4100F19 4690 SERIES
COLOR GRAPHICS COPIER INTERFACE INSTRUCTIONS

INTRODUCTION

{ *CAUTION* }

This kit should be installed by trained service personnel. Contact the nearest Tektronix Field Office for installation. Adequate static discharge prevention procedures should be taken to avoid component damage.

The 4100F19 Kit (Figure 1) provides the Option 19 Color Copier Interface board and cable assembly necessary for color hardcopy reproduction when using a 4690 Series Color Graphics Copier with a 4100 Series Computer Display Terminal.
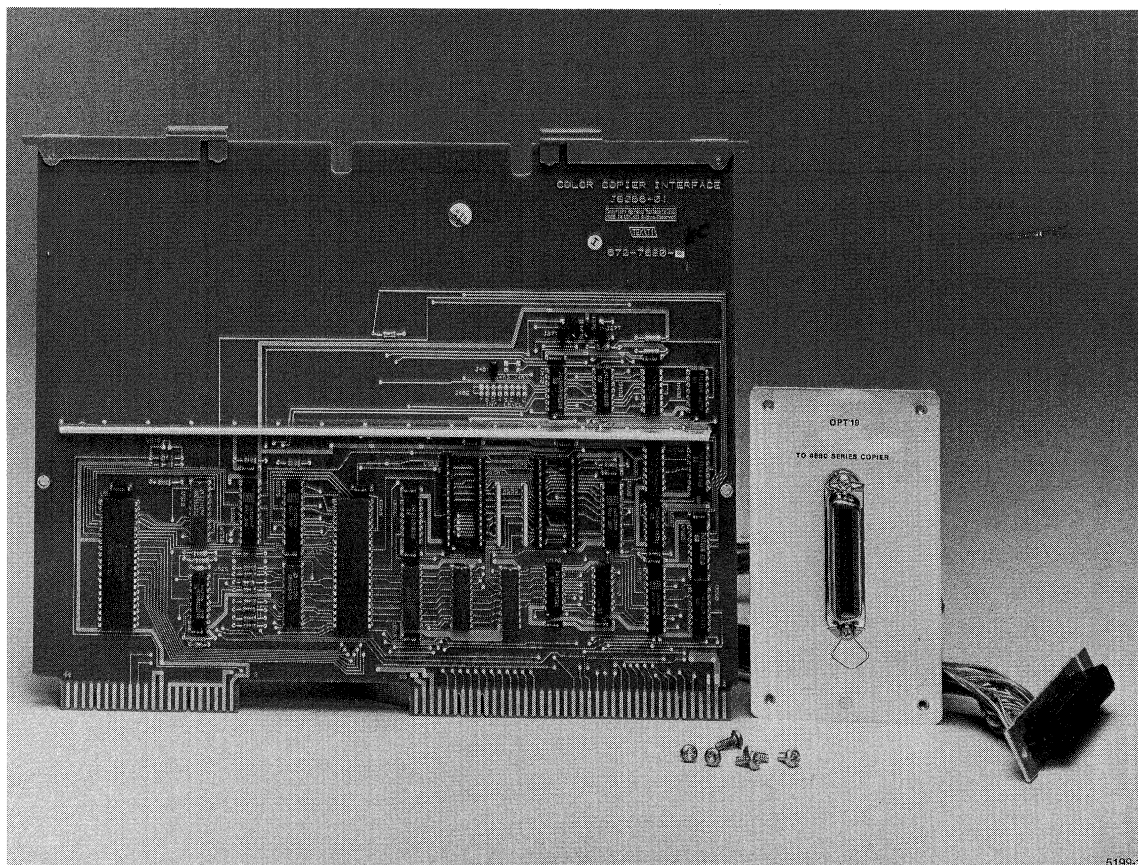

Figure 1. F19 Kit.

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The Option 19 Color Graphics Copier has both new and changed commands, compared to the Option 09 Color Copier Interface. The new or changed commands are:

- Colorhardcopy-Status-Report Message Type
- COPY
- Device Parameter Type
- Device-Status-Report Message Type
- HARDCOPY
- RESERVE-COLOR-COPIER
- SET-COLORHARDCOPY-DITHERING
- SET-COLORHARDCOPY-FORM-WIDTH
- SET-DIALOG-HARDCOPY-ATTRIBUTES
- SET-IMAGE-ORIENTATION
- The function of the HARD COPY Key

For further command information, refer to the *4110 Series Command Reference Manual*.

USING THESE INSTRUCTIONS

These instructions provide a step-by-step procedure for the installation of a 4100F19 Kit. For theory of operation and/or service information, refer to the *4100 Option 19 4690 Series Color Graphics Copier Interface Service Manual*. For operating information, refer to the appropriate operators manual for the copier installed or for the terminal in which the copier is installed.

TOOLS REQUIRED

The following tools are required to install a 4100F19 Kit:

- #1 and #2 POZIDRIV ® screwdrivers
- #15 TORX ® driver

4113B PEDESTAL INSTALLATION

1. Turn off the power and disconnect the terminal power cord.

2. Remove the six screws from the pedestal front panel and pull the panel toward you to remove (Figure 2a).

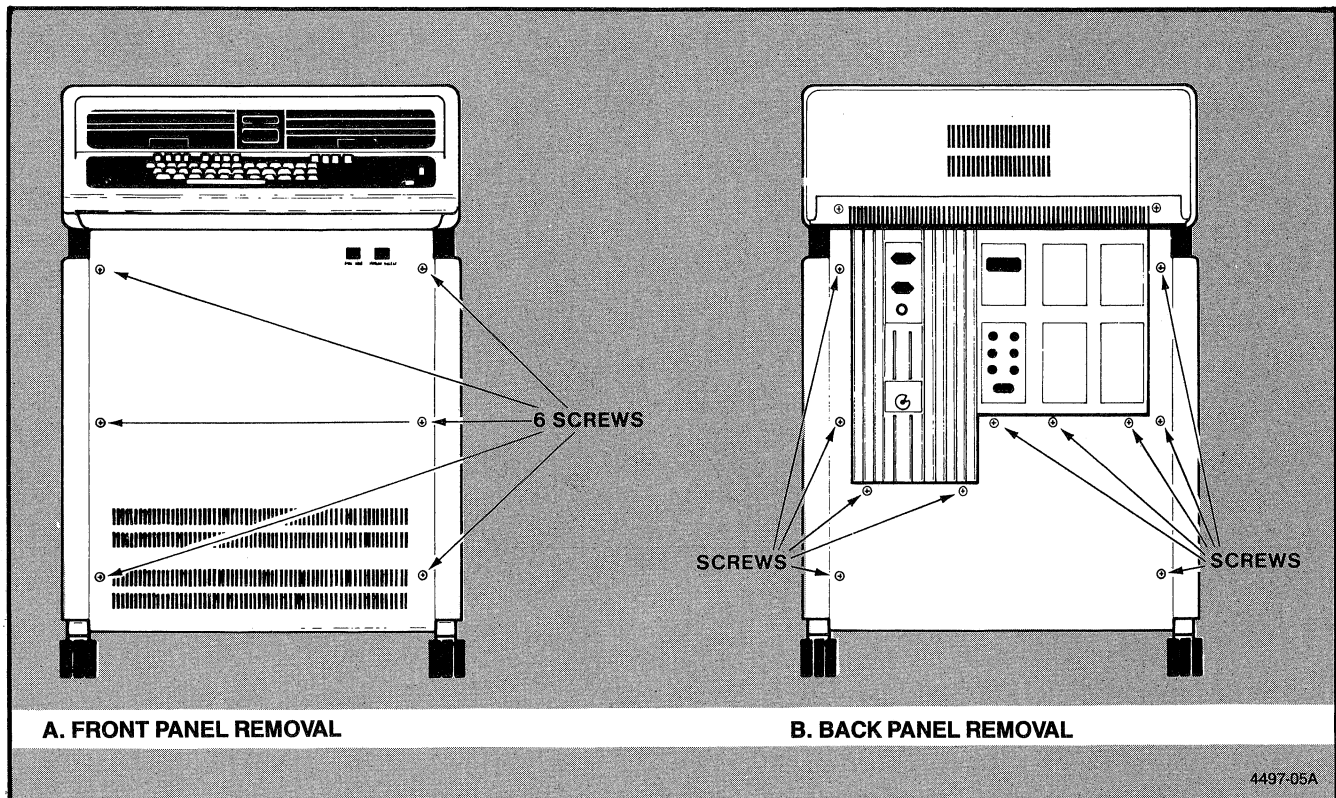3. Remove the eleven screws from the rear panel and remove the panel (Figure 2b).

A. FRONT PANEL REMOVAL

B. BACK PANEL REMOVAL

6 SCREWS

SCREWS

SCREWS

4497-05A

Figure 2. Pedestal Front and Rear Panel Removal.

4. Remove the bottom center option cover plate from the rear of the pedestal (Figure 3).

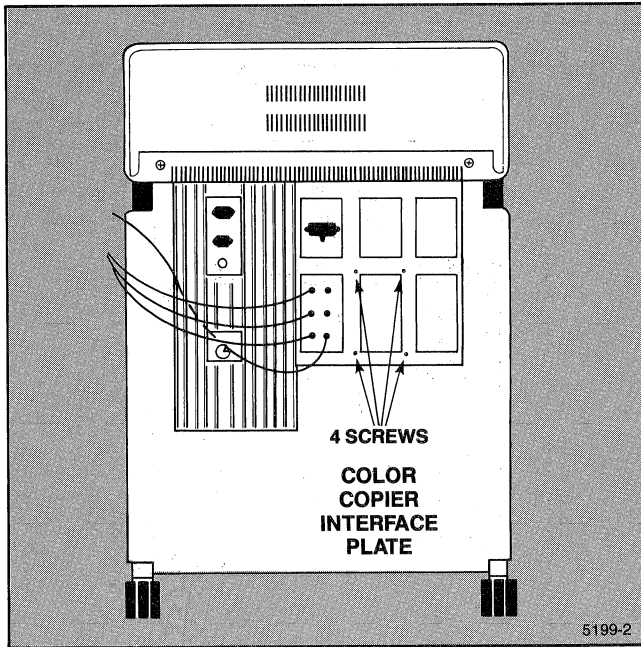5. Routing the cable as shown in Figure 4, mount the color copier interface plate in the opening created in Step 4.
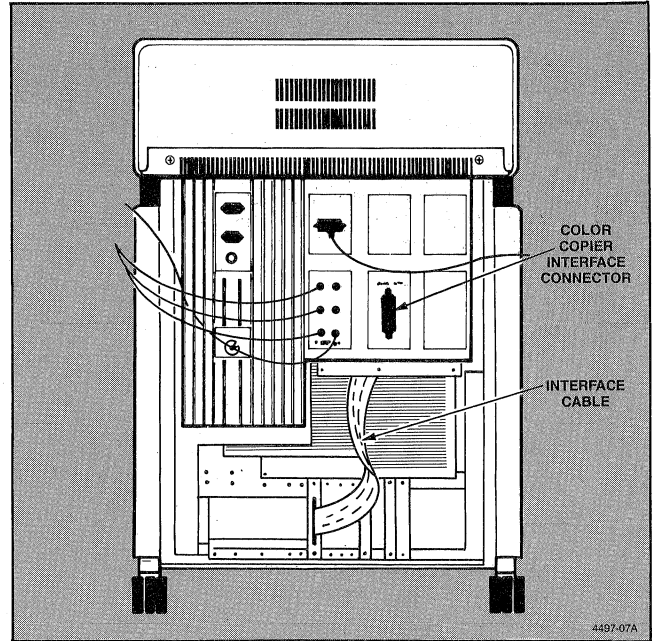

Figure 3. Option Cover Plate Removal.

Figure 4. Interface Cable Installation.

6. Set the Color Copier Interface board jumper straps for the copier being installed. (Refer to "Strapping Information" at the end of this instruction sheet for more information.)

7. Select an unused slot on the Processor bus section (J21 – J29) of the Motherboard (Figure 5) and insert the Color Copier Interface board. Secure the circuit board locks.
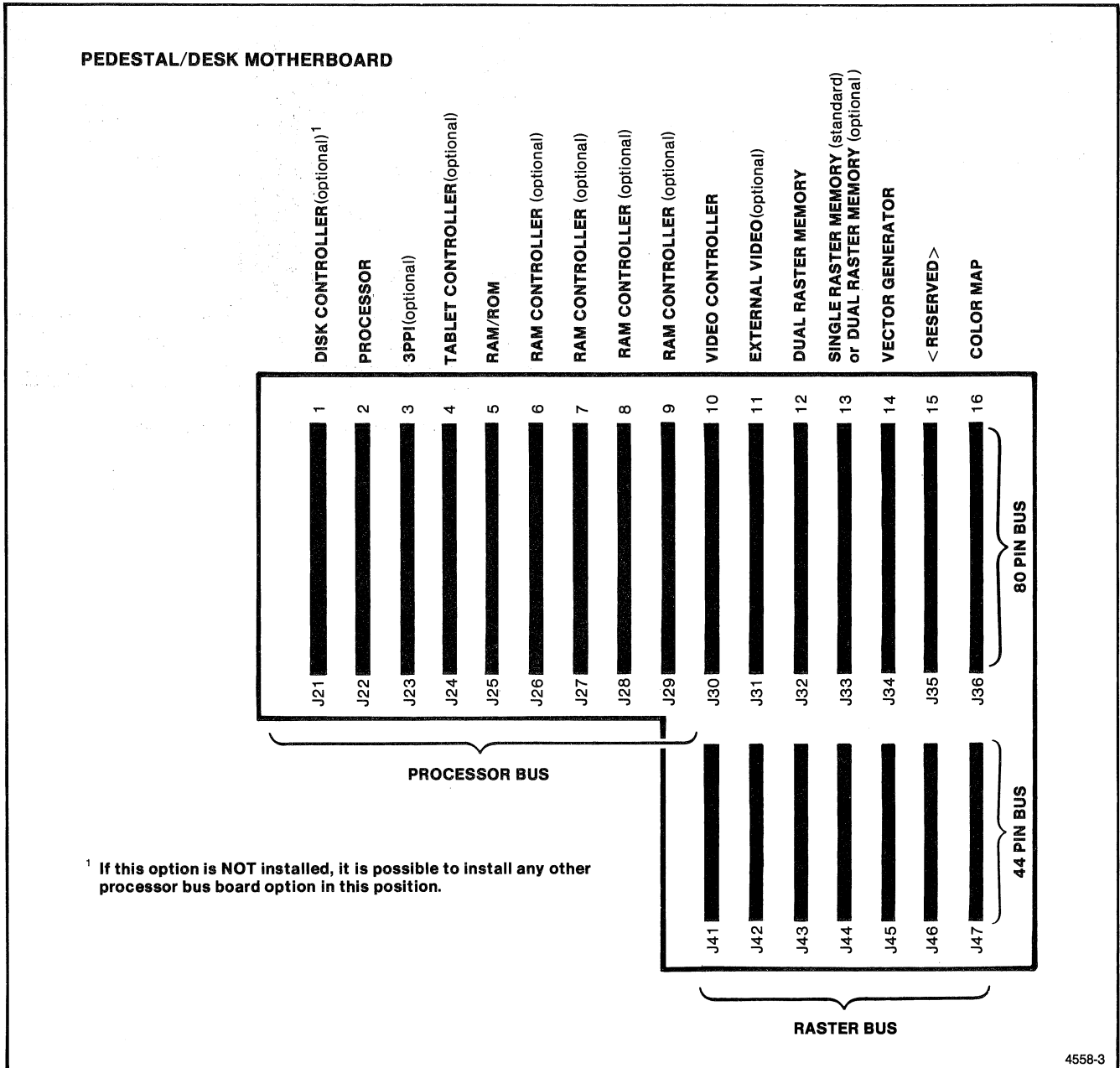

Figure 5. Circuit Board Locations.

8. Mate the 44-pin connector on the interface cable to the 44-pin plug on the Color Copier Interface board and secure with two screws (Figure 6).

9. Replace the pedestal front and rear panels.

10. Connect the color hard copy unit cable to the interface connector on the rear panel.

11. Connect the power cord and power up the terminal.

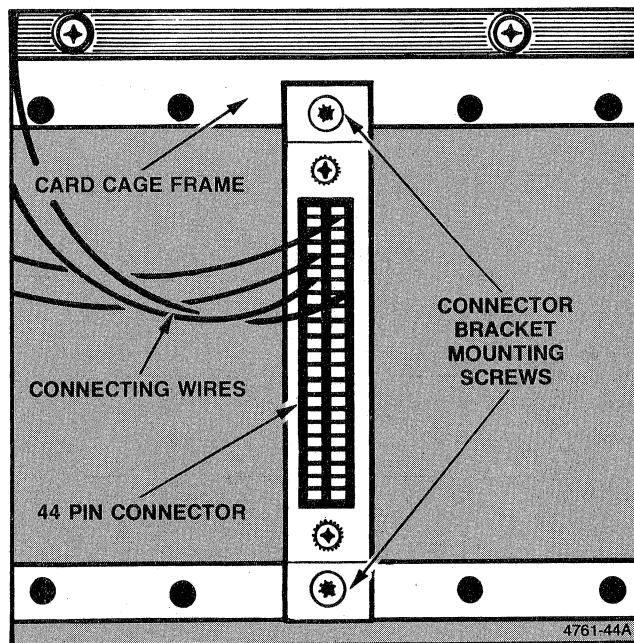12. Perform the performance check given at the end of this instruction booklet.

Figure 6. 44-Pin Connector Installation.

4115B PEDESTAL INSTALLATION

1. Turn off the power to the terminal and remove the power cord to the pedestal.

2. Turn the front cover fasteners ¼ turn counter-clockwise to release and remove the front panel (Figure 7).

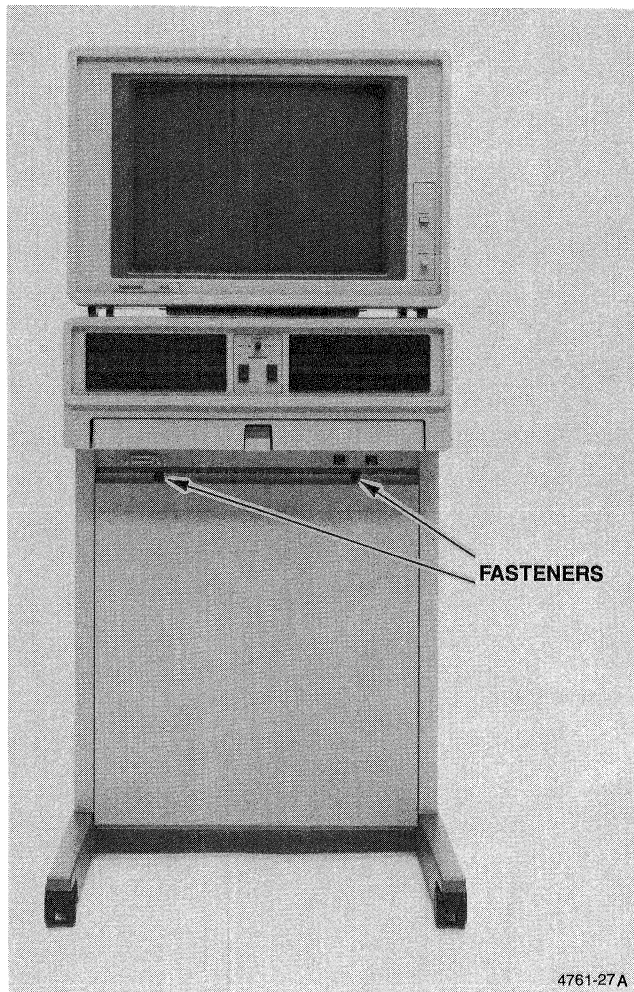Figure 7. Front Panel Removal.

3. Turn the power supply cover fasteners ¼ turn counter-clockwise to release and pull the cover toward you to remove (Figure 8).
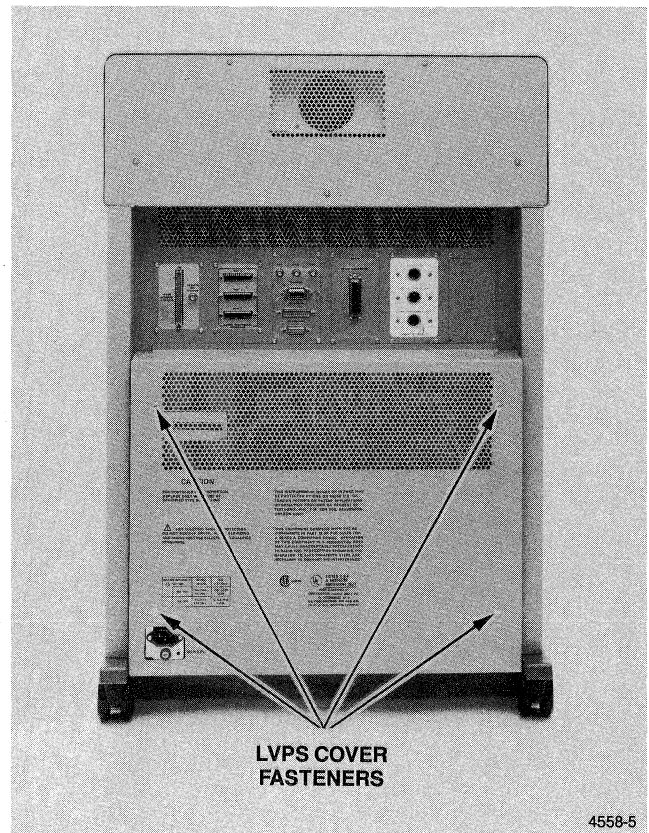

Figure 8. Power Supply Cover Removal.

4. Pull the two power supply holding pins up to remove. Noting the connector number and polarity for replacement, remove the power supply cabling. Lift the power supply to disengage it from the support pins and pull it toward you to remove (Figure 9).

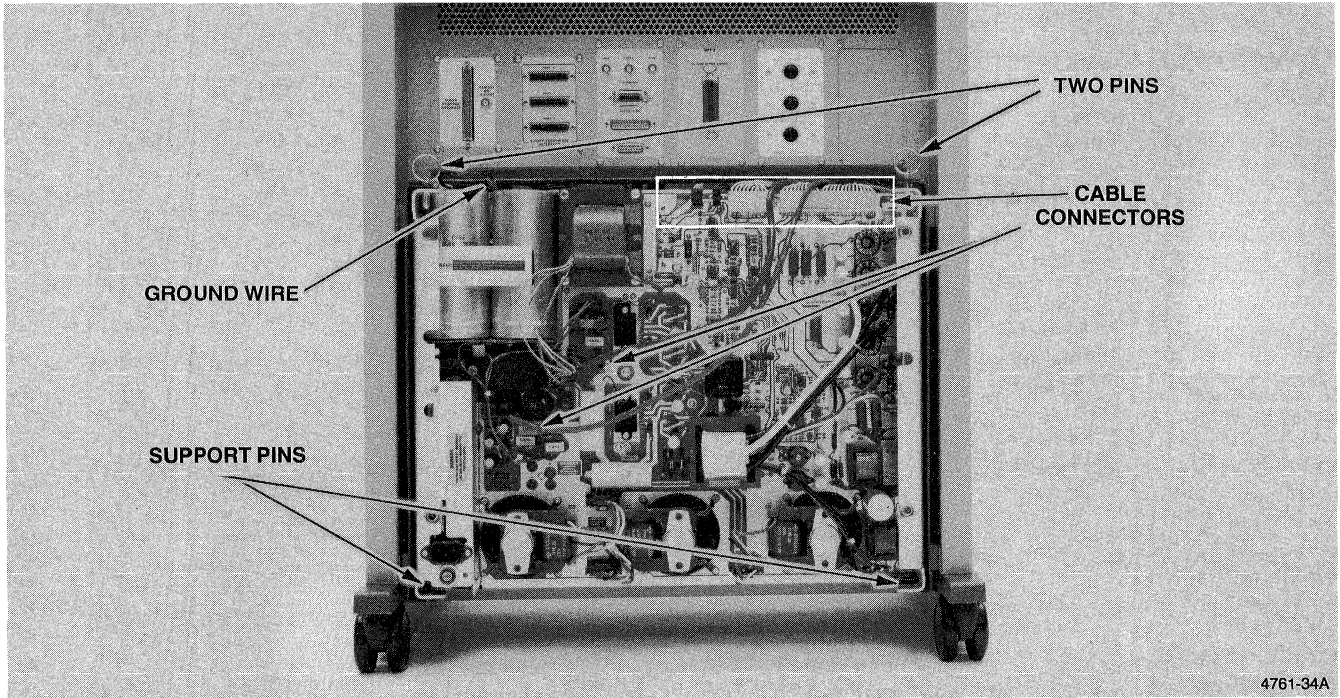5. Remove the fourth option cover plate from the left as you face the rear of the terminal (Figure 10).

TWO PINS

CABLE CONNECTORS

GROUND WIRE

SUPPORT PINS

4761-34A

Figure 9. Power Supply Removal.
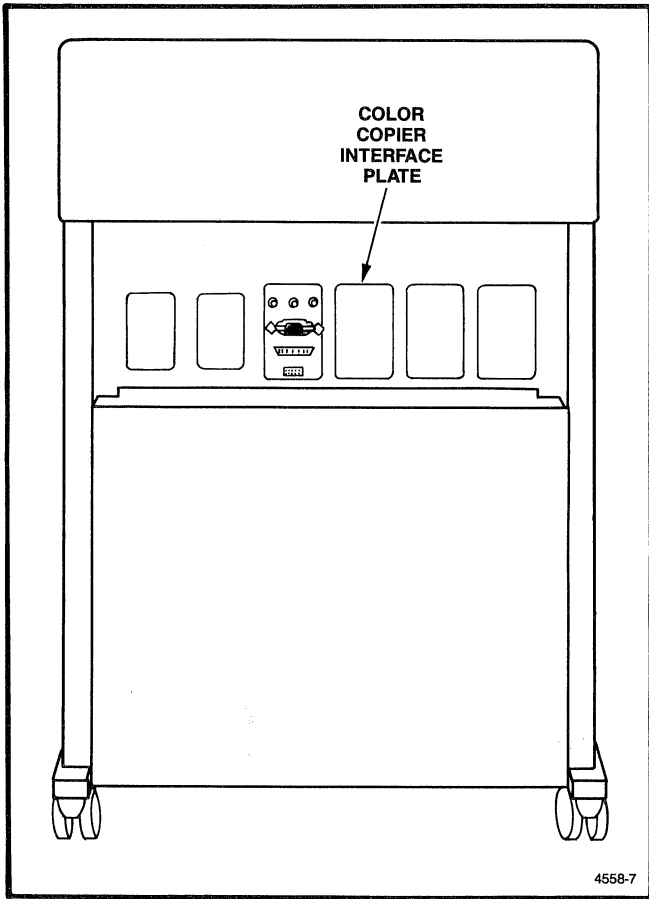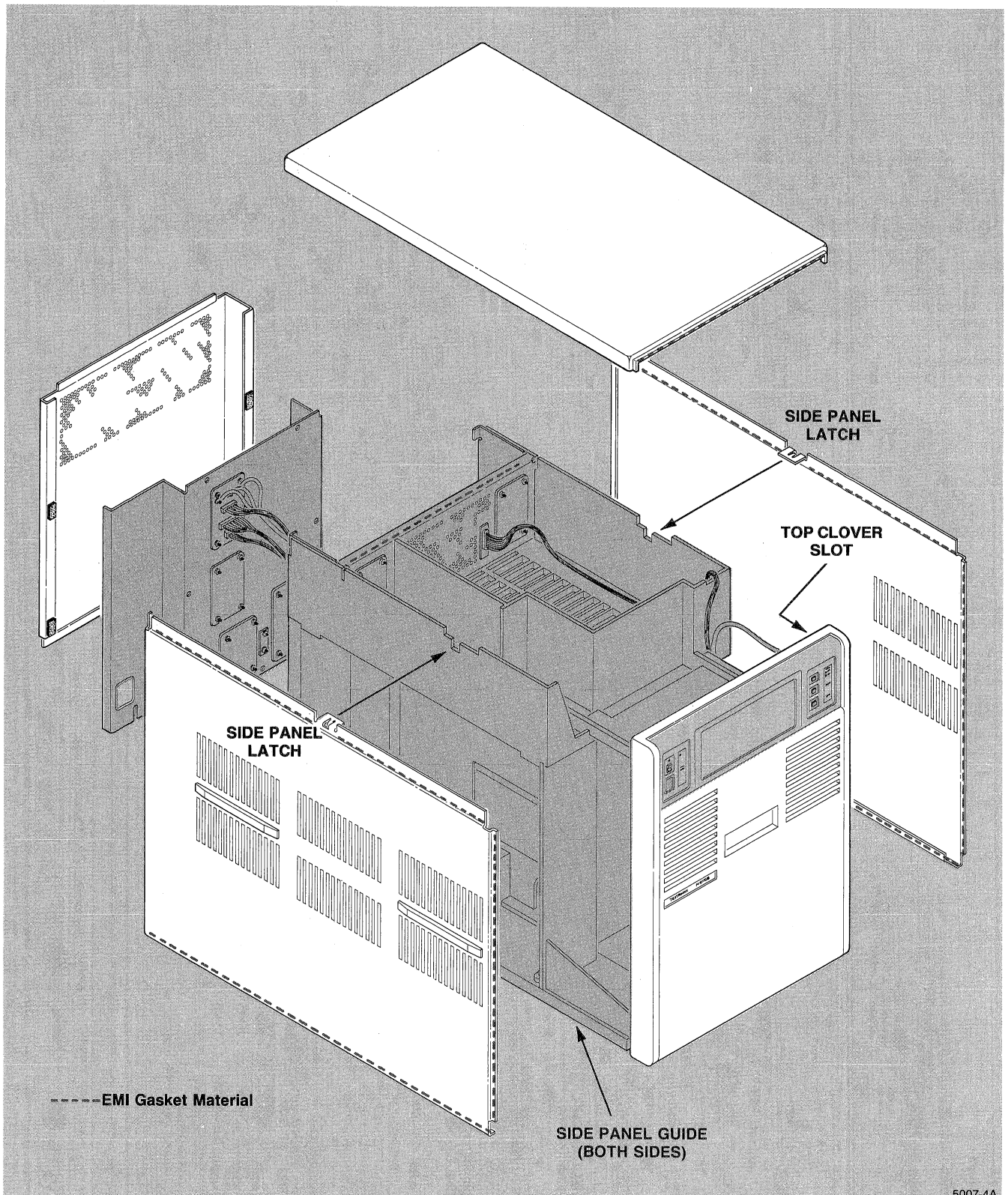
COLOR
COPIER
INTERFACE
PLATE

4558-7

Figure 10. Option Cover Plate.

6. Set the Color Copier Interface board jumper straps for the copier being installed. (Refer to "Strapping Information" at the end of this instruction sheet for more information.)

7. Insert the Color Copier Interface board in card cage slot number 7 (count the slots from left to right as you face the card cage). Secure the board locks.

8. Install the interface cable cover plate in the opening created in Step 5.

9. Mate the 44-pin connector on the interface cable to the 44-pin plug on the Color Copier Interface board and secure with two screws (Figure 6).

10. Replace the power supply, the power supply cover, and the front cover.

11. Connect the hard copy unit cable to the interface connector on the rear panel.

12. Connect the pedestal power cord and power up the terminal.

13. Perform the functional check given at the end of this instruction booklet.

SIDE PANEL
LATCH

TOP CLOVER
SLOT

SIDE PANEL
LATCH

EMI Gasket Material

SIDE PANEL GUIDE
(BOTH SIDES)

5007-4A

Figure 11. M4115B Electronics Module (Exploded View).

M4115B ELECTRONICS MODULE INSTALLATION

1. Turn off the power to the terminal and remove the power cord to the electronics module.

NOTE

Figure 11 is an exploded view drawing of the M4115B Electronics Module. This drawing shows the general pattern of the mounting of the chassis parts of the module. Refer to this drawing as necessary during the removal/replacement of the module covers.

2. Pull the rear cover out from the bottom and down to remove (Figure 12).

3. Remove the two top cover securing screws (Figure 12), lift the rear of the cover, and pull toward the rear of the module to remove.
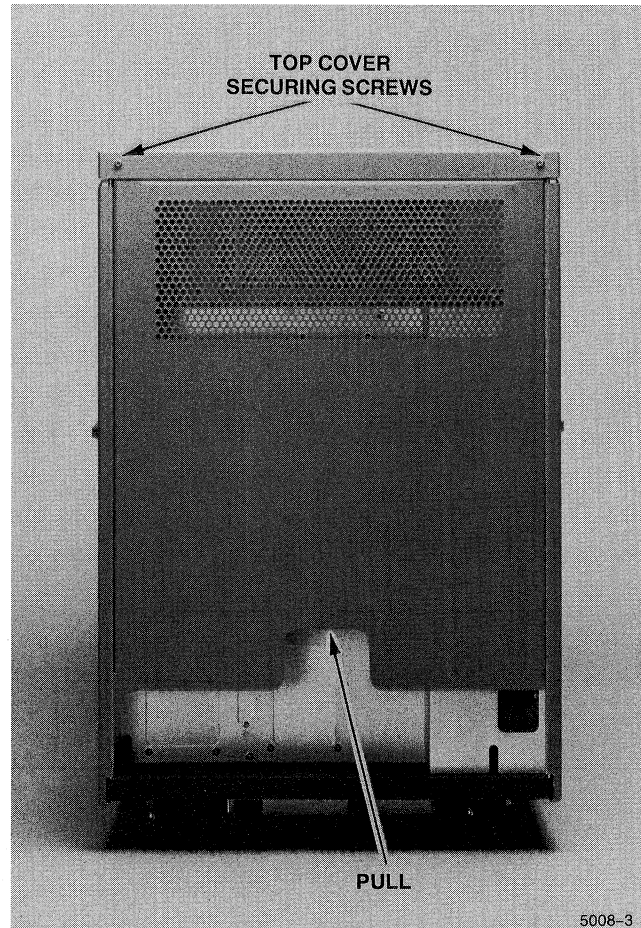

Figure 12. Rear Cover.

4. Slide the side panels toward the rear of the module approximately one inch to release the locks (Figures 11 and 13). Tilt the panels out from the top and lift them away.

5. Pull the two power supply holding pins up to remove (Figure 13).

TOP COVER SLOT
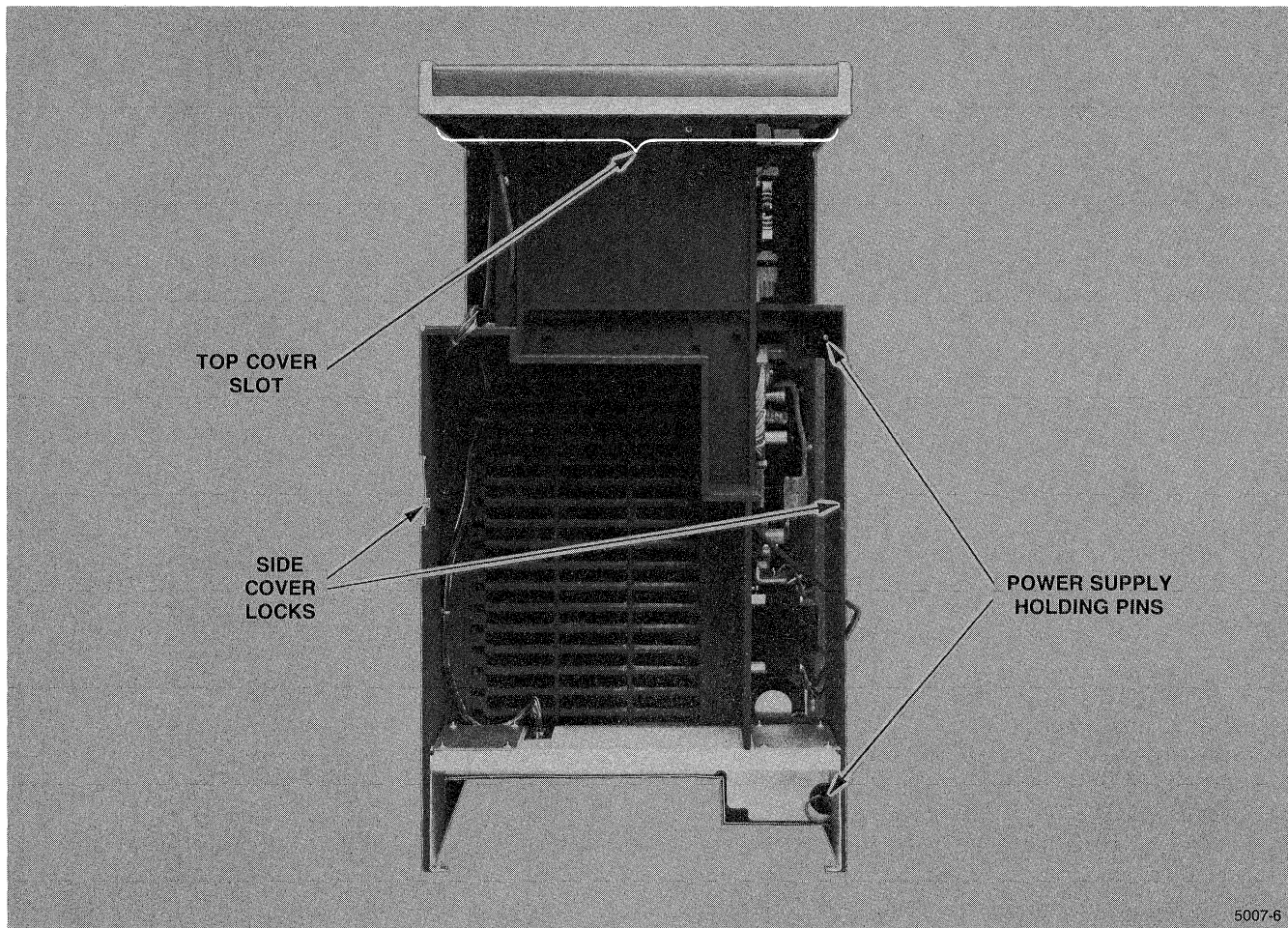
SIDE COVER LOCKS

POWER SUPPLY HOLDING PINS

5007-6

Figure 13. Top View (Top Cover Removed).

6. Lift the power supply until the support pins (Figure 14) disengage. Pull the supply toward you to remove.

7. Remove the power supply ground wire and cable connectors, noting the polarity and connector numbers for replacement (Figure 14).
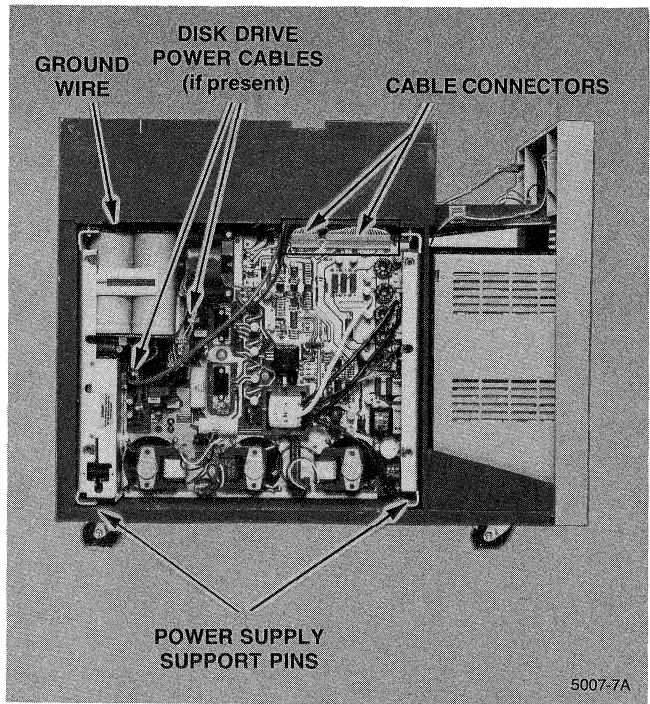
Figure 14. Power Supply Connections and Mounting.

8. Remove the six screws holding the rear panel and the two screws holding the upper panel. Lift the upper panel approximately ½″ and pull the rear panel up and toward you to remove. Remove the left option cover plate from the rear panel (Figure 15).

9. Install the interface connector plate in the rear panel opening created in Step 8.

10. Route the interface cable through the cable port and replace the rear panel (Figure 16).

SCREWS (2)

UPPER PANEL

REAR PANEL

COLOR COPIER INTERFACE PLATE

SCREWS (6)

5199-4

Figure 15. Rear Panel.

CABLE PORT

5007-20

Figure 16. Cable Port.

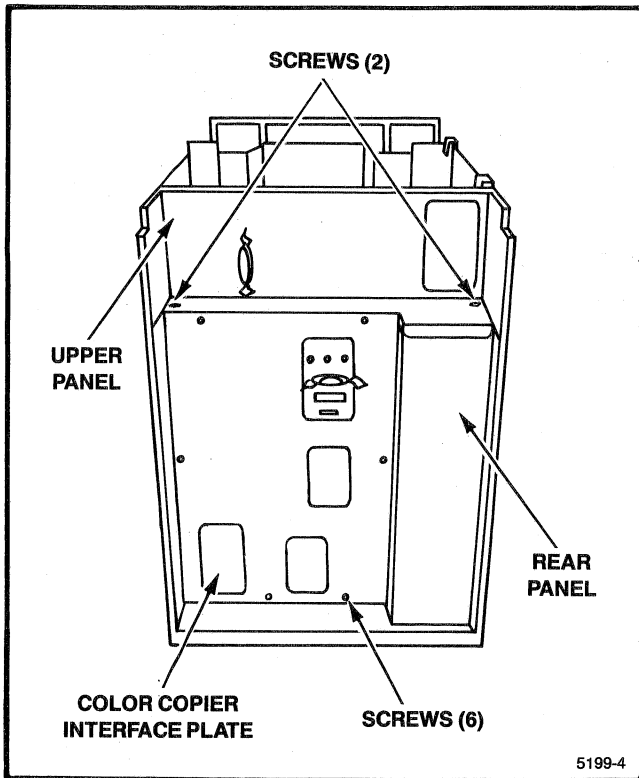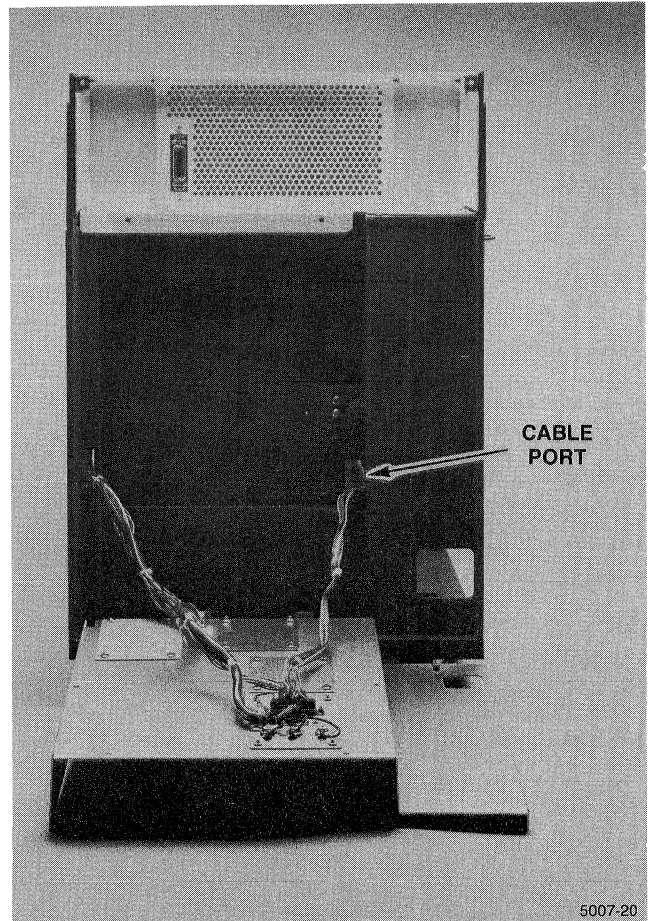11. Set the Color Copier Interface board jumper straps for the copier being installed. (Refer to "Strapping Information" at the end of this instruction sheet for more information.)

12. Lift out the card cage plug and install the Color Copier Interface board in card cage slot number 7 (count the slots from left to right as you face the card cage). Secure the board locks.

13. Mate the 44-pin connector on the interface cable to the 44-pin plug on the Color Copier Interface board and secure with two screws (Figure 6).

14. Connect the power supply cables and replace the power supply.

15. Replace the side covers by performing the following steps:

    a. Inspect the EMI gasket material on the top, bottom, and front edges of the covers (Figure 11) and replace as needed.

    b. Hold the cover with the top edge tilted away from the instrument while the bottom edge is positioned on the guide (Figure 11). Move the cover to an upright position and slide it toward the front of the instrument until the front edge is secure under the front of the chassis and the lock is engaged (Figures 11 and 13).

16. Replace the top cover by performing the following steps:

    a. Inspect the EMI gasket material on the rear of the chassis and the front of the top cover (Figure 11) for damage and replace if necessary.

    b. Insert the front of the top cover into the slot in the chassis front (Figure 13). Slide the top cover toward the front of the instrument and press it down into position. Replace the securing screws.

17. Connect the color hard copy unit cable to the interface connector on the rear panel.

18. Place the rear cover behind the rear edge of the top cover. Press the rear cover into position.

19. Connect the electronics module power cord and power up the terminal.

20. Perform the following functional check.

FUNCTIONAL CHECK

1. Perform the extended Self-test for the instrument in which you have installed the F19 Kit.

2. Enter Setup mode by pressing the SETUP key.

3. Enter the following command:

    STATUS^{S}P**HC**^{C}R

4. Verify that you can change each setup parameter. As an example, enter:

    HCINTERFACE^{S}P**COLOR**^{C}R

    Repeat the command **STATUS**^{S}P**HC**^{C}R to verify that the parameter has changed to COLOR.

5. Press the HARD COPY key. A copy should be made of the alpha characters displayed on the screen.

6. Notice the orientation of the copy on the hard copy paper. Change the parameters of the HCORIENT command and verify that the copy orientation matches that of the command parameter. (For further information, refer to the appropriate operators manual for the terminal in which you have installed the 4100F19 Kit.)

7. Enter the following command to set the screen background color to black:

    ^{E}C**TB**^{S}P**0**^{S}P**0**^{S}P**0**^{C}R

8. Make a copy and verify that the background color of the copied image is white.

9. Hold the SHIFT key down while pressing the HARD COPY key.

10. Verify that the background color of the copied image is black (white and black should be reversed from the previous copy, and the present copy should represent exactly the colors shown on the display screen.)

This concludes the installation and functional check.

STRAPPING INFORMATION

There are 22 jumper connectors on the Option 19 circuit board. Table 1 gives the individual settings for the 4690 family of color graphics copiers. Refer to Figure 17 for strap locations and pin numbers.

NOTE

Do not discard extra jumper straps. Place unused straps on one pin of jumper only. The straps will be available at their proper location should you decide to use a different copier in the future.

Table 1

STRAPS AND JUMPERS

Connector Number	4691 or 4692 Copier	4695 Copier
J371	2-3	2-3
J373	2-3	2-3
J375	1-2	1-2
J377	2-3	2-3
J461	1-2	1-2
J462	Not Installed	Not Installed
J463	Not Installed	Not Installed
J465	7	7
J510	Installed	Installed
J512	Installed	Not Installed
J515	Installed	Not Installed
J520	2-3	1-2
J525	Installed	Not Installed
J530	Installed	Not Installed
J629	Not Installed	Not Installed
J630	Not Installed	Not Installed
J631	Not Installed	Not Installed
J632	Not Installed	Not Installed
J633	Not Installed	Not Installed
J634	Not Installed	Not Installed
J635	Not Installed	Not Installed
J636	Not Installed	Not Installed

J371 J373 J375 J377
1
2
3

J461 J462 J463

J465
7 6 5 4 3 2 1 0

J510 J512 J515 J520* J525
1 2 3

J530

J629
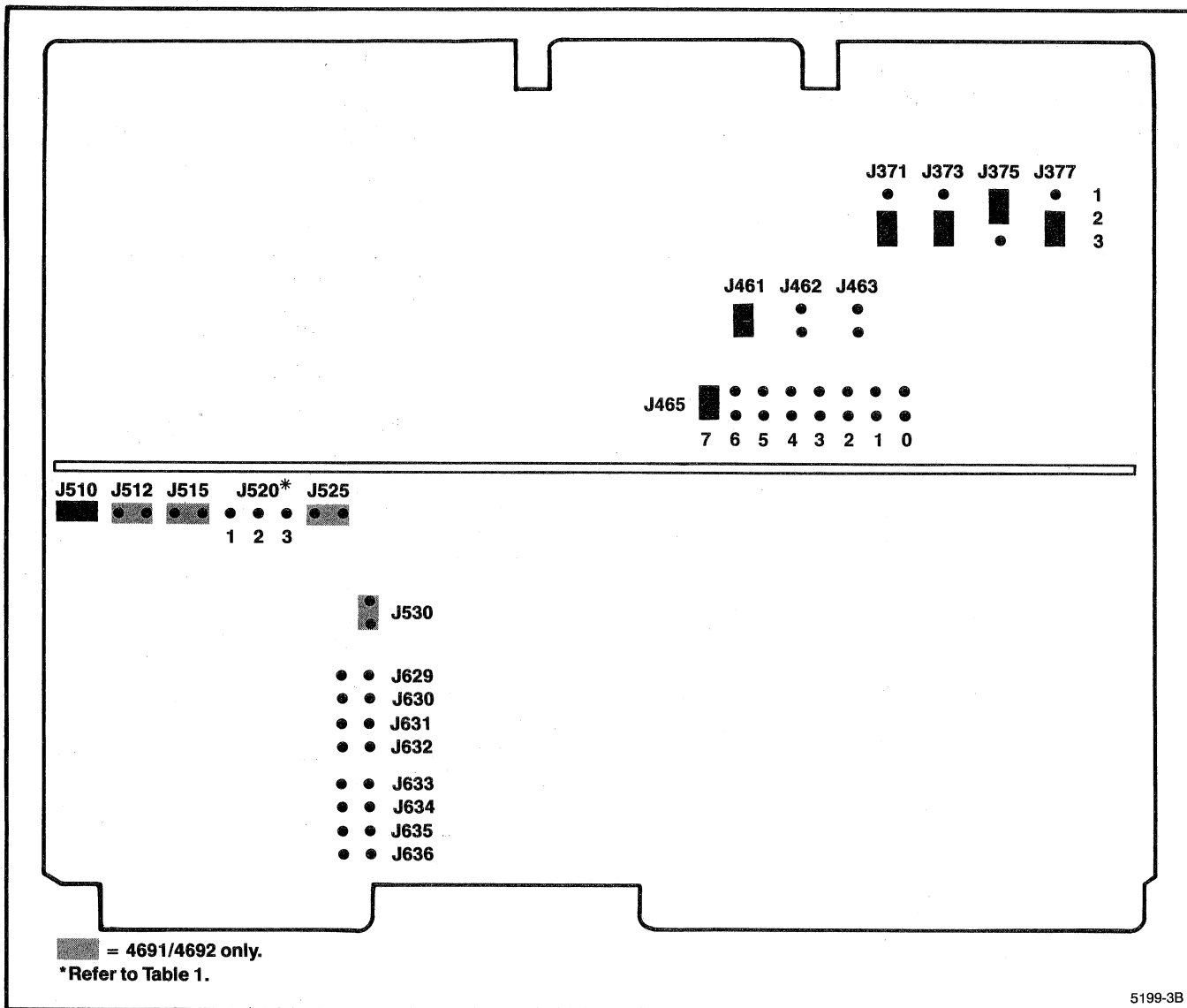J630
J631
J632

J633
J634
J635
J636

= 4691/4692 only.
*Refer to Table 1.

5199-3B

Figure 17. Strap Locations.