6400 Line Matrix Printers

Operator's Guide

Cabinet and Pedestal Models

Form Number S544–5641–00

S544–5641–00

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Operator's Guide

Cabinet and Pedestal Models

Note!

Before using the information and the product it supports, ensure that you read the general information under “Notices” on page iv.

First Edition (August, 1998)

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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.

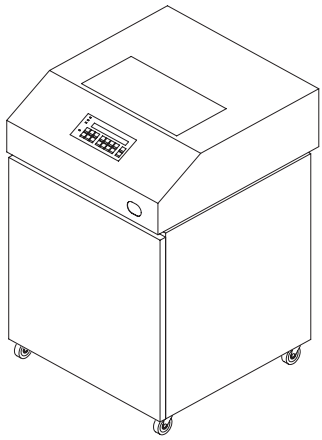
This document is divided into three sections:

Basic Operating Procedures — describes the operator panel and how to load paper and ribbon, and how to use the optional Power Paper Stacker.

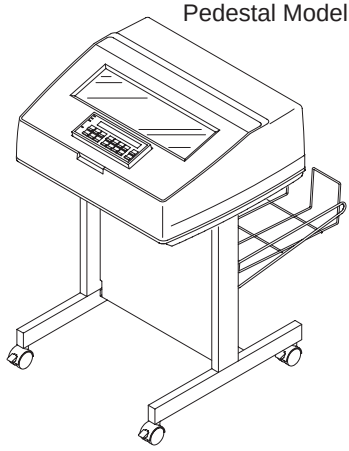
Configurations — shows how to use the operator panel to change formatting features.

Troubleshooting — gives instructions for clearing paper jams, cleaning the printer, and understanding fault messages.

Cabinet Model



Pedestal Model



Conventions

Notes and Notices

In order to avoid injury to yourself or damage to the printer, follow the directions in this guide, paying 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.

DANGER:

A ***Danger*** notice calls attention to a situation that is potentially lethal or extremely hazardous to people.

CAUTION:

A ***Caution*** notice calls attention to a situation that is extremely hazardous to people.

attention

An ***Attention*** notice indicates the possibility of damage to a program, device, system, or data.

important

Important draws your attention to information vital to proper operation of the printer.

note

A ***Note*** gives you helpful tips about printer operation.

Message Display

READY

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

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Notices

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

Hinweis: Dieses Genehmigungsverfahren ist von der Deutschen Bundespost noch nicht veröffentlict worden.

Electrical Safety

This printer is inspected and listed by recognized national testing laboratories, such as Underwriters Laboratories, Inc. (UL) in the U.S.A. and Canadian Standards Association (CSA) in Canada. Listing of a product by a national testing laboratory indicates that the product is designed and manufactured in accordance with national requirements intended to minimize safety hazards. IBM equipment meets a very high standard of safety in design and manufacture. Remember, however, that this product operates under conditions of high electrical potentials and heat generation, both of which are functionally necessary.

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Safety Notices

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 sources.**

DANGER:

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

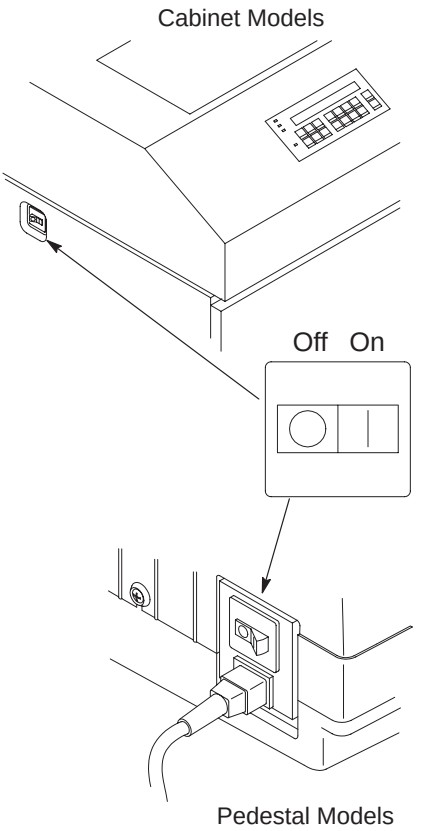
BASIC OPERATING PROCEDURES

Powering On the Printer

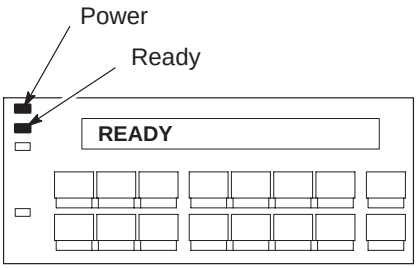
DANGER:

<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 sources.

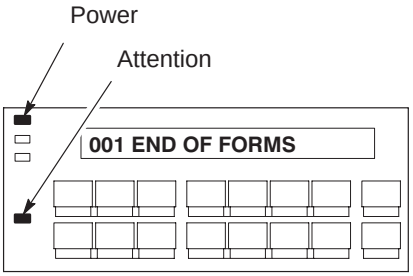
Push the On (|) side of the switch to power on the printer. Push the Off (○) side of the switch to power off the printer.



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



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 81 for information on fault messages.



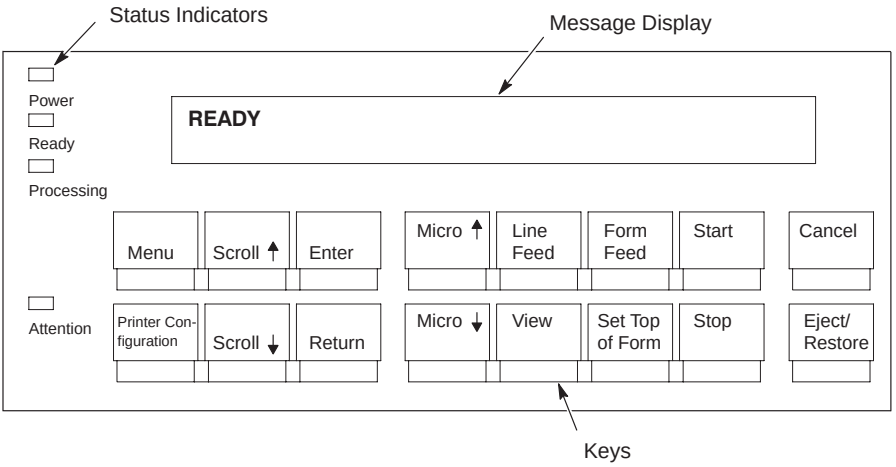
Using the Operator Panel

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



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** key and the **Enter** key 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. Pressing the **Start** key places the printer in READY state.

- **NOT READY** (offline) — In the NOT READY state, you may perform operator tasks such as loading paper and setting top-of-form. Pressing the **Stop** key changes the printer state from READY to NOT READY.

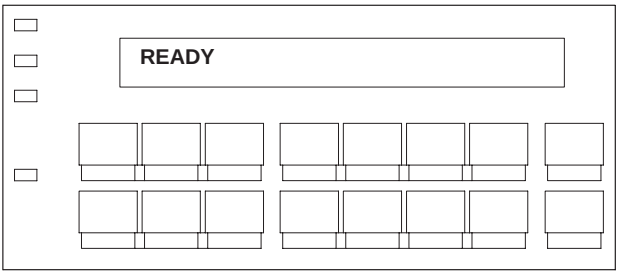
- **PROGRAM** — Pressing the **Menu** key places the printer in PROGRAM state and displays the operator menus. PROGRAM state may be either locked or unlocked. When PROGRAM state is unlocked, you may select and save new configuration settings. When PROGRAM state is locked, you may view the current settings, 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, pressing any key on the operator panel silences the alarm. Pressing the **Form Feed** key will silence the alarm and cause the paper to move. The top-of-form setting will be lost. Pressing the **Stop** key will 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.

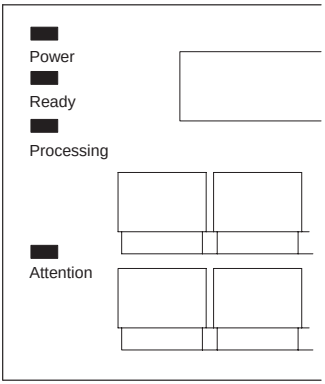
Message Display

Displays operating states, menu options, and fault messages.



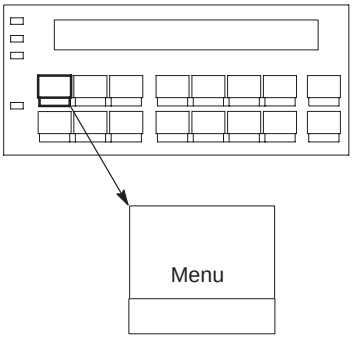
Status Indicators

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



- **Power** — On when the printer is powered on.
- **Ready** — On when the printer is in 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



This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

1) Menu places the printer in PROGRAM state and displays the first-level operator menu (PRINTER CONTROL).

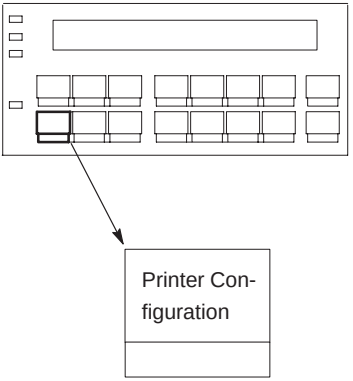
   To view the menus without changing settings, press **Menu** from NOT READY state.

   To change the configuration settings, press **Scroll ↑ + Scroll ↓** at the same time to unlock 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) Pressing **Enter** moves to a *lower* level in the menu structure; pressing **Return** moves to a *higher* level in the menu structure.

Printer Configuration



This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

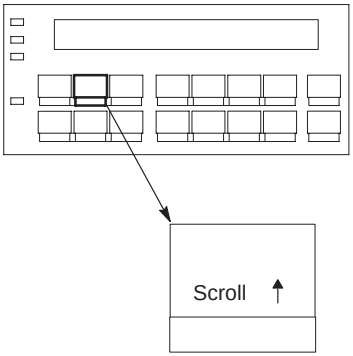
In the NOT READY state, this key generates a printed record of the current configuration parameters.

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

Scroll ↑

This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

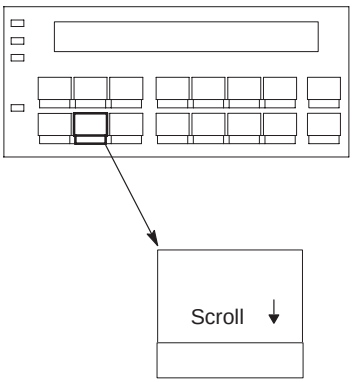
In PROGRAM state, this key scrolls *forward* through the options in the current level of the operator menu.



Scroll ↓

This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

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



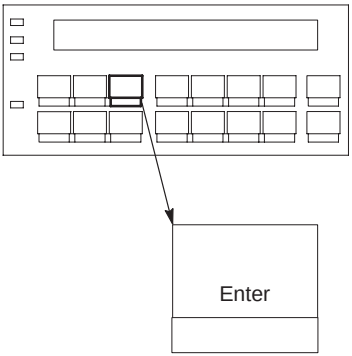
Scroll ↑ + Scroll ↓

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

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

Enter

This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)



1) In PROGRAM state, moves to a *lower* level in the menu structure.

2) In the unlocked PROGRAM state, selects a configuration option value.

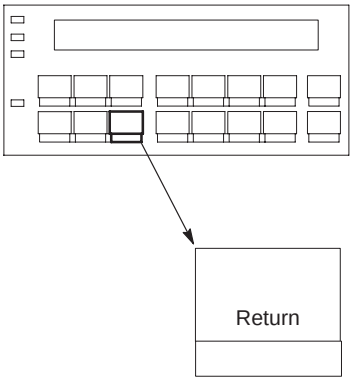
3) In PROGRAM state, starts and stops a Print Test selected from the Operator Print Tests menu.

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

This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

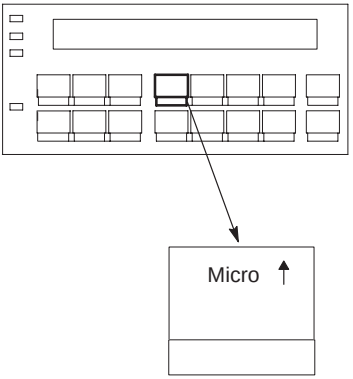
In the PROGRAM state, moves to a *higher* level in the menu structure.



important

Advancing and retracting the paper with these keys changes the printer top-of-form to the new position.

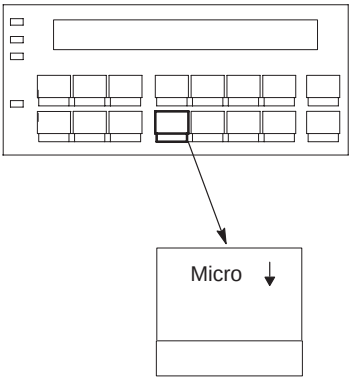
Micro ↑



This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

In 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 ↓



This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

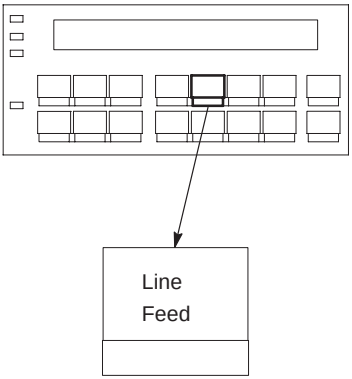
In NOT READY state, this key micro-steps the paper downward in 1/72 inch increments. Press and hold to move paper at 10 increments per second.

Line Feed

This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

In 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.



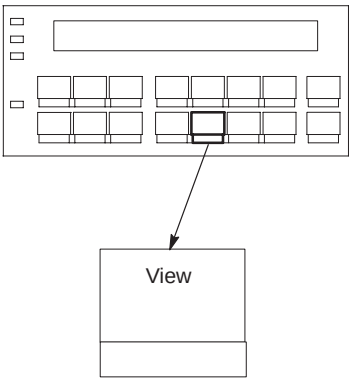
note

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

View

In 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 buffer, the data will be printed, then the paper will move up for viewing.

Press **View** a second time to return the paper back to the position when the **View** key was pressed.

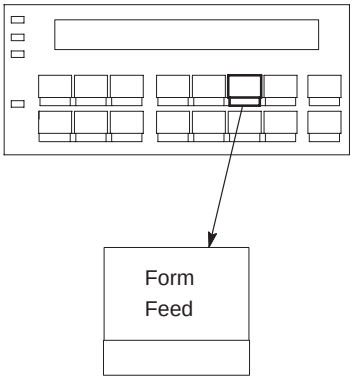


note

*Pressing **Star**t instead of pressing **View** a second time performs the same function as pressing **View** a second time and puts the printer in READY state.*

*Pressing **Stop** instead of pressing **View** a second time moves the paper back to its original print position and puts the printer in NOT READY state.*

Form Feed



This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

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

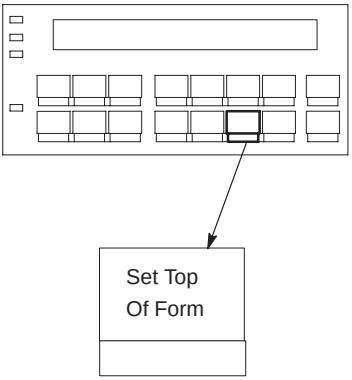
If there is any data in the printer buffer, it will print first, then the paper will move to the next top-of-form.

Pressing the **Form Feed** key in the FAULT state will 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 printer buffer. The data not in the printer buffer is not affected.

Set Top Of Form



This key operates only in NOT READY state. Press **Stop** to place the printer in the NOT READY state. (See page 14.)

Unless there is data in the printer 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 the procedure on page 45 for more information.

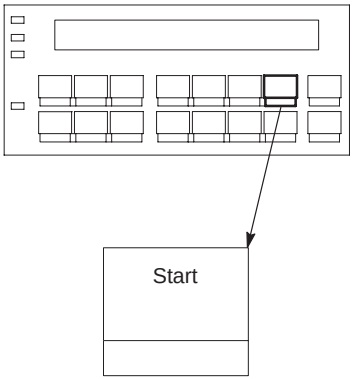
If there is data in the printer buffer (such as after a paper jam), the printer moves to the position where printing stopped.

Start

1) Moves the printer from NOT READY state to READY state, enabled for printing.

2) In PROGRAM state, exits the menus and places the printer in READY state.

3) After pressing **View** or **Eject** to move the print position to the tractor area, moves the paper back to its original print position, and places the printer in READY state.



Stop

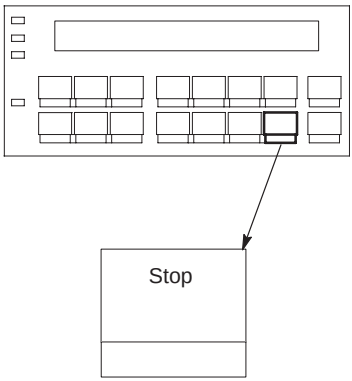
1) Moves the printer from READY state to NOT READY state, enabled for operator functions such as viewing or changing configuration parameters.

2) In PROGRAM state, exits the menus and places the printer in the NOT READY state.

3) In 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, resets 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

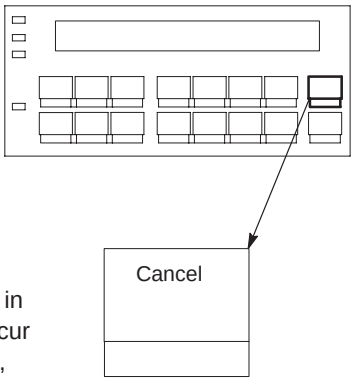
important

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

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 is displayed.



note

*With a Coax Interface, pressing the **Cancel** key a second time stops the previous cancel.*

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

   c. Twinax Interface*: Effective in READY and NOT READY state. When pressed, “059 CANCEL PRINT ACTIVE” is displayed.

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

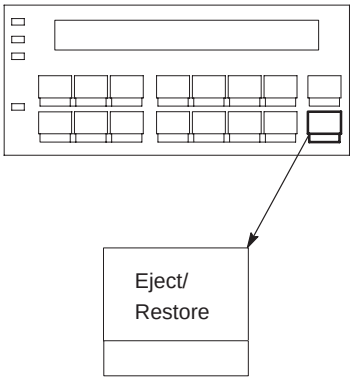
For more information, see page 51, “Canceling a Print Job.”

note

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

*To cancel a print job with the Multi-Platform Interface Coax/Twinax feature, see the *Coax/Twinax Multi-Platform Interface Feature Operation Guide*.

Eject/Restore (Standard Mode)



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

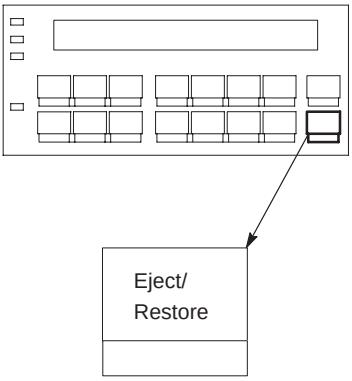
Once you have torn the paper at the perforation, press either **Eject/Restore**, **Start**, or **Stop** to retract the paper to its previous position, as described below:

- **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)

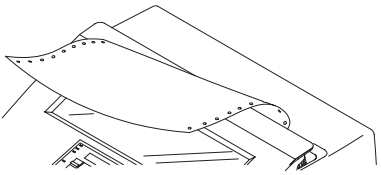


Top Exit Tear Mode is selectable only on pedestal models. It is designed to be used in conjunction with the Top Exit Paper Path. This mode facilitates tearing off forms and adjusting the printer to print on the next available form.

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.



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

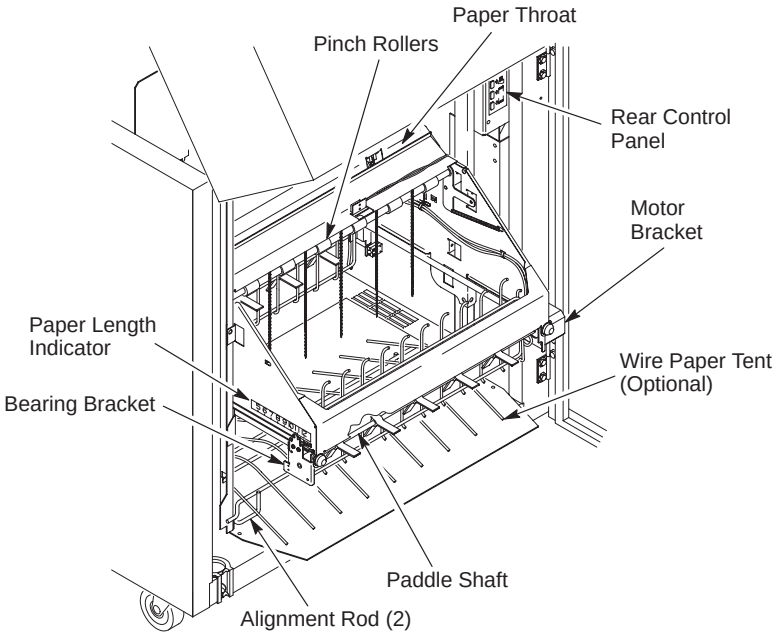
- **Eject/Restore** moves the paper to its next available position. The printer returns to the mode it was in before **Eject/Restore** was used.
- **Start** moves the paper to its next available position and the printer goes READY.
- **Stop** moves the paper to its previous position and the printer goes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

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

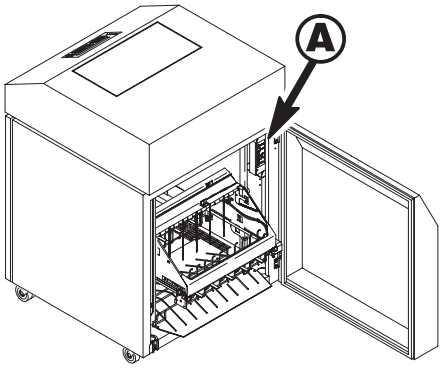
The following illustration provides component locations for operating the power paper stacker.

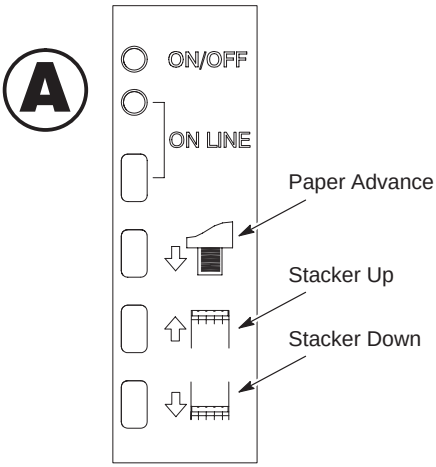


Setting Up the Power Paper Stacker

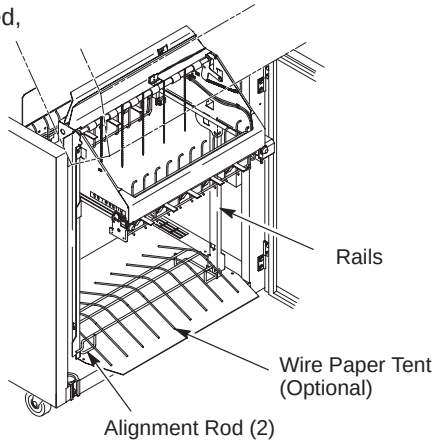
1 Power on the printer.

2 Using the rear control panel, press ONLINE to take the printer to the NOT READY state. Press STACKER UP key and wait for the stacker to reach the top of its travel.



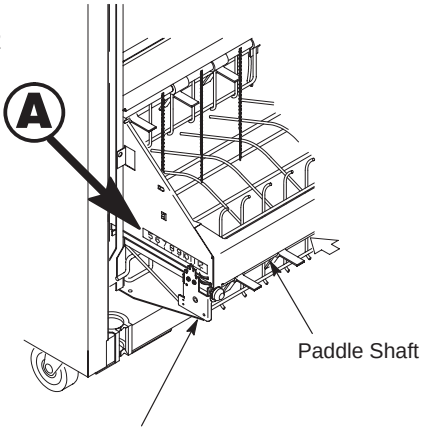


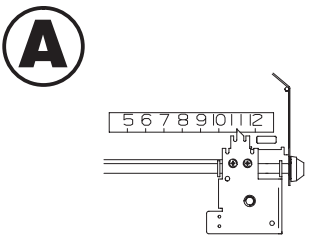
3 Position the wire paper tent, if provided, in the base of the stacker with the alignment rods against the paper stacker rails.



4 Set the desired paper length (5 to 12 inch range).

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. Follow steps 1 through 22 in the Loading Paper section (see page 26).

2. Using the rear control panel, press the PAPER ADVANCE key and hand feed the paper until paper reaches the wire tent and there is an excess of 3 to 5 pages. Be certain the paper passes through the paper stacker throat.

3. Stack the 3–5 sheets of paper on top of the wire paper tent, making sure the paper lies with the natural folds.

4. The printer displays, “NOT READY.” If a message other than “NOT READY” displays, refer to the “Trouble Shooting” chapter.

5. 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.

6. Check to ensure paper is still centered between paper guides.

7. 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 when in this mode.

Setting Top Paper Exit

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

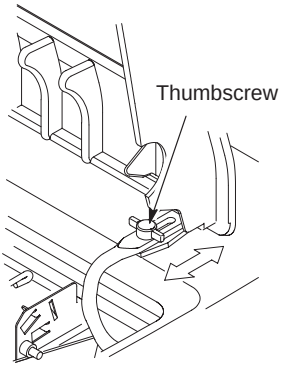
note

If there is paper in the printer, unload the paper (page 41), then continue with step 2 of this procedure.

2 Open the printer cover.

3 Loosen the two hinge adjustment thumbscrews.

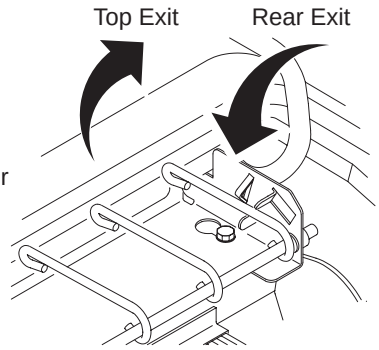
4 Slide the cover toward the rear of the printer until it stops.



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.

7 Load paper (page 26), feeding the paper out the top paper exit.

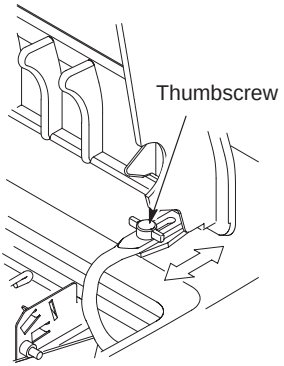


Setting Rear Paper Exit

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

note

If there is paper in the printer, unload the paper (page 41), then continue with step 2 of this procedure.



2 Open the printer cover.

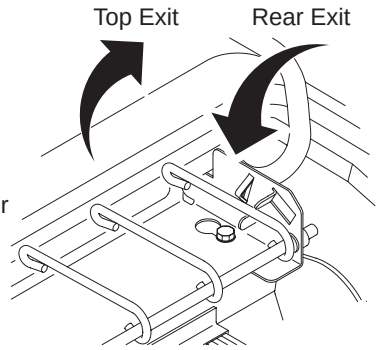
3 Loosen the two hinge adjustment thumbscrews.

4 Slide the cover forward until it stops.

5 Tighten the two hinge adjustment thumbscrews.

6 Place the paper guide in its lower position.

7 Load paper (page 26), feeding the paper out the rear paper exit.



Loading 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.

note

To reload the paper after an "END OF FORMS" fault message, refer to page 33.

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

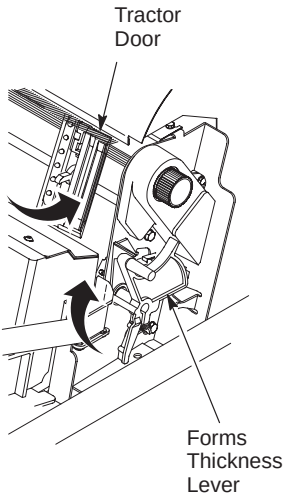
2 Open the printer cover.

3 If necessary, unload the current paper (page 41), then continue with step 7 of this procedure. If not, continue with step 4.

4 Raise the forms thickness lever as far as it will go.

5 Open both tractor doors.

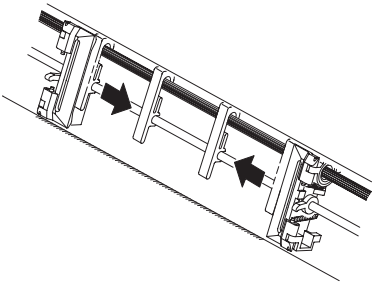
6 Press any key on the operator panel except **Form Feed** to silence the alarm.



note

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

7 Slide the two paper supports sideways and position them toward the center of the area between the tractors.

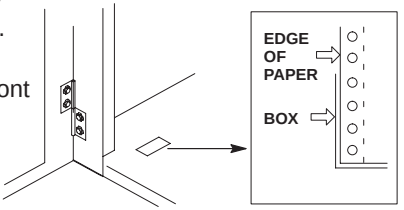


8 On cabinet models:

a. Open the cabinet front door.

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.



9 On pedestal models:
Place the paper supply on the floor in front of the printer, or on the optional input paper shelf.

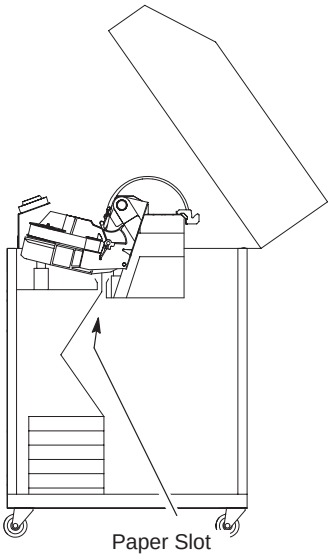
10 Ensure that the paper pulls freely from the box.

11 Feed the paper up through the paper slot.

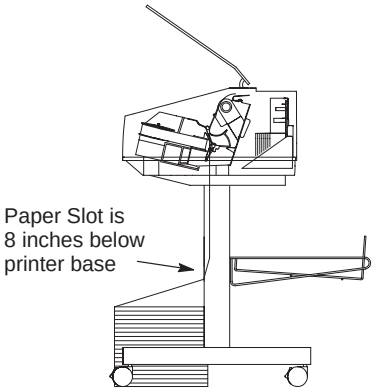
12 On pedestal models:
Make sure the paper is inserted between the two wire guides.

13 Hold the paper in place with one hand (to prevent it from slipping down through the paper slot) and pull it through from above with your other hand.

Cabinet Models



Pedestal Models

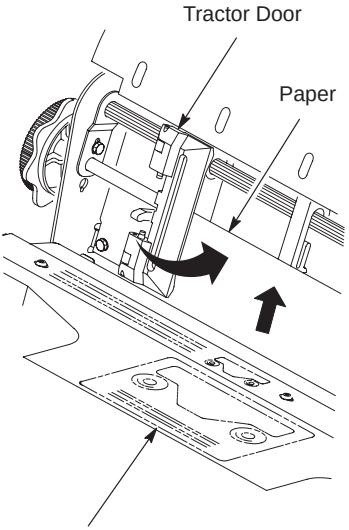


14 Pull the paper above and behind the ribbon mask. The ribbon mask location is shown on the ribbon path diagram.

15 Load the paper on the left tractor and close the tractor door.

16 You should not normally need to adjust the position of the left tractor.

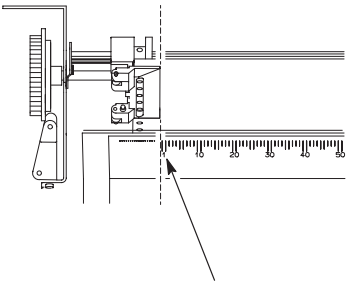
If adjustment is necessary, unlock the left tractor. Slide the tractor until its inner edge is aligned with the number “1” on the paper scale and lock it. You can also use the paper scale to count columns.



Ribbon Path Diagram

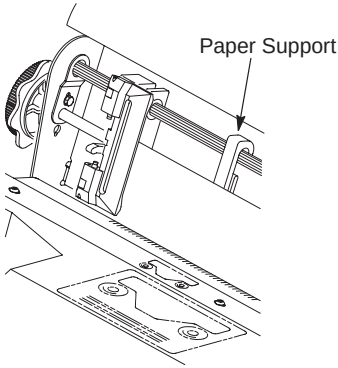
attention

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.



Paper Scale

17 Move the two paper supports as necessary to support the paper through the tractor area.



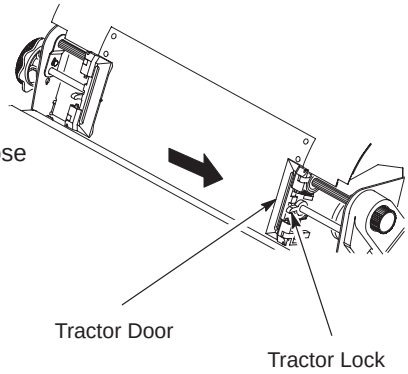
note

The placement of the paper supports will help the movement of the paper and reduce the possibility of paper jams.

18 Unlock the right tractor.

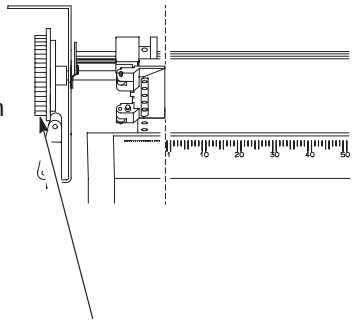
19 Load the paper on the tractor and close the tractor door.

If necessary, slide the right tractor to remove any slack. The paper should be flat without damaging the form feed holes.



20 Lock the right tractor. Both tractors are now secured.

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

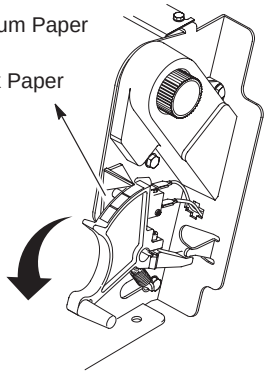


21 Lower the forms thickness lever. Set it to match the paper thickness. Refer to the note on the shuttle cover.

A Thin Paper

B Medium Paper

C Thick Paper



NOTE:

Thin Paper = single sheet
Medium Paper = two–part form
Thick Paper = six–part form

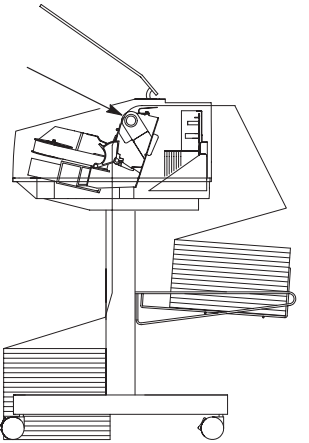
note

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.

22 On pedestal models:
Guide the paper over the lower paper guide and through the top or rear paper exit.

Pedestal Models

Lower Paper Guide



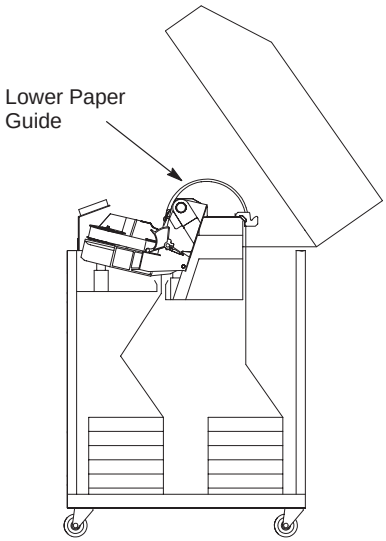
23 Do one of the following:

a. If there is data in the printer buffer, such as after a paper jam, go to page 45 to set the top-of-form.

b. If there is no data in the buffer, continue with step 24 of this procedure.

24 Press **Form Feed** several times to ensure that the paper feeds properly beyond the tractors, over the lower paper guide, and into the paper stacking area.

Cabinet Models



25 Feed enough paper to ensure that the paper stacks correctly. Ensure that the paper folds the same way in the stacking area as it does in the supply area.

26 On cabinet models:
Open the rear cabinet door and ensure that the paper is aligned with the label in the output area (inside the cabinet).

27 Close both doors, if the length of your forms allows this. Some longer forms may require the doors be left open.

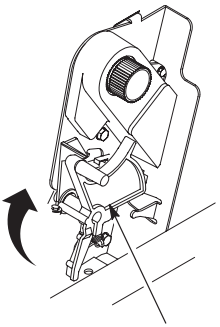
28 Go to page 45 to set the top-of-form.

Reloading Paper

Use this procedure when you run out of paper during a print job. The following steps allow you to reload paper without having to reset the top-of-form. The last sheet of the old paper supply is used to line up the first sheet of the new paper supply. This is especially useful when printing forms, such as labels or invoices.

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

Do not open the tractor doors or remove the existing paper.

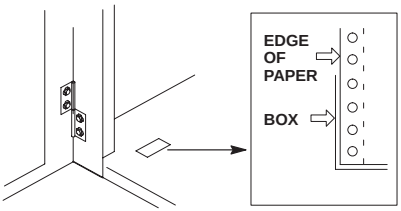


Forms Thickness Lever

2 Press any key on the operator panel except **Form Feed** to silence the alarm.

note

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

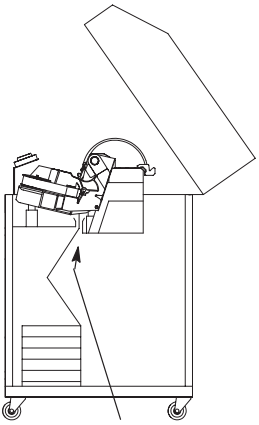


3 On cabinet models, open the cabinet front door.

4 Align the paper supply with the label on the floor.

5 Ensure that the paper pulls freely from the box.

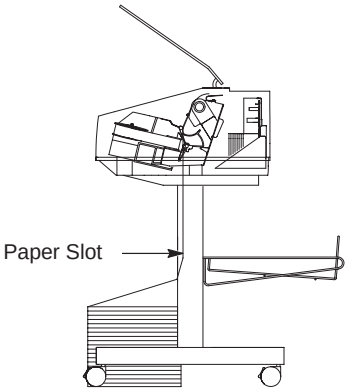
6 Locate the paper slot and feed the paper up through the slot.



note

It may be easier to feed one corner of the new paper up through the slot first. When this corner can be grasped from the top, rotate the paper back to the normal position. If necessary, gently press the existing paper back.

7 Hold the paper to prevent it from slipping down and through the paper slot.

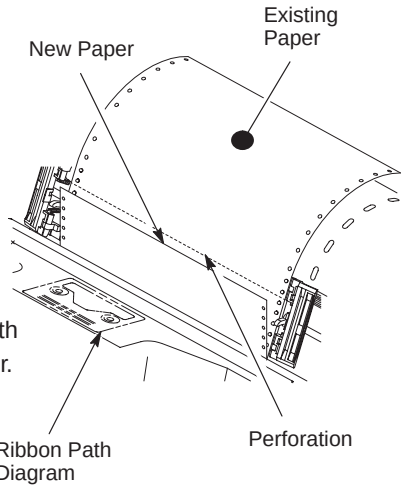


note

If you are using multi-part paper and it is too thick for the new paper to be loaded over the existing paper, go to step 18.

8 Pull the new paper above and behind the ribbon mask, but in front of the existing paper. The ribbon mask location is shown on the ribbon path diagram.

If necessary, gently press the existing paper back.



9 Align the top edge of the new paper with the top perforation of the existing paper.

10 Load the new paper over the existing paper.

11 Open and load the tractors one at a time to prevent the paper from slipping.

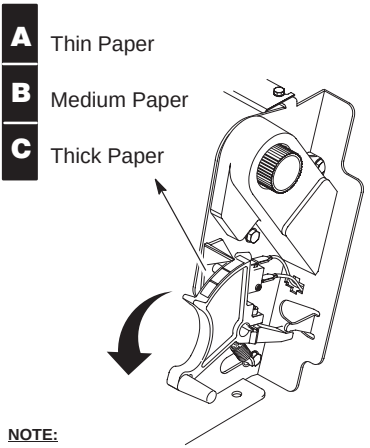
note

Ensure that the top edge of the new paper lines up with the top perforation of the existing paper.

12 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.



NOTE:

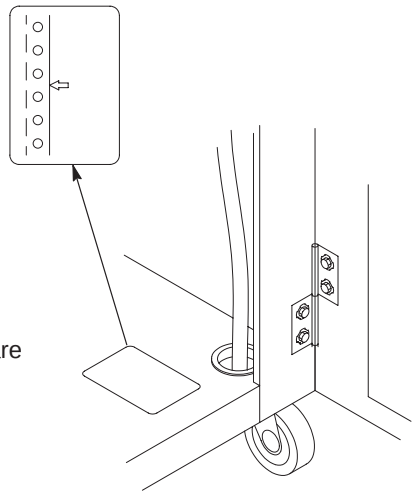
Thin Paper = single sheet
Medium Paper = two–part form
Thick Paper = six–part form

13 Press **Cancel** to clear the "END OF FORMS" fault message from the message display.

14 Close the printer cover and the cabinet front door, as required.

15 Press **Start** to place the printer in READY state and resume printing.

16 On cabinet models:
Open the rear cabinet door and ensure that the paper folds in the stacker the same way it does in the supply area.



17 Close the rear cabinet door.

Perform steps 18 through 36 only if you are unable to load the new paper over the existing paper in step 3.

18 Open both tractor doors.

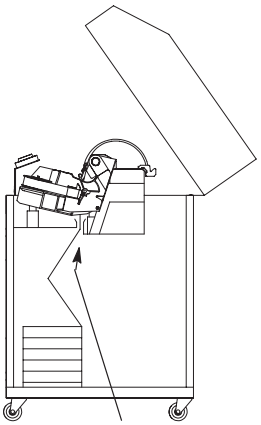
19 Raise the forms thickness lever as far as it will go.

20 Remove the paper from the tractors. Allow the paper to fall into the paper supply area.

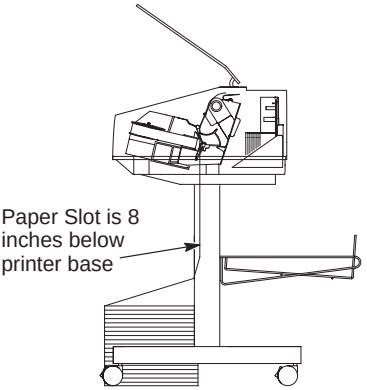
21 Load a new box of paper in the input area.

22 Feed the paper up through the paper slot inside the cabinet. Hold the paper to prevent it from slipping down through the paper slot.

Cabinet Model



Pedestal Model

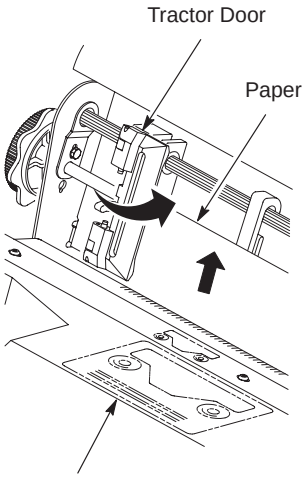


23 Pull the paper above and behind the ribbon mask. The ribbon mask location is shown on the ribbon path diagram.

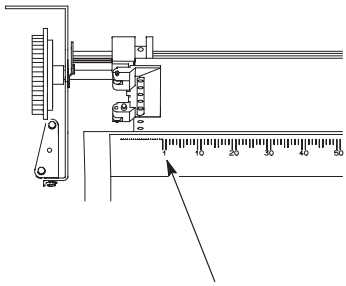
24 Load the paper on the left tractor and close the tractor door.

25 Normally, you should not need to adjust the position of the left tractor.

If adjustment is necessary, unlock the left tractor. 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.

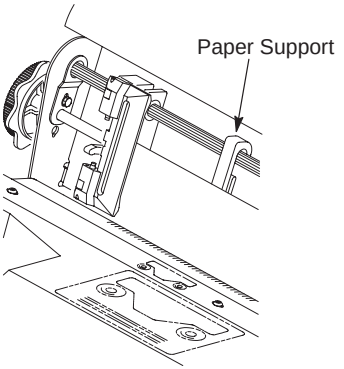


Ribbon Path Diagram



Paper Scale

26 Move the paper supports as necessary to support the paper through the tractor area.

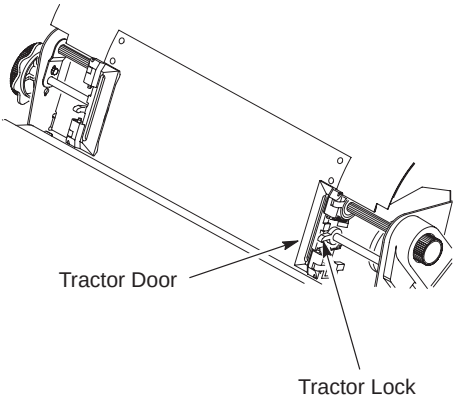


27 Unlock the right tractor.

28 Load the paper onto the sprockets and close the tractor door.

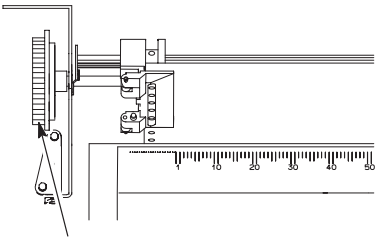
If necessary, slide the right tractor to remove paper slack or to adjust for various paper widths. Then, lock the tractor.

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



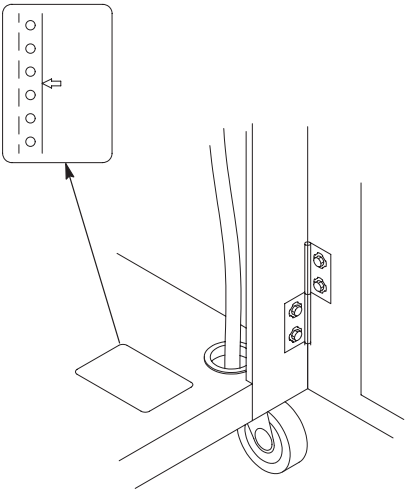
29 On pedestal models: Guide the paper over the lower paper guide and through the slot in the top cover.

30 Press **Form Feed** several times to ensure the paper feeds properly beyond the tractors and over the lower paper guide. Feed enough paper to ensure the paper stacks correctly.



Horizontal Adjustment Knob

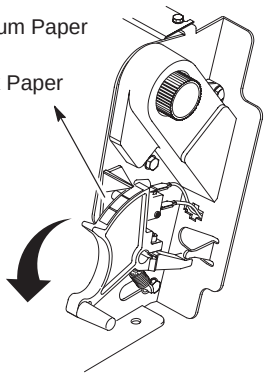
31 On cabinet models:
Ensure the paper is aligned with the label in the output area (inside the cabinet). Close the cabinet front door.



32 Align the top of the first print line with the top–of–form indicator on the tractor by rotating the vertical position knob.

33 Lower the forms thickness lever. Set it to match the paper thickness. Refer to the note on the shuttle cover.

A Thin Paper
B Medium Paper
C Thick Paper



34 Press **Stop** to clear any fault messages (such as “END OF FORMS”) from the message display.

35 Press **Set Top Of Form**. The paper moves to the top-of-form set previously.

If there is data in the printer buffer, the paper moves forward to the last print position on the next page.

36 Press **Start** and close the printer cover.

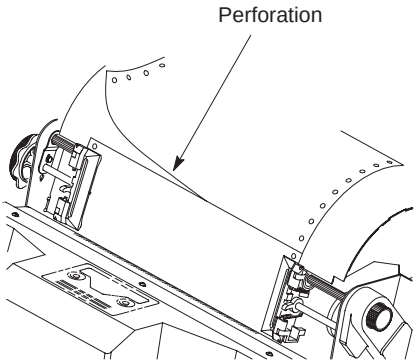
NOTE:

Thin Paper = single sheet
Medium Paper = two–part form
Thick Paper = six–part form

Unloading Paper

1 Press **Stop** to place the printer in NOT READY state, and open the printer cover.

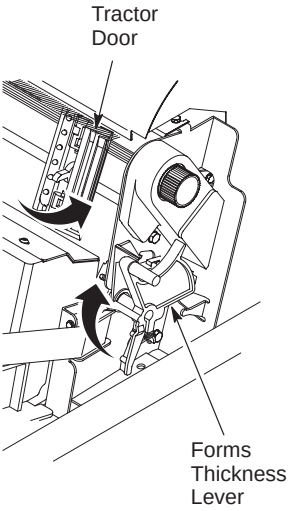
2 Tear off the paper at the perforation, if necessary, and allow the paper to fall to the back of the printer and into the paper stacking area.



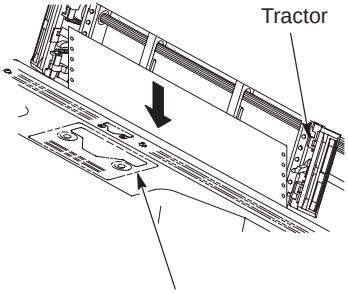
3 Raise the forms thickness lever as far as it will go.

4 Open both tractor doors.

5 Press any key on the operator panel except **Form Feed** to silence the alarm.



6 Remove the paper from the tractors.



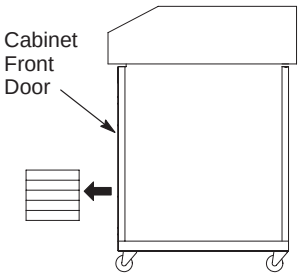
Ribbon Path Diagram

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.

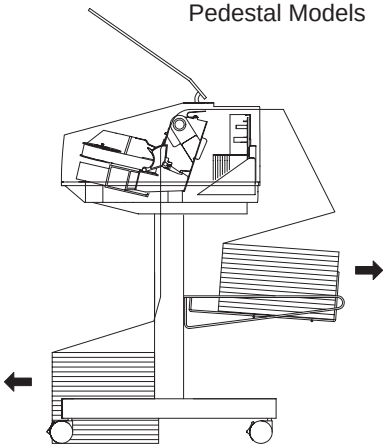
Cabinet Models



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.

Pedestal Models



10 On cabinet models:
Remove the paper supply from the cabinet floor. Close the cabinet front door and the printer cover.

11 On pedestal models:
Remove the paper supply from the floor or shelf in front of the printer and close the printer cover.

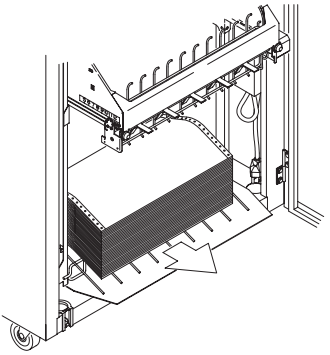
Unloading the Power Stacker

Removing Paper from the Printer:

1 Unload paper from the print mechanism. See page 41.

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.

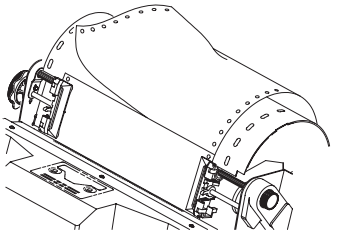
Removing Paper from the Power Stacker Only:

1 Open the rear cabinet door.

2 Using the rear control panel, press ON LINE to place the printer in NOT READY state.

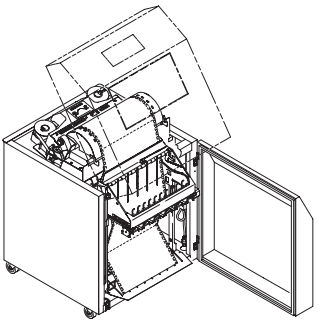
3 Press STACKER UP and wait for the stacker to reach the top of its travel.

4 Open the printer cover.



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

6 From the rear of the printer, making sure the paper lies with its natural folds, lay the paper on top of the paper stack.



7 Remove the paper from the rear of the printer.

8 Close the rear cabinet door and the cover.

Setting Top-of-Form

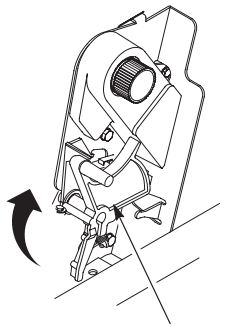
The top-of-form setting determines where the first line of print appears on a page.

1 If the printer is in READY state, press **Stop** to place the printer in NOT READY state.

2 Open the printer cover.

3 Raise the forms thickness lever as far as it will go.

4 Press any key on the operator panel except **Form Feed** to silence the alarm.

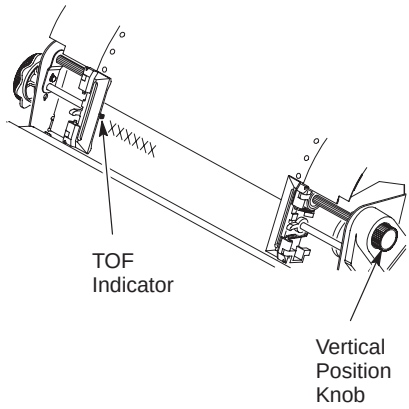


note

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

5 Locate the TOF indicator. It is the small tab located on the left tractor door.

6 Align the top of the first print line with the TOF indicator on the tractor door by rotating the vertical position knob up or down.



7 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.

8 Press **Set Top Of Form**. One of the following occurs:

a. If there is no data in the printer buffer (you have not yet sent a print job to the printer), the paper moves down to the top–of–form position.

To verify the top–of–form setting, run one of the operator print tests. See page 68. Check the placement of the characters on the printout. Your application software may also provide a forms alignment check to verify the placement of the characters.

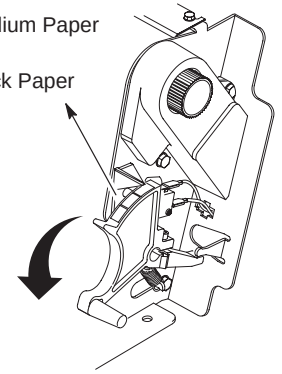
If the character placement is correct, continue with step 9. Otherwise, go back to step 3.

b. If there is data in the printer buffer (such as after a paper jam), the printer moves to the position where printing stopped. Continue with step 9.

A Thin Paper

B Medium Paper

C Thick Paper



NOTE:

Thin Paper = single sheet
Medium Paper = two–part form
Thick Paper = six–part form

note

After a paper jam, it may be necessary to reprint one or more pages.

9 Close the printer cover.

10 Press **Start** to place the printer in READY state.

11 On cabinet models:
When printing, open the rear cabinet door and ensure that the paper folds the same way in the stacking area as it does in the supply area, then close the rear cabinet door.

12 On pedestal models:
When printing, ensure that the paper folds the same way in the stacking area as it does in the supply area. Paper will stack only when using the rear exit path. Paper can not be stacked when using the top exit paper path.

Replacing the Ribbon

For detailed ribbon information, refer to your *Setup Guide.* When replacing ribbons, use only the ribbons listed below:

- IBM General Purpose Ribbon, 60yd, P/N 1040990
- IBM General Purpose Ribbon, 100 yd, P/N 1040995
- IBM High Contrast Ribbon, 60 yd, P/N 1040993
- IBM High Contrast Ribbon, 100 yd, P/N 1040998

Ribbons may be purchased directly from your Lexmark distributor.

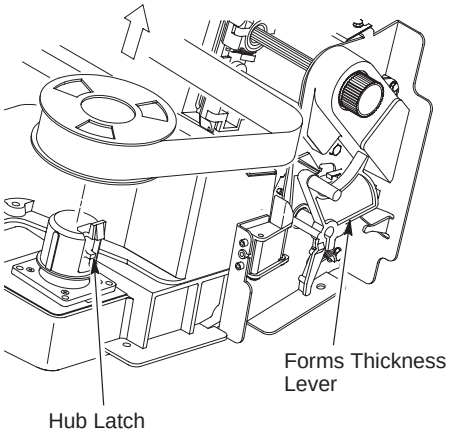
1 Press **Stop** to place the printer in NOT READY state.

2 Open the printer cover.

3 Remove the old ribbon:

a. On pedestal models, raise the operator panel.

b. Raise the forms thickness lever as far as it will go.



note

*If the Ribbon Fault option is set to "Do Nothing," ribbon usage can only be reset from the operator panel by pressing **Enter** with New Ribbon XXX% displayed at the RibbonMinder option. If you are using RibbonMinder with the Ribbon Fault option set to "New Ribbon" and are changing the ribbon because the message Ribbon Out of Ink, Change Ribbon is displayed, raising the forms thickness lever as far as it will go will reset the RIBBON OUT OF INK, CHANGE RIBBON fault message. It will also reset the ribbon usage to 100%.*

c. Press any key on the operator panel except **Form Feed** to silence the alarm.

note

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

d. Press in on the hub latches and lift the ribbon spools off the hubs.

e. Lift the ribbon out of the ribbon path. Refer to the ribbon path diagram on the shuttle cover.

f. Discard the old ribbon.

4 If necessary, clean the interior of the printer. (See page 76.)

5 Install the new ribbon:

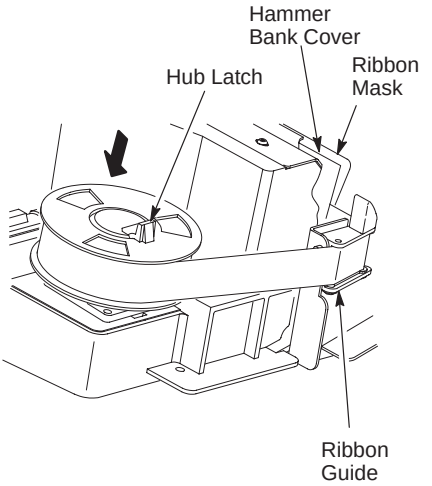
a. With the ribbon to the outside, place the full spool on the right hub. Press down on the spool until the hub latch snaps in place.

b. Install the ribbon around the ribbon guide and along the ribbon path. Refer to the ribbon path diagram on the shuttle cover. Be sure to thread the ribbon between the hammer bank cover and the ribbon mask.

attention

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

c. Place the empty spool on the left hub. Press down on the spool until the hub latch snaps into place. Hand-turn the left spool to ensure that the ribbon tracks correctly in the path and ribbon guides.



6 Lower the forms thickness lever. Set it to match the paper thickness.

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 On pedestal models: Lower the operator panel.

8 Close the printer cover.

9 Press **Start** to return the printer to the READY state.

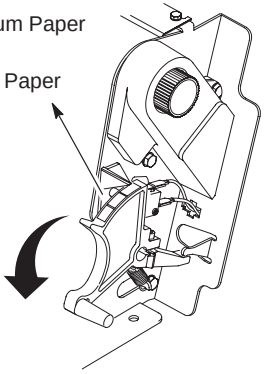
note

*If the Ribbon Fault option is set to "Do Nothing," ribbon usage can only be reset from the operator panel by pressing **Enter** with New Ribbon XXX% displayed at the RibbonMinder option. If you are using RibbonMinder with the Ribbon Fault option set to "New Ribbon" and are changing the ribbon because the message Ribbon Out of Ink, Change Ribbon is displayed, raising the forms thickness lever as far as it will go will reset the RIBBON OUT OF INK, CHANGE RIBBON fault message. It will also reset the ribbon usage to 100%.*

A Thin Paper

B Medium Paper

C Thick Paper



NOTE:

Thin Paper = single sheet
Medium Paper = two–part form
Thick Paper = six–part form

Canceling a Print Job

The procedure to cancel a print job depends on the printer interface. See your 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 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” is displayed.)

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

*To cancel a print job with the Multi-Platform Interface Coax/Twinax feature, see the *Coax/Twinax Multi-Platform Interface Feature Operation Guide.*

- For printers using a twinax interface*:

  a. The **Cancel** key is effective in 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" is displayed.)

  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 NOT READY state.

  b. From the host system, stop the print job.

note

*If the print job is not stopped from the host system before pressing the **Cancel** key, the print job will continue when the printer returns to READY state.*

  c. Press **Cancel**. (When pressed, "069 DATA CLEARED" is displayed.)

  d. Set the top-of-form as described on page 45.

*To cancel a print job with the Multi-Platform Interface Coax/Twinax feature, see the *Coax/Twinax Multi-Platform Interface Feature Operation Guide*.

CONFIGURATIONS

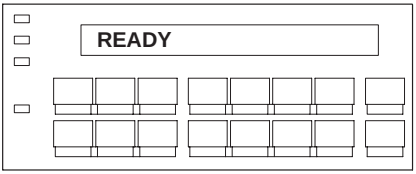
Parameters and Configurations

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 changed 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.

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

2 Press **Scroll ↑ + Scroll ↓** to unlock the PROGRAM state.

3 Press **Menu** to access the OPERATOR MENU.

4 Press **Scroll ↑** until you reach CONFIGURATION MANAGEMENT.

5 Press **Enter** to enter this menu.

6 Press **Scroll ↑** until SAVE CURRENT VALUES is displayed.

7 Press **Enter** to access the save options.

SAVE CURRENT VALUES **CUSTOM SET 1**

8 Press **Scroll** ↑ repeatedly until the custom set you want to save displays.

SAVE CURRENT VALUES **CUSTOM SET 2**

important

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 **CUSTOM SET 2***

10 Press **Scroll** ↑ **+ Scroll** ↓ to lock the PROGRAM state.

OPERATOR MENU **LOCKED**

SAVE CURRENT VALUES **CUSTOM SET 2***

11 Press **Start** to exit the menu and place the printer in the READY state**.**

READY

note

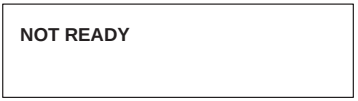
If the custom set you choose to save to is already defined and PROTECT CUSTOM SETS is enabled, the following error message is displayed, "043 Custom Set Already Exists / Delete First."

Recalling Configurations

You can recall any of the custom sets you previously stored, or the factory default configuration. See page 56 to save configurations.

The following example loads Custom Set 1.

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



2 Press **Scroll ↑ + Scroll ↓** to unlock the PROGRAM state.

3 Press **Menu** to access the OPERATOR MENU.

4 Press **Scroll ↑** until you reach CONFIGURATION MANAGEMENT.

5 Press **Enter** to enter this menu.

6 Press **Enter** to access the recall options.

7 Press **Scroll** ↑ repeatedly until the custom set you want to load displays.

8 Press **Enter**. This selects the displayed custom set.

9 Press **Scroll** ↑ **+ Scroll** ↓ to lock the PROGRAM state.

10 Press **Start** to return the printer to the READY state.

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.

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

2 Press **Scroll ↑ + Scroll ↓** to unlock the PROGRAM state.

3 Press **Menu** to access the OPERATOR MENU.

4 Press **Scroll ↑** until you reach CONFIGURATION MANAGEMENT.

5 Press **Enter** to enter this menu.

6 Press **Scroll ↑** to reach DELETE CUSTOM SET.

7 Press **Enter** to access the delete options.

8 Press **Scroll** ↑ repeatedly until the custom set you want to delete displays.

9 Press **Enter**. This deletes the custom set.

10 Press **Scroll** ↑ **+ Scroll** ↓ to lock the PROGRAM state.

11 Press **Start** to return the printer to the READY state.

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."

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.

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

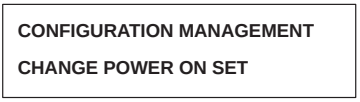
2 Press **Scroll** ↑ **+ Scroll** ↓ to unlock the PROGRAM state.

3 Press **Menu** to access the OPERATOR MENU.

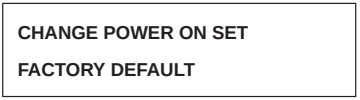
4 Press **Scroll** ↑ until you reach CONFIGURATION MANAGEMENT.

5 Press **Enter** to enter this menu.

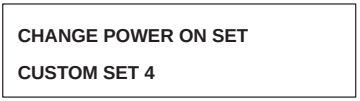
6 Press **Scroll** ↑ repeatedly until you reach the CHANGE POWER ON SET parameter.



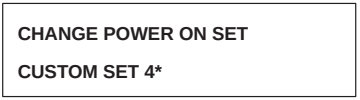
7 Press **Enter** to access the power on options.



8 Press **Scroll** ↑ until you reach the custom set you want to save as the power-on set.



9 Press **Enter** to select the Custom Set. An asterisk (*) appears next to the selected set in the display.



10 Press **Scroll** ↑ **+ Scroll** ↓ to lock the PROGRAM state.

11 Press **Start** to return the printer to the READY state.

Protecting Custom Sets

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

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

2 Press **Scroll ↑ + Scroll ↓** to unlock the PROGRAM state.

3 Press **Menu** to access the OPERATOR MENU.

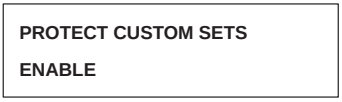
4 Press **Scroll ↑** until you reach CONFIGURATION MANAGEMENT.

5 Press **Enter** to enter this menu.

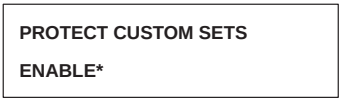
6 Press **Scroll ↑** until you reach PROTECT CUSTOM SETS.

7 Press **Enter** to access the protect options.

8 Press **Scroll** ↑ this toggles between DISABLE and ENABLE.



9 Press **Enter** to select ENABLE. An asterisk (*) appears next to the word ENABLE.



10 Press **Scroll** ↑ **+ Scroll** ↓ to lock the PROGRAM state.

11 Press **Start** to exit the menu and place the printer in the READY state.

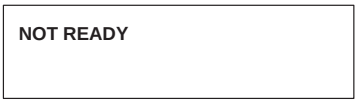
Printing Configurations

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.*

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



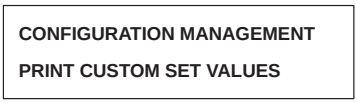
2 Press **Scroll ↑ + Scroll ↓** to unlock the PROGRAM state.

3 Press **Menu** to access the OPERATOR MENU.

4 Press **Scroll ↑** until you reach CONFIGURATION MANAGEMENT.

5 Press **Enter** to enter this menu.

6 Press **Scroll ↑** repeatedly until you reach the PRINT CUSTOM SET VALUES parameter.



7 Press **Enter** to access the print options.

PRINT CUSTOM SET VALUES
CURRENT CUSTOM SET*

8 Press **Scroll** ↑ repeatedly 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 is displayed.*

9 Press **Enter** to select the option. An asterisk (*) appears next to the selected set in the display.

PRINT CUSTOM SET VALUES
CUSTOM SET 6*

10 Your configuration is printed. 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.

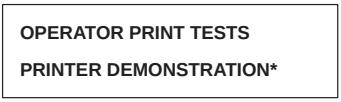
1 Press **Stop** to place the printer in the NOT READY state.

2 Press **Scroll ↑ + Scroll ↓** to unlock the PROGRAM state.

3 Press **Menu** to access the OPERATOR MENU.

4 Press **Scroll ↑** to the OPERATOR PRINT TESTS menu.

5 Press **Enter** to enter this menu.



6 Press **Scroll ↑** until you reach the test you want to run.

7 Press **Enter**. The test runs. To halt the test, press **Enter** again.

Additional tests can be run by returning to step 6.

8 Press **Scroll ↑ + Scroll ↓** to lock the PROGRAM state.

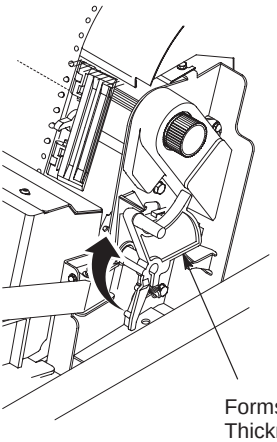
9 Press **Start** to place the printer in the READY state.

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.



1 Open the printer cover.

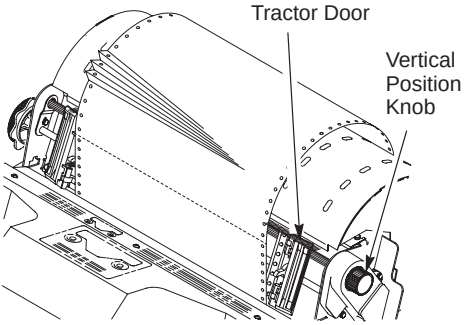
2 Raise the forms thickness lever as far as it will go.

note

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

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.

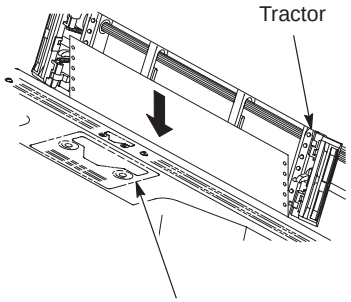


5 Check that the ribbon mask has not been deformed in such a way as to block the paper path. If the ribbon mask is damaged or bent, contact an IBM service representative.

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.

7 Reload the paper in the tractors.

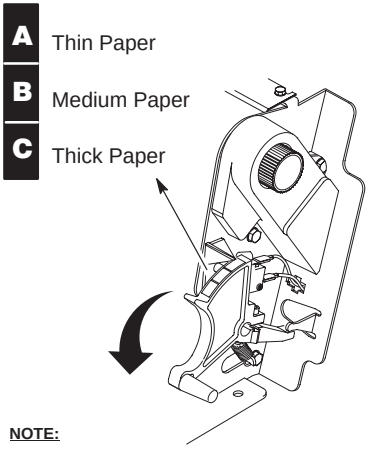
8 Lower the forms thickness lever. Set it to match the paper thickness (refer to the note on the shuttle cover).



Ribbon Path Diagram

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.



NOTE:

Thin Paper = single sheet
Medium Paper = two-part form
Thick Paper = six-part form

9 Press **Stop** to clear the fault message from the message display.

10 Set the top-of-form (page 45).

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 can not be stacked when using the top exit paper path.

Cleaning the Printer

Periodic cleaning ensures efficient operation and good print quality.

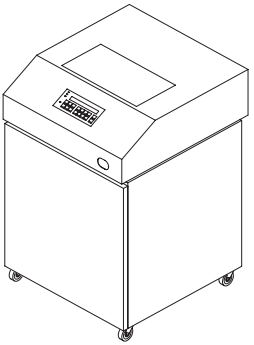
DANGER:

<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.

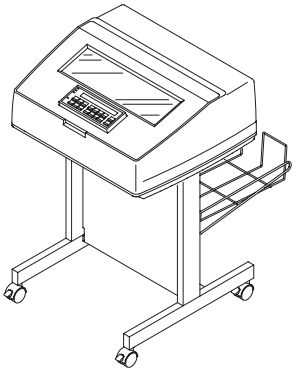
Cabinet Models



attention

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

Pedestal Models



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 41).
3. Remove the ribbon (page 48).

attention

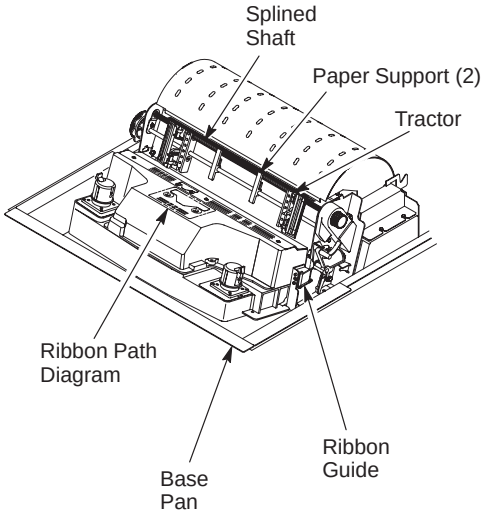
To avoid damage to the printer, be extremely careful when vacuuming and dusting around the hammer bank and surrounding areas.

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.

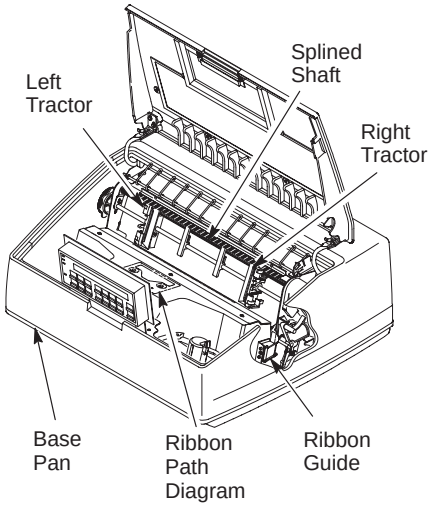
5 Brush and vacuum accumulated dust or residue, especially in the tractor, hammer bank (not shown), and base pan areas.

6 Wipe the splined shaft, ribbon guides, and platen (not shown) with a soft cloth.

Cabinet Models



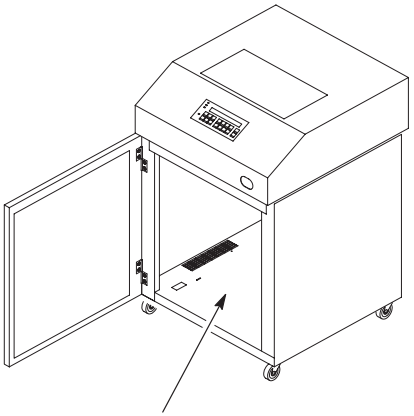
Pedestal Models



7 On cabinet models:
Brush and vacuum inside the lower cabinet.

Wipe the cabinet interior with a clean, lint-free cloth dampened with water and mild detergent. Dry the cabinet interior with a dry, clean, lint-free cloth.

8 Install the ribbon (page 49), load the paper (page 26), and set the top-of-form (page 45).



Interior of Lower Cabinet

Solving Printer Problems

If you are having print quality or other problems, locate your printer problem in the table below and do 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. Turn the ribbon spools to ensure that the ribbon tracks correctly in the ribbon path. 4 Clean the printer (page 75). 5 Replace the ribbon (page 48) 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	1 Set the forms thickness lever for thicker paper.

continued next page

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. Press **Scroll ↑ + Scroll ↓** at the same time to unlock the program state. The message “OPERATOR MENU UNLOCKED” will appear briefly. Press **Menu** to access the OPERATOR MENU. Display the configuration option you want to change. Press **Enter** when the option is on the message display.
The configuration printout does not represent configuration parameters selected and changed.	1 Verify that you have saved the current configuration (page 56).

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 specific message appears in the display. When this happens, correct the fault immediately.

note

*Pressing any key on the operator panel will silence the alarm. Pressing the **Form Feed** key will 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, however, 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 is displayed.

Fault Correction Procedure

1. Press any key on the operator panel, except **Stop**, to silence the alarm if necessary. Pressing the **Form Feed** key will 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 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.

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

001 END OF FORMS **LOAD FORMS**	Printer is out of paper. Load paper according to instructions on page 26.
002 FORMS JAMMED **CLEAR JAM AND RELOAD FORMS**	No paper motion. Clear paper jam according to instructions on page 72, then reload paper. Reset forms thickness lever.
003 FORMS EJECTED **PRESS EJECT/RESTORE**	Status message. Press **Eject/Restore** or **Start/Stop** key to return paper to print position.
004 VIEW FORMS **PRESS VIEW KEY**	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 offline more than 10 minutes and the "Intervention Required" parameter is set to "Send to Host." Press **Start** to put printer in READY state.
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 error. 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 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.
019 STACKER FAULT **CHECK STACKER**	Stacker is not functioning correctly. Check for obstructions in the stacker area. If the problem persists, contact an IBM service representative.

021 RECEIVE BUFFER OVERRUN **VERIFY CONFIGURATION**	Receive overrun. (Serial interface) Check printer serial port configuration setup. Ensure that it matches host settings.
024 SERIAL LINE PARITY ERROR **VERIFY CONFIGURATION**	Parity error. (Serial interface) Check printer serial port configuration setup. Ensure that it matches the host settings.
025 SERIAL FRAMING ERROR **VERIFY CONFIGURATION**	Framing error. (Serial interface) Check printer serial port configuration setup. Ensure that it matches 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 cable connection and host system.
028 COMMUNICATIONS CHECK **CALL SYSTEM OPERATOR**	Poll timeout error. The printer was not polled for one minute. (Coax interface) Check cable connection and host system.
029 8344 DIAGNOSTIC TEST FAILED	Link-level code detects hardware failure. Contact an 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. The Intervention Required parameter is set to Send to Host. Load paper. See page 26 for procedure.

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 paper jam and reload paper. See page 72 for procedure.
034 RIBBON STALL TIMEOUT **CHECK RIBBON**	Occurs 5 seconds after the ribbon stall message if the error is not cleared.
037 STACKER JAM TIMEOUT **CHECK STACKER**	Occurs 5 seconds after the stacker jam message if the error is not cleared.
038 STACKER FULL TIMEOUT **CHECK STACKER**	Occurs 5 seconds after the stacker full message if the error is not cleared.
039 STACKER FAULT TIMEOUT **CHECK STACKER**	Occurs 5 seconds after the stacker fault message if the error is not cleared.
041 BUFFER OVERFLOW	Host sends data after the printer buffer is full. (Serial interface) Check printer serial port configuration setup. Ensure that it matches host settings.
042 CUSTOM SET DOES NOT EXIST **SAVE FIRST**	This custom set does not exist. Define and save it. (Refer to the *Setup Guide.)*
043 CUSTOM SET ALREADY EXISTS **DELETE FIRST**	Custom set is write-protected. Delete existing set, then save new set. (Refer to the *Setup Guide.)*
044 EC FIRMWARE/HARDWARE ERROR	Fatal firmware error on the controller board. Contact an IBM service representative.

046 EC STOPPED AT STATE <state>	Controller self-test and initialization sequence were halted at <state>, where <state> is one of 10 numerically coded messages. Contact an IBM service representative.
056 HAMMER COIL OPEN	Electrical malfunction of one or more hammer coils. Contact an IBM service representative.
057 CLOSE PLATEN	Forms thickness lever is raised to the open position. Lower the forms thickness lever.
058 SHUTTLE JAM	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 to match thickness of media being used. If the fault recurs, contact an IBM service representative.
059 CANCEL PRINT ACTIVE	Status message displayed when SCS print job is cancelled. No action necessary.
060 PRINTER HOT	Controller board sensors report high temperatures on the board. Contact an IBM service representative.
062 EXHAUST FAN FAULT	Sensors cannot detect current in fan circuit. Refer to the *Setup Guide* for correction procedure. If this message appears on a Pedestal model, contact an IBM service representative.

065 HAMMER BANK FAN FAULT	Sensors cannot detect current in fan circuit. Refer to the *Setup Guide* for correction procedure.
069 DATA CLEARED	Appears when data is cleared out of printer after **Cancel** key has been pressed. No action necessary.
080 POWER SUPPLY HOT	Circuits are overheating on the power supply board. Contact an IBM service representative.
082 POWER SUPPLY 8.5V FAILED	Internal power failure. Contact an IBM service representative.
083 INTAKE FAN FAULT	Sensors cannot detect current in fan circuit. Refer to the *Setup Guide* for correction procedure.
084 POWER SUPPLY 48V FAILED	Internal power failure. Contact an IBM service representative.
085 CONTROLLER VOLTAGE	Controller voltage failure. Contact an IBM service representative.
086 CONTROLLER 15V	Controller voltage failure. Contact an IBM service representative.
087 PLATEN OPEN TIMEOUT **CLOSE PLATEN**	Indicates the forms thickness lever has been open for at least one minute. The Intervention Required parameter is set to Send to Host. Close forms thickness lever.

088 CONTROLLER 23.5V	Controller voltage failure. Contact an 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 thickness of media being used. If fault reoccurs, contact an IBM service representative.
090 SHUTTLE COVER OPEN **CLOSE SHUTTLE COVER**	Shuttle cover is missing, damaged, or not correctly installed. Contact an IBM service representative.
092 RIBBON DRIVER CIRCUIT	Controller board does not detect ribbon drive motor. Contact an IBM service representative.
101 UPPER DRIVER SHORT	Hammer driver circuits on the controller board shorted to ground. Contact an IBM service representative.
102 LOWER DRIVER SHORT	Circuit(s) on the hammer bank or in the hammer bank power cable shorted to ground. Contact an IBM service representative.
107 HAMMER COIL HOT	One or more hammer coils are overheating. Stop printing and allow the printer to cool for five minutes. If the fault reoccurs, contact an IBM service representative.
110 STACK OVERFLOW **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.

111 STACK UNDERFLOW **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
112 UNDEFINED OPCODE **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
113 PROTECTED INSTRUCTION **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
114 ILLEGAL OPERAND ACCESS **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
115 ILLEGAL INSTRUCTION ACCESS **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
116 ILLEGAL EXTERNAL BUS ACCESS **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
117 A TO D OVERRUN **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
118 UNDEFINED INTERRUPT **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
119 TCB CORRUPTED **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.

120 ACCESS NULL POINTER **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
121 PAPER NOT AT SPEED **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
122 PAPER NOT SCHEDULED **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
123 PAPER BUSY TOO LONG **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
124 PAPER FIFO OVERFLOW **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
125 PAPER FIFO UNDERFLOW **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
126 PAPER FEED BAD TABLE **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
127 PAPER FEED ILLEGAL STATE **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.

128 PAPER FEED INVALID COMMAND **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
129 PAPER FEED INVALID PARAMETER **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
130 PAPER FEED PARTLY ENERGIZED **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
131 PAPER FEED INTERRUPT **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
132 RIBBON INVALID COMMAND **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
133 RIBBON INVALID STATE **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
134 PLATEN INVALID COMMAND **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
135 PLATEN INVALID STATE **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
136 PLATEN INVALID PARAMETER **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.

137 SHUTTLE INVALID COMMAND **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
138 SHUTTLE INVALID PARAMETER **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
139 SHUTTLE OVERSPEED **SEE USER'S GUIDE**	Fatal firmware error on the controller board. Contact an IBM service representative.
990 MACHINE CHECK	Host status message. No action necessary.
998 NON-VOLATILE MEMORY FAILED	Non-volatile memory fault. Contact an IBM service representative. NOTE: You can still print, but you cannot save configuration changes as the NVRAM is defective.
A97 GRAPHIC CHECK ERROR **PRESS STOP THEN START**	Printer has received a non-printable character. Press **Stop** then **Start**.
BUFFER REPRINT SELECTED	Status message. No action necessary. Message only appears when using Coax SCS Mode.
ENERGY SAVER MODE ACTIVE	Status message. Printer is in low-energy idle state, all fans and higher voltages are off, only +5 Vdc logic circuits are active. No action necessary.

HAMMER COIL BAD **#, #, #, #**	Malfunction of one or more hammer coils. Bad coils are indicated. Contact an IBM service representative.
NOT READY	Printer state message: printer is offline, not in communication with host. No action necessary.
OPERATOR MENU **<first menu item>**	Status message. No action necessary.
OPERATOR MENU LOCKED	Status message. No action necessary.
OPERATOR MENU UNLOCKED	Status message. No action necessary.
PA1 SELECTED	Status message. No action necessary. Message only appears when using Coax SCS Mode.
PA2 SELECTED	Status message. No action necessary. Message only appears when using Coax SCS Mode.
P05 DIAGNOSTIC TEST PASSED	Status message. No action necessary.
P17 SECURITY VIOLATION	Security code of PAL on controller board does not match firmware code. Contact an 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 host. No action necessary.
RIBBON INK OUT **CHANGE RIBBON**	RibbonMinder has determined that the ribbon is out of ink. Change the ribbon and verify that ribbon life is reset to 100%.
SERVICE MENU **<first service test>**	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	Status message. No action necessary.

Part Number: 24H8766

S544-5641-00