4247 Printer
Models 001, 002

User's Guide

SA24-4408-01

4247 Printer
Models 001, 002

User's Guide

SA24-4408-01

Note!

Before using this information and the product it supports, be sure to read the general information under “Notices” on page xi.

| **Second Edition (February 1997)**

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Preface

This guide describes the basic operating procedures for the IBM 4247 Printer Models 001 and 002 and should be read and used by those who install or operate the printer, or supervise printer operations.

The 4247 Printer Models 001 and 002 support twinaxial and parallel attachment or coaxial and parallel attachment. Both printer models also support the Intelligent Printer Data Stream (IPDS) orderable feature (see “Optional Features” on page 19-10) for coaxial or twinaxial attachment. The Model 001 prints up to 700 characters per second (CPS) and uses an 18-wire print head, while the Model 002 prints up to 400 CPS and uses a 9-wire print head.

You need only basic operating experience to use these printers. This experience includes an understanding of how printers work, how to connect cables, and how to select items from an operator panel menu.

You can use 4247 printers for many different types of operations. Use the procedures in this guide for you to put together step-by-step instructions tailored to your operation.

How to Use this Guide

The following list describes the contents of each chapter and the appendixes in this book.

- Chapter 1, “Getting Started,” provides information on setting up the printer and connecting it to the host computer.
- Chapter 2, “Understanding the Operator Panel,” describes the operator panel and how to use it.
- Chapter 3, “Checking and Changing Configuration Parameter Values,” describes the configuration parameters and values and gives you a brief description and procedure for changing them.
- Chapter 4, “Configuration Storage,” provides information on saving configuration parameters into a custom set for your printer. The configuration storage category has eight available custom sets.
- Chapter 5, “Using the Attachment Selection,” provides the procedure for setting the configuration for printer attachment.
- Chapter 6, “Rear Tractor Use,” describes the procedures for checking and changing parameter values for rear tractor use.
- Chapter 7, “Twinaxial Configuration,” describes the procedures for checking and changing parameter values for twinaxial attachment.
- Chapter 8, “Coaxial Configuration,” describes the procedures for checking and changing parameter values for coaxial attachment.
- Chapter 9, “Parallel Configuration,” describes the procedures for checking and changing parameter values for parallel attachment.

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- Chapter 10, “Printer Setup,” describes the procedures for checking and changing the parameter values in the configuration menu for the printer setup category.
- Chapter 11, “Printer Adjustments,” describes the parameters for checking and changing the parameter values in the configuration menu for the printer adjustment category.
- Chapter 12, “Power-On Reset (POR),” describes the procedure to perform a power-on reset for your printer.
- Chapter 13, “Display Language,” provides information on the display languages shipped with your printer.
- Chapter 14, “Send Buffer Reprint Code (Coaxial),” describes the procedure to set the Send Buffer Reprint Code to the printer.
- Chapter 15, “Vital Product Data,” provides information to check and change some of the vital product data for the printer.
- Chapter 16, “Quit From Menu,” describes the procedure to quit from the configuration menu and restore the previous configuration menu values.
- Chapter 17, “Paper Loading,” describes the loading paper and running a print job through the six different paper paths.
- Chapter 18, “Using the Operator Print Tests,” describes procedures for testing and adjusting the printer.
- Chapter 19, “Supplies, Optional Features, and Maintenance,” provides the information you need for ordering new supplies, replacing damaged or worn ribbons, and available printer options.
- Chapter 20, “Problem Solving,” describes how to diagnose and solve printer problems. Always start your problem determination procedure with this chapter.
- Appendix A, “Printer Specifications,” contains general printer information and planning requirements. It also contains information on the electrical and environmental requirements, cabling information, and forms specifications.
- Appendix B, “Cable Specifications and Assembly of the Cables,” contains printer information on coaxial and twinaxial cable specifications and installing the cable connectors for your printer.
- Appendix C, “Network Print Servers” describes how to install the optional network print server attachment for your PC Parallel interface printer.

Related Publications

The following publications provide information on the 4247 Printer Models 001 and 002:

- *IBM 4247 Printer Models 001, 002 with Twinaxial Attachment Quick Reference Guide*, SA24-4411. This guide shows the key functions and the available configuration values and the process for setting them. This document is shipped with the printer.
- *IBM 4247 Printer Models 001, 002 with Coaxial Attachment Quick Reference Guide*, SA24-4409. This guide shows the key functions and the available configuration values and the process for setting them. This document is shipped with the printer.
- *IBM 4247 Printer Models 001, 002 Programming Reference*, SA24-4410. This manual describes the programming functions that control a Model 001 or 002 printer. This reference is not shipped with the printer; it can be ordered from IBM.
- *4247 Printer Automatic Sheet Feeder Guide*, SA24-4407. This manual describes the Automatic Sheet Feeder feature. It contains information on installing the feature, loading forms for it, and general operation. This guide is shipped with the Automatic Sheet Feeder unit.
- *IBM 4247 Printer Maintenance Information Manual*, SA24-4400. This manual provides detailed maintenance procedures for trouble analysis and repair. It also contains a parts listing and illustrations of all replacement assemblies and detailed parts for all 4247 printer models. A softcopy version of this book is provided to IBM Customer Engineers; hardcopy can be ordered from IBM.
- *IBM 4247 Printer Safety Notices*, SA24-4406. This manual lists the safety notices contained in the 4247 printer library in English and many other languages. Safety notices from both the service and customer documentation are included. This manual is not shipped with the printer in the United States.

Chapter 1. Getting Started

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This chapter guides you through setting up your new 4247 printer. The partial table of contents at the beginning of the chapter shows the procedures involved in this setup process. Refer to this list for specific procedures and page locations.

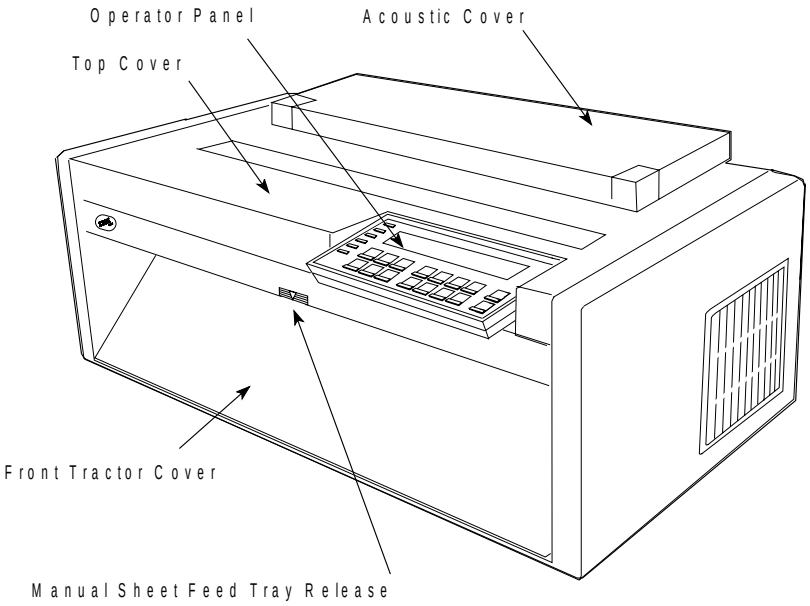
Do Each Step in Order

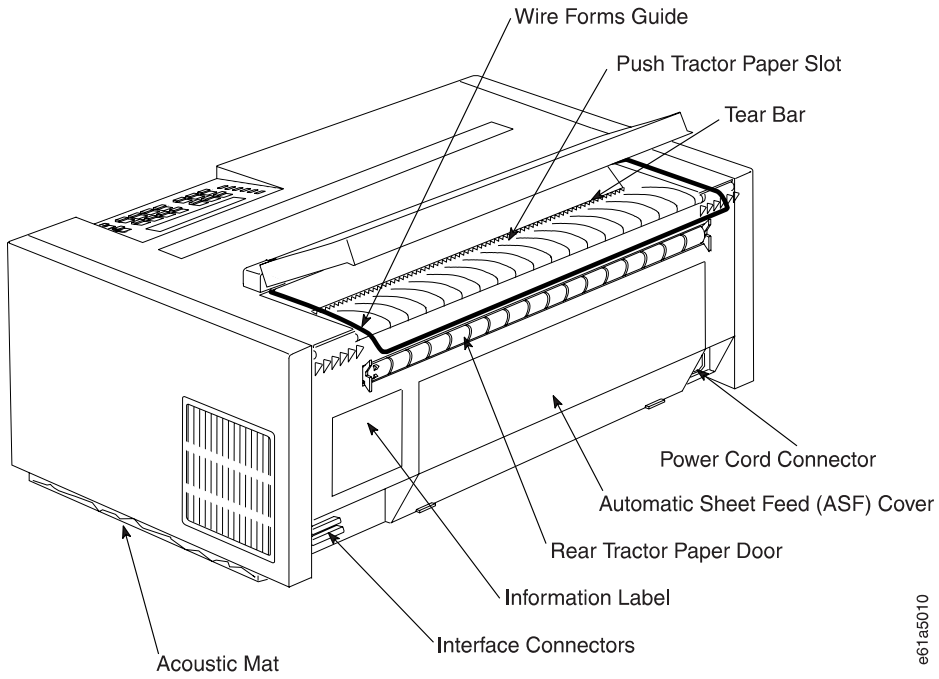
Complete each step before you start the next one. If you cannot successfully complete all of the following steps, call your place of purchase.

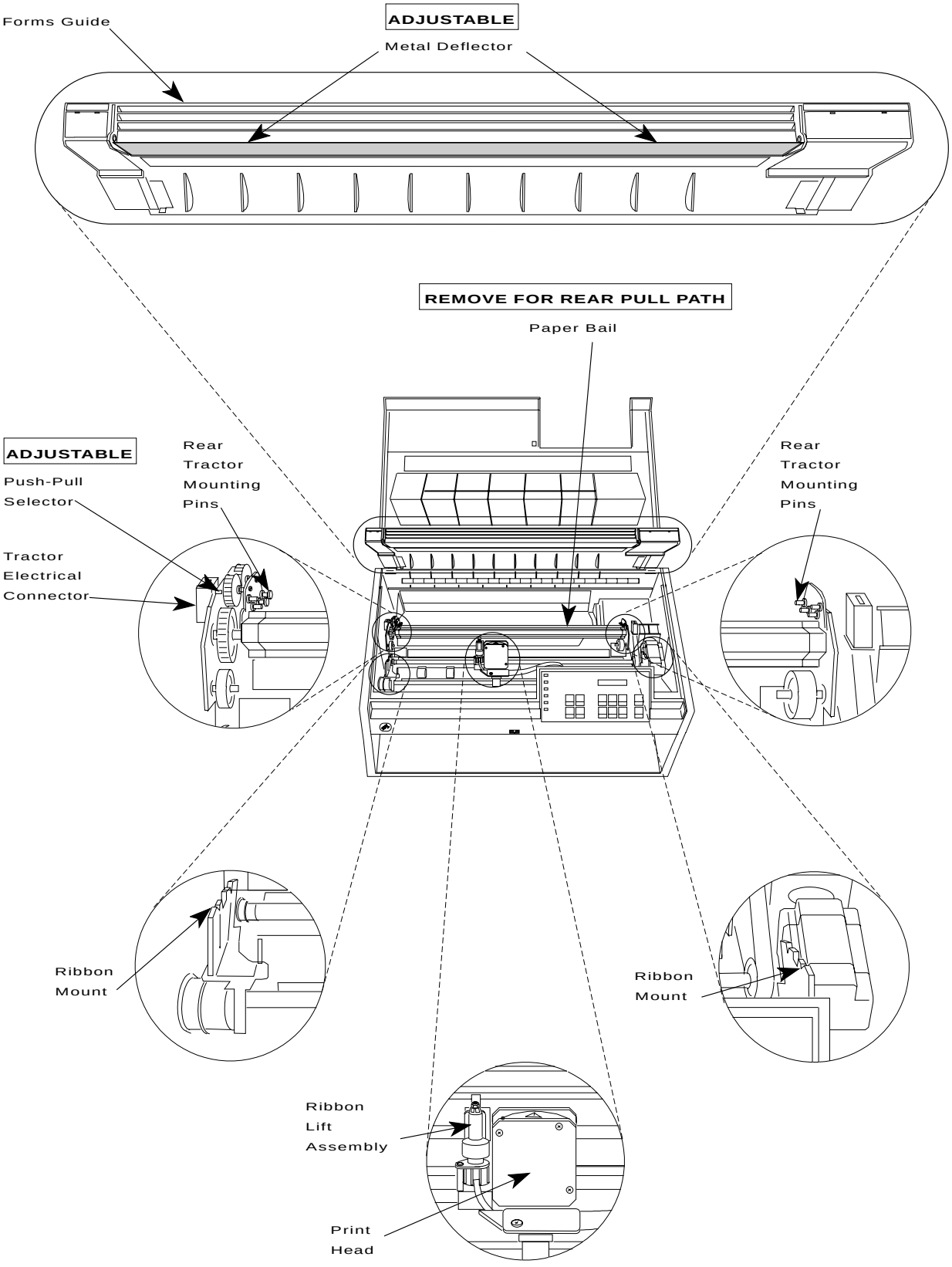
Note: Any part on a 4247 printer that is blue or has a blue decal on it will be used in your daily operations of the printer.

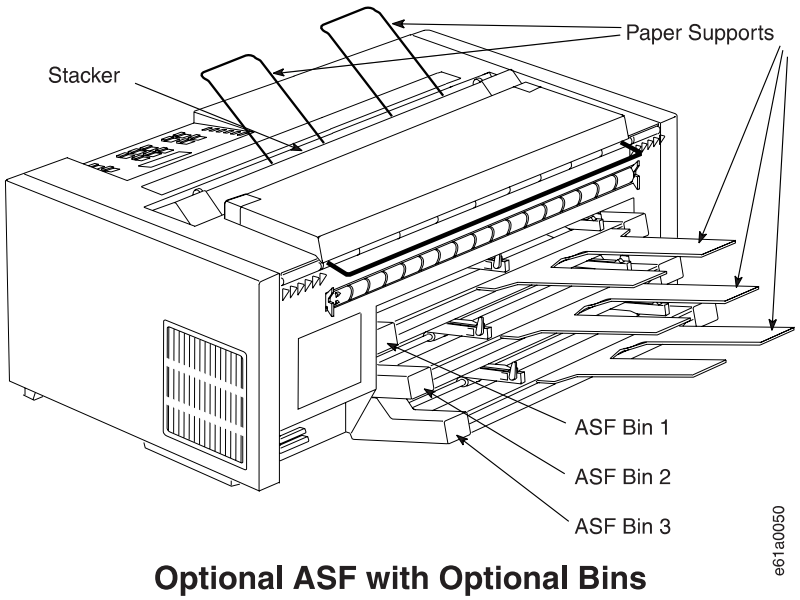
Locations

Refer to the following illustrations to familiarize yourself with the 4247 Printer:






Forms Guide
ADJUSTABLE
Metal Deflector
REMOVE FOR REAR PULL PATH
Paper Bail
ADJUSTABLE
Push-Pull
Selector
Tractor
Electrical
Connector
Rear
Tractor
Mounting
Pins
Rear
Tractor
Mounting
Pins
Ribbon
Mount
Ribbon
Mount
Ribbon
Lift
Assembly
Print
Head



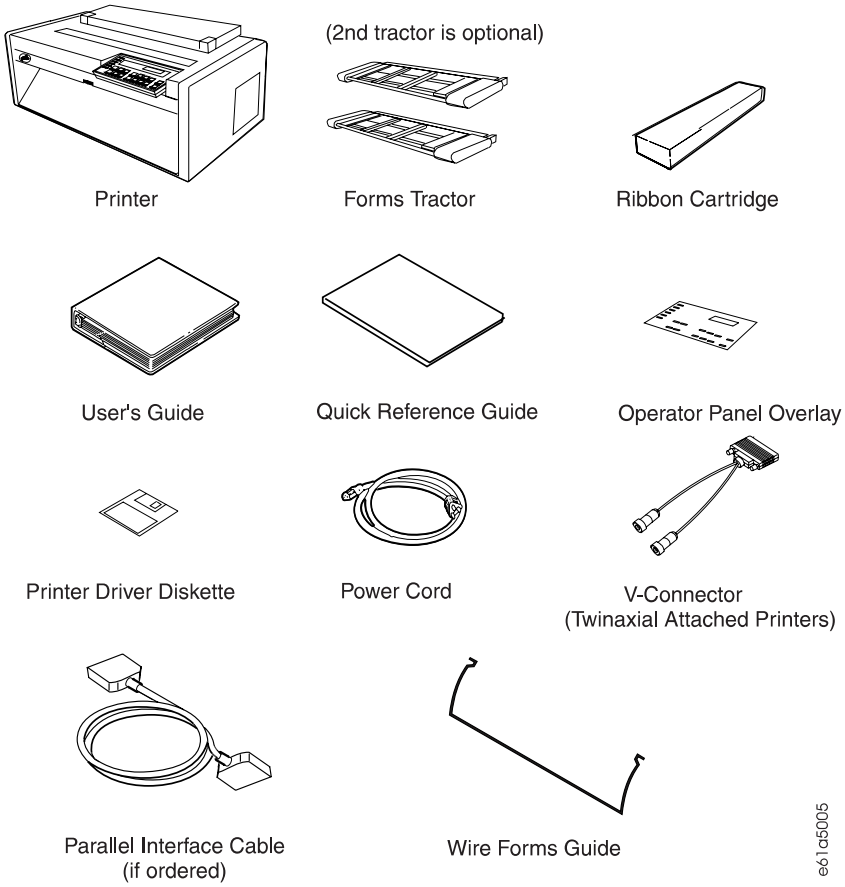
Optional ASF with Optional Bins

Unpacking the Printer

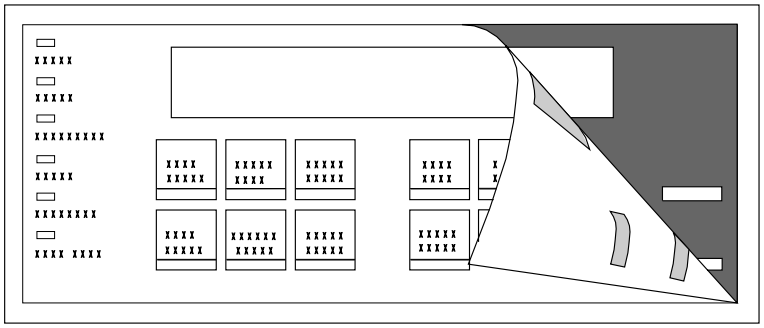
CAUTION:
The printer (without optional features attached) weighs approximately 24.9 kilograms (55 pounds). Get help from another person when lifting the printer.

1. Remove the following from the shipping container:
   (Check off the box next to each item as you remove it from the shipping container.)

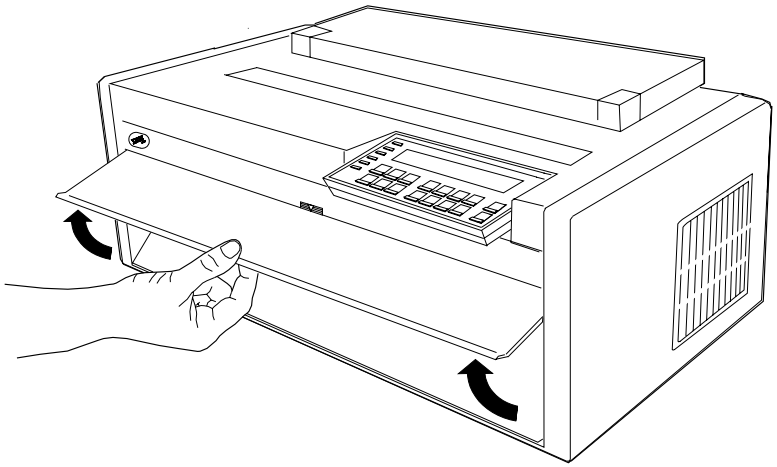
   - ☐ Printer
   - ☐ Forms Tractor (2nd Tractor if Present)
   - ☐ Ribbon Cartridge
   - ☐ User's Guide
   - ☐ Quick Reference Guide
   - ☐ Operator Panel Overlay
   - ☐ Printer Driver Diskette
   - ☐ Power Cord
   - ☐ Twinaxial V-Connector
   - ☐ Parallel Interface Cable (if ordered)
   - ☐ Wire Forms Guide
   - ☐ Printer Stand (if ordered)



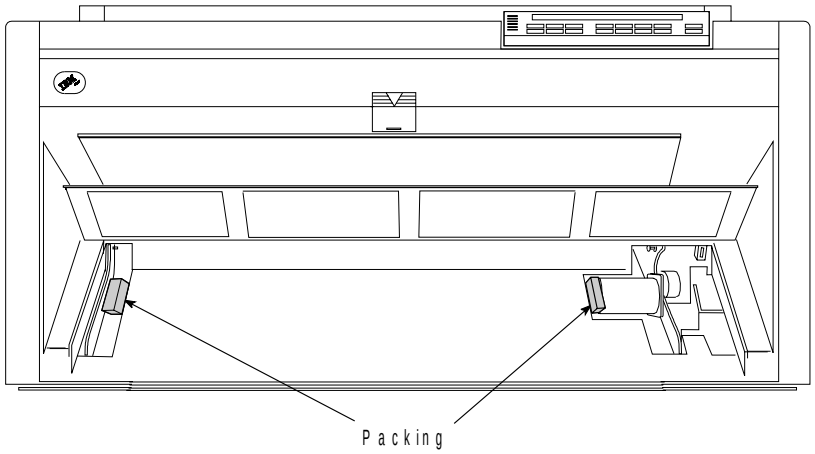
2. Place the printer on a flat workstation (printer stand or table of your choice). Be sure that you have access to both the front and the rear of the printer. (See Appendix A, “Printer Specifications” for dimensions of the table or print stand surface and the clearances required around the printer.)
3. Remove the printer from the plastic bag.
4. To install the operator panel overlay, do the following:
   a. Remove the paper from the back of the template.
   b. Align the bottom of the overlay and then along both sides.
   c. Press the overlay in place at the bottom below the keys and then continue working upwards until the overlay is pressed into place.



5. Open the front tractor cover to its *locked* position.

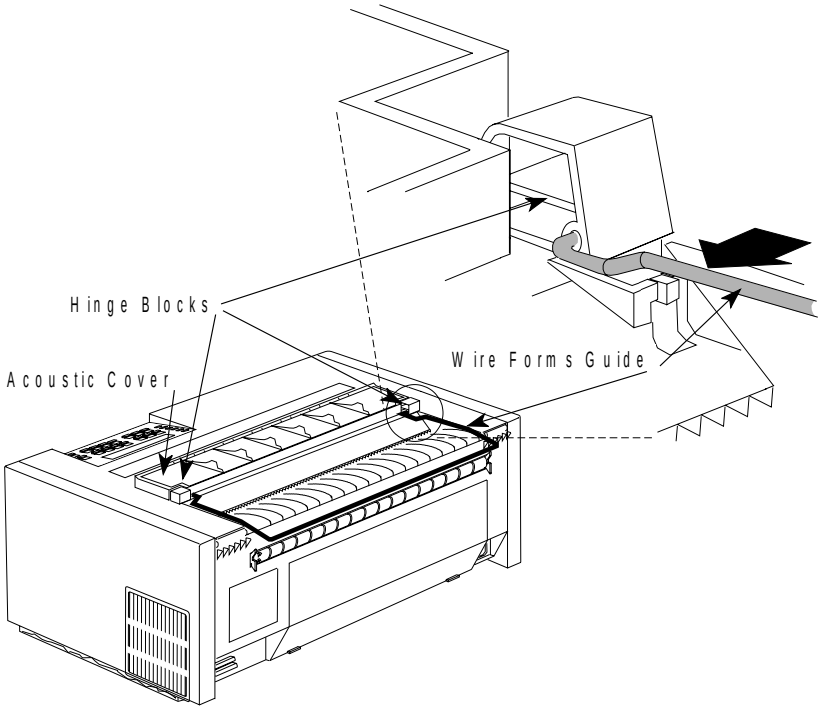


6. Remove the foam packing material from each side of the front tractor area.



Installing the Wire Forms Guide

Open the acoustic cover and insert one end of the wire forms guide into a hinge block. Compress the wire forms guide and insert the other end into the other hinge block.



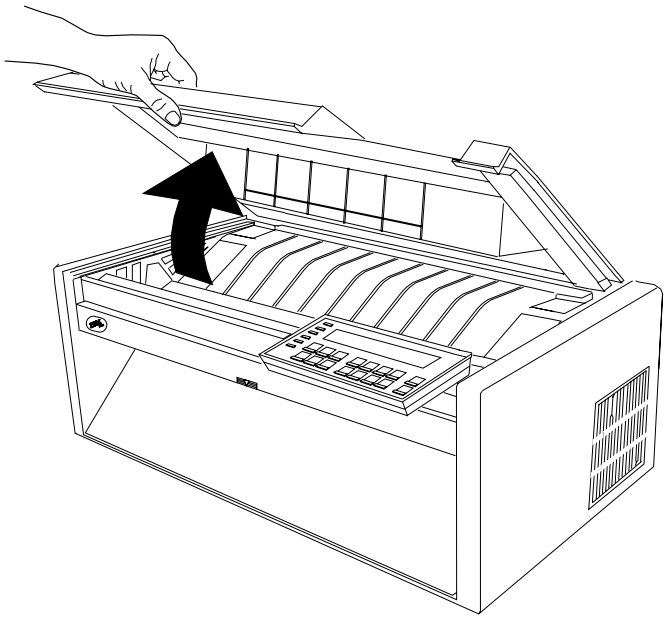
This forms guide will be used for forms stacking in the front push and rear push paper paths.

Installing the Ribbon Cartridge and Guide

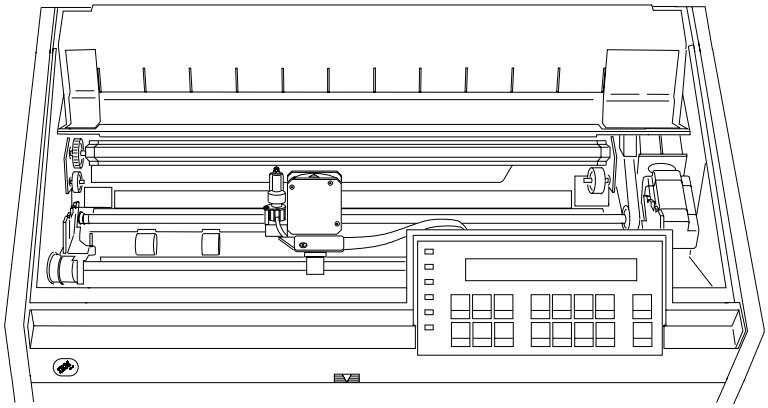
Warning: Damage to the printer can occur if you do not use the IBM ribbon (part 1053685) especially designed for the 4247 Printer. To order ribbons, contact your place of purchase or call Lexmark at 1-800-438-2468.

To install the ribbon cartridge, follow these steps:

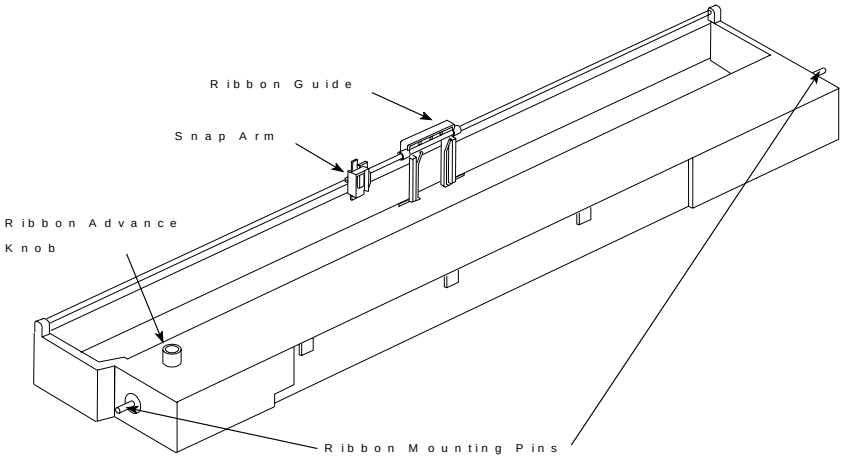
1. Lift the top cover and tilt it all the way back.



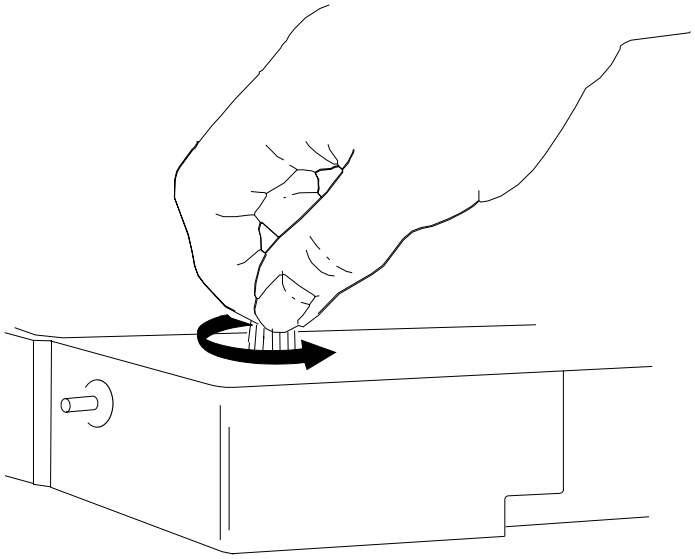
2. Slide the print head to the center of the printer.



3. Remove the ribbon cartridge from the box. Locate the ribbon guide, white plastic snap arm, ribbon advance knob, and the ribbon mounting pins.

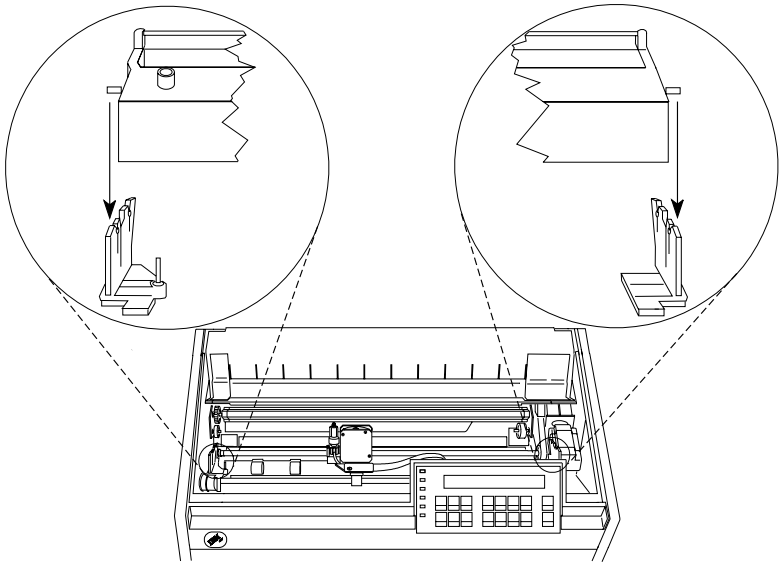


4. Before installing the ribbon cartridge, turn the ribbon advance knob in the direction of the arrow (located on the cartridge) to take up the slack in the ribbon.

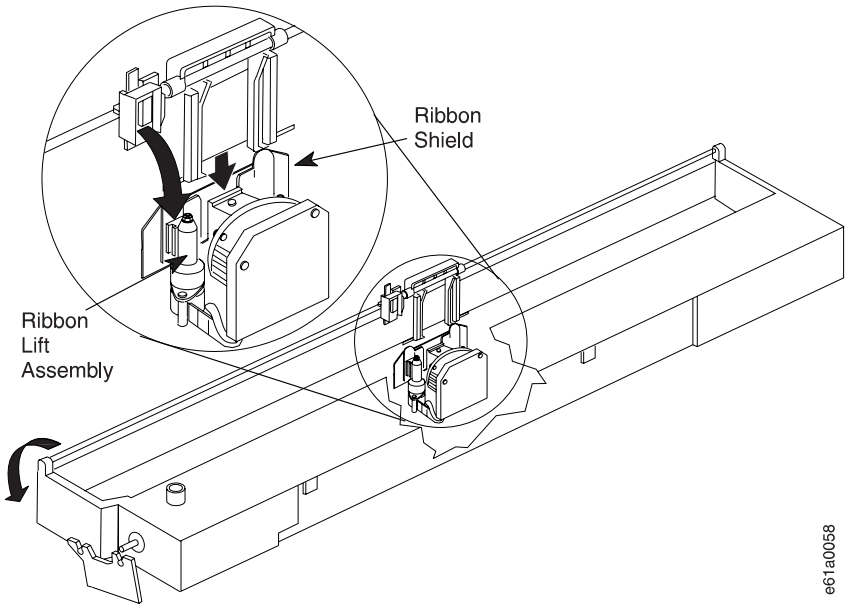


If the ribbon does not move, contact your place of purchase and replace the ribbon cartridge.

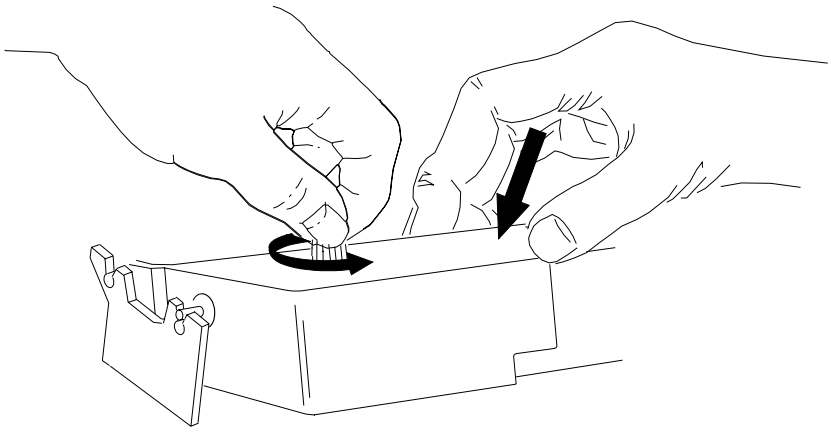
5. Align the pins on the left and right side of the ribbon cartridge with the slots in the cartridge supports.



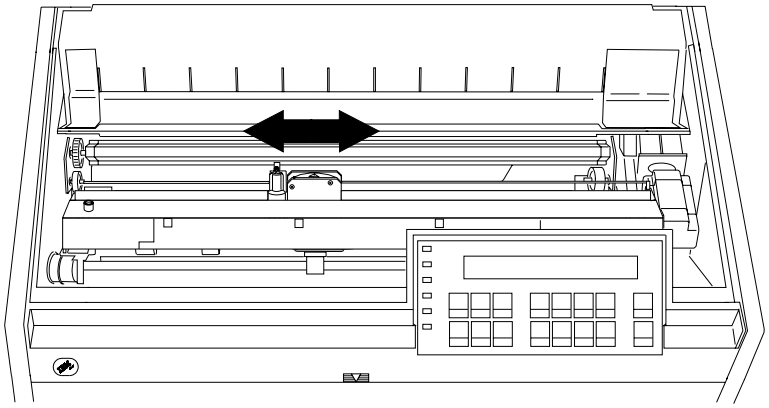
6. Insert the ribbon guide between the ribbon shield and the print head. Position the white snap arm with the small lever up onto the ribbon lift assembly. Push the white plastic arm down onto the ribbon lift assembly until it snaps into place.



7. While turning the ribbon advance knob, press the left side of the ribbon cartridge down until it snaps into place. Then press the right side down until it snaps into place.



8. Turn the ribbon advance knob again in the direction of the arrow to take up slack in the ribbon.
9. Slide the print head back and forth to ensure that the ribbon guide runs freely along the ribbon.



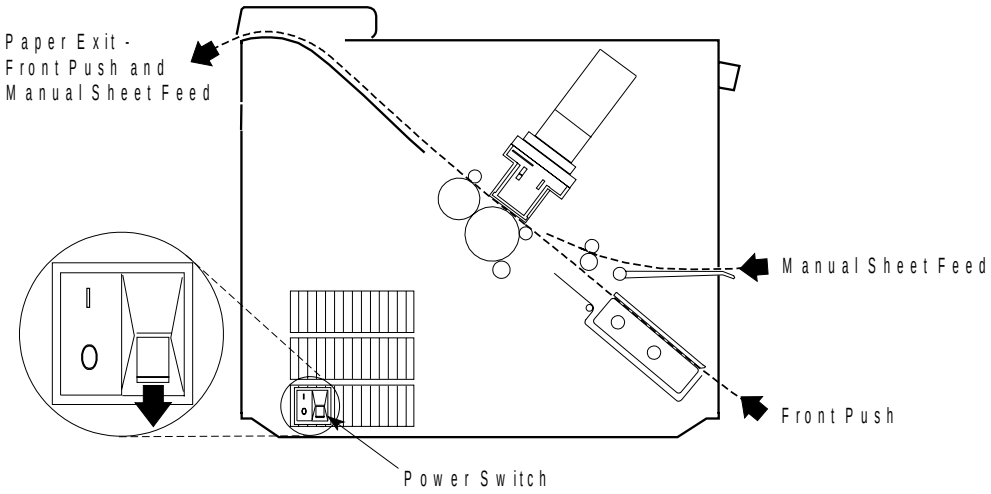
10. To be sure you have installed the ribbon cartridge correctly, check that:
    a. The left and right ribbon mounting pins are securely snapped into the cartridge supports.
    b. There are no twists or folds in the ribbon.
    c. The ribbon is not catching on the print head.
    d. The ribbon moves when you turn the ribbon advance knob in the direction of the arrow. If the ribbon does not move, replace the ribbon cartridge.
11. Close the top cover.

Forms Tractor Unit Installation

For printing on continuous forms, the forms tractor unit can be installed in the Front Push, Rear Push, or Rear Pull positions. In combination with a second tractor unit, you can also have Dual Push and Push-Pull positions. Manual sheet feed (cut-sheet forms) is available at all times although its use is not recommended in conjunction with the Rear Pull or Push-Pull paper paths. For more information on these paper paths, see Chapter 17, “Paper Loading.”

This procedure is based on the assumption that the forms tractor is mounted in the *Front Push* position.

Note: Your printer comes with one tractor unit. If you ordered a second optional tractor, after completing this chapter refer to Chapter 17, “Paper Loading” for installing the second tractor.



This illustration shows the front push paper path from the left side of the printer.

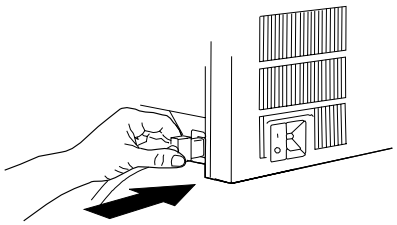
To prepare for installing the forms tractor unit, read the following caution statement and then follow the steps for connecting electrical power to the machine.

1. The power switch is located on the lower left side of the printer. Make sure the power switch is Off (O).

   CAUTION:
   The construction of this printer provides extra protection against the risk of electric shock by grounding appropriate metal parts. The extra protection may not function unless the power cord is connected to a properly grounded outlet. This printer has a grounding-type (3-wire) power cord because grounding is necessary. It is the responsibility of the customer or the person installing the printer to connect it to a properly grounded outlet. Seek professional assistance before using an adapter or extension cord; such a device could interrupt the grounding circuit.

   If this printer is connected to an outlet that has been incorrectly connected to the building wiring, serious electric shock could result.

2. The power connector is located at the lower left rear of the printer. Connect the power cord to the printer. Press firmly to be sure that the plug is securely seated.

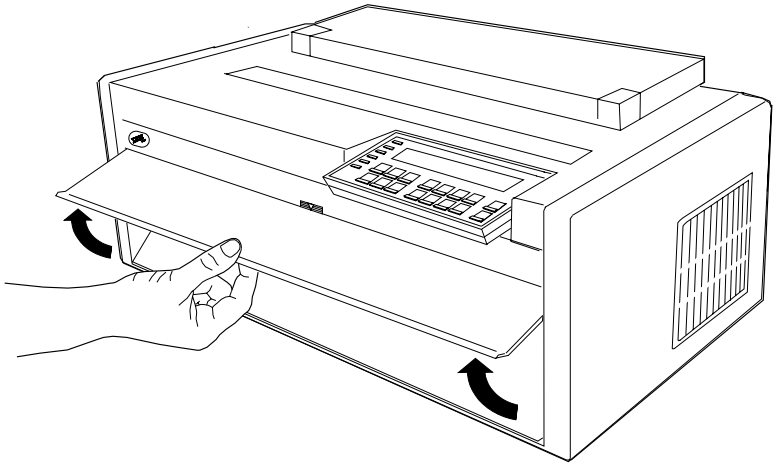


3. Plug the power cord into a grounded electrical outlet.

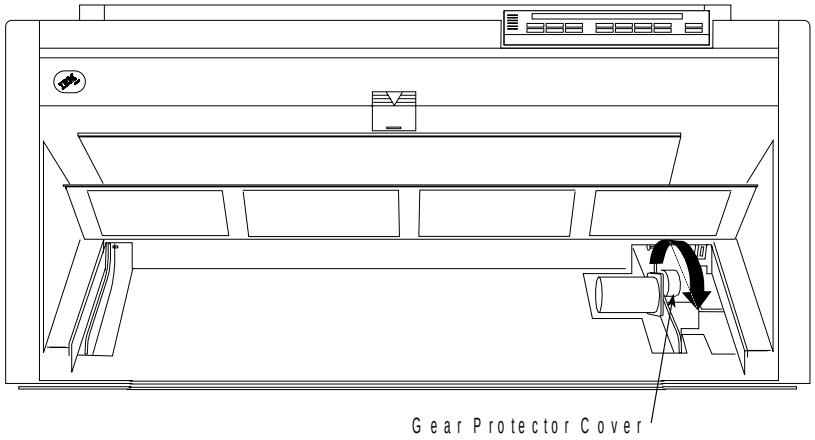
Installing the Tractor Unit in the Front Push Position

Note: Make sure that the printer power switch is set to Off (O).

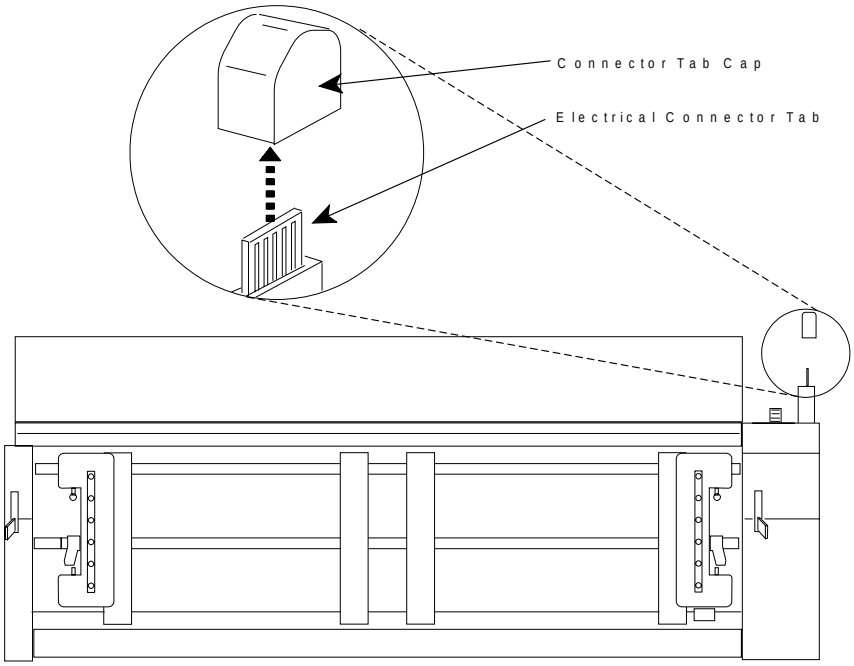
1. Open the front tractor cover to its *locked* position.



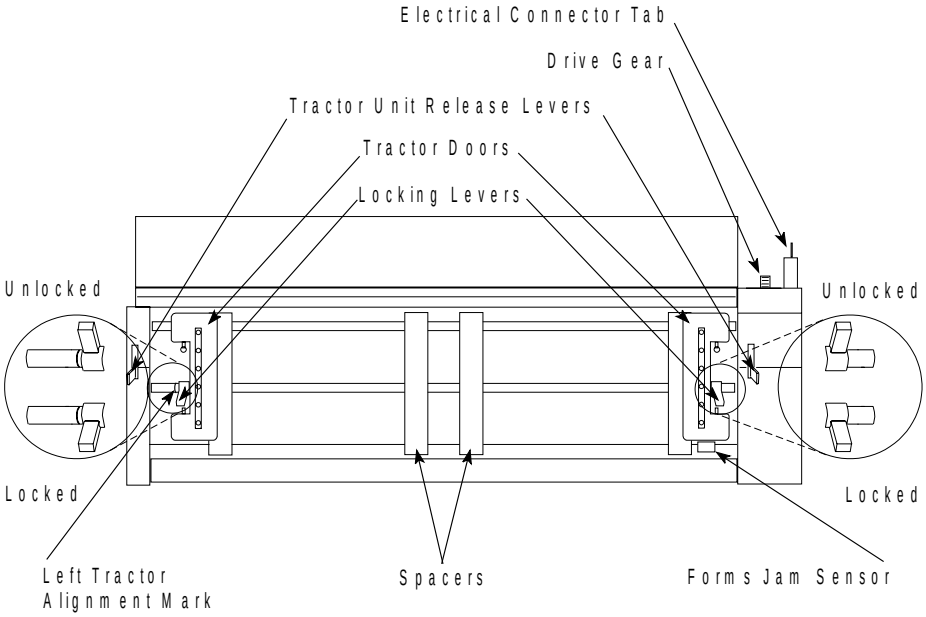
2. Open the hinged gear protector cover by rotating it down out of the way.



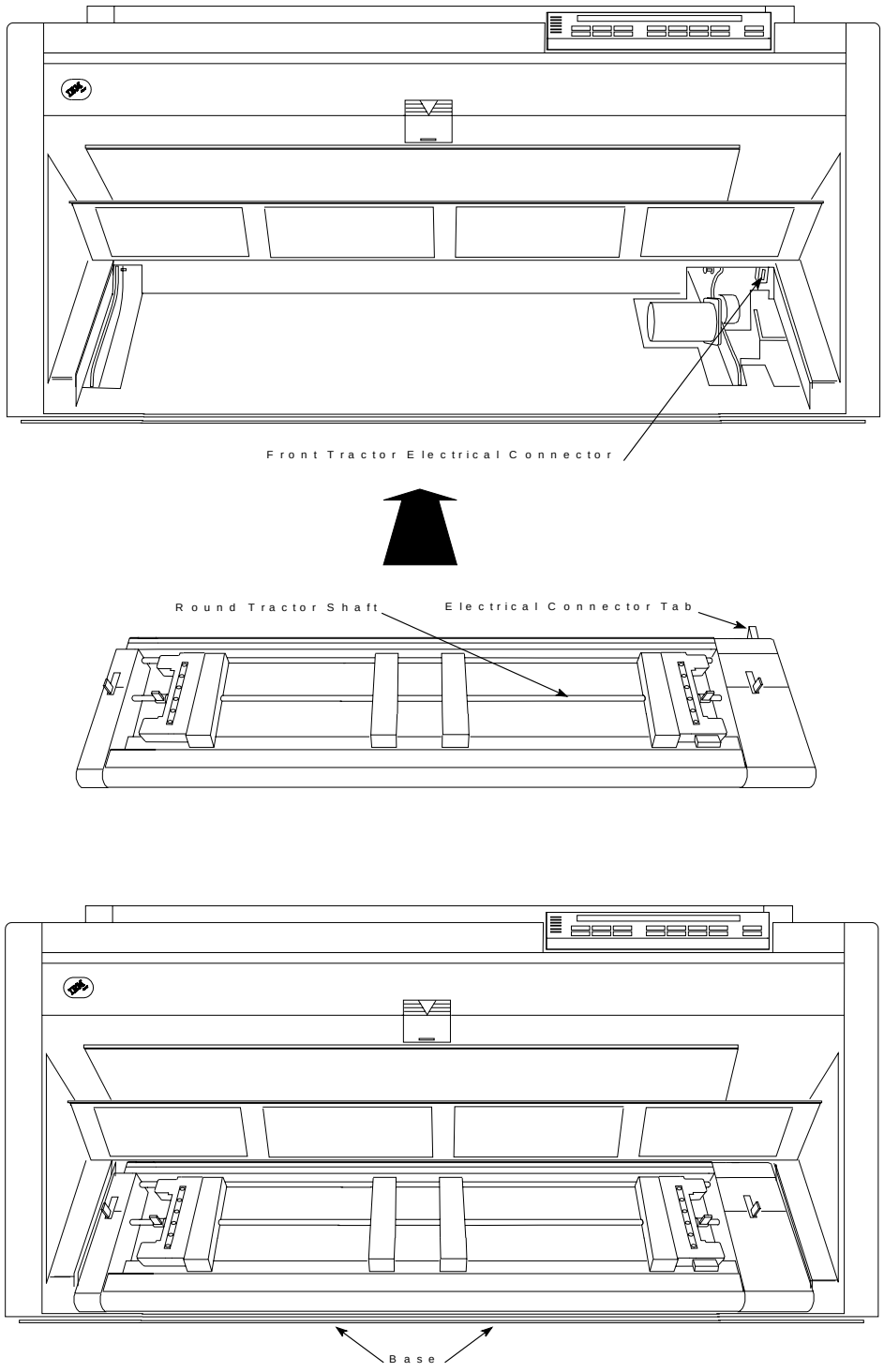
3. Remove the black protective cap from the electrical connector.



4. Stand facing the front of the printer. Hold the tractor unit with the tractor doors toward you and the electrical connector tab on the right.



5. With both hands supported on the round tractor shaft, gently push the tractor unit upward until it clicks on both sides, the electrical connector tab is fully seated in the connector, and the bottom of the tractor unit is level with (same amount of space from) the base of the printer.



Configuring the Printer for Display Language and the Front Push Paper Path

Before continuing, determine from the figures below which printer you have (coaxial or twinaxial) from the keys and indicators on the operator panel overlay.

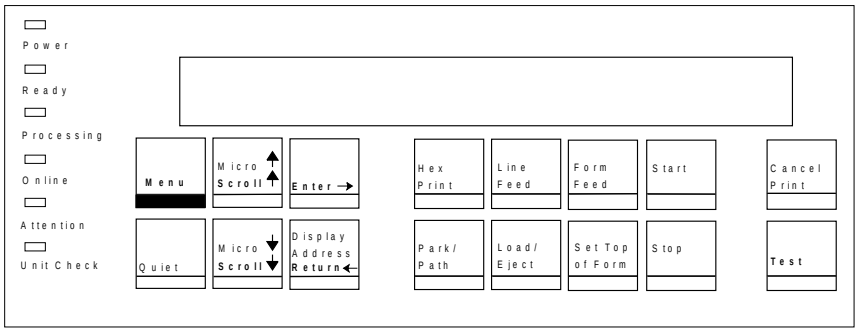


Figure 1-1. 4247 Printer Model 001 or 002 Operator Panel (with Twinaxial Attachment)

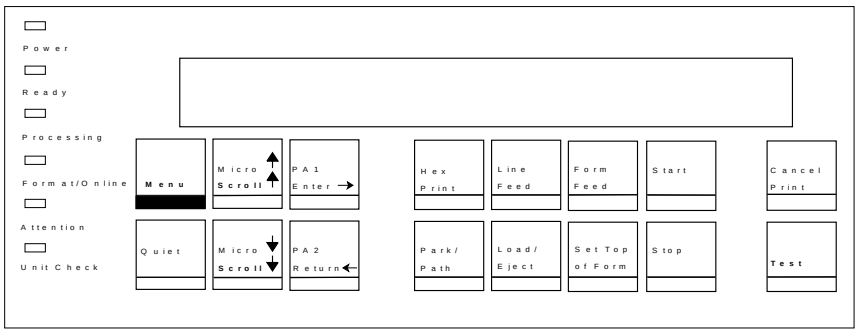
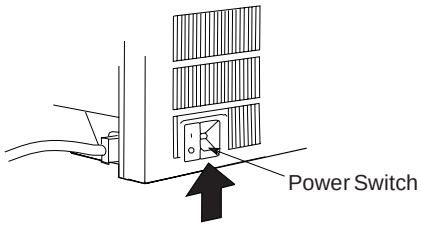


Figure 1-2. 4247 Printer Model 001 or 002 Operator Panel (with Coaxial Attachment)

1. Switch on (|) the printer power.



2. Wait until the message IBM 4247 appears, all segments of the LCD on the operator panel display are lit, and the printer has stopped all motion.

   If you have twinaxial attachment, continue with the next step. If you have coaxial attachment, go to **2b.**

   a. For twinaxial attachment, the printer displays:

```
DIAGNOSTICS IN PROGRESS
PLEASE WAIT
```

```
READY                              <A>
Twinax           Front
```

   and this error message:

```
015 COMMUNICATIONS CHECK
    CHECK CABLE
```

   Ignore this message until you have attached the printer to your computer.

   b. For coaxial attachment, the printer displays:

```
DIAGNOSTICS IN PROGRESS
PLEASE WAIT
```

```
READY                              <A>
Coax             Front
```

   and this error message:

```
028 COMMUNICATIONS CHECK
    CALL SYSTEM OPERATOR
```

   Ignore this message until you have attached the printer to your computer.

3. Press **Menu** to enter configuration.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Display Language
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the language you want is displayed.
7. Press **Enter**. An asterisk (*) will be displayed in front of the selected value.
8. Press **Return** to return to the Configuration Menu.

9. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

10. Press **Enter** and the printer displays:

```
Printer Setup
Paper Source
```

11. Press **Enter** and the printer displays:

```
Paper Source
  Front
```

12. Press **Enter**. An asterisk (*) will be displayed in front of the selected value.
13. Press **Start**. The printer displays:

```
Press ENTER to Save a Custom Set
Press START to Not Save in a Set
```

14. If you want to use the selected display language and the front paper source as your printer's defaults for this session only (the printer will use the existing defaults the next time it is powered on), press **Start**. The printer will exit the menu and become ready.
15. If you want to keep the selected display language and the front paper source as your printer's defaults, press **Enter**. The printer displays:

```
Save Current Values
  Custom Set A
```

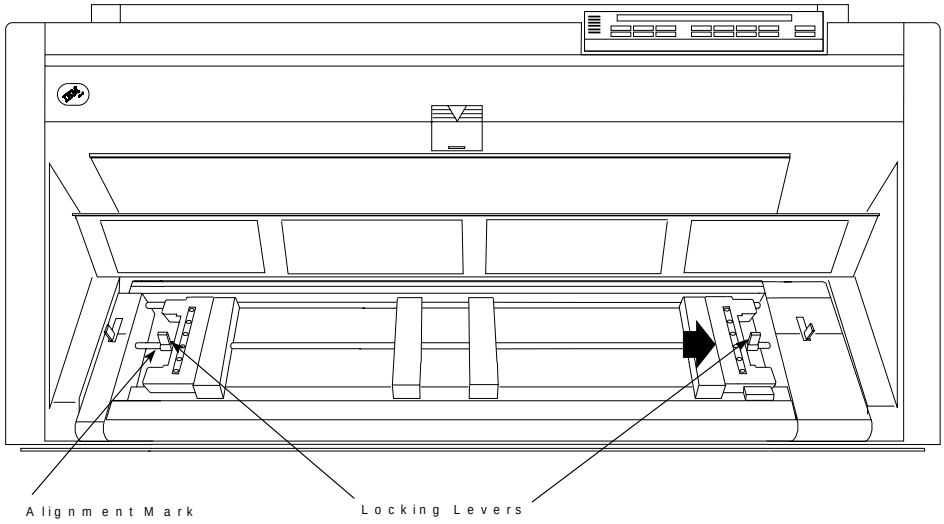
16. Press **Enter**.
17. Press **Start** again. The printer will exit the menu and become ready.

Note: If the printer does not show the correct display sequence, go to the status code section of Chapter 20, "Problem Solving" and follow the instructions there for the status code shown on the display panel.

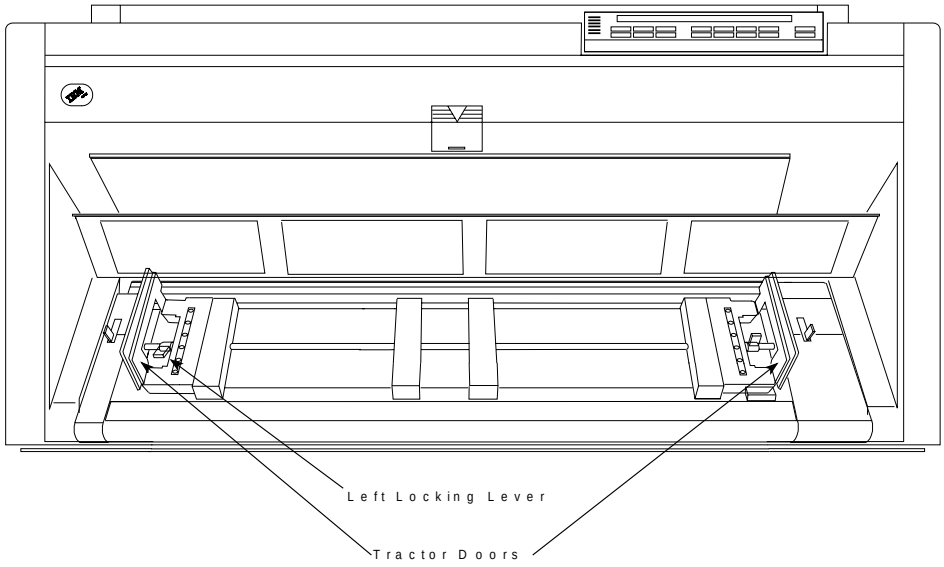
Loading Paper in the Front Push Tractors

Note: Make sure you have single-part continuous forms that are at least 210 mm (8.27 in.) wide before starting this procedure. You need at least this size paper to print the Printer Demonstration.

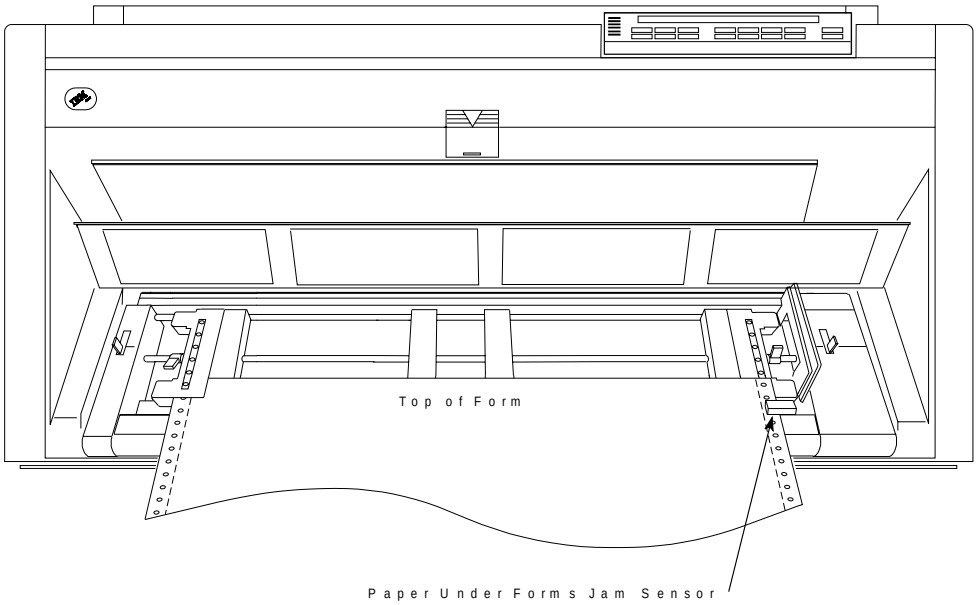
1. Unlock the locking levers on the tractors. Move the right tractor to the extreme right.
2. Move the left tractor to the *tractor alignment mark*.



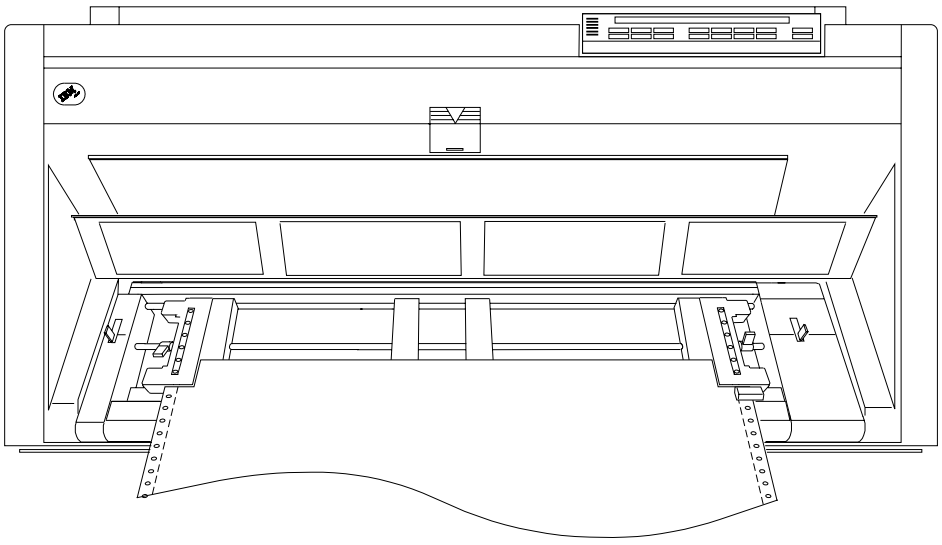
3. Lock the left locking lever.
4. Open both of the tractor doors.



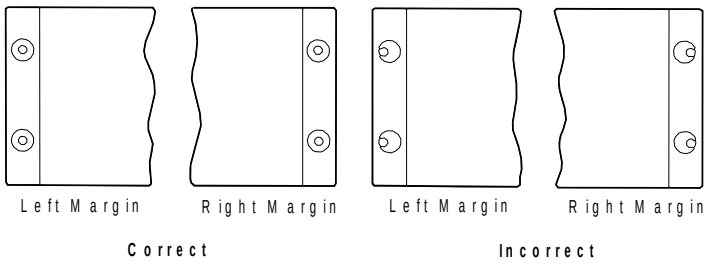
5. Put the left paper holes of the form over the left tractor pins. Close the left tractor door.
6. Move the right tractor until the right paper holes of the form fit on the right tractor pins. Be sure that the forms go under the forms jam sensor and that the forms are straight.



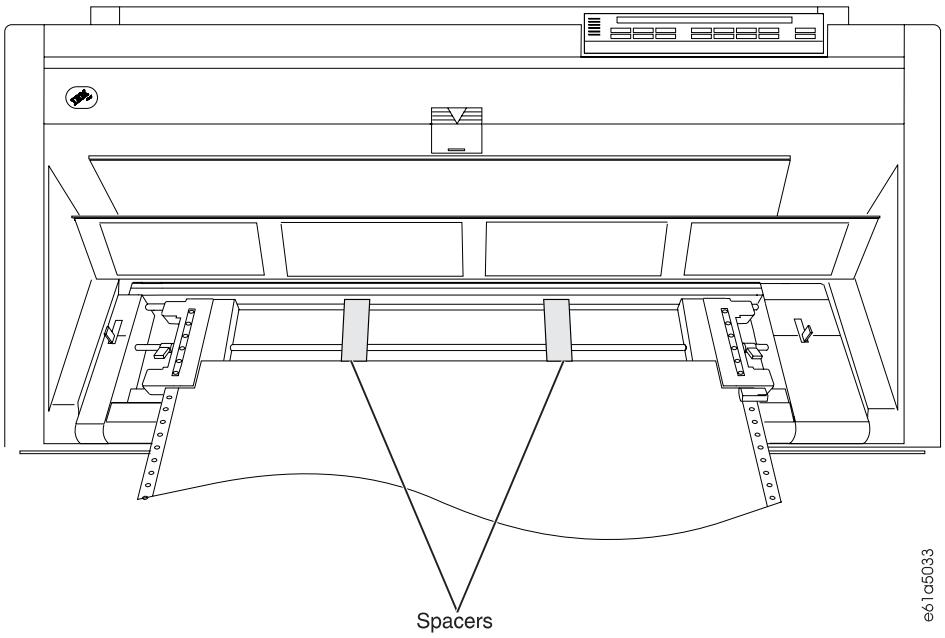
7. Close the right tractor door.



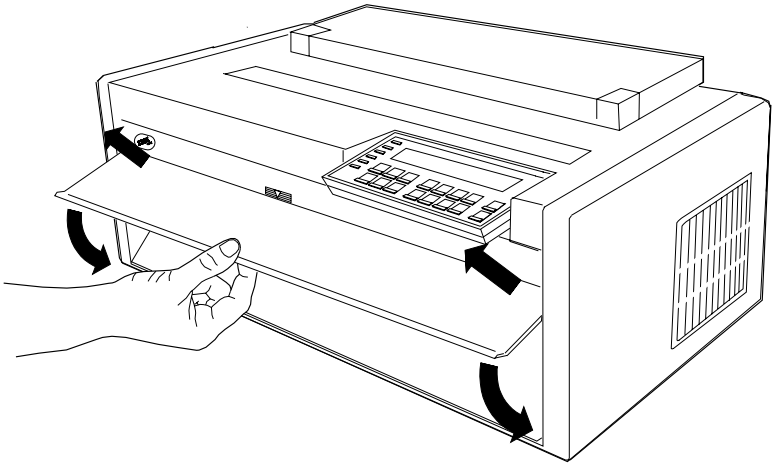
8. If necessary, slide the right tractor to the right side of the printer to remove the slack in the form. If the paper is too tight, slide the right tractor away from the right side of the printer. Make sure the tractor pins are centered in the paper holes.



9. While holding the right tractor in place, lock the right locking lever.
10. Move the spacers along the tractor bar to support the width of the form.



11. Close the front tractor cover.



12. Ensure that the printer is offline.
13. Press **Load/Eject** to feed the paper.

Printing Your First Document

Note: This test will print only in English.

The Printer Demonstration allows you to check print quality and printer operations.

1. Ensure that the printer is offline.
2. Press **Test**.
3. Press **Scroll** ↑ or **Scroll** ↓ until the printer displays

```
4247 OPERATOR PRINT TESTS
Printer Demonstration
```

4. Press **Enter** or **Start** to print this test. The **Ready** indicator comes on and printing begins.
5. Wait for the printer to stop printing and the **Ready** indicator to go off.
6. Press **Form Feed** until you can remove the printout.

   The printout should be clear and readable. Compare your printout with the sample printout on the next page and then return here.

   Note: The sample printout shown on the next page is from a Model 002 printer. If you are printing on a Model 001, the heading on the sample printout will indicate it is a Model 001, and the print speeds shown will be different.

YOU HAVE JUST COMPLETED A SIMPLE SETUP AND CHECKOUT OF THE PRINTER.

IBM recommends that you now print your printer configuration defaults. Save this printout for future reference.

1. Press **Scroll** ↑ or **Scroll** ↓ until the printer displays

```
4247 OPERATOR PRINT TESTS
Printer Configuration
```

2. Press **Enter** or **Start** to print this test. See Chapter 18, “Using the Operator Print Tests” for a sample printout of the printer configuration.
3. Press **Return** or **Cancel/Print**to exit the Operator Print Tests menu.

Attaching

You are now ready to attach the printer to your computer. Go to “Attaching the 4247 Printer to Your Computer” on page 1-29

THE IBM 4247-002 PRINTER

Thank you for taking time to view a demonstration of this IBM 4247-002. It is a heavy-duty serial impact matrix printer capable of printing 400 characters per second and providing new multiple forms paper paths.

TOTAL OF SIX PAPER INPUT SOURCES - Two continuous forms, one manual cut sheet, and an optional three bin auto sheet feeder.

AUTOMATIC FORMS THICKNESS ADJUSTMENT - Adjusts the print head gap automatically and precisely.

ASCII, SCS, AND IPDS DATASTREAMS

ENERGY STAR COMPLIANT

EIGHT USER-DEFINED CUSTOM SETS

OPERATOR PANEL - Makes setup and daily operations easier by using menu selections.

DATA PROCESSING QUALITY ---

Printing Speeds:	400 characters per second
Printing Sizes:	10 CPI (fixed spacing)
	12 CPI (fixed spacing)
	15 CPI (fixed spacing)
	16.7 CPI (and 17 CPI ASCII) (fixed spacing)
	20 CPI (fixed spacing) (ASCII)

TEXT QUALITY ---

Printing Speeds:	240 characters per second
Printing Sizes:	10 CPI (fixed spacing)
	12 CPI (fixed spacing)
	15 CPI (fixed spacing)
	16.7 CPI (and 17 CPI ASCII) (fixed spacing)
	20 CPI (fixed spacing) (ASCII)

NEAR LETTER QUALITY ---

Printing Speeds:	120 characters per second
Printing Sizes:	10 CPI (fixed spacing)
	12 CPI (fixed spacing)
	15 CPI (fixed spacing)
	16.7 CPI (and 17 CPI ASCII) (fixed spacing)
	20 CPI (fixed spacing) (ASCII)

As many as 272 characters can be printed on 13.6-inch print line with wide paper, 20 CPI and fixed spacing.

The IBM 4247-002 can emphasize important points with UNDERSCORE, **BOLD**, and *ITALICIZED* printing. DOUBLE-STRIKE text to attract the reader's attention. Other emphasis modes include ~~overstrike~~, D O U B L E - W I D E, and overscore.

Make use of SUPERSCRIPTS and SUBSCRIPTS:

$$F(x,y) = (xy)^{15} + x^{7} - y^{3} \qquad C_6H_{12}O_6$$

Attaching the 4247 Printer to Your Computer

This section provides specific instructions on attaching the printer to your computer. You may want to attach the printer to more than one computer. If so, you need to perform the steps in **each** appropriate section. Your printer is capable of attaching either as twinaxial and parallel or as coaxial and parallel. The attachments you have depend on what you requested at the time you placed your order. The printer is shipped with the manufacturer defaults for twinaxial or coaxial depending on the attachment you ordered. To change your attachment selection see Chapter 5, "Using the Attachment Selection."

- For Twinaxial attachment go to "Twinaxial Attachment" on page 1-30.
- For Coaxial attachment go to "Coaxial Attachment" on page 1-35.
- For Parallel attachment go to "Parallel Attachment" on page 1-37.

Twinaxial Attachment

Supported computers include:

- System/36
- AS/400 Advanced 36
- Application System/400 (AS/400)
- 5394 and 5494 Remote Control Units.

Attaching a Twinaxial Signal Cable to the Printer

To attach a twinaxial cable (not shipped with the printer), follow these steps:

1. Before attaching the twinaxial cable, set the printer address. If your desired printer address is **0**, go to Step 2 on page 1-32. If your desired printer address is not **0**, see the following table for the valid values and follow Steps 1a on page 1-31 through 1k on page 1-32 to change the value. If you do not know what to assign for the printer address, check with your system operator.

If Desired Address Is:	**Set:**	**Shown when Setting** *Printer Address*:
0	000	Printer Address=0
1	001	Printer Address=1
2	002	Printer Address=2
3	003	Printer Address=3
4	004	Printer Address=4
5	005	Printer Address=5
6	006	Printer Address=6

To set the printer address, follow these steps:

a. Switch on (|) the printer power.

b. Wait until the message IBM 4247 appears, all segments of the LCD on the operator panel display are lit, and the printer has stopped all motion. The printer then displays:

```
DIAGNOSTICS IN PROGRESS
PLEASE WAIT
```

```
READY                                < >
Twinax           Front
```

and this error message is displayed:

```
015 COMMUNICATIONS CHECK
    CHECK CABLE
```

c. Press **Menu**.

d. Press **Scroll** ↑ or **Scroll** ↓ until the printer displays:

```
CONFIGURATION MENU
Twinax Configuration
```

e. Press **Enter**.

f. Press **Scroll** ↑ or **Scroll** ↓ until the printer displays:

```
Twinax Configuration
Printer Address
```

g. Press **Enter**. The printer displays:

```
Printer Address
* 000
```

h. Press **Scroll** ↑ or **Scroll** ↓ until the printer displays the desired address.

i. Press **Enter** to set the address. An asterisk (*) appears beside the address.

j. To help in code migration, the 4247 printer supports several emulation modes. The default mode is native 4247; however, if your computer system is not at a software level that recognizes printer type 4247, change the printer emulation to 4230, 4224, or 4214, depending upon your requirements.

To do this, press **Return**. The printer displays:

```
Twinax Configuration
Printer Address
```

Press **Scroll ↑** or **Scroll ↓** until the printer displays:

```
Twinax Configuration
Emulation Mode
```

Press **Enter**. The printer displays:

```
Emulation Mode
*4247
```

Using the **Scroll ↑** or **Scroll ↓** key, scroll to the desired emulation mode, then press **Enter**. An asterisk (*) will be displayed in front of the selected value.

k. Press **Start**.

The printer displays:

```
015 COMMUNICATIONS CHECK
    CHECK CABLE
```

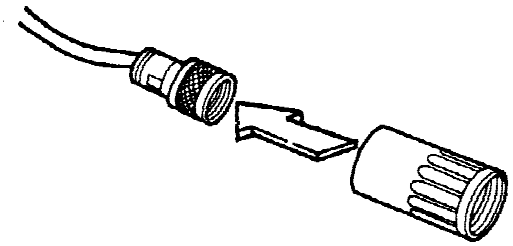
2. The power switch is located on the lower left side of the printer. Make sure that the printer power is switched off (O) and the power cable is unplugged.

DANGER

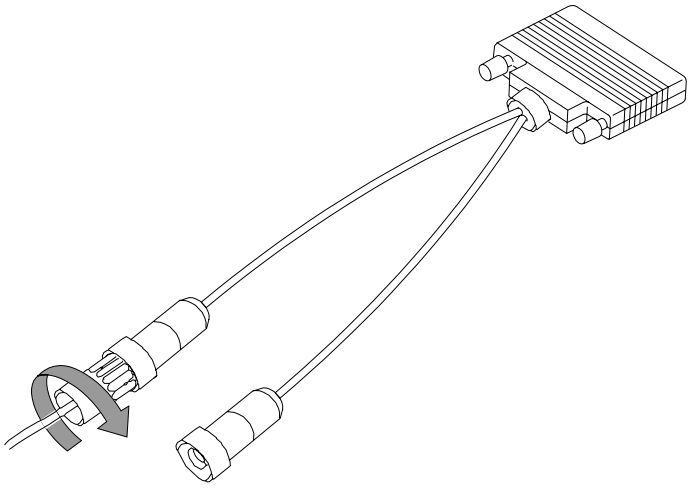
To prevent serious personal injury from electrical shock when connecting or disconnecting the interface cable, set the printer power switch to O (Off) and unplug the power cable.

CAUTION:
To prevent possible shock, do not install the interface cable during an electrical storm.

3. Before you connect the signal cable to the V-connector, slip a cable shield over the end of the cable. (If you are connecting two cables, slip a cable shield over the end of both cables.)



4. Align the two pins and the key slot in the *signal cable* with the two holes and the key in the end of the V-connector.
   - Plug the signal cable into the following connector and turn the *signal cable connector* clockwise until it locks into place.

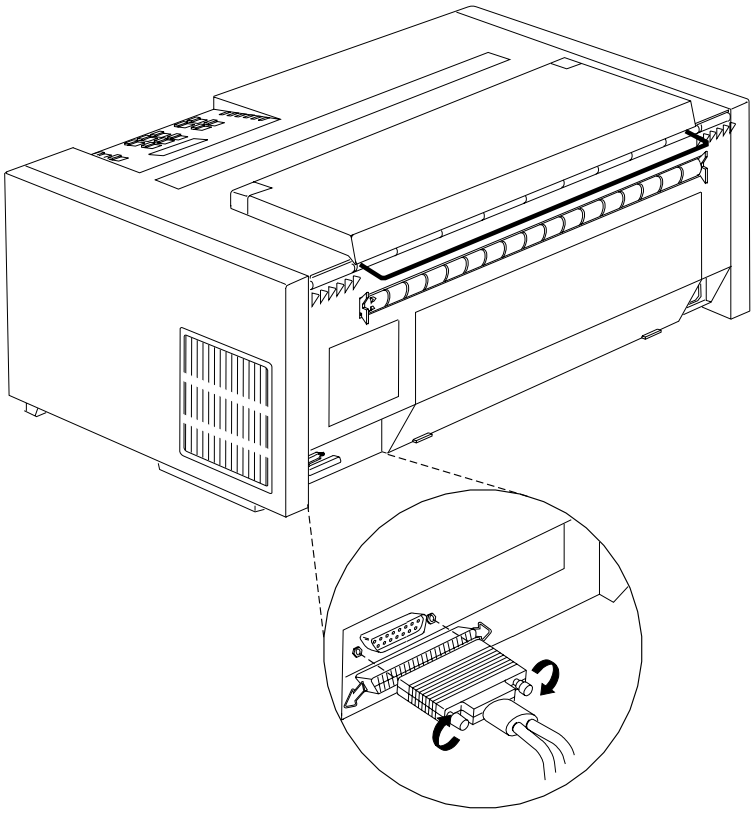


Notes:

a. There is no specified “input” or “output” end of the connector. You can attach a signal cable to either or both ends of the connector. You can connect another device to the unused end of the connector.

b. The V-connectors are “self-terminating” and do not require you to set a “terminator switch” which might be found on other printer products.

5. Insert the cable connector into the upper interface connector. Make sure the cable connector is securely seated. Tighten the two locking screws to hold the cable in place.



6. Connect the power cord to the printer and the wall outlet.
7. Switch on (|) the printer power.
8. Wait until the message IBM 4247 appears, all segments of the LCD on the operator panel display are lit, and the printer has stopped all motion. The printer then displays:

```
DIAGNOSTICS IN PROGRESS
PLEASE WAIT
```

```
READY                                < >
Twinax           Front
```

Note: If the printer does not show the correct display sequence, go to the status code section of Chapter 20, “Problem Solving” and follow the instructions there for the status code shown on the display panel.

Coaxial Attachment

Supported computers include:

- 3270 Information Display Systems
- 43xx Processors
- ES/9000 and ES/9370 Processors
- 3174 Remote/Local Control Unit.

Attaching a Coaxial Signal Cable to the Printer

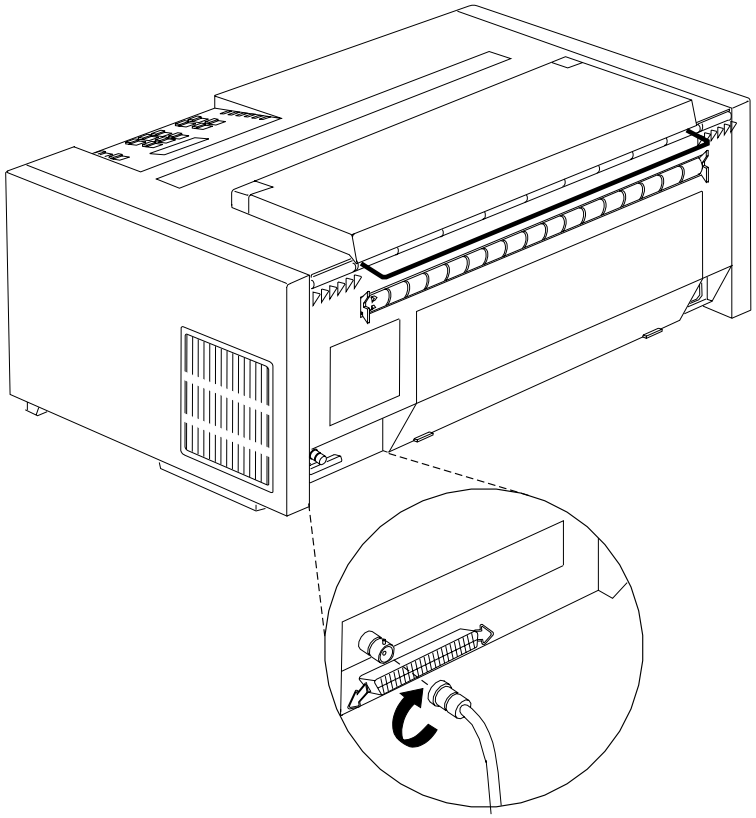
DANGER

> **To prevent serious personal injury from electrical shock when connecting or disconnecting the interface cable, set the printer power switch to O (Off) and unplug the power cable.**

CAUTION:
To prevent possible shock, do not install the interface cable during an electrical storm.

To attach a coaxial cable (not shipped with the printer), follow these steps:

1. The power switch is located on the lower left side of the printer. Make sure that the printer power is switched off (O) and the power cable is unplugged.
2. Attach one end of the signal cable to the upper interface connector on the back of the printer.
3. Turn the signal cable connector clockwise until the cable locks in place.



4. Connect the power cord to the printer and to the electrical outlet.
5. Switch on (|) the printer power.
6. Wait until the message IBM 4247 appears, all segments of the LCD on the operator panel display are lit, and the printer has stopped all motion. The printer then displays:

```
DIAGNOSTICS IN PROGRESS
PLEASE WAIT
```

```
READY                                < >
Coax              Front
```

Note: If the printer does not show the correct display sequence, go to the status code section of Chapter 20, “Problem Solving.” and follow the instructions there for the status code shown on the display panel.

Parallel Attachment

Supported computers include:

- Personal Computers
  - IBM Personal System/2 LPTx ports
- IBM RISC System/6000
- IBM AS/400
  - IBM AS/400 with ASCII workstation controller
  - IBM AS/400 twinaxial terminals including IBM 348X, IBM 3477, and IBM 3197 display stations
- LAN Features
  - Ethernet 10BaseT (RJ45) Network Print Server
  - Ethernet 10Base2 (BNC) Network Print Server
  - Token-Ring Media Type 3 Network Print Server
  - Token-Ring Media Type 1 Network Print Server
- IBM S/390 and S/370

For cable part number and specification information, see Appendix A, “Printer Specifications.”

Attaching a Parallel Cable

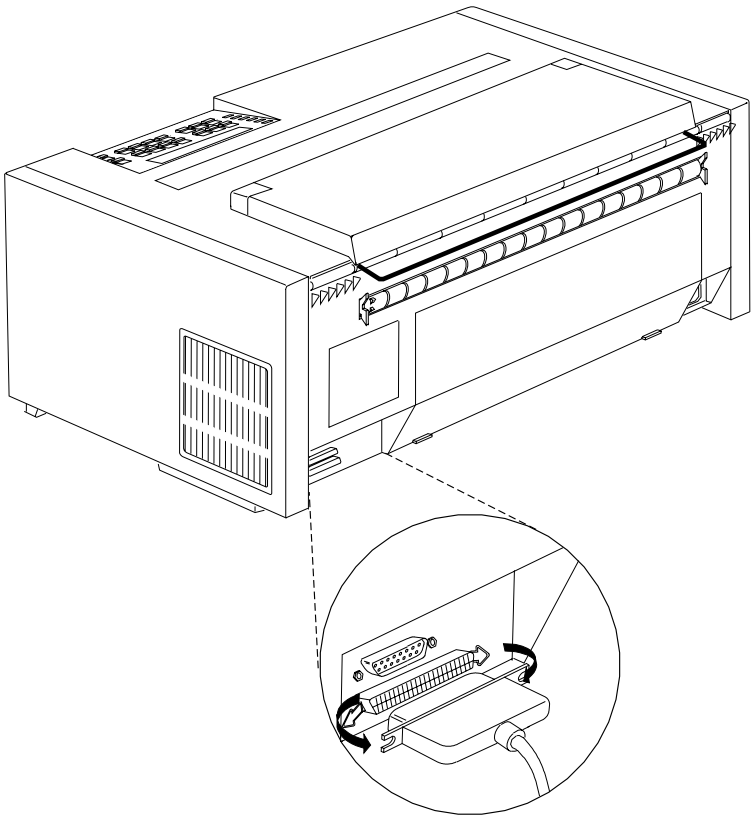
DANGER

> **To prevent serious personal injury from electrical shock when connecting or disconnecting the interface cable, set the printer power switch to O (Off) and unplug the power cable.**

CAUTION:
To prevent possible shock, do not install the interface cable during an electrical storm.

To attach a parallel cable:

1. The power switch is located on the lower left side of the printer. Switch the printer power off (O) and unplug the power cable.
2. Standing behind the printer, push the parallel interface cable into the lower interface connector on the back of the printer in the lower left corner.



3. Push the clips at each end of the connector into the notches on the parallel cable.
4. Refer to your computer system documentation for information on attaching the cable to your computer.
5. After you complete the attachment of the computer end of the interface cable, connect the power cord to the printer and to the electrical outlet.
6. Switch the printer power on (|).

7. Wait until the message IBM 4247, all segments of the LCD on the operator panel display are lit, and the printer has stopped all motion. The printer then displays:

```
DIAGNOSTICS IN PROGRESS
PLEASE WAIT
```

```
READY                                < >
xxxxxx           Front
```

*Where xxxxxx (depending on your attachment) can be the default twinax or coax.

8. Press **Menu**.
9. Press **Scroll** ↑ or **Scroll** ↓ until the printer displays:

```
CONFIGURATION MENU
Attachment
```

10. Press **Enter** to display the current value.
11. Press **Scroll** ↑ or **Scroll** ↓ until the printer displays:

```
Attachment
  Parallel
```

12. Press **Enter**. An asterisk (*) will be displayed in front of the selected value.
13. Press **Start**. The printer displays:

```
Press ENTER to Save a Custom Set
Press START to Not Save in a Set
```

14. If you want to use the parallel attachment for this session only (the printer will use the default attachment the next time it is powered on), press **Start** again. The printer will exit the menu and become *ready*.
15. To keep the parallel attachment as the default power-on attachment, press **Enter**. The printer will display

```
Save Current Values
  Custom Set A
```

16. Press **Enter**.
17. Press **Start** again. The printer will exit the menu and become *ready*.

Notes:

1. See Chapter 4, “Configuration Storage” on page 4-1 for more information on saving configuration information in custom sets, including information about specifying the default custom set to use when the printer is powered on. (Unless you specify otherwise, the printer will power on using the custom set configuration values it was using when it was last powered off.)
2. If the printer does not show the correct display sequence, go to the status code section of Chapter 20, “Problem Solving.”

Installing Printer Drivers

Note: These printer drivers support only the parallel attachment for your printer Model 001 or 002. The twinaxial and coaxial attachments are supported through the host computer.

The 4247 Printer Models 001 and 002 are supported by the following operating systems or environments:

- AIX version 3.2.5 and later
- OS/400 version 2.3 Host Print Transform
- OS/2 version 2.1 and later
- Windows version 3.0 and later.

For AIX Operating Systems: Use the *Printer Driver Diskette* shipped with your printer. The files in the **AIX** subdirectory enable the user to add a 4247 printer as a printer device and add virtual printers in three emulation modes:

- IBM 2381 Personal Printer
- IBM 4202 Proprinter III XL
- Epson FX.

To use the printer driver, establish a virtual printer queue for each emulation desired.

For OS/400 Operating Systems (Parallel Attachment Only): Use the *Printer Driver Diskette* shipped with your printer. The files in the **OS400** subdirectory enable the user to add a 4247 as a printer object. Support for 4247-unique commands is limited to Host Print Transform. Six new 4247 workstation customization tables are based on tables used for the 2381 Printer. Modifications to the tables were made to support various 4247 forms handling capabilities, fonts, and print qualities.

For OS/2 and Windows Operating Environment: Use one of the following drivers (not shipped with the printer) that is provided with your operating environment. When using these drivers, some of the 4247 advanced features will not be selectable from the data stream. You may, however, use the operator panel to select these features.

- IBM 2381 Personal Printer
- IBM 4202 Proprinter III XL
- Epson FX 1050.

AIX Driver Installation (Parallel Attachment Only)

The AIX driver files reside on a DOS formatted diskette in the **AIX** subdirectory. The files are:

license.txt	AIX printer driver license statement
4247.txt	Driver installation instructions
4247.tar	Drivers and additional information for AIX 3.2.5
ibm4247.tar	Drivers and additional information for AIX 4.1.

To read the diskette, `cd` to the directory of choice (such as **/tmp**) and issue the following commands:

```
# dosread -a /AIX/license.txt license.txt
# dosread -a /AIX/4247.txt 4247.txt
# dosread /AIX/4247.tar 4247.tar
# dosread /AIX/ibm4247.tar ibm4247.tar
```

Use the `more` or `pg` command to view the license agreement in the **license.txt** file, and the installation instructions in the **4247.txt** file. You must understand and agree to the terms and conditions stated in the **license.txt** file before installing the AIX driver.

OS/400 Printer Object Installation (Parallel Attachment Only)

The OS/400 printer object files reside on a DOS formatted diskette in the **OS400** subdirectory. The files are:

license.txt	OS/400 printer objects license statement.
read.1st	OS/400 printer object upload and installation instructions.
4247.doc	Explains the use and function of the OS/400 printer objects. Read this file before you attempt to upload either of the following **.txt** files.
ibm4247m.txt	Source file for the 4247 workstation customization object when the 4247 is configured with one continuous form feed or the user wants to select the form feed method from the operator panel.
ibm4247.txt	Source file for the 4247 workstation customization object when the 4247 is configured with two continuous forms feeders.
ib4247a2.txt	Source file for the 4247 workstation customization object when the 4247 is configured for the optional Automatic Sheet Feeder (ASF) unit. Required for use with pre-V3R1 operating systems; this object limits AS/400 selection of the 4247 ASF paper bins to two.
ib4247a3.txt	Source file for the 4247 workstation customization object when the 4247 is configured for the optional Automatic Sheet Feeder (ASF) unit. Required for use with V3R1 and later operating systems; this object provides AS/400 selection of all three 4247 ASF paper bins.

ib4247x2.txt Source file for the 4247 workstation customization object when the 4247 user wants to select between one continuous forms feed or bin 1 of the optional Automatic Sheet Feeder (ASF) unit. Required for use with pre-V3R1 operating systems; this object limits AS/400 selection of the 4247 paper paths to two.

ib4247x3.txt Source file for the 4247 workstation customization object when the 4247 user wants to select one continuous forms feed or bin 1 or bin 2 of the optional Automatic Sheet Feeder (ASF) unit. Required for use with V3R1 and later operating systems; this object provides AS/400 selection of three 4247 paper paths.

Use the text editor that came with your personal computer operating system (such as Windows 3.0 WRITE or OS/2 E) to view the license agreement in the **license.txt** file and to view the **read.1st** and **4247.doc** files.

To print the **read.1st** file (or any of the files), use an operating system command such as:

```
copy a:\os400\read.1st lpt1:
```

You must understand and agree to the terms and conditions stated in the **license.txt** file before installing the OS/400 printer object.

OS/2 or Windows Printer Driver Installation

See the *Printer Driver Installation* section in the respective product User's Guides.

Completing Printer Setup

Your 4247 Printer is now ready to use with the tractor unit mounted in the Front Push position and with configuration parameters set to the manufacturing defaults, except if you have selected new defaults for display language and attachment.

If your ordered a second optional tractor, see Chapter 17, “Paper Loading” for instructions on installing the second tractor in the Dual-Push, Rear Pull, or Push-Pull position.

To select any of the other 4247 paper paths, or to change printer configuration parameters, see:

- Chapter 2, “Understanding the Operator Panel” for information on operating the printer,
- Chapter 3, “Checking and Changing Configuration Parameter Values” for configuration information,
- Chapter 17, “Paper Loading” for paper loading procedures, or
- *4247 Printer Automatic Sheet Feeder Guide*, SA24-4407, for information on installing the ASF feature.

Chapter 2. Understanding the Operator Panel

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This chapter describes the function of the operator panel. The operator panel contains 6 status indicators, a 2-line by 40-character display panel, 16 printer function keys, and an audible alarm. Figure 2-1 illustrates the operator panel and keys for the printer with Twinaxial attachment. Figure 2-2 illustrates the operator panel and keys for the printer with Coaxial attachment.

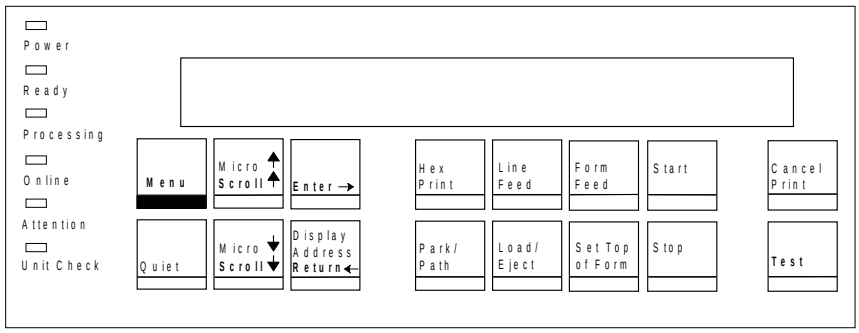


Figure 2-1. 4247 Printer Model 001 or 002 Operator Panel (with Twinaxial Attachment)

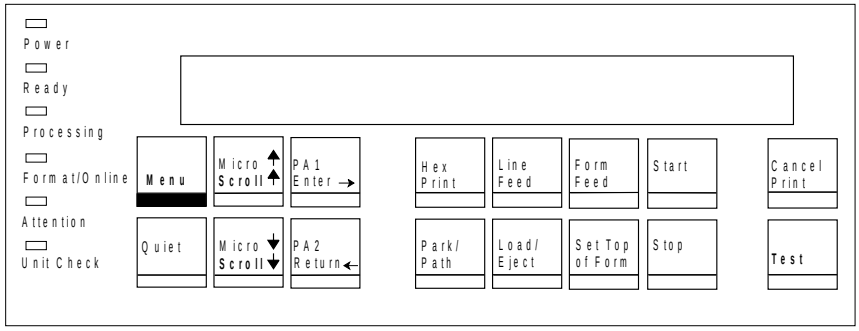


Figure 2-2. 4247 Printer Model 001 or 002 Operator Panel (with Coaxial Attachment)

Status Indicators

The following status indicators appear on the operator panel:

- Power
- Ready
- Processing
- Online (Twinaxial)
- Format/Online (Coaxial)
- Attention
- Unit Check.

You can determine printer status by checking these indicators.

Power

If on, the printer has power. If off, the printer does not have power.

Ready

If on, the printer is *ready* to print. If off, the printer is *not ready* to print. The printer can receive data when this indicator is off, but no data can be printed.

The **Ready** indicator is turned on under the following conditions:

- Successful power-on sequence
- After pressing **Start**, if the indicator was off because of any of the following conditions:
  - An error condition (if the error has been corrected)
  - An intervention required condition (if the error has been corrected)
  - After pressing **Stop**
- After pressing **Enter** or **Start** to run a test in the Operator Print Tests menu
- After a successful partial reset to *ready* after pressing **Cancel Print** to exit the Operator Print Tests.

The **Ready** indicator is turned off under the following conditions:

- After pressing **Stop**
- After detection of an intervention required condition
- After detection of a printer error
- After pressing **Menu** to enter the Configuration Menu when no print job is in progress
- After pressing **Load/Eject** to perform an eject to tear off position when Front Push or Rear Push is selected.

Processing

If on, the printer is printing or processing data. If blinking, the printer buffer contains data that cannot be printed immediately. If off, there is no data to process and no data in the print buffer.

Online (Twinaxial)
If on, the printer is in communication with the host. If off, the printer is not in communication with the host.

Format/Online (Coaxial)
This indicator functions as a **Format** indicator when the coaxial attachment is active or as an **Online** indicator when the parallel is the interface (see the above operating conditions for the **Online** indicator). For the **Format** indicator: If on, **Cancel Print**, **PA1**, and **PA2** are active (for the SCS data stream). If off, **PA1** and **PA2** are not active and the **Cancel Print** key is active only in Test mode.

Attention
If blinking, the printer requires operator intervention (for example, to add paper or to clear a paper jam). The type of intervention needed appears on the display panel. If off, the printer does not require immediate attention.

Unit Check
If blinking, a printer error has occurred and the printer must be reset. If off, the printer has no printer errors.

Display Panel

The display panel is a 2-line by 40-character liquid crystal display (LCD) that displays printer status messages, the print test menu, and the configuration menu categories, parameters, and values. Use this display panel and the printer function keys to scroll through and select Configuration Menu items and Operator Print Tests. You can set this display so the messages appear in one of the following languages:

- 000 English (default)
- 001 Deutsch
- 002 Français
- 003 Italiano
- 004 Español
- 005 Nederlands
- 006 Dansk
- 007 Português
- 008 Norsk
- 009 Svenska
- 010 Suomi

Audible Alarm

If you do not disable the audible alarm, it beeps if any of the following conditions occur:

- Immediate intervention is required
- A printer error condition exists
- The printer receives a command from the host to turn on the alarm
- An invalid key press is attempted
- The **Set Top of Form** key is pressed

To turn a beeping alarm off, press **Stop**. You can disable the audible alarm. See “Alarm Control” on page 7-15 for instructions.

Note: Pressing **Set Top of Form** and some unit check conditions sound the alarm, even if it is disabled.

Custom Set in Use Indicator

This indicator shows the parameter custom set that is currently being used by the printer. The indicator is located in the top right corner of the operator panel. The parameter custom set is a set of configuration values that have been defined at the operator panel and saved under a letter ID. When the custom set identified by this ID is selected from the operator panel, these parameter values are used by the printer.

```
NOT READY                              <X>
```

The current custom set in use is displayed in parentheses <X>. Where <X> can be:

A (Custom Set A in use)

B (Custom Set B in use)

C (Custom Set C in use)

D (Custom Set D in use).

E (Custom Set E in use)

F (Custom Set F in use)

G (Custom Set G in use)

H (Custom Set H in use).

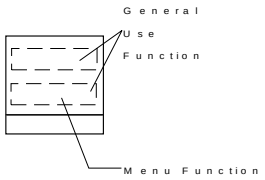
If a change was made in the configuration menu and not saved in a custom set, then the change is temporary and a **blank** < > is displayed in the parentheses. For more information on Custom Sets, see Chapter 4, “Configuration Storage.”

Function Keys

There are 16 keys available on the operator panel for performing printer functions. These keys perform general printer functions (for example, adjusting forms) and are used to scroll through and select items in the Configuration Menu and Operator Print Tests menu.

The keys on the right side of the panel have only one function, as designated by the label on the key. Menu and Quiet also have only one function each. The following keys on the left side have two functions each:

- Micro↑/Scroll↑
- Micro↓/Scroll↓
- PA1/Enter→(Coaxial)
- PA2/Return←(Coaxial)
- Display Address/Return←(Twinaxial)



The function identified by lighter print on the top line or both lines of the overlay label is a general use function. The darker print on the bottom portion of the overlay label identifies a configuration or test function.

The following section describes each of the printer function keys on the operator panel.

Menu

Use the Menu function key to enter the Configuration Menu. This function key is valid when the printer is *not ready* or the printer is *ready* and no job is in progress. After you enter the Configuration Menu, paper movement functions are not available.

The **Menu** key and lettering are black, as are the key labels that are available when in the Configuration or Test Menu.

Press **Menu** to enter the Configuration Menu.

The printer displays:

```
CONFIGURATION MENU
Configuration Storage
```

Note: If a print job is in progress (the printer is printing or the **Processing** indicator is on), the printer displays:

```
009 INVALID KEY PRESS
    PRESS STOP FIRST
```

In this case, you can press **Stop** first and then enter the Menu. However, it is not recommended that you change the Configuration Parameter Values while a print job is in progress.

The configuration menu can be locked to prevent access to changing parameter values. When the configuration menu is locked, the **Menu** key is disabled, preventing entry into the configuration menu. The Printer Adjustments in the Operator Print Tests Menu are also disabled.

If the **Menu** is locked, the printer displays:

```
097 FUNCTION NOT AVAILABLE
    MENU LOCKED
```

For more information on the Menu Lock function, see your system programmer or the *IBM 4247 Printer Models 001, 002 Programming Reference*.

For more information on configuration parameters and values, see “Checking and Changing Parameter Values” on page 3-3.

Quiet

The Quiet function key is a toggle key. If you press **Quiet** when the printer is running in normal mode, the printer switches to Quiet mode and `Quiet` displays on the operator panel. If you press **Quiet** when the printer is running in Quiet mode, the printer returns to printing normally. Pressing this key causes the reduction of the printing noise level by two to three decibels. It also reduces the printers throughput by one half.

Micro↑/Scroll↑ or Micro↓/Scroll↓

Use **Micro↑/Scroll↑** or **Micro↓/Scroll↓** to perform the following functions:

- Adjust forms upward or downward when the printer is *not ready*.
- Scroll through the Configuration Menu categories, parameters, and values.
- Scroll through the Operator Print Tests menu.

Adjusting Forms

Press **Micro↑** or **Micro↓** to move the form 0.176 mm (1/144 in.) in the direction of the arrow each time you press the key. If you continue to hold down the **Micro↑** key, the forms move continuously until you release the key.

When the printer is at the top of the forms and the **Micro** keys are used, the new paper position is now the top of forms.

The **Micro↑** and **Micro↓** keys replace the forms advance knob found on other printer products.

Note: If you use these keys when the **Processing** indicator is blinking, the top of form position could become misaligned.

Scrolling Through Categories, Parameters, Values, and Tests

The scrolling functions are available only when the Configuration Menu or Test Menu is displayed.

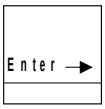
Pressing **Scroll↑** when the Configuration Menu is displayed changes the second line of the display to show the previous configuration category, parameter, or value. Pressing **Scroll↓** when the Configuration Menu is displayed changes the second line of the display to show the next configuration category, parameter, or value.

Pressing **Scroll↑** when the Test Menu is displayed changes the second line of the display to show the previous test name. Pressing **Scroll↓** when the Test Menu is displayed changes the second line of the display to show the next test name.

The scroll keys also enable the selection of numeric values. The list of numeric values starts with the lowest value. When a numeric value is to be entered, use **Scroll ↑** to see the next lower value in the range and **Scroll ↓** to see the next higher value. The values are shown on the second line of the display panel. When the value you wish to select appears, press **Enter**.

The scrolling functions are also used during some of the Operator Print Tests. See Chapter 18, “Using the Operator Print Tests” for more information.

Enter (Twinaxial)



The Enter function key can be used when the Configuration Menu or Operator Print Tests Menu is displayed.

Pressing the **Enter** key selects the displayed option.

The Enter function is also used during some of the tests.

Display Address/Return← (Twinaxial)

Display Address Function:

This function is valid only when the printer is *not ready*. Use **Display Address** to display the current printer address.

Press and hold **Display Address** to activate this function. The printer displays

```
Printer Address = xxx
```

The xxx value will be 000 through 006, indicating the current address. When you release the key, the display returns to the message displayed before the key was pressed.

Return Function:

Pressing **Return** in the Configuration Menu returns to the previous level of the menu, unless the printer already displays

```
CONFIGURATION MENU
Configuration Storage
```

If Configuration Menu is displayed, the printer exits the menu and becomes *not ready*.

Note: If you have made configuration changes and have not saved them in a Custom Set, the display will prompt you to save the changes. If you are in the Operator Print Tests Menu and a test is not running, pressing the **Return** key will exit the Test Menu and make the printer *not ready*.

PA1/Enter→ (Coaxial)

PA1 Function

This **PA1** function is only valid when the **Format/Online** indicator is on and the printer is *not ready*. The PA1 function is defined by the host program as a special operator request.

Press **PA1** to send a message to the computer or controller. The printer displays:

```
061 PA1 SELECTED
```

This message disappears when the host accepts the printer input.

Press **Start** to activate the PA1 response.

Note: See your computer operator or programmer for more information.

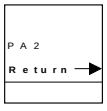
Enter Function:

The Enter function is available when the Configuration Menu or Operator Print Tests Menu is displayed.

Pressing the **Enter** key selects the displayed option.

The Enter function is also used during some of the tests.

PA2/Return← (Coaxial)



PA2 Function

This **PA2** function is valid when the **Format/Online** indicator is on and the printer is *not ready*. The PA2 function is defined by the host program as a special operator request.

Pressing **PA2** sends a message to the computer or controller. The printer displays:

```
062 PA2 SELECTED
```

This message disappears when the host accepts the printer input.

Press **Start** to activate the PA2 response.

Note: See your computer operator or programmer for more information.

Return Function:

Pressing **Return** in the Configuration Menu returns to the previous level of the menu, unless the printer already displays:

```
CONFIGURATION MENU
Configuration Storage
```

If Configuration Menu is displayed, the printer exits the menu and becomes *not ready*.

Note: If you have made configuration changes and have not saved them in a Custom Set, the display will prompt you to save the changes. If you are in the Operator Print Tests Menu and a test is not running, pressing the **Return** key will exit the Test Menu and make the printer *not ready*.

Hex Print

This function is valid only when the printer is *not ready*.

Use the Hex Print function to print all data in hexadecimal code.

Press **Hex Print** to activate this function. The printer displays:

```
026 HEX PRINT MODE ACTIVE
```

Press **Start** after you press **Hex Print** to cause all data to print in hexadecimal codes.

This function remains active until you press **Stop** or turn the printer Off (O).

Output from hex print mode will look similar to this:

```
0000   4C 69 6E 6B 20 44 72 69 76 65 72 20 4E 54 52 32      Link Driver NTR2
0010   30 30 30 0D 0A 20 20 20 20 20 20 20 20 50 4F 52      000J◘         POR
0020   54 20 41 32 30 0D 0A 20 20 20 20 20 20 20 20 46      T A20J◘        F
0030   52 41 4D 45 20 54 4F 4B 45 4E 2D 52 49 4E 47 5F      RAME TOKEN-RING_
0040   53 4E 41 50 20 4D 53 42 0D 0A 20 20 20 20 20 20      SNAP MSBJ◘
0050   20 20 46 52 41 4D 45 20 54 4F 4B 45 4E 2D 52 49        FRAME TOKEN-RI
0060   4E 47 20 4D 53 42 0D 0A 0D 0A 4E 65 74 57 61 72      NG MSBJ◘J◘NetWar
0070   65 20 44 4F 53 20 52 65 71 75 65 73 74 65 72 0D      e DOS RequesterJ
0080   0A 20 20 20 20 20 20 20 20 46 49 52 53 54 20 4E      ◘´`       FIRST N
0090   45 54 57 4F 52 4B 20 44 52 49 56 45 20 3D 20 46      ETWORK DRIVE = F
00A0   0D 0A 20 20 20 20 20 20 20 20 4E 45 54 57 41 52      J◘         NETWAR
00B0   45 20 50 52 4F 54 4F 43 4F 4C 20 3D 20 4E 44 53      E PROTOCOL = NDS
00C0   20 42 49 4E 44 0D 0A 20 20 20 20 20 20 20 20 70       BINDJ◘         p
00D0   72 65 66 65 72 72 65 64 20 74 72 65 65 20 3D 20      referred tree =
00E0   66 6C 69 6E 73 74 6F 6E 65 73 0D 0A 20 20 20 20      flinstonesJ◘
00F0   20 20 20 20 6E 61 6D 65 20 63 6F 6E 74 65 78 74          name context

0100   20 3D 20 22 62 65 64 72 6F 63 6B 22 0D 0A 0D 0A       = "bedrock"J◘J◘
0110   1A                                                  →
```

Park/Path

Park Function

Pressing this key causes the printer to enter the Park function in both the *ready* and *not ready* state.

If cut sheet forms are currently in the printer, the printer ejects the form and enters the *not ready* condition.

If continuous forms are currently in the printer for Front Push, Rear Push, or Push-Pull, the printer displays:

```
091 FANFOLD PARK
    TEAR OFF AT OUTPUT AND PRESS PARK
```

If continuous forms are currently in the printer for Rear Pull or special forms that cannot be moved backwards (for example, labeled continuous forms) for Front, Rear, or Push-Pull, the printer displays:

```
092 FANFOLD PARK
    TEAR OFF AT INPUT AND PRESS EJECT
```

Press **Stop** and perform the action requested on the operator panel display. The printer is then ready for the paper path selection.

Path Function

When no paper is in the current path and the printer is in the *not ready* state, pressing **Park/Path** allows the selection of the different paper paths available on the printer. When the desired path is displayed, press **Start**. The paper path displayed becomes the active paper path and the printer becomes *ready*. You can also press **Load/Eject** or **Form/Feed** for continuous forms to select the active paper path.

The paper path selected by **Park/Path** also becomes the current value for Paper Source in the Printer Setup category. See “Paper Source” on page 10-2.

Line Feed

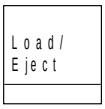
This function is valid only when the printer is *not ready*.

Press **Line Feed** to cause the printer to advance the forms one print line based on the current LPI setting. If you hold **Line Feed** more than four seconds, the forms move continuously until you release the key.

Similar to the forms advance knob on other printer products, the **Line Feed** key allows coarse vertical movement of forms. This key does not function as an “Index” key, which may be found on other printer products.

Note: If you use this key when the **Processing** indicator is blinking, the top of form position could become misaligned.

Load/Eject



The Load/Eject function depends on what active form path you have selected. This section describes the function for each of the paper paths.

Front Push and Rear Push:

The **Load/Eject** key performs the following functions:

- Automatically loads forms

  After the forms are loaded under the sensor and onto the tractors at the bottom of the forms device press **Load/Eject** to automatically load the forms to the top of form position.

- Moves forms to the tear-off position

  Do not press **Stop** first.

If you specify Immediate Eject for Continuous Forms Eject Mode parameter (default value) in the Printer Setup category, press **Load/Eject** to immediately make the printer *not ready*. The printer displays:

```
003 FORMS EJECTED
    PRESS LOAD
```

and advances the form so that you can tear off the form at the perforation and remove it from the printer.

If you specify Delayed Eject for the Continuous Forms Eject Mode parameter in the Printer Setup category, press **Load/Eject** to cause the printer to display:

```
093 EJECT PENDING
```

and beep the alarm. When the end of the form is reached, the printer becomes *not ready*, displays:

```
003 FORMS EJECTED
    PRESS LOAD
```

and advances the form so that you can tear off the form at the perforation and remove it from the printer.

Pressing the key a second time moves the next form to be printed back to the previous print position and makes the printer *ready*.

Refer to “Continuous Forms Eject Mode” on page 10-12 for more information on changing Continuous Forms Eject mode.

- Ejects forms

  When the printer is in an end-of-forms condition, the printer displays:

  ```
  001 END OF FORMS
      LOAD FORMS
  ```

  Press **Stop**. You are now ready to load forms.

Rear Pull:

This key is invalid when the printer is in an end-of-forms condition. The last form is automatically ejected from the printer when an end-of-forms condition is encountered.

There is no automatic loading for the Rear Pull paper path. When the printer displays:

```
001 END OF FORMS
    LOAD FORMS
```

Press **Stop** and manually align the forms on the rear tractor.

Press **Load/Eject**. Use the **Micro↑** or **Micro↓** to position the forms.

Push-Pull:

The Push-Pull paper path uses both the front and rear tractors

- Loading the front tractors

  After the forms are loaded under the sensor and onto the tractors at the bottom of the forms device, press **Load/Eject** to automatically load the forms to the top of form position.

- Loading the rear tractors

  Manually align the forms on the rear tractor. Use the **Micro↑** or **Micro↓** to position the forms.

- Press **Form Feed** to advance the forms to the top of the next form.

Manual Sheet Feed:

If Automatic Manual Load is set to `Disabled` in the Printer Setup category, the printer displays:

```
004 PRESS LOAD
```

when a form is inserted into the printer.

Press **Load/Eject** to advance the form to the first print position.

If Automatic Manual Load is set to `Enabled` in the Printer Setup category, pressing **Load/Eject** ejects the form from the printer and remains in the *ready* state. See “Automatic Manual Load” on page 10-14 for more information.

Auto Sheet Feed:

Press **Load/Eject** when the printer is *not ready* to eject the current form.

Form Feed

This key is active for Front Push, Rear Push, Rear Pull, and Push-Pull. It is inactive for the ASF and manual sheet feed paper paths. This key advances the forms so that the next form is at the top of form position. The Form Feed function is available when the printer is *not ready*.

- If you interrupt a print job by pressing **Stop**, pressing **Form Feed**, and then pressing **Start** (when you are ready to resume the job), the printer continues to print on the next form at the place where printing was interrupted on the previous form.
- If **Form Feed** is pressed during Front Push or Rear Push load operation, the **Form Feed** functions as a **Load/Eject** and performs an automatic load.
- For Push-Pull:
  - Press **Load/Eject** to advance the paper from the front tractor to the rear tractor.
  - Manually align the forms on the rear tractor. Use the **Micro↑** or **Micro↓** to position the forms.
  - Press **Form Feed** to advance the forms to the top of the next form.
- The printer does not always have to be *not ready* before pressing **Form Feed**. See “Form Feed Mode” on page 10-9 for more information.

Set Top of Form

This should only be used when printing occurred and no Top-of-Forms commands have been passed to the printer (such as Form Feed or Printer initialization).

The Set Top of Form function is available only when the printer is *not ready*, and the paper is loaded to the print line. This key can be used only for the continuous forms paper sources.

Press **Set Top of Form** to set the top of form position for continuous paper sources only. The alarm beeps and the printer displays:

```
TOP OF FORM SET
```

while you hold down the **Set Top of Form** key.

If preprinted forms are being used, use Paper Load Positioning (see Chapter 11, “Printer Adjustments” on page 11-1) instead of Top-of-Form.

Note: For ASF and Manual Sheet Feed, adjustment to the top margin must be set through the Paper Load Position. See Chapter 11, “Printer Adjustments” on page 11-1 for more information.

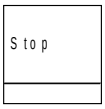
Start

Press **Start** to perform the following functions:

- Make the printer *ready* and turn the **Ready** indicator on.
- Exit the Configuration Menu and make the printer *ready*. If a partial reset is required, it is performed to put configuration changes into effect before the printer becomes *ready*.

  Note: If you have made configuration changes and have not saved them in a Custom Set, the display will prompt you to save the changes.
- Start the printer printing if no error condition appears on the display and if the computer is sending data to be printed.
- Begin a test from the Operator Print Tests menu.

Stop



If the printer is in a *ready* state, press **Stop** to:

- Make the printer *not ready* and turn the **Ready** indicator off
- Stop printing as soon as possible without losing print data
- Stop a test if the printer is in test mode
- Stop the printer alarm from beeping
- Allow you to use the other printer function keys
- Cause the printer to display:

  ```
  NOT READY                              <x>
  ```

  (or cause the current test menu to display if the printer is in Operator Print Tests mode)

If an error condition appears on the operator panel display, press **Stop** to:

- Clear the error message from the display
- Stop the printer alarm from beeping.

Cancel Print

When this key is pressed while the printer is active and online, the attachment sends a “cancel request” to the host and, for coaxial and twinaxial attachment, all print data is cleared, the print buffers are cleared, and the printer displays:

```
059 CANCEL PRINT SELECTED
```

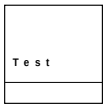
For ***twinaxial***, the “cancel print” function is valid in the online *not ready* and *ready* states.

For ***coaxial***, the “cancel print” function is only valid in the online *not ready* state when the **Format/Online** indicator is on. The cancel request is not sent, however, until you press **Start** after the 059 message is displayed. If you press **Cancel Print** again after the 059 message is displayed (instead of **Start**), the cancel request will not be sent and the 059 message will be cleared.

For ***parallel***, the **Cancel Print** clears all print buffers. This function is valid only when the printer is *not ready*.

Cancel Print is also active in Operator Print Tests. If **Cancel Print** is pressed while in the tests, the printer stops any test in process, exits the test mode, performs a partial reset, and becomes *ready*.

Test



Press **Test** to enter the Operator Print Tests menu. The Test function is valid only when the printer is *not ready*.

There are several tests available. After you press **Test**, the printer displays:

```
4247 OPERATOR PRINT TESTS
Quick Reference
```

Press **Scroll↑** or **Scroll↓** to display the other available tests.

Refer to Chapter 18, “Using the Operator Print Tests” on page 18-1 on selecting and running tests.

Chapter 3. Checking and Changing Configuration Parameter Values

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Checking and Changing Parameter Values 3-3
Exiting the Configuration Menu 3-4
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This chapter gives you brief descriptions and procedures for checking or changing the Configuration Parameter Values. Parameter values are settings the printer recognizes and uses to process print data. These values can be set using the operator panel. They are grouped together into categories of values (for example, twinaxial configuration, printer setup) and are accessed on the operator panel by these categories. These categories are available on the Configuration Menu:

- Configuration Storage
- Attachment
- Rear Tractor Use
- Twinaxial Configuration (with Twinaxial Attachment)
- Coaxial Configuration (with Coaxial Attachment)
- Parallel Configuration
- Printer Setup
- Printer Adjustment
- Power On Reset
- Display Language
- Send Buffer Reprint Code (with Coaxial Attachment)
- Vital Product Data
- Quit From Menu

You can use the Configuration Parameter Values set at the manufacturer or you can change them. Instructions for checking and changing the Parameter Values for each of these Configuration Categories are described in this section.

Notes:

1. The computer program can override Parameter Values that you select from the operator panel. The values that the computer program *cannot* override are listed in “Configuration Categories” on page 3-6.
2. If a category or parameter that is not valid for your printer application is displayed, you should ignore it; it will not harm the printer or affect its operation.
3. IBM recommends that you print your custom sets for reference. See “Printer Configuration” in Chapter 18, “Using the Operator Print Tests” for information.

Printing Configuration Defaults

IBM recommends that you print your configuration values and save this printout for future reference. See “Printer Configuration” on page 18-7 for information on printing your printer configuration values.

Checking and Changing Parameter Values

Checking and changing Configuration Parameter Values is done in the Configuration Menu, which is entered with the **Menu** key. The Configuration Menu is divided into three levels:

- Category
- Parameter
- Value

Note: Do not change Parameter Values during a print job; data may be lost.

Press **Menu** to enter the Configuration Menu.

```
CONFIGURATION MENU
Configuration Storage
```

The configuration menu can be locked to prevent access to changing parameter values. When the configuration menu is locked, the **Menu** key is disabled, preventing entry into the configuration menu. The Printer Adjustments in the Operator Print Tests Menu are also disabled.

Note: If the **Menu** is locked, the printer displays

```
097 FUNCTION NOT AVAILABLE
    MENU LOCKED
```

For more information on the Menu Lock function, see your system programmer or the *IBM 4247 Printer Model 001, 002 Programming Reference*.

The first category in the Configuration Menu is listed on the second line of the display. Use **Scroll↑** or **Scroll↓** to scroll through the Categories until the category you want is displayed. Press **Enter** to display the first Parameter in the Category you select. Use **Scroll↑** or **Scroll↓** to scroll through the Parameters until the parameter you want to check or change is displayed. Press **Enter** to display the current value for the selected Parameter (indicated by an asterisk [*]).

Use **Scroll↑** and **Scroll↓** to scroll through the other available Values until the value you want is displayed. Press **Enter** to select this new value.

When you change the values and do not save them in a custom set, the printer retains the values until one of the following occurs:

- You turn the printer power Off (O).
- You change the values again.

Unless you save the values in a Custom Set, the values you changed are lost when you turn the printer power Off (O). The next time you turn the printer power On (|), the values you saved previously in the Power-On Custom Set, are the values the printer uses.

See Chapter 4, “Configuration Storage” for information about saving and recalling parameter values in custom sets.

Configuration changes do not take effect until the printer completes printing the buffered data (data the printer has in its storage areas).

If you change a parameter (or several parameters) and then decide you do not want to keep your changes, you can return to the previous value settings by selecting Quit from Menu from the Configuration Menu. The printer displays

```
Quit from Menu
Restore Previous Values
```

Press **Enter** to restore the previous values, exit the Configuration Menu, and make the printer *not ready*. See Chapter 16, “Quit From Menu” for more information about restoring previous values.

Exiting the Configuration Menu

You may quickly exit the Configuration Menu and make the printer *ready* by pressing **Start**. You may also exit the menu and make the printer *not ready* using the **Return** key. These two methods maintain the changes you have made to the configuration.

Note: If you wish to cancel your changes, you may Quit from the menu; see Chapter 16, “Quit From Menu.”

Exiting Using Start

If you did not make any configuration changes or you stored your changes in a Custom Set, press **Start** and the printer will exit the menu and become *ready*.

If you made configuration changes and did not store them in a Custom Set, to exit by using **Start**, use the following steps:

1. Press **Start** from any level of the menu.

   The printer displays

   ```
   Press ENTER to Save a Custom Set
   Press START to Not Save in a Set
   ```

2. If you do not want to store your changes (they will be lost when the printer is turned off), press **Start** again and the printer will exit the menu and become *ready*.
3. To store your changes in a Custom Set, press **Enter**.
4. The printer will go to the Value level of the Configuration Storage Category in the menu and display

   ```
   Save Current Values
     Custom Set A
   ```

5. Press **Scroll Up**↑ or **Scroll Down**↓ until the desired custom set name is displayed.
6. Press **Enter** to store the current parameter values (see Chapter 4, “Configuration Storage” for more details).
7. Press **Start** again.

   The printer will exit the menu and become *ready*.

| See “Configuration Categories” on page 3-6 for the parameters you can change
| and the manufacturing values.

Exiting Using Return

If you did not make any configuration changes or you stored your changes in a Custom Set, press **Return** and the printer will exit the menu and become *not ready*.

If you made configuration changes and did not store them in a Custom Set, to exit by using **Return** use the following steps:

1. If `CONFIGURATION MENU` is not on the first line of the display, press **Return**.
2. Press **Return** again.

   The printer displays

   ```
   Press ENTER to Save a Custom Set
   Press RETURN to Not Save in a Set
   ```

3. If you do not want to store your changes (they will be lost when the printer is turned off), press **Return** again and the printer will exit the menu and become *not ready*.
4. To store your changes in a Custom Set, press **Enter**.
5. The printer will go to the Value level of the Configuration Storage Category in the menu and display

   ```
   Save Current Values
     Custom Set A
   ```

6. Press **Scroll Up**↑ or **Scroll Down**↓ until the desired custom set name is displayed.
7. Press **Enter** to store the current parameter values (see Chapter 4, “Configuration Storage” for more details).
8. Press **Return** three times to back out of the menu.

   The printer will exit the menu and become *not ready*.

See “Configuration Categories” on page 3-6 for the parameters you can change and the manufacturing values.

Configuration Categories

This section lists all the selectable values available and the manufacturing defaults for the parameters in each configuration category.

Configuration Storage

Table 3-1 lists the parameters available for the Configuration Storage Category. Refer to Chapter 4, “Configuration Storage” for detailed information on setting these parameters.

Table 3-1. Configuration Storage Category

Parameters	Values	Default
Save Current Values	Custom Set A-H	N/A
Recall Custom Set	Custom Set A-H	N/A
Power-On Custom Set	Last Used Custom Set A-H	Last Used
Power-On Paper Source	Front Rear Bin 1 Bin 2 Bin 3 Manual Last Used	Front
Recall Factory Defaults	Yes	N/A

Note: Use Recall Factory Defaults to set all the parameters to the manufacturing default values. See “Recall Factory Defaults” on page 4-8.

Attachment Selection

The 4247 Model 001 is capable of attaching either as a twinaxial and parallel or as a coaxial and parallel printer. The attachments you have depend on what you requested at the time you placed your order.

Table 3-2 lists the parameters available for the Attachment Selection. The default value is either twinaxial or coaxial depending on the attachment you order. Refer to Chapter 5, “Using the Attachment Selection” for detailed information on setting these parameters.

Table 3-2. Attachment Selection

Parameters	Values	Default
Attachment Selection	Twinax or Coax Parallel	Twinax or Coax

Rear Tractor Use

The Rear Tractor Use category is available only when the rear tractor is installed.Table 3-3 lists the parameters available when the rear tractor is installed. Refer to Chapter 6, “Rear Tractor Use” for detailed information on setting these parameters.

Table 3-3. Rear Tractor Use		
Parameters	**Values**	**Default**
Rear Tractor Use	Push Pull Push-Pull	Push

Twinaxial Configuration

Table 3-4 lists the parameters available for the Twinaxial Configuration Category. Parameters that can be overridden by the computer are noted with a dagger (†). Refer to Chapter 7, "Twinaxial Configuration" for detailed information on setting these parameters.

Table 3-4. Twinaxial Configuration		
Parameters	**Values**	**Default**
† Characters Per Inch (CPI)	10 12 15 16.7	10
† Lines Per Inch (LPI)	6 8	6
† Maximum Print Position (MPP)	1-227	132
† Maximum Page Length (MPL)	1-660 1-880	66
† Print Quality	DP Quality DP Text Quality Near Letter Quality	DP Quality
† Print Language	Supported Print Languages See Table on page 7-7.	500 International 5/ Belgian New
Printer Address	000-006	000
Data Stream	IPDS SCS	IPDS
Emulation Mode	4247 4224 4230 4214	4247
Media Size Priority	Standard Alternate	Alternate
Bar Code Mode	High Low Computer Selected	High
Graphics Mode	High Low Computer Selected	High
Alarm Control	Enabled Disabled	Enabled

Coaxial Configuration

Table 3-5 lists the parameters available for the Coaxial Configuration Category. Parameters that can be overridden by the computer are noted with a dagger (†). Refer to Chapter 8, “Coaxial Configuration” for detailed information on setting these parameters.

Table 3-5 (Page 1 of 2). Coaxial Configuration

Parameters	Values	Default
† Characters Per Inch (CPI)	10 12 15 16.7	10
† Lines Per Inch (LPI)	6 8	6
Single/Double Space	Single Double	Single
† Maximum Print Position (MPP)	1-227	132
† Maximum Page Length (MPL)	1-660 1-880	66
Emulation Mode	4247 4224 4230 3287 3268	4247
† Print Quality	DP Quality DP Text Quality Near Letter Quality	DP Quality
† Print Language	Supported Print Languages See Table on page 8-9.	37 USA/Canada/ Canadian Bilingual
† Mono/Dual Case	Dual Mono	Dual
† Print Text Direction	Right to Left Left to Right	Right to Left
Media Size Priority	Standard Alternate	Alternate
Printer Compatibility Screen Buffer Size	960 1920 2560 3440 3564	1920
Printer Compatibility 1 (Carriage Return at MPP + 1)	Standard Alternate	Standard
Printer Compatibility 2 (New Line at MPP + 1)	Standard Alternate	Standard
Printer Compatibility 3 (Form Feed Followed by Data)	Standard Alternate	Standard
Printer Compatibility 4 (Form Feed Last Character in Order)	Standard Alternate	Standard

Table 3-5 (Page 2 of 2). Coaxial Configuration

Parameters	Values	Default
Printer Compatibility 5 (Null Suppression)	Standard Alternate	Standard
Printer Compatibility 6 (Form Feed Command Position)	Standard Alternate	Standard
Printer Compatibility 7 (Automatic Function after end of Print Buffer)	Standard Alternate	Standard
Printer Compatibility 8 (Automatic Function after OILC Job)	Standard Alternate	Standard
Printer Compatibility 9 (Suppress Timeout of No Data Loss Intervention Required)	Standard Alternate	Standard
Printer Compatibility Early Print Complete	Disabled Enabled	Disabled
Printer Compatibility 12 (Automatic Function before Start of OILC Job)	Standard Alternate	Standard
Printer Compatibility Programmed Symbols	Disabled Enabled	Disabled
Bar Code Mode	High Low Computer Selected	High
Graphics Mode	High Low Computer Selected	High
Alarm Control	Enabled Disabled	Enabled
Programmed Symbols Plane Selection	3 Single + 1 Triple 6 Single	3 Single + 1 Triple
Programmed Symbols Full Page on Skip Suppress	Standard Alternate	Standard
Programmed Symbols PS Print Direction	Unidirectional Bidirectional	Unidirectional

Parallel Configuration

Table 3-6 on page 3-10 lists the parameters available for the Parallel Configuration Category. Parameters that can be overridden by the computer are noted with a dagger (†). Refer to Chapter 9, “Parallel Configuration” for detailed information on setting these parameters.

Table 3-6 (Page 1 of 2). Parallel Configuration

Parameters	Values	Default
† Characters Per Inch (CPI)	10 12 15 16.7 17.1 20	10
† Lines Per Inch (LPI)	6 8	6
† Maximum Print Position (MPP)	1-272	136
† Maximum Page Length (MPL)	1-660 1-880	66
† Emulation Mode	4247 2381 Personal Printer 4202 Proprinter III XL Epson-FX	4247
† Print Language	Supported Print Languages See Table on page 9-7.	437 PC (When emulation mode is set to 4247, 4202 III XL, 2381) 0 USA (When emulation mode is set to Epson-FX)
† Print Quality (When emulation mode is set to 4247, 4202 III XL, 2381)	DP Quality DP Text Quality Near Letter Quality OCR-A OCR-B	DP Quality
† Print Quality (When emulation is set to Epson-FX)	DP Quality Courier Gothic OCR-A OCR-B	DP Quality
NLQ Typeface (When emulation mode is set to 4247, 4202 III XL, 2381)	Courier Gothic	Courier
Character Set	PC1 PC2 Italics	PC1
Printer Compatibility 3 (Automatic LF on CR)	Disabled Enabled	Disabled
Printer Compatibility 4 (Automatic CR on LF) (When emulation mode is set to 4247, 4202 III XL, or 2381)	Disabled Enabled	Disabled

Table 3-6 (Page 2 of 2). Parallel Configuration

Parameters	Values	Default
Printer Compatibility 5 (Form Feed Suppression) (When emulation mode is set to 4247, 4202 III XL, or 2381)	Disabled Enabled	Disabled
Printer Compatibility 6 (Init)	Enabled Disabled	Enabled
Printer Compatibility 7 (Condensed Print) (When emulation mode is set to 4247, 4202 III XL, or 2381)	15 16.7 17.1	17.1
Printer Compatibility 8 (Slashed Zero)	Disabled Enabled	Disabled
Printer Compatibility 9 (20 CPI) (When emulation mode is set to 4247, 4202 III XL, or 2381)	Enabled Disabled	Enabled
Alarm Control	Enabled Disabled	Enabled
Interface Type	PC Parallel 1284 Parallel	PC Parallel
Input Buffer Size	256 2K 12K 32K 64K	32K
Select-In Signal (When emulation mode is set to Epson-FX)	Enabled Disabled	Enabled
AutoFeed XT (When emulation mode is set to Epson-FX)	Disabled Enabled	Disabled

Printer Setup

Table 3-7 on page 3-12 lists the parameters available for the Printer Setup Category. Parameters that can be overridden by the computer are noted with a dagger (†). Refer to Chapter 10, “Printer Setup” for detailed information on setting these parameters.

Table 3-7. Printer Setup

Parameters	Values	Default
† Paper Source	Front Rear Bin 1 Bin 2 Bin 3 Manual	Front
ASF Default Bin	Bin 1 Bin 2 Bin 3	Bin 1
ASF Bin 1 Media	Paper Envelope	Paper
ASF Bin Linking	Disabled Bin 1+2 Bin 1+2+3 Bin 2+3	Disabled
Front Forms Backup	Enabled Disabled	Enabled
Rear Forms Backup	Enabled Disabled	Enabled
Continuous Forms Linking	Disabled Enabled	Disabled
Form Feed Mode	Not Active in Ready State Active in Ready State	Not Active in Ready State
Automatic Eject	Disabled Enabled	Disabled
Automatic Restore	Disabled Data Timer (10 seconds) Timer (20 seconds) Timer (30 seconds) Timer (40 seconds) Timer (50 seconds)	Disabled
Continuous Forms Eject Mode	Immediate Eject Delayed Eject	Immediate Eject
Manual Paper Overlay	Disabled Enabled	Disabled
Automatic Manual Load	Enabled Disabled	Enabled
Manual Feed Eject Mode	Top of Form Automatic Top of Form	Top of Form
Bar Code Print Direction	Unidirectional Bidirectional	Unidirectional
Graphics Print Direction	Unidirectional Bidirectional	Unidirectional
Perforation Safety	Disabled Enabled	Disabled
Jam Sensors	Enabled Disabled	Enabled

Printer Adjustment

Table 3-8 lists the parameters available for the Printer Adjustment Category. Refer to Chapter 11, “Printer Adjustments” for detailed information on setting these parameters.

Table 3-8. Printer Adjustment

Parameters	Values	Default
Front AFTA	–5 to +3 Fixed 1 to 8	0
Front Tear Position	–312 to +24	0
Front Left Margin Alignment	0 to 60	10
Front Paper Load Position	–24 to +288	0
Rear AFTA	–5 to +3 Fixed 1 to 8	0
Rear Tear Position	–312 to +24	0
Rear Left Margin Alignment	0 to 60	10
Rear Paper Load Position	–24 to +288	0
ASF Bin 1 AFTA	–5 to +3 Fixed 1 to 8	0
ASF Bin 1 Left Margin Alignment	0 to 60	10
ASF Bin 1 Paper Load Position	–24 to +576	0
ASF Bin 2 AFTA	–5 to +3 Fixed 1 to 8	0
ASF Bin 2 Left Margin Alignment	0 to 60	10
ASF Bin 2 Paper Load Position	–24 to +576	0
ASF Bin 3 AFTA	–5 to +3 Fixed 1 to 8	0
ASF Bin 3 Left Margin Alignment	0 to 60	10
ASF Bin 3 Paper Load Position	–24 to +576	0
Manual Feed AFTA	–5 to +3 Fixed 1 to 8	0
Manual Feed Left Margin Alignment	0 to 60	10
Manual Feed Paper Load Position	–24 to +576	0

Power On Reset

Table 3-9 lists the parameters available for the Power On Reset. Refer to Chapter 12, “Power-On Reset (POR)” for detailed information on setting these parameters.

Table 3-9. Power On Reset

Parameters	Values	Default
Power On Reset	Yes	N/A

Display Language

Table 3-10 lists the parameters available for the Display Language Category. Refer to Chapter 13, “Display Language” for detailed information on setting these parameters.

Table 3-10. Display Language

Parameters	Values	Default
Display Language	000 English 001 Deutsch 002 Français 003 Italiano 004 Español 005 Nederlands 006 Dansk 007 Português 008 Norsk 009 Svenska 010 Suomi	000 English

Send Buffer Reprint Code (Coaxial Attachment)

Table 3-11 lists the parameters available for the Send Buffer Reprint Code Category. Refer to Chapter 14, “Send Buffer Reprint Code (Coaxial)” for detailed information on setting these parameters.

Table 3-11. Send Buffer Reprint Code Category (Coaxial)

Parameters	Values	Default
Send Buffer Reprint Code	Yes No	No

Vital Product Data

Table 3-12 lists the parameters available for the Vital Product Data Category. Refer to Chapter 15, “Vital Product Data” for detailed information on setting these parameters.

Table 3-12. Vital Product Data Category

Parameters	Values	Default
Serial Number Device Specific Information	xxxxxxx xxxxxxxxxxxxxxx	0000000 0000000000000000

Quit From Menu

Table 3-13 lists the parameters available for the Quit From Menu Category. Refer to Chapter 16, “Quit From Menu” for detailed information on setting these parameters.

Table 3-13. Quit From Menu Category

Parameters	Values	Default
Quit From Menu	Restore Previous Values	N/A

Chapter 4. Configuration Storage

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Power-On Paper Source 4-7
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This chapter describes the procedures for setting configuration storage values. It explains the two types of configuration storage (custom and non-custom) and describes how to create and save them in printer memory.

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Custom Sets

There are eight Custom Sets (A, B, C, D, E, F, G, and H) that you can create and retain. Custom Sets contain values for the following parameters:

- Twinax Configuration
  - All, except Printer Address
- Coax Configuration
  - All, except Screen Buffer Size and Programmed Symbols
- Parallel Configuration
  - All, except Printer Compatibility 6 (Init), Interface Type, Input Buffer Size, Select-In Signal, and AutoFeed XT
- Printer Setup
  - All, except Paper Source
- Display Language
- Printer Adjustments
  - All, except Bidirectional Adjustment, Sensor Tune, and Quit from Menu.

Non-Custom Set

The Non-Custom Set contains parameter values that stay the same, no matter which Custom Set you are using. The following parameter values are saved in this part of printer memory:

- Configuration Storage
  - All
- Attachment
- Rear Tractor Use
- Twinax Configuration
  - Printer Address
- Coax Configuration
  - Screen Buffer Size
  - Programmed Symbols
- Parallel Configuration
  - Printer Compatibility 6 (Init)
  - Interface Type
  - Input Buffer Size
  - Select-In Signal
  - AutoFeed-XT
- Printer Setup
  - Paper Source
- Printer Adjustments
  - Bidirectional Adjustment
  - Sensor Tune
  - Quit from Menu
- Power On Reset
  - Yes
- Send Buffer Reprint (Coaxial)
  - Yes
- Vital Product Data
- Quit From Menu

Changes to these values are saved at the same time you save values that go into Custom Sets. If you save a change made to one of these Non-Custom Set parameter values, the new value will be in effect no matter which Custom Set you recall.

Save Current Values

The Save Current Values stores the current values of the configuration parameters to one of the eight custom sets (described in “Custom Sets” on page 4-2).

You can save the current values to:

- Custom Set A
- Custom Set B
- Custom Set C
- Custom Set D
- Custom Set E
- Custom Set F
- Custom Set G
- Custom Set H

All of the custom sets are initially set to the manufacturing default values.

To save current configuration values in a Custom Set, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Configuration Storage
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Configuration Storage
   Save Current Values
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired Custom Set value is displayed.

   Note: If you have previously created a Custom Set definition for that letter, that information will be replaced with the new information when you press **Enter**.

7. Press **Enter**.

   The printer displays a message similar to

   ```
   Save Current Values
     Custom Set A Saved
   ```

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4. The display will be updated to show the new custom set that is in use. See “Custom Set in Use Indicator” on page 2-6.

Recall Custom Set Values

The Recall Custom Set values recalls configuration parameters previously stored. (Custom sets are described in “Custom Sets” on page 4-2.)

You can recall current values from:

- Custom Set A
- Custom Set B
- Custom Set C
- Custom Set D
- Custom Set E
- Custom Set F
- Custom Set G
- Custom Set H

Note: When a new custom set is recalled, a partial reset is automatically performed when exiting from the configuration menu if the value of at least one of the parameters that requires a partial reset has been changed. Buffered data will be lost.

To recall Custom Set values, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Configuration Storage
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Configuration Storage
Recall Custom Set Values
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired Custom Set value is displayed.
7. Press **Enter**. The printer displays a message similar to

```
Recall Custom Set
  Custom Set A Recalled
```

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Power-On Custom Set

The Power-On Custom Set is the custom set that is used when the printer is turned on. The Last Used value means the custom set used before the printer was powered off is to be used as the power-on custom set.

You can change the Power-On Custom Set to:

- Last Used (Default)
- Custom Set A
- Custom Set B
- Custom Set C
- Custom Set D
- Custom Set E
- Custom Set F
- Custom Set G
- Custom Set H

To change or check the power-on custom set, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Configuration Storage
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Configuration Storage
   Power-On Custom Set
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired Custom Set for the new power-on custom set is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected Custom Set.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Power-On Paper Source

The Power-On Paper Source allows you to select which paper source is to be used when the printer is turned on. The Last Used value means that the paper source used before the printer was powered off is to be used as the power-on paper source.

You can change the Power-On Paper Source to:

- Front (Default)
- Rear
- Bin 1
- Bin 2
- Bin 3
- Manual
- Last Used

Selecting Last Used causes the Paper Source parameter (in the Printer Setup menu) to be updated whenever the data stream selects a paper source. If the data stream attempts to select the operator panel setting for power-on paper source, the most recently selected paper source will be used instead.

To change or check the power-on paper source, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Configuration Storage
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Configuration Storage
   Power-On Paper Source
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired Power-on Paper Source value is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected paper source.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Recall Factory Defaults

This function sets all parameter values to the original manufacturing default values, except Vital Product Data and Printer Address (Twinaxial attachment). These settings can only be changed through their own menu selection.

The printer is shipped with all of the custom sets set to manufacturing default values and custom set A as the power-on custom set. The Recall Factory Defaults function does not affect the values saved in custom sets.

Note: When factory defaults are recalled, a partial reset is automatically performed when exiting from the configuration menu if the value of at least one of the parameters that requires a partial reset has been changed. Buffered data will be lost.

To recall the factory defaults, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Configuration Storage
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Configuration Storage
Recall Factory Defaults
```

5. Press **Enter**.

   The printer displays

```
Recall Factory Defaults
  Yes
```

6. Press **Enter**.

   The printer displays

```
Recall Factory Defaults
  Factory Defaults Recalled
```

7. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Chapter 5. Using the Attachment Selection

This chapter describes the procedures for setting your printer attachment. Your printer is capable of attaching either as a twinaxial and parallel or as a coaxial and parallel. What attachments you have depend on what you requested at the time you placed your order. To change or check the attachment selection, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Attachment
   ```

3. Press **Enter**.

   The printer displays

   ```
   Attachment
   * xxxxxx
   ```

   Where xxxxxx (depending on your currently selected attachment) can be parallel, twinax, or coax.

4. Press **Scroll↑** or **Scroll↓** until the desired value is displayed.
5. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

6. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

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Chapter 6. Rear Tractor Use

This chapter describes the Rear Tractor Use category in the Configuration Menu. It is displayed in the operator panel display only when the rear tractor device is installed and the ASF is not installed. If the ASF device is installed, the only available value is Push. If Pull or Push-Pull needs to be used, the ASF device must first be removed from the printer.

The following values for the Rear Tractor Use are:

Push (Default)	The rear tractor is used for the Rear Push paper path. This value is always displayed.
Pull	The rear tractor is used for the Rear Pull paper path. This value is only displayed if the front tractor is not installed.
Push-Pull	The rear tractor is used for the Push-Pull paper path. Both rear and front tractors must be installed for this value to be displayed.

To set the Rear Tractor Use value:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Rear Tractor Use
   ```

3. Press **Enter** to display the current value.
4. Press **Scroll↑** or **Scroll↓** until the desired value is displayed.
5. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
6. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

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Chapter 7. Twinaxial Configuration

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This chapter describes how to check and change twinaxial configuration parameters for your 4247 printer. The chapter is divided into sections according to parameter. Refer to this partial table of contents for parameter and page listings.

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Characters per Inch (CPI)

You can set the characters per inch (CPI) to any of the following values:

- 10 (Default)
- 12
- 15
- 16.7

Notes:

1. It is possible to specify a CPI value that causes the page width (maximum print position) to exceed the maximum physical page width. If this occurs, the printer automatically changes the maximum print position to the highest valid value for the new CPI setting. See “Maximum Print Position (MPP)” on page 7-4 for more information.
2. This parameter can be overridden by the computer.
3. Only 10 CPI is valid when either OCR-A or OCR-B is selected as a print language.

To change or check the CPI value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Twinax Configuration
   ```

3. Press **Enter**.

   The printer displays

   ```
   Twinax Configuration
   Characters Per Inch
   ```

4. Press **Enter** to display the current value.
5. Press **Scroll↑** or **Scroll↓** until the desired value for CPI is displayed.
6. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

7. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Lines per Inch (LPI)

You can set the lines per inch (LPI) for the printer to either of the following values:

- 6 (Default)
- 8

Note: This parameter can be overridden by the computer.

To change or check the LPI, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Twinax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Twinax Configuration
Lines Per Inch
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for LPI is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Maximum Print Position (MPP)

The maximum print position (MPP) equals the number of characters the printer prints on a line. The default value is 132.

The CPI setting you choose directly influences the MPP value you select. The MPP and CPI settings determine the length of the print line. The maximum line length for the printer is 345.44 mm (13.6 in.).

The CPI setting and the line length determine the MPP. Multiply the CPI by the line length to determine the appropriate MPP:

MPP = CPI x line length (in inches)

If your CPI is:	MPP cannot be greater than:
10	136
12	163
15	204
16.7	227

Notes:

1. Setting the MPP larger than the paper width can result in lost data because of printing on the platen and may damage the platen and the print head.
2. This parameter can be overridden by the computer.

To change or check the MPP value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Twinax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Twinax Configuration
Maximum Print Position
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for MPP is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Maximum Page Length (MPL)

You can set the maximum page length (MPL) for the printer from 1–660 lines for 6 LPI and 1–880 lines for 8 LPI. The default value is 66 lines.

MPL equals the number of print lines the printer can print on a page. MPL is the page length stated in number of print lines.

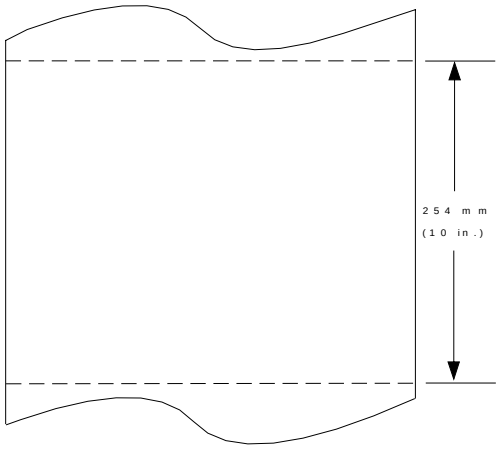
See the following example to determine how to calculate the MPL.

The LPI and the page length determine the MPL. Multiply the lines per inch by the page length to determine the appropriate MPL:

MPL = LPI x page length (in inches)

For example, if LPI=6 and page length=254 mm (10 in.), then

MPL = 6 x 10
MPL = 60



Note: This parameter can be overridden by the computer.

To change or check the MPL, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Twinax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Twinax Configuration
Maximum Page Length
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for MPL is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Print Quality

You can set the Print Quality for the printer to any of the following values:

- DP (Data Processing) Quality (Default)
- DP Text Quality
- Near Letter Quality (NLQ).

Notes:

1. This parameter can be overridden by the computer.
2. Only Near Letter Quality is valid when either OCR-A or OCR-B is selected as the print language.

To change or check the Print Quality, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Twinax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Twinax Configuration
   Print Quality
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Print Quality is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Print Language

The following print languages are available on the printer when attachment is set to Twinax. The default is marked with an asterisk (*). You can select any print language that is available for your printer.

Determine the value for the language setting you want from the following table:

Code Page	Language
37	USA/Canada
260	Canadian French
273	Austrian/German
274	Belgian Old
275	Brazilian
277	Danish/Norwegian
278	Finnish/Swedish
280	Italian
281	Japanese English
282	Portuguese
284	Spanish/Spanish Speaking
285	English (UK)
290	Japanese Katakana
297	French
420	Arabic
423	Greek (Old)
424	Hebrew
500 (*)	International 5/Belgian New
833	Korean
838	Thai
870	Latin 2/ROECE
871	Icelandic
875	Greek (New)
880	Cyrillic
890	Yugoslav (Old)
892	OCR-A
893	OCR-B
1025	Cyrillic Multilingual
1026	Turkish
1097	Farsi
1112	Baltic Multilingual
1122	Estonian

Notes:

1. The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.
2. This parameter can be overridden by the computer.
3. When either OCR-A or OCR-B is selected, the selectable options for CPI and print quality become fixed at 10 CPI and Near Letter Quality, respectively.

To change or check the print language value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Twinax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Twinax Configuration
   Print Language
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired language value is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Address

The printer address is used by the host computer to communicate with the printer. See your computer operator for the correct address for your printer.

Notes:

1. The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.
2. When changing the value of the Printer Address, verify the Data Stream and the Emulation Mode you have set.

You can set the Printer Address to any of the following values.

- 000 (Default)
- 001
- 002
- 003
- 004
- 005
- 006

To change or check the printer address setting, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Twinax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Twinax Configuration
Printer Address
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for printer address is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Data Stream

This parameter is available only if the IPDS feature is installed.

You can set the Data Stream to the following values:

- IPDS (Default)
- SCS

Notes:

1. The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.
2. When changing the value of the Data Stream, verify the Emulation Mode and the Printer Address you have set.

To change or check the data stream, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Twinax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Twinax Configuration
   Data Stream
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for the data stream is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Emulation Mode

You can set Emulation Mode to the following values:

- 4247 (Default)
- 4224 (If IPDS feature is installed)
- 4230
- 4214 (If IPDS feature is not installed or the Data Stream parameter is set to SCS)

Notes:

1. The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.
2. When changing the value of the Emulation Mode, verify the Data Stream and the Printer Address you have set.

To change or check the emulation mode, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Twinax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Twinax Configuration
Emulation Mode
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Emulation Mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Media Size Priority

This parameter is available only if the IPDS feature is installed, and the IPDS data stream is selected. It affects the use of the XOH Set Media Size (SMS) order. This order may be used in the IPDS data stream to set the page size. The Media Size Priority setting specifies whether XOH-SMS orders take precedence over the operator panel settings for maximum print position (MPP) and maximum page length (MPL).

The following values will be displayed in the menu:

Standard The smaller page size values have priority. The page size will be the intersection (smaller values) of the operator panel settings and the XOH-SMS X and Y values.

Alternate (default) The XOH-SMS order values have priority. If an XOH-SMS order is present, its values will be used to define the page size instead of the operator panel settings.

The media size is defined by the MPP and MPL parameters.

To change or check the Media Size Priority, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Media Size Priority
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for media size priority is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Bar Code Mode

This parameter is valid only if the IPDS feature is installed and the IPDS data stream is selected. Changing the value of this parameter can affect throughput in some printing environments.

You can set the Bar Code Mode to any of the following values:

High (Default)	High Contrast Bar Codes
Low	Low Contrast Bar Codes
Computer Selected	Contrast as specified by the IPDS data stream

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the bar code mode, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Twinax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Twinax Configuration
Bar Code Mode
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for bar code mode is displayed
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Graphics Mode

This parameter is available only if the IPDS feature is installed and the IPDS data stream is selected. Changing the value of this parameter can affect throughput in some printing environments.

You can set the Graphics Mode to any of the following values:

High (Default)	High Density Graphics
Low	Low Density Graphics
Computer Selected	Density as specified by the IPDS data stream

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the graphics mode, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Twinax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Twinax Configuration
   Graphics Mode
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for graphics mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Alarm Control

You can set the audible printer alarm to either of the following values:

- Enabled (Default)
- Disabled

Note: Pressing **Set Top of Form** and some unit check conditions sound the alarm, even if it is disabled.

To change or check the alarm control, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Twinax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Twinax Configuration
   Alarm Control
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for alarm control is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Chapter 8. Coaxial Configuration

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This chapter describes the procedures for checking and changing coaxial configuration parameters for your 4247 printer. The chapter is divided into sections according to parameter. Refer to this partial table of contents for parameter and page listings.

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Characters per Inch (CPI)

You can set the characters per inch (CPI) to any of the following values:

- 10 (Default)
- 12
- 15
- 16.7

Notes:

1. It is possible to specify a CPI value that causes the page width (maximum print position) to exceed the maximum physical page width. If this occurs, the printer automatically changes the maximum print position to the highest valid value for the new CPI setting. See “Maximum Print Position (MPP)” on page 8-5 for more information.
2. This parameter can be overridden by the computer.
3. Only 10 CPI is valid when either OCR-A or OCR-B is selected as a print language.

To change or check the CPI value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.

   The printer displays

   ```
   Coax Configuration
   Characters Per Inch
   ```

4. Press **Enter** to display the current value.
5. Press **Scroll↑** or **Scroll↓** until the desired value for CPI is displayed.
6. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
7. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Lines per Inch (LPI)

You can set the lines per inch (LPI) for the printer to either of the following values:

- 6 (Default)
- 8

Note: This parameter can be overridden by the computer.

To change or check the LPI, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Coax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Coax Configuration
Lines Per Inch
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for LPI is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Single/Double Space

The single/double space parameter specifies the line spacing for line feed controls.

You can set the printer to print with either of the following line spacing:

- Single (Default)
- Double

Note: This parameter can be overridden by the computer.

To set the printer line spacing:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Single/Double Space
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for spacing is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Maximum Print Position (MPP)

The maximum print position (MPP) equals the number of characters the printer prints on a line. The default value is 132.

The CPI setting you choose directly influences the MPP value you select. The MPP and CPI settings determine the length of the print line. The maximum line length for the printer is 345.44 mm (13.6 in.).

The CPI setting and the line length determine the MPP. Multiply the CPI by the line length to determine the appropriate MPP:

MPP = CPI x line length (in inches)

If your CPI is:	MPP cannot be greater than:
10	136
12	163
15	204
16.7	227

Notes:

1. Setting the MPP larger than the paper width can result in lost data because of printing on the platen and may damage the platen and the print head.
2. This parameter can be overridden by the computer.

To change or check the MPP value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Coax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Coax Configuration
Maximum Print Position
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for MPP is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Maximum Page Length (MPL)

You can set the maximum page length (MPL) for the printer from 1–660 lines for 6 LPI and 1–880 lines for 8 LPI. The default value is 66 lines.

MPL equals the number of print lines the printer can print on a page. MPL is the page length stated in number of print lines.

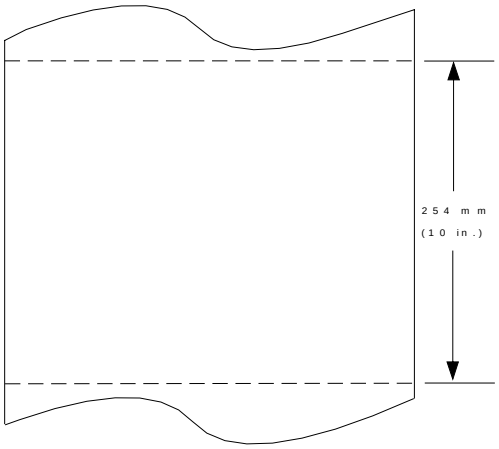
See the following example to determine how to calculate the MPL.

The LPI and the page length determine the MPL. Multiply the lines per inch by the page length to determine the appropriate MPL:

MPL = LPI x page length (in inches)

For example, if LPI=6 and page length=254 mm (10 in.), then

MPL = 6 x 10
MPL = 60



Note: This parameter can be overridden by the computer.

To change or check the MPL, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Coax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Coax Configuration
Maximum Page Length
```

5. Press **Enter** to display the current value.

6. Press **Scroll↑** or **Scroll↓** until the desired value for MPL is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Emulation Mode

You can set Emulation Mode to the following values:

- 4247 (Default)
- 4224
- 4230
- 3287 (See Note 1)
- 3268 (See Note 1)

Notes:

1. If the IPDS feature is installed and you set Emulation Mode to 3287 or 3268, you cannot run an IPDS job.
2. The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the emulation mode, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Emulation Mode
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Emulation Mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Print Quality

You can set the Print Quality for the printer to any of the following values:

- DP (Data Processing) Quality (Default)
- DP Text Quality
- Near Letter Quality (NLQ)

Notes:

1. This parameter can be overridden by the computer.
2. Only Near Letter Quality is valid when either OCR-A or OCR-B is selected as the print language.

To change or check the Print Quality, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Print Quality
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Print Quality is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Print Language

The following print languages are available on the printer when attachment is set to Coax. The default is marked with an asterisk (*). You can select any print language that is available for your printer.

Determine the value for the language setting you want from the following table:

Table 8-1 (Page 1 of 2). Print Languages

Code Page	Language
37(*)	USA/Canada/Canadian Bilingual
260	Canadian French
273	Austrian/German
274	Belgian Old
275	Brazilian
277	Danish/Norwegian
278	Finnish/Swedish
280	Italian
281	Japanese English
282	Portuguese
284	Spanish/Spanish Speaking
285	English (UK)/Ireland
286	Austrian/German (Alternate)
287	Danish/Norwegian (Alternate)
288	Finnish/Swedish (Alternate)
289	Spanish (Alternate)
290	Japanese Katakana
297	French/French Azerty
420	Arabic
423	Greek (Old)
424	Hebrew
500	International 5/Swiss/Belgian
803	Hebrew
838	Thai
870	Latin 2/ROECE
871	Icelandic
875	Greek (New)
880	Cyrillic
890	Yugoslav (Old)
892	OCR-A
893	OCR-B
1025	Cyrillic Multilingual

Table 8-1 (Page 2 of 2). Print Languages	
Code Page	**Language**
1026	Turkish
1097	Farsi

Notes:

1. The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.
2. This parameter can be overridden by the computer.
3. When either OCR-A or OCR-B is selected, the selectable options for CPI and print quality become fixed at 10 CPI and Near Letter Quality, respectively.

To change or check the print language value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Print Language
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired language value is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Mono/Dual Case

You can set the case for the printer to print in all upper case or mixed case characters by selecting one of the following values:

- Dual (for both upper and lower case characters) (Default)
- Mono (for all upper case characters)

This setting is dependent on the Print Language value; it applies to all languages except Arabic, Farsi, and Hebrew. Text is always printed in dual case for these languages.

Note: This parameter can be overridden by the computer.

To change or check the Mono/Dual Case value, follow these steps:

1. Press **Menu**.
2. Press **Scroll**↑ or **Scroll**↓ until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.

   The printer displays

   ```
   Coax Configuration
   Mono/Dual Case
   ```

4. Press **Enter** to display the current value.
5. Press **Scroll**↑ or **Scroll**↓ until the desired value for case is displayed.
6. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

7. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Print Text Direction

This option is available only when the Print Language value is set to Arabic, Farsi, or Hebrew.

You can set the printer to print in either of the following directions:

- Right to left (Default)
- Left to right

The right-to-left print direction is used to print text in languages such as Arabic, Farsi, and Hebrew that normally appear in a right-to-left direction on a page. This setting does not affect the direction that the print head moves during actual printing.

Note: This parameter can be overridden by the computer.

To change or check the print text direction, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Print Text Direction
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for print direction is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Media Size Priority

This parameter is available only if the IPDS feature is installed. It affects the use of the XOH Set Media Size (SMS) order. This order may be used in the IPDS data stream to set the page size. The Media Size Priority setting specifies whether XOH-SMS orders take precedence over the operator panel settings for maximum print position (MPP) and maximum page length (MPL).

The following values will be displayed in the menu:

Standard	The smaller page size values have priority. The page size will be the intersection (smaller values) of the operator panel settings and the XOH-SMS X and Y values.
Alternate (default)	The XOH-SMS order values have priority. If an XOH-SMS order is present, its values will be used to define the page size instead of the operator panel settings.

The media size is defined by the MPP and MPL parameters.

To change or check the Media Size Priority, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Media Size Priority
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for media size priority is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Screen Buffer Size

You can set the screen size for local copy printing. You can define the screen size to any of the following values:

- 960
- 1920 (Default)
- 2560
- 3440
- 3564

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the screen buffer size, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   Screen Buffer Size
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for screen buffer size is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 1 (Carriage Return at MPP + 1)

You can set the printer to automatically execute a carriage return at one position past the current Maximum Print Position value. You can set this value to:

Standard (Default) An automatic new line executes at MPP + 1, then a carriage return executes. The next print position will be the first print position of the next line.

Alternate No automatic new line executes. The carriage return executes at MPP + 1. The next print position will be the first print position of the current line.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the carriage return at MPP + 1, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   1 (CR at MPP+1)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for carriage return is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 2 (New Line at MPP + 1)

You can set the printer to automatically execute a new line at one position past the current Maximum Print Position value. You can set this value to:

Standard (Default) An automatic new line executes at MPP + 1, then a new line executes. The next print position will be the first print position of the current line + 2.

Alternate No automatic new line executes. The new line executes at MPP + 1. The next print position will be the first print position of the next line.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the new line at MPP + 1, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   2 (NL at MPP+1)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for a new line at MPP + 1 is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 3 (Form Feed Followed by Data)

You can set the printer to print on the first print position or second print position after a form feed. You can set this value to:

Standard (Default) The form skips to the first line of the next form and the next print position will be the second print position of that line.

Alternate The form skips to the first line of the next form and the next print position will be the first print position of that line.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the form feed followed by data setting, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Coax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Coax Configuration
Printer Compatibility
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Compatibility
3 (FF followed by data)
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for form feed followed by data is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 4 (Form Feed is Last Character in Print Order)

You can set the printer to execute a new line after completing a form feed. You can set this value to:

Standard (Default) An automatic new line executes after the form feed completes. The next print position will be the first print position of the second line on the next form.

Alternate The automatic new line is suppressed at the completion of the form feed. The next print position will be the first print position of the first line of the next form.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the form feed last character in print order setting, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   4 (FF last in order)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for form feed is last character in print order is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 5 (Null Suppression)

You can set the printer to print a blank line if a line contains no printable characters, or you can set the printer to continue printing on the current line. You can set this value to:

Standard (Default) If an entire print line contains no printable character, no new line is done. Space (X'40') is considered a printable character. The next print position will be the first print position of the current line.

Alternate Prints all null lines as a blank line and performs a new line. The next print position will be the first print position of the next line.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the null suppression, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Coax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Coax Configuration
Printer Compatibility
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Compatibility
5 (Null Suppression)
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for null suppression is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 6 (Form Feed Command Position)

You can set the printer to execute a form feed only if it is encountered at the first print position in a line or at the Maximum Print Position + 1, or you can set the printer to execute a form feed whenever it is encountered in the data stream. You can set this value to:

Standard (Default) A Form Feed command executes only if it occurs at the first print position in a line or at MPP + 1. The printer treats form feed at other positions as spaces.

Alternate A Form Feed command executes whenever it is encountered in the data stream.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the form feed command position, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   6 (FF position)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for form feed command position is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 7 (Automatic Function After End of Print Buffer)

You can set this value to:

Standard (Default) The printer will automatically start a new line after the data in the print buffer has printed, unless a New Line, Carriage Return, or Form Feed was the last function executed.

Alternate The printer will automatically execute a form feed after the data in the print buffer has printed, unless a Form Feed command was the last function executed.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the automatic function after end of print buffer value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   7 (Auto at EOB)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for automatic function after end of print buffer is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 8 (Automatic Function After End of OILC Job)

You can set this value to:

Standard (Default) The printer will execute an automatic New Line function at the end of an OILC (Operator Initiated Local Copy) job.

Alternate The printer will execute an automatic Form Feed function at the end of an OILC (Operator Initiated Local Copy) job, unless a Form Feed was the last function executed.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the automatic function after end of OILC job, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   8 (Auto at OILC end)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for automatic function after end of OILC job value is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 9 (Suppress Timeout on No Data Loss Intervention Required)

You can set this value to:

Standard (Default) An intervention required status is sent to the host after a one-minute timeout for a pending intervention required condition or a ten-minute timeout for a *not ready* state.

Alternate No intervention required status is sent to the host from any timeout resulting from a "no data loss" or ten-minute non-intervention required timeout.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the suppress timeout on no data loss intervention required value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Coax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Coax Configuration
Printer Compatibility
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Compatibility
9 (Suppress timeout)
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for suppress timeout on no data loss intervention required is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See "Exiting the Configuration Menu" on page 3-4.

Early Print Complete

You can set this value to:

Enabled The printer can send a “print complete” message before it is done printing all of the data. This can improve throughput in some environments.

Disabled (Default) The printer can only send a “print complete” message after it finishes printing all of the data.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the early print complete value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   Early Print Complete
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for Early Print Complete is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 12 (Automatic Function Before Start of OILC Job)

You can set this value to:

Standard (Default) The printer will execute an automatic New Line function before the start of an OILC (Operator Initiated Local Copy) job, unless a Form Feed was the last function executed.

Alternate The printer will execute an automatic Form Feed function before the start of an OILC (Operator Initiated Local Copy) job, unless a Form Feed was the last function executed.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the automatic function before start of OILC job, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Coax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Coax Configuration
Printer Compatibility
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Compatibility
12 (Auto before OILC)
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for automatic function after end of OILC job value is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Programmed Symbols

If your host computer does not use IPDS, Programmed Symbols are an alternative way to print graphics. When Programmed Symbols are enabled, IPDS is disabled.

You can set Programmed Symbols to:

- Disabled (Default)
- Enabled

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the programmed symbols value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   Programmed Symbols
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for programmed symbols is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Bar Code Mode

This parameter is valid only if the IPDS feature is installed. Changing the value of this parameter can affect throughput in some printing environments.

You can set the Bar Code Mode to any of the following values:

High (Default)	High Contrast Bar Codes
Low	Low Contrast Bar Codes
Computer Selected	Contrast as specified by the IPDS data stream

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the bar code mode, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Bar Code Mode
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for bar code mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Graphics Mode

This parameter is valid only if the IPDS feature is installed. Changing the value of this parameter can affect throughput in some printing environments.

You can set the Graphics Mode to any of the following values:

High (Default)	High Density Graphics
Low	Low Density Graphics
Computer Selected	Density as specified by the IPDS data stream

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the graphics mode, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Graphics Mode
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for bar code mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Alarm Control

You can set the audible printer alarm to either of the following values:

- Enabled (Default)
- Disabled

Note: Pressing **Set Top of Form** and some unit check conditions sound the alarm, even if it is disabled.

To change or check the alarm control, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Alarm Control
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for alarm control is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Using Programmed Symbols (PS) Parameters

You can only define the following parameters if the Programmed Symbols (PS) parameter in the Printer Compatibility category is set to `Enabled`. See "Programmed Symbols" on page 8-26.

You can define the following PS Parameters:

- Plane Selection
- Full Page On Skip Suppress
- PS Print Direction

Plane Selection

You can set the Plane Selection to:

- 3 Single + 1 Triple (Default)
- 6 Single.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the plane selection, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Programmed Symbols
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Programmed Symbols
   Plane Selection
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for plane selection is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See "Exiting the Configuration Menu" on page 3-4.

Full Page On Skip Suppress

You can set the Full Page on Skip Suppress to:

Standard (Default) The printer will leave white space at the end of the page.

Alternate If the printer is printing skip suppressed data, the printer will print on the entire page as defined by the bottom margin (SCS) or MPL.

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the full page on skip suppress setting, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Coax Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Coax Configuration
Programmed Symbols
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Programmed Symbols
Full Page on Skip Suppress
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for full page on skip suppress is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

PS Print Direction

You can set the PS Print Direction to:

Unidirectional (Default) The printer will print only as the print head moves in one direction.

Bidirectional The printer will print as the print head moves from left to right and as it moves from right to left. (This setting causes faster throughput but may affect print quality. Verify that the print quality is acceptable before running a print job.)

To change or check the PS print direction, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Coax Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Coax Configuration
   Programmed Symbols
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Programmed Symbols
   PS Print Direction
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for PS print direction is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Chapter 9. Parallel Configuration

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This chapter describes the procedures for checking and changing parallel configuration parameters for your 4247 printer. The chapter is divided into sections according to parameter. Refer to the partial table of contents at the beginning of this chapter for parameter and page listings.

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Characters per Inch (CPI)

You can set the characters per inch (CPI) to any of the following values:

- 10 (Default)
- 12
- 15
- 16.7
- 17.1
- 20

Notes:

1. It is possible to specify a CPI value that causes the page width (maximum print position) to exceed the maximum physical page width. If this occurs, the printer automatically changes the maximum print position to the highest valid value for the new CPI setting. See “Maximum Print Position (MPP)” on page 9-4 for more information.
2. This parameter can be overridden by the computer.
3. Only 10 CPI is valid when either OCR-A or OCR-B is selected as a print language.

To change or check the CPI value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.

   The printer displays

   ```
   Parallel Configuration
   Characters Per Inch
   ```

4. Press **Enter** to display the current value.
5. Press **Scroll↑** or **Scroll↓** until the desired value for CPI is displayed.
6. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

7. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Lines per Inch (LPI)

You can set the lines per inch (LPI) for the printer to either of the following values:

- 6 (Default)
- 8

Note: This parameter can be overridden by the computer.

To change or check the LPI, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Lines Per Inch
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for LPI is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Maximum Print Position (MPP)

The maximum print position (MPP) equals the number of characters the printer prints on a line. The default value is 136.

The CPI setting you choose directly influences the MPP value you select. The MPP and CPI settings determine the length of the print line. The maximum line length for the printer is 345.44 mm (13.6 in.).

The CPI setting and the line length determine the MPP. Multiply the CPI by the line length to determine the appropriate MPP:

MPP = CPI x line length (in inches)

If your CPI is:	MPP cannot be greater than:
10	136
12	163
15	204
16.7	227
17.1	233
20	272

Notes:

1. Setting the MPP larger than the paper width can result in lost data because of printing on the platen and may damage the platen and the print head.
2. This parameter can be overridden by the computer.

To change or check the MPP value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Maximum Print Position
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for MPP is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Maximum Page Length (MPL)

You can set the maximum page length (MPL) for the printer from 1–880 lines, depending on the LPI setting. The default value is 66 lines.

MPL equals the number of print lines the printer can print on a page. MPL is the page length stated in number of print lines.

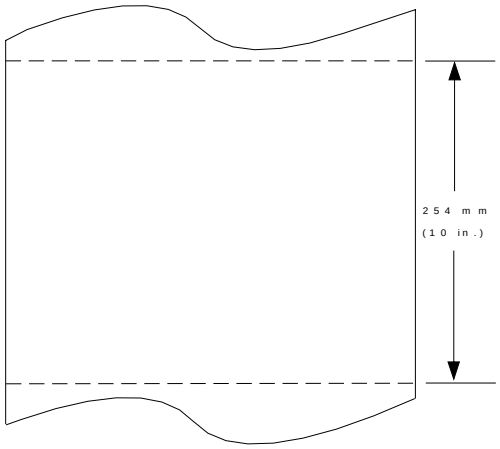
See the following example to determine how to calculate the MPL.

The LPI and the page length determine the MPL. Multiply the lines per inch by the page length to determine the appropriate MPL:

MPL = LPI x page length (in inches)

For example, if LPI=6 and page length=254 mm (10 in.), then

MPL = 6 x 10
MPL = 60



Note: This parameter can be overridden by the computer.

To change or check the MPL, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Maximum Page Length
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for MPL is displayed.

7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Emulation Mode

You can set Emulation Mode to the following values:

- 4247 (Default)
- 2381 Personal Printer
- 4202 Proprinter III XL
- Epson-FX

Note: The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.

To change or check the emulation mode, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Emulation Mode
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Emulation Mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Print Language

The following print languages are available on the printer when attachment is set to Parallel. The defaults are marked with an asterisk (*). You can select any print language that is available for your printer.

Determine the value for the language setting you want from the following tables:

Code Page (When emulation is set to Epson-FX)	Code Page (When emulation is set to 4247, 4202 III XL, 2381 Personal Printer)	Language
0(*)	N/A	USA
1	N/A	France
2	N/A	Germany
3	N/A	U.K.
4	N/A	Denmark I
5	N/A	Sweden
6	N/A	Italy
7	N/A	Spain I
8	N/A	Japan
9	N/A	Norway
10	N/A	Denmark II
11	N/A	Spain II
12	N/A	Latin America I
13	N/A	French Canadian
14	N/A	Latin American II
437	437(*)	PC
813	813	Greek/Latin (ISO 8859-7)
819	819	Latin I (ISO 8859-1)
850	850	PC Multilingual
851	851	Greek (Old)
852	852	Latin 2/ROECE
853	853	Turkish
855	855	Cyrillic
857	857	Turkish
860	860	Portuguese
861	861	Icelandic
862	862	Hebrew
863	863	Canadian French
864	864	Arabic
865	865	Danish/Norwegian
866	866	Cyrillic

Code Page (When emulation is set to Epson-FX)	Code Page (When emulation is set to 4247, 4202 III XL, 2381 Personal Printer)	Language
869	869	Greek (New)
874	874	Thai
876	876	OCR-A
877	877	OCR-B
912	912	Latin 2 (ISO 8859-2)
913	913	Latin 3 (ISO 8859-3)
914	914	Latin 4 (ISO 8859-4)
915	915	Cyrillic (ISO 8859-5)
916	916	Latin 8 (ISO 8859-8)
920	920	Latin 5 (ISO 8859-9)
921	921	Baltic Multilingual
922	922	Estonian
1006	1006	Urdu
1046	1046	Arabic
1089	1089	Latin 6 (ISO 8859-6)
1098	1098	Farsi
1116	1116	Estonia PC
1117	1117	Latvia PC
1118	1118	Lithuania PC
1251	1251	Cyrillic Windows

Notes:

1. The printer performs a partial reset to put any change to this parameter value into effect when you exit the Configuration Menu with **Start** or **Return**. Buffered data will be lost.
2. This parameter can be overridden by the computer.
3. When either OCR-A or OCR-B is selected, the selectable options for CPI and print quality become fixed at 10 CPI and Near Letter Quality, respectively.

To change or check the print language value, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.

4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Print Language
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired language value is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Print Quality

When emulation mode is set to 4247, 4202 III XL, or 2381 Personal Printer, you can set the printer to any of the following values:

- DP (Data Processing) Quality (Default)
- DP Text Quality
- Near Letter Quality
- OCR-A
- OCR-B

When emulation mode is set to Epson-FX, you can set the printer to any of the following values:

- DP Quality (Default)
- Courier
- Gothic
- OCR-A
- OCR-B

Notes:

1. This parameter can be overridden by the computer.
2. Only OCR-A and OCR-B are valid when either OCR-A or OCR-B is selected as the print language.

To change or check the Print Quality, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Print Quality
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Print Quality is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

NLQ Typeface

This parameter is displayed when emulation mode is set to 4247, 4202 III XL, or 2381 Personal Printer. This parameter allows you to set the font to be used for Near Letter Quality printing. The following values are:

- Courier (Default)
- Gothic

To change or check the NLQ Typeface, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   NLQ Typeface
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for NLQ Typeface is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Character Set

You can set the character set to any of the following values:

- PC1 (PC Character Set 1) (Default)
- PC2 (PC Character Set 2)
- Italic (Epson-FX only)

To change or check the Character Set, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Character Set
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Character Set is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 3 (Automatic Line Feed on Carriage Return)

You can set the printer to perform an automatic line feed on carriage return. You can set this value to:

Disabled (Default) No line feed is performed after a carriage return.

Enabled An automatic line feed is performed after a carriage return.

To change or check the automatic line feed on carriage return setting, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Printer Compatibility
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Compatibility
3 (Auto LF on CR)
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for Automatic Line Feed on Carriage Return is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 4 (Automatic Carriage Return on Line Feed)

This parameter is displayed when emulation mode is set to 4247, 4202 III XL, or 2381 Personal Printer.

You can set the printer to perform an automatic carriage return on a line feed. You can set this value to:

Disabled (Default) No automatic carriage return is performed after a line feed.

Enabled An automatic carriage return is performed after a line feed.

Note: If Emulation Mode is set to Epson-FX, an automatic carriage return is performed after a line feed regardless of the setting.

To change or check the automatic carriage return after a line feed setting, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   4 (Auto CR on LF)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for Automatic Carriage Return on Line Feed is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 5 (Form Feed Suppression)

This parameter is displayed when emulation mode is set to 4247, 4202 III XL, or 2381 Personal Printer.

You can set the printer to suppress host form feed commands or to honor all host form feeds. You can set this value to:

Disabled (Default) All form feed commands from the host are honored.

Enabled Form feed commands from the host are ignored if the printer is at top of form and no data for the page was received.

Note: Operator panel form feeds are not affected.

To change or check form feed suppression, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Printer Compatibility
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Compatibility
5 (FF Suppression)
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for Form Feed Suppression is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 6 (Init)

You can set the printer to detect the Init signal and perform a partial reset when active or to ignore the signal. You can set this value to:

Enabled (Default) Init signal detection disabled. No action occurs when Init is activated.

Disabled Init signal detection enabled. When Init is activated, the printer performs a partial reset.

To change or check the Init signal, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Printer Compatibility
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
6 (Init)
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for Init is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 7 (Condensed Print)

This parameter is displayed when emulation mode is set to 4247, 4202 III XL, or 2381 Personal Printer.

You can set the printer CPI value for condensed print when a Shift In control is received from the data stream. For more information, see the *IBM 4247 Printer Models 001, 002 Programming Reference*.

You can set this value to:

- 15
- 16.7
- 17.1 (Default)

To change or check condensed print, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   (Condensed Print)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for Condensed Print is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 8 (Slashed Zero)

You can set this value to:

Disabled (Default) All printed zeros will appear without a slash.

Enabled All printed zeros will appear with a slash.

To change or check the slashed zero, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Printer Compatibility
   ```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Compatibility
   8 (Slashed Zero)
   ```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for Slashed Zero is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Printer Compatibility 9 (20 CPI)

This parameter is displayed when emulation mode is set to 4247, 4202 III XL, or 2381 Personal Printer.

You can set the printer to allow 20 CPI condensed print from the data stream. For more information, see the *IBM 4247 Printer Models 001, 002 Programming Reference*.

You can set this value to:

Enabled (Default) Does not allow 20 CPI to be accessed by the data stream.

Disabled Allows 20 CPI to be accessed by the data stream.

To change or check 20 CPI, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Printer Compatibility
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Compatibility
9 (20 CPI)
```

7. Press **Enter** to display the current value.
8. Press **Scroll↑** or **Scroll↓** until the desired value for 20 CPI mode is displayed.
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Alarm Control

You can set the audible printer alarm to either of the following values:

- Enabled (Default)
- Disabled

Note: Pressing **Set Top of Form** and some unit check conditions sound the alarm, even if it is disabled.

To change or check the alarm control, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Alarm Control
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for alarm control is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Interface Type

This parameter allows you to set the system interface for the parallel attachment. You can set Interface Type to either of the following values:

- PC Parallel (Default)
- 1284 Parallel

To change or check the Interface Type:

1. Press **Menu**.
2. Press **Scroll**↑ or **Scroll**↓ until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll**↑ or **Scroll**↓ until the printer displays

```
Parallel Configuration
Interface Type
```

5. Press **Enter** to display the current value.
6. Press **Scroll**↑ or **Scroll**↓ until the desired value for Interface Type is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Input Buffer Size

This parameter allows you to select the size of input buffer to be used. The following values are:

- 256
- 2K
- 12K
- 32K (Default)
- 64K

To change or check the Input Buffer Size:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Input Buffer Size
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Input Buffer Size is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Select-In Signal

This parameter is valid in Epson-FX emulation mode only and instructs the printer how to handle select-in signals. You can set the Select-In Signal to:

Enabled (Default) The Select-In signal is ignored and treated as always on.

Disabled The printer checks the Select-In signal from the host.

To change or check the Select-In Signal:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Parallel Configuration
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Parallel Configuration
Select-In Signal
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Select-In Signal is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

AutoFeed XT

This parameter is valid in Epson-FX emulation mode only and instructs the printer whether the host will determine if an automatic line feed is performed after a carriage return.

You can set this value to:

Disabled (Default)	The function is determined by the setting of Printer Compatibility 3 – Automatic Line Feed on Carriage Return.
Enabled	The host determines whether an automatic line feed is performed after a carriage return.

To change or check the AutoFeed XT setting, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   AutoFeed XT
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for AutoFeed XT is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

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This chapter describes the procedures for checking and changing printer setup parameters for your 4247 printer. The chapter is divided into sections according to parameter. Refer to this partial table of contents for parameter and page listings.

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Paper Source

The Paper Source parameter defines the current paper source for the printer. The values displayed on the operator panel depend on the forms devices installed in the printer. The paper source setting can be set to any of the following values:

Front (Default) Paper is fed under the front tractor cover for the Front Push, Rear Pull, or Push-Pull paper paths or if Continuous Forms Linking is set to Enabled in Printer Setup.

Rear Paper feeding is from the rear push tractor (paper enters and exits from the rear of the printer). If this path is selected, the Rear Pull and Push-Pull paths are not available.

Bin 1 Selects Bin 1 of the automatic sheet feeder device as the current paper source, or selects linked ASF bins that include Bin 1 if the ASF Bin Linking is enabled.

Bin 2 Selects Bin 2 of the automatic sheet feeder device as the current paper source, or selects linked ASF Bins 2+3 if the ASF Bin Linking is enabled.

Bin 3 Selects Bin 3 of the automatic sheet feeder device as the current paper source.

Manual Selects manual sheet feed as the current paper source.

Note: It is not recommended that you select **Manual** when the printer is set for either the Rear-Pull or the Push-Pull paper paths. **Manual** can be selected from the operator panel, but to use it, you will need to re-configure the paper path both before and after using **Manual**. **Manual** cannot be selected via the IPDS data stream when the printer is set for either the Rear-Pull or the Push-Pull paper paths.

To change or check the Paper Source:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Paper Source
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for paper source is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Default Bin

This parameter specifies which ASF bin is to be the default bin if the ASF device is installed. When the data stream selects the ASF without specifying the actual bin number, the ASF Default Bin selected will be used. You can define the default bin to any one the following values:

Bin 1 (Default)	ASF Bin 1
Bin 2	ASF Bin 2
Bin 3	ASF Bin 3

To change or check the ASF default bin:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   ASF Default Bin
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Default Bin is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Bin 1 Media

This parameter specifies which media is in Bin 1 if the ASF is installed. For accurate host support, the printer must know if the bin contains envelopes.

You can define the media to the following values:

Paper (Default)	ASF Bin 1 contains paper.
Envelopes	ASF Bin 1 contains envelopes. If the ASF Default Bin parameter is set to Bin 1 (manufacturer default), then envelopes will be the ASF default media, which may not be desirable.

To change or check the ASF Bin 1 Media:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   ASF Bin 1 Media
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 1 Media is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Bin Linking

The ASF Bin Linking parameter defines which, if any of the ASF bins will be linked. If ASF Bin 1 Media parameter is defined to contain envelopes, only Bin 2 and Bin 3 linking is allowed. The linked paper sources are considered to be one paper source by the printer and should contain the same forms for predictable results. When the first source runs out of paper, the printer will switch to the second source and then to a third, if available. You can define the bin linking to any of the following values:

Disabled (Default)	No ASF bin linking is to be done.
Bin 1+2	Bins 1 and 2 are to be linked.
Bin 1+2+3	Bins 1, 2, 3 are to be linked.
Bin 2+3	Bins 2 and 3 are to be linked.

To change or check the ASF Bin Linking:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   ASF Bin Linking
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin Linking is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Front Forms Backup

This parameter is displayed as long as the front continuous forms paper source is available. The Front Forms Backup parameter instructs the printer whether it can perform tractor movements that would back the forms up. Such movements include parking the printer. This would be used when the physical characteristics of the forms currently loaded make it undesirable for the printer to attempt to move the forms in the reverse direction (for example, labels).

Even if Front Forms Backup is disabled, the **Micro↓** can still be used for the paper path. You can define the front forms backup to either one of the following values:

Enabled (Default)	Allows the printer to back up the front forms as needed.
Disabled	Prevents the printer from backing up front forms. Use this setting for labeled continuous forms.

To change or check the Front Forms Backup:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   Front Forms Backup
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Front Forms Backup is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Rear Forms Backup

This parameter is displayed as long as the rear continuous forms paper source is available. The Rear Forms Backup parameter instructs the printer whether it can perform tractor movements that would back the forms up. Such movements include parking the printer. This would be used when the physical characteristics of the forms currently loaded make it undesirable for the printer to attempt to move the forms in the reverse direction (for example, labels).

Even if Rear Forms Backup is disabled, the **Micro↓** can still be used for the paper path. You can define the rear forms backup to any one the following values:

Enabled (Default)	Allows the printer to back up the rear forms as needed.
Disabled	Prevents the printer from backing up rear forms.

To change or check the Rear Forms Backup:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   Rear Forms Backup
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Rear Forms Backup is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Continuous Forms Linking

This parameter is displayed only if the front and rear tractors are installed and the Rear Tractor Use parameter is set to Push. Both Front Forms Backup and Rear Forms Backup must have the same values (either both enabled or disabled) for the continuous forms sources to be capable of being linked.

This parameter instructs the printer to automatically switch from the Front Push to Rear Push or Rear Push to Front Push paper paths when out of paper.

You can define continuous forms linking to one the following values:

Disabled (Default) No linking is to be done.

Enabled The Front Push and Rear Push continuous forms paths are to be linked together so they are treated by the printer as one continuous paper source.

To change or check the Continuous Forms Linking:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   Continuous Forms Linking
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Continuous Forms Linking is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Form Feed Mode

You can set Form Feed Mode to either of the following values:

- Not Active In Ready State (Default)
- Active In Ready State

Selecting Active in Ready State makes the **Form Feed** key active when the printer is *ready* and no job is processing, so that when pressed, a form feed will be performed and the printer will return to the *ready* state.

The printer does not have to be *not ready* before pressing **Form Feed** if you change the value to Active in the *ready* state.

To change or check the form feed mode:

1. Press **Menu**.
2. Press **Scroll**↑ or **Scroll**↓ until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll**↑ or **Scroll**↓ until the printer displays

   ```
   Printer Setup
   Form Feed Mode
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll**↑ or **Scroll**↓ until the desired value for form feed mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Automatic Eject

This parameter is displayed for the Front Push or Rear Push forms path. You can set the printer to perform an automatic eject without pressing **Load/Eject** when a print job is complete.

You can set this value to:

Enabled	When the print job is complete, the printer will perform an automatic eject after a fixed timeout of approximately 5 seconds.
Disabled (Default)	No automatic eject. The **Load/Eject** is required to eject the forms.

To change or check the automatic eject after timeout, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   Automatic Eject
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for the Automatic Eject is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Automatic Restore

This parameter is displayed for the Front Push or Rear Push forms path. You can set the printer to perform an automatic load without pressing **Load/Eject**.

You can set this value to:

Disabled (Default)	No automatic load. The **Load/Eject** is required to load forms.
Data	An automatic load occurs each time a new print job is received.
Timer (10 to 50 seconds)	An automatic load with a fixed timeout value. When forms are ejected, a load function is performed after a timeout. The timeout value can be 10 seconds, 20 seconds, 30 seconds, 40 seconds, or 50 seconds.

To change or check the automatic restore, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Automatic Restore
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Automatic Restore is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

The Automatic Restore function can be enabled regardless of the status of the Automatic Eject function. Automatic Restore can be enabled even if Automatic Eject is not enabled.

Continuous Forms Eject Mode

You can set Continuous Forms Eject Mode value to:

- Immediate Eject (Default)
- Delayed Eject

Selecting Delayed Eject causes the printer to wait until the end of the current page is reached before forms are moved to the tear off position. For more information, see “Load/Eject” on page 2-13.

To change or check Continuous Forms Eject Mode:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   Continuous Forms Eject Mode
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Continuous Forms Eject Mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Manual Paper Overlay

You can set manual paper overlay to one of the following values:

Disabled (Default) Defines Manual Sheet Feed and tractor paper feeding simultaneously as disabled.

Enabled Defines Manual Sheet Feed and tractor paper feeding simultaneously as enabled.

Notes:

1. If Manual Paper Overlay is set to Enabled, when loading a cut-sheet form into the printer, hold the form *firmly* in place until the form is fed into the printer.
2. The Manual Paper Overlay function can be used only with the Front-Push paper path.
3. An overlaying manual sheet can be loaded into the printer only when the printer is in "not ready" state.

To change or check the Manual Paper Overlay value:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays:

```
CONFIGURATION MENU
Printer Setup
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays:

```
Printer Setup
Manual Paper Overlay
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Manual Paper Overlay is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See "Exiting the Configuration Menu" on page 3-4.

Automatic Manual Load

This parameter is only available for Manual Sheet Feed. You can set automatic load to one of the following values:

Enabled (Default) Enables the quick printing function. This means that a cut sheet form will be automatically loaded when inserted into the printer.

Disabled Disables the quick printing function. This means that a cut sheet form will not be automatically loaded when inserted into the printer. To load the form, press **Load/Eject**.

To change or check the Automatic Manual Load value:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   Automatic Manual Load
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Automatic Manual Load is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Manual Feed Eject Mode

You can set Manual Feed Eject Mode value to:

Top of Form Option (Default) Causes the printer to automatically eject the current form and begin printing at the first possible print line when you press **Load/Eject**.

Automatic Top of Form Causes the printer to automatically eject the current form and begin printing at the first possible print line when you press **Load/Eject** and the print buffer is empty. If the print buffer is not empty, the next form loaded begins printing at the current vertical print position.

To change or check the Manual Feed Eject Mode, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Manual Feed Eject Mode
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Manual Feed Eject Mode is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Bar Code Print Direction

You can set the Bar Code Print Direction to:

Unidirectional (Default) Causes the printer to print in only one direction, either from left to right or from right to left, for each of the two passes of bar code printing on a line.

Bidirectional Causes the printer to print as the print head moves in both directions. (This setting causes faster throughput but may affect print quality. Verify that the print quality is acceptable before running a print job.)

To change or check the bar code print direction, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   Bar Code Print Direction
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for bar code print direction is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Graphics Print Direction

You can set the Graphics Print Direction to:

Unidirectional (Default) Causes the printer to print in only one direction, either from left to right or from right to left, for each of the two passes of graphics printing on a line.

Bidirectional Causes the printer to print as the print head moves in both directions. (This setting causes faster throughput but may affect print quality. Verify that the print quality is acceptable before running a print job.)

To change or check the graphics print direction, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Graphics Print Direction
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for graphics print direction is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Perforation Safety

You can set perforation safety to either of the following values:

Disabled (Default) The print head is not parked all the way to the right of the print line while the perforation of the form is passing through the mylar opening.

Enabled The print head is parked all the way to the right of the print line so that the perforation of the form can advance through the mylar without the print head touching the form. This setting is recommended for thick multiple-part forms.

To change or check the Perforation Safety value:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Setup
   Perforation Safety
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for perforation safety is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Jam Sensors

You can set Jam Sensors to either of the following values:

Enabled (Default) Enables the paper jam sensors on the front and rear tractors. This setting alerts the operator with an `002 FORMS JAMMED FRONT TRACTOR` or `020 FORMS JAMMED REAR TRACTOR` message on the operator panel when a jammed form is detected in one of the paper paths.

Disabled Disables the paper jam sensors. IBM recommends that these sensors not be disabled.

To change or check the Jam Sensors category:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Jam Sensors
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for jam sensors is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Chapter 11. Printer Adjustments

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This chapter describes the procedures for checking and changing the Printer Adjustment parameters. The Printer Adjustments appear in both the Configuration Menu and in the Operator Print Tests Menu. In the Configuration Menu, the values can be set but not tested. In the Operator Print Tests, the adjustments can be set and then tried by running a print test. (See Chapter 18, “Using the Operator Print Tests.”) Printer adjustment parameters can be set for each paper source: Front, Rear, ASF Bin 1, ASF Bin 2, ASF Bin 3, and Manual.

This chapter is divided into sections according to parameter. Refer to the partial table of contents above for parameter and page listings.

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Front Automatic Forms Thickness (AFTA)

This parameter allows you to adjust the distance between the paper and the print head for the front paper path. Paper must be loaded for this adjustment to be effective. This adjustment can be set to one of the following values:

-5 to +3 The printer automatically adjusts the distance between the paper and the print head. Each adjustment corresponds to 0.03 mm (.0012 in.). (The default is 0, which corresponds to a gap of 0.25 mm [.01 in.] from the paper.)

Fixed 1 to 8 Selects a fixed print head distance value from 1 to 8 in increments of 0.5 (where each value equals approximately 0.05 mm [.002 in.]).

To change or check the Front AFTA:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   Front AFTA
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for front AFTA is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Front Tear Position

You can adjust the front tear position for forms loaded in the front paper path from -312 to +24 (where each unit is 0.176 mm [1/144 in.]). The default value is 0.

To change or check the Front Tear position:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Adjustments
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Adjustments
Front Tear Position
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Front Tear Position is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Front Left Margin Alignment

This parameter adjusts the distance of the first print position to the left margin from 0 to 60 units (where each unit is 0.706 mm [1/36 in.]). The default is 10 units. The total range of adjustment is 42.36 mm (1.66 in.).

To change or check the Front Left Margin Alignment:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   Front Left Margin Alignment
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Front Left Margin Alignment is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Note: If the left margin alignment is too large for the current print line, an `005 MARGIN ERROR ADJUST MARGIN OR LINE LENGTH` will occur. For more information on the message, see Chapter 20, “Problem Solving.”

Front Paper Load Position

This parameter adjusts the distance of the first printable line to the top of the paper from –24 to +288 units (2 in.) (where each unit is 0.176 mm [1/144 in.]). The default value is 0.

To change or check the Front Paper Load Position:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Adjustments
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Adjustments
Front Paper Load Position
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Front Paper Load Position is displayed.
7. Press **Enter**.

   An asterisk (*) is displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Rear Automatic Forms Thickness (AFTA)

This parameter allows you to adjust the distance between the paper and the print head for the rear paper path. Paper must be loaded for this adjustment to be effective. This adjustment can be set to one of the following values:

-5 to +3 The printer automatically adjusts the distance between the paper and the print head. Each adjustment corresponds to 0.03 mm (.0012 in.). (The default is 0, which corresponds to a gap of 0.25 mm [.01 in.] from the paper.)

Fixed 1 to 8 Selects a fixed print head distance value from 1 to 8 in increments of 0.5 (where each value equals approximately 0.05 mm [.002 in.]).

To change or check the Rear AFTA:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   Rear AFTA
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Rear AFTA is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Rear Tear Position

You can adjust the rear tear position for forms loaded in the rear paper path from -312 to +24 (where each unit is 0.176 mm [1/144 in.]). The default value is 0.

To change or check the Rear Tear Position:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Adjustments
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Adjustments
Rear Tear Position
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Rear Tear Position is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Rear Left Margin Alignment

This parameter adjusts the distance of the first print position to the left margin from 0 to 60 units (where each unit is 0.706 mm [1/36 in.]). The default is 10 units. The total range of adjustment is 42.36 mm (1.66 in.).

To change or check the Rear Left Margin Alignment:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   Rear Left Margin Alignment
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Rear Left Margin Alignment is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Note: If the left margin alignment is too large for the current print line, an `005 MARGIN ERROR ADJUST MARGIN OR LINE LENGTH` will occur. For more information on the message, see Chapter 20, “Problem Solving” on page 20-1.

Rear Paper Load Position

This parameter adjusts the distance of the first printable line to the top of the paper from –24 to +288 units (2 in.) (where each unit is 0.176 mm [1/144 in.]). The default value is 0.

To change or check the Rear Paper Load Position:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Adjustments
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Adjustments
Rear Paper Load Position
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Rear Paper Load Position is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Bin 1 Automatic Forms Thickness (AFTA)

This parameter allows you to adjust the distance between the paper and the print head when the ASF device is installed and the Paper Source parameter is set to Bin 1. Paper must be loaded for this adjustment to be effective. This adjustment can be set to one of the following values:

-5 to +3 The printer automatically adjusts the distance between the paper and the print head. Each adjustment corresponds to 0.03 mm (.0012 in.). (The default is 0, which corresponds to a gap of 0.25 mm [.01 in.] from the paper.)

Fixed 1 to 8 Selects a fixed print head distance value from 1 to 8 (where each value equals approximately 0.05 mm [.002 in.]).

To change or check the ASF Bin 1 AFTA:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 1 AFTA
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 1 AFTA is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Bin 1 Left Margin Alignment

This parameter adjusts the distance of the first print position to the left margin from 0 to 60 units (where each unit is 0.706 mm [1/36 in.]). The default is 10 units. The total range of adjustment is 42.36 mm (1.66 in.).

To change or check the ASF Bin 1 Left Margin Alignment:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 1 Left Margin Alignment
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 1 Left Margin Alignment is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Note: If the ASF Bin 1 left margin alignment is too large for the current print line, an `005 MARGIN ERROR ADJUST MARGIN OR LINE LENGTH` will occur. For more information on the message, see Chapter 20, “Problem Solving” on page 20-1.

ASF Bin 1 Paper Load Position

This parameter adjusts the distance of the first printable line to the top of the paper from -24 to +576 units (4 in.) (where each unit is 0.176 mm [1/144 in.]). The default value is 0.

To change or check the ASF Bin 1 Paper Load Position:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 1 Paper Load Position
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 1 Paper Load Position is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Bin 2 Automatic Forms Thickness (AFTA)

This parameter allows you to adjust the distance between the paper and the print head when the ASF device is installed and the Paper Source parameter is set to Bin 2. Paper must be loaded for this adjustment to be effective. This adjustment can be set to one of the following values:

-5 to +3 The printer automatically adjusts the distance between the paper and the print head. Each adjustment corresponds to 0.03 mm (.0012 in.). (The default is 0, which corresponds to a gap of 0.25 mm [.01 in.] from the paper.)

Fixed 1 to 8 Selects a fixed print head distance value from 1 to 8 (where each value equals approximately 0.05 mm [.002 in.]).

To change or check the ASF Bin 2 AFTA:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 2 AFTA
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 2 AFTA is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Bin 2 Left Margin Alignment

This parameter adjusts the distance of the first print position to the left margin from 0 to 60 units (where each unit is 0.706 mm [1/36 in.]). The default is 10 units. The total range of adjustment is 42.36 mm (1.66 in.).

To change or check the ASF Bin 2 Left Margin Alignment:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 2 Left Margin Alignment
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 2 Left Margin Alignment is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Note: If the ASF Bin 2 left margin alignment is too large for the current print line, an `005 MARGIN ERROR ADJUST MARGIN OR LINE LENGTH` will occur. For more information on the message, see Chapter 20, “Problem Solving” on page 20-1.

ASF Bin 2 Paper Load Position

This parameter adjusts the distance of the first printable line to the top of the paper from -24 to +576 units (4 in.) (where each unit is 0.176 mm [1/144 in.]). The default value is 0.

To change or check the ASF Bin 2 paper load position:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 2 Paper Load Position
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 2 Paper Load Position is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Bin 3 Automatic Forms Thickness (AFTA)

This parameter allows you to adjust the distance between the paper and the print head when the ASF device is installed and the Paper Source parameter is set to Bin 3. Paper must be loaded for this adjustment to be effective. This adjustment can be set to one of the following values:

-5 to +3 The printer automatically adjusts the distance between the paper and the print head. Each adjustment corresponds to 0.03 mm (.0012 in.). (The default is 0, which corresponds to a gap of 0.25 mm [.01 in.] from the paper.)

Fixed 1 to 8 Selects a fixed print head distance value from 1 to 8 (where each value equals approximately 0.05 mm [.002 in.]).

To change or check the ASF Bin 3 AFTA:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 3 AFTA
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 3 AFTA is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

ASF Bin 3 Left Margin Alignment

This parameter adjusts the distance of the first print position to the left margin from 0 to 60 units (where each unit is 0.706 mm [1/36 in.]). The default is 10 units. The total range of adjustment is 42.36 mm (1.66 in.).

To change or check the ASF Bin 3 Left Margin Alignment:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 3 Left Margin Alignment
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 3 Left Margin Alignment is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Note: If the ASF Bin 3 left margin alignment is too large for the current print line, an `005 MARGIN ERROR ADJUST MARGIN OR LINE LENGTH` will occur. For more information on the message, see Chapter 20, “Problem Solving” on page 20-1.

ASF Bin 3 Paper Load Position

This parameter adjusts the distance of the first printable line to the top of the paper from -24 to +576 units (4 in.) (where each unit is 0.176 mm [1/144 in.]). The default value is 0.

To change or check the ASF Bin 3 Paper Load Position:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   ASF Bin 3 Paper Load Position
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for ASF Bin 3 Paper Load Position is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Manual Feed Automatic Forms Thickness (AFTA)

This parameter allows you to adjust the distance between the paper and the print head for the manual sheet feed paper path. Paper must be loaded for this adjustment to be effective. This adjustment can be set to one of the following values:

-5 to +3 The printer automatically adjusts the distance between the paper and the print head. Each adjustment corresponds to 0.03 mm (.0012 in.). (The default is 0, which corresponds to a gap of 0.25 mm [.01 in.] from the paper.)

Fixed 1 to 8 Selects a fixed print head distance value from 1 to 8 (where each value equals approximately 0.05 mm [.002 in.]).

To change or check the manual feed AFTA:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   Manual Feed AFTA
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Manual Feed AFTA is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Manual Feed Left Margin Alignment

This parameter adjusts the distance of the first print position to the left margin from 0 to 60 units (where each unit is 0.706 mm [1/36 in.]). The default is 10 units. The total range of adjustment is 42.36 mm (1.66 in.).

To change or check the Manual Feed Left Margin Alignment:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   Manual Feed Left Margin Alignment
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Manual Feed Left Margin Alignment is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Note: If the manual feed left margin alignment is too large for the current print line, an `005 MARGIN ERROR ADJUST MARGIN OR LINE LENGTH` will occur. For more information on the message, see Chapter 20, “Problem Solving” on page 20-1.

Manual Feed Paper Load Position

This parameter adjusts the distance of the first printable line to the top of the paper from -24 to +576 units (4 in.) (where each unit is 0.176 mm [1/144 in.]). The default value is 0.

To change or check the Manual Feed Paper Load Position:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Adjustments
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Adjustments
Manual Feed Paper Load Position
```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Manual Feed Paper Load Position is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Bidirectional Adjustment

You can adjust dot registration and print quality for characters on your printer by running the bidirectional adjustment test pattern. The test pattern consists of three parts: two groups of *Hs* (four lines each) with the current alignment value above them and a line of *Hs* and *Is* printed on one line. You can set bidirectional adjustment from -6 to 6 (where each unit is 0.212 mm [1/120 in.]). The default value is 0.

Note: Bidirectional Adjustment is available only in the Operator Print Tests menu.

To change or check the bidirectional adjustment:

1. Press **Test**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   4247 OPERATOR PRINT TESTS
   Printer Adjustments
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Printer Adjustments
   Bidirectional Adjustment
   ```

5. Press **Enter** to display the current value.
6. Press **Scroll↑** or **Scroll↓** until the desired value for Bidirectional Adjustment is displayed.
7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.

8. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Sensor Tune

This parameter establishes the black light threshold levels for all sensors. This adjustment is set initially by IBM when the printer is manufactured and may have to be adjusted for long-term aging of the sensor if false form jams occur or if unusual ambient lighting conditions exist in the printer location.

All paper must be removed from the tractors, and all covers must be installed and closed before selecting this parameter.

Note: Sensor Tune is available only in the Operator Print Tests menu.

To tune the sensors:

1. Press **Test**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
4247 OPERATOR PRINT TESTS
Printer Adjustments
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Adjustments
Sensor Tune
```

5. Press **Enter**. The printer displays the following:

```
Sensor Tune
Clear ALL Paths and Press ENTER
```

6. Press **Enter**. The printer will now tune the sensors. Once the sensors are tuned, the printer displays

```
Sensor Tune
Sensor Tune Complete
```

```
Printer Adjustments
Sensor Tune
```

7. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Quit From Menu

This selection cancels any changes that have been made to the Printer Adjustment parameter values in the Operator Print Test menu. All previous printer adjustment values are restored when this parameter is selected and the printer enter the *Not Ready* state.

Note: Quit From Menu is available only in the Operator Print Tests menu.

To quit from the Operator Print Test menu and restore the previous values for Printer Adjustments only, follow these steps:

1. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Adjustments
Quit from Menu
```

2. Press **Enter**. The printer displays

```
Quit from Menu
Restore Previous Values
```

3. Press **Enter**. The printer restores the previous values and becomes *not ready*.

Chapter 12. Power-On Reset (POR)

Note: When power-on reset is activated, the printer performs a partial reset.

To perform a power-on reset, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Power On Reset
```

3. Press **Enter**.

   The printer displays

```
Power On Reset
  Yes
```

4. Press **Enter**.

   The printer displays

```
Power On Reset
  Reset Executed
```

5. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

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Chapter 13. Display Language

The following languages are available for displaying messages on the operator panel:

Table 13-1. Display Languages

Language	Value
English (Default)	000
Deutsch	001
Français	002
Italiano	003
Español	004
Nederlands	005
Dansk	006
Português	007
Norsk	008
Svenska	009
Suomi	010

Note: The display language changes immediately when you select a new value.

To change or check the display language, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Display Language
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the desired value for display language is displayed.
5. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value and the display language will change.
6. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Note: Occasionally the Display Language may be changed accidentally to a language that is not understood. To recover to your native language without saving the display language in a custom set, turn the printer power Off (O) and then back On (|) to restore the default setting. The Display Language should then be restored to your native language.

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Chapter 14. Send Buffer Reprint Code (Coaxial)

You can set Send Buffer Reprint Code to:

- Yes
- No (Default)

Selecting Yes causes the printer to reprint all of the data stored in the communications buffer after **Start** is pressed. A message is displayed while the function is processing. The function is not accepted if print operation is active, if the printer is in the IPDS mode, if Early Print Complete is active, or if Intervention Required status has been sent to the host and it is an Operator Initiated Local Copy (OILC) print. In these cases, the `009 INVALID KEYPRESS` message will be displayed after exiting from the Configuration Menu.

To change or check the buffer reprint setting, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Send Buffer Reprint Code
   ```

3. Press **Enter** to display the current value.
4. Press **Scroll↑** or **Scroll↓** until the desired value for send buffer reprint code is displayed.
5. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
6. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

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Chapter 15. Vital Product Data

You can check and change some of the vital product data for the printer. The two Vital Product Data fields you can change are:

- Serial Number
- Device Specific Information

Note: Vital Product Data values, unlike all of the other configuration values, are not saved when you save a Custom Set; they are saved when you exit the Configuration Menu. If you make a change to one of these values and turn off the printer before exiting the Configuration Menu, your changes will not be saved.

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Serial Number

The serial number parameter holds the serial number for the printer. This number is a 7-digit alphanumeric value. The serial number of your printer is located on the *Information Label* on the back of printer.

To check or change the serial number for the printer, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Vital Product Data
   ```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Vital Product Data
   Serial Number
   ```

5. Press **Enter**.

   The printer displays the current value for the serial number of the printer. A cursor (X) appears under the least significant character of the value.
6. Press **Scroll↑** or **Scroll↓** to change the character above the cursor.
7. Press **Enter** to move the cursor to the next character.
8. Repeat steps 6 and 7 until the correct value for the serial number is displayed.
9. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Device Specific Information

This parameter stores user defined information for the printer. This information is a 16-digit alphanumeric value.

To check or change the Device Specific Information for the printer, follow these steps:

1. Press **Menu**.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Vital Product Data
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Vital Product Data
Device Specific Information
```

5. Press **Enter**.

   The printer displays the current value for device specific information. A cursor (X) appears under the least significant character of the value.
6. Press **Scroll↑** or **Scroll↓** to change the character above the cursor.
7. Press **Enter** to move the cursor to the next character.
8. Repeat steps 6 and 7 until you have checked or changed the Device Specific Information.
9. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

Chapter 16. Quit From Menu

You can quit from the Configuration Menu and restore the previous configuration menu values.

This selection cancels any changes you made to the Configuration Menu Parameter Values since you last pressed **Menu** to enter the Configuration Menu.

To quit from the Configuration Menu and restore the previous values, follow these steps:

1. If `CONFIGURATION MENU` is not on the first line of the display, press **Return** until it appears.
2. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Quit from Menu
   ```

3. Press **Enter**. The printer displays

   ```
   Quit from Menu
   Restore Previous Values
   ```

4. Press **Enter**. The printer restores the previous values and becomes *not ready*.

Note: Any Custom Set changes that were made and saved prior to selecting Quit From Menu are not affected by this selection. The new values stored into Custom Sets remain in place.

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Chapter 17. Paper Loading

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The paper loading procedures described in this chapter are intended to be self-contained. That is, you can turn to any of the five continuous forms loading procedures (Front Push, Rear Push, Rear Pull, Push-Pull, and Dual Push) or the cut-sheet procedure (Manual Sheet Feed) and find a complete step-by-step method of preparing the printer for a particular method of feeding paper.

Specifications for continuous and cut-sheet forms are described in Appendix A, “Printer Specifications,” and are not contained in these procedures.

For information on installing and loading paper in the ASF feature, see the *IBM 4247 Printer Automatic Sheet Feeder Guide*.

There is an illustration at the beginning of each paper path description that shows how continuous forms move through the printer. Each illustration also shows whether cut-sheet forms may be inserted while that particular continuous forms method is in use. Cut-sheet insertion is not automatic. Follow the manual sheet feed procedure each time you need to insert a cut-sheet form.

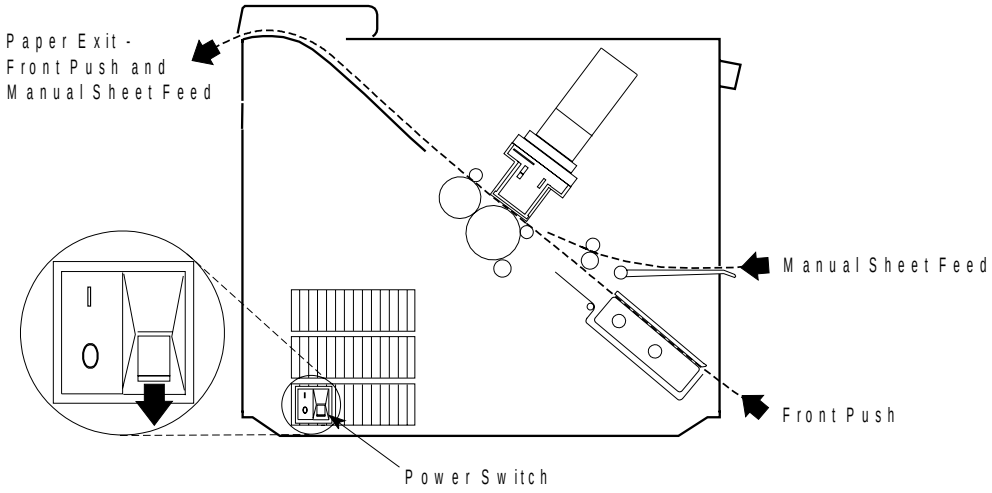
The printer will not operate with the top cover open. Because of this safety feature, some of the paper loading procedures require the top cover to be opened more than once.

Use the following table to find paper loading procedures based on where the forms tractors are installed and where continuous forms enter the printer.

Paper Path	**Tractor**	**Paper Source**	**Go to Page**
Front Push	Front	Front	17-3
Rear Push	Rear	Rear	17-15
Dual Push	Both	Both	17-32
Rear Pull	Rear	Front	17-56
Push-Pull	Both	Front	17-77
Manual Sheet Feed	None	Front	17-100
Auto Sheet Feed	None	Rear	See the *IBM 4247 Printer Automatic Sheet Feeder Guide*.

Front Push Paper Path

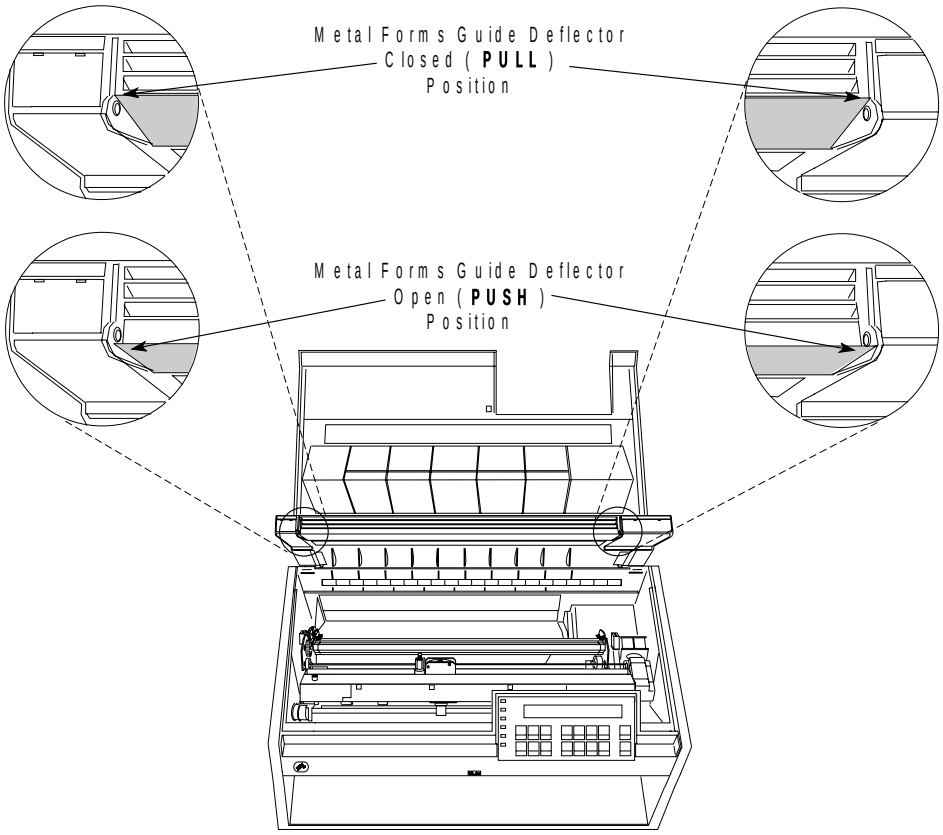
Installing the Tractor Unit in the Front Push Position



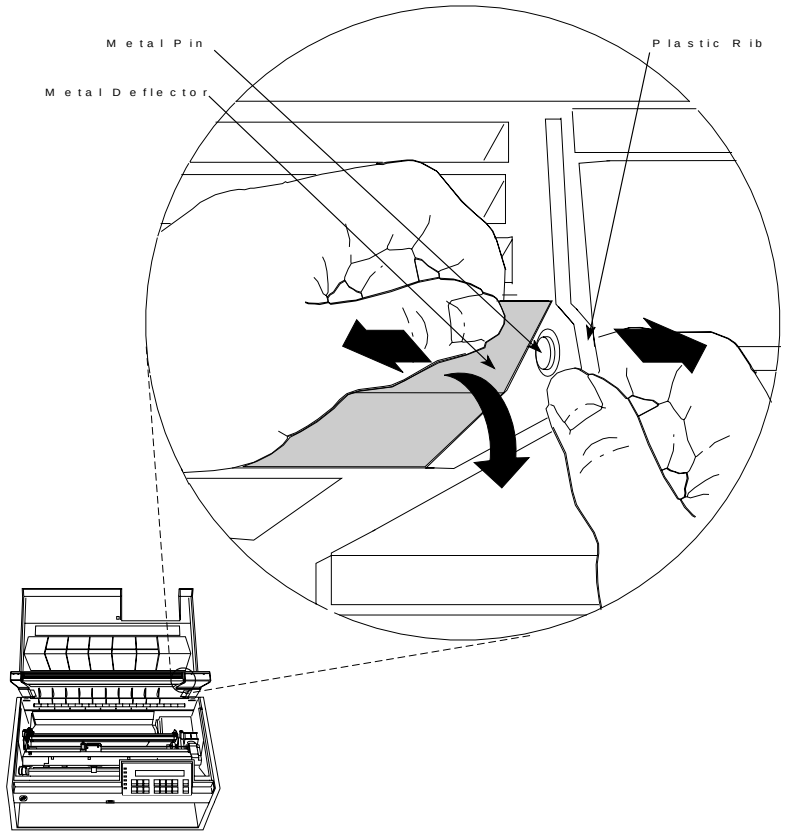
This illustration shows the Front Push paper path from the left side of the printer.

Notes:

- Make sure the metal deflector on the forms guide is in the *push* (open) position.



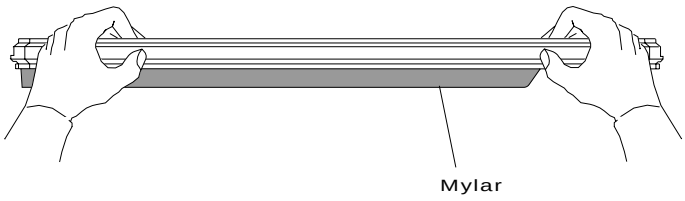
- If the metal deflector is in the *pull* (closed) position, do the following:
  - Grasp the metal deflector with one hand and the plastic rib on the forms guide with the other hand.
  - While pulling the metal deflector and the plastic rib apart, move the metal deflector down until it is below the metal pin.



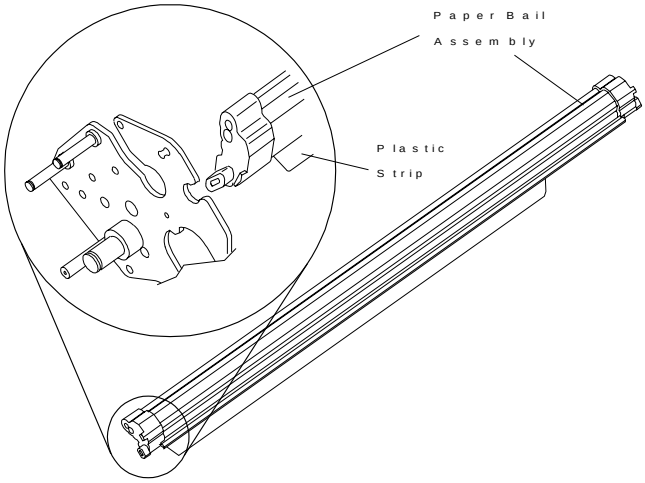
- If there is a paper bail in the printer, ensure that it is closed (see 5 below).
- Install the paper bail assembly if it is not already installed.
  1. Remove the ribbon cartridge. (See “Removing the Ribbon Cartridge” on page 19-11.)
  2. Move the printhead to the far right.
  3. Grip the bail assembly as shown in the following illustration.

Important!

To avoid damaging the mylar, make sure the mylar points down.

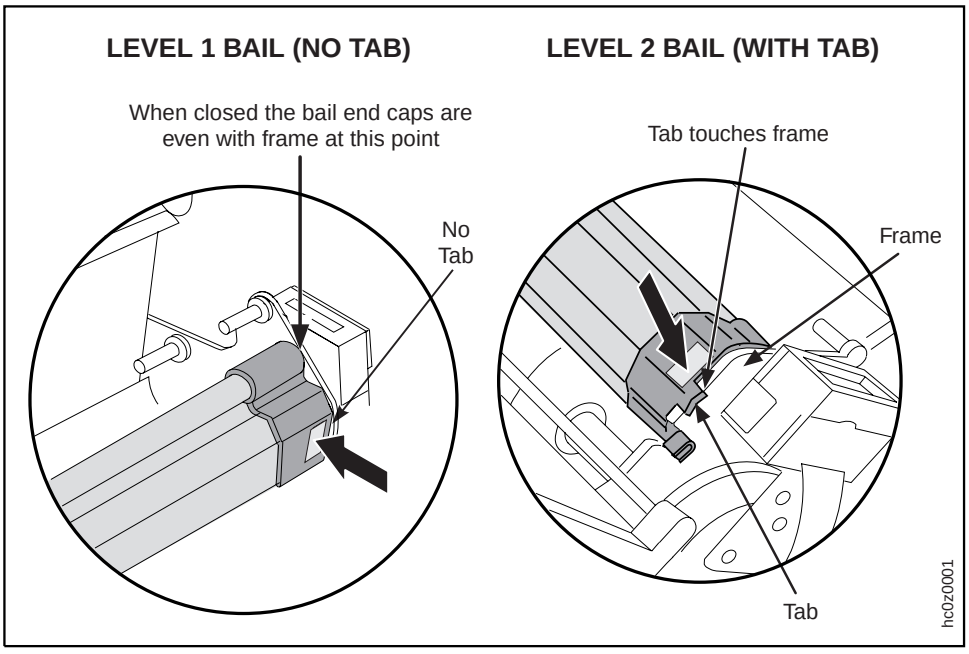


4. Insert the left and right paper bail end cap pivots into the side frames.



5. Rotate the paper bail assembly toward the back of the printer, closing it as far as it will go.

   Paper bail assemblies without tabs on the end caps must be installed in the "closed" position.



6. Reinstall the ribbon cartridge. (See "Installing the Ribbon Cartridge" on page 19-13.)

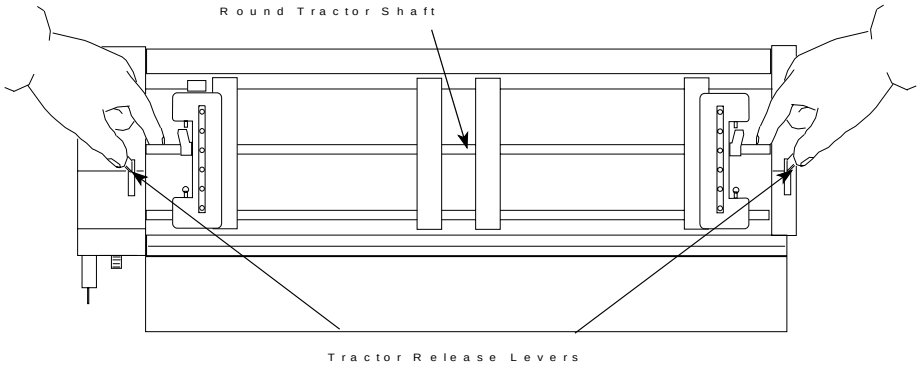
Note: The paper path procedures always assume that a tractor not installed in the printer is stored in the Push or fully-extended position.

Installation Procedure

1. The power switch is located on the lower left side of the printer. Make sure that the switch is set to Off (O) before removing or installing forms tractors.
2. Determine which tractor installation steps to follow:

- If you are moving a tractor from the Rear Pull or the Rear Push position to the Front Push position, go to step **2a on page 17-7** .
- If you are just installing a tractor in the Front Push position go to step **3 on page 17-8.**

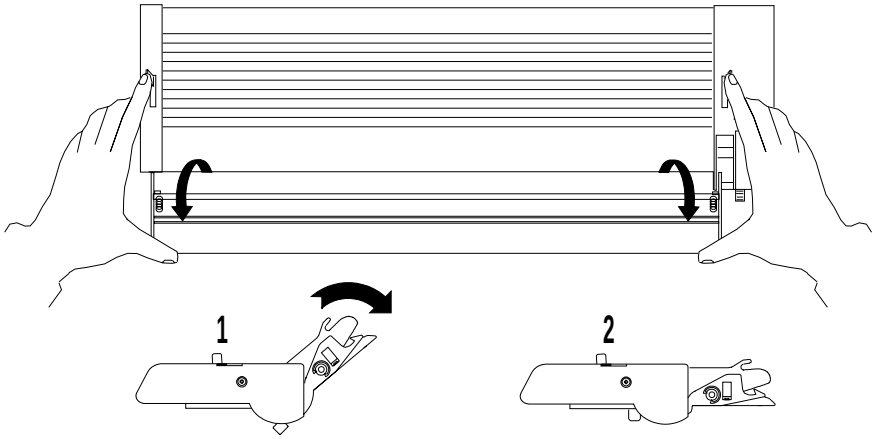
a. Grip both sides of the round tractor shaft while operating the tractor release levers as shown. Lift the tractor out of the printer.



If the tractor was in the Rear Push position, go to step **3 on page 17-8** . If the tractor was in the Rear Pull position, continue here.

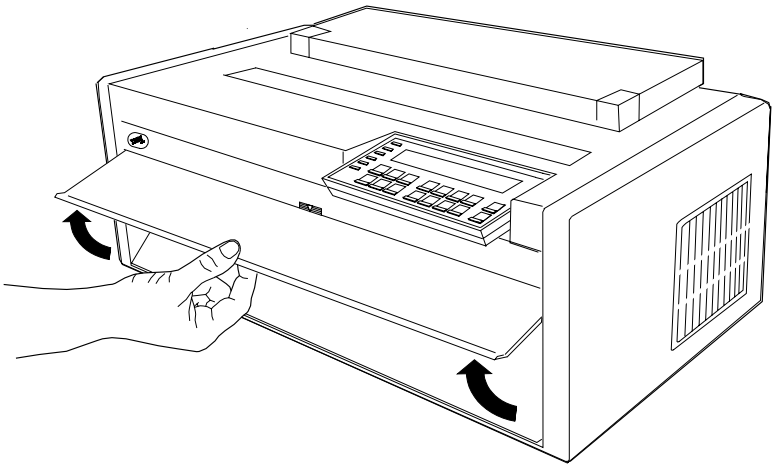
b. Place the tractor face down on a flat surface with the electrical connector tab on the right side, pointing toward you.

c. Pull the bottom release levers toward you with your finger tips and push the movable edge of the tractor down toward the flat surface with your thumbs (**1**) until the tractor locks in the fully extended position (**2**).

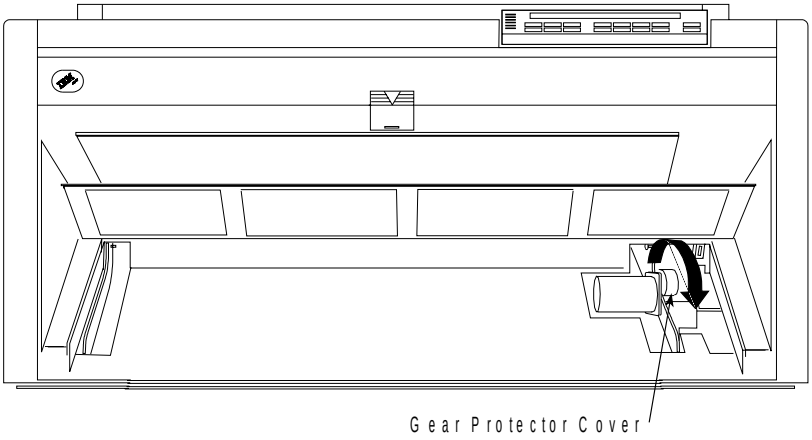


3. Open the front tractor cover to its *locked* position.

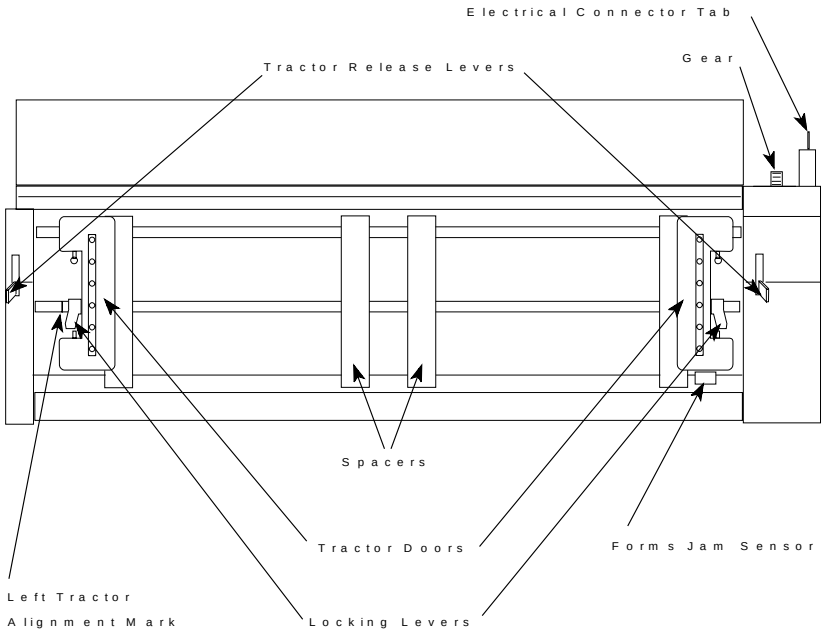
   CAUTION:
   The paper feed motor may get hot during operation. Be careful when removing or installing the tractor unit.



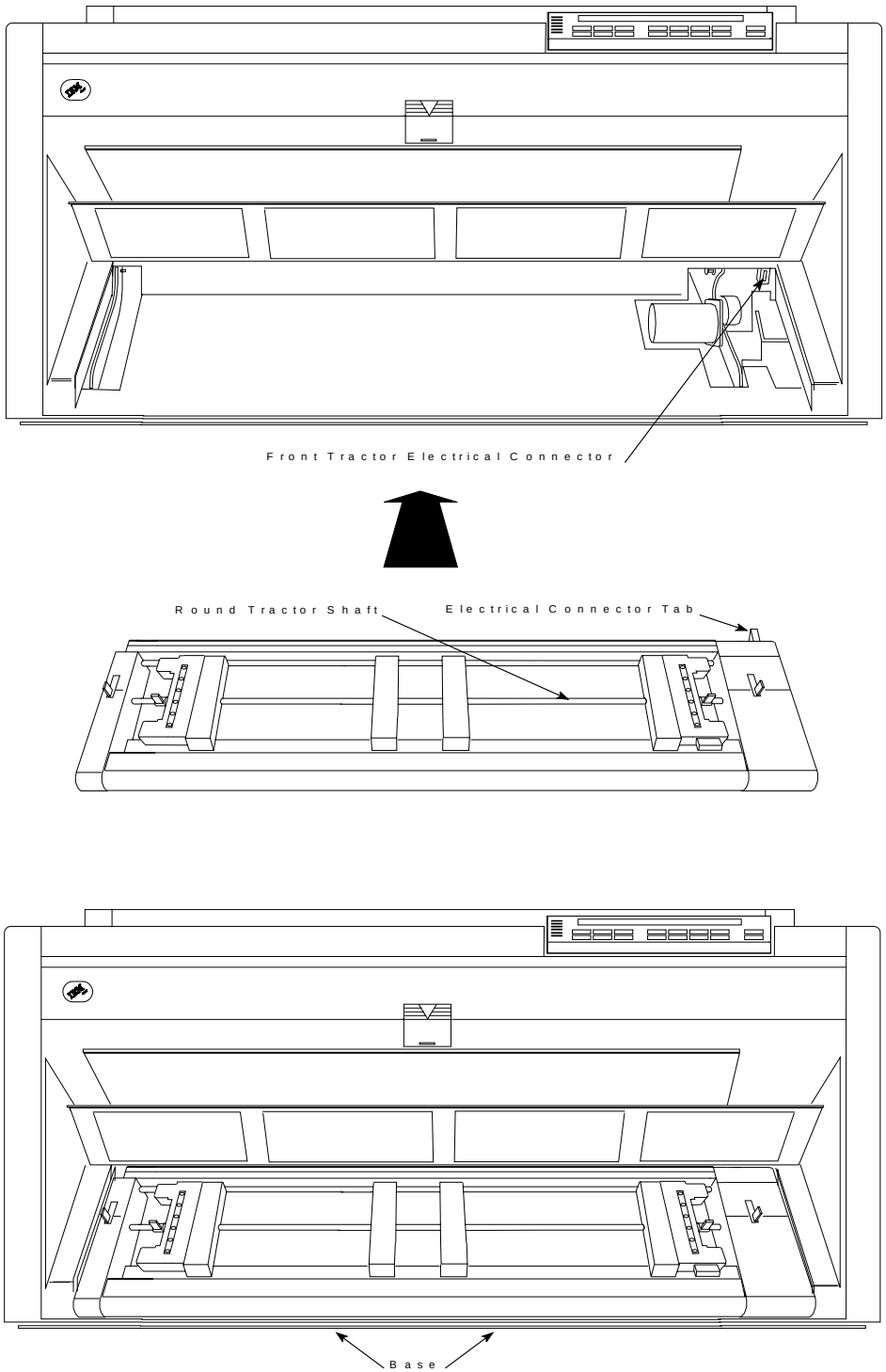
4. Open the hinged gear protector cover by rotating it down out of the way.



5. Stand facing the front of the printer. Hold the tractor unit with the tractor doors toward you and the electrical connector tab on the right.



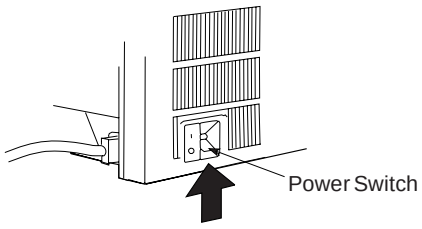
6. With both hands supported on the round tractor shaft, gently push the tractor unit upward until it clicks on both sides, the electrical connector tab is fully seated in the connector, and the bottom of the tractor unit is level with (same amount of space from) the base of the printer.



Configuring the Printer for the Front Push Paper Path

To configure the printer for the Front Push paper path:

1. Power On (|) the printer.



2. Wait until the message IBM 4247 appears, all the segments of the LCD on the operator panel display are lit, and the printer has stopped all motion. If you want the Front Push paper path to be the default path used, continue with the next step.
3. Press **Menu** to enter configuration.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Paper Source
```

7. Press **Enter**.
8. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Paper Source
Front
```

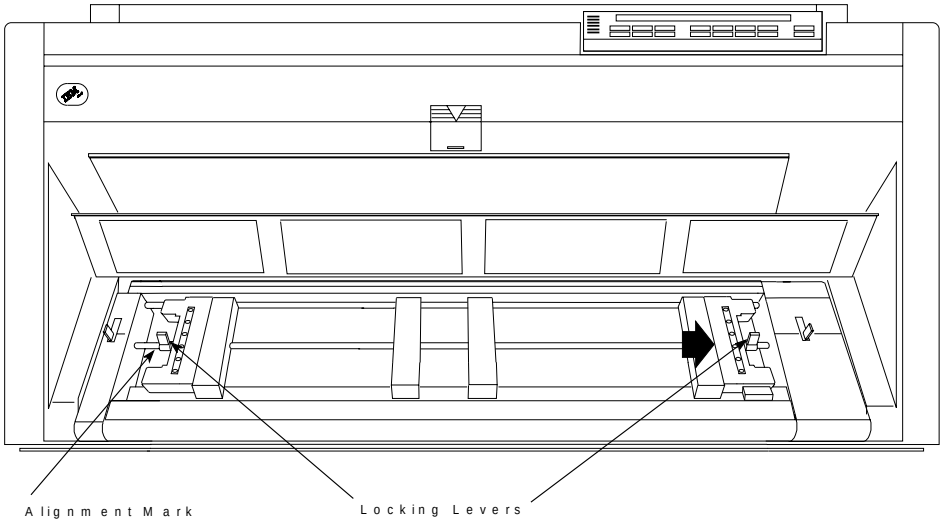
9. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
10. Press **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4 for instructions.

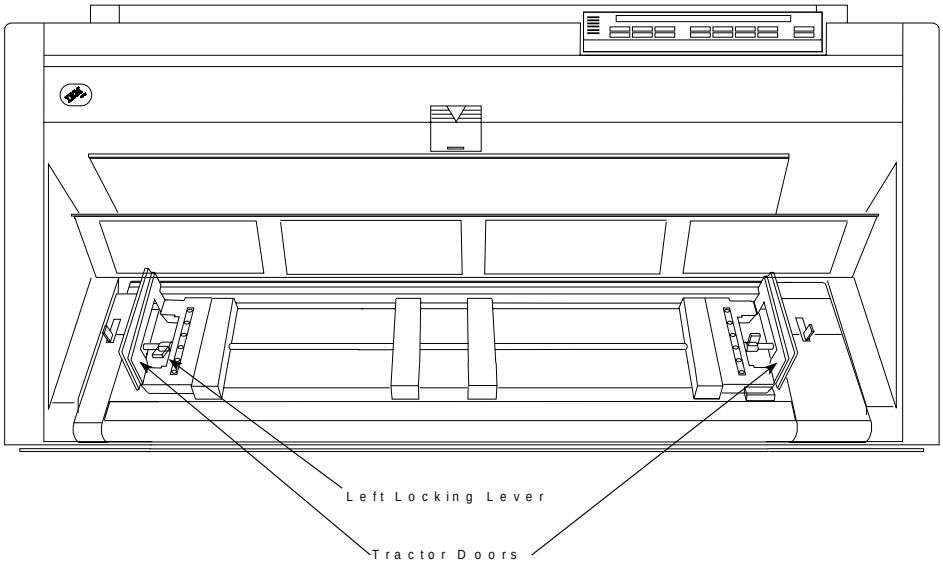
Loading Paper for Front Push

Note: Before you start this procedure, see “Forms Stack Input and Output Locations” in Chapter 19, “Supplies, Optional Features, and Maintenance” for information on stacking height limits.

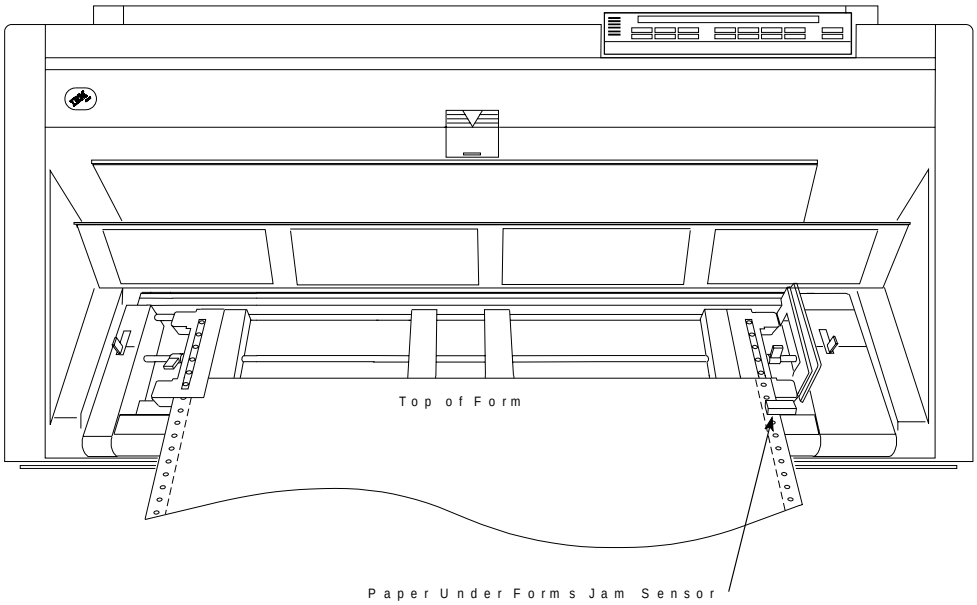
1. Unlock the locking levers on the tractors. Move the right tractor to the extreme right.
2. Move the left tractor to the *tractor alignment mark*.



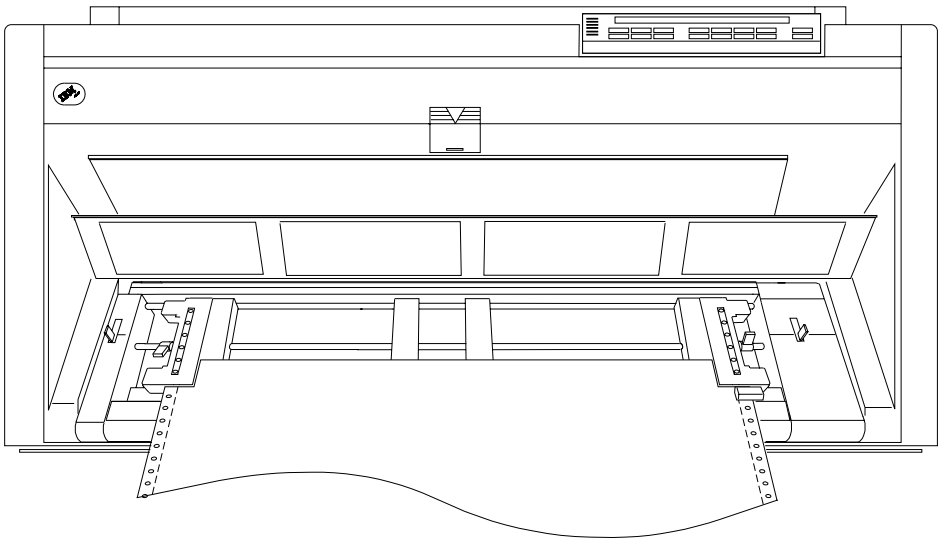
3. Lock the left locking lever.
4. Open both of the tractor doors.



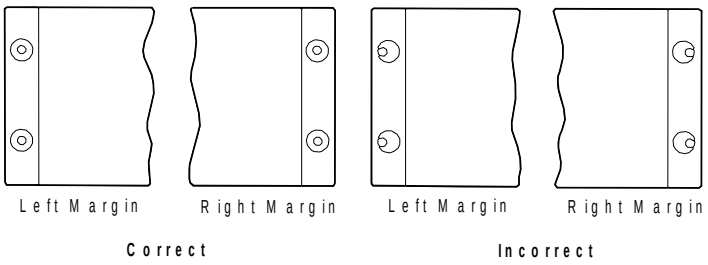
5. Put the left paper holes of the form over the left tractor pins. Close the left tractor door.
6. Move the right tractor until the right paper holes of the form fit on the right tractor pins. Be sure that the forms go under the *forms jam sensor* and that the forms are straight.



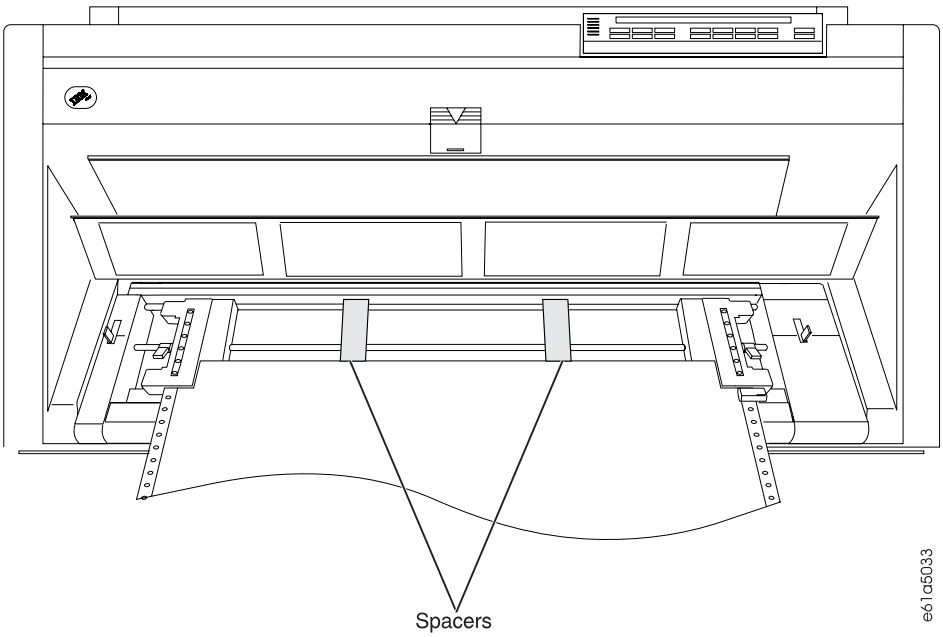
7. Close the right tractor door.



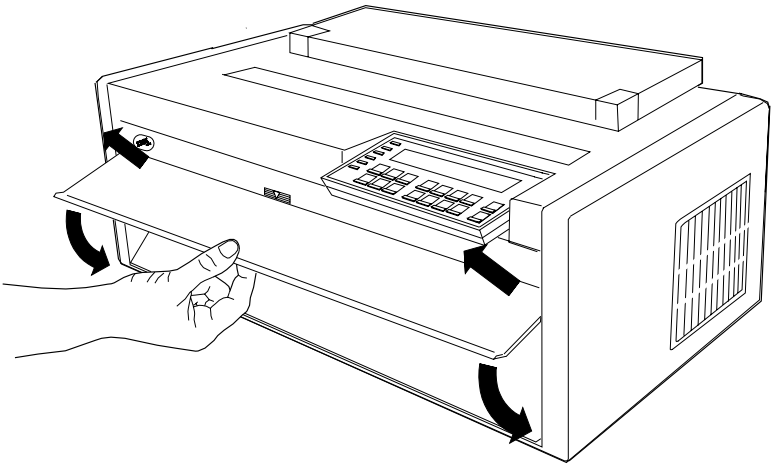
8. If necessary, slide the right tractor to the right side of the printer to remove the slack in the form. If the paper is too tight, slide the right tractor away from the right side of the printer. Make sure the tractor pins are centered in the paper holes.



9. While holding the right tractor in place, lock the right locking lever.
10. Move the spacers along the tractor bar to support the width of the form.



11. Close the front tractor cover.



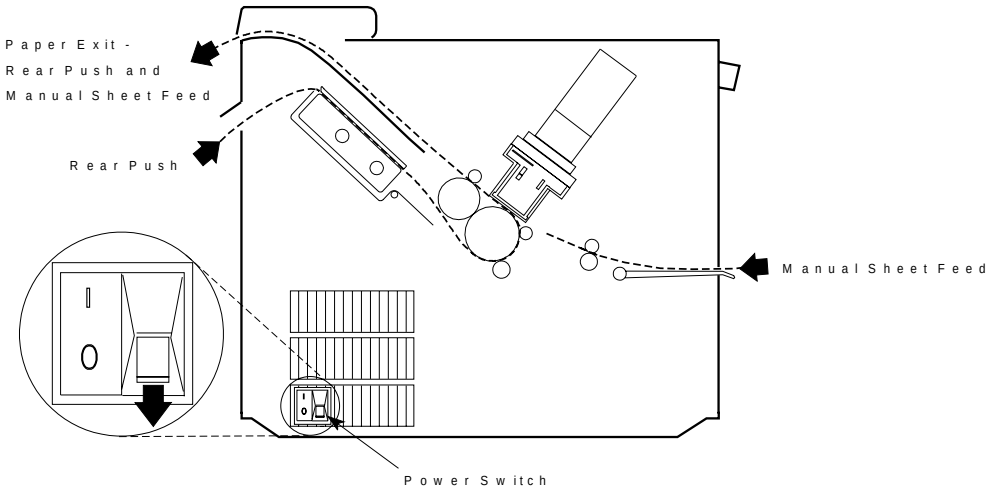
12. Press **Load/Eject** to feed the paper.
13. Press **Start** to make the printer *ready*.

The printer is now ready for jobs that use the ***Front Push*** paper path. If your applications do not control forms settings (such as Characters per Inch, Lines per Inch, or Maximum Print Position [MPP]), and you do not want to use the printer default settings, see Chapter 3, “Checking and Changing Configuration Parameter Values.”

Rear Push Paper Path

Installing the Tractor Unit in the Rear Push Position

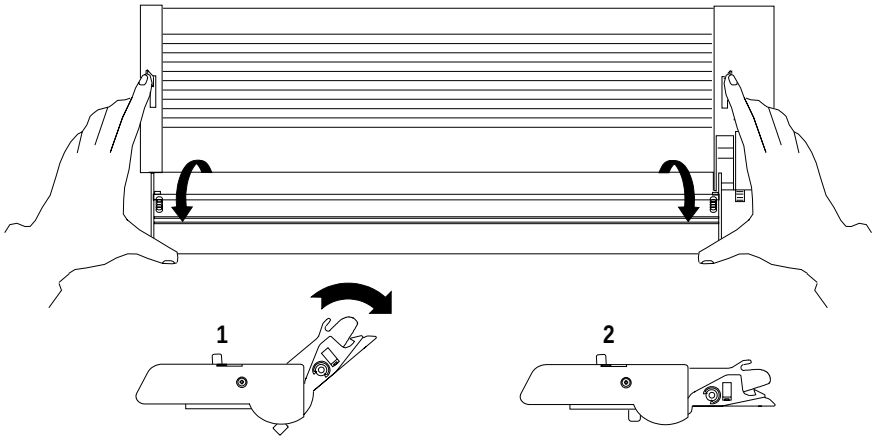
This illustration shows the Rear Push paper path from the left side of the printer.



Note: The paper path procedures always assume that a tractor not installed in the printer is stored in the Push or fully-extended position. If you remove a tractor from the Rear Pull or angled position, use the following procedure before storing it:

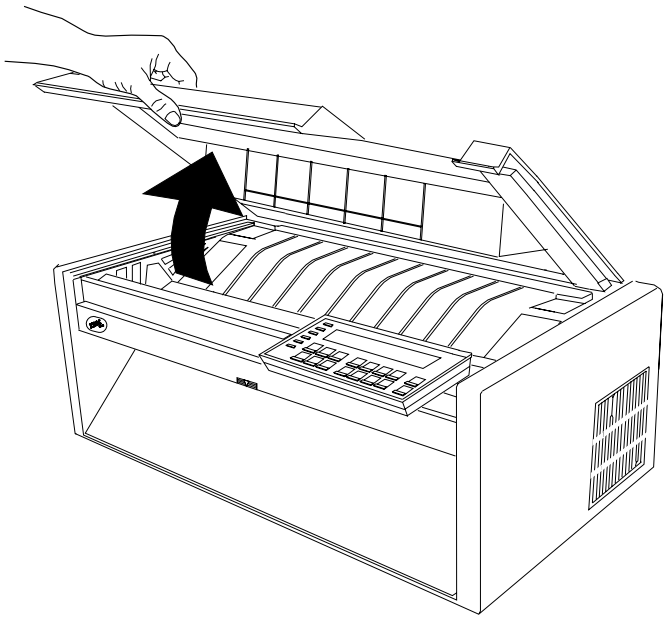
- Place the tractor face down on a flat surface with the electrical connector tab on the right side, pointing toward you.

- Pull the bottom release levers toward you with your finger tips and push the movable edge of the tractor down toward the flat surface with your thumbs (**1**) until the tractor locks in the fully extended position (**2**).



Installation Procedure

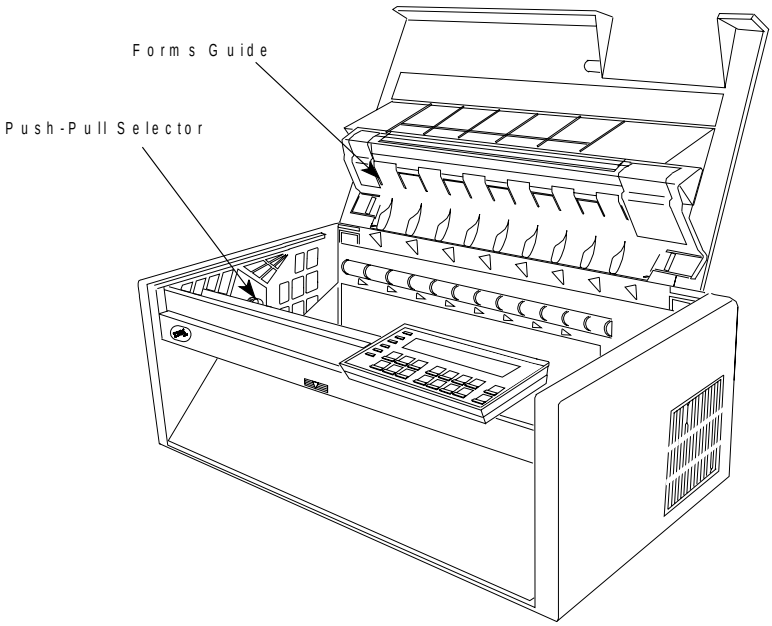
1. The power switch is located on the lower left side of the printer. Make sure that the switch is set to Off (O) before removing or installing forms tractors.
2. Open the top cover and tilt it all the way back.



CAUTION:

Do not remove the top cover or automatic sheet feeder cover unless it is necessary for the installation of a printer accessory. If a cover is removed, do not touch inside the printer or insert any object into the gears. Store the cover in a safe place until it is needed for reinstallation.

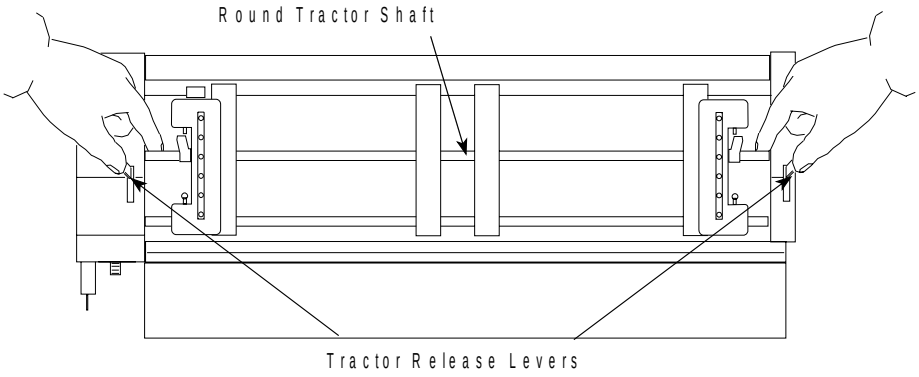
3. Lift the forms guide to its full open (vertical) position.



4. Determine which tractor installation steps to follow:

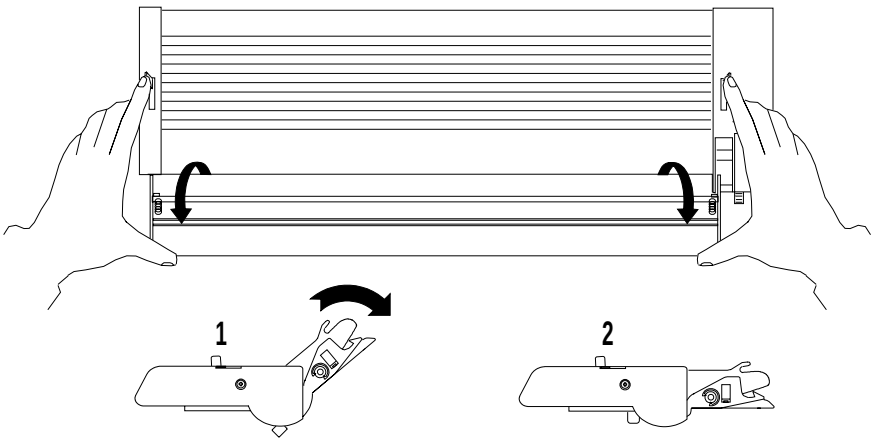
   - If you are installing a tractor not currently installed in a printer, go to step **5 on page 17-20.**
   - If you are installing a tractor currently installed in a Front Push position, go to step **4d on page 17-19.**
   - If you are installing a tractor currently installed in a Rear Pull position, continue here.

   a. Grip both sides of the round tractor shaft while operating the tractor release levers as shown. Lift the tractor out of the printer.



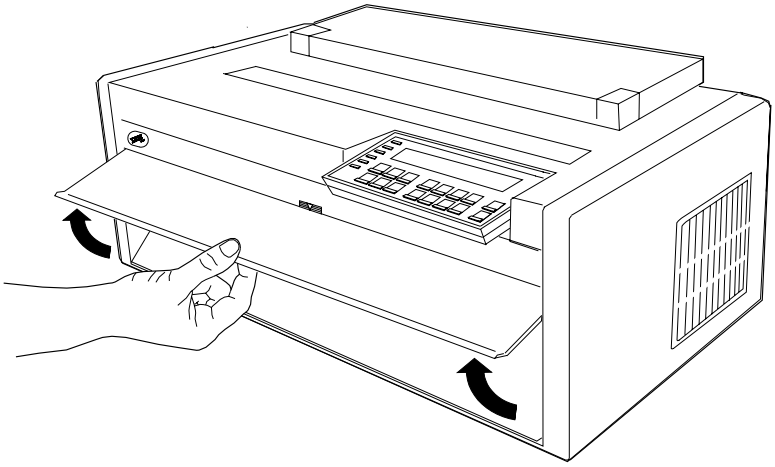
   b. Place the tractor face down on a flat surface with the electrical connector tab on the right side, pointing toward you.

   c. Pull the bottom release levers toward you with your finger tips and push the movable edge of the tractor down toward the flat surface with your thumbs (**1**) until the tractor locks in the fully extended position (**2**).

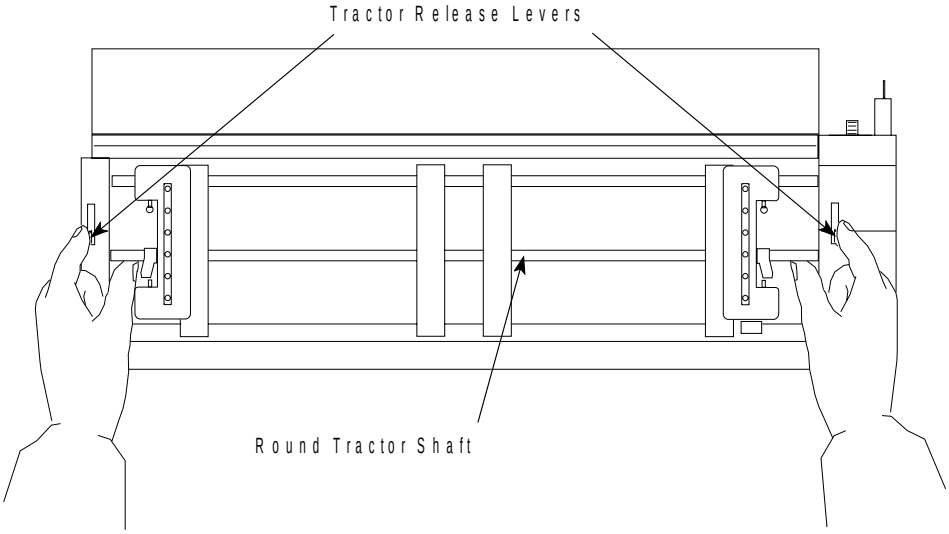


   Continue with step **5 on page 17-20.**

d. Open the front tractor cover to its *locked* position.



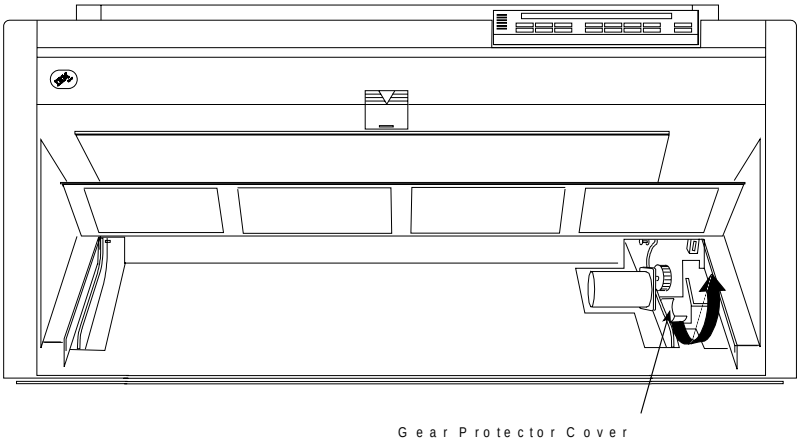
e. Grip both sides of the round tractor shaft while operating the tractor release levers as shown. Lift the tractor out of the printer and set it aside.



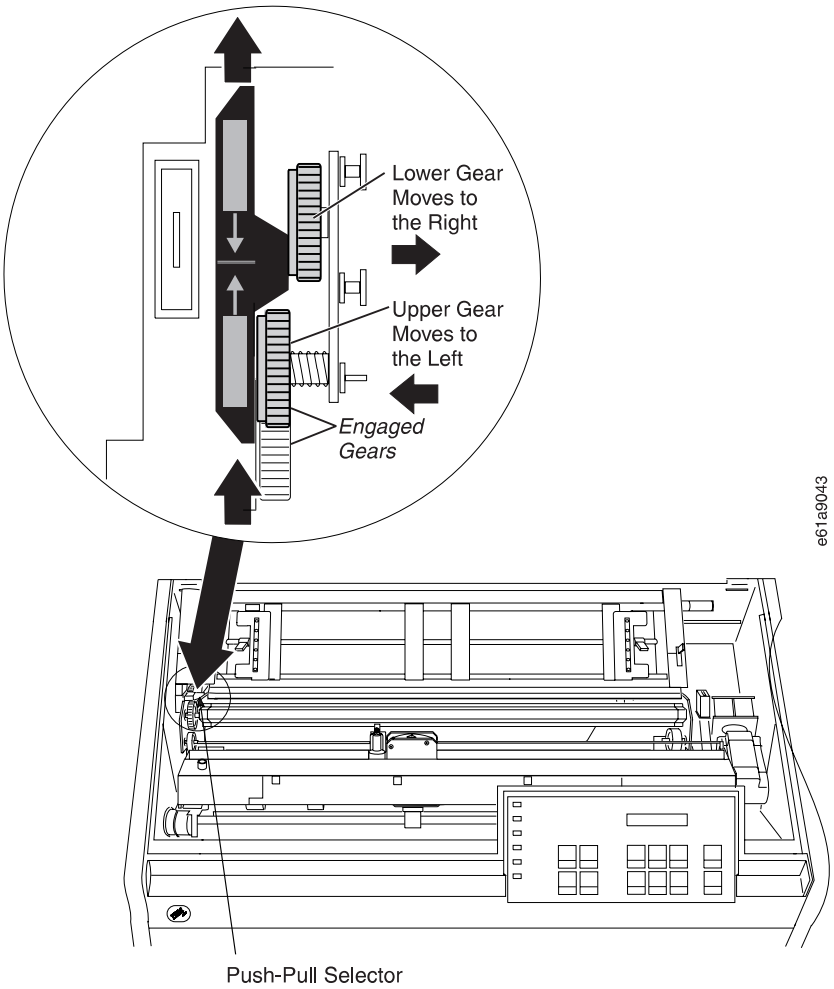
CAUTION:

If the front tractor unit is not installed, make sure the gear protector cover is closed. Do not touch inside the printer or insert any object into the gears.

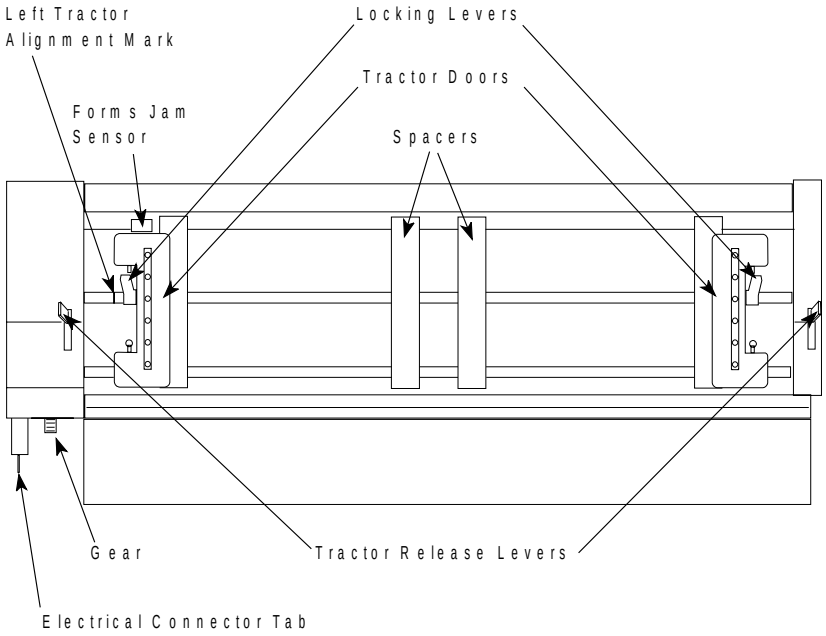
f. Close the gear protector cover and the front tractor cover.



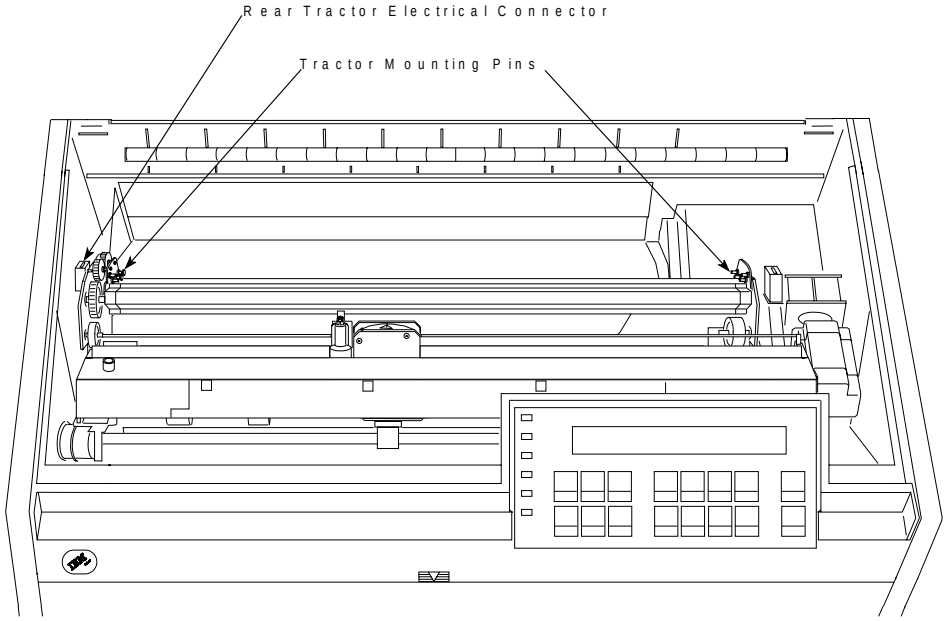
5. Locate the *push-pull selector* next to the gears on the left side of the printer. Push the *push-pull selector* down and toward the rear of the printer until the upper gear fully engages.



6. Stand facing the front of the printer. Hold the tractor unit with the tractor doors toward you, and the electrical connector tab on the left.



7. With both hands supported on the round tractor shaft, position the electrical connector tab above its connector on the left side of the printer and the two lowest pins on the right.

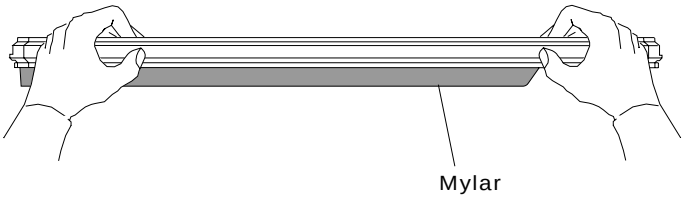


8. Gently press on the tractor unit until it clicks on both sides and the electrical connector tab is fully seated in the connector.

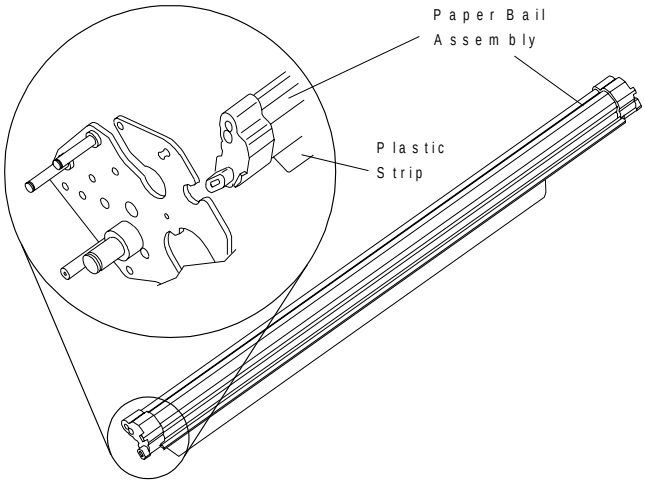
9. If there is a paper bail in the printer, ensure that it is closed (see 10e below).
10. If there is not a paper bail in the printer, install one as follows:
    a. Remove the ribbon cartridge. (See “Removing the Ribbon Cartridge” on page 19-11.)
    b. Move the printhead to the far right.
    c. Grip the bail assembly as shown in the following illustration.

Important!

To avoid damaging the mylar, make sure the mylar points down.

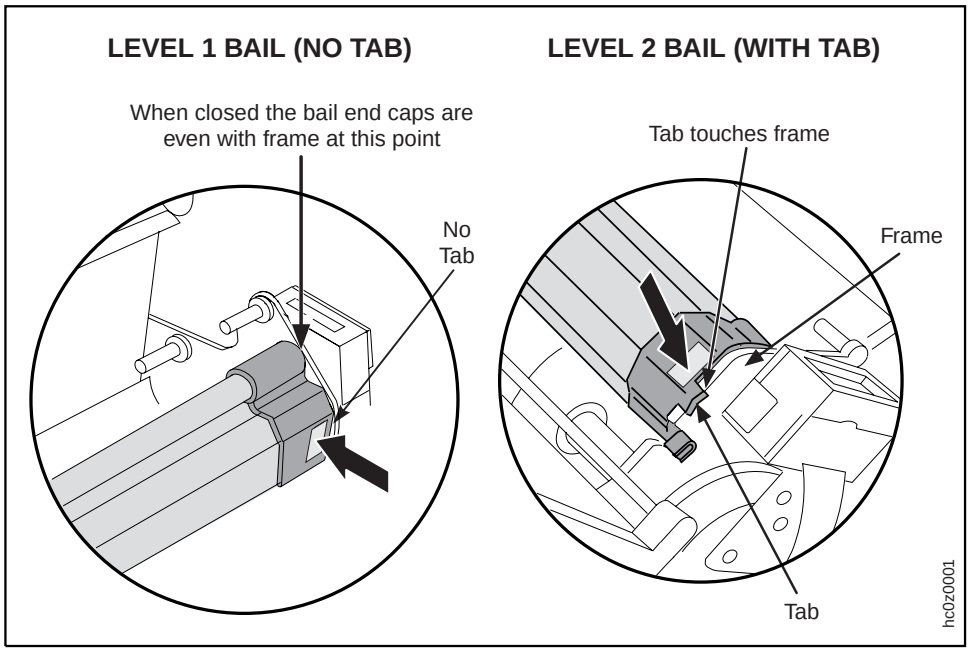


    d. Insert the left and right paper bail end cap pivots into the side frames.



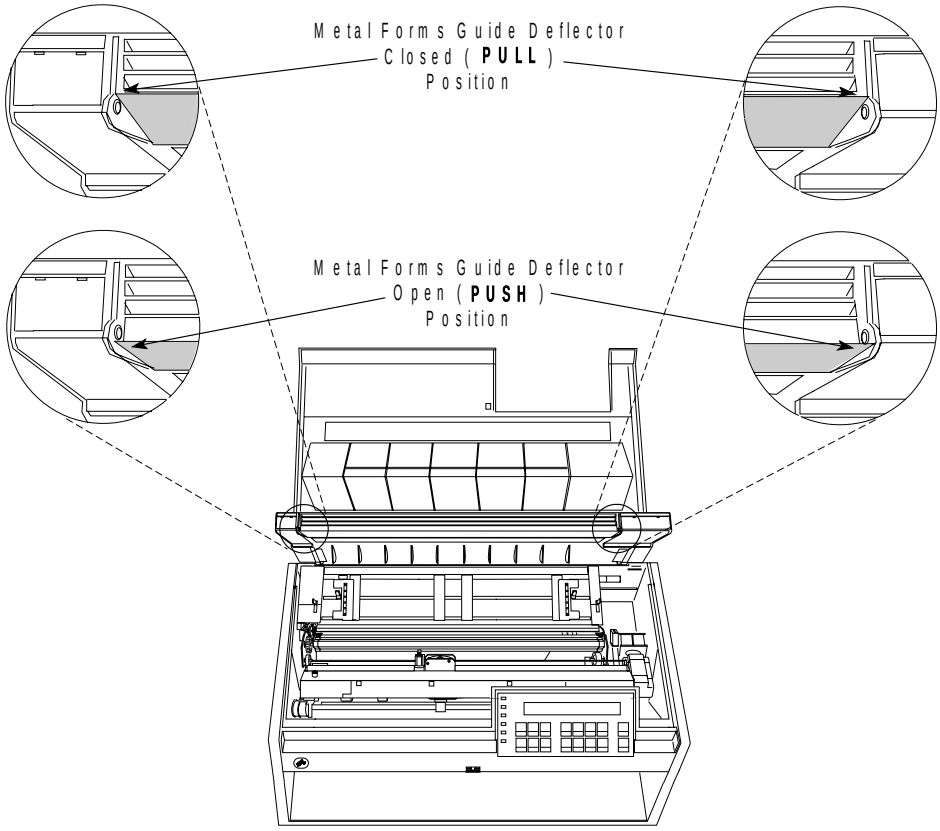
    e. Rotate the paper bail assembly toward the back of the printer, closing it as far as it will go.

Paper bail assemblies without tabs on the end caps must be installed in the "closed" position.



f. Reinstall the ribbon cartridge. (See "Installing the Ribbon Cartridge" on page 19-13.)

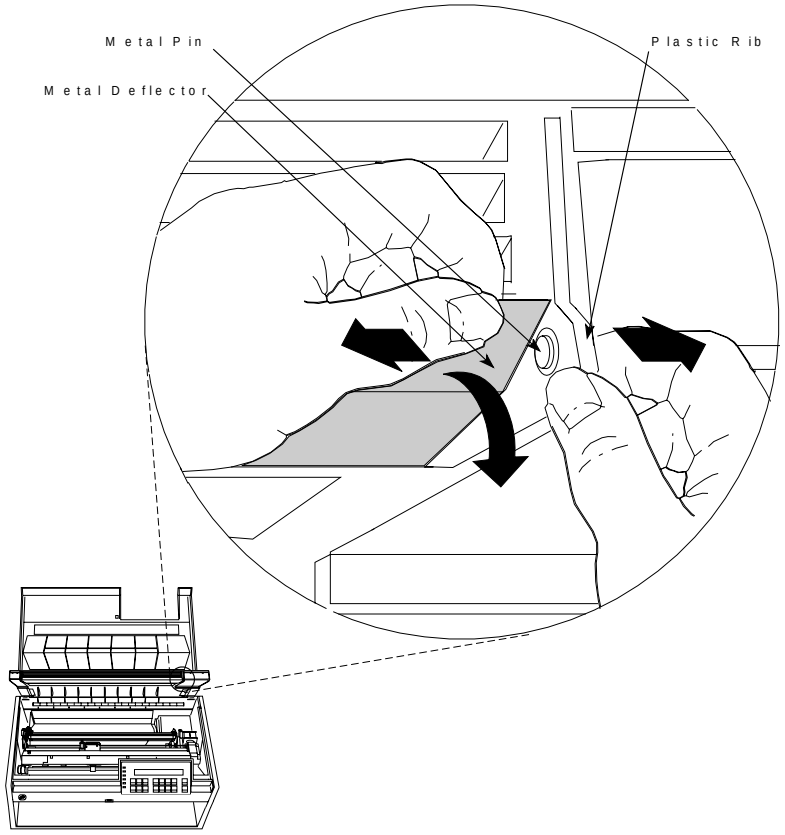
11. Make sure the metal deflector on the forms guide is in the *push* (open) position.



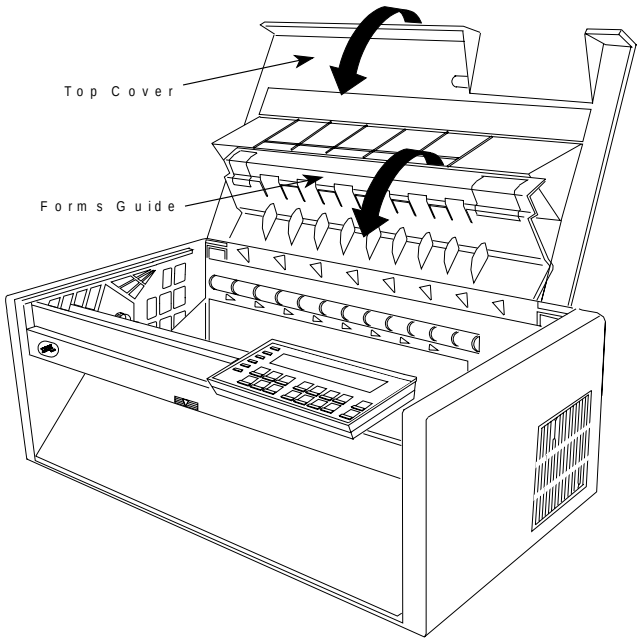
12. If the metal deflector is in the *pull* (closed) position, do the following:

    a. Grasp the metal deflector with one hand and the plastic rib on the forms guide with the other hand.

    b. While pulling the metal deflector and the plastic rib apart, move the metal deflector down until it is below the metal pin.



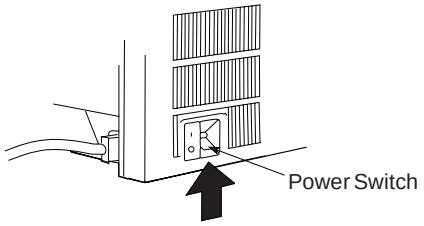
13. Close the forms guide and top cover.



Configuring the Printer for the Rear Push Paper Path

To configure the printer for the Rear Push paper path:

1. Power On (|) the printer.



2. Wait until the message IBM 4247 appears, all the segments of the LCD on the operator panel display are lit, and the printer has stopped all motion.
3. Press **Menu** to enter configuration.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Rear Tractor Use
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Rear Tractor Use
Push
```

7. Press **Enter**.

An asterisk (*) will be displayed in front of the selected value.

8. Press **Return** to return to the Configuration Menu.

   If you want the Rear-Push paper path to be the default path used, then continue with steps 9 through 14

9. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Printer Setup
   ```

10. Press **Enter**.
11. Press **Scroll↑** or **Scroll↓** until the printer displays

    ```
    Printer Setup
    Paper Source
    ```

12. Press **Enter**.
13. Press **Scroll↑** or **Scroll↓** until the printer displays

    ```
    Paper Source
    Rear
    ```

14. Press **Enter**.

    An asterisk (*) will be displayed in front of the selected value.

15. Press **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4 for instructions.

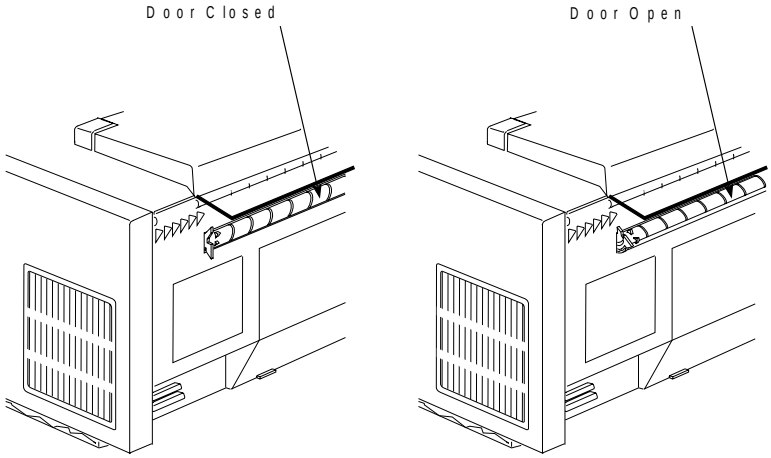
Loading Paper for Rear Push

Notes:

1. Before you start this procedure, see “Forms Stack Input and Output Locations” in Chapter 19, “Supplies, Optional Features, and Maintenance” for information on stacking height limits.
2. If you have installed an ASF unit and you now want to install the rear tractor, you must first switch off the printer power, remove the ASF stacker, and then reinstall the stacker after completing installation of the rear tractor.

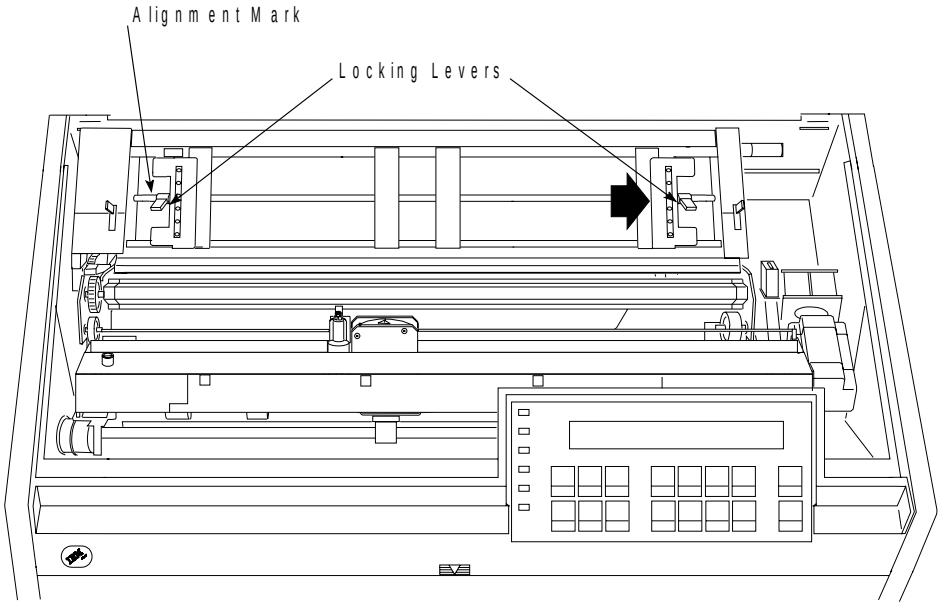
Procedure

1. Open the *rear tractor paper door* at the back of the printer.

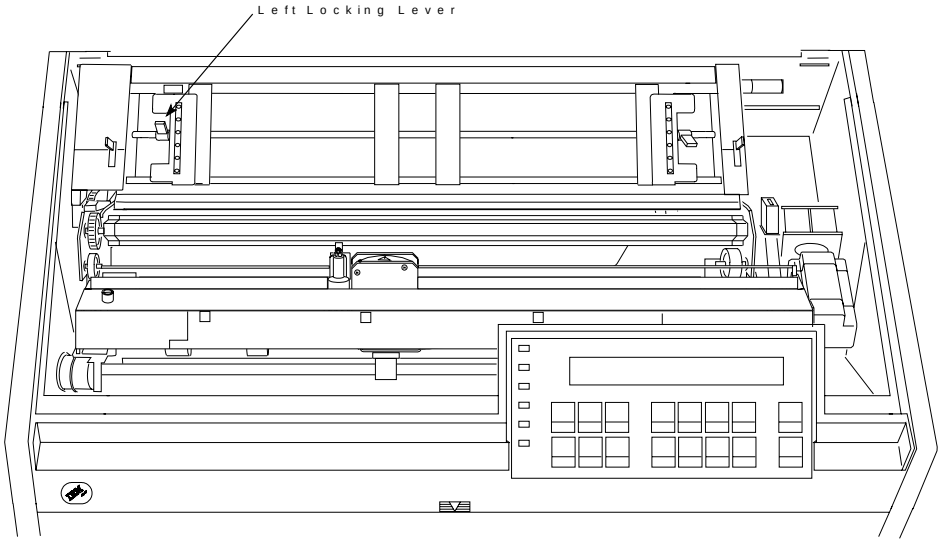


2. Open the top cover and the forms guide.
3. Unlock the locking levers on the tractors. Move the right tractor to the extreme right.

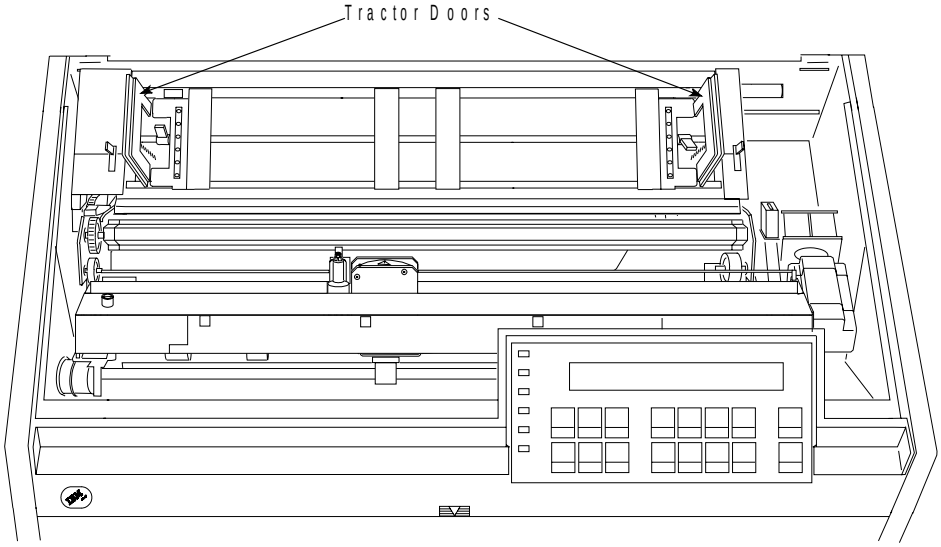
4. Move the left tractor to the *tractor alignment mark*.



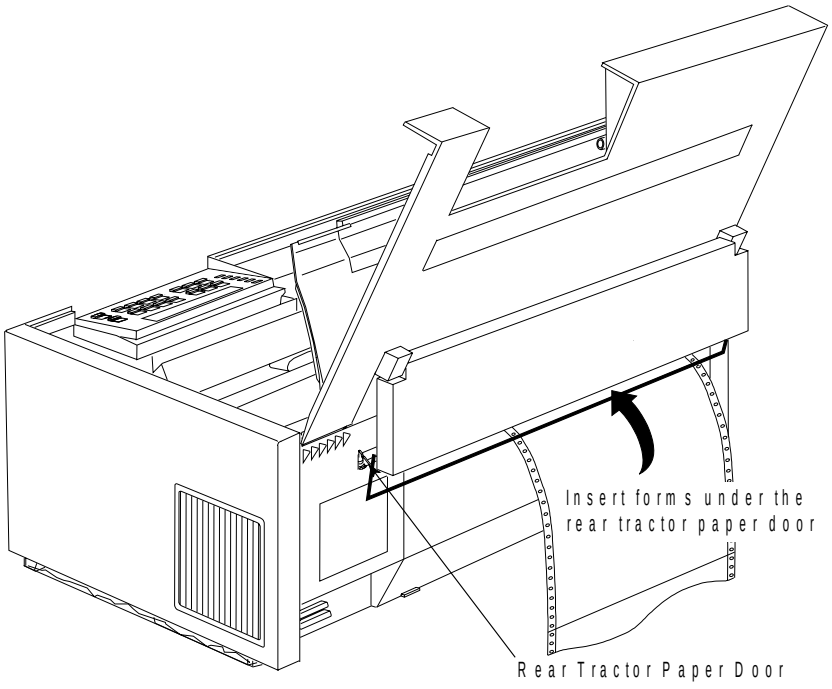
5. Lock the left locking lever.



6. Open both of the tractor doors.

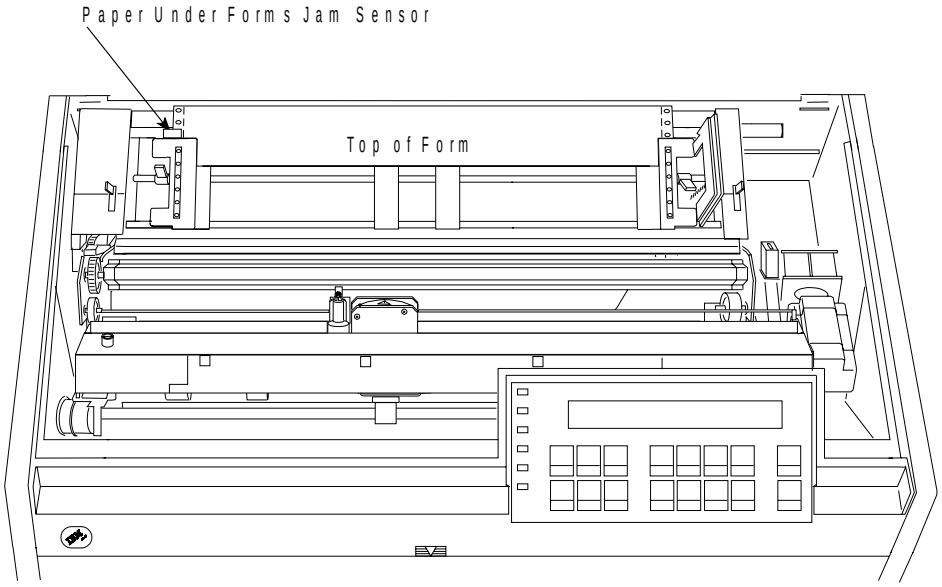


7. With the side of the forms you want to print on facing the front of the printer, insert the forms under the *rear tractor paper door*, guiding the forms over the tractor unit.

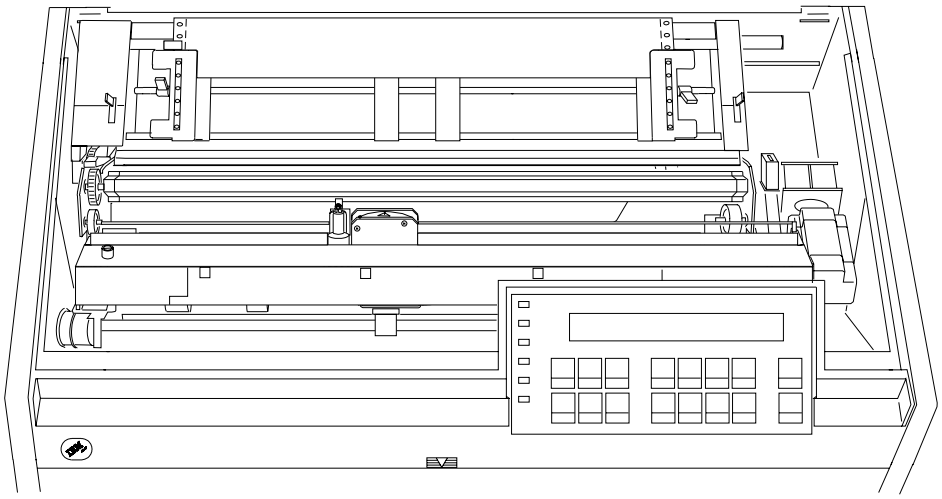


8. Align and put the left paper holes of the form over the left tractor pins. Be sure the forms pass under the *forms jam sensor* and that the forms are straight.

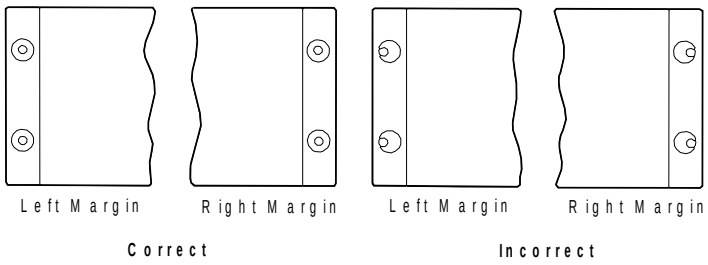
9. Close the left tractor door.



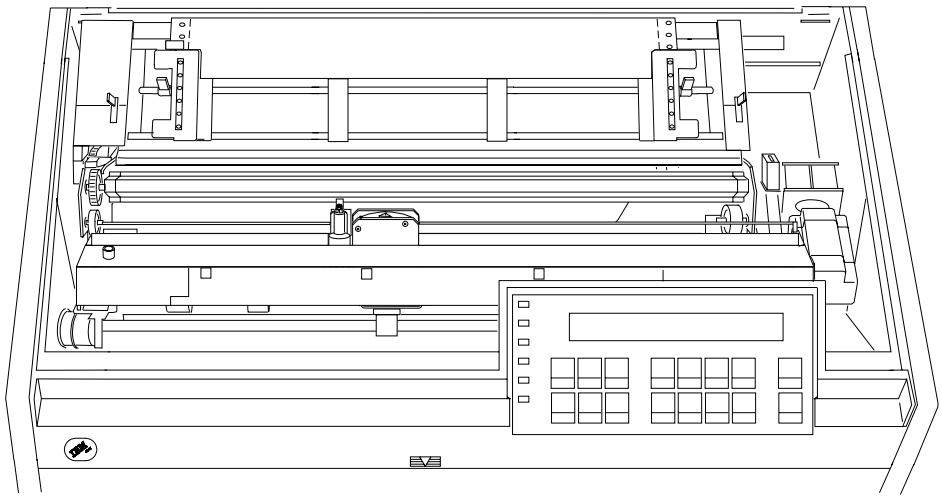
10. Move the right tractor until the right paper holes of the form fit on the right tractor pins.
11. Close the right tractor door.



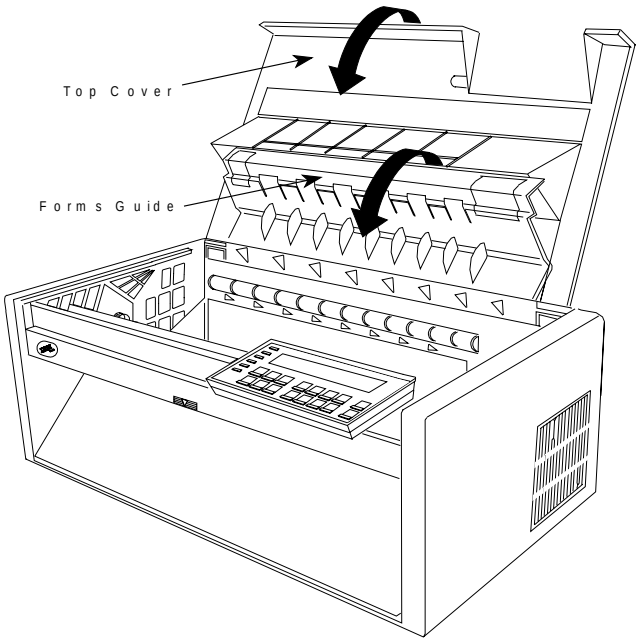
12. If necessary, slide the right tractor to the right side of the printer to remove the slack in the form. If the paper is too tight, slide the right tractor away from the right side of the printer. Make sure the tractor pins are centered in the paper holes.



13. While holding the right tractor in place, lock the right locking lever.
14. Move the spacers along the tractor bar to support the width of the form.



15. Close the forms guide and the top cover.



16. Press **Load/Eject** to feed the paper.
17. Press **Start** to make the printer *ready*.

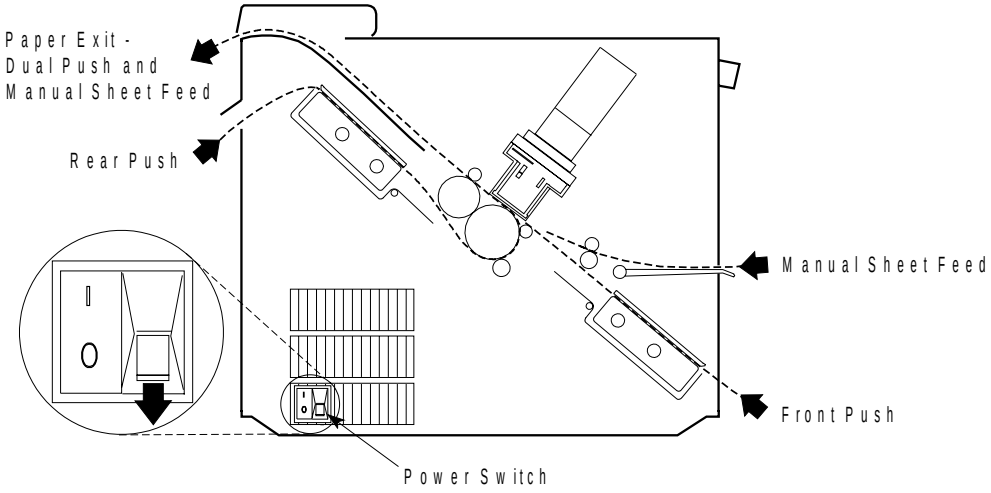
The printer is now ready for jobs that use the ***Rear Push*** paper path. If you do not want to use the printer defaults for form settings (such as Characters per Inch, Lines per Inch, or Maximum Print Position [MPP]), see Chapter 3, “Checking and Changing Configuration Parameter Values.”

Dual Push (Front Push and Rear Push) Paper Paths

This paper path configuration lets you alternate between the front push and rear push paper paths. You can have one type of form loaded in the front push position and another form loaded in the rear push position, or you can have the same type of forms loaded in both positions. If the same type of forms are loaded in both paper paths and you want the printer to automatically alternate from Front Push to Rear Push or vice versa, set Continuous Forms Linking to *Enabled* in the Configuration Menu.

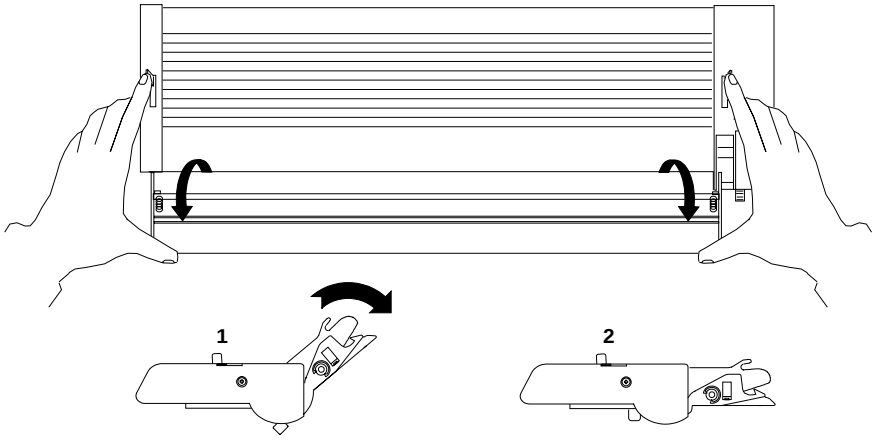
Installing the Tractor Units in the Dual Push Position

This illustration shows the dual push paper paths from the left side of the printer.



Note: This paper path procedure assumes that both tractors are not installed in the printer and are in the Push or fully-extended position. If either one or both of the tractors are in the Rear Pull or angled position, follow these steps before continuing with the Dual Push procedure:

- Place the tractor face down on a flat surface with the electrical connector tab on the right side, pointing toward you.
- Pull the bottom release levers toward you with your finger tips and push the movable edge of the tractor down toward the flat surface with your thumbs (**1**) until the tractor locks in the fully extended position (**2**).

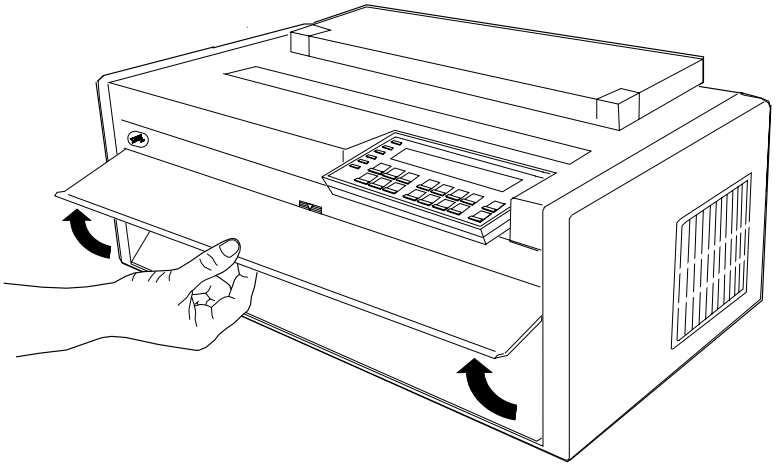


Installation Procedure (Front Push)

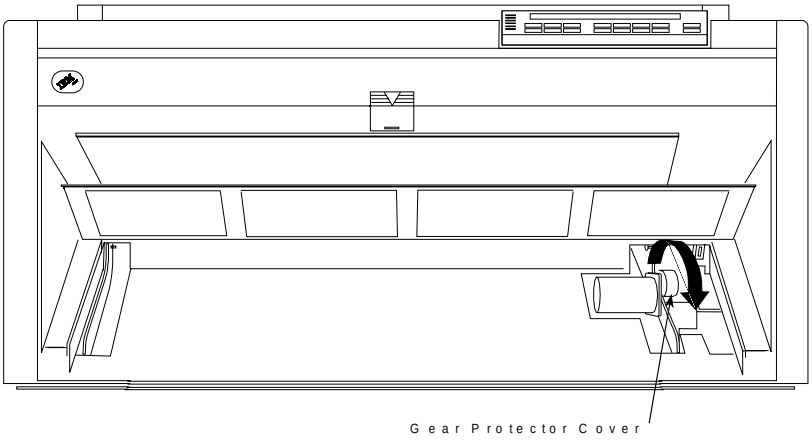
To install the tractor unit in the *Front Push* position:

1. The power switch is located on the lower left side of the printer. Make sure that the switch is set to Off (O) before removing or installing forms tractors.
2. Open the front tractor cover to its *locked* position.

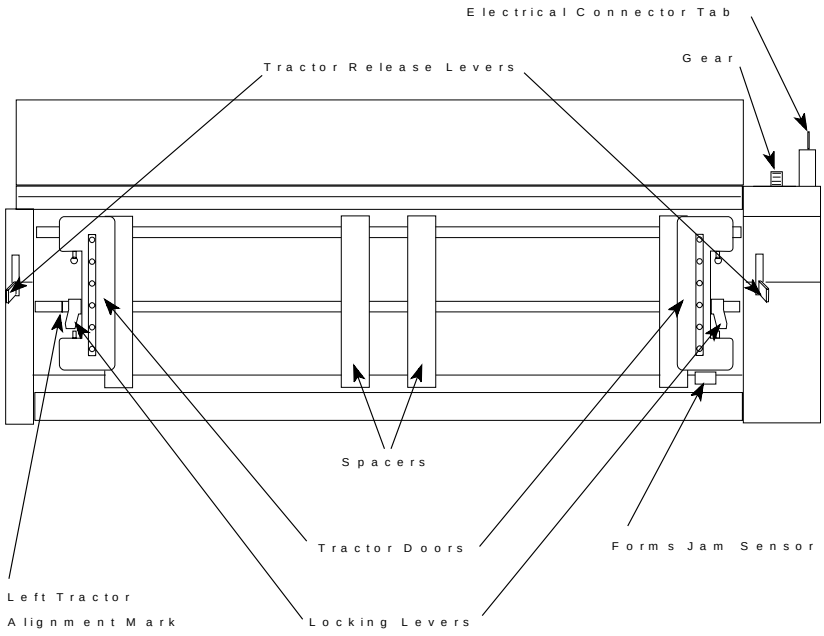
   CAUTION:
   The paper feed motor may get hot during operation. Be careful when removing or installing the tractor unit.



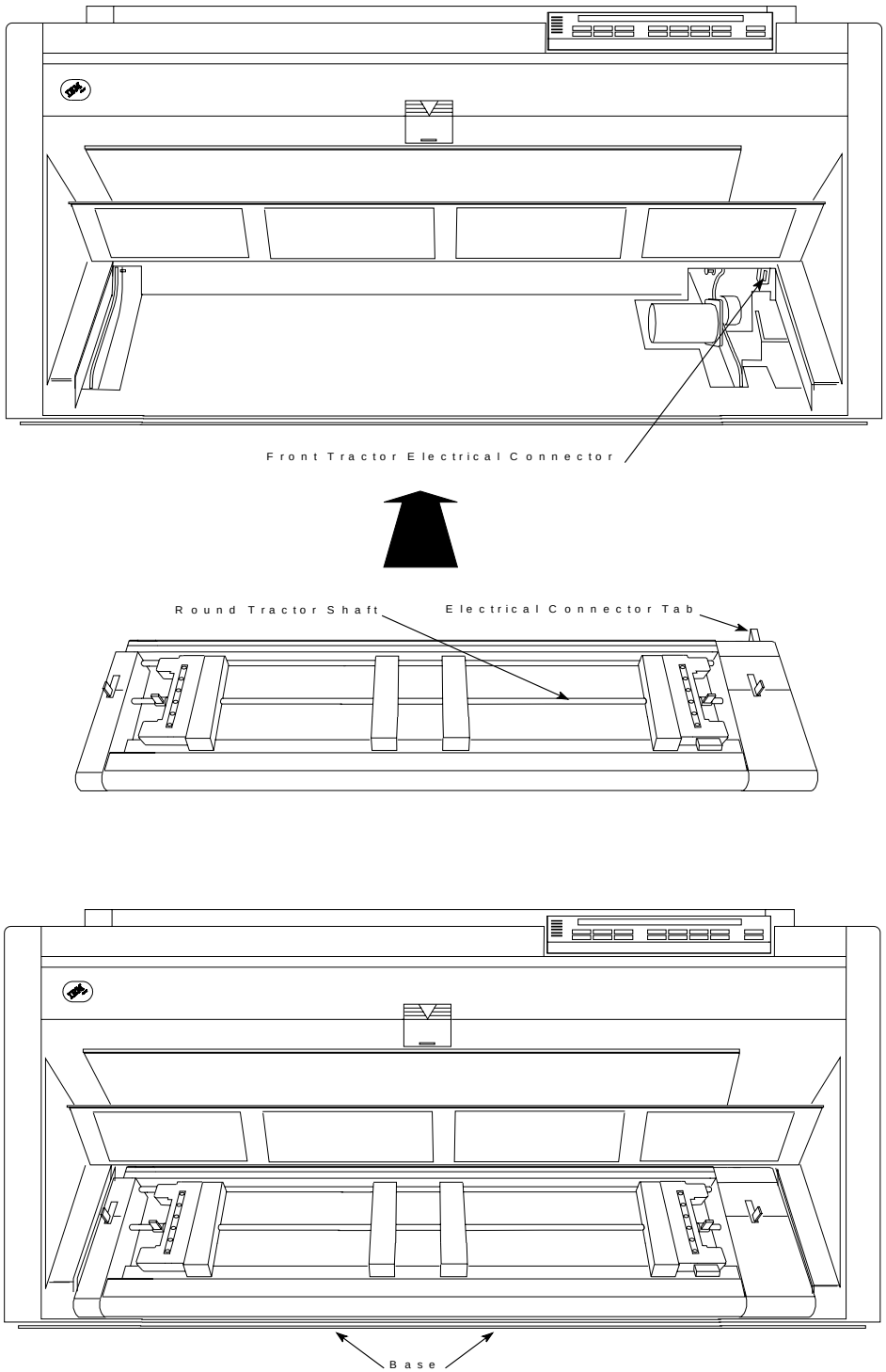
3. Open the hinged gear protector cover by rotating it down out of the way.



4. Stand facing the front of the printer. Hold the tractor unit with the tractor doors toward you and the electrical connector tab on the right.



5. With both hands supported on the round tractor shaft, gently push the tractor unit upward until it clicks on both sides, the electrical connector tab is fully seated in the connector, and the bottom of the tractor unit is level with (same amount of space from) the base of the printer.

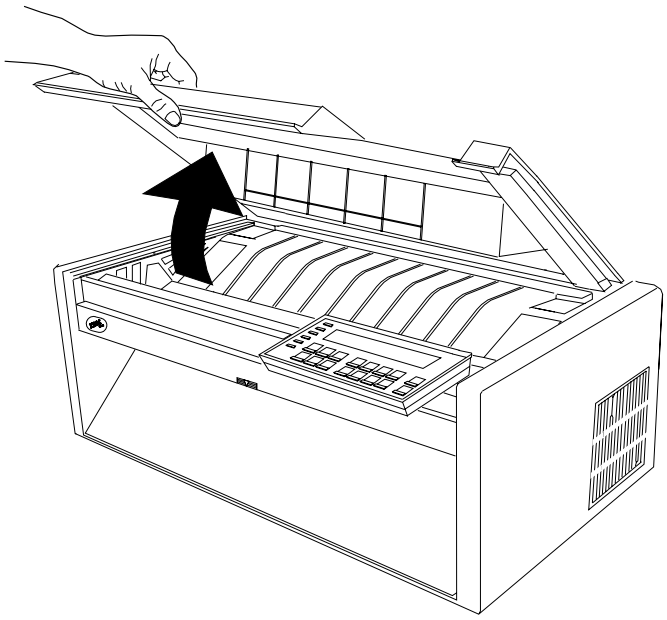


Installation Procedure (Rear Push)

Note: If you have installed an ASF unit and you now want to install the rear tractor, you must first switch off the printer power, remove the ASF stacker, and then reinstall the stacker after completing installation of the rear tractor.

To install the tractor unit in the *Rear Push* position:

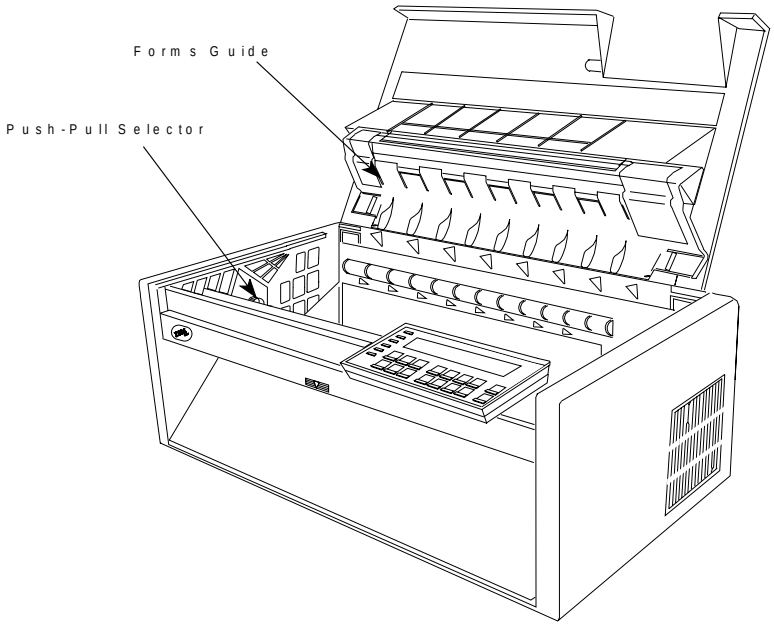
1. Open the top cover and tilt it all the way back.



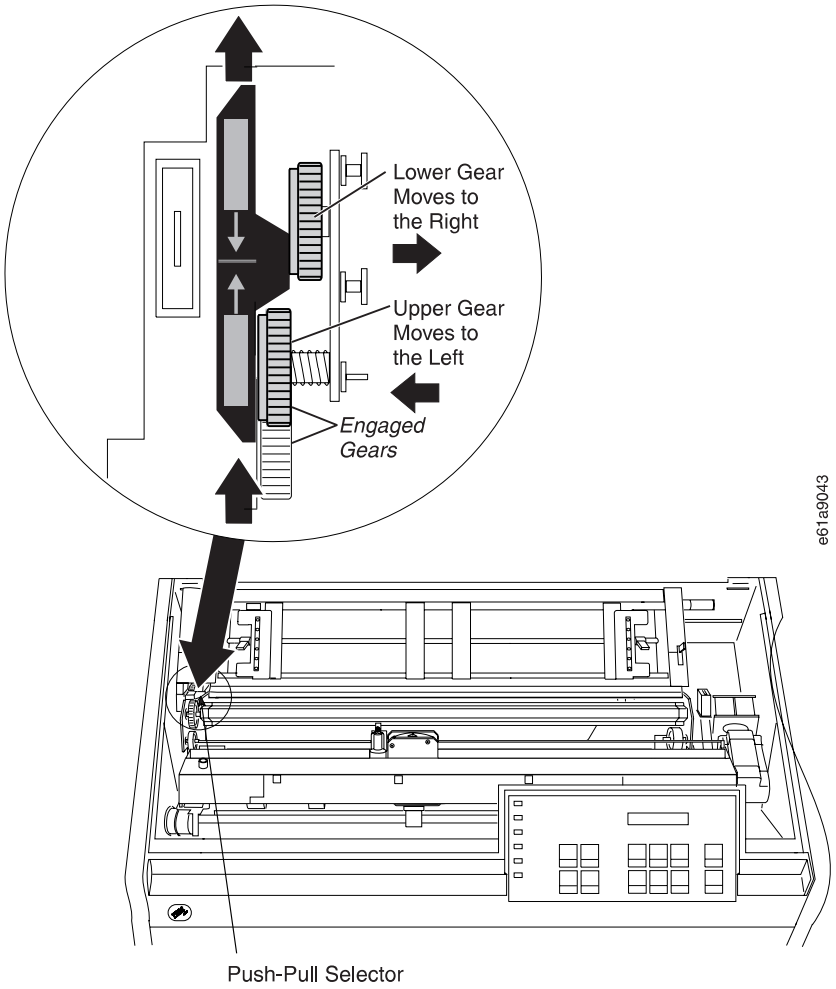
CAUTION:

Do not remove the top cover or automatic sheet feeder cover unless it is necessary for the installation of a printer accessory. If a cover is removed, do not touch inside the printer or insert any object into the gears. Store the cover in a safe place until it is needed for reinstallation.

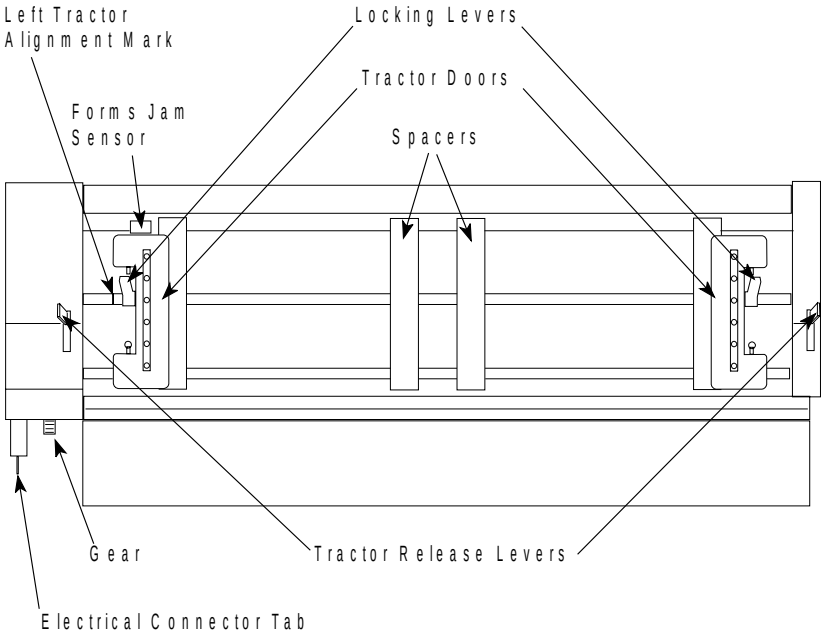
2. Lift the forms guide to its full open (vertical) position.



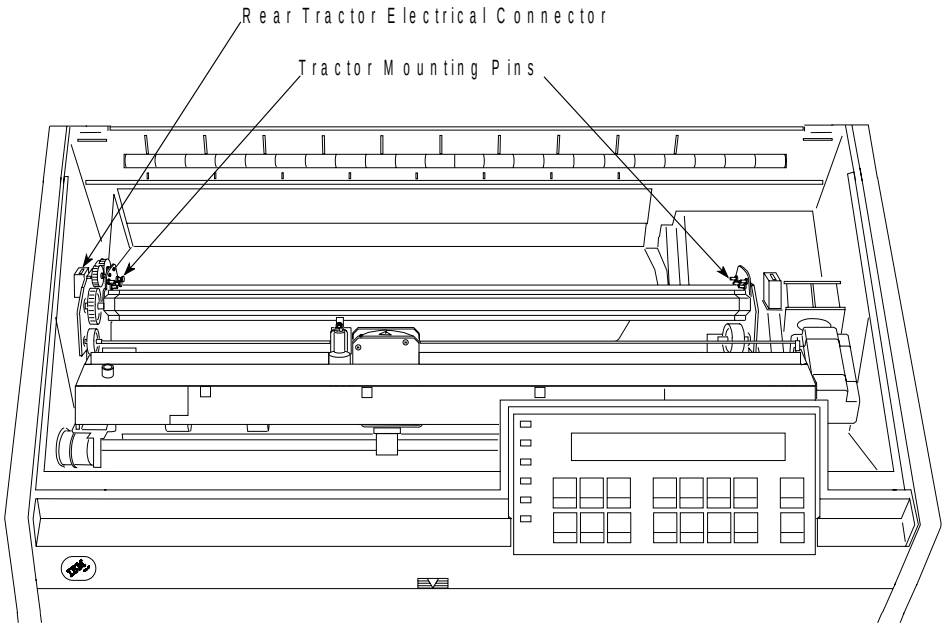
3. Locate the *push-pull selector* next to the gears on the left side of the printer. Push the *push-pull selector* toward the rear of the printer until the gear shafts are completely at the **top** of the slots in the selector.



4. Stand facing the front of the printer. Hold the tractor unit with the tractor doors toward you, and the electrical connector tab on the left. (Make sure the black protective cap is removed from the electrical connector tab.)



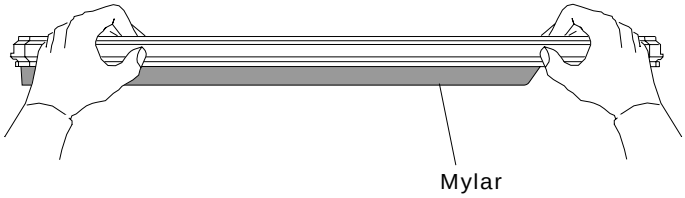
5. With both hands supported on the round tractor shaft, position the electrical connector tab above its connector on the left side of the printer and the two lowest pins on the right.



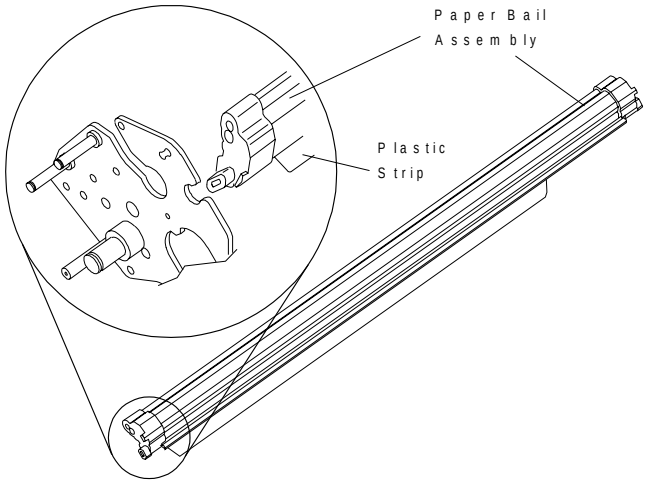
6. Gently press on the tractor unit until it clicks on both sides and the electrical connector tab is fully seated in the connector.
7. If there is a paper bail in the printer, ensure that it is closed (see 8e below).
8. If there is not a paper bail in the printer, install one as follows:
   a. Remove the ribbon cartridge. (See “Removing the Ribbon Cartridge” on page 19-11.)
   b. Move the printhead to the far right.
   c. Grip the bail assembly as shown in the following illustration.

      Important!

      To avoid damaging the mylar, make sure the mylar points down.

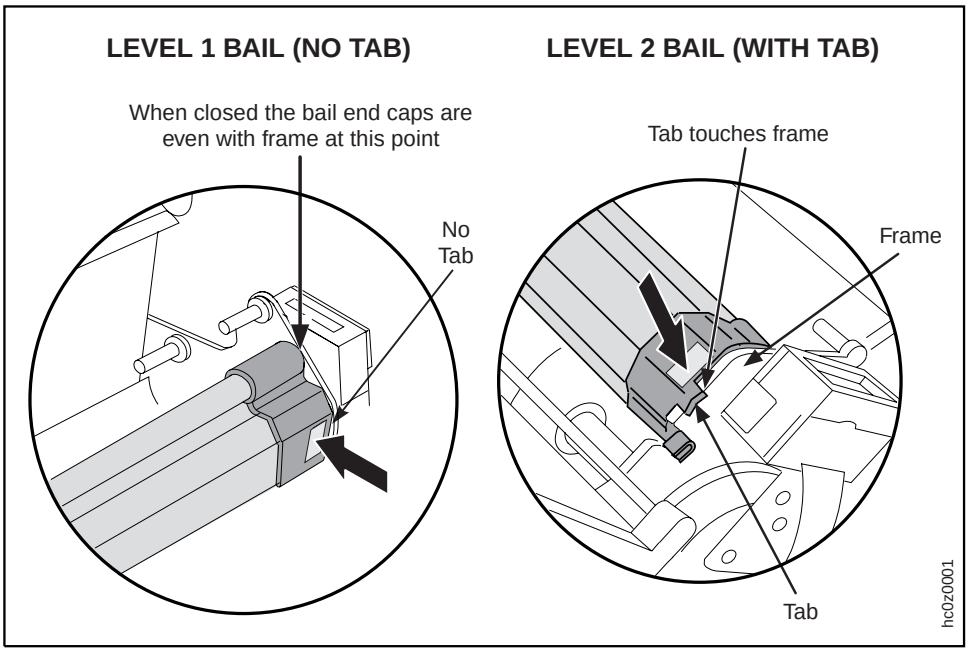


   d. Insert the left and right paper bail end cap pivots into the side frames.



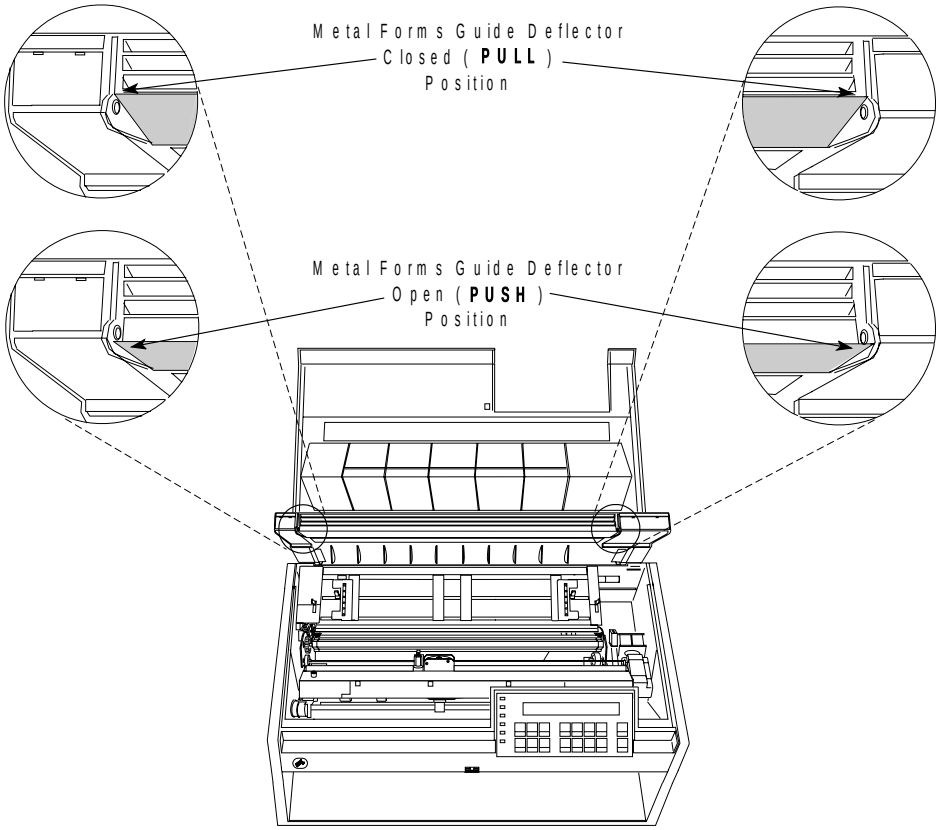
   e. Rotate the paper bail assembly toward the back of the printer, closing it as far as it will go.

      Paper bail assemblies without tabs on the end caps must be installed in the “closed” position.



f. Reinstall the ribbon cartridge. (See “Installing the Ribbon Cartridge” on page 19-13.)

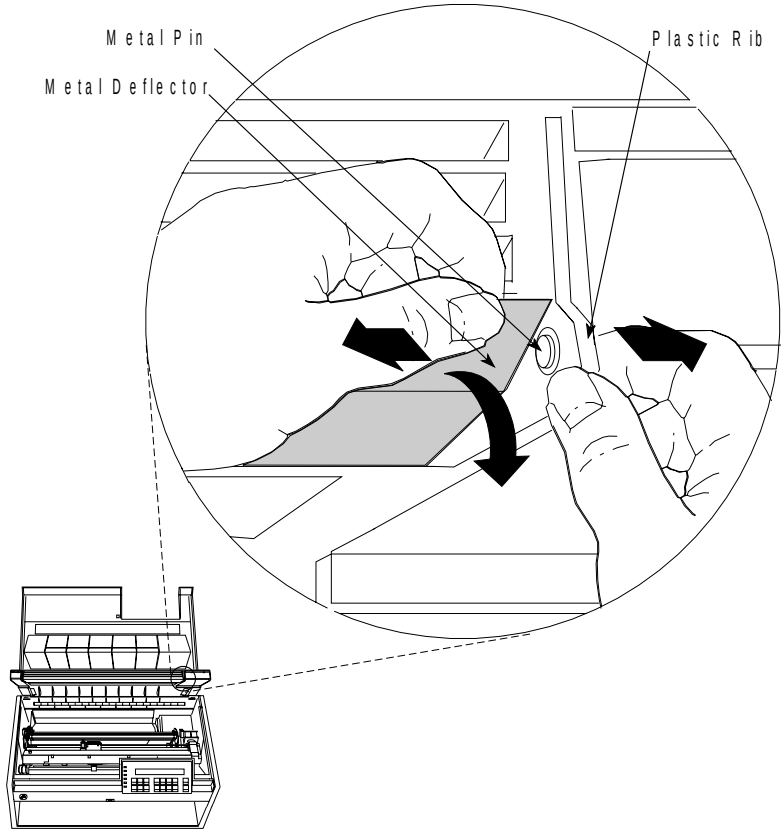
9. Make sure the metal deflector on the forms guide is in the *push* (open) position.



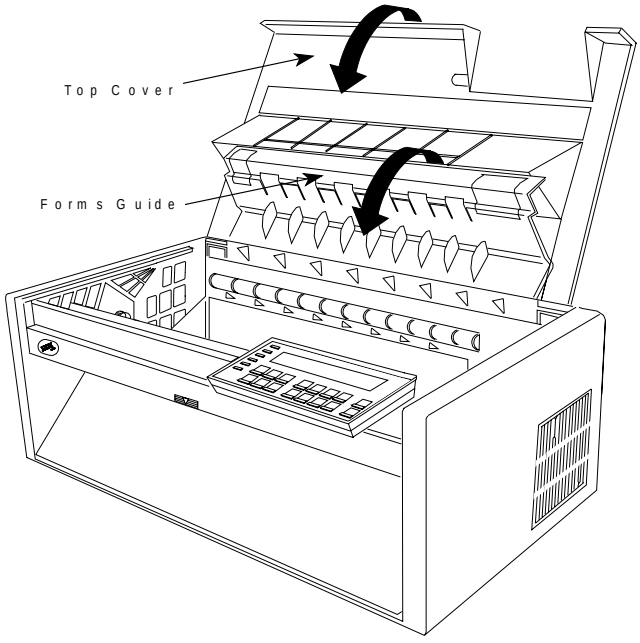
10. If the metal deflector is in the *pull* (closed) position, do the following:

a. Grasp the metal deflector with one hand and the plastic rib on the forms guide with the other hand.

b. While pulling the metal deflector and the plastic rib apart, move the metal deflector down until it is below the metal pin.



11. Close the forms guide and top cover.

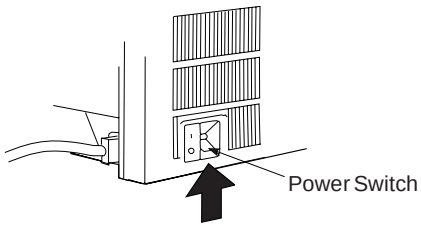


Configuring the Printer for the Dual Push Paper Path

Note: This procedure assumes you will be using the Front Push paper path and then switching to the Rear Push paper path.

To configure the printer for the Dual Push paper path:

1. Power On (|) the printer.



2. Wait until the message IBM 4247 appears, all the segments of the LCD on the operator panel display are lit, and the printer has stopped all motion.
3. Press **Menu** to enter configuration.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Rear Tractor Use
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Rear Tractor Use
Push
```

7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Press **Return** to return to the Configuration Menu.
9. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

10. Press **Enter**.
11. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Paper Source
```

12. Press **Enter**.

13. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Paper Source
Front
```

14. If you are using the same type of forms in the front push and rear push tractors and you want the printer when it runs out of forms in the front paper path to automatically switch to the forms in the rear paper path, continue with **step 15** .

    or

    If you are using one type of forms in the front push tractors and another type of forms in the rear push tractors and you want the forms in the front push to be the default forms, continue with **step 20** .

15. Press **Enter**

    An asterisk (*) will be displayed in front of the selected value.

16. Press **Return** to return to the Printer Setup Menu.

17. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Continuous Forms Linking
```

18. Press **Enter**.

19. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Continuous Forms Linking
Enabled
```

20. Press **Enter**.

    An asterisk (*) will be displayed in front of the selected value.

21. Press **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4 for instructions.

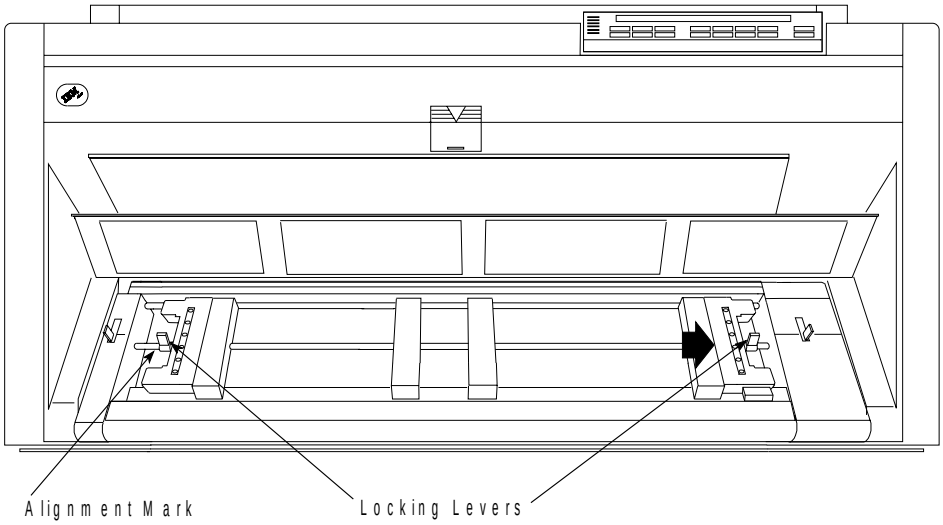
Loading Paper for Dual Push

Note: Before you start this procedure, see “Forms Stack Input and Output Locations” in Chapter 19, “Supplies, Optional Features, and Maintenance” for information on stacking height limits.

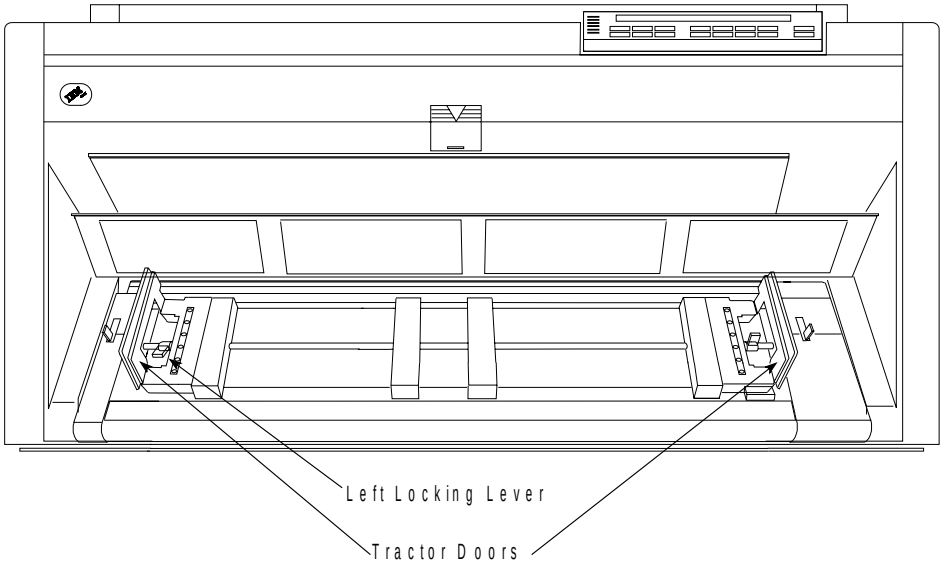
Loading Paper (Front Push)

To load paper in the *Front Push* position:

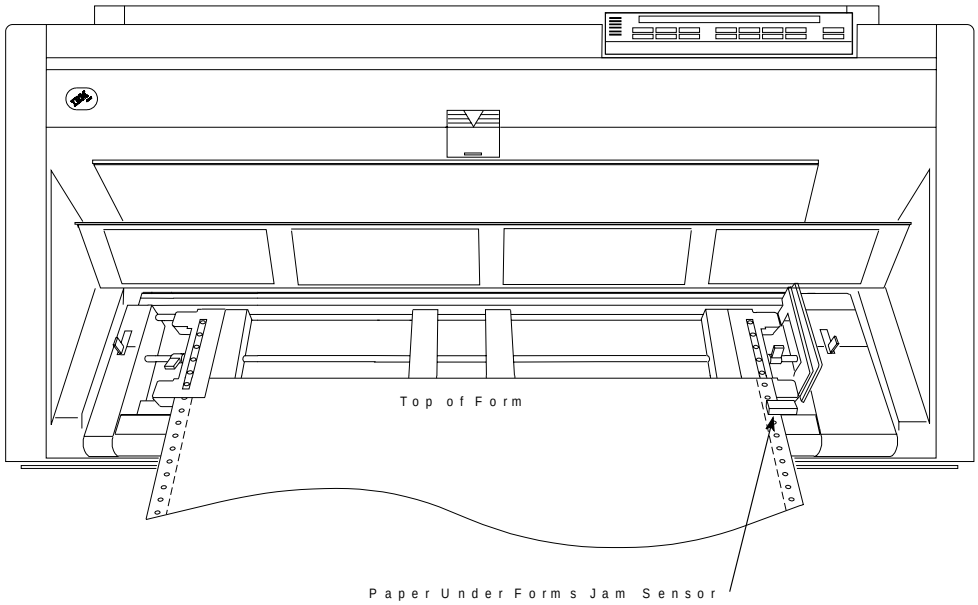
1. Unlock the locking levers on the tractors. Move the right tractor to the extreme right.
2. Move the left tractor to the *tractor alignment mark*.



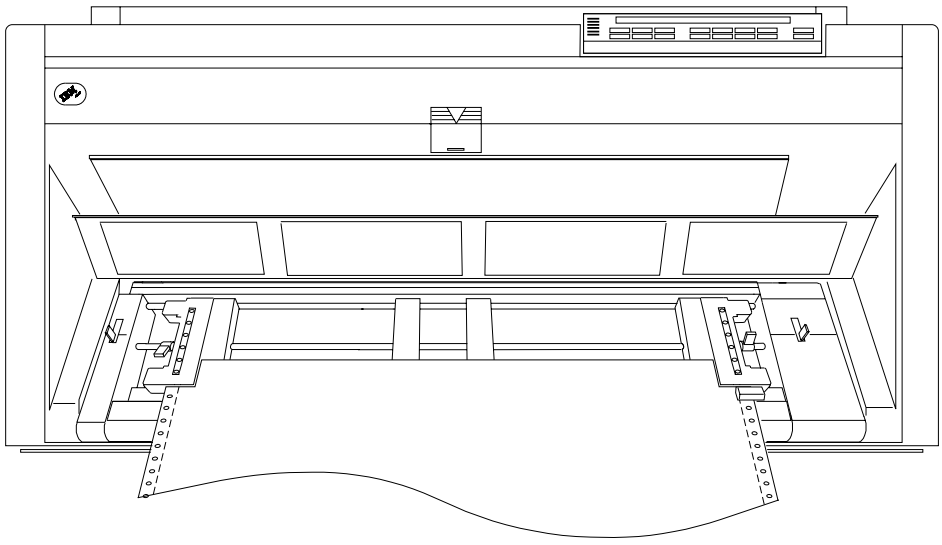
3. Lock the left locking lever.
4. Open both of the tractor doors.



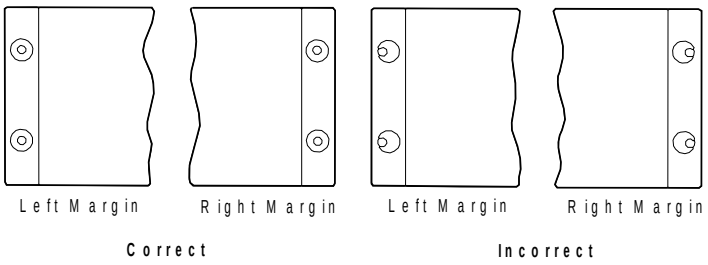
5. Put the left paper holes of the form over the left tractor pins. Close the left tractor door.
6. Move the right tractor until the right paper holes of the form fit on the right tractor pins. Be sure that the forms go under the *forms jam sensor* and that the forms are straight.



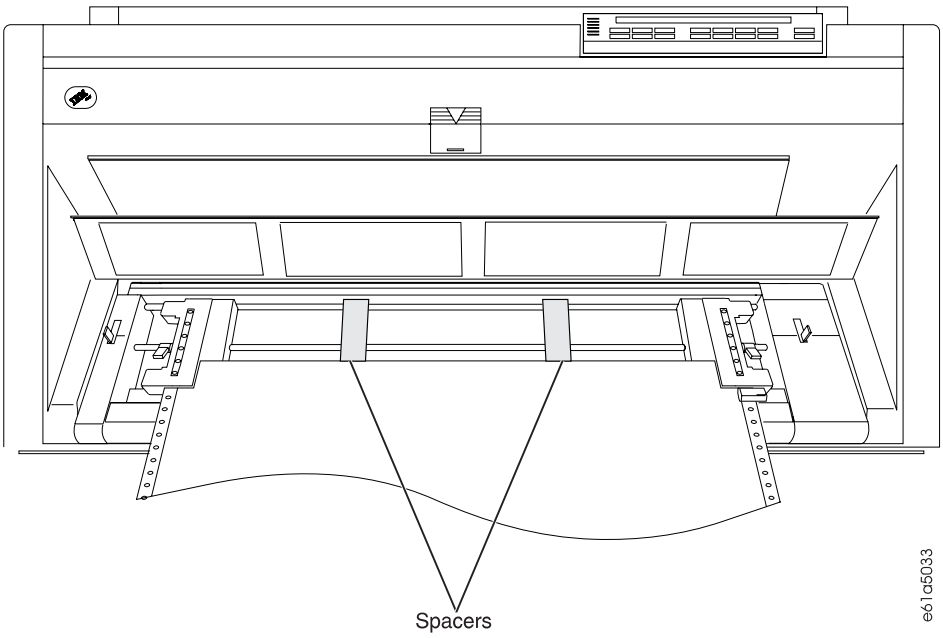
7. Close the right tractor door.



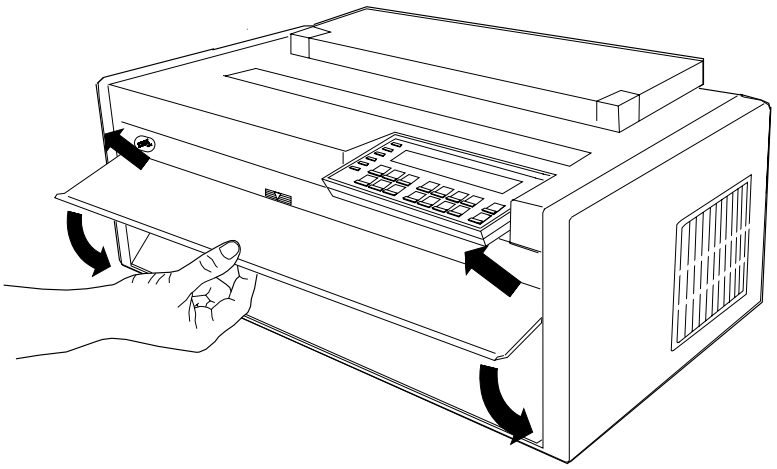
8. If necessary, slide the right tractor to the right side of the printer to remove the slack in the form. If the paper is too tight, slide the right tractor away from the right side of the printer. Make sure the tractor pins are centered in the paper holes.



9. While holding the right tractor in place, lock the right locking lever.
10. Move the spacers along the tractor bar to support the width of the form.



11. Close the front tractor cover.



12. Press **Load/Eject** to feed the paper.

Loading Paper (Rear Push)

Note: If you have installed an ASF unit and you now want to install the rear tractor, you must first switch off the printer power, remove the ASF stacker, and then reinstall the stacker after completing installation of the rear tractor.

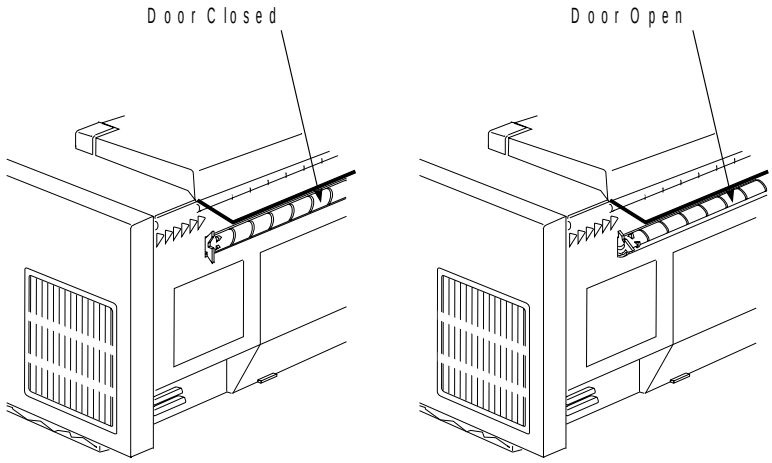
To load paper in the *Rear Push* position:

1. Press **Park/Path**. The printer displays

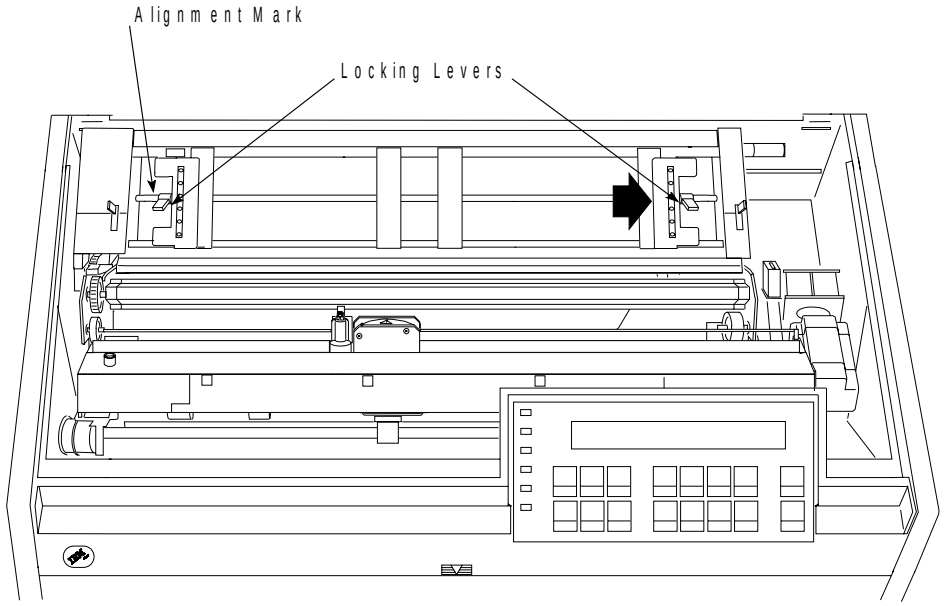
```
091 FANFOLD PARK
    TEAR OFF AT OUTPUT AND PRESS PARK
```

2. Press **Stop** and perform the action requested on the operator panel display.
3. Press **Park/Path** to back the forms below the print line.
4. Press **Park/Path** again to change the paper path on the operator panel display to Rear.

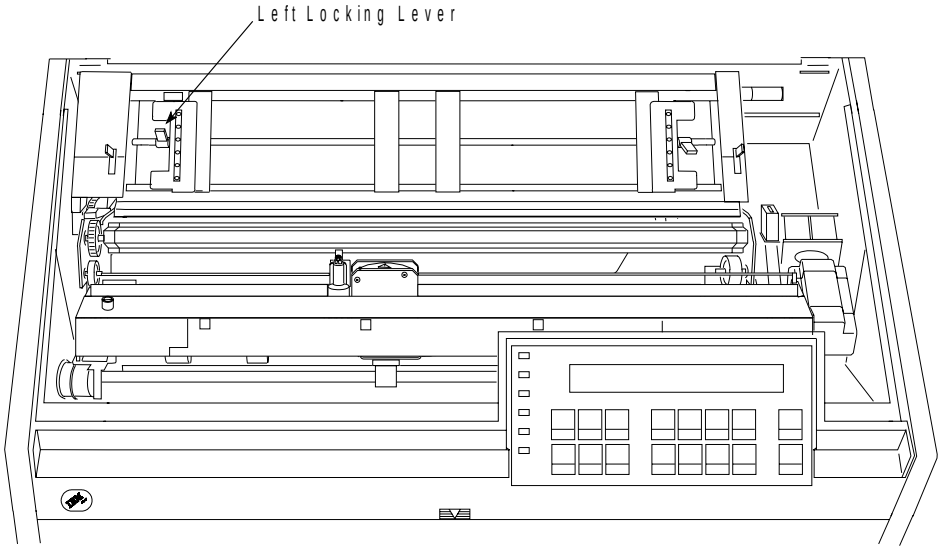
5. Open the *rear tractor paper door* in the back of the printer.



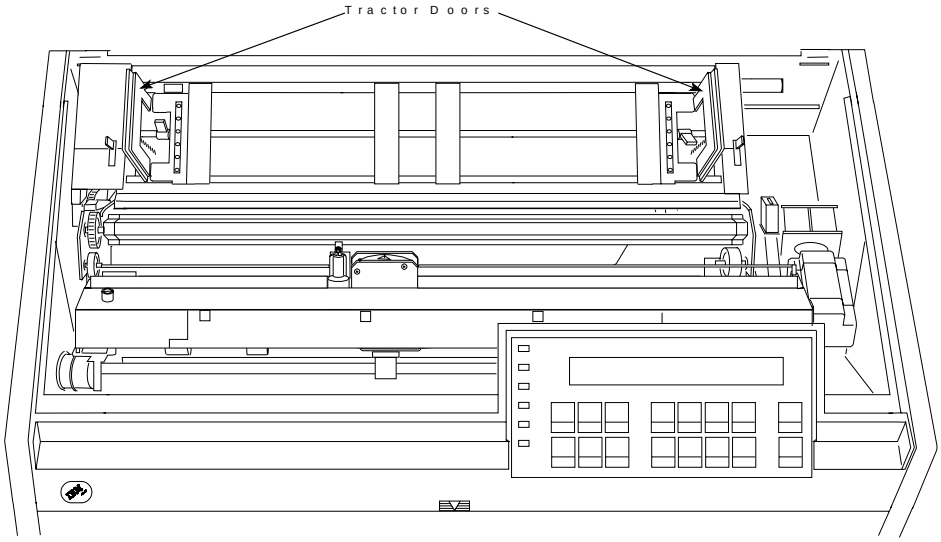
6. Open the top cover and the forms guide.
7. Unlock the locking levers on the tractors. Move the right tractor to the extreme right.
8. Move the left tractor to the *tractor alignment mark*.



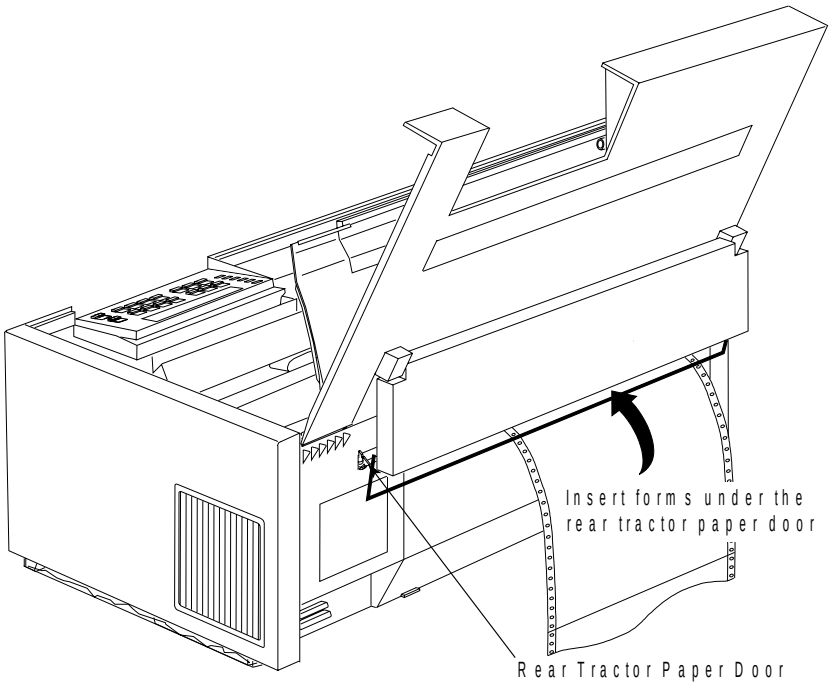
9. Lock the left locking lever.



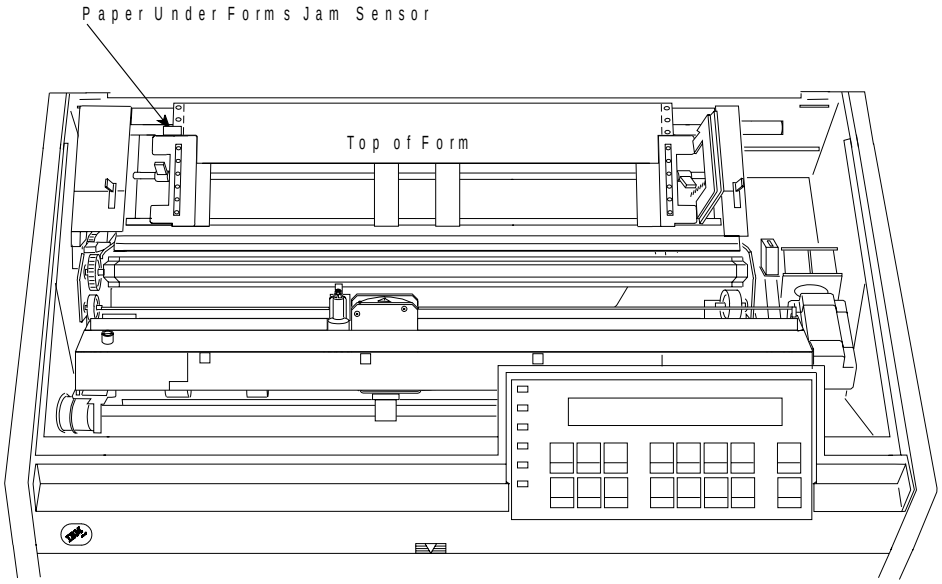
10. Open both of the tractor doors.



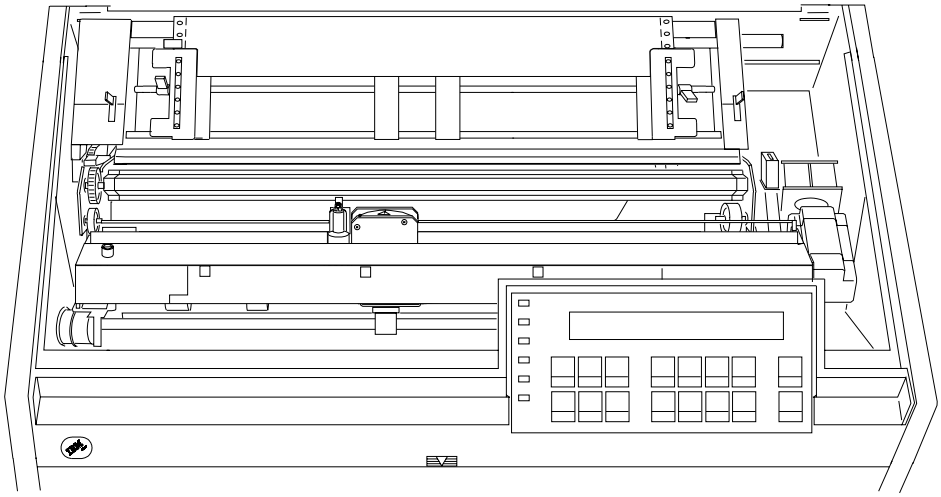
11. With the side of the forms you want to print on facing the front of the printer, insert the forms through the *rear tractor paper door*, guiding the forms over the tractor unit.



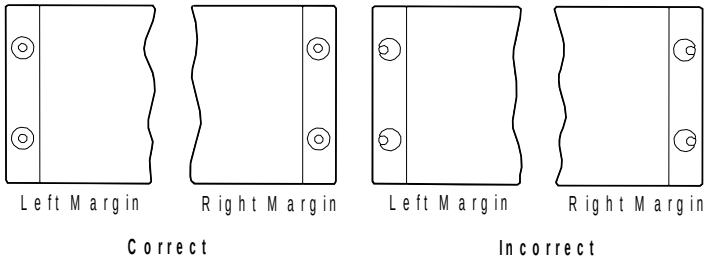
12. Align and put the left paper holes of the form over the left tractor pins. Be sure the forms pass under the *forms jam sensor* and that the forms are straight.
13. Close the left tractor door.



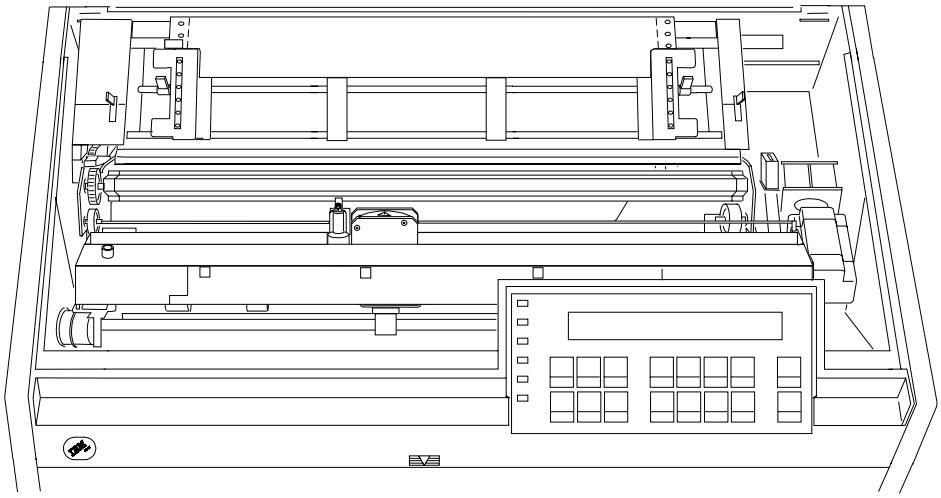
14. Move the right tractor until the right paper holes of the form fit on the right tractor pins.
15. Close the right tractor door.



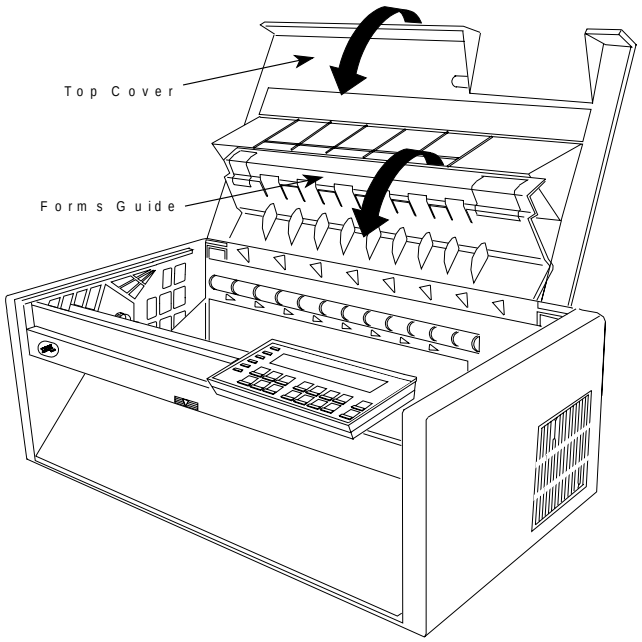
16. If necessary, slide the right tractor to the right side of the printer to remove the slack in the form. If the paper is too tight, slide the right tractor away from the right side of the printer. Make sure the tractor pins are centered in the paper holes.



17. While holding the right tractor in place, lock the right locking lever.
18. Move the spacers along the tractor bar to support the width of the form.



19. Close the forms guide and the top cover.



20. Press **Load/Eject** to feed the paper.

In the ***Dual-Push*** mode, two different forms can be in the printer; one continuous form in the ***Rear-Push*** paper path, and one continuous form in the ***Front-Push*** paper path. Either form can be loaded and printed, however, the other form must be parked. See “Parking One Continuous Form and Loading Another” on page 17-56. If your applications do not control forms settings (such as Characters per Inch, Lines per Inch, or Maximum Print Position [MPP]), and you do not want to use the printer default settings, see Chapter 3, “Checking and Changing Configuration Parameter Values.”

To return to the Front Push position:

- Press **Park/Path** to park the Rear-Push path forms.
- Press **Park/Path** again to back the forms below the print line.
- Press **Park/Path** a third time to change the paper path to `Front`.

Parking One Continuous Form and Loading Another

The 4247 printer can have two continuous forms loaded at the same time. The topics below explain how you can take advantage of this feature and free yourself from having to reload forms when you need to print on a different form.

Parking a Continuous Form

1. Press **Park/Path**. If forms are currently loaded from the Front Push or Rear Push paper paths, the printer displays:

   ```
   091 FANFOLD PARK
       TEAR OFF AT OUTPUT AND PRESS PARK
   ```

   Or, if forms are currently loaded in Rear Pull or Push-Pull paper paths or if forms are loaded in the Front Push paper path with FRONT FORMS BACKUP set to DISABLED or in the Rear Push paper path with REAR FORMS BACKUP set to DISABLED, the printer displays:

   ```
   092 FANFOLD EJECT
       TEAR OFF AT INPUT AND PRESS EJECT
   ```

2. Press **Stop** and perform the action requested on the operator panel display.
3. Press **Park/Path** to back the forms below the print line or press **Load/Eject** to eject the last sheet.

Changing the Paper Path

Select another continuous form as follows:

1. Ensure that a form is in the tractors of the desired alternate paper path.
2. Press **Park/Path** again to change the paper path on the operator panel display to the desired alternate paper path.

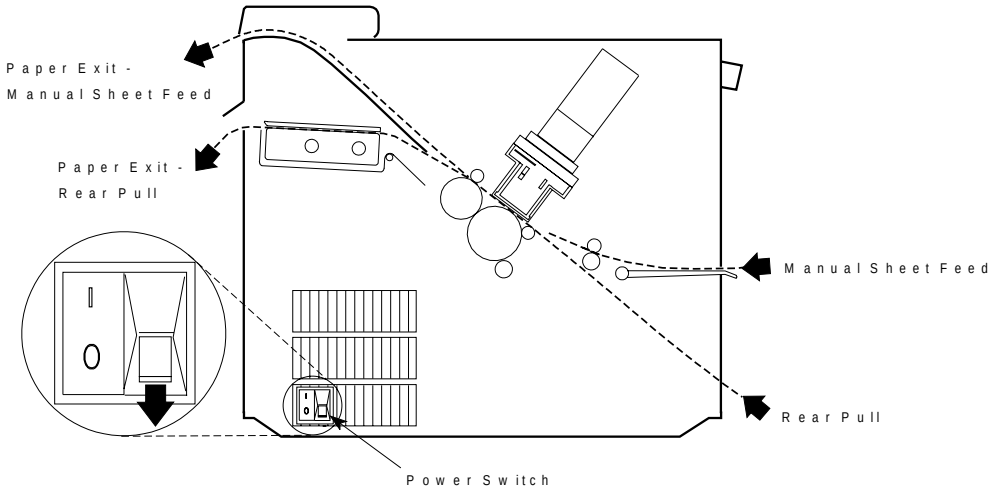
Rear Pull Paper Path

To use this paper path, the following should not be installed in the printer:

- The Automatic Sheet Feeder (ASF)
- The Front Push tractor unit
- The paper bail

It is not recommended to select **Manual** when the printer is set for either the Rear-Pull or the Push-Pull paper paths. **Manual** can be selected from the operator panel, but to use it, you will need to re-configure the paper path both before and after using **Manual**. **Manual** cannot be selected via the IPDS data stream when the printer is set for either the Rear-Pull or the Push-Pull paper paths.

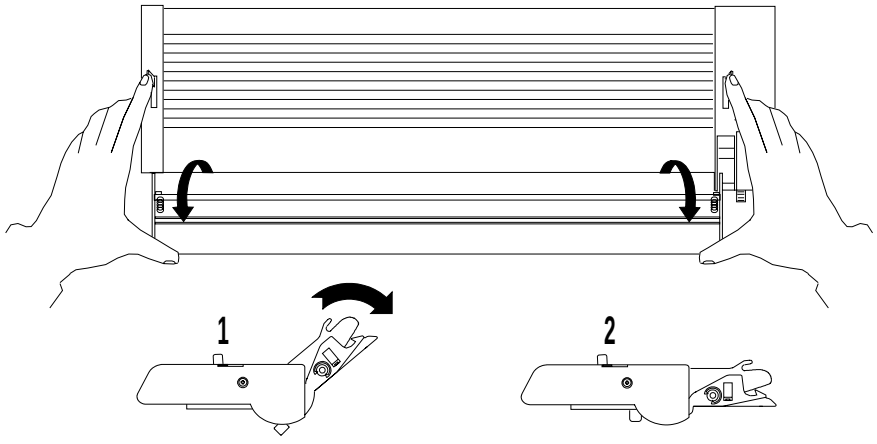
Installing the Tractor Unit in the Rear Pull Position



This illustration shows the Rear Pull paper path from the left side of the printer.

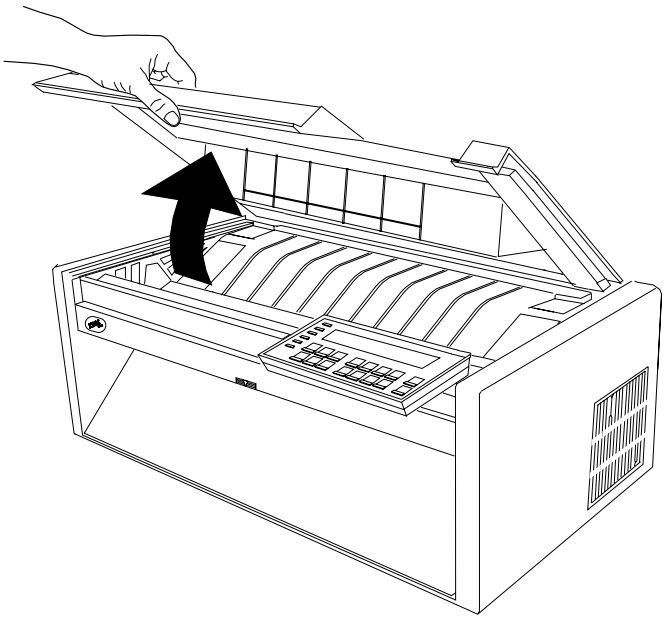
Note: The paper path procedures always assume that a tractor not installed in the printer is stored in the Push or fully-extended position. If you remove a tractor from the Rear Pull or angled position, use the following procedure before storing it:

- Place the tractor face down on a flat surface with the electrical connector tab on the right side, pointing toward you.
- Pull the bottom release levers toward you with your finger tips and push the movable edge of the tractor down toward the flat surface with your thumbs (**1**) until the tractor locks in the fully extended position (**2**).



Installation Procedure

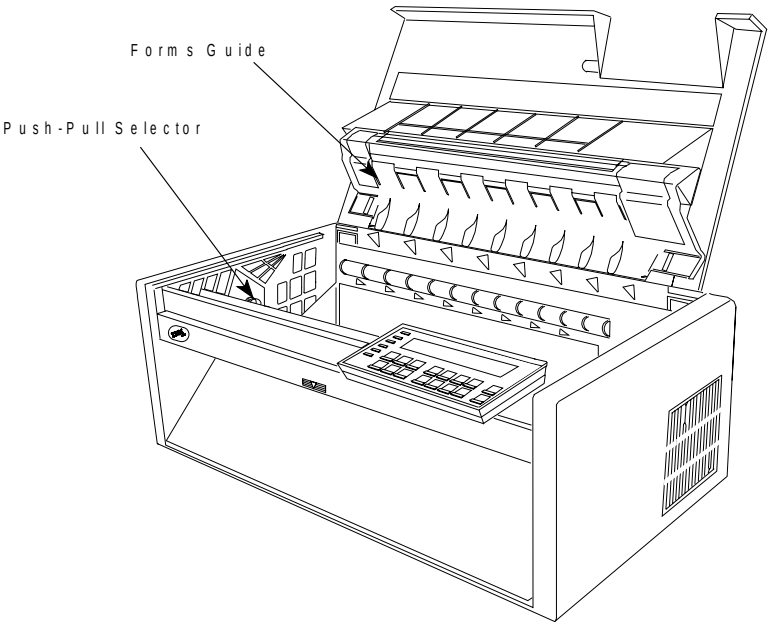
1. The power switch is located on the lower left side of the printer. Make sure that the switch is set to Off (O) before removing or installing forms tractors.
2. Open the top cover and tilt it all the way back.



CAUTION:

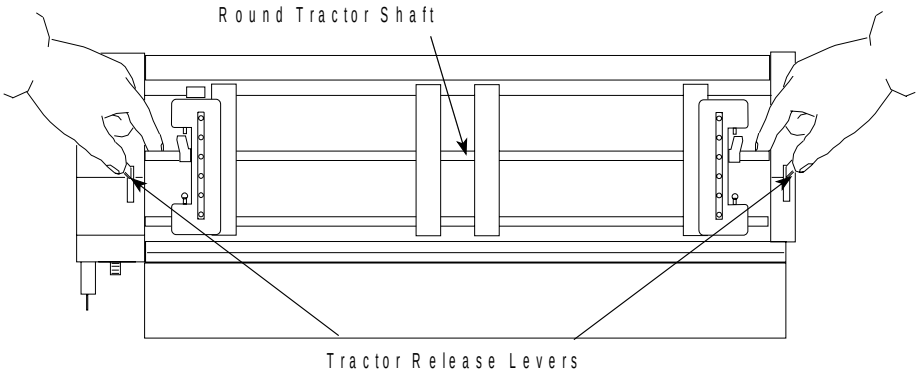
Do not remove the top cover or automatic sheet feeder cover unless it is necessary for the installation of a printer accessory. If a cover is removed, do not touch inside the printer or insert any object into the gears. Store the cover in a safe place until it is needed for reinstallation.

3. Lift the forms guide to its full open (vertical) position.



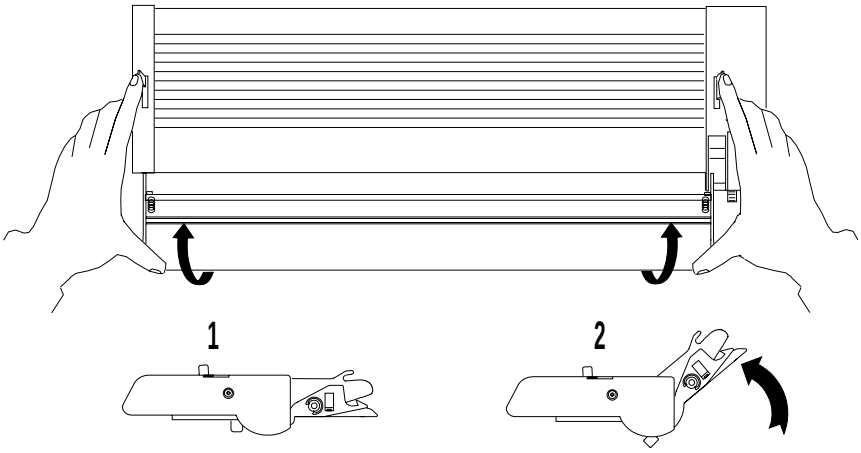
4. Determine which tractor installation steps to follow:
   - If you are installing a tractor not currently installed in a printer, go to step **4g on page 17-61.**
   - If you are installing a tractor currently installed in a Front Push position, go to step **4d on page 17-60.**
   - If you are installing a tractor currently installed in a Rear Push position, continue here.

   a. Grip both sides of the round tractor shaft while operating the tractor release levers as shown. Lift the tractor out of the printer.



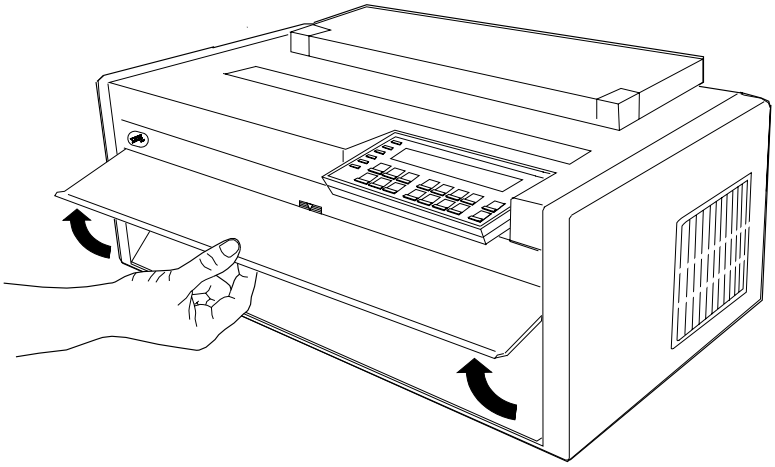
   b. Place the tractor face down on a flat surface with the electrical connector tab on the right side, pointing toward you.

   c. Pull the bottom release levers toward you with your finger tips and pull the movable edge of the tractor up away from the flat surface with your thumbs (**1**) until the tractor locks in the angled position (**2**).

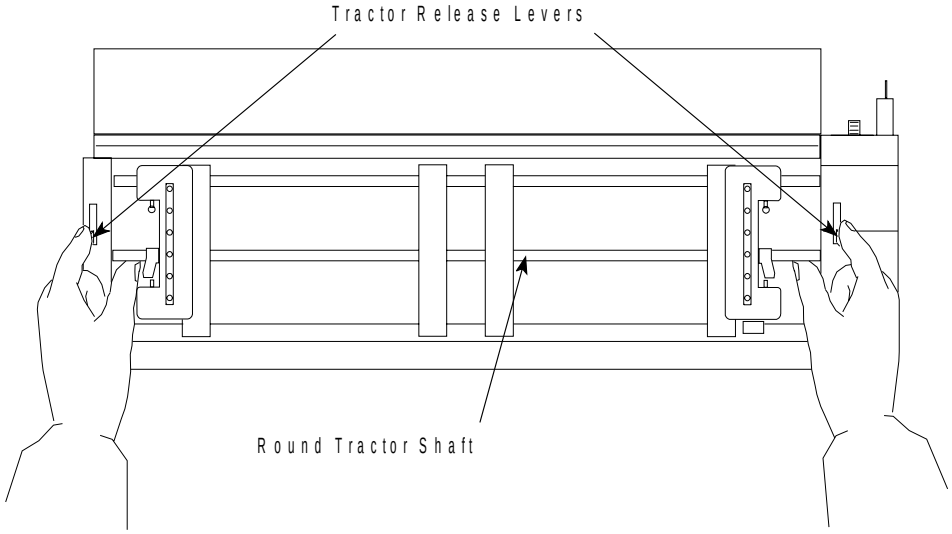


   Continue with step **5 on page 17-62.**

d. Open the front tractor cover to its *locked* position.



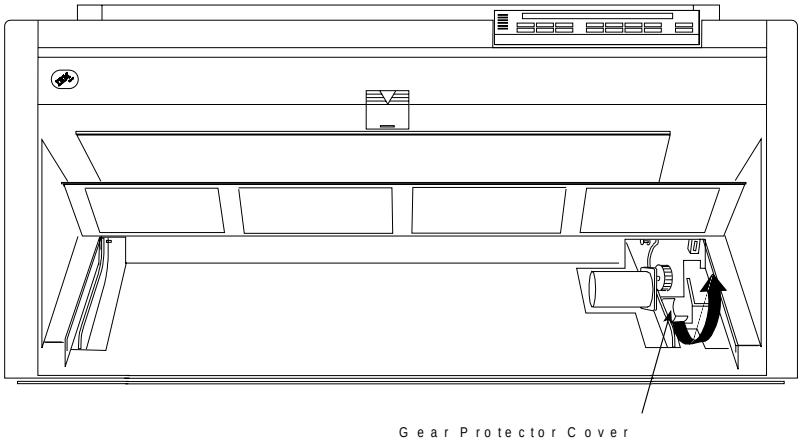
e. Grip both sides of the round tractor shaft while operating the tractor release levers as shown. Lift the tractor out of the printer and set it aside.



CAUTION:

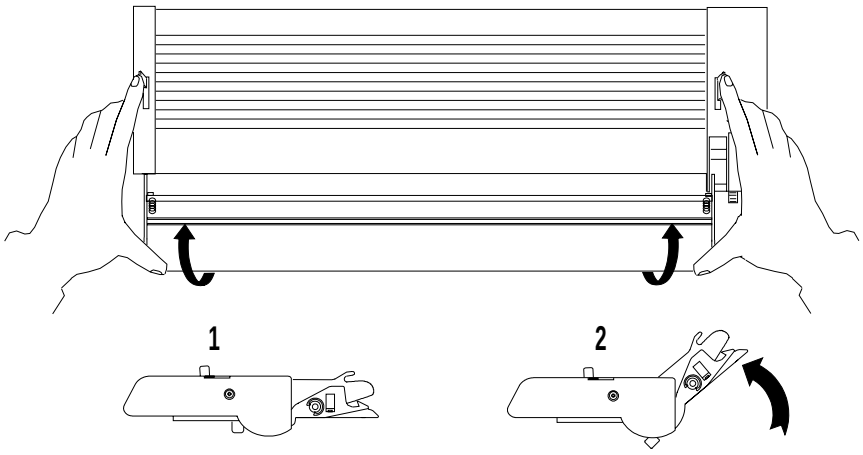
If the front tractor unit is not installed, make sure the gear protector cover is closed. Do not touch inside the printer or insert any object into the gears.

f. Close the gear protector cover and the front tractor cover.

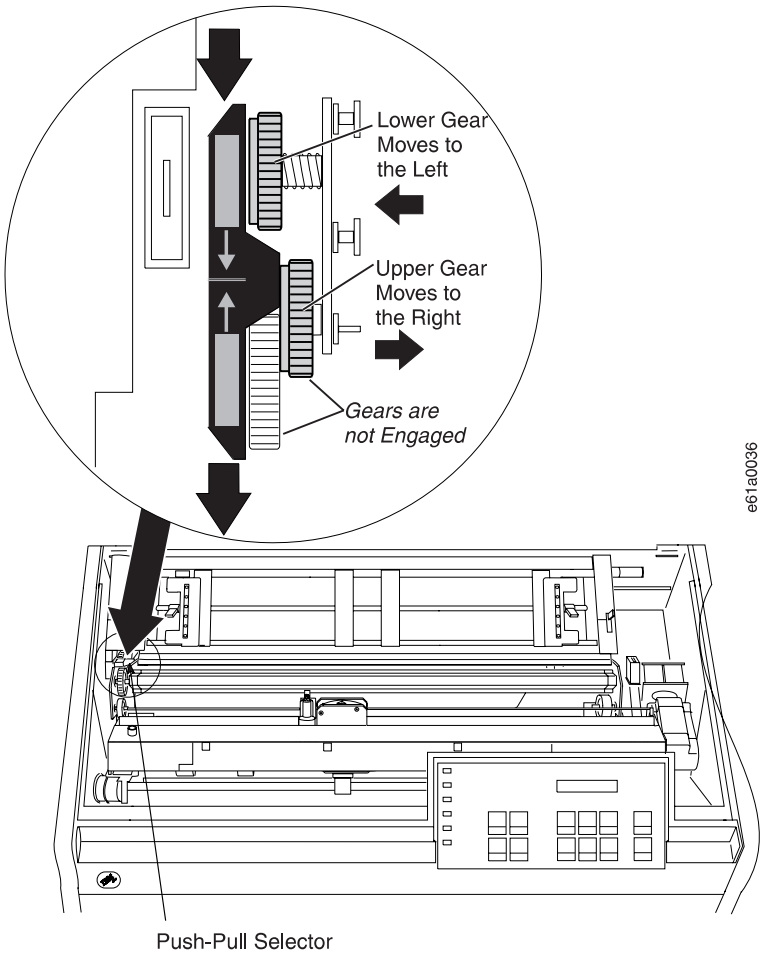


g. Place the tractor face down on a flat surface with the electrical connector tab on the right side, pointing toward you.

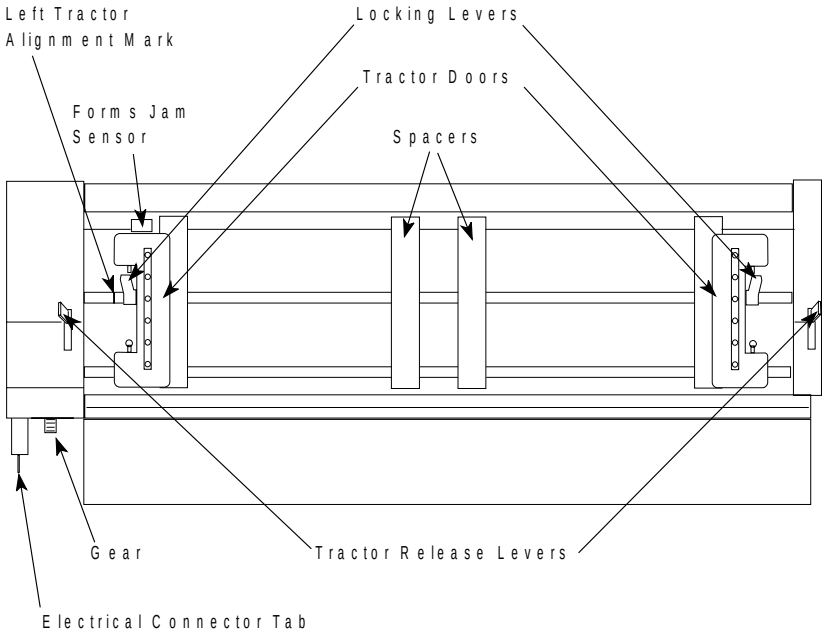
h. Pull the bottom release levers toward you with your finger tips and pull the movable edge of the tractor up away from the flat surface with your thumbs (**1**) until the tractor locks in the angled position (**2**).



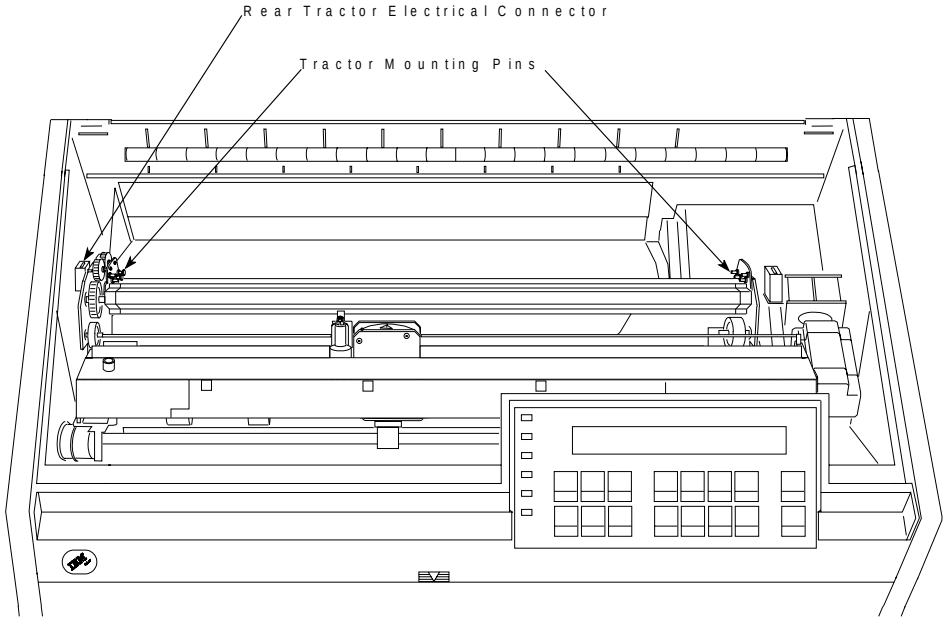
5. Locate the *push-pull selector* next to the gears on the left side of the printer. Pull the *push-pull selector* toward the front of the printer until the gear shafts are completely at the **bottom** of the slots in the selector.



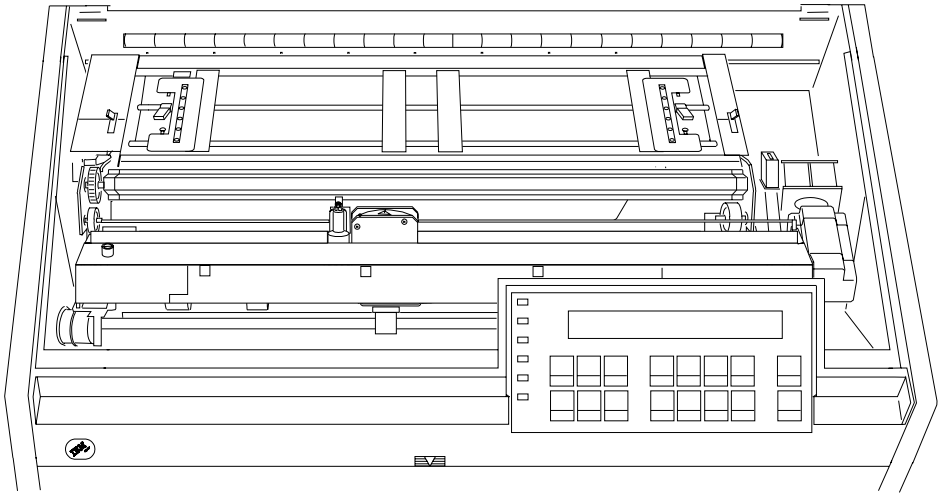
6. Stand facing the front of the printer. Hold the tractor unit with the tractor doors toward you, and the electrical connector tab on the left.



7. With both hands supported on the round tractor shaft, position the electrical connector tab above its connector on the left side of the printer and the two lowest pins on the right.



8. Gently press on the tractor unit until it clicks on both sides and the electrical connector tab is fully seated in the connector.

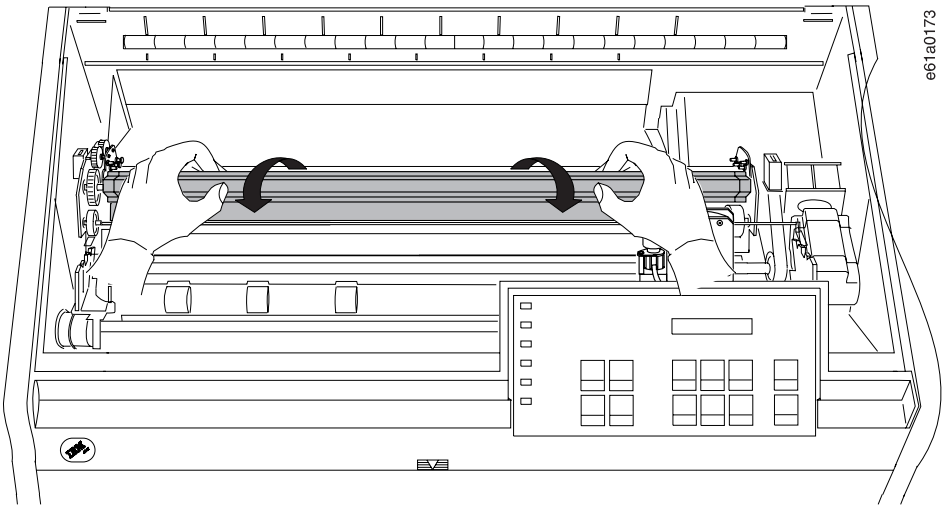


9. Remove the paper bail assembly if it is installed.

   a. Remove the ribbon cartridge. (See “Removing the Ribbon Cartridge” on page 19-11.)

   b. Move the printhead to the far right.

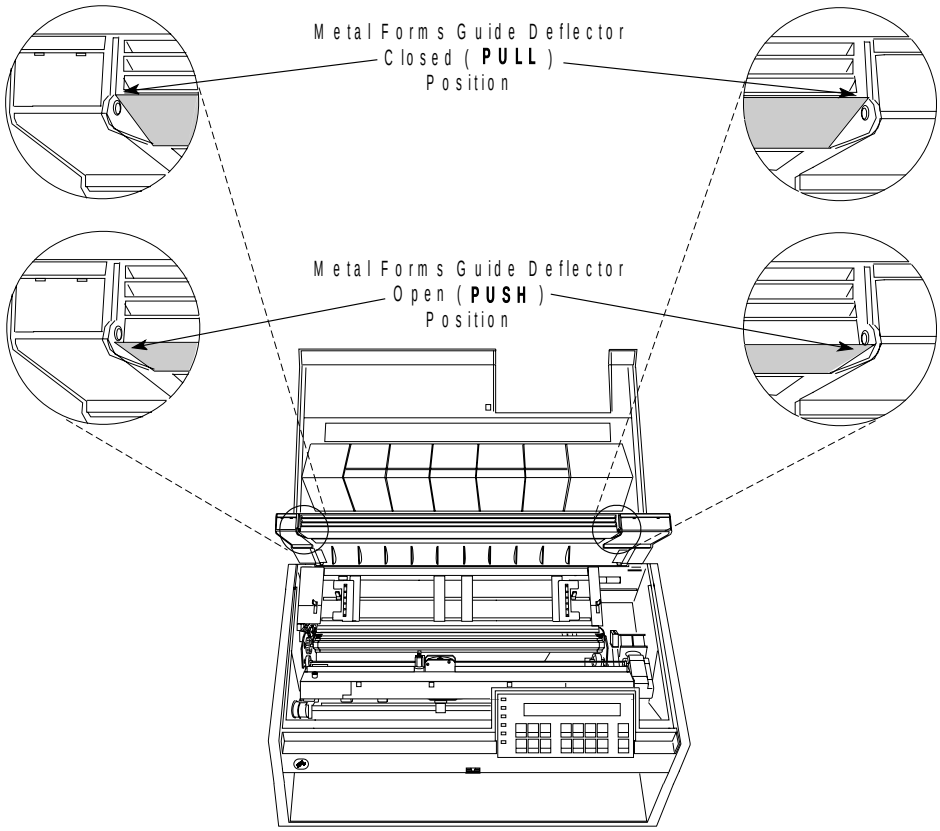
   c. Grip the bail assembly as shown in the following illustration. Rotate it toward the front of the printer until the pivot posts on the sides can disengage.



d. Store the bail assembly for future use with other paper paths.

e. Reinstall the ribbon cartridge. (See “Installing the Ribbon Cartridge” on page 19-13.)

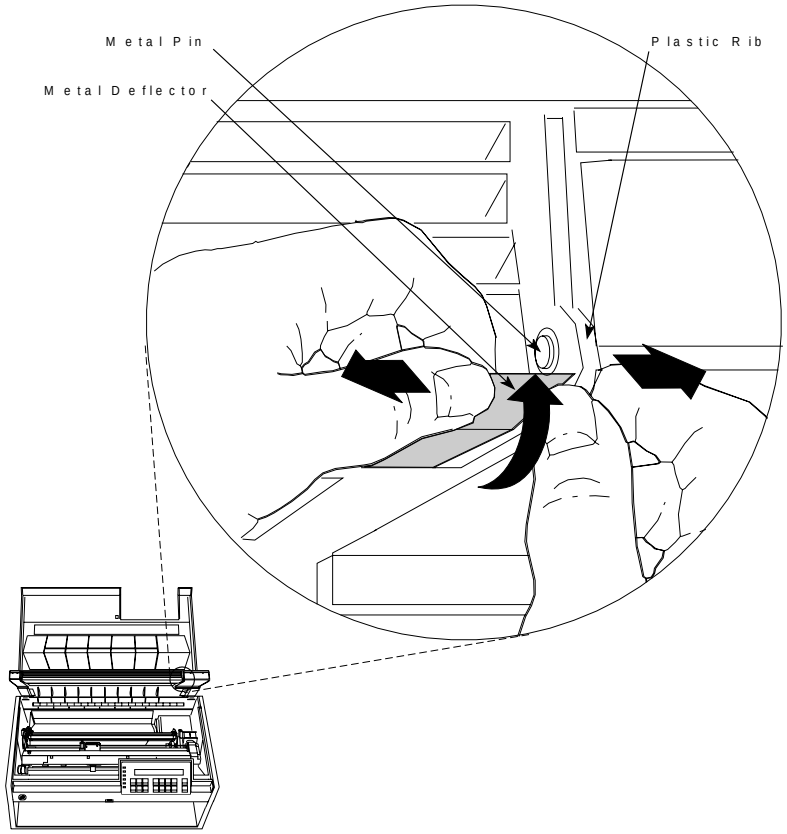
10. Make sure the metal deflector on the forms guide is in the *pull* (closed) position.



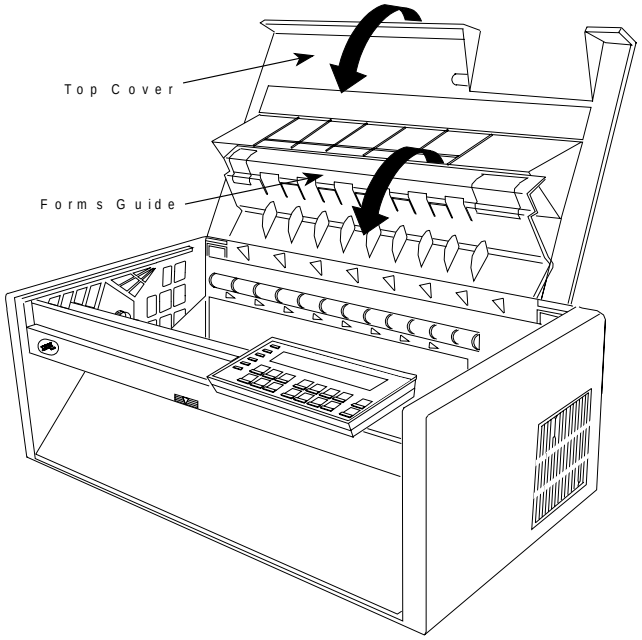
11. If the metal deflector is in the *push* (open) position, do the following:

    a. Grasp the metal deflector with one hand and the plastic rib on the forms guide with the other hand.

    b. While pulling the metal deflector and the plastic rib apart, move the metal deflector up until it is above the metal pin.



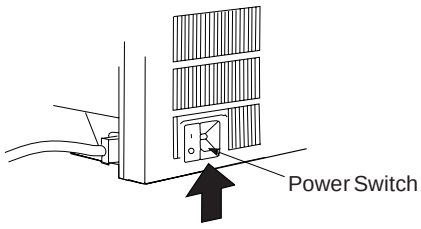
12. Close the forms guide and top cover.



Configuring the Printer for the Rear Pull Paper Path

To configure the printer for the Rear Pull paper path:

1. Power On (|) the printer.



2. Wait until the message IBM 4247 appears, all the segments of the LCD on the operator panel display are lit, and the printer has stopped all motion.
3. Press **Menu** to enter configuration.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Rear Tractor Use
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Rear Tractor Use
Pull
```

7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Press **Return** to return to the Configuration Menu.

   If you want the Rear-Push paper path to be the default path used, then continue with steps 9 through 13
9. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

10. Press **Enter**.
11. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Paper Source
```

12. Press **Enter**.
13. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Paper Source
Front
```

14. Press **Enter**.

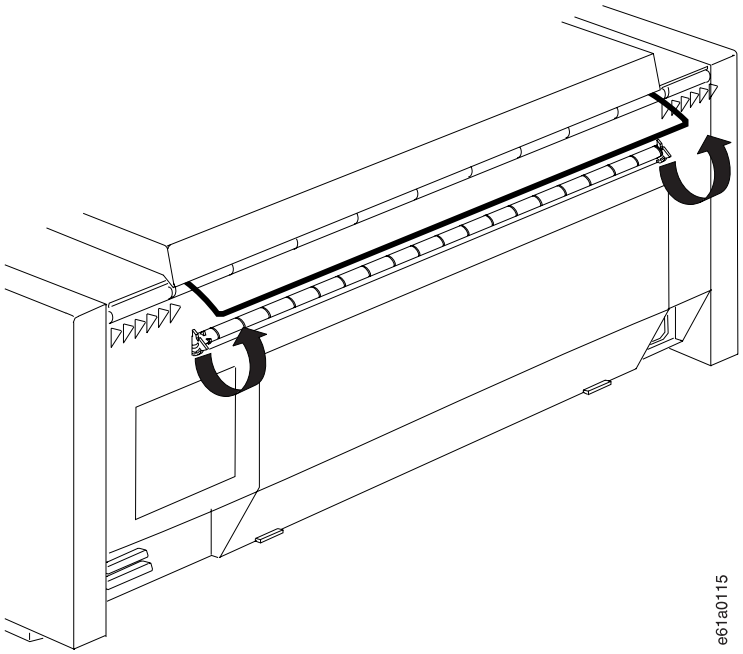
    An asterisk (*) will be displayed in front of the selected value.

15. Press **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4 for instructions.

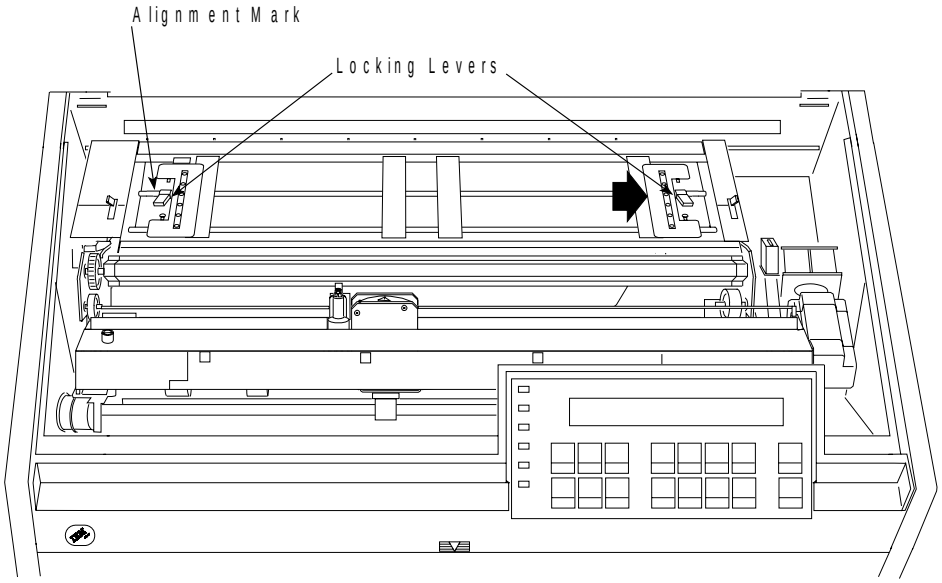
Loading Paper for Rear Pull

Note: Before you start this procedure, see “Forms Stack Input and Output Locations” in Chapter 19, “Supplies, Optional Features, and Maintenance” for information on stacking height limits.

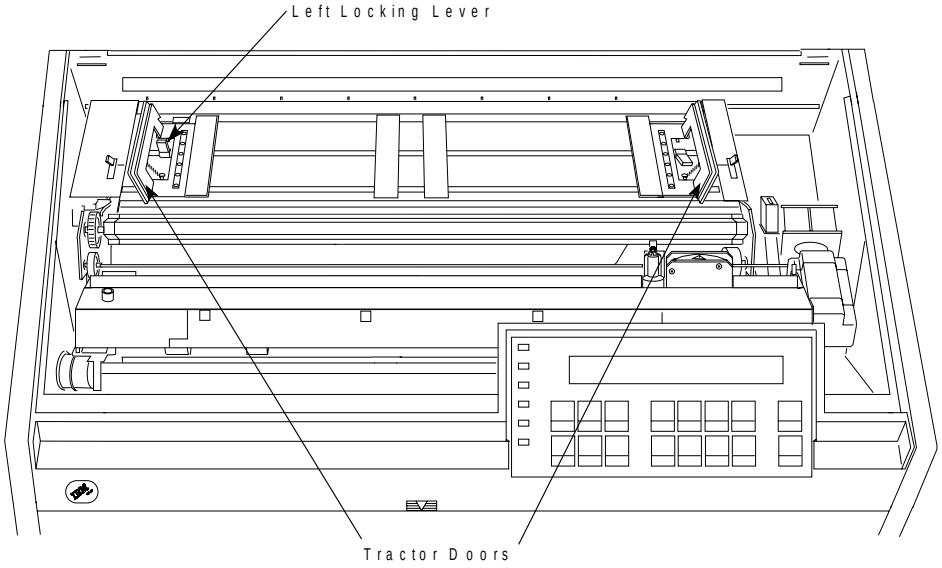
1. Press **Load/Eject** to move the print head to the extreme right.
2. Open the *rear tractor paper door* by pulling it up toward you until both ends are latched.



3. Open the top cover and the forms guide.
4. Unlock the locking levers on the tractors. Move the right tractor to the extreme right.
5. Move the left tractor to the *tractor alignment mark*.



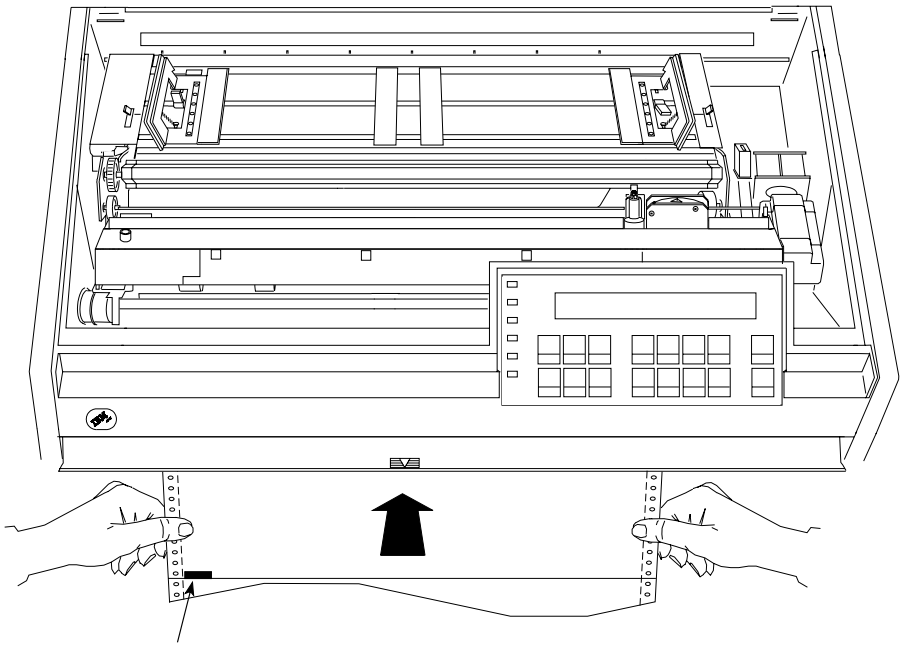
6. Lock the left locking lever.
7. Open both of the tractor doors.



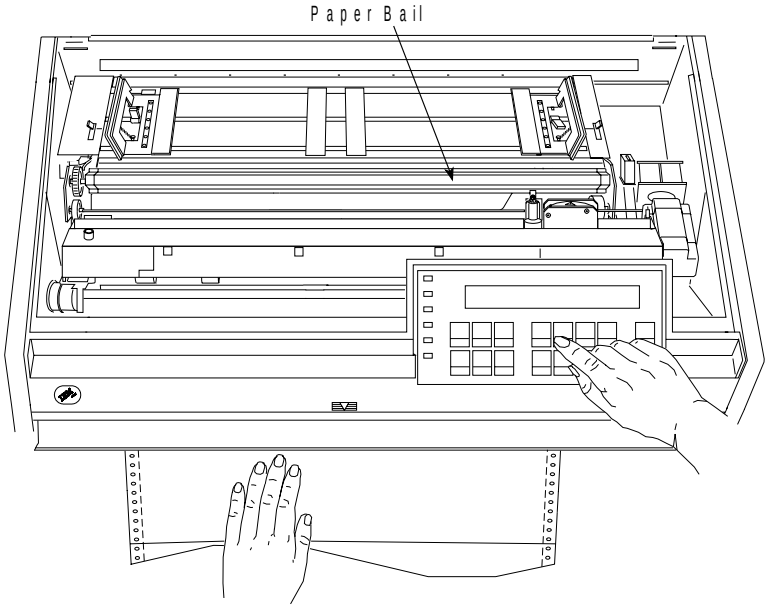
8. Mark the perforation using a pen or pencil with a bright color, such as red.

   Note: If you are using forms with a length less than 203.2 mm (8 in.), you will not be able to print on the forms above the mark.

9. Insert the paper through the front tractor opening and push it up as far as it will go.

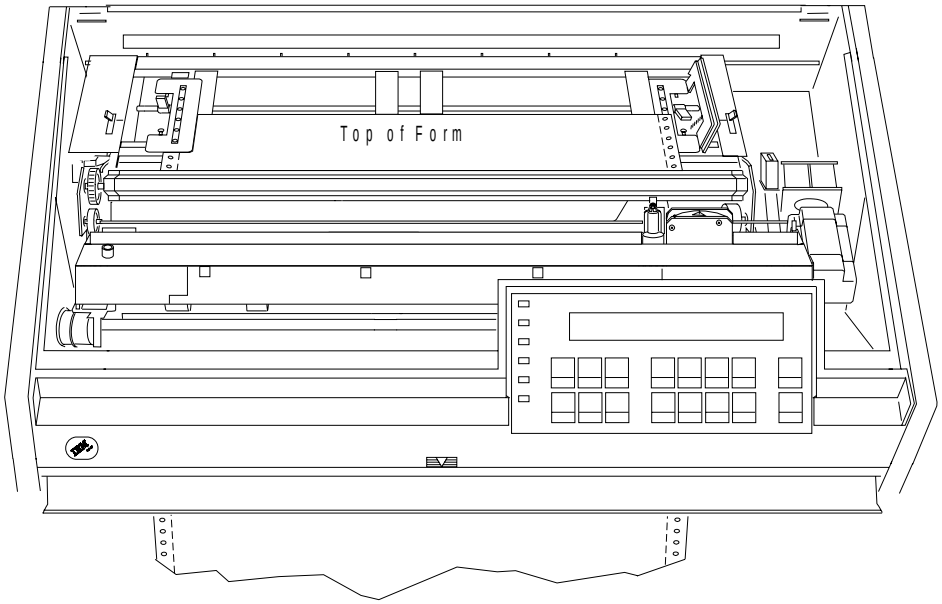


10. While continuing to hold the paper with your left hand, press **Micro** ↑ until the paper is above the paper bail.

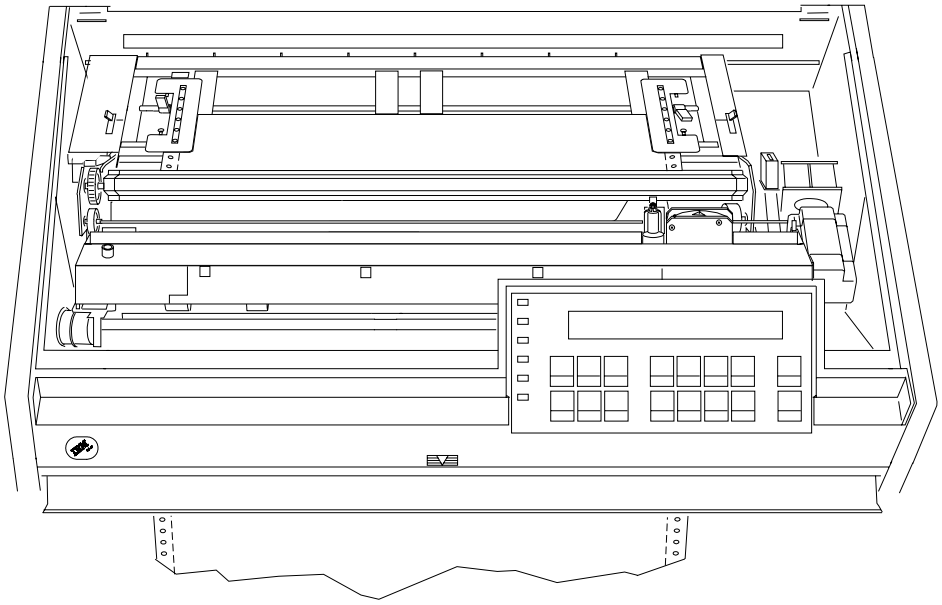


11. Align and put the left paper holes of the form over the left tractor pins.

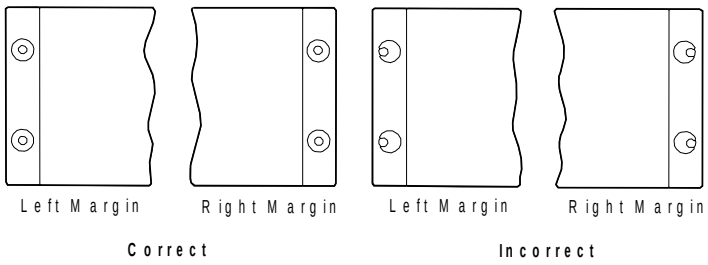
12. Close the left tractor door.



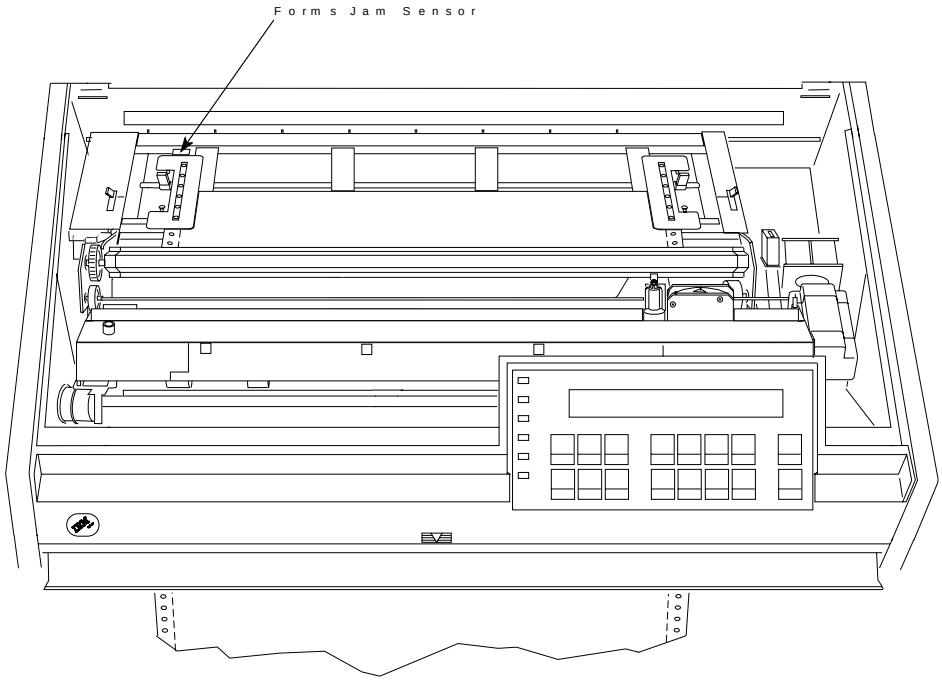
13. Move the right tractor until the right paper holes of the form fit on the right tractor pins.
14. Close the right tractor door.



15. If necessary, slide the right tractor to the right side of the printer to remove the slack in the form. If the paper is too tight, slide the right tractor away from the right side of the printer. Make sure the tractor pins are centered in the paper holes.

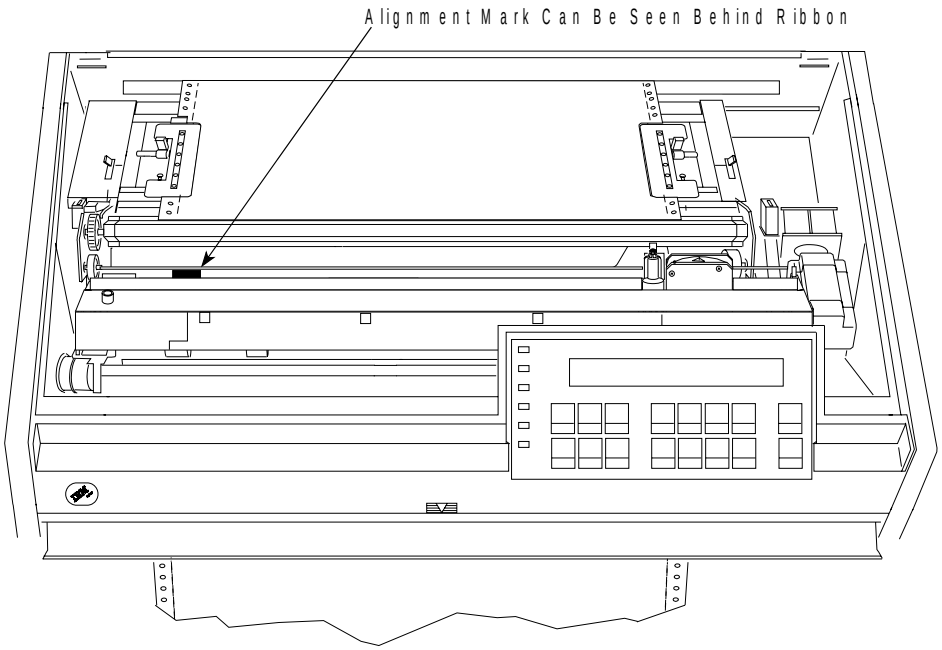


16. While holding the right tractor in place, lock the right locking lever.
17. Move the spacers along the tractor bar to support the width of the form.

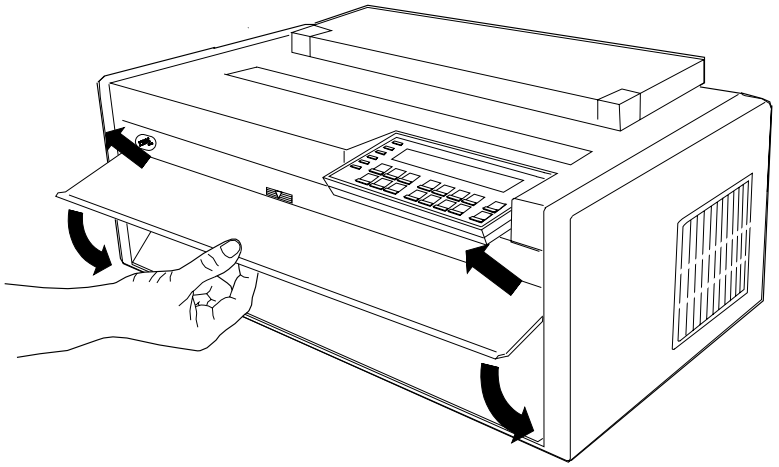


18. Reach under the *front tractor cover* and gently align the forms making sure they are straight.

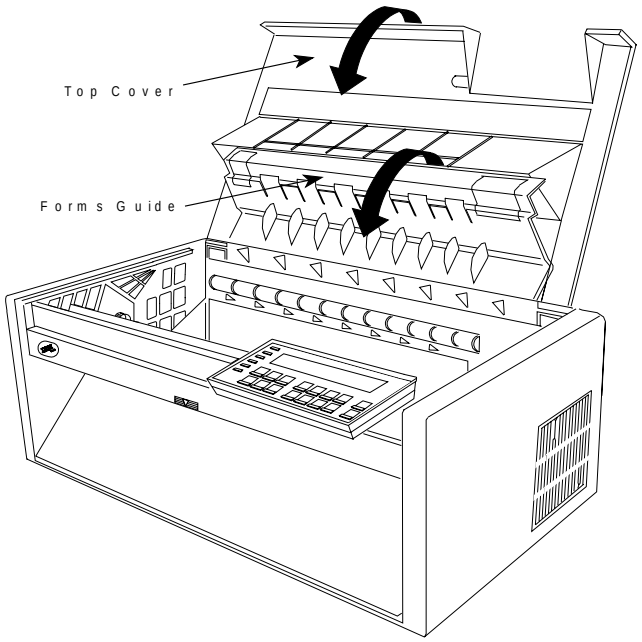
19. Press **Micro** ↑ until the mark on the perforation (see step **8 on page 17-70**) is between the mylar strips. Push the ribbon aside at the left to help see the alignment mark.



20. Close the front tractor cover.

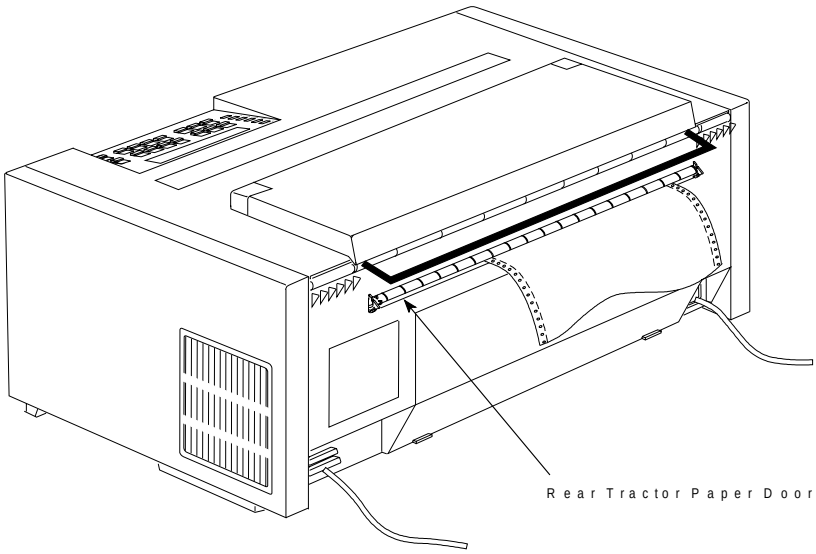


21. Close the forms guide and the top cover.



22. Press **Load/Eject** to set top of form.

23. Press **Start** to make the printer *ready* and, if necessary, to feed the paper. Be sure the forms pass under the *forms jam sensor*, and that the form exits through the *rear tractor paper door*.



The printer is now ready for jobs that use the ***Rear Pull*** paper path. If you do not want to use the printer defaults for form settings (such as Characters per Inch, Lines per Inch, or Maximum Print Position [MPP]), see Chapter 3, “Checking and Changing Configuration Parameter Values.”

Push-Pull Paper Path

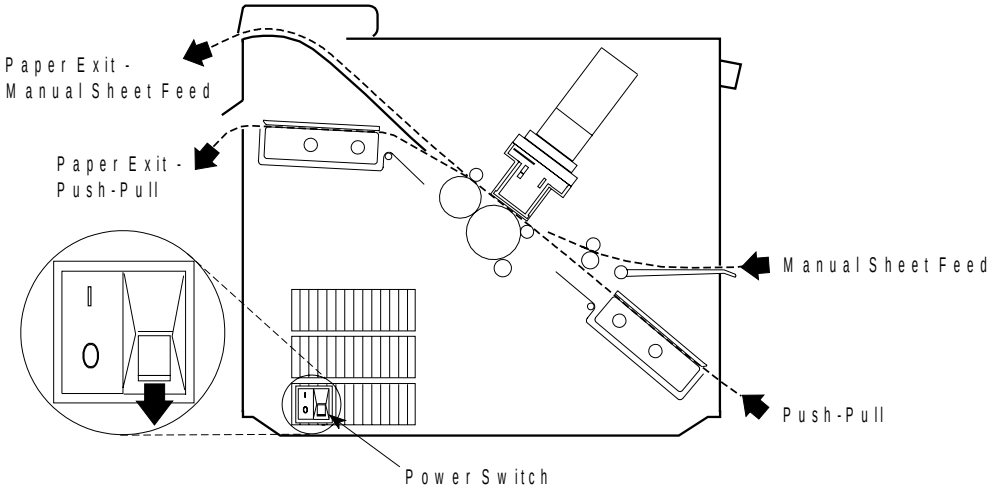
This paper path configuration allows one continuous forms loading from the *front push tractor* and the forms to exit from the *rear pull tractor*. This paper path provides improved forms handling for difficult situations (for example, thicker multiple-part forms, higher humidity) because of the use of four tractors and the straight paper path.

To use this paper path, the Automatic Sheet Feeder (ASF) should not be installed in the printer.

It is not recommended to select **Manual** when the printer is set for either the Rear-Pull or the Push-Pull paper paths. **Manual** can be selected from the operator panel, but to use it, you will need to re-configure the paper path both before and after using **Manual**. **Manual** cannot be selected via the IPDS data stream.

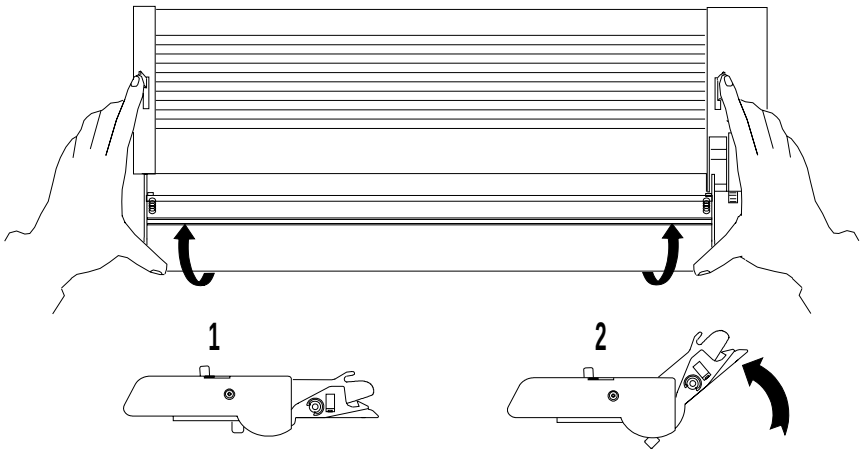
Installing the Tractor Units in the Push-Pull Position

This illustration shows the push-pull paper path from the left side of the printer.



Note: This paper path procedure assumes that both tractors are not installed in the printer and that one tractor is in the Push or fully-extended position and the other tractor is in the Rear Pull or angled position. If neither one of the tractors are in the Rear Pull or angled position, follow these steps for one of the tractor units before continuing with the Push-Pull procedure:

- Place the tractor face down on a flat surface with the electrical connector tab on the right side, pointing toward you.
- Pull the bottom release levers toward you with your finger tips and pull the movable edge of the tractor up away from the flat surface with your thumbs (**1**) until the tractor locks in the angled position (**2**).

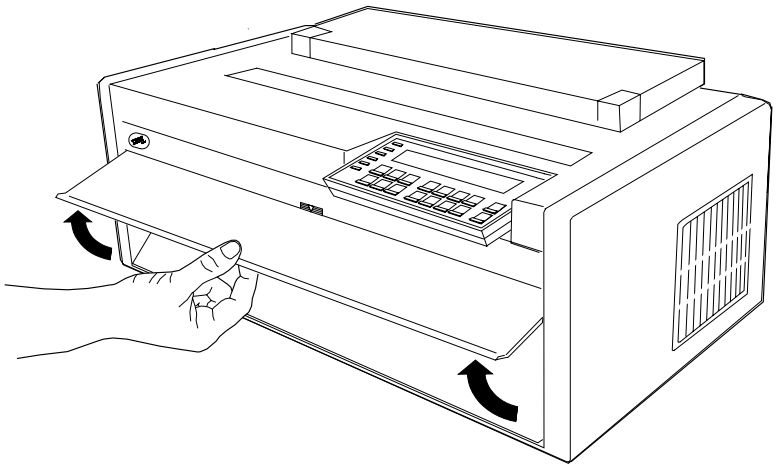


Installation Procedure (Front Push)

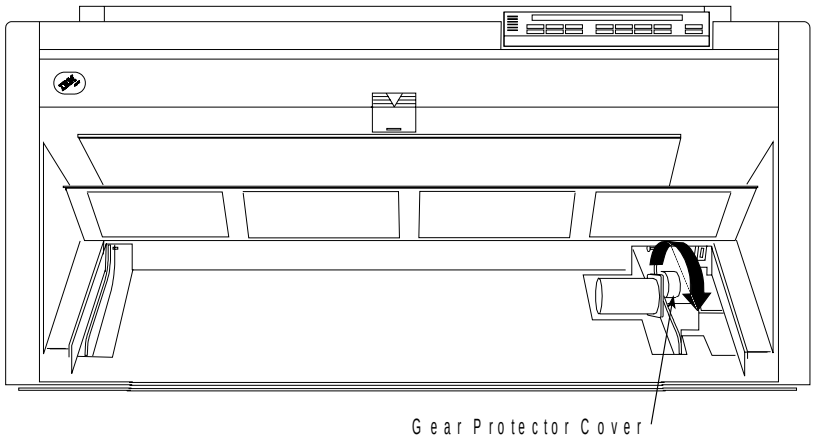
To install the tractor unit in the *Front Push* position:

1. The power switch is located on the lower left side of the printer. Make sure that the switch is set to Off (O) before removing or installing forms tractors.
2. Open the front tractor cover to its *locked* position.

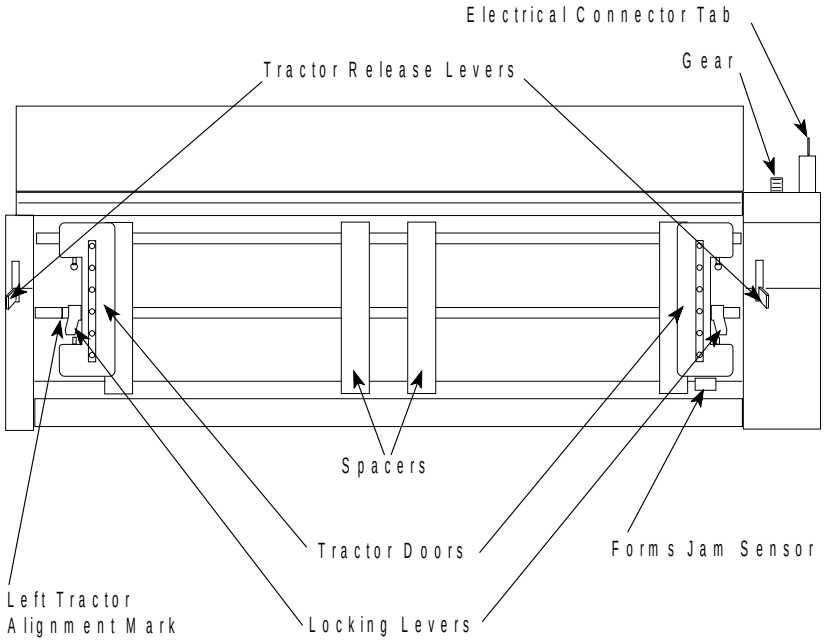
   CAUTION:
   The paper feed motor may get hot during operation. Be careful when removing or installing the tractor unit.



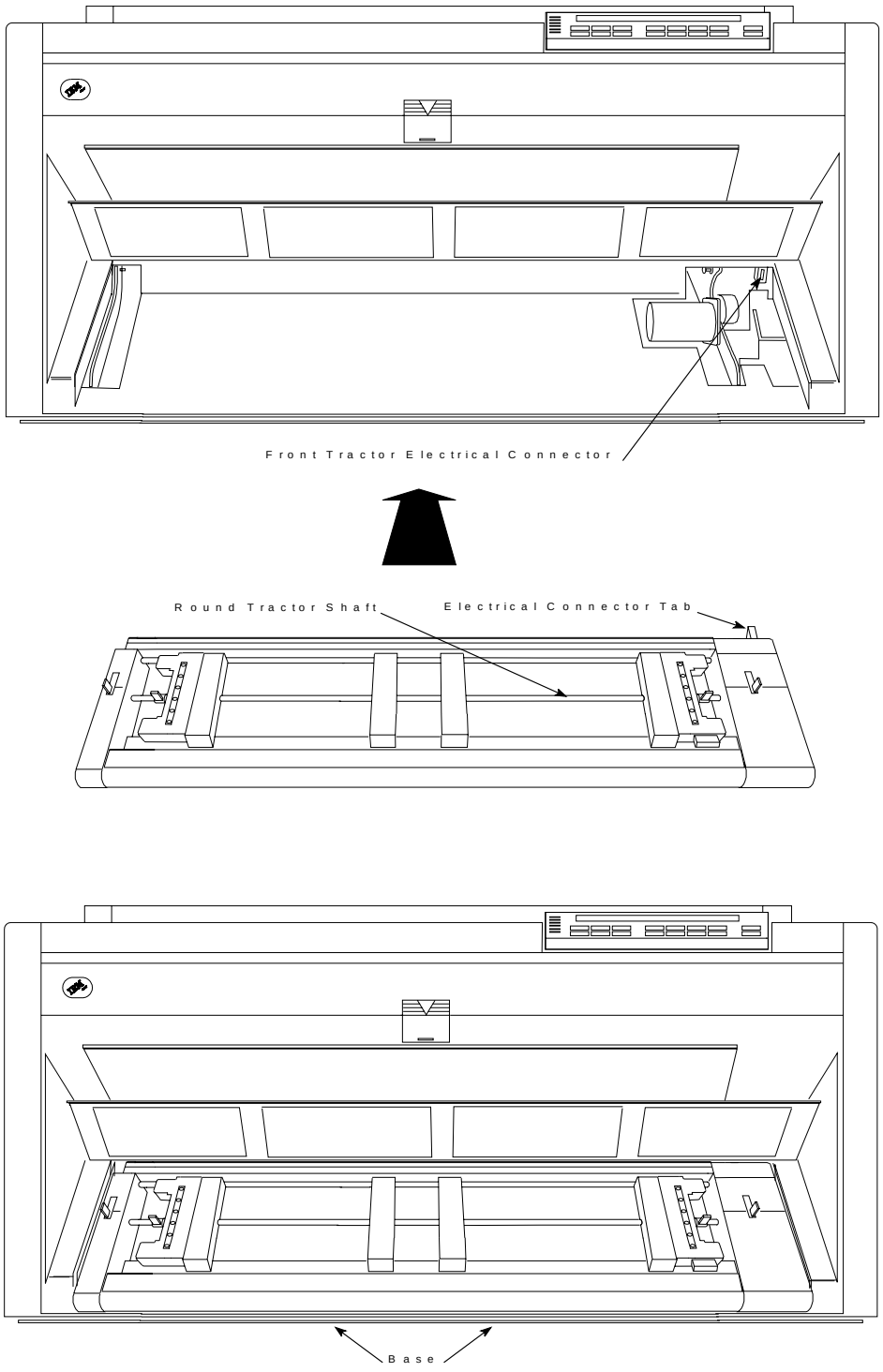
3. Open the hinged gear protector cover by rotating it down out of the way.



4. Get the tractor that is in the *Push* or fully-extended position.
5. Stand facing the front of the printer. Hold the tractor unit with the tractor doors toward you and the electrical connector tab on the right.



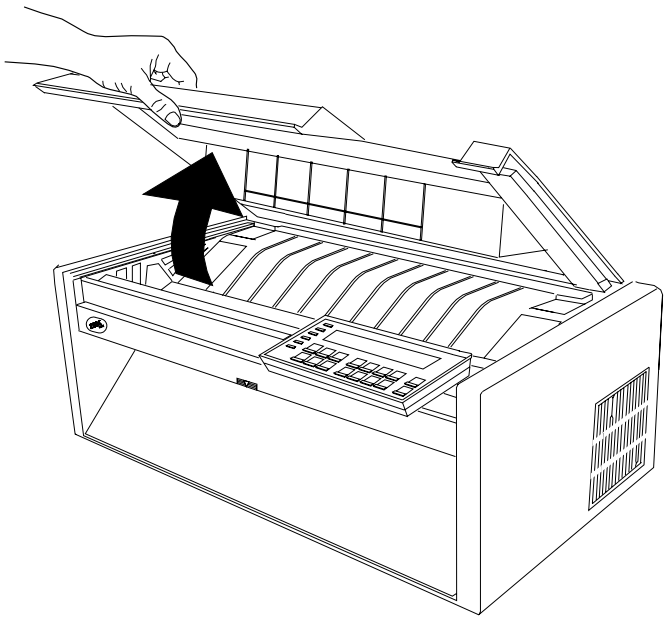
6. With both hands supported on the round tractor shaft, gently push the tractor unit upward until it clicks on both sides, the electrical connector tab is fully seated in the connector, and the bottom of the tractor unit is level with (same amount of space from) the base of the printer.



Installation Procedure (Rear Pull)

To install the tractor unit in the *Rear Pull* position:

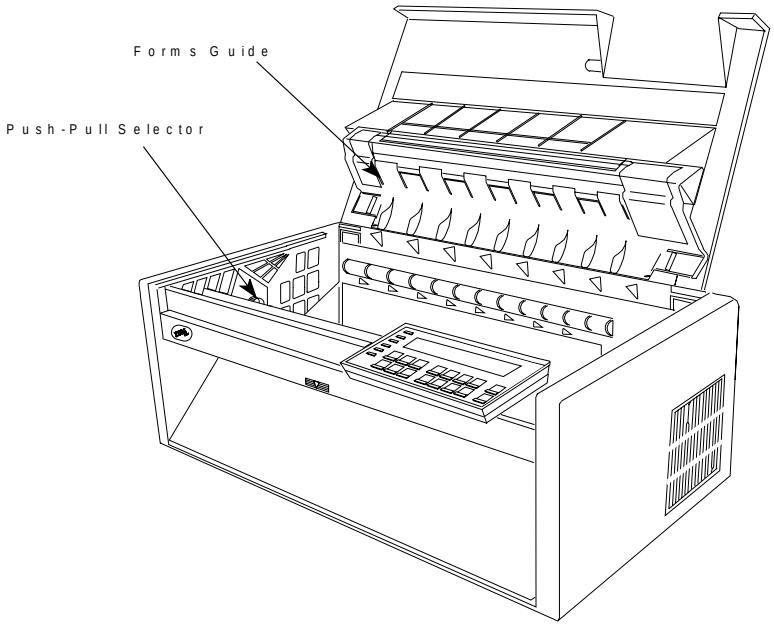
1. Open the top cover and tilt it all the way back.



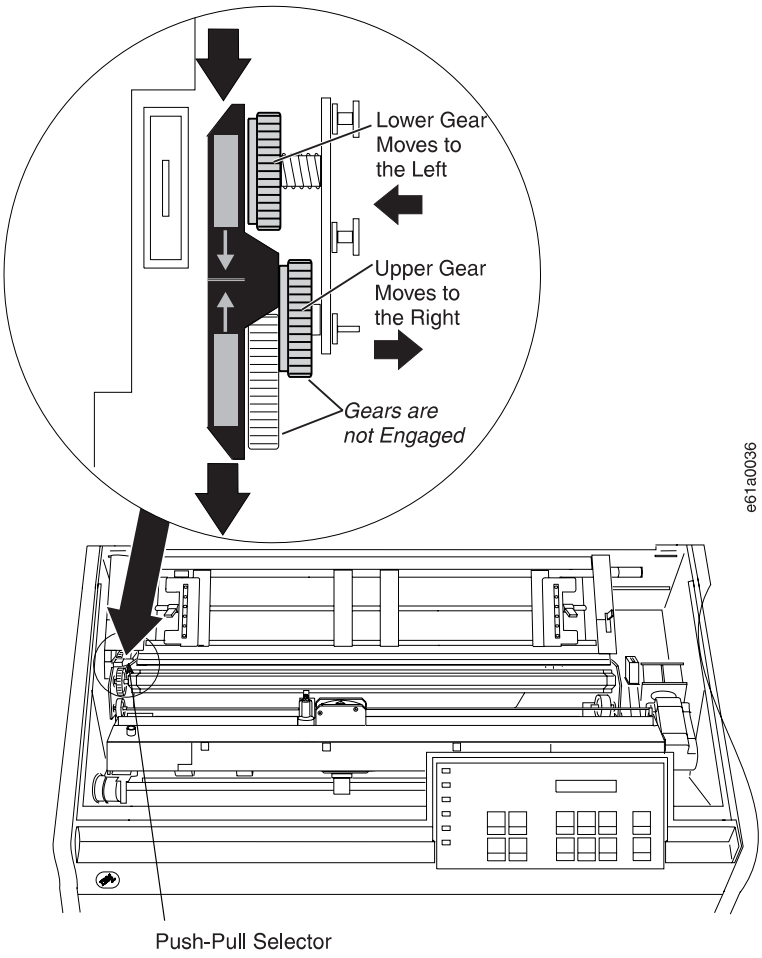
CAUTION:

Do not remove the top cover or automatic sheet feeder cover unless it is necessary for the installation of a printer accessory. If a cover is removed, do not touch inside the printer or insert any object into the gears. Store the cover in a safe place until it is needed for reinstallation.

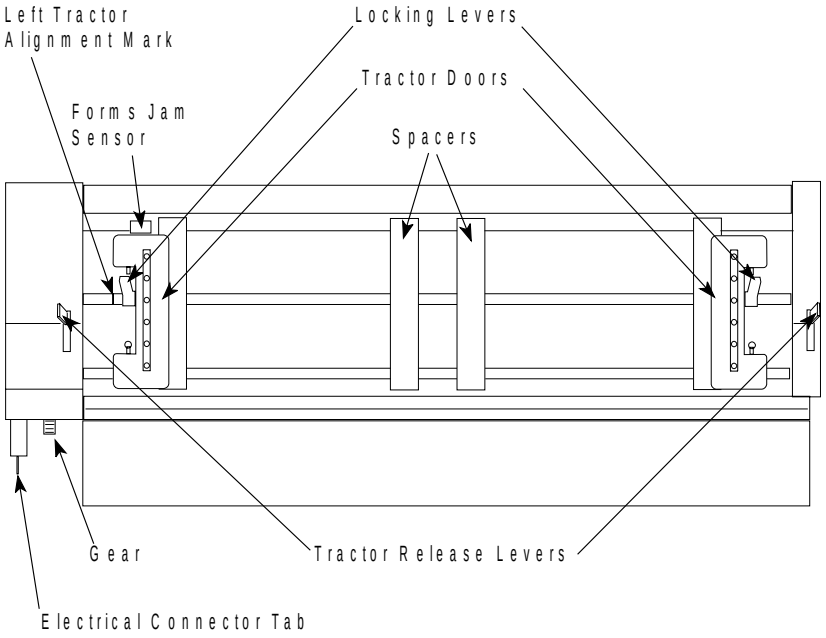
2. Lift the forms guide to its full open (vertical) position.



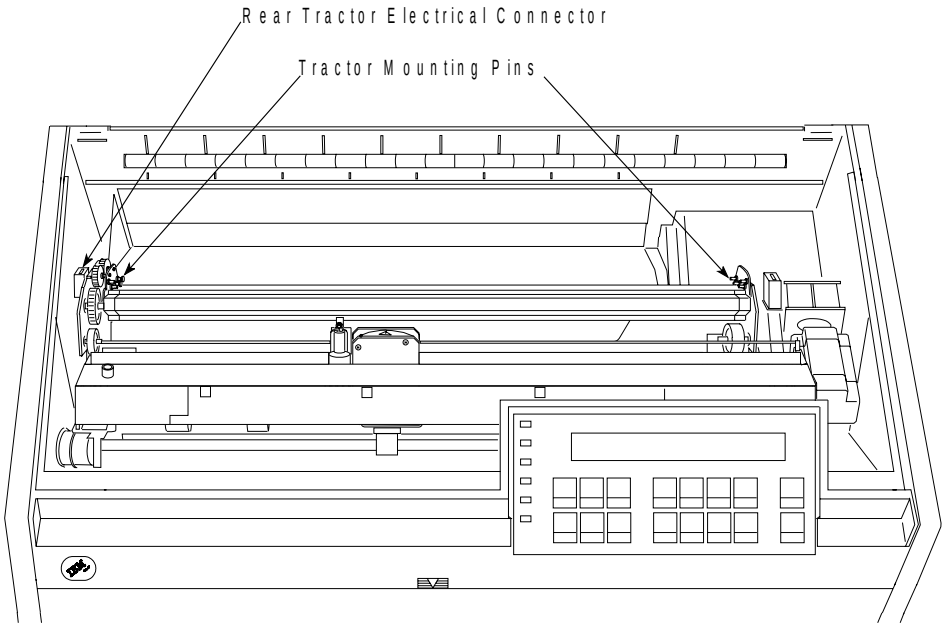
3. Locate the *push-pull selector* next to the gears on the left side of the printer. Pull the *push-pull selector* toward the front of the printer until the gear shafts are completely at the **bottom** of the slots in the selector.



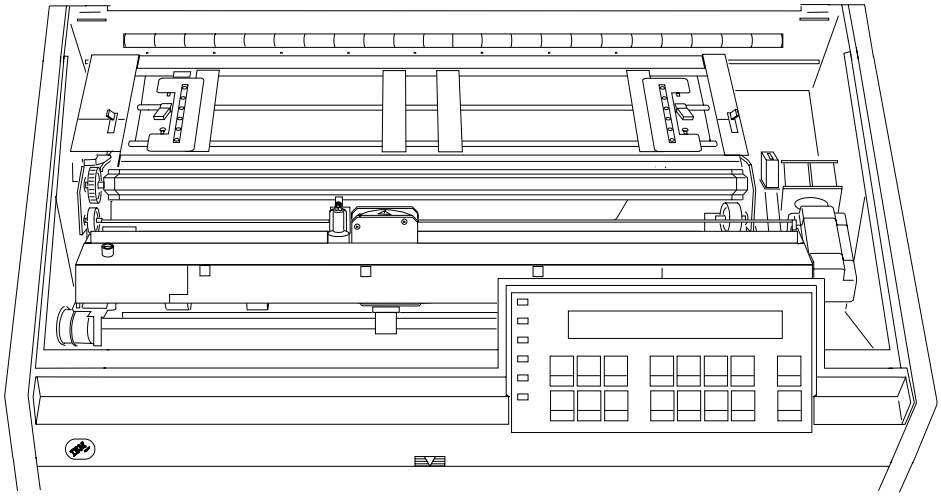
4. Stand facing the front of the printer. Hold the tractor unit with the tractor doors toward you, and the electrical connector tab on the left. (Make sure the black protective cap is removed from the electrical connector tab.)



5. With both hands supported on the round tractor shaft, position the electrical connector tab above its connector on the left side of the printer and the two lowest pins on the right.



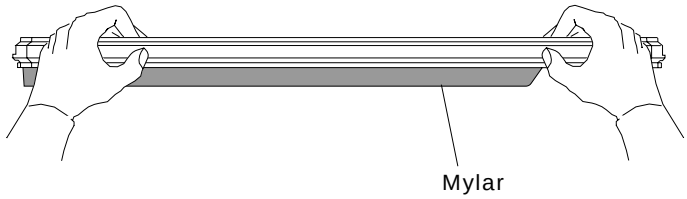
6. Gently press on the tractor unit until it clicks on both sides and the electrical connector tab is fully seated in the connector.



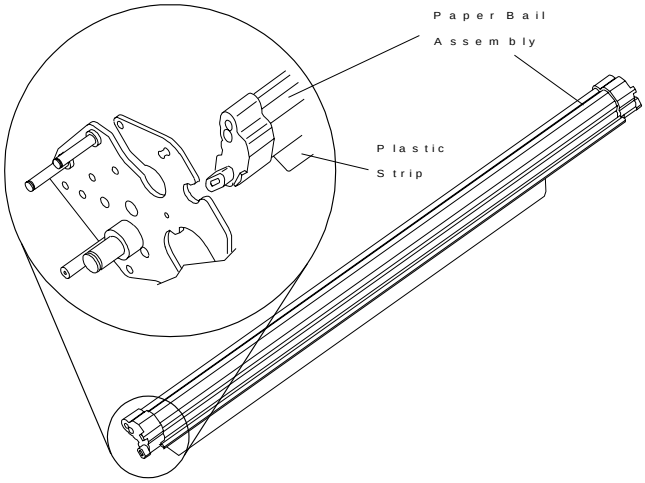
7. Install the paper bail assembly if it is not already installed.
   a. Remove the ribbon cartridge. (See “Removing the Ribbon Cartridge” on page 19-11.)
   b. Move the printhead to the far right.
   c. Grip the bail assembly as shown in the following illustration.

Important!

To avoid damaging the mylar, make sure the mylar points down.

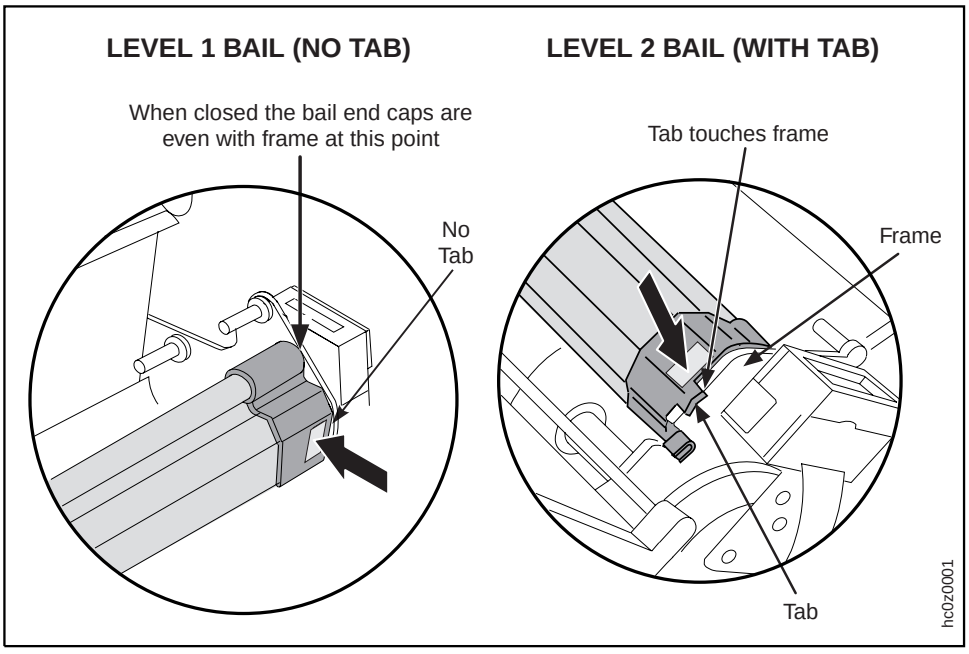


d. Insert the left and right paper bail end cap pivots into the side frames.



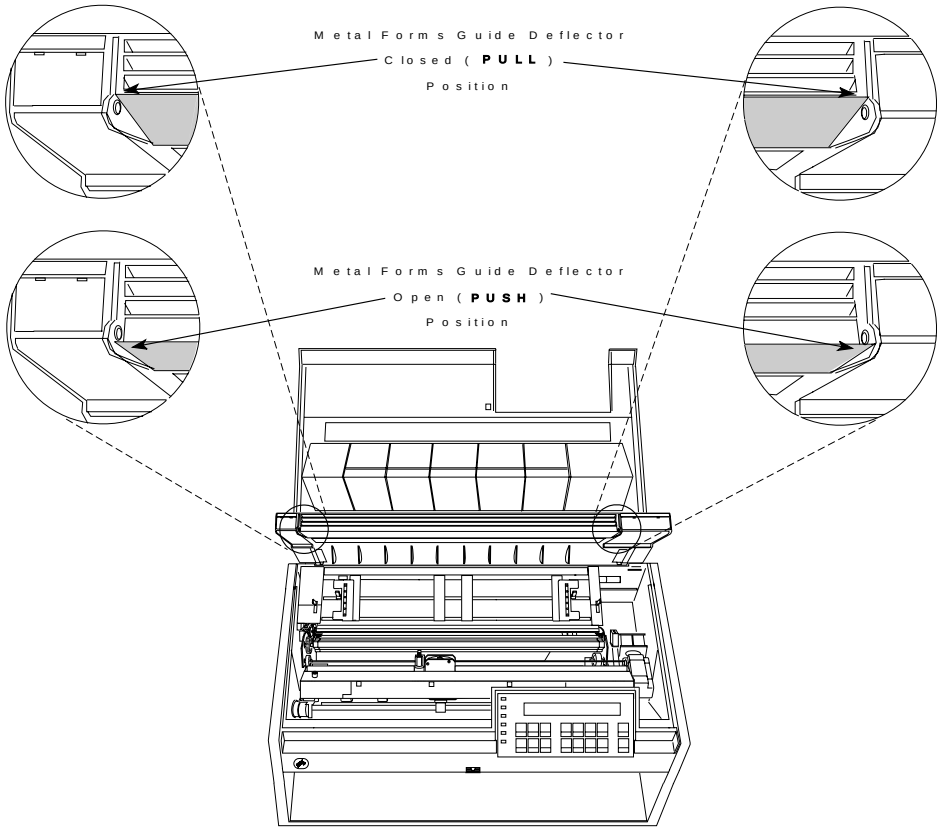
e. Rotate the paper bail assembly toward the back of the printer, closing it as far as it will go.

Paper bail assemblies without tabs on the end caps must be installed in the "closed" position.



f. Reinstall the ribbon cartridge. (See “Installing the Ribbon Cartridge” on page 19-13.)

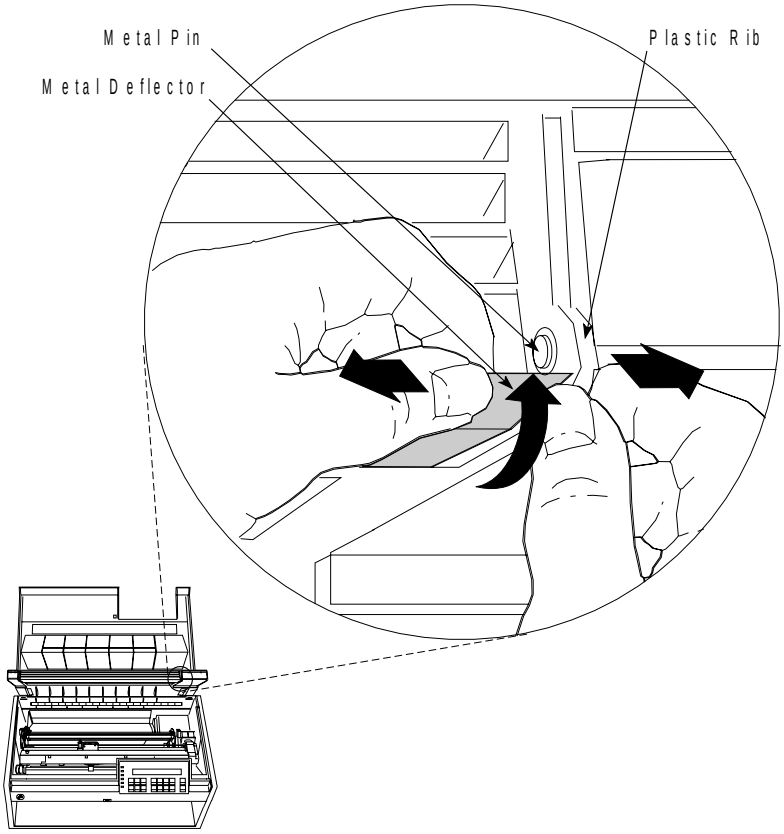
8. Make sure the metal deflector on the forms guide is in the *pull* (closed) position.



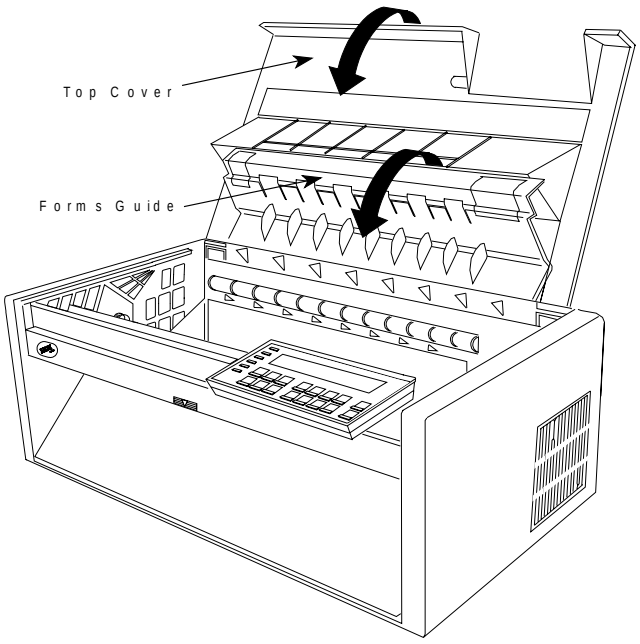
9. If the metal deflector is in the *push* (open) position, do the following:

   a. Grasp the metal deflector with one hand and the plastic rib on the forms guide with the other hand.

b. While pulling the metal deflector and the plastic rib apart, move the metal deflector up until it is above the metal pin.



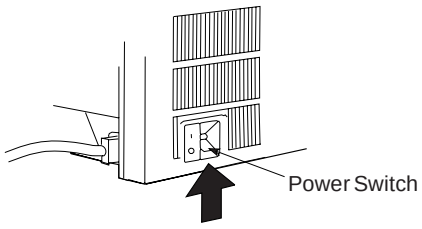
10. Close the forms guide and top cover.



Configuring the Printer for the Push-Pull Paper Path

To configure the printer for the Push-Pull paper path:

1. Power On (|) the printer.



2. Wait until the message IBM 4247 appears, all the segments of the LCD on the operator panel display are lit, and the printer has stopped all motion.
3. Press **Menu** to enter configuration.
4. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Rear Tractor Use
```

5. Press **Enter**.
6. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Rear Tractor Use
Push-Pull
```

7. Press **Enter**.

   An asterisk (*) will be displayed in front of the selected value.
8. Press **Return** to return to the Configuration Menu.

   If you want the Push-Pull paper path to be the default path used, then continue with the next step.
9. Press **Scroll↑** or **Scroll↓** until the printer displays

```
CONFIGURATION MENU
Printer Setup
```

10. Press **Enter**.
11. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Printer Setup
Paper Source
```

12. Press **Enter**.
13. Press **Scroll↑** or **Scroll↓** until the printer displays

```
Paper Source
Front
```

14. Press **Enter**.

    An asterisk (*) will be displayed in front of the selected value.

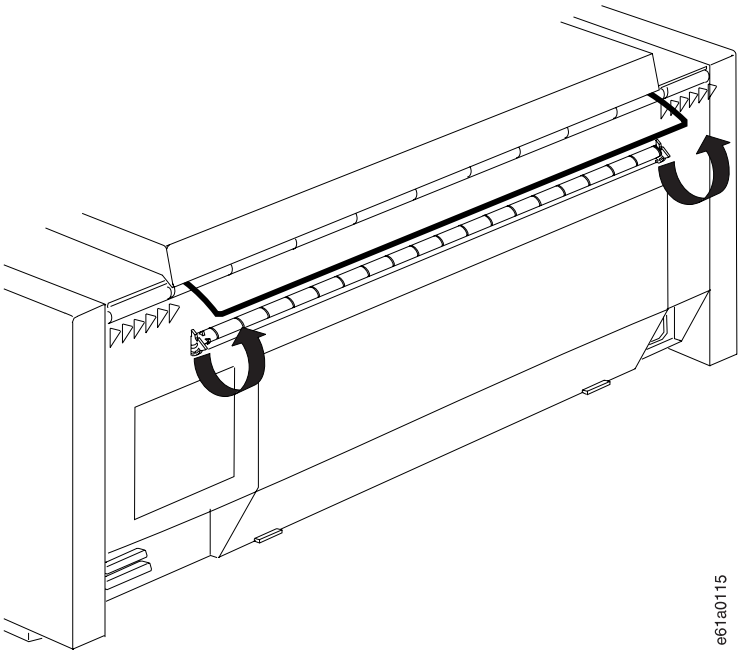
15. Press **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4 for instructions.

Loading Paper for Push-Pull

Note: Before you start this procedure, see “Forms Stack Input and Output Locations” in Chapter 19, “Supplies, Optional Features, and Maintenance” for information on stacking height limits.

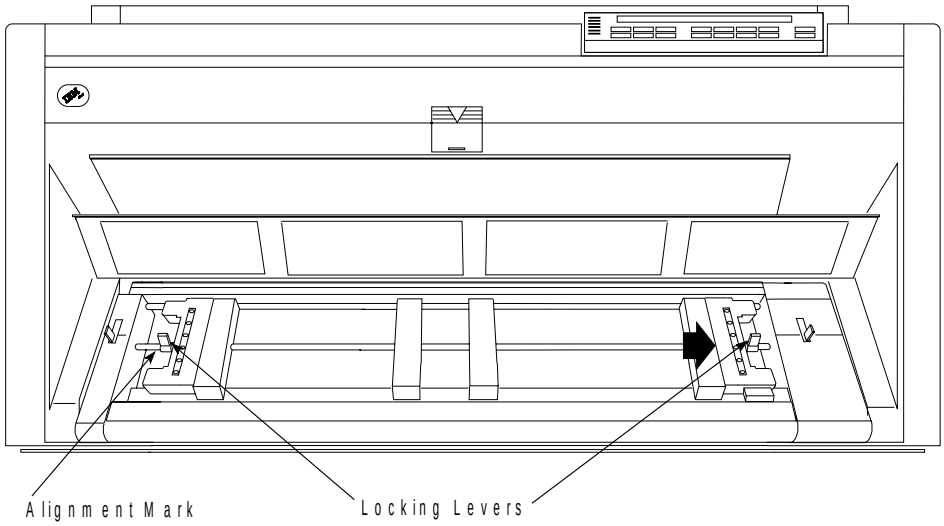
To load paper in the *Front Push* tractors:

1. Open the *rear tractor paper door* at the back of the printer by pulling it up toward you until both ends are latched.

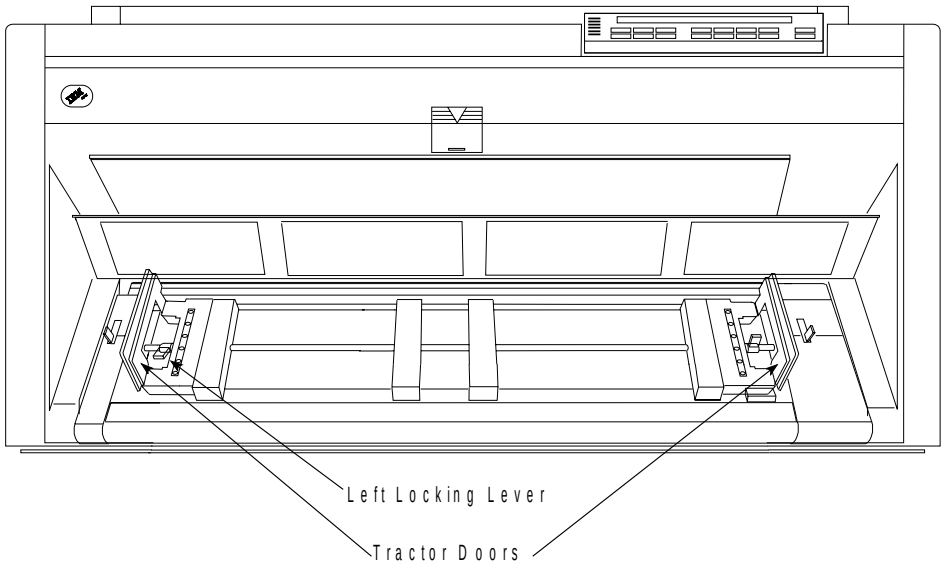


2. Press **Load/Eject** to move the print head to the extreme right.
3. Unlock the locking levers on the tractors. Move the right tractor to the extreme right.

4. Move the left tractor to the *tractor alignment mark*.

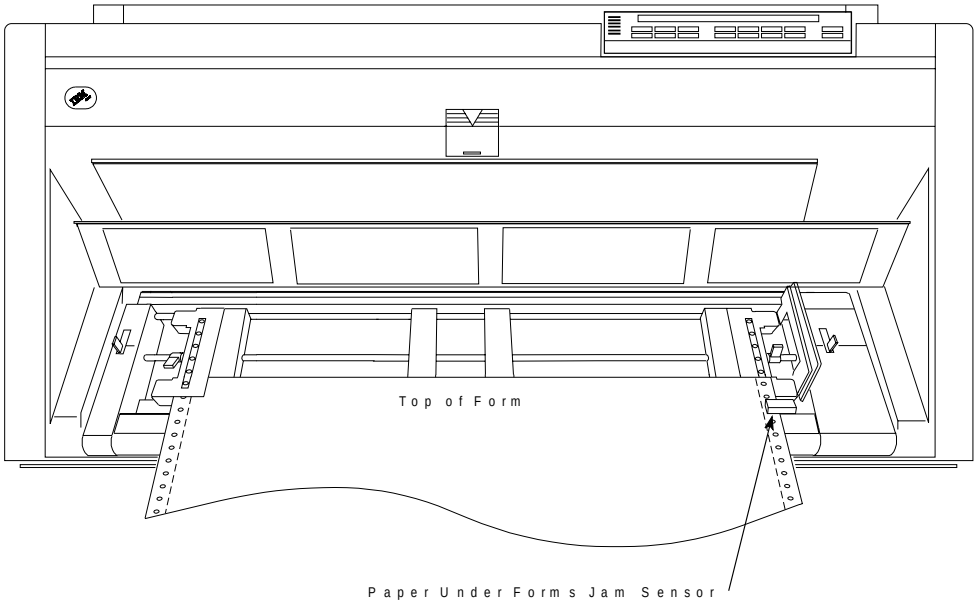


5. Lock the left locking lever.
6. Open both of the tractor doors.

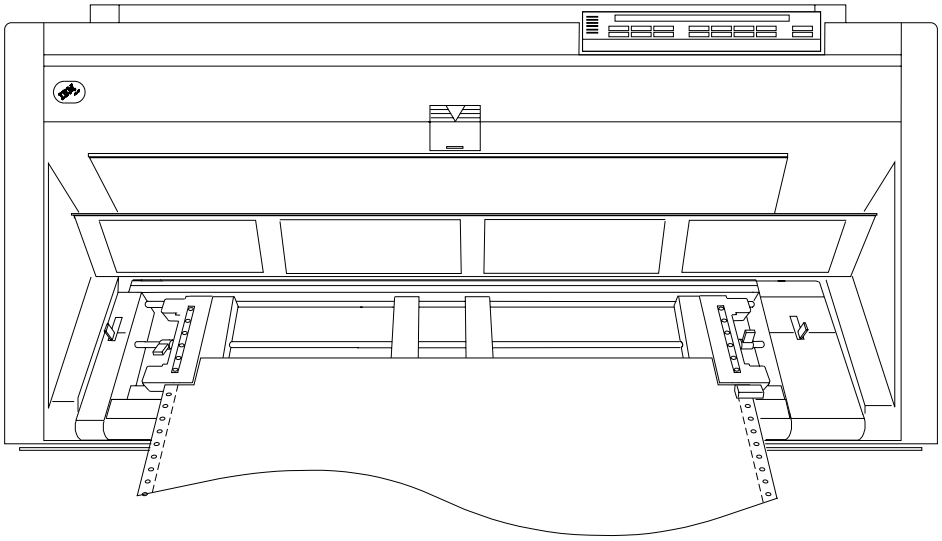


7. Put the left paper holes of the form over the left tractor pins. Close the left tractor door.

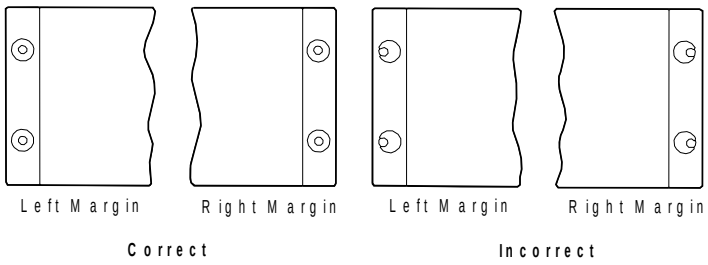
8. Move the right tractor until the right paper holes of the form fit on the right tractor pins. Be sure that the forms go under the *forms jam sensor* and that the forms are straight.



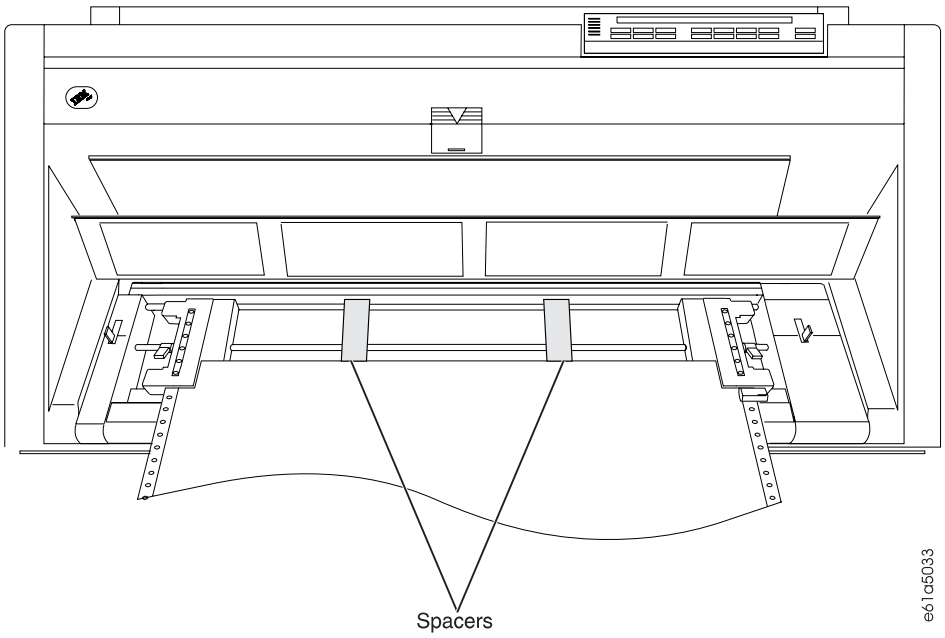
9. Close the right tractor door.



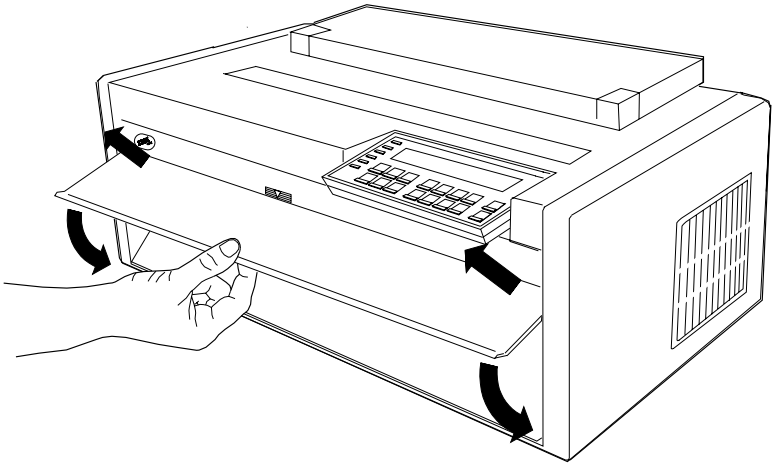
10. If necessary, slide the right tractor to the right side of the printer to remove the slack in the form. If the paper is too tight, slide the right tractor away from the right side of the printer. Make sure the tractor pins are centered in the paper holes.



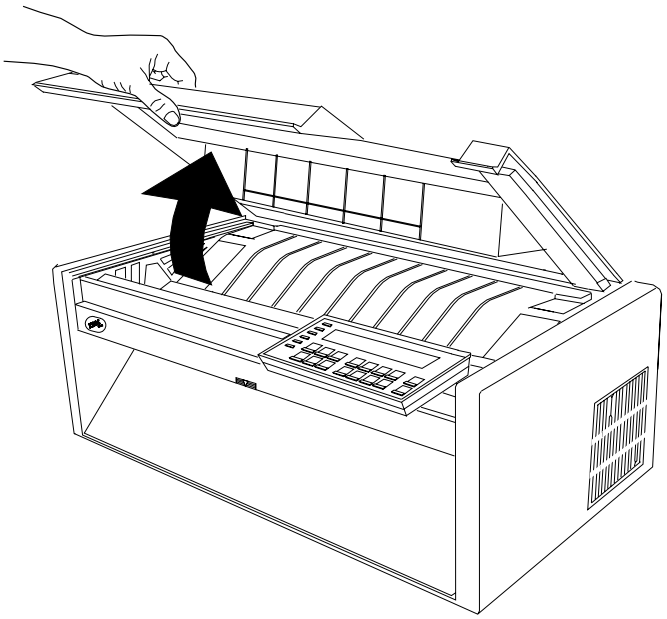
11. While holding the right tractor in place, lock the right locking lever.
12. Move the spacers along the tractor bar to support the width of the form.



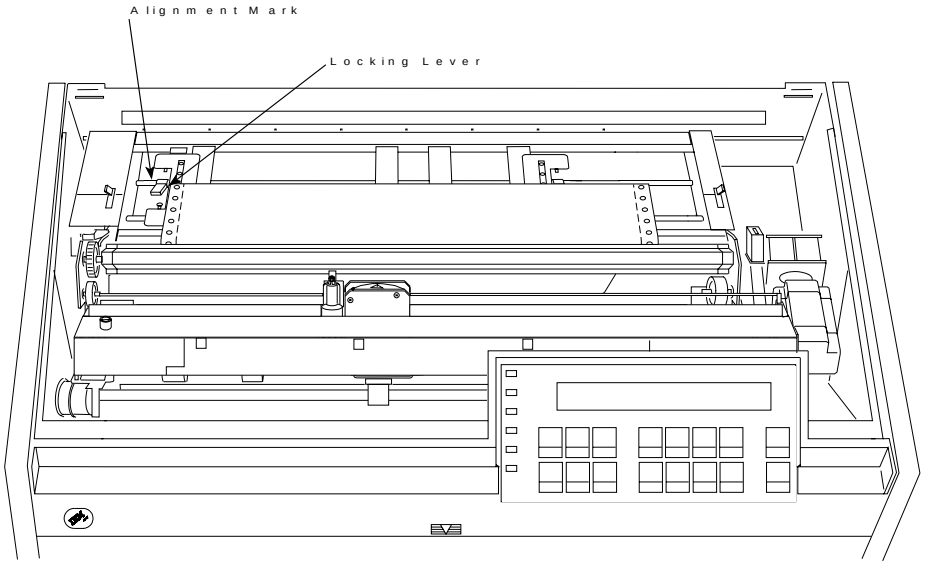
13. Close the front tractor cover.



14. Press **Load/Eject** to feed the paper up to the *Rear Pull* tractors.
15. Open the top cover and the forms guide.

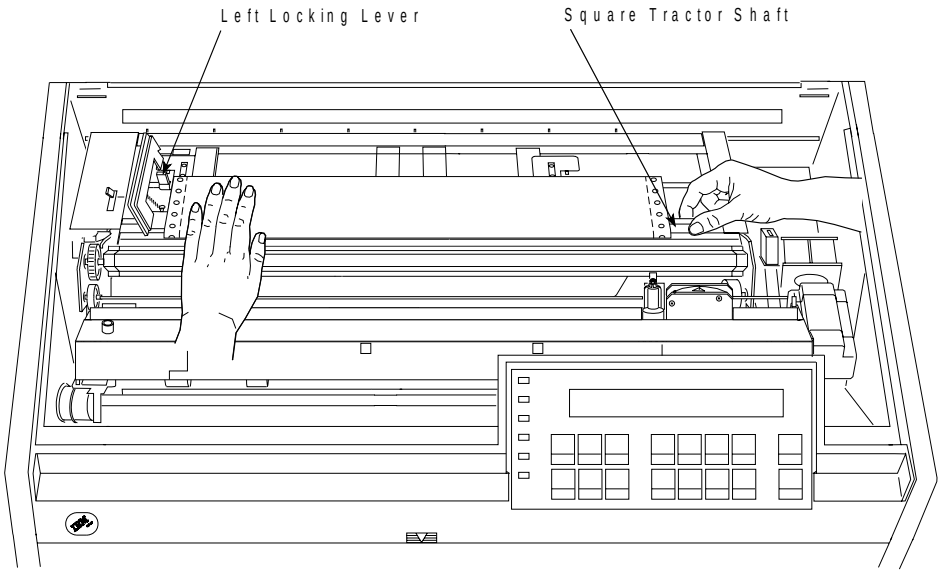


16. Unlock the locking levers on the tractors.
17. Move the left tractor to the *tractor alignment mark* and the right tractor to inside the width of the form.

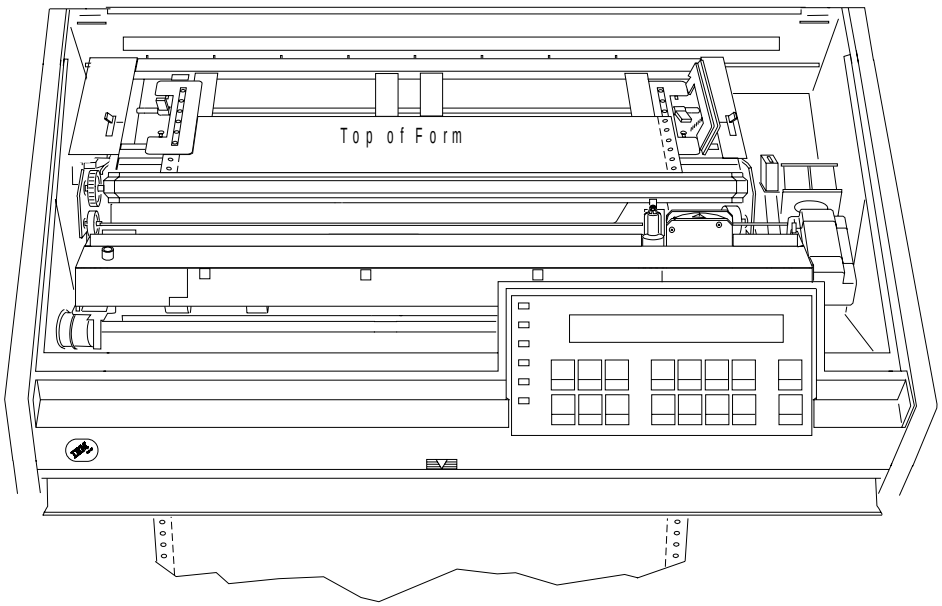


18. Lock the left locking lever.
19. Open the left tractor door.

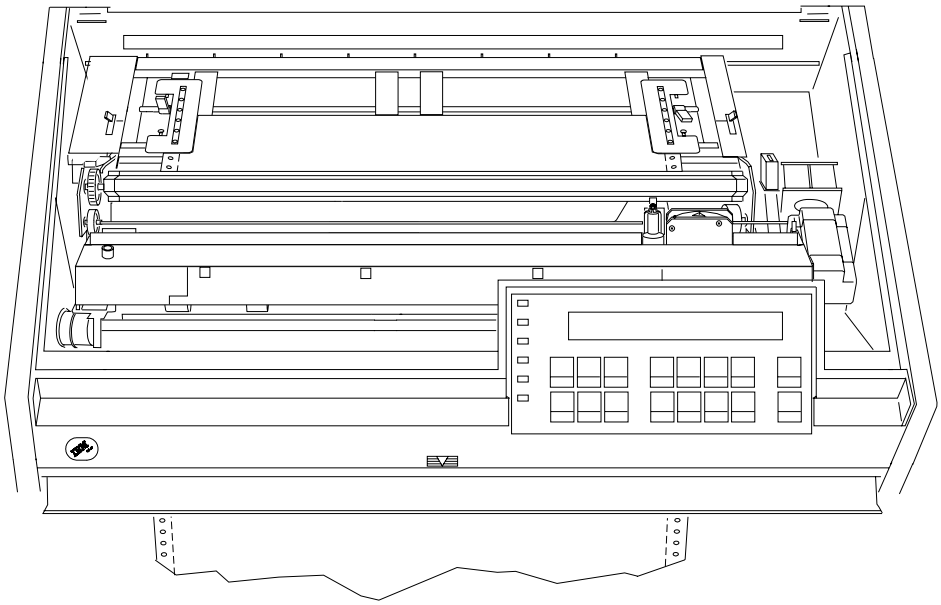
20. While rotating the square tractor shaft, align and put the left paper holes of the form over the left tractor pins.



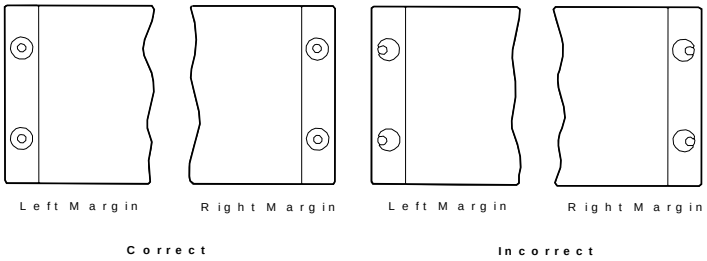
21. While holding the form in place, close the left tractor door.
22. Move the right tractor far enough to the right until you can open the tractor door.



23. Now align the right paper holes of the form over the right tractor pins.
24. Close the right tractor door.

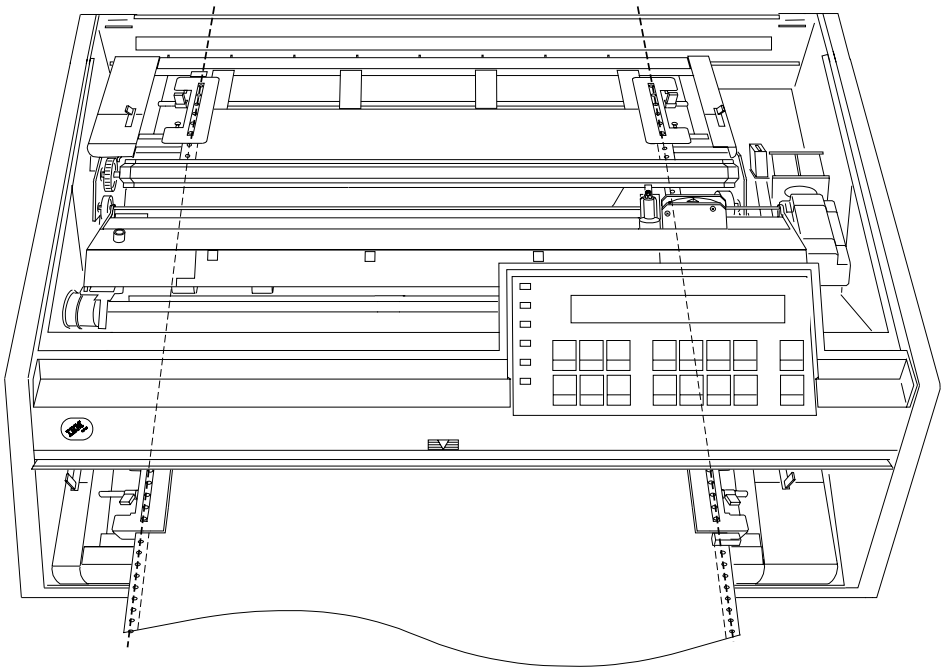


25. If necessary, slide the right tractor to the right side of the printer to remove the slack in the form. If the paper is too tight, slide the right tractor away from the right side of the printer. Make sure the tractor pins are centered in the paper holes.

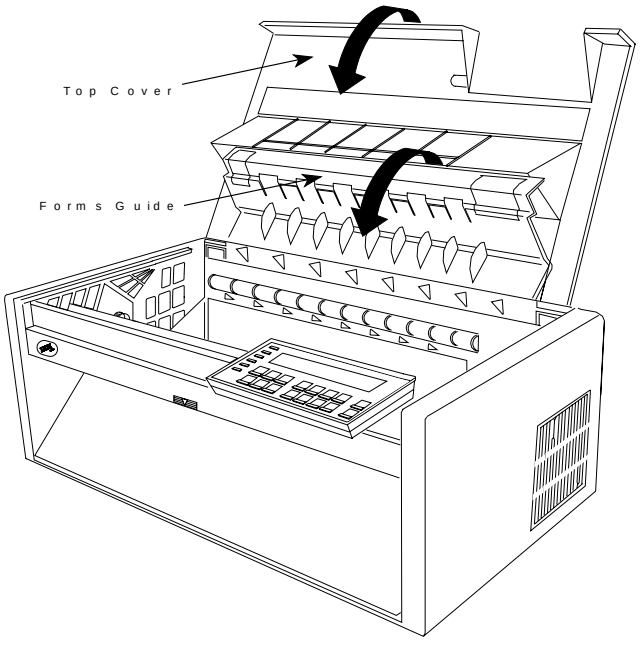


26. While holding the right tractor in place, lock the right locking lever.
27. Move the spacers along the tractor bar to support the width of the form.

28. Make sure that all four tractors are aligned.

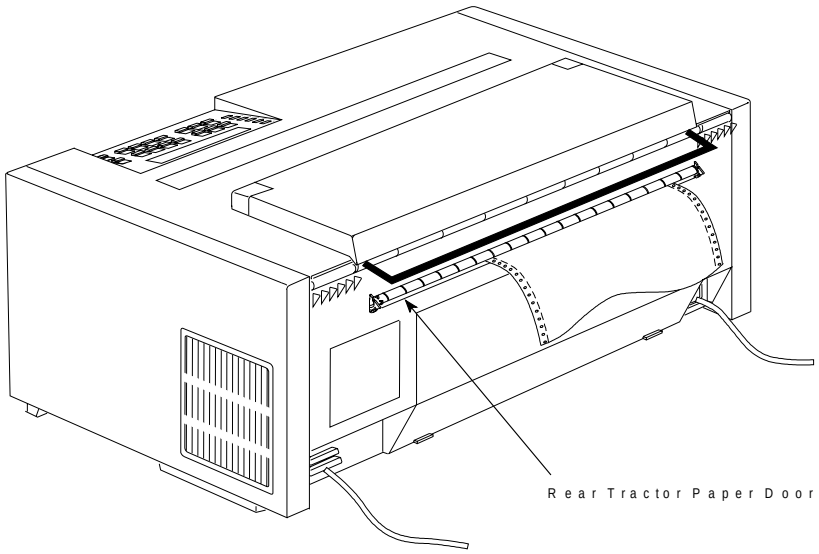


29. Close the forms guide and the top cover.



30. Press **Form Feed**.

31. If necessary, press **Load/Eject** to feed the paper through the *rear tractor paper door*. Make sure the forms pass under the *forms jam sensor* and under the *rear tractor paper door*.



32. Press **Start** to make the printer *ready*.

The printer is now ready for jobs that use the ***Push-Pull*** paper path. If you do not want to use the printer defaults for form settings (such as Characters per Inch, Lines per Inch, or Maximum Print Position [MPP]), see Chapter 3, “Checking and Changing Configuration Parameter Values.”

Manual Sheet Feed Paper Path

The 4247 Printer provides the ability to print on either single or multiple-part cut-sheet forms using the Manual Sheet Feed paper path.

It is not recommended to select **Manual** when the printer is set for either the Rear-Pull or the Push-Pull paper paths. **Manual** can be selected from the operator panel, but to use it, you will need to re-configure the paper path both before and after using **Manual**. **Manual** cannot be selected via the IPDS data stream when the printer is set for either the Rear Pull or the Push Pull paper paths.

Notes:

1. If you currently have the printer configured for the Rear Pull path, before using Manual Sheet Feed you must install the *paper bail*.
2. If the printer is currently configured for the Rear Pull or Push-Pull paper paths, you must put the forms guide metal deflector in the *push* (open) position before using the Manual Sheet Feed.
3. If you are using the Manual Paper Overlay option, make sure you have the value set to `Enabled` in the Printer Setup category, continuous forms are loaded in the appropriate paper path, and then continue with **step 5**.

   An overlaying manual sheet can be loaded into the printer only when the printer is in “not ready” state.

Procedure

1. Press **Park/Path**.

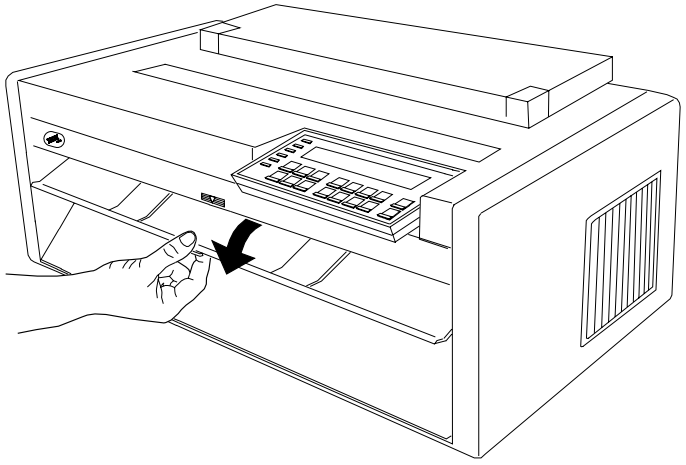
   If continuous forms are currently in the printer for Front Push, Rear Push, or Push-Pull, the printer displays

   ```
   091 FANFOLD PARK
       TEAR OFF AT OUTPUT AND PRESS PARK
   ```

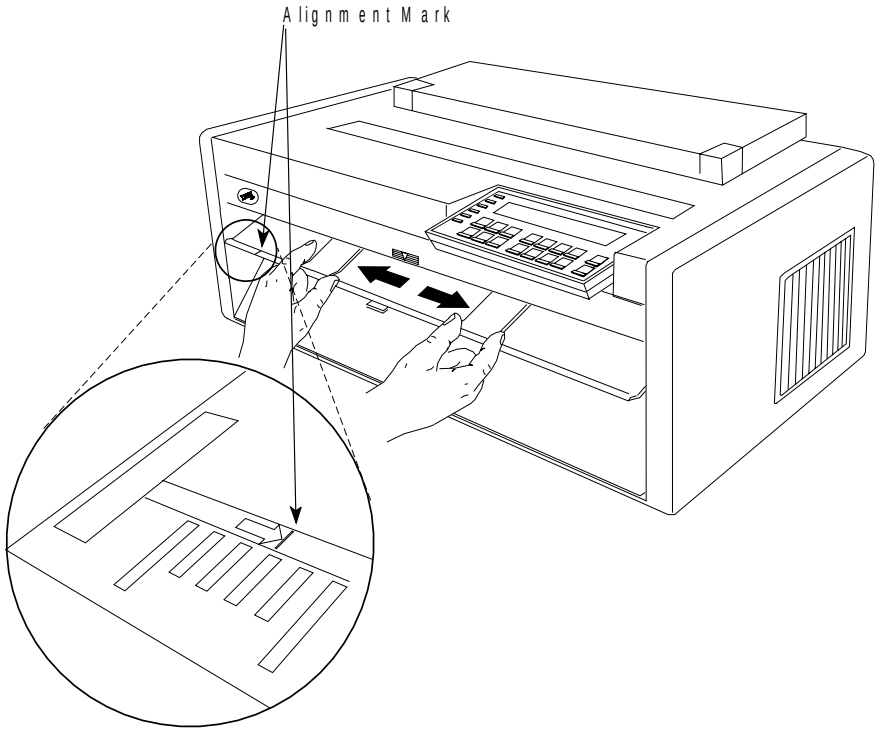
   If continuous forms are currently in the printer for Rear Pull, the printer displays

   ```
   092 FANFOLD PARK
       TEAR OFF AT INPUT AND PRESS EJECT
   ```

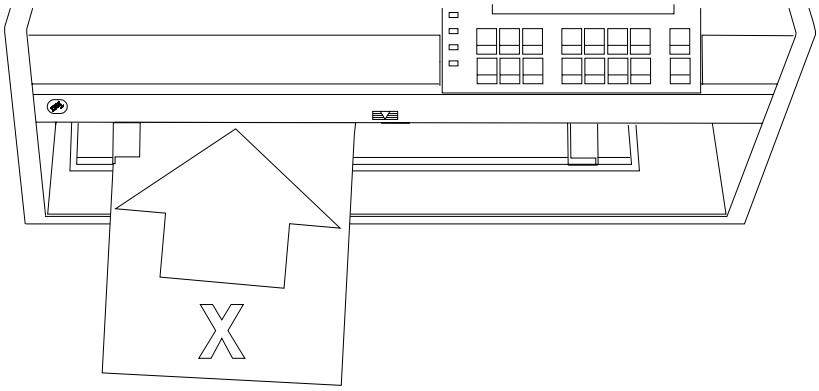
2. Press **Stop** and perform the action requested on the operator panel display.
3. Press **Park/Path** to back the forms below the print line.
4. Press **Park/Path** again to change the paper path on the operator panel display to `Manual`.
5. Insert your thumb into the center opening and pull the door down.

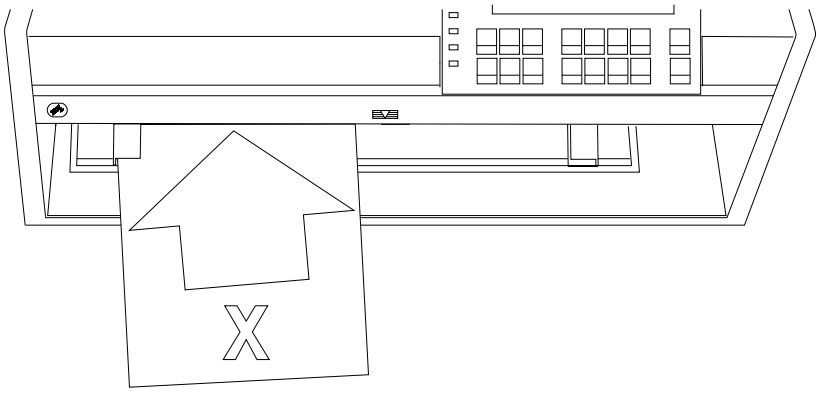


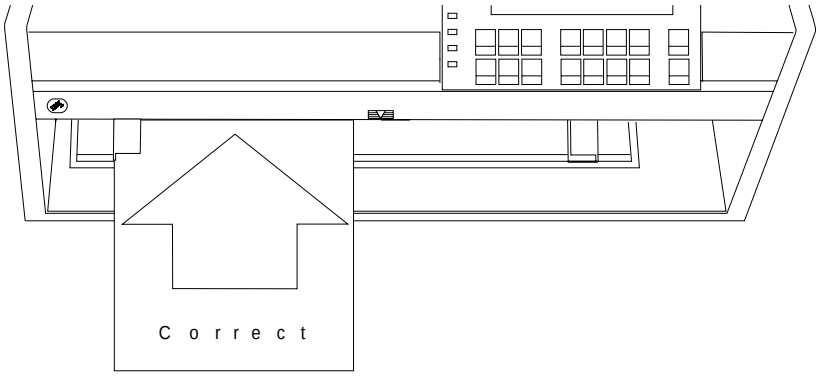
6. Move the left cut-sheet paper guide to the *left alignment mark*. Move the right cut-sheet paper guide to the extreme right.



7. Push the form into the printer until it stops, making sure the form is straight against the *left paper guide*.







8. If Automatic Manual Load is set to *enabled* in the Printer Setup menu, after a three second timeout, the paper is automatically fed into the printer and your job is printed.

   or

   If Automatic Manual Load is set to *disabled* in the Printer Setup menu, press **Load/Eject** to load the paper and print your job.

Chapter 18. Using the Operator Print Tests

General Test Instructions 18-2
Quick Reference 18-3
Printer Demonstration 18-5
Printer Configuration 18-7
Firmware Information 18-10
Printer Adjustments 18-11

This chapter describes the print tests you can perform to:

- Check information on the operator panel keys and the configuration menu.
- Demonstrate printer capabilities
- Check the version code level of your printer
- Check your printer configuration values
- Change and check printer adjustments for each paper path.

Any of these tests can be performed at anytime. However, all tests should be performed when there is no print data buffered and the printer is not processing data. When you use the Operator Print Tests, the printer goes *offline.* When you exit test mode, the printer performs a *partial reset* before going back *online.* This partial reset clears any buffered print data and anything stored in printer storage.

Entering the Operator Print Tests may cause the forms configuration values to be adjusted. If the current values are less than a maximum print position of 72 or a maximum page length of 66, the printer will adjust the values. This is done to ensure correct formatting of all offline customer tests. A form that is at least 210 mm x 297 mm (8.27 x 11.70 in.) is needed to run any of the operator print tests. The original values will be reset when the printer returns to the online state. If the values are larger than the required page dimensions, the values are not changed.

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General Test Instructions

To enter the Operator Print Tests menu, press **Stop** to make the printer *not ready*. Press **Test**. The printer displays

```
4247 OPERATOR PRINT TESTS
Quick Reference
```

The Quick Reference test is the first test in the Operator Print Tests menu. From this display, press **Scroll ↑** or **Scroll ↓** to view the other tests. Pressing **Enter** or **Start** begins a test.

While a test is running, pressing **Stop** or **Cancel Print** halts the test. If you press **Stop**, the test is halted and you are still in the Operator Print Tests menu. If you press **Cancel Print**, the printer exits test mode, performs a partial reset, and becomes online *ready*.

When a test is not running, pressing **Return** or **Cancel Print** tells the printer to exit test mode and perform a partial reset. If you press **Return,** the printer becomes *not ready*. If you press **Cancel Print,** the printer becomes online *ready*.

Quick Reference

You can print information about the operator panel keys and the Configuration Menu parameters you can set. Each key is shown with a corresponding description to the right. Each parameter is also shown with the corresponding values you can select printed to the right. It does not indicate the default values. See the "Configuration Categories" in Chapter 3, "Checking and Changing Configuration Parameter Values" for the default values or refer to the quick reference card shipped with your printer. See Figure 18-1 on page 18-4 for a sample printout.

The information is printed in the currently selected display language and it matches the method of attachment for your printer (twinaxial, coaxial, etcetera).

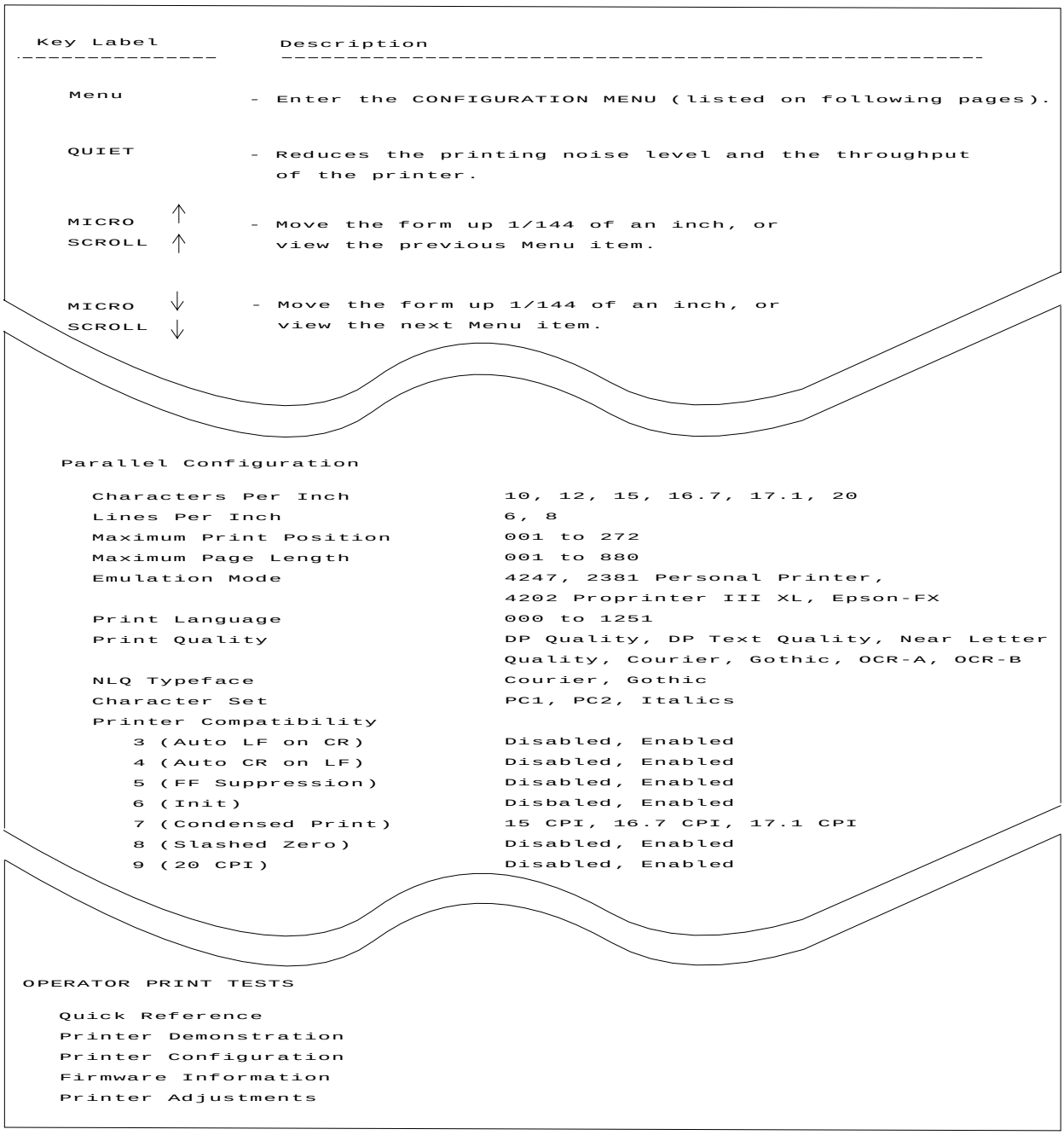
To begin the Quick Reference Test:

1. Press **Test**.

   The printer displays

   ```
   4247 OPERATOR PRINT TESTS
   Quick Reference
   ```

2. Press **Enter** or **Start** to begin the test. The **Ready** indicator goes on and printing begins.
3. When the Quick Reference test is complete the **Ready** indicator goes off.
4. Press **Cancel Print** to make the printer *ready* or **Return** to make the printer *not ready* (see "General Test Instructions" on page 18-2).



Key Label	Description
Menu	- Enter the CONFIGURATION MENU (listed on following pages).
QUIET	- Reduces the printing noise level and the throughput of the printer.
MICRO ↑ SCROLL ↑	- Move the form up 1/144 of an inch, or view the previous Menu item.
MICRO ↓ SCROLL ↓	- Move the form up 1/144 of an inch, or view the next Menu item.

Parallel Configuration

Characters Per Inch	10, 12, 15, 16.7, 17.1, 20
Lines Per Inch	6, 8
Maximum Print Position	001 to 272
Maximum Page Length	001 to 880
Emulation Mode	4247, 2381 Personal Printer, 4202 Proprinter III XL, Epson-FX
Print Language	000 to 1251
Print Quality	DP Quality, DP Text Quality, Near Letter Quality, Courier, Gothic, OCR-A, OCR-B
NLQ Typeface	Courier, Gothic
Character Set	PC1, PC2, Italics
Printer Compatibility	
3 (Auto LF on CR)	Disabled, Enabled
4 (Auto CR on LF)	Disabled, Enabled
5 (FF Suppression)	Disabled, Enabled
6 (Init)	Disbaled, Enabled
7 (Condensed Print)	15 CPI, 16.7 CPI, 17.1 CPI
8 (Slashed Zero)	Disabled, Enabled
9 (20 CPI)	Disabled, Enabled

OPERATOR PRINT TESTS

Quick Reference
Printer Demonstration
Printer Configuration
Firmware Information
Printer Adjustments

Figure 18-1. Sample Quick Reference Printout

Printer Demonstration

You can print samples of all the available print qualities and bar codes by using the Printer Demonstration test.

Note: The 4247 Printer can perform this test without being connected to a computer. This test will only print in the English language.

To begin the printer demonstration:

1. Press **Test**.
2. Press **Scroll ↑** or **Scroll ↓** until the printer displays

```
4247 OPERATOR PRINT TESTS
Printer Demonstration
```

3. Press **Enter** or **Start** to begin the test. The **Ready** indicator goes on and printing begins.
4. When the Printer Demonstration test is complete the **Ready** indicator goes off.
5. Press **Cancel Print** to make the printer *ready* or **Return** to make the printer *not ready* (see “General Test Instructions” on page 18-2).

The following sample printout is from the 4247-002. The printer demonstration for the 4247-001 is the same except for the model number and the maximum capable print speed.

THE IBM 4247-002 PRINTER

Thank you for taking time to view a demonstration of this IBM 4247-002. It is a heavy-duty serial impact matrix printer capable of printing 400 characters per second and providing new multiple forms paper paths.

TOTAL OF SIX PAPER INPUT SOURCES - Two continuous forms, one manual cut sheet, and an optional three bin auto sheet feeder.

AUTOMATIC FORMS THICKNESS ADJUSTMENT - Adjusts the print head gap automatically and precisely.

ASCII, SCS, AND IPDS DATASTREAMS

ENERGY STAR COMPLIANT

EIGHT USER-DEFINED CUSTOM SETS

OPERATOR PANEL - Makes setup and daily operations easier by using menu selections.

DATA PROCESSING QUALITY ---

Printing Speeds:	400 characters per second
Printing Sizes:	10 CPI (fixed spacing)
	12 CPI (fixed spacing)
	15 CPI (fixed spacing)
	16.7 CPI (and 17 CPI ASCII) (fixed spacing)
	20 CPI (fixed spacing) (ASCII)

TEXT QUALITY ---

Printing Speeds:	240 characters per second
Printing Sizes:	10 CPI (fixed spacing)
	12 CPI (fixed spacing)
	15 CPI (fixed spacing)
	16.7 CPI (and 17 CPI ASCII) (fixed spacing)
	20 CPI (fixed spacing) (ASCII)

NEAR LETTER QUALITY ---

Printing Speeds:	120 characters per second
Printing Sizes:	10 CPI (fixed spacing)
	12 CPI (fixed spacing)
	15 CPI (fixed spacing)
	16.7 CPI (and 17 CPI ASCII) (fixed spacing)
	20 CPI (fixed spacing) (ASCII)

As many as 272 characters can be printed on 13.6-inch print line with wide paper, 20 CPI and fixed spacing.

The IBM 4247-002 can emphasize important points with UNDERSCORE, **BOLD**, and *ITALICIZED* printing. DOUBLE-STRIKE text to attract the reader's attention. Other emphasis modes include ~~overstrike~~, D O U B L E - W I D E, and overscore.

Make use of SUPERSCRIPTS and SUBSCRIPTS:

$$F(x,y) = (xy)^{15} + x^{7} - y^{3} \qquad C_6H_{12}O_6$$

Printer Configuration

You can print the current values for each parameter. Each parameter is shown with its corresponding value printed to the right. The category and parameter names are printed in the current Display Language used on the operator panel. The current custom set is noted at the top right column of the configuration printout. If you need to verify each custom set, the Operator Print Tests must be run for each custom set. The custom set must be changed in the configuration menu before running each configuration printout, see "Recall Custom Set Values." Depending on your attachment, see Figure 18-2 on page 18-8 or Figure 18-3 on page 18-9 for sample printouts.

Printer configurations can be checked by entering the configuration menu.

To print the printer configuration:

1. Press **Test**.
2. Press **Scroll ↑** or **Scroll ↓** until the printer displays

   ```
   4247 OPERATOR PRINT TESTS
   Printer Configuration
   ```

3. Press **Enter** or **Start** to begin the test.

   The **Ready** indicator goes on and printing begins. The printout shows the current configuration. The configuration printout is complete when the **Ready** indicator goes off.

4. Press **Cancel Print** to make the printer *ready* or **Return** to make the printer *not ready* (see "General Test Instructions" on page 18-2).

Figure 18-2. Sample Printer Configuration Printout for Twinaxial Attachment

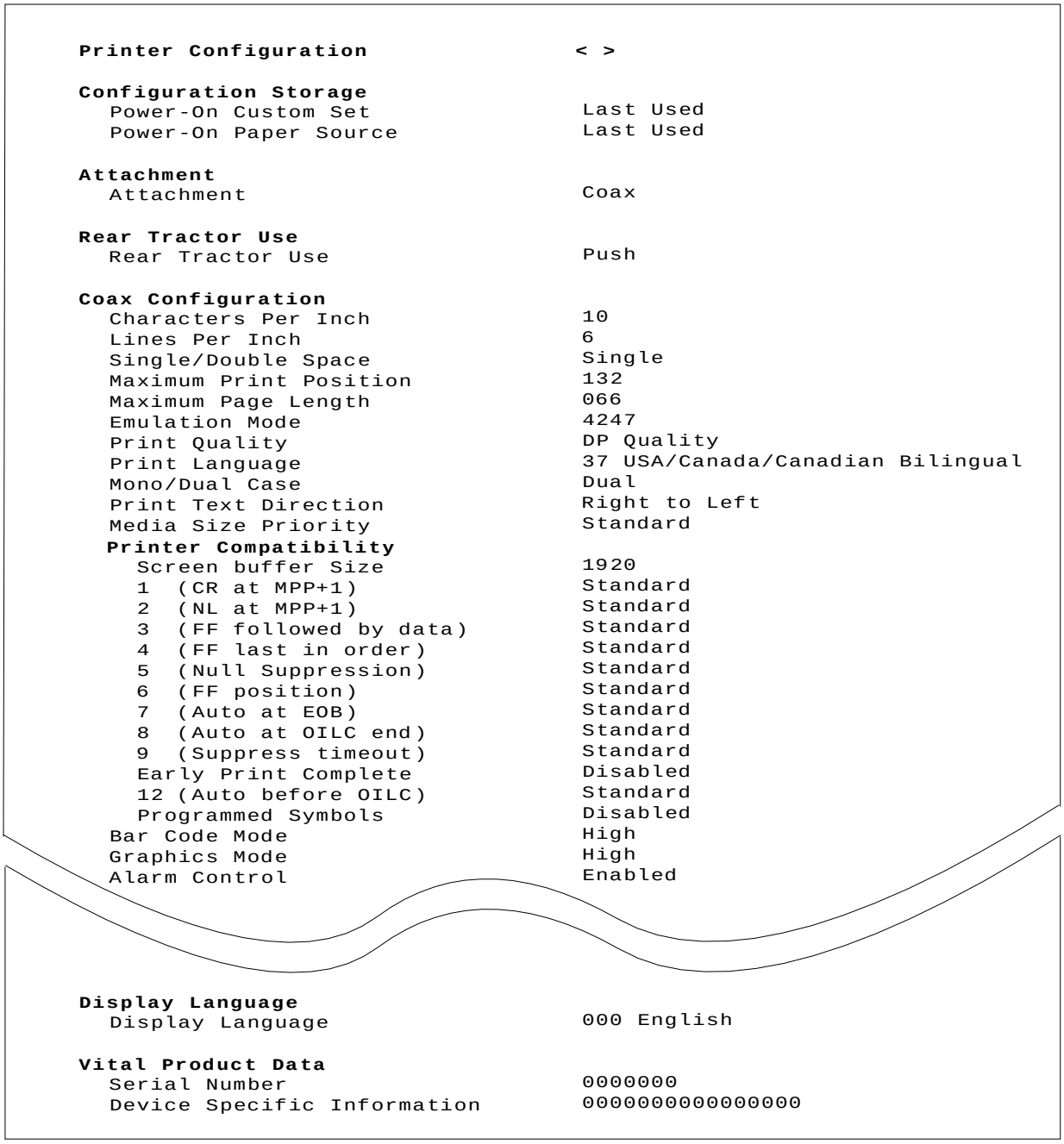


Figure 18-3. Sample Printer Configuration Printout for Coaxial Attachment

Firmware Information

You can print information to verify your printer model number and the microcode level installed in your printer. You will need this information if problems occur with your printer and you need to contact your service representative. See Figure 18-4 for a sample printout of a printer with twinaxial attachment.

To check the Firmware Information:

1. Press **Test**.
2. Press **Scroll** ↓ or **Scroll** ↑ until the printer displays

   ```
   4247 OPERATOR PRINT TESTS
   Firmware Information
   ```

3. Press **Enter** or **Start** to begin the test.

   The **Ready** indicator goes on and printing begins. The firmware printout is complete when the **Ready** indicator goes off.

4. Press **Cancel Print** to make the printer *ready* or **Return** to make the printer *not ready* (see “General Test Instructions” on page 18-2).

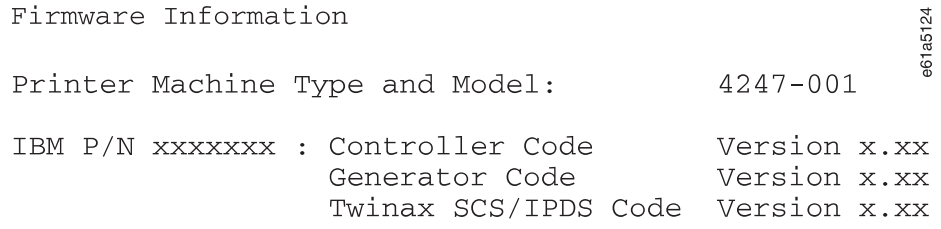


Figure 18-4. Sample Firmware Printout

Printer Adjustments

You can make adjustments to your printer to maintain print quality. The adjustments can be set and then tested by running a print test without having to exit the menu. There is a set of printer adjustment parameters for each paper path: Front, Rear, Bin 1, Bin 2, Bin 3, and Manual. Chapter 11, “Printer Adjustments” describes the procedures for checking and changing the values of the printer adjustments. The following are the available printer adjustment parameters:

- Front Automatic Forms Thickness (AFTA)
- Front Tear Position
- Front Left Margin Alignment
- Front Paper Load Position
- Rear Automatic Forms Thickness (AFTA)
- Rear Tear Position
- Rear Left Margin Alignment
- Rear Paper Load Position
- ASF Bin 1 AFTA
- ASF Bin 1 Left Margin Alignment
- ASF Bin 1 Paper Load Position
- ASF Bin 2 AFTA
- ASF Bin 2 Left Margin Alignment
- ASF Bin 2 Paper Load Position
- ASF Bin 3 AFTA
- ASF Bin 3 Left Margin Alignment
- ASF Bin 3 Paper Load Position
- Manual Feed AFTA
- Manual Feed Left Margin Alignment
- Manual Feed Paper Load Position
- Bidirectional Adjustment (Available only in Operator Print Test Menu)
- Sensor Tune (Available only in Operator Print Test Menu)
- Quit From Menu (Available only in Operator Print Test Menu)

To check or change printer adjustments:

1. Press **Test**.
2. Press **Scroll ↓** or **Scroll ↑** until the printer displays

```
4247 OPERATOR PRINT TESTS
Printer Adjustments
```

3. Press **Enter**.
4. Press **Scroll↑** or **Scroll↓** until the desired value for Printer Adjustments is displayed.
5. Press **Enter** and change the values you wish to change.
6. Press **Start** to run a print test for acceptable quality and alignment.

   If the quality is not acceptable, return to Step 3, otherwise, continue.
7. Press **Form Feed** to see what you printed.
8. Press **Cancel Print** to make the printer *ready* or **Return** to make the printer *not ready* (see “General Test Instructions” on page 18-2).

Chapter 19. Supplies, Optional Features, and Maintenance

Supplies 19-2
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Cleaning the Printer 19-16
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Supplies

Ribbon cartridges and paper are the only supplies you need for your printer.

When you need a new ribbon cartridge, order IBM part number **1053685**. Contact your place of purchase, or call Lexmark at 1-800-438-2468 to order ribbons.

Forms Specifications for Continuous and Cut Sheet Forms

The 4247 Printer operates with continuous and cut-sheet forms. All forms should be evaluated in the printer's functional environment for forms handling, print registration, and print quality acceptability prior to use. The forms must meet the following specifications:

		Paper Paths		
		Continuous Forms		Cut Sheet
	Form Aspects	Front Push Push-Pull Rear Pull	Rear Push	Manual Feed
Dimensions	Width	76.2-431.8 mm 3-17 in.	76.2-431.8 mm 3-17 in.	114.3-444.5 mm 4.5-17 in.
	Length	76.2-609.6 mm 3-24 in.	76.2-609.6 mm 3-24 in.	101.6-609.6 mm 4-24 in. (note 8)
Single Part	Weight	55-150 g/m^2 15-40 lb.	55-80 g/m^2 15-21 lb.	50-120 g/m^2 13.3-32 lb.
	Thickness (minimum)	0.08 mm 0.003 in.	0.08 mm 0.003 in.	0.08 mm 0.003 in.
Multiple Part	Maximum parts (Original + Copies)	8 (1 + 7)	4 (1 + 3)	8 (1 + 7)
	Overall Thickness	0.08-0.635 mm 0.003-0.025 in.	0.08-0.35 mm 0.003-0.014 in.	0.08-0.635 mm 0.003-0.025 in.
	First sheet weight	55-150 g/m^2 15-40 lb.	55-80 g/m^2 15-21 lb.	55-150 g/m^2 15-40 lb.
	Attached sheet individual weight	45-75 g/m^2 12-20 lb.	45-75 g/m^2 12-20 lb.	45-75 g/m^2 12-20 lb.
	Carbon paper individual weight	14-35 g/m^2 4-9 lb.	14-35 g/m^2 4-9 lb.	14-35 g/m^2 4-9 lb.
Notes (see page 19-2)		1, 2, 3, 5, 6	1, 2, 3, 4	7, 8, 9

Notes:

Continuous Forms

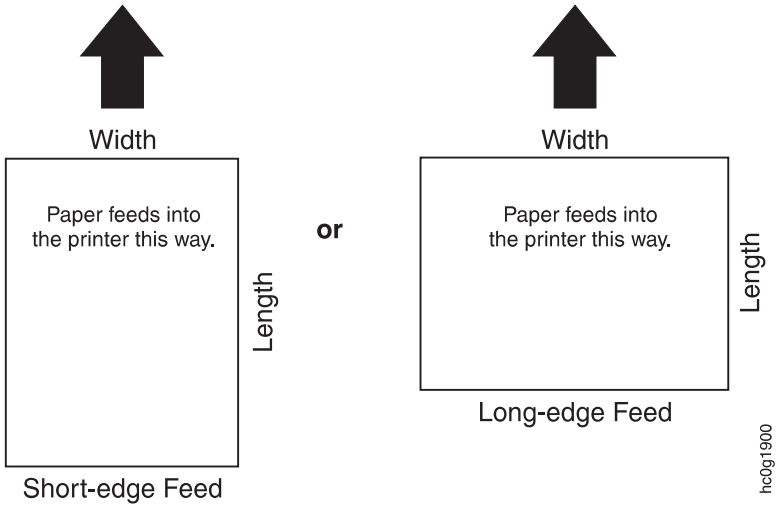
1. Forms less than 152.4 mm (6 in.) in length or width should be tested for satisfactory stacking and may require operator assistance.
2. For optimum performance, printing should be restricted to 6.4 mm (0.25 in.) from all edges, holes, or folds on the forms.
3. Some multiple part forms (such as mailers, thick/heavy perforations) may have problems when using the PARK function. Try the forms first. If you do have problems parking them, work the forms supplier to minimize damage.

4. Continuous forms with adhesive labels are not recommended.
5. To prevent labels on labeled continuous forms from detaching when using the TEAR or PARK keys, set FRONT TEAR=NO or REAR TEAR=NO in the Power On Configuration Menu. Making this configuration change does the following things:
   - Disables the TEAR key tear-off function.
   - Modifies how the PARK key works for forms in the Front Push and Rear Push paper paths.

     To park a form if FRONT TEAR=NO or REAR TEAR=NO, break the forms at the perforation before the entry into the printer. Then press PARK and the forms move forward until ejected from the printer.
6. Black back forms cannot be used in these paper paths. They can only be used in the Rear Push, Manual Sheet Feed, and Auto Sheet Feed (bins 1, 2 and 3) paper paths.

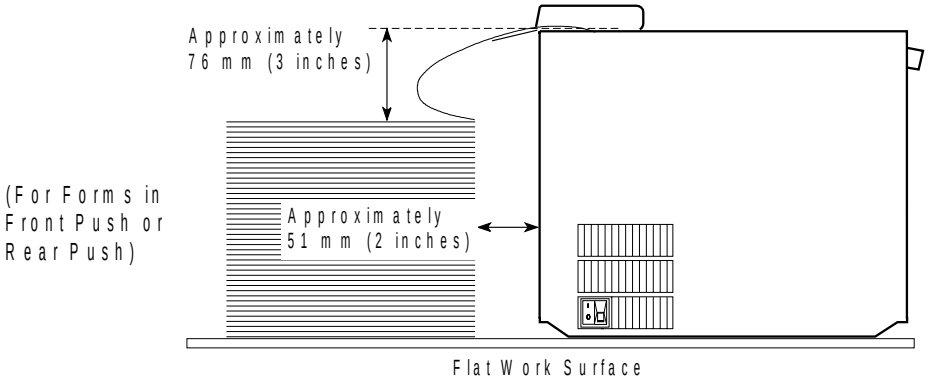
Cut Sheet Forms

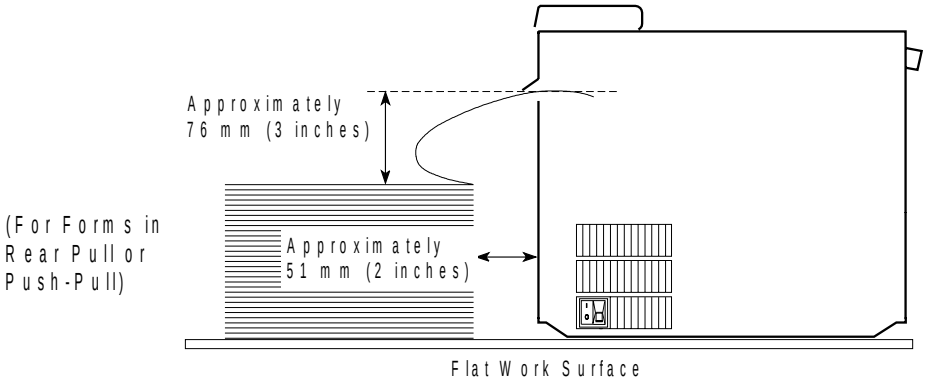
7. The following sizes of cut sheet forms may be used in the Manual Sheet Feed paper path: A5, A4, A3, A2, Letter, Legal, Executive
8. For optimum performance, printing should be restricted to 12.7 mm (0.5 in.) from all edges, holes, or folds on the forms.
9. The term *length* applies to the paper dimension parallel to the paper motion.



Forms Stacking Recommendations

IBM recommends the following maximum stacking height when stacking continuous forms on the same work surface as the printer.





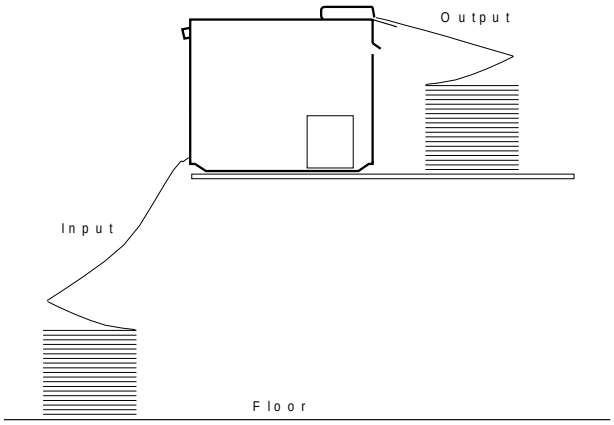
Forms Stack Input and Output Locations

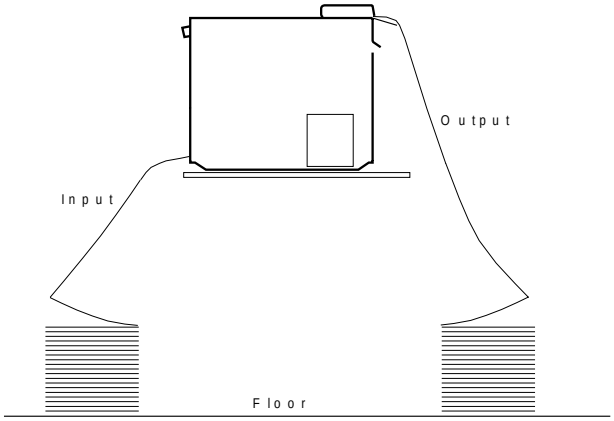
Depending on which paper path you are using, see the diagrams on the following pages for ways to stack input and output forms for your printer.

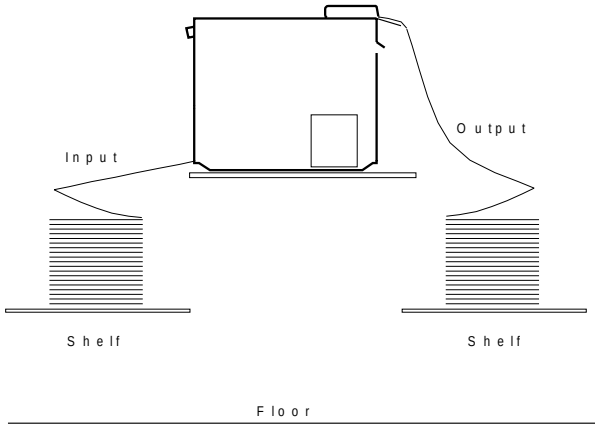
For satisfactory stacking results, the distance from the printer table to the floor should be 736 to 762 mm (29 to 30 in.) and the distance between the shelf and the floor should be 381 mm (15 in.). IBM offers an optional printer table that was especially designed for your 4247 Printer. For more information on this printer table, contact your Marketing Representative.

Note: For successful forms parking, the input forms stack MUST always be lower than the printer.

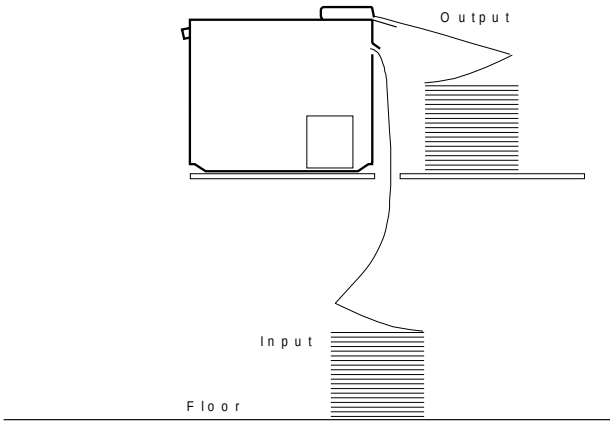
Front Push Paper Path

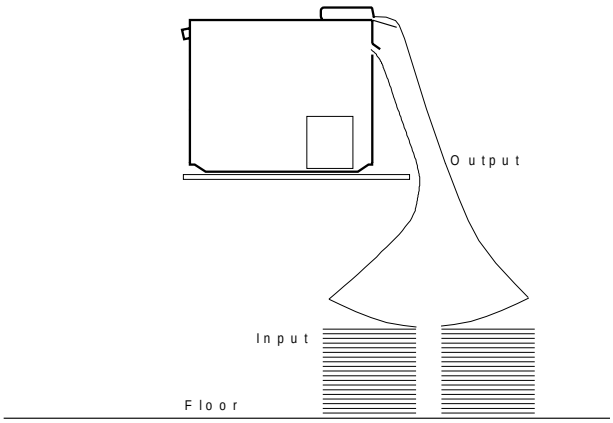


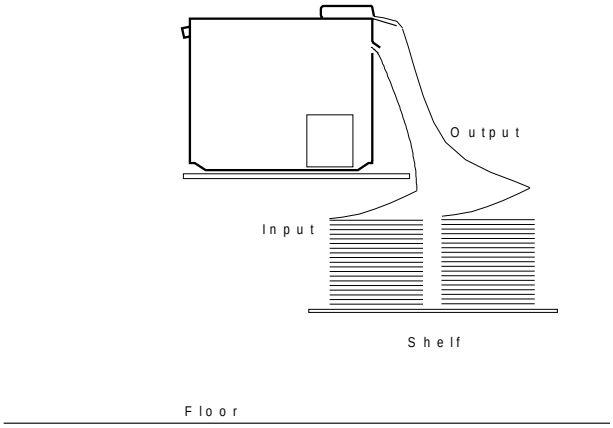




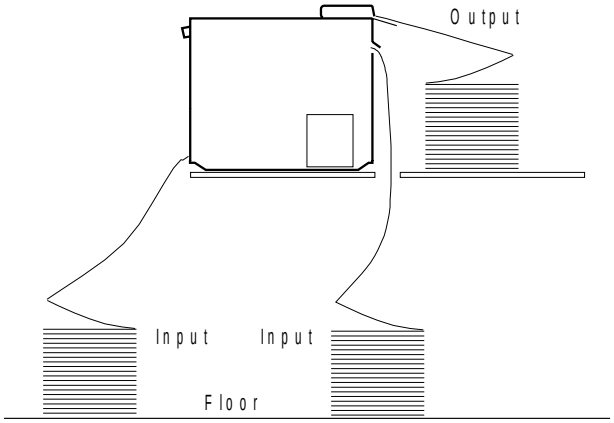
Rear Push Paper Path

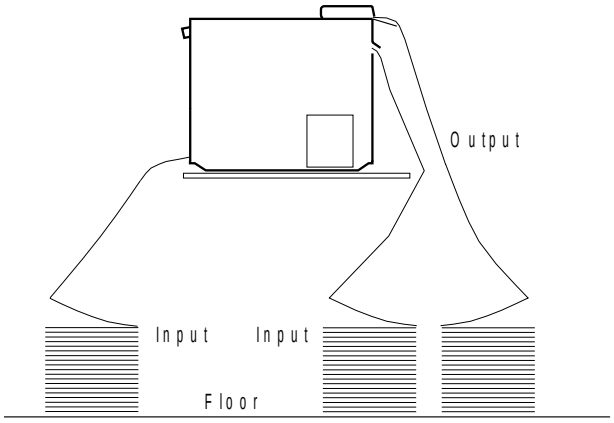


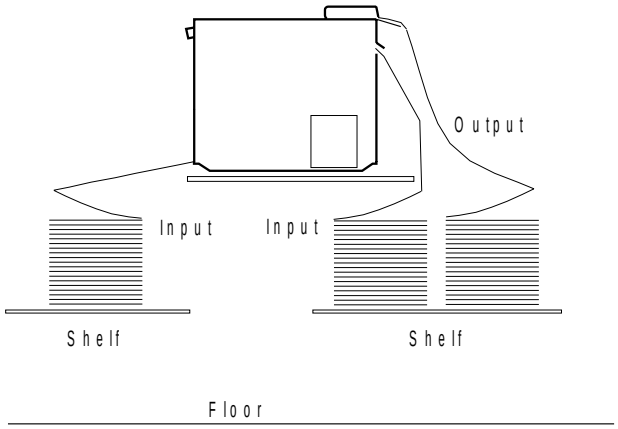




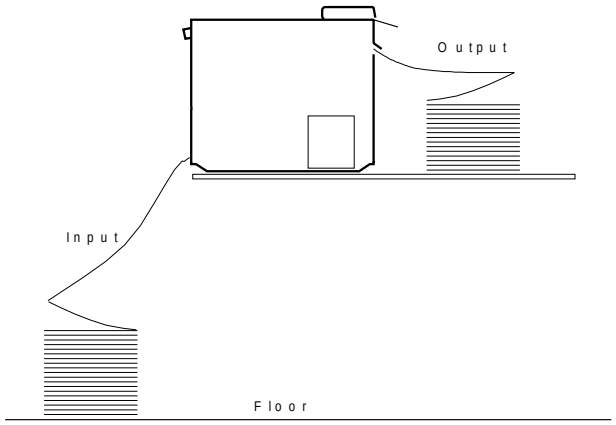
Dual Push Paper Path

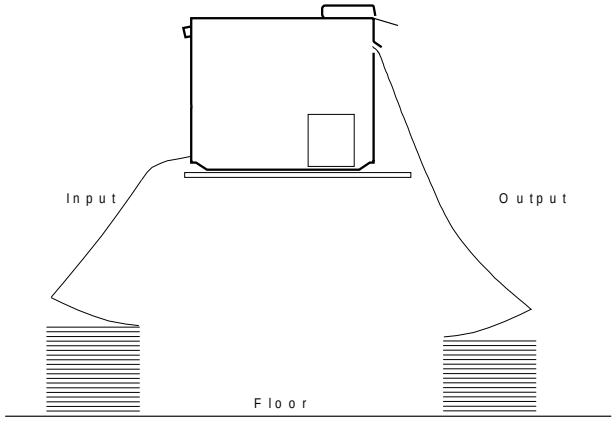


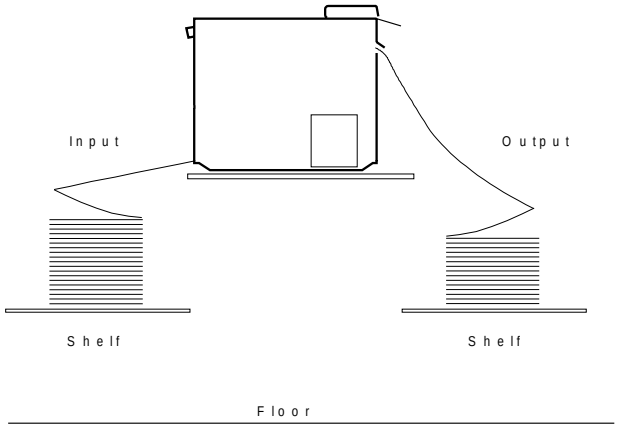




Rear Pull or Push-Pull Paper Path

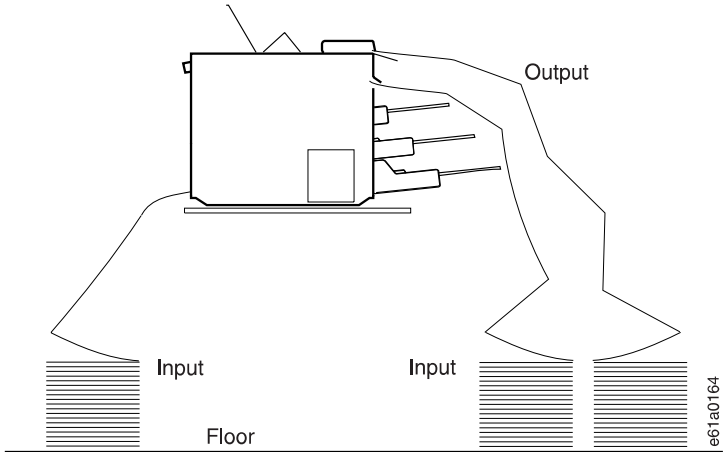






Auto Sheet Feed Paper Path

Note: This diagram shows the Dual Push paper path along with the automatic sheet feeder. If using any of the available paper paths along with the ASF, make sure the input and output stacks that are in the rear of the printer are placed far enough away from the ASF bins so they do not catch on the bins.



Optional Features

Available options for your printer are listed below:

- Automatic Sheet Feeder (ASF) (includes cover, stacker, and one input bin)
- Additional Automatic Sheet Feeder (ASF) Input Bin, (maximum of two)

  For additional information on the Automatic Sheet Feeder, see the *IBM 4247 Printer Automatic Sheet Feeder Guide*.
- Additional Tractor
- Parallel Interface Cable (1.8 m [6 ft])
- Ethernet 10BaseT Network Print Server
- Ethernet 10Base2 Network Print Server
- Token-Ring Media Type 3 Network Print Server
- Token-Ring Media Type 1 Network Print Server
- Intelligent Printer Data Stream (IPDS)
- Printer Table for Dual (Front Push and Rear Push) Paths)

For more information on these optional features, contact your Marketing Representative.

Maintenance

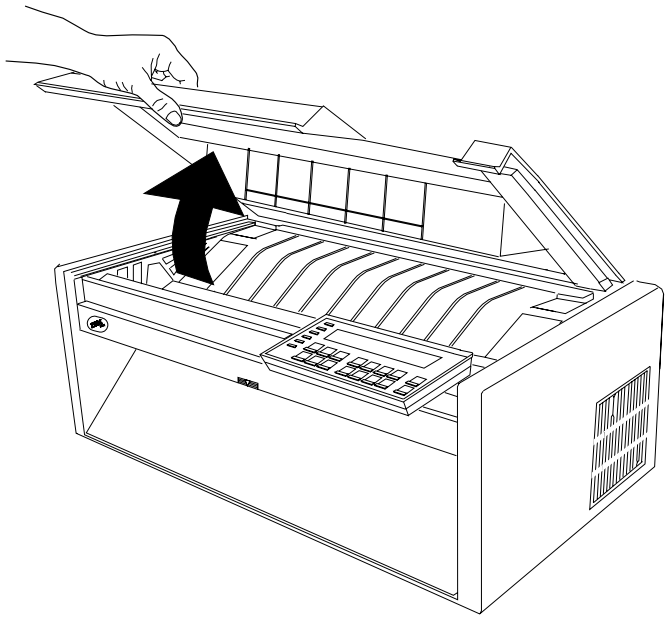
Removing the Ribbon Cartridge

Warning: Damage to the printer can occur if you do not use IBM ribbon (part 1053685) especially designed for the 4247 Printer. Call Lexmark at 1-800-438-2468 or your place of purchase to order ribbons.

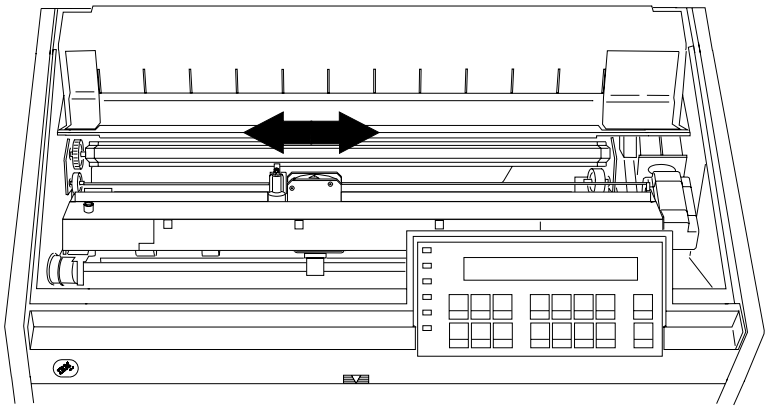
CAUTION:
The print head may get hot during operation. Be careful when removing or replacing the ribbon.

To remove an existing ribbon cartridge, follow these steps:

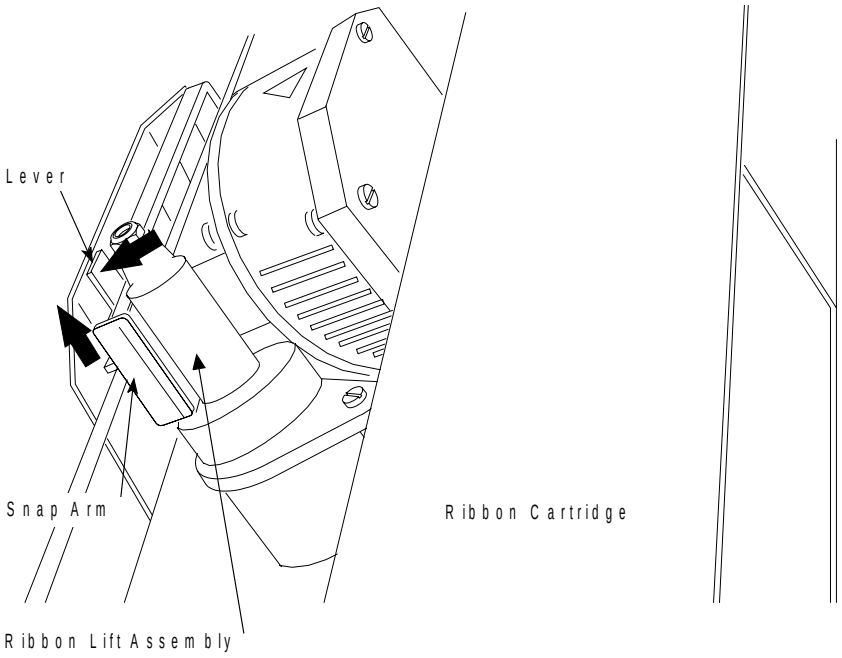
1. If the power is Off (O), go to Step 3.
2. If the power is On (|), and the **Format/Online** (coaxial) or the **Online** (twinaxial) indicator is lit, press **Stop** to make the printer *not ready*. This indicator should now be off.
3. Lift the cover and tilt it back to the full open position.



4. Slide the print head to the center of the printer.



5. Pull the ribbon cartridge up until each end snaps free from the cartridge support.

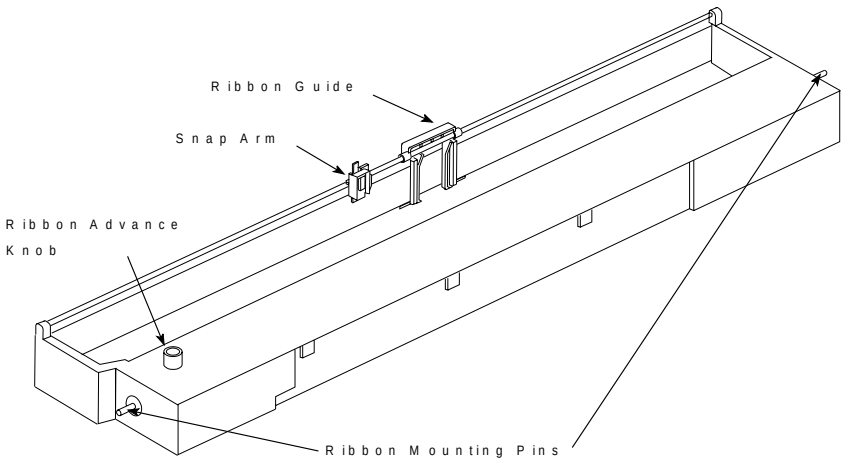


6. Push and hold the white plastic lever away from the ribbon lift assembly and remove the ribbon cartridge from the printer.

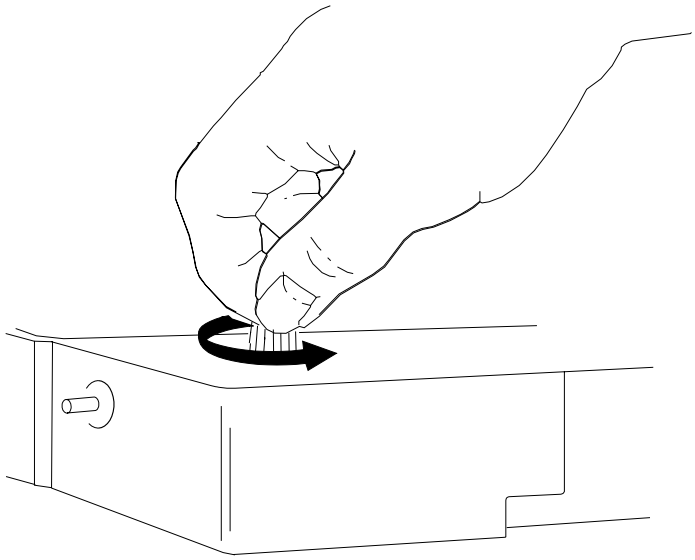
Installing the Ribbon Cartridge

To install a new ribbon cartridge, follow these steps:

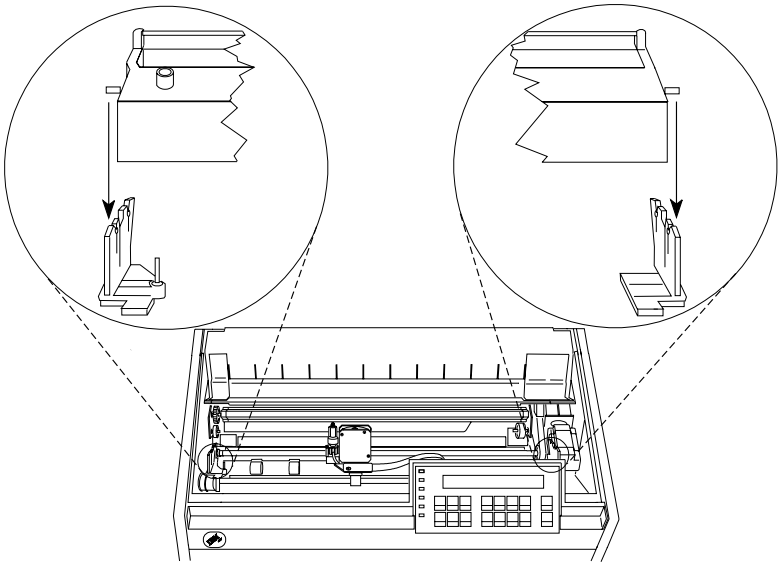
1. Get a new ribbon cartridge and remove it from the package. Locate the ribbon guide, white plastic snap arm, ribbon advance knob, and the ribbon mounting pins.



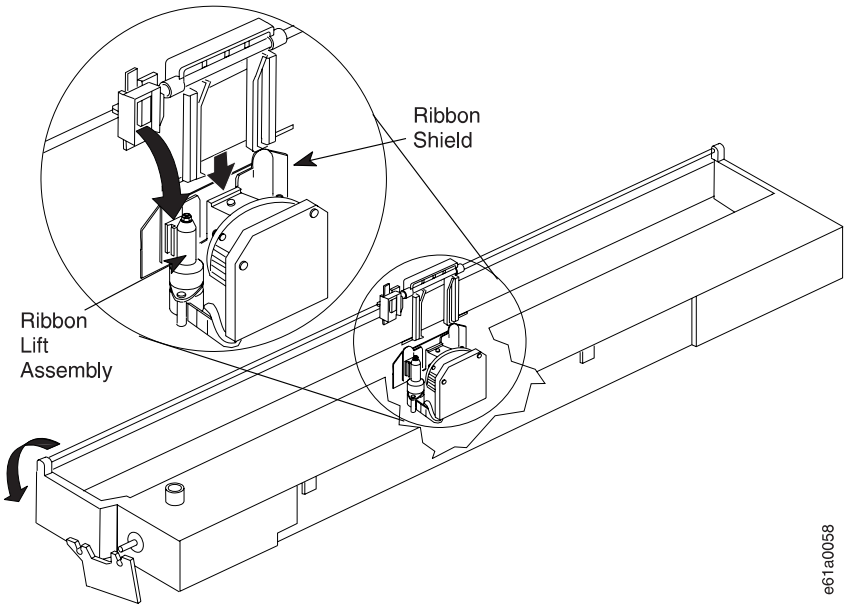
2. Before installing the ribbon cartridge, turn the ribbon advance knob in the direction of the arrow (located on the cartridge) to take up the slack in the ribbon. If the ribbon does not move, contact your place of purchase and replace the ribbon cartridge.



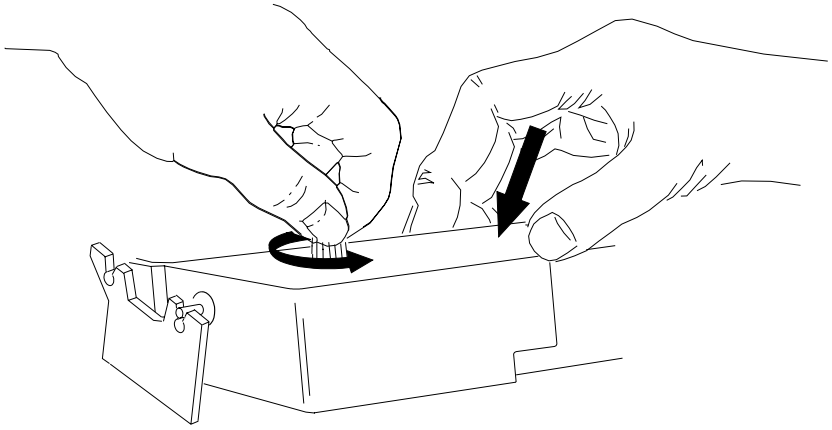
3. Align the pin on the left and right side of the ribbon cartridge with the slots in the cartridge supports.



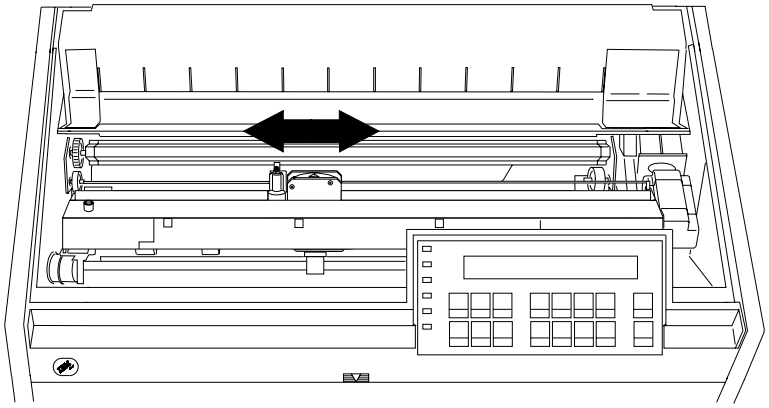
4. Insert the ribbon guide between the ribbon shield and the print head. Position the white snap arm with the small lever up onto the ribbon lift assembly. Push the white plastic arm down onto the ribbon lift assembly until it snaps into place.



5. While turning the ribbon advance knob, press the left side of the ribbon cartridge down until it snaps into place. Then press the right side down until is snaps into place.



6. Turn the ribbon advance knob again in the direction of the arrow to take up slack in the ribbon.
7. Slide the print head back and forth to ensure that the ribbon guide runs freely along the ribbon.



8. To be sure you have installed the ribbon cartridge correctly, check that:
   a. The left and right ribbon mounting pins are securely snapped into the cartridge supports.
   b. There are no twists or folds in the ribbon.
   c. The ribbon is not catching on the print head.
   d. The ribbon moves when you turn the ribbon advance knob in the direction of the arrow. If the ribbon does not move, replace the ribbon cartridge.

   If necessary, load or reload forms (see the appropriate section in Chapter 17, “Paper Loading” depending on the forms path you use).
9. Be sure that the power is On (|).
10. Press **Start** to make the printer ready. Your printer is now ready to print a job.

Cleaning the Printer

Periodic cleaning will help keep your printer in top condition so that it will always provide optimal performance.

Before you clean the printer:

1. Turn the printer power switch Off (O).
2. Unplug the power cord.
3. Wait at least 15 minutes for the print head to cool before starting this procedure.

Cleaning the Inside of the Printer

Every few months, use a soft brush and a vacuum cleaner to remove dust, ribbon lint, and pieces of paper. Remove the ribbon cartridge to prevent the ribbon from going into the vacuum cleaner. Vacuum any dust from around the print head and in the printer cavity.

Note: Do not allow any staples, paper clips, or small metal pieces to fall inside the printer.

Cleaning the Covers

Clean the outside of the printer with a damp cloth and mild soap. Do not use any spray-type or chemical cleaners anywhere on your printer. Do not put any liquids or spray near the air vents. For stubborn ink stains on the cover, use a commercial mechanic's hand cleaner.

Chapter 20. Problem Solving

Using the Status Code and Problem Listings 20-1
Status Codes and Messages 20-2
Problem List Index 20-20
  Forms Problems 20-21
  Print Quality and Ribbon Problems 20-25
  Configuration Problems 20-28
  Miscellaneous Problems 20-28
Clearing Forms Jams 20-29

When the printer displays a status code, you need to know what action to take to recover from the displayed condition. This chapter lists the status codes and recovery actions and gives a list of problems, probable causes, and recovery actions for problems that do not display a status code.

Using the Status Code and Problem Listings

When a problem with the printer occurs, the printer displays a status code and message. The message on the display identifies the problem and gives a recommended action.

Status Code and Message Displays: Find the code listed in numeric order on the following pages and perform the steps to fix the problem. Only codes on which an operator can take action are included.

Note: If you get a code that you cannot find in this chapter, record the code and run the job again. If you get the same code, call for service.

No Status Code Displays: Scan the “Problem List Index” on page 20-20 and go to the page listed beside the problem. Find your problem in the chart, read down the page to the “Solution,” and do the recommended recovery action. If you still cannot fix the problem, turn the power Off (O). Wait 10 seconds, and then turn the power On (|). If the problem still exists, call for service.

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```
001 END OF FORMS
    LOAD FORMS
```

An end-of-forms condition exists in one of the paper paths.

Recovery:

Front Push and Rear Push:

1. Press **Stop**.
2. Load paper in the appropriate paper path. See Chapter 17, “Paper Loading.”
3. Press **Load/Eject**.
4. Press **Start**.

If the message displays again, tune the sensor. See “Sensor Tune” in Chapter 11, “Printer Adjustments.”

If the message still displays, call for service.

Rear Pull:

1. Press **Stop**.
2. Load paper for the Rear Pull paper path. See Chapter 17, “Paper Loading.”
3. Press **Start**.

If the message displays again, tune the sensor. See “Sensor Tune” in Chapter 11, “Printer Adjustments.”

If the message still displays, call for service.

Push-Pull:

1. Press **Stop**.
2. Load paper in the Push-Pull paper path. See Chapter 17, “Paper Loading.”
3. Press **Start**.

If the message displays again, tune the sensor. See “Sensor Tune” in Chapter 11, “Printer Adjustments.”

If the message still displays, call for service.

```
002 FORMS JAMMED FRONT TRACTOR
    CLEAR JAM AND RELOAD FORMS
```

Recovery:

1. Press **Stop**.
2. Clear the jammed or torn form.
3. If you are printing in the Rear Pull or Push-Pull paper path, check to make sure the rear tractor paper door is opened for the forms to exit through.
4. Make sure the metal deflector on the forms guide and the paper bail are in the correct positions. For the correct positions, see “Installing the Tractor Unit” for the paper path you are currently using. (See Chapter 17, “Paper Loading.”)
5. Press **Start**.
6. If the message displays again, perform the actions under “Forms buckle, twist, jam, or tear.” (See “Problem List Index” on page 20-20.)

If the message displays again, clean the tractor sensors with a soft, clean cloth.

If the message still displays, call for service.

```
003 FORMS EJECTED
    PRESS LOAD
```

Recovery:

1. Press **Load/Eject** to position the form back to the top of form position and enable printing.

```
004 PRESS LOAD
```

Recovery:

1. Press **Load/Eject** to position the form to the top of form position and enable printing.

```
005 MARGIN ERROR
    ADJUST MARGIN OR LINE LENGTH
```

Recovery:

1. Press **Stop**.

   The left margin automatically resets to 10 units. See Chapter 11, “Printer Adjustments.”

2. Press **Start**.

```
006 HOST REQUESTS ATTENTION
```

See your computer operator for further action.

Recovery:

1. Press **Stop** to stop the alarm from beeping.

```
007 INCORRECT PRINT ORDER
    PRESS STOP THEN START
```

Recovery:

Notify the computer operator to check the data stream and then:

1. Press **Stop**.
2. Press **Start**.
3. Resubmit the print job.

```
008 HOLD PRINT TIMEOUT
    PRESS STOP THEN START
```

Recovery:

1. Press **Stop**
2. Press **Start**.
3. Resubmit the print job if a duplicate printout occurs.

Note: The application program determines if the job is to be continued, reprinted, or canceled.

```
009 INVALID KEY PRESS
```

```
009 INVALID MULTIPLE KEY PRESS
```

```
009 INVALID KEY PRESS
PRESS STOP FIRST
```

The operator panel function is invalid or the computer is overriding the request.

Recovery:

1. Check the operator panel function.
2. Reenter the correct operation.
3. See Chapter 3, “Checking and Changing Configuration Parameter Values” for more information.

```
011 CHECK/LOAD BIN n
```

An end-of-forms condition was detected in ASF bin 1, bin 2, or bin 3. For bin 1, a second message line indicates PAPER or ENVELOPES.

Recovery:

1. Press **Stop**.
2. Ensure forms are properly loaded in the bin displayed. See the *IBM 4247 Printer Automatic Sheet Feeder Guide*.
3. Press **Start**.

```
013 DATA TO PRINT
    LOAD MANUAL SHEET FEED
```

Recovery:

1. Load paper into the Manual Sheet Feed paper path. See Chapter 17, “Paper Loading.”

   If Automatic Manual Load in the Printer Setup category is set to `Disabled`, the printer displays

   ```
   004 PRESS LOAD
   ```

2. Press **Load/Eject** to load paper.

   Printing continues.

```
014 INVALID FORMS SELECT
    INSTALL DEVICE OR PRESS START
```

```
014 XXXXXXXX
    INSTALL DEVICE OR PRESS START
```

The device requested by the job being sent is not installed in the printer. The above messages alternate at one second intervals where XXXX tells the requested forms device which can be FRONT, REAR, BIN 1, BIN 2, BIN 3, or MANUAL.

Recovery:

1. To print the job with the requested paper source:
   a. Turn the power Off (O).
   b. Install the desired forms device.
   c. Turn the power On (|).
   d. Resubmit the print job.
2. To cancel the job now and resubmit the job later with the correct device installed:
   a. Press **Stop**.
   b. Press **Cancel Print**.
3. To print the job with an available paper source:
   a. Press **Stop**.
   b. Press **Park/Path**.
   c. Select an available paper path.
   d. Press **Start**.
4. To print the job with the current paper source:
   a. Press **Stop**.
   b. Press **Start**.

```
015 COMMUNICATIONS CHECK
    CHECK CABLE
```

This status code is automatically reset by the computer and should only appear briefly on the display. If the printer continues to display the message, follow these steps:

Recovery:

DANGER

> **To prevent serious personal injury from electrical shock when connecting or disconnecting the interface cable, set the printer power switch to O (Off) and unplug the power cable.**

CAUTION:
To prevent possible shock, do not install the interface cable during an electrical storm.

1. Turn the power Off (O).
2. Check that the cable is connected to the printer and to the computer.
3. Turn the power On (|).
4. If the status code occurs again, call for service.

```
017 COMMUNICATIONS CHECK
```

This status code is automatically reset by the computer and should only appear briefly on the display. If the printer continues to display the message, follow these steps:

Recover:

DANGER

> **To prevent serious personal injury from electrical shock when connecting or disconnecting the interface cable, set the printer power switch to O (Off) and unplug the power cable.**

CAUTION:
To prevent possible shock, do not install the interface cable during an electrical storm.

1. Turn the power Off (O).
2. Check that the cable is connected to the printer and to the computer.
3. Turn the power On (|).
4. If the status code occurs again, call for service.

```
020 FORMS JAMMED REAR TRACTOR
    CLEAR JAM AND RELOAD FORMS
```

Recovery:

1. Press **Stop**.
2. Clear the jammed or torn form.
3. Check to make sure the rear tractor paper door is opened for the forms to exit through.
4. Make sure the metal deflector on the forms guide and the paper bail are in the correct positions. For the correct positions, see “Installing the Tractor Unit” for the paper path you are currently using. (See Chapter 17, “Paper Loading.”)
5. Press **Start**.
6. If the message displays again, perform the actions under “Forms buckle, twist, jam, or tear.” (See “Problem List Index” on page 20-20.)

If the message displays again, clean the tractor sensors with a soft, clean cloth.

If the message still displays, call for service.

```
022 UNIT ADDRESS NOT RECEIVED
    CHECK PRINTER ADDRESS
```

Recovery:

1. Press **Stop**.
2. The unit address has not been received. Check the address setting with your computer operator.
3. Verify your printer address is set to the correct number. See “Printer Address” in Chapter 7, “Twinaxial Configuration.”
4. Press **Start**.

```
026 HEX PRINT MODE ACTIVE
```

The printer displays this message after you press **Hex Print**.

Recovery:

1. Press **Start**. All data will print in hexadecimal code until you press **Stop**.

```
027 COMMUNICATIONS CHECK
    CALL SYSTEM OPERATOR
```

```
028 COMMUNICATIONS CHECK
    CALL SYSTEM OPERATOR
```

A problem exists in the host configuration or the physical connection.

Recovery:

1. Press **Stop**.
2. Check the control unit for *ready* and proper connection.
3. Try another coaxial cable.

   DANGER

   To prevent serious personal injury from electrical shock when connecting or disconnecting the interface cable, set the printer power switch to O (Off) and unplug the power cable.

   CAUTION:
   To prevent possible shock, do not install the interface cable during an electrical storm.

4. Try another printer, if possible.
5. If none of these solutions fix the problem, contact your system operator.

```
031 END OF FORMS TIMEOUT
    LOAD FORMS/BIN
```

An end-of-forms condition exists in one of the paper paths for more than 60 seconds.

Recovery:

Front Push and Rear Push:

1. Press **Stop**.
2. Load paper in the appropriate paper path. See Chapter 17, “Paper Loading.”
3. Press **Load/Eject**.
4. Press **Start**.

If the message displays again, tune the sensor. See “Sensor Tune” in Chapter 11, “Printer Adjustments.”

If the message still displays, call for service.

Rear Pull:

1. Press **Stop**.
2. Load paper for the Rear Pull paper path. See Chapter 17, “Paper Loading.”
3. Press **Start**.

If the message displays again, tune the sensor. See “Sensor Tune” in Chapter 11, “Printer Adjustments.”

If the message still displays, call for service.

Push-Pull:

1. Press **Stop**.
2. Load paper in the Push-Pull paper path. See Chapter 17, “Paper Loading.”
3. Press **Start**.

If the message displays again, tune the sensor. See “Sensor Tune” in Chapter 11, “Printer Adjustments.”

If the message still displays, call for service.

Auto Sheet Feed:

1. Press **Stop**.
2. Ensure forms are properly loaded in the correct bin. See the *4247 Printer Models A00, 001, and 002 Automatic Sheet Feeder*.
3. Press **Start**.

```
032 FORMS JAMMED TIMEOUT
    CLEAR JAM AND RELOAD FORMS
```

A forms jam condition exists in either the front or rear tractors for more than 60 seconds.

Recovery:

1. Press **Stop**.
2. Clear the jammed or torn form.
3. If you are printing in the Rear Pull or Push-Pull paper path, check to make sure the rear tractor paper door is opened for the forms to exit through.
4. Make sure the metal deflector on the forms guide and the paper bail are in the correct positions. For the correct positions, see “Installing the Tractor Unit” for the paper path you are currently using. (See Chapter 17, “Paper Loading.”)
5. Press **Start**.
6. If the message displays again, perform the actions under “Forms buckle, twist, jam, or tear.” (See “Problem List Index” on page 20-20.)

If the message displays again, clean the tractor sensors with a soft, clean cloth.

If the message still displays, call for service.

```
033 TEAR PAPER TIMEOUT
    TEAR OFF AT OUTPUT AND PRESS PARK
```

A forms tear off condition exists for more than 60 seconds.

Recovery:

1. Press **Stop**.
2. Tear off the paper at the perforation after it exits the printer.
3. Press **Park/Path**.

```
034 INVALID FORMS SELECT TIMEOUT
    SELECT NEW DEVICE
```

An invalid forms device condition exists for more than 60 seconds.

Recovery:

1. To print the job with the requested paper source:
   a. Turn the power Off (O).
   b. Install the desired forms device.
   c. Turn the power On (|).
   d. Resubmit the print job.
2. To cancel the job now and resubmit the job later with the correct device installed:
   a. Press **Stop**.
   b. Press **Cancel Print**.
3. To print the job with an available paper source:
   a. Press **Stop**.
   b. Press **Park/Path**.
   c. Select an available paper path.
   d. Press **Start**.
4. To print the job with the current paper source:
   a. Press **Stop**.
   b. Press **Start**.

```
035 MARGIN ERROR TIMEOUT
    ADJUST MARGIN OR LINE LENGTH
```

Recovery:

1. Press **Stop**.

   The left margin automatically resets to 10 units. See Chapter 11, “Printer Adjustments.”
2. Press **Start**.

```
036 TEAR PAPER TIMEOUT
    TEAR OFF AT INPUT AND PRESS EJECT
```

A forms tear off condition exists for more than 60 seconds.

Recovery:

1. Press **Stop**.
2. Tear off the paper at the perforation before entry to the printer.
3. Press **Load/Eject**.

```
050 MACHINE CHECK X Y Z
    SEE USER'S GUIDE
```

```
051 MACHINE CHECK X Y Z
    SEE USER'S GUIDE
```

```
052 MACHINE CHECK X Y Z
    SEE USER'S GUIDE
```

```
053 MACHINE CHECK X Y Z
    SEE USER'S GUIDE
```

```
055 MACHINE CHECK X Y Z
    SEE USER'S GUIDE
```

```
056 MACHINE CHECK X Y Z
    SEE USER'S GUIDE
```

A firmware error has occurred. Record the error information X, Y, Z.

Recovery:

1. Turn the power Off (O).
2. Wait 10 seconds, then turn the power On (|).
3. If the printer displays this status code again, call for service.

```
059 CANCEL PRINT ACTIVE
```

This is an informational message. The printer displays this message after you press **Cancel Print**.

Recovery:

1. Press **Start** to cancel the current print job or press **Cancel Print** again (before pressing **Start**) to return the printer to *ready*. (The print job will not be canceled.)

```
060 BUFFER REPRINT ACTIVE
```

This is an informational message. The printer displays this message after the Buffer Reprint Code is sent and accepted. See Chapter 14, “Send Buffer Reprint Code (Coaxial).”

Recovery:

1. Press **Start**. The buffer reprints. The message will change after the buffer has finished reprinting.

```
061 PA1 SELECTED
```

```
062 PA2 SELECTED
```

These are informational messages. The printer displays these messages after you press **PA1** or **PA2**.

Recovery:

1. Press **Start**. The status code disappears when the controller accepts the input.

```
063 PRINTER IN SEND STATE
```

Recovery:

1. Press **Stop**.
2. See your computer operator for the appropriate action and instructions on which key to press on your printer (**PA1** or **PA2**).

```
065 NO ATTACHMENT CARD
    SEE USER'S GUIDE
```

Recovery:

1. Turn the power Off (O).
2. Wait 10 seconds, then turn the power On (|).
3. If the printer displays this status code again, call for service.

```
066 PRINTER BOARD FAILURE
    SEE USER'S GUIDE
```

Recovery:

1. Turn the power Off (O).
2. Wait 10 seconds, then turn the power On (|).
3. If the printer displays this status code again, call for service.

```
068 DATA CLEARED
    PRESS STOP THEN START
```

Recovery:

1. Press **Stop**.
2. Press **Start**.

```
069 DATA LOST
    PRESS CANCEL PRINT
```

There has been a probable loss of data.

Recovery:

1. Press **Cancel Print**.
2. Press **Start**.
3. Resubmit your print job.

```
070 PRINTER BOARD CHANGED
    VERIFY CONFIGURATION SETTINGS
```

Configuration and custom sets values may have been lost when the printer board was modified.

Recovery:

1. Press **Stop**
2. Press **Menu**.
3. Verify the configuration values and custom sets.
4. Use **Start** or **Return** to exit the Menu.

If the printer displays this status code again, call for service.

```
087 STACKER ERROR
    INSTALL STACKER
```

Recovery:

1. Turn the power Off (O).
2. Make sure all parts of the automatic sheet feeder are installed correctly. See the *IBM 4247 Printer Automatic Sheet Feeder Guide*.
3. Turn the power On (|).

```
088 INVALID PAPER SOURCE
    USE MANUAL OR CHANGE CONFIGURATION
```

Incorrect Power On Paper Source selected in configuration. Change the configuration to an available paper source.

Recovery:

1. Press **Stop**.
2. See the appropriate “configuring the printer” procedure for the desired paper path.
   - For Front Push, see page 17-11.
   - For Rear Push, see page 17-25.
   - For Rear Pull, see page 17-68.
   - For Push-Pull, see page 17-89.
   - For Dual Push-Pull, see page 17-44.
   - For the Automatic Sheet Feed, see the *IBM 4247 Printer Automatic Sheet Feeder Guide*.

```
089 RIBBON JAM
    CHECK RIBBON
```

Recovery:

1. Turn the power Off (O).
2. Remove the ribbon cartridge.
3. Turn the ribbon advance knob to be sure that the ribbon is advancing correctly. If the ribbon does not advance correctly, replace the ribbon cartridge.
4. Reinstall the ribbon. (See “Removing the Ribbon Cartridge” on page 19-11 in Chapter 19, “Supplies, Optional Features, and Maintenance.”)
5. Turn the power On (|).
6. If the printer displays again, call for service.

```
091 FANFOLD PARK
    TEAR OFF AT OUTPUT AND PRESS PARK
```

Recovery:

1. Tear off the paper at the perforation after it exits the printer.
2. Press **Park/Path**.

```
092 FANFOLD EJECT
    TEAR OFF AT INPUT AND PRESS EJECT
```

Recovery:

1. Tear off the paper at the perforation before entry into the printer.
2. Press **Load/Eject**.

```
093 EJECT PENDING
```

This is an informational message. The printer displays this message after you press **Load/Eject** to eject the forms when Continuous Forms Eject Mode is set to Delayed Eject. See Chapter 10, “Printer Setup.”

The printer displays

```
003 FORMS EJECTED
    PRESS LOAD
```

after the forms are ejected.

```
095 OPTION NOT AVAILABLE
    CHANGE PRINT LANGUAGE
```

Recovery:

1. Press **Stop**.
2. Change the “Print Language” value in the Configuration Menu category to something other than OCR-A or OCR-B.

```
096 NOT READY
    COVER OPEN
```

Recovery

1. Close the printer top cover.
2. Press **Start** to make the printer *ready*.

```
097 FUNCTION NOT AVAILABLE
    MENU LOCKED
```

This message is displayed when **Menu** is pressed when the Menu Lock feature is enabled.

Recovery:

1. Contact your system programmer.

```
098 HOLD PRINT TIMEOUT
    PRESS LOAD
```

This message is displayed when a HOST timeout occurs.

Recovery:

1. Press **Load/Eject**.

```
099 FORMS JAMMED
    CLEAR JAM THEN PRESS START
```

This message is displayed when the printer attempted to complete either a park or eject function in order to switch paper paths but the paper sensors still show paper is present or there is a valid paper jam.

Recovery:

1. Press **Stop**.
2. Clear the jammed or torn form.
3. Check to make sure the rear tractor paper door is opened for the forms to exit through.
4. Make sure the metal deflector on the forms guide and the paper bail are in the correct positions. For the correct positions, see “Installing the Tractor Unit” for the paper path you are currently using. (See Chapter 17, “Paper Loading.”)
5. For the Automatic Sheet Feeder:
   a. Ensure that all parts of the ASF are installed properly. See the *IBM 4247 Printer Automatic Sheet Feeder Guide*.
   b. Check to make sure the forms are properly loaded into the bin(s).
   c. Make sure the paper guides are properly adjusted.

d. Verify that the paper load lever is in the closed position.
e. For **bin 1**, verify the forms selectors are toward the printer for envelopes and card stock and away from the printer for single sheet forms. Some multiple-part forms feed better with the forms selector set toward the printer.

6. Press **Start**.

   If the message displays again, clean the paper sensors with a soft, clean cloth.

   If the message displays again, tune the sensors. See “Sensor Tune” in Chapter 11, “Printer Adjustments.”

If the message still displays, call for service.

```
A89 DOWNLOAD TO CHARACTER ZERO
    NOTIFY SYSTEM PROGRAMMER
```

A zero code point error has occurred.

Recovery:

1. Press **Stop**.
2. Press **Start**.
3. Contact the system programmer and report the data stream error.

```
A8C INVALID PAGE LENGTH
    NOTIFY SYSTEM PROGRAMMER
```

An invalid page length depth error has occurred.

Recovery:

1. Press **Stop**.
2. Press **Start**.
3. Contact the system programmer and report the data stream error.

```
A97 UNDEFINED CHARACTER
    NOTIFY SYSTEM PROGRAMMER
```

A text graphic error has occurred.

Recovery:

1. Press **Stop**.
2. Press **Start**.
3. Contact the system programmer and report the data stream error.

Problem List Index

Table 20-1. Forms Problems

Problem	Page
Forms do not advance or overprint occurs	20-21
Forms buckle, wrinkle, jam, or tear	20-22
Forms jam or do not feed into printer	20-23
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Table 20-2. Print Quality/Ribbon Problems

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Table 20-3. Configuration Problems

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Table 20-4. Miscellaneous Problems

Problem	Page
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Forms Problems

Causes are listed for each problem in order of priority.

Problem: Forms do not advance or overprint occurs

1: The tractor unit is not snapped in.
Solution: Check the installation of the tractor unit.

2: The ribbon is getting caught on a form.
Solution: Check the ribbon for twists or folds.

3: The *push-pull selector* is not set to the correct position.
Solution: If the forms tractor is in the rear push position, set the push-pull selector to the push position. If the forms tractor is in the rear pull or push-pull position, set the *push-pull selector* to the pull position. See Chapter 17, “Paper Loading.”

4: The printer is failing.
Solution: Turn the power Off (O), wait 10 seconds, and turn the power On (|). If you get a status code, go to “Status Codes and Messages.” If no code displays, press **Micro** ↑ several times. If forms do not feed each time you press **Micro** ↑, call for service.

Problem: Overprint occurs at top or bottom line of page

1: There is a problem with the application program.
Solution: See your programmer.

Problem: Forms buckle, twist, jam, or paper holes tear

1: The right tractor is adjusted incorrectly.
Solution: Move the right tractor to obtain the correct form width. The tractor pins should be in the center of the paper holes. See Chapter 17, “Paper Loading” for help on adjusting the tractor tension.

2: The tractor unit is installed incorrectly.
Solution: Check the tractor unit installation (see Chapter 17, “Paper Loading”).

3: The paper bail and metal forms guide deflector are not in their correct operating positions.
Solution: See Chapter 17, “Paper Loading” for the paper path you are using.

4: The printer is not at the edge of the table.
Solution: Move the printer to the front edge of the table if having problems with front forms path or move the printer to the rear edge of the table if having problems with the rear forms path.

5: The forms supply is not below the level of the printer.
Solution: Move the forms supply to the floor or on a shelf below the level of the printer.

6: The forms supply is not aligned with the printer.
Solution: Reposition the forms supply so that the forms feed evenly. See the information on loading and unloading forms in Chapter 17, “Paper Loading.”

7: The forms are catching on the carton edge.
Solution: Remove the uneven carton edges, or remove the forms from the carton.

Note: As the forms reach the bottom of the box, this problem can occur more often.

8: The ribbon is twisted or folded.
Solution: Check the ribbon for folds or twists.

9: The forms contain excessive moisture.
Solution: Store the forms in a cool, dry place before using them, or store the forms in the printer area for 24 hours.

10: The forms are defective.
Solution: Try unloading the forms and then reloading forms (see the forms loading procedures in Chapter 17, “Paper Loading”). Forms should meet the requirements specified in Chapter 19, “Supplies, Optional Features, and Maintenance.”

Problem: Forms jam or do not feed into printer

1: The tractor unit is installed incorrectly.
Solution: Check the tractor unit installation (see Chapter 17, “Paper Loading”).

2: The ribbon is twisting or folding.
Solution: Check the ribbon for twists or folds.

3: The printer paper path was not configured.
Solution: Set the correct paper path setting in the Printer Setup category in the Configuration Menu. See Chapter 10, “Printer Setup.”

4: The message `002 FORMS JAMMED FRONT TRACTOR CLEAR JAM AND RELOAD FORMS`, `020 FORMS JAMMED REAR TRACTOR CLEAR JAM AND RELOAD FORMS`, or `099 FORMS JAMMED CLEAR JAM AND THEN PRESS START` displays on the operator panel, but there are no forms jam in any paper path.
Solution: The sensors need to be tuned. See “Sensor Tune” in Chapter 11, “Printer Adjustments.”

Problem: Forms do not feed past print head

1: The Automatic Forms Thickness Adjustment (AFTA) setting for the paper source you are using needs to be changed.
Solution: See the procedure for adjusting the forms thickness setting through the operator panel in Chapter 11, “Printer Adjustments.”

2: The tractor unit is not properly installed.
Solution: Check the tractor unit installation (see Chapter 17, “Paper Loading”).

3: The ribbon is twisting or folding.
Solution: Replace the ribbon.

4: You are using thick multiple-part forms.
Solution: See the procedure for setting perforation safety to *Enabled* through the operator panel under Chapter 10, “Printer Setup” in the Configuration Menu.

Problem: Forms do not stack correctly

1: The forms do not stack correctly on the table behind the printer.
Solution: Use the recommended table size (see Appendix A, “Printer Specifications”).

Note: Up to 101.6 mm (4 in.) of forms may stack on the table behind the printer without decreasing the ability of the forms to stack correctly.

2: The forms do not stack correctly in the output rack on the table.
Solution: Check for obstructions to the paper path (cables, cords, or other items). If you find an obstruction, remove or relocate it. For additional information on stacking, see “Forms Stack Input and Output Locations” on page 19-4.

3: The forms do not meet IBM specifications.
Solution: The forms may be outside nominal specifications. See Chapter 19, “Supplies, Optional Features, and Maintenance.”

4: The forms contain excessive moisture.
Solution: Store the forms in a cool, dry place before using them or leave in the printer for 24 hours.

Note: Forms stack best when the forms are 203.2 to 304.8 mm (8 to 12 in.) long. If the forms length is outside this range, operator assistance may be needed.

5: Forms are too dry.
Solution: Condition the forms for 24 hours or more at the manufacturer recommended temperature and humidity settings.

Problem: Characters are off registration

1: The first print position is adjusted incorrectly.
Solution: Check your settings for the left margin, tear position, and the paper load position. See Chapter 11, “Printer Adjustments” for information on adjusting these settings.

2: Left tractor or cut-sheet feed alignment guide not set to left alignment mark.
Solution: Set the left tractor to the left tractor alignment mark or set the left cut-sheet feed alignment guide to the alignment mark.

Problem: Manual cut-sheet form does not overlay continuous form properly

1: The form is skewed into the printer or doesn't feed into the printer at all.
Solution: Hold the cut-sheet form firmly in place until the form is fed into the printer.

Print Quality and Ribbon Problems

Problem: Unreadable characters

1: The ribbon is dry or worn.
Solution: Check the ribbon and replace it if it is dry or worn.

2: The Automatic Forms Thickness Adjustment (AFTA) setting for the paper source you are using needs to be decreased. Paper must be loaded for this adjustment to be effective.
Solution: See the procedure for adjusting the forms thickness setting through the operator panel in Chapter 11, “Printer Adjustments.”

3: Poor quality multiple-part forms.
Solution: Try new forms.

4: Bidirectional Adjustment needs to be made.
Solution: See the procedure for setting the bidirectional adjustment in Chapter 18, “Using the Operator Print Tests.”

5: Forms thickness exceeds IBM paper specifications.
Solution: Use forms that meet the IBM specifications stated in “Forms Specifications for Continuous and Cut Sheet Forms” on page 19-2.

Problem: Missing dots or irregular characters

1: The ribbon is worn.
Solution: Check the ribbon for wear; replace it if necessary.

2: The ribbon is twisted or folded.
Solution: Straighten the ribbon.

3: The Automatic Forms Thickness Adjustment (AFTA) setting for the paper source you are using needs to be changed. Paper must be loaded for this adjustment to be effective.
Solution: See the procedure for adjusting the forms thickness setting through the operator panel in Chapter 11, “Printer Adjustments.”

4: The tractor unit is not seated correctly.
Solution: Check the tractor unit installation. See Chapter 17, “Paper Loading.”

5: The print head wire is damaged.
Solution: Call for service.

Problem: Ribbon smudging forms

1: The ribbon is twisted or folded.
Solution: Try moving the print head back and forth while turning the ribbon advance knob. If the ribbon advance knob does not turn, replace the ribbon. (See “Removing the Ribbon Cartridge” in Chapter 19, “Supplies, Optional Features, and Maintenance.”)

2: The Automatic Forms Thickness Adjustment (AFTA) setting for the paper source you are using needs to be increased. Paper must be loaded for this adjustment to be effective.
Solution: See the procedure for adjusting the forms thickness setting through the operator panel in Chapter 11, “Printer Adjustments.”

3: The ribbon cartridge is defective.
Solution: Replace the ribbon cartridge. See “Removing the Ribbon Cartridge” in Chapter 19, “Supplies, Optional Features, and Maintenance.”

4: A new ribbon is over-inked.
Solution: Replace the ribbon. See “Removing the Ribbon Cartridge” in Chapter 19, “Supplies, Optional Features, and Maintenance.”

Problem: Printing is too light or partial characters print

1: The Automatic Forms Thickness Adjustment (AFTA) setting for the paper source you are using needs to be changed. Paper must be loaded for this adjustment to be effective.
Solution: See the procedure for adjusting the forms thickness setting through the operator panel in Chapter 11, “Printer Adjustments.”

3: The ribbon guide is seated incorrectly or the white snap arm is not snapped in place.
Solution: Remove the ribbon and reinstall it. See “Installing the Ribbon Cartridge” in Chapter 19, “Supplies, Optional Features, and Maintenance.”

Problem: Wavy print lines

1: The Automatic Forms Thickness Adjustment (AFTA) setting for the paper source you are using needs to be changed. Paper must be loaded for this adjustment to be effective.
Solution: See the procedure for adjusting the forms thickness setting through the operator panel in Chapter 11, “Printer Adjustments.”

2: The forms are loaded incorrectly.
Solution: Check to see that the forms are properly loaded.

Problem: Ribbon snagging, tearing, or not moving

1: The ribbon is worn.
Solution: Replace the ribbon cartridge. See “Removing the Ribbon Cartridge” in Chapter 19, “Supplies, Optional Features, and Maintenance.”

2: The ribbon cartridge is not properly installed.
Solution: Remove and then reinstall the same ribbon. See “Removing the Ribbon Cartridge” in Chapter 19, “Supplies, Optional Features, and Maintenance.” If the ribbon still does not move, replace the ribbon.

3: The Automatic Forms Thickness Adjustment (AFTA) setting for the paper source you are using needs to be changed. Paper must be loaded for this adjustment to be effective.
Solution: See the procedure for adjusting the forms thickness setting through the operator panel in Chapter 11, “Printer Adjustments.”

4: The print head is catching on the ribbon.
Solution: Call for service if, after doing Automatic Forms Adjustment, the Fixed 8 is offset 3.

Problem: Ribbon moves continuously

1: The ribbon drive circuit is failing.
Solution: Call for service.

Problem: Line-to-line horizontal misregistration

1: The dot registration of the characters printed is not aligned.
Solution: See the Bidirectional Adjustment in Chapter 11, “Printer Adjustments.”

Configuration Problems

Problem: Wrong display language on operator panel display

1: Wrong display language selected.
Solution: See Chapter 13, “Display Language” on selecting display languages.

Problem: Wrong Print Language

1: Wrong print language value.
Solution: Check the print language values for your printer attachment. See Chapter 7, “Twinaxial Configuration,” Chapter 8, “Coaxial Configuration,” or Chapter 9, “Parallel Configuration.”

Problem: Printer doesn't print or prints wrong characters

1: Nothing is printed or the wrong characters print.
Solution:

- Make sure the printer cable is attached to the host.
- Check the configuration menu parameter values for your printer attachment. See Chapter 7, “Twinaxial Configuration,” Chapter 8, “Coaxial Configuration,” or Chapter 9, “Parallel Configuration.”

Miscellaneous Problems

Problem: Throughput of printer at half speed

1: The Quiet Print function is set on.

Solution: Press **Quiet**. If the message QUIET displays, press **Quiet** again to disable the function. The printer will now print at its normal speed.

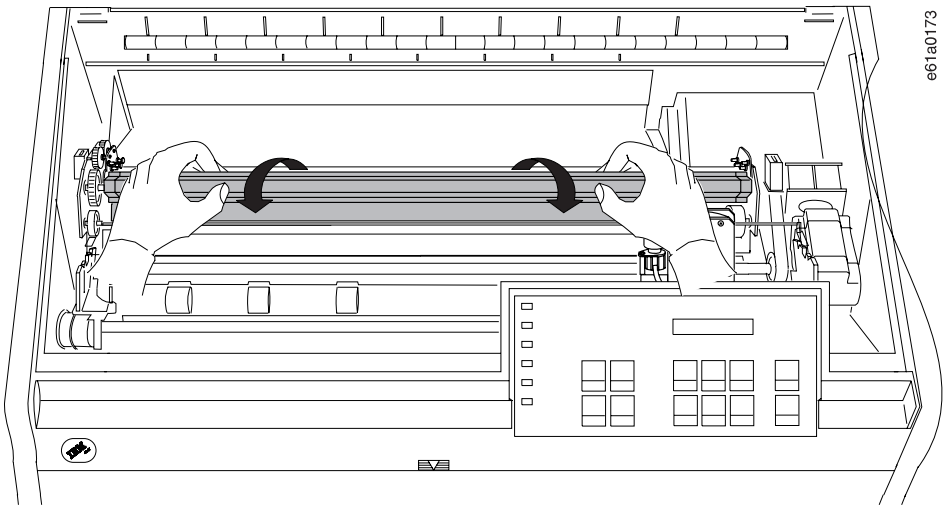
Problem: Printer has no power

1: The power cord is not connected.
Solution: Make sure the power cord is plug into the back of the printer and also into the wall outlet.

Clearing Forms Jams

Use the following procedure to clear forms jams from the printer.

1. Open the top cover.
2. Tear off the forms at perforations before it enters the printer and after it exits the printer.
3. Open the tractor doors and remove forms from the tractors.
4. Try to move the print head off of the form and to the far right. **Do not force it.**
5. Remove jammed forms by pulling in the direction of printing.
6. If the jam cannot be removed, lightly pull the form in the opposite direction.
7. If the jam still cannot be removed, remove the bail assembly (if it is present):
   a. Open the forms guide.
   b. Remove the ribbon cartridge. (See “Removing the Ribbon Cartridge” on page 19-11.)
   c. Grip the bail assembly as shown in the following illustration. Rotate it toward the front of the printer until the pivot posts on the sides disengage from the printer frame.



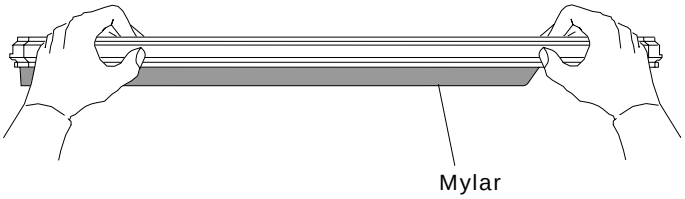
   d. Lift the bail assembly out of the printer and set it aside.
   e. Remove jammed forms by pulling in the direction of printing.

8. If you removed the paper bail assembly in the previous step, reinstall it, as follows:

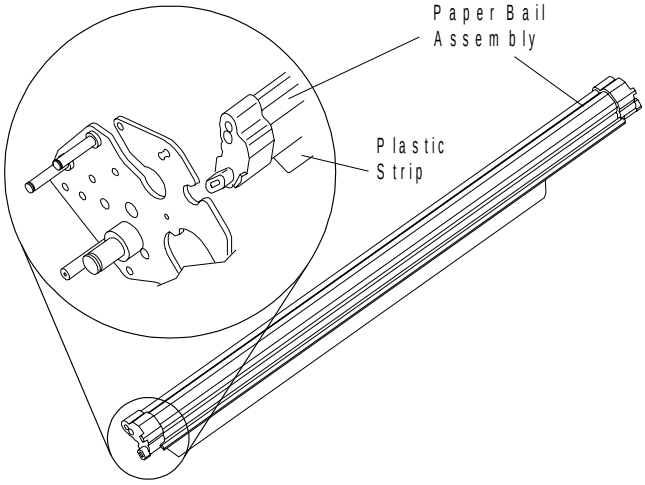
   a. Grip the bail assembly as shown in the following illustration.

   Important!

   To avoid damaging the plastic, make sure the plastic points down.

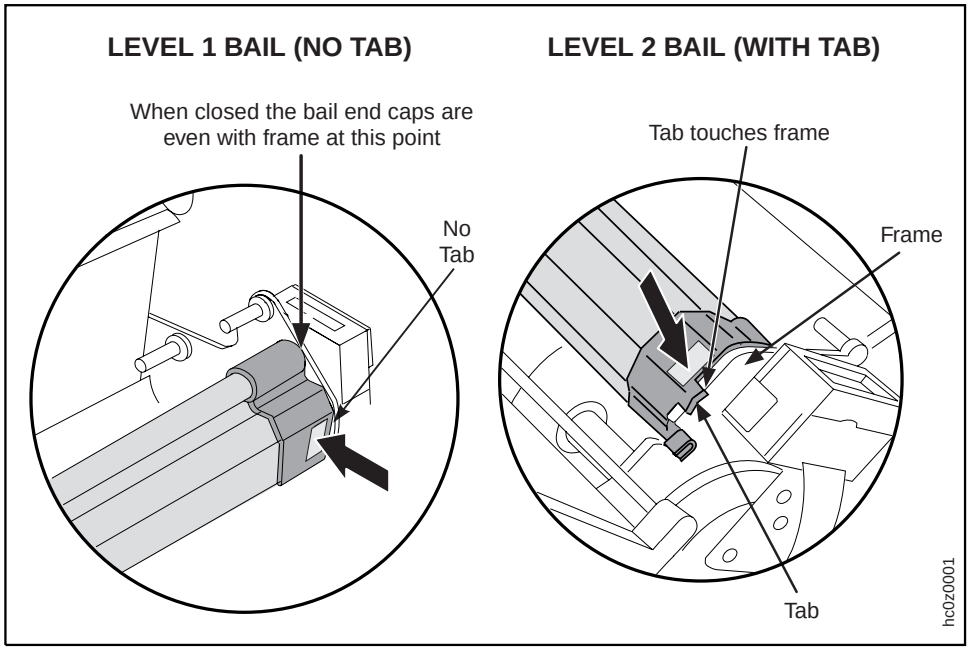


   b. Insert the left and right paper bail end cap pivots into the side frames.



c. Rotate the paper bail assembly toward the back of the printer, closing it as far as it will go.

   Paper bail assemblies without tabs on the end caps must be installed in the "closed" position.



d. Reinstall the ribbon cartridge. (See "Installing the Ribbon Cartridge" on page 19-13.)

e. Close the forms guide.

9. Reload the forms.

Appendix A. Printer Specifications

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The site that you select for your new printer must meet the specifications and conditions shown on the following pages.

Place your printer so that the printer is not affected by electrostatic discharges, which can cause discomfort to persons. Such discharges can also cause problems with the printer operation or the machines to which the printer connects. Avoid the factors that cause the buildup of electrostatic charges, such as:

- Floor surfaces with low resistance to electrical charges
- Carpeting without antistatic properties
- Plastic seat coverings
- Metal-frame furniture
- Low-humidity environment

If the printer is set up on a raised floor, you need to consider the cables that attach to the printer. The cables are the power cord and the signal cables. These cables exit from the rear of the printer at the base.

For reliable form feeding and paper handling, IBM recommends a printer stand or table that is approximately 381 mm (15 in.) deep, at least 762 mm (30 in.) wide, and 762 mm (30 in.) high. The shelf should be around 381 mm (15 in.) from the floor. There is an optional printer table that was especially designed for your 4247 Printer. For more information on this printer table, contact your Marketing Representative. For additional information on stacking, see “Forms Stack Input and Output Locations” on page 19-4.

If you use a table outside this range, you reduce efficiency or stability, and may have to monitor printer operation.

Operator and Service Clearance

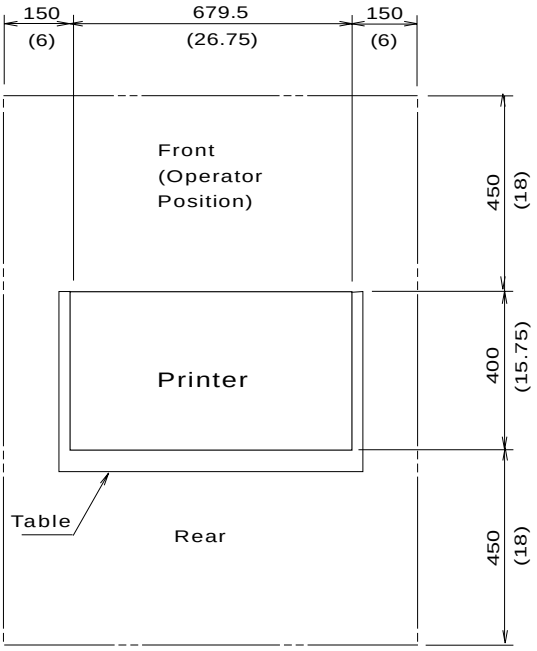
You must be able to reach the front and rear of the printer to operate the machine. Your service representative needs to be able to reach all sides of the printer for maintenance of the printer. Use the service clearances shown on the next page to select the printer location.

Symbols that appear in specification drawings are defined in the following table.

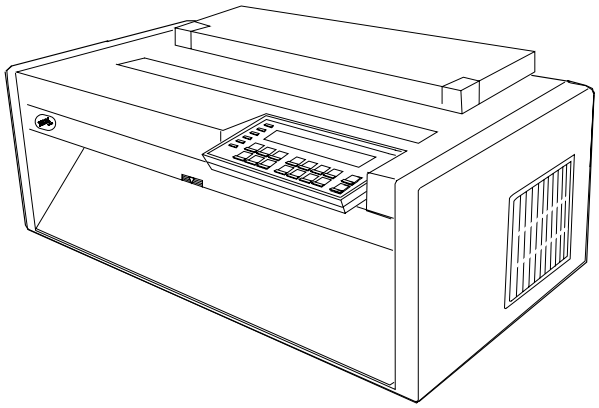
Symbol	Meaning
——	Required clearance
⊕	Signal cable entry/exit
	Power cable

Physical Specifications
(Plan View - Not to scale)

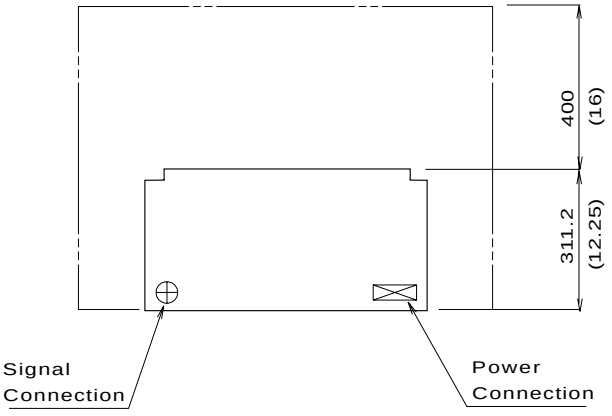
Measurements in parentheses are shown in inches.



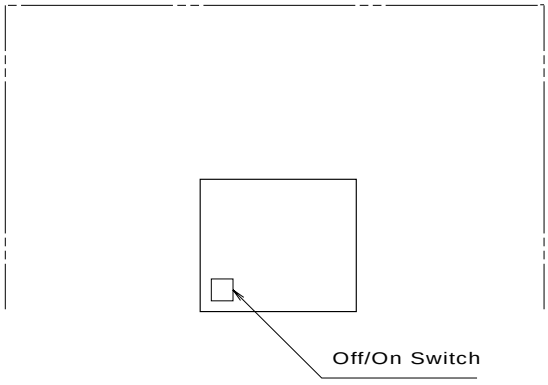
Top View



Service and Operating Clearances



Rear View

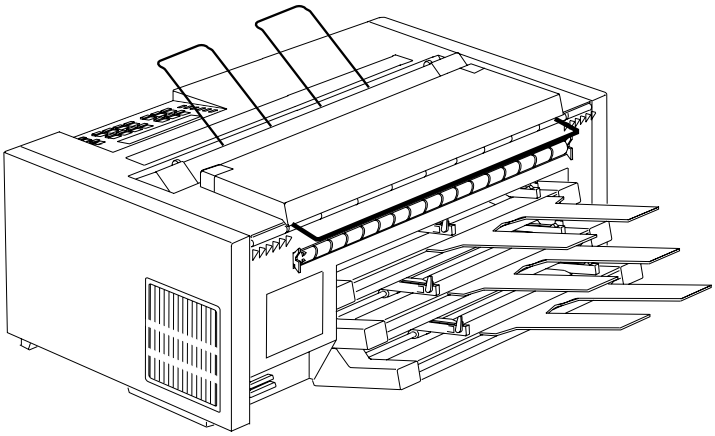


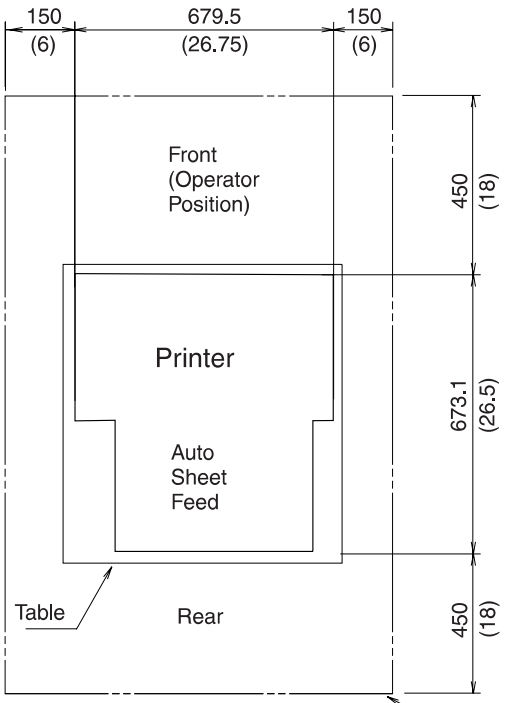
Left Side View

Physical Specifications
(Plan View - Not to scale)

(ASF Feature Installed)

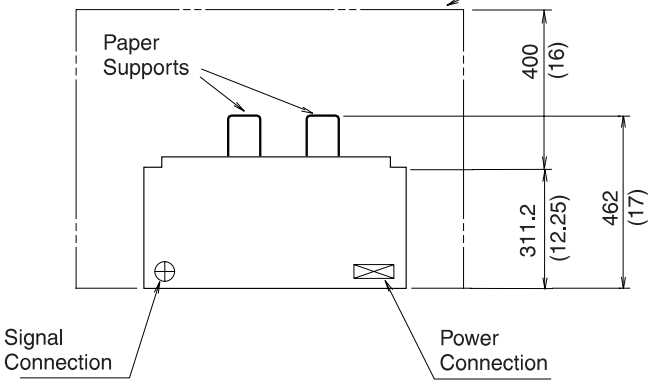
Measurements in parentheses are shown in inches.



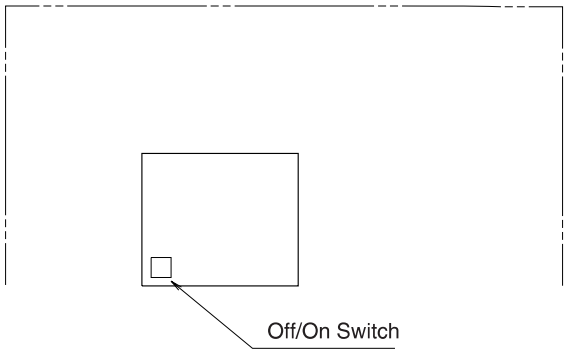


Top View

Service and Operating Clearances



Rear View



Left Side View

e61a5002

Physical Requirements

Dimensions	Standard	With ASF
Width:	679.5 mm (26.75 in.)	679.5 mm (26.75 in.)
Depth:	400 mm (15.75 in.)	673.1 mm (26.5 in.) See Note
Height:	311.2 mm (12.25 in.)	431.8 mm (17.0 in.)

Note: Depth is with all three ASF bins installed.

Clearances	Standard	ASF
Top:	400 mm (16 in.)	400 mm (16 in.)
Front:	450 mm (18 in.)	450 mm (18 in.)
Rear:	450 mm (18 in.)	450 mm (18 in.)
Left:	150 mm (6 in.)	150 mm (6 in.)
Right:	150 mm (6 in.)	150 mm (6 in.)

Weight

The printer weighs approximately 24.9 kg (55 lb). Do not lift it by yourself.

Power Consumption

Note: Power consumption and heat output amounts are the same for 4247 Printer Models 001 and 002.

Category	100 V to 127 V 50 or 60 Hz	200 V to 240 V 50 or 60 Hz
Maximum (Peak)	0.200 kVA	0.260 kVA
Operating (Maximum Typical)	0.200 kVA	0.230 kVA
Idle	0.050 kVA	0.060 kVA

Heat Output

Category	100 V to 127 V 50 or 60 Hz	200 V to 240 V 50 or 60 Hz
Maximum (Peak)	150 Watts (512 BTU/hr)	140 Watts (478 BTU/hr)
Operating (Maximum Typical)	110 Watts (376 BTU/hr)	110 Watts (376 BTU/hr)
Idle	25.6 Watts (87 BTU/hr)*	28.6 Watts (97 BTU/hr)*

* EPA Energy Star rating

Airflow

The printer uses two fans to cool its internal parts. Be sure that you do not block the air vents. Lack of correct cooling and ventilation can cause printer failures and improper operation.

Declaration of IBM Product Noise Emission Values

The following tables show the noise emission values for the 4247 Printer.

Table A-1. Sound Emission Levels - 4247 Model 001 with Standard Covers		
Sound Emission Category	**Operating**	**Idling**
LWAd (1 bel = 10 decibels)	7.0 bels	3.9 bels
<LpA>m (bystander positions)	56 decibels	24 decibels
Impulsive noise	No	No
Prominent Discrete Tones	No	No

Table A-2. Sound Emission Levels - 4247 Model 002 with Standard Covers		
Sound Emission Category	**Operating**	**Idling**
LWAd (1 bel = 10 decibels)	6.9 bels	4.0 bels
<LpA>m (bystander positions)	55 decibels	25 decibels
Impulsive noise	Yes	No
Prominent Discrete Tones	Yes	No

Table A-3. Sound Emission Levels - Automatic Sheet Feeder Covers		
Sound Emission Category	**Operating**	**Idling**
LWAd	7.3 bels	4.0 bels
<LpA>m	60 dB	25 dB

Notes:

1. LWAd is the declared sound power emission level for a production series of machines.
2. <LpA>m is the mean value of the space-averaged sound pressure emission levels at the one-meter position.
3. The principle printer configuration used to measure the noise emission levels with standard covers was:
   - Standard covers
   - Front Push paper path
   - DP print quality
4. The printer configuration used to measure the noise emission levels with the Automatic Sheet Feeder feature was:
   - Automatic Sheet Feeder covers
   - Near letter print quality

All measurements are made in accordance with the American National Standards Institute (ANSI) S12.10 and reported in conformance with the International Organization for Standardization (ISO) 9296.

Ordering the Signal Cable

You can order signal cables and connectors from IBM (through your IBM marketing representative) or your place of purchase. You can also purchase the cables and connectors from other suppliers. However, the cables and connectors from suppliers other than IBM must conform to IBM specifications.

A signal cable connects the printer to other controllers or computers. The printer does not come with a signal cable.

It is your responsibility to obtain, install, and maintain the signal cable. In addition, it is your responsibility to be sure that the cabling meets the applicable local, state, and federal building codes. The cables are available in bulk sizes or in precut lengths. You can purchase components or preassembled cables from IBM. Use the information in the following pages to order the correct cable.

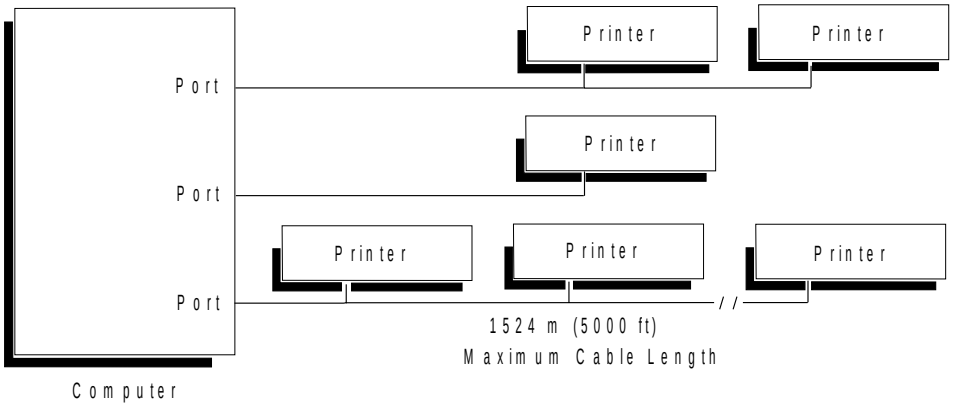
Note: For additional information on cabling requirements, refer to the *Guide to Operations* for the computer to which you are attaching the printer.

Twinaxial Cables

For twinaxial-attached printers, you can connect more than one printer to the same computer port to reduce your cable costs. A maximum of seven printers can be cabled together this way on a single port. However, the total cable length on any port cannot be longer than 1524 m (5000 ft).

A twinaxial V-connector (IBM part 38F8254) is provided with your printer to allow cable-through capability and line termination. This connector also allows a printer to be disconnected from the computer port without disturbing the operation of other devices connected to the same port.

The following diagram shows several possible ways of connecting your printer to the computer.



If you install a signal cable outside the building, order a station protector kit to protect your printer from lightning. You can order the kit from your IBM marketing representative (allow a lead time of 120 days).

One kit (IBM part 7361807) provides two protectors. You need one protector at each end of the twinaxial cable when the cable is installed outdoors (either above or below ground level). Individual protectors are available for replacement (IBM part 7362426).

If you are ordering cables from sources other than IBM, see Appendix B, “Cable Specifications and Assembly of the Cables,” for specifications.

Twinaxial Signal Cables and Connectors

If your printer uses a twinaxial signal cable, you can order the following cables and connectors from IBM:

IBM Part Number	Description
7362211[1]	Bulk cable (vinyl) - specify length when you order.
7362061[2]	Bulk cable (Teflon) - specify length when you order.
7362267[1]	Preassembled cable (vinyl) with connectors - specify length when you order.
7362062[2]	Preassembled cable (Teflon) with connectors - specify length when you order.
7362268	Connector kit for vinyl-covered cables (includes two connectors).
7362063	Connector kit for Teflon-covered cables (includes two connectors).
7362229	Cable connector (for individual cable ends).
7362230	Cable-to-cable adapter for connecting two cables together.
7361807	Station protector kit for outdoor cable installation (includes two station protectors).
94X3677	Protective sleeve (to cover metallic connectors).
483619	Shrink tubing (for covering cable-to-cable adapter).
7362426	Replacement station protector element.
6342823	Line-termination[3] connector for cable-through and line termination.

Note: All signal cables must be rated fire resistant or be in conduit per National Electric Code Article 725. Consult local building code requirements.

1. Type CL2 cable for general use.
2. Type CL2P cable for use in ducts and plenums.
3. One line-termination connector comes with each twinaxial-attached printer.

IBM Cabling System

The IBM Cabling System standardizes the wiring in a building. This cabling system lets you move various devices without rewiring the building each time a device is moved.

The signal cable that attaches the printer to this cabling system is a 150-ohm IBM Cabling System shielded twisted pair (ICS) attachment cable.

Up to seven printers can be connected to a single computer port; however, the maximum length of this cable on any port cannot be longer than 1524 m (5000 ft).

The printer does not require a balun at the printer end when connected to IBM Cabling System. The host system or controller may require a balun.

Ordering Attachment Cables and Connectors from IBM

The signal cables for connecting the printer to the IBM Cabling System are called attachment cables.

IBM part numbers for attachment cables are provided below:

IBM Part No.	Description
38F8254	Twinaxial assembly for ICS (provided with printer)
6091075	Twinaxial direct connection cable
6091070	Twinaxial-ICS impedance matching device.

For planning and installation of the IBM Cabling System, see your IBM representative and the *IBM Cabling System Planning and Installation Guide,* GA27-3361.

Telephone Twisted-Pair

The printer can also attach to the host system or controller by a 110-ohm Telephone Twisted-Pair (TTP) cable.

The printer requires a special signal cable for attaching to the TTP wiring method. The cable consists of a balun, a length of twinaxial cable with a twinaxial connector on one end, and a length of telephone twisted-pair cable terminated in a miniature 6-pin modular plug at the other end. The balun is used for converting from twinaxial to telephone twisted-pair wiring. TTP attachment is done using the IBM 5299 Terminal Multiconnector Model 3. The 5299 requires a TTP adapter cable assembly (IBM part 69X7883) and each printer requires a TTP adapter cable assembly (IBM part 96X6187). Each cable assembly contains a balun and is 3 m (10 ft) long. If this method is used for attachment, the maximum cable length between the printer and host system or controller is 304 m (1000 ft). A balun is required at the host system or controller end.

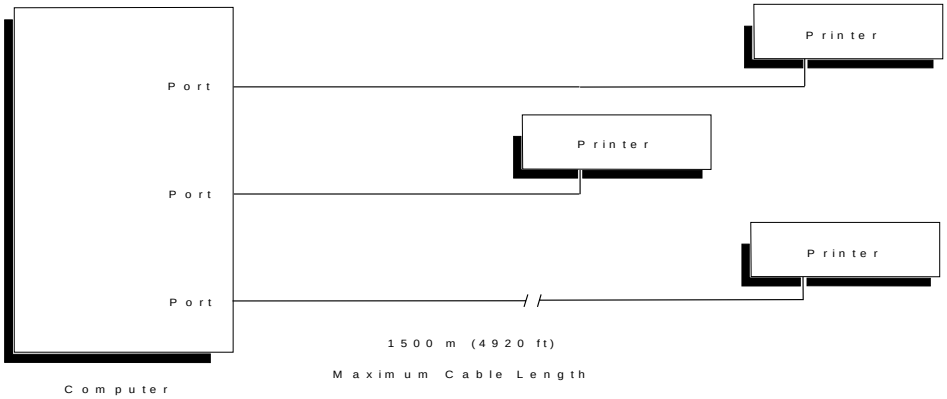
Baluns are also available from other manufacturers. Some of them do not include the wire necessary to attach the printer to the wall-mounted modular telephone jack. When these baluns are used, it is important that the proper wire be selected for making this connection. Note that even short lengths of common parallel telephone wire, such as that sold by telephone and electronic retail stores, may cause malfunctions in your printer. To obtain proper wire for this use, see your IBM representative.

For detailed information about the Telephone Twisted-Pair cable, see *IBM 5299 Terminal Multiconnector Model 3 Planning, Setup, and Maintenance Guide,* GA27-3749.

Coaxial Cables

For coaxial-attached printers, each printer is connected to the computer on a separate port. The cable cannot be longer than 1500 m (4920 ft).

The following diagram shows how your printer connects to the computer.



If you install a signal cable outside the building, order a station protector kit to protect your printer from lightning. You can order the kit from your IBM marketing representative (allow a lead time of 120 days).

One kit (IBM part 1830818) provides two protectors. You need one protector at each end of the coaxial cable when the cable is installed outdoors (either above or below ground level). One attachment kit (IBM part 1833106) provides the necessary hardware for the attachment of the two protectors. Individual protectors are available for replacement (IBM part 5252899).

If you are ordering cable from sources other than IBM, see Appendix B, “Cable Specifications and Assembly of the Cables,” for specifications.

Note: For information about assembling coaxial cables and connectors, see Appendix B, “Cable Specifications and Assembly of the Cables.” For additional information about coaxial cable installation, see *Installation and Assembly of Coaxial Cable and Accessories for Attachment to IBM Products,* GA27-2805.

Coaxial Signal Cables and Connectors

If your printer uses a coaxial signal cable, you can order the following cables and connectors from IBM:

IBM Part Number	Description
3239211	Bulk cable (for indoor use) - specify length when you order.
5252750[1]	Bulk cable (for outdoor use) - specify length when you order.
4885584[2]	Bulk cable (Teflon covered) - specify length when you order.
2577672[1]	Preassembled cable (for indoor use) - specify length when you order.
1833108[1]	Preassembled cable (for outdoor use) - specify length when you order.
4154741[2]	Preassembled cable (Teflon covered) - specify length when you order.
1836418	Connector kit (indoor) - contains two cable connectors.
1836419	Connector kit (outdoor) - contains two cable connectors.
1743508	Connector kit (Teflon) - contains two cable connectors.
1836444	Cable connector (indoor) - for individual cable ends.
4449035	Cable connector (Teflon) - for individual cable ends.
1836447	Cable connector (outdoor) - for individual cable ends.
5252643	Cable-to-cable adapter for connecting two cables together.
1830818	Station protector kit for outdoor cable installation (includes two station protectors).
1833106	Station protector attachment kit.
5252899	Replacement station protector element.

Note: All signal cables must be rated as fire resistant or be in a conduit per National Electric Code, Article 725. Consult local building code requirements.

1. Type CL2 cable for general use.
2. Type CL2P cable for use in ducts and plenums.

IBM Cabling System

The IBM Cabling System standardizes the wiring in a building. This cabling system lets you move various devices without rewiring the building each time a device is moved.

The signal cable that attaches the printer to this cabling system is a 150-ohm IBM Cabling System shielded twisted pair (ICS) attachment cable. Use the following chart to determine the maximum distance the printer can be separated from the appropriate host system or controller.

Host/Controller	Balun Type Host	Printer	Cable Type	Cable Length
3174/3274	8642546	8642546	2	610 m (2000 ft)
3174	DPC	8642546	2	1000 m (3280 ft)
9370 WSC	8642546	8642546	2	610 m (2000 ft)
4361 WSA	8642546	8642546	2	610 m (2000 ft)

Ordering Attachment Cables and Connectors from IBM

For planning and installation of the IBM Cabling System, see your IBM representative and see *IBM Cabling System Planning and Installation Guide,* GA27-3361.

Telephone Twisted-Pair

The printer can also attach to the host system or controller by a 110-ohm Telephone Twisted-Pair (TTP) cable.

The printer requires a special signal cable for attaching to the TTP wiring method. The cable must have a balun, a length of coaxial cable with a bayonet connector (BNC) on one end, and a length of telephone twisted-pair cable terminated in a miniature 6-pin modular plug at the other end (CTPA). The balun is used for converting from coaxial to telephone twisted-pair wiring. The IBM part numbers are provided in the chart below. If this method is used for attachment, the maximum cable length between the printer and host system or controller is 270 m (900 ft). A balun is required at the host system or controller end.

Baluns are also available from other manufacturers. Some of them do not include the wire necessary to attach the printer to the wall-mounted modular telephone jack. When these baluns are used, it is important that the proper wire be selected for making this connection. Note that even short lengths of common parallel telephone wire, such as that sold by telephone and electronic retail stores, may cause malfunctions in your printer. To obtain proper wire for this use, see your IBM representative.

For detailed information about the Telephone Twisted-Pair cable, see the *IBM/ROLM Planning and Installation Guide for the 3270 Coax-to-Twisted-Pair Adapter,* GA27-3722.

IBM Part No.	Description
IBM 61X4584	5.9 m (18 ft) - Coaxial to TTP Adapter (CTCA)

IBM Parallel Attachment

The 4247 Printer supports the IBM Parallel Printer Interface. A single 36-pin connector is mounted on the adapter card.

The PC-parallel interface attaches to the host with a standard PC Parallel Printer cable (IBM part 92F3176) up to 1.8 m (6 ft) in length.

IBM Parallel Connector Pin Assignments

Pin Number	Signal Name	Description
1	-STROBE	Strobe
2 - 9	DATA	Eight Data Lines
10	-ACKNLG	Acknowledge
11	BUSY	Busy
12	PE	Out of Paper
13	SLCT	Printer Selected
14	-AUTO FEED XT	Automatic Line Feed on EOL
15	Unused	
16	LOGIC GND	Logic Ground
17	CHASSIS GROUND	Chassis Ground
18	Unused	
19 - 30	GROUND	Ground
31	-INIT	Initialize Printer
32	-ERROR	Printer Error
33	GROUND	Ground
34, 35	Unused	
36	-SLCT IN	Make printer selected

Environmental Requirements

The printer operates correctly in environments that are typical of most business offices.

Warning: Damage to the printer can occur if you set the printer power switch to On (|) immediately after the printer has been moved from an environment that does not meet the following operating requirements. If the printer has been in such a location, be sure that you move the printer to the correct operating environment at least 24 hours before you turn the power On (|).

Operating Environment

The following tables show the operating environment requirements for the printer.

Without Automatic Sheet Feeder:

Environment	Requirement
Temperature range	10° to 40° C (50° to 104°F)
Relative humidity range	8% to 80%
Maximum wet bulb temperature	27°C (80.6°F)

Note: The best conditions for feeding and stacking are within a temperature range of 15.6 to 32.2°C (60 to 90°F) and a relative humidity range of 26 to 62%.

With Automatic Sheet Feeder:

Environment	Requirement
Temperature range	16° to 32°C (60.8° to 89.6°F)
Relative humidity range	8% to 80%
Maximum wet bulb temperature	23°C (73.4°F)

Nonoperating Environment

The following tables show the nonoperating environment requirements for the printer.

Without Automatic Sheet Feeder:

Environment	Requirement
Temperature range	10° to 52°C (50° to 125.6°F)
Relative humidity range	8% to 80%
Maximum wet bulb temperature	27°C (80.6°F)

With Automatic Sheet Feeder:

Environment	Requirement
Temperature range	10° to 43°C (50° to 109.4°F)
Relative humidity range	8% to 80%
Maximum wet bulb temperature	27°C (80.6°F)

Shipping Environment

The following table shows the shipping environment requirements for the printer.

Note: You must cover the printer with a plastic cover for shipping.

Environment	Requirement
Temperature range	-40° to 60°C (-40° to 140°F)
Relative humidity range	5% to 100% (including condensation, excluding rain)
Maximum wet bulb temperature	29°C (84.2°F)

Storage Environment

The following table shows the storage environment requirements for the printer.

Environment	Requirement
Temperature range	1° to 60°C (33.8° to 140°F)
Relative humidity range	5% to 80%
Maximum wet bulb temperature	29°C (89.2°F)

Note: Ribbon performance and print quality may degrade when exposed to temperatures in excess of 41°C (105°F) for an extended period of time.

Electrical Requirements

Use the following tables to plan your site power requirements. The tables list the voltage inputs, grounding, plugs, and receptacles necessary for your new printer. All voltages are single-phase.

Nominal Operation Voltages

Countries	100 V to 127 V 50 or 60 Hz	200 V to 240 V 50 or 60 Hz
United States, Canada	X	
Central and South American and Far Eastern	X	X
European, Middle Eastern, and African	Saudi Arabia only	X

Power Cord

Place the printer so the power cord can plug into the power receptacle without putting stress on the power cord. The standard power cord length in the U.S. and in all other countries is 2.74 m (9 ft). A 1.83 m (6 ft) power cord is also available in the U.S.

Safety

Safety is a major consideration in the design and manufacture of IBM products. Proper electrical grounding is essential for safety and for reliable operation of the printer. If you have any questions about the grounding of your receptacle, ask your electrician.

Branch Circuits and Grounding

A machine must be properly grounded. It is recommended that an insulated green-wire ground, the same size as the phase wire, be installed between the branch circuit panel and the receptacle.

For personal safety, the ground should have sufficiently low impedance to limit the voltage to ground and to facilitate the operation of circuit protective devices in the circuit. For example, the ground path must not exceed 1 ohm for 120-volt, 20-ampere branch circuit devices.

CAUTION:
The construction of this machine provides extra protection against the risk of electric shock by grounding appropriate metal parts. The extra protection may not function unless the power cord is connected to a properly grounded outlet. This machine has a grounding-type (3-wire) power cord because grounding is necessary. It is the responsibility of the customer or the person installing the machine to connect it to a properly grounded outlet. Seek professional assistance before using an adapter or extension cord; such a device could interrupt the grounding circuit.

Plugs and Receptacles

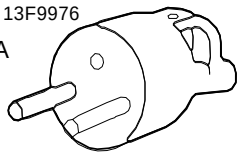
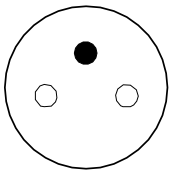
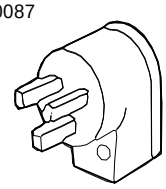
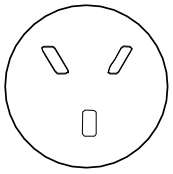
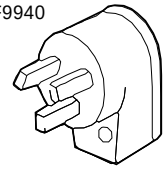
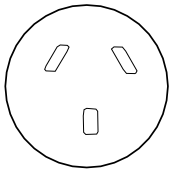
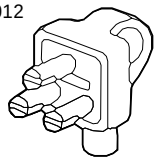
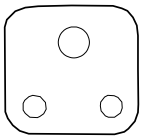
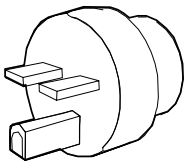
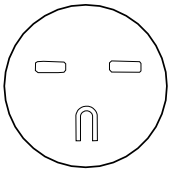
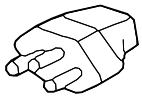
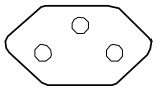
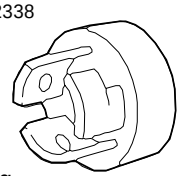
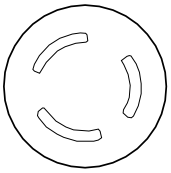
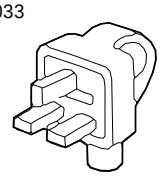
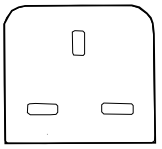
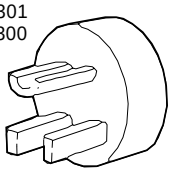
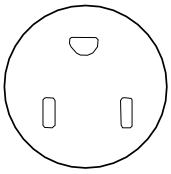
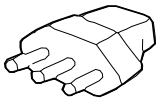
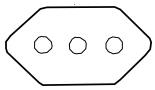
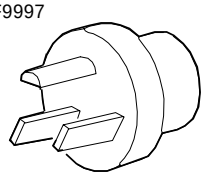
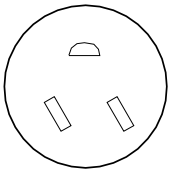
The following charts show, by country, which power plugs are shipped with the printer. The alphabetic references in these charts correspond to the power plugs shown in A-22.

COUNTRY	VOLTAGE RANGE		COUNTRY	VOLTAGE RANGE	
	125 V	250 V		125 V	250 V
Afghanistan		A	Germany		A
Algeria		A	Guatemala	E	
Argentina		B	Guyana		L
Australia		B	Haiti	E	
Austria		A	Honduras		C
Bahamas	E		Hungary		A
Bahrain		L	Iceland		A
Bangladesh		J	India		L
Barbados	E		Indonesia		A
Belgium		A	Iran		A
Bermuda		L	Iraq		L
Bolivia	E		Ireland		L
Brazil	E		Israel		H
Brunei		L	Italy		M
Bulgaria		A	Jamaica	E	
Burma		J	Japan	E D	C
Canada	E		Kenya		L
Channel Islands		L	Korea		A
Chile		M	Kuwait		L
China		L B	Liberia	E	
Colombia		B	Libya		M
Costa Rica	E		Malaysia		L
Cyprus		L	Malta		L
Denmark		G	Mexico	E	
Dominican Republic	E		Nepal		L
Ecuador	E		Netherlands		A
El Salvador	E		Netherland Antilles	E	
Ethiopia		M	New Guinea		A
Finland		A	New Zealand		B
France		A	Nicaragua	E	

COUNTRY	VOLTAGE RANGE		COUNTRY	VOLTAGE RANGE	
	125 V	250 V		125 V	250 V
Nigeria		L	South Africa		J
Norway		A	Spain		A
Oman		L	Sri Lanka		J
Pakistan		J	Sweden		A
Panama	E		Switzerland		K
Paraguay		B	Taiwan		C
Peru		C	Tanzania		L
Philippines		C	Thailand		C
Poland		A	Trinidad	E	
Portugal		A	Uganda		L
Polynesia		L	United Kingdom		L
Qatan		L	United States	E	
Romania		A	Uruguay		B
Saudi Arabia	E		Venezuela	E	
Sierra Leone		L	Yugoslavia		A
Singapore		L	Zambia		L

- Other Asian and Latin American countries not listed will be shipped cords with plug **E** attached.
- Other European, Middle Eastern, and African countries not listed will be shipped cords with **A** attached.

The following chart shows the power cord part numbers and their corresponding power plugs and receptacles that are used with the printer. The current rating is that of the power cord or plug, whichever is less.

Plug (Three Dimensional View)	Receptacle	Plug (Three Dimensional View)	Receptacle
P/N 13F9979 P/N 13F9976 10A A 250 V 		P/N 14F0087 10A H 250 V 	
P/N 6952291 P/N 13F9940 10A B 250 V 		P/N 14F0015 P/N 14F0012 10A J 250 V 	
P/N 1838574 10A C 250 V 		P/N 14F0051 10A K 250 V 	
P/N 6952338 10A D 125 V Locking 		P/N 14F0033 10A L 250 V 	
P/N 6952301 P/N 6952300 10A E 125 V  NEMA 5-15P	 NEMA 5-15R	P/N 14F0069 10A M 250 V 	
P/N 13F9997 10A G 250 V 			

Note: *All power plugs except* D *are nonlocking.*

Appendix B. Cable Specifications and Assembly of the Cables

Coaxial Cable Specifications B-2
Installing Cable Connectors on Coaxial Cable B-3
Cable-to-Cable Adapters for Coaxial Cables B-5
Twinaxial Cable Specifications for Vinyl Cable B-6
Twinaxial Cable Specifications for Teflon Cable B-7
Installing Cable Connectors on Twinaxial Cable B-8
Cable-to-Cable Adapters for Twinaxial Cable B-11

A coax or twinax signal cable does not come with your printer. It is your responsibility to obtain, install, and maintain the signal cable. In addition, it is your responsibility to ensure that the cabling meets the applicable local, state, and federal building codes.

If you do not purchase preassembled cables, you will have to install the connectors on the cable ends. The information in the following pages will help you complete this task.

This appendix has the following information:

- Coaxial cable specifications
- Installing cable connectors on coaxial cable
- Cable-to-cable adapters for coaxial cables
- Twinaxial cable specifications for vinyl cable
- Twinaxial cable specifications for Teflon cable
- Installing cable connectors on twinaxial cable
- Cable-to-cable adapters for twinaxial cable

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Coaxial Cable Specifications

The following table shows bulk cable specifications for coaxial cable:

Table B-1. Coaxial Cable Specifications

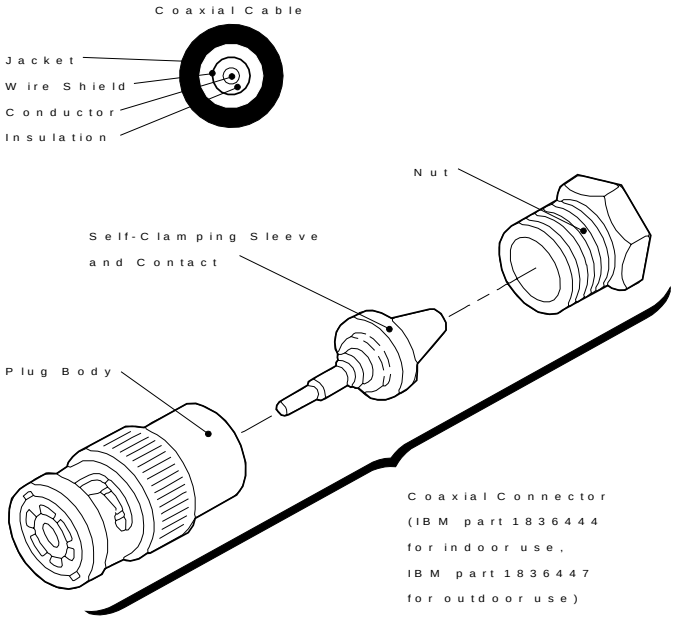
		Indoor[2]	**Outdoor**[3]
Conductor	AWG wire size	22	22
	Stranding	Solid	Solid
	Material	Copper covered steel 40% conductivity	Copper covered steel 40% conductivity
Shield	Material	Copper braid	Copper braid
	Type	AWG 34	AWG 34
	Coverage[4]		
Jacket	Material	PVC	PVC[5]
	Average single wall thickness	Noncontaminating 0.79 mm (0.031 in.)	Noncontaminating 1.02 mm (0.040 in.) minimum
Rating	Ambient temperature	60°C maximum	60°C maximum
Capacitance, nominal		14.5 pF/ft	14.5 pF/ft
Impedance, characteristic		93 ± 5 ohms	93 ± 5 ohms
Attenuation @ 400 MHz		8 dB/30.5 m (100 ft) maximum	8 dB/30.5 m (100 ft) maximum
Velocity of propagation		80%	80%
DC resistance		44 ohms/305 m (1000 ft) maximum	44 ohms/305 m (1000 ft) maximum

1. If your system uses coaxial cable, plan to connect adapters to your coaxial cable as soon as possible for ease of setup.
2. Cable commercially designated RG 62A/U, meeting the preceding specifications, is an approved substitute. Cable OD 6.15 ± 0.18 mm (0.242 ± 0.007 in.).
3. Cable commercially designated RG 62A/U, which is modified for outdoor use (including vapor barrier and thicker cover) and which meets the preceding specifications, is a suitable substitute. Cable OD 6.6 ± 0.25 mm (0.260 ± 0.10 in.).
4. Seven ends, 16 carriers, 8.2 ± 10 % pick per inch, 90 % minimum coverage.
5. Jacket must meet the minimum requirements for underground feeder and branch circuit cable and must also be weather-proofed and sunlight resistant, per UL Subj. 493.

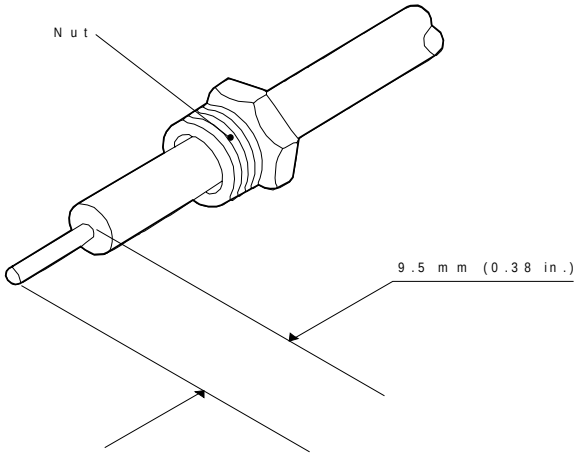
Installing Cable Connectors on Coaxial Cable

If you purchase bulk coaxial cables, assemble them as follows. See the illustrations following these instructions for dimensions and help in doing these procedures. If you use connectors provided by a company other than IBM, use the instructions provided by the manufacturer.

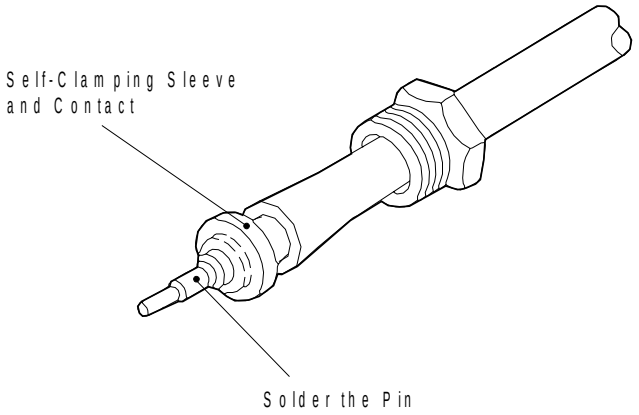
1. Be certain the connector kit has all the required parts. Check the cross-sectional diagram for the location of the cable components.



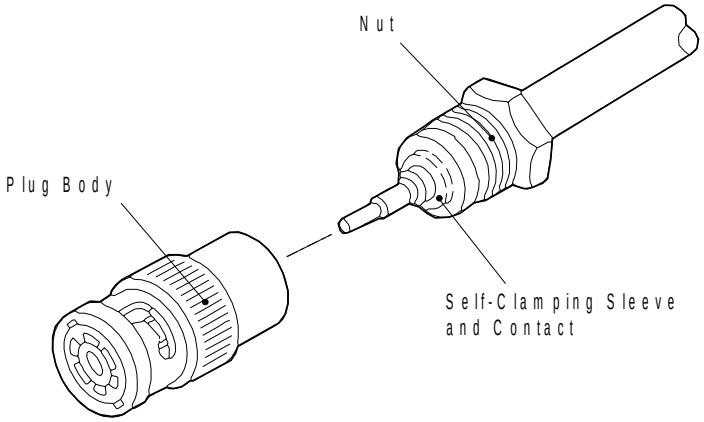
2. Cut squarely through the jacket, shield, and insulation, exposing 9.5 mm (0.38 in.) of the conductor. Slide the nut over the cable jacket.



3. Insert the conductor into the tapered, self-clamping sleeve and contact; force the edge of the sleeve between the insulator and the shield until insulation covers the taper. Solder the conductor to the contact of the solder hole. ***Remove the excess solder from the outside of the contact.***



4. Fit the contact into the plug body; screw the nut into the body, binding the jacket and shield tightly against the tapered sleeve. The cable should not be allowed to twist as the nut is tightened.



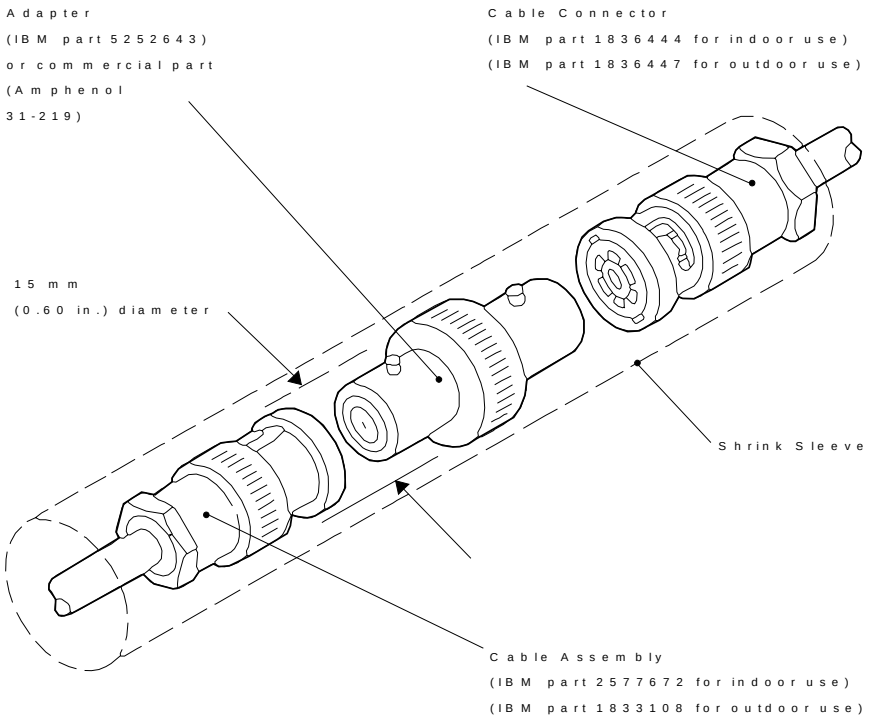
5. Check for shorts between the plug body and the conductor.

Cable-to-Cable Adapters for Coaxial Cables

Do not splice cables; use an adapter. You may use IBM part 5252643, Amphenol part 31-219, or an equivalent for coaxial cable.

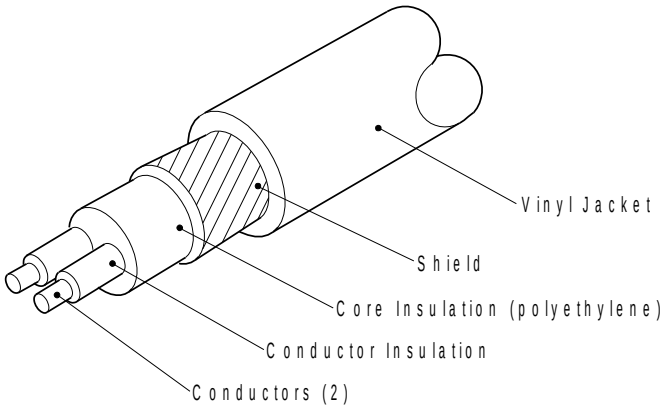
Cover this adapter and the attached cable connectors with shrink or insulated tubing to prevent accidental grounding of the connection.

The following illustrates the cable adapter for joining coaxial cables:



Twinaxial Cable Specifications for Vinyl Cable

The following are bulk cable specifications for twinaxial cables with vinyl covering:

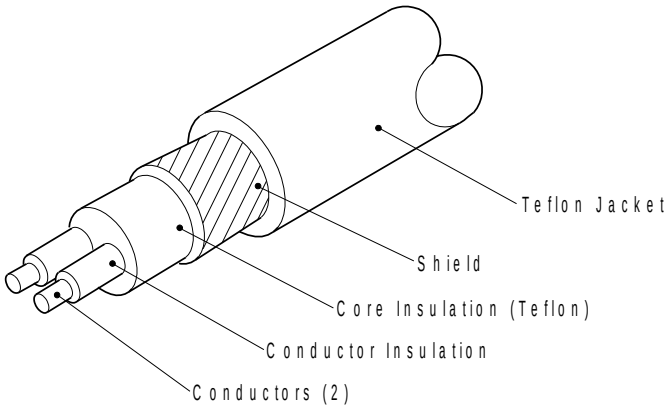


Conductor	AWG wire size	20
	Stranding	7 x 28
	Material	Copper
	Coating	Tin (1 conductor only)
	Resistance	11 ohms maximum per 305 m (1000 ft)
Insulation	Material	Polyethylene
	Outside diameter	6.1 mm (0.24 in.) nominal
Shield	Material	Tinned copper
	Type	Braid, 34 AWG, 7 ends/24 carriers, 9.7 ± 10% picks/25.4 mm (1 in.)
	Coverage	95% minimum
	Resistance	3 ohms maximum per 305 m (1000 ft)
Jacket	Material	Vinyl
	Color	Black
	Average single-wall thickness	0.76 mm (0.029 in.)
	Outside diameter	8.25 mm (0.325 in.) nominal
Rating	Dielectric strength	4500 V dc for 3 seconds at 28°C (82°F)

Capacitance	53.1 pF/m (16.2 pF/ft) maximum
Impedance, characteristic	111 ± 5% ohms at 0.5 MHz 107 ± 5% ohms at 1 MHz 105 ± 5% ohms at 2 MHz and above
Attenuation @ 100 MHz	4.5 dB/30.5 m (100 ft) maximum at 25 °C (77°F) 4.7 dB/30.5 m (100 ft) maximum at 80°C (176°F)
Velocity of propagation	66% ± 5%
Operating environment	-40°C to 80°C (-40°F to 176°F) 10% to 90% relative humidity

Twinaxial Cable Specifications for Teflon Cable

The following are bulk cable specifications for twinaxial cables with Teflon covering:



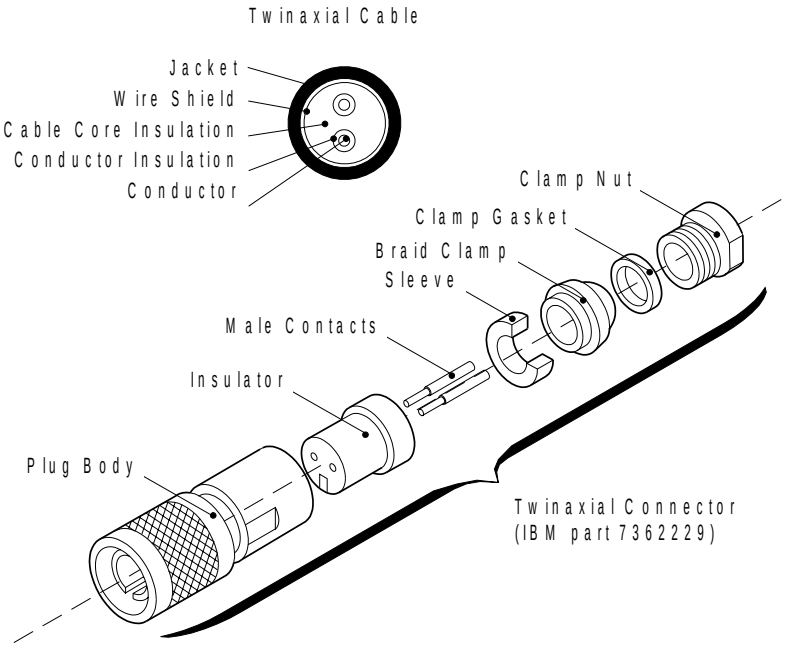
Conductor	AWG wire size	20
	Stranding	7 x 28
	Material	Copper
	Coating	Tin (1 conductor only)
	Resistance	11 ohms maximum per 305 m (1000 ft)
Core Insulation	Material	Teflon
	Outside diameter	6.1 mm (0.24 in.) nominal
Shield	Material	Tinned copper
	Type	Braid, 34 AWG, 8 ends/16 carriers, 10.1 ± 10% picks/25.4 mm (1 in.)
	Coverage	95% minimum
	Resistance	3 ohms maximum per 305 m (1000 ft)
Jacket	Material	Teflon
	Color	Translucent (white, natural, or light gray)
	Average single-wall thickness	0.63 mm (0.025 in.)
	Outside diameter	7.00 mm (0.275 in.) nominal
Rating	Dielectric strength	4500 V dc for 3 seconds at 28°C (82°F)

Capacitance	53.1 pF/m (16.2 pF/ft) maximum
Impedance, characteristic	111 ± 5% ohms at 0.5 MHz 107 ± 5% ohms at 1 MHz 105 ± 5% ohms at 2 MHz and above
Attenuation @ 100 MHz	4.5 dB/30.5 m (100 ft) maximum at 25 °C (77°F) 4.7 dB/30.5 m (100 ft) maximum at 80°C (176°F)
Velocity of propagation	66% - 75%
Operating environment	-40°C to 105°C (-40°F to 221°F) 10% to 90% relative humidity

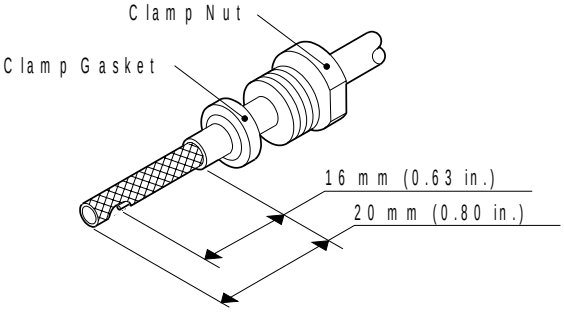
Installing Cable Connectors on Twinaxial Cable

If you purchase bulk twinaxial cables, assemble them as follows. See the illustrations for dimensions and help in doing these procedures. If you use connectors that are provided by a company other than IBM, use the instructions that are provided by the manufacturer.

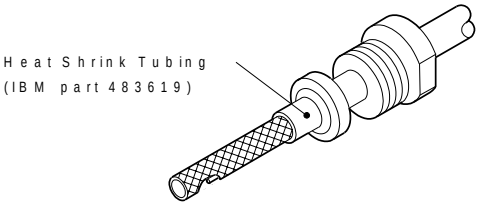
1. Be certain the connector kit has all the required parts. Check the cross-sectional diagram for the location of the cable components.



2. Cut the end of the cable sharply and squarely. Then slide a clamp nut and clamp gasket over the cable jacket and trim the jacket to the dimension given. Push the wire shield back to expose the inner insulation core, and cut the core and conductors to a length of 16 mm (0.63 in.). Slide the wire shield back over the core, and taper it to a point for ease of braid clamp assembly in step 4.

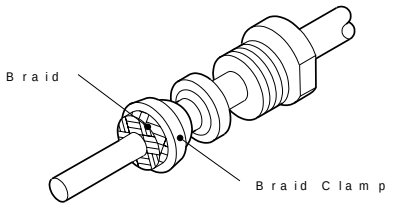


3. ***This step is only for a Teflon cable.*** If you are assembling a Teflon cable, install the heat shrink tubing as shown.

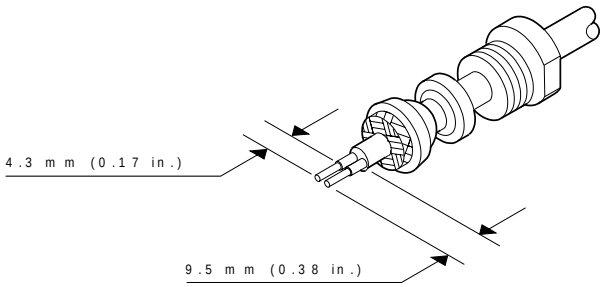


4. Slide a braid clamp over the braid so that its inner shoulder butts against the cable jacket. Then fold the shield back over the braid clamp and trim below the shoulder.

   Note: Placement of the braid wires over the braid clamp must be uniform to provide good rf (radio frequency) connection of the shield and to prevent breaking the shield strands.

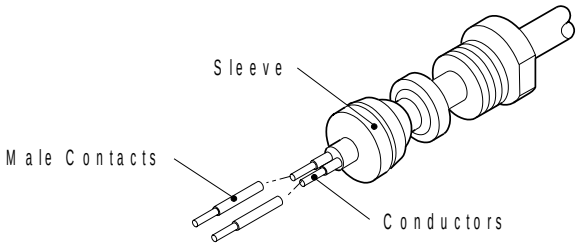


5. Cut the cable core and the conductor insulation to the dimensions shown. ***Do not nick the conductors or the insulation.*** If the braid is frayed, trim the braid as described in step 2.

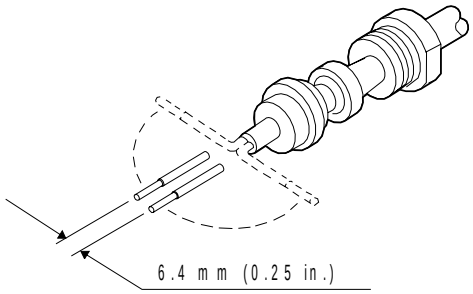


6. Slide the sleeve over the cable core and press the sleeve against the braid wires.

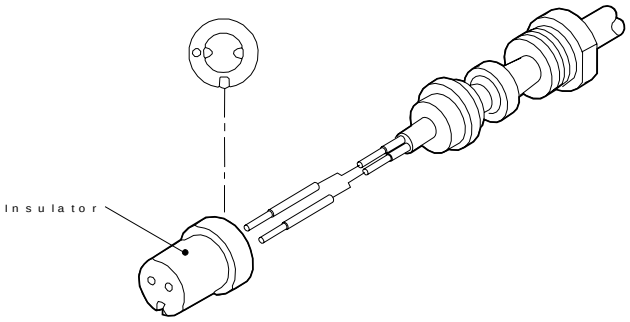
   Using minimum heat, solder the male contacts to the conductors. Clean off any excess solder.



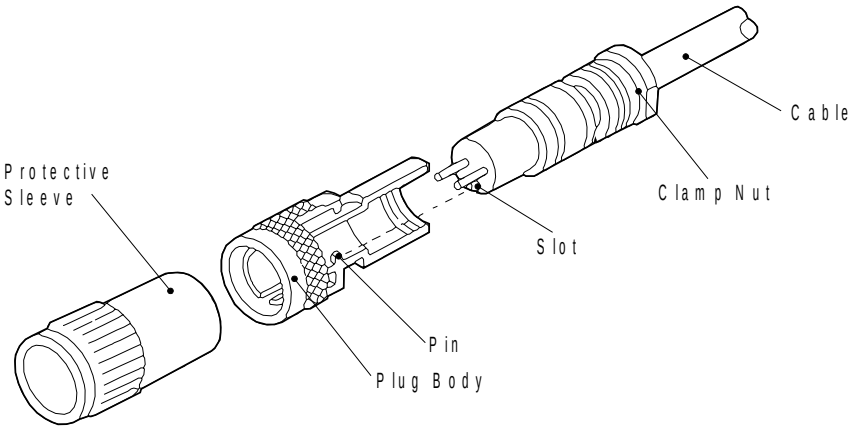
7. Bend the conductors and the contacts out at right angles to the cable axis. At a distance of 6.4 mm (0.25 in.), bend the conductors and contacts back parallel to each other.



8. Slide the insulator over the contacts and the cable so the insulator butts against the sleeve. Press all the parts together. The contact on the bare copper lead of the cable goes into the insulator hole that has a dot next to it.



9. Insert the assembly into the connector body, and align the polarizing slot in the insulator with the polarizing pin inside the plug body. Tighten the clamp nut with a 5.7 to 6.8 newton m (50 to 60 in. lb) torque. (Do not allow the cable and plug body to twist as you tighten the clamp nut.)



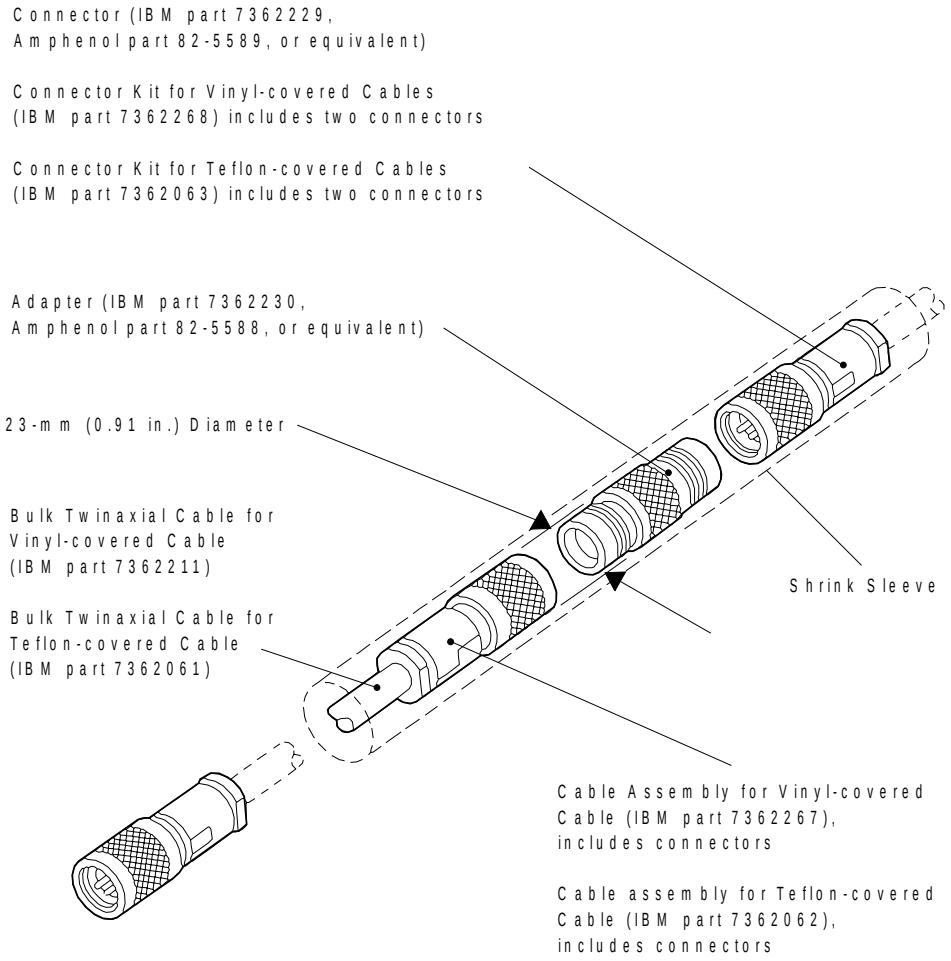
10. Check for shorts between the conductors and between each conductor and the plug body. Slide the protective sleeve over the plug body.

Cable-to-Cable Adapters for Twinaxial Cable

Do not splice cables; use an adapter. You may use IBM part 7362230, Amphenol part 82-5588, or an equivalent for twinaxial cables.

Cover this adapter and the attached cable connectors with shrink or insulated tubing to prevent accidental grounding of the connection.

The following figure illustrates the cable adapter for joining twinaxial cables:



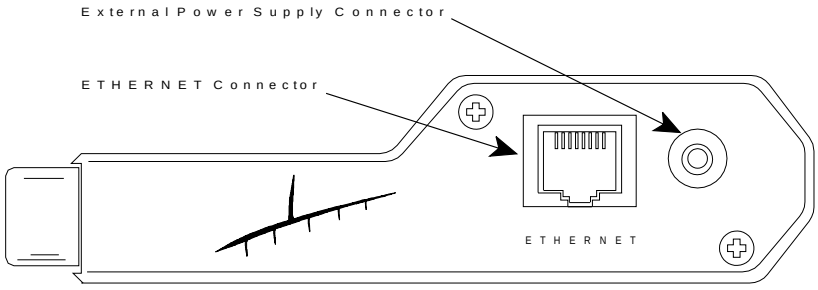
Appendix C. Network Print Servers

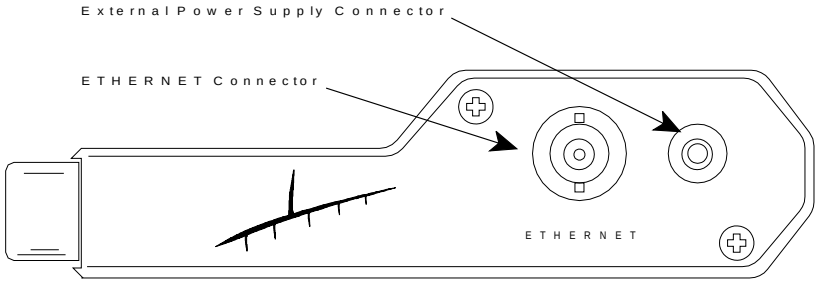
The Network Print Server feature eliminates the need for third party Token-Ring and Ethernet attachments. The servers contain the intelligence needed to make your printer fully accessible to all network users. Its multiple protocol support lets you print from Novell NetWare, IBM LAN Server, IBM AIX, and other TCP/IP networks. The Network Print Server has its own unique network address, and interprets data transmitted on the network to the print data stream used by the 4247 Printer. There are four servers available for attachment to your printer:

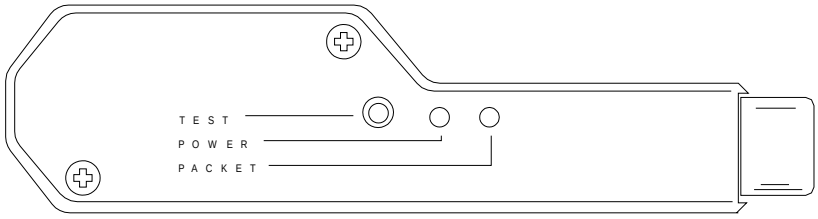
- Ethernet 10BaseT
- Ethernet 10Base2
- Token-Ring Media Type 1
- Token-Ring Media Type 3.

The Network Print Server feature plugs directly into the printer's parallel port for easy installation. To install your server, perform the following:

Ethernet 10BaseT or 10Base2







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1. Make sure your printer parallel interface is set to PC Parallel. To change or check the Interface Type:
   a. Press **Menu**.
   b. Press **Scroll↑** or **Scroll↓** until the printer displays

      ```
      CONFIGURATION MENU
      Parallel Configuration
      ```

   c. Press **Enter**.
   d. Press **Scroll↑** or **Scroll↓** until the printer displays

      ```
      Parallel Configuration
      Interface Type
      ```

   e. Press **Enter** to display the current value.
   f. Press **Scroll↑** or **Scroll↓** until the printer displays

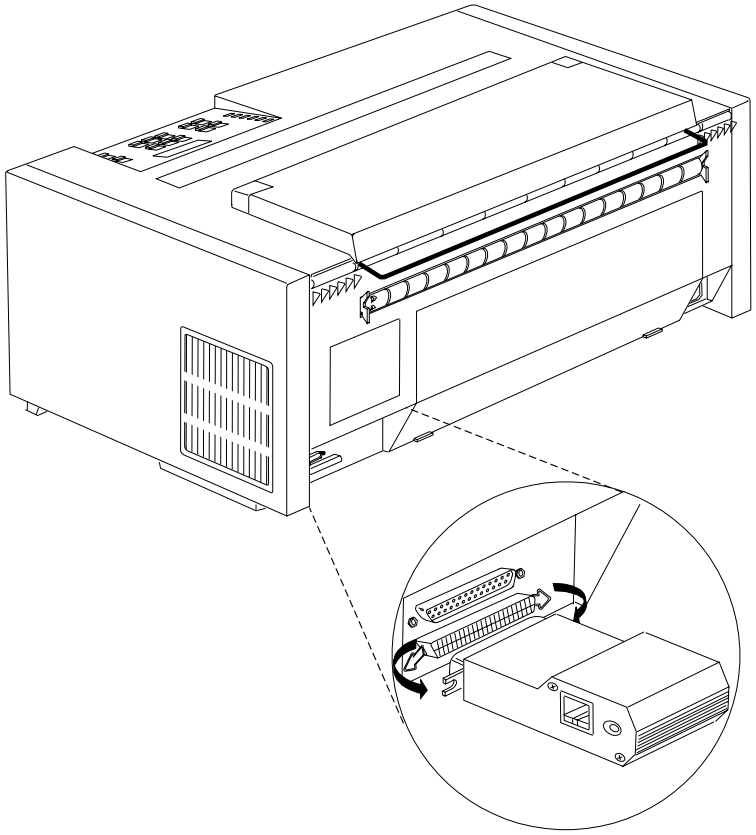
      ```
      Interface Type
        PC Parallel
      ```

   g. Press **Enter**.

      An asterisk (*) will be displayed in front of the selected value.

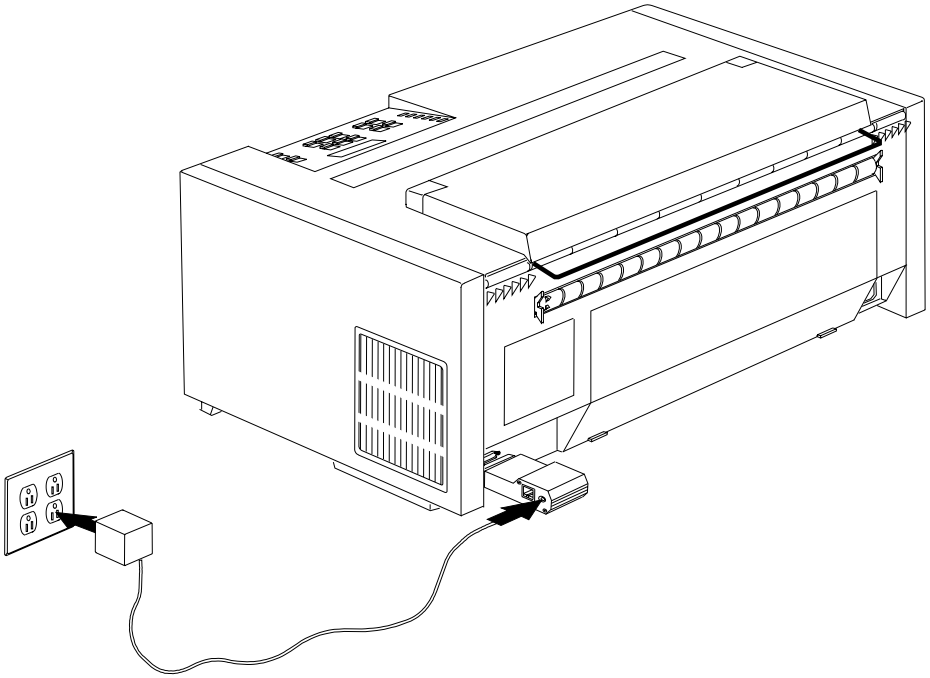
   h. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.
2. Turn the printer power Off (O).

3. Attach the Network Printer Server to your parallel port.



CAUTION:
This unit contains more than one power supply cord *(printer power supply cord and Network Print Server power supply cord)***.**

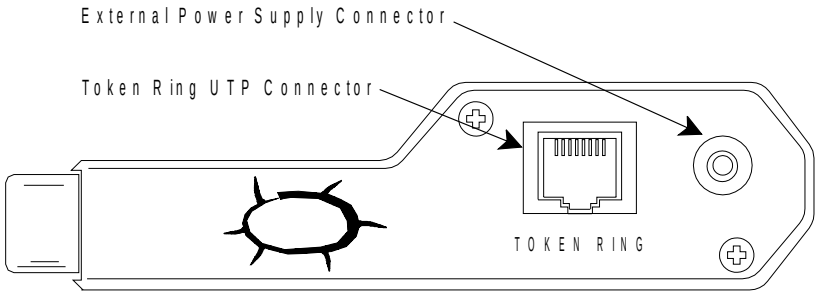
4. Connect the external power supply.

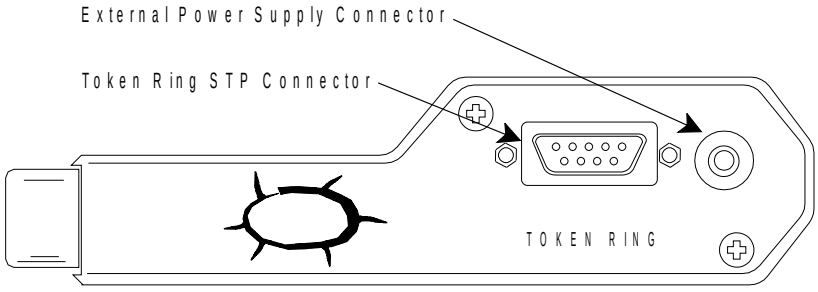


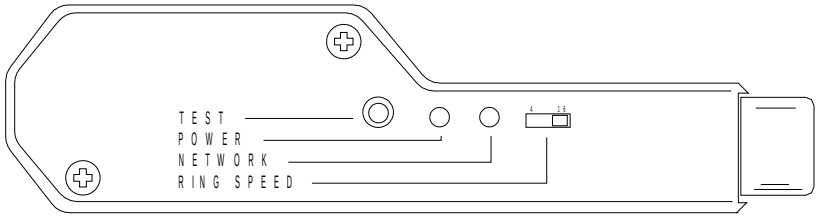
   The PACKET indicator will flash during power-on and self-test. When the indicator stops flashing and remains unlit, the Network Print Server is ready for use.

5. Turn the printer power On (|). Make sure forms (currently selected paper source) are loaded in the printer.
6. Press and hold the TEST button until the PACKET indicator starts to flash, then release the button to print a test page. The test page shows the software revision and the basic setup of your Network Print Server.
7. For additional installing information, see *Network Print Server for Ethernet Networks Administrator's Guide,* order number S246-0111, that was shipped with your Network Print Server.

Token-Ring Media Type 1 and Token-Ring Media Type 3







1. Make sure your printer parallel interface is set to PC Parallel. To change or check the Interface Type:
   a. Press **Menu**.
   b. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   CONFIGURATION MENU
   Parallel Configuration
   ```

   c. Press **Enter**.
   d. Press **Scroll↑** or **Scroll↓** until the printer displays

   ```
   Parallel Configuration
   Interface Type
   ```

   e. Press **Enter** to display the current value.

f. Press **Scroll↑** or **Scroll↓** until the printer displays

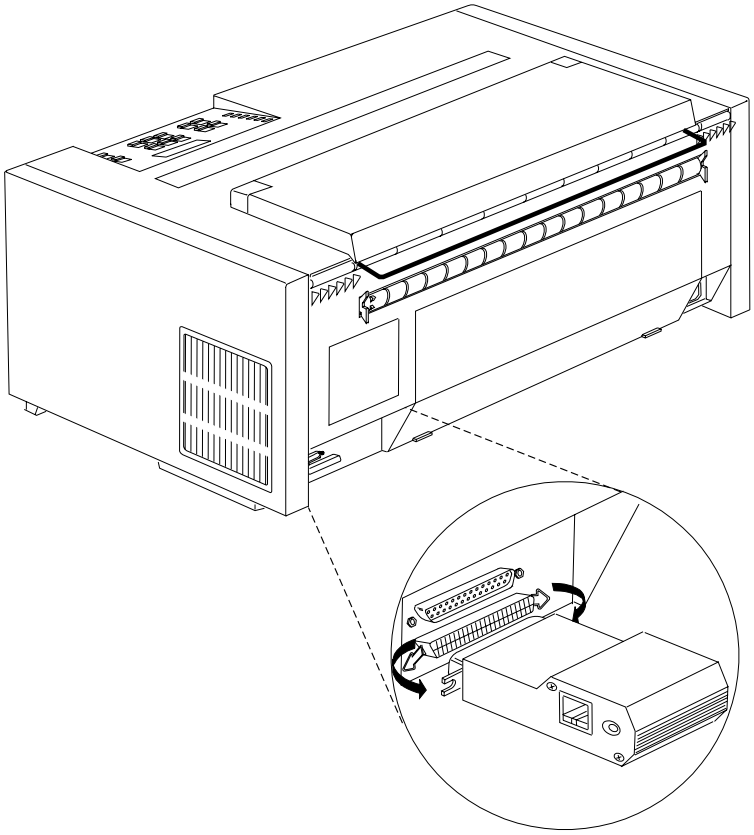
```
Interface Type
  PC Parallel
```

g. Press **Enter**.

An asterisk (*) will be displayed in front of the selected value.

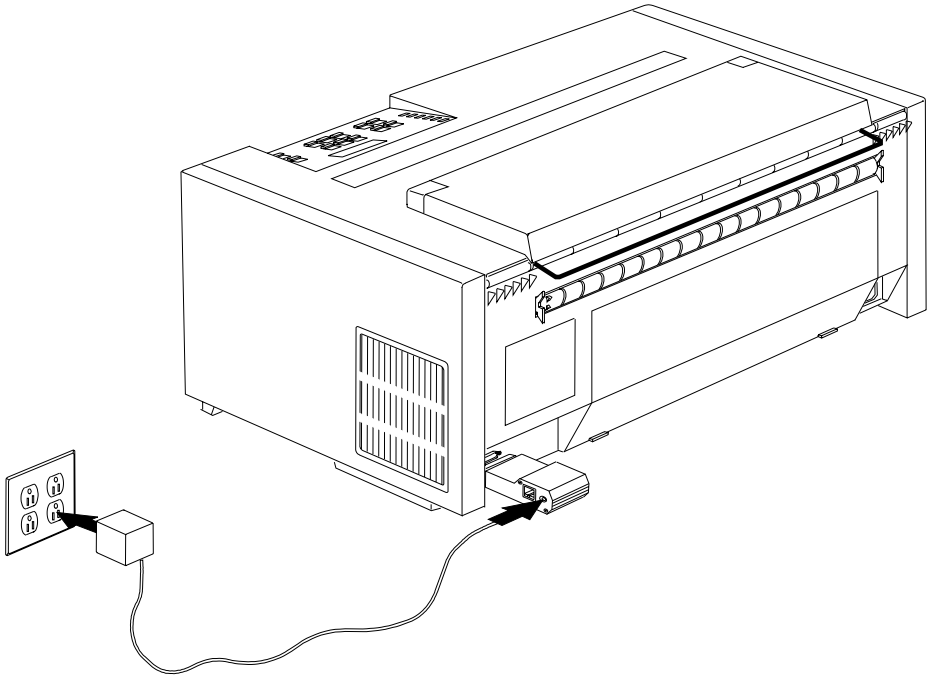
h. Use **Start** or **Return** to exit the Menu. See “Exiting the Configuration Menu” on page 3-4.

2. Turn the printer power Off (O).
3. Attach the Network Printer Server to your parallel port.



CAUTION:
This unit contains more than one power supply cord *(printer power supply cord and Network Print Server power supply cord)***.**

4. Connect the external power supply.



   The NETWORK indicator will flash during power-on and self-test. When the indicator stops flashing and remains unlit, the Network Print Server is ready for use.

5. Turn the printer power On (|). Make sure forms (currently selected paper source) are loaded in the printer.
6. Press and hold the TEST button until the NETWORK indicator starts to flash, then release the button to print a test page. The test page shows the software revision and the basic setup of your Network Print Server.
7. For additional installing information, see *Network Print Server for Token-Ring Networks Administrator's Guide,* order number S246-0112, that was shipped with your Network Print Server.

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