

**“DATASPEED\*” 40/3**  
**WITH 9140 STATION CONTROLLER**  
**DISASSEMBLY/REASSEMBLY AND PARTS**

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B. KDP (Printer Under Monitor) ..	11	1.01 This practice covers the DATASPEED 40/3 Station Arrangements, and provides the information necessary to disassemble and reas- semble DATASPEED 40/3 and associated equipment.	
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1.03 The following warnings and danger are to be used as safety measures for the apparatus and the craftsman.

**Warning 1:** Turn off all the power and signal sources before removing or replacing any component.

**Warning 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.



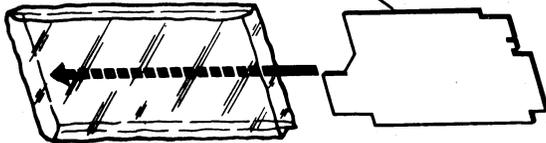
Attach clip end of static discharge strap to frame ground.

**Danger:** Safety glasses must be worn whenever monitor cover is removed or whenever monitor is replaced.

**Warning 3:** Place listed card in an RM150592 static bag immediately after removal from unit. Do not place any printer paper in the bag with the card. Keep the card in the static bag at all times. Never handle the card outside the bag without wearing a properly grounded 346392 static ground strap.

Cards List

Printer (410071, 410072, 410076, 410640 and 410729)  
Controller — All Cards  
(Not Monitor Cards)



1.04 Disassembly and parts information for individual components in the 40/3 Station can be found in the following BSPs:

- 582-210-702 DATASPEED 40 Printer
- 582-211-700 DATASPEED 40 Operator Console
- 582-212-700 DATASPEED 40 Cabinets
- 582-213-701 DATASPEED 40 Display Monitor
- 582-214-700 DATASPEED 40 Power Supplies

1.05 Reverse the disassembly instructions in order to reassemble the station components.

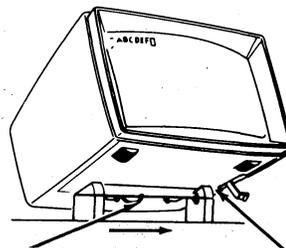
1.06 Disassembly information in this section is divided into ROP, and KD or KDP information. If your station arrangement is a KD-ROP, KD&ROP, or KDP&ROP, use the ROP information in this section for the ROP portion of your station, and the KD or KDP information of this section for the KD or KDP portions of your station.

2. KD AND KDP

**Caution:** Remove all power from the set before performing any component replacement or conversions. This does not apply to cover removal for access to test switches, or to power on adjustments of the monitor.

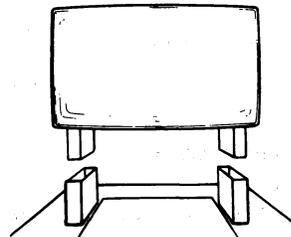
MONITOR

- ① Removal of entire monitor unit from set:  
Grasp monitor by sides near supports and simply lift up. Electrical cable connectors are part of support assembly.
- ② Removal of monitor housing:  
Tilt monitor back and disengage latch. Slide housing back partially. Position monitor to its normal position making sure it locks in that position. Remove housing completely.

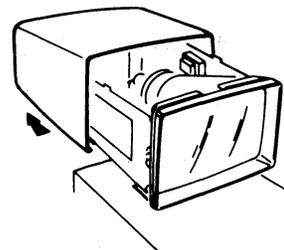


LATCH RELEASE

TILT RELEASE  
(When Housing is Removed)

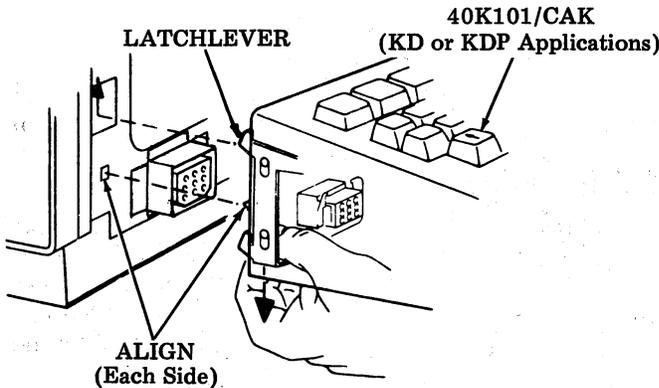


WEAR SAFETY GLASSES

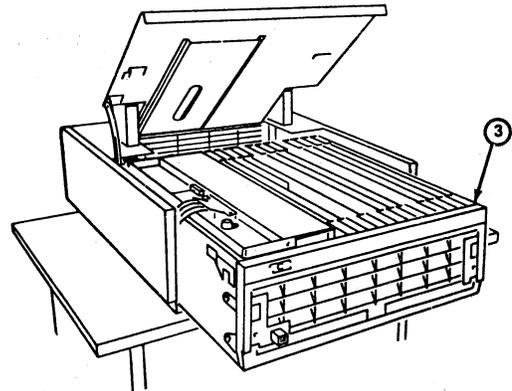


**OPERATOR CONSOLE**

- ① Place thumb on inward tab of console (both sides).
- ② Press downward into unlatched position (each side).
- ③ Remove console. (When replacing console, make sure locating pins are fully engaged before pushing latchlevers upward into locked position.)



- ③ Move module forward until blocked by latch to provide sufficient clearance for card removal.



**To remove circuit cards (see below):**

- ① Lift handle(s) carefully.
- ② Remove circuit card.

**To remove and replace power supply (see below):**

- ① Disconnect ac power cord.
- ② Remove insulator.
- ③ Remove 5 screws. Remove cable and wires from terminal strip.
- ④ Loosen screw sufficient to raise and turn retaining bracket away from handle.
- ⑤ Use handle to lift out power supply.
- ⑥ Replace power supply making sure to seat on locating pins.
- ⑦ Replace wires and just start screws. Then slip in cable terminals and tighten screws.
- ⑧ Replace insulator and plug in ac power cord and reposition retaining bracket.

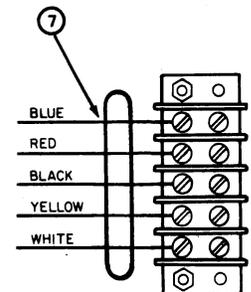
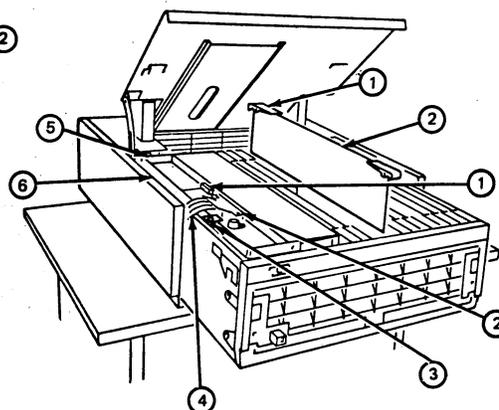
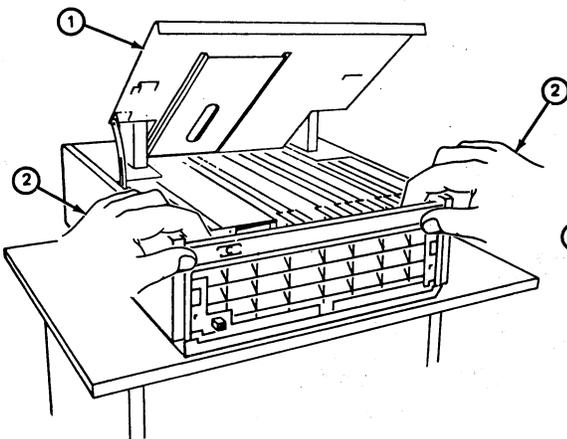
**ELECTRONICS PACKAGE AND POWER SUPPLY**

**A. KD or KDP (Logic Under Monitor)**

**To remove cards or power supply:**

- ① Open lid.
- ② Insert fingers as shown and lift then pull module forward.

*Note:* Do not attempt to lift at opcon (if present).



To remove electronics package:

④ Early Design Only  
Raise 401783 bracket  
enough to slide 341891  
monitor cable underneath.

⑥ Release latch on right side of  
cabinet and slide module out  
of cabinet.

⑤ Remove † 341891 monitor cable  
from grooves in fan assembly  
frame and display logic frame.  
Lower 401783 bracket and engage  
clip to side of module.

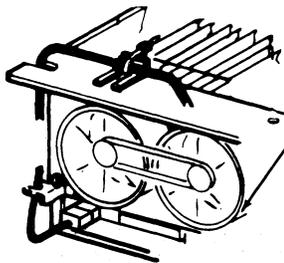
① Slide module out of  
40CAB251/AB  
cabinet far enough  
to engage latch on  
right side of cabinet.

② Reach in and disconnect  
† 401633 ac power cable  
attached to back of fan  
assembly.

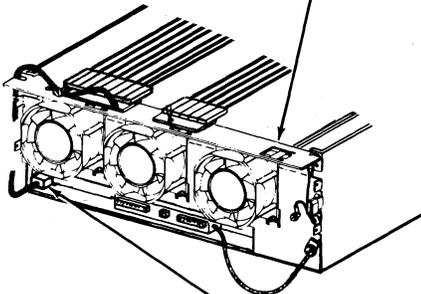
† 400599  
AC DISTRIBUTION  
ASSEMBLY

40CAB251/AB  
LOGIC CABINET

③ Loosen 341819 shoulder screw attached to  
fan assembly frame where the guide in the  
display logic aligns with tapped hole in fan  
assembly. Slide clip attached to 341891 cable  
out from under lip of display logic frame.  
Remove cable.

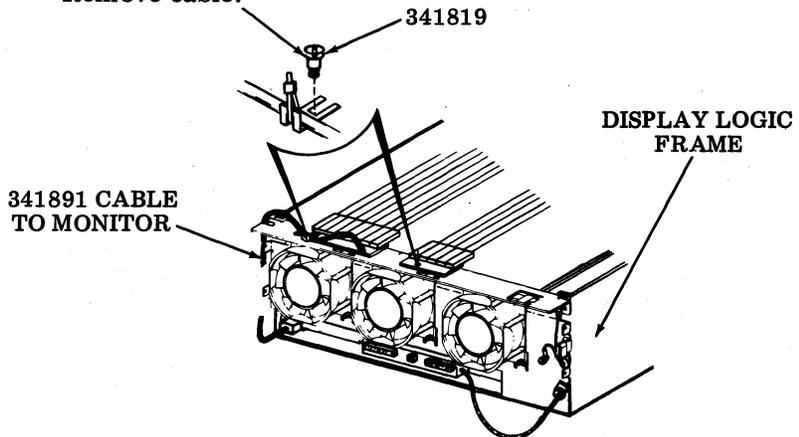


Belted Fan Assembly



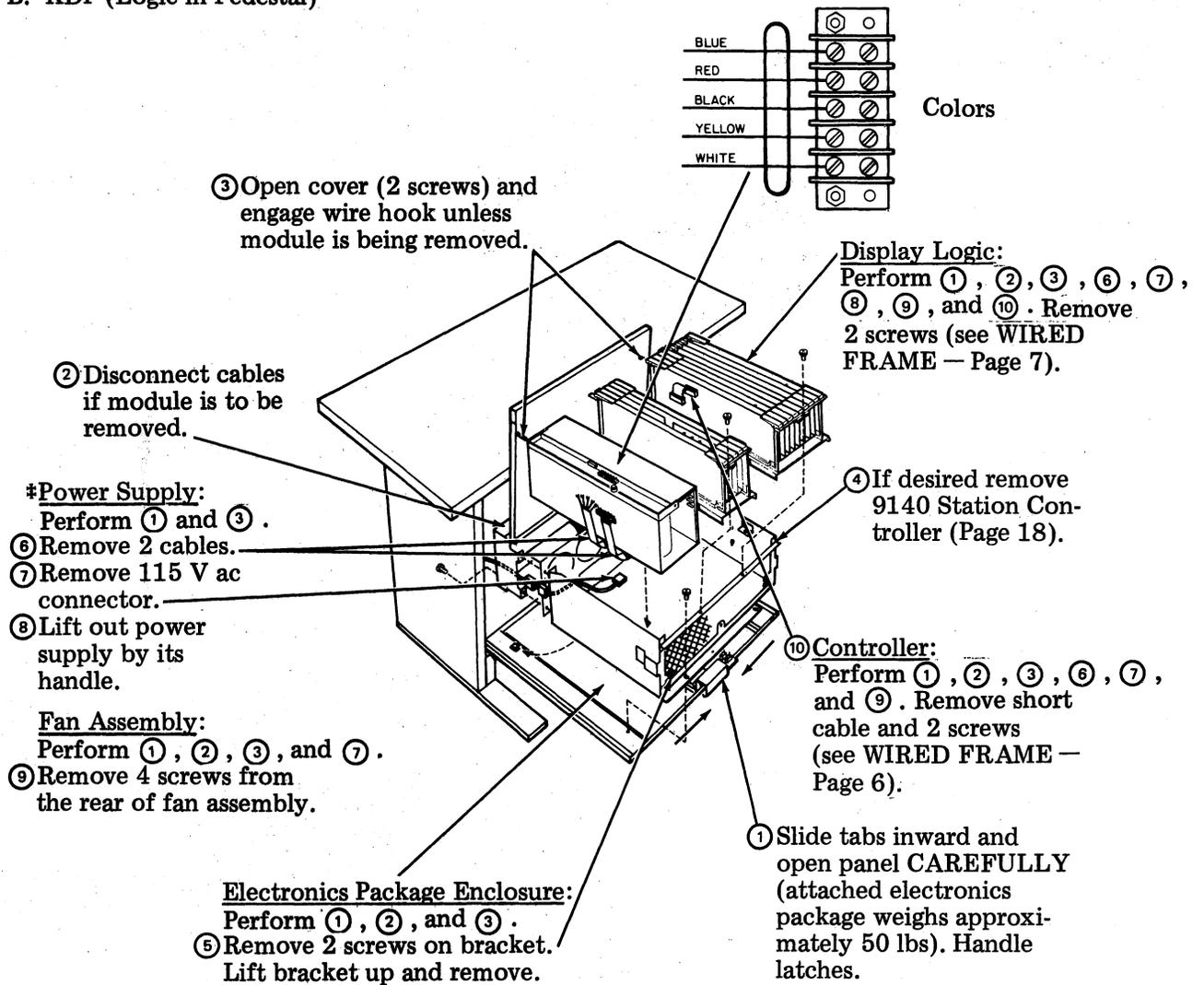
Receptacle for 341891  
cable plug.

Beltless Fan Assembly

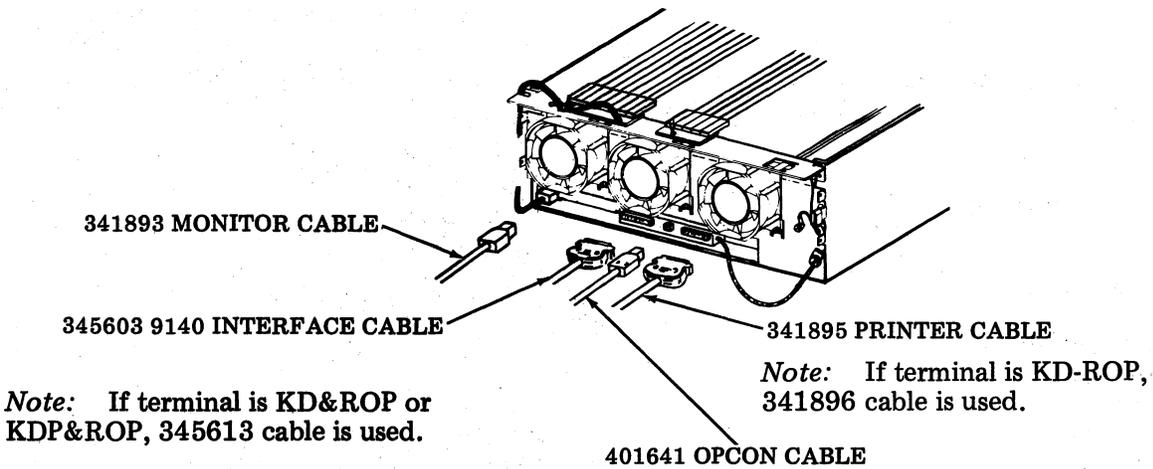


† Supplied with cabinet

**B. KDP (Logic in Pedestal)**



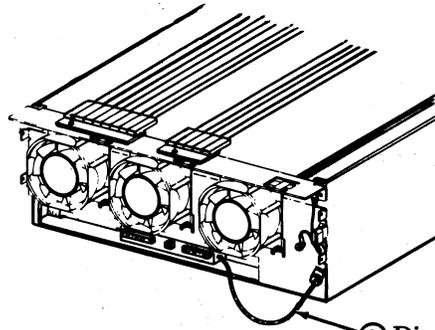
**\*To reinstall power supply, seat it on locating pins in the base of the enclosure. Cables are routed over handle.**



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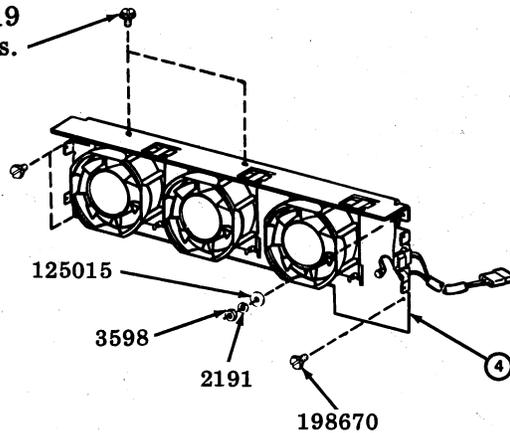
WIRED FRAME

A. KD or KDP (Logic Under Monitor)



② Disconnect braided ground strap.

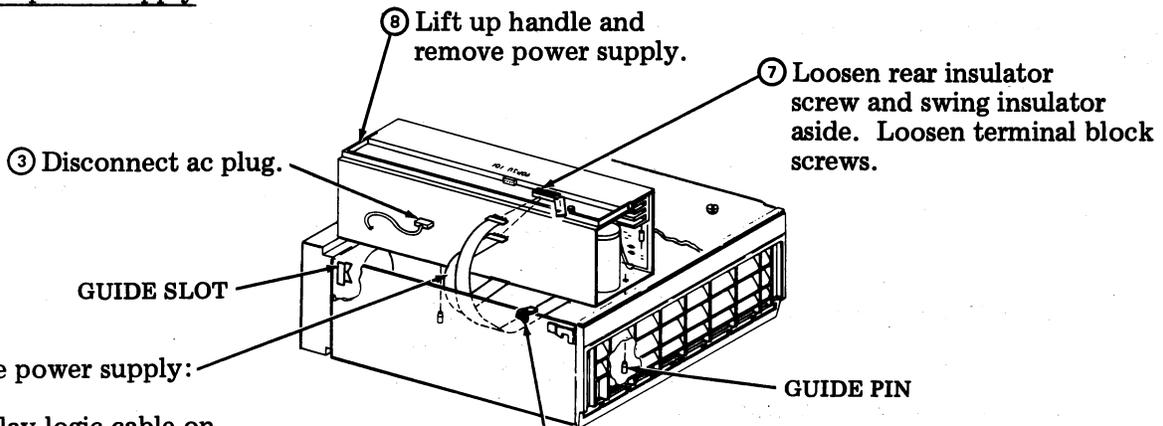
① Remove 341819 shoulder screws.



④ Remove fan assembly mounting hardware.

*Note:* Fan assembly may be earlier design belted fan assembly.

⑤ Remove power supply.

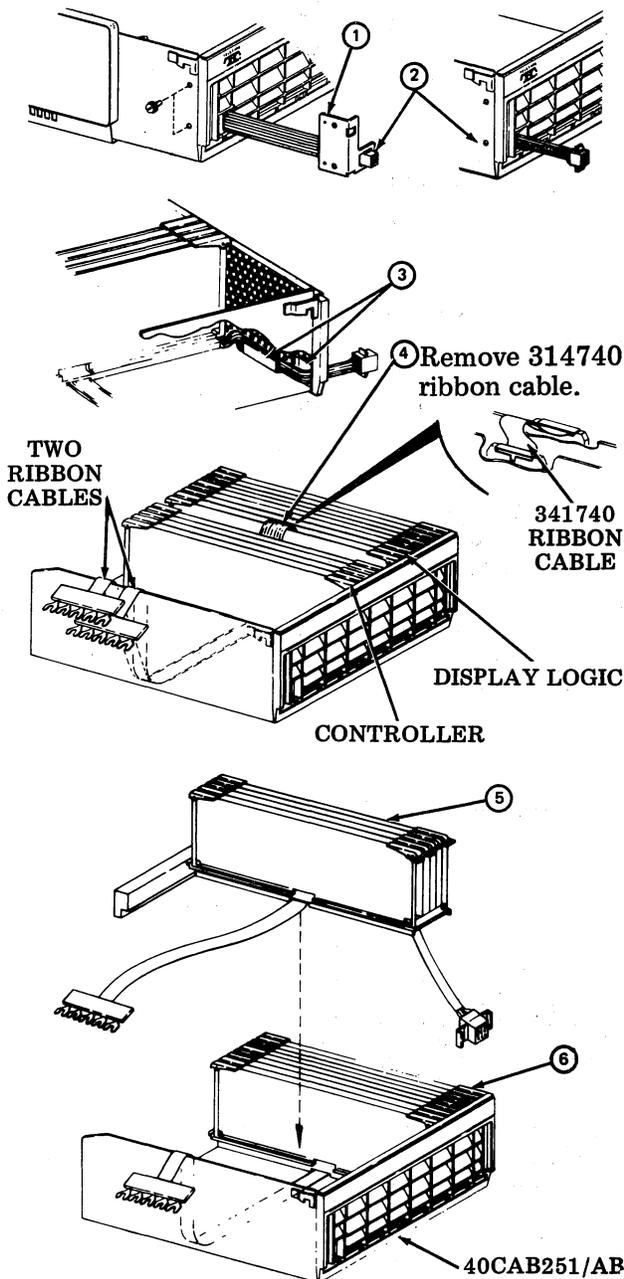


To replace power supply:

Place display logic cable on terminal strip (flat terminals) and then controller cable (formed terminals) on top, and tighten screws.

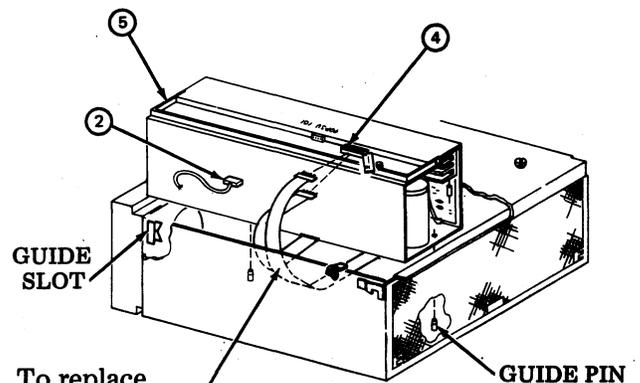
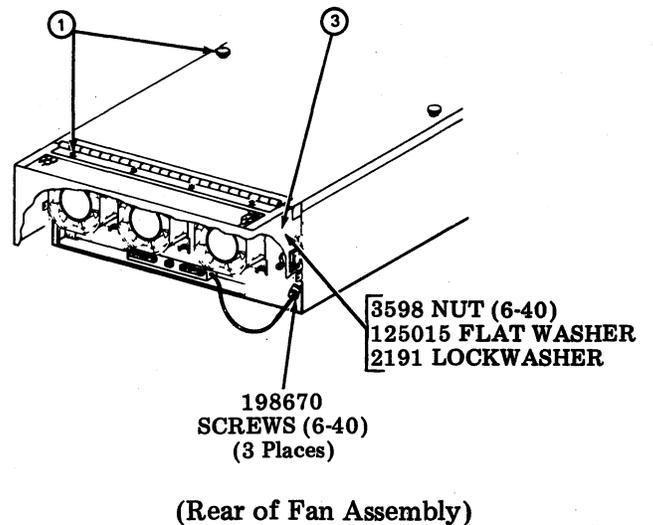
⑥ Loosen 401688 clamp screw and swing 401710 clamp aside.

- ① Remove 401253 bracket.
- ② Dislodge opcon connector from bracket.
- ③ Remove 402166 cable protector (if present). Feed 341860 opcon cable carefully out of cable tray.
- ④ Remove 341740 ribbon cable.
- ⑤ Remove controller wired frame. (Frame may still have cards mounted.)
- ⑥ Remove display logic wired frame. (Frame may still have cards mounted.)



B. KDP (Logic in Pedestal)

- ① Remove four hinge screws, then loosen two thumbscrews and remove cover.
- ② Disconnect ac plug.
- ③ Remove fan and shroud.  
*Note: Fan assembly may be earlier design belted fan assembly.*
- ④ Loosen rear insulator screw and swing insulator aside. Loosen terminal block screws. Remove ribbon cables.
- ⑤ Lift up handle and remove power supply.



To replace power supply:

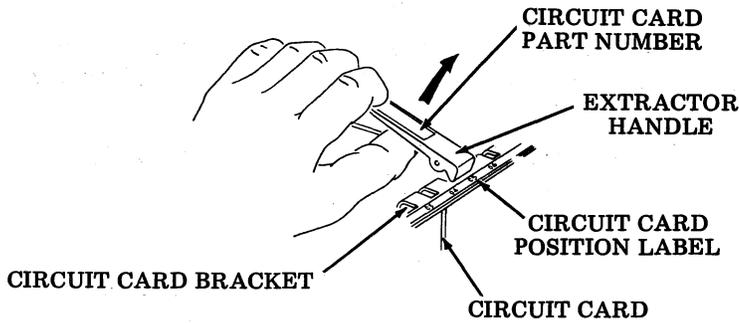
Place display logic cable on terminal strip (flat terminals) and then controller cable (formed terminals) on top, and tighten screws.

CIRCUIT CARDS

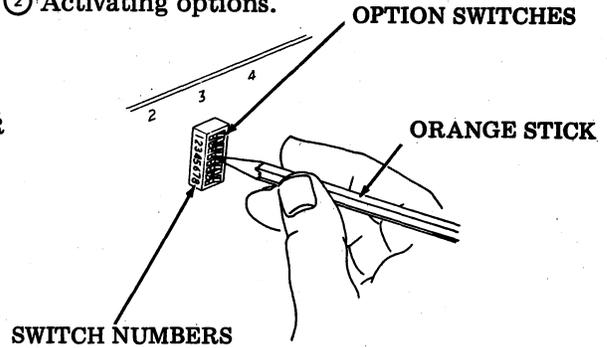
If any field options are to be changed or checked for proper position, turn off power and remove cards using the following procedures.

The station feature and option record or W-DJOAC should be marked to show any options that differ from factory furnished and should be filled in to indicate what features have been provided in the set or station.

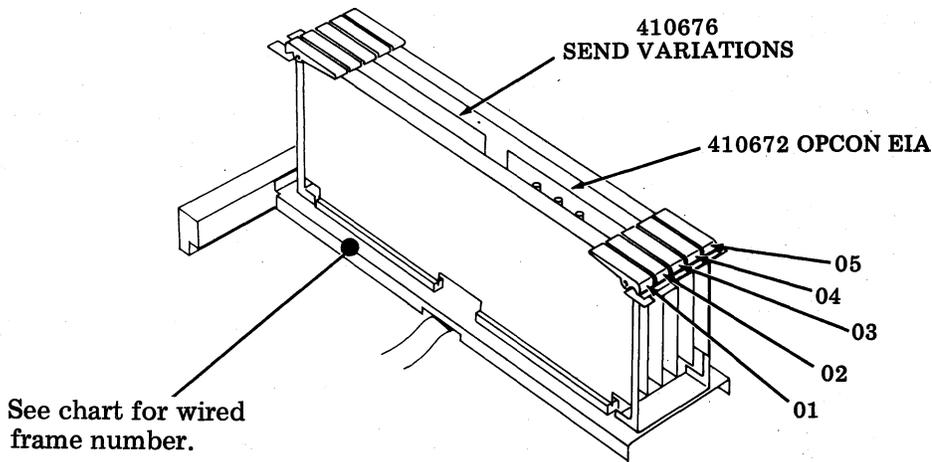
① Extracting circuit card.



② Activating options.

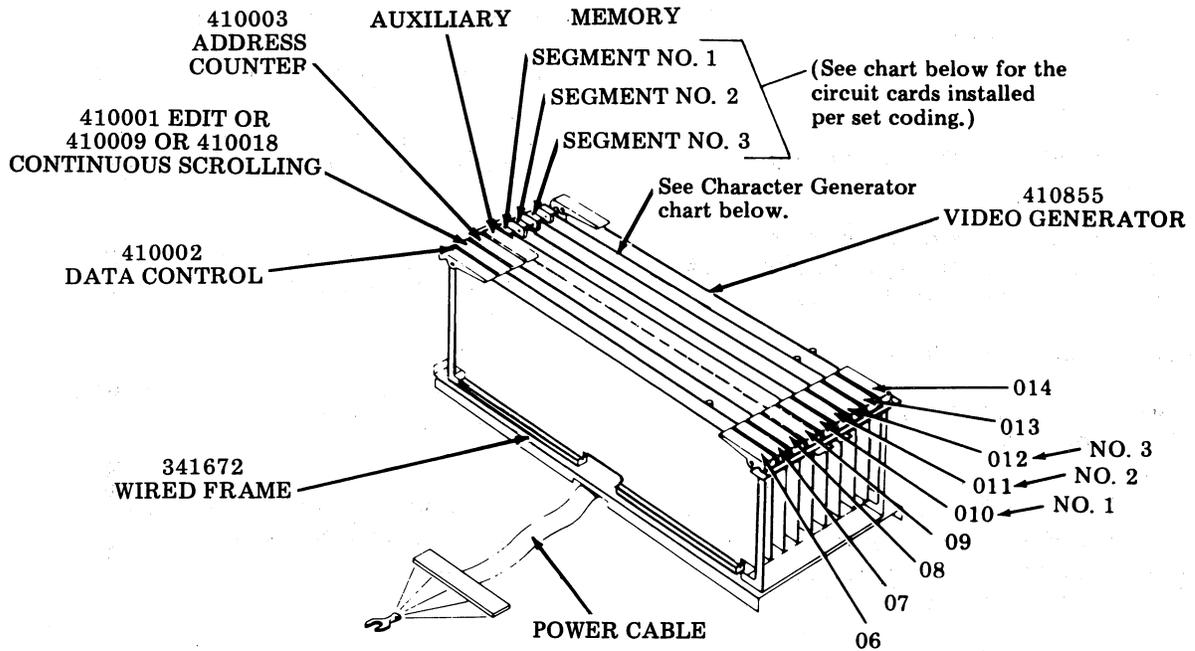


A. Controller



Position	40C202/BE	40C202/BF	Card Description
01		410770	Printer Interface
02	410771	410771	9140 Interface
03	410672	410672	Opcon Interface
	410676	410676	Send Variations
04	410675	410675	Message Control
05	410674	410674	Data Bus and Decode
Wired Frame	341909	341909	

B. Display Logic



POSITION NUMBER	40DL291/ZZ	40DL291/BR	40DL291/BS	CIRCUIT CARD DESCRIPTION
06	410002	410002	410002	Data Control
07	410001	410018	¶	Edit
08	410003	410003	410003	Address Counter
09	—	—	—	—
010	—	—	—	Memory Segment No. 1 §
011	—	—	—	Memory Segment No. 2 §
012	—	—	—	Memory Segment No. 3 §
013	410657	410657	410657	Cache and Character Generator
014	410855	410855	410855	Video Generator
Wired Frame	341672	341672	341672	—

§ Memory circuit cards (410014 or 410004 — basic edit, 410015 or 410005 — full edit) are ordered separately. The 410014 and 410004 circuit cards are physically and functionally interchangeable, and similarly 410015 and 410005 are physically and functionally interchangeable.

¶ Edit circuit cards (410001 or 410018 which also provides continuous scrolling features) are ordered separately for 40DL291/BS display logic. The 410009 circuit card is manufacture discontinued.

Various cache and character generator circuit cards are available as indicated in the following chart.

CHARACTER GENERATOR OPTIONS	
POSITION 013	DISPLAY TYPE
410657	Standard ASCII
410020	Line Drawing
410021	Fractions
410022	Weather

PRINTER

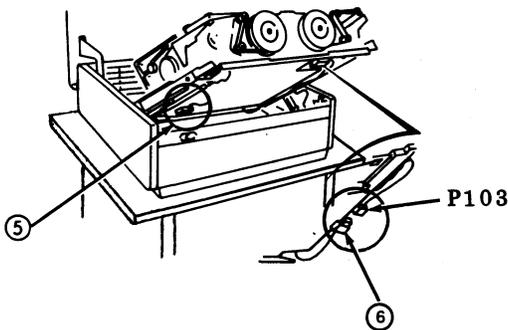
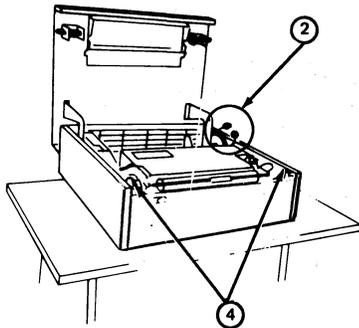
A. KDP (Adjacent Printer)

Friction Feed Printer

To remove and replace entire printer assembly:

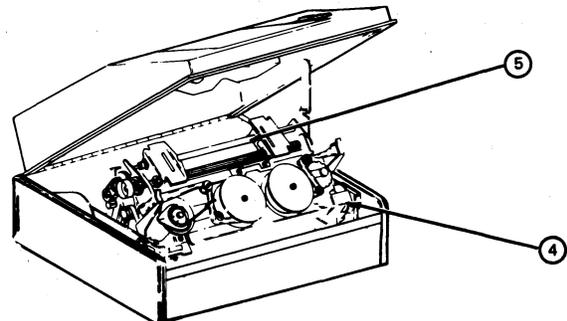
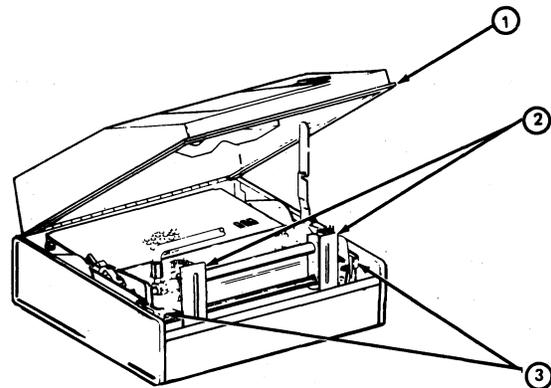
*Note:* The circuit card can be removed after step 4 of disassembly. If printer is not being removed omit steps 2 and 3.

- ① Turn power off. Open cover.
- ② Disconnect the interlock cable (P106) connector.
- ③ Remove paper roll.
- ④ Release printer and raise to the tilt position by depressing the left and right release levers and lifting printer.
- ⑤ Disconnect the 115 V ac connector.
- ⑥ Disconnect SSI cable (P103) from printer cable.
- ⑦ Release (push in) the printer slide detents and pull the printer out by grasping it by the frame (front bottom).



Tractor Feed Printer—80-and 132-Column Printers  
(Printer shown is 80-Column.)

- ① Turn power off. Open cover.
- ② Remove paper by releasing paper guide and opening forms tractors.
- ③ Release printer to tilt position by pressing left and right latchlevers to rear.
- ④ Insert screwdriver in right mounting track and pry up detent.
- ⑤ Pull printer forward by grasping handle at top, and slide off mounting tracks.

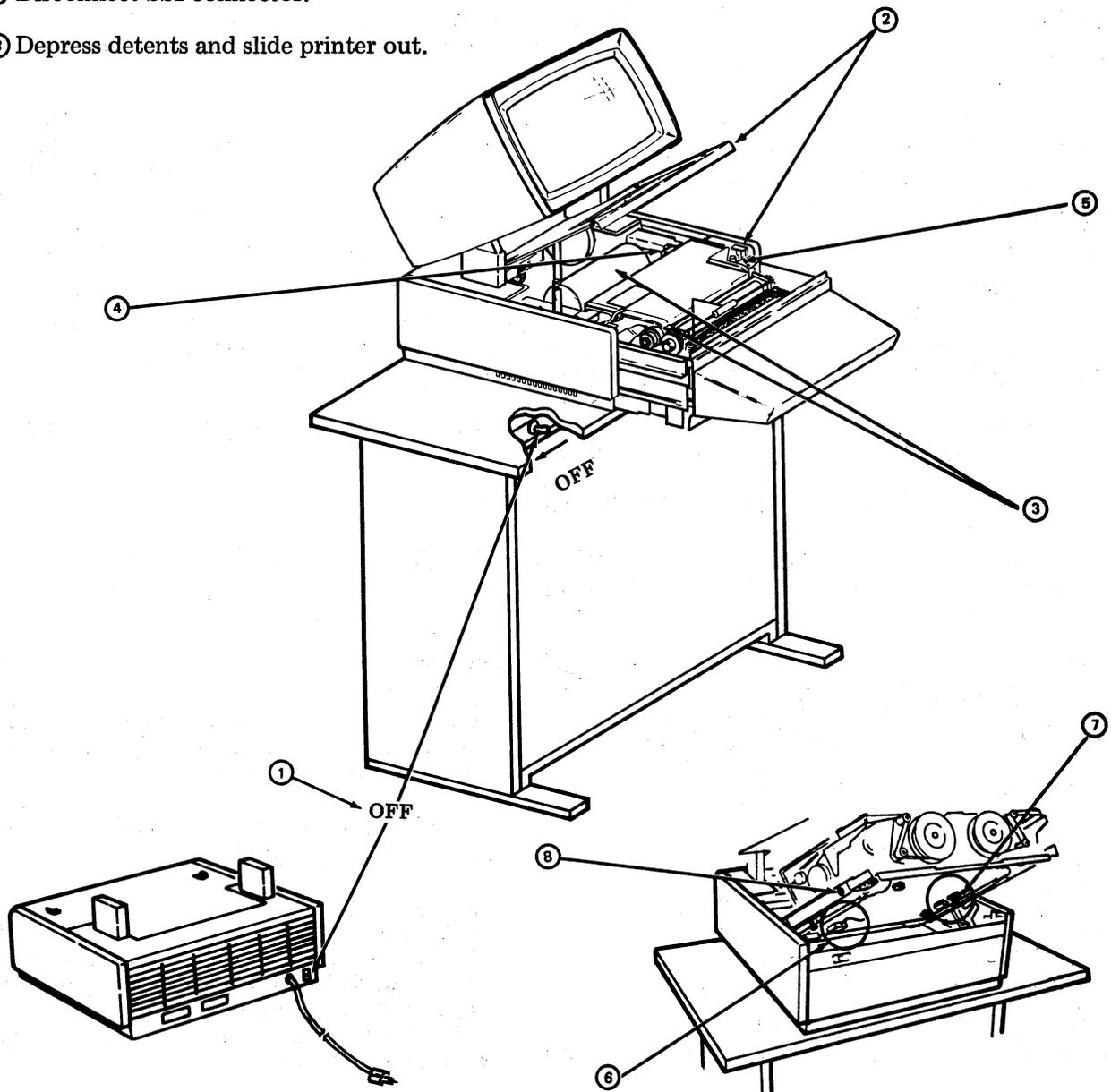


In reassembly make sure connectors at rear are fully connected.

## B. KDP (Printer Under Monitor)

## Friction Feed Printer

- ① Turn pedestal and cabinet power OFF. (Depress lower half.)
- ② Open lid. Lift slide release latches and slide printer module forward about three inches.
- ③ Release paper latch and remove paper. Keep spindle with printer.
- ④ Disconnect cabinet interlock switch connector.
- ⑤ Depress release levers and raise printer.
- ⑥ Disconnect ac power connector.
- ⑦ Disconnect SSI connector.
- ⑧ Depress detents and slide printer out.

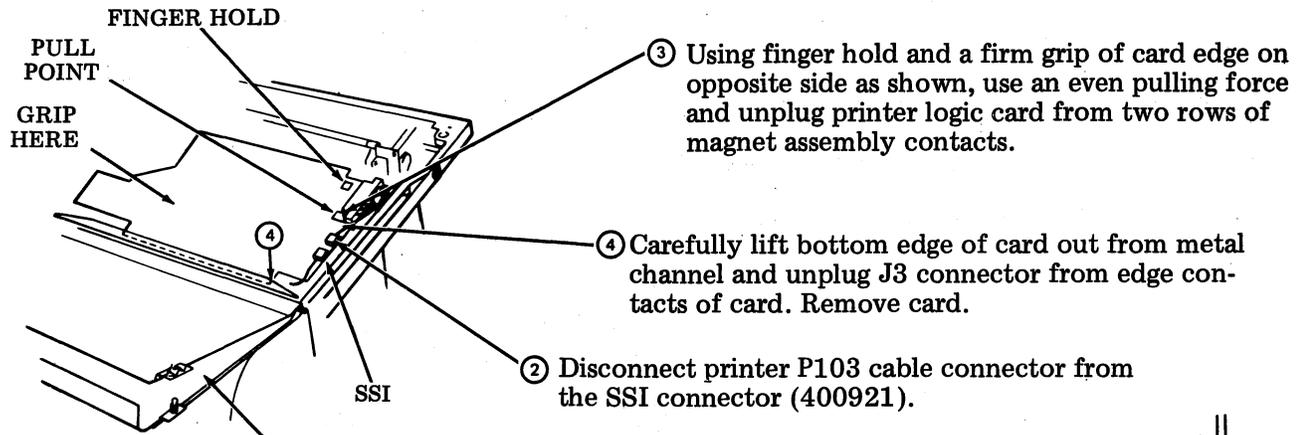


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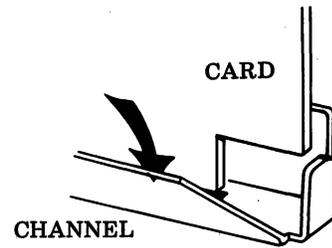
C. Circuit Card Removal

Friction Feed (410076 or 410640 Circuit Card)

*Danger: Service personnel should wear 346392 protective ground strap for this procedure.*



① With the printer in the "ribbon changing or maintenance position", remove two screws that secure paper chute to bottom of printer and allow the chute to hinge down.

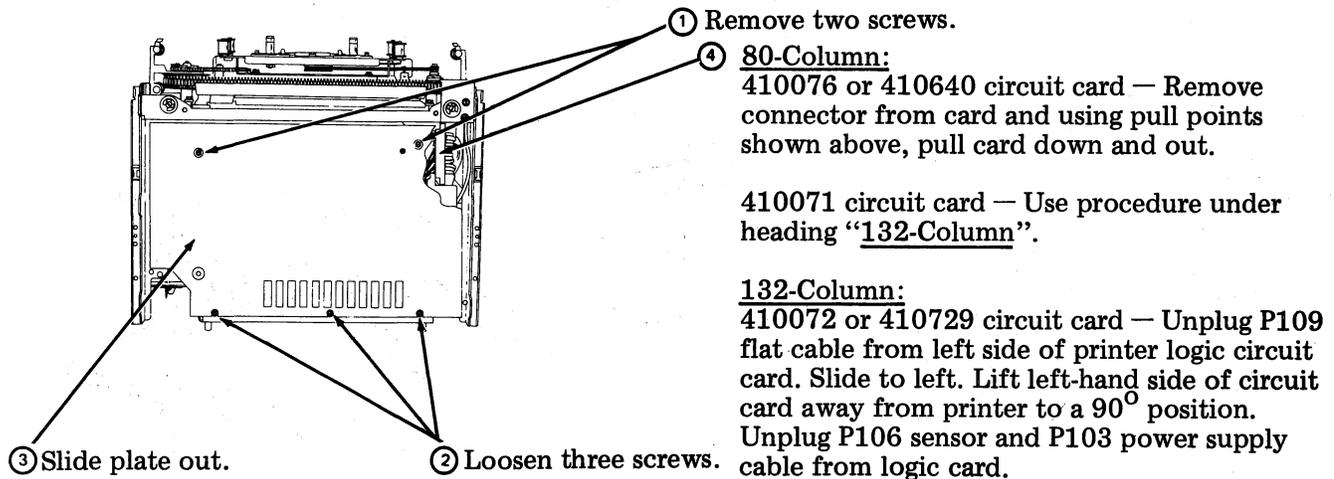


*Note 1:* During reassembly, make certain that the J3 connector is plugged onto the card and that the card is located within the channel before plugging it into the two rows of magnet assembly contacts. Apply slight pressure at both ends and middle of card to fully seat it on magnet contacts.

*Note 2:* If a new 410076 or 410640 circuit card is replaced, perform the Impeller Shaft Sensor and the Flag Sensor adjustment after card is mounted in printer.

Tractor Feed (410071, 410072, 410076, 410640 or 410729)

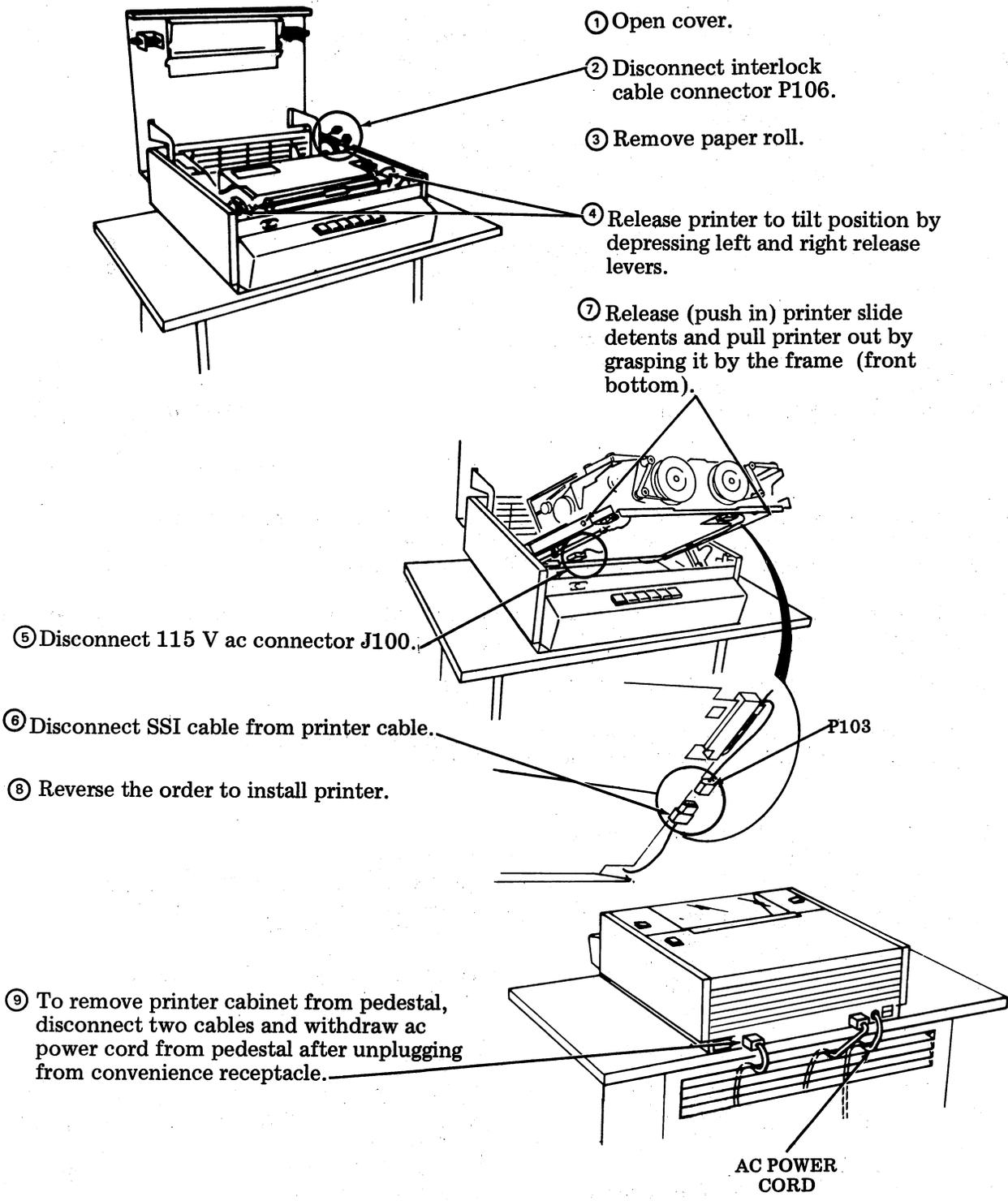
*Note:* If a new printer logic card is replaced, perform the Impeller Shaft Sensor and the Flag Sensor adjustments after card is mounted in the printer.



3. ROP  
 PRINTER

A. Removal and Replacement of Entire Printer Assembly

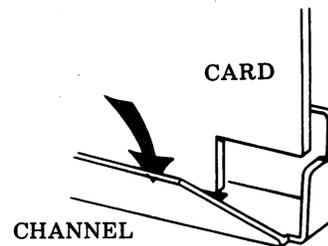
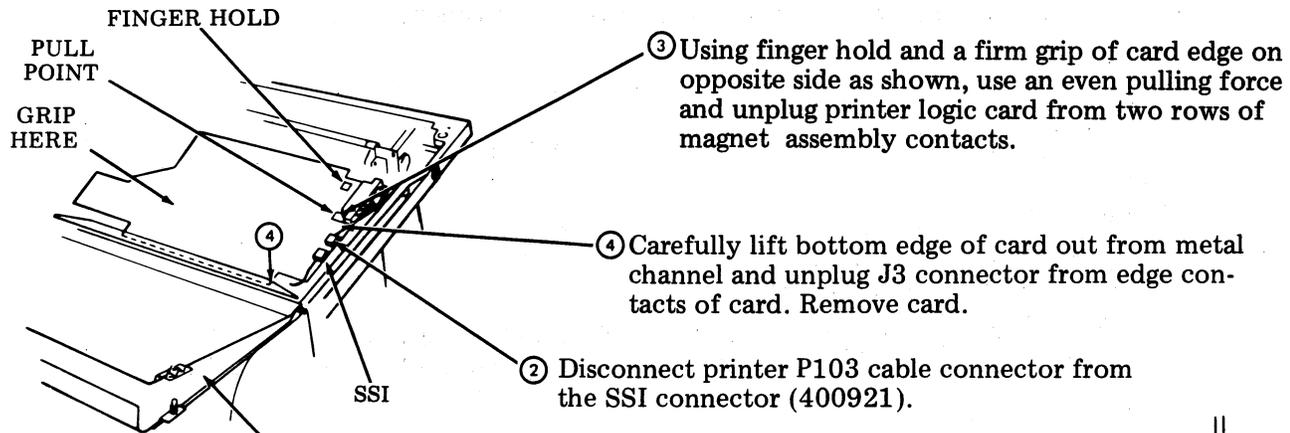
*Note:* The 410640 circuit card can be removed when printer is in maintenance position.



B. Circuit Card Removal

Friction Feed (410076 or 410640 Circuit Card)

**Danger:** Service personnel should wear 346392 protective ground strap for this procedure.

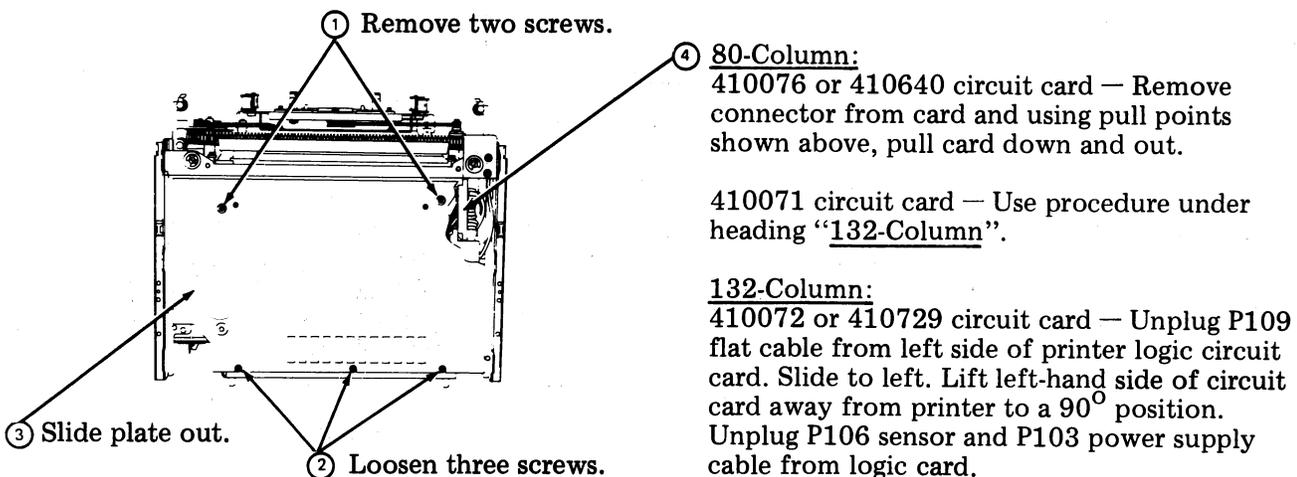


**Note 1:** During reassembly, make certain that the J3 connector is plugged onto the card and that the card is located within the channel before plugging it into the two rows of magnet assembly contacts. Apply slight pressure at both ends and middle of card to fully seat it on magnet contacts.

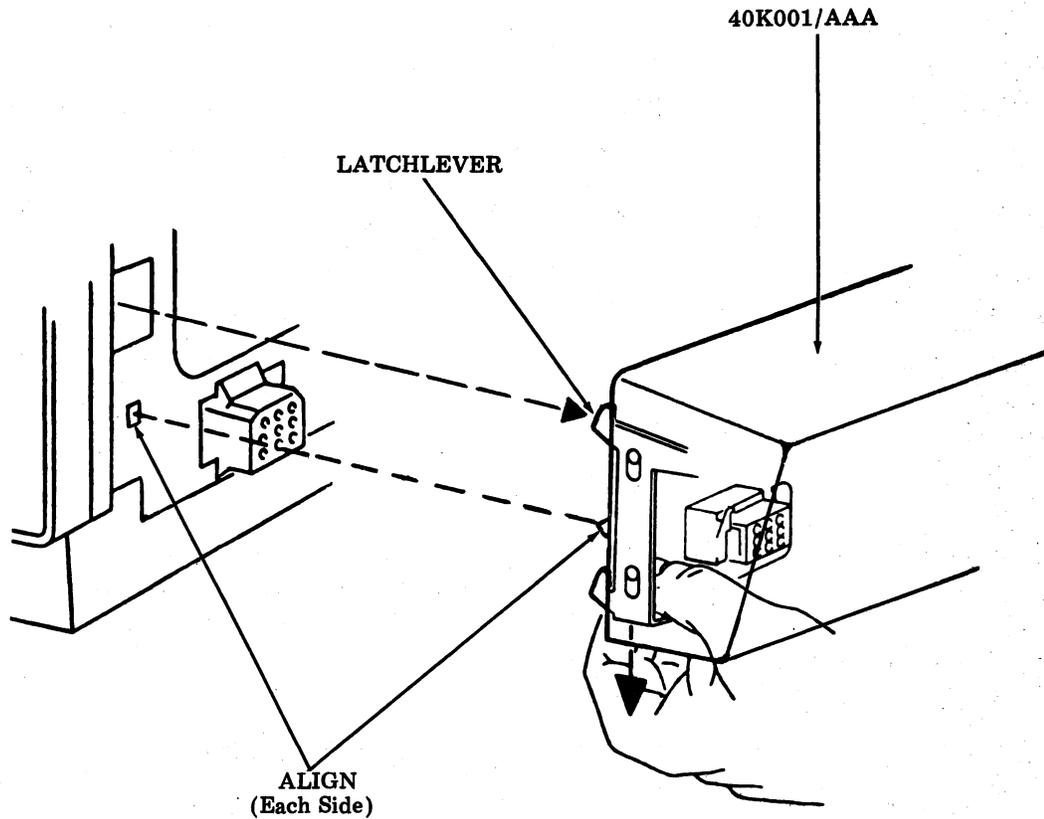
**Note 2:** If a new 410076 or 410640 circuit card is replaced, perform the Impeller Shaft Sensor and the Flag Sensor adjustment after card is mounted in printer.

Tractor Feed (410071, 410072, 410076, 410640 or 410729)

**Note:** If a new printer logic card is replaced, perform the Impeller Shaft Sensor and the Flag Sensor adjustments after card is mounted in the printer.

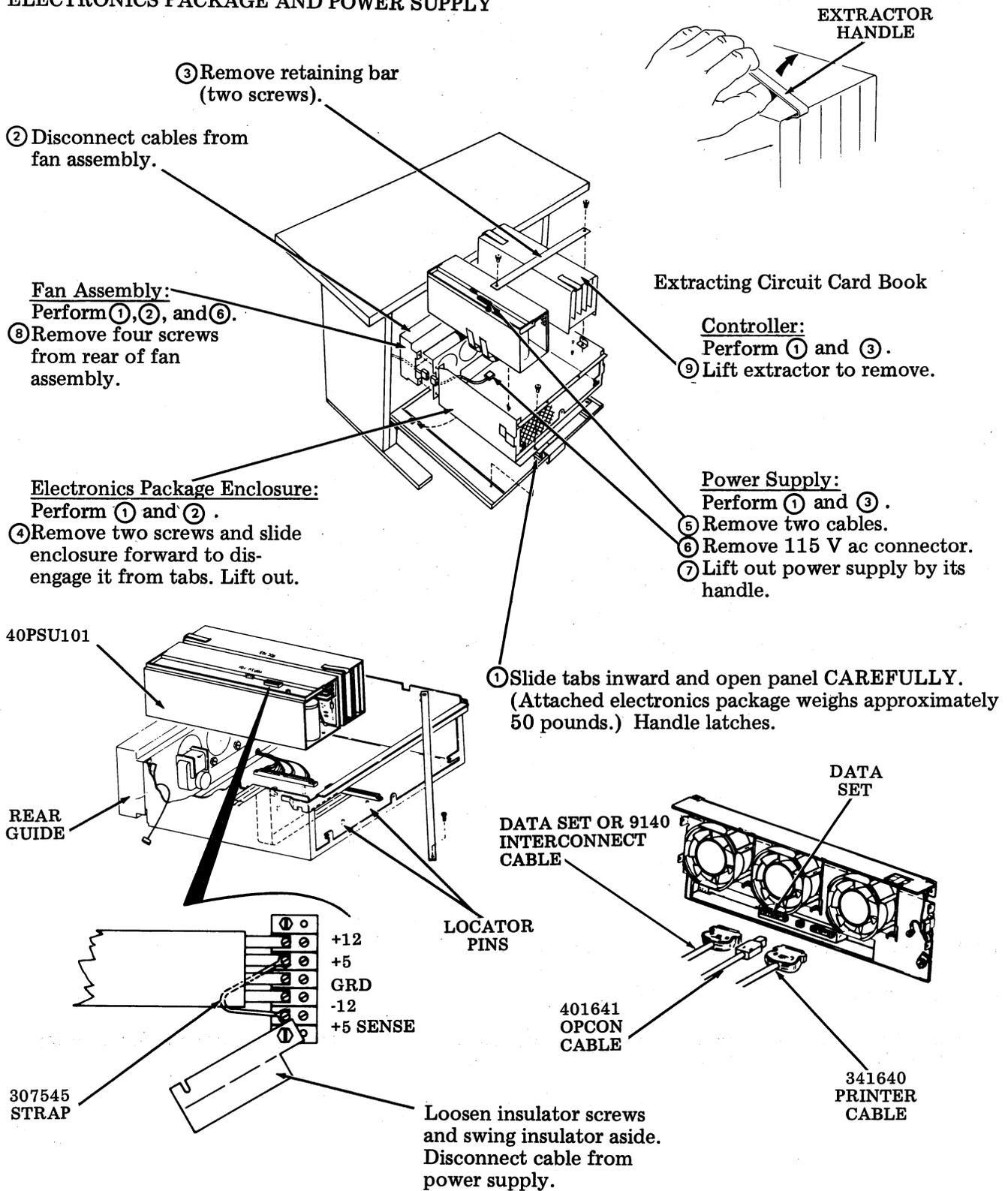


## OPERATOR CONSOLE



- ① Place thumb on inward tab of console (both sides).
- ② Press downward into unlatched position (each side).
- ③ Remove console. (When replacing console, make sure locating pins are fully engaged before pushing latchlevers upward into locked position.)

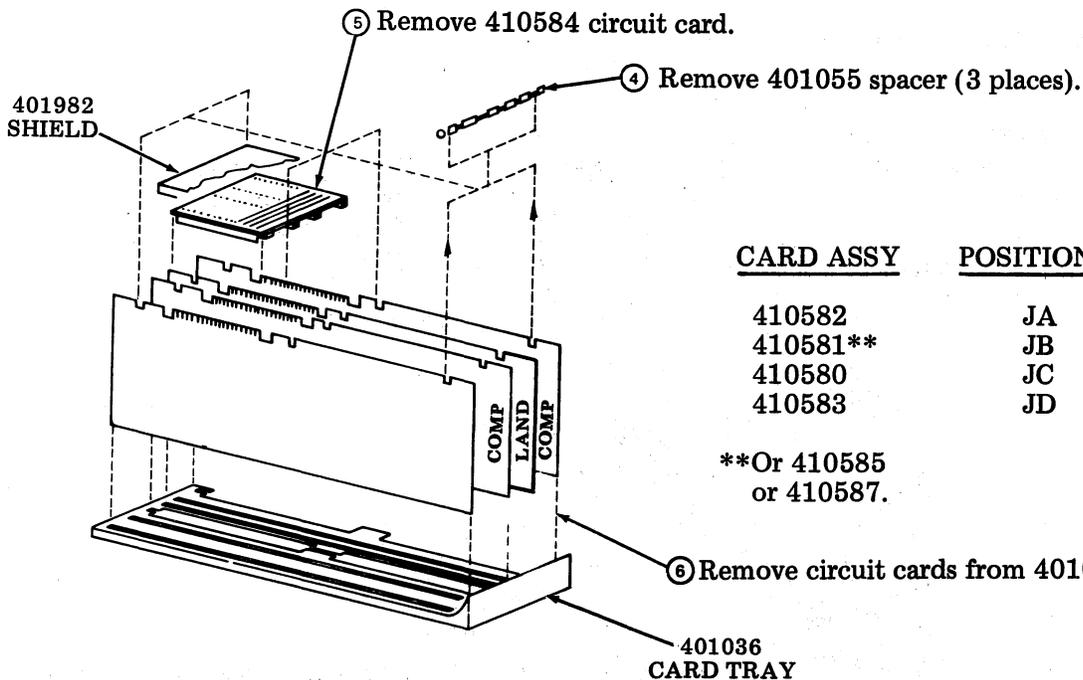
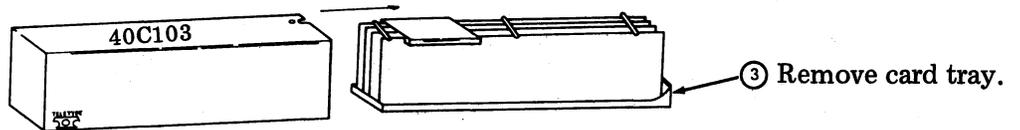
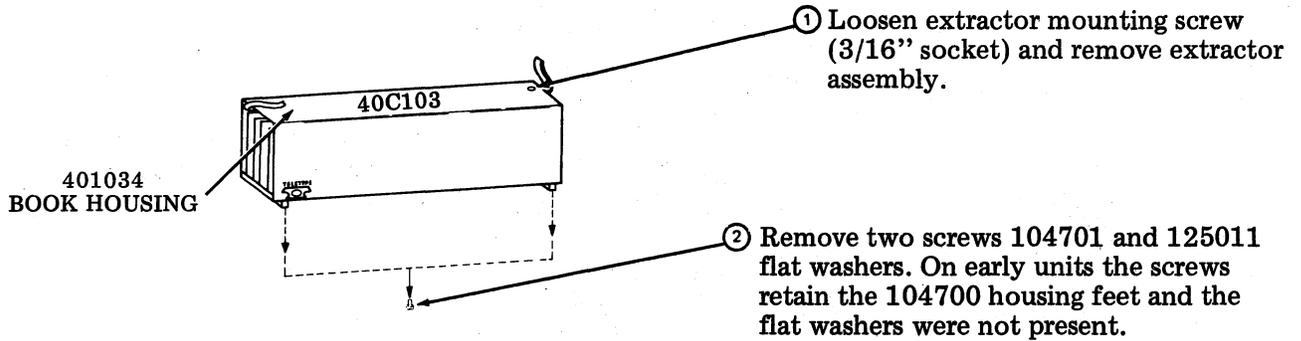
ELECTRONICS PACKAGE AND POWER SUPPLY



**Note:** To reinstall power supply, seat it on the locating pins in the base of the enclosure. The cables are routed over the handle.

ROP CONTROLLER (40C103/AD OR 40C103/AE)

To disassemble the controller, refer to procedure shown. Circled numbers indicate order of disassembly.

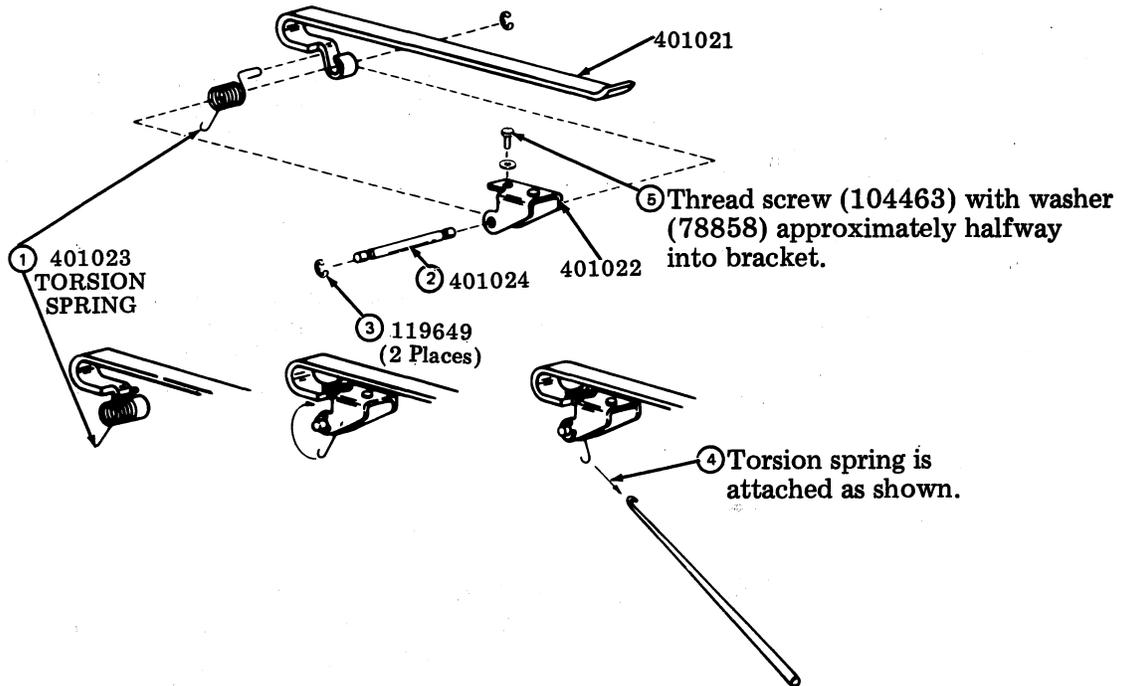


\*\*410581 and 410585 are interchangeable and are used in 40C103/AD. 410587 used in 40C103/AE.

**Note:** Issue 1 through 4A of 410580 are compatible only with Issue 1 of 410584.  
Issue 5A and later of 410580 are compatible only with Issue 2A and later of 410584.  
Issue 3A and later of 410587 are compatible only with Issue 3A and later of 410584.

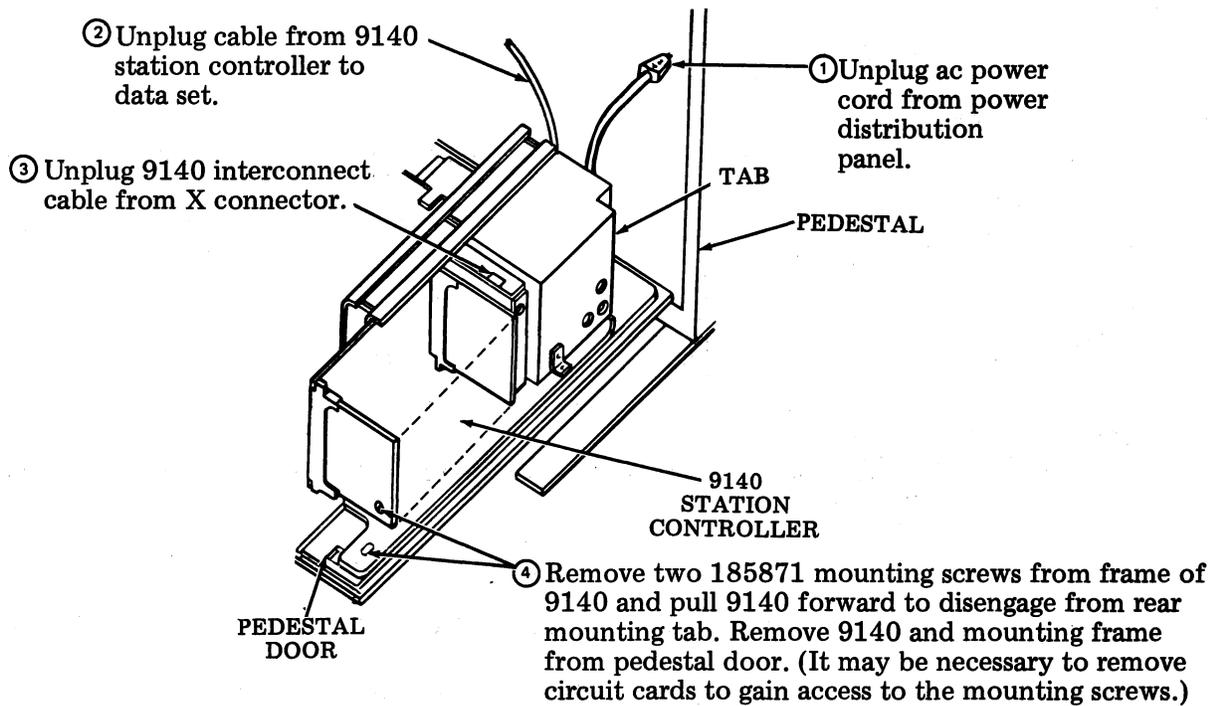
SECTION 582-200-703

It is not intended that the extractor assembly be disassembled for access to the controller cards.

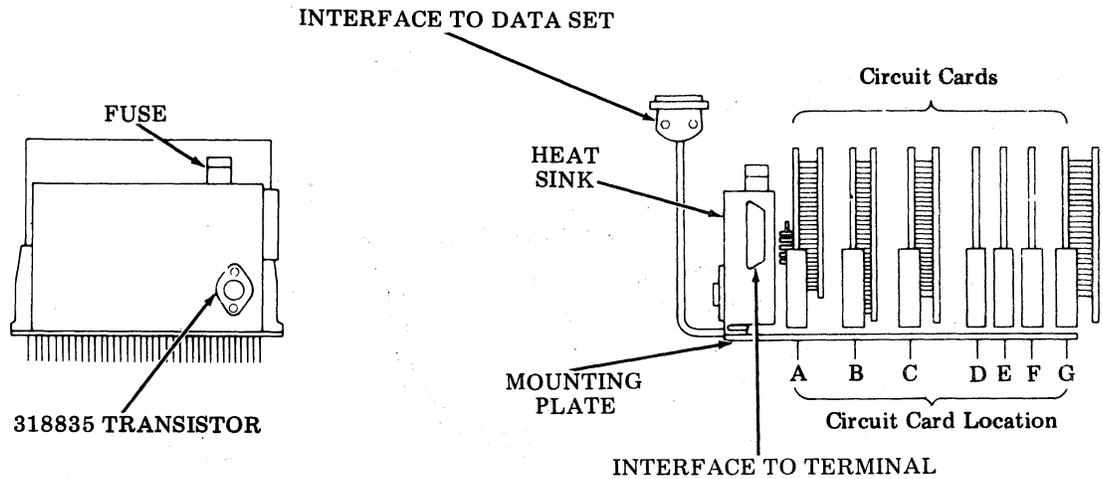


4. 9140 STATION CONTROLLER

ELECTRONICS PACKAGE AND MOUNTING FRAME



CIRCUIT CARDS



CIRCUIT CARDS	CIRCUIT CARD LOCATION	PART NO.	FUNCTION
A	A	322010	CDC Detector-Up to 1200 Baud
**A-1 A2	Mounted on Card A	322409 322685	Third CDC Detector CDC Detector-1800 and 2400 Baud
A-3C or A-3E or §§A-3G	Mounted on Card A	303805 303839 303864	1050 Baud Timer 1200 Baud Timer 2400 Baud Timer
B	B	322011	R/T Distributor
B-1	Mounted on Card B	322411	Parity Error Detection
C2	C	322013	REC Control Logic
C2-2	Mounted on Card C2	322442	A/B and Motor Control (Selected)
D1	D	322014	Send/Receive Logic
E2	E	322451	EIA Interface
F1 or F2	F	322017 322018	Character Recognition Character Recognition and Substitute Character
G3	G	322083	Channel Control
††MC641	Mounted on Card G3	322641	Alarm/Parity Error Response
R	Under Heat Sink	303808	Voltage Regulator

††Part of 345625 alarm modification kit which is optional. The other parts of 345625 modification kit are the 345626 alarm assembly and mounting hardware.

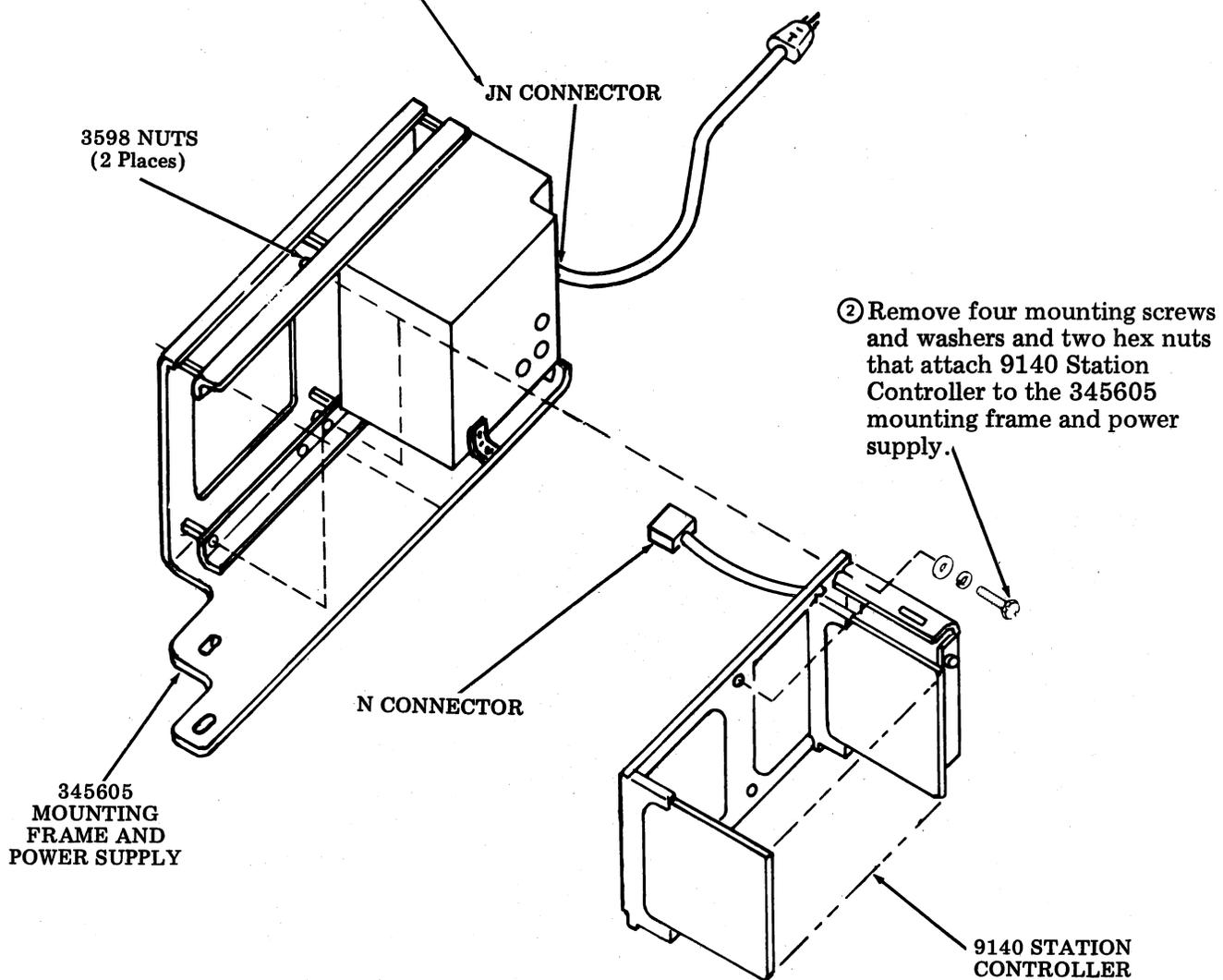
\*\*322409 third CDC circuit card assembly which is optional.

§§402326 modification kit updates a 9140 station controller to operate at 2400 baud isochronous operation with a parity detect and alarm feature.

DISASSEMBLY INFORMATION

A. 9140 Station Controller

- ① Unplug N connector from JN connector on power supply.

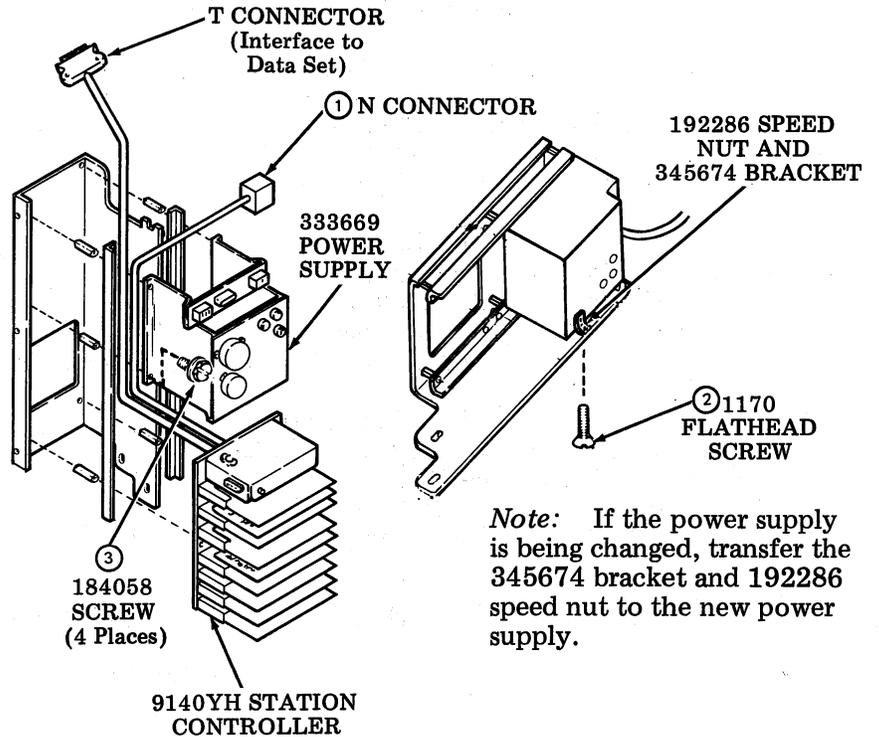


- ② Remove four mounting screws and washers and two hex nuts that attach 9140 Station Controller to the 345605 mounting frame and power supply.

**B. Power Supply**

- ① Unplug N connector and ac cord from power supply.
- ② Remove 1170 flathead screw from bottom of mounting frame.
- ③ Remove four 184058 screws that attach power supply to mounting frame.

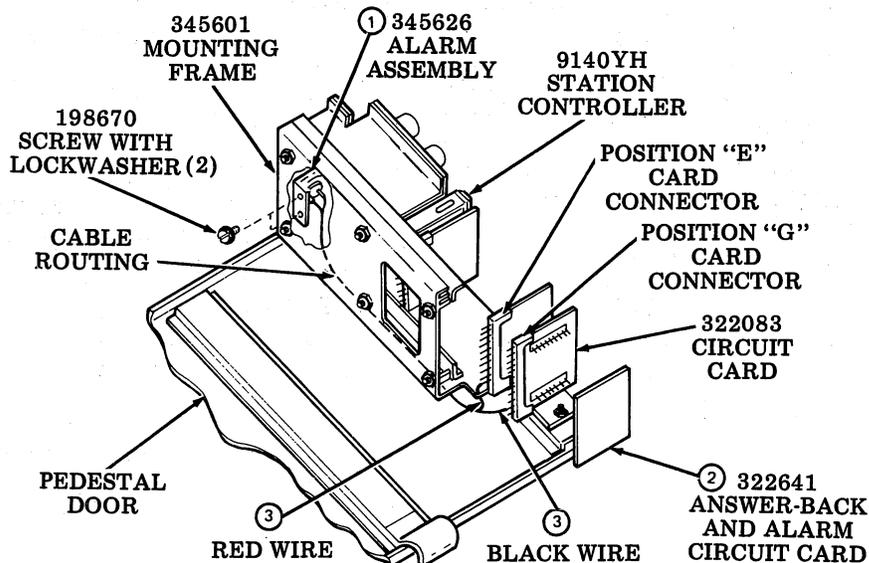
Power Supply Fuses  
 1/2A - 117176  
 3/8A - 159269  
 2A - 120166



*Note:* If the power supply is being changed, transfer the 345674 bracket and 192286 speed nut to the new power supply.

**C. 345625 Alarm/Parity Response Modification Kit**

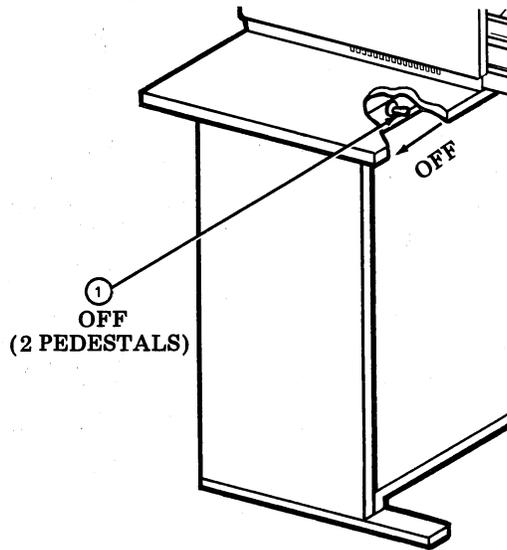
- ① The 345626 alarm assembly is held to 345601 mounting frame with two 198670 screws with lockwashers.
- ② The 322641 answer-back and alarm circuit card is required on 322083 circuit card in position G.
- ③ Cable of 345626 alarm assembly is routed between mounting posts and 345601 mounting frame. Slip-on terminal of red wire on pin B35 of card connector in position E and terminal of black wire on pin B33 of card connector in position G must be seated firmly.



D. 344555 Individual Receiver Selection Modification Kit – IRS

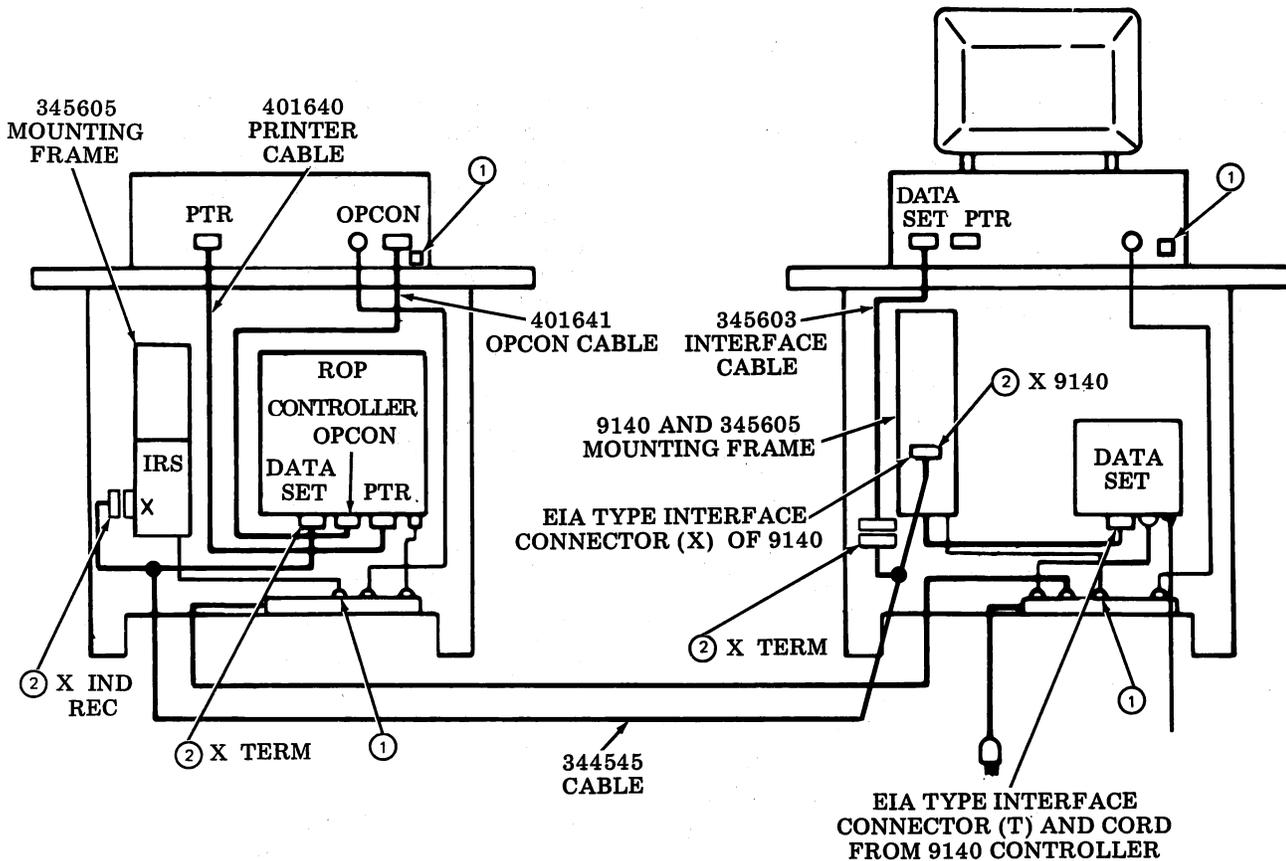
- ① Turn pedestal and cabinet power OFF for the KD (or KDP) and ROP. Unplug ac power cord from power distribution panel for the 9140 Station Controller (in the KD or KDP pedestal) and the IRS Controller (in the ROP pedestal).
- ② KD or KDP: Disconnect the "X 9140" connector of the 344545 cable from the "X" connector of the 9140 and "X TERM" connector of the 344545 cable from the 345603 data set cable of the KD (or KDP).

ROP: Disconnect the "X TERM" connector of the 344545 cable from the data set connector of the ROP controller and the "X IND. REC." connector of the 344545 cable from the "X" connector of the IRS modification kit.



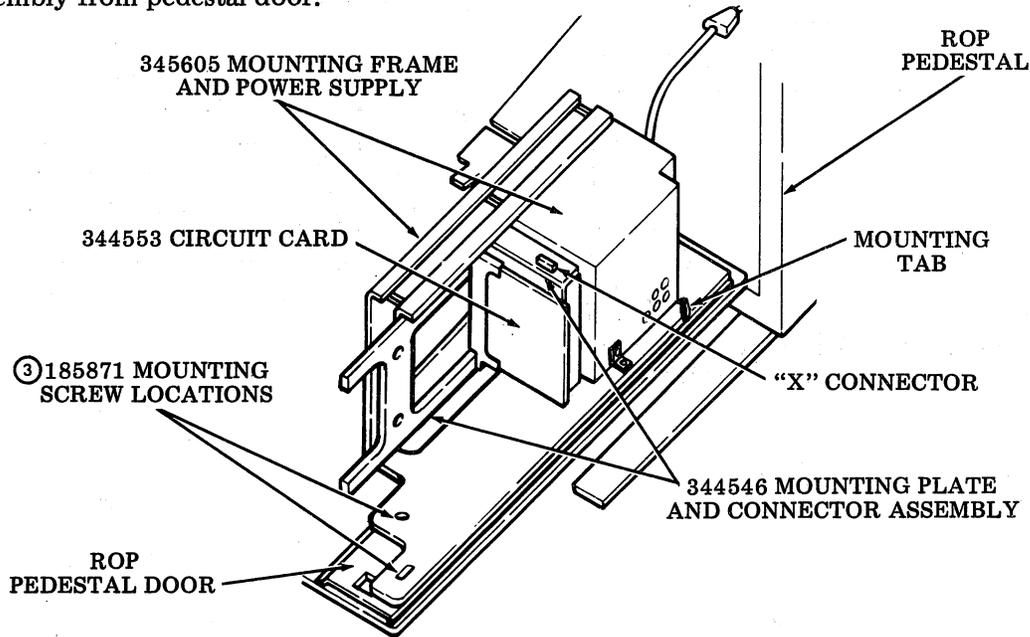
KD-ROP STATION EQUIPPED WITH INDIVIDUAL RECEIVER SELECTION MODIFICATION KIT

(Rear View)



- ③ Remove two 185871 mounting screws from 345605 mounting frame and power supply and pull IRS controller assembly forward to disengage rear mounting tab. Remove assembly from pedestal door.

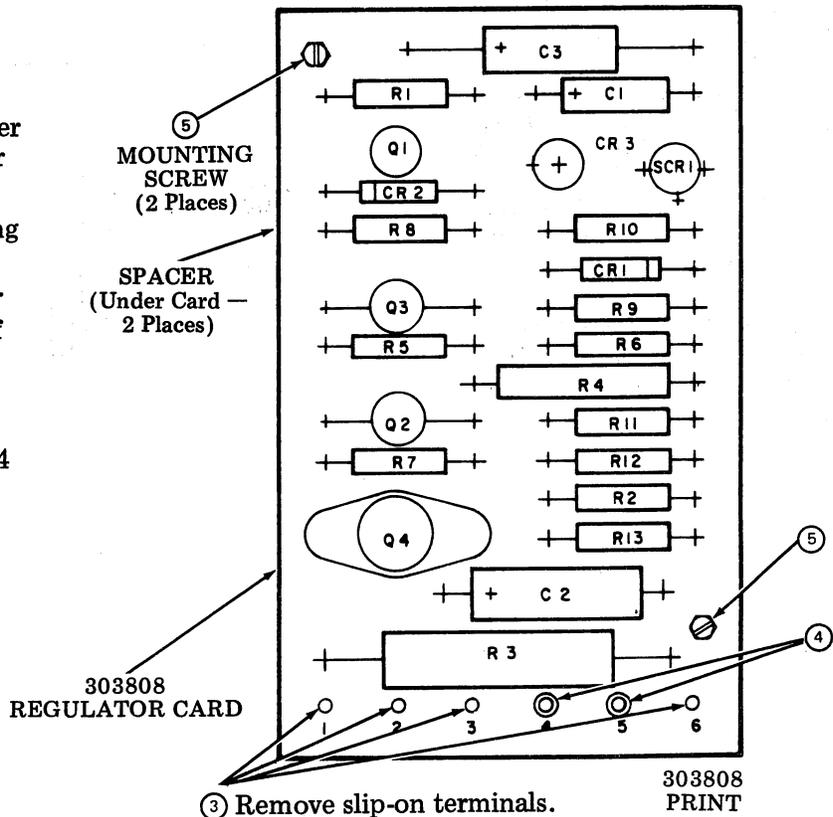
- ④ For further disassembly/reassembly refer to Specification 50,800S.

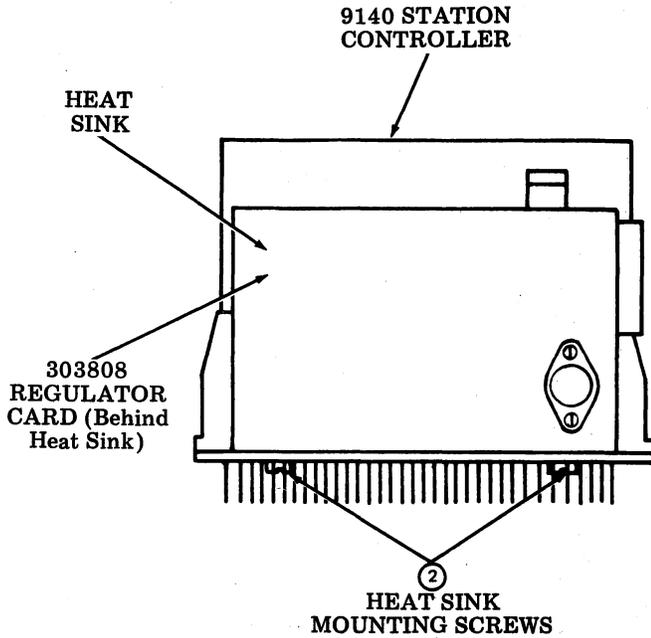


**COMPONENT REMOVAL**

**A. 303808 Regulator Card**

- ① Remove 9140 Station Controller from its mounting frame. Refer to Page 20.
- ② Remove two heat sink mounting screws from bottom of 9140 Station Controller wired frame.
- ③ Pull the slip-on terminals off of posts 1, 2, 3, and 6 on the bottom of the 303808 regulator card.
- ④ Unsolder the wires from posts 4 and 5 on the bottom of the regulator card.
- ⑤ Remove the two mounting screws that attach the 303808 regulator card to the heat sink.



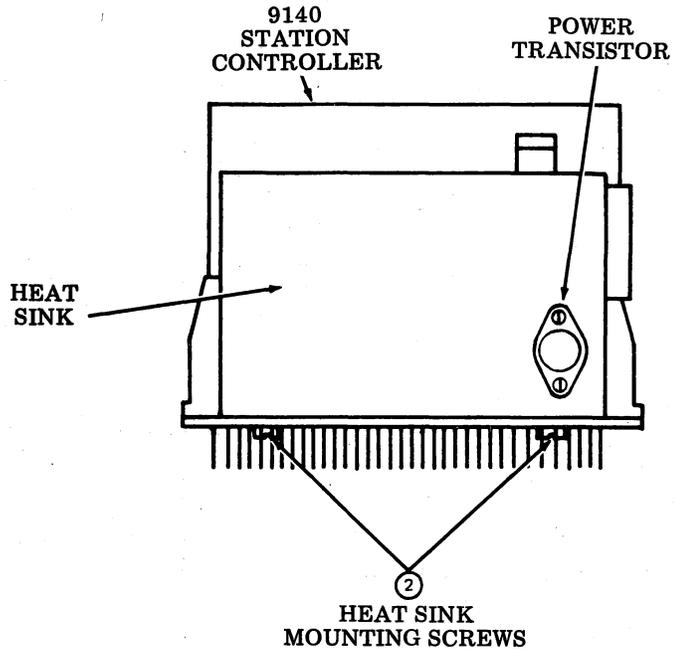


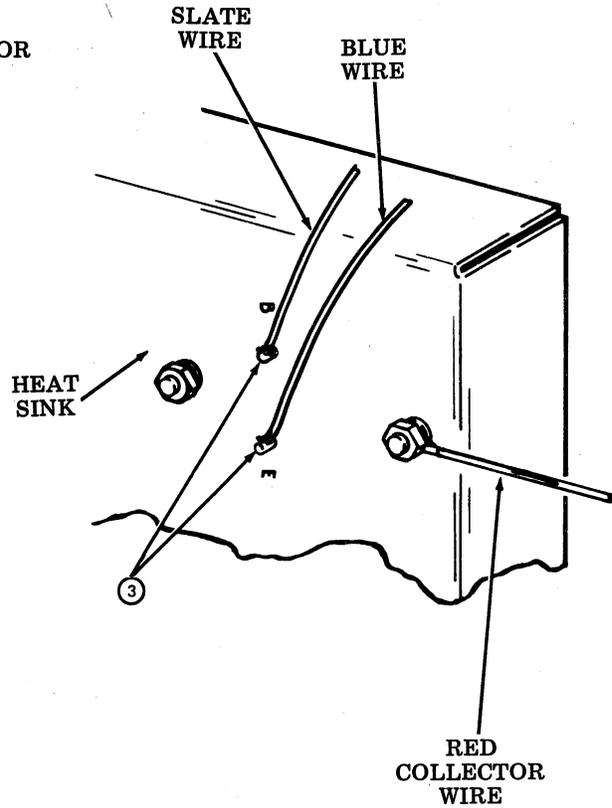
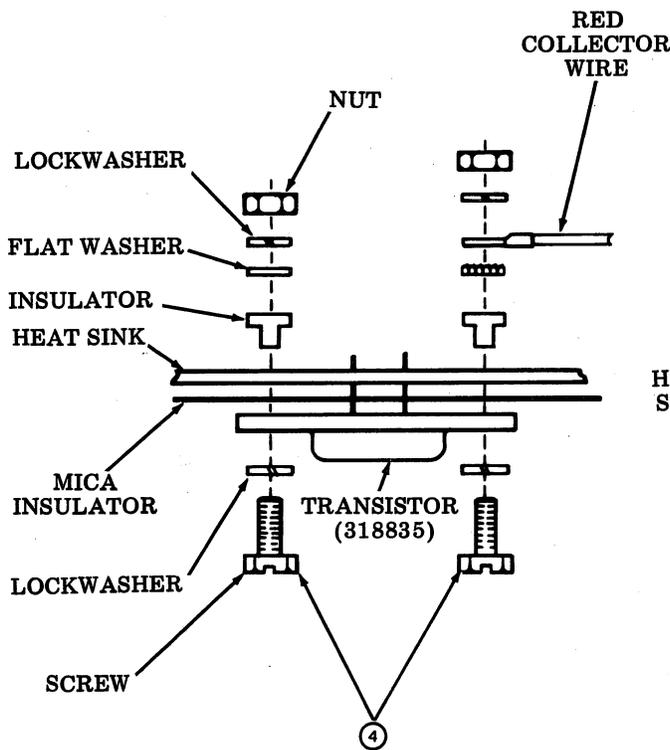
Wire Location

Post No.	Wire Color
1	Red
2	Slate
3	White
4	Blue and Yellow (2 wires)
5	Black
6	Purple

B. 318835 Power Transistor

- ① Remove 9140 Station Controller from its mounting frame. Refer to Page 20.
- ② Remove two heat sink mounting screws from bottom of 9140 Station Controller wired frame.
- ③ Unsolder slate wire from transistor base lead and blue wire from emitter lead.
- ④ Remove two mounting screws, washers, red collector wire, mica insulator, and transistor from heat sink.





5. PARTS

- 5.01 For parts information on interconnect cables of the 40/3 type Station, refer to Section 582-200-403.
- 5.02 Parts information for individual components (printer, monitor, etc) are not illustrated in this section. Refer to the appropriate BSP section in Service Manual 325-057.