6400 Line Matrix Printers

Operator's Guide

Cabinet and Pedestal Models

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About This Operator's Guide

This guide describes basic operating procedures for the IBM 6400 printer. This guide has been designed to meet the needs of all users, from beginners to those experienced with these printers.

This document contains three chapters:

- **Basic Operating Procedures:** describes the operator panel, how to load paper and ribbon, and how to use the optional Power Paper Stacker.
- **Configurations:** shows how to use the operator panel to change formatting features.
- **Troubleshooting:** gives instructions for clearing paper jams, cleaning the printer, and understanding fault messages.

Conventions

Notes and Notices

To avoid injury to yourself or damage to the printer, follow the directions in this guide. Pay attention to all dangers, cautions, and attentions.

Danger and caution notices are numbered. These numbers correspond to the translated versions of the notices in the IBM 6400 Line Matrix Printer Safety Information booklet.

A ***Danger*** notice calls attention to a situation that is potentially lethal or extremely hazardous to people.	**DANGER**
A ***Caution*** notice calls attention to a situation that is extremely hazardous to people.	**CAUTION**
An ***Attention*** notice indicates the possibility of damage to a program, device, system, or data.	**Attention**
Important draws your attention to information vital to proper operation of the printer.	**Important**
A ***Note*** gives you helpful tips about printer operation.	**NOTE:**

Message Display

These boxes show display messages as they appear on the operator panel.	**READY**

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New Orchard Road
Armonk, NY 10504
Telephone: 1-919-543-2193

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(Auszug aus dem EMVG vom 9.Nov.92, Para.3, Abs.4)

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Safety Notices

DANGER

<1>	Before powering on the printer, ensure that the printer is plugged into an appropriate power source. Refer to to Chapter 2 of the Setup Guide for information on proper power sources.

DANGER

<2>	Switch off printer power and unplug the printer power cord before cleaning the printer.

1 *Basic Operating Procedures*

Powering On The Printer

DANGER

<1>	Before powering on the printer, ensure the printer is plugged into an appropriate power source. Refer to Chapter 2 of the *Setup Guide* for information on proper power sources.

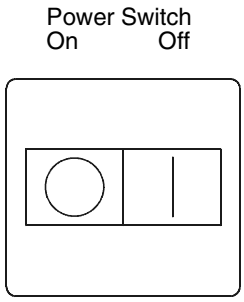


Figure 1. The On/Off Power Switch

Turn on the printer using the On/Off button on the side of the printer.

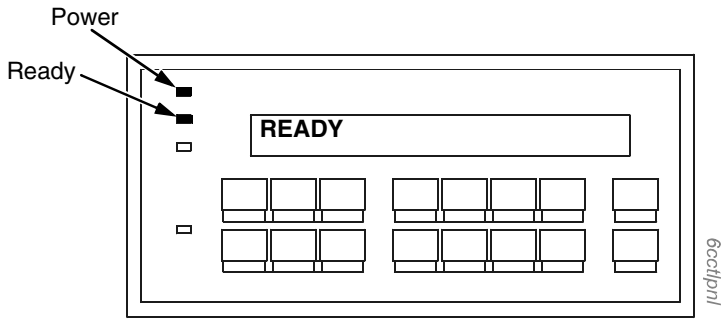


Figure 2. The Operator Panel in Ready State

When you power on the printer, the Power indicator lights and the printer executes a self–test. When the test successfully completes, the printer goes either to the READY or NOT READY state, depending on the menu selection. In the READY state, the READY indicator lights and the message “READY” displays.

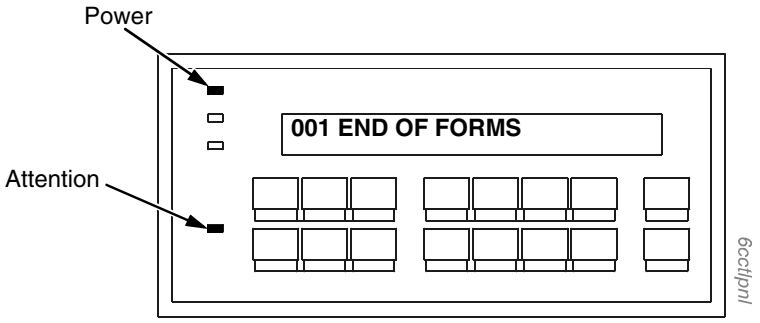


Figure 3. An Operator Panel Fault Message

If there is a fault during the self–test, the Attention indicator lights and a fault message (such as “001 END OF FORMS”) appears on the message display. See page 94 for information on fault messages.

Using The Operator Panel

Use the operator panel to perform routine operations such as:

- placing the printer in the READY or NOT READY state
- setting paper position
- clearing fault conditions
- configuring the printer
- running printer self–tests

The printer operating states, status indicators, and operator panel keys are described on the following pages.

Operator Panel Layout

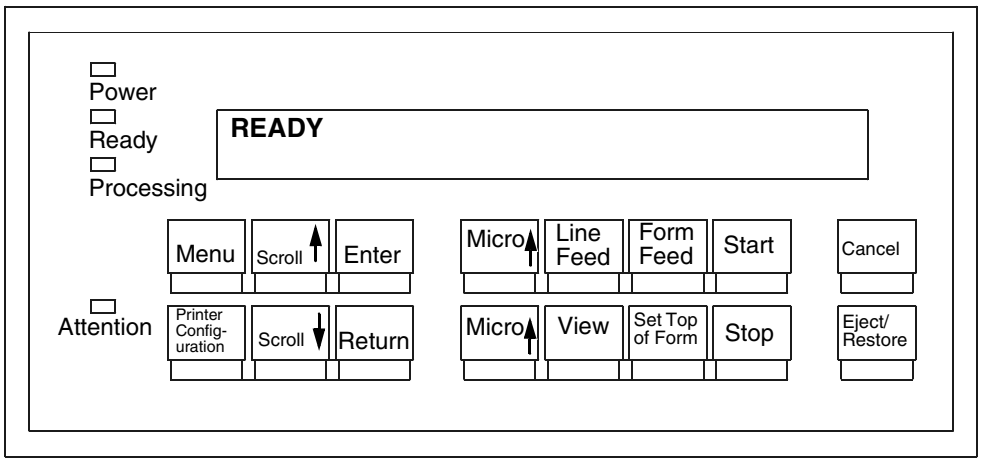


Figure 4. The Operator Panel

NOTE: Keys, indicators, and messages are shown as they appear on the operator panel. Key combinations are indicated with the plus (+) sign. For example, “Press **Stop + Enter**” means press the **Stop** and **Enter** keys at the same time.

Operating States

The printer operates in one of the following four states:

- **READY** (online) — In the READY state, the printer can receive and print data sent from the host. Press the **Start** key to place the printer in the READY state.
- **NOT READY** (offline) — In the NOT READY state, you may perform operator tasks such as loading paper and setting top–of–form. Press the **Stop** key to change the printer state from READY to NOT READY.
- **PROGRAM** — Press the **Menu** key to place the printer in the PROGRAM state and to display the operator menus. The PROGRAM state may be either locked or unlocked. When the PROGRAM state is unlocked, you may select and save new configuration settings. When the PROGRAM state is locked, you may view the current settings, but cannot change them.
- **FAULT** — When a fault condition exists that must be cleared before printing can continue, the printer is in the FAULT state. When the alarm sounds while the printer is in the FAULT state, press any key on the operator panel to silence the alarm. Press the **Form Feed** key to silence the alarm and cause the paper to move. The top–of–form setting will be lost. Press the **Stop** key to clear the fault message if the problem has been corrected.

The operating state is generally selected with operator panel keys, as described above. It may also result from routine operations such as powering on the printer, or a fault condition occurring. The existing operating state is frequently indicated as part of the printer display message.

Message Display

Displays operating states, menu options, and fault messages.

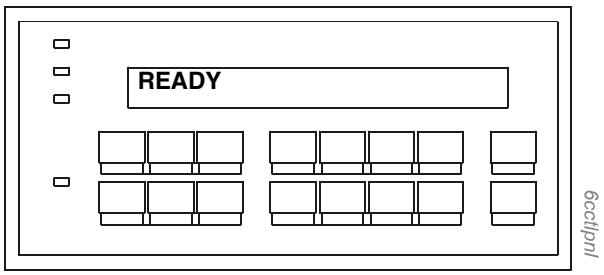


Figure 5. Message Displays on the Operator Panel

Status Indicators

The operator panel status indicators provide information about existing printer operation.

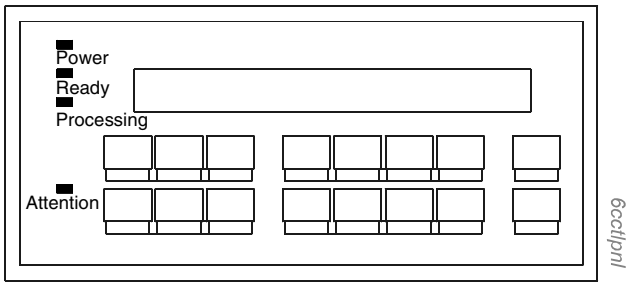


Figure 6. The Operator Panel Status Indicators

- **Power** — On when the printer is powered on.
- **Ready** — On when the printer is in the READY state, no errors are pending, and the printer is ready to process data.
- **Processing** — Flashes when the printer is receiving data from the host.
- **Attention** — Flashes when a fault condition occurs.

Menu

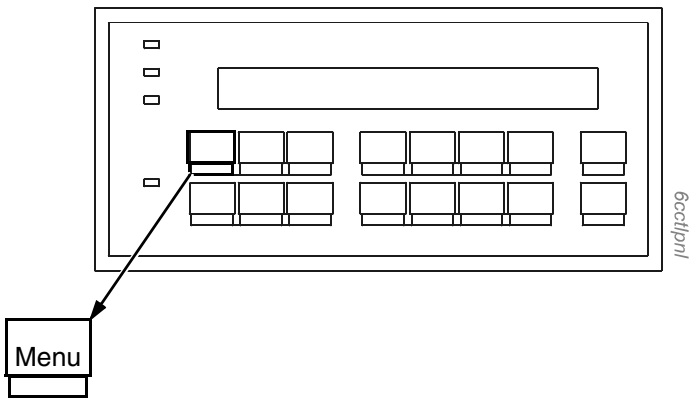


Figure 7. The Menu Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

1. Press **Menu** to place the printer in the PROGRAM state and to display the first–level operator menu (PRINTER CONTROL).

   To view the menus without changing settings, press **Menu** while in the NOT READY state.

   To change the configuration settings, press **Scroll↑ + Scroll↓** at the same time to unlock the PROGRAM state, then press **Menu**.

2. In PROGRAM state, press **Scroll↑** to move forward or **Scroll↓** to move backward through the options in the existing level of the operator menu.

3. Press **Enter** to move to a lower level in the menu structure; press **Return** to move to a higher level in the menu structure.

Printer Configuration

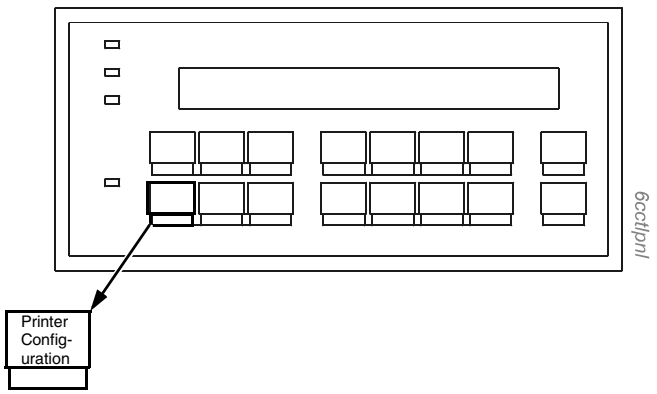


Figure 8. The Printer Configuration Key

This key operates only in the NOT READY state.

1. Press **Stop** to place the printer in the NOT READY state.

   In the NOT READY state, this key generates a printed record of the current configuration parameters.

2. Press **Printer Configuration**.
3. When the display message confirms the **Printer Configuration** key has been activated, press **Start** to print the configuration or **Stop** to exit the function.

Scroll↑

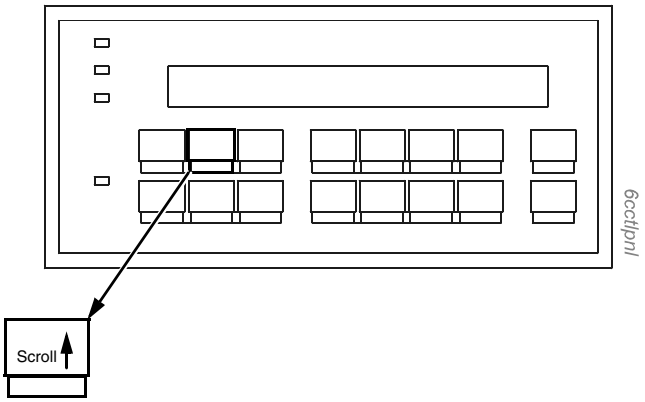


Figure 9. The Scroll↑ Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

In the PROGRAM state, this key scrolls forward through the options in the current level of the operator menu.

Scroll↓

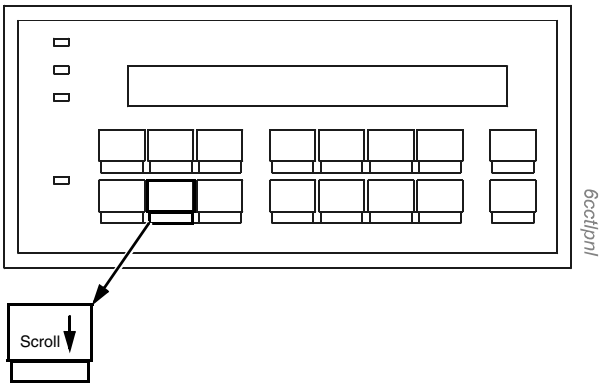


Figure 10. The Scroll↓ Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

In the PROGRAM state, this key scrolls backward through the options in the current level of the operator menu.

Scroll↑ + Scroll↓

In the NOT READY state, press **Scroll↑ + Scroll↓** at the same time to switch between the locked and unlocked PROGRAM state.

When PROGRAM state is locked, no configuration changes can be made. When the PROGRAM state is unlocked, you can select new values from the operator menus using the **Enter** key.

Enter

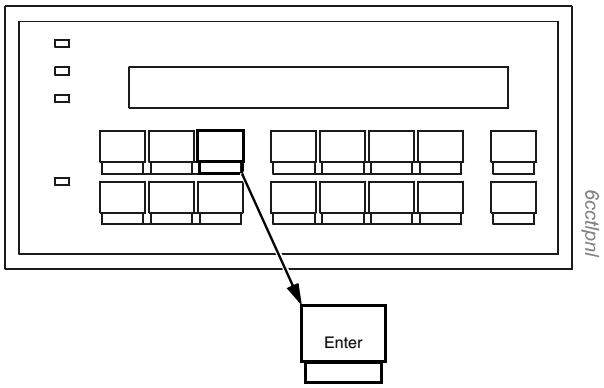


Figure 11. The Enter Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

1. In the PROGRAM state, moves to a lower level in the menu structure.
2. In the unlocked PROGRAM state, selects a configuration option value.
3. In the PROGRAM state, starts and stops a Print Test selected from the Operator Print Tests menu.
4. In the NOT READY state, pressing **Stop + Enter** performs a soft reset of the printer, which resets the printer to the power on configuration.

Return

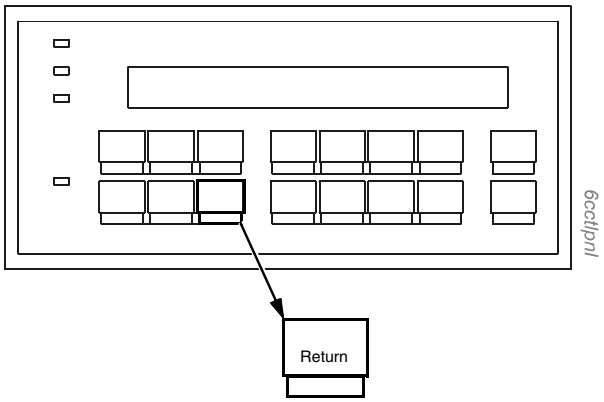


Figure 12. The Return Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

In the PROGRAM state, moves to a higher level in the menu structure.

Micro↑

IMPORTANT

Advancing and retracting the paper with the Micro↑ and Micro↓ keys changes the printer top–of–form to the new position.

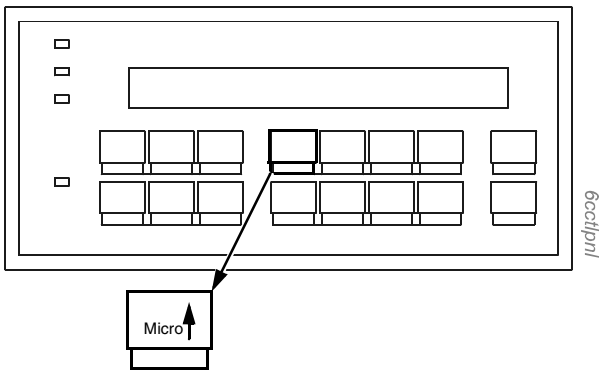


Figure 13. The Micro↑ Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

In the NOT READY state, this key micro–steps the paper upward in 1/72 inch increments. Press and hold the key to move paper at 10 increments per second.

Micro↓

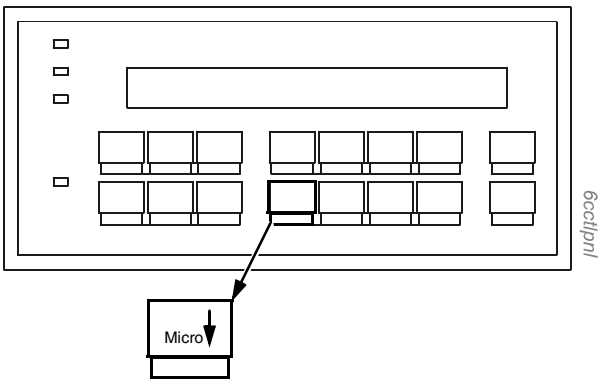


Figure 14. The Micro↓ Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

In the NOT READY state, this key micro–steps the paper downward in 1/72 inch increments. Press and hold to move paper at 10 increments per second.

Line Feed

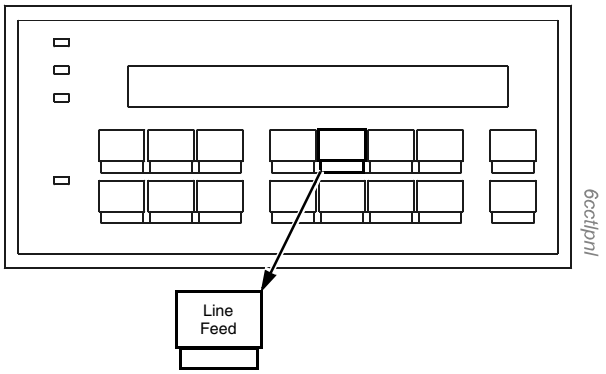


Figure 15. The Line Feed Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

In the NOT READY state, press to move the paper up one line, as defined by the existing active line spacing. **Line Feed** will repeat if it is held down.

If there is any data in the buffer, it will print, then the paper will move up one line.

NOTE: The data that prints is all of the data contained in the print buffer. The data not in the print buffer is not affected.

View

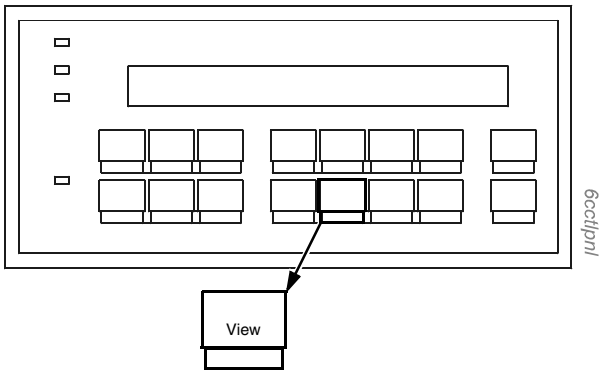


Figure 16. The View Key

In the NOT READY state, press view to move the current print position up to the tractor area for viewing. This allows you to check the print location. If there is any data left in the print buffer, the data will be printed, then the paper will move up for viewing.

Press **View** a second time or press **Stop** to return the paper back to its original print position.

NOTE: Pressing **Start** instead of pressing **View** a second time moves the paper back to its original print position.

Form Feed

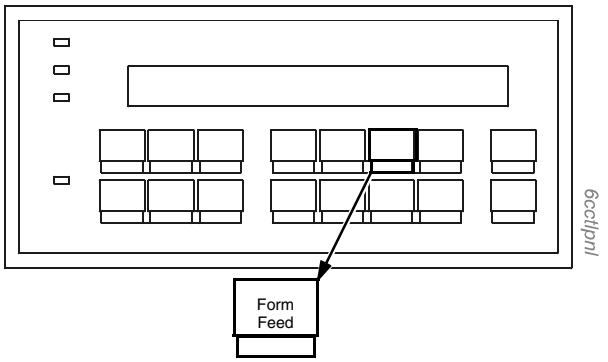


Figure 17. The Form Feed Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

In the NOT READY state, press and release to move paper to the top–of–form on the next page.

If there is any data in the print buffer, it will print first, then the paper will move to the next top–of–form.

Press the **Form Feed** key in the FAULT state to silence the alarm and cause the paper to move. The top–of–form setting will be lost.

NOTE: The data that prints is all of the data contained in the print buffer. The data not in the print buffer is not affected.

Set Top Of Form

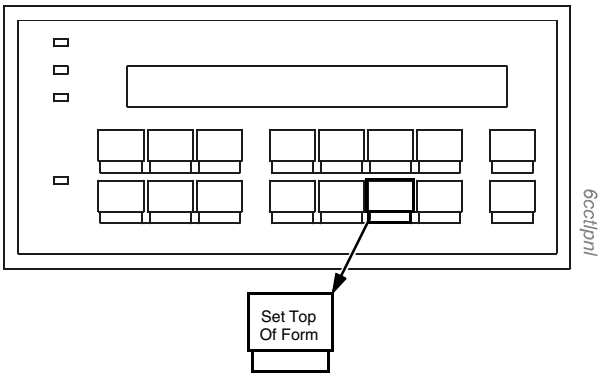


Figure 18. The Set Top Of Form Key

This key operates only in the NOT READY state. Press **Stop** to place the printer in the NOT READY state.

Unless there is data in the print buffer, this key sets the top–of–form (TOF) by moving the paper down to the print position and setting the emulation to the top–of–form. (See page 69.)

If there is data in the print buffer such as after a paper jam, the printer moves to the position where printing stopped.

Start

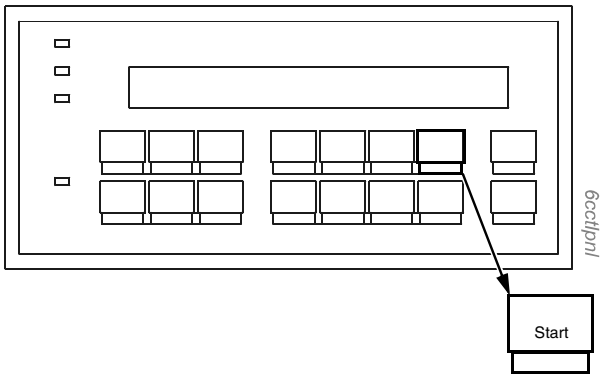


Figure 19. The Start Key

1. Moves the printer from the NOT READY state to the READY state, enabled for printing.
2. In the PROGRAM state, exits the menus and places the printer in the READY state.
3. After pressing **View** or **Eject** to move the print position to the tractor area, the Start key moves the paper back to its original print position, and places the printer in the READY state.

Stop

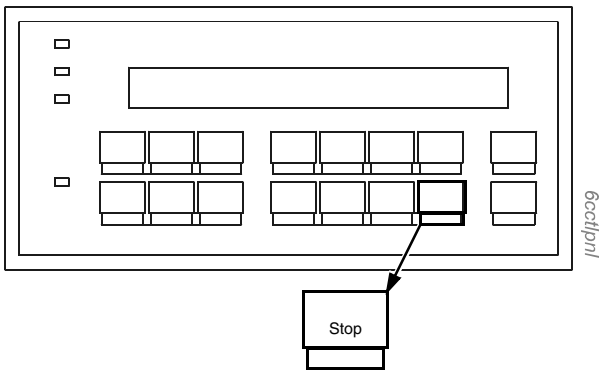


Figure 20. The Stop Key

1. Moves the printer from the READY state to the NOT READY state, enabled for operator functions such as viewing or changing configuration parameters.
2. In the PROGRAM state, exits the menus and places the printer in the NOT READY state.
3. In the FAULT state, clears the fault if the problem has been corrected.
4. In the NOT READY state, pressing **Stop + Enter**, which is a soft reset, to reset the printer to the power on configuration.
5. After pressing **View** or **Eject** to move the print position to the tractor area, press **Stop** to move the paper back to its original print position, and place the printer in the NOT READY state.

Cancel

IMPORTANT

Use the Cancel key carefully to avoid canceling a job accidentally.

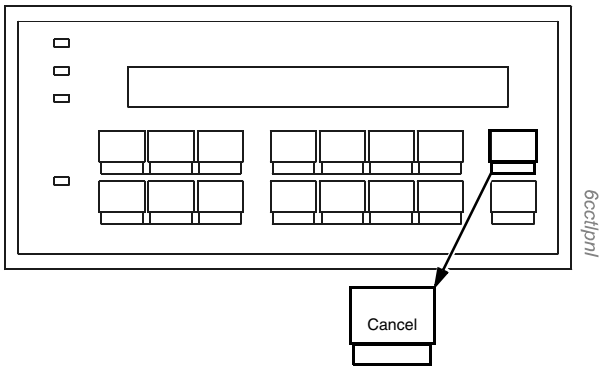


Figure 21. The Cancel Key

1. Stops printer tests in progress.
2. Cancels a print job. Operation depends on the printer interface.
   a. **Coax Interface (non-SCS mode):** The Cancel key is not effective and the “009 INVALID KEY” error message displays.

NOTE: With a Coax Interface, pressing the **Cancel** key a second time to stop the previous cancel.

   b. **Coax Interface (SCS mode)**: Effective in the NOT READY state but the action will occur in the READY state only. When pressed, “059 CANCEL PRINT ACTIVE” displays.
   c. **Twinax Interface**: Effective in the READY and NOT READY states. When pressed, “059 CANCEL PRINT ACTIVE” displays.

d. **Serial/Parallel Interface**: It is recommended that you stop the print job from the host system before you press **Cancel**. Effective in the NOT READY state. When pressed, “069 DATA CLEARED” displays.

For more information, See “Canceling a Print Job” on page 71.

NOTE: The Cancel key is not active during View and Eject/Restore operations.

Eject/Restore (Standard Mode)

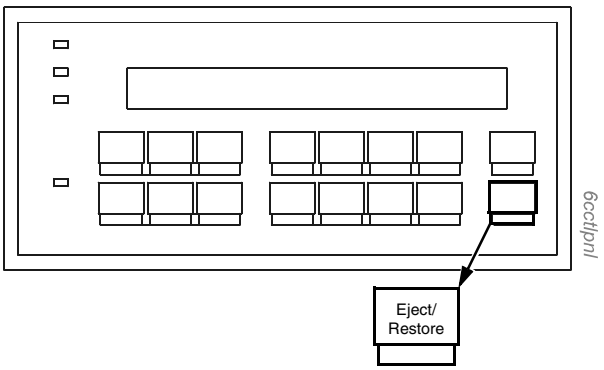


Figure 22. The Eject/Restore (Standard Mode) Key

Standard Mode is the only eject/restore mode available on cabinet models. For pedestal models this mode can be selected from the menu, and should be selected when using the rear paper exit.

In Standard Mode, this key moves the paper forward to facilitate tearing off the paper at the perforation, then restores the original paper position. In Top Exit Tear Mode (selectable at the operator panel only on the pedestal model), this key moves the paper to the top of the next possible form.

In the NOT READY state, press **Eject/Restore** to move the paper forward to the tear–off position toward the back of the printer.

Once you have torn the paper at the perforation, press either **Eject/Restore**, **Start**, or **Stop** to retract the paper to its previous position, as described below:

- **Eject/Restore:** moves the paper to its previous position. The printer returns to the mode it was in before Eject/Restore was used.
- **Start:** moves the paper to its previous position and the printer goes READY.
- **Stop:** moves the paper to its previous position and the printer goes NOT READY.

NOTE: If you are using this function to tear off forms, you must press **Form Feed** before using the Eject/Restore function. This will help avoid unloading the paper while it is restored to its original position.

Eject/Restore (Top Exit Tear Mode)

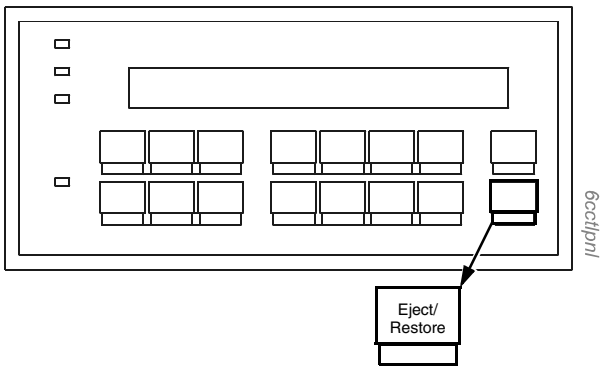


Figure 23. The Eject/Restore (Top Exit Tear Mode) Key

Top Exit Tear Mode is selectable only on pedestal models. It is designed to be used in conjunction with the Top Exit Paper Path. This mode facilitates tearing off forms and adjusting the printer to print on the next available form.

In the NOT READY state, press **Eject/Restore** to move the paper forward to the tear–off position.

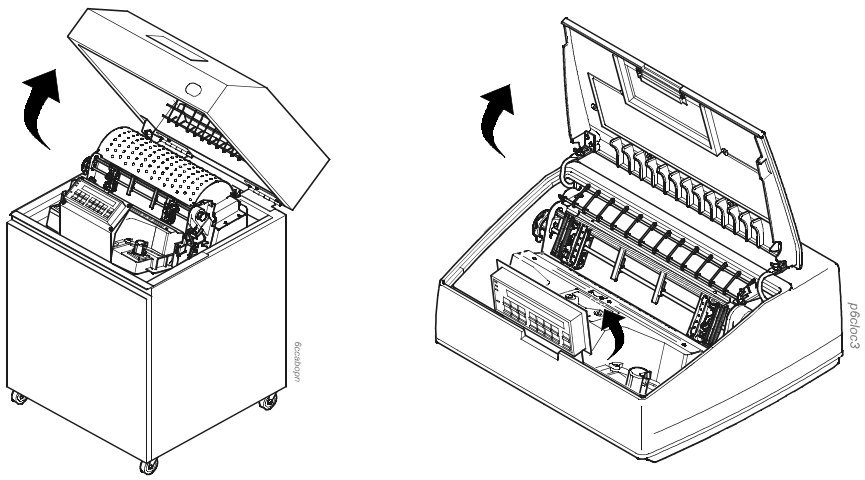
NOTE: When tearing forms from the top exit, pull the form toward you and begin tearing from one corner of the form.

Once you have torn the paper at the perforation, press one of the following keys: **Eject/Restore**, **Start**, or **Stop**.

- **Eject/Restore:** moves the paper to its next available position. The printer returns to the mode it was in before Eject/Restore was used.
- **Start:** moves the paper to its next available position and the printer goes READY.
- **Stop:** moves the paper to its previous position and the printer goes to NOT READY.

Installing The Ribbon

Refer to the ribbon path diagram molded onto the shuttle cover for the following steps.



Cabinet Models **Pedestal Models**

Figure 24. Opening the Printer Cover

1. Open the printer cover.
2. **Pedestal models:** pull the operator panel up and out of the way. The operator panel can be pulled toward you to provide clearance.

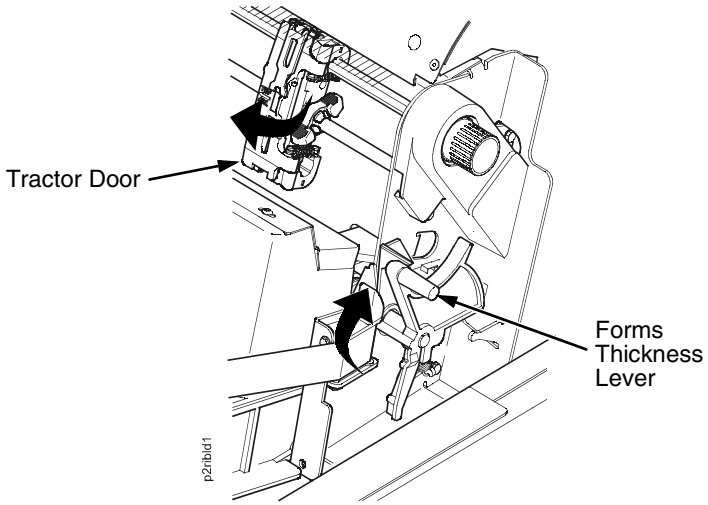


Figure 25. Forms Thickness Lever

3. Raise the forms thickness lever as far as it will go.
4. Close the tractor doors.
5. Remove the ribbon spools from the package.

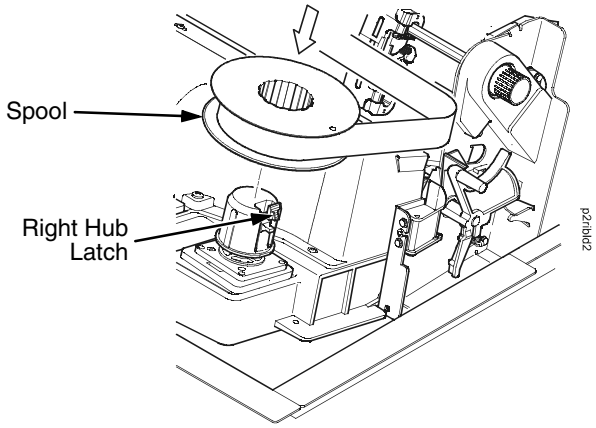


Figure 26. Right Ribbon Hub

6. With the ribbon supply to the outside, squeeze the right hub latch and place the full spool on the right ribbon hub.
7. Press the spool down until the hub latch snaps into place.

NOTE: The ribbon must not be twisted. A twisted ribbon can lower print quality, shorten ribbon life, and cause paper or ribbon jams.

If you are installing a “Clean Hands” ribbon (identified by a long metallic leader), the leader enables you to install the ribbon without getting ink on your hands.

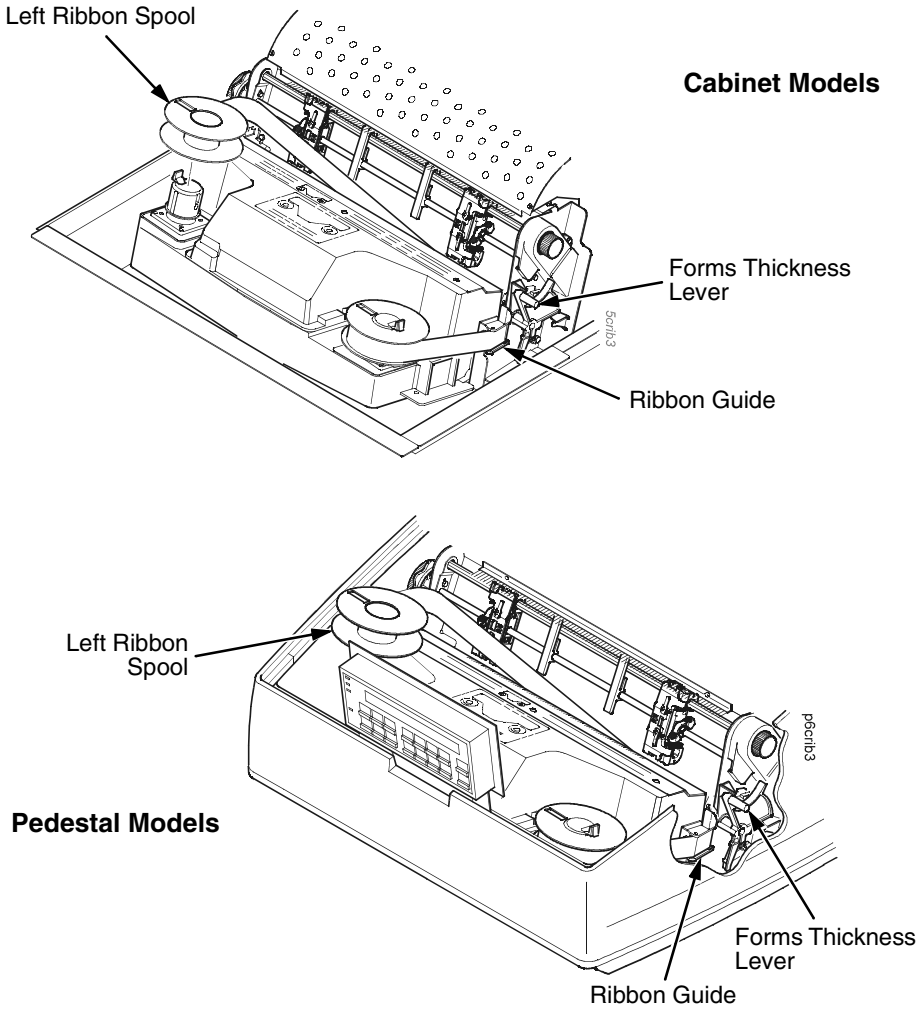


Figure 27. Loading the Ribbon

8. Starting from the right ribbon spool, thread the ribbon around the right ribbon guide, under the right tractor door, between the hammer bank cover and ribbon mask, and along the ribbon path to the left ribbon guide.
9. Place the empty spool on the left hub.

10. Press the spool down until the hub latch snaps into place.
11. Turn the left spool by hand and check to ensure that the ribbon tracks correctly in the ribbon path and around the ribbon guides.

NOTE: The printer automatically loads the ribbon when the first print job is sent.

12. Close the forms thickness lever.

Loading The Paper

This procedure shows you how to load paper into an empty printer, change the paper supply to a different size, or load paper after clearing a paper jam.

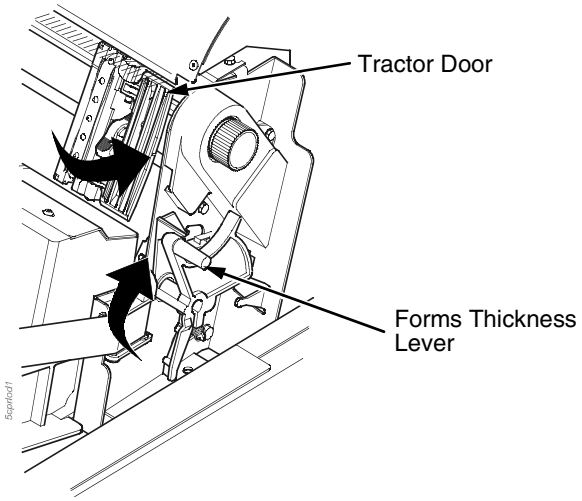


Figure 28. Forms Thickness Lever

1. Press **STOP** to place the printer in the NOT READY state.
2. Open the printer cover.
3. Raise the forms thickness lever as far as it will go.
4. Open the tractor doors.

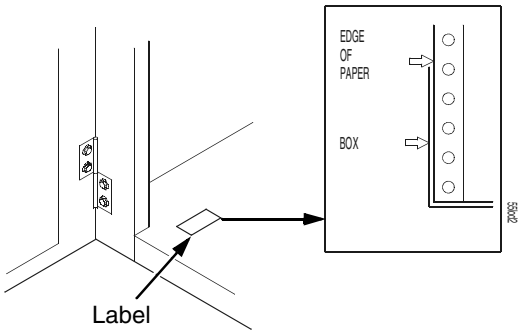


Figure 29. Paper Supply Label Location (Cabinet Models Only)

5. Prepare the paper supply:

NOTE: Press **STOP** to silence the alarm.

Cabinet models:

a. Open the front door of the printer cabinet.

b. Place the paper supply inside the printer, on the floor of the cabinet.

c. Align the paper supply with the front label on the floor of the printer.

d. Ensure that the paper pulls freely from the box.

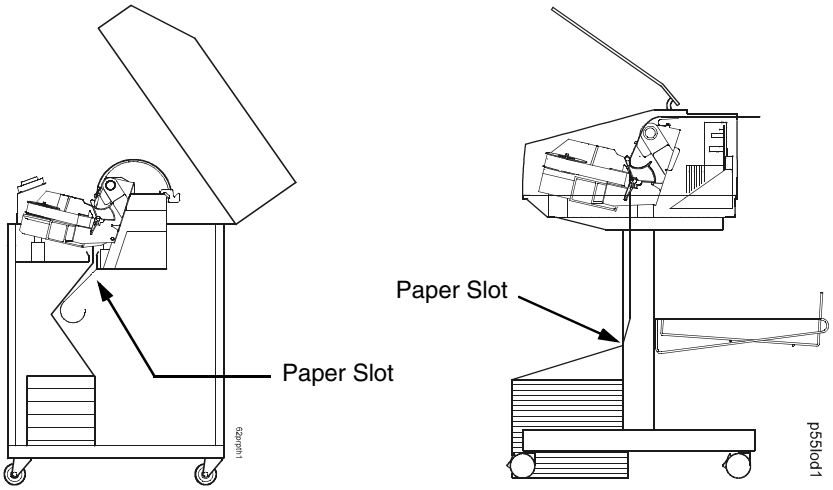


Figure 30. Feeding the Paper

Pedestal models:

a. Place the paper supply on the floor in front of the printer, or on the optional paper shelf, if attached.

b. Ensure that the paper pulls freely from the box.

6. Feed the paper up through the paper slot.

NOTE: Be sure the paper feeds between the two wire guides.

Only the 6400-020 printer model contains the paper path guide as shown in Figure 30.

7. Hold the paper in place with one hand (to prevent it from slipping down through the paper slot) while pulling it through from above with your other hand.

8. Pull the paper above and behind the ribbon mask, which is a silver metal strip with a clear plastic edge protector. Refer to the ribbon path diagram on the shuttle cover.

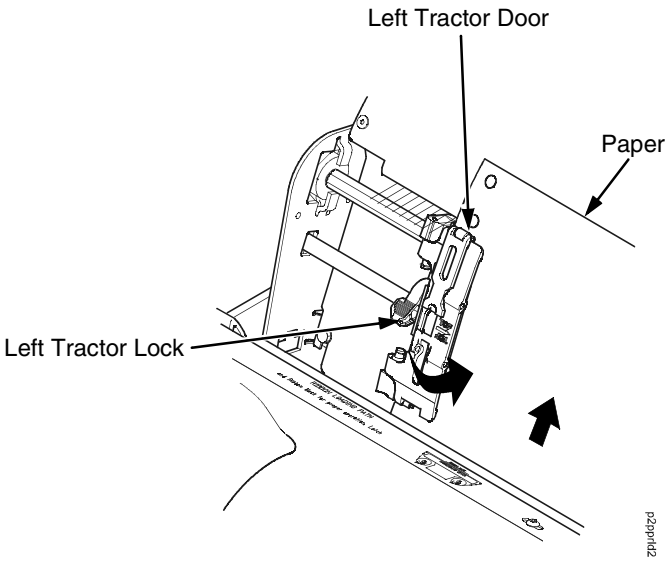


Figure 31. Loading Paper Onto The Left Tractor

9. Load the paper onto the left tractor sprockets.
10. Close the left tractor door.

Important

To avoid damage to the printer caused by printing on the platen, always align the edge of the left tractor door with the number “1” on the paper scale.

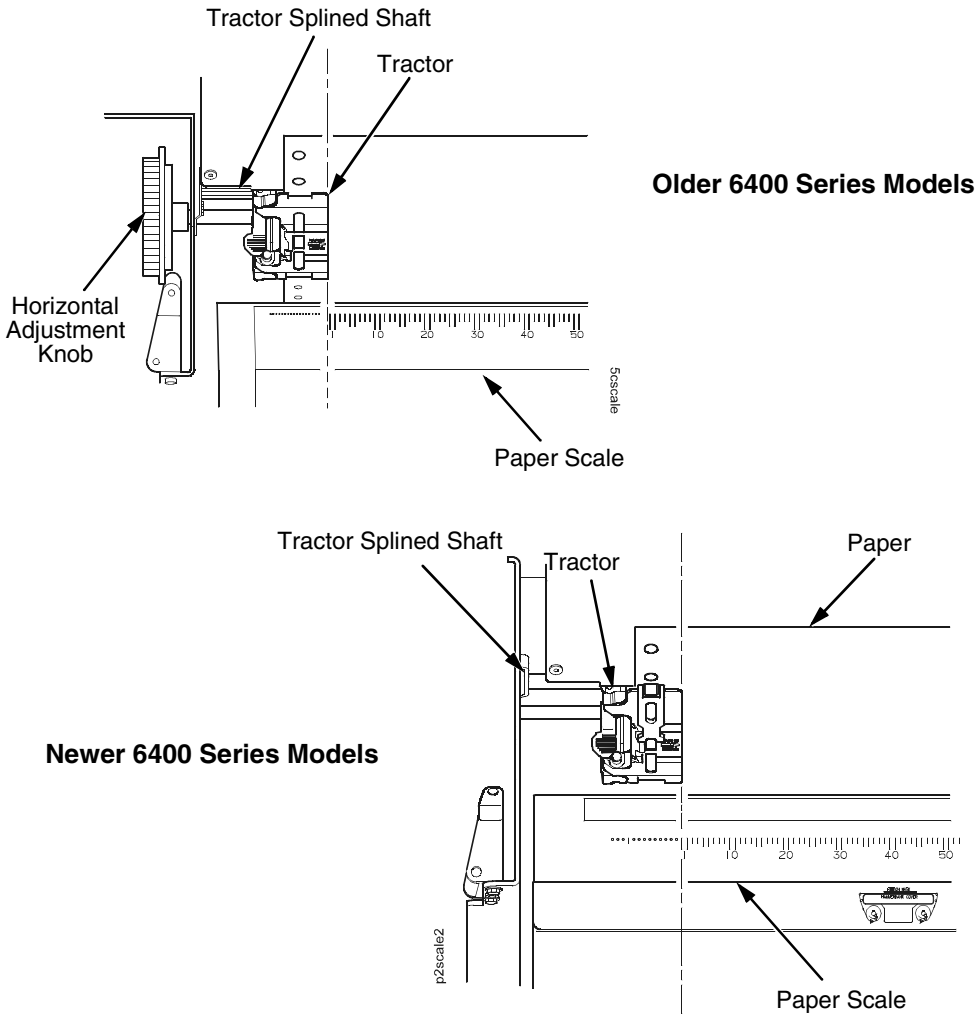


Figure 32. Using the Paper Scale as a Guide

11. If adjustment is necessary:
    a. Unlock the left tractor.
    b. Slide the tractor until it is directly to the left of the number “1” on the paper scale and lock it. You can also use the paper scale to count columns.
12. For the 6400 Series models:

    After both tractors are secured, use the horizontal adjustment knob to make fine horizontal paper adjustments.

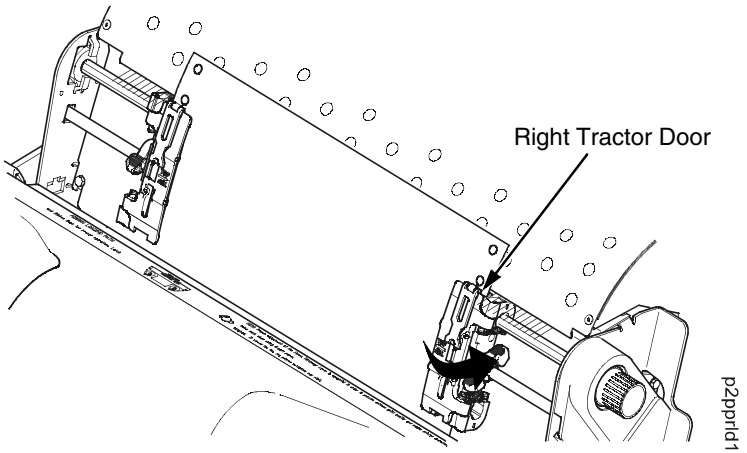


Figure 33. Loading the Paper onto the Right Tractor Sprockets

13. Unlock the right tractor.
14. Load the paper onto the right tractor sprockets.
15. Close the tractor door.
16. Make sure the leading edge of the first sheet of paper is parallel to the tractor splined shaft. If the paper is misaligned, reload it onto the tractor sprockets until its edge is parallel to the splined shaft.
17. Slide the right tractor to remove the paper slack or to adjust for various paper widths.
18. Lock the tractor.

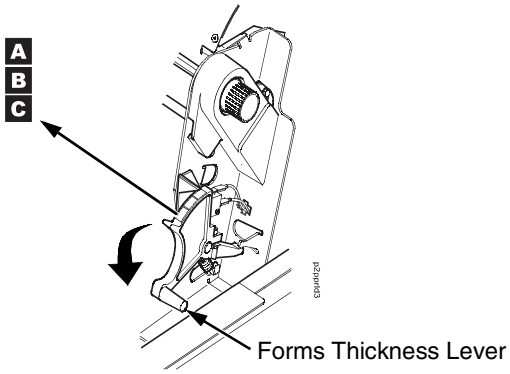


Figure 34. The Forms Thickness Lever

19. Turn the vertical position knob to feed the paper up into the paper guide assembly.
20. Lower the forms thickness lever, and set it to match the paper thickness. (The A-B-C scale corresponds approximately to 1-, 3-, and 6-part paper thickness.)

NOTE: Do not set the forms thickness lever too tightly; excessive friction can cause paper jams, ribbon jams (with potential for ribbon damage), smeared ink, or wavy print.

21. Press **STOP** to remove the “LOAD PAPER” fault message from the display.
22. Press **FORM FEED** several times to make sure the paper feeds properly beyond the tractors and over the lower paper guide. Feed sufficient paper to ensure the paper stacks correctly.
23. Close the printer cover.
24. Close the cabinet door.
25. Press **START** to put the printer online and resume printing.

NOTE: For cabinet models with the power paper stacker installed, go to “Power Paper Stacker Option” on page 57. For all other cabinet models, go to “Set The Top-of-Form” on page 69.

Unloading Paper

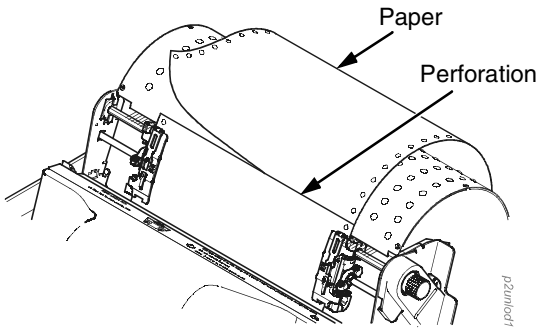


Figure 35. Tearing Off Paper at the Perforation

1. Press **STOP** to place the printer in the NOT READY state, and open the printer cover.
2. Tear off the paper at the perforation, if necessary, and allow the paper to fall to the back of the printer and into the paper stacking area.

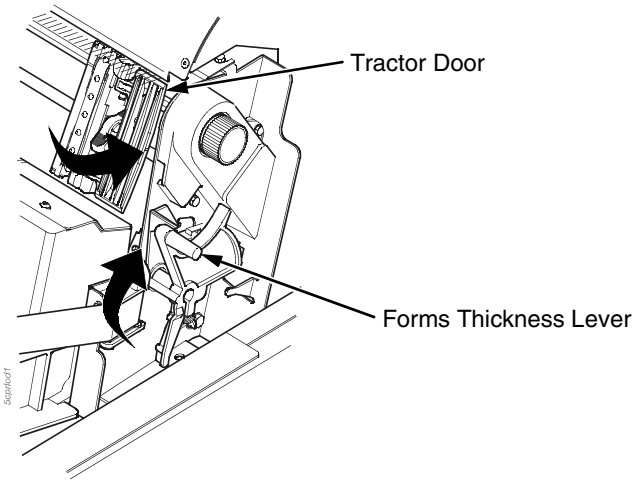


Figure 36. Raising the Forms Thickness Lever

3. Raise the forms thickness lever as far as it will go.
4. Open both tractor doors.
5. Press any key on the operator panel except **Form Feed** to silence the alarm.

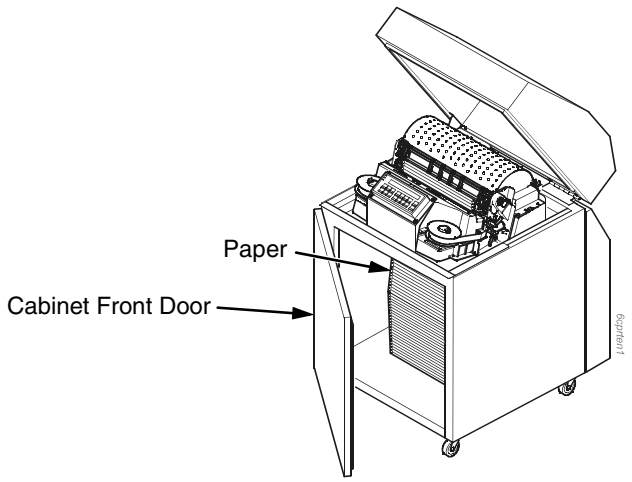


Figure 37. Removing the Paper

6. Remove the paper from the tractors.
7. On cabinet models, open the cabinet front door.
8. For all models, gently pull the paper down through the paper slot. Do not let the paper perforations or tractor holes damage the ribbon mask. Refer to the ribbon path diagram on the shuttle cover.
9. Allow the paper to fall into the paper supply area.

Attention

Be careful when pulling any paper backwards through the paper path, especially when using label stock. If you are not careful, labels can detatch and adhere to the printer within the paper path, where only an IBM service representative can remove them.

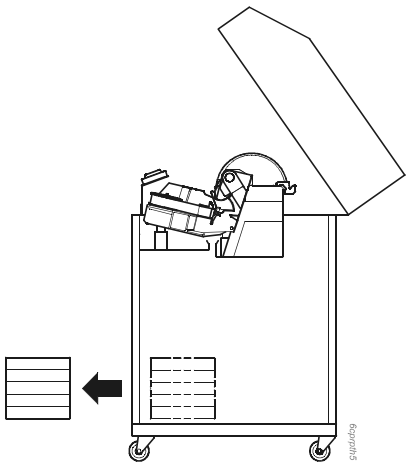


Figure 38. Removing the Paper Supply, Cabinet Models

10. On cabinet models, remove the paper supply from the cabinet floor.
11. Close the cabinet front door and the printer cover.

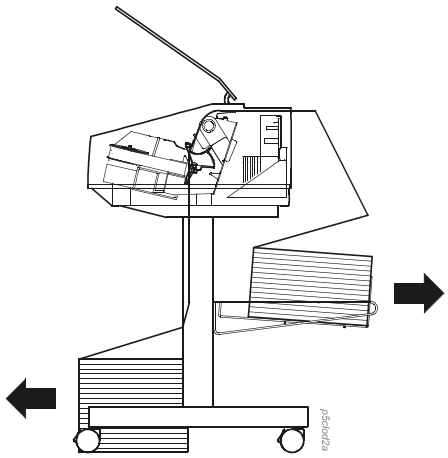


Figure 39. Removing the Paper Supply, Pedestal Models

12. On pedestal models, remove the paper supply from the floor or shelf in front of the printer and close the printer cover.

Power Paper Stacker Option

The power paper stacker is available only on cabinet model printers and mechanically directs the paper from the printer to the paper stack. This section explains how to set up and use the optional power stacker.

Power Paper Stacker Component Locations

The following illustration provides component locations for operating the power paper stacker.

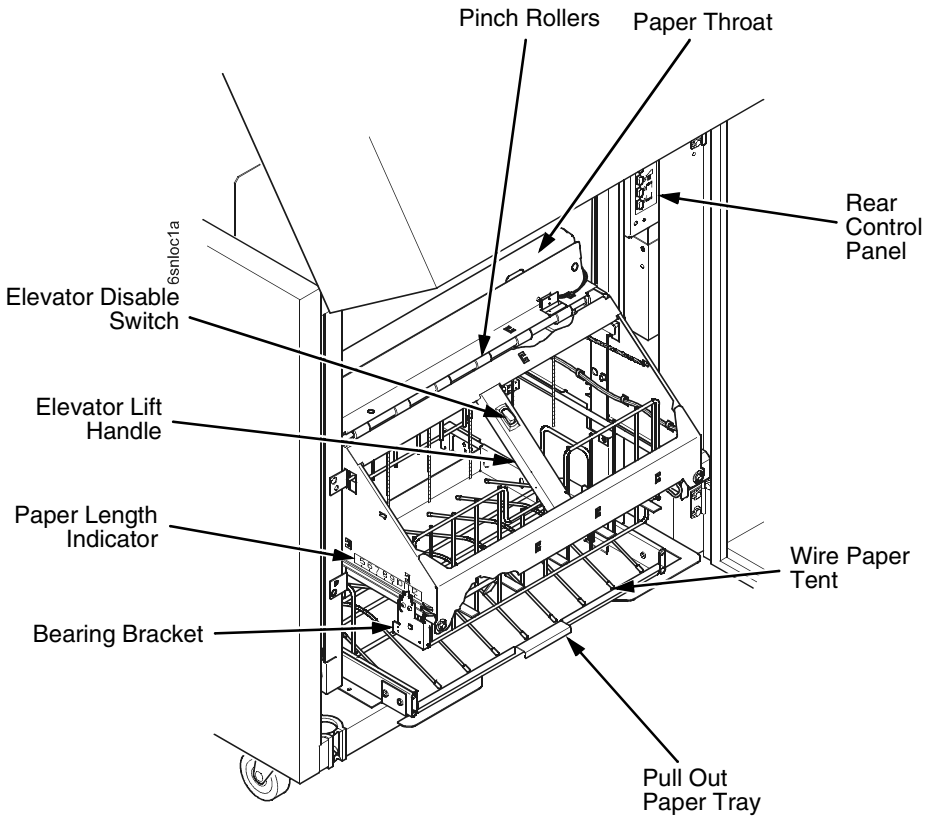


Figure 40. Power Paper Stacker Component Locations

Setting Up the Power Paper Stacker

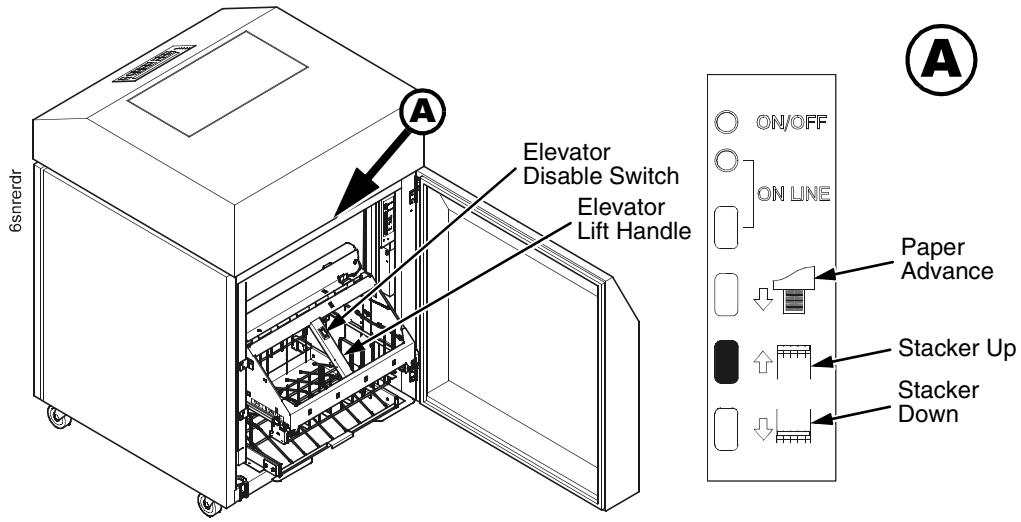


Figure 41. Rear Operator Panel

1. Power on the printer.
2. Using the rear control panel, press **ONLINE** to place the printer in the NOT READY state.
3. Grasp the elevator lift handle and press the elevator disable switch while raising the elevator to the top of its travel.

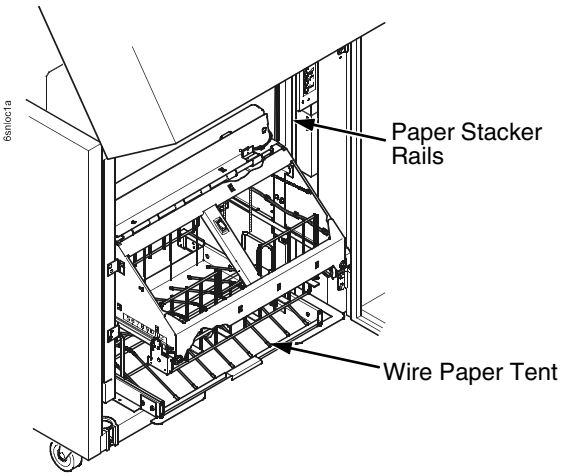


Figure 42. Power Stacker Components

4. Make sure the wire tent is fitted in the pull out paper tray in the base of the stacker.

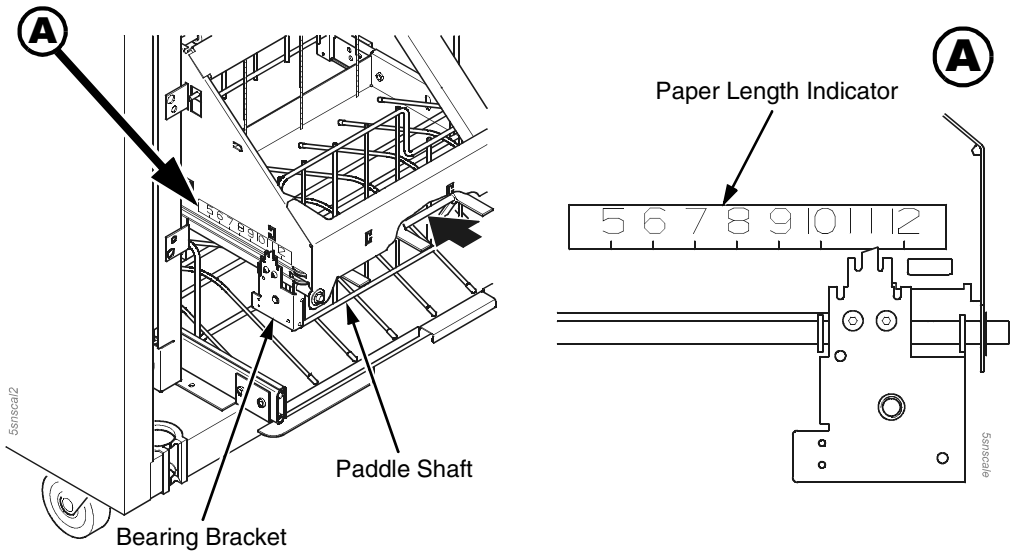


Figure 43. Setting Paper Length

5. Set the desired paper length (5 to 12 inch range) as follows: Grasping the paddle shaft, push or pull toward the front or the rear of the printer, setting the desired paper length by aligning indicator notch on the bearing bracket with the paper length indicator.

Loading and Starting the Power Paper Stacker

1. Using the rear control panel, press the **PAPER ADVANCE** key and hand feed the paper until it reaches the wire tent and there is an excess of 3 to 5 pages. Be certain the paper passes through the paper stacker throat smoothly.
2. Stack the 3-5 sheets of paper on top of the wire paper tent, making sure the paper lies with the natural folds.
3. On the printer's main operator panel, the printer displays, "NOT READY." If a message other than "NOT READY" displays, refer to Chapter 3, "Troubleshooting."
4. Press the **START** key on the operator panel or **ONLINE** on the rear control panel. "READY" displays on the message display. The stacker frame returns to its proper position for printing.
5. Check to ensure paper is still centered between paper guides.
6. Close the rear cabinet door.

Changing the Paper Exit Location (Pedestal Models Only)

On pedestal model printers you can select whether the paper exits from the rear or from the top of the printer. Normally, you should select the top exit only when you will be tearing the forms from the printer and using them soon after printing. Forms will not stack in top exit mode.

Setting Top Paper Exit

1. Press **Stop** to place the printer in NOT READY state.

NOTE: If there is paper in the printer, unload the paper (see page -54), then continue with step 2 of this procedure.

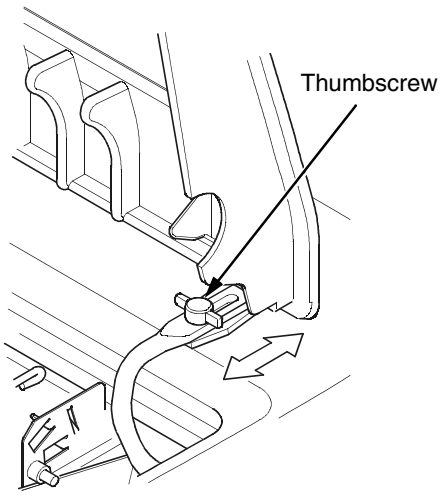


Figure 44. Adjusting the Hinge Thumbscrews

2. Open the printer cover.
3. Loosen the two hinge adjustment thumbscrews.
4. Slide the cover toward the rear of the printer until it stops.

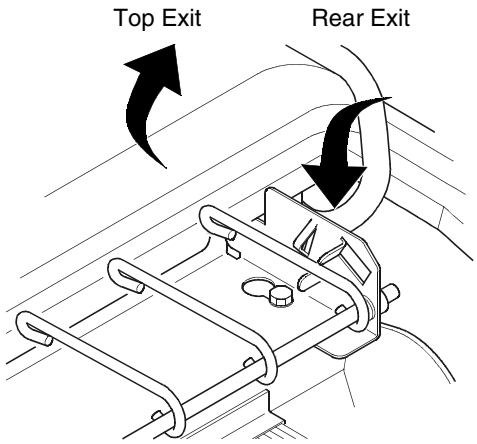


Figure 45. Selecting Between Paper Exit Options

5. Tighten the two hinge adjustment thumbscrews.
6. Slide the paper guide slightly to the left and raise it to its upper position for the top exit.

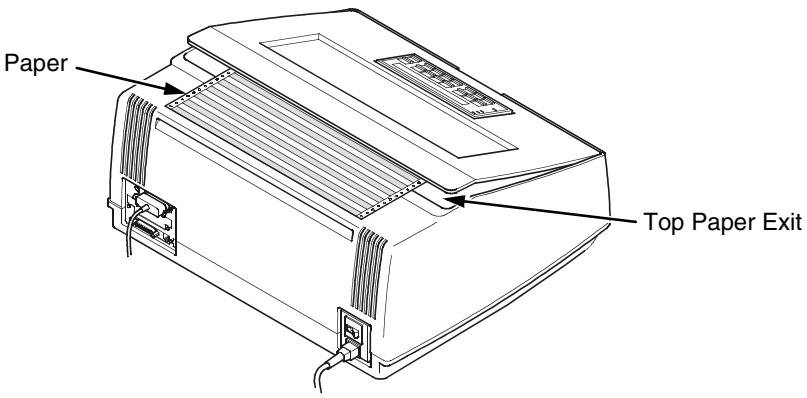


Figure 46. Feeding the Paper Out the Top Paper Exit

7. Load the paper (see page -47), feeding it out the top paper exit.

Setting Rear Paper Exit

1. Press **Stop** to place the printer in NOT READY state.

NOTE: If there is paper in the printer, unload the paper (see page -54), then continue with step 2 of this procedure.

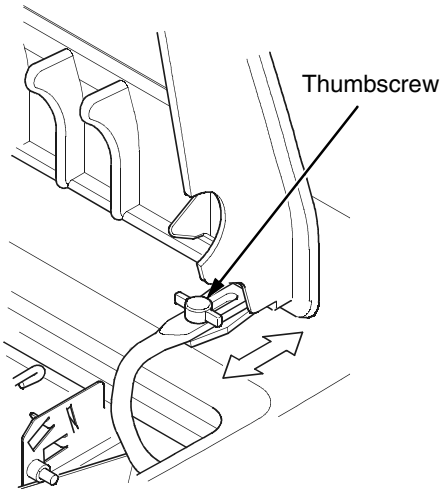


Figure 47. Loosening the Hinge Thumbscrews

2. Open the printer cover.
3. Loosen the two hinge adjustment thumbscrews.
4. Slide the cover forward until it stops.

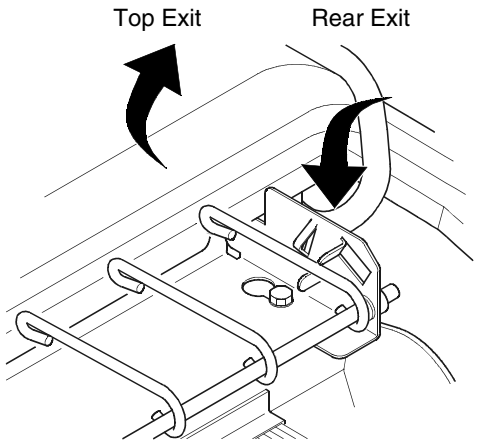


Figure 48. Selecting Between Top and Rear Exit Options

5. Tighten the two hinge adjustment thumbscrews.
6. Place the paper guide in its lower position.

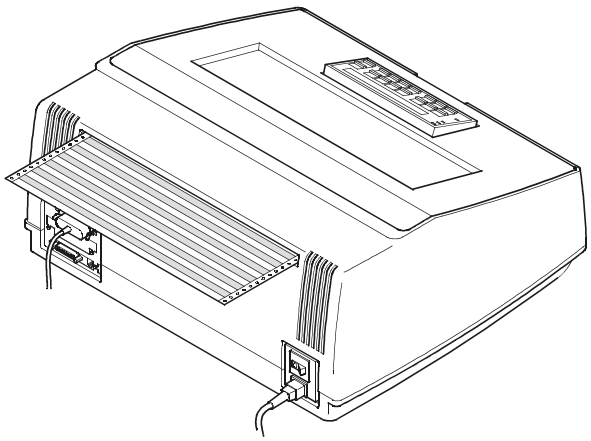


Figure 49. Rear Paper Exit

7. Load the paper (see page -47), feeding the paper out the rear paper exit.

Checking The Paper Feed

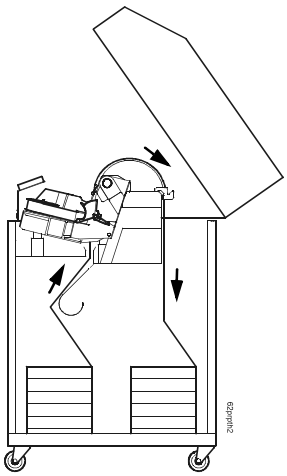


Figure 50. Checking the Paper Feed (Cabinet Models)

Cabinet Models:

1. Check that the paper feeds correctly.
2. Press the **Form Feed** key several times to ensure that the paper feeds properly beyond the tractors and over the paper guide assembly.
3. Ensure that the paper folds the same way in the stacking area as it does in the supply area.
4. Close the front and rear cabinet doors, if the length of the form allows.

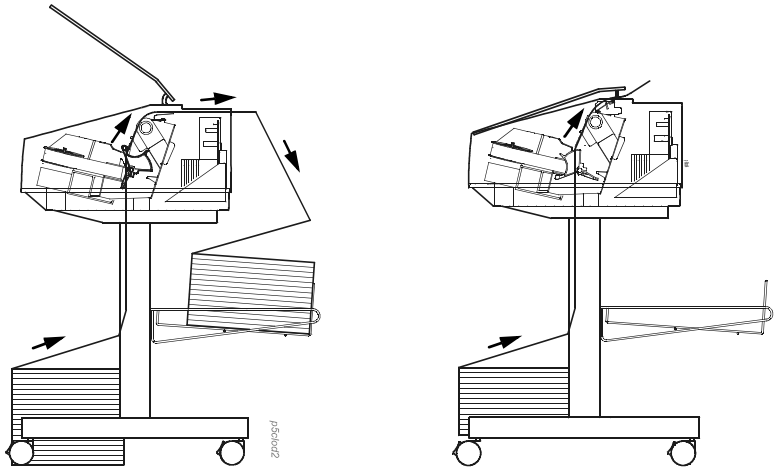


Figure 51. Checking the Paper Feed (Pedestal Model)

Pedestal models:

NOTE: When using the top exit paper path, paper cannot be stacked. Paper is intended to be removed after each print job is completed.

- **For rear paper exit:** Press the **Form Feed** key several times to ensure that the paper feeds properly beyond the tractors, over the paper guide assembly, and through the paper exit slot in the rear of the cabinet. Ensure that the paper folds the same way in the stacking area as it does in the supply area.
- **For top paper exit:** Press the **Form Feed** key several times to ensure that the paper feeds properly beyond the tractors, over the paper guide assembly, and through the paper exit slot.

Unloading The Power Stacker

Removing Paper from the Printer

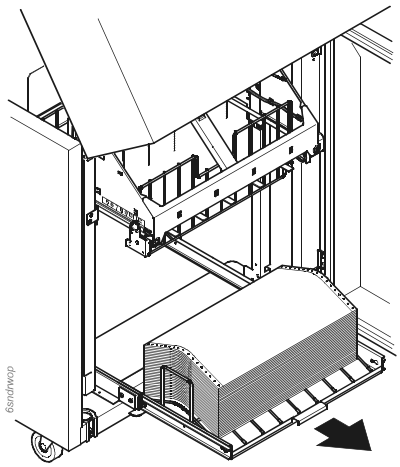


Figure 52. Removing Paper from the Rear of the Printer

1. Unload paper from the print mechanism. See page 54.
2. Open the rear cabinet door.
3. Using the rear control panel, press **STACKER UP** and wait for the stacker to reach the top of its travel.
4. Remove the paper from the rear of the printer.
5. Close the rear cabinet door.

Removing Paper from the Power Stacker Only

1. Open the rear cabinet door.
2. Using the rear control panel, press **ON LINE** to place the printer in the NOT READY state.
3. Press **STACKER UP** and wait for the stacker to reach the top of its travel.
4. Open the printer cover.

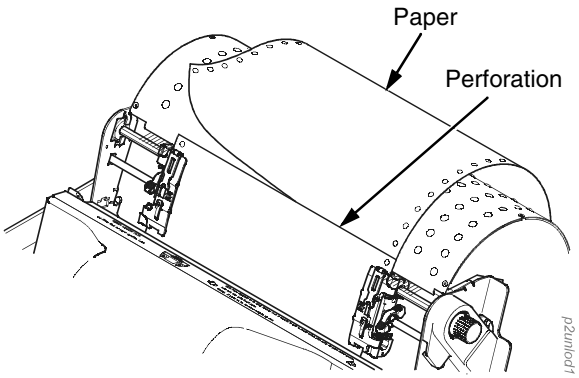


Figure 53. Tearing Paper at the Perforation

5. Tear the paper off at the first perforation above the tractors and let the paper fall through the power stacker throat.

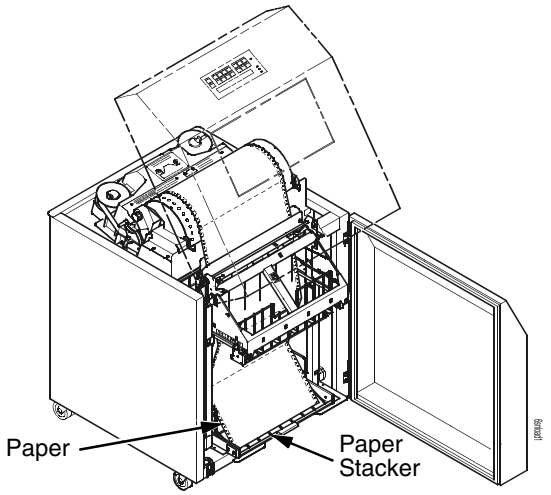


Figure 54. Laying Paper on Top of the Paper Stacker

6. From the rear of the printer, making sure the paper lies with its natural folds, lay the paper on top of the paper stacker.
7. Remove the paper from the rear of the printer.
8. Close the rear cabinet door and the cover.

Set The Top-of-Form

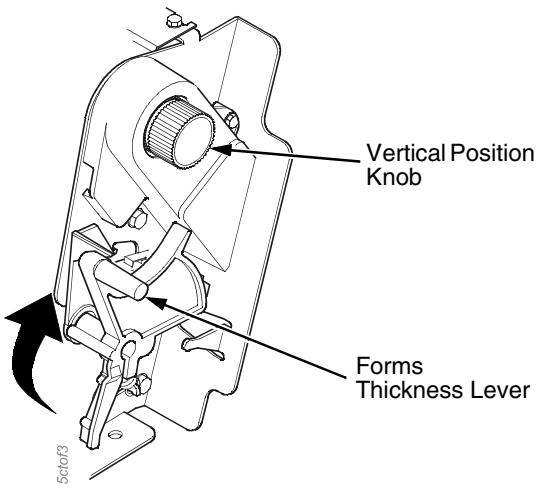


Figure 55. Raising the Forms Thickness Lever

1. Raise the forms thickness lever as far as it will go. The “CLOSE PLATEN” message appears on the operator panel.
2. Press any key on the operator panel to silence the alarm.

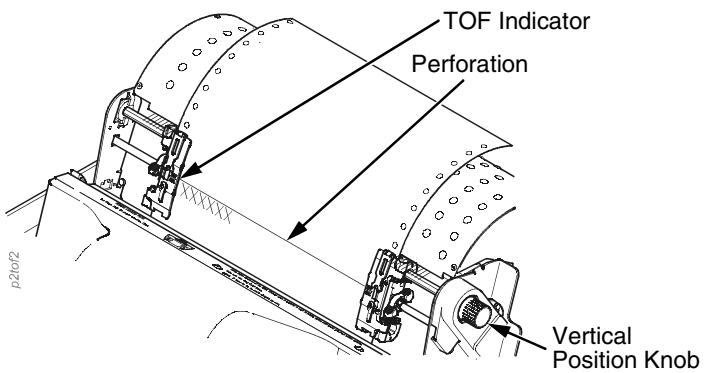


Figure 56. Aligning the First Print Line with the TOF Indicator

3. Locate the TOF indicator. It is the small tab located on the left tractor door.
4. Turn the vertical position knob up or down to align the top of the first print line with the TOF indicator.

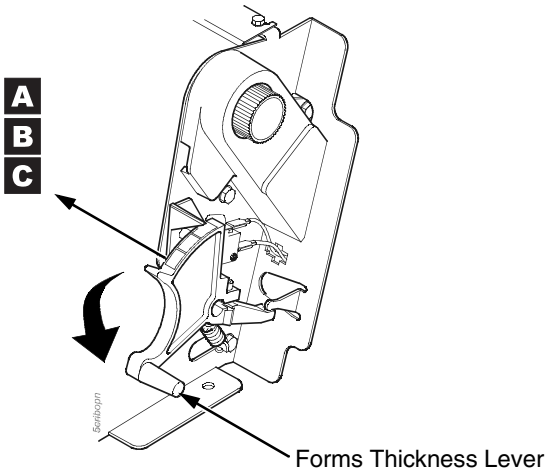


Figure 57. The Forms Thickness Scale

5. Lower the forms thickness lever. The CLOSE PLATEN fault clears automatically.
6. Set it to match the paper thickness. If you are using single–part forms, set the forms thickness lever so that “A” is next to the indicator (refer to the note on the shuttle cover).

NOTE: Do not set the forms thickness lever too tightly; excessive friction can cause paper jams and ribbon jams with potential for ribbon damage, smeared ink, or wavy print.

7. Press **Set Top of Form**. The paper moves downward to the top-of-form print position.

Canceling a Print Job

The procedure to cancel a print job depends on the printer interface. See you system administrator for additional information.

NOTE: The Cancel key is not active during View and Eject/Restore operations.

To cancel a print job, choose one of the following steps:

- For printers using a coax interface in non-SCS mode, the Cancel key is not active. Use the host system to cancel a print job.
- For printers using a coax interface, in SCS mode:
  a. Press **Stop** to place the printer in the NOT READY state.
  b. Press **Cancel** to clear the printer buffer. This sends a cancel status message to the host, which clears the print job when the printer is returned to the READY state. (When Cancel is pressed, “059 CANCEL PRINT ACTIVE” displays.)
- For printers using a twinax interface:
  a. The Cancel key is effective in the READY or NOT READY state.
  b. Press **Cancel** to clear the printer buffer. This sends a cancel status message to the host, which clears the print job. (When pressed, “059 CANCEL PRINT ACTIVE” displays.)

     Or you may use the host system to cancel a print job.

- For printers using a serial or parallel interface:
  a. Press **Stop** to place the printer in the NOT READY state.
  b. From the host system, stop the print job.

NOTE: If the print job is stopped from the host system before presing the **Cancel** key, the print job continues when the printer returns to the READY state.

  c. Press **Cancel**. “069 DATA CLEARED” displays.
  d. Set the top-of-form as described on page 69.

2 *Configurations*

Parameters and Configurations

Printer parameters are settings such as lines per inch (lpi), characters per inch (cpi), and typeface.

A configuration is a group of parameters. For example:

- 8 lpi
- 10 cpi
- Data processing typeface, etc.

Changing Parameters

You can change a parameter by pressing keys on the operator panel or by sending a control code from the host computer.

The parameter is active as long as the printer is on and a reset from the host or a “soft reset” (**START** and **ENTER** keys are pressed) from the operator panel is not performed.

Control Codes

Control codes override parameters that were changed using the operator panel. For example, if you set line spacing to 6 lpi with the operator panel and application software later changes this to 8 lpi with a control code, the 8 lpi would be the new, active parameter.

The 8 lpi parameter is effective as long as the printer is on. To save the 8 lpi parameter, you must use the operator panel and save the change as a custom set.

The Configurations

There are nine configuration sets available: a factory default, four custom, and four custom/preloaded configuration sets.

NOTE: The factory default custom set cannot be modified or overwritten.

Custom Sets 1-4 can be configured for specific print job requirements.

Custom/Preloaded Sets 5-8 contain configuration sets that assist with the installation and configuration of this printer. For more information, refer to your *Setup Guide.*

You can load or overwrite any of these eight custom sets.

You can also modify the eight configurations and overwrite old parameters.

The following pages describe how to perform these functions.

To change individual parameters, such as line spacing or typeface, refer to your *Setup Guide*.

Saving Configurations

You can save custom sets by following these procedures. Custom sets are permanently stored and will not be lost if you power off the printer.

Key	LCD Results
1. Press **Stop** to place the printer in the NOT READY state.	NOT READY
2. Press **Scroll**↑ **+ Scroll**↓ to unlock the PROGRAM state.	OPERATOR MENU UNLOCKED
3. Press **Menu** to access the OPERATOR menu.	OPERATOR MENU PRINTER CONTROL
4. Press **Scroll**↑ until you reach CONFIGURATION MANAGEMENT.	OPERATOR MENU CONFIGURATION MANAGEMENT
5. Press Enter to enter this menu.	CONFIGURATION MANAGEMENT RECALL CUSTOM SET
6. Press **Scroll**↑ until SAVE CURRENT VALUES displays.	CONFIGURATION MANAGEMENT SAVE CURRENT VALUES
7. Press **Enter** to access the save options.	SAVE CURRENT VALUES 1*
8. Press **Scroll**↑ repeatedly until the custom set you want to save displays.	SAVE CURRENT VALUES 2
NOTE: Do not power off the printer while save is in progress because you might lose your configuration.	
9. Press **Enter** to select the custom set. An asterisk (*) appears next to the selected set in the display.	SAVE CURRENT VALUES 2*
10. Press **Scroll**↑ **+ Scroll**↓ to lock the PROGRAM state.	OPERATOR MENU LOCKED

Key	LCD Results
11. Press **Start** to exit the menu and place the printer in the READY state.	READY
NOTE: If the custom set you choose to save is already defined and PROTECT CUSTOM SETS is enabled, the following error message displays: “043 Custom Set Already Exits/Delete First.” See page 77 to delete configurations.	

Recalling Configurations

You can recall any of the custom sets you previously stored or the factory default configuration. See page 75 to save configurations.

The following example loads Custom Set 1.

Key	LCD Results
1. Press **Stop** to place the printer in the NOT READY state.	NOT READY
2. Press **Scroll**↑ **+ Scroll**↓ to unlock the PROGRAM state.	OPERATOR MENU UNLOCKED
3. Press **Menu** to access the OPERATOR menu.	OPERATOR MENU PRINTER CONTROL
4. Press **Scroll**↑ until you reach CONFIGURATION MANAGEMENT.	OPERATOR MENU CONFIGURATION MANAGEMENT
5. Press **Enter** to enter this menu.	CONFIGURATION MANAGEMENT RECALL CUSTOM SET
6. Press **Enter** to access the recall options.	RECALL CUSTOM SET FACTORY DEFAULT*
7. Press **Scroll**↑ repeatedly until the custom set you want to save displays.	RECALL CUSTOM SET CUSTOM SET 1

Key	LCD Results
8. Press **Enter**. This selects the displayed custom set.	LOAD SAVED CONFIGURATION
9. Press **Scroll**↑ **+ Scroll**↓ to lock the PROGRAM state.	OPERATOR MENU LOCKED
10. Press **Start** to exit the menu and place the printer in the READY state.	READY

Deleting Configurations

You can delete any of your custom sets. Factory default, the factory–preset configuration, cannot be deleted.

The following example deletes Custom Set 3.

Key	LCD Results
1. Press **Stop** to place the printer in the NOT READY state.	NOT READY
2. Press **Scroll**↑ **+ Scroll**↓ to unlock the PROGRAM state.	OPERATOR MENU UNLOCKED
3. Press **Menu** to access the OPERATOR menu.	OPERATOR MENU PRINTER CONTROL
4. Press **Scroll**↑ until you reach CONFIGURATION MANAGEMENT.	OPERATOR MENU CONFIGURATION MANAGEMENT
5. Press **Enter** to enter this menu.	CONFIGURATION MANAGEMENT RECALL CUSTOM SET
6. Press **Scroll**↑ until you reach DELETE CUSTOM SET.	CONFIGURATION MANAGEMENT DELETE CUSTOM SET
7. Press **Enter** to access the delete options.	DELETE CUSTOM SET 1*

Key	LCD Results
8. Press **Scroll**↑ repeatedly until the custom set you want to delete displays.	DELETE CUSTOM SET 3
9. Press **Enter**. This deletes the custom set.	DELETING CONFIGURATION
10. Press **Scroll**↑ **+ Scroll**↓ to lock the PROGRAM state.	OPERATOR MENU LOCKED
11. Press **Start** to exit the menu and place the printer in the READY state.	READY
NOTE: If the custom set you choose to delete has not previously been saved, the following error message displays: "042 CUSTOM SET DOES NOT EXIST/ SAVE FIRST." See page 75 to save configurations.	

NOTE: When the PROTECT CUSTOM SETS parameter is enabled, you will not be able to overwrite or delete an existing custom set.

The Power-On Configuration

When you power on the printer for the first time, it loads the factory default configuration.

If you save a custom set, such as Custom Set 4, and turn the printer off, then back on, the printer will load the designated power–on configuration, not the last saved custom set.

For your convenience, you can specify which custom set should be the power–on set.

Key	LCD Results
1. Press **Stop** to place the printer in the NOT READY state.	NOT READY
2. Press **Scroll**↑ **+ Scroll**↓ to unlock the PROGRAM state.	OPERATOR MENU UNLOCKED
3. Press **Menu** to access the OPERATOR menu.	OPERATOR MENU PRINTER CONTROL
4. Press **Scroll**↑ until you reach CONFIGURATION MANAGEMENT.	OPERATOR MENU CONFIGURATION MANAGEMENT
5. Press **Enter** to enter this menu.	CONFIGURATION MANAGEMENT RECALL CUSTOM SET
6. Press **Scroll**↑ until you reach CHANGE POWER ON SET.	CONFIGURATION MANAGEMENT CHANGE POWER ON SET
7. Press **Enter** to access the power on options.	CHANGE POWER ON SET FACTORY DEFAULT
8. Press **Scroll**↑ until you reach the custom set you want to save as the power-on set.	CHANGE POWER ON SET CUSTOM SET 4
9. Press **Enter** to select the custom set. An asterisk (*) appears next to the selected set in the display.	CHANGE POWER ON SET CUSTOM SET 4*
10. Press **Scroll**↑ **+ Scroll**↓ to lock the PROGRAM state.	OPERATOR MENU LOCKED
11. Press **Start** to exit the menu and place the printer in the READY state.	READY

Protecting Custom Sets

When the Protect Custom Sets parameter is enabled, you will not be able to overwrite or delete an existing custom set.

Key	LCD Results
1. Press **Stop** to place the printer in the NOT READY state.	NOT READY
2. Press **Scroll**↑ **+ Scroll**↓ to unlock the PROGRAM state.	OPERATOR MENU UNLOCKED
3. Press **Menu** to access the OPERATOR menu.	OPERATOR MENU PRINTER CONTROL
4. Press **Scroll**↑ until you reach CONFIGURATION MANAGEMENT.	OPERATOR MENU CONFIGURATION MANAGEMENT
5. Press **Enter** to enter this menu.	CONFIGURATION MANAGEMENT RECALL CUSTOM SET
6. Press **Scroll**↑ until you reach PROTECT CUSTOM SETS.	CONFIGURATION MANAGEMENT PROTECT CUSTOM SETS
7. Press **Enter** to access the protect options.	PROTECT CUSTOM SETS DISABLE*
8. Press **Scroll**↑ to toggle between DISABLE and ENABLE.	PROTECT CUSTOM SETS ENABLE
9. Press **Enter** to select ENABLE. An asterisk (*) appears next to the selected set in the display.	PROTECT CUSTOM SETS ENABLE*
10. Press **Scroll**↑ **+ Scroll**↓ to lock the PROGRAM state.	OPERATOR MENU LOCKED
11. Press **Start** to exit the menu and place the printer in the READY state.	READY

Printing Configurations

The Print Custom Set Values option allows you to print the various stored printer parameters: current, factory, power-on, individual custom sets, or all of the custom sets.

NOTE: You can press the **Printer Configuration** key to obtain a printout of the current configuration. Save this printout. It is useful information for your IBM service representative.

Key	LCD Results
1. Press **Stop** to place the printer in the NOT READY state.	NOT READY
2. Press **Scroll**↑ **+ Scroll**↓ to unlock the PROGRAM state.	OPERATOR MENU UNLOCKED
3. Press **Menu** to access the OPERATOR menu.	OPERATOR MENU PRINTER CONTROL
4. Press **Scroll**↑ until you reach CONFIGURATION MANAGEMENT.	OPERATOR MENU CONFIGURATION MANAGEMENT
5. Press **Enter** to enter this menu.	CONFIGURATION MANAGEMENT RECALL CUSTOM SET
6. Press **Scroll**↑ until you reach PRINT CUSTOM SET VALUES.	CONFIGURATION MANAGEMENT PRINT CUSTOM SET VALUES
7. Press **Enter** to access the protect options.	PRINT CUSTOM SET VALUES CURRENT CUSTOM SET*
8. Press **Scroll**↑ until you reach the custom set you want to print.	PRINT CUSTOM SET VALUES CUSTOM SET 6
NOTE: To print all of the custom sets, press **Scroll**↑ until ALL CUSTOM SETS displays.	

Key	LCD Results
9. Press **Enter** to select option. An asterisk (*) appears next to the selected set in the display.	PRINT CUSTOM SET VALUES CUSTOM SET 6*
10. Your configuration prints. The printer returns to the NOT READY state.	NOT READY
11. Press **Scroll**↑ **+ Scroll**↓ to lock the PROGRAM state.	OPERATOR MENU LOCKED
12. Press **Start** to exit the menu and place the printer in the READY state.	READY

Operator Print Tests

This procedure describes how to run the operator print tests. Although you may run these tests at any time, to obtain predictable results, all tests should be run while no data is in the print buffer. The following tests may be run: Printer Demonstration, Print Error Log, Ripple Print, All Es, All Hs, All Es & FF, and Underlines. If you are using the Ethernet Interface, you may also print a test page.

In the following procedure, printing the error log is shown as an example.

Key	LCD Results
1. Press **Stop** to place the printer in the NOT READY state.	NOT READY
2. Press **Scroll**↑ **+ Scroll**↓ to unlock the PROGRAM state.	OPERATOR MENU UNLOCKED
3. Press **Menu** to access the OPERATOR menu.	OPERATOR MENU PRINTER CONTROL

Key	LCD Results
4. Press **Scroll**↑ until you reach OPERATOR PRINT TESTS.	OPERATOR MENU OPERATOR PRINT TESTS
5. Press **Enter** to enter this menu.	OPERATOR PRINT TESTS PRINTER DEMONSTRATION*
6. Press **Scroll**↑ until you reach the test you want to run.	OPERATOR PRINT TESTS PRINT ERROR LOG
7. Press **Enter**. The test runs. To stop the test, press **Enter** again. Return to step 6 to select additional print tests.	OPERATOR PRINT TESTS PRINT ERROR LOG*
8. Press **Scroll**↑ **+ Scroll**↓ to lock the PROGRAM state.	OPERATOR MENU LOCKED
9. Press **Start** to exit the menu and place the printer in the READY state.	READY

Chapter 2 Operator Print Tests

3 Troubleshooting

Clearing Paper Jams

Attention

Be careful when pulling any paper backwards through the paper path, especially when using label stock. If you are not careful, labels can detach and adhere to the printer within the paper path, where only an IBM service representative can remove them.

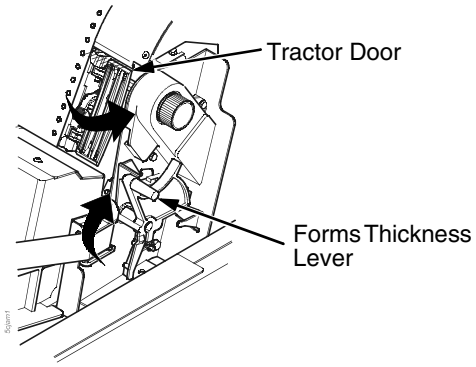


Figure 58. Raising the Forms Thickness Lever

1. Open the printer cover.
2. Raise the forms thickness lever as far as it will go.

NOTE: Press any key on the operator panel to silence the alarm. Press the **Form Feed** key to silence the alarm and cause the paper to move. The top–of–form setting will be lost.

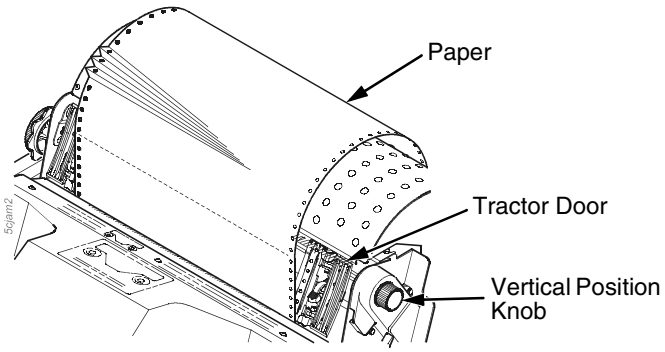


Figure 59. Clearing a Paper Jam

3. Open both tractor doors**.**
4. Inspect the paper path and tractors for jammed or torn paper. Remove any pieces of paper by turning the vertical position knob.
5. Check that the ribbon mask has not been deformed in such a way as to block the paper path. If the ribbon mask is damaged or bent, contact an IBM service representative.
6. Check the paper path between the face of the platen and the ribbon mask for pieces of torn paper and ribbon lint. Refer to the ribbon path diagram on the shuttle cover on the pedestal models.

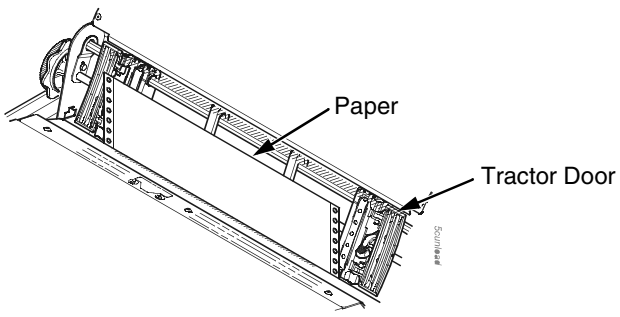
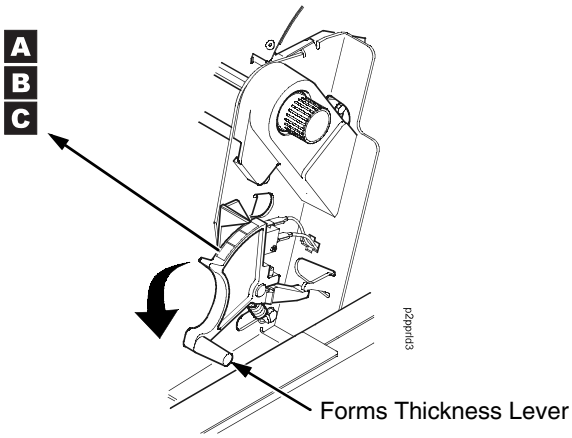


Figure 60. Reloading Paper

7. Reload the paper in the tractors.



8. Lower the forms thickness lever. Set it to match the paper thickness (refer to the note on the shuttle cover).

NOTE: Do not set the forms thickness lever too tightly; excessive friction can cause paper jams and ribbon jams with potential for ribbon damage, smeared ink, or wavy print.

9. Press **Stop** to clear the fault message from the message display.
10. Set the top–of–form (page 69).
11. Close the printer cover.
12. Press **Start**.
13. On **cabinet models:**
    a. Open the rear cabinet door.
    b. Ensure that the paper folds the same way in the stacking area as it does in the supply area.
    c. Ensure that the paper is aligned with the label in the output area inside the cabinet.
    d. Close the rear cabinet door, if the length of your forms allows this. Some longer forms may require the doors to be left open.

14. On **pedestal models:**
    When printing, ensure that the paper folds the same way in the stacking area as it does in the supply area. Forms are designed to stack only when using the rear exit path. Forms cannot be stacked when using the top exit paper path.

Cleaning The Printer

Periodic cleaning ensures efficient operation and good print quality.

DANGER

<2>	Switch off printer power and unplug the printer power cord before cleaning the printer.

Cleaning the Outside of the Printer

Clean the outside of the printer with a soft, lint–free cloth and mild detergent. Dishwashing liquid works well. Do not use abrasive powders or chemical solvents. Clean the windows with plain water or mild window cleaner.

Attention

Always apply the cleaning solution to the cloth; never pour cleaning solution directly onto the printer.

Cleaning Inside the Printer

DANGER

<2>	Switch off printer power and unplug the printer power cord before cleaning the printer.

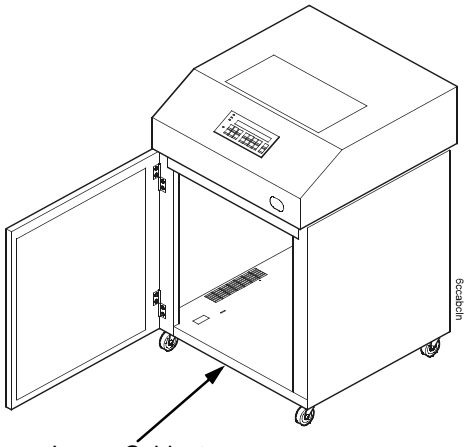
Over time, it is normal for particles of paper and ink to accumulate inside the printer. Paper dust and ink buildup must be removed periodically to avoid degraded print quality.

1. Power off the printer and unplug the power cord.
2. Unload the paper supply (page 54).
3. Remove the ribbon.

Attention

To avoid damage to the printer, be extremely careful when vacuuming and dusting around the hammer bank and surrounding areas.

4. Using a soft–bristled, non–metallic brush, remove dust particles from the paper path, ribbon guides, and ribbon path. Refer to the ribbon path diagram on the shuttle cover on the pedestal models.
5. Brush and vacuum accumulated dust or residue, especially in the tractor, hammer bank (not shown), and base pan areas.
6. Wipe the splined shaft, ribbon guides, and platen (not shown) with a soft cloth.



7. On **cabinet models:**
   a. Brush and vacuum inside the lower cabinet.
   b. Wipe the cabinet interior with a clean, lint–free cloth dampened with water and mild detergent.
   c. Dry the cabinet interior with a dry, clean, lint–free cloth.
8. Install the ribbon (page 43), load the paper (page 47), and set the top–of–form (page 69).

Solving Printer Problems

If you are having print quality or other problems, locate your printer problem in the following table and perform the corrective action. If more than one corrective action task is listed, test the printer after each task. If the problem persists, contact an IBM service representative.

Problem	Corrective Action
Poor print quality: dark print light print light print on half the page missing dots or characters smeared print wavy vertical lines	1. Adjust the forms thickness lever setting. Print quality can be affected if it is too loose or too tight. 2. Adjust the paper tension horizontally by moving the right tractor. Print quality can be affected if it is too loose or too tight. 3. Make sure the ribbon threads around the ribbon guides and between the hammer bank cover and ribbon mask, as shown on the ribbon path diagram on the pedestal models. Turn the ribbon spools to ensure that the ribbon tracks correctly in the ribbon path. 4. Clean the printer (page 88). 5. Replace the ribbon with an approved ribbon.
Torn or damaged forms	1. Reset the forms thickness lever for thicker paper. 2. Adjust the paper tension horizontally by moving the right tractor. Too high a paper tension can cause tearing of the tractor feed holes. 3. Check the paper slot for foreign material. 4. For thick, multipart forms, set the SET PLATEN AT BOTTOM OF FORM parameter to OPEN. (See Chapter 4, “Configuration Menus,” in the *Setup Guide*.)
Loss of forms position	Set the forms thickness lever for thicker paper.

Problem	Corrective Action
Lost dots (incompletely formed characters) Horizontally or vertically misaligned character positions Erratic character height Vertically deformed print	1. Lower the forms thickness lever. 2. Adjust the paper tension horizontally by moving the right tractor. Print quality can be affected if it is too loose or too tight. 3. Clear the paper path of any obstructions. 4. If problems persist, contact an IBM service representative.
Asterisk does not appear after you change a configuration parameter with the **Enter** key.	1. Press **Stop** to place the printer in the NOT READY state. 2. Press **Scroll↑ + Scroll↓** at the same time to unlock the program state. The message “OPERATOR MENU UNLOCKED” will appear briefly. 3. Press **Menu** to access the OPERATOR MENU. Display the configuration option you want to change. 4. Press **Enter** when the option is on the message display.
The configuration printout does not represent configuration parameters selected and changed.	Verify that you have saved the current configuration (page 75).

Status and Fault Messages

When a fault occurs, the Attention indicator flashes, the alarm sounds (if the alarm option is set to ENABLE), and a fault message appears in the display. When this happens, correct the fault immediately.

NOTE: Press any key on the operator panel to silence the alarm. Press the **Form Feed** key to silence the alarm and cause the paper to move. The top–of–form setting will be lost.

You can correct most faults by performing a simple procedure, such as clearing a paper jam or reloading paper. For more serious faults, call an IBM service representative.

Fault Ranking

The message display shows only one error at a time. If multiple errors occur, the errors are prioritized to determine which error is displayed. After one error is fixed, the next error displays.

Fault Correction Procedure

1. Press any key on the operator panel, except **Stop**, to silence the alarm if necessary. Press the **Form Feed** key to silence the alarm and cause the paper to move. The top–of–form setting will be lost.
2. Write down the number of the displayed error message.
3. Use the fault explanation to fix the problem, if possible.
4. Press **Stop** to clear the fault message. Press **Start** to return to the READY state, and resume printing.
5. If the fault message reappears, power off the printer, wait 15 seconds, then power on the printer.
6. Run your print job again. If the fault message reappears, turn off power to the printer, then call an IBM service representative. Otherwise, no further attention is required.

Chapter 3 Status and Fault Messages

The following pages list each printer status message and fault message. For fault messages, suggestions are offered for correcting the fault condition.

Table 1: Fault Messages

Fault Message	Explanation	Solution
001 END OF FORMS LOAD FORMS	Printer is out of paper.	Load paper (see page -47.
002 FORMS JAMMED CLEAR JAM AND RELOAD FORMS	No paper motion.	Clear the paper jam and reload paper. See the *Operator's Guide.* Reset forms thickness lever.
003 FORMS EJECTED PRESS EJECT/RESTORE	Non–error status message.	Press the **Eject/Restore** key to return paper to print position.
004 VIEW FORMS PRESS VIEW KEY	Non–error status message.	Press **View** key to return paper to print position.
006 HOST SYSTEM REQUEST ATTENTION	Host attention message.	The host computer or printer controller requires attention.
007 FM HEADER ERROR	Format header error. Applications software has violated format header parameters.	Contact your system administrator.
008 HOLD PRINT TIMEOUT PRESS START	Printer was off–line more than 10 minutes and the "Intervention Required" parameter is set to "Send to Host."	Press **Start** to put printer in the READY state.

Table 1: Fault Messages

Fault Message	Explanation	Solution
009 INVALID KEY PRESS	Appears briefly if an inactive key is pressed in current print mode.	Re–enter the value, or press the correct key.
010 PARAMETER ERROR	Illegal parameter value received in command code.	Contact your system administrator.
011 SCS COMMAND ERROR	Printer received undefined control character.	Contact your system administrator.
012 STRUCTURED FIELD ERROR	Applications software has violated structured data field parameters.	Contact your system administrator.
013 ACTIVATE LOST	Printer detects twinax protocol communication errors.	The printer reports the error.
014 INVALID ACTIVATE	Printer detects twinax protocol communication errors.	The printer reports the error.
015 COMMUNICATION CHECK CHECK CABLE	Line not active. (Twinax interface)	Check the cable connection.
016 INVALID COMMAND	Printer detects twinax protocol communication errors.	The printer reports the error; host action is required.
017 STACKER JAM CHECK STACKER	Paper is jammed in the power stacker area.	Remove paper.
018 STACKER FULL CHECK STACKER	Power stacker is full of paper.	Remove paper.

Table 1: Fault Messages

Fault Message	Explanation	Solution
019 STACKER FAULT CHECK STACKER	Stacker is not functioning correctly.	Check for obstructions in the stacker area. If the fault reoccurs, contact your IBM service representative.
021 RECEIVE BUFFER OVERRUN VERIFY CONFIGURATION	Receive overrun. (Serial interface)	Check the printer serial port configuration setup. Ensure that the baud rate matches both the host and printer settings.
022 UNIT ADDRESS NOT RECEIVED CHECK PRINTER ADDRESS	Unit address not recognized by printer. (Poll timeout, twinax interface)	Ensure that the printer address matches the host setting.
024 SERIAL LINE PARITY ERROR VERIFY CONFIGURATION	Parity error. (Serial interface)	Check the printer serial port configuration setup. Ensure that the parity setting matches both the host and printer settings.
025 SERIAL FRAMING ERROR VERIFY CONFIGURATION	Framing error. (Serial interface)	Check the printer serial port configuration setup. Ensure that it matches the host setting.
026 HEX DUMP MODE	Printer attach status message.	No action necessary.
027 COMMUNICATIONS CHECK CALL SYSTEM OPERATOR	Enable poll timeout. The printer was not enabled for one minute. (Coax interface)	Check the cable connection and host system.

Table 1: Fault Messages

Fault Message	Explanation	Solution
028 COMMUNICATIONS CHECK CALL SYSTEM OPERATOR	Poll timeout error. The printer was not polled for one minute. (Coax interface)	Check the cable connection and host system.
029 8344 DIAGNOSTIC TEST FAILED	Link–level code test detects hardware failure.	Contact your IBM service representative.
031 END OF FORMS TIMEOUT LOAD FORMS	A timeout message is sent to the host if paper is not loaded 10 minutes after **Stop** was pressed to clear the paper out fault.	Load paper. (See page -47.)
032 FORMS JAMMED TIMEOUT CLEAR JAM AND RELOAD FORMS	A timeout message is sent to the host if no paper motion has occurred for 10 minutes after **Stop** was pressed to clear the jam fault.	Clear the paper jam and reload paper.
034 RIBBON STALL TIMEOUT CHECK RIBBON	A timeout message is sent to the host if no ribbon movement has occurred 5 seconds if **Stop** was not pressed to clear the fault.	Make sure the ribbon is not twisted and the forms thickness lever is set to match the thickness of the media being used. If the fault reoccurs, contact your IBM service representative.
037 STACKER JAM TIMEOUT CHECK STACKER	A timeout message is sent to the host if paper is not loaded 10 minutes after **Stop** was pressed to clear the stacker jam fault.	Clear the stacker jam and reload the paper. See *Setup Guide* for procedure.

Table 1: Fault Messages

Fault Message	Explanation	Solution
038 STACKER FULL TIMEOUT CHECK STACKER	A timeout message is sent to the host if paper is not loaded 10 minutes after **Stop** was pressed to clear the stacker full fault.	Remove the paper from the stacker.
039 STACKER FAULT TIMEOUT CHECK STACKER	A timeout message is sent to the host if paper is not loaded 10 minutes after **Stop** was pressed to clear the stacker fault.	Check for obstructions in the stacker area. If the fault persists, contact your IBM service representative.
041 BUFFER OVERFLOW	Host sends data after the printer buffer is full. (Serial interface.)	Check the printer serial port configuration setup. Ensure that the Data Terminal Ready setting matches both the host and printer settings.
042 CUSTOM SET DOES NOT EXIST SAVE FIRST	This custom configuration set does not exist.	Save the custom set. See “Saving Configurations” on page 75.
043 CUSTOM SET ALREADY EXISTS DELETE FIRST	Custom set is write–protected.	Delete the existing set, then save the new set.
044 EC FIRMWARE/ HARDWARE ERROR	Fatal firmware error on the controller board.	Contact your IBM service representative.
046 EC STOPPED AT STATE <state>	Controller self–test and initialization sequence was halted at <state>, where <state> is one of 10 numerically coded messages.	Contact your IBM service representative.

Table 1: Fault Messages

Fault Message	Explanation	Solution
056 HAMMER COIL OPEN	Electrical malfunction of one or more hammer coils.	(You can continue to print with degraded print quality.) Contact your IBM service representative.
057 CLOSE PLATEN	Forms thickness lever is raised to the open position.	Lower the forms thickness lever.
058 SHUTTLE JAM SEE SETUP GUIDE	No shuttle movement or the shuttle is moving at the wrong speed.	Make sure the ribbon is not twisted and the forms thickness lever is set correctly. If the fault reoccurs, contact your IBM service representative.
059 CANCEL PRINT ACTIVE	Non–error status message.	No action necessary.
060 PRINTER HOT	Controller board sensors report high temperatures on the board.	Contact your IBM service representative.

Table 1: Fault Messages

Fault Message	Explanation	Solution
062 EXHAUST FAN FAULT	Sensors cannot detect current in fan circuit.	Power off the printer. Check for obstruction of vents and fan airway; remove any obstructions. Check for items beneath the printer blocking cabinet vents. Power back on the printer. If the message reoccurs, contact your IBM service representative. **NOTE:** This message should not appear on a pedestal model. If it does, contact your IBM Service Representative.
065 HAMMER BANK FAN FAULT	Sensors cannot detect current in fan circuit.	Power off the printer. Check for obstruction of vents and fan airway; remove any obstructions. Check for items beneath the printer blocking cabinet vents. Power back on the printer. If the fault reoccurs, contact your IBM service representative.
069 DATA CLEARED	Appears when data is cleared out of the printer after the **Cancel** key has been pressed.	No action necessary.
080 POWER SUPPLY HOT	Circuits are overheating on the power supply board.	Contact your IBM service representative.

Table 1: Fault Messages

Fault Message	Explanation	Solution
082 POWER SUPPLY 8.5V FAILED	Internal power failure.	Contact your IBM service representative.
083 INTAKE FAN FAULT	Sensors cannot detect current in fan circuit.	Power off the printer. Check for obstruction of vents and fan airway; remove any obstructions. Check for items beneath the printer blocking cabinet vents. Power back on the printer. If the fault reoccurs, contact your IBM service representative.
084 POWER SUPPLY 48V FAILED	Internal power failure.	Contact your IBM service representative.
085 CONTROLLER VOLTAGE	Controller voltage failure.	Contact your IBM service representative.
086 CONTROLLER 15V	Controller voltage failure.	Contact your IBM service representative.
087 PLATEN OPEN TIMEOUT CLOSE PLATEN	Forms thickness lever has been open for at least one minute.	Close forms thickness lever.
088 CONTROLLER 23.5V	Controller voltage failure.	Contact your IBM service representative.
089 RIBBON STALL CHECK RIBBON	No ribbon movement.	Make sure the ribbon is not twisted and the forms thickness lever is set to match the thickness of the media being used. If the fault reoccurs, contact your IBM service representative.

Table 1: Fault Messages

Fault Message	Explanation	Solution
090 SHUTTLE COVER OPEN CLOSE SHUTTLE COVER	Shuttle cover is missing, damaged, or not correctly installed.	Contact your IBM service representative.
092 RIBBON DRIVER CIRCUIT	Controller board does not detect ribbon drive motor.	Contact your IBM service representative.
101 UPPER DRIVER SHORT	Hammer driver circuits on the controller board shorted to ground.	Contact your IBM service representative.
102 LOWER DRIVER SHORT	Circuit(s) on the hammer bank or in the hammer bank power cable shorted to ground.	Contact your IBM service representative.
107 H/B CONTROL MODE	A status message indicating that one or more hammer coils are hotter than normal and the printer will run in half–speed mode until they cool down. This can occur during especially dense print jobs.	No action necessary. The printer automatically corrects the condition by running at half–speed mode until the hammers cool down, at which point it resumes full speed printing.
110 STACK OVERFLOW SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
111 STACK UNDERFLOW SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
112 UNDEFINED OPCODE SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.

Table 1: Fault Messages

Fault Message	Explanation	Solution
113 PROTECTED INSTRUCTION SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
114 ILLEGAL OPERAND ACCESS SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
115 ILLEGAL INSTRUCTION ACCESS SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
116 ILLEGAL EXTERNAL BUS ACCESS SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
117 A TO D OVERRUN SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
118 UNDEFINED INTERRUPT SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
119 TCB CORRUPTED SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
120 ACCESS NULL POINTER SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.

Table 1: Fault Messages

Fault Message	Explanation	Solution
121 PAPER NOT AT SPEED SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
122 PAPER NOT SCHEDULED SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
123 PAPER BUSY TOO LONG SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
124 PAPER FIFO OVERFLOW SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
125 PAPER FIFO UNDERFLOW SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
126 PAPER FEED BAD TABLE SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
127 PAPER FEED ILLEGAL STATE SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
128 PAPER FEED INVALID COMMAND SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.

Table 1: Fault Messages

Fault Message	Explanation	Solution
129 PAPER FEED INVALID PARAMETER SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
130 PAPER FEED PARTLY ENERGIZED SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
131 PAPER FEED INTERRUPT SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
132 RIBBON INVALID COMMAND SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
133 RIBBON INVALID STATE SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
134 PLATEN INVALID COMMAND SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
135 PLATEN INVALID STATE SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
136 PLATEN INVALID PARAMETER SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.

Table 1: Fault Messages

Fault Message	Explanation	Solution
137 SHUTTLE INVALID COMMAND SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
138 SHUTTLE INVALID PARAMETER SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
139 SHUTTLE OVERSPEED SEE SETUP GUIDE	Fatal firmware error on the controller board.	Contact your IBM service representative.
990 MACHINE CHECK	Host status message.	No action necessary.
998 NON–VOLATILE MEMORY FAILED	Non–volatile memory fault.	Contact your IBM service representative. **NOTE:** You can still print, but you cannot save configuration changes because the NVRAM is defective.
A97 GRAPHIC CHECK ERROR PRESS STOP THEN START	Printer has received a non–printable character.	Press **Stop** then **Start**.
ENERGY SAVER MODE ACTIVE	Status message: printer is in low–energy idle state, all fans and higher voltages are off, only +5Vdc logic circuits are active.	No action necessary. **NOTE:** If the printer was in the NOT READY state when the energy saver mode was activated, it will remain in the NOT READY state until **START** is pressed.

Table 1: Fault Messages

Fault Message	Explanation	Solution
HAMMER COIL BAD #, #, #	Malfunction of one or more hammer coils.	(You can continue to print with degraded print quality.) Contact your IBM service representative.
NOT READY	Printer state message: printer is offline, not in communication with host.	No action necessary.
OPERATOR MENU <first menu item>	Non–error status message.	No action necessary.
OPERATOR MENU LOCKED	Non–error status message.	No action necessary.
OPERATOR MENU UNLOCKED	Non–error status message.	No action necessary.
PA1 SELECTED	Attach status message.	No action necessary.
PA2 SELECTED	Attach status message.	No action necessary.
P05 DIAGNOSTIC TEST PASSED	Non–error status message.	No action necessary.
P17 SECURITY VIOLATION	Security code of PAL on controller board does not match code of firmware on the controller board.	Contact your IBM service representative.
PLEASE WAIT... RESET IN PROGRESS	Printer reset in progress.	No action necessary.
READY	Printer state message: printer is online and in communication with the host.	No action necessary.

Table 1: Fault Messages

Fault Message	Explanation	Solution
RIBBON INK OUT CHANGE RIBBON	RibbonMinder has determined that the ribbon is out of ink.	Replace the ribbon and verify ribbon life is reset to 100%.
SERVICE MENU <first service test>	Non–error status message.	No action necessary.
TESTING HARDWARE PLEASE WAIT	Status message when printer runs self–tests and initialization routines.	No action necessary.
TOP OF FORM SET	Non–error status message.	No action necessary.

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