 6-40 mounting studs, secure the clamps with four 3598 nuts and 2191 lockwashers. If the controller container is equipped with 4-40 mounting studs, secure the clamps with four 125011 flat washers, 3640 lockwashers and 3599 nuts.

- ⑧ Replace the controller power supply by reversing the removal procedure given on Page 98.
- ⑨ Replace the 410202 controller back panel by reversing the removal procedure given on Page 98. (Do not assemble ground strap hardware.)
- ⑩ Install the 406718 terminal clamp.



****Hardware removed on Page 101.

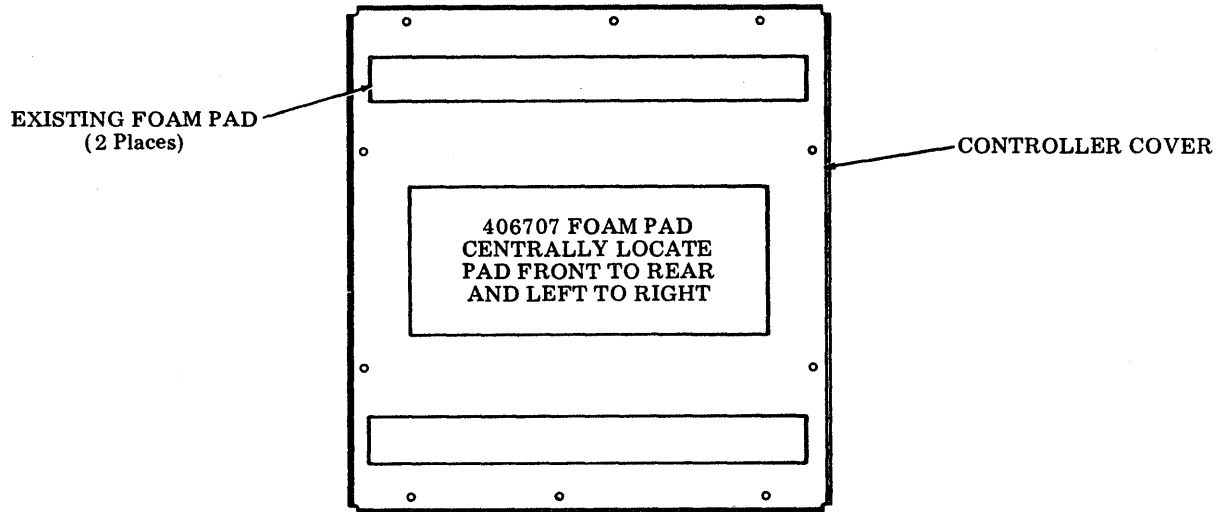
After the flat wire cables have been carefully reconnected to the controller back panel, install the 406817 terminal clamp. Install the clamp with the 0.144 inch diameter hole toward the rear of the controller and the formed portion of the clamp up. Install the clamp on the two screws installed on Page 101 ① and ②. Secure the rear of the clamp with a 2191 lockwasher and a 3598 nut. Secure the front of the clamp with the hardware retained on Page 101 ②. Be sure the 107116 lockwasher is between the clamp and the back panel mounting plate. The 180904 terminal tab, 2191 lockwasher and 3598 nut are above the clamp. Be sure the clamp covers the flat cable connectors.

- ⑪ Reconnect leads from controller back panel to panel to power supply.
- ⑫ Reinstall all circuit cards removed on Page 98.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

7. INSTALLATION OF THE 406720 MODIFICATION KIT - CONTROLLER RUGGEDIZATION (Contd)

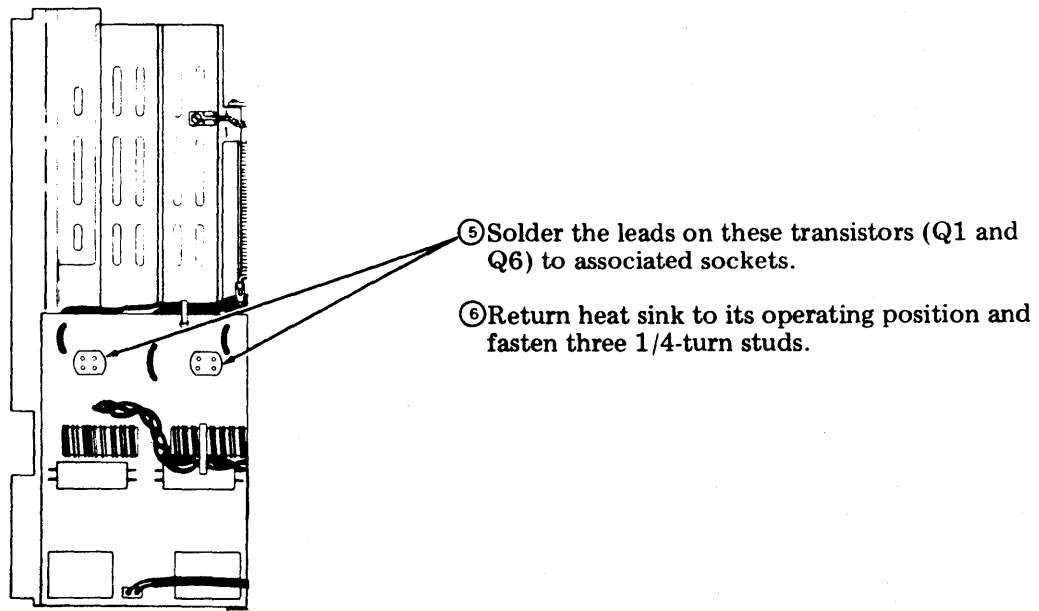
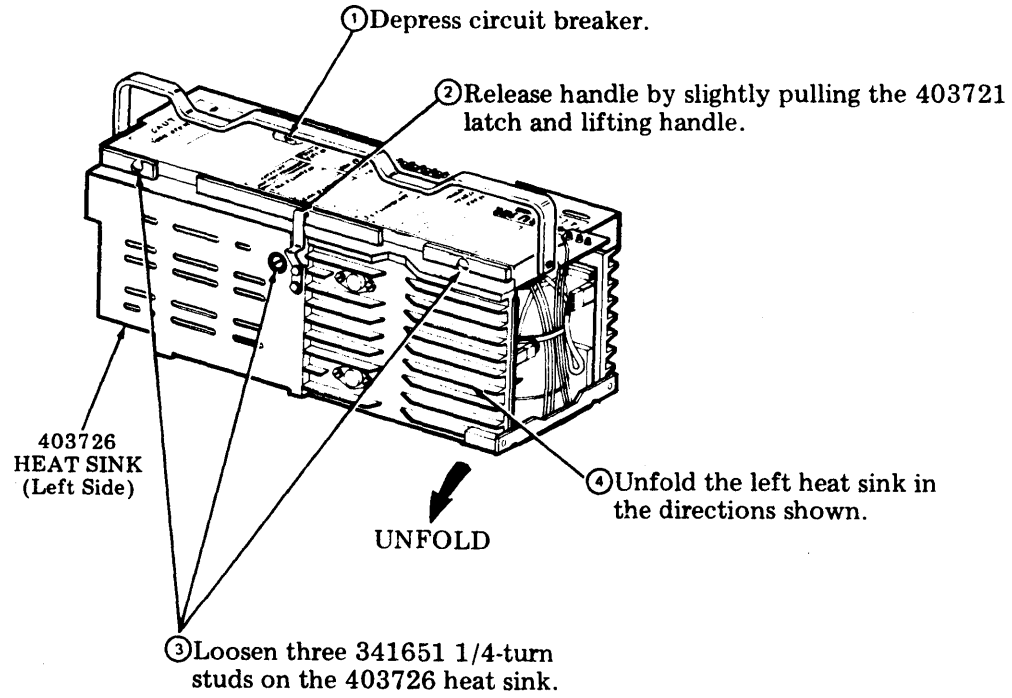
Install the 406707 foam pad.



- ① Remove the protective paper backing from the 406707 foam pad and place pad on the inner surface of the controller cover, centrally locate pad between the two existing pads and the left and right edges of cover. Press pad firmly to assure good adhesion.

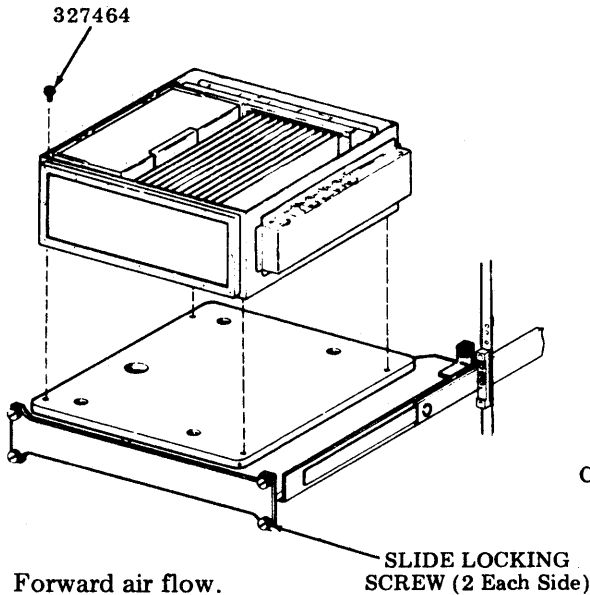
Note: Do not install controller cover until controller is mounted in rack. Retain four 327464 screw assemblies for mounting controller in rack.

Power Supply Modification



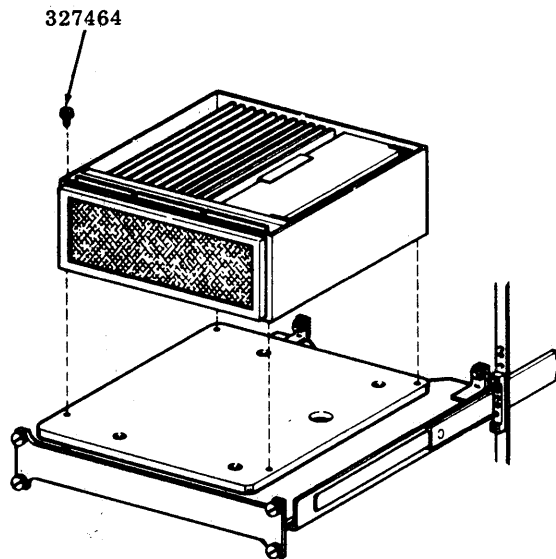
8. INSTALLATION OF UNITS INTO RACK

Mounting Controller in Rack



① Release the four captive slide locking screws on the front of the controller isolation assembly. Pull the control isolation assembly to its extended position.

OR



② Position the controller over the four mounting holes in the controller isolation assembly using four 327464 screw assemblies. Mount controller using the four holes added on Page 99.

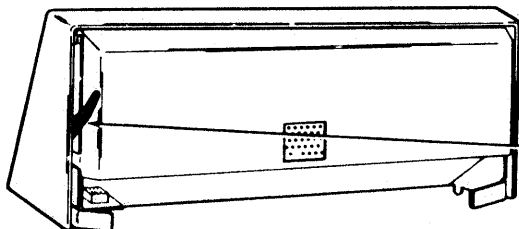
Reverse air flow.

- ③ Perform controller optioning. Refer to H. CONTROLLER OPTIONING.
- ④ Connect device and power cables to controller interconnection module. Refer to Pages 18-20.
- ⑤ Replace controller cover and tighten the ten mounting screws.
- ⑥ Return controller to its normal position in rack. The release button on each slide must be depressed so that the chassis section of the slide will slip into the intermediate section of the slide. Tighten the four slide locking screws.

9. INSTALLATION OF THE 406715 MODIFICATION KIT – OPCON RUGGEDIZATION

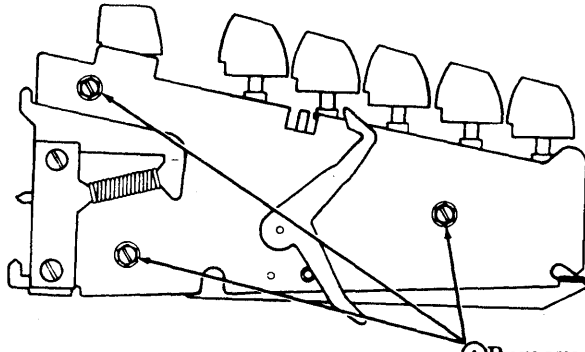
Remove the opcon cover.

① Stand opcon upright on back side as shown.

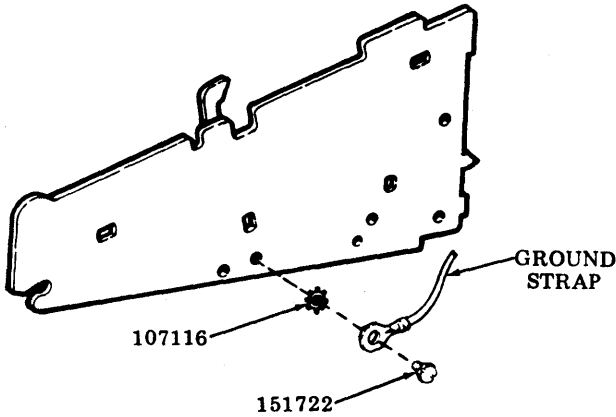


② Use a thin bladed screwdriver or orange stick and pry left and right levers down. Remove cover.

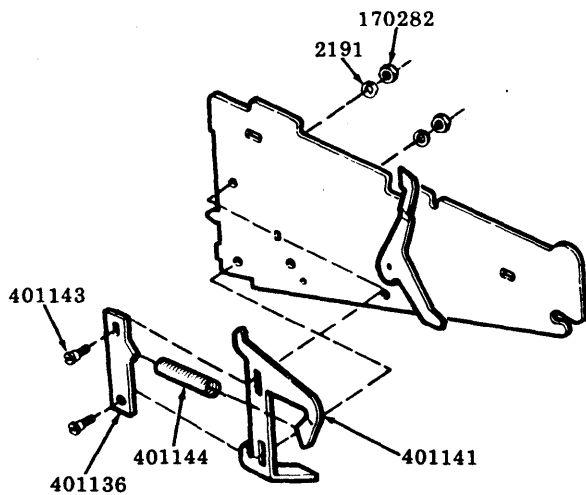
Remove the left side plate.



① Remove three 184056 screws; which mount the left side plate to the keyboard frame. Remove the side plate carefully as ground connection is still made to inside of plate.



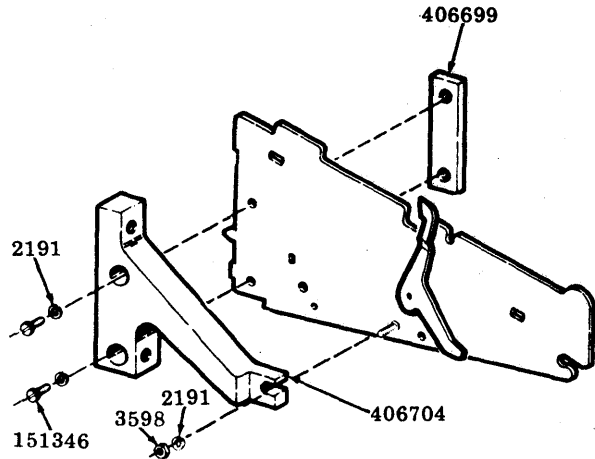
② Remove the 151722 screw which mounts the ground strap to the inside of the left side plate. Replace the 151722 screw with the 151346 screw and reassemble the ground strap to the plate. Tighten screw securely.



③ From the left side plate, remove and discard two 401143 shoulder screws, 401136 spring plate, 401141 left plate latch, 401144 spring, two 2191 lockwashers and two 170282 nuts.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

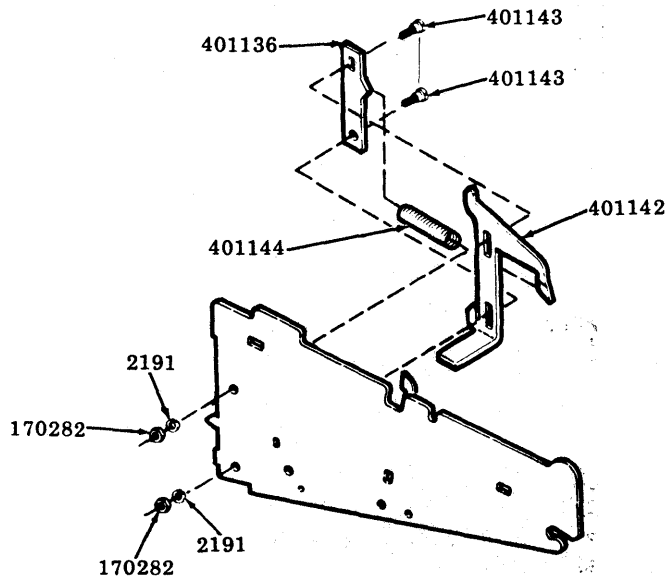
9. INSTALLATION OF 406715 MODIFICATION
KIT - OPCON RUGGEDIZATION (Contd)



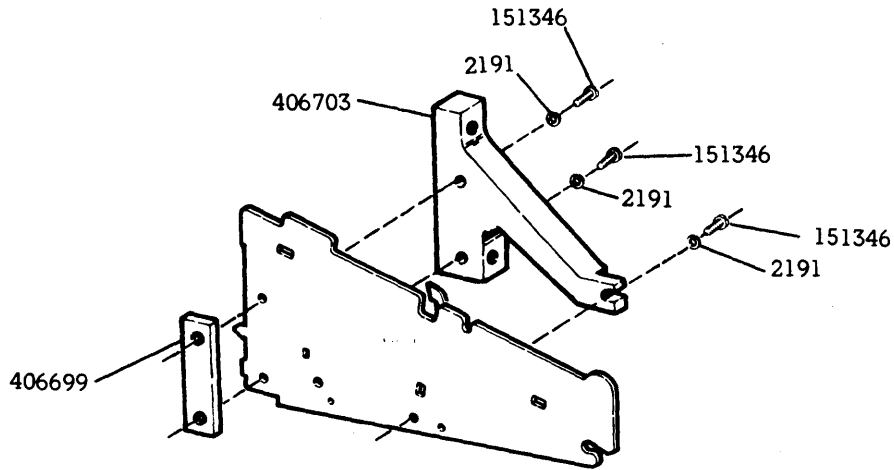
- ④ On the left side plate, mount the 406704 left KBD support. Position the support over the two holes that were used to mount the left latch plate. The slot in the extension on the support is over the threads of the 151346 screw installed in ②. Secure the support with two 151346 screws, two 2191 lockwashers, a 406699 nut plate, a 3598 nut and a 2191 lockwasher.

- ⑤ Replace the left side plate on keyboard frame by reversing the removal procedure given in ①.

Install 406703 right support.



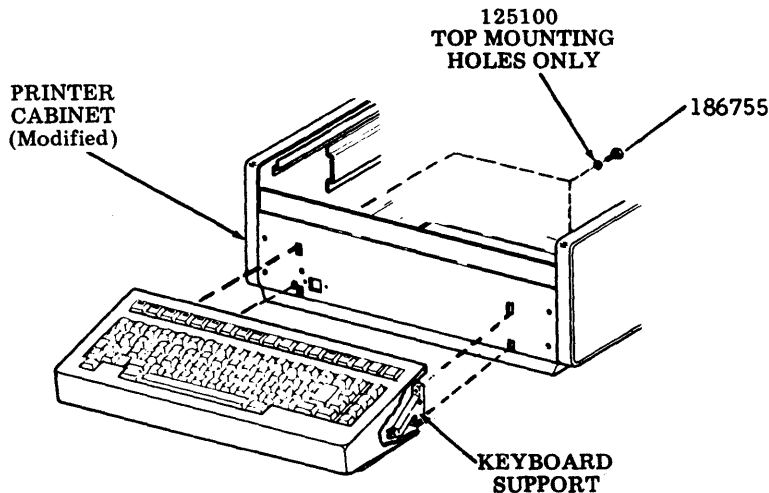
- ① From the right side plate, remove and discard two 401143 shoulder screws, 401136 spring plate, 401142 right plate latch, 401144 spring, two 2191 lockwashers and two 170282 nuts.



② Mount the 406703 right KBD support on the right side plate. Position the support over the two holes that were used to mount the right plate latch and the slot in the extension over the tapped hole below the cover latch. Secure the support with two 151346 screws, two 2191 lockwashers and a 406699 nut plate. Secure the extension with a 151346 screw and a 2191 lockwasher.

Replace the opcon cover by reversing the removal procedure.

Mount the opcon on the modified printer cabinet for KP applications.



KP Applications

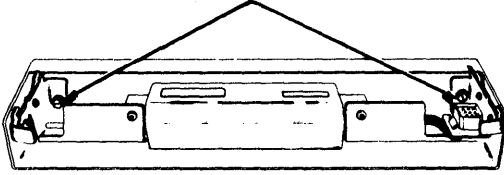
- Align the nine pin connector on the opcon with its mating connector on the front of the printer cabinet. Also align the tapped holes in the keyboard supports with the modified slots and added holes in the front of the printer cabinet. Be sure the connector on the opcon fully engages its mating connector. Secure the opcon to the printer cabinet with two 186755 screws and two 125100 flat washers in the top two mounting holes and two 186755 screws in the bottom two mounting holes.

492, 112

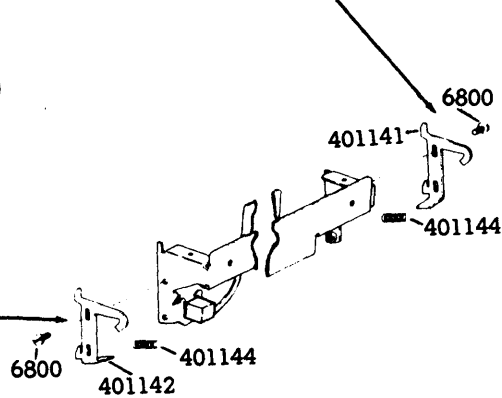
NOTES

10. INSTALLATION OF THE 406700 MODIFICATION KIT - ROP OPCON RUGGEDIZATION

- ① Remove and retain two 184056 screws w/lockwashers mounting cover to keyswitch bracket. Remove cover.

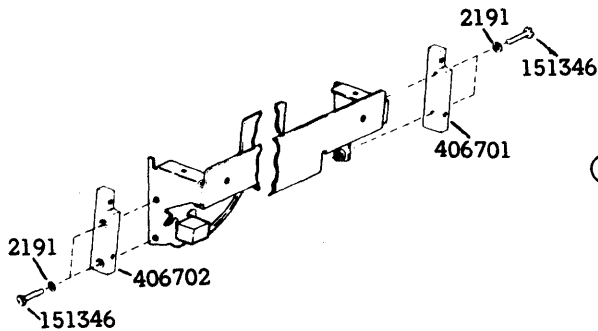


- ③ Remove and discard two 6800 screws, the 401141 right latch and the 401144 spring from the right side of the opcon.



- ② Remove and discard two 6800 screws, the 401142 left latch and the 401144 spring from the left side of opcon.

- ④ Mount the 406702 opcon support on the left side of the opcon. Secure the support with two 151346 screws and 2191 lockwashers.

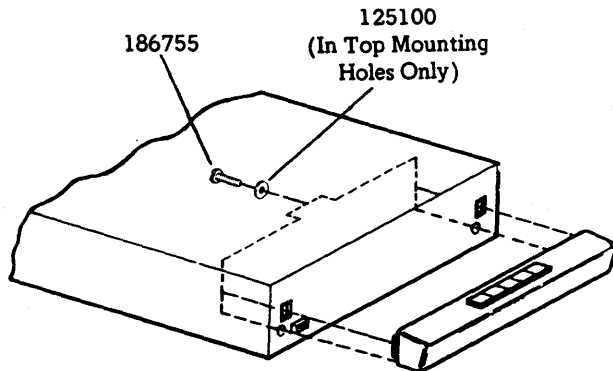


- ⑤ Mount the 406701 opcon support on the right side of opcon. Secure the support with two 151346 screws and 2191 lockwashers.

- ⑥ Replace the opcon cover by reversing the removal procedure given in ①.

- ⑦ Mount the modified opcon on the printer cabinet modified on Page 117.

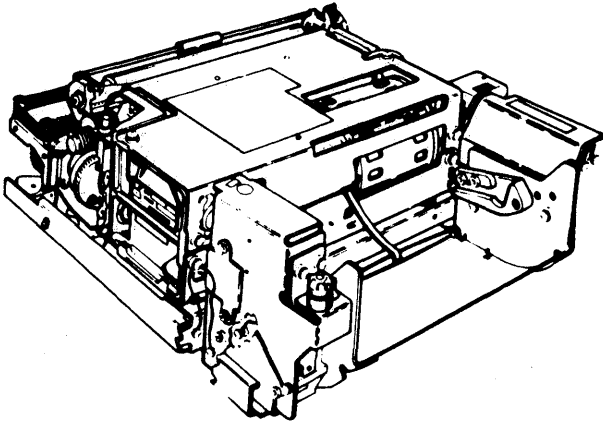
- ⑧ Align the connector on the opcon with its mating connector on the printer cabinet. Be sure it is fully connected. Secure the opcon to the printer cabinet with two 186755 screws w/washers and 125100 flat washers in the two top mounting holes and two 186755 screws w/washers in the bottom two mounting holes.



F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

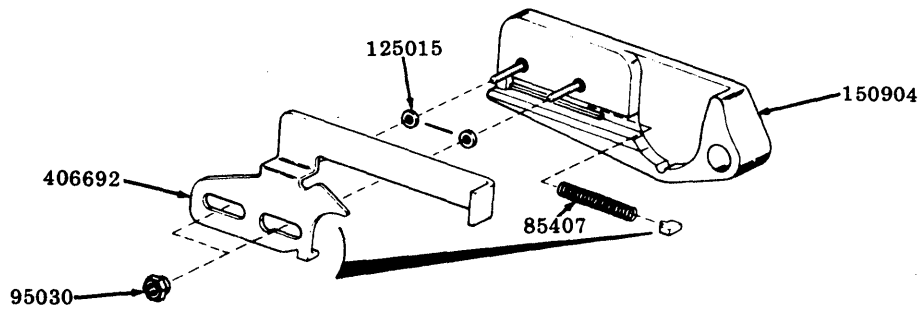
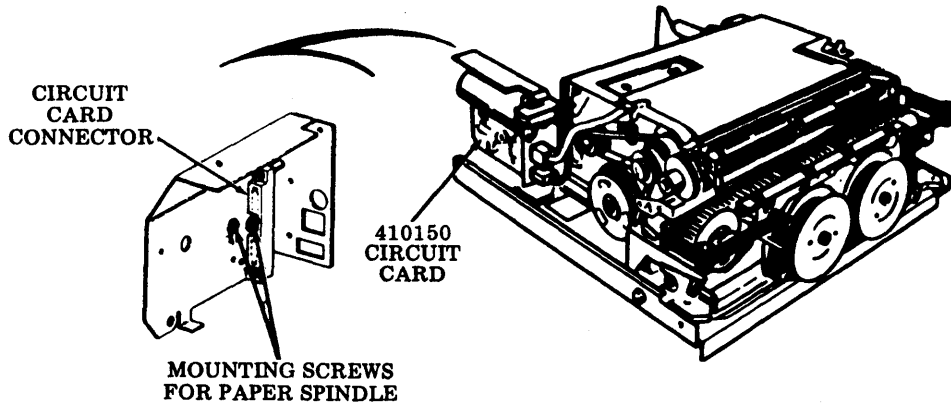
11. INSTALLATION OF THE 406690 MODIFICATION KIT — PRINTER RUGGEDIZATION

Install the 406692 left paper spindle latch and compression spring:



- ① Remove and discard the front two 3598 nuts, 2191 lockwashers and 405903 retainer that mounts the left paper spindle block.

Note: For access to the mounting screw heads, remove the 410150 circuit card and it may be necessary to remove the two screws and lockwashers which mount the circuit card connector for access to the front mounting screw. (See next page).

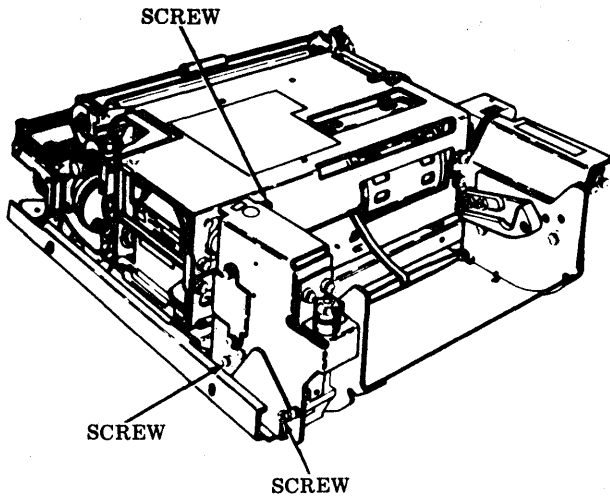


- ② Place a 125015 flat washer on each of the mounting screws.
- ③ Place the 85407 spring in the slot in the paper spindle block.
- ④ Place the 406692 left latch plate on the mounting screws. Be sure the nib on the return of the latch plate fits into the end of the compression spring.
- ⑤ Secure the latch plate and paper spindle block with two 95030 shoulder nuts. Be sure the shoulder portion of the nuts fit into the slots in the latch plate so that the latch is free to move along a horizontal path.
- ⑥ Replace the 410150 circuit card connector and circuit card.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

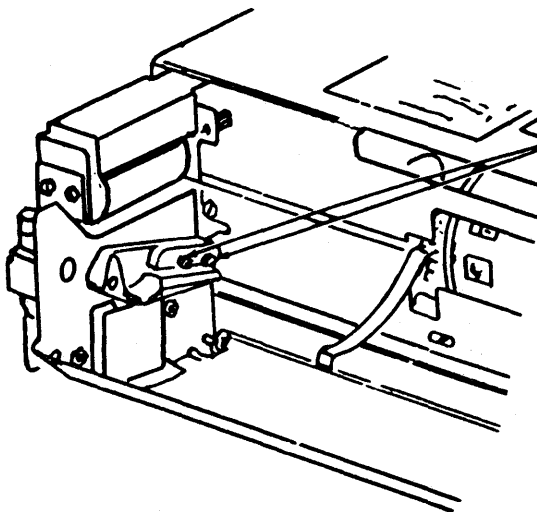
11. INSTALLATION OF THE 406690 MODIFICATION KIT — PRINTER RUGGEDIZATION (Contd)

Install the 406691 right paper spindle latch and compression spring.



Note: To install the right paper spindle latch the motor control assembly must be removed from its mounting posts.

- ① Remove three screws which mount the motor control assembly.
- ② Tilt motor control away from paper spindle block for access to block mounting screw heads.



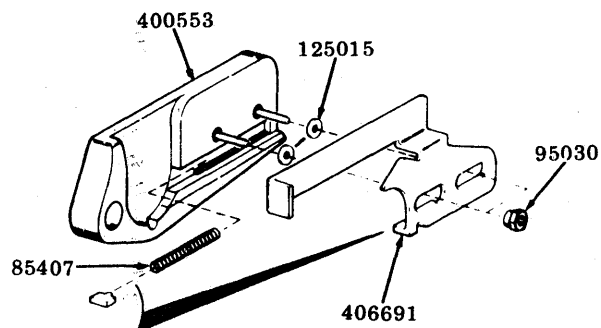
- ③ Remove and discard front two 3598 nuts and 2191 lockwashers and 405904 retainer which mount the right paper spindle block.

- ④ Place a 125015 flat washer on each of the mounting screws.

- ⑤ Place the 85407 spring in the slot of the paper spindle block.

- ⑥ Place the 406691 right latch plate on the mounting screws. Be sure the nib on the return of the latch fits into the end of the compression spring.

- ⑦ Secure the latch plate and spindle block with two 95030 shoulder nuts. Be sure the shoulder portion of the nuts fit into the slots in the latch plate so the latch is free to move in a horizontal path.

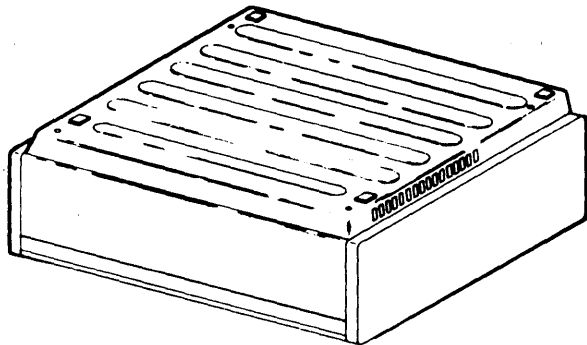


- ⑧ Replace the motor control assembly by reversing the removal procedure in ①.

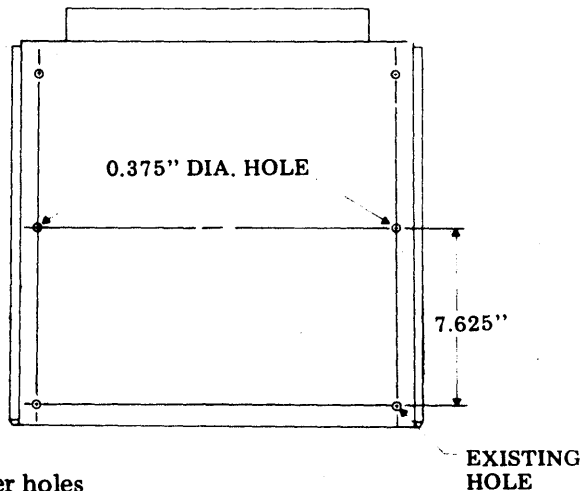
**12. INSTALLATION OF THE 406705 MODIFICATION
KIT — PRINTER CABINET RUGGEDIZATION**

Printer Cabinet

- Unpack printer cabinet per instruction on outside of carton.

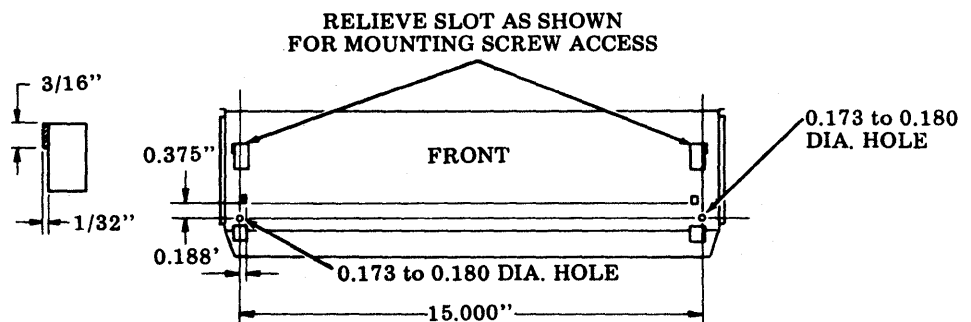


- ① Remove and discard the four rubber feet from the underside of the printer cabinet.
- ② Add two 0.375 inch diameter holes from the under side of the printer cabinet as indicated in figure. Be careful that metal chips do not fall into the printer tilt mechanism or on circuit cards or terminals.
- ③ Turn cabinet upright. Open cabinet door and deburr holes with an appropriate tool.



- ④ Drill two 0.173 to 0.180 diameter holes on front of printer cabinet. Be careful that metal chips do not fall into printer tilt mechanism or fall on circuit cards or terminals. Deburr holes with appropriate tool.

- ⑤ Relieve the upper opcon mounting slots as shown in illustration below.

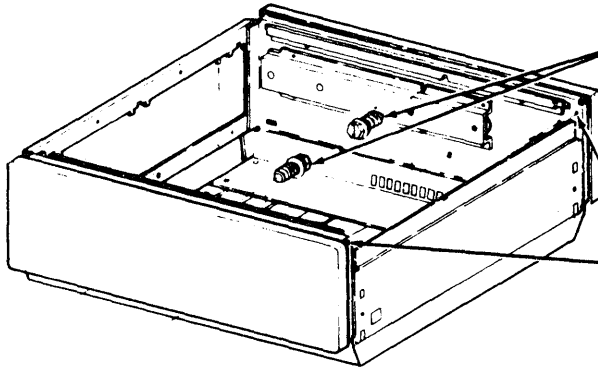


F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

12. INSTALLATION OF THE 406705 MODIFICATION KIT – PRINTER CABINET RUGGEDIZATION (Contd)

Remove printer cabinet end panels.

① Open printer cabinet door.



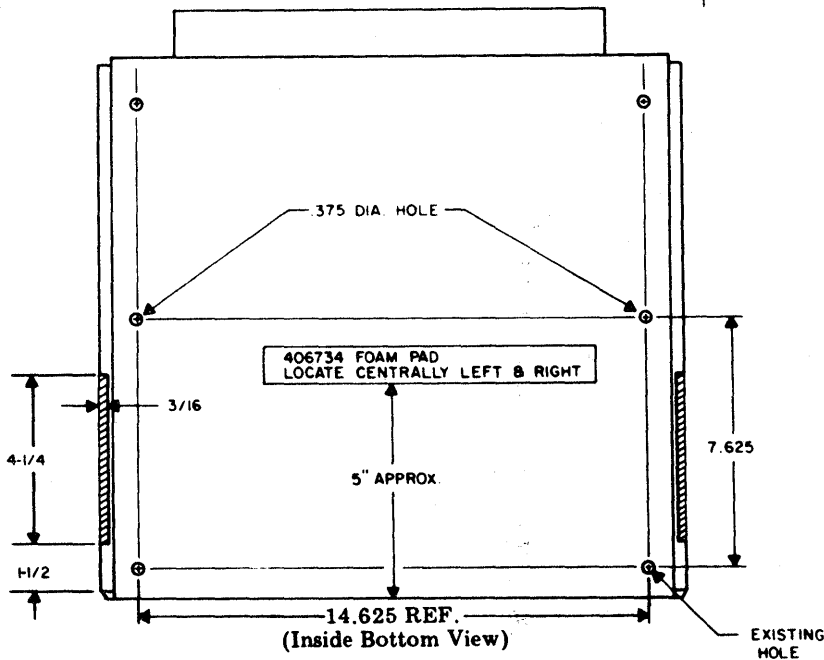
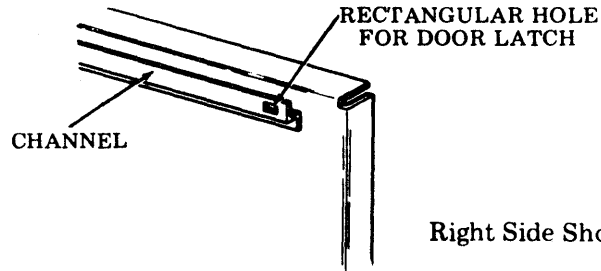
② Remove and discard the two (each side) mounting screws which secure the printer cabinet end panels. Bow end panel outward slightly and slide panel forward to remove.

③ Remove and discard panels from both sides.

④ Remove 1/8-inch of material from rear edge of rectangular hole in the left and right channel for new door latch on each side of cabinet.

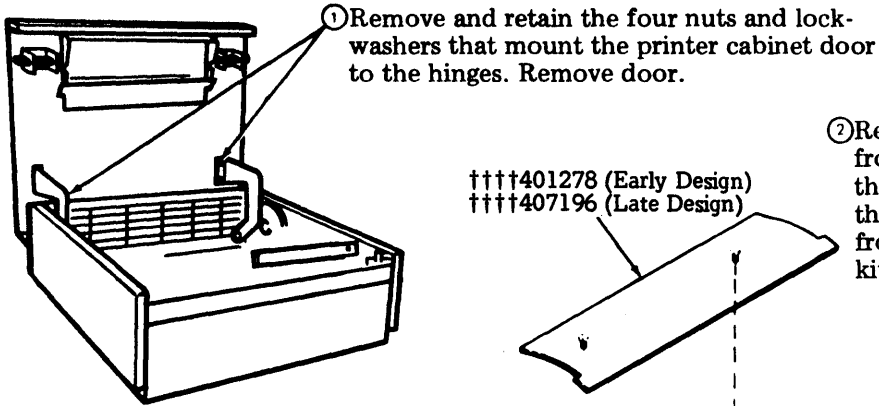
Relieve returns on printer cabinet.

① Relieve the returns on each side of the printer cabinet indicated by the shaded areas.



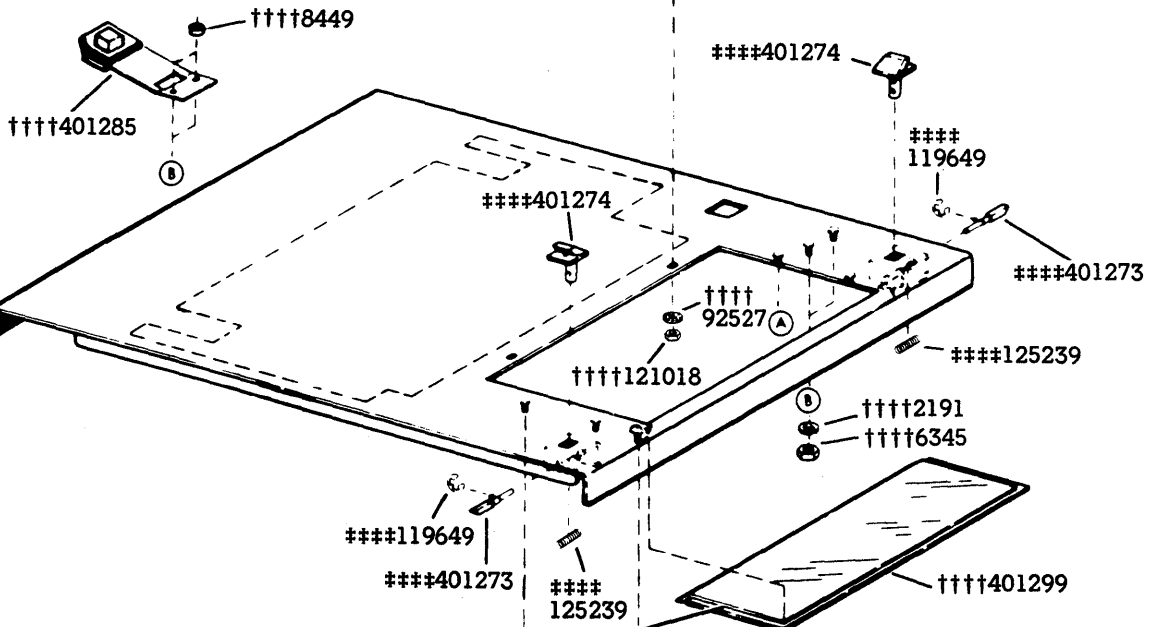
② Remove the protective paper backing from the 406734 foam pad. Position pad as shown above and press firmly to assure good adhesion.

Printer door modification:

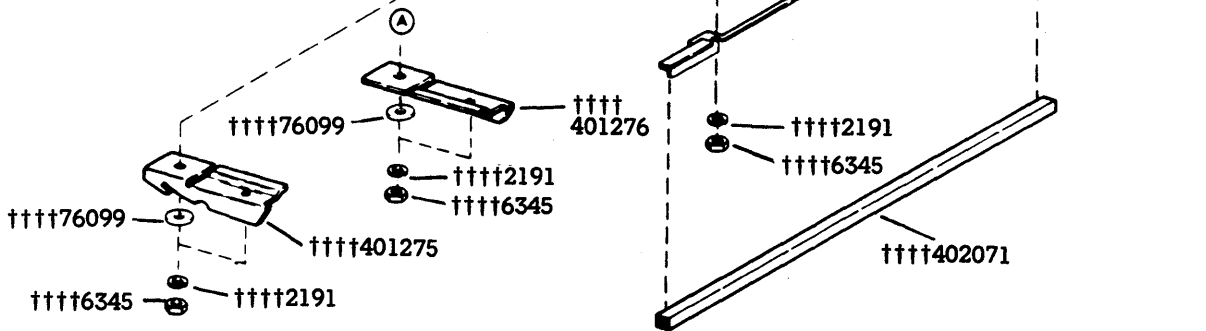


††††401278 (Early Design)
 ††††407196 (Late Design)

2 Remove the indicated parts from the door removed from the printer cabinet and install them on the 406727 door from the 406705 modification kit.



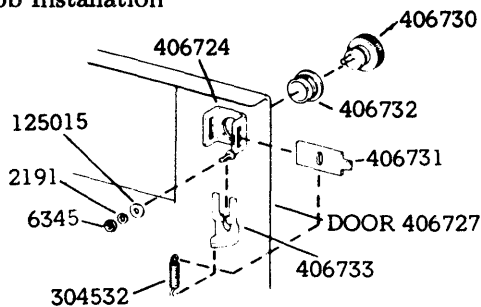
†††† Install these parts on the 406727 door.
 †††† Discard these parts.



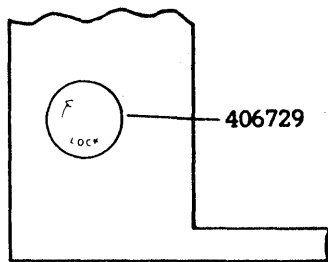
F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

12. INSTALLATION OF THE 406705 MODIFICATION KIT - PRINTER CABINET RUGGEDIZATION (Contd)

Right Knob Installation

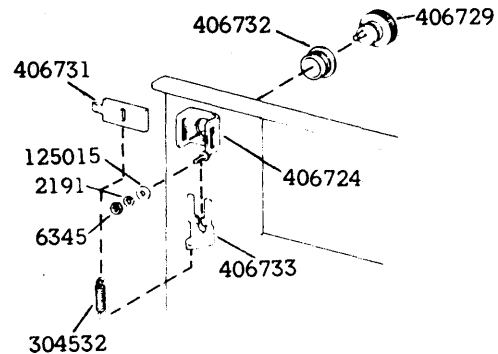


- ③ Slip a 406723 bushing on the large diameter hub of the 406730 right knob.
- ④ Insert 406731 latch through the rectangular cutouts of the 406724 latch bracket on the printer cabinet door. Insert the latch with the latch tip toward the right and the beveled edge away from the door.
- ⑤ Insert the knob and bushing through the 0.703 diameter hole in printer cabinet door, so that the eccentric spring post fits through the slotted hole in the latch.
- ⑥ Align the slots in the bushing to be parallel to the edge of the door and the inscription "LOCK" on the knob is parallel to front edge of door. Slide the 406733 retainer up from below so that the fingers of the retainer bracket fit into the slots in the bushing and the groove in the large diameter hub of the knob. Secure the retainer bracket to the door with a 6345 nut, 2191 lockwasher and 125015 flat washer.
- ⑦ Hook one end of the 304532 spring in the 0.055 diameter hole in the retainer bracket. Hook the other end of the spring over the spring post portion of the knob.

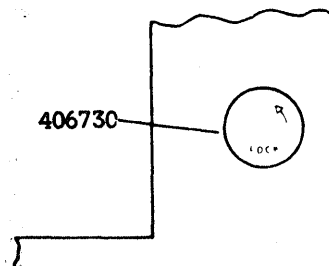


FRONT EDGE OF DOOR

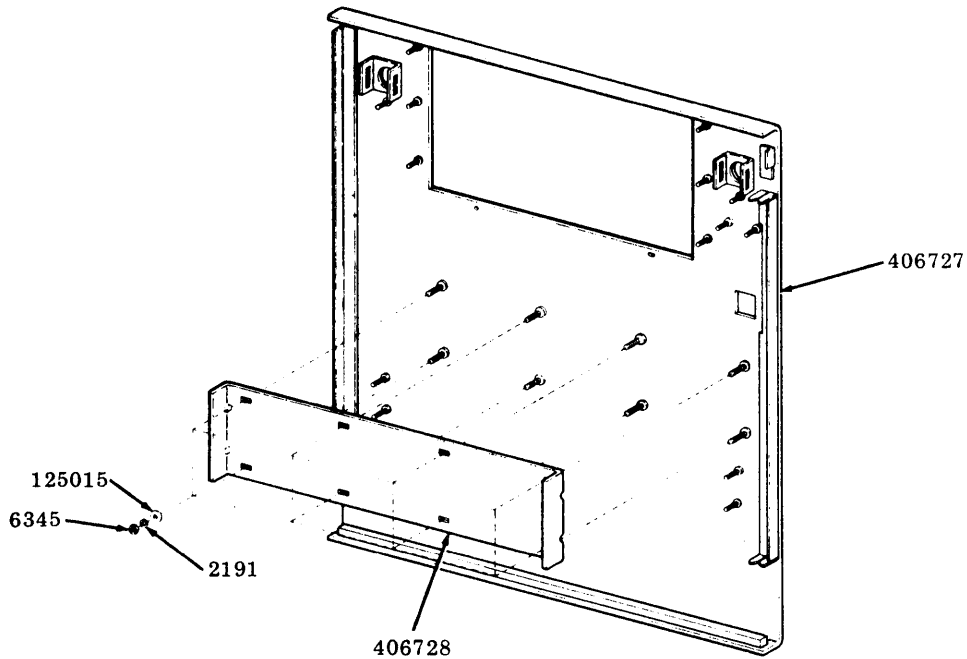
Left Knob Installation



- ⑧ Slip a 406723 bushing on the large diameter hub of the 406729 left knob.
- ⑨ Insert 406731 latch through the rectangular cutouts of the 406724 latch bracket on the printer cabinet door. Insert the latch with the latch tip toward the left and the beveled edge away from the door.
- ⑩ Insert the knob and bushing through the 0.703 diameter hole in printer cabinet door, so that the eccentric spring post fits through the slotted hole in the latch.
- ⑪ Align the slots in the bushing to be parallel to the edge of the door and the inscription "LOCK" on the knob is parallel to the front edge of the door. Slide the 406733 retainer up from below so that the fingers of the retainer bracket fit into the slots in the bushing and the groove in the large diameter hub of the knob. Secure the retainer bracket to the door with a 6345 nut, 2191 lockwasher and 125015 flat washer.
- ⑫ Hook one end of the 304532 spring in the 0.055 diameter hole in the retainer bracket. Hook the other end of the spring over the spring post portion of the knob.



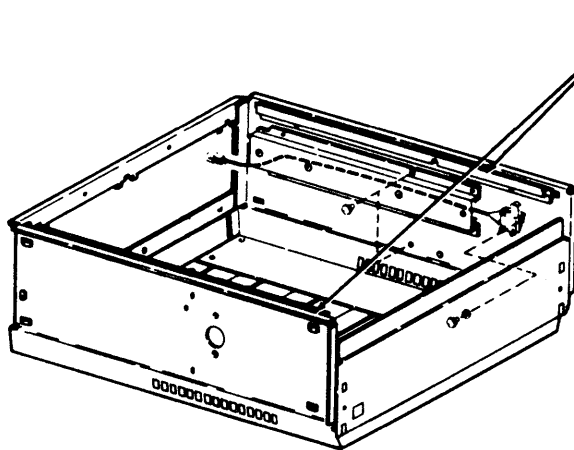
FRONT OF DOOR



⑬ Mount the 406728 guide bracket on the inner side of the 406727 door. Secure the bracket to the door with eight 6345 nuts, 2191 lock-washers and 125015 flat washers.

⑭ Replace new door assembly on printer cabinet by reversing the removal procedure given in ①. Adjust door if required.

Install the reinforcing bars.



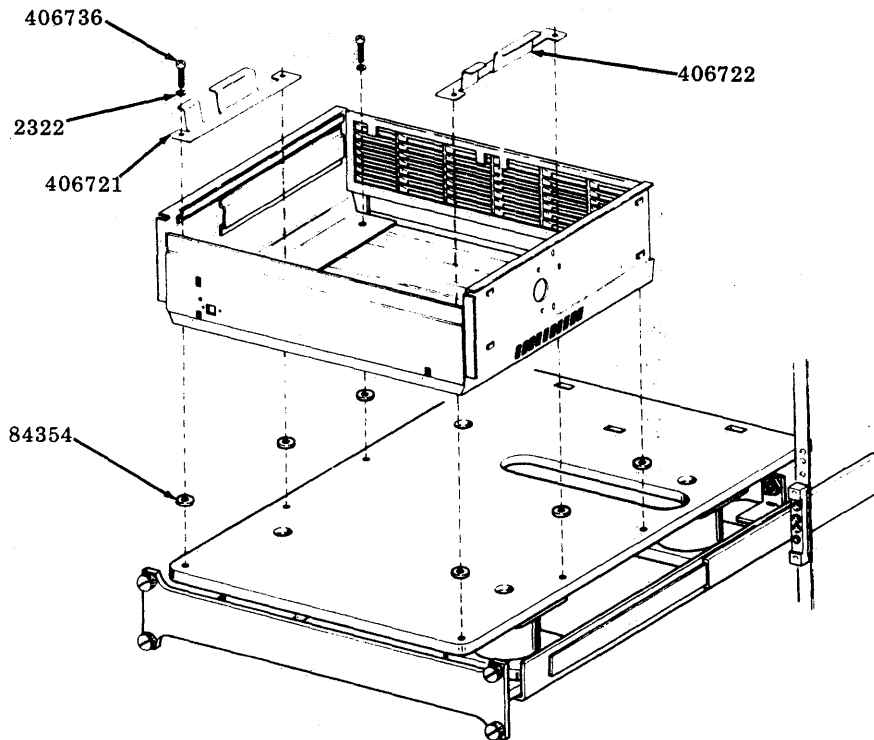
① Remove the gaskets from the right and left channel of the cabinet.

② Place a 406726 reinforcing bar in each channel. Position the bar so that the 0.250 inch dimension is across the channel.

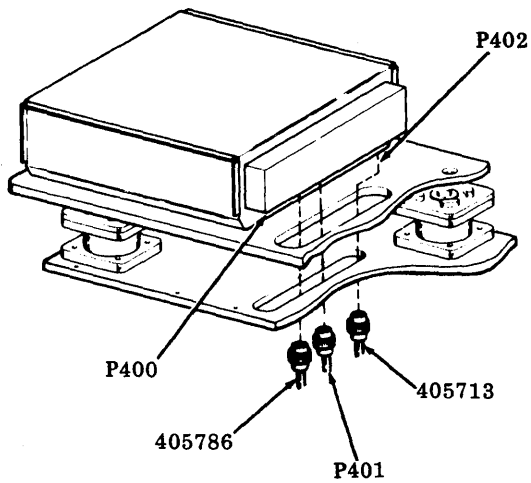
③ Replace the gaskets.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

13. MOUNTING PRINTER CABINET ON PRINTER ISOLATION ASSEMBLY

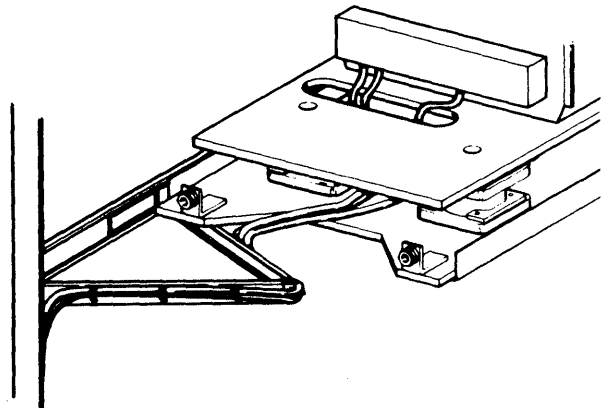


- ① Release the four slide locking screws and pull the printer isolation assembly to its extended position.
- ② Place six 84354 flat washers over the 1/4-20 tapped holes in the isolation assembly top plate.
- ③ Carefully place printer cabinet on the isolation assembly top plate so that the six cabinet mounting holes, 84354 flat washers and the 1/4-20 tapped holes are aligned.
- ④ Install a 406736 screw and 2322 lockwasher in the rear two mounting holes.
- ⑤ Install the 406721 left guide bracket over the two front cabinet mounting holes on the left side. Secure the guide bracket, printer cabinet and 84354 flat washer to the isolation assembly with two 406736 screws and 2322 lockwashers.
- ⑥ Install the 406722 right guide bracket over the front two cabinet mounting holes on the right side. Secure the guide bracket, printer cabinet and 84354 flat washers to the isolation assembly with two 406736 screws and 2322 lockwashers.
- ⑦ Tighten all mounting screws.



- ⑧ Route the 405786 printer signal cable and the 405713 printer ac cable through the oblong slots in the bottom and top plate of the printer isolation assembly. Connect the signal cable to P400 and the ac cable to P402 on the printer cabinet.

- ⑨ Pull printer isolation assembly to its fully extended position. Strap the printer signal and ac cables to the 406706 cable carrier (six places) using the 312919 cable straps. Allow sufficient slack at the cable carrier center, pivot so that the cables are not strained when the isolation assembly is returned to its normal closed position in the rack.
- ⑩ Route printer signal cables down the right rear vertical of the rack to the controller. Route the printer ac cable down the right rear vertical of the rack to the interface assembly.



F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

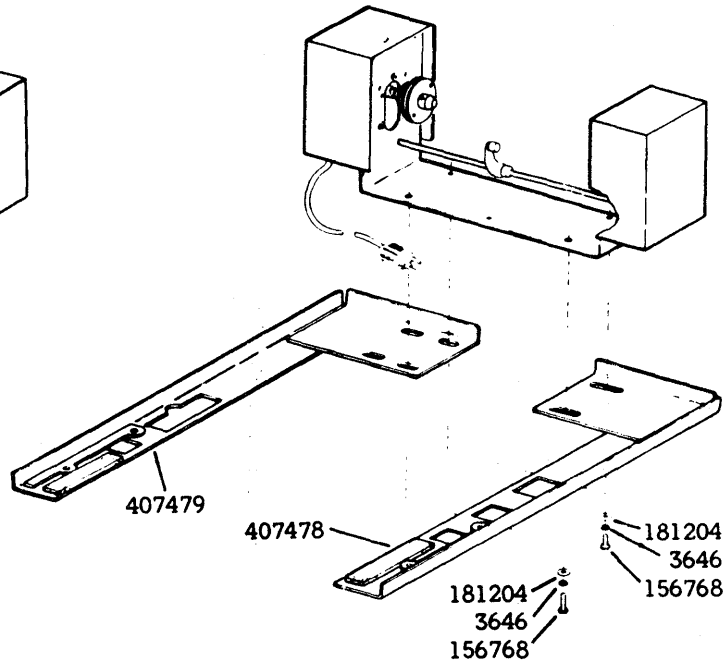
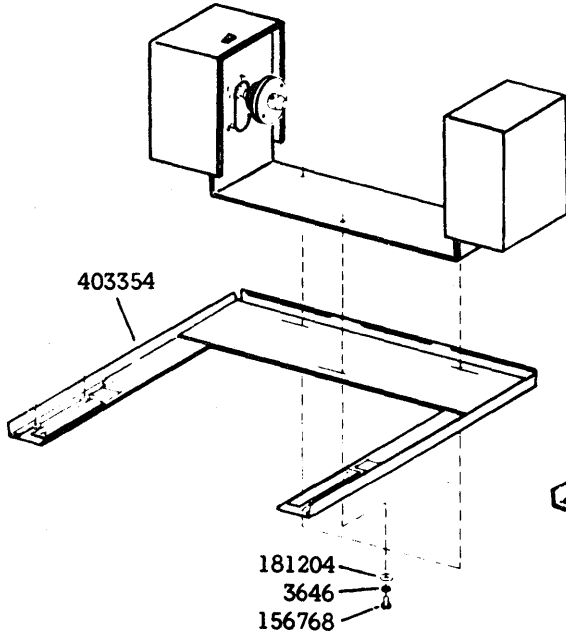
14. INSTALLATION OF THE 406695 MODIFICATION KIT — PAPER WINDER RUGGEDIZATION

On 40PWU101 Paper Winders:

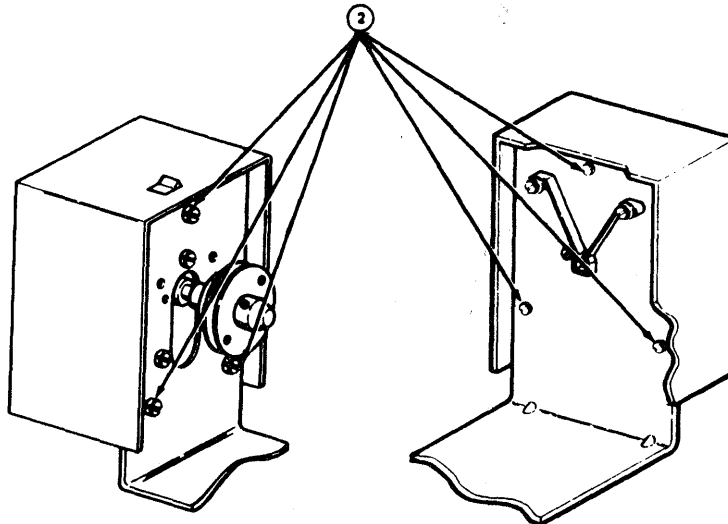
On 40PWU102 Paper Winders:

- ① Remove and discard the 403354 mounting frame, the three 156768 screws, 3646 lock-washers and 181204 flat washers.

- ① Remove and discard the 407478 right mounting bracket, the 407479 left mounting bracket and the 156768 screws, 3646 lockwashers and 181204 flat washers.

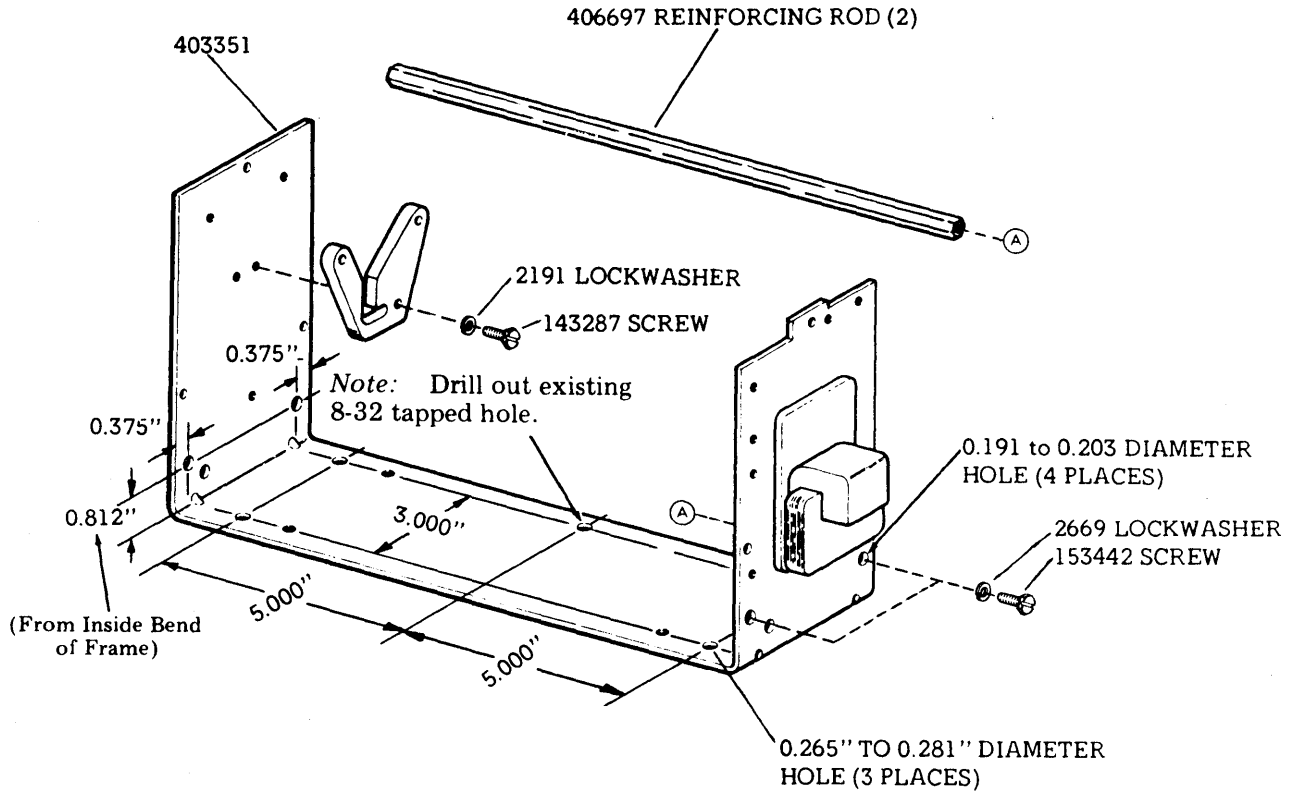


- ② Remove the covers from each end of the paper winder by removing and retaining six self-tapping screws. Carefully lift off covers.



③ Add two 0.191 inch to 0.203 inch diameter holes on each of the vertical members of the paper winder mounting frame as indicated in figure below.

④ Add three 0.265 inch to 0.281 inch diameter holes on the base of the paper winder mounting frame as indicated in figure below. Be careful that no metal chips fall into the clutch or on the terminals.



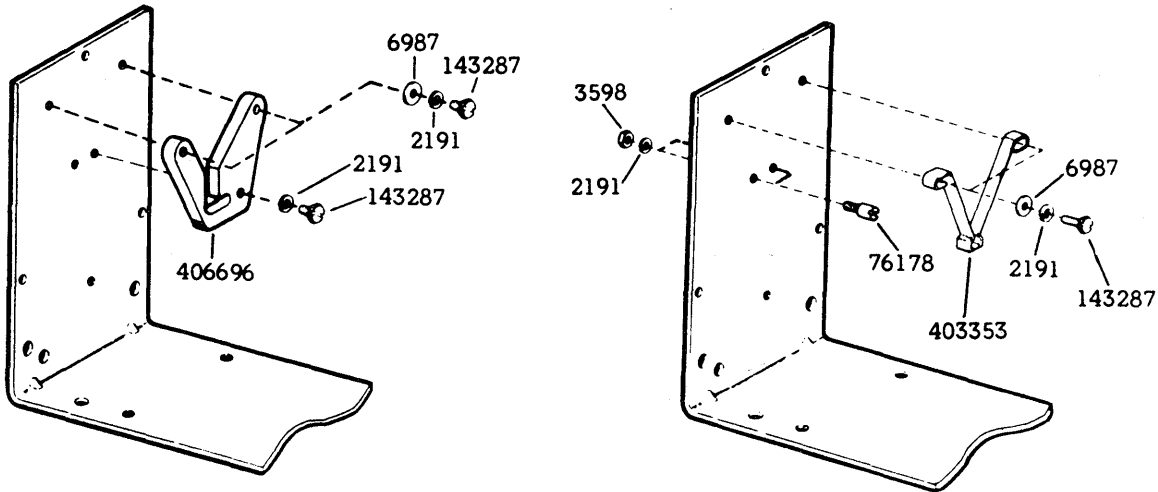
⑤ Install two 406697 reinforcing rods between the vertical members of the paper winder mounting frame in line with the holes added in ③. Secure the rods with a 153442 screw and 2669 lockwasher at each end. On the motor side care should be taken not to effect the angular position of the mercury switch. It may be necessary to position the switch further into the clamp to provide sufficient clearance between the switch and the head of the screw which secures the reinforcing rod.

⑥ Remove and retain the two 143287 screws, 6987 flat washers and 2191 lockwashers which mount the 403353 spindle retainer spring on the vertical member of the paper winder mounting frame without the motor. Discard the retainer spring. Remove and discard the 76178 studs, 2191 lockwashers and 3598 nuts.

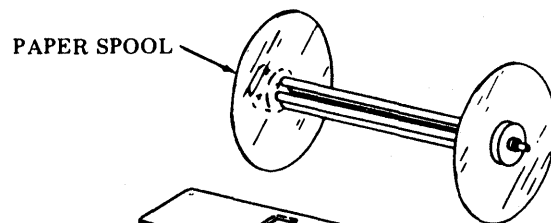
⑦ Mount the 406696 spindle support in place of the spindle retainer spring. Mount the support with three 143287 screws, two 6987 flat washers and three 2191 lockwashers. Two each from the hardware retained in ⑥ and one screw and lockwasher from the modification kit.

F. ISOLATION AND RUGGEDIZATION MODIFICATION KIT INSTALLATION (Contd)

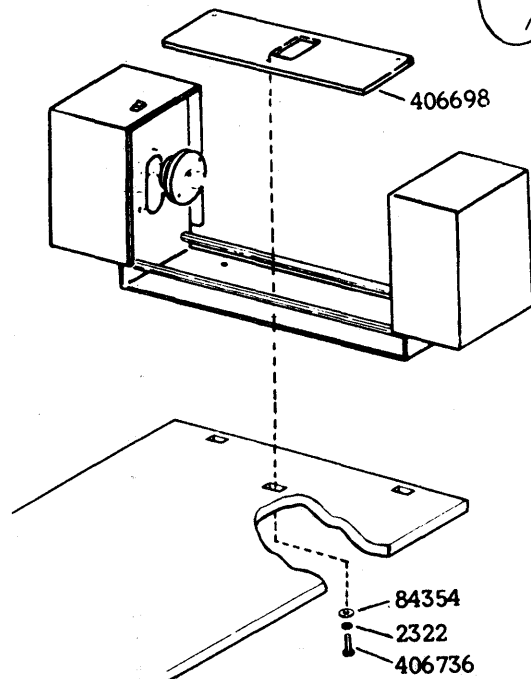
14. INSTALLATION OF THE 406695 MODIFICATION KIT — PAPER WINDER RUGGEDIZATION (Contd)



③ Replace the covers on each end of the paper winder by reversing the removal procedure given in ②. Install paper spool, check paper spool endplay, adjust if needed.



⑨ Position the 406698 stiffener plate on the upper surface of the paper winder mounting frame so that the tapped holes in the plate line up with the body holes added to the paper winder mounting frame in ④. Position the paper winder with stiffener plate (motor to the left) over the three slotted holes at the rear of the printer isolation assembly top plate. Secure the paper winder and stiffener plate to the printer isolation assembly with three 406736 screws, 2322 lockwashers and 84354 flat washers.



G. INTERFACING1. GENERAL

The Tempest Model 40 Terminals have one basic type of electrical interface:

188C -- MIL STD 188C
 Mark +6 Volts +1 Volt
 Space -6 Volts +1 Volt

The interface also provides for customer input clocks for send data and receive data. These clocks must also conform to MIL STD 188C signaling requirements (+6 V to -6 V excursion). Where: - to + transition is start of bit; + to - transition is middle of bit.

Two control leads are provided in the interface:

- | | |
|------------------------|--------------------|
| a. Char to Send Input | +6 V Clear to Send |
| | -6 V Stop |
| b. Receive Ready Input | +6 V Ready |
| | -6 V Not Ready |

All input/outputs conform to the impedance and wave shaping.

2. OPTIONS

Several options are available in the interface of the Tempest Model 40 Terminals. Some units are equipped with interface circuit cards to provide an inverted clear-to-send output and inverted terminal ready.

- | | |
|-------------------|--------------------|
| a. Clear to Send | -6 V Clear to Send |
| | +6 V Stop |
| b. Receiver Ready | -6 V Ready |
| | +6 V Not Ready |

Refer to Page 6, 2. SET IDENTIFICATION for these terminals.

Circuit cards available for modifying interface:

EIA Receiver (LEDD)	303184
EIA Line Keyer	303185
Neutral Receiver	303182
Neutral Line Keyer	303183

H. CONTROLLER OPTIONING1. FIELD OPTIONS

Options for 40/8A ROP and KP

<u>Option Designation</u>	<u>Description</u>
A1	Power Up (Option I) Asynchronous Speed 1. Low Speed 2. High Speed } Choose 1
A2	Option II Asynchronous Speed 1. Low Speed 2. High Speed } Choose 1
B1	Power Up (Option I) Line Code 1. 5-Level Baudot ITA2AV 2. ASCII ITA5 3. 6-Level Code } Choose 1
B2	Option II Line Code 1. 5-Level Baudot ITA2AV 2. ASCII ITA5 3. 6-Level Code } Choose 1
C1	Power Up (Option I) Stop Bits 1. One Stop Bit 2. Two Stop Bits (1.5 Stop Bits for Baudot) } Choose 1
C2	Option II Stop Bits 1. One Stop Bit 2. Two Stop Bits (1.5 Stop Bits for Baudot) } Choose 1
D1	Power Up (Option I) "Print All" for Baudot Code Only 1. Standard Baudot Character Set 2. "Print All" Character Set } Choose 1
D2	Option II "Print All" for Baudot Code Only 1. Standard Baudot Character Set 2. "Print All" Character Set } Choose 1
E	Preempt Local on Receipt of Data (Free running KP Terminal only.) 1. DTR is turned off and receive data is ignored by terminal. 2. DTR is on in local (if printer is selectable) and terminal is switched from local to receive on received data. } Choose 1
F	Substitute Asterisk (*) for Parity Errored Character 1. Printer copies errored character as received. 2. Printer copies asterisk for each errored character received. } Choose 1
G	Line Parity on ITA5 (ASCII) Data 1. No Parity, Bit 8 Set Spacing (0) 2. No Parity, Bit 8 Set Marking (1) 3. Odd Parity 4. Even Parity } Choose 1

<u>Option Designation</u>	<u>Description</u>
H	<p>Transmission Mode</p> <p>1. Asynchronous Transmission } Choose 1</p> <p>2. Isochronous Transmission }</p>
J	<p>Transmit Answer-Back Character on Receipt of "ENQ" (ASCII and free running mode only.)</p> <p>1. No Answer-Back } Choose 1</p> <p>2. Transmit Answer-Back on Receipt of "ENQ" }</p>
K	<p>Terminal Configuration</p> <p>1. Receive Only Printer } Choose 1</p> <p>2. Keyboard Printer }</p>
L	<p>Line Feed Printer on Receipt of "Carriage Return"</p> <p>1. Printer performs carriage return function. } Choose 1</p> <p>2. Printer performs new line function. }</p>
M	<p>15 Second Time Out for Send Mode (KP Only)</p> <p>1. Terminal stays in send mode until manually deselected. } Choose 1</p> <p>2. Terminal switches to receive mode after 15 seconds of no send activity. }</p>
N	<p>Data Compression on Receive Buffer 90 Percent Full</p> <p>1. Data compression (replace CR, LF, FF with _ (underscore) when receive buffer is 9/10 full). DTR remains on.</p> <p>2. DTR turns off when receive buffer is 9/10 full and on when buffer is 1/10 full.</p>
P	<p>Short Receive Buffer for DTR (26 Characters)</p> <p>1. DTR turned off when receive buffer is 9/10 full. } Choose 1</p> <p>2. DTR turned off when receive buffer contains 26 characters. Option N2 required. }</p>
Q	<p>Printer Paging</p> <p>1. Printer Paging Disabled } Choose 1</p> <p>2. Printer Paging Activated }</p> <p>Tractor Feed Printers — Form feed sent to printer after 54 lines (27 lines for double spaced [Option R]).</p> <p>Friction Feed Printer — A blank line is inserted after 54 lines (27 lines for double spaced [Option R]).</p>
R	<p>Printer Optioned for Double Spaced</p> <p>1. Printer optioned for single spacing. } Choose 1 per printer Option 20.</p> <p>2. Printer optioned for double spacing. }</p>
S	<p>Printer Form-Out on Receipt of ETX (Match printer Option 18., tractor feed printers only.)</p> <p>1. Printer Ignores ETX (Option 18.a. or b.) } Choose 1</p> <p>2. Printer performs form-out on receipt of ETX (Option 18.c.). }</p>
T	<p>Last Page Received, Out of Cabinet</p> <p>1. Last page remains in cabinet (one form-out). } Choose 1</p> <p>2. Last page clears cabinet. Option S2 required. }</p>

H. CONTROLLER OPTIONING (Contd)1. FIELD OPTIONS, Options for 40/8A ROP and KP (Contd)

<u>Option Designation</u>	<u>Description</u>
U	Receive Buffer Memory Allocation 1. 1K Receive Buffer Option (1024 Characters) 2. 5K Receive Buffer Option (5120 Characters) 3. 9K Receive Buffer Option (9216 Characters)
	} Choose 1
V	Monitor Receive Data for Extended (8 Bit) ASCII 1. Option Disabled 2. All 8 bits of received data passed to printer.
	} Choose 1
W	Ignore Carriage Return and Line Feed After Receipt of Carriage Return (Single new line function on receipt of CR, CR, LF.) 1. Disable Option 2. Single new line function on receipt of CR, CR, LF.
	} Choose 1
X	Delay Answer-Back to Received "ENQ" by 10 Milliseconds 1. Disable Option 2. Delay sending answer-back character by 10 milliseconds.
	} Choose 1
Y	Answer-Back Character or Station Identification Character 1 (OPTION BB will determine use of character selected.) Select any character from the ASCII code chart except communication characters (SOH, ENQ, DC ₁ , DC ₂ , DC ₃ , DC ₄ , EOT, = * and Delete). It is recommended that upper and lower case alpha or numerics be used for the poll/ select mode.
Z	Second Station Identity Character (See Option Y)
AA	Communication Line Status 1. Line Interface Not Implemented 2. Line Interface Implemented
	} Choose 1
BB	Communication Format 1. Free Running 2. Poll/Select Mode (Selective Calling)
	} Choose 1
CC	Spare Printer On-Line Status (KP3 Only) 1. Printer dedicated to line traffic. 2. Printer available as spare.
	} Choose 1
DD	Monitor Receive Data for Urgent Traffic Sequence(s) 1. Disable Option 2. Enter alarm mode upon receipt of urgent traffic sequences.
	} Choose 1
EE	Print Out Line Options 1. Disable Option 2. Enable Option Print Out
	} Choose 1
FF	Monitor Receive Data for Extended ASCII With SI/SO Format 1. Disable Option 2. Enable Option
	} Choose 1

<u>Option Designation</u>	<u>Description</u>
---------------------------	--------------------

ZZ	<p>Low Speed Asynchronous Baud Rate</p> <table border="0"> <tr> <td>Baud</td> <td rowspan="9" style="font-size: 4em; vertical-align: middle;">}</td> <td rowspan="9" style="vertical-align: middle;">Choose 1</td> </tr> <tr><td>50</td></tr> <tr><td>75</td></tr> <tr><td>100</td></tr> <tr><td>110</td></tr> <tr><td>150</td></tr> <tr><td>300</td></tr> <tr><td>450</td></tr> <tr><td>600</td></tr> </table>	Baud	}	Choose 1	50	75	100	110	150	300	450	600
Baud	}	Choose 1										
50												
75												
100												
110												
150												
300												
450												
600												

ZZ	<p>High Speed Asynchronous Baud</p> <table border="0"> <tr> <td>Baud</td> <td rowspan="14" style="font-size: 4em; vertical-align: middle;">}</td> <td rowspan="14" style="vertical-align: middle;">Choose 1</td> </tr> <tr><td>50</td></tr> <tr><td>75</td></tr> <tr><td>100</td></tr> <tr><td>110</td></tr> <tr><td>150</td></tr> <tr><td>300</td></tr> <tr><td>450</td></tr> <tr><td>600</td></tr> <tr><td>900</td></tr> <tr><td>1200</td></tr> <tr><td>1800</td></tr> <tr><td>2400</td></tr> <tr><td>3600</td></tr> </table>	Baud	}	Choose 1	50	75	100	110	150	300	450	600	900	1200	1800	2400	3600
Baud	}	Choose 1															
50																	
75																	
100																	
110																	
150																	
300																	
450																	
600																	
900																	
1200																	
1800																	
2400																	
3600																	

a-d 1st Four Characters Urgent Traffic Sequence

e-h 2nd Four Characters Urgent Traffic Sequence

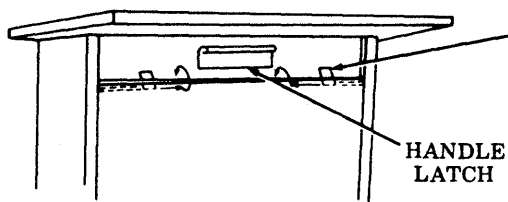
Note 1: All characters must be programmed in ASCII with the eight bit spacing (switch on).

Note 2: If sequence is less than four characters the unused characters must be programmed as nulls (all spacing).

Note 3: The sequences cannot start with null or have a null character embedded in it.

H. CONTROLLER OPTIONING (Contd)

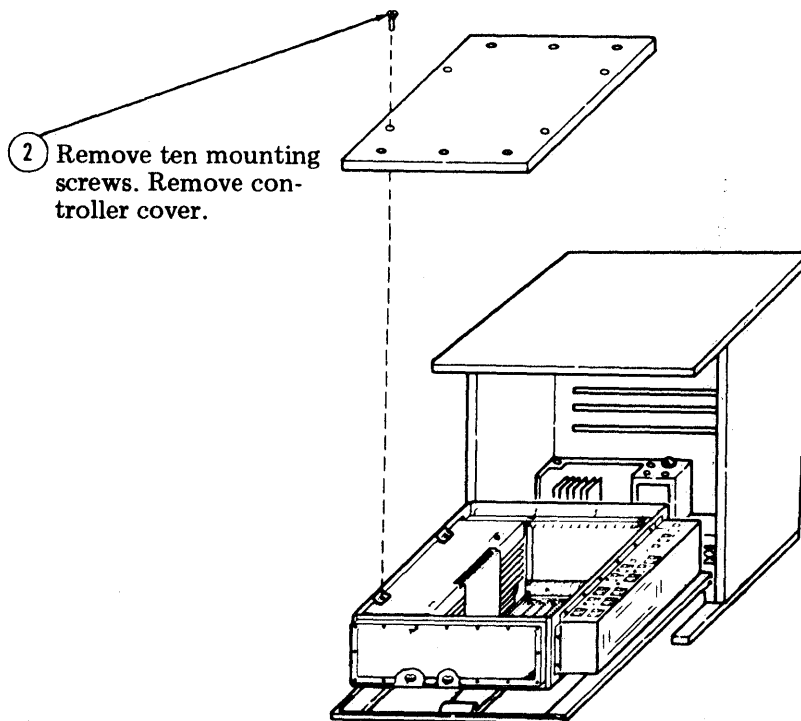
2. COMPONENT ACCESS IN PEDESTAL



- ① Slide tabs inward to release panel. Handle latch must be squeezed to open panel.

Caution: Grasp handle firmly when opening door, since weight of electronics package mounted on inside becomes overcentered.

Note: Tabs can be rotated to become nonfunctional or, if desired, may be utilized to discourage opening of door by nonservice personnel.



3. GENERAL

Controller option switches are enabled per the service order request and should be checked per the Controller Arrangement Form included with each controller. This form will be placed in the document holder of controller pedestal. See 6. CONTROLLER ARRANGEMENT FORMS (Page 151) for samples.

The purpose of the Controller Arrangement Form is to provide the following information:

- (1) Circuit cards required.
- (2) Placement of circuit cards.
- (3) Position of switches (on or off) on circuit cards.
- (4) Controller options selected.

Using the Controller Arrangement Forms, check the controller in the station for the following:

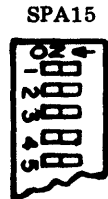
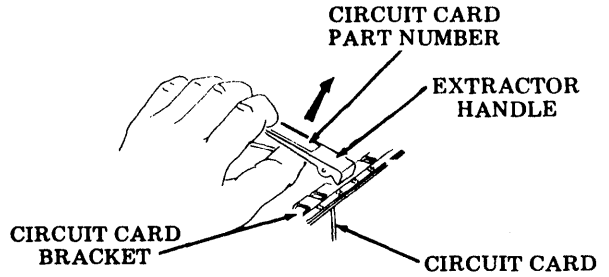
- (1) Circuit cards are in their proper positions.
- (2) Switches on circuit cards are on or off (ie, as entered on Controller Arrangement Form).

Extracting circuit cards from controller.

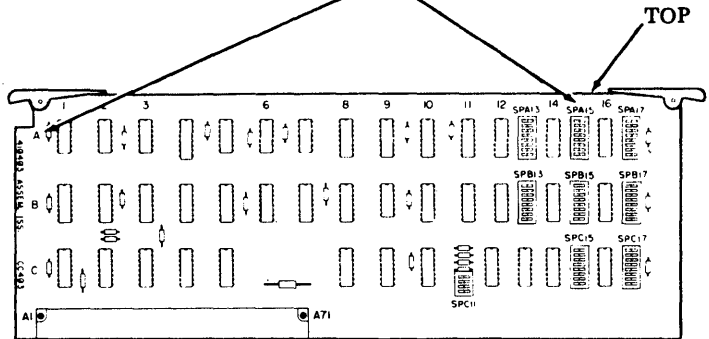
- ① Lift up on the extractor handles of the circuit card.
- ② Lift circuit card straight up.

Locating switch packs on circuit cards.

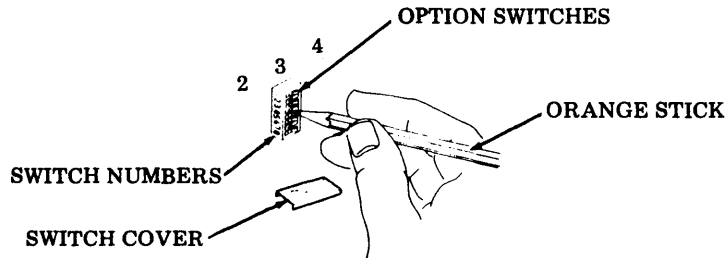
Note: "1" is always at the top, and "ON" is always to the left.



Example: SP A 15



Activating options.



Record options set on Page 134, 4. FEATURE AND OPTION RECORD and place in document holder.

H. CONTROLLER OPTIONING (Contd)4. FEATURE AND OPTION RECORD

Set:	Printer:	Interface:
ROP <input type="checkbox"/>	40P101AA (Monocase) <input type="checkbox"/>	Clear to Send +6 V (EC181) <input type="checkbox"/>
KP <input type="checkbox"/>	40P101AB (Up-Low) <input type="checkbox"/>	Clear to Send -6 V (EC184) <input type="checkbox"/>
KP ³ <input type="checkbox"/>	40P154AA (Monocase) <input type="checkbox"/>	Receiver Ready +6 V (EC180) <input type="checkbox"/>
	40P154AB (Up-Low) <input type="checkbox"/>	Receiver Ready -6 V (EC185) <input type="checkbox"/>
	40P202AL (Monocase) <input type="checkbox"/>	
	40P202AG (Up-Low) <input type="checkbox"/>	

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
A1.	Power up (Option I) asynchronous speed	1. Low speed <input type="checkbox"/>	2. High speed <input type="checkbox"/>
A2.	Option II asynchronous speed	1. Low speed <input type="checkbox"/>	2. High speed <input type="checkbox"/>
B1.	Power up (Option I) line code	1. 5-level Baudot (ITA2) <input type="checkbox"/>	2. ASCII (ITA5) <input type="checkbox"/>
		3. 6-level code <input type="checkbox"/>	
B2.	Option II line code	1. 5-level Baudot (ITA2) <input type="checkbox"/>	2. ASCII (ITA5) <input type="checkbox"/>
		3. 6-level code <input type="checkbox"/>	
C1.	Power up (Option I) stop bits	1. One stop bit <input type="checkbox"/>	2. Two stop bits (1.5 stop bits for Baudot) <input type="checkbox"/>
C2.	Option II stop bits	1. One stop bit <input type="checkbox"/>	2. Two stop bits (1.5 stop bits for Baudot) <input type="checkbox"/>
D1.	Power up (Option I) "print all" for Baudot code only	1. Standard Baudot character set <input type="checkbox"/>	2. "Print all" character set <input type="checkbox"/>
D2.	Option II "print all" for Baudot code only	1. Standard Baudot character set <input type="checkbox"/>	2. "Print all" character set <input type="checkbox"/>
E.	Preempt local on receipt of data	1. DTR is turned off and receive data is ignored by terminal <input type="checkbox"/>	2. DTR is on in local (if printer is selectable) and terminal is switched from local to receive on received data <input type="checkbox"/>
F.	Substitute asterisk (*) for parity errored character	1. Printer copies errored character as received <input type="checkbox"/>	2. Printer copies asterisk for each errored character received <input type="checkbox"/>

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Set:
 ROP
 KP
 KP3

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
A1.	Power up (Option I) asynchronous speed	1. Low speed <input type="checkbox"/>	2. High speed <input type="checkbox"/>
A2.	Option II asynchronous speed	1. Low speed <input type="checkbox"/>	2. High speed <input type="checkbox"/>
B1.	Power up (Option I) line code	1. 5-level Baudot (ITA2) <input type="checkbox"/>	2. ASCII (ITA5) <input type="checkbox"/>
		3. 6-level code <input type="checkbox"/>	
B2.	Option II line code	1. 5-level Baudot (ITA2) <input type="checkbox"/>	2. ASCII (ITA5) <input type="checkbox"/>
		3. 6-level code <input type="checkbox"/>	
C1.	Power up (Option I) stop bits	1. One stop bit <input type="checkbox"/>	2. Two stop bits (1.5 stop bits for Baudot) <input type="checkbox"/>
C2.	Option II stop bits	1. One stop bit <input type="checkbox"/>	2. Two stop bits (1.5 stop bits for Baudot) <input type="checkbox"/>
D1.	Power up (Option I) "print all" for Baudot code only	1. Standard Baudot character set <input type="checkbox"/>	2. "Print all" character set <input type="checkbox"/>
D2.	Option II "print all" for Baudot code only	1. Standard Baudot character set <input type="checkbox"/>	2. "Print all" character set <input type="checkbox"/>
E.	Preempt local on receipt of data	1. DTR is turned off and receive data is ignored by terminal <input type="checkbox"/>	2. DTR is on in local (if printer is selectable) and terminal is switched from local to receive on received data <input type="checkbox"/>
F.	Substitute asterisk (*) for parity errored character	1. Printer copies errored character as received <input type="checkbox"/>	2. Printer copies asterisk for each errored character received <input type="checkbox"/>

- Set:
 ROP
 KP
 KP3
- Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

- Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
G.	Line parity on ITA5 ASCII data	1. No parity, bit 8 set spacing (0) <input type="checkbox"/>	2. No parity, bit 8 set marking (1) <input type="checkbox"/>
		3. Odd parity <input type="checkbox"/>	4. Even parity <input type="checkbox"/>
H.	Transmission mode	1. Asynchronous transmission <input type="checkbox"/>	2. Isochronous transmission <input type="checkbox"/>
J.	Transmit answer-back character on receipt of "ENQ" (ASCII only)	1. No answer-back <input type="checkbox"/>	2. Transmit answer-back on receipt of "ENQ" <input type="checkbox"/>
K.	Terminal configuration	1. Receive only printer <input type="checkbox"/>	2. Keyboard printer <input type="checkbox"/>
L.	Line feed printer on receipt of "carriage return"	1. Printer performs carriage return function <input type="checkbox"/>	2. Printer performs new line function <input type="checkbox"/>
M.	15 seconds time out for send mode	1. Terminal stays in send mode until manually deselected <input type="checkbox"/>	2. Terminal switches to receive mode after 15 seconds of no send activity <input type="checkbox"/>
N.	Data compression on receive buffer 90 percent full	1. Data compression when receive buffer 9/10 full DTR remains on <input type="checkbox"/>	2. DTR turns off when receive buffer is 9/10 full and on when receive buffer is 1/10 full <input type="checkbox"/>
P.	Short receive buffer for DTR (26 characters)	1. DTR turned off when receive buffer is 9/10 full <input type="checkbox"/>	2. DTR turned off when receive buffer contains 26 characters <input type="checkbox"/>
Q.	Printer paging	1. Printer paging disabled <input type="checkbox"/>	2. Printer paging activated <input type="checkbox"/>
R.	Printer line spacing selected	1. Printer optioned for single spacing <input type="checkbox"/>	2. Printer optioned for double spacing <input type="checkbox"/>

NOTES

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Set:
 ROP
 KP
 KP3

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
G.	Line parity on ITA5 ASCII data	1. No parity, bit 8 set spacing (0) <input type="checkbox"/>	2. No parity, bit 8 set marking (1) <input type="checkbox"/>
		3. Odd parity <input type="checkbox"/>	4. Even parity <input type="checkbox"/>
H.	Transmission mode	1. Asynchronous transmission <input type="checkbox"/>	2. Isochronous transmission <input type="checkbox"/>
J.	Transmit answer-back character on receipt of "ENQ" (ASCII only)	1. No answer-back <input type="checkbox"/>	2. Transmit answer-back on receipt of "ENQ" <input type="checkbox"/>
K.	Terminal configuration	1. Receive only printer <input type="checkbox"/>	2. Keyboard printer <input type="checkbox"/>
L.	Line feed printer on receipt of "carriage return"	1. Printer performs carriage return function <input type="checkbox"/>	2. Printer performs new line function <input type="checkbox"/>
M.	15 seconds time out for send mode	1. Terminal stays in send mode until manually deselected <input type="checkbox"/>	2. Terminal switches to receive mode after 15 seconds of no send activity <input type="checkbox"/>
N.	Data compression on receive buffer 90 percent full	1. Data compression when receive buffer 9/10 full DTR remains on <input type="checkbox"/>	2. DTR turns off when receive buffer is 9/10 full and on when receive buffer is 1/10 full <input type="checkbox"/>
P.	Short receive buffer for DTR (26 characters)	1. DTR turned off when receive buffer is 9/10 full <input type="checkbox"/>	2. DTR turned off when receive buffer contains 26 characters <input type="checkbox"/>
Q.	Printer paging	1. Printer paging disabled <input type="checkbox"/>	2. Printer paging activated <input type="checkbox"/>
R.	Printer line spacing selected	1. Printer optioned for single spacing <input type="checkbox"/>	2. Printer optioned for double spacing <input type="checkbox"/>

Set:
 ROP
 KP
 KP3

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
S.	Printer forms out on receipt of ETX (match printer Option 18 – tractor feed printers only)	1. Printer ignores ETX (Option 18.a. or b.) <input type="checkbox"/>	2. Printer forms out on receipt of ETX (Option 18.c.) <input type="checkbox"/>
T.	Last page received out of cabinet	1. Last page remains in cabinet (one form-out) <input type="checkbox"/>	2. Last page characters cabinet (Option S.2. required) <input type="checkbox"/>
U.	Receive buffer memory allocation	1. 1K receive buffer (1024 characters) <input type="checkbox"/>	2. 5K receive buffer (5120 characters) <input type="checkbox"/>
		3. 9K receive buffer (9216 characters) <input type="checkbox"/>	
V.	Monitor receive data for extended (8 bit) ASCII	1. Option disabled <input type="checkbox"/>	2. All 8 bits of received data passed to printer <input type="checkbox"/>
W.	Ignore carriage return and line feed after receipt of carriage return (single new line function on receipt of CR, CR, LF)	1. Disable option <input type="checkbox"/>	2. Single new line function on receipt of CR, CR, LF <input type="checkbox"/>
X.	Delay answer-back 10 milliseconds	1. Disable option <input type="checkbox"/>	2. Delay sending answer-back character by 10 milliseconds <input type="checkbox"/>
Y.	Answer-back character or station identification character 1 (Option BB will determine use of character selected)	1. Select any character from the ASCII code chart except communication characters SOH, ENQ, DC ¹ , DC ² , DC ³ , DC ⁴ , EOT, =, * and DELETE. It is recommended that upper and lower case alpha or numerics be used for the poll/select mode.	

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NOTES

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Set:
 ROP
 KP
 KP³

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
S.	Printer forms out on receipt of ETX (match printer Option 18 – tractor feed printers only)	1. Printer ignores ETX (Option 18.a. or b.) <input type="checkbox"/>	2. Printer forms out on receipt of ETX (Option 18.c.) <input type="checkbox"/>
T.	Last page received out of cabinet	1. Last page remains in cabinet (one form-out) <input type="checkbox"/>	2. Last page characters cabinet (Option S.2. required) <input type="checkbox"/>
U.	Receive buffer memory allocation	1. 1K receive buffer (1024 characters) <input type="checkbox"/>	2. 5K receive buffer (5120 characters) <input type="checkbox"/>
		3. 9K receive buffer (9216 characters) <input type="checkbox"/>	
V.	Monitor receive data for extended (8 bit) ASCII	1. Option disabled <input type="checkbox"/>	2. All 8 bits of received data passed to printer <input type="checkbox"/>
W.	Ignore carriage return and line feed after receipt of carriage return (single new line function on receipt of CR, CR, LF)	1. Disable option <input type="checkbox"/>	2. Single new line function on receipt of CR, CR, LF <input type="checkbox"/>
X.	Delay answer-back 10 milliseconds	1. Disable option <input type="checkbox"/>	2. Delay sending answer-back character by 10 milliseconds <input type="checkbox"/>
Y.	Answer-back character or station identification character 1 (Option BB will determine use of character selected)	1. Select any character from the ASCII code chart except communication characters SOH, ENQ, DC ¹ , DC ² , DC ³ , DC ⁴ , EOT, =, * and DELETE. It is recommended that upper and lower case alpha or numerics be used for the poll/select mode.	

Set:
 ROP
 KP
 KP³

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
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 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
Z.	Second station identity character (see Option Y)		
AA.	Communication line status (KP ³ terminals only)	1. Line interface not implemented <input type="checkbox"/>	2. Line interface implemented
BB.	Communication format	1. Free running <input type="checkbox"/>	2. Poll/select mode (selective calling) <input type="checkbox"/>
CC.	Spare printer on-line status (KP ³ only)	1. Printer dedicated to line traffic <input type="checkbox"/>	2. Printer available as spare <input type="checkbox"/>
DD.	Monitor received data for Urgent Traffic Sequences	1. Disable option <input type="checkbox"/>	2. Enter alarm mode upon receipt of Urgent Traffic Sequence <input type="checkbox"/>
EE.	Print out line options	1. Disable option <input type="checkbox"/>	2. Enable option print out <input type="checkbox"/>
FF.	Monitor receive data for extended ASCII with S1/SO format	1. Disable option <input type="checkbox"/>	2. Enable option <input type="checkbox"/>
ZZ.	Low speed asynchronous baud rate High speed asynchronous baud rate	- Baud - Baud	

NOTES

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Set:
 ROP
 KP
 KP³

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
Z.	Second station identity character (see Option Y)		
AA.	Communication line status (KP ³ terminals only)	1. Line interface not implemented <input type="checkbox"/>	2. Line interface implemented <input type="checkbox"/>
BB.	Communication format	1. Free running <input type="checkbox"/>	2. Poll/select mode (selective calling) <input type="checkbox"/>
CC.	Spare printer on-line status (KP ³ only)	1. Printer dedicated to line traffic <input type="checkbox"/>	2. Printer available as spare <input type="checkbox"/>
DD.	Monitor received data for urgent traffic sequences	1. Disable option <input type="checkbox"/>	2. Enter alarm mode upon receipt of urgent traffic sequence <input type="checkbox"/>
EE.	Print out line options	1. Disable option <input type="checkbox"/>	2. Enable option print out <input type="checkbox"/>
FF.	Monitor receive data for extended ASCII with SI/SO format	1. Disable option <input type="checkbox"/>	2. Enable option <input type="checkbox"/>
ZZ.	Low speed asynchronous baud rate High speed asynchronous baud rate	- Baud - Baud	

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Printer

OPTION	DESCRIPTION	OPTION CONDITION	
17.	Printer margin and form length	c. Last character on 80th column <input type="checkbox"/>	d. Last character on 73rd through 79th column <input type="checkbox"/>
18.	Printer paper feed out	a. No paper feed out <input type="checkbox"/>	b. Paper feed out on RM loss <input type="checkbox"/>
		c. Paper feed out on RM loss or ETX <input type="checkbox"/>	
19.	Printer errored character symbol	c. Not printed on parity error <input type="checkbox"/>	d. Printers with 96 character set <input type="checkbox"/>
		e. Printers with 64 character set <input type="checkbox"/>	f. Printers with extended ASCII character set <input type="checkbox"/>
20.	Line feed on printer	a. Single <input type="checkbox"/>	b. Double <input type="checkbox"/>
21.	Foldover on up-low printer	a. Upper and lower case print <input type="checkbox"/>	b. Lower case prints as upper case <input type="checkbox"/>
22.	Foldover on monospace printer	a. Lower case not folded over <input type="checkbox"/>	b. Lower case printed as upper case <input type="checkbox"/>
39.	Forms switch (tractor feed printers only)	a. On <input type="checkbox"/>	b. Off <input type="checkbox"/>
48.	Incomplete form suppresses paper alarm	a. No <input type="checkbox"/>	b. Yes <input type="checkbox"/>
54.	Printing of escape sequences suppressed	a. Character after ESC printed as received <input type="checkbox"/>	b. Printing of character after ESC suppressed <input type="checkbox"/>
55.	SI/SO detection	a. SI/SO detection not used <input type="checkbox"/>	b. SI/SO detection enables printing additional characters <input type="checkbox"/>
56.	Friction feed/tractor feed	a. Friction feed printer motor held on after paper alarm <input type="checkbox"/>	b. Tractor feed printer motor turned off after paper alarm <input type="checkbox"/>
57.	SSI/OEM interface	a. SSI interface <input type="checkbox"/>	b. OEM interface <input type="checkbox"/>
58.	Idle line motor control	a. Disabled — Motor held on indefinitely during idle line <input type="checkbox"/>	b. Enabled — Motor turned off after 40 second idle line <input type="checkbox"/>
59.	Speed selection	— Baud	
60.	Auxiliary alarm	a. Enabled <input type="checkbox"/>	b. Disabled <input type="checkbox"/>
61.	Regulator grounding (circuit gnd to frame gnd)	a. SSI <input type="checkbox"/>	b. OEM at printer <input type="checkbox"/>
		c. OEM external to printer <input type="checkbox"/>	

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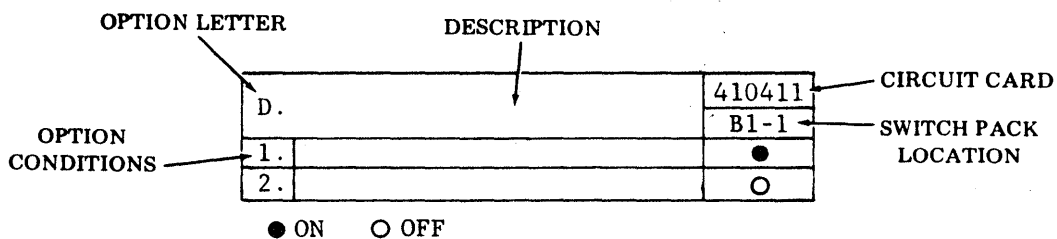
NOTES

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Printer

OPTION	DESCRIPTION	OPTION CONDITION	
17.	Printer margin and form length	c. Last character on 80th column <input type="checkbox"/>	d. Last character on 73rd through 79th column <input type="checkbox"/>
18.	Printer paper feed out	a. No paper feed out <input type="checkbox"/>	b. Paper feed out on RM loss <input type="checkbox"/>
		c. Paper feed out on RM loss or ETX <input type="checkbox"/>	
19.	Printer errored character symbol	c. Not printed on parity error <input type="checkbox"/>	d. Printers with 96 character set <input type="checkbox"/>
		e. Printers with 64 character set <input type="checkbox"/>	f. Printers with extended ASCII character set <input type="checkbox"/>
20.	Line feed on printer	a. Single <input type="checkbox"/>	b. Double <input type="checkbox"/>
21.	Foldover on up-low printer	a. Upper and lower case print <input type="checkbox"/>	b. Lower case prints as upper case <input type="checkbox"/>
22.	Foldover on monospace printer	a. Lower case not folded over <input type="checkbox"/>	b. Lower case printed as upper case <input type="checkbox"/>
39.	Forms switch (tractor feed printers only)	a. On <input type="checkbox"/>	b. Off <input type="checkbox"/>
48.	Incomplete form suppresses paper alarm	a. No <input type="checkbox"/>	b. Yes <input type="checkbox"/>
54.	Printing of escape sequences suppressed	a. Character after ESC printed as received <input type="checkbox"/>	b. Printing of character after ESC suppressed <input type="checkbox"/>
55.	SI/SO detection	a. SI/SO detection not used <input type="checkbox"/>	b. SI/SO detection enables printing additional characters <input type="checkbox"/>
56.	Friction feed/tractor feed	a. Friction feed printer motor held on after paper alarm <input type="checkbox"/>	b. Tractor feed printer motor turned off after paper alarm <input type="checkbox"/>
57.	SSI/OEM interface	a. SSI interface <input type="checkbox"/>	b. OEM interface <input type="checkbox"/>
58.	Idle line motor control	a. Disabled — Motor held on indefinitely during idle line <input type="checkbox"/>	b. Enabled — Motor turned off after 40 second idle line <input type="checkbox"/>
59.	Speed selection	— Baud	
60.	Auxiliary alarm	a. Enabled <input type="checkbox"/>	b. Disabled <input type="checkbox"/>
61.	Regulator grounding (circuit gnd to frame gnd)	a. SSI <input type="checkbox"/>	b. OEM at printer <input type="checkbox"/>
		c. OEM external to printer <input type="checkbox"/>	

5. OPTION SWITCH SETTINGS FOR CONTROLLERS WITH 410411 OR 410403 CIRCUIT CARDS



Note: For ROP controllers (40C432/AEN/104) and KP controllers (40C431/AEM/103) terminal options are selected on the 410411 circuit card. For KP³ controllers (40C438/AEP/105) terminal options are selected on the 410403 associated with each line (card slots, 5-line 1, 6-line 2, and 7-line 3).

		410411		410403	
		POWER UP	OPTION II	POWER UP	OPTION II
		B1-3	B1-4	A17-3	A17-4
A1.	Asynchronous Speed (Power Up/Option I)				
A2.	Asynchronous Speed (Option II)				
1.	Low Speed	●	●	●	●
2.	High Speed	○	○	○	○

		410411		410403	
		B2-3	B3-3	A15-3	A13-3
B1.-2.	Line Code (Power Up/Option I)				
1.	ITA2 AV (Baudot)	●	●	●	●
2.	ITA5 (ASCII)	○	●	○	●
3.	6-Level Code	●	○	●	○

		410411		410403	
		B2-4	B3-4	A15-4	A13-4
B3.-4.	Line Code (Option II)				
1.	ITA2 AV (Baudot)	●	●	●	●
2.	ITA5 (ASCII)	○	●	○	●
3.	6-Level Code	●	○	●	○

		410411		410403	
		POWER UP OPTION I	OPTION II	POWER UP OPTION I	OPTION II
		B4-3	B4-4	B13-3	B13-4
C1.	Stop Bits (Power Up/Option I)				
C2.	Stop Bits (Option II)				
1.	1 Stop Bit	●	●	●	●
2.	2 Stop Bits (1.5 Stop Bits for Baudot)	○	○	○	○

Switch Off (○) = Mark
 Switch On (●) = Space

NOTES

D1. Print all for Baudot (Power Up/Option I) D2. Print all for Baudot (Option II)		410411		410403	
		POWER UP OPTION I	OPTION II	POWER UP OPTION I	OPTION II
		B5-3	B5-4	B15-3	B15-4
1.	Print all Characters	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2.	Standard Character Set	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

E. Preempt Local on Receipt of Data		410411	410403
		B1-2	A17-2
1.	Preempt	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2.	Do not Preempt	<input type="radio"/>	<input type="radio"/>

F. Substitute Asterisk (*) for Parity Errored Character		410411	410403
		B2-2	A15-2
1.	Substitute Asterisk	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2.	Do not Substitute Asterisk	<input type="radio"/>	<input type="radio"/>

G1.-2. Line Parity on ITA5 (ASCII) Data		410411		410403	
		B3-2	B4-2	A13-2	B13-2
1.	No Parity (8th Bit Spacing)	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2.	No Parity (8th Bit Marking)	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>
3.	Odd Parity	<input checked="" type="radio"/>	<input type="radio"/>	<input checked="" type="radio"/>	<input type="radio"/>
4.	Even Parity	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

H. Transmission Mode		410411	410403
		B5-2	B15-2
1.	Asynchronous Transmission	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2.	Isochronous Transmission	<input type="radio"/>	<input type="radio"/>

J. Transmit Answer-Back Character on Receipt of ENQ		410411	410403
		B6-2	B17-2
1.	Transmit Answer-Back	<input checked="" type="radio"/>	<input checked="" type="radio"/>
2.	Do not Transmit Answer-Back	<input type="radio"/>	<input type="radio"/>

K. Terminal Configuration		410411	410403
		B7-2	C17-2
1.	Receive Only Printer (DC Opcon)	<input checked="" type="radio"/>	—
2.	Keyboard Printer	<input type="radio"/>	<input type="radio"/>

Required Selection

Switch Off (○) = Mark
Switch On (●) = Space

H. CONTROLLER OPTIONING (Contd)

5. OPTION SWITCH SETTINGS FOR CONTROLLERS WITH 410411 OR 410403 CIRCUIT CARDS (Contd)

L. Line Feed Printer on Receipt of CR (Carriage Return)		410411	410403
		B8-2	C15-2
1.	Line Feed Printer on CR	●	●
2.	Carriage Return Printer on CR	○	○

M. 15-Second Time Out on Send Mode		410411	410403
		B1-5	A17-5
1.	15-Second Time Out Enabled	●	●
2.	15-Second Time Out Disabled	○	○

N. Data Compression on Receive Buffer 90 Percent Full		410411	410403
		B2-5	A15-5
1.	Data Compression Enabled	●	●
2.	Data Compression Disabled	○	○

P. Short Receive Buffer for DTR		410411	410403
		B1-6	A17-6
1.	Short Buffer Enabled	●	●
2.	Short Buffer Disabled	○	○

Q. Printer Paging		410411	410403
		B2-6	A15-6
1.	Printer Paging Enabled	●	●
2.	Printer Paging Disabled	○	○

R. Printer Line Spacing Selected		410411	410403
		B3-6	A13-6
1.	Printer Single Spaced	●	●
2.	Printer Double Spaced	○	○

S. Printer Form-Out on Receipt of ETX		410411	410403
		B4-6	B13-6
1.	Printer Forms Out on ETX	●	●
2.	Printer Ignores ETX	○	○

T. Printer Form-Out on Motor Off		410411	410403
		B5-6	B15-6
1.	Last Page Clears Cabinet	●	●
2.	Last Page Remains in Cabinet	○	○

Switch Off (○) = Mark
Switch On (●) = Space

U1.-2. Receive Buffer Memory Allocation		410411		410403	
		B5-1	B6-1	B15-1	B17-1
1.	1K Buffer (1024 Characters)	●	●	●	●
2.	5K Buffer (5120 Characters)	○	●	○	●
3.	9K Buffer (9216 Characters)	●	○	●	○

V. Monitor Receive Data for Extended ASCII		410411	410403
		B6-6	B17-6
1.	All 8 Bits Sent to Printer	●	●
2.	Normal ASCII Character Sent to Printer	○	○

W. Ignore CR and LF Characters after Receipt of CR		410411	410403
		B7-6	C17-6
1.	Ignore CR and LF After CR	●	●
2.	Retain CR and LF After CR	○	○

X. Delay Answer-Back 10 Milliseconds		410411	410403
		B8-6	C15-6
1.	Delay Answer-Back 10 ms	●	●
2.	Answer-Back Sent Immediately	○	○

Y1.-8. Answer-Back Character or First Station Identification Character								
410411	B1-7	B2-7	B3-7	B4-7	B5-7	B6-7	B7-7	B7-8
410403	A17-7	A15-7	A13-7	B13-7	B15-7	B17-7	C17-7	C15-7
	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8

Z1.-8. Second Station Identification Character								
410411	B1-8	B2-8	B3-8	B4-8	B5-8	B6-8	B7-8	B8-8
410403	A17-8	A15-8	A13-8	B13-8	B15-8	B17-8	C17-8	C15-8
	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	Bit 8

Switch Off (○) = Mark
 Switch On (●) = Space

H. CONTROLLER OPTIONING (Contd)5. OPTION SWITCH SETTINGS FOR CONTROLLERS WITH 410411 OR 410403 CIRCUIT CARDS (Contd)

AA. Communication Line Status		410411	410403
		B1-1	A17-1
1.	Line Interface not Implemented	—	●
2.	Line Interface Implemented	○	○

Required Selection

BB. Communication Format		410411	410403
		B2-1	A15-1
1.	Free Running Mode	●	●
2.	Poll/Select Mode	○	○

CC. Spare Printer On-Line Status (KP ³ Only)		410411	410403
		B3-1	A13-1
1.	Printer Dedicated to Line Traffic	●	●
2.	Printer Available as Spare	—	○

Required Selection

DD. Monitor Receive Data for Urgent Traffic Sequency		410411	410403
		B4-1	B13-1
1.	Monitor Receive Data for Urgent Traffic	●	●
2.	Disable Option	○	○

EE. Print Out Line Options		410411	410403
		B7-1	C17-1
1.	Enable Print Out	●	●
2.	Disable Print Out	○	○

FF. Monitor Receive Data for SO and SI Characters (Extended ASCII)		410411	410403
		B8-1	C15-1
1.	Enable Monitoring	●	●
2.	Disable Monitoring	○	○

Switch Off (○) = Mark
Switch On (●) = Space

a1.-h7. Urgent Traffic Detection Sequences — 410403 Circuit Card****										
Sequence	Character	Switch	Switch Pack							
			A17	A15	A13	B13	B15	B17	C17	C15
1	1	1	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	●
1	2	2	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	●
1	3	3	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	●
1	4	4	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	●
2	1	5	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	●
2	2	6	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	●
2	3	7	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	●
2	4	8	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	●

****Slot 5 in ROP or KP Controllers.
 Slot 9 — Line 3
 Slot 10 — Line 2
 Slot 11 — Line 1

In KP³ Controllers

ZZ. High Speed Asynchronous Baud Rate					
410421					Baud Rate
A13-1	A13-2	A13-3	A13-4	Line 1	
A19-1	A19-2	A19-3	A19-4	Line 2	
A24-1	A24-2	A24-3	A24-4	Line 3	
○	○	○	●		50
○	○	●	●		75
○	●	○	●		100
○	●	●	●		110
●	○	○	●		150
●	○	●	●		300
●	●	○	●		450
●	●	●	●		600
○	●	●	○		900
●	○	○	○		1200
●	○	●	○		1800
●	●	○	○		2400
●	●	●	○		3600

ZZ. Low Speed Asynchronous Baud Rate					
410421					Baud Rate
A13-5	A13-6	A13-7	Line 1		
A19-5	A19-6	A19-7	Line 2		
A24-5	A24-6	A24-7	Line 3		
○	○	○			50
●	○	○			75
○	●	○			100
●	●	○			110
○	○	●			150
●	○	●			300
○	●	●			450
●	●	●			600

Switch Off (○) = Mark
 Switch On (●) = Space

H. CONTROLLER OPTIONING (Contd)

5. OPTION SWITCH SETTINGS FOR CONTROLLERS WITH 410411 OR 410403 CIRCUIT CARDS (Contd)

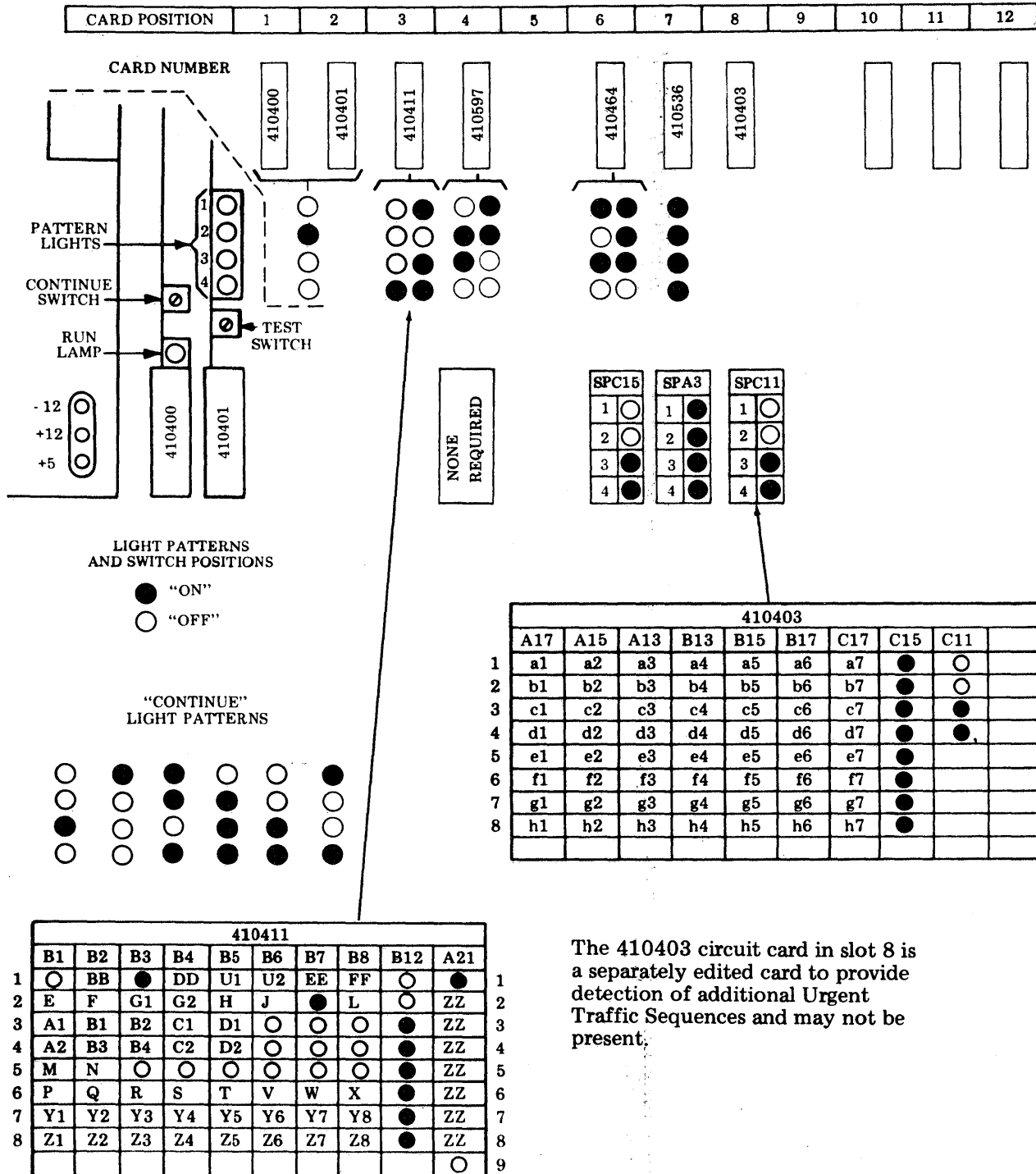
ZZ Low Speed Asynchronous Baud Rate			
410411			Baud Rate
A21-6	A21-7	A21-8	
○	○	○	50
●	○	○	75
○	●	○	100
●	●	○	110
○	○	●	150
●	○	●	300
○	●	●	450
●	●	●	600

ZZ High Speed Asynchronous Baud Rate				
410411				Baud Rate
A21-2	A21-3	A21-4	A21-5	
○	○	○	●	50
○	○	●	●	75
○	●	○	●	100
○	●	●	●	110
●	○	○	●	150
○	○	○	○	300
○	○	●	○	450
○	●	○	○	600
○	●	●	○	900
●	○	○	○	1200
●	○	●	○	1800
●	●	○	○	2400
●	●	●	○	3600

Switch OFF (○) = Mark
 Switch ON (●) = Space

6. CONTROLLER ARRANGEMENT FORMS

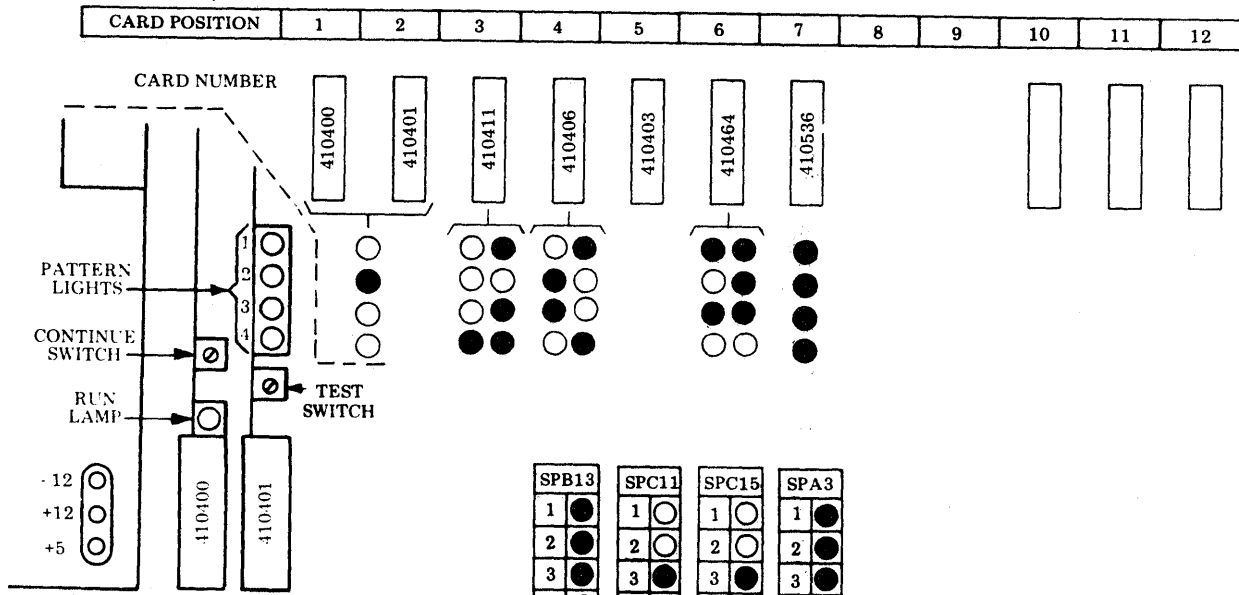
Controller 40C432 With 410411 and 410403 Circuit Cards



The 410403 circuit card in slot 8 is a separately edited card to provide detection of additional Urgent Traffic Sequences and may not be present.

NOTES

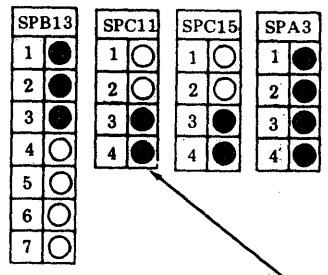
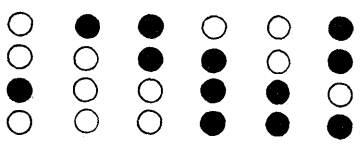
Controller 40C431 With 410411 and 410403 Circuit Cards



LIGHT PATTERNS AND SWITCH POSITIONS

● "ON"
○ "OFF"

"CONTINUE" LIGHT PATTERNS



410403									
	A17	A15	A13	B13	B15	B17	C17	C15	C11
1	a1	a2	a3	a4	a5	a6	a7	●	○
2	b1	b2	b3	b4	b5	b6	b7	●	○
3	c1	c2	c3	c4	c5	c6	c7	●	●
4	d1	d2	d3	d4	d5	d6	d7	●	●
5	e1	e2	e3	e4	e5	e6	e7	●	
6	f1	f2	f3	f4	f5	f6	f7	●	
7	g1	g2	g3	g4	g5	g6	g7	●	
8	h1	h2	h3	h4	h5	h6	h7	●	

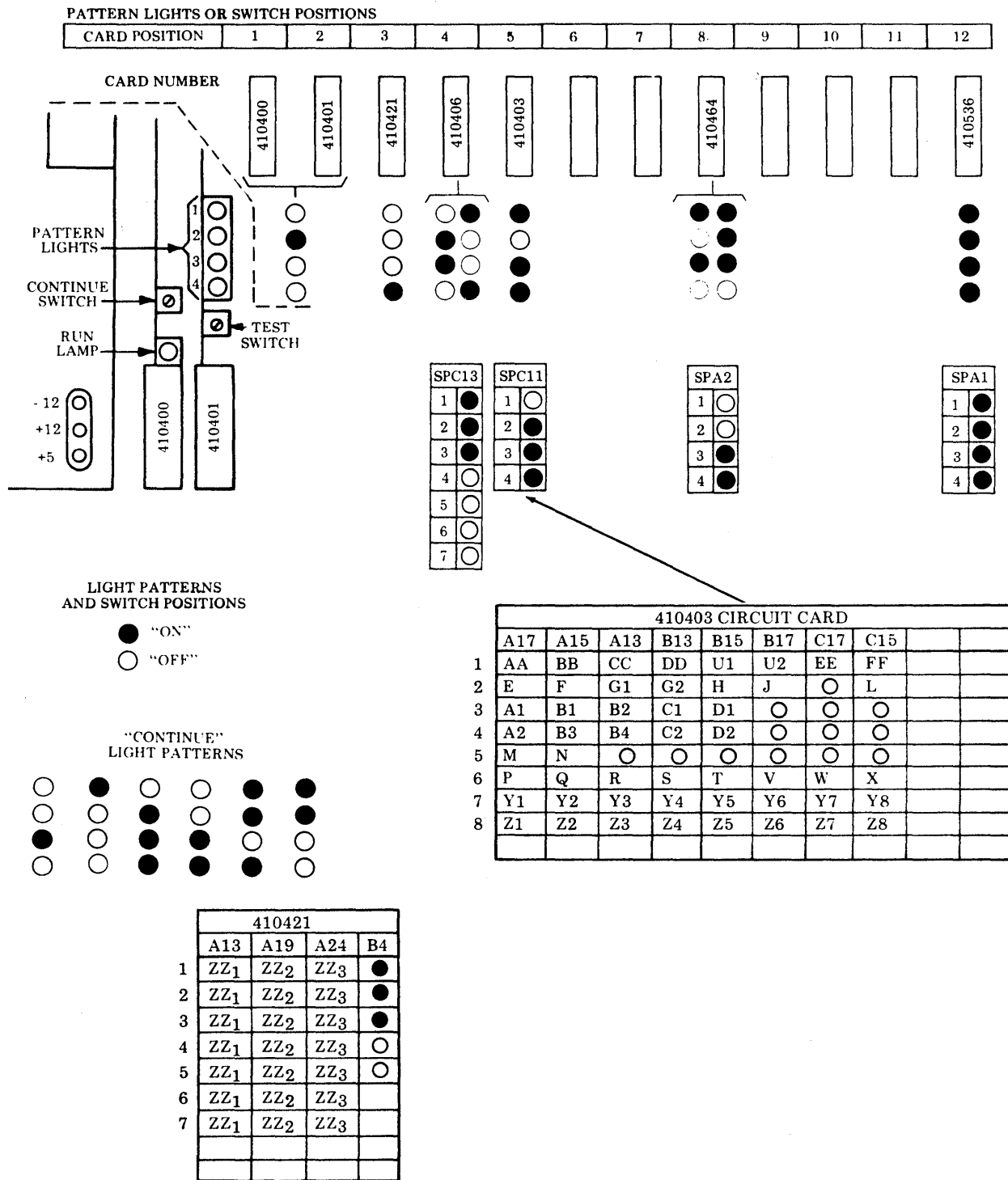
410411										
	B1	B2	B3	B4	B5	B6	B7	B8	B12	A21
1	○	BB	●	DD	U1	U2	EE	FF	○	●
2	E	F	G1	G2	H	J	○	L	○	ZZ
3	A1	B1	B2	C1	D1	○	○	○	●	ZZ
4	A2	B3	B4	C2	D2	○	○	○	●	ZZ
5	M	N	○	○	○	○	○	○	○	ZZ
6	P	Q	R	S	T	V	W	X	●	ZZ
7	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	●	ZZ
8	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8	●	ZZ
9										○

The 410403 circuit card in slot 5 is a separately edited card to provide detection of additional Urgent Traffic Sequences and may not be present.

H. CONTROLLER OPTIONING (Contd)

6. CONTROLLER ARRANGEMENT FORMS

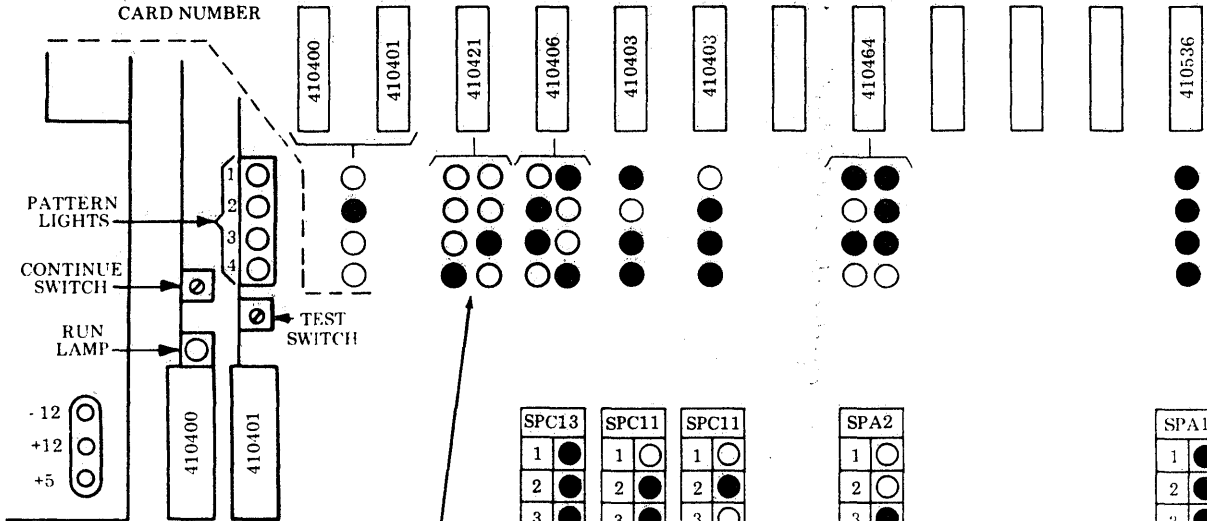
40C438/AEP/105 Controller — Basic-1 Line



40C438/AEP/105 Controller — Basic-2 Line

PATTERN LIGHTS OR SWITCH POSITIONS

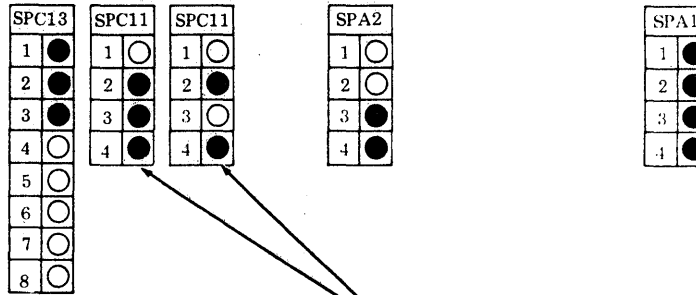
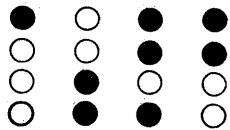
CARD POSITION	1	2	3	4	5	6	7	8	9	10	11	12
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LIGHT PATTERNS AND SWITCH POSITIONS

● "ON"
○ "OFF"

"CONTINUE" LIGHT PATTERNS



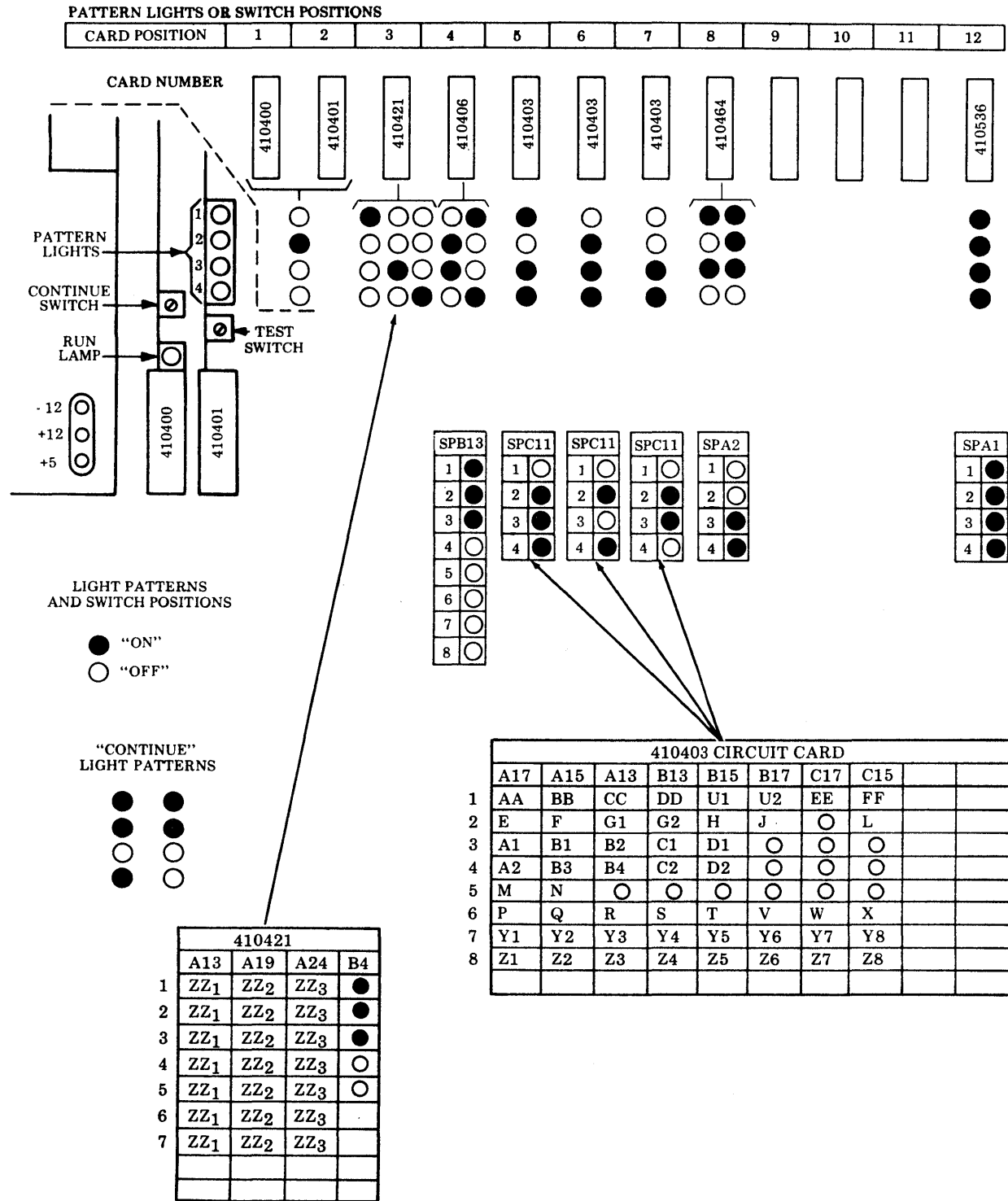
410421				
	A13	A19	A24	B4
1	ZL1	ZL2	ZL3	●
2	ZL1	ZL2	ZL3	●
3	ZL1	ZL2	ZL3	●
4	ZL1	ZL2	ZL3	○
5	ZL1	ZL2	ZL3	○
6	ZL1	ZL2	ZL3	
7	ZL1	ZL2	ZL3	

410403 CIRCUIT CARD										
	A17	A15	A13	B13	B15	B17	C17	C15		
1	AA	BB	CC	DD	U1	U2	EE	FF		
2	E	F	G1	G2	H	J	○	L		
3	A1	B1	B2	C1	D1	○	○	○		
4	A2	B3	B4	C2	D2	○	○	○		
5	M	N	○	○	○	○	○	○		
6	P	Q	R	S	T	V	W	X		
7	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8		
8	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8		

H. CONTROLLER OPTIONING (Contd)

6. CONTROLLER ARRANGEMENT FORMS (Contd)

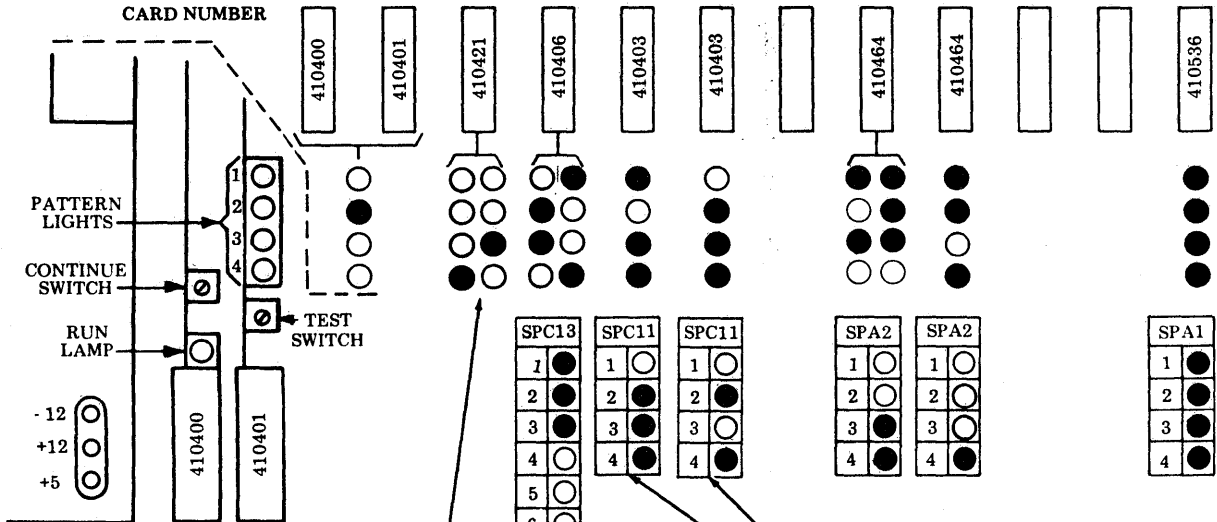
40C438/AEP/105 Controller — Basic-3 Line



40C438/AEP/105 Controller — 2 Line, 9K Buffers

PATTERN LIGHTS OR SWITCH POSITIONS

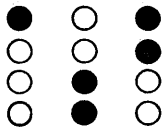
CARD POSITION	1	2	3	4	5	6	7	8	9	10	11	12
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LIGHT PATTERNS AND SWITCH POSITIONS

- "ON"
- "OFF"

"CONTINUE" LIGHT PATTERNS



SPC13	
1	●
2	●
3	●
4	○
5	○
6	○
7	○

SPC11	
1	○
2	●
3	●
4	●

SPC11	
1	○
2	●
3	○
4	●

SPA2	
1	○
2	○
3	●
4	●

SPA2	
1	○
2	○
3	○
4	●

SPA1	
1	●
2	●
3	●
4	●

410403 CIRCUIT CARD

	A17	A15	A13	B13	B15	B17	C17	C15		
1	AA	BB	CC	DD	U1	U2	EE	FF		
2	E	F	G1	G2	H	J	○	L		
3	A1	B1	B2	C1	D1	○	○	○		
4	A2	B3	B4	C2	D2	○	○	○		
5	M	N	○	○	○	○	○	○		
6	P	Q	R	S	T	V	W	X		
7	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8		
8	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8		

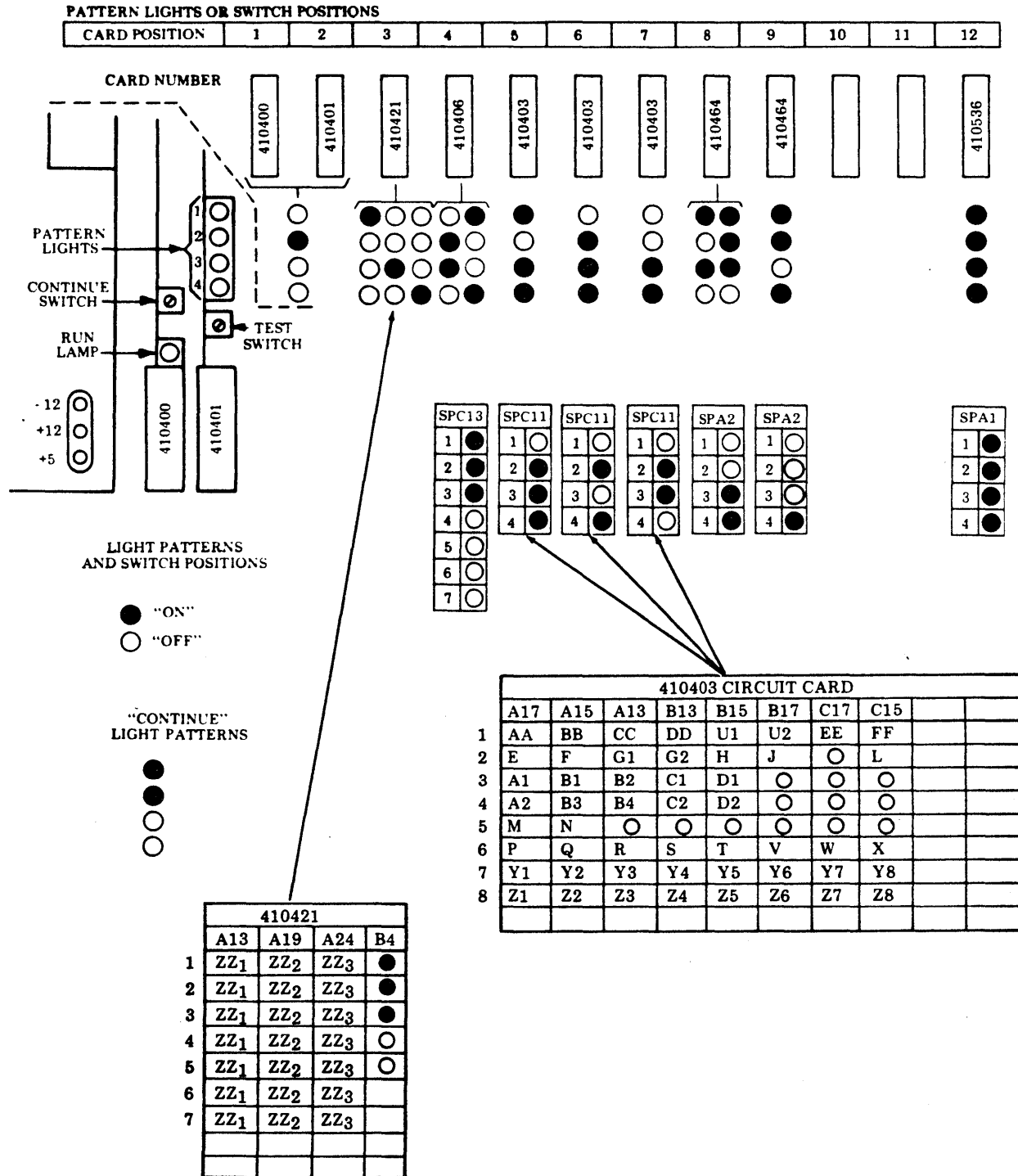
410421

	A13	A19	A24	B4
1	ZZ1	ZZ2	ZZ3	●
2	ZZ1	ZZ2	ZZ3	●
3	ZZ1	ZZ2	ZZ3	●
4	ZZ1	ZZ2	ZZ3	○
5	ZZ1	ZZ2	ZZ3	○
6	ZZ1	ZZ2	ZZ3	
7	ZZ1	ZZ2	ZZ3	

H. CONTROLLER OPTIONING (Contd)

6. CONTROLLER ARRANGEMENT FORMS (Contd)

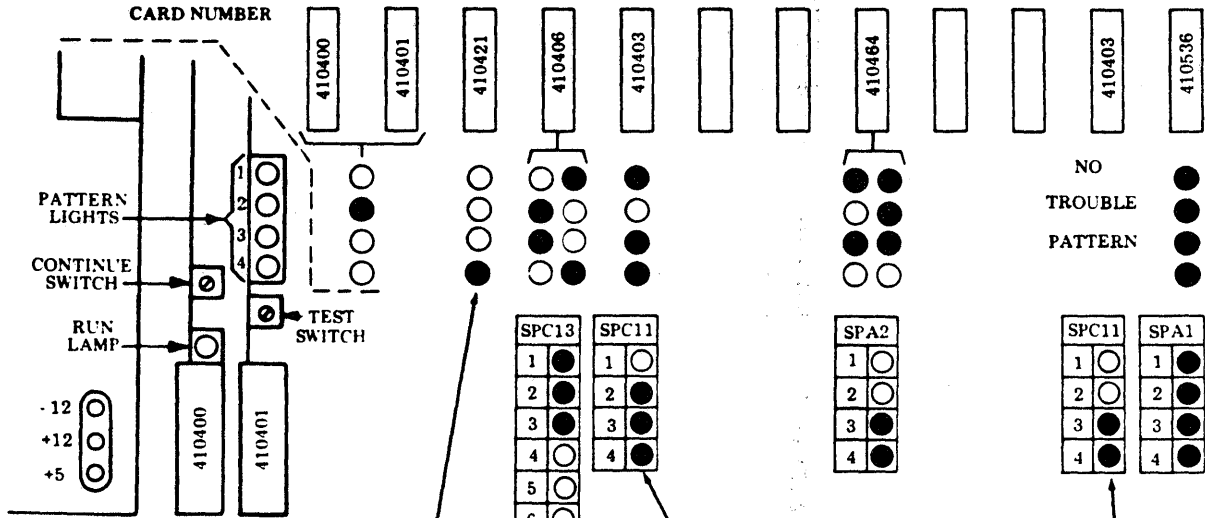
40C438/AEP/105 Controller — 3 Line, 9K Buffers



40C438/AEP/105 Controller — 1 Line, Urgent Traffic Detector

PATTERN LIGHTS OR SWITCH POSITIONS

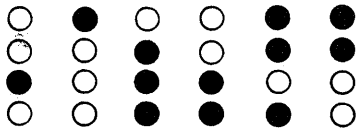
CARD POSITION	1	2	3	4	5	6	7	8	9	10	11	12
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LIGHT PATTERNS AND SWITCH POSITIONS

● "ON"
○ "OFF"

"CONTINUE" LIGHT PATTERNS



SPC13	
1	●
2	●
3	●
4	○
5	○
6	○
7	○

SPC11	
1	○
2	●
3	●
4	●

SPA2	
1	○
2	○
3	●
4	●

SPC11	
1	○
2	○
3	●
4	●

SPA1	
1	●
2	●
3	●
4	●

410403 CIRCUIT CARD										
	A17	A15	A13	B13	B15	B17	C17	C15		
1	AA	BB	CC	DD	U1	U2	EE	FF		
2	E	F	G1	G2	H	J	○	L		
3	A1	B1	B2	C1	D1	○	○	○		
4	A2	B3	B4	C2	D2	○	○	○		
5	M	N	○	○	○	○	○	○		
6	P	Q	R	S	T	V	W	X		
7	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8		
8	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8		

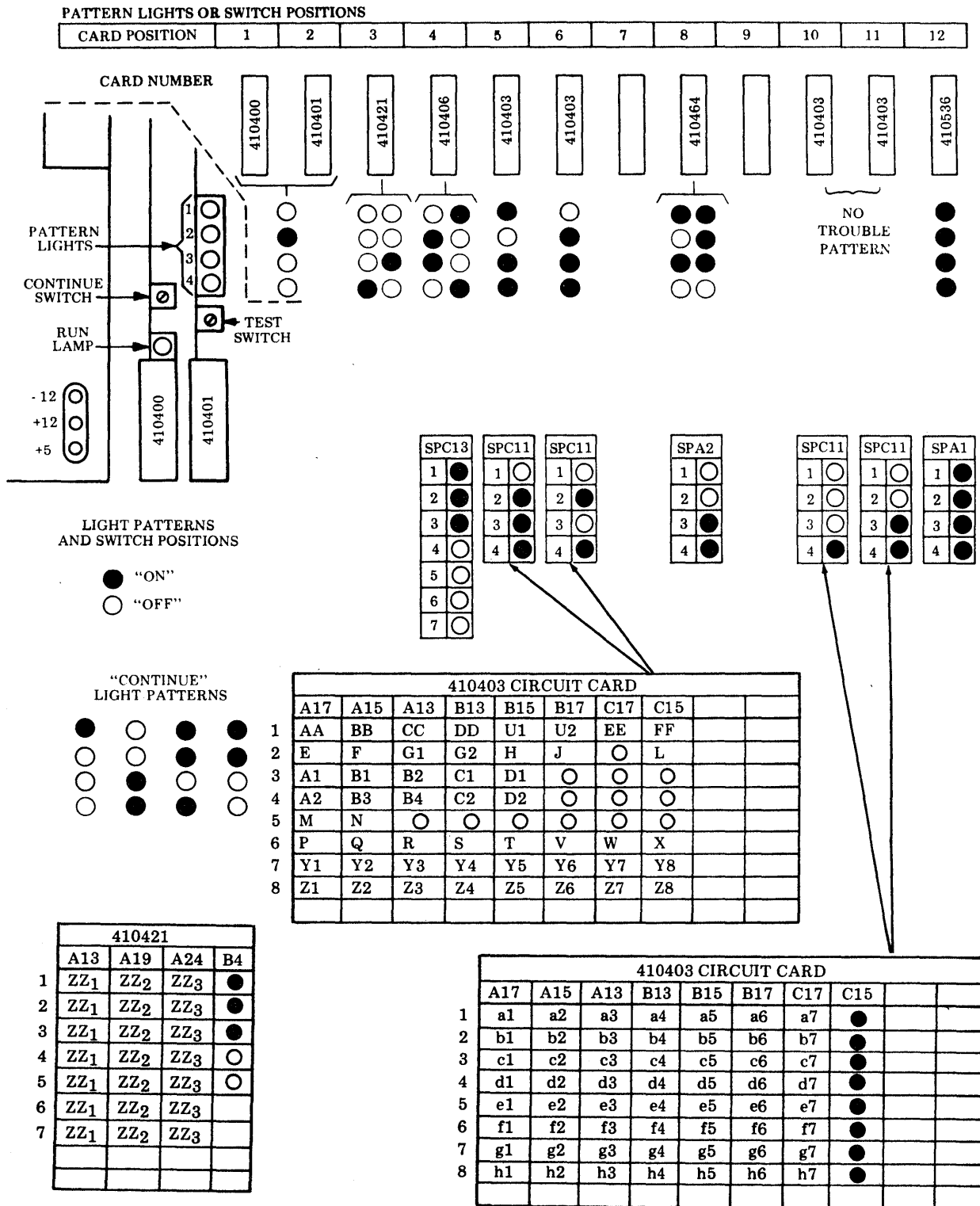
410421				
	A13	A19	A24	B4
1	ZZ1	ZZ2	ZZ3	●
2	ZZ1	ZZ2	ZZ3	●
3	ZZ1	ZZ2	ZZ3	●
4	ZZ1	ZZ2	ZZ3	○
5	ZZ1	ZZ2	ZZ3	○
6	ZZ1	ZZ2	ZZ3	
7	ZZ1	ZZ2	ZZ3	

410403 CIRCUIT CARD										
	A17	A15	A13	B13	B15	B17	C17	C15		
1	a1	a2	a3	a4	a5	a6	a7	●		
2	b1	b2	b3	b4	b5	b6	b7	●		
3	c1	c2	c3	c4	c5	c6	c7	●		
4	d1	d2	d3	d4	d5	d6	d7	●		
5	e1	e2	e3	e4	e5	e6	e7	●		
6	f1	f2	f3	f4	f5	f6	f7	●		
7	g1	g2	g3	g4	g5	g6	g7	●		
8	h1	h2	h3	h4	h5	h6	h7	●		

H. CONTROLLER OPTIONING (Contd)

6. CONTROLLER ARRANGEMENT FORMS (Contd)

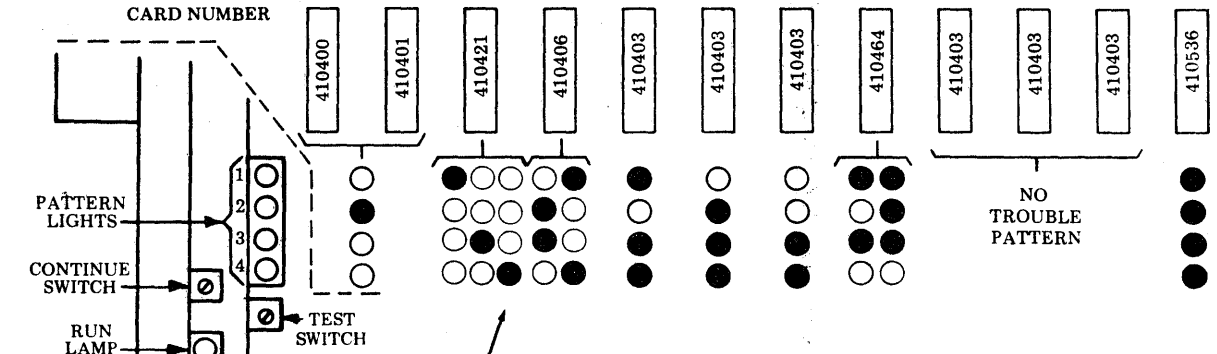
40C438/AEP/105 Controller — 2 Line, Urgent Traffic Detectors Lines 1 and 2



40C438/AEP/105 Controller — 3 Lines, Urgent Traffic Detectors Lines 1, 2 and 3

PATTERN LIGHTS OR SWITCH POSITIONS

CARD POSITION	1	2	3	4	5	6	7	8	9	10	11	12
---------------	---	---	---	---	---	---	---	---	---	----	----	----



LIGHT PATTERNS AND SWITCH POSITIONS

● "ON"
○ "OFF"

"CONTINUE" LIGHT PATTERNS

● ●
● ●
○ ○
● ○

410421				
	A13	A19	A24	B4
1	ZZ ₁	ZZ ₂	ZZ ₃	●
2	ZZ ₁	ZZ ₂	ZZ ₃	●
3	ZZ ₁	ZZ ₂	ZZ ₃	●
4	ZZ ₁	ZZ ₂	ZZ ₃	○
5	ZZ ₁	ZZ ₂	ZZ ₃	○
6	ZZ ₁	ZZ ₂	ZZ ₃	
7	ZZ ₁	ZZ ₂	ZZ ₃	

SPC13	SPC11	SPC11	SPC11	SPA2	SPC11	SPC11	SPC11	SPA1
1 ●	1 ○	1 ○	1 ○	1 ○	1 ○	1 ○	1 ○	1 ●
2 ●	2 ●	2 ●	2 ●	2 ○	2 ○	2 ○	2 ○	2 ●
3 ●	3 ●	3 ○	3 ●	3 ●	3 ●	3 ○	3 ●	3 ●
4 ○	4 ●	4 ●	4 ○	4 ●	4 ○	4 ●	4 ●	4 ●
5 ○								
6 ○								
7 ○								

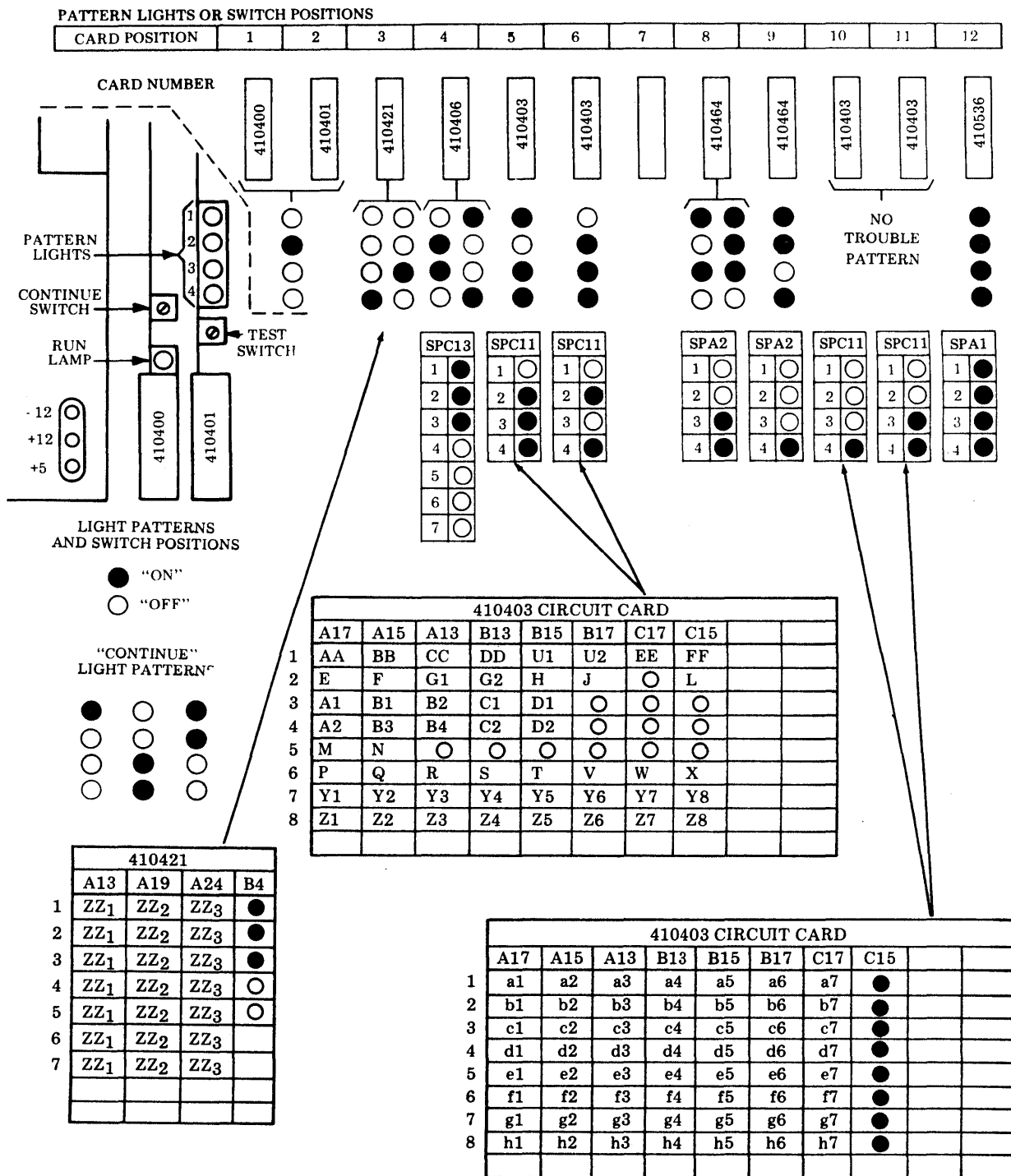
410403 CIRCUIT CARD								
	A17	A15	A13	B13	B15	B17	C17	C15
1	AA	BB	CC	DD	U1	U2	EE	FF
2	E	F	G1	G2	H	J	○	L
3	A1	B1	B2	C1	D1	○	○	○
4	A2	B3	B4	C2	D2	○	○	○
5	M	N	○	○	○	○	○	○
6	P	Q	R	S	T	V	W	X
7	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8
8	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8

410403 CIRCUIT CARD								
	A17	A15	A13	B13	B15	B17	C17	C15
1	a1	a2	a3	a4	a5	a6	a7	●
2	b1	b2	b3	b4	b5	b6	b7	●
3	c1	c2	c3	c4	c5	c6	c7	●
4	d1	d2	d3	d4	d5	d6	d7	●
5	e1	e2	e3	e4	e5	e6	e7	●
6	f1	f2	f3	f4	f5	f6	f7	●
7	g1	g2	g3	g4	g5	g6	g7	●
8	h1	h2	h3	h4	h5	h6	h7	●

H. CONTROLLER OPTIONING (Contd)

6. CONTROLLER ARRANGEMENT FORMS (Contd)

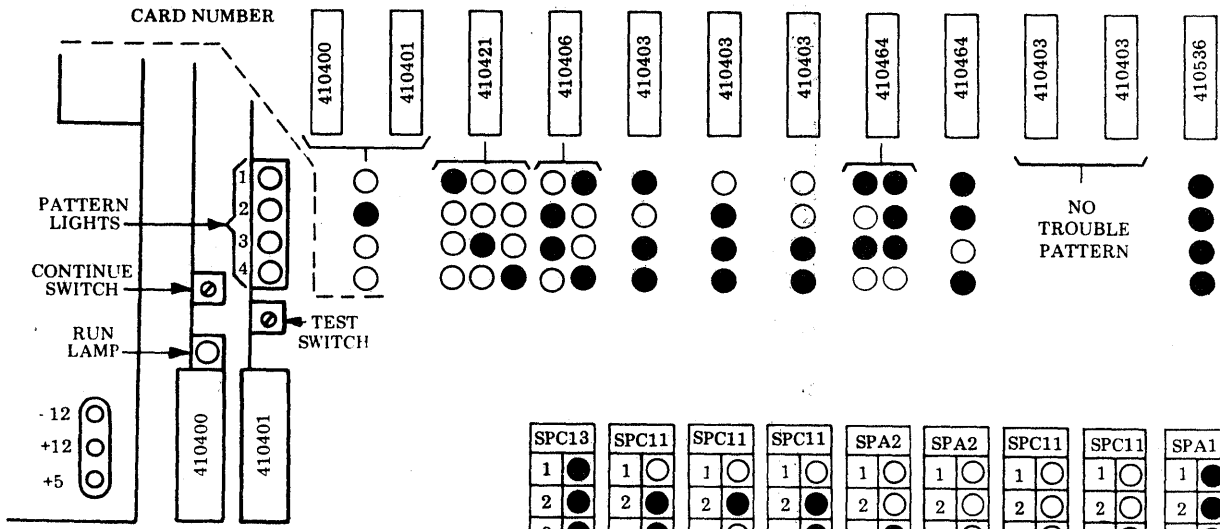
40C438/AEP/105 Controller — 2 Lines, 9K Buffers and Urgent Traffic Detector Line 1 and 2



40C438/AEP/105 Controller — 3 Lines, 9K Buffers and Urgent Traffic Detectors Lines 1 and 2

PATTERN LIGHTS OR SWITCH POSITIONS

CARD POSITION	1	2	3	4	5	6	7	8	9	10	11	12
---------------	---	---	---	---	---	---	---	---	---	----	----	----



LIGHT PATTERNS AND SWITCH POSITIONS

● "ON"
○ "OFF"

"CONTINUE" LIGHT PATTERNS

●
●
○
○

SPC13	SPC11	SPC11	SPC11	SPA2	SPA2	SPC11	SPC11	SPA1
1 ●	1 ○	1 ○	1 ○	1 ○	1 ○	1 ○	1 ○	1 ●
2 ●	2 ●	2 ●	2 ●	2 ○	2 ○	2 ○	2 ○	2 ●
3 ●	3 ●	3 ○	3 ●	3 ●	3 ○	3 ○	3 ●	3 ●
4 ○	4 ●	4 ●	4 ○	4 ●	4 ●	4 ●	4 ●	4 ●
5 ○								
6 ○								
7 ○								

	A17	A15	A13	B13	B15	B17	C17	C15		
1	AA	BB	CC	DD	U1	U2	EE	FF		
2	E	F	G1	G2	H	J	○	L		
3	A1	B1	B2	C1	D1	○	○	○		
4	A2	B3	B4	C2	D2	○	○	○		
5	M	N	○	○	○	○	○	○		
6	P	Q	R	S	T	V	W	X		
7	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8		
8	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8		

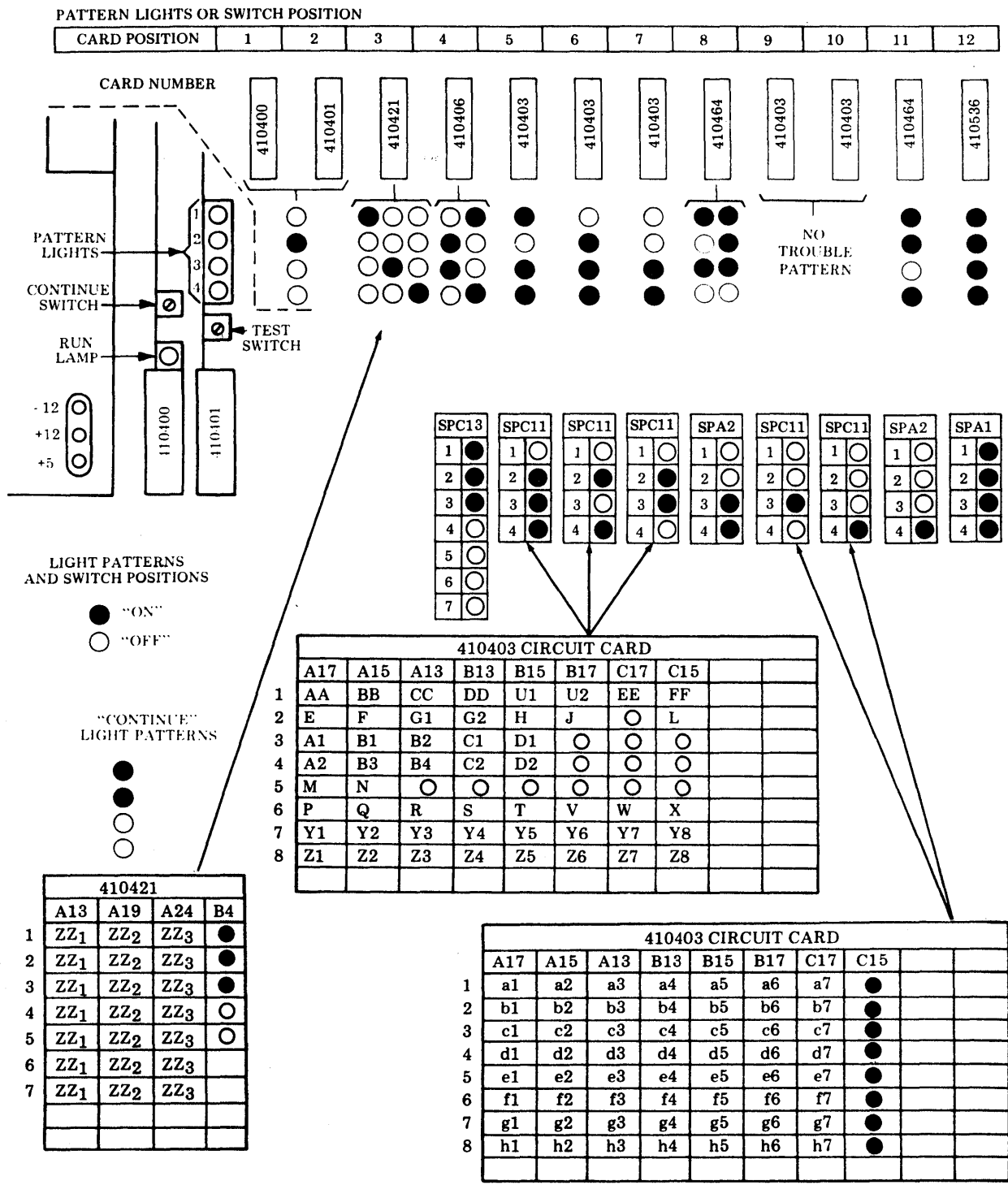
	A13	A19	A24	B4
1	ZZ ₁	ZZ ₂	ZZ ₃	●
2	ZZ ₁	ZZ ₂	ZZ ₃	●
3	ZZ ₁	ZZ ₂	ZZ ₃	●
4	ZZ ₁	ZZ ₂	ZZ ₃	○
5	ZZ ₁	ZZ ₂	ZZ ₃	○
6	ZZ ₁	ZZ ₂	ZZ ₃	
7	ZZ ₁	ZZ ₂	ZZ ₃	

	A17	A15	A13	B13	B15	B17	C17	C15		
1	a1	a2	a3	a4	a5	a6	a7	●		
2	b1	b2	b3	b4	b5	b6	b7	●		
3	c1	c2	c3	c4	c5	c6	c7	●		
4	d1	d2	d3	d4	d5	d6	d7	●		
5	e1	e2	e3	e4	e5	e6	e7	●		
6	f1	f2	f3	f4	f5	f6	f7	●		
7	g1	g2	g3	g4	g5	g6	g7	●		
8	h1	h2	h3	h4	h5	h6	h7	●		

H. CONTROLLER OPTIONING (Contd)

6. CONTROLLER ARRANGEMENT FORMS (Contd)

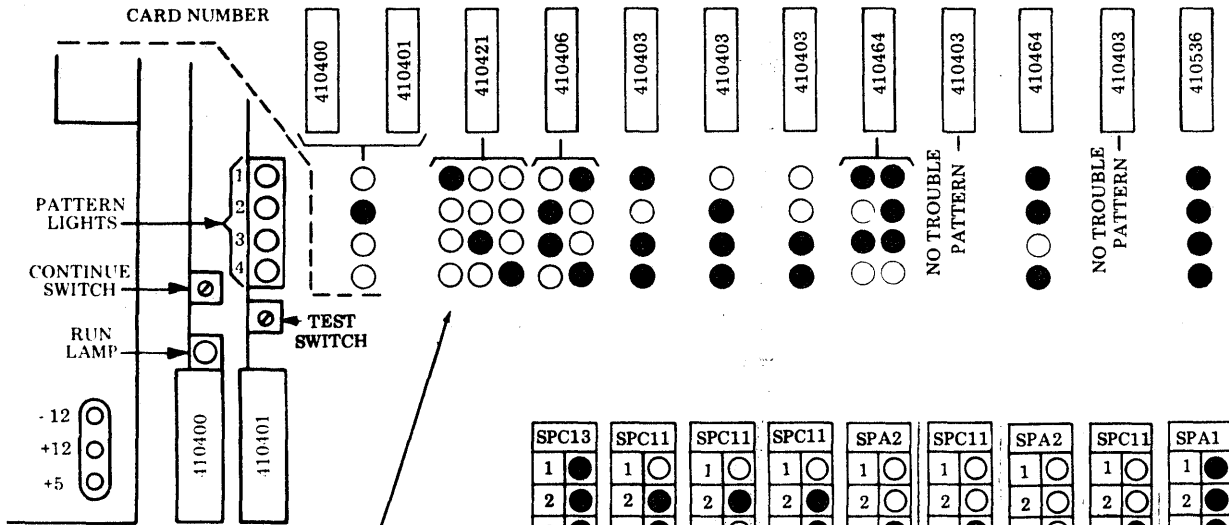
40C438/AEP/105 Controller – 3 Lines, 9K Buffers and Urgent Traffic Detectors Lines 2 and 3



40C438/AEP/105 Controller — 3 Lines, 9K Buffers and Urgent Traffic Detectors Lines 1 and 3

PATTERN LIGHTS OR SWITCH POSITION

CARD POSITION	1	2	3	4	5	6	7	8	9	10	11	12
---------------	---	---	---	---	---	---	---	---	---	----	----	----

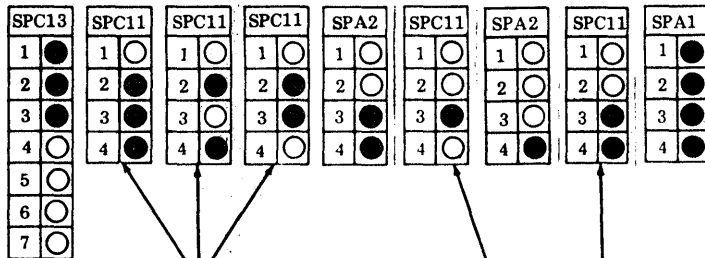


LIGHT PATTERNS AND SWITCH POSITIONS

● "ON"
○ "OFF"

"CONTINUE" LIGHT PATTERNS

●
●
○
○



410403 CIRCUIT CARD								
	A17	A15	A13	B13	B15	B17	C17	C15
1	AA	BB	CC	DD	U1	U2	EE	FF
2	E	F	G1	G2	H	J	○	L
3	A1	B1	B2	C1	D1	○	○	○
4	A2	B3	B4	C2	D2	○	○	○
5	M	N	○	○	○	○	○	○
6	P	Q	R	S	T	V	W	X
7	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8
8	Z1	Z2	Z3	Z4	Z5	Z6	Z7	Z8

410421				
	A13	A19	A24	B4
1	ZZ1	ZZ2	ZZ3	●
2	ZZ1	ZZ2	ZZ3	●
3	ZZ1	ZZ2	ZZ3	●
4	ZZ1	ZZ2	ZZ3	○
5	ZZ1	ZZ2	ZZ3	○
6	ZZ1	ZZ2	ZZ3	
7	ZZ1	ZZ2	ZZ3	

410403 CIRCUIT CARD								
	A17	A15	A13	B13	B15	B17	C17	C15
1	a1	a2	a3	a4	a5	a6	a7	●
2	b1	b2	b3	b4	b5	b6	b7	●
3	c1	c2	c3	c4	c5	c6	c7	●
4	d1	d2	d3	d4	d5	d6	d7	●
5	e1	e2	e3	e4	e5	e6	e7	●
6	f1	f2	f3	f4	f5	f6	f7	●
7	g1	g2	g3	g4	g5	g6	g7	●
8	h1	h2	h3	h4	h5	h6	h7	●

NOTES

7. ASCII CODE CHART

BITS				7	0				1				
				6	0		1		0		1		
4	3	2	1	ROW	COL	0	1	2	3	4	5	6	7
0	0	0	0	0	0	NUL	DLE	SP	0	@	P	`	p
			1	1	SOH	DC1	!	1	A	Q	a	q	
		1	0	2	STX	DC2	"	2	B	R	b	r	
			1	3	ETX	DC3	#	3	C	S	c	s	
	1	0	0	4	EOT	DC4	\$	4	D	T	d	t	
			1	5	ENQ	NAK	%	5	E	U	e	u	
		1	0	6	ACK	SYN	&	6	F	V	f	v	
			1	7	BEL	ETB	'	7	G	W	g	w	
1	0	0	0	8	BS	CAN	(	8	H	X	h	x
			1	9	HT	EM	)	9	I	Y	i	y
		1	0	10	LF	SUB	*	:	J	Z	j	z	
			1	11	VT	ESC	+	;	K	[	k	{
	1	0	0	12	FF	FS	,	<	L	\	l	!	
			1	13	CR	GS	-	=	M	]	m	}
		1	0	14	SO	RS	.	>	N	^	n	~	
			1	15	SI	US	/	?	O	_	o	DEL	

- | | | |
|-----------------------------|-----------------------------|----------------------------|
| NUL -- Null | VT -- Vertical | SYN -- Synchronous Idle |
| SOH -- Start of Heading | Tabulation | ETB -- End of Transmission |
| STX -- Start of Text | FF -- Form Feed | Block |
| ETX -- End of Text | CR -- Carriage Return | CAN -- Cancel |
| EOT -- End of Transmission | SO -- Shift Out | EM -- End of Medium |
| ENQ -- Enquiry | SI -- Shift In | SUB -- Substitute |
| ACK -- Acknowledge | DLE -- Data Link Escape | ESC -- Escape |
| BEL -- Bell | DC1 -- Device Control 1 | FS -- File Separator |
| BS -- Backspace | DC2 -- Device Control 2 | GS -- Group Separator |
| HT -- Horizontal Tabulation | DC3 -- Device Control 3 | RS -- Record Separator |
| LF -- Line Feed | DC4 -- Device Control 4 | US -- Unit Separator |
| | NAK -- Negative Acknowledge | SP -- Space |
| | | DEL -- Delete |

H. CONTROLLER OPTIONING (Contd)

8. BAUDOT (ITA2) CODE CHART

B ₅ B ₄		0	0	0	0	1	0	1	0	1	1	1
		0	0	1	0	1	0	1	0	1	0	1
B ₃		0	0	0	0	1	0	1	0	1	1	1
0	0	BLANK BLANK	SPACE SPACE	CARRIAGE RETURN CARRIAGE RETURN	,	5	#	9	.			
0	1	3 E	BELL S	\$ D	! F	" Z	6 Y	? B	/ X			
1	0	LINE FEED LINE FEED	8 I	4 R	: C	) L	Ø P	£ G	; V			
1	1	- A	7 U	' J	(K	2 W	1 Q	FIGURES FIGURES	LETTERS LETTERS			
B ₂ B ₁												

Upper character describes upper case code.
Lower character describes lower case code.

9. PRINT ALL CONVERSION

		5	Ø				|			
BITS		4	Ø		|		Ø		|	
		3	Ø	|	Ø	|	Ø	|	Ø	|
2	|		/		/		/		/	
Ø	Ø		<	>	<	,	5	#	9	.
	|		>	<	N	T	H	O	M	
Ø	|		3	*	\$	!	"	6	?	/
	Ø		E	S	D	F	Z	Y	B	X
|	Ø		=	8	4	:	)	O	&	;
	|		=	I	R	C	L	P	G	V
|	|		-	7	'	(	2	|	[	]
	Ø		A	U	J	K	W	Q	[]

Note: Bit information is Baudot (ITA2) input, alpha/numeric information is printer output.



FIGURE SHIFT



LETTER SHIFT

H. CONTROLLER OPTIONING (Contd)

10. 6 TO 8-LEVEL CONVERSION

Bit information is 6-level input, alpha/numeric information is printer output.

BITS			6	0				1			
			5	0		1		0		1	
3	2	1	4	0	1	0	1	0	1	0	1
0	0	0	SP	(	0	8	@	H	P	X
		1	!	)	1	9	A	I	Q	Y
	1	0	"	LF	2	:	B	J	R	Z	
		1	#	+	3	;	C	K	S	[
1	0	0	\$	,	4	<	D	L	T	\
		1	%	CR	5	=	E	M	U]	
	1	0	&	.	6	>	F	N	V	^	
		1	'	/	7	?	G	O	W	DEL	

SP = Space
 CR = Carriage Return
 LF = Line Feed
 DEL = Delete — Code Converts From 6-Level
 Invalid Character

11. 8 TO 6-LEVEL CONVERSION

Bit information is internal ASCII code of controller, alpha/numeric information is 6-level output.

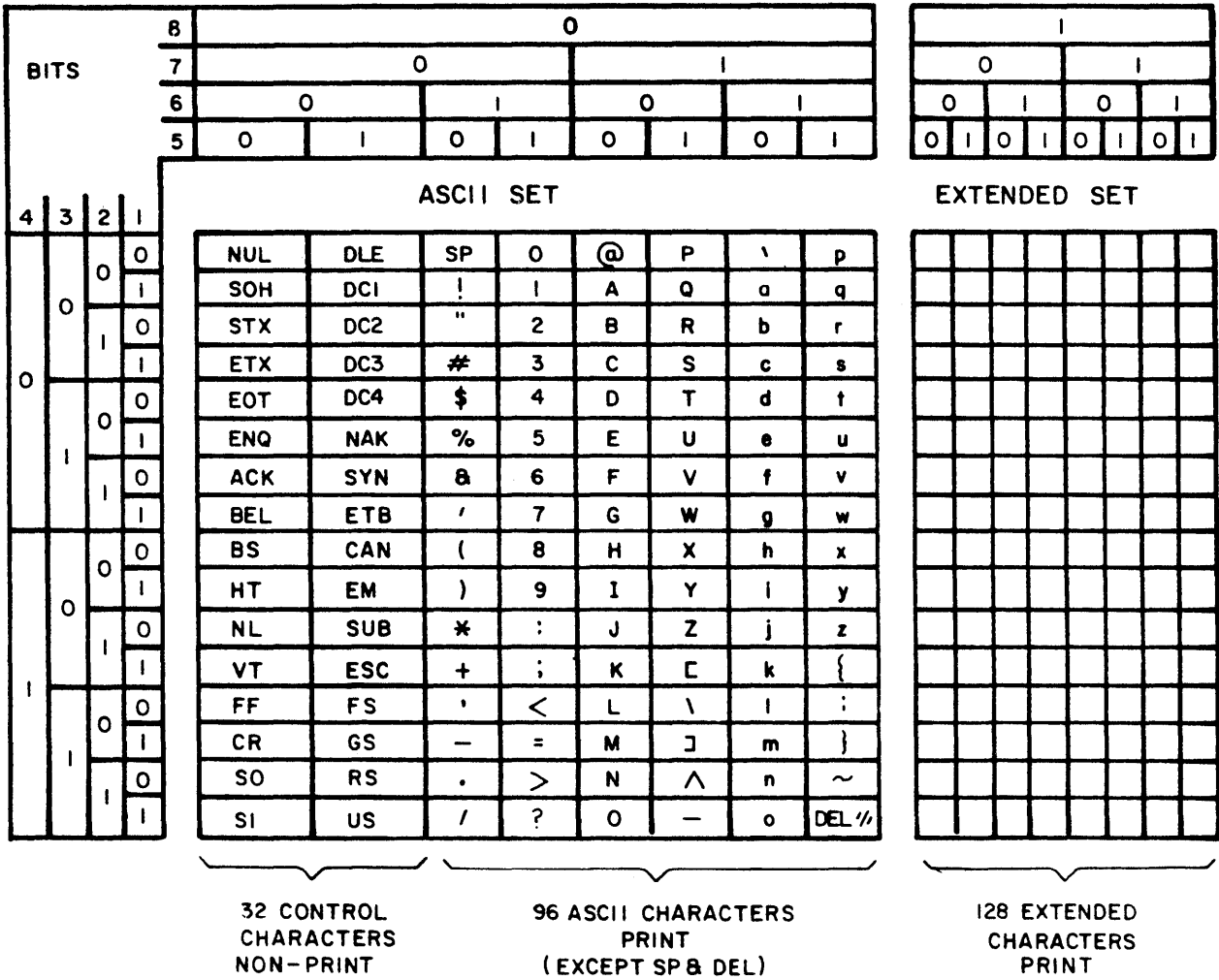
				7	0				1			
BITS				6	0		1		0		1	
				5	0	1	0	1	0	1	0	1
4	3	2	1									
0	0	0	0	/		?	O	/		INV		
		0	1	.	>	N	^	/		/		
		1	0	CR	=	M]	/		/		
		1	1	,	<	L	\	/		/		
	1	0	0	LF	:	J	Z	/		/		
		0	1	(	8	H	X	/		/	
		1	0	)	9	I	Y	/		/	
		1	1	+	;	K	[/		/		
1	0	0	0	'	7	G	W	/		/		
		0	1	&	6	F	V	/		/		
		1	0	%	5	E	U	/		/		
		1	1	\$	4	D	T	/		/		
	1	0	0	*	3	C	S	/		/		
		0	1	"	2	B	R	/		/		
		1	0	!	1	A	Q	/		/		
		1	1	0	0	SP	0	@	P	/		

SP = Space
 CR = Carriage Return
 LF = Line Feed
 INV = Invalid — Code Converts From ASCII
 Delete Character

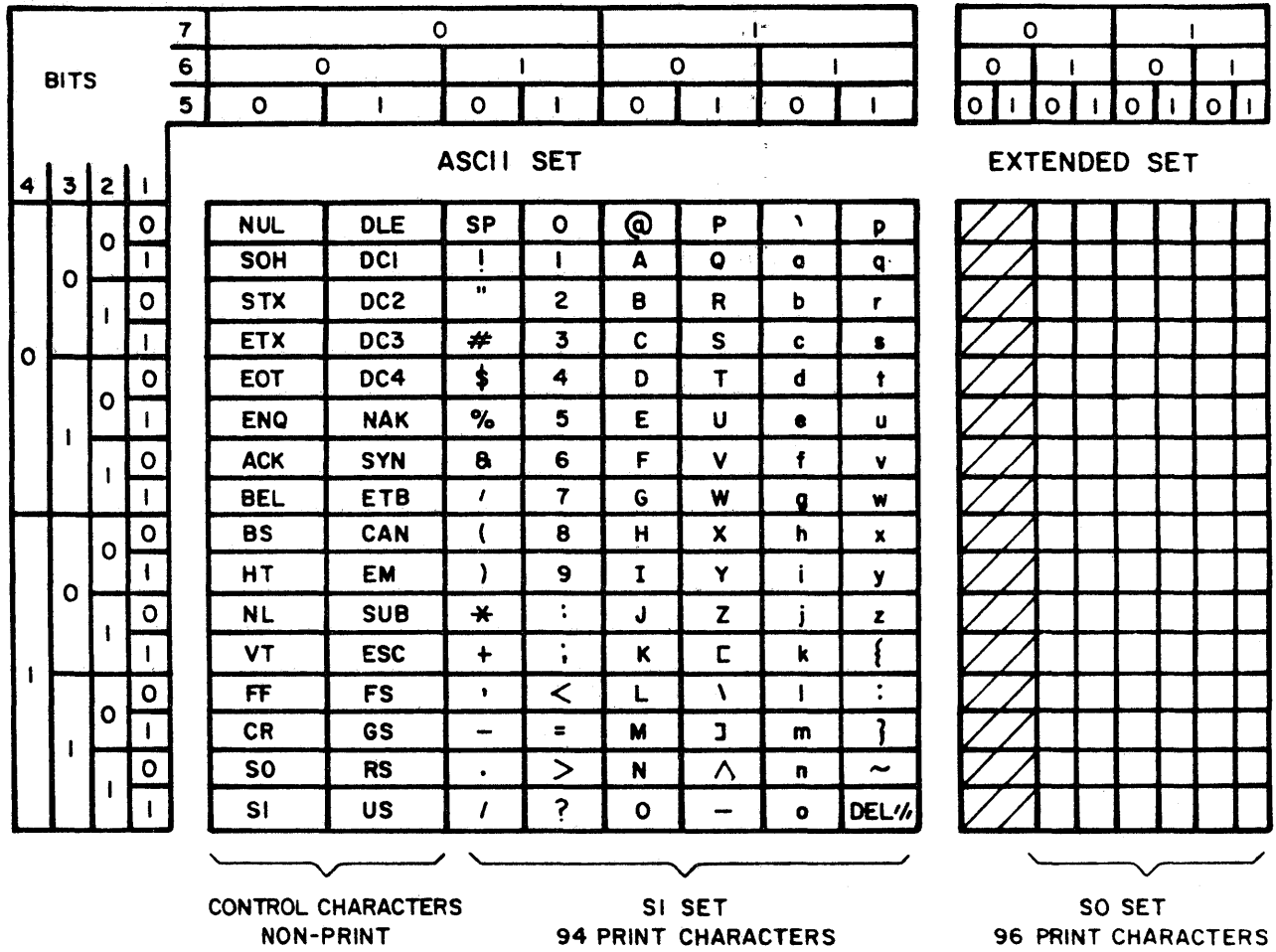
Areas that are shaded do not transmit any character.

H. CONTROLLER OPTIONING (Contd)

12. 8-BIT ASCII CHARACTER SET



13. SI/SO CHARACTER SET



H. CONTROLLER OPTIONING (Contd)

14. ASCII TO BAUDOT CONVERSION TABLE

ASCII (ITA5) INPUT	CONVERTS TO	BAUDOT (ITA2) OUTPUT	ASCII (ITA5) INPUT	CONVERTS TO	BAUDOT (ITA2) OUTPUT
NUL	††††	BLANK	NAK	††††	BLANK
SOH	††††	BLANK	SYN	††††	BLANK
STX	††††	BLANK	ETB	††††	BLANK
ETX	††††	BLANK	CAN	††††	BLANK
EOT	††††	BLANK	EM	††††	BLANK
ENQ	††††	BLANK	SS (SUB)	††††	BLANK
ACK	††††	BLANK	ESC	††††	BLANK
BEL		BELL (FIGS. S)	FS	††††	BLANK
BS	††††	BLANK	GS	††††	BLANK
HT	††††	BLANK	RS	††††	BLANK
LF	††††	LINE FEED	US	††††	BLANK
VT	††††	BLANK	SP	††††	SPACE
FF	††††	BLANK	!		! (FIGS. F)
CR	††††	CARRIAGE RETURN	"		" (FIGS. Z)
SO		FIGURES	#		# (FIGS. H)
SI		LETTERS	\$		\$ (FIGS. D)
DLE	††††	BLANK	%	††††	BLANK
DC1	††††	BLANK	&		& (FIGS. G)
DC2	††††	BLANK	'		' (FIGS. J)
DC3	††††	BLANK	(		( (FIGS. K)
DC4	††††	BLANK	)		) (FIGS. L)

†††† Denotes inhibit of LETTERS-FIGURES shifting circuitry.

ASCII (ITA5) INPUT	CONVERTS TO	BAUDOT (ITA2) OUTPUT	ASCII (ITA5) INPUT	CONVERTS TO	BAUDOT (ITA2) OUTPUT
*	††††	BLANK	H, h		H
+	††††	BLANK	I, i		I
,		, (FIGS. N)	J, j		J
-		- (FIGS. A)	K, k		K
.		. (FIGS. M)	L, l		L
/		/ (FIGS. X)	M, m		M
∅		∅ (FIGS. P)	N, n		N
1		1 (FIGS. Q)	O, o		O
2		2 (FIGS. W)	P, p		P
3		3 (FIGS. E)	Q, q		Q
4		4 (FIGS. R)	R, r		R
5		5 (FIGS. T)	S, s		S
6		6 (FIGS. Y)	T, t		T
7		7 (FIGS. U)	U, u		U
8		8 (FIGS. I)	V, v		V
9		9 (FIGS. O)	W, w		W
:		: (FIGS. C)	X, x		X
;		; (FIGS. V)	Y, y		Y
<	††††	BLANK	Z, z		Z
=	††††	BLANK	[	††††	BLANK
>	††††	BLANK	\	††††	BLANK
?		? (FIGS. B)	]	††††	BLANK
@	††††	BLANK	^	††††	BLANK
A, a		A	`	††††	BLANK
B, b		B	{	††††	BLANK
C, c		C	|	††††	BLANK
D, d		D	}	††††	BLANK
E, e		E	~	††††	BLANK
F, f		F	_ (Underscore)		LETTERS
G, g		G	DEL		LETTERS

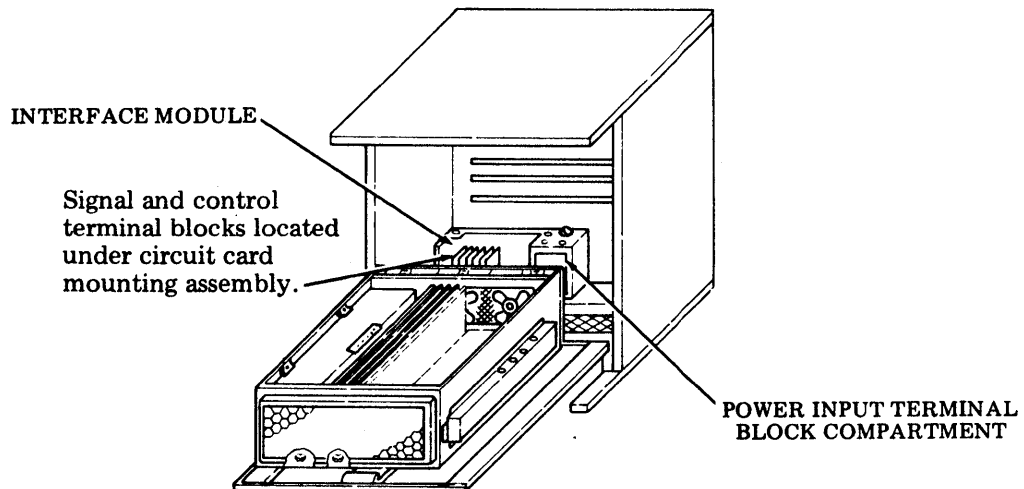
†††† Denotes inhibit of LETTERS-FIGURES shifting circuitry.

H. CONTROLLER OPTIONING (Contd)15. BAUDOT TO ASCII CONVERSION TABLE

BAUDOT (ITA2) INPUT	CONVERTS TO	ASCII (ITA5) OUTPUT	BAUDOT (ITA2) INPUT	CONVERTS TO	ASCII (ITA5) OUTPUT
A through Z		A through Z (Upper Case)	\$ (FIGS. D)		\$
BLANK LETTERS		NUL	! (FIGS. F)		!
		OPTION K1 SI	& (FIGS. G)		&
		OPTION K2 NO	# (FIGS. H)		#
		CHARACTER	' (FIGS. J)		'
FIGURES		OPTION K1 SO	((FIGS. K)		(
		OPTION K2 NO	) (FIGS. L))
		CHARACTER	. (FIGS. M)		.
SPACE		SPACE	, (FIGS. N)		,
CARRIAGE RETURN		CARRIAGE RETURN	BELL (FIGS. S)		BEL
LINE FEED		LINE FEED	; (FIGS. V)		;
- (FIGS. A)		-	/ (FIGS. X)		/
? (FIGS. B)		?	" (FIGS. Z)		"
: (FIGS. C)		:	0 through 9		0 through 9

I. INTERFACE EXTERNAL CONNECTIONS1. ACCESS TO EXTERNAL CONNECTIONS

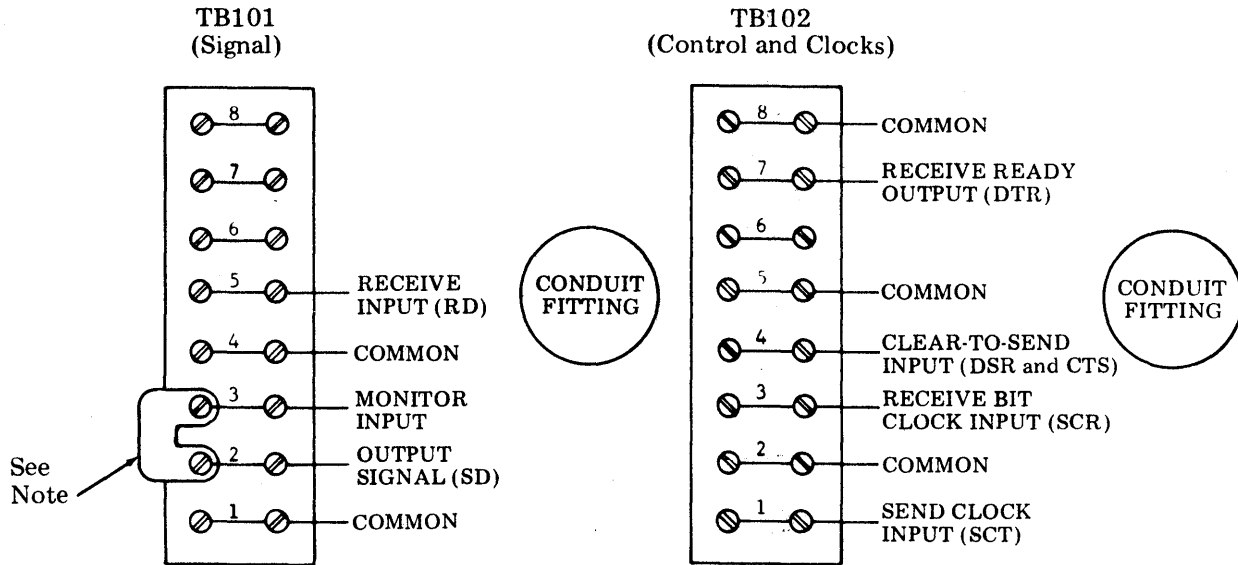
- ① Remove cover from interface module (18 mounting screws).
- ② Remove circuit card mounting assembly (3 mounting screws); do not strain attached cables.



2. SIGNAL, CONTROL AND CLOCK CONNECTIONS

Connect signal and controls cables as indicated below. Two conduit fittings are provided for separate cable access. Replace circuit card mounting assembly.

Signal and clock lines are MIL STD 188. Refer to Interfacing for polarity and function for control leads.



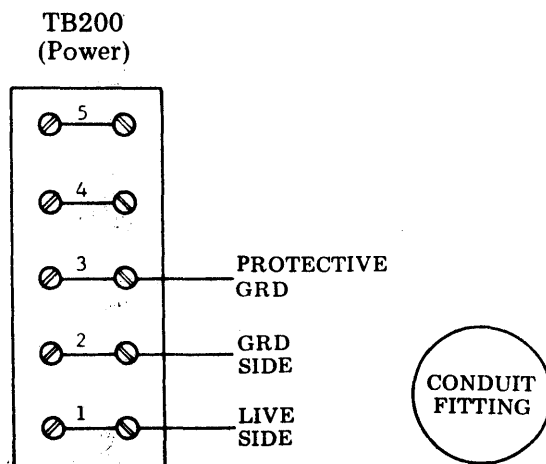
Note: If set is being used in system where send data is echoed back to sender, the half-duplex strap in the interface assembly will have to be removed.

3. AC POWER CONNECTIONS

The set requires a 3-wire, single phase, 115 V ac $\pm 10\%$, 60 Hz ± 0.5 Hz, unswitched power source. A conduit fitting is provided for cable access.

Caution: Do not apply ac power until installation is complete and ready for checkout.

Replace cover on interface module.



J. OPERATIONAL CHECKOUT

An operational checkout should be performed after installation. A complete off-line checkout should be performed to exercise all of the features and options of the terminal. An on-line checkout should also be performed to check the sending and receiving capabilities of the terminal.

The off-line and the on-line checkout procedures are contained in Tempest M40 Manual 493.



TELETYPE CORPORATION
5555 Touhy Avenue, Skokie, Illinois 60077
Telephone: (312) 982-2000

MANUAL 492
T.O. 31W4-4-300-147
Issue 1, July 1981

REPLACING PAGE ADDENDUM

Filing Instructions:

1. Remove from the manual the pages numbered the same as those attached to this sheet.
2. Insert the attached pages into the manual in their places.
3. Place this sheet ahead of Page 1 of the manual.

TEMPEST MODEL 40

INSTALLATION MANUAL

1. GENERAL

1.001 This addendum, which supplements Tempest Manual 492, Issue 1 dated July 1981, is issued to incorporate engineering changes and to correct option mistakes which were included in the original manual.

1.002 Insert the attached pages in accordance with the filing instructions above.

Attached:

Page 127, Reissued
Page 128, Revised
Page 129, Revised
Page 130, Revised
Page 133, Reissued
Page 134, Revised
Page 134a, Revised
Page 135, Revised
Page 136, Reissued
Page 136a, Revised
Page 137, Revised
Page 138, Reissued
Page 138a, Revised
Page 139, Revised
Page 140, Reissued
Page 140a, Revised

G. INTERFACING1. GENERAL

The Tempest Model 40 Terminals have one basic type of electrical interface:

188C -- MIL STD 188C
 Mark +6 Volts ± 1 Volt
 Space -6 Volts ± 1 Volt

The interface also provides for customer input clocks for send data and receive data. These clocks must also conform to MIL STD 188C signaling requirements (+6 V to -6 V excursion). Where: - to + transition is start of bit; + to - transition is middle of bit.

Two control leads are provided in the interface:

- | | |
|------------------------|--------------------|
| a. Char to Send Input | +6 V Clear to Send |
| | -6 V Stop |
| b. Receive Ready Input | +6 V Ready |
| | -6 V Not Ready |

All input/outputs conform to the impedance and wave shaping.

2. OPTIONS

Several options are available in the interface of the Tempest Model 40 Terminals. Some units are equipped with interface circuit cards to provide an inverted clear-to-send output and inverted terminal ready.

- | | |
|-------------------|--------------------|
| a. Clear to Send | -6 V Clear to Send |
| | +6 V Stop |
| b. Receiver Ready | -6 V Ready |
| | +6 V Not Ready |

Refer to Page 6, 2. SET IDENTIFICATION for these terminals.

Circuit cards available for modifying interface:

EIA Receiver (LEDD)	303184
EIA Line Keyer	303185
Neutral Receiver	303182
Neutral Line Keyer	303183

H. CONTROLLER OPTIONING

1. FIELD OPTIONS

Options for 40/8A ROP and KP

<u>Option Designation</u>	<u>Description</u>
A1	Power Up (Option I) Asynchronous Speed 1. Low Speed 2. High Speed } Choose 1
A2	Option II Asynchronous Speed 1. Low Speed 2. High Speed } Choose 1
B1	Power Up (Option I) Line Code 1. 5-Level Baudot ITA2AV 2. ASCII ITA5 3. 6-Level Code } Choose 1
B2	Option II Line Code 1. 5-Level Baudot ITA2AV 2. ASCII ITA5 3. 6-Level Code } Choose 1
C1	Power Up (Option I) Stop Bits 1. One Stop Bit 2. Two Stop Bits (1.5 Stop Bits for Baudot) } Choose 1
C2	Option II Stop Bits 1. One Stop Bit 2. Two Stop Bits (1.5 Stop Bits for Baudot) } Choose 1
D1	Power Up (Option I) "Print All" for Baudot Code Only 1. "Print All" Character Set 2. Standard Baudot Character Set } Choose 1
D2	Option II "Print All" for Baudot Code Only 1. "Print All" Character Set 2. Standard Baudot Character Set } Choose 1
E	Preempt Local on Receipt of Data (Free running KP Terminal only.) 1. DTR is on in local (if printer is selectable) and terminal is switched from local to receive on received data. 2. DTR is turned off and receive data is ignored by terminal. } Choose 1
F	Substitute Asterisk (*) for Parity Errored Character 1. Printer copies asterisk for each errored character received. 2. Printer copies errored character as received. } Choose 1
G	Line Parity on ITA5 (ASCII) Data 1. No Parity, Bit 8 Set Spacing (0) 2. No Parity, Bit 8 Set Marking (1) 3. Odd Parity 4. Even Parity } Choose 1

<u>Option Designation</u>	<u>Description</u>
H	<p>Transmission Mode</p> <p>1. Asynchronous Transmission } Choose 1</p> <p>2. Isochronous Transmission }</p>
J	<p>Transmit Answer-Back Character on Receipt of "ENQ" (ASCII and free running mode only.)</p> <p>1. Transmit Answer-Back on Receipt of "ENQ" } Choose 1</p> <p>2. No Answer-Back }</p>
K	<p>Terminal Configuration</p> <p>1. Receive Only Printer } Choose 1</p> <p>2. Keyboard Printer }</p>
L	<p>Line Feed Printer on Receipt of "Carriage Return"</p> <p>1. Printer performs new line function. } Choose 1</p> <p>2. Printer performs carriage return function. }</p>
M	<p>15 Second Time Out for Send Mode (KP Only)</p> <p>1. Terminal switches to receive mode after 15 seconds of } Choose 1</p> <p>no send activity. }</p> <p>2. Terminal stays in send mode until manually deselected. }</p>
N	<p>Data Compression on Receive Buffer 90 Percent Full</p> <p>1. Data compression (replace CR, LF, FF with _ (underscore) } Choose 1</p> <p>when receive buffer is 9/10 full). DTR remains on. }</p> <p>2. DTR turns off when receive buffer is 9/10 full and on } when buffer is 1/10 full. }</p>
P	<p>Short Receive Buffer for DTR (26 Characters)</p> <p>1. DTR turned off when receive buffer contains 26 characters. } Choose 1</p> <p>Option N2 required. }</p> <p>2. DTR turned off when receive buffer is 9/10 full. }</p>
Q	<p>Printer Paging</p> <p>1. Printer Paging Activated } Choose 1</p> <p>2. Printer Paging Disabled }</p> <p>Tractor Feed Printers — Form feed sent to printer after 54 lines (27 lines for double spaced [Option R]).</p> <p>Friction Feed Printer — A blank line is inserted after 54 lines (27 lines for double spaced [Option R]).</p>
R	<p>Printer Optioned for Double Spaced</p> <p>1. Printer optioned for single spacing. } Choose 1 per</p> <p>2. Printer optioned for double spacing. } printer Option 20.</p>
S	<p>Printer Form-Out on Receipt of ETX (Match printer Option 18., tractor feed printers only.)</p> <p>1. Printer performs form-out on receipt of ETX (Option 18.c.) } Choose 1</p> <p>2. Printer Ignores ETX (Option 18.a. or b.) }</p>
T	<p>Last Page Received, Out of Cabinet</p> <p>1. Last page clears cabinet. Option S2 required. } Choose 1</p> <p>2. Last page remains in cabinet (one form-out). }</p>

H. CONTROLLER OPTIONING (Contd)

1. FIELD OPTIONS, Options for 40/8A ROP and KP (Contd)

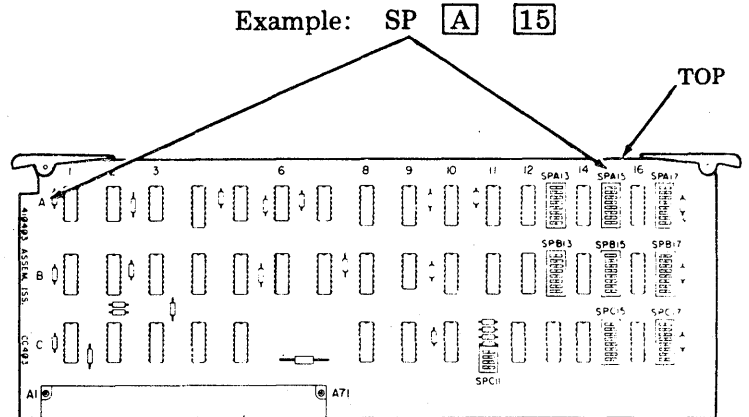
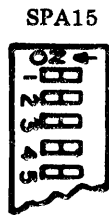
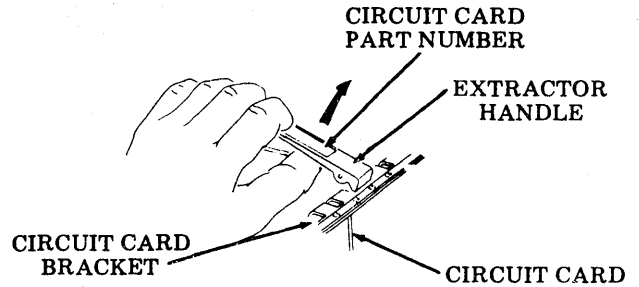
<u>Option Designation</u>	<u>Description</u>	
U	Receive Buffer Memory Allocation	
	1. 1K Receive Buffer Option (1024 Characters)	} Choose 1
	2. 5K Receive Buffer Option (5120 Characters)	
	3. 9K Receive Buffer Option (9216 Characters)	
V	Monitor Receive Data for Extended (8 Bit) ASCII	
	1. All 8 bits of received data passed to printer.	} Choose 1
	2. Option Disabled	
W	Ignore Carriage Return and Line Feed After Receipt of Carriage Return (Single new line function on receipt of CR, CR, LF.)	
	1. Single new line function on receipt of CR, CR, LF.	} Choose 1
	2. Disable Option	
X	Delay Answer-Back to Received "ENQ" by 10 Milliseconds	
	1. Delay sending answer-back character by 10 milliseconds.	} Choose 1
	2. Disable Option	
Y	Answer-Back Character or Station Identification Character 1 (Option BB will determine use of character selected.) Select any character from the ASCII code chart except communication characters (SOH, ENQ, DC ₁ , DC ₂ , DC ₃ , DC ₄ , EOT, = * and Delete). It is recommended that upper and lower case alpha or numerics be used for the poll/select mode.	
Z	Second Station Identity Character (See Option Y)	
AA	Communication Line Status	
	1. Line Interface Not Implemented	} Choose 1
	2. Line Interface Implemented	
BB	Communication Format	
	1. Free Running	} Choose 1
	2. Poll/Select Mode (Selective Calling)	
CC	Spare Printer On-Line Status (KP3 Only)	
	1. Printer dedicated to line traffic.	} Choose 1
	2. Printer available as spare.	
DD	Monitor Receive Data for Urgent Traffic Sequence(s)	
	1. Enter alarm mode upon receipt of urgent traffic sequences.	} Choose 1
	2. Disable Option	
EE	Print Out Line Options	
	1. Enable Option Print Out	} Choose 1
	2. Disable Option	
FF	Monitor Receive Data for Extended ASCII With SI/SO Format	
	1. Enable Option	} Choose 1
	2. Disable Option	

Extracting circuit cards from controller.

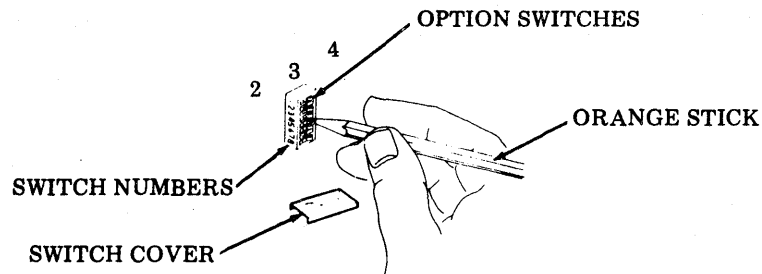
- ① Lift up on the extractor handles of the circuit card.
- ② Lift circuit card straight up.

Locating switch packs on circuit cards.

Note: "1" is always at the top, and "ON" is always to the left.



Activating options.



Record options set on Page 134, 4. FEATURE AND OPTION RECORD and place in document holder.

H. CONTROLLER OPTIONING (Contd)

4. FEATURE AND OPTION RECORD

- | | | |
|------------------------------------------|----------------------------------------------|------------------------------------------------------|
| Set: | Printer: | Interface: |
| ROP <input type="checkbox"/> | 40P101AA (Monocase) <input type="checkbox"/> | Clear to Send +6 V (EC181) <input type="checkbox"/> |
| KP <input type="checkbox"/> | 40P101AB (Up-Low) <input type="checkbox"/> | Clear to Send -6 V (EC184) <input type="checkbox"/> |
| KP ³ <input type="checkbox"/> | 40P154AA (Monocase) <input type="checkbox"/> | Receiver Ready +6 V (EC180) <input type="checkbox"/> |
| | 40P154AB (Up-Low) <input type="checkbox"/> | Receiver Ready -6 V (EC185) <input type="checkbox"/> |
| | 40P202AL (Monocase) <input type="checkbox"/> | |
| | 40P202AG (Up-Low) <input type="checkbox"/> | |

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
A1.	Power up (Option I) asynchronous speed	1. Low speed <input type="checkbox"/>	2. High speed <input type="checkbox"/>
A2.	Option II asynchronous speed	1. Low speed <input type="checkbox"/>	2. High speed <input type="checkbox"/>
B1.	Power up (Option I) line code	1. 5-level Baudot (ITA2) <input type="checkbox"/>	2. ASCII (ITA5) <input type="checkbox"/>
		3. 6-level code <input type="checkbox"/>	
B2.	Option II line code	1. 5-level Baudot (ITA2) <input type="checkbox"/>	2. ASCII (ITA5) <input type="checkbox"/>
		3. 6-level code <input type="checkbox"/>	
C1.	Power up (Option I) stop bits	1. One stop bit <input type="checkbox"/>	2. Two stop bits (1.5 stop bits for Baudot) <input type="checkbox"/>
C2.	Option II stop bits	1. One stop bit <input type="checkbox"/>	2. Two stop bits (1.5 stop bits for Baudot) <input type="checkbox"/>
D1.	Power up (Option I) "print all" for Baudot code only	1. "Print all" character set <input type="checkbox"/>	2. Standard Baudot character set <input type="checkbox"/>
D2.	Option II "print all" for Baudot code only	1. "Print all" character set <input type="checkbox"/>	2. Standard Baudot character set <input type="checkbox"/>
E.	Preempt local on receipt of data	1. DTR is on in local (if printer is selectable) and terminal is switched from local to receive on received data <input type="checkbox"/>	2. DTR is turned off and receive data is ignored by terminal <input type="checkbox"/>
F.	Substitute asterisk (*) for parity errored character	1. Printer copies asterisk for each errored character received <input type="checkbox"/>	2. Printer copies errored character as received <input type="checkbox"/>

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Set:
 ROP
 KP
 KP3

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
A1.	Power up (Option I) asynchronous speed	1. Low speed <input type="checkbox"/>	2. High speed <input type="checkbox"/>
A2.	Option II asynchronous speed	1. Low speed <input type="checkbox"/>	2. High speed <input type="checkbox"/>
B1.	Power up (Option I) line code	1. 5-level Baudot (ITA2) <input type="checkbox"/>	2. ASCII (ITA5) <input type="checkbox"/>
		3. 6-level code <input type="checkbox"/>	
B2.	Option II line code	1. 5-level Baudot (ITA2) <input type="checkbox"/>	2. ASCII (ITA5) <input type="checkbox"/>
		3. 6-level code <input type="checkbox"/>	
C1.	Power up (Option I) stop bits	1. One stop bit <input type="checkbox"/>	2. Two stop bits (1.5 stop bits for Baudot) <input type="checkbox"/>
C2.	Option II stop bits	1. One stop bit <input type="checkbox"/>	2. Two stop bits (1.5 stop bits for Baudot) <input type="checkbox"/>
D1.	Power up (Option I) "print all" for Baudot code only	1. "Print all" character set <input type="checkbox"/>	2. Standard Baudot character set <input type="checkbox"/>
D2.	Option II "print all" for Baudot code only	1. "Print all" character set <input type="checkbox"/>	2. Standard Baudot character set <input type="checkbox"/>
E.	Preempt local on receipt of data	1. DTR is on in local (if printer is selectable) and terminal is switched from local to receive on received data <input type="checkbox"/>	2. DTR is turned off and receive data is ignored by terminal <input type="checkbox"/>
F.	Substitute asterisk (*) for parity errored character	1. Printer copies asterisk for each errored character received <input type="checkbox"/>	2. Printer copies errored character as received <input type="checkbox"/>

Set:
 ROP
 KP
 KP3

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
G.	Line parity on ITA5 ASCII data	1. No parity, bit 8 set spacing (0) <input type="checkbox"/>	2. No parity, bit 8 set marking (1) <input type="checkbox"/>
		3. Odd parity <input type="checkbox"/>	4. Even parity <input type="checkbox"/>
H.	Transmission mode	1. Asynchronous transmission <input type="checkbox"/>	2. Isochronous transmission <input type="checkbox"/>
J.	Transmit answer-back character on receipt of "ENQ" (ASCII only)	1. Transmit answer-back on receipt of "ENQ" <input type="checkbox"/>	2. No answer-back <input type="checkbox"/>
K.	Terminal configuration	1. Receive only printer <input type="checkbox"/>	2. Keyboard printer <input type="checkbox"/>
L.	Line feed printer on receipt of "carriage return"	1. Printer performs new line function <input type="checkbox"/>	2. Printer performs carriage return function <input type="checkbox"/>
M.	15 seconds time out for send mode	1. Terminal switches to receive mode after 15 seconds of no send activity <input type="checkbox"/>	2. Terminal stays in send mode until manually deselected <input type="checkbox"/>
N.	Data compression on receive buffer 90 percent full	1. Data compression when receive buffer 9/10 full DTR remains on <input type="checkbox"/>	2. DTR turns off when receive buffer is 9/10 full and on when receive buffer is 1/10 full <input type="checkbox"/>
P.	Short receive buffer for DTR (26 characters)	1. DTR turned off when receive buffer contains 26 characters <input type="checkbox"/>	2. DTR turned off when receive buffer is 9/10 full <input type="checkbox"/>
Q.	Printer paging	1. Printer paging activated <input type="checkbox"/>	2. Printer paging disabled <input type="checkbox"/>
R.	Printer line spacing selected	1. Printer optioned for single spacing <input type="checkbox"/>	2. Printer optioned for double spacing <input type="checkbox"/>

NOTES

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Set:
 ROP
 KP
 KP3

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
G.	Line parity on ITA5 ASCII data	1. No parity, bit 8 set spacing (0) <input type="checkbox"/>	2. No parity, bit 8 set marking (1) <input type="checkbox"/>
		3. Odd parity <input type="checkbox"/>	4. Even parity <input type="checkbox"/>
H.	Transmission mode	1. Asynchronous transmission <input type="checkbox"/>	2. Isochronous transmission <input type="checkbox"/>
J.	Transmit answer-back character on receipt of "ENQ" (ASCII only)	1. Transmit answer-back on receipt of "ENQ" <input type="checkbox"/>	2. No answer-back <input type="checkbox"/>
K.	Terminal configuration	1. Receive only printer <input type="checkbox"/>	2. Keyboard printer <input type="checkbox"/>
L.	Line feed printer on receipt of "carriage return"	1. Printer performs new line function <input type="checkbox"/>	2. Printer performs carriage return function <input type="checkbox"/>
M.	15 seconds time out for send mode	1. Terminal switches to receive mode after 15 seconds of no send activity <input type="checkbox"/>	2. Terminal stays in send mode until manually deselected <input type="checkbox"/>
N.	Data compression on receive buffer 90 percent full	1. Data compression when receive buffer 9/10 full DTR remains on <input type="checkbox"/>	2. DTR turns off when receive buffer is 9/10 full and on when receive buffer is 1/10 full <input type="checkbox"/>
P.	Short receive buffer for DTR (26 characters)	1. DTR turned off when receive buffer contains 26 characters <input type="checkbox"/>	2. DTR turned off when receive buffer is 9/10 full <input type="checkbox"/>
Q.	Printer paging	1. Printer paging activated <input type="checkbox"/>	2. Printer paging disabled <input type="checkbox"/>
R.	Printer line spacing selected	1. Printer optioned for single spacing <input type="checkbox"/>	2. Printer optioned for double spacing <input type="checkbox"/>

Set:
 ROP
 KP
 KP³

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
S.	Printer forms out on receipt of ETX (match printer Option 18 – tractor feed printers only)	1. Printer forms out on receipt of ETX (Option 18.c.) <input type="checkbox"/>	2. Printer ignores ETX (Option 18.a. or b.) <input type="checkbox"/>
T.	Last page received out of cabinet	1. Last page clears cabinet (Option S.2. required) <input type="checkbox"/>	2. Last page remains in cabinet (one formout) <input type="checkbox"/>
U.	Receive buffer memory allocation	1. 1K receive buffer (1024 characters) <input type="checkbox"/>	2. 5K receive buffer (5120 characters) <input type="checkbox"/>
		3. 9K receive buffer (9216 characters) <input type="checkbox"/>	
V.	Monitor receive data for extended (8 bit) ASCII	1. All 8 bits of received data passed to printer <input type="checkbox"/>	2. Option disabled <input type="checkbox"/>
W.	Ignore carriage return and line feed after receipt of carriage return (single new line function on receipt of CR, CR, LF)	1. Single new line function on receipt of CR, CR, LF <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
X.	Delay answer-back 10 milliseconds	1. Delay sending answer-back character by 10 milliseconds <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
Y.	Answer-back character or station identification character 1 (Option BB will determine use of character selected)	1. Select any character from the ASCII code chart except communication characters SOH, ENQ, DC ¹ , DC ² , DC ³ , DC ⁴ , EOT, =, * and DELETE. It is recommended that upper and lower case alpha or numerics be used for the poll/select mode. <input type="checkbox"/>	

NOTES

A

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Set:
 ROP
 KP
 KP³

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
S.	Printer forms out on receipt of ETX (match printer Option 18 — tractor feed printers only)	1. Printer forms out on receipt of ETX (Option 18.c.) <input type="checkbox"/>	2. Printer ignores ETX (Option 18.a. or b.) <input type="checkbox"/>
T.	Last page received out of cabinet	1. Last page clears cabinet (Option S.2. required) <input type="checkbox"/>	2. Last page remains in cabinet (one formout) <input type="checkbox"/>
U.	Receive buffer memory allocation	1. 1K receive buffer (1024 characters) <input type="checkbox"/>	2. 5K receive buffer (5120 characters) <input type="checkbox"/>
		3. 9K receive buffer (9216 characters) <input type="checkbox"/>	
V.	Monitor receive data for extended (8 bit) ASCII	1. All 8 bits of received data passed to printer <input type="checkbox"/>	2. Option disabled <input type="checkbox"/>
W.	Ignore carriage return and line feed after receipt of carriage return (single new line function on receipt of CR, CR, LF)	1. Single new line function on receipt of CR, CR, LF <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
X.	Delay answer-back 10 milliseconds	1. Delay sending answer-back character by 10 milliseconds <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
Y.	Answer-back character or station identification character 1 (Option BB will determine use of character selected)	1. Select any character from the ASCII code chart except communication characters SOH, ENQ, DC ¹ , DC ² , DC ³ , DC ⁴ , EOT, =, * and DELETE. It is recommended that upper and lower case alpha or numerics be used for the poll/select mode. <input type="checkbox"/>	

Set:
 ROP
 KP
 KP³

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
Z.	Second station identity character (see Option Y)		
AA.	Communication line status (KP ³ terminals only)	1. Line interface not implemented <input type="checkbox"/>	2. Line interface implemented <input type="checkbox"/>
BB.	Communication format	1. Free running <input type="checkbox"/>	2. Poll/select mode (selective calling) <input type="checkbox"/>
CC.	Spare printer on-line status (KP ³ only)	1. Printer dedicated to line traffic <input type="checkbox"/>	2. Printer available as spare <input type="checkbox"/>
DD.	Monitor received data for Urgent Traffic Sequences	1. Enter alarm mode upon receipt of Urgent Traffic Sequence <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
EE.	Print out line options	1. Enable option print out <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
FF.	Monitor receive data for extended ASCII with SI/SO format	1. Enable option <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
ZZ.	Low speed asynchronous baud rate High speed asynchronous baud rate	— Baud — Baud	

NOTES

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Set:
 ROP
 KP
 KP³

Printer:
 40P101AA (Monocase)
 40P101AB (Up-Low)
 40P154AA (Monocase)
 40P154AB (Up-Low)
 40P202AL (Monocase)
 40P202AG (Up-Low)

Interface:
 Clear to Send +6 V (EC181)
 Clear to Send -6 V (EC184)
 Receiver Ready +6 V (EC180)
 Receiver Ready -6 V (EC185)

Controller

OPTION	DESCRIPTION	OPTION CONDITION	
Z.	Second station identity character (see Option Y)		
AA.	Communication line status (KP ³ terminals only)	1. Line interface not implemented <input type="checkbox"/>	2. Line interface implemented <input type="checkbox"/>
BB.	Communication format	1. Free running <input type="checkbox"/>	2. Poll/select mode (selective calling) <input type="checkbox"/>
CC.	Spare printer on-line status (KP ³ only)	1. Printer dedicated to line traffic <input type="checkbox"/>	2. Printer available as spare <input type="checkbox"/>
DD.	Monitor received data for Urgent Traffic Sequences	1. Enter alarm mode upon receipt of Urgent Traffic Sequence <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
EE.	Print out line options	1. Enable option print out <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
FF.	Monitor receive data for extended ASCII with SI/SO format	1. Enable option <input type="checkbox"/>	2. Disable option <input type="checkbox"/>
ZZ.	Low speed asynchronous baud rate High speed asynchronous baud rate	— Baud — Baud	

