InfoPrint 60 Finisher

Application Design Guide

S544-5643-00

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S544-5643-00

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

First Edition (September 1998)

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- Mixed Object Document Content Architecture (MO:DCA)
- Print Services Facility (PSF)

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About this Publication

This publication explains how to print and finish booklets and documents with the IBM InfoPrint 60 finisher. It describes how the InfoPrint 60 printer and finisher work together under system control to let you produce booklets and documents using these IBM software products:

- InfoPrint Manager
- AS/400
- PSF/MVS
- Page Printer Formatting Aid (PPFA)

This publication is updated on the Internet. For the latest copy, select:

```
http://www.printers.ibm.com --> Tech Support --> Manuals
or
http://www.printers.ibm.com/manuals.html
```

Who Should Use this Publication?

This publication is for users who want to print and finish booklets and documents with the IBM InfoPrint 60 finisher.

Examples of the tasks the finisher can do are:

- Edge-stitching
- Corner-stapling
- Folding and saddle-stitching
- Inserting pre-printed tabs
- Inserting z-folded pages

This publication assumes you are familiar with the IBM software products listed above and with the IBM InfoPrint 60 printer.

Using this Publication

1. Read and follow the directions in:
   - “Chapter 1. InfoPrint 60 Finisher Introduction” on page 1

     This chapter explains the types of operations you can perform with the finisher. It also explains how to orient paper in the printer and finisher.
2. Read and follow the directions in **one** of these chapters, according to the IBM software product you are using:
   - “Chapter 2. Printing with InfoPrint Manager” on page 13
   - “Chapter 3. Printing with PSF/MVS” on page 49
   - “Chapter 4. Printing with AS/400” on page 53
3. If necessary, read and follow the directions in:
   - “Chapter 5. Form Definition and PPFA” on page 75

     Explains how to use the Page Printer Formatting Aid (PPFA) to define media, logical page orientation, bins, finishing instructions, and types of presentations
   - “Appendix. Paper Path” on page 105

The sheet position in an input tray, the sheet size, simplex or duplex operation, input tray selection, and finisher selection determines how the media moves through the printer and finisher. The following sections describe the paper path and sheet orientation during printing and finishing.

Related Publications

These publications contain additional information about the IBM InfoPrint 60 and related products:

Advanced Function Presentation (AFP)

- *Guide to Advanced Function Presentation*, G544-3876
- *Advanced Function Presentation: Printer Information*, G544-3290
- *Advanced Function Presentation: Printer Summary*, G544-3135
- *Mixed Object Document Content Architecture Reference*, SC31-6802
- *Advanced Function Presentation: Programming Guide and Line Data Reference*, S544-3884

InfoPrint Manager for AIX

InfoPrint provides the following publications in PDF format on a CD-ROM supplied with the product:

- *IBM InfoPrint Manager for AIX: Administrator's Guide*, S544-5595
- *IBM InfoPrint Manager for AIX: User's and Planning Information*, S544-5604
- *IBM InfoPrint Manager for AIX: User's and Operator's Guide*, S544-5596
- *IBM InfoPrint Manager for AIX: Reference Guide*, S544-5475
- *IBM InfoPrint Manager for AIX: Administrator's Guide*, S544-5595

Print Services Facility (PSF) for AIX

- *IBM Print Services Facility for AIX: AIX for Users of Print Services Facility*, S544-3877
- *IBM Print Services Facility for AIX: Print Administration*, S544-3817
- *IBM Print Services Facility for AIX: Print Submission*, S544-3878
- *IBM Print Services Facility for AIX: Advanced Function Presentation Conversion and Indexing Facility*, S544-3930
- *Conversion and Indexing Facility*, S544-3930

AS/400

- *AS/400 Guide to AFP and PSF*, S544-5319
- *AS/400 Printer Device Programming*, SC41-3713
- *IBM AS/400 Printing IV*, GG24-4389
- *DDS Reference*, SC41-5712

Advanced Function Printing PrintSuite for AS/400

- *AS/400 Advanced Utility User's Guide*, S544-5351
- *IBM Advanced Function Presentation: Toolbox for AS/400 User's Guide*, S544-5368

PSF/VSE, PSF/MVS, and PSF/VM

- *VSE: Application Programming Guide*, S544-3666
- *VSE: System Programming Guide*, S544-3665
- *Print Services Facility/MVS: Application Programming Guide*, S544-3673
- *Print Services Facility/MVS System Programming Guide*, S544-3672

- *JES2 Initialization and Tuning Reference*, SC23-0083
- *PSF/MVS System Programming Guide*, S544-3672
- *PSF/MVS Application Programming Guide*, S544-3673

Applications

- *IBM Page Printer Formatting Aid: User's Guide*, S544-5284

InfoPrint 60 and Finisher

- *InfoPrint 60 Finisher User and Planning Information*, S544-5604
- *InfoPrint 60 User's Guide*, S544-5432
- *3160 and InfoPrint 60 Installation and Planning Guide*, G544-5242
- *Advanced Function Presentation: Printer Information*, G544-3290

Chapter 1. InfoPrint 60 Finisher Introduction

This chapter explains the types of operations you can perform with the finisher. It also explains how to orient paper in the printer and finisher.

Be sure you have read *InfoPrint 60 Finisher: User and Planning Information*, S544-5604, before you use this document.

The sheet position in an input tray, the sheet size, simplex or duplex operation, input tray selection, and finisher selection determines how the media moves through the printer and finisher (see “Appendix. Paper Path” on page 105).

Types of Finishes

Using the IBM InfoPrint 60 finisher and IBM software, you can produce booklets and documents with these types of finishes:

- Unfolded single sheets
- Unstapled single sheets
- Unfolded, edge-stitched (2 or 3 staples) or corner-stapled sheets
- Folded, saddle-stitched sets (booklets)
- Ledger or A3 z-folded sheets included in stapled documents
- Stapled or unstapled sets that include items (such as pre-printed tabs) fed from the finisher insert tray
- Saddle-stitched documents with sheets from the printer and the insert tray

Terms

These terms describe finisher operations:

Term	Definition
Corner Staple	One staple inserted in one corner of a document by the stapler.
Default	A value, attribute, or option that is assumed when none has been specified. Default implies a factory setting that can be changed after your printer or finisher is installed.
Edge Stitch	Two or three staples inserted along one edge of a document by the stapler.
Insert	A sheet that is included in a finisher job and that is fed from the insert tray, not the printer. **Note**: You cannot print on an insert.
Long-Edge Feed (LEF)	The long edge of the paper is the leading edge as it travels through the paper path.
Saddle Stitch	Two staples inserted in the centerfold of a set of sheets by the saddle stitcher.
Short-Edge Feed (SEF)	The short edge of the paper is the leading edge as it travels through the paper path.
Z-Fold	Ledger-size paper is folded up at 8.5 inch from the left edge, and folded up at an additional 4 inch. to fit in an 8.5 x 11 sheet set. The remaining length rests on top. A3-size paper is folded into A4.

Default Operations

Figure 1 shows the possible operation that can be performed using the finisher.

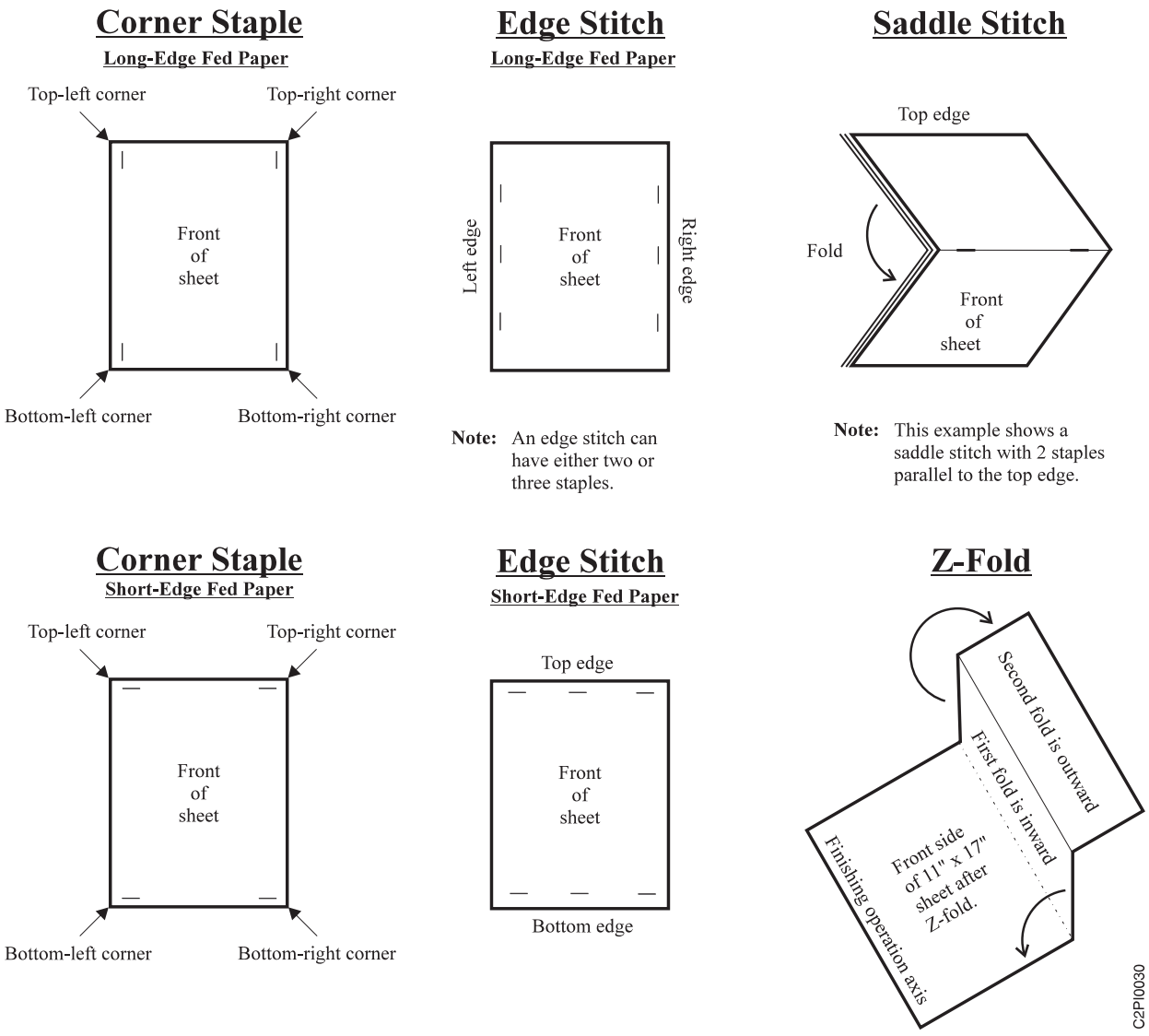

Figure 1. Finisher Operations

The defaults for the finisher are:

Process	Default
Corner Staple	Top Left for short-edge feed, long-edge feed paper.
Edge Stitch	Left Edge for long-edge feed paper. Top Edge for short-edge feed paper. The default number of staples is 2.
Saddle Stitch	Top Edge. The default number of staples is 2.
Z-fold	Top Edge

IBM Software Products

The types of finishing operations you can use depend on the IBM software product you use:

Table 1. Finishes for IBM Software Products

Process	Function	InfoPrint Manager	PSF/MVS	PSF/400	PSF/VM	PSF/VSE
Stapler	Corner staple	Yes	Yes	Yes	No	No
	2 staple edge stitch	Yes	Yes	Yes	No	No
	3 staple edge stitch	Yes	Yes	Yes	No	No
Stack	Offset or Straight Stacking	Yes	Yes	Yes	Yes	Yes
Saddle Stitch		Yes	Yes	Yes	No	No
Z-Fold	Staple	Yes	Yes	Yes	No	No
	No staple	Yes	Yes	Yes	No	No
Insert	Covers	Yes	Yes	Yes	Yes	Yes
	Separator Sheets	Yes	Yes	Yes	Yes	Yes
	Pre-printed sheets	Yes	Yes	Yes	Yes	Yes

Your IBM software must be at the correct service level to perform the functions listed in Table 1. See your IBM representative for more information.

Finisher Overview

The finisher handles each sheet as it arrives from the printer and can interleave sheets fed from the insert tray. The stapler can only insert staples in the leading edge of the document as it passes through the finisher. You can include some z-folded forms in a document (see the *InfoPrint 60 Finisher User and Planning Information*, S544-5604). The saddle-stitcher inserts staples at the center of a set of sheets and folds them.

Finisher Trays

Figure 2 on page 4 shows the names and locations of the finisher trays.

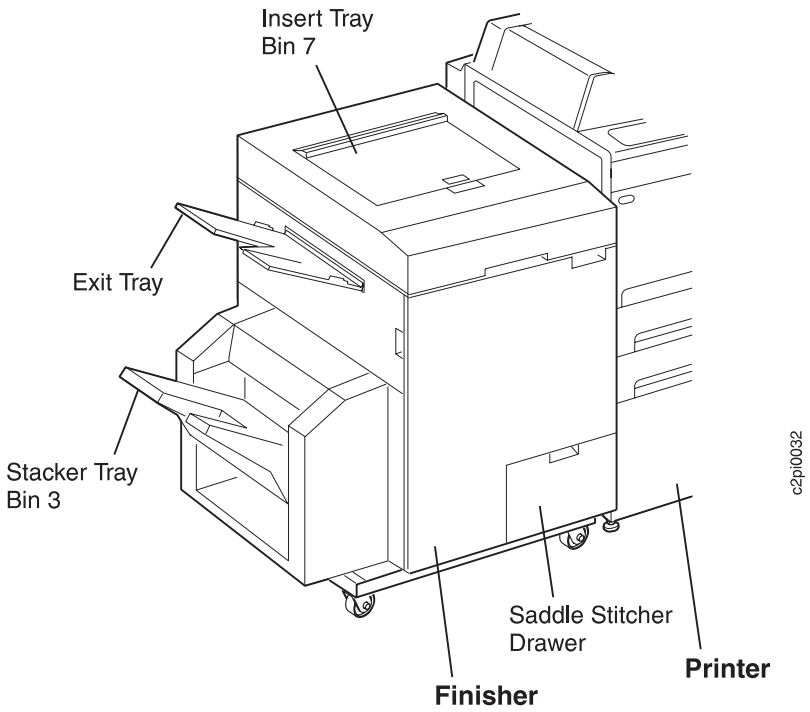

Figure 2. Finisher Trays

Finisher Capabilities

Table 2 shows the finisher capabilities.

Table 2. InfoPrint 60 Finisher Capabilities

Paper Size	Insert Tray	Z-Fold	Saddle Stitch	Corner Staple				Edge Stitch			
				Top Left	Top Right	Bottom Left	Bottom Right	Top	Bottom	Left	Right
Letter											
LEF	Y	N	N	Y	Y	Y	Y	N	N	Y	Y
SEF*	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N
A4											
LEF	Y	N	N	Y	Y	Y	Y	N	N	Y	Y
SEF*	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N
Ledger											
SEF	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
A3											
SEF	Y	Y	Y	Y	Y	Y	Y	Y	Y	N	N
Legal											
SEF	Y	N	Y	Y	Y	Y	Y	Y	Y	N	N

Table 2. InfoPrint 60 Finisher Capabilities (continued)

Paper Size	Insert Tray	Z-Fold	Saddle Stitch	Corner Staple				Edge Stitch			
				Top Left	Top Right	Bottom Left	Bottom Right	Top	Bottom	Left	Right
B5 LEF	Y	N	N	Y	Y	Y	Y	N	N	Y	Y
B4 SEF	Y	N	N	Y	Y	Y	Y	Y	Y	N	N
LEF - Long Edge Feed SEF - Short Edge Feed * Printer runs at 30 pages/minute maximum											

Input Capacities

The finisher has these capacities when using 20 lb paper:

- Stapler maximum - 50 sheets per set.
- Saddle stitcher maximum - 15 sheets per set.
- Stapler maximum - 3 z-folded sheets per set. Each z-fold page counts as 7 sheets for stapler finishing operations. The effective sheet count equals 7 x (number of z-folds) + (number of non-z-fold sheets).
- Insert tray maximum - 250 sheets.

Output Capacities

The finisher has 3 output areas. The finisher has these capacities when using 20 lb paper:

- Stacker tray - maximum of 1600 sheets.
- Exit tray - maximum of 50 sheets; only receives single sheets and incomplete documents if a paper jam occurs.
- Saddle stitcher drawer - ranges from a maximum of 100 sets with 2 sheets stapled to a maximum of 15 sets with 15 sheets stapled.

Table 3 shows the stacker PSF output bin number and sheet capacity.

Table 3. Stacker Capacity

PSF Output Bin Number	Stacker	Capacity (No. of Sheets)
1	Base Stacker*	500
3	Side Stacker	1 500
3	Side Stacker	3 000 (option)
3	Finisher Stacker Tray (Default)	1600
* When the finisher is installed, the finish stacker is the default.		

Printer Overview

The IBM InfoPrint 60 printer can have up to 4 input trays. The finisher has one insert (input) tray. You can put different size paper in each tray of the printer and in the finisher's insert tray. This lets you print using paper from different trays from the printer and pre-printed sheets from the finisher insert tray.

Note: If you are using different trays from the printer and finisher, make sure that the correct paper sizes are in the trays before you submit your print job. One way to do this is to submit your job with a **hold** attribute to put the job on hold at the server. When you are sure the printer has the correct paper sizes for each tray you are using, you can release the job to the printer.

Printer Trays

Figure 3 shows the names and locations of the printer input and output trays, and the PSF and PPFA **BIN** number.

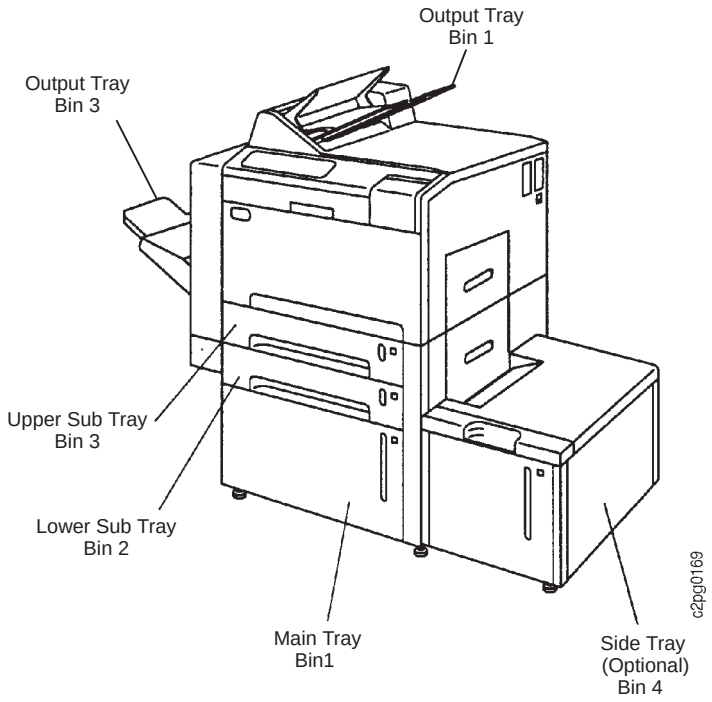

Figure 3. IBM InfoPrint 60 Trays

Table 4 shows the configuration of the input trays.

Table 4. Input Tray Configuration

PSF Input Bin Number	Priority Default	Input Tray Name	Capacity (No. of Sheets)	Paper Size
1	1	Main tray	2 000	A3, A4, B4, B5, ledger, legal, letter
2	4	Lower sub tray	500	A3, A4, B4, B5, ledger, legal, letter
3	3	Upper sub tray	500	A3, A4, B4, B5, ledger, legal, letter
4	2	Side tray (option)	2 000	A4, letter (long-edge feed only)

Physical Form Sizes

Table 5 shows the physical form sizes for the IBM InfoPrint 60.

Table 5. Printable Physical Form Sizes

Paper Name	Paper Size (inch)	Paper Size (mm)
letter (L, P, S)*	**8.5 x 11**	215.9 x 279.4
legal (P, S)	**8.5 x 14**	215.9 x 355.6
ledger (L, S, Z-fold)	**11 x 17**	279.4 x 431.8
A3 (P, S, Z-fold)	11.7 x 16.6	**297 x 420**
A4 (L, P, S)**	8.3 x 11.7	**210 x 297**
B4 (L - corner staple only)	10.1 x 14.3	**257 x 364**
B5 (P - corner staple only	7.2 x 10.1	**182 x 257**
Note: Use the Paper Sizes shown in **bold** in any reference to print media sizes. The non-highlighted sizes are provided only for comparison. **Note:** P - long-edge feed, L - short-edge feed, S - saddle stitch (always long-edge feed). * A custom form definition is required when using 8.5 x 11 with short-edge feed. ** A custom form definition is required for A4 short-edge feed. Variable size paper side guide feature is required and may only be used in lower and upper sub trays of the printer.		

Figure 4 shows the European stock sizes, which are based on paper size A0. A0 is 1 square meter. Each time the form is cut in half, it produces another sizes (A1, A2, A3, A4, A5, and A6).

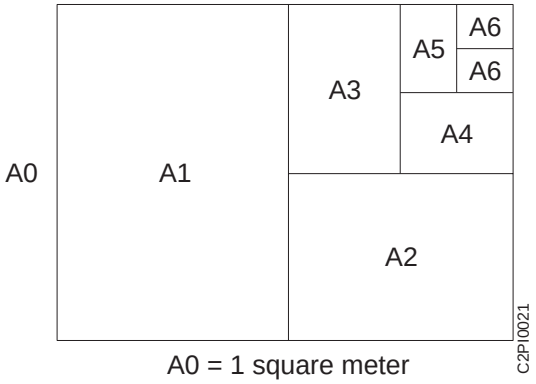

Figure 4. European Stock Sizes

Table 6 shows the dimensions for Figure 4.

Table 6. European Stock Sizes

Size	MM (approx.)	Inch (approx.)
A0	841 x 1,189	33.13 x 46.75
A1	594 x 841	23.38 x 33.13
A2	420 x 594	16.5 x 23.38

Table 6. European Stock Sizes (continued)

Size	MM (approx.)	Inch (approx.)
A3	297 x 420	11.75 x 16.5
A4	210 x 297	8.25 x 11.75
A5	148 x 210	5.95 x 8.25
A6	104 x 149	4.2 x 6

Figure 5 shows United States standards, which are based on the 8.5 x 11 inch paper (A-size). Each larger size doubles the short side (8.5 x 11 becomes 17 x 11).

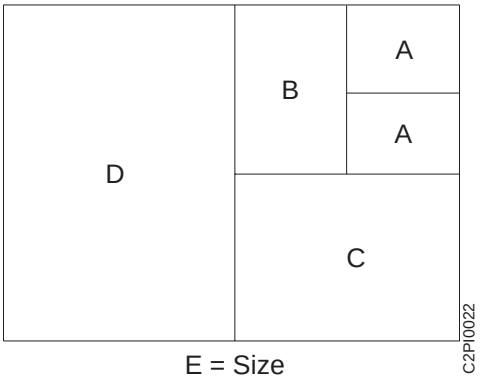

Figure 5. United States Stock Sizes

Table 7 shows the dimensions of Figure 5.

Table 7. United States Stock Size Dimensions

Size	MM (approx.)	Inch (approx.)	Name
A	215.9 x 279.4	8.5 x 11	A size Letter
B	279.4 x 431.8	11 x 17	B size Ledger
C	558.8 x 431.8	22 x 17	C size
D	558.8 x 863.6	22 x 34	D size
E	1117.6 x 863.6	44 x 34	E size

Sheet Orientation

Sheet orientation in a bin or side tray is important when using pre-printed sheets or three-hole punched sheets or both. When finishing, consider these points:

1. The size of the sheet.
2. The sheet orientation if pre-printed or three-hole punched or both.
3. The bin location.
4. You can select these items through the FORMDEF or the graphical user interface (GUI), depending on the IBM software product you are using:
   - The type of finishing: saddle-stitch, corner staple, two-staple edge stitch, or three-staple edge stitch
   - Sheet insertion from the insert tray into the document
5. The orientation of page data on the sheet. The finisher can only staple on the leading edge of the paper; therefore, the printer automatically rotates page data when stapling is requested on one of the other edges or corners.

6. If you use a header and/or trailer with a saddle-stitch application, the header/trailer output goes to the output bin and the job goes to the saddle bin.

For Stapling

Sheet placement in a tray depends on whether or not you are using pre-printed sheets or pre-punched sheets for simplex or duplex operations.

The printer operator can set the side-sensitive or edge-sensitive settings and place the paper in the input trays. Figure 6 through Figure 9 on page 10 show this relationship. The top-left corner staple is indicated by ◄.

Note: Side-sensitive and edge-sensitive settings are defined in the *InfoPrint 60 User's Guide*, S544-5432.

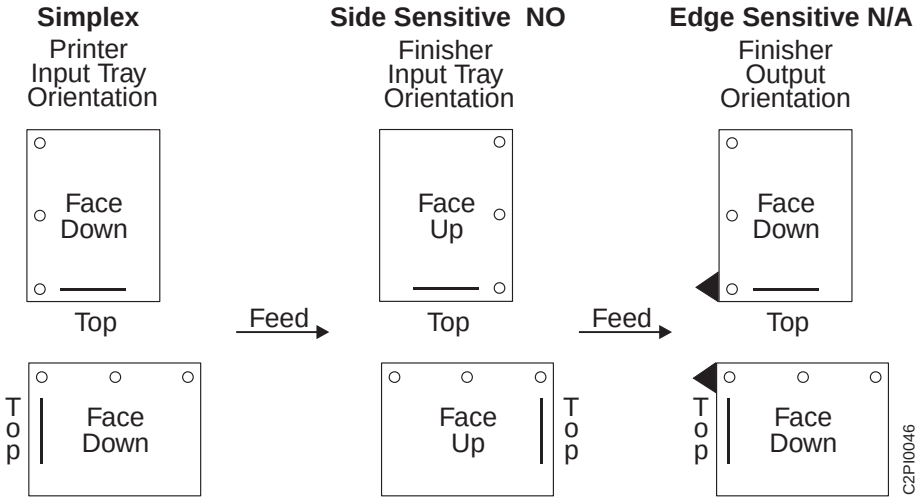

Figure 6. Edge Stitch, Simplex

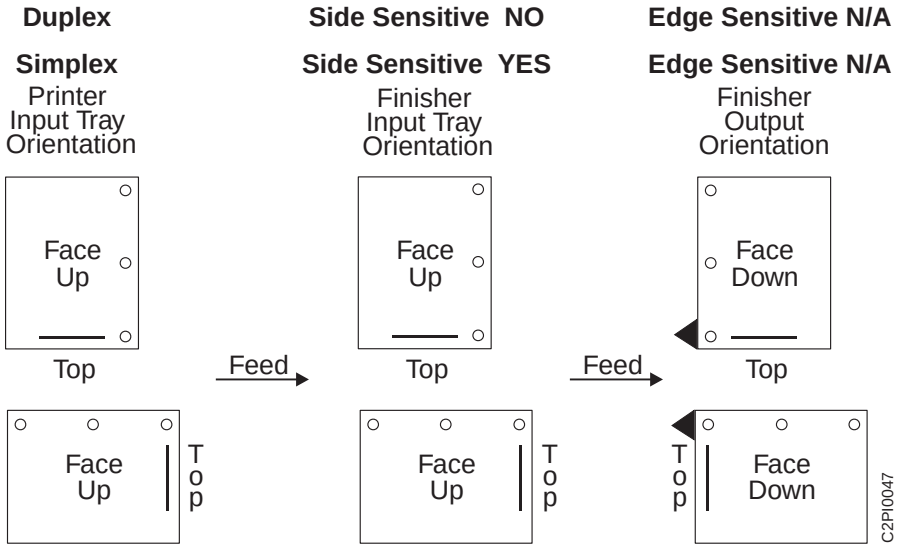

Figure 7. Edge Stitch, Duplex

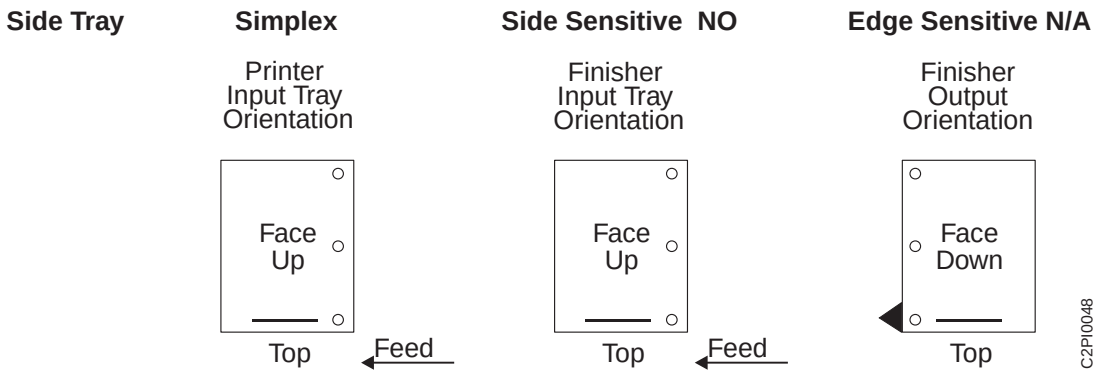

Figure 8. Edge Stitch Side Tray, Simplex

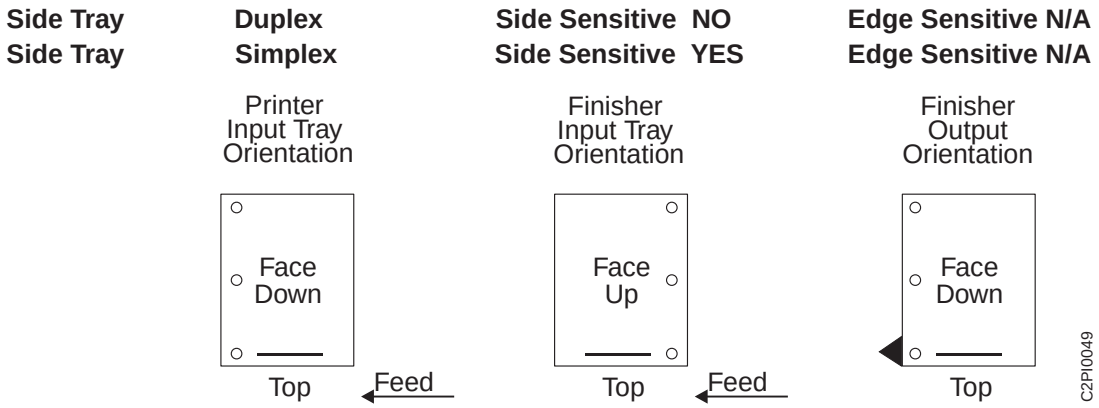

Figure 9. Edge Stitch Side Tray, Duplex

For Saddle Stitching

Sheet placement in a tray depends on whether or not you are using pre-printed sheets or pre-punched sheets for simplex or duplex operations.

Figure 10 through Figure 12 on page 11 show the side-sensitive or edge-sensitive settings on the printer and paper placement in the input trays.

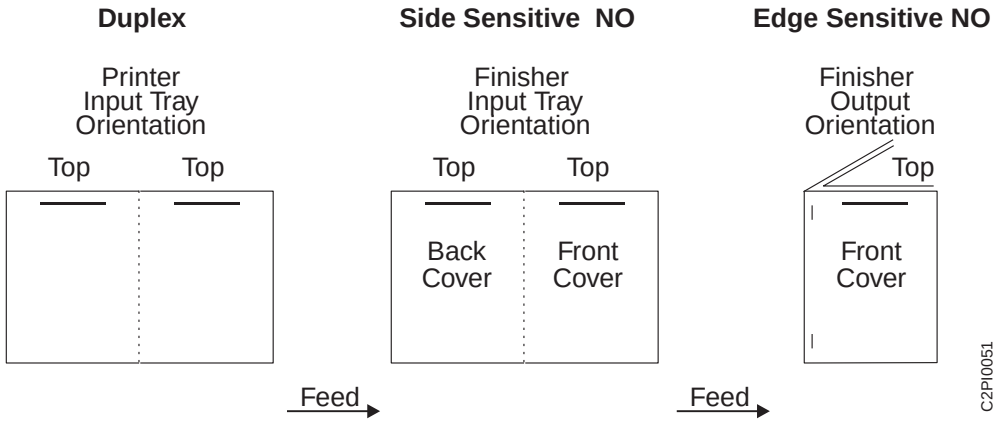

Figure 10. Saddle Stitch 1

The examples in Figure 11 and Figure 12 use a cover sheet pulled from the finisher insert tray. They show how the paper must be oriented in the InfoPrint 60 input tray and finisher insert trays for the output print job.

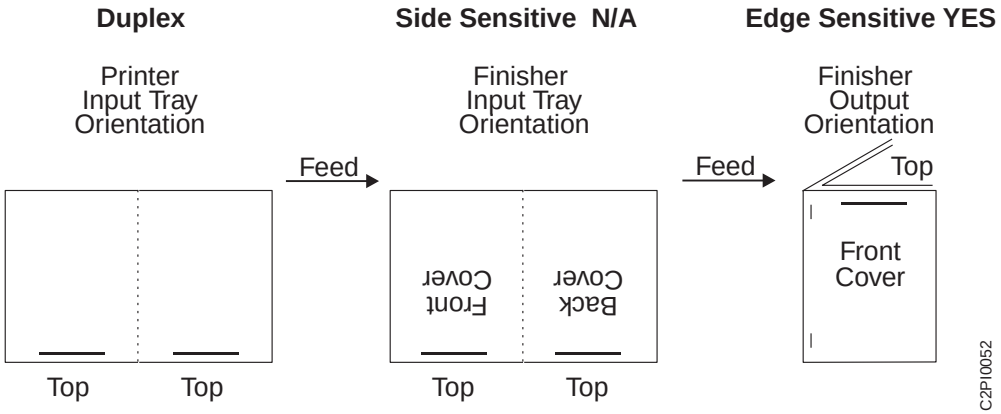

Figure 11. Saddle Stitch 2

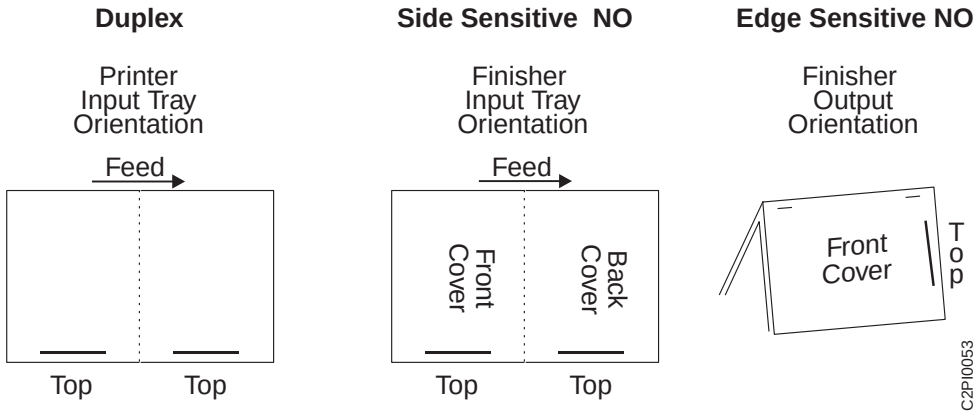

Figure 12. Saddle Stitch 3 (Calendar Type)

Chapter 2. Printing with InfoPrint Manager

This chapter explains how to print and finish booklets and documents with the IBM InfoPrint 60 finisher and InfoPrint Manager.

Be sure you have read “Chapter 1. InfoPrint 60 Finisher Introduction” on page 1 before you use this chapter.

Figure 13 shows the InfoPrint Manager system. The main point of control for the print shop is the customer’s Windows PC or Macintosh workstation with the InfoPrint application software called InfoPrint Submit. Using InfoPrint Submit, users can send print jobs to an AIX workstation, called the Multiple Printer Controller (MPC) server. The MPC server lets you control print jobs and printers.

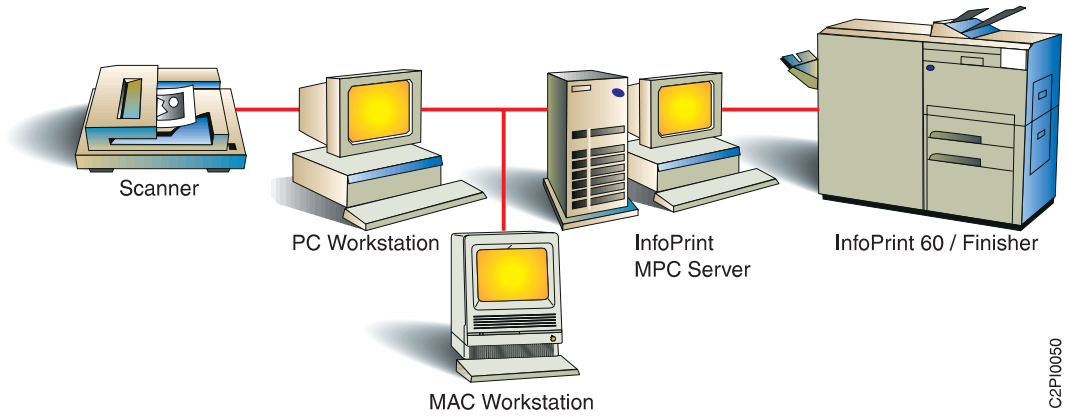

Figure 13. System Configuration

Setting Up the Server

After the IBM InfoPrint 60 finisher is connected to the server, you need to set up the server:

- Define the InfoPrint 60 finisher to InfoPrint Manager using the InfoPrint_60_Finisher template icon (see “Defining the InfoPrint 60_Finisher”).
- Define the media (for example: legal, A4) for the InfoPrint 60 finisher (see “Defining the Media” on page 15).

Defining the InfoPrint 60_Finisher

To define the InfoPrint 60 finisher to InfoPrint Manager:

1. In the Common Desktop Environment, select the arrow above the InfoPrint Manager icon.
2. From the pop-up menu, select **Print Administration**. After a period of time you see the InfoPrint Administration window (Figure 14 on page 14).

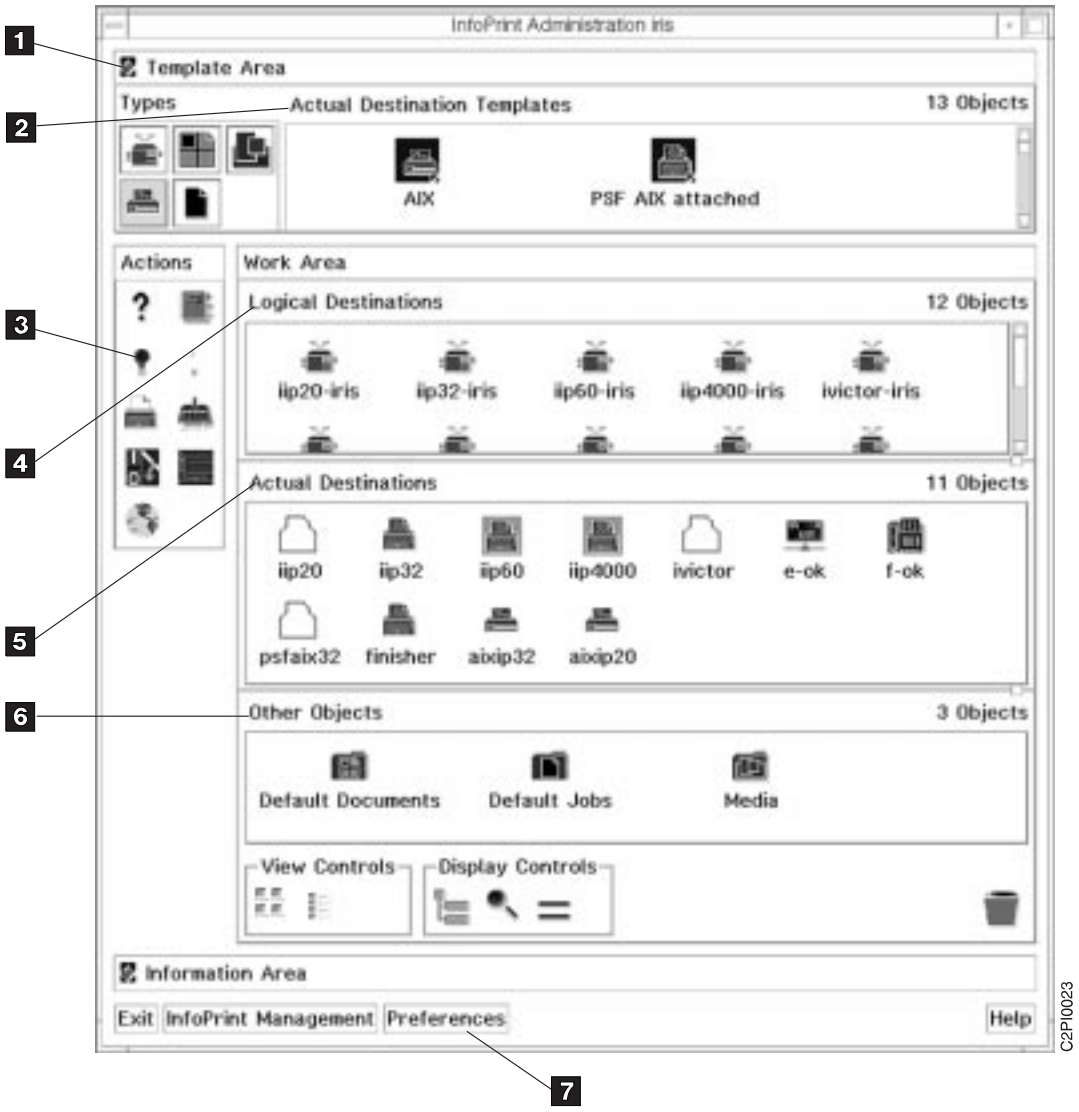

Figure 14. InfoPrint Administration Window

3. From the bottom of the window, select **Preferences** 7 .
   - You see the User Preferences window. Scroll to the bottom of the window and set **Allow display of Documents** to **yes** and **Display Medium untrimmed width and length in** to inch or millimeters.
   - Select **OK**. You see the InfoPrint Administration window again.
4. Click on the **Template Area** icon 1 .
5. Use the slide-bar in **Actual Destination Templates** 2 to find the **InfoPrint_60_Finisher** template icon.
6. Select (use the middle mouse button on a 3 button mouse or both buttons on a 2 button mouse) **InfoPrint_60_Finisher** and drag-and-drop it into **Actual Destinations** 5 . You see the Add PSF Physical Printer window (Figure 15 on page 15).

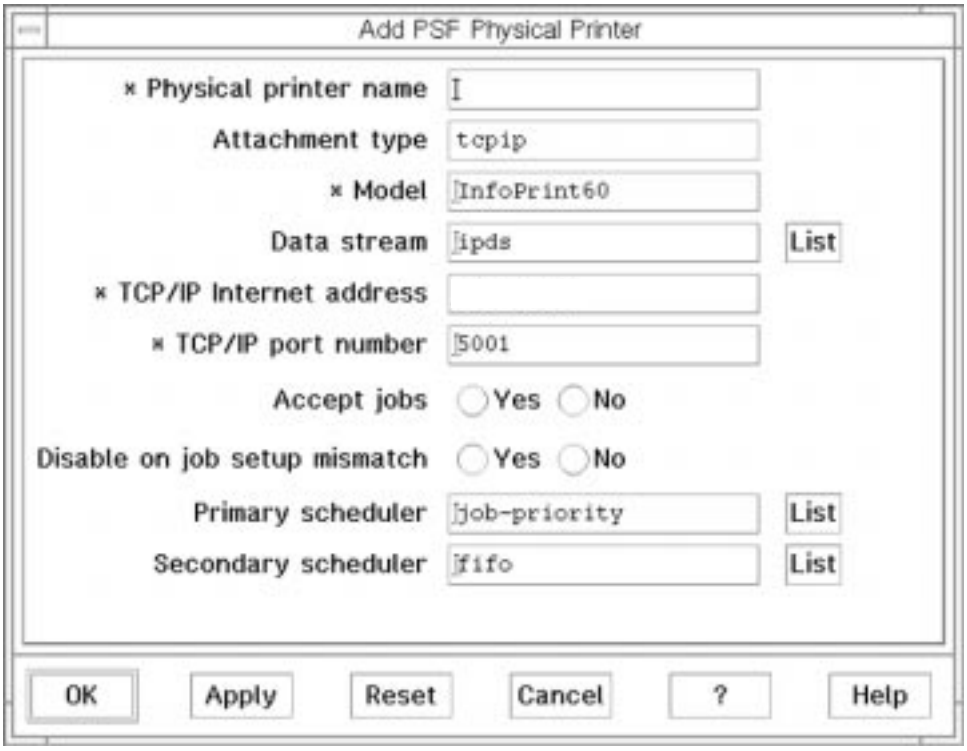

Figure 15. Add PSF Physical Printer Window

7. Enter the physical printer name, TCP/IP Internet address, TCP/IP port number, and other areas as required.
8. Select **OK**. You see the InfoPrint Administration window again.
9. Icons in the **Logical** 4 and **Actual Destinations** 5 areas show the physical printer name.
10. Select the yellow light bulb 3 and drag-and-drop it into the **Logical** 4 and **Actual Destinations** 5 icons to enable the new printer.

Defining the Media

You must specify the type of media in each input tray. To define the media for the finisher:

1. In the **Other Objects** 6 in the InfoPrint Administration window, right-click on the **Media** icon and select **Add...**. Enter the *media name* and *autotrimmed size*. For example: in *media name*, enter rotletter and in *autotrimmed size*, enter 8.5 x 11. When the *media name* (rotletter) is selected, 8.5 x 11 sheets can be saddle stitched to create 8.5 x 5.5 booklets.

   Note: You must also define a custom form (rotletter) on the printer to match. In addition, you must generate a media icon for each paper type used in the printer's input trays; for example: insert1. This lets users select the insert tray and specify the paper to be placed in the finisher input tray.
2. Select **OK**.
3. Double-click the **Media** icon.
4. Scroll through the icons and select the new media icon you just created. Drag-and-drop it into the InfoPrint 60 finisher icon that you created in **Actual Destinations** 5 (see step 10).
5. Create additional **Media** icons for each paper type that is to be used for the InfoPrint 60 finisher.
6. In **Actual Destinations** 5, double-click the InfoPrint 60 finisher icon you created. You see the Note Book window (Figure 16 on page 16).

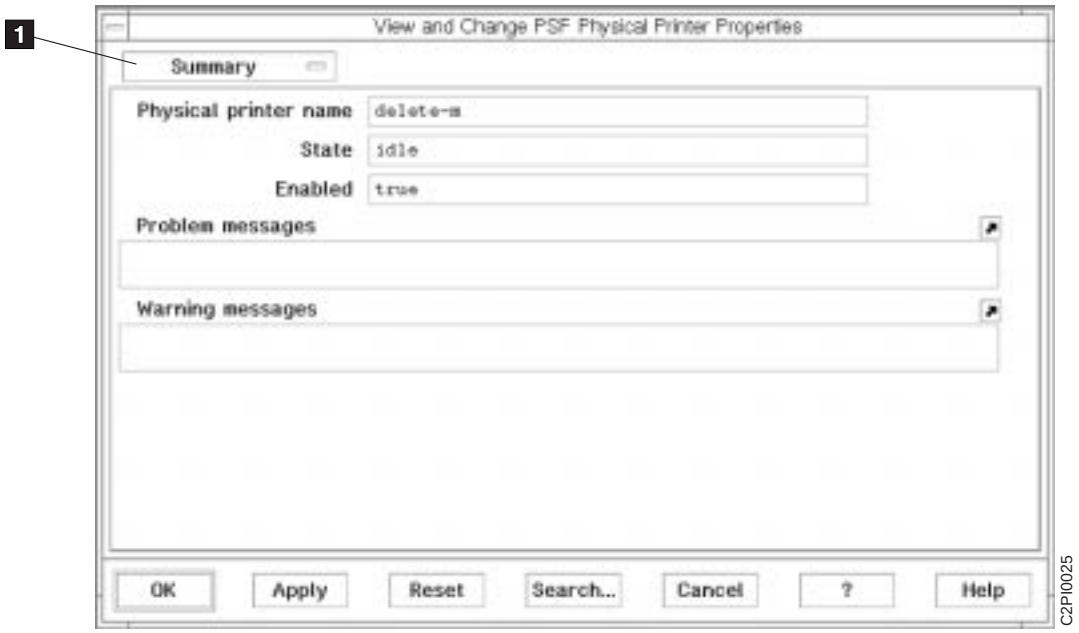

Figure 16. View and Change PSF Physical Printer Properties Window

7. From the **Summary** drop-down menu **1** , select **Media**. You see the Media window (Figure 17 on page 17).

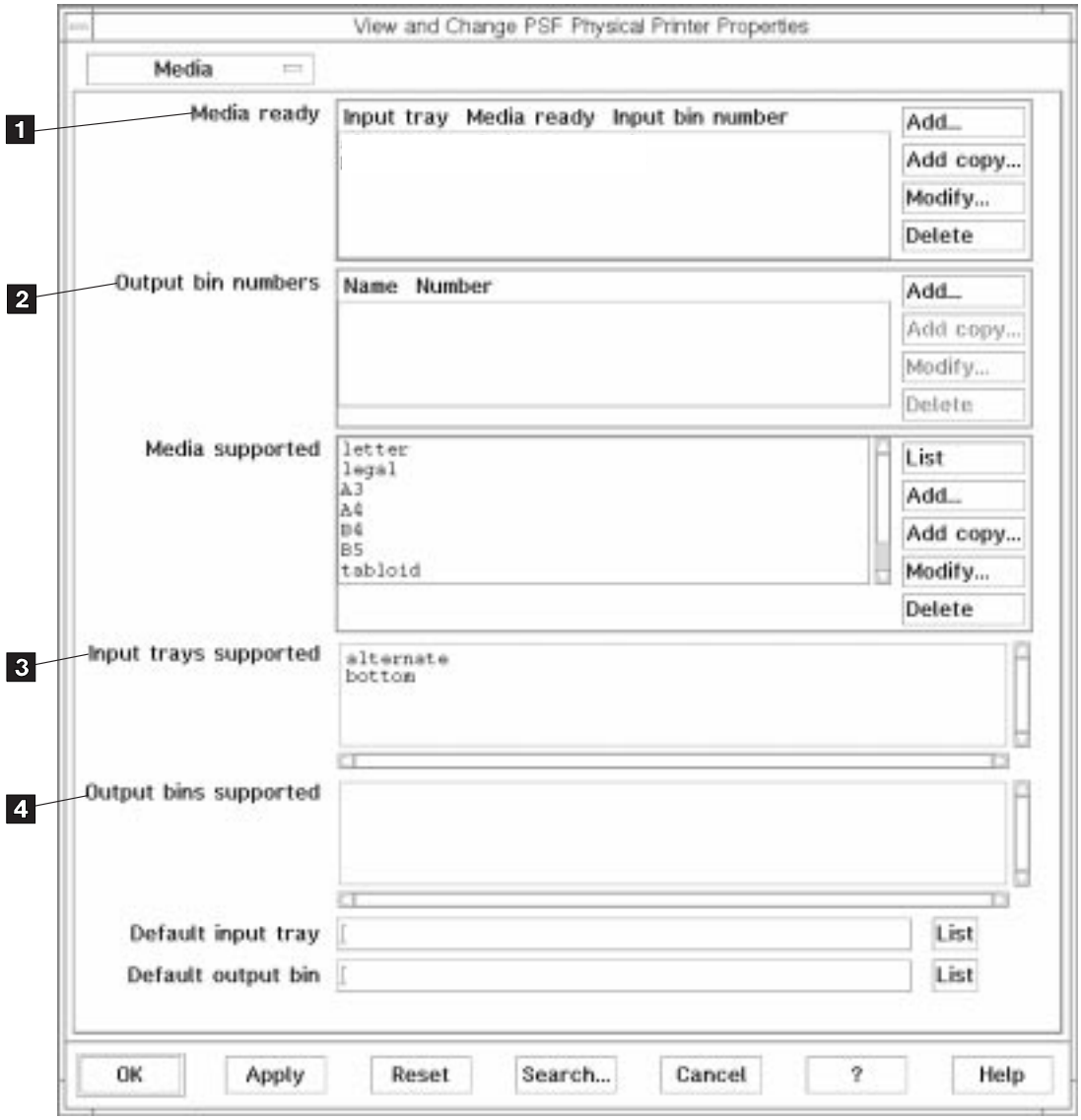

Figure 17. Media Window

8. In **Media ready** 1 , select **Add..**. You see Add Value Window (Figure 18 on page 18).

   Note: Figure 3 on page 6 shows the trays and bin numbers for the InfoPrint 60. Figure 2 on page 4 shows the trays and bin numbers of the finisher. The insert tray for the finisher is called **insert** with a bin number of 7. In addition, you can alter the ″Output bin numbers″ 2 , ″Input trays supported″ 3 , and ″Output bins supported″ 4 .

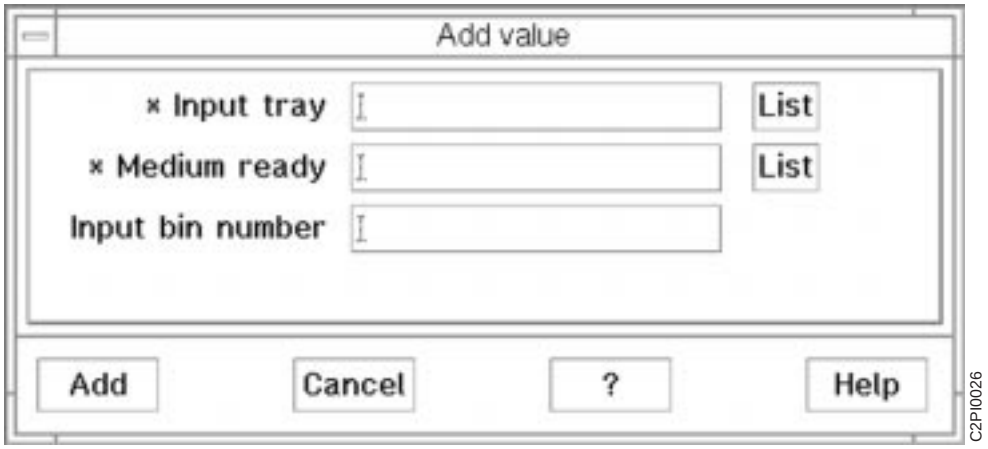

Figure 18. Add Value Window

9. For each input tray on the printer, do these steps:
   - In ″*Input tray″, enter the tray name (example: main).
   - In ″*Medium ready″, enter the paper size (example: letter).
   - In ″Input bin number″, enter the bin number (example: 1).

Submitting Print Jobs

After you set up the server, you can submit print jobs to the finisher using on of these ways:

- Command line using **pdpr** on the MPC, “Using the Server (MPC) Command Line”
- InfoPrint Submit on the PC or Macintosh workstation, “Using InfoPrint Submit” on page 19
- Select from an application on the PC or Macintosh workstation, “Using Select” on page 24

Using the Server (MPC) Command Line

You can use the **pdpr** command to submit print jobs to the printer finisher. The **man pdpr** command (the **man command** is like a help command) explains how to use the command.

Figure 19 on page 19 shows **pdpr** commands that you can use with the finisher:

```
*********************************************************************************************
 ************** Condition for the following print examples       **************
 ************** Printers names are finish (InfoPrint 60 finisher **************
 ************** and (nofinish any printer) motd.ps is a PS file  **************
 ************** Line continuation character "\"                   *************

 -pdpr -p lp -x "physical-printer-requested=finish" motd.ps
 -pdpr -p lp -x "physical-printer-requested=finish job-finishing=staple-top-left" motd.ps

 -pdpr -p lp -x "physical-printer-requested=finish job-finishing=staple-bottom-left" motd.ps

 -pdpr -p lp -x "physical-printer-requested=finish job-finishing=edge-stitch-2" motd.ps

 -pdpr -p lp -x "physical-printer-requested=finish job-finishing=edge-stitch-3" motd.ps

*********** printer set up, tray 1 - letter, tray 2 - ledger, insert tray 7 finisher ***********

-pdpr -p lp -x physical-printer-requested=finish \
-x default-medium=ledger \
-x job-finishing=saddle-stitch motd.ps

*********** Insert a sheet between two printed sheets all 8.5 x 11 ***********

-pdpr -p lp -x physical-printer-requested=finish \
-x default-medium=letter motd.ps \
-x default-medium=insert motd.ps \
-x default-medium=letter motd.ps

 *********** Z-fold job, with the first sheet 8.5 x 11, second two ledger ***********
 *********** z-folded, and last sheet ledger not z-folded.***********

-pdpr -p lp -x physical-printer-requested=finish \
-x default-medium=letter motd.ps\
-x default-medium=ledger -x document-finishing=z-fold file.tif file.tif \
-x default-medium=ledger -x document-finishing== motd.ps

 *********** Booklet (Saddle Stitch)  ***********

-pdpr -p lp -x job-finishing=saddle-stitch \
-x sides=2 -x plex=simplex -x output-format=booklet-print -x n-up=2 -x default-medium=ledger \
file.ps motd.ps file.ps
```

Figure 19. Command Line Examples

Using InfoPrint Submit

You must define the InfoPrint 60 finisher to the server (see “Setting Up the Server” on page 13) before you can specify finishing options with InfoPrint Submit from the PC or Macintosh workstation. You can send print jobs and specify finishing options, or you can use form definitions. However, you can use the ″insert sheet″ item without having a finisher defined because an insert sheet can come from an InfoPrint 60 or finisher input bins.

Overview

The finishing options in InfoPrint Submit are:

- Edge stitch
- Saddle stitch
- Z-Fold
- Inserts (from InfoPrint 60 or finisher)

The print job flow from Submit is:

1. Submit build ticket (PC user):
   - Send job to server.
   - The server RIPs the print job.
   - If print jobs do not use the defaults PPR types and bins, the job ticket should specify **hold**. One way to do this is to send the jobs as ″use server default″, and set up the default to RIP and hold for all InfoPrint 60 finisher jobs.
2. For each held job, you should:
   a. Determine job needs:
      - Media (use **pdls -U -rall servername:jobid grep medium**)
      - Pre-printed or blank inserts (the same pdls will list whatever media name is used for inserts). You must know which input tray corresponds to the requested media.
   b. Load sheets into the printer or the finisher input trays or both.
   c. Adjust the finisher as needed (for example: z-fold, saddle stitch).
   d. Modify the physical printer media to be ready for media and inserts.
   e. Release the job to the InfoPrint 60 finisher.

Procedure

InfoPrint Submit is represented by an icon displayed on your PC or Macintosh desktop. This procedure shows the process of developing a document that has multiple PostScript (PS) files, using different trays in the printer, and using select sheets from the finisher's input tray:

1. Double-click the InfoPrint Submit icon to launch InfoPrint Submit. You see the InfoPrint Submit Job Ticket window (Figure 20 on page 21).

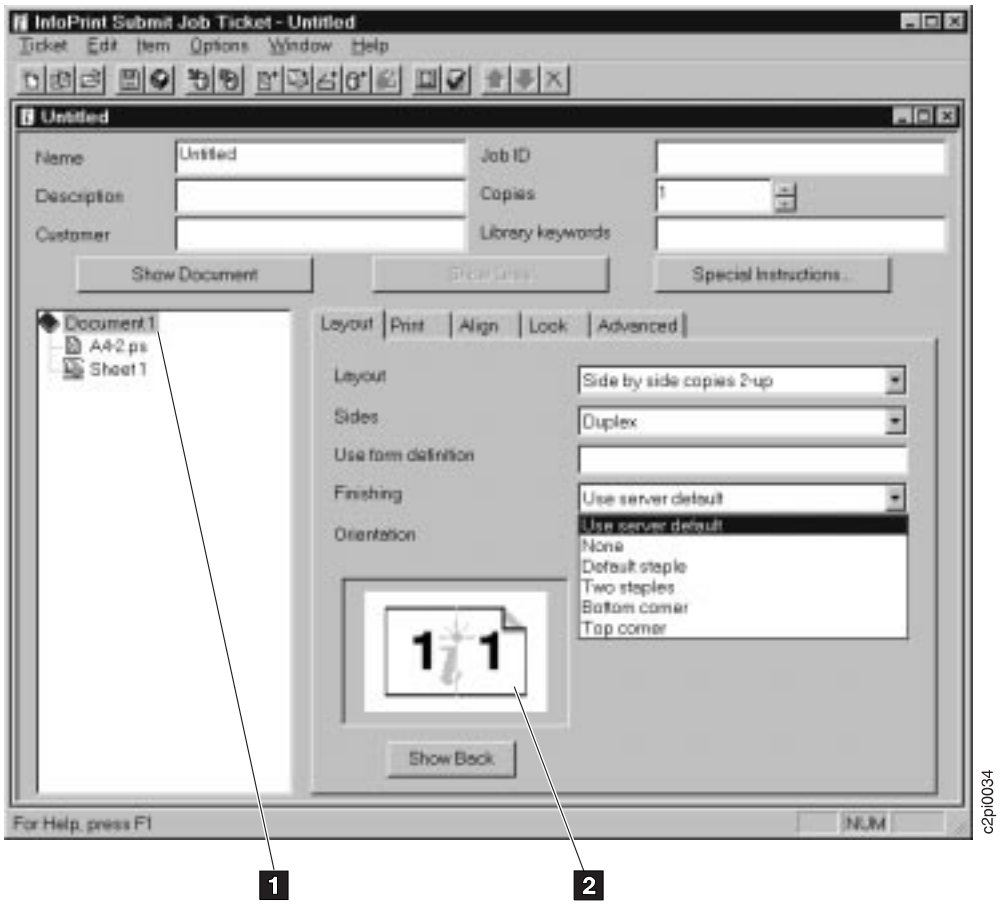

Figure 20. InfoPrint Submit Job Ticket Window - Layout Tab

2. Select the Document **1** and select the Layout tab. The Layout tab shows the default values for all files listed under the Document. You can select each file listed under the Document to define specific finisher options (for example: z-fold, staple). When you select the PS file or Sheet 1 (insert), some areas of the tabs may not be active.
3. Select **Options → Preferences** to set up printer, layout, and to schedule defaults.

   Note: The tray function might vary for different jobs, so IBM recommends that you do not set the tray information.
4. Select **Ticket → New** to make the defaults apply to the current job ticket.
5. When you have selected options in the Layout and Sides fields on the Layout tab, the document **2** displays the page layout. The *n* indicates the last page of the file.

   Note: You can associate a document with a form definition by using the ″Use form definition″ (see “Sample Form Definitions” on page 85). However, a document using the form definition ignores all definitions in InfoPrint Manager and causes the document to print as it would if submitted by PSF/MVS or AS/400. Therefore, you are responsible for ensuring the correctness of the finishing requests in the form definition.
6. Select the **Print** tab. You see the InfoPrint Submit Job Ticket window with the Print tab highlighted (Figure 21 on page 22).

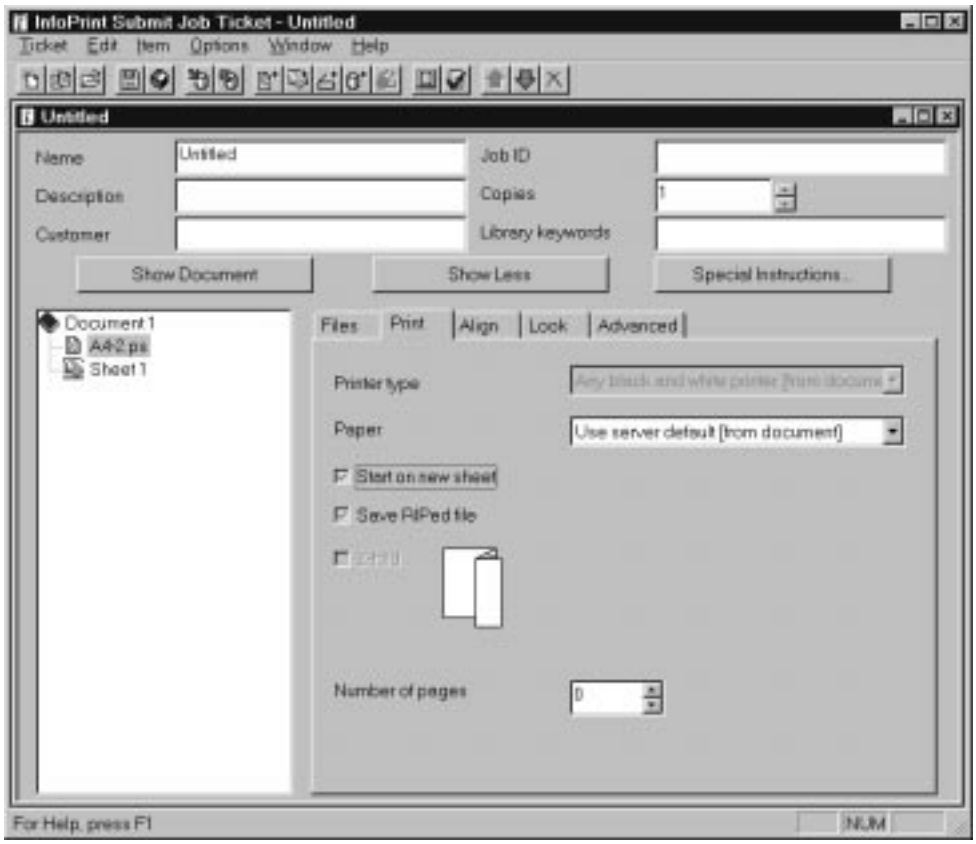

Figure 21. InfoPrint Submit Job Ticket Window - Print Tab

7. For **Printer type**, select ″Any black and white printer″ or ″InfoPrint 60″. Select other options as necessary.
8. Select the **Align** tab. You see the InfoPrint Submit Job Ticket window with the Align tab highlighted (Figure 22 on page 23).

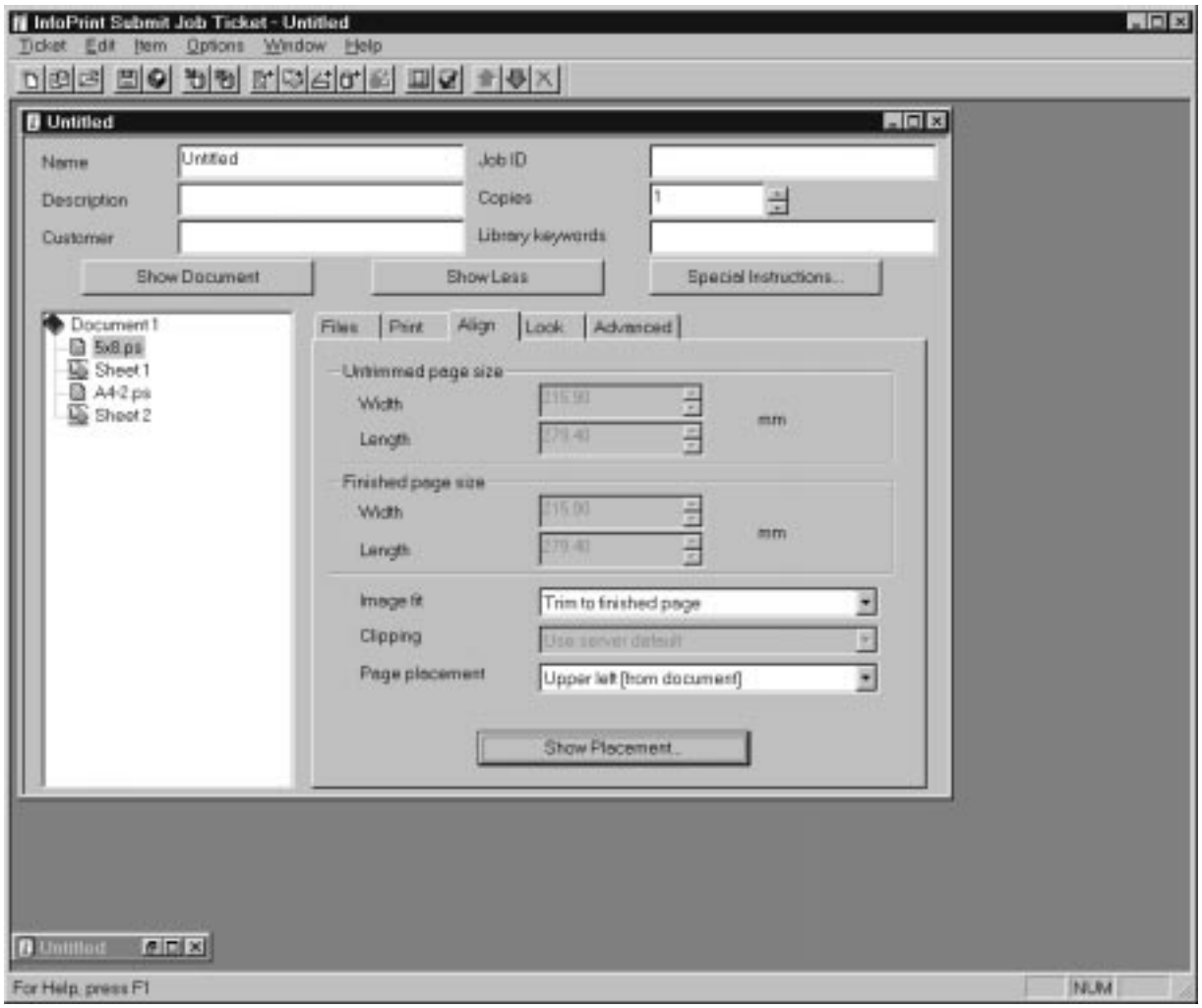

Figure 22. InfoPrint Submit Job Ticket Window - Align Tab

9. Select the appropriate page size options.
10. Select **Look** tab. You see the InfoPrint Submit Job Ticket window with the Look tab highlighted (Figure 23 on page 24).

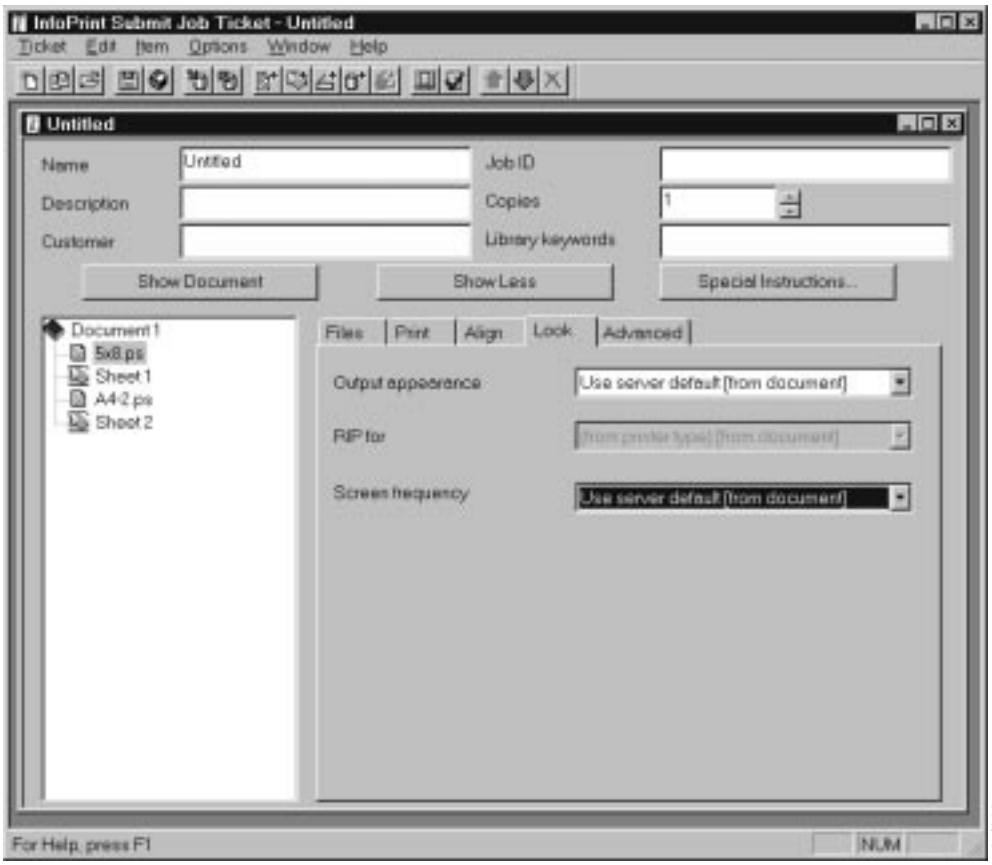

Figure 23. InfoPrint Submit Job Ticket Window - Look Tab

11. For **RIP for** select, ″InfoPrint 60″.
12. If you select **Screen frequency**, remember that a smaller screen frequency (71 lines per inch) has a greater number of shades of gray [(300 lpi ÷ 71 lpi)E(2) = 19]. A larger screen frequency (141 lpi) has a smaller number of shades of gray [(300 dpi ÷ 141 lpi)E(2) = 5].

Using Select

You use the InfoPrint Port to set up printing from a word processing application, such as Wordpad. You add a printer before you can print.

Adding a Printer

1. From Windows 95, select **Start** → **Settings** → **Printers**. Follow the instructions in the Select Readme file to add a new printer.
2. From the list of IBM printers shipped with InfoPrint Port, select **IBM InfoPrint 60 with Finishing**.
3. You see a new icon in the Printers window.
4. Select the new icon and select **File** → **Properties**.
5. Configure your port settings as described in the Select Readme file. Be sure you select the logical printer that represents an IBM InfoPrint 60 finisher.

Printing from an Application

To send your print job to the InfoPrint 60 finisher from an application (for example, Wordpad):

1. Select the application's print dialog.
2. Select the printer you added above. The default name is ″IBM InfoPrint 60 with Finishing″.

3. Select printer properties (this varies from application to application).
4. Select the paper size and other print options that you want.
5. Select the Device Options tab. The Printer features for the InfoPrint 60 finisher are listed. The IBM InfoPrint 60 finisher options are:
   - Z-fold: Select **Yes** to have all pages in your file z-folded (maximum of 3 z-folded pages).
   - Staple Options: Select the type of stapling you want, or select None.
6. Select the device options as required.
7. Select **OK**.
8. Print your file from the application's print dialog.

The default job for the InfoPrint 60 finisher should specify ″RIP and Hold″ or ″Hold″. Only one file is sent with Select, so you can easily tell which media is required. When the job is on the print queue, you must check the job for the media required and finishing options and adjust the printer and finisher as required (see "Operator Tasks").

Operator Tasks

The print jobs that the user submits might require one or more bins, and each bin might have a different sheet size and require finisher setup. If the job requires different paper than the paper that is currently loaded in the printer and requires a different setup for the finisher, the job should be sent with the **Hold** option (see step 20).

You, as the operator, need to set up the printer and finisher for the jobs that require different paper sizes and finishing requirements. The user might have set the bin numbers, which does not apply to the InfoPrint 60 finisher operation.

If the print job is not placed on hold and the finisher and printer are not set up correctly, the print job terminates. You can release the job to print and finish on the InfoPrint 60 finisher after the input paper trays are loaded and the finisher is set up.

Determining Media and Finisher Requirements

To determine the media and finisher requirements to see if the job requires your attention:

1. From the bottom of the InfoPrint Management window (Figure 24 on page 26) select ″Preferences″ (the button at the bottom-left of the window).
   - You see the User Preferences window. Scroll to the bottom of the window and set **Allow display of documents select** to **Yes**.
   - Select **OK**. You see the InfoPrint Management window again.
2. Click on the InfoPrint 60 finisher printer **1** → Open window action **2** .

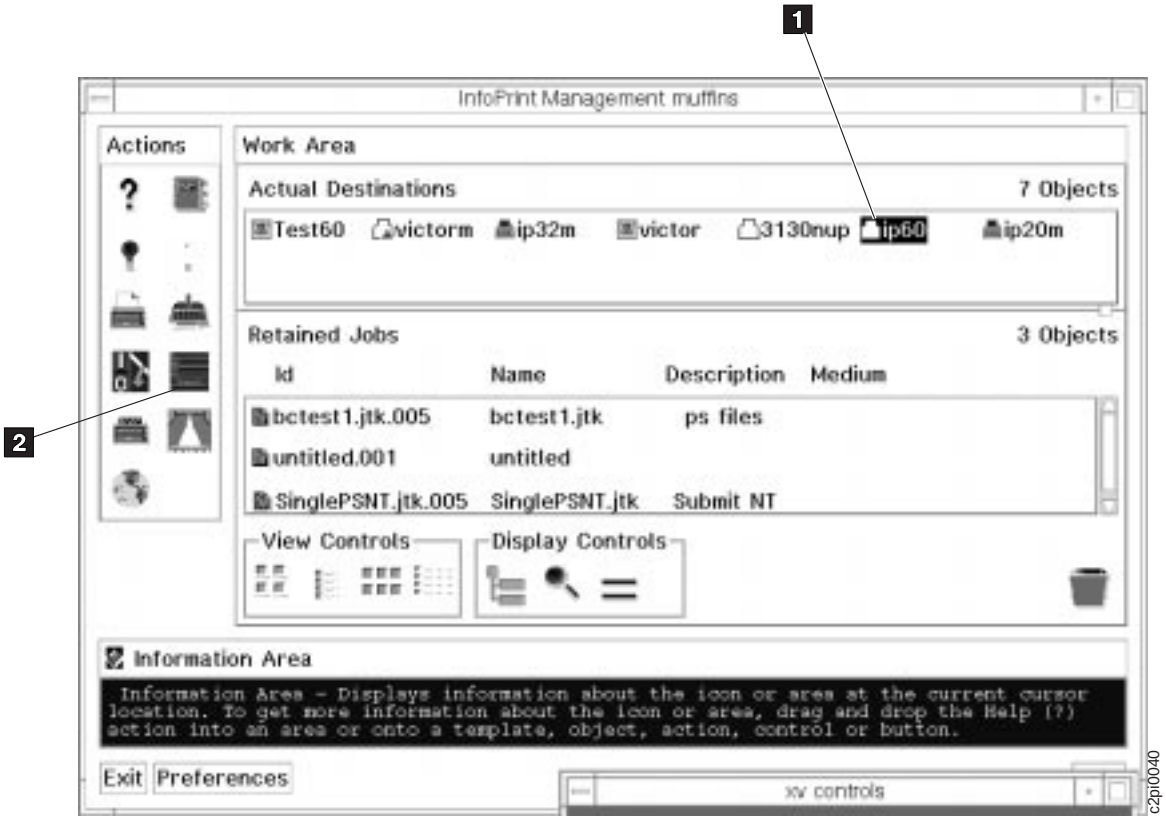

Figure 24. InfoPrint Management Window

3. You see the Destination Queue window (Figure 25 on page 27).
4. Look in the Medium column for **see documents** 3 . You can use the slide-bar to see all the jobs. Write down the job's ID for each print job that has **see documents** in the Medium column.
   - To see the Grid View displayed, select 1
   - To see the Details View displayed, select the small boxes to the right of 1 (current display for Figure 25 on page 27)
   - To use Grid View or Details View, select either one and drag-and-drop onto the display of jobs

Figure 25. Destination Queue, Window 1

5. Determine the media and finisher requirements for each print job by using either:
   - The GUI “Using the GUI”
   - The command line “Using the Command Line” on page 32

Using the GUI

This section explains how to determine the media and finisher requirements for the print job using the InfoPrint Management graphical user interface (GUI).

Media Determination

To determine the media requirements of the printer for the print job you selected:

1. From the Destination Queue window (Figure 25), drag-and-drop the View Controls **1** into the Jobs area **3**. As you drag-and-drop into the Jobs area, you see the insert arrow at the bottom of the **Jobs** area **2**.
2. Highlight your job and press **F8**. You see the Destination Queue window 2 (Figure 26 on page 28).

Figure 26. Destination Queue Window 2

3. Double-click on the job **1** that was marked **see documents** in the Medium column **3** in Figure 25 on page 27. (To view the previous window, press **F9**.)
4. You see the Destination Queue window 3 (Figure 27 on page 29). You might need to use the scroll bars to find the job and the files contained in the job (**3** , **4** , **5** , and **6**).

Figure 27. Destination Queue Window 3

5. Double-click on the first file in the job **3** . You see the View and Change Document Properties window (Figure 28 on page 30).

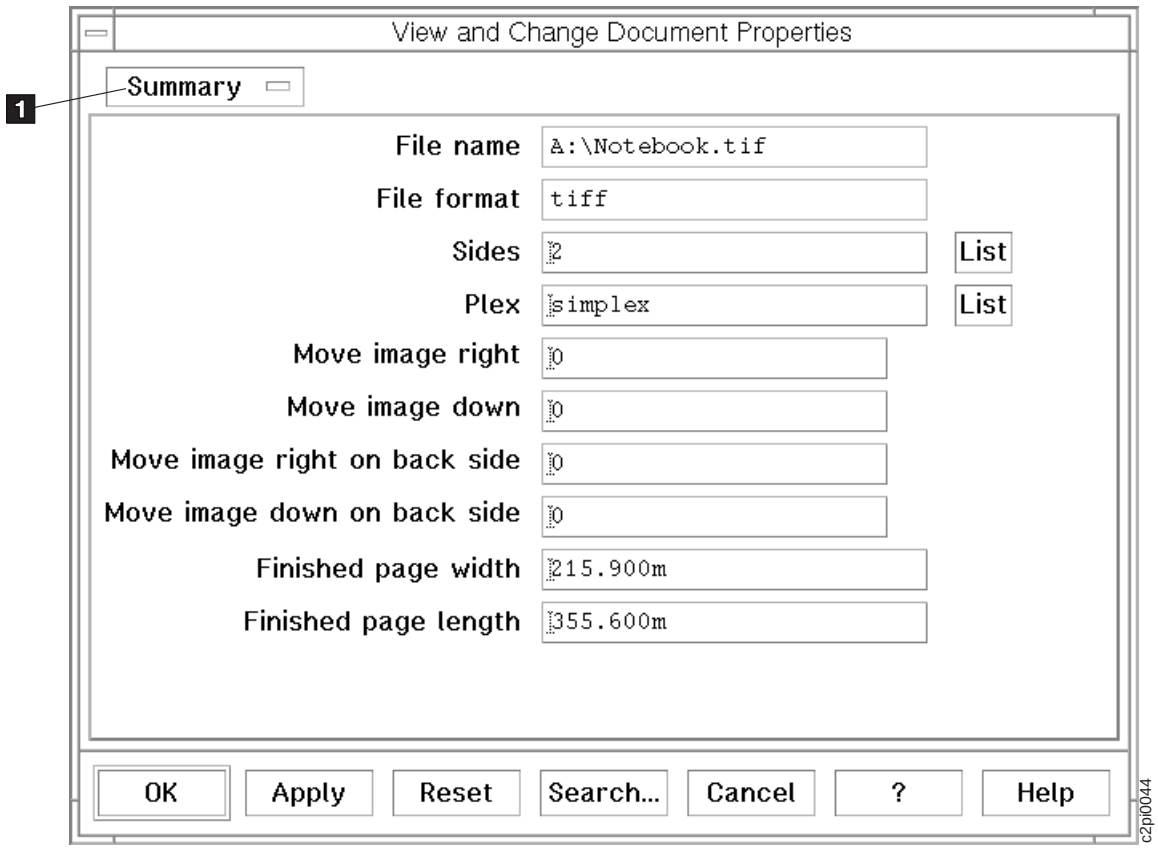

Figure 28. View and Change Document Properties Window 1

6. From the **Summary** drop-down menu **1** , select **Processing**. You see the View and Change Document Properties window 2 (Figure 29 on page 31).

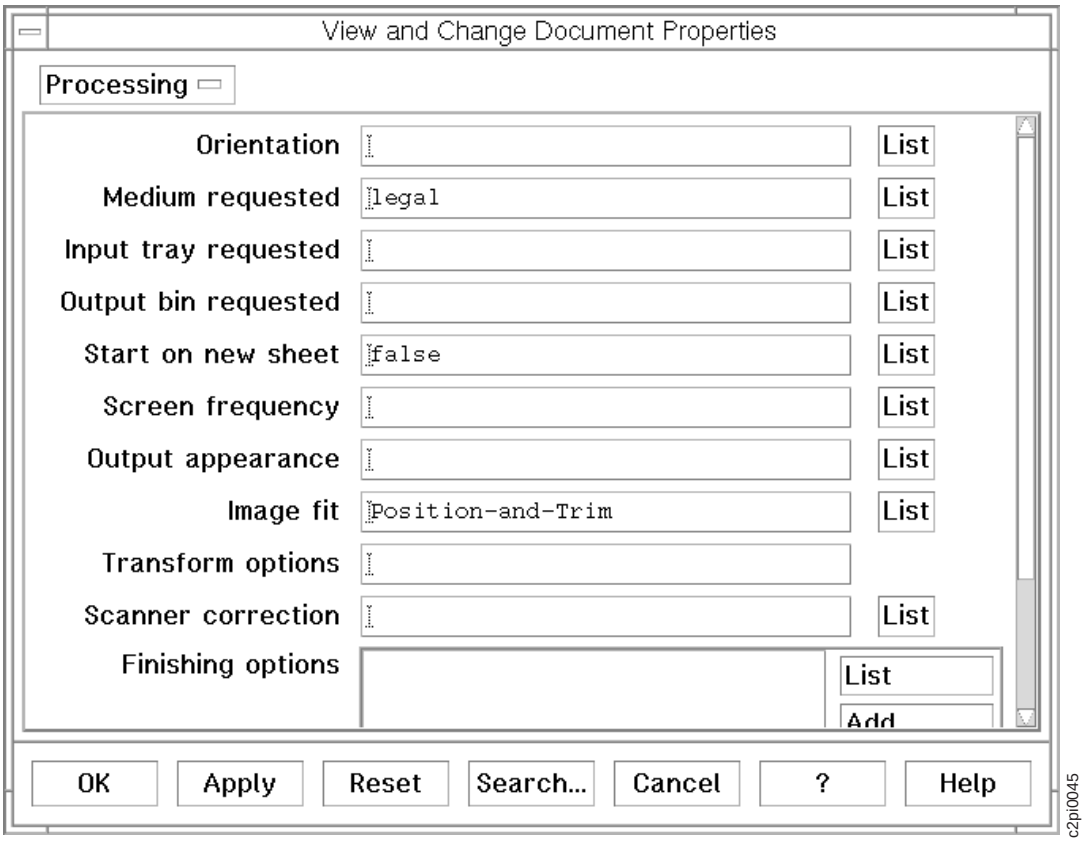

Figure 29. View and Change Document Properties Window 2

7. Select the appropriate fields to set up the processing options for the printer. Load the printer bins with the paper requirements for the job as defined in the **Medium requested** and **Input tray requested** areas.
8. Select **OK**.
9. Repeat these steps for each file in the job and select the appropriate processing options.
10. Check the printer and finisher to be sure they have:
    - A3 or 11x17, z-fold stop setting, if applicable
    - Saddle, Booklet setting (two settings), if applicable
    - Correct sheet size in each bin
11. Double-click the job **2** in the Destination Queue window 3 (Figure 27 on page 29).
12. Select the job **2** in the Destination Queue window 3 (Figure 27 on page 29) and then select the yellow light bulb **1** to release the job to the InfoPrint 60 finisher.

Finisher Requirements

Finishing requirements are listed in the ″View and Change Document Properties window 2″ (Figure 29) under ″Finishing options″. For more information see Destination Queue Window 1 (Figure 25 on page 27).

1. Drag-and-drop the Details View (Figure 26 on page 28) on the Jobs ID screen.
2. Doube-click the job.
3. Select Summary → Scheduling.
4. Scroll down to Finishing Options to determine the finishing requirements.

Using the Command Line

This section explains how to determine the media and finisher requirements using the command line in a dtterm or AIX window.

Media Determination

To use the command line to determine the media requirements, you will use the host name and job name. To find the host name and job name:

1. Host name - type **hostname** and press Enter. You see the host name.
2. Job name - Use the Destination Queue window 1 (Figure 25 on page 27) to find the job name in the ″Name″ column.

To determine the media requirements for the print job:

1. Type **pdls -U servername: | grep jobname** and press Enter. For example:

```
FourTifffs.jtk.00l     thyme:3410300009   FourTiffs.jtk     held

Where:
  Job ID               FourTifffs.jtk.00l
  Host (Server)        thyme
  Global Job ID        3410300009
  Name                 FourTffs.jtk
```

2. Type **pdls -U -rall thyme:3410300009 | grep medium** and press Enter. For example:

```
     thyme:3410300009     default-medium            = ledger
```

Finisher Requirements

To determine the finisher requirements':

1. Type **pdls -U -rall thyme:3410300009 | grep finishing** and press Enter. For example:

```
    thyme:3410300009     Job-finishing             = staple-top left
    thyme:3410300009     document-finishing        = z-fold
```

Using Inserts

An insert is a pre-printed or blank sheet that the InfoPrint 60 printer will insert without additional printing. You can use any input bin in the InfoPrint 60 printer or input bin on the finisher as an insert tray.

In the MPC (server), you can define the media as insert1, insert2, and so on. The dimensions of the defined media (insert1) are not important when the media is used as an insert.

The media ″supported″ function in the InfoPrint 60 printer must be selected.

You can submit jobs with one or more insert sheets using the defined media (insert1 and so on). An example of items with corresponding media for a job is:

```
 Item              Media
Insert A           insert1
ps file            letter
insert A           insert1
ps file2           letter
insert B           insert2
```

Finishing Examples

This section contains examples using default settings. The default setting were set using this procedure:

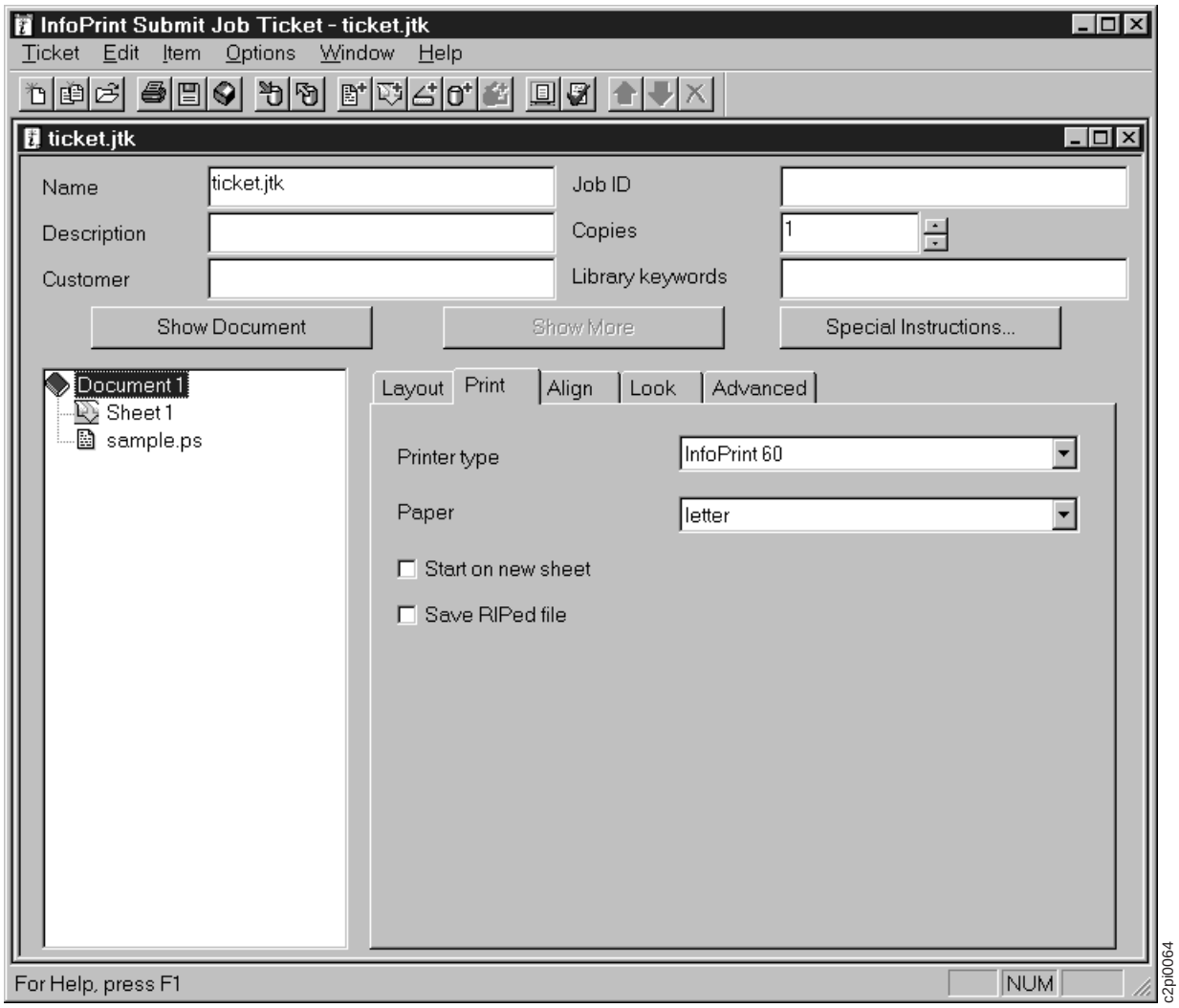

Figure 30. InfoPrint Submit Job Ticket Window - Print Tab

1. Select the Print tab in the InfoPrint Submit Job Ticket window (Figure 30).
2. For ″Printer type″, select ″InfoPrint 60″.
3. Select **Options** → **Preferences**.
4. You see the Preferences window (Figure 31 on page 34). For ″Printer type″, select ″InfoPrint 60″.
5. Select **OK**. Every new job ticket uses the InfoPrint 60 as the default printer.

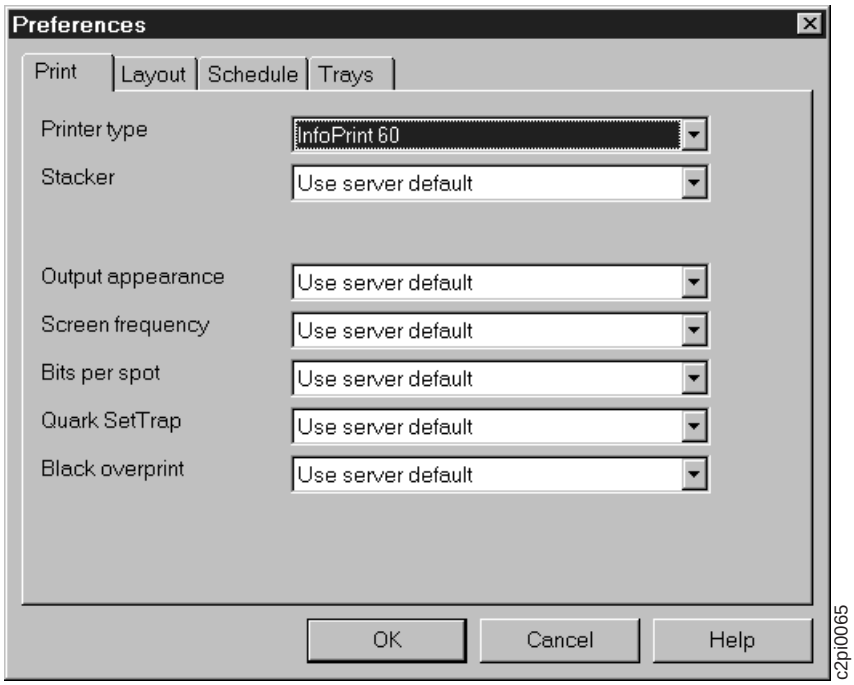

Figure 31. Preferences - Print Tab

6. To set schedule options, select the ″Schedule tab″. You see the Preferences - Schedule tab (Figure 32). Select the radio button that applies to your application. For example, if you are submitting Post Script (PS) files or requesting paper from an insert tray, select the ″RIP and hold″ radio button.

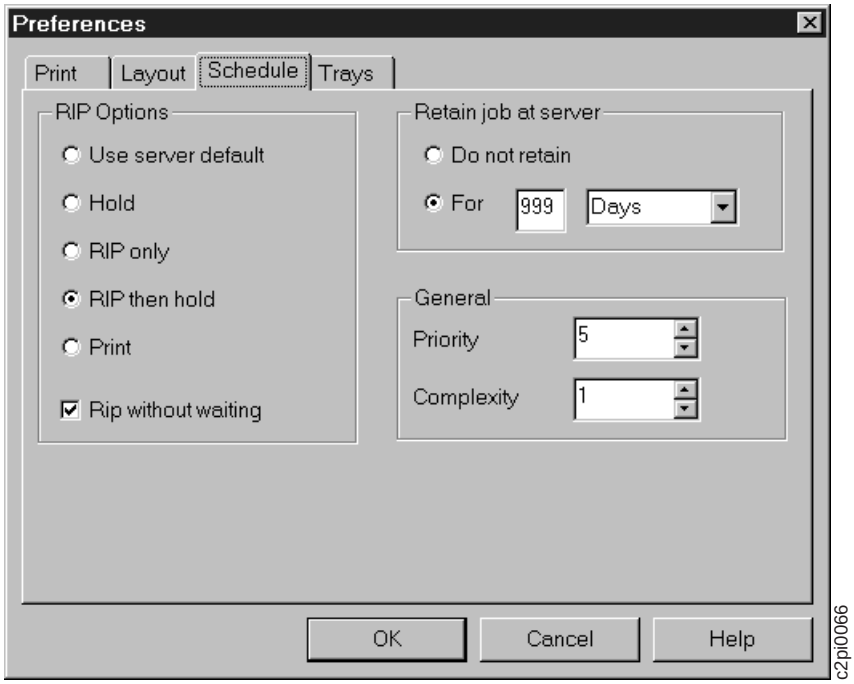

Figure 32. Preferences - Schedule Tab

Edge-Stitched Document with Front Cover

This example shows a cover page that is placed in the finisher insert or input tray and the document from the printer being stapled.

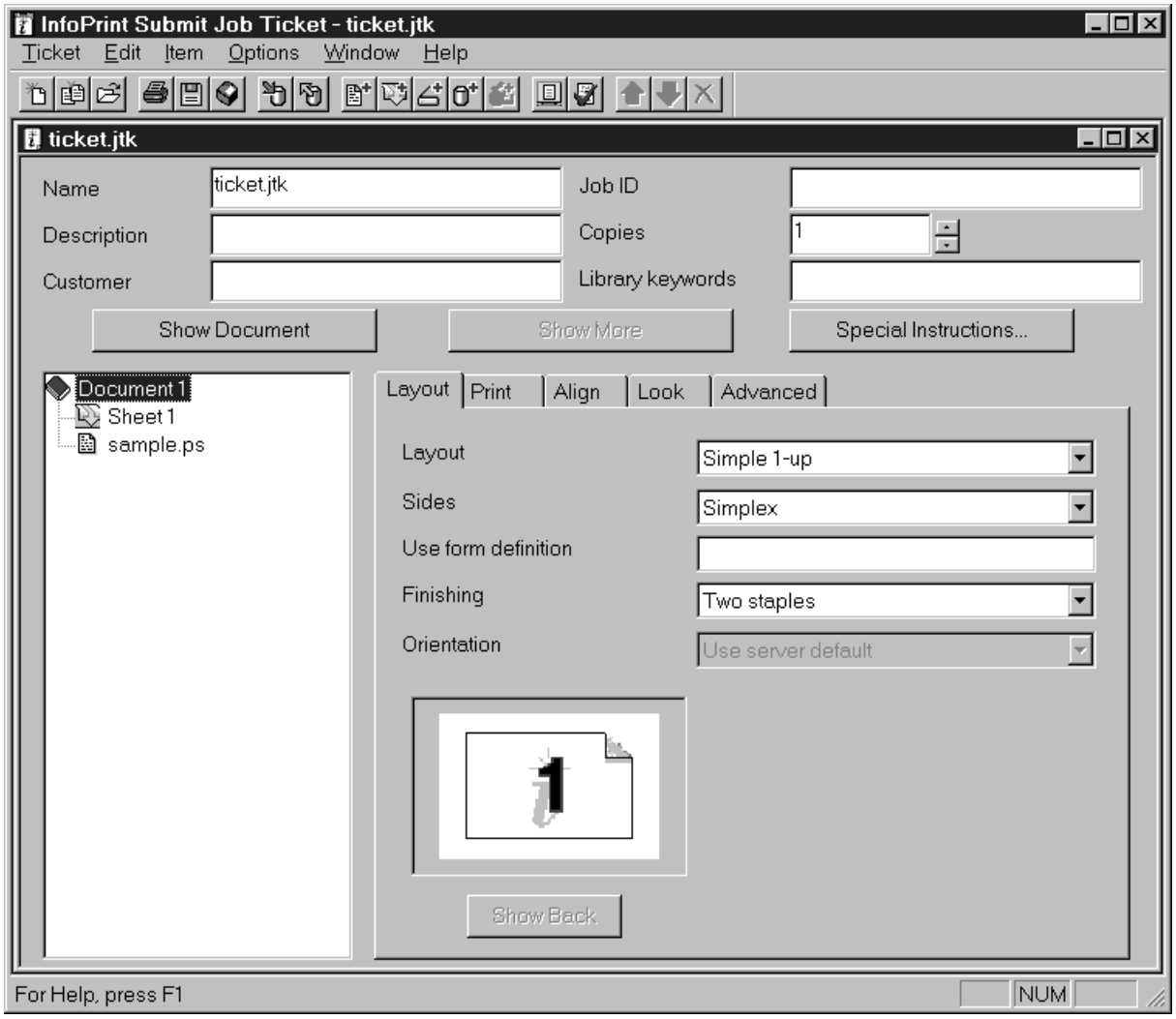

Figure 33. Edge-Stitched Document with Front Cover - Layout Tab

1. From the InfoPrint Submit Job Ticket window (Figure 33), insert the sheets and files to be printed or finished:
   a. Insert a sheet by selecting the Insert Sheet toolbar button or by selecting **Item** → **Insert Sheet**.
   b. Insert a PS file by selecting the Insert File toolbar button or by selecting **Item** → **Insert File**.
2. Select the ″Layout″ tab. You see Figure 33.
3. From the ″Finishing″ drop-down menu, select ″Two staples″.
4. Specify ″Layout″ and ″Sides″ as needed.
5. Leave the ″Use form definition″ field blank because a form definition is not required for this example.

   Note: If the ″Finishing″ drop-down menu is disabled (grayed out), submit has not been refreshed with the server after a printer with finishing options was defined. If such a printer has been defined

on the server, you can select **Options** → **Refresh** to enable the Finishing drop-down menu. If this does not work or you need instructions about creating a printer with finishing options on the server, see “Setting Up the Server” on page 13.

6. To differentiate between printing and inserting preprocessed sheets, a media must be defined on the server (see “Defining the Media” on page 15). The server administrator or operator knows the paper names for the insert sheets, so you can consult them if the name is not obvious from the Paper drop-down list.
7. From the document, select the ″Sheet 1″. You see the Sheet tab (Figure 34).

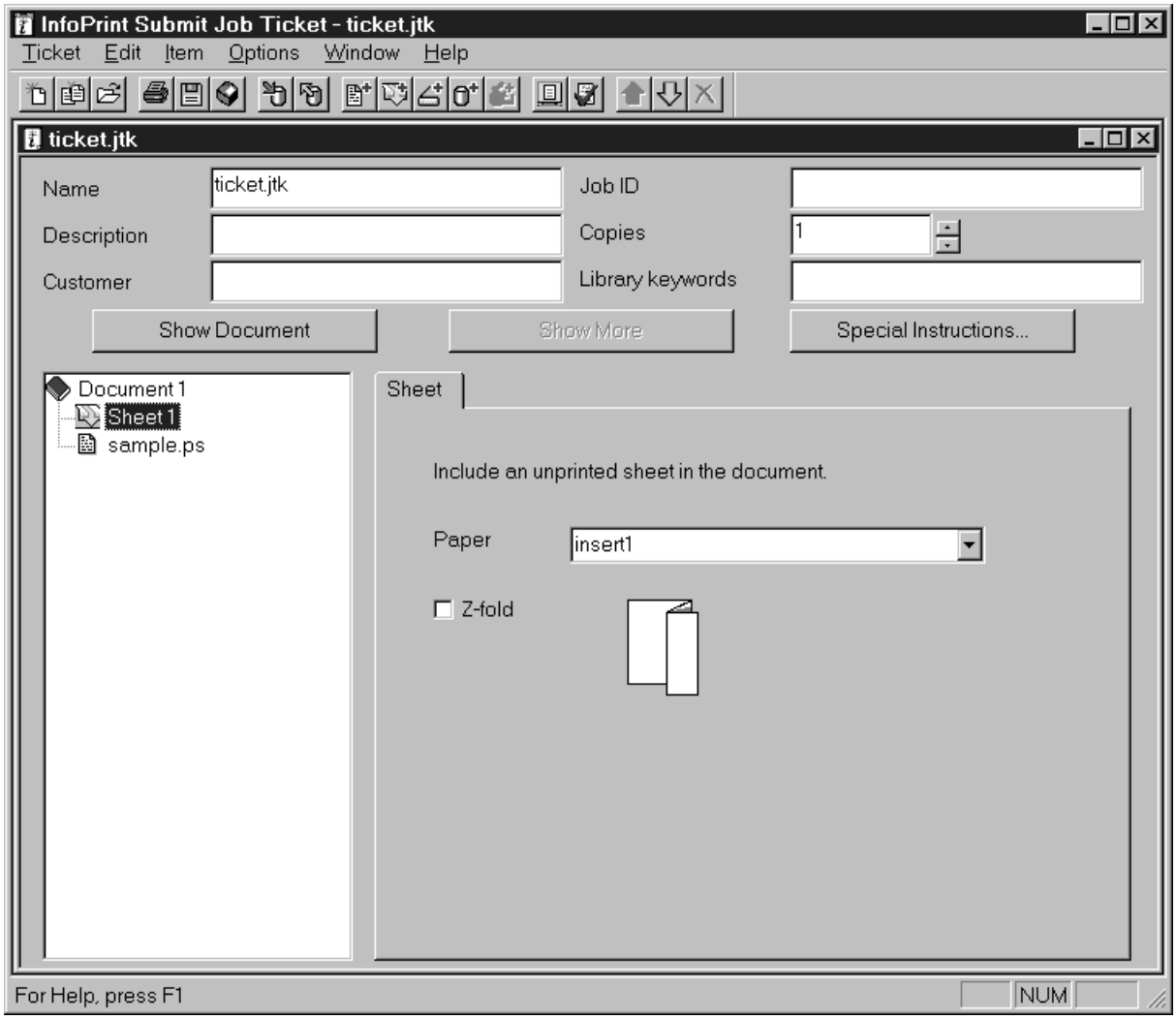

Figure 34. Edge-Stitched Document with Front Cover - Sheet

8. From the Paper drop-down menu, select the paper that corresponds to the desired insert media sheet.

   Note: The insert media sheet is defined at the MPC. You submit your print job with hold. When the operator views your job, the operator loads the pre-printed pages into the input tray defined by the media statement in the MPC.
9. Submit the job: **Ticket** → **Submit Job**.

Edge-Stitched Document with Tabbed Inserts

In this example, a document is printed on the InfoPrint 60 and the finisher inserts tabs.

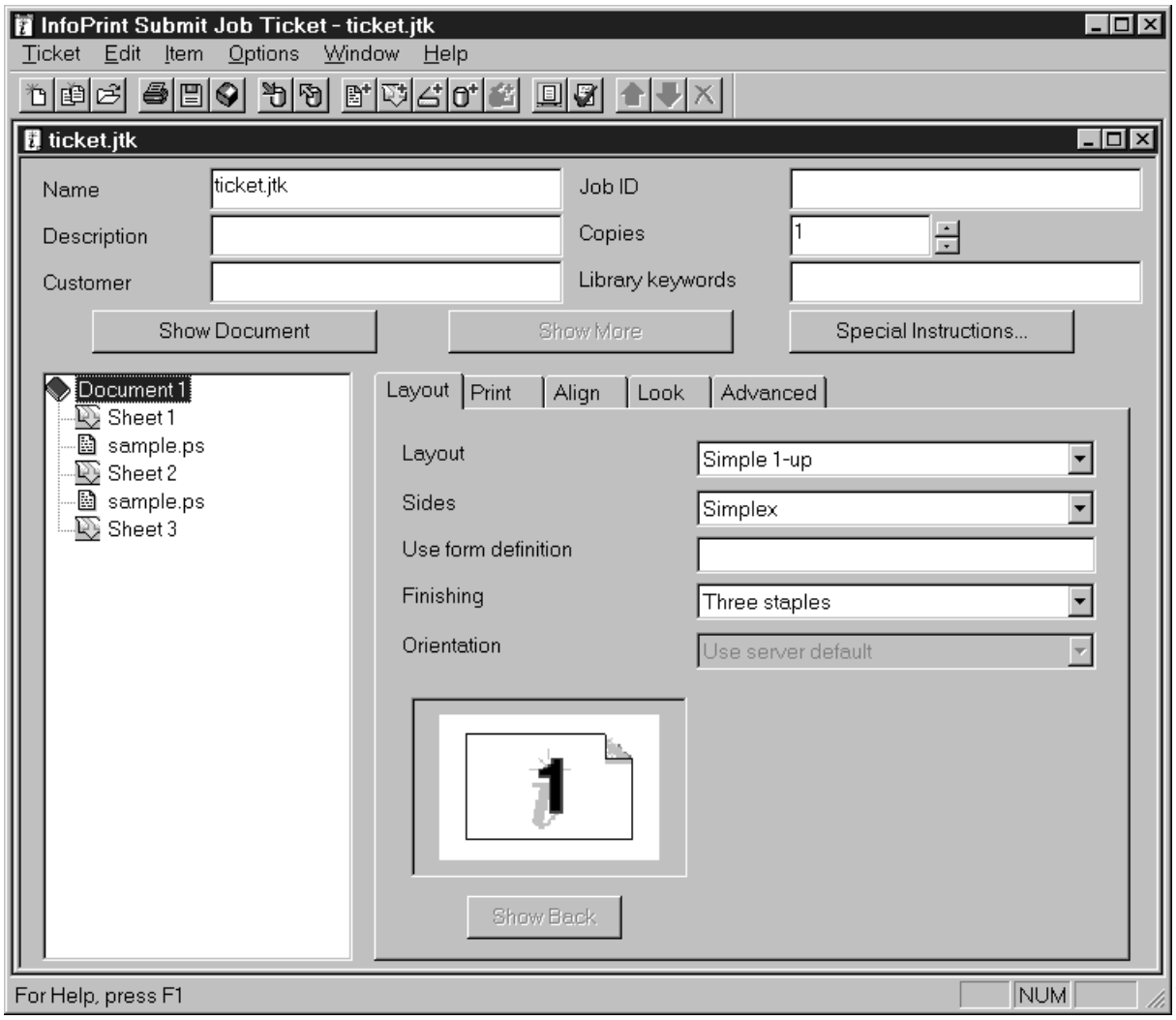

Figure 35. Edge-Stitched Document with Tabbed Inserts - Layout Tab

1. From the InfoPrint Submit Job Ticket window (Figure 35), insert the sheets and files to be printed or finished:
   a. Insert a sheet by selecting the Insert Sheet toolbar button or by selecting **Item** → **Insert Sheet**.
   b. Insert a PS files by selecting the Insert File toolbar button or by selecting **Item** → **Insert File**.
2. Select the ″Layout″ tab. You see Edge-Stitched Document with Tabbed Inserts - Layout Figure 35.
3. Define the ″Sheet 1″ using the method in “Edge-Stitched Document with Front Cover” on page 35.
4. From the ″Finishing″ drop-down menu, select ″Three staples″.
5. For the Insert Sheet, select the paper corresponding to insert sheets as explained in “Edge-Stitched Document with Front Cover” on page 35. The Insert Sheets are tabs placed in the input or insert tray of the finisher.
6. Submit the job: **Ticket** → **Submit Job**.

Edge-Stitched Document with Z-Folded Sheets

In this example, a document contains z-folded sheets.

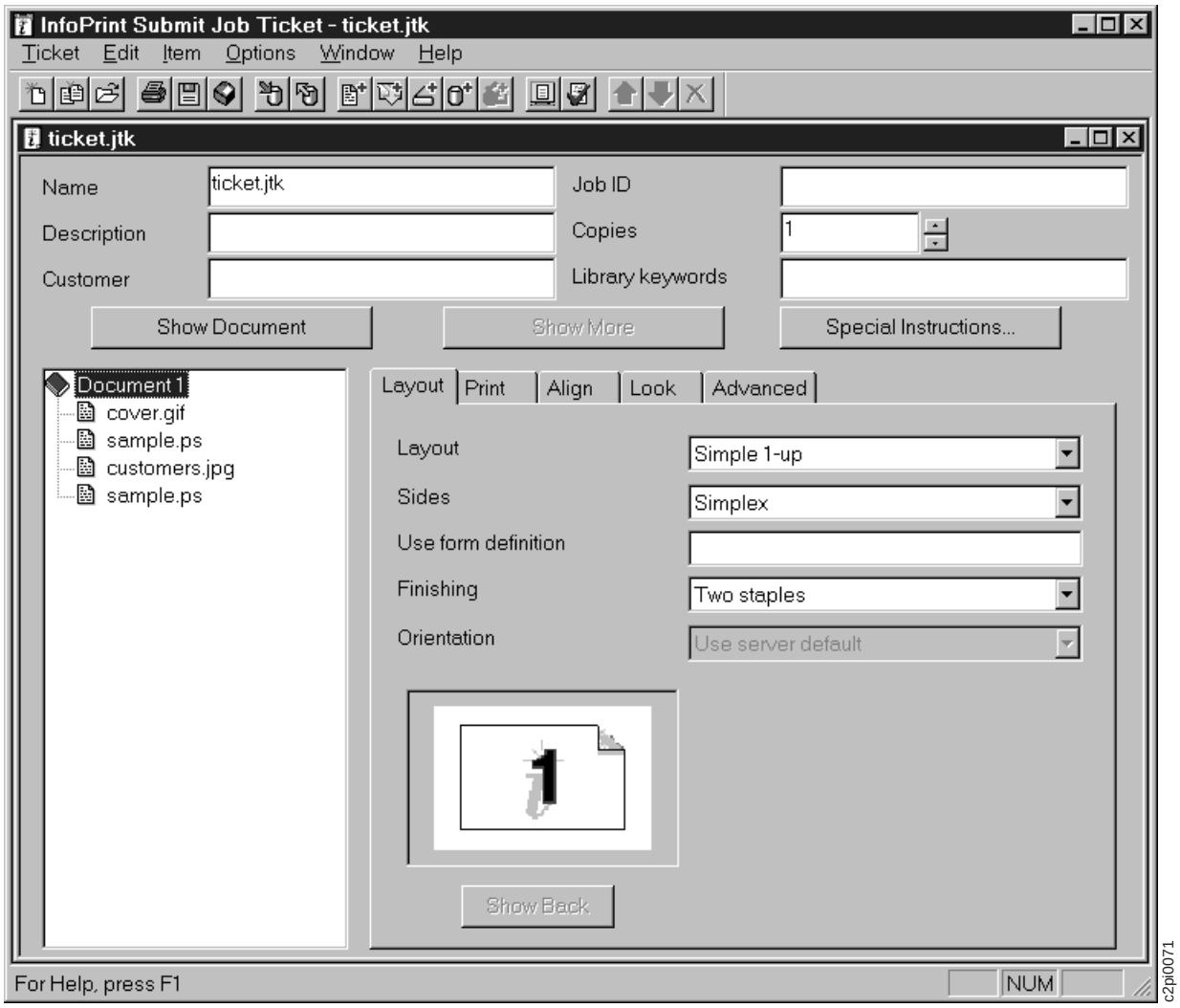

Figure 36. Edge-Stitched with Z-Folded Sheets - Layout Tab

1. From the InfoPrint Submit Job Ticket window (Figure 36).
2. Insert the GIF, PS, JPEG, and PS files by selecting the Insert File toolbar button or by selecting **Item** → **Insert File**.
3. From the Finishing drop-down menu, select ″Two staples″.
4. Select the ″Print″ tab. You see the print tab window (Figure 37 on page 39).

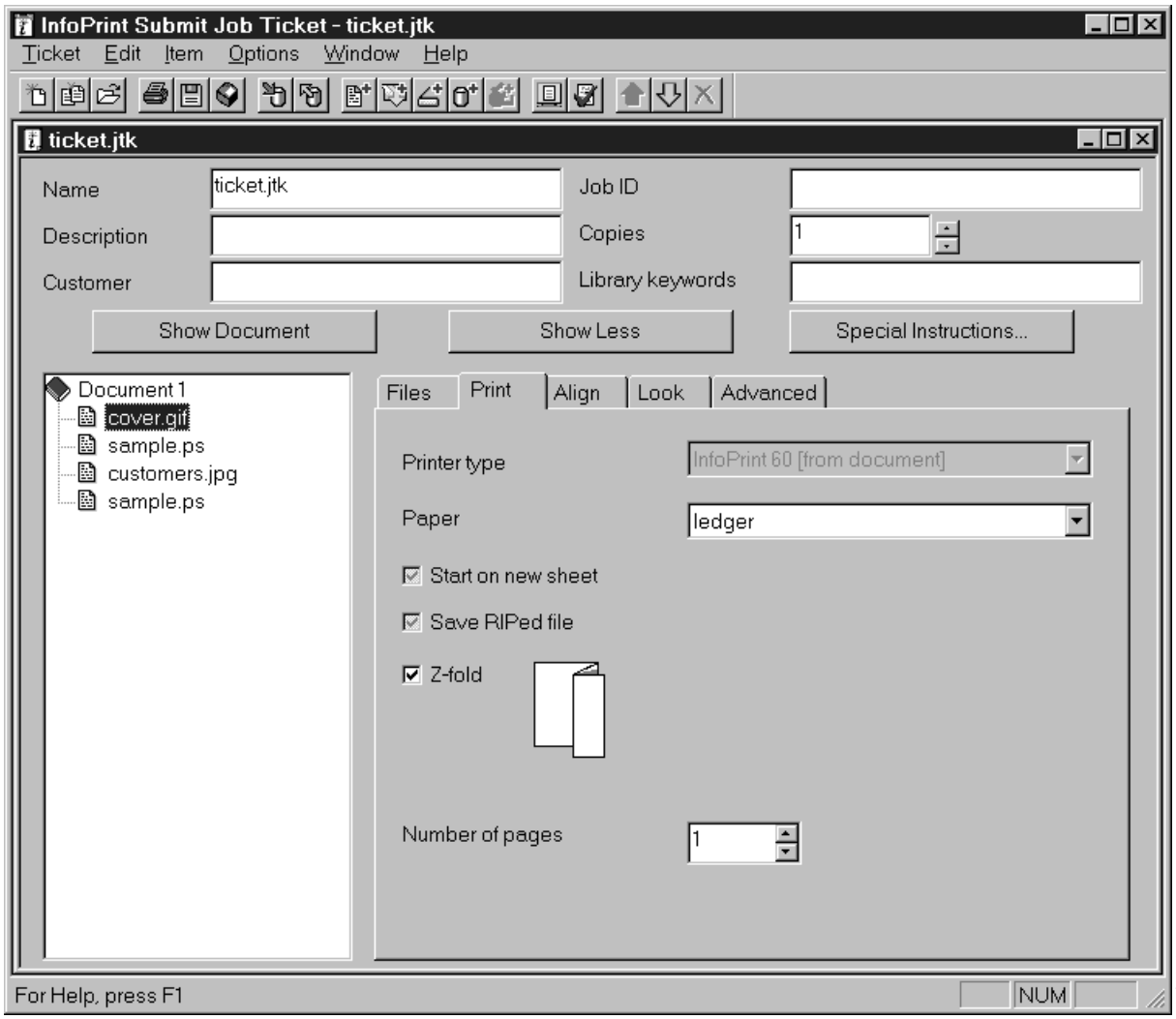

Figure 37. Edge-Stitched with Z-Folded Sheets - Print Tab

5. The .gif and .ipg sheets need to be z-folded:
   a. Select the file to be z-folded (.gif).
   b. Select the ″Show More″ button.
   c. Select the Print tab.
   d. From the Paper drop-down menu, select ledger.
   e. Select ″z-fold″.
   f. Set the ″Number of pages″ to 1.
   g. Repeat these steps for the .ipg file.
6. Submit the job: **Ticket** → **Submit Job**.

Saddle-Stitched 2-UP Document

In this example, a document is saddle stitched using 2-UP: (2 - 8.5 x 11 on ledger (11 x 17) with two staples (default).

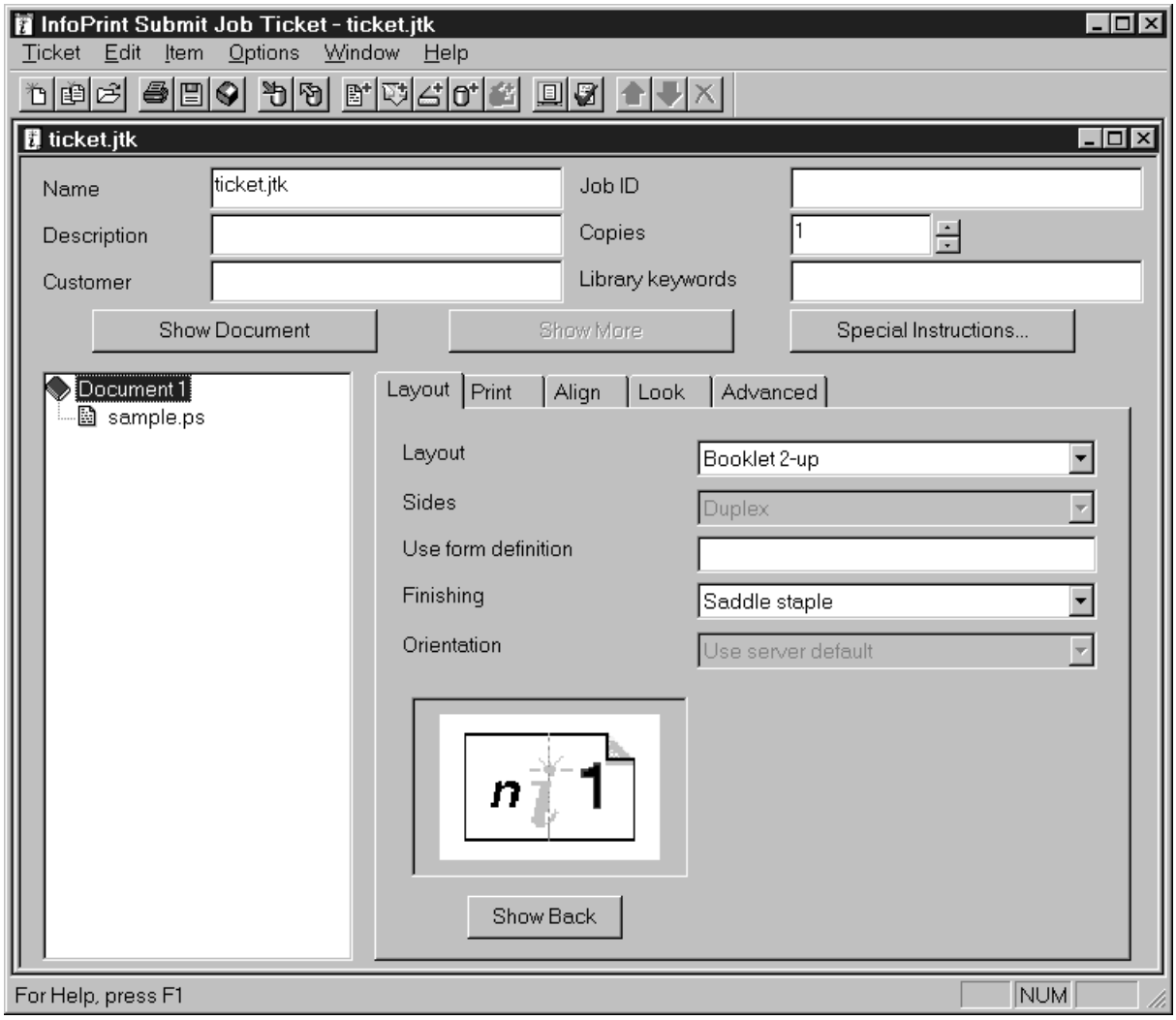

Figure 38. Saddle Stitched 2-UP Document - Layout Tab

1. From the InfoPrint Submit Job Ticket window (Figure 38), insert the files to be printed or finished:
   - Insert a PS file by selecting the Insert File toolbar button or by selecting **Item** → **Insert File**.
2. From the ″Layout″ drop-down menu, select ″Booklet 2-up″.
3. The ″Sides″ drop-down menu automatically selects Duplex (inferred by Booklet).
4. From the ″Finishing″ drop-down menu, select ″Saddle staple″.
5. Select the Print tab. You see the Saddle Stitched 2-UP Document - Layout Tab widow (Figure 39 on page 41).

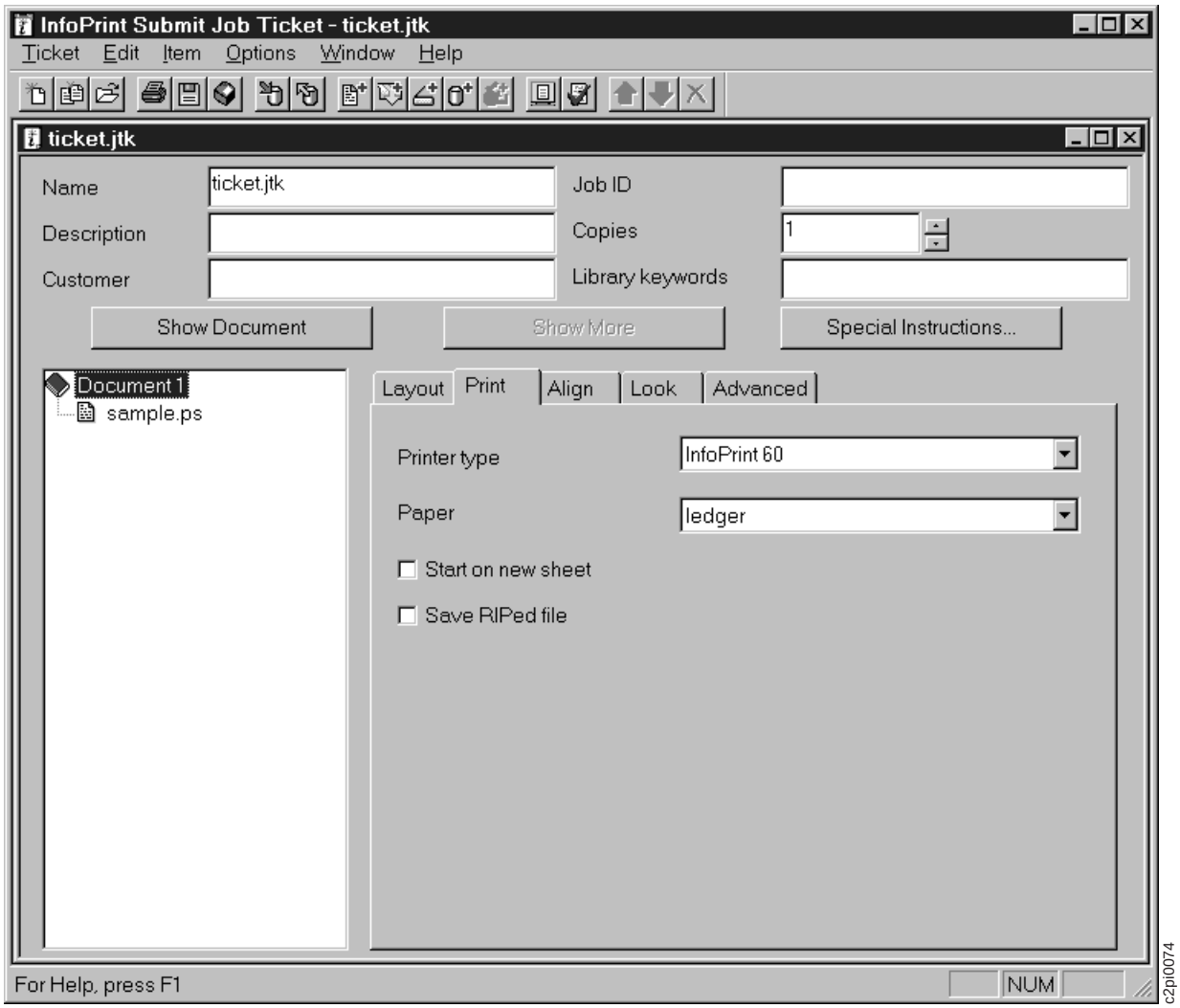

Figure 39. Saddle Stitched 2-UP Document - Print Tab

6. From the ″Paper″ drop-down menu, select ledger paper.
7. Submit the job: **Ticket** → **Submit Job**.

Edge-Stitched on Right

In this example, a document is stapled on the right side of the page.

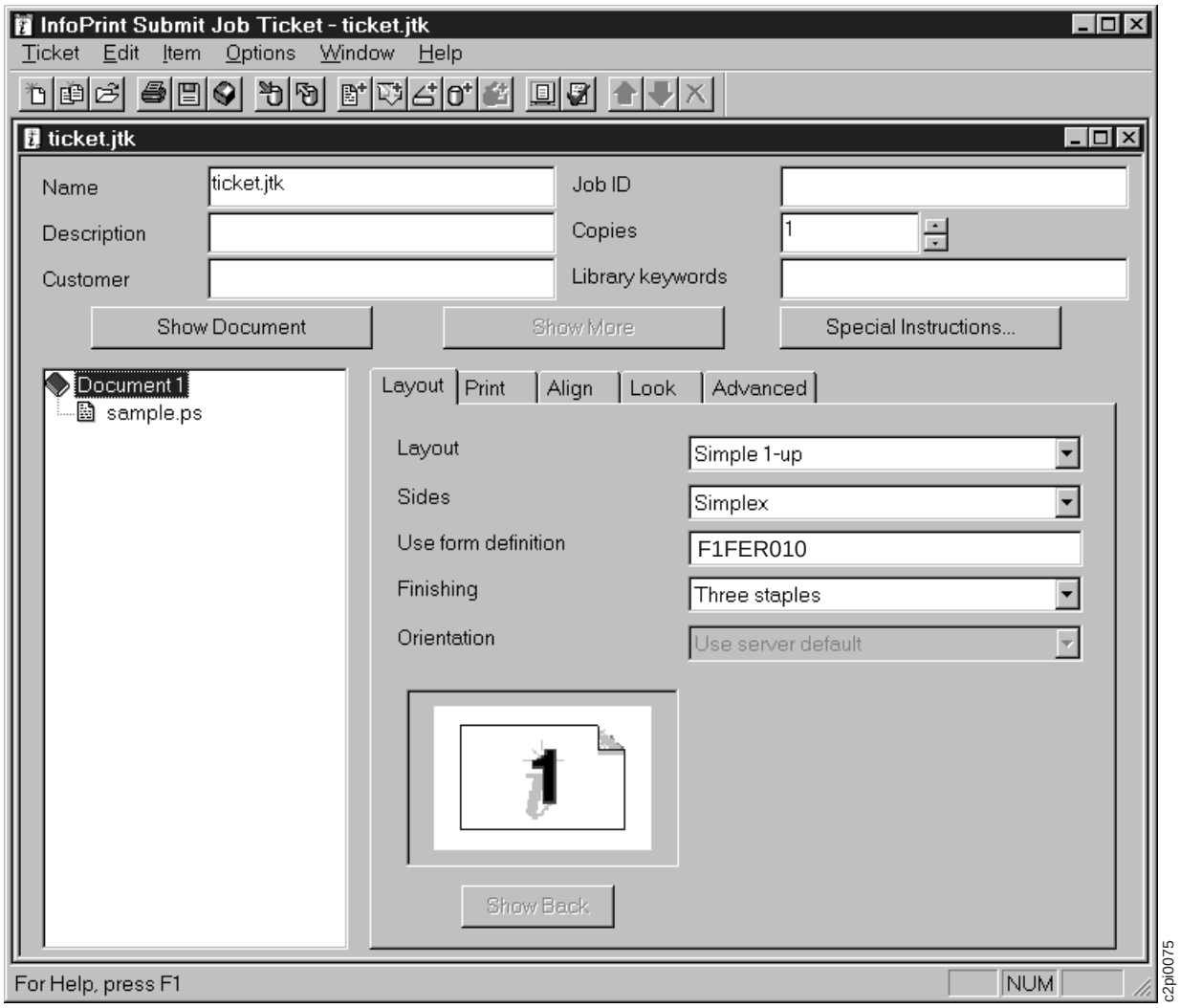

Figure 40. Edge-Stitched on Right - Layout Tab

To put three staples on the non-leading-edge of a document (right for long-edge fed or bottom for short-edge fed), you must use a form definition (F1FER010). For example:

```
FORMDEF NAME REPLACE YES
  FINISH SCOPE PRINTFILE
  OPERATION EDGE REFERENCE RIGHT OPCOUNT 3 ;
```

For more information about form definitions, see “Chapter 5. Form Definition and PPFA” on page 75.

1. In the InfoPrint Submit Job Ticket window (Figure 40), insert the files to be printed or finished:
   a. Insert a PS file by selecting the Insert File toolbar button or by selecting **Item** → **Insert File**.
2. From the ″Layout″ tab, enter the name of the form definition in the ″Use form definition″ field.

   Note: When you use a form definition, the form definition overrides any finishing or printing selections.
3. Submit the job: **Ticket** → **Submit Job**.

Note: Setup the printer input tray, that is selected, so that the paper is long-edge fed.

Top Left Corner Staple

In this example, a document has one staple in the top left corner.

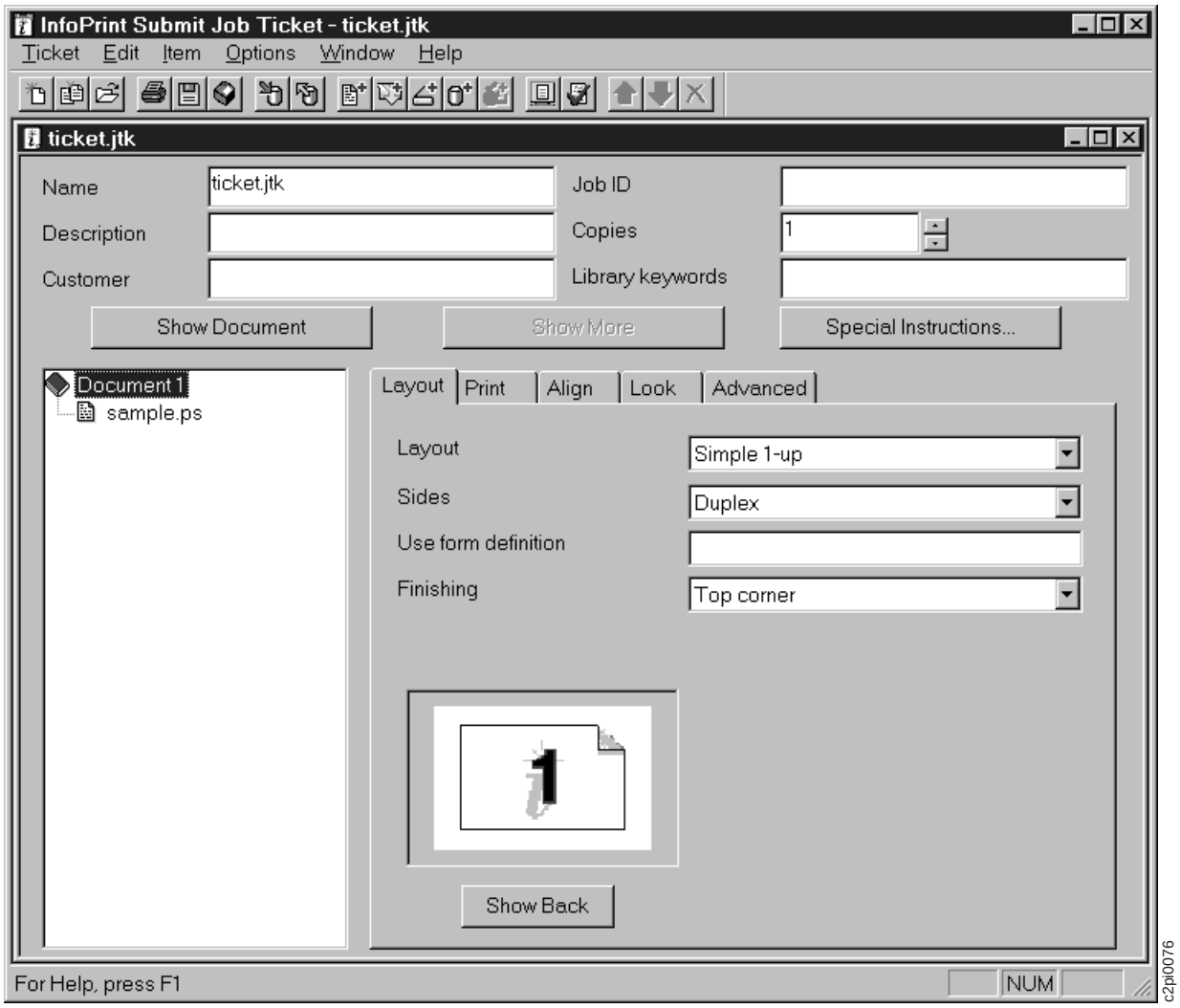

Figure 41. Top Left Corner Staple

1. Form the InfoPrint Submit Job Ticket window (Figure 41), insert the file to be printed or finished:
   a. Insert the PS file by selecting the Insert File toolbar button or by selecting **Item** → **Insert File**.
2. From the ″Finishing″ drop-down menu, select ″Top corner″.
3. Submit the job: **Ticket** → **Submit Job**.

Note: Set up the paper in the selected printer input tray selected, so the paper is short-edge fed.

Edge-Stitch 2 Left

In this example, a document has 2 staples on the left side.

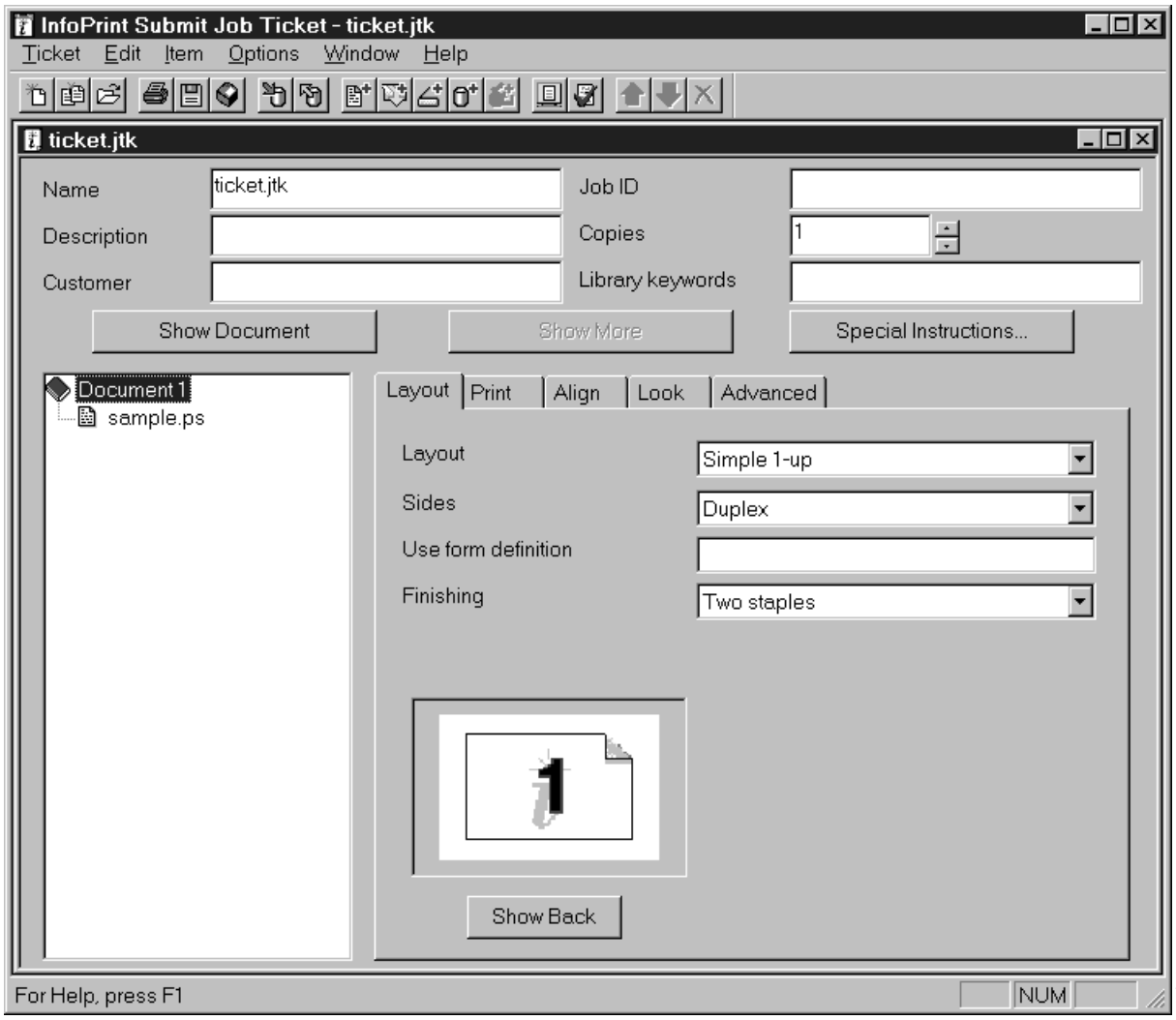

Figure 42. Edge-Stitch 2 Left - Layout Tab

1. From the InfoPrint Submit Job Ticket window (Figure 42), insert the files to be printed or finished.
   a. Insert a PS file by selecting the Insert File toolbar button or by selecting **Item** → **Insert File**.
2. From the ″Finishing″ drop-down menu, select ″Two staples″
3. Submit the job: **Ticket** → **Submit Job**.

Note: Set up the printer input tray selected so the paper is long-edge fed.

Z-Fold 2-UP Sheets

In this example, a document has z-folded pages and printing 2-UP.

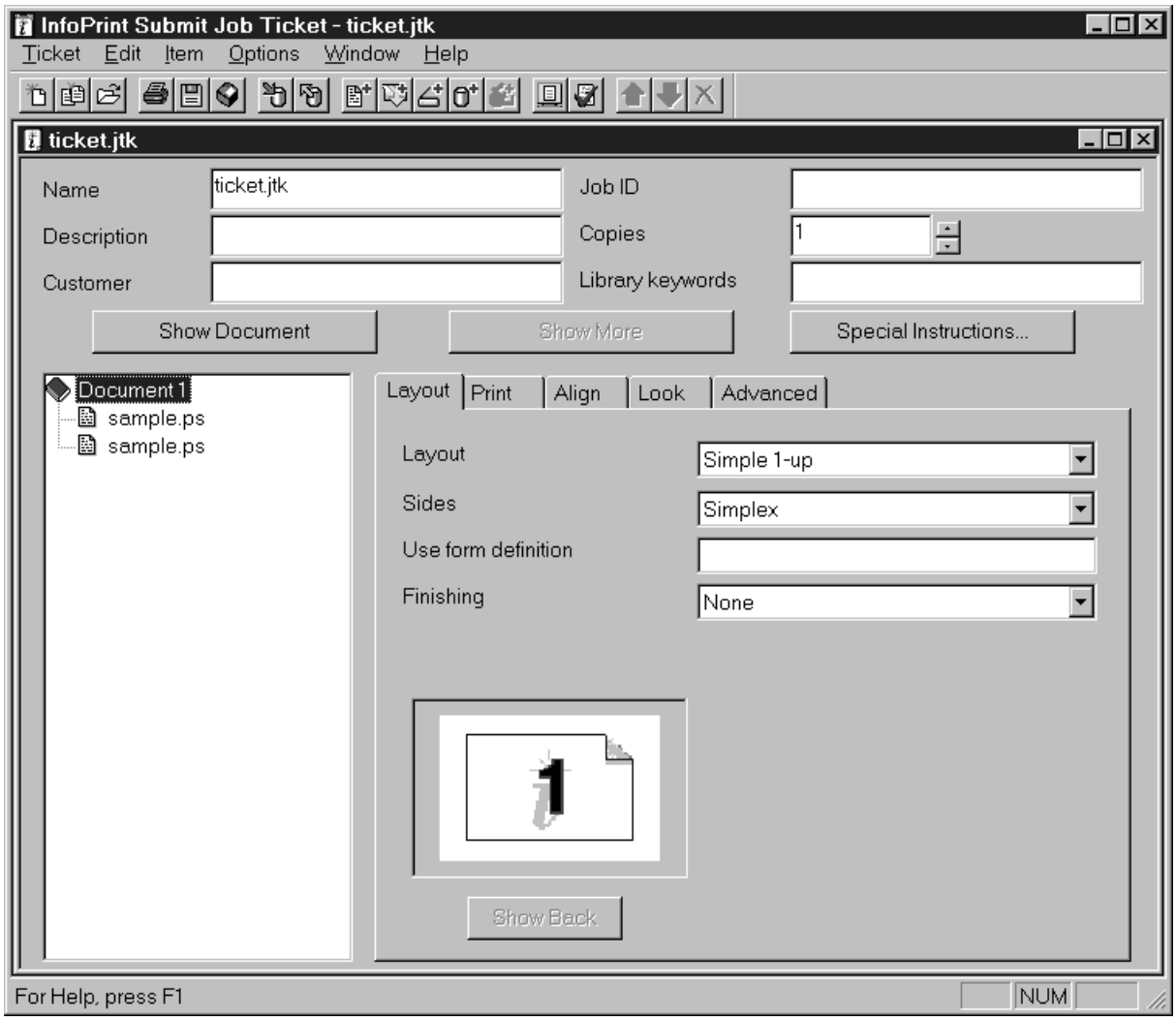

Figure 43. Z-Fold 2-UP Sheets - Layout Tab

1. In the InfoPrint Submit Job Ticket window (Figure 43), Insert the file(s) to be printed or finished.
   - Insert the PS files by selecting the Insert File toolbar button or by selecting **Item** → **Insert File**.
2. Select the Layout tab. You see Figure 43.
3. From the ″Finishing″ drop-down menu select ″None″ for no stapling.
4. Select the Print tab. You see Z-Fold 2-UP Sheets - Print Tab (Figure 44 on page 47).
5. Select the page to be z-folded.
6. For each page to be z-folded:
   a. From the ″Paper'' drop-down menu, select ledger or A3 paper.
   b. Select ″Z-fold″.
7. Submit the job: **Ticket** → **Submit Job**.

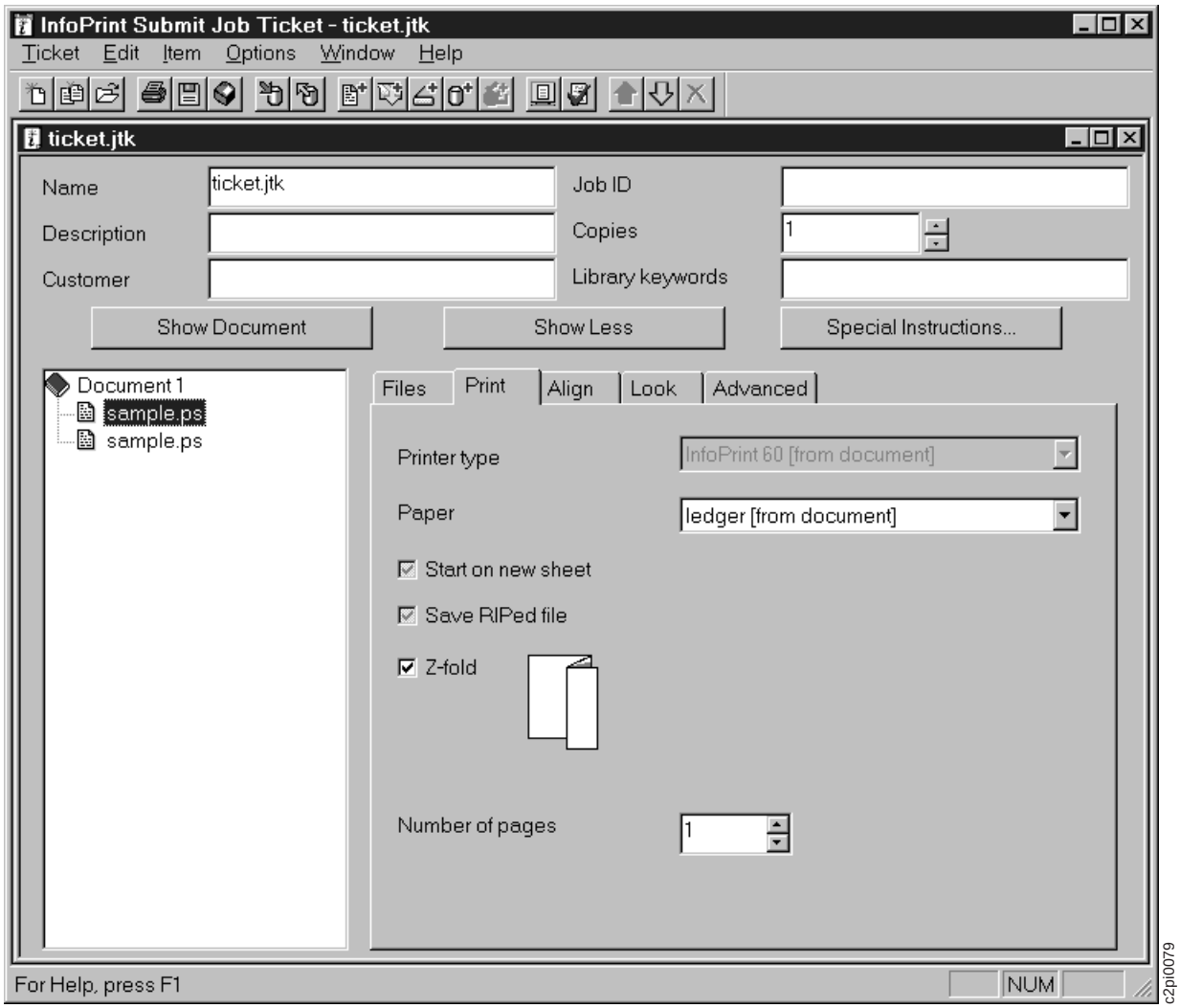

Figure 44. Z-Fold 2-UP Sheets - Print Tab

Chapter 3. Printing with PSF/MVS

This chapter explains how to print and finish booklets and documents with the IBM InfoPrint 60 finisher Print Services Facility/MVS 2.2.0 (PSF/MVS) installed on an MVS or OS/390 system. This chapter contains information for the system programmer who customizes PSF/MVS and for job submitters.

To fully understand this chapter, you must have some knowledge of PSF/MVS. For information about PSF/MVS, see *PSF/MVS Application Programming Guide*, S544-3673, and the *PSF/MVS System Programming Guide*, S544-3672.

Be sure you have read “Chapter 1. InfoPrint 60 Finisher Introduction” on page 1 before you use this chapter.

For examples of printing and finishing, see “Finishing Examples” on page 86.

Customizing PSF/MVS

To install PSF/MVS 2.2.0 support for the InfoPrint 60 finisher, the system programmer must apply the PTF associated with PSF/MVS APAR OW24360.

Use the standard procedure described in the *PSF/MVS System Programming Guide*, S544-3672 to define the InfoPrint 60 printer to JES and PSF/MVS. However, use the procedures in this section to define the InfoPrint 60 printer to JES and to install form definitions for the finisher.

Defining the InfoPrint 60 Finisher to JES

When you define the InfoPrint printer to JES, you might want to limit the size of jobs that JES directs to the printer. For example, the InfoPrint 60 finisher can staple a maximum of 50 sheets because of their thickness. If a print job or document is larger than the maximum allowed, the print jobs print as usual but the finisher does not staple as requested; PSF/MVS prints a warning message at the end of the print job. To limit the size of jobs directed to a printer, use these JES initialization statement parameters:

- In a JES2 environment, use the PLIM, LIMIT, and WS=LIM parameters of the PRT(nnnn) statement. See the *JES2 Initialization and Tuning Reference*, SC23-0083 for your level of the operating system for information about the PRT(nnnn) statement.
- In a JES3 environment, use the PAGELIM, LINELIM, and WS=L parameters of the DEVICE statement. See the *JES3 Initialization and Tuning Reference*, SC23-0083 for your level of the operating system for information about the DEVICE statements.

For example, you could set the PLIM or PAGELIM value to 50 so that the printer accepts only print files with 50 or less pages. Note that JES counts pages in the entire print file. Some print files might contain more than 50 pages, but documents within that print file may contain less than 50 pages. Therefore, the PLIM parameter is useful for limiting jobs only if all print files contain only one document per print file or if stapling is always requested at the print file level.

You also might want to consider assigning similar JES work-selection criteria to several InfoPrint 60 printers so that job submitters can print to any printer in a group of InfoPrint 60 printers. For example, if three InfoPrint 60 printers are in the same room, you can define the printers to JES so that each printer selects jobs with the same output class or destination. If one of the printers has the finisher installed and is used for stapling, you can use JES work-selection parameters to limit that printer to print jobs that contain less than 50 pages.

Installing Form Definitions

IBM provides a set of form definitions that job submitters can use to control the finisher. You can use **ftp** to obtain these form definitions from the IBM Printing Systems Company Web site. See “Sample Form Definitions” on page 85 for information about the IBM-supplied form definitions and about how to use PPFA. An application programmer can use the Page Printer Formatting Aid (PPFA) or a similar product to modify these form definitions or to create new ones.

To make the finisher form definitions available to all job submitters, you can put the new form definitions (1) in the same PSF system library that contains other form definitions or (2) in a separate PSF user or system library reserved for finisher form definitions. Consider these points when deciding where to install the finisher form definitions:

- If you put the finisher form definitions in the same system library with other form definitions, the form definitions will be available to *all* printers. If a print job requests a form definition that specifies a finishing option but the printer does not have the finisher installed, the job prints as usual but the finishing requested in the form definition is ignored; PSF/MVS prints a warning message at the end of the print job.
- If you put the finisher form definitions in a separate library, you can make that library available in the PSF startup procedure *only* for the printers that have the finisher installed. See the *PSF/MVS System Programming Guide*, S544-3672 for information about PSF startup procedures.

  When you create a separate library for finisher form definitions, the finisher form definitions can have the same names as existing form definitions that are in another library, thereby eliminating the need for job submitters to name a different form definition when printing to an InfoPrint 60 finisher. For example, if all print jobs printed on an InfoPrint 60 finisher are to be stapled, you could rename the form definitions that request stapling, using the same names as comparable form definitions that do not request stapling. Place the form definitions that request stapling in the form definition library defined only to the InfoPrint 60 finisher. When job submitters print to the InfoPrint 60 finisher, PSF uses a finisher form definition; when job submitters print to a printer without the finisher, PSF uses a non-finisher form definition.

Submitting a Print Job

To request one of the finishing options (for example: stapling, saddle-stitching), the job submitter must first select a form definition that requests the desired finishing option. You can select one of the IBM-supplied form definitions. Your system programmer may have put these form definitions in a PSF system or user library for you to use. If the IBM-supplied form definitions do not satisfy your needs, you can use PPFA or a similar program to modify one of the form definitions or create your own. If you want different pages of your print job to use different finishing options, you can create a form definition with different copy groups (medium maps) and modify your print file to use the desired medium map (see “Finishing Examples” on page 86).

After you have selected a form definition, you name it on the OUTPUT statement in your Job Control Language (JCL). If you use OS/390 UNIX System Services, you can name the form definition on the **lp** command.

For example, to staple each document in a print file using form definition F1FC0011 located in a PSF system library, use the following JCL:

```
//AFPUSER JOB ...
//STEP1   EXEC PGM=USERA
//OUT1    OUTPUT FORMDEF=FC0011
//PRINT   DD SYSOUT=A,OUTPUT=(*.OUT1)
```

Note: When the finisher is installed and the form definition requests a finishing option, the InfoPrint 60 uses the appropriate output bin by default. Therefore, you do not need to specify the output bin when you submit a print job.

See the *PSF/MVS Application Programming Guide*, S544-3673 for other examples of how to send print jobs to PSF/MVS.

Chapter 4. Printing with AS/400

This chapter explains how to print and finish booklets and documents with the IBM InfoPrint 60 finisher and the AS/400. This chapter contains information for the system programmer to customize print jobs.

Be sure you have read “Chapter 1. InfoPrint 60 Finisher Introduction” on page 1 before you use this chapter.

Availability of PSF/400 Programming Support for Finishing

PSF/400 programming support for IPDS printers that support finishing operations is provided in releases V4R2 and V4R3.

Support is provided for:

1. Corner staple
2. Edge stitch
3. Saddle stitch
4. Z-Fold (by form definition only)
5. Insert (by normal input bin selection)

For V4R2, the support is provided by APAR.

For V4R3, new printer file parameters CORNERSTPL and EDGESTITCH have been added. Support for using the USRDFNDTA parameter to pass in the SADLSTITCH parameter will be provided by APAR.

Table 8 shows where you can specify a finishing operation according to the release.

Table 8. AS/400 Finishing Support for V4R2 and V4R3

Operation	**V4R2**			**V4R3**		
	Form Def	**Printer File**	**DDS**	**Form Def**	**Printer File**	**DDS**
Corner Staple	Yes	USRDFNDTA	No	Yes	CORNERSTPL	No
Edge-Stitch	Yes	USRDFNDTA	No	Yes	EDGESTITCH	No
Saddle Stitch	Yes	USRDFNDTA	No	Yes	Planned	No
Z-Fold	Yes	No	No	Yes	No	No
Insert	Yes	DRAWER	DRAWER	Yes	DRAWER	DRAWER

Yes - Is used in the Form Def column to indicate support by a form definition created by PPFA/400. See the product’s manual for information about specifying the particular finishing operation.

No - Means that an operation is not supported by the indicated method.

Under Printer File and DDS, use the parameter or keyword as shown.

Planned - Means the specified operation will be offered by PTF at a future date.

Support for new finishing operations and support for releases other than V4R2 and V4R3 may be provided in the future. Check with your IBM Printing Systems Company representative for availability.

Specifying Finishing Operations

You can specify finishing operations in a printer file or in a form definition.

Form Definition Method

To use a form definition, specify the name and library of the form definition in the FORMDF parameter of the CRTPRTF, CHGPRTF, or OVRPRTF commands.

If the form definition requests a single finishing operation applied to entire print job, specify the form definition name in FORMDF parameter. This applies the finishing operation requested in the form definition to the entire print job.

Sometimes a more complex form definition is necessary; for example, one that contains a copygroup for z-folded pages and a copygroup for document pages. In this case, where the form definition contains multiple copygroups, use the INVMMAP (Invoke Medium Map) DDS keyword to switch between them.

Notes:

1. The INVMMAP keyword is only valid with DEVTYPE(*AFPDS).
2. The terms ″medium map″ and ″copy group″ are synonymous. PPFA uses the term ″copy group″. AS/400 uses the term ″medium map″. Use the INVMMAP keyword to switch between copy groups.

Printer File Method

Support for stapling operations exists on these releases: V4R3 and V4R2. These operations are specified using the CRTPRTF CHGPRTF, OVRPRTF commands

Version V4R3M0

For version V4R3, these parameters have been added to the printer file:

- CORNERSTPL
- EDGESTITCH

Support for saddle stitch will be made available at a later date through PTFs.

Printer files migrated from V4R2 that specify a finishing operation using the USRDFNDTA parameter are supported on V4R3. Use the value specified using the USRDFNDTA parameter only if a corresponding new parameter in the printer file has a value of *NONE. For example, only if CORNERSTPL(*NONE) is specified, a specification of CORNERSTPL using USRDFNDTA will be used.

This CRTPRTF command shows a simple edge stitch request specified with the EDGESTITCH parameter:

```
CRTPRTF FILE(prtf_name) EDGESTITCH(*LEFT *DEVD 3 *DEVD)
```

This CRTPRTF command shows a corner staple request specified with the CORNERSTPL parameter:

```
CRTPRTF FILE(prtf_name) CORNERSTPL(*DEVD)
```

Version V4R2M0

To requests corner staple, edge stitch, and saddle stitch specify the appropriate free-form text string in the USRDFNDTA parameter of the printer file.

This CRTPRTF command shows a saddle stitch request specified with the USRDFNDTA parameter:

```
CRTPRTF FILE(prtf_name) USRDFNDTA('SADLSTITCH(*DEVD *DEVD (*DEVD))')
```

Syntax

This section explains each finishing operation that can be specified with the printer file. It also explains the corresponding syntax required for specification with the USRDFNDTA parameter.

You can specify three finishing options with a printer file: corner staple, edge-stitch, and saddle stitch. You must specify each of these using the USRDFNDTA parameter of the printer file. The USRDFNDTA parameter permits the input of free-form text using these CL commands: CRTPRTF, CHGPRTF, or OVRPRTF. Syntax checking is not performed when you enter the text.

Corner Staple

Specifies the reference corner to be used for a corner staple. A staple is driven into the media at the reference corner. See Figure 1 on page 2 for the reference corners that are supported. Page rotation does not affect the placement of a corner staple.

Corner Staple Syntax

```
USRDFNDTA('CORNERSTPL(reference_edge)')
```

The following reference edges may be specified:

- *NONE

  A corner staple is not specified. This is the same as not specifying CORNERSTPL.
- *DEVD

  The reference corner is the default reference corner used by the device.
- *BOTRIGHT

  The reference corner is the bottom right corner of the media.
- *TOPRIGHT

  The reference corner is the top right corner of the media.
- *TOPLEFT

  The reference corner is the top left corner of the media.
- *BOTLEFT

  The reference corner is the bottom left corner of the media.

Syntax Notes:

1. Upper, lower, or mixed case is acceptable.
2. Spaces may not be inserted anywhere in the string that specifies a corner staple.
3. Here is an example of a syntactically correct specification of a corner staple:

   ```
   USRDFNDTA('CORNERSTPL(*TOPLEFT)')
   ```

Edge Stitch

Specifies where staples are to be placed along the finishing margin of the media. Check your printer documentation to determine which elements, and which values of elements, are supported. Where your printer does not support any of the values for a specific element, specify a value of *DEVD for the element.

Note: The finishing margin is an invisible line along which finishing operations, such as edge stitching, are done. You specify the distance from the edge of the paper in the reference edge offset element of the parameter.

Edge Stitch Syntax

```
USRDFNDTA('EDGESTITCH(reference_edge reference_edge_offset number_of_staples (staple_offsets))')
```

Reference edge - Specifies the reference edge to be used for an edge stitch. An edge stitch is formed by having one or more staples driven into the media along the finishing margin. Possible values are:

- *NONE

  An edge stitch is not specified. This is the same as not specifying EDGESTITCH.
- *DEVD

  The default that is used by the device.
- *BOTTOM

  The reference edge is the bottom edge.
- *LEFT

  The reference edge is the left edge.
- *RIGHT

  The reference edge is the right edge.
- *TOP

  The reference edge is the top edge.

Reference edge offset - Specifies the offset from the reference edge to place the edge stitching:

- *DEVD

  The default staple offset for the device. *DEVD is the only value you can specify for the InfoPrint 60 finisher.

Number of staples - Specifies the number of staples to use for edge stitching. Possible values are:

- *DEVD

  The default staple offset for the device.
- You may specify 2 or 3 staples for the InfoPrint 60 finisher.

Staple-offsets - Specifies the distance between staples that are used in the edge stitching. Possible values are:

- *DEVD

  The default staple offset for the device. *DEVD is the only value you can specify for the InfoPrint 60 finisher.

Syntax Notes:

1. Upper, lower, or mixed case is acceptable.
2. Spaces must be inserted between each value contained within the outermost pair of parentheses.

   Note: Staple offsets are contained within an extra set of parentheses. Both the parentheses and value for staple offsets are considered a single value.
3. Here is a example of a syntactically correct specification of an edge stitch:

   ```
   USRDFNDTA('EDGESTITCH(*LEFT *DEVD 3 (*DEVD))')
   ```

Saddle Stitch

Specifies where staples are to be placed along the finishing margin, which is positioned at the center of the media. For saddle stitch, the finishing margin is an invisible line positioned at the center of the media parallel to the reference edge.

Saddle Stitch Syntax

```
USRDFNDTA('SADLSTITCH(reference_edge number_of_staples (staple_offsets))'
```

Reference edge - Specifies which edge to use as the finishing edge. Possible values are:

- *NONE.

  A saddle stitch is not specified. This is the same as not specifying SADLSTITCH.
- *DEVD

  The default staple offset for the device. *DEVD is the only value you can specify for the InfoPrint 60 finisher.

Number of staples

- *DEVD

  The default value for the device. *DEVD is the only value you can specify for the InfoPrint 60 finisher.

Staple offsets - Specifies the distance between staples that are used in the edge stitching. Possible values are:

- *DEVD

  The default staple offset for the device. *DEVD is the only value you can specify for the InfoPrint 60 finisher.

Syntax Notes:

1. Upper, lower, or mixed case is acceptable.
2. Spaces must be inserted between each value contained within the outermost pair of parentheses.

   Note: Staple offsets are contained within an extra set of parentheses. Both the parentheses and value for staple offsets are considered a single value.
3. Here is an example of a syntactically correct specification of a saddle stitch:

   ```
   USRDFNDTA('SADLSTITCH(*DEVD *DEVD (*DEVD))')
   ```

AS/400 Finisher Examples

This section contains examples that show you how to use a printer file and DDS keywords to perform various finishing options. The examples use the C programming language.

These examples show the complete C program source, DDS source, and printer file used in the first example (“Edge-Stitched Document with Front Cover” on page 63). The program source, DDS source, and printer file are the basis for all the examples in this section.

Sample Program Source

Figure 45 and Figure 46 on page 59 show the program source for “Edge-Stitched Document with Front Cover” on page 63.

```
/*
 * Program name . . . . . . . . . . . . . . . . . . . : EXMP1V4R2
 * Library name . . . . . . . . . . . . . . . . . . . : CET
 * Last update  . . . . . . . . . . . . . . . . . . . : 08/20/98
 * Text . . . :
 *   This source program is used
 *   to illustrate examples of finishing.
 *
 *   This file, as shown, in conjunction with the printer file will
 *   produce a cover page and a sheet with some print data edge
 *   stitched together.
 *
 *
 */
#include "prtdef.h"               /* Contains source for PUT function */
#include #include
#define PRTF "CET/EXMP1V4R2"

main()
{
   FILE *fp;

   errno = 0;


  /*********************************************************************/
  /* Open the printer file for output.                                 */
  /*********************************************************************/
  fp = fopen(PRTF,"wb type=record lrecl=80");
  if(errno) {
    printf("%s (while opening %S\n",strerror(errno), PRTF);
    exit(1);
  }

  /*********************************************************************/
  /* Write a null string using RCD1.  This will pull a sheet from the */
  /* insert bin.  In this case, the insert bin is bin 7.               */
  /*                                                                   */
  /*********************************************************************/
  PUT("",
    "RCD1      ",fp);


  /*********************************************************************/
  /* Write application data using RCD2.  This pulls from bin 1.       */
  /*********************************************************************/
  PUT("This is a data page.",
    "RCD2      ",fp);


  fclose(fp);
}
```

Figure 45. Sample .C Program Source (EXMP1V4R2.C)

```
/*
 * Header name . . . . . . . . . . . . . . . . . . . . : PRTDEF
 * Library name  . . . . . . . . . . . . . . . . . . . : CET
 * Text  . . . :
 *   Header file used in C finishing example
 */
#include #include #include #include
void PUT(char *text,char *rcdfmt,FILE *fp);  /* prototype             */
/*********************************************************************/
/* PUT places the data string pointed to in *text into the spool     */
/* file.  This spool file must be opened in a way similar to:        */
/*                                                                   */
/* fp = fopen(DDS_FILE,"wb type=record lrecl=80");                   */
/*                                                                   */
/* Where DDS_FILE is a string containing the DDS printer file name.  */
/*                                                                   */
/* The format must at least contain "wb type=record", but having     */
/* lrecl defined is suggested.                                       */
/*                                                                   */
/* *rcdfmt corresponds to a record format name found in DDS_FILE, and */
/* *fp corresponds to the pointer associated with the opened file.   */
/* PUT automatically pads *rcdfmt with spaces if its length is less  */
/* than ten, or truncates if greater than ten.                       */
/*********************************************************************/



void PUT(char *text,char *rcdfmt,FILE *fp)
{
  int i;
  char temp[11];                  /* holds the padded record format   */

  strcpy(temp,rcdfmt);
  if (strlen(temp) < 10)
  {
    for(i = strlen(temp);i<10;i++)  /* Pad the record format          */
      temp[i] = ' ';
    temp[10] = '\0';
  }
  else if (strlen(temp) > 10)
    temp[10] = '\0';
  _Rformat((_RFILE *) fp,temp);
  fwrite(text,1,strlen(text),fp);
}
```

Figure 46. Sample .H Code (PRTFEF.H)

Sample DDS Source

Figure 47 shows the DDS source for “Edge-Stitched Document with Front Cover” on page 63.

```
5769PW1 V4R2M0  980228                 SEU SOURCE LISTING                          08/26/98 16:37:24
SOURCE FILE . . . . . .  CET/DDSSRC
MEMBER  . . . . . . . .  EXMP1V4R2
SEQNBR*...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+... 9 ...+... 0
  100       ************************************************************
  200       *
  300       * Description: Print a finishing example using the DDS code
  400       *              to define the drawers to pull from.  Bin 7 for a
  500       *              cover page and bin 1 for a regular sheet.
  600       *              The CRTPRTF command will include
  700       *              a parm to define the EDGESTITCH for the
  800       *              document.
  900       *
 1000       *  Create print file with the following options:
 1100       *
 1200       *      CRTPRTF   FILE(CET/EXMP1V4R2)  PAGESIZE(66 85) +
 1300       *                SRCFILE(CET/DDSSRC) SRCMBR(*FILE) +
 1400       *                DEVTYPE(*AFPDS) USRDFNDTA('EDGESTITCH(*LEFT +
 1500       *                *DEVD 2 (*DEVD))')
 1600       *
 1700       ************************************************************
 1800       *
 1900       * set up the cover sheet with no data on it.
 2000       *
 2100                 R RCD1                      ENDPAGE
 2200                                             DRAWER(7)
 2300                   FLD1          40A         POSITION(1.0 1.0)
 2400       *
 2500       * Pull regular sheets from drawer 1
 2600       *
 2700                 R RCD2                      DRAWER(1)
 2800                   FLD2          40A        1SKIPB(5)
                               * * * *  E N D  O F  S O U R C E  * * * *
```

Figure 47. Sample DDS Source (EXMP1V4R2)

Sample Printer File

Figure 48 through Figure 50 on page 63 show the printer file for “Edge-Stitched Document with Front Cover” on page 63.

```
 5716SS1 V4R2M0  980228              Display File Description
   File  . . . . . . . . . . . : EXMP1V4R2
     Library . . . . . . . . . : CET
   Type of information . . . . : *ALL
   File attributes . . . . . . : *PRTF
   System  . . . . . . . . . . : *LCL
   Processor . . . . . . . . . : IBM AS/400 Display File Description Processor
 File . : EXMP1V4R2    Library . : CET          Type of file . : Printer
                                  Device File Attributes
   Externally described file . . . . . . . . . :            Yes
   File level identifier . . . . . . . . . . . :            0980826152036
   Creation date . . . . . . . . . . . . . . . :            08/26/98
   Text 'description'  . . . . . . . . . . . . : TEXT       Finishing example 1 - no formdef
   Spool the data  . . . . . . . . . . . . . . : SPOOL      *YES
   Maximum devices . . . . . . . . . . . . . . :              1
   User specified DBCS data  . . . . . . . . . : IGCDTA     *NO
   DBCS capable  . . . . . . . . . . . . . . . :            No
   Maximum file wait time  . . . . . . . . . . : WAITFILE   *IMMED
   Share open data path  . . . . . . . . . . . : SHARE      *NO
   Record format level check . . . . . . . . . : LVLCHK     *YES
   Number of record formats  . . . . . . . . . :               2
   User buffer length  . . . . . . . . . . . . :              40
   Number of devices . . . . . . . . . . . . . :               1
   Separate indicator area . . . . . . . . . . : INDARA     No
 Printer Attributes
   Device  . . . . . . . . . . . . . . . . . . : DEV        *JOB
   Printer device type . . . . . . . . . . . . : DEVTYPE    *AFPDS
   Page size                                     PAGESIZE
     Length  . . . . . . . . . . . . . . . . . :                66
     Width . . . . . . . . . . . . . . . . . . :               132
     Measurement Method  . . . . . . . . . . . :            *ROWCOL
   Lines per inch  . . . . . . . . . . . . . . : LPI        6
   Characters per inch . . . . . . . . . . . . : CPI        10
   Front margin  . . . . . . . . . . . . . . . : FRONTMGN   *DEVD
   Back margin . . . . . . . . . . . . . . . . : BACKMGN    *FRONTMGN
   Overflow line number  . . . . . . . . . . . : OVRFLW      60
   Fold records  . . . . . . . . . . . . . . . : FOLD       *NO
   Degree of page rotation . . . . . . . . . . : PAGRTT     *AUTO
   Hardware justification  . . . . . . . . . . : JUSTIFY      0
   Print on both sides . . . . . . . . . . . . : DUPLEX     *NO
   Defer Write . . . . . . . . . . . . . . . . : DFRWRT     *YES
   Unprintable character action                  RPLUNPRT
     Replace character . . . . . . . . . . . . :            *YES
     Replacement character . . . . . . . . . . :            ' '   X'40'
```

Figure 48. Sample Printer file, Sheet 1

```
    Replacement character . . . . . :            ' '   X'40'
  Print text  . . . . . . . . . . . . . . : PRTTXT     *JOB
  Align page  . . . . . . . . . . . . . . : ALIGN      *NO
  Control character . . . . . . . . . . . : CTLCHAR    *NONE
  Channel values  . . . . . . . . . . . . : CHLVAL     *NORMAL
  Fidelity . . . . . . . . . . . . . . . . : FIDELITY   *CONTENT
5716SS1 V4R2M0  980228              Display File Description
File . : EXMP1V4R2    Library . : CET          Type of file . : Printer
                                  Device File Attributes
  Printer quality . . . . . . . . . . . . : PRTQLTY    *STD
  Form feed . . . . . . . . . . . . . . . : FORMFEED   *DEVD
  Source drawer . . . . . . . . . . . . . : DRAWER     1
  Output bin  . . . . . . . . . . . . . . : OUTBIN     *DEVD
  Font                                      FONT
    Identifier  . . . . . . . . . . . . . :            *CPI
    Point size  . . . . . . . . . . . . . :            *NONE
  Character identifier  . . . . . . . . . : CHRID      *DEVD
  Decimal format  . . . . . . . . . . . . : DECFMT     *JOB
  Font character set  . . . . . . . . . . : FNTCHRSET  *FONT
  Coded font . . . . . . . . . . . . . . . : CDEFNT     *FNTCHRSET
  Table Reference Characters  . . . . . . : TBLREFCHR  *NO
  AFP Chars . . . . . . . . . . . . . . . : AFPCHARS   *NONE
  Page definition . . . . . . . . . . . . : PAGDFN     *NONE
  Form definition . . . . . . . . . . . . : FORMDF     *NONE
  Form type . . . . . . . . . . . . . . . : FORMTYPE   *STD
  Pages per side  . . . . . . . . . . . . : MULTIUP    1
  Reduce output . . . . . . . . . . . . . : REDUCE     *TEXT
  Unit of measure . . . . . . . . . . . . : UOM        *INCH
  Front side overlay  . . . . . . . . . . : FRONTOVL   *NONE
  Back side overlay . . . . . . . . . . . : BACKOVL    *FRONTOVL
  DBCS extension characters . . . . . . . : IGCEXNCHR  *YES
  DBCS character rotation . . . . . . . . : IGCCHRRTT  *NO
  DBCS characters per inch  . . . . . . . : IGCCPI     *CPI
  DBCS SO/SI spacing  . . . . . . . . . . : IGCSOSI    *YES
  DBCS Coded font . . . . . . . . . . . . : IGCCDEFNT  *SYSVAL
5716SS1 V4R2M0  980228              Display File Description
File . : EXMP1V4R2    Library . : CET          Type of file . : Printer
                                   Spooling Description
  Spooled output queue  . . . . . . . . . : OUTQ       *JOB
  Max spooled output records  . . . . . . : MAXRCDS        100000
  Spooled output schedule . . . . . . . . : SCHEDULE   *FILEEND
  Copies  . . . . . . . . . . . . . . . . : COPIES       1
  Page range to print                       PAGERANGE
    Starting page . . . . . . . . . . . . :                    1
    Ending page . . . . . . . . . . . . . :            *END
  File separators . . . . . . . . . . . . : FILESEP      0
  Hold spooled file . . . . . . . . . . . : HOLD       *NO
  Save spooled file . . . . . . . . . . . : SAVE       *NO
  Output priority (on OUTQ) . . . . . . . : OUTPTY     *JOB
  User data . . . . . . . . . . . . . . . : USRDTA     *SOURCE
  Spool file owner  . . . . . . . . . . . : SPLFOWN    *CURUSRPRF
                                                       *NONE
```

Figure 49. Sample Printer file, Sheet 2

```
  User defined option . . . . . . . . . . . . . : USRDFNOPT
  User defined data . . . . . . . . . . . . . . : USRDFNDTA  EDGESTITCH(*LEFT *
DEVD 2 (*DEVD))
  User defined object                             USRDFNOBJ
    Object  . . . . . . . . . . . . . . . . . . :            *NONE
      Library . . . . . . . . . . . . . . . . . :
    Object type . . . . . . . . . . . . . . . . :
5716SS1 V4R2M0  980228               Display File Description
File . : EXMP1V4R2    Library . : CET          Type of file . : Printer
                                      Record Format List
                     Record  Format Level               Point  Page       Lines     Character Size
Format       Fields  Length  Identifier      Font       Size   Rotation   Per Inch  Width   Height
RCD1              1      40   157093531C1C7
   Text . . . :
RCD2              1      40   157093632C1C7
   Text . . . :
   Total number of formats  . . . . . . . . . :           2
   Total number of fields . . . . . . . . . . :           2
   Total record length  . . . . . . . . . . . :          80
```

Figure 50. Sample Printer file, Sheet 3

Edge-Stitched Document with Front Cover

Figure 51 shows a cover page that is placed in the finisher insert or input tray and the document from the printer being stapled.

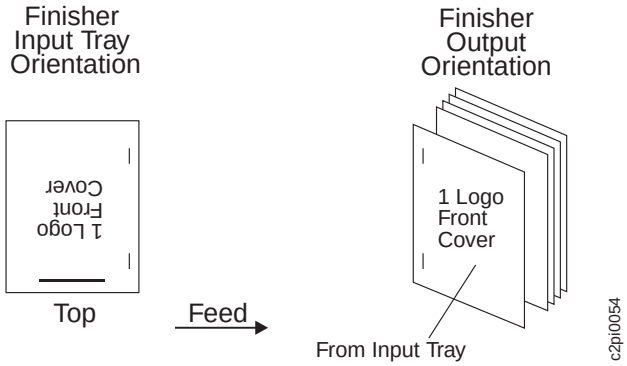

Figure 51. Edge-Stitched Document with Front Cover

This example selects the front cover from the insert tray (bin 7) and selects the remainder of the document from bin 1. The complete source code for this example is shown in “AS/400 Finisher Examples” on page 57. The entire document is stapled on the left edge with two staples.

DDS Source

Use the DDS keyword DRAWER to select the appropriate input bin. Figure 52 on page 64 shows the DDS source.

```
5769PW1 V4R2M0  980228                 SEU SOURCE LISTING                          08/26/98 16:37:24
SOURCE FILE . . . . . .  CET/DDSSRC
MEMBER  . . . . . .  EXMP1V4R2
SEQNBR*...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+... 9 ...+... 0
  100       ************************************************************
  200       *
  300       * Description: Print a finishing example using the DDS code
  400       *              to define the drawers to pull from.  Bin 7 for a
  500       *              cover page and bin 1 for a regular sheet.
  600       *              The CRTPRTF command will include
  700       *              a parm to define the EDGESTITCH for the
  800       *              document.
  900       *
 1000       *  Create print file with the following options:
 1100       *
 1200       *      CRTPRTF   FILE(CET/EXMP1V4R2)  PAGESIZE(66 85) +
 1300       *                SRCFILE(CET/DDSSRC) SRCMBR(*FILE) +
 1400       *                DEVTYPE(*AFPDS) USRDFNDTA('EDGESTITCH(*LEFT +
 1500       *                *DEVD 2 (*DEVD))')
 1600       *
 1700       ************************************************************
 1800       *
 1900       * set up the cover sheet with no data on it.
 2000       *
 2100                 R RCD1                      ENDPAGE
 2200                                             DRAWER(7)
 2300                   FLD1          40A         POSITION(1.0 1.0)
 2400       *
 2500       * Pull regular sheets from drawer 1
 2600       *
 2700                 R RCD2                      DRAWER(1)
 2800                   FLD2          40A        1SKIPB(5)
                               * * * *  E N D  O F  S O U R C E  * * * *
```

Figure 52. Edge-Stitched Document with Front Cover - DDS Source

CRTPRTF Command

Specify the EDGESTITCH parameter in the USRDFNDTA parameter.

```
CRTPRTF   FILE(CET/EXMP1V4R2)  PAGESIZE(66 85) +
          SRCFILE(CET/DDSSRC) SRCMBR(*FILE) +
          DEVTYPE(*AFPDS) +
          USRDFNDTA('EDGESTITCH(*LEFT *DEVD 2 (*DEVD))')
```

Program Source

Figure 53 on page 65 shows the code fragment for the cover sheet being pulled from bin 7 by using the RCD1 record format. No data is written with this format; its purpose is to pull the cover sheet. The application data is written using the RCD2 record format, which pulls paper from bin 1.

```
...
...
...
/*********************************************************************/
/* Write a null string using RCD1.  This will pull a sheet from the */
/* insert bin.  In this case, the insert bin is bin 7.               */
/*                                                                   */
/*********************************************************************/
PUT("",
  "RCD1      ",fp);
/*********************************************************************/
/* Write application data using RCD2.  This pulls from bin 1.       */
/*********************************************************************/
PUT("This is a data page.",
  "RCD2      ",fp);
```

Figure 53. Cover Sheet AS/400

Edge-Stitched Document with Tabbed Inserts

Figure 54 shows a document that has tabs. The tabs are placed in the insert tray of the finisher.

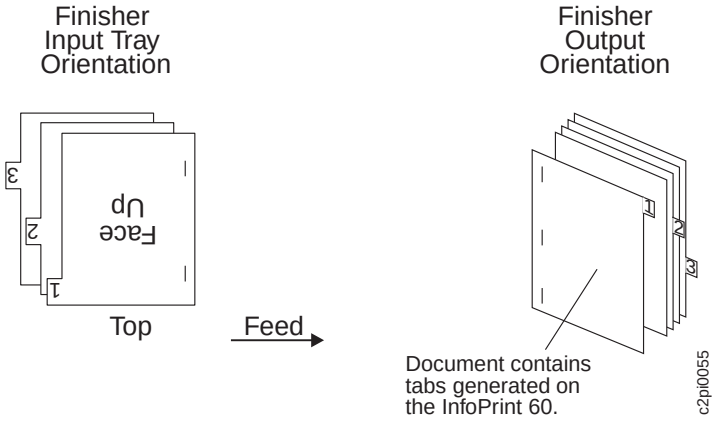

Figure 54. Edge-Stitched Document with Tabbed Inserts

This example selects the tabbed inserts from the insert tray (bin 7) and selects the document pages from bin 1. The entire document is stapled on the left edge with three staples.

DDS Source

Use the DDS keyword DRAWER to select the appropriate input bin. Figure 55 on page 66 shows the DDS source.

```
5769PW1 V4R2M0  980228                  SEU SOURCE LISTING                          08/26/98 16:37:24
SOURCE FILE . . . . . .  CET/DDSSRC
MEMBER  . . . . . .  EXMP1V4R2
SEQNBR*...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+... 9 ...+... 0
  100       ************************************************************
  200       *
  300       * Description: Print a finishing example using the DDS code
  400       *              to define the drawers to pull from.  Bin 7 for a
  500       *              cover page and bin 1 for a regular sheet.
  600       *              The CRTPRTF command will include
  700       *              a parm to define the EDGESTITCH for the
  800       *              document.
  900       *
 1000       *  Create print file with the following options:
 1100       *
 1200       *      CRTPRTF   FILE(CET/EXMP1V4R2)  PAGESIZE(66 85) +
 1300       *                SRCFILE(CET/DDSSRC) SRCMBR(*FILE) +
 1400       *                DEVTYPE(*AFPDS) USRDFNDTA('EDGESTITCH(*LEFT +
 1500       *                *DEVD 3 (*DEVD))')
 1600       *
 1700       ************************************************************
 1800       *
 1900       * set up the cover sheet with no data on it.
 2000       *
 2100                 R RCD1                      ENDPAGE
 2200                                             DRAWER(7)
 2300                   FLD1          40A         POSITION(1.0 1.0)
 2400       *
 2500       * Pull regular sheets from drawer 1
 2600       *
 2700                 R RCD2                      DRAWER(1)
 2800                   FLD2          40A        1SKIPB(5)
                               * * * *  E N D  O F  S O U R C E  * * * *
```

Figure 55. Edge-Stitched Document with Tabbed Inserts, DDS Source

CTRTPRTF Command

Specify the EDGESTITCH parameter in the USRDFNDTA parameter.

```
CRTPRTF   FILE(CET/EXMP1V4R2)  PAGESIZE(66 85) +
          SRCFILE(CET/DDSSRC) SRCMBR(*FILE) +
          DEVTYPE(*AFPDS) +
          USRDFNDTA('EDGESTITCH(*LEFT *DEVD 3 (*DEVD))')
```

Program Source

Figure 56 on page 67 shows the code fragment for tabbed inserts being pulled from bin 7 by using the RCD1 record format. No data is written with this format; its purpose is to pull tabbed inserts. The application data is written using the RCD2 record format, which pulls paper from bin 1.

```
   ...
   ...
   ...
/*********************************************************************/
/* Write a null string using RCD1.  This will pull a tabbed insert  */
/*********************************************************************/
PUT("",
  "RCD1      ",fp);
/*********************************************************************/
/* Write application data using RCD2.  This pulls from bin 1.       */
/*********************************************************************/
PUT("This is a data page.",
  "RCD2      ",fp);
/*********************************************************************/
/* Pull another tabbed insert.                                       */
/*********************************************************************/
PUT("",
  "RCD1      ",fp);
/*********************************************************************/
/* Write some more application data using RCD2.                      */
/*********************************************************************/
PUT("This is another data page.",
  "RCD2      ",fp);
```

Figure 56. Edge-Stitched Document with Tabbed Inserts, Program Source

Edge-Stitched Document with Z-Folded Sheets

Figure 57 shows a document that is stapled with z-folded sheets.

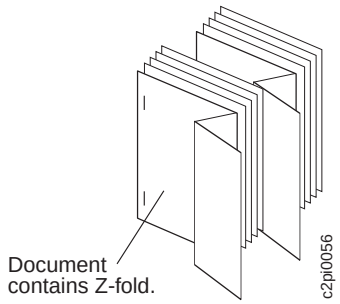

Figure 57. Edge-Stitched Document with Z-Folded Sheets

Z-fold is only supported using the form definition. This example shows how to use the INVMMAP DDS keyword to switch between media maps (copy groups) within the form definition.

Form Definition Source

Use the form definition in “Edge-Stitched Document with Z-Folded Sheets” on page 91 to create the F1FEZ010 form definition.

DDS Source

Figure 58 on page 68 shows the DDS source.

```
5769PW1 V4R2M0  980228                  SEU SOURCE LISTING                          08/26/98 21:06:03
SOURCE FILE . . . . . .  CET/DDSSRC
MEMBER  . . . . . .  EXMP3V4R2
SEQNBR*...+... 1 ...+... 2 ...+... 3 ...+... 4 ...+... 5 ...+... 6 ...+... 7 ...+... 8 ...+... 9 ...+... 0
  100       ************************************************************
  200       *
  300       *  Description: Print a finishing example using the formdef
  400       *               F1FEZ010 to define the copy groups for a ZFOLD
  500       *               page and regular pages.
  600       *
  700       *               Copy group ZFOLDPGS will draw sheets from bin 3.
  800       *               Copy group DOCPAGES will draw sheets from bin 1.
  900       *
 1000       *  Create printer file with the following options:
 1100       *
 1200       *      CRTPRTF   FILE(CET/EXMP3V4R2) PAGESIZE(66 85) +
 1300       *                SRCFILE(CET/DDSSRC) SRCMBR(*FILE) +
 1400       *                FORMDF(CET/F1FEZ010) DRAWER(*FORMDF) +
 1500       *                DUPLEX(*FORMDF) DEVTYPE(*AFPDS)
 1600       *
 1700       ************************************************************
 1800       *
 1900       * Invoke the copygroup to put out a ZFOLD sheet
 2000       *
 2100                 R RCD1                      ENDPAGE
 2200                                             INVMMAP(ZFOLDPGS)
 2300                   FLD1          80A         POSITION(1.0 1.0)
 2400       *
 2500       * Invoke the copygroup to put out regular sheets
 2600       *
 2700                 R RCD2                      ENDPAGE
 2800                                             INVMMAP(DOCPAGES)
 2900                   FLD2          80A         POSITION(1.0 1.0)
                              * * * *  E N D  O F  S O U R C E  * * * *
```

Figure 58. Edge-Stitched Document with Z-Folded Sheets, DDS Source

CRTPRTF Command

Specify the CRTPRT command for the F1JOB003 form definition. Note also that the DRAWER and DUPLEX parameters are set to *FORMDF:

```
CRTPRTF   FILE(CET/EXMP3V4R2) PAGESIZE(66 85) +
          SRCFILE(CET/DDSSRC) SRCMBR(*FILE) +
          FORMDF(CET/F1FEZ010) DRAWER(*FORMDF) +
          DUPLEX(*FORMDF) DEVTYPE(*AFPDS)
```

Program Source

Figure 59 on page 69 shows the code fragment from the application program writing data to Z-folded sheets using record format RCD1 and writing data to regular sheets using record format RCD2.

```
...
...
PUT("This is a Z-fold page, using copy group ZFOLDPGS",
  "RCD1      ",fp);
PUT("This is a data page, using copy group DOCPAGES",
  "RCD2      ",fp);
PUT("This is another Z-fold page, using copy group ZFOLDPGS",
  "RCD1      ",fp);
PUT("This is a another data page, using copy group DOCPAGES",
  "RCD2      ",fp);
```

Figure 59. Edge-Stitched Document with Z-Folded Sheets, Program Source Fragment

Saddle-Stitched 2-UP Document

Figure 60 shows the document that uses A4 or ledger paper that is saddle-stitched.

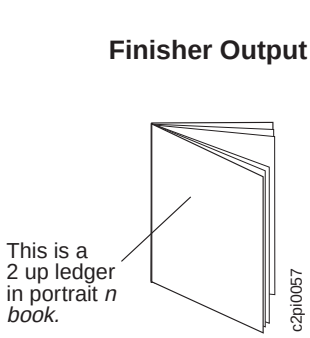

Figure 60. Saddle-Stitched 2-UP Document

This example uses only the printer file. It assumes that drawer two of the printer is loaded with ledger size paper. This example will produce a 2-up duplex document that is saddle-stitched. The application programmer is responsible for writing the data in the correct order. That is:

- 1st page encountered is the last document page
- 2nd page encountered is page 1 of the document
- 3rd page encountered is page 2 of the document
- 4th page encountered is the next to the last document page
- 5th page encountered is page 3rd from the last document page
- 6th page encountered is page 3 of the document
- 7th page encountered is page 4 of the document
- 8th page encountered is the 4th from the last document page
- And so forth in groups of four or less

DDS Source

This example does not use DDS.

CRTPRTF Command

Specify the following on the CRTPRTF command:

```
DEVTYPE(*AFPDS) MULTIUP(2) REDUCE(*NONE)
DUPLEX(*YES)
DRAWER(2)
USRDFNDTA('SADLSTITCH(*DEVD *DEVD (*DEVD))')
```

Program Source

There is no unique program source for this example.

Note: The application programmer is responsible for writing the data in the correct order so that the completed booklet reads correctly.

Edge-Stitched on Right

Figure 61 shows a document that is stapled on the right.

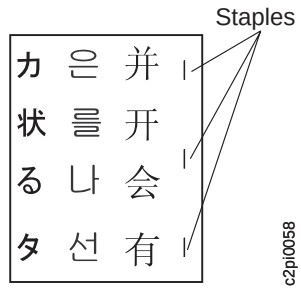

Figure 61. Edge-Stitched on Right

This example uses only the printer file. It produces a document with edge stitching on the right.

DDS Source

This example does not use DDS.

CRTPRTF Command

Specify the following on the CRTPRTF command:

```
USRDFNDTA('EDGESTITCH(*RIGHT *DEVD 3 (*DEVD))')
```

Program Source

There is no unique program source for this example.

Top Left Corner Staple

Figure 62 shows the document with the top left corner stapled.

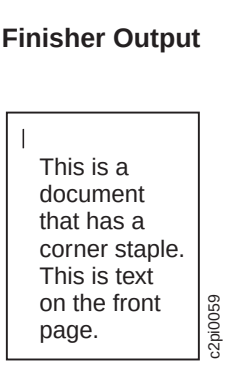

Figure 62. Top Left Corner Staple

DDS Source

This example does not use DDS.

CRTPRTF Command

Specify the following on the CRTPRTF command:

```
USRDFNDTA('CORNERSTPL(*TOPLEFT)')
```

Program Source

There is no unique source for this example.

Edge-Stitch 2 Left

Figure 63 shows a document that has two staples on the left side.

Finisher Output

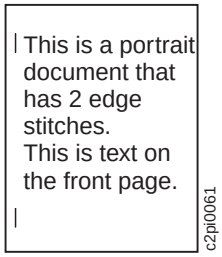

Figure 63. Edge-Stitch 2 Left

DDS Source

This example does not use DDS.

CRTPRTF Command

Specify the following on the CRTPRTF command:

```
USRDFNDTA('EDGESTITCH(*LEFT *DEVD 2 (*DEVD))')
```

Program Source

There is no unique program source for this example.

Z-Fold 2-UP Sheets

Figure 64 shows a z-folded document that has been printed 2-up.

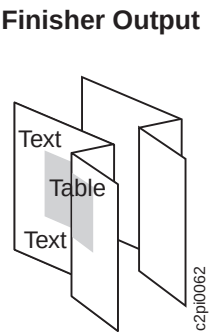

Figure 64. Z-Fold 2-UP Sheets

DDS Source

Since all sheets are to be z-folded, the form definition does not contain multiple copy groups. This eliminates the need to write any DDS to switch between copy groups.

CRTPRTF Command

```
CRTPRTF   FILE(CET/EXMP8V4R2) PAGESIZE(66 85) +
          FORMDF(CET/F1FZ0030) DRAWER(*FORMDF)+
          DUPLEX(*FORMDF) DEVTYPE(*AFPDS)
```

Program Source

There is no unique program source for this example.

Chapter 5. Form Definition and PPFA

This chapter explains the basic terms of PPFA and contains examples using form definitions.

Be sure you have read “Chapter 1. InfoPrint 60 Finisher Introduction” on page 1 before you use this chapter.

A *form definition* (FORMDEF) is the PSF resource that specifies the physical attributes of the printed output. The word *form* refers to a sheet of paper or any other print medium.

You can specify a form definition with every print file that goes to an AFP printer. For information about using form definitions in your environment see “Chapter 2. Printing with InfoPrint Manager” on page 13, “Chapter 3. Printing with PSF/MVS” on page 49, or “Chapter 4. Printing with AS/400” on page 53.

For InfoPrint Manager PPFA can be installed on the MPC server at installation. Form definitions are shipped with the InfoPrint Manager.

A form definition contains printing controls that specify these types of information:

- Page origin
- Medium overlays to be included
- Paper source (bin number)
- Number of copies of each page to be printed
- Simplex or duplex printing
- Page rotation
- Finishing information

PPFA (Page Printer Formatting Aid) is the IBM software product that builds form definitions in all environments that support the finisher attachment. If you are already familiar with the use of PPFA, you can skip to “New Form Definition Commands for Finishing” on page 82. The next sections explain PPFA and familiarize you with some terms you need to know to create or modify form definitions.

Page Printer Formatting

Do these steps to use form definitions that PPFA creates:

1. Create the form definition source to position the data and define the processing.

   Note: The correct paper must be installed in each bin used. If the paper size is not correct, the print job may not print or you will not receive the correct output.
2. Run PPFA on the form definition to generate the objects you store in a library.

For additional information see:

- `http://www.printers.ibm.com --> Tech Support --> Manuals`
- *IBM Page Printer Formatting Aid: User’s Guide*, S544-5284

PPFA Concepts

The concepts of physical page and logical page are basic to understanding form-definition controls.

Physical Page

A *physical page* is the sheet of paper (form) or other medium (for example, a sheet of labels) that moves through the printer.

Logical Page

A *logical page* is the area you define in a PPFA command stream as the space on the physical page where data is printed. The logical page is positioned in relation to the *media origin*. For more information about the media origin of your printer, see your printer documentation or the *Advanced Function Presentation: Printer Information*, G544-3290. The positioning of the logical page on the sheet of paper is described in “Positioning a Logical Page on a Sheet” on page 78.

PPFA Basic Terms

Direction

In PPFA, *direction* refers to the orientation of text in pages, printlines, and fields on a sheet of paper. Direction is defined as the orientation of the text *baseline direction* relative to the origin of the physical sheet of paper. The *baseline* is the imaginary line on which successive characters are aligned in a line of text.

There are four logical text directions: ACROSS, DOWN, BACK, and UP relative to the media origin of the sheet of paper. Baseline and inline direction are shown in Figure 65 on page 77. A print direction is a combination of both inline and baseline directions. For each of the directions, characters can be printed in four rotations.

The line direction is the direction in which successive characters are added to a line of text. The four line directions are:

ACROSS

Text characters are placed in a line from left to right across the page.

DOWN

Text characters are placed in a line from top to bottom down the page.

BACK

Text characters are placed in a line from right to left across the page.

UP

Text characters are placed in a line from bottom to top up the page.

The baseline direction is the direction in which successive lines of text are added to a page. The four character rotations, measured clockwise around each inline direction, for each line direction are:

0°

90°

180°

270°

For example, the text in this paragraph is printed ACROSS the page, and its character rotation is 0°.

Figure 65 shows the four possible directions.

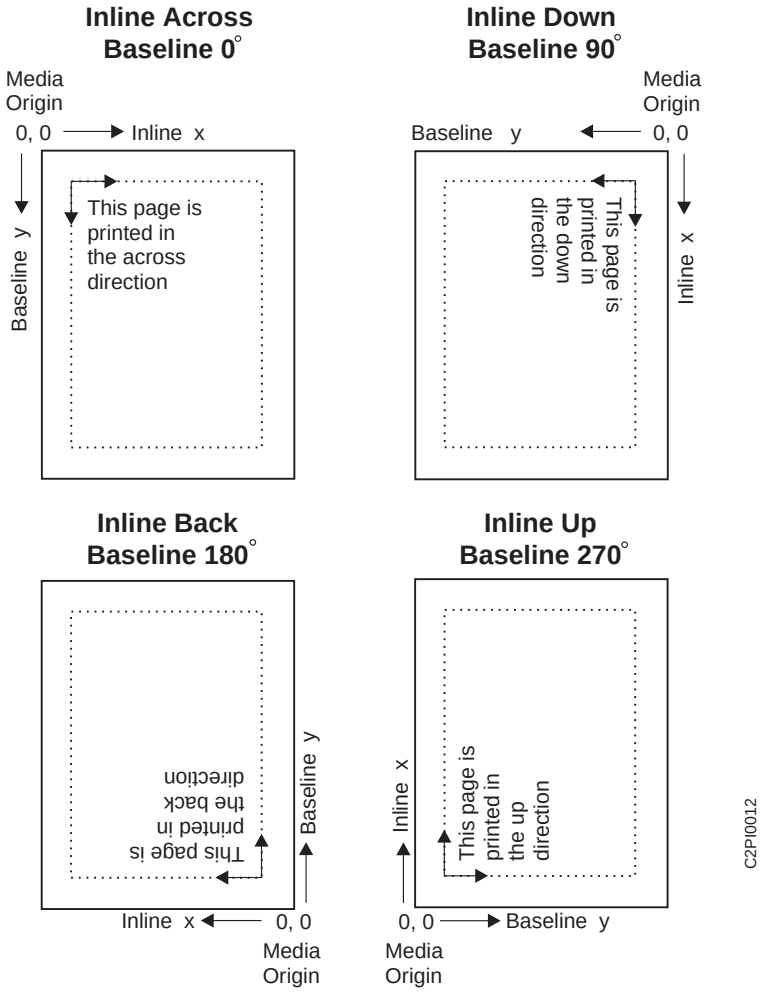

Figure 65. Baseline Direction and Inline Direction

Presentation

Presentation describes the shape of the page as the reader views it. Portrait and Landscape Presentations (Figure 66 on page 78) shows an example of how text is presented (positioned) on the page. The two page presentations are:

Portrait
Designed to be viewed with the short side at the top of the page.

Landscape
Designed to be viewed with the long side at the top of the page.

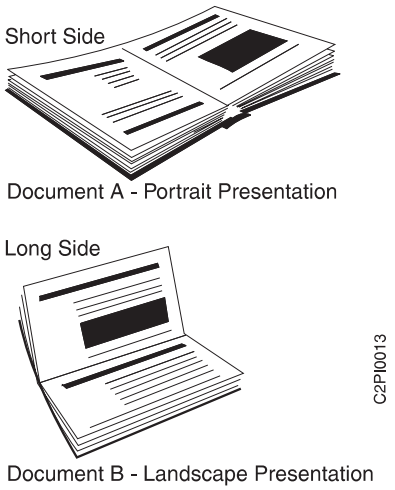

Figure 66. Portrait and Landscape Presentations

N_UP Partitions

Some printers allow the physical sheet of paper to be divided into equal-sized partitions. For two or three partitions, each sheet is divided along one or two lines equally spaced along the longer side of the sheet. The printer will position a logical page of print data in each partition. This lets you print multiple logical pages with different formats and modifications on a single sheet of paper.

The size and arrangement of the partitions on the sheet depends on the number of partitions and the shape and size of the paper. For two or three partitions, each sheet is divided at two or three points equally spaced along the longer side of the sheet. For four partitions, each sheet is equally divided both vertically and horizontally.

Positioning a Logical Page on a Sheet

The example in this section shows how the OFFSET subcommand is used to position the logical page on the physical sheet. A logical page is the area on a sheet of paper where all printing occurs. You establish the *logical page origin*, the point nearest the media origin, with the OFFSET subcommand. The OFFSET subcommand requires two coordinates and may have four. The first *x* and *y* coordinate defines the position on the front of the sheet, and the second *x* and *y* coordinate defines the position on the back of the sheet. A sample form definition that specifies the logical page position for a simplex sheet is:

```
FORMDEF ABCD
        OFFSET 1 IN 1 IN ;
```

Note: The 1 IN 1 IN is an abbreviation for 1 INCH 1 INCH. PPFA supports a number of different units of measurement formats.

The example places the logical page origin one inch to the right of and one inch down from the media origin.

Origin of Logical Pages (Figure 67 on page 79), shows the meaning of the *x* and *y* coordinates. In writing an OFFSET subcommand, the first parameter specifies *x*; the second parameter specifies *y*. If the *x* and *y* are repeated for the offset of the back side of the physical page, the same applies. The *x* defines the horizontal offset; the *y* defines the vertical offset. In this example, the logical text direction is ACROSS. The arrows within the logical page indicate the inline direction for text on the page. The lines of text are added according to the baseline direction.

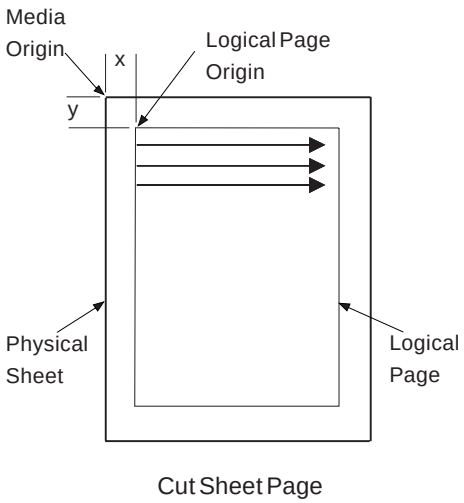

Figure 67. Origin of Logical Pages

OFFSET Subcommand with Rotated Print Direction

Meaning of OFFSET (Figure 68) shows that the media origins and logical page origins do not change when the print direction of the page changes, although the way you view the page does change. The arrows within the logical page show the DOWN print direction-producing landscape page presentation.

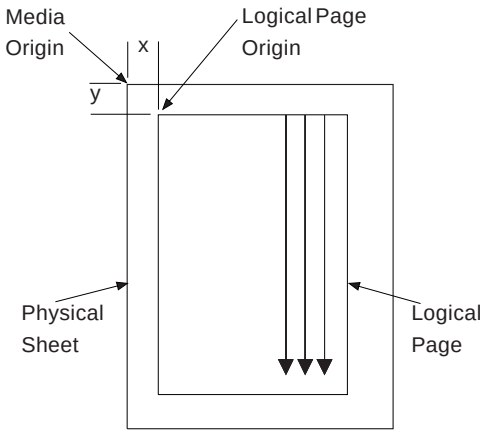

Figure 68. Meaning of OFFSET Parameters within a Landscape Page

Duplex Printing

Printing on both sides of a sheet (duplex printing) can be done in two ways: by the use of the FRONT and BACK subcommand combination or by the use of the BOTH subcommand. If you select FRONT and BACK, the number of copies requested for each must be the same.

Duplex Printing in Portrait and Landscape Presentations

Duplex printing with PPFA and PSF printers offers several other options. This example shows the combination of portrait and landscape presentations with normal and tumble duplex printing:

NORMAL and TUMBLE are parameters of a DUPLEX subcommand. For example, a form definition specifying DUPLEX NORMAL could be written this way:

```
FORMDEF ABCD ;
  COPYGROUP ABCD
            DUPLEX NORMAL ;
    SUBGROUP BOTH
             COPIES 1 ;
```

Document A in Duplex Normal (Figure 69) shows the result of a DUPLEX NORMAL specification in the portrait presentation. Document B shows the result of the same form definition when a landscape presentation is specified. The printout in landscape presentation is really in a tumble-duplex format, having the tops (of the front side) and the bottoms (of the back side) of the logical pages toward the same edge of the sheet.

Although tumble duplex can be specified in this manner for landscape pages, another parameter, RTUMBLE (rotated tumble), exists to make the form definition look more sensible for use in landscape print jobs. It also produces the results shown in Figure 69, depending on whether the form definition called for portrait or landscape presentation. For landscape, the form definition should be written as follows:

```
FORMDEF ABCD
   PRESENT LANDSCAPE ;
  COPYGROUP ABCD
            DUPLEX RTUMBLE ;
    SUBGROUP BOTH
             COPIES 1 ;
```

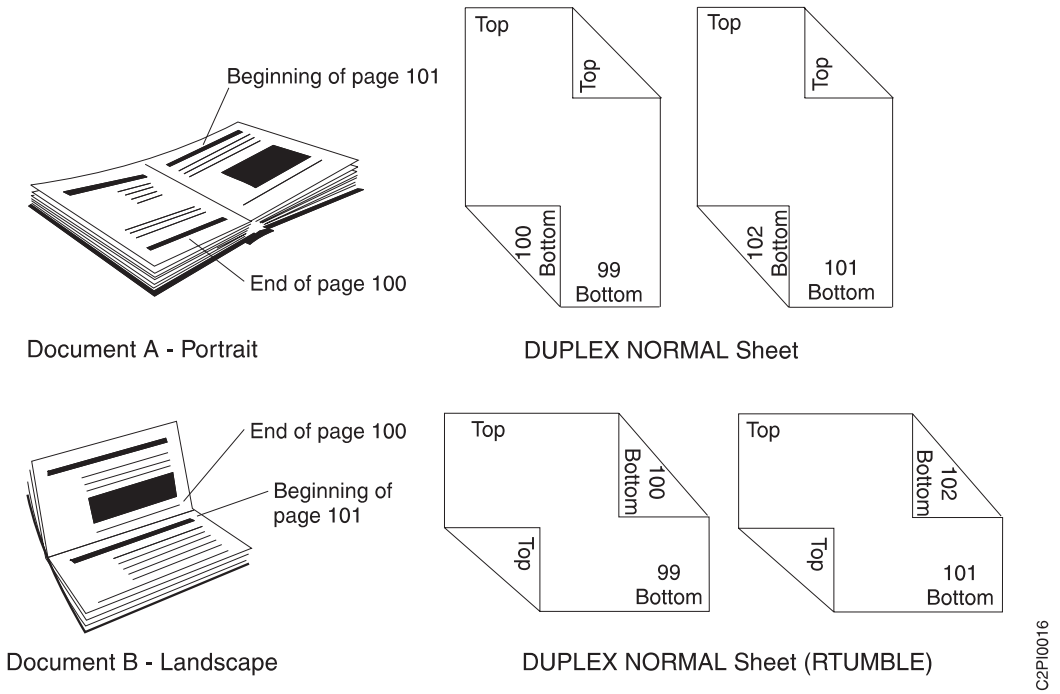

Figure 69. Duplex Normal: Portrait and Landscape Presentation

The DUPLEX NORMAL and DUPLEX RTUMBLE controls actually produce the same result on the physical page. RTUMBLE is used to maintain an association between duplex specifications and logical page print direction. The same relationship exists between the RNORMAL and the TUMBLE parameters as exists between the NORMAL and the RTUMBLE parameters; that is, within the two sets the terms are interchangeable.

For example, you could write a form definition using DUPLEX TUMBLE as follows:

```
FORMDEF DEFG ;
  COPYGROUP DEFG
            DUPLEX TUMBLE ;
    SUBGROUP BOTH
             COPIES 1 ;
```

Documents C and D in Result When Either TUMBLE or RNORMAL is Specified (Figure 70) are the results, depending on how page definition direction is specified to achieve either a portrait page or a landscape page.

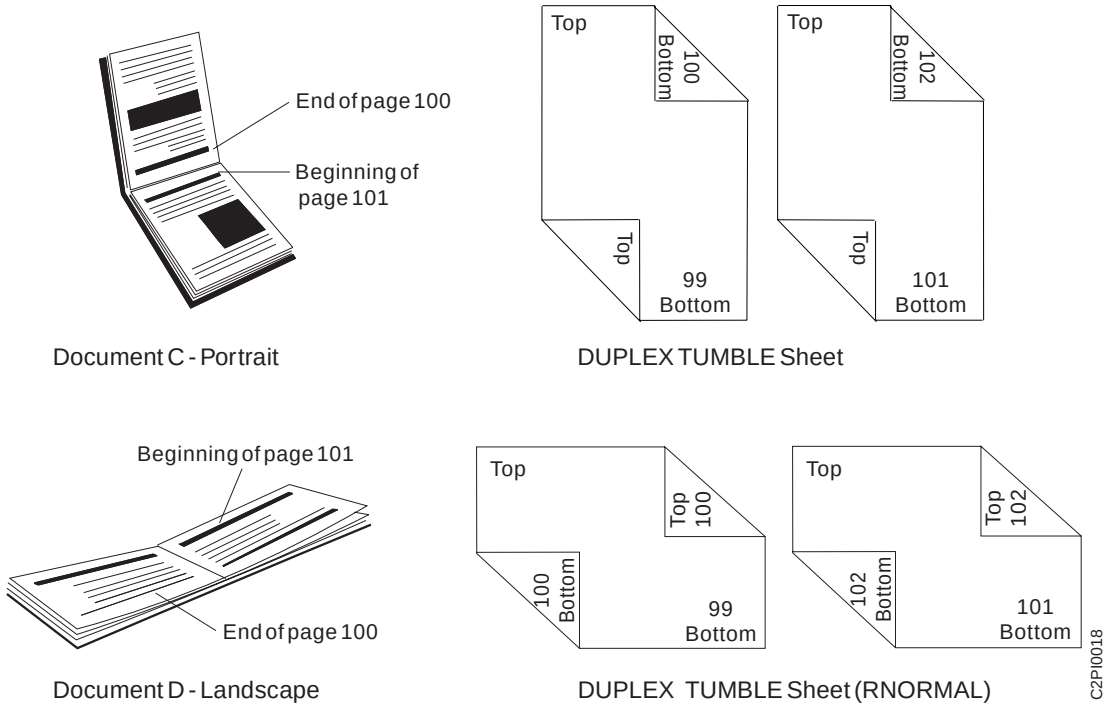

Figure 70. Result When Either TUMBLE or RNORMAL is Specified

Table 9. Duplex Specifications

If the form definition duplex specification is . . .	**and if the page definition direction is . . .**	**the duplex printing result is . . .**
DUPLEX NORMAL	ACROSS or BACK	normal duplex - portrait
DUPLEX RTUMBLE	DOWN or UP	tumble duplex - landscape
DUPLEX TUMBLE	ACROSS or BACK	tumble duplex - portrait
DUPLEX RNORMAL	DOWN or UP	normal duplex - landscape
Note: Other control combinations are not recommended.		

New Form Definition Commands for Finishing

These finishing operations are supported for the InfoPrint 60 finisher:

- On the FORMDEF command, these functions are allowed:
  1. CORNER: one staple is driven into the media at the REFERENCE corner.
  2. SADDLE: two staples are driven into the media along the finishing operation axis, which is positioned in the center of the media parallel to the reference edge.
  3. EDGE: two or three staples are driven into the media along the finishing operation axis.
- On the COPYGROUP command, these functions are allowed:
  1. ZFOLD: causes the sheet to first be folded in half inward (the front side of the sheet is now inside the fold) along a line parallel to the reference edge. The half of the sheet originally farthest from the reference edge is again folded in half outward along a line parallel to the reference edge. For example, when z-folding is applied to an 11 x 17 inch sheet with the reference edge along a short side, the result is an 8.5 x 11 inch fold-out.

FINISH Subcommand Syntax

Only the new parameters on the FORMDEF that are valid for the InfoPrint 60 finisher are shown below. For a complete description of the FORMDEF command, see the *PPFA User's Guide*, S544-5284.

```
FORMDEF fname
  ...
  FINISH
     SCOPE { PRINTFILE | ALL | n }
     OPERATION { CORNER | SADDLE | EDGE }
        REFERENCE { DEFAULT | TOPLEFT | TOPRIGHT | BOTRIGHT | BOTLEFT |
                            TOP | BOTTOM | RIGHT | LEFT }
        OPCOUNT n
  ... ;
```

Syntax Rules

- All subcommand fields are optional but, if coded, the parameters are required. (Finish subcommands are: SCOPE, OPERATION, REFERENCE, and OPCOUNT. All other fields in the syntax diagram are parameters.)
- Underlined fields are defaults.
- If REFERENCE is coded, OPERATION must also be coded and must precede it.
- CORNER requires a ″corner″ type REFERENCE (like TOPLEFT), while all other operations require an ″axis″ type REFERENCE (like TOP).

FINISH Subcommand Syntax with COPYGROUP Command

```
COPYGROUP cgname
  ...
   FINISH OPERATION { ZFOLD }
   ... ;
```

Syntax Rules

- ZFOLD is the only operation allowed. The implied scope of the operation is medium, meaning the entire copygroup.
- All subcommand fields are optional but, if coded, the parameters are required.
- Underlined fields are defaults.

Keyword and Parameter Definitions

OPERATION	Finishing operation type: • CORNER: one staple is driven into the media at the reference corner. For corner staples, the offset and angle of the staple from the selected corner is device-dependent. • SADDLE: two staples are driven into the media along the finishing operation axis, which is positioned at the center of the media parallel to the reference edge. • EDGE: two or three staples are driven into the media along the finishing operation axis. • ZFOLD: a z-fold operation is applied to the media along the finishing operation axis.
REFERENCE	Finishing operation reference corner and edge: • TOPLEFT: top-left corner (default for corner staple) • BOTRIGHT: bottom-right corner • TOPRIGHT: top-right corner • BOTLEFT: bottom-left corner • RIGHT: right edge • LEFT: left edge (default for long-edge fed edge stitch) • TOP: top edge (default for short-edge fed edge stitch) • BOTTOM: bottom edge • DEFAULT: device default edge or corner
OPCOUNT	Number of staples to place if using EDGE finishing. Valid values are 0, 2, or 3. The default is 0, which means to use the device default of 2 staples. OPCOUNT is only valid with EDGE finishing.
SCOPE	**PRINTFILE** means the specified finishing operations for this OPERATION subcommand are applied to the complete print file, excluding header pages, trailer pages, and message pages (print file consists of one or more documents). **ALL** means the specified finishing operations are applied to each documents individually (bounded by BDT/EDT) in the print file **n** means the finishing operation is applied to a specific document. **1** means apply the finishing operation to the **1**st document in print file, **2** is the **2**nd document, etc. The range of values is 1-32767.

FORMDEF Using Finishing

Here are a few examples of using finishing in your FORMDEF. For a list of the form definitions IBM supplies, see “Sample Form Definitions” on page 85.

- These examples are **valid**:

```
FINISH
FINISH SCOPE ALL
FINISH OPERATION CORNER
FINISH OPERATION CORNER REFERENCE TOPLEFT
FINISH SCOPE ALL OPERATION EDGE REFERENCE LEFT OPCOUNT 3
FINISH SCOPE 5
        OPERATION CORNER
          REFERENCE TOPLEFT
      SCOPE 9
        OPERATION EDGE
```

- These examples are **not valid**:

  –

```
FINISH OPERATION            (requires parameter for OPERATION)
FINISH SCOPE                (requires parameter for SCOPE)
FINISH SCOPE ALL            (REFERENCE precedes OPERATION)
      REFERENCE TOPLEFT
      OPERATION CORNER
FINISH OPERATION EDGE       (EDGE requires "axis" type REFERENCE,
      REFERENCE TOPLEFT     not a "corner" type)
```

Note:

1. FORMDEF Finishing notes:
   a. Default SCOPE is PRINTFILE, default OPERATION is CORNER, and default REFERENCE is DEFAULT.
   b. For saddle stitch operation, the staples are placed along the center of the media parallel to the reference edge.
   c. The finishing operation must be specified at least once, and may occur more than once. It specifies finishing operations to be applied to the collected media. If more than one finishing operation is specified, the operations are applied in the order in which they are specified.

      You cannot z-fold after stapling or saddle stitch after folding.
   d. For finishing, the top left corner is defined to be the default media origin. Changing the orientation of the medium presentation space does not change the finishing corners or edges. FINISH positions are not affected by DIRECTION or PRESENT values.
2. COPYGROUP Finishing notes:
   a. The default OPERATION is ZFOLD and the default REFERENCE is DEFAULT.
   b. The finishing OPERATION subcommand may be specified only once on a COPYGROUP.
   c. For the finishing operation, changing the orientation of the medium presentation space does not change the finishing position. For instance, the finishing reference edge (corner) is not affected by DIRECTION or PRESENT values.
   d. FINISH on the COPYGROUP command (for example, ZFOLD) is not supported on the AS/400 system.

Messages with Finisher

- **AKQ258W**

```
AKQ258W MORE THAN 122 OPERATION POSITIONS
       SPECIFIED FOR A FINISH OPERATION.
Explanation: More than 122 operation
finishing positions are specified.

System Action: Formdef will be generated with 122 operation
finishing positions. All others will be ignored.

User Response: Move extraneous operator position values.
```

- **AKQ260E**

```
  AKQ260E     CORNER  NOT ALLOWED ON COPYGROUP
  AKQ260E     ZFOLD   NOT ALLOWED ON FORMDEF

The following code:
  FINISH    OPERATION EDGE REFERENCE TOPLEFT
Yields this message:
  AKQ260E     TOPLEFT  NOT ALLOWED ON This OPERATION
Because the operation "EDGE" needs an "axis" type
reference ("LEFT" for example).

Explanation: An invalid combination of subcommands and parameters
is used on the FINISH subcommand or the incorrect FINISH OPERATION
is used on the FORMDEF or COPYGROUP command. For example - The ZFOLD
Operation is only valid on the COPYGROUP command.  It is not valid in
```

a FORMDEF command.

System Action: A formdef is not generated. The syntax check continues from a valid command.

User Response: Use the correct combination of commands and finishing subcommands and parameters.

Sample Form Definitions

IBM supplies form definitions with PSF that you can use as-is or that you can modify using PPFA to suit your environment. The naming conventions for the form definitions are:

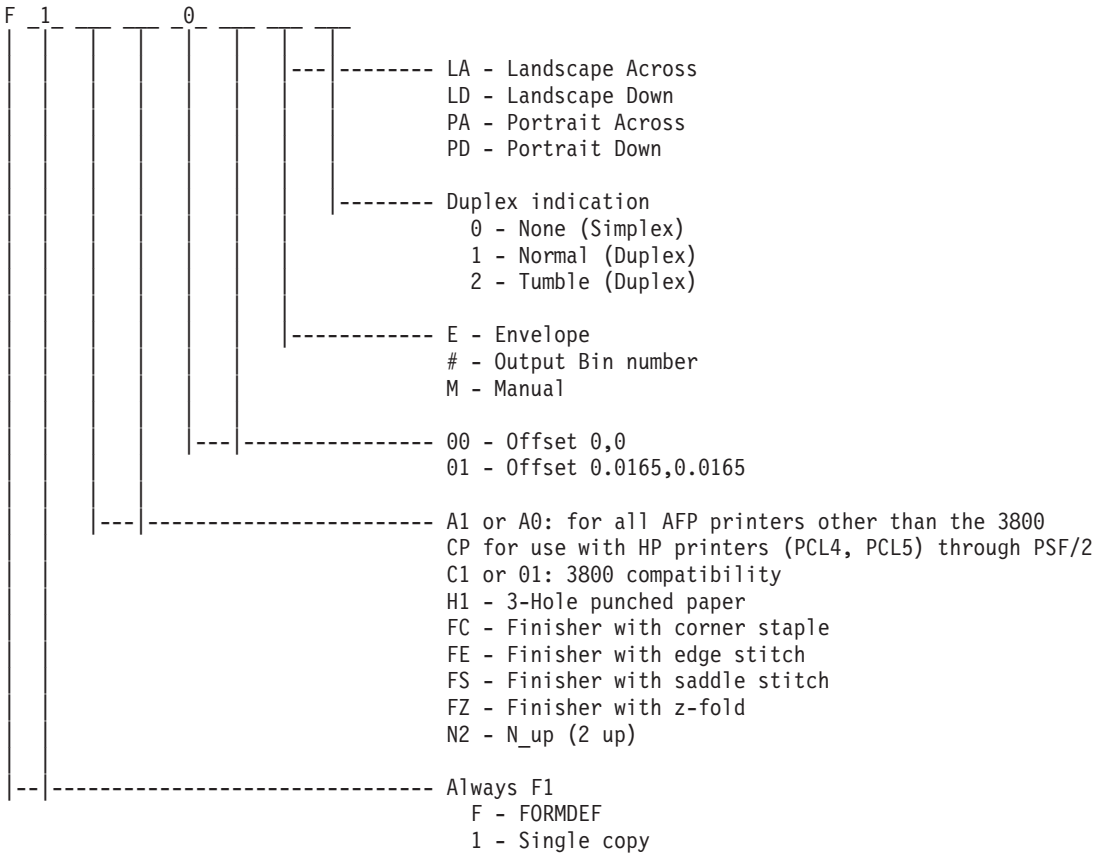

Figure 71. Form Definition Layout

You can obtain additional form definitions designed specifically for the InfoPrint 60 finisher from:

ftp.software.ibm.com/printers

The additional form definitions IBM supplies for the InfoPrint 60 finisher are:

```
F1FC0010  top left corner, bin 1, no duplex
F1FC0011  top left corner, bin 1, normal duplex
F1FC0012  top left corner, bin 1, tumble duplex
F1FE0010  left edge, bin 1, no duplex
F1FE0011  left edge, bin 1, normal duplex
F1FE0012  left edge, bin 1, tumble duplex
F1FS0010  saddle, bin 1, no duplex
F1FS0011  saddle, bin 1, normal duplex
```

```
F1FZ0030  z-fold from bin 3
F1FS2031  saddle stitch 2 up
F1FEC010  left edge stitch, cover sheet from bin 7
F1FEL010  2 left edge staples
F1FER010  3 right edge staples
F1FEZ010  edge stitch with z-fold sheets from bin 3
F1FZ1021  z-fold ledger 1 up landscape
F1FZ2021  z-fold ledger 2 up portrait
```

Finishing Examples

This section contains examples that show you how to use a printer file and form definitions to perform various finishing operations.

Edge-Stitched Document with Front Cover

This example shows a cover page that is placed in the finisher insert or input tray and the document from the printer being stapled.

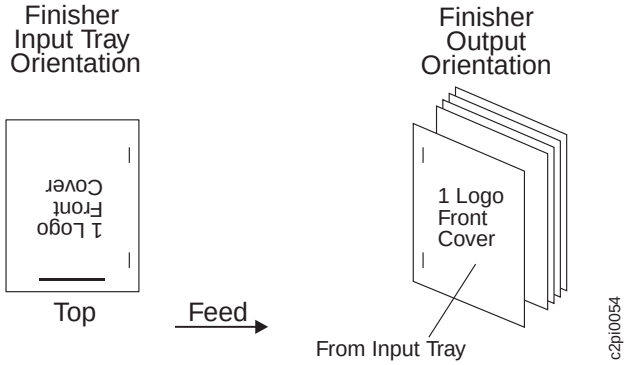

Figure 72. Edge-Stitched Document with Front Cover

The PPFA source code for the form definition follows:

```
------------------------------------------------
------------------------------------------------
FORMDEF FEC010  REPLACE YES
   FINISH SCOPE ALL
   OPERATION EDGE REFERENCE LEFT OPCOUNT 2;

/*************************************************/
COPYGROUP COVERPAG
  DUPLEX NO
  CONSTANT FRONT
  BIN 7;

COPYGROUP DOCPAGES
   BIN 1;
------------------------------------------------
------------------------------------------------
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. To instruct the printer to pull the cover sheet from the finisher inserter tray (bin 7) and to pull the document pages from the printer main input tray (bin 1), you need to change copy groups in the AFP document that you are printing. Changing copy groups depends on how your document is produced:
   - For a SCRIPT document, use the .CG control word to select a different copy group for the first page and subsequent pages in the document:
     – .CG COVERPAG (this pulls a cover sheet from bin 7)
     – .CG DOCPAGES (this pulls the document sheets from bin 1)
   - For an AFP Toolbox application, use the Invoke Medium Map command:
     – AFPInvokeMediumMap(Page1,″COVERPAG″);
     – AFPInvokeMediumMap(Page2,″DOCPAGES″);
   - If you are using a page definition, you can switch copy groups using the CONDITION command:

```
PAGEDEF JOB001
  PAGEFORMAT FIRST;
    PRINTLINE CHANNEL 1
              POSITION MARGIN TOP;
```

```
  CONDITION CVRSHEET START 1 LENGTH 1
     WHEN GE X"00" AFTER SUBPAGE
       COPYGROUP COVERPAG PAGEFORMAT REST;
PAGEFORMAT REST;
   PRINTLINE CHANNEL 1
             POSITION MARGIN TOP
               REPEAT 60;
```

- If you have a line data or AFP file, you can modify it to insert IMM structured fields between pages (in hex):

```
IMM COVERPAG would be 5A0010D3ABCC000000C3D6E5C5D9D7C1C7
IMM DOCPAGES would be 5A0010D3ABCC000000C4D6C3D7C1C7C5E2
```

3. Prepare the finisher by installing the required media for the cover sheet in the finisher insert tray. It has to be the same size as the media in insert tray (in this case, 8.5 x 11 inch media was used for both).
4. Submit the print job. The result is a cover sheet and document that is stitched along the left edge with 2 staples.

Edge-Stitched Document with Tabbed Inserts

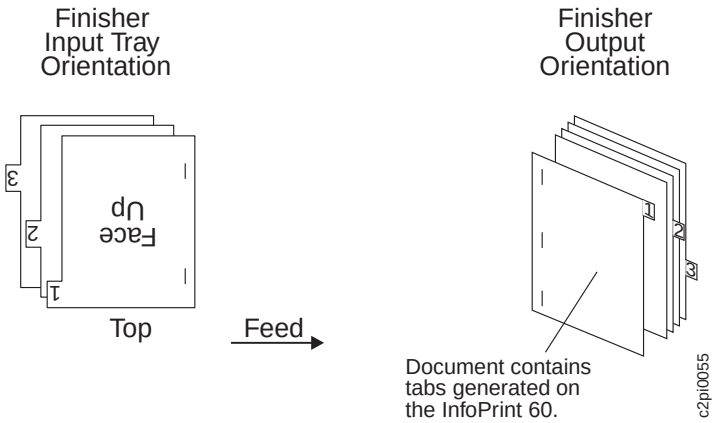

Figure 73. Edge-Stitched Document with Tabbed Inserts

The PPFA source code for the form definition follows:

```
------------------------------------------------
------------------------------------------------
FORMDEF FEC010  REPLACE YES
   FINISH SCOPE ALL
   OPERATION EDGE REFERENCE LEFT OPCOUNT 2;

/************************************************/
COPYGROUP COVERPAG
  DUPLEX NO
  CONSTANT FRONT
  BIN 7;

COPYGROUP DOCPAGES
   BIN 1;
------------------------------------------------
------------------------------------------------
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. In order to instruct the printer to pull the cover sheet from the finisher inserter tray (bin 7) and to pull the document pages from the printer main input tray (bin 1), you need to change copy groups in the AFP document that you are printing. Changing copy groups depends on how your document is produced:
   - For a SCRIPT document, use the .CG control word to select a different copy group for the first page and subsequent pages in the document:
     – .CG COVERPAG (this pulls a cover sheet from bin 7)
     – .CG DOCPAGES (this pulls the document sheets from bin 1)
   - For an AFP Toolbox application, use the Invoke Medium Map command:
     – AFPInvokeMediumMap(Page1,″COVERPAG″);
     – AFPInvokeMediumMap(Page2,″DOCPAGES″);
   - If you are using a page definition, you can switch copy groups using the CONDITION command:

```
PAGEDEF JOB001
  PAGEFORMAT FIRST;
    PRINTLINE CHANNEL 1
```

```
            POSITION MARGIN TOP;
    CONDITION CVRSHEET START 1 LENGTH 1
       WHEN GE X"00" AFTER SUBPAGE
         COPYGROUP COVERPAG PAGEFORMAT REST;
PAGEFORMAT REST;
    PRINTLINE CHANNEL 1
            POSITION MARGIN TOP
              REPEAT 60;
```

- If you have a line data or AFP file, you can modify it to insert IMM structured fields between pages (in hex):

```
IMM COVERPAG would be 5A0010D3ABCC000000C3D6E5C5D9D7C1C7
IMM DOCPAGES would be 5A0010D3ABCC000000C4D6C3D7C1C7C5E2
```

3. This process of inserting two IMM structured fields into the file to be printed must be repeated prior to every page that is to be preceded with an inserted tab form.
4. Prepare the finisher by installing the tab forms (tabs on the trailing edge) into the finisher insert tray. If pre-printed tabs are used, the printed side is placed face up with the tabs upside down (top edge toward the front of the finisher) and in the correct order (first on top, second one below that and so forth). The printed pages are pulled from the insert tray, so the insert tray must be loaded with letter size media.
5. Submit the print job. The result is a document that consists of a tab sheet followed by printed sheets and so on for as many tabs and printed pages as the file calls for.

Edge-Stitched Document with Z-Folded Sheets

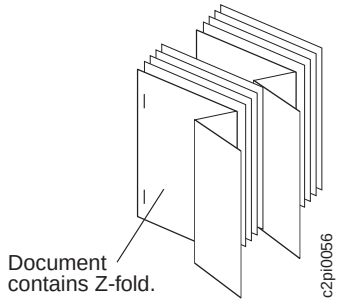

Figure 74. Edge-Stitched Document with Z-Folded Sheets

The PPFA source code for the form definition follows:

```
------------------------------------------------
------------------------------------------------
FORMDEF FEZ010 REPLACE YES
   FINISH SCOPE ALL
   OPERATION EDGE REFERENCE LEFT OPCOUNT 2;

/*************************************************/
COPYGROUP ZFOLDPGS
  DUPLEX NO
  BIN 3
  FINISH OPERATION ZFOLD
  N_UP 1
  PLACE 1 FRONT OFFSET 17 IN 11 IN ROTATION 180
  PRESENT LANDSCAPE DIRECTION ACROSS;

COPYGROUP DOCPAGES
   BIN 1;
------------------------------------------------
------------------------------------------------
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. In order to instruct the printer to pull the z-fold from the printer bin 3 (upper sub tray) and to pull the document pages form the printer main input tray (bin 1), you need to change copy groups in the AFP document that you are printing. Changing copy groups depends on how your document is produced:
   - For a SCRIPT document, use the .CG control word to select a different copy group for the first page and subsequent pages in the document:
     – .CG ZFOLDPGS (this pulls a ledger sheet from bin 3 for z-folding)
     – .CG DOCPAGES (this pulls the current sheet and subsequent sheets from bin 1)
   - For an AFP Toolbox application, use the Invoke Medium Map command:
     – AFPInvokeMediumMap(Page1,″ZFOLDPGS″);
     – AFPInvokeMediumMap(Page2,″DOCPAGES″);
   - If you are using a page definition, you can switch copy groups using the CONDITION command:

```
PAGEDEF JOB002
  PAGEFORMAT FIRST;
    PRINTLINE CHANNEL 1
              POSITION MARGIN TOP;
    CONDITION ZFOLDPGS START 1 LENGTH 1
       WHEN GE X"00" AFTER SUBPAGE
         COPYGROUP ZFOLDPGS PAGEFORMAT REST;
  PAGEFORMAT REST;
    PRINTLINE CHANNEL 1
              POSITION MARGIN TOP
                REPEAT 60 ;
```

- If you have a line data or AFP file, you can modify it to insert IMM structured fields between pages (in hex):

```
IMM ZFOLDPGS would be 5A0010D3ABCC000000E9C6D6D3C4D7C7E2
IMM DOCPAGES would be 5A0010D3ABCC000000C4D6C3D7C1C7C5E2
```

3. Prepare the printer by installing ledger media into the printer bin 3 (upper sub-tray) and letter media into the printer bin 1 (main tray).
4. Submit the print job. The result should be document that consists of a z-folded page followed by unfolded pages followed by another z-folded page, etc., for the number of pages called for by the document. The printed document is edge-stitched along the left edge with two staples.

Saddle-Stitched 2-UP Document

Finisher Output

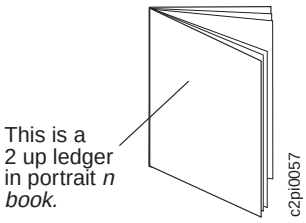

Figure 75. Saddle-Stitched 2-UP Document

The PPFA source code for the form definition follows:

```
------------------------------------------------
------------------------------------------------
FORMDEF FS2031 REPLACE YES
   FINISH SCOPE ALL
   OPERATION SADDLE
   DUPLEX NORMAL
   BIN 3
   N_UP 2;
------------------------------------------------
------------------------------------------------
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. Modify or create the file that is to be printed and saddle stitched to reorder the pages like this:
   - 1st page encountered is the last document page
   - 2nd page encountered is page 1 of the document
   - 3rd page encountered is page 2 of the document
   - 4th page encountered is the next to the last document page
   - 5th page encountered is page 3rd from the last document page
   - 6th page encountered is page 3 of the document
   - 7th page encountered is page 4 of the document
   - 8th page encountered is the 4th from the last document page
   - And so forth in groups of four or less
3. Load ledger size paper into bin 3.
4. Submit the print job. The result is a saddle stitched document comprised of ledger sheets folded to letter size and pre-printed back and front so as to contain the document pages in order.

Edge-Stitched on Right

Finisher Output

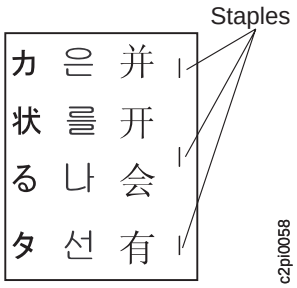

Figure 76. Edge-Stitched on Right

The PPFA source code for the form definition follows:

```
-------------------------------------------------
-------------------------------------------------
FORMDEF FER010 REPLACE YES
   FINISH SCOPE ALL
   OPERATION EDGE REFERENCE RIGHT OPCOUNT 3;
-------------------------------------------------
-------------------------------------------------
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. Submit the print job. The result is a simplex document printed on media pulled from the printer default input in and stitched along the right edge with three staples.

Top Left Corner Staple

Finisher Output

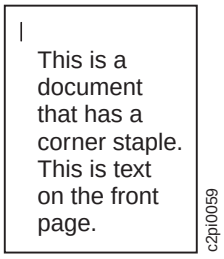

Figure 77. Top Left Corner Staple

The PPFA source code for the form definition follows:

```
------------------------------------------------
------------------------------------------------
FORMDEF FC0010 REPLACE YES
   FINISH SCOPE ALL
   OPERATION CORNER;
------------------------------------------------
------------------------------------------------
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. Submit the print job. The result is a simplex document printed on media pulled from the printer default input bin and stapled at the top left corner.

Edge-Stitched 2 Left

Finisher Output

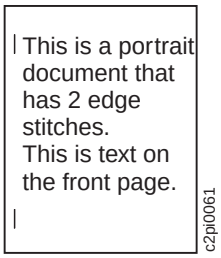

Figure 78. Edge-Stitched 2 Left

The PPFA source code for the form definition follows:

```
------------------------------------------------
------------------------------------------------
FORMDEF FEL010 REPLACE YES
   FINISH SCOPE ALL
   OPERATION EDGE OPCOUNT 2;
------------------------------------------------
------------------------------------------------
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. In this example, the media is letter size and the operator places letter size paper into bin 1 (main tray) of the InfoPrint 60.
3. Make sure the finisher is enabled and submit the print job to the InfoPrint 60 using the formdef just created.
4. The output is a simplex document, edge-stitched along the left edge of the media with 2 staples.

Z-Fold 2-UP Sheets

Finisher Output

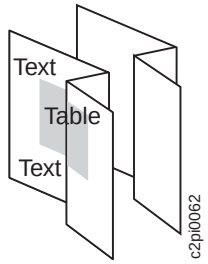

Figure 79. Z-Fold

The PPFA source code for the form definition follows:

```
-----------------------------------------------
-----------------------------------------------
FORMDEF FZ0030  REPLACE YES ;
   COPYGROUP ZFOLDPGS
   DUPLEX NO
   BIN 3
   FINISH OPERATION ZFOLD
   N_UP 2
   PLACE 1 FRONT OFFSET 17 IN 11 IN ROTATION 180
   PLACE 1 FRONT OFFSET 8.5 IN 11 IN ROTATION 180
   PRESENT PORTRAIT DIRECTION ACROSS;
 -----------------------------------------------
-----------------------------------------------
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. In this example, the customer's file consists of letter size documents that are to be printed side by side on ledger media (11 x 17 in) in simplex mode. Place ledger media in bin 3 of the InfoPrint 60.
3. Make sure the finisher is enabled and submit the print job to the InfoPrint 60.
4. The result is ledger size sheets z-folded to letter size with two letter size documents printed side by side on one side only of the sheet.

Z-Fold Landscape on Ledger, 1-UP

This example produces a mixture of letter pages from bin 1 and ledger paper from Bin 2, printed landscape 1-UP. For example, you might be printing a financial report with a spreadsheet inserted.

Finisher Output

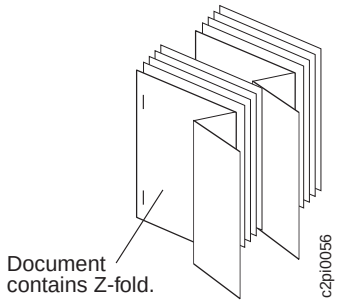

Figure 80. Z-Fold Landscape on Ledger, 1-UP

```
   FORMDEF FZ1021
           OFFSET 0.0 IN 0.0 IN
           FINISH SCOPE PRINTFILE
           OPERATION EDGE
           REFERENCE DEFAULT
           REPLACE YES  ;
  COPYGROUP B02ZDN1R     /* BIN 2 LEDGER: DUPLEX Z-FOLD  */
    DUPLEX NORMAL        /* LANDSCAPE - N_UP 1 ROTATE TO PRINT UPRIGHT*/
    BIN 2
    OFFSET 0 IN 0 IN
    FINISH OPERATION ZFOLD
    PRESENT LANDSCAPE DIRECTION ACROSS
    N_UP 1
      PLACE 1 FRONT OFFSET 17  IN 11 IN ROTATION 180
      PLACE 1 BACK  OFFSET 17  IN 11 IN ROTATION 180 ;
COPYGROUP B01NF          /* BIN 1 LETTER: DUPLEX NO FINISHING */
   DUPLEX NORMAL
   BIN 1
   OFFSET 0 IN 0 IN
   PRESENT PORTRAIT DIRECTION ACROSS ;
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. Load letter paper in bin 1 and ledger in bin 2 of the InfoPrint 60 printer.
3. Create a print file that uses copy group B01INF for the letter pages and B02ZDN1R for the ledger pages.
4. Submit to print.

Z-Fold Portrait on Ledger Paper, 2-UP

This example produces a mixture of letter pages from bin 1 and ledger paper from bin 2. The ledger pages are printed 2-UP, duplexed and z-folded.

Finisher Output

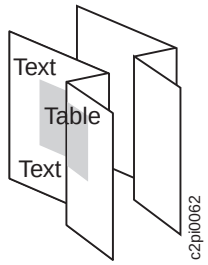

Figure 81. Z-Fold Portrait on Ledger Paper, 2-UP

```
  FORMDEF FZ2021
          DUPLEX NORMAL
          OFFSET 0.0 IN 0.0 IN
          FINISH SCOPE PRINTFILE
          OPERATION EDGE
          REFERENCE DEFAULT
          REPLACE YES  ;
COPYGROUP B02ZDN2R     /* BIN 2 LEDGER: DUPLEX Z-FOLD  */
  DUPLEX NORMAL        /* N_UP 2 ROTATED TO PRINT UPRIGHT*/
  BIN 2
  OFFSET 0 IN 0 IN
  FINISH OPERATION ZFOLD
  PRESENT PORTRAIT DIRECTION ACROSS
  N_UP 2
    PLACE 2 FRONT OFFSET 8.5 IN 11 IN ROTATION 180
    PLACE 1 BACK  OFFSET 8.5 IN 11 IN ROTATION 180
    PLACE 1 FRONT OFFSET 8.5 IN 11 IN ROTATION 180
    PLACE 2 BACK  OFFSET 8.5 IN 11 IN ROTATION 180
  INVOKE FRONT ;

COPYGROUP B01NF          /* BIN 1 LETTER: DUPLEX NO FINISHING */
 PRESENT PORTRAIT
 DIRECTION ACROSS
 DUPLEX NORMAL
 BIN 1
 OFFSET 0 IN 0 IN ;
```

Instructions:

1. Submit the PPFA source code as shown above to create a formdef using PPFA or use the form definition object supplied with PSF.
2. Load letter paper in bin 1 and ledger in bin 2 of the InfoPrint 60 printer.
3. Create a print file that uses copy group B01INF for the letter pages and B02ZDN2R for the ledger pages.
4. Submit to print.

Complex Form Definition Example

This example shows a form definition and page definition, that is used to create a sample document using tabs, edge stapling, and z-folded paper. The tabs are assumed to be loaded in the insert tray. Most of the input paper is letter size, portrait, and duplexed. The z-fold page is ledger sized, printed rotated, and simplexed.

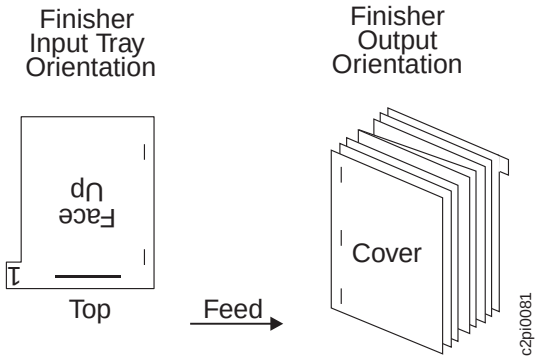

Figure 82. Complex Form Definition Example

1. Submit the PPFA source code as shown to create a form definition and page definition.
2. Load cover pages in bin 2, letter size paper in bin 1, ledger size paper in bin 3, pre-printed forms in bin 4, and pre-printed tab stock in bin 7.
3. Adjust the finisher for z-folding of ledger paper.
4. Create a data file similar to Figure 85 on page 103, that selects various types of pages.
5. Submit the job to print.

Form Definition Source

The form definition source is:

```
SETUNITS 1 IN 1 IN ;

FORMDEF FN0001 OFFSET 0 0 REPLACE YES
   FINISH SCOPE PRINTFILE
   OPERATION EDGE REFERENCE LEFT OPCOUNT 3 ;

    COPYGROUP F2COVER             /* COVER PAGE FROM BIN 2 */
    DUPLEX NO
    BIN 2  ;
    OVERLAY FNLOGO ;
    SUBGROUP  COPIES 1 OVERLAY FNLOGO;

    COPYGROUP F2REPORT           /* REPORT PAGES FROM BIN 1  */
    DUPLEX NORMAL
    BIN 1  ;
    SUBGROUP  COPIES 1;

    COPYGROUP F2ZFOLD           /* Z-FOLD 11X17 FROM BIN 3 */
    DUPLEX NO
    BIN 3
    FINISH OPERATION ZFOLD
    N_UP 1  OVERLAY FNMAPA
    PRESENT LANDSCAPE DIRECTION ACROSS ;

    COPYGROUP F2FORM           /*  PRE-PRINTED FORM FROM AUX BIN */
    DUPLEX NORMAL
    BIN 4  ;
    SUBGROUP  BOTH  COPIES 1 ;

    COPYGROUP F2INSERT        /* INDEX TAB FROM INSERTER BIN */
    DUPLEX NO
    BIN 7  ;
    SUBGROUP  COPIES 1;
```

Figure 83. Form Definition Source

Page Definition for Formatted Data Records

The page definition for formatted data records is:

```
SETUNITS 1 IN 1 IN LINESP 6 LPI ;
 PAGEDEF FN0001 REPLACE YES WIDTH 8.5 HEIGHT 11 ;
 FONT FTXT  CS 4200 CP V10500 HEIGHT 10 ;
 /* COURIER 10 PT OUTLINE CHARACTER SET AND CODE PAGE */
 FONT FHDR1 CS N200 CP V10500 HEIGHT 20 RATIO 120 ;
 /* TIMES NEW ROMAN 20 PT OUTLINE WIDTH EXPANDED 120%  */
 FONT FHDR2 CS N200 CP V10500 HEIGHT 16 ;
 /* TIMES NEW ROMAN 16 PT OUTLINE FONT   */

  PAGEFORMAT P2REPORT WIDTH 8.5 HEIGHT 11 ;
 PRINTLINE CHANNEL 1 REPEAT  1 POSITION 0.5 0.5 FONT FTXT ;
  CONDITION CNCOVER START 1 LENGTH 10
      WHEN EQ '**COVER***' BEFORE SUBPAGE
      COPYGROUP F2COVER  PAGEFORMAT P2COVER  ;
  CONDITION CNZFOLD START 1 LENGTH 10
      WHEN EQ '**ZFOLD***' BEFORE SUBPAGE
      COPYGROUP F2ZFOLD  PAGEFORMAT P2ZFOLD  ;
  CONDITION CNINSERT START 1 LENGTH 10
      WHEN EQ '**INSERT**' BEFORE SUBPAGE
      COPYGROUP F2INSERT PAGEFORMAT P2INSERT ;
  CONDITION CNFORM   START 1 LENGTH 10
      WHEN EQ '**FORM****' BEFORE SUBPAGE
      COPYGROUP F2FORM   PAGEFORMAT P2FORM   ;
 PRINTLINE REPEAT 59 POSITION 0.5 NEXT FONT FTXT ;
  PAGEFORMAT P2COVER  WIDTH 8.5 HEIGHT 11 ;
 PRINTLINE CHANNEL 1 REPEAT  1 POSITION 0 0 ;
  FIELD START 11 LENGTH 30 FONT FHDR1 POSITION 1 0.5 ;
  FIELD START 41 LENGTH 30 FONT FHDR2 POSITION 1 2.5 ;
  CONDITION CNREPORT START 1 LENGTH 1
      WHEN GE X'00' AFTER SUBPAGE
      COPYGROUP  F2REPORT PAGEFORMAT P2REPORT ;

 PAGEFORMAT P2ZFOLD  WIDTH 17  HEIGHT 11 ;
 PRINTLINE CHANNEL 1 REPEAT  1 POSITION 0.5 0.5  FONT FHDR1 ;
  CONDITION CNREPORT ;

 PAGEFORMAT P2FORM   WIDTH 8.5 HEIGHT 11 ;
 PRINTLINE CHANNEL 1 REPEAT 40 POSITION 1 2.0 FONT FTXT ;
  FIELD START 11 LENGTH 10  POSITION * * ;
  FIELD START 21 LENGTH 40  POSITION 3 * ;
  CONDITION CNFORMF  START 1 LENGTH 1
      WHEN GE X'00' AFTER SUBPAGE
      NULL               PAGEFORMAT P2FORMB  ;
 PAGEFORMAT P2FORMB  WIDTH 8.5 HEIGHT 11 ;
 PRINTLINE CHANNEL 1 REPEAT 40 POSITION 0.5 2.0 FONT FTXT ;
  FIELD START 11 LENGTH 10  POSITION * * ;
  FIELD START 21 LENGTH 40  POSITION 3 * ;
  CONDITION CNREPORT ;

 PAGEFORMAT P2INSERT WIDTH 8.5 HEIGHT 11 ;
 PRINTLINE CHANNEL 1 REPEAT  1 POSITION 0.5 0.5 ;
  CONDITION CNREPORT ;
```

Figure 84. Page Definition for Formatted Data Records

Data Record Sample

A sample of the data records is:

```
1**COVER***MAIN TITLE OF REPORT           Sub Title of Report
1 List of Reports x(standard report format )xxxxxxxxxxxxxxxxx
  List of Reports xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  List of Reports xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  List of Reports xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  List of Reports xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
1**FORM****AAAAAAAAAAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
 **FORM****AAAAAAAAAAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
 **FORM****AAAAAAAAAAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
 **FORM****AAAAAAAAAAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
 **FORM****AAAAAAAAAAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
 **FORM****AAAAAAAAAAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
 **FORM****AAAAAAAAAAaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaaa
1**FORM****BBBBBBBBBBbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb
 **FORM****BBBBBBBBBBbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb
 **FORM****BBBBBBBBBBbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb
 **FORM****BBBBBBBBBBbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbbb
1**INSERT**     INSERT TAB
1Report Record xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
 Report Record xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
1**INSERT**     INSERT TAB
1Report Record xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
 Report Record xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
1**ZFOLD***THIS IS A ZFOLD PAGE
1**COVER***
```

Figure 85. Data Record Sample

Appendix. Paper Path

The sheet position in an input tray, the sheet size, simplex or duplex operation, input tray selection, and finisher selection determines how the media moves through the printer and finisher. The following sections describe the paper path and sheet orientation during printing and finishing.

Simplex, Bin, and Finisher

Figure 86 shows the placement of a pre-printed sheet **1** in bin 1, 2, or 3 in the printer. The sheet is pre-printed on the front and is three-hole punched. The sheet is placed face down with the top edge to the front. The sheet is long-edge fed.

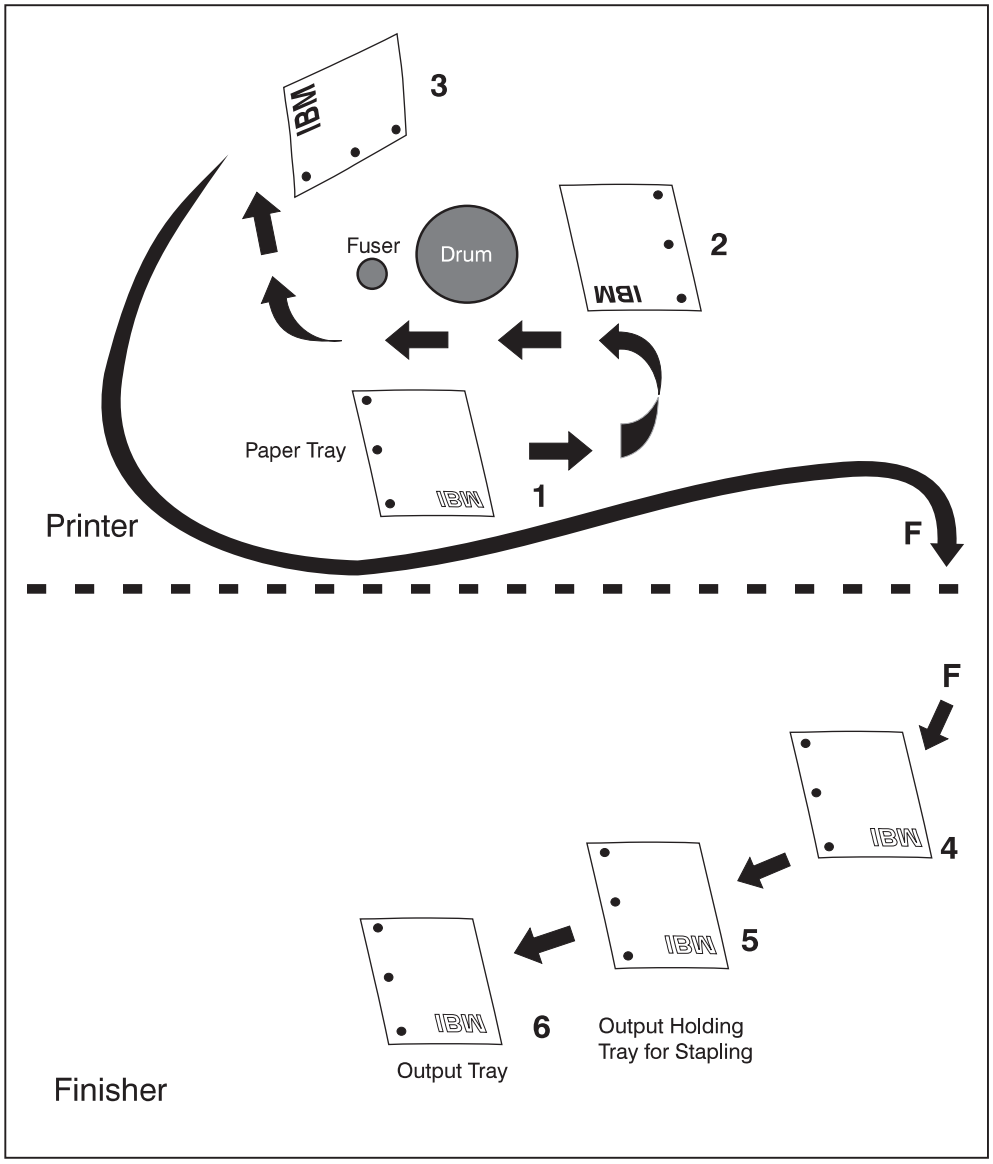

Figure 86. Simplex, Bin, and Finisher

The sheet is pulled from the bin **1**, and turned over **2** for printing on the front side. The drum puts the toner on the sheet, and the fuser fuses the toner to the paper. The sheet continues its path into the printer

output tray 3 . The rollers push the sheet up into the output tray and then pull the sheet down into the finisher F → 4 . The sheet is turned over when it goes from position 3 in the printer output tray to the finisher 4 .

The sheets are held in the Output Holding tray 5 for a corner staple, two staples, or three staples, depending on the finishing instructions. After stapling, the document is placed in the finisher's output tray 6 .

Simplex, Side Tray, and Finisher

Figure 87 shows the placement of a pre-printed sheet 1 in the side tray that is attached to the printer. The sheet is pre-printed on the front and is three-hole punched. With pre-printed information on the sheet, the sheet is placed face up with the top edge to the front. The sheet is long-edge fed.

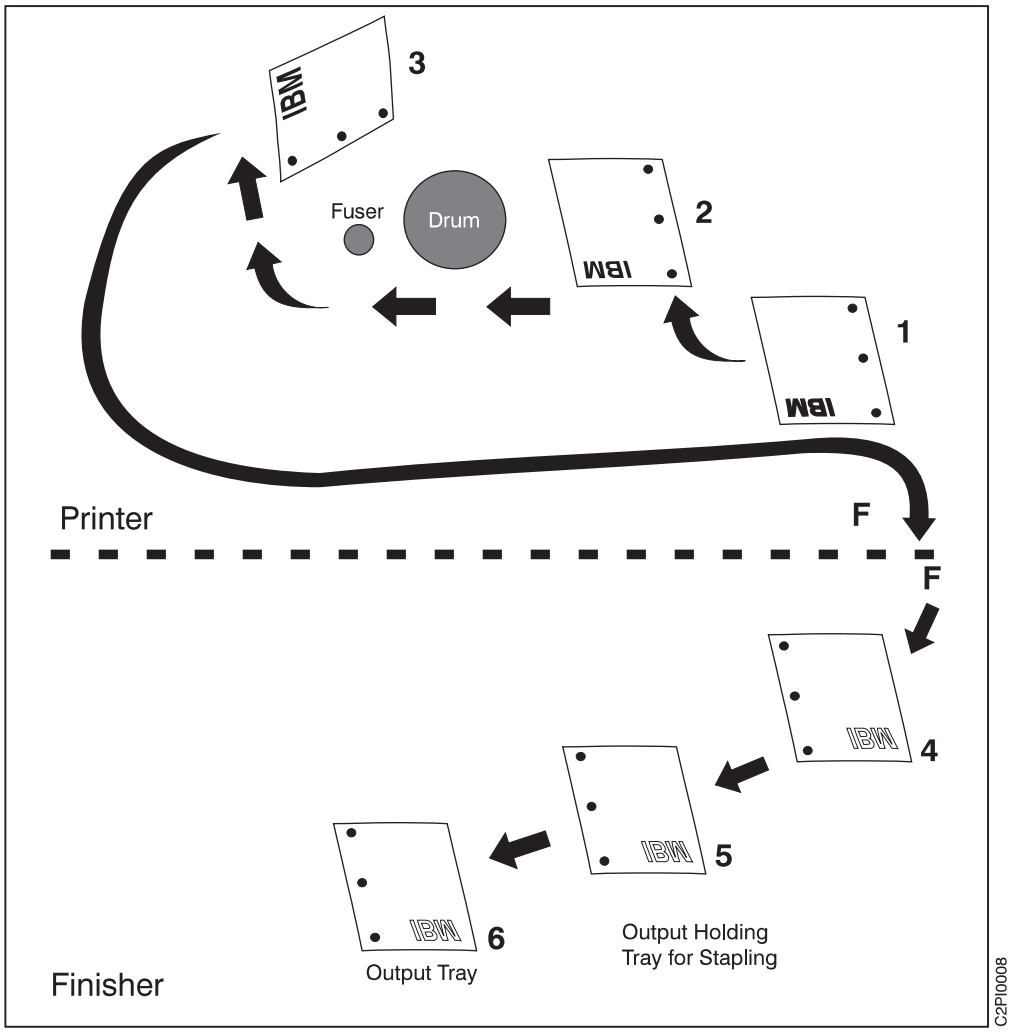

Figure 87. Simplex, Side Tray, and Finisher

The sheet is pulled from the side tray 1 and passed to the drum 2 for printing on the front side. The drum puts the toner on the paper and the fuser fuses the toner to the paper. The sheet continues its path into the output tray 3 . The rollers push the sheet up into the printer output tray and then pull the sheet down into the finisher F → 4 . The sheet is turned over when it goes from position 3 in the printer output tray to the finisher 4 .

The sheet can be held in the Output Holding tray **5** for a corner staple, two staples, or three staples depending on the finishing instructions. After stapling, the document is placed in the finisher's output tray **6** .

Duplex, Bin, and Finisher

Figure 88 on page 108 shows the placement of the pre-printed sheet **1** in bin 1, 2, or 3 in the printer. The sheet is pre-printed on the front and is three-hole punched. The sheet is placed face up with the top edge to the front. The sheet is long-edge fed.

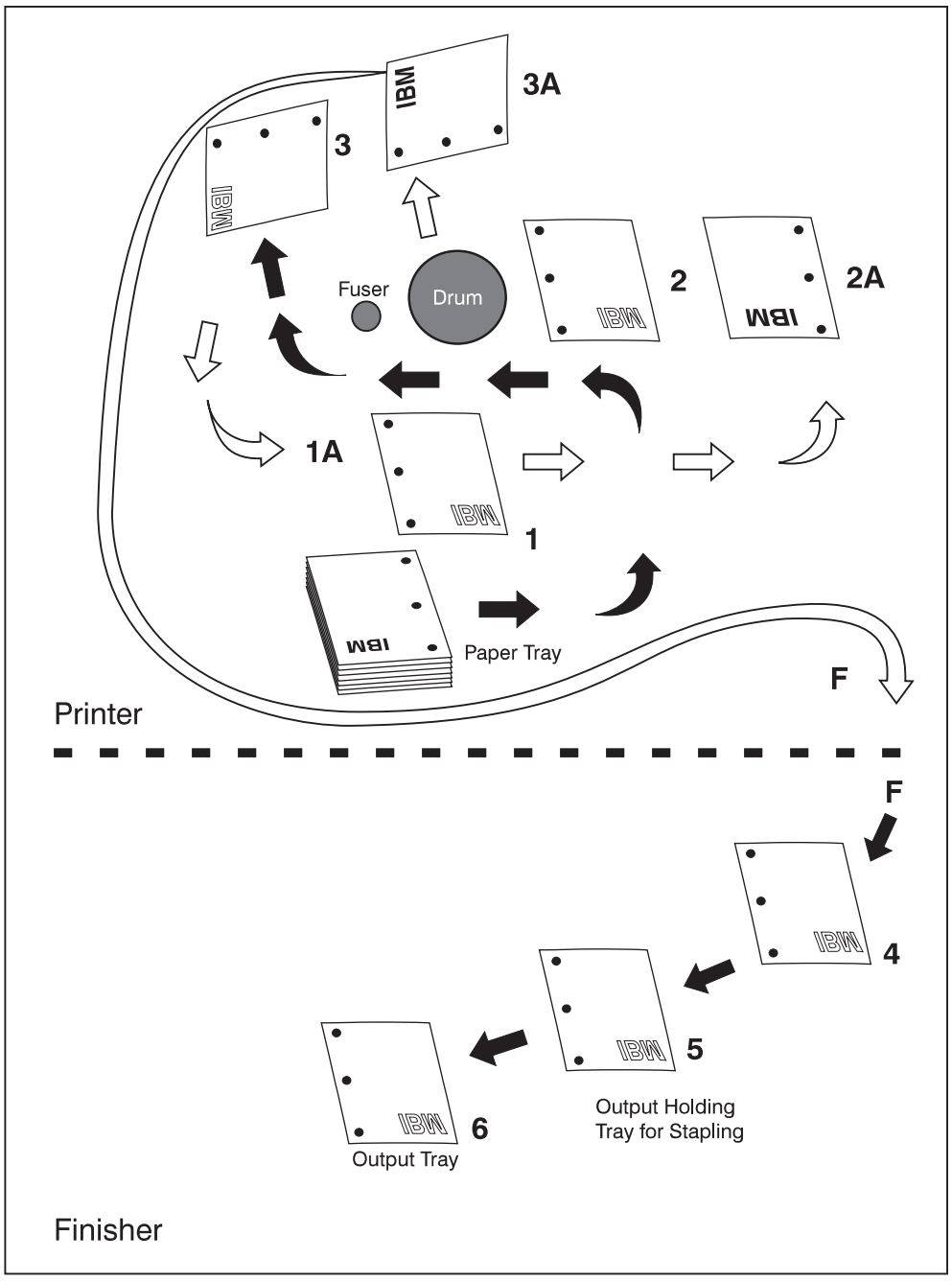

Figure 88. Duplex, Bin, and Finisher

The sheet is pulled from the tray **1** and turned over **2** for printing on the back side. The drum puts the toner on the paper, and the fuser fuses the toner to the paper. The sheet continues its path into the printer output tray **3** . The rollers push the sheet up into the printer output tray, and then pull the sheet down into the printer **1A** . The sheet is turned over **2A** for the front side to be printed. The drum puts the toner on the paper, and the fuser fuses the toner to the paper. The sheet continues its path into the printer output tray **3A** . The rollers push the sheet up into the printer output tray and then pulls the sheet down into the finisher **F** → **4** . The sheet is turned over when it goes from position **3A** in the printer output tray to the finisher **4** .

The sheet can be held in the Output Holding tray **5** for a corner staple, two staples, or three staples depending on the finishing instructions. After stapling, the document is placed in the finisher's output tray **6** .

Duplex, Side Tray, and Finisher

Figure 89 shows the placement of the pre-printed sheet **1** in the side tray that is attached to the printer. The sheet is pre-printed on the front and is three-hole punched. With pre-printed information, the sheet is placed in the side tray front side down with the top of sheet to the front. The sheet is long-edge fed.

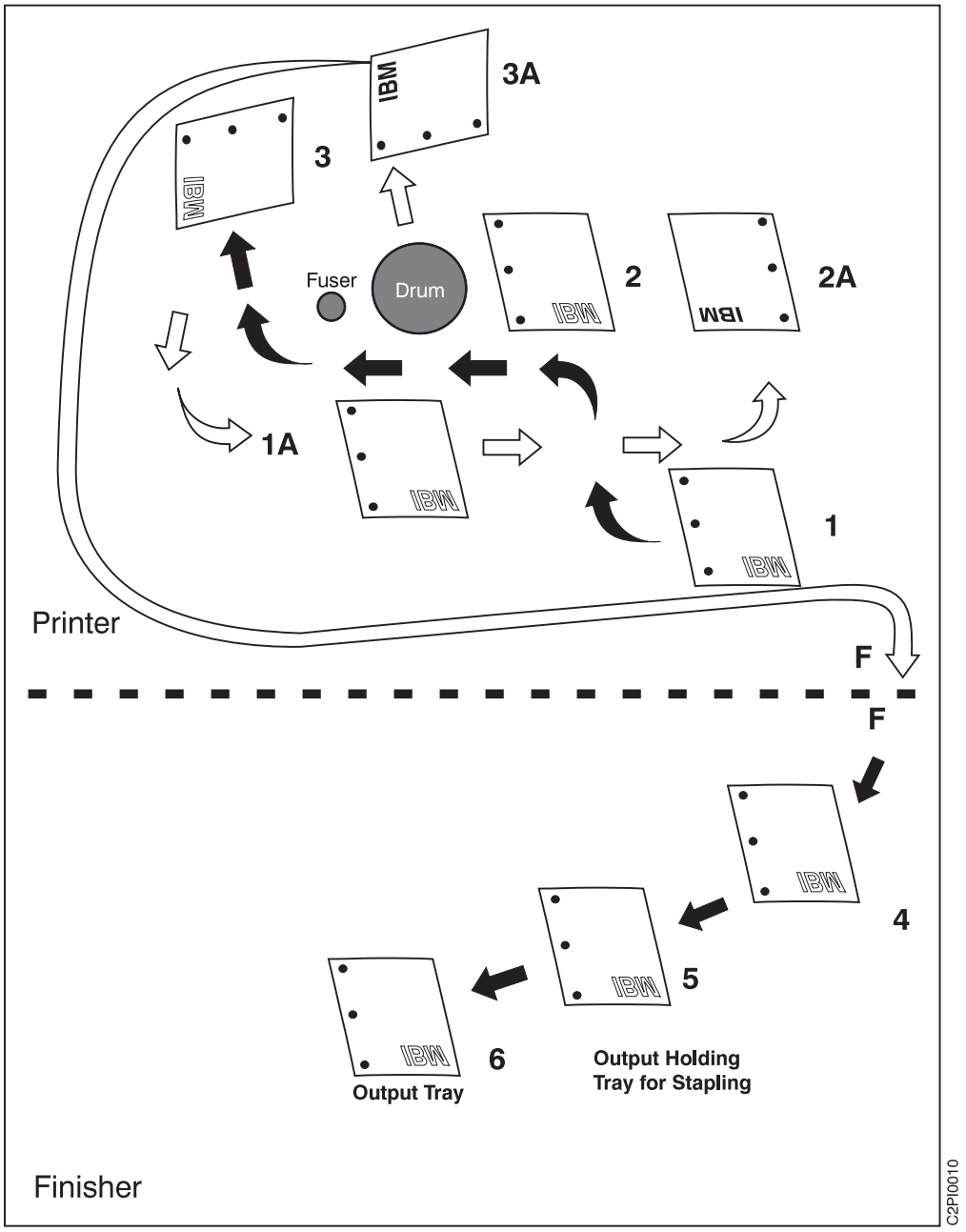

Figure 89. Duplex, Side Tray and Finisher

The sheet is pulled from the side tray 1 and is sent to the printer for printing on the back side 2. The drum puts the toner on the paper, and the fuser fuses the toner to the paper. The sheet continues its path into the printer output tray 3. The rollers push the sheet up into the printer output tray and then pull the sheet down into the printer 1A. The sheet is turned over and positioned for the front side to be printed 2A. The drum puts the toner on the paper and the fuser fuses the toner to the paper. The sheet continues its path into the printer output tray 3A. The rollers push the sheet up into the printer output tray and then pulls the sheet down into the finisher F → 4. When the rollers push the sheet up into the printer output tray and then sends the sheet to the finisher, the sheet is turned over.

The sheet can be held in the Output Holding tray 5 for a corner staple, two staples, or three staples depending on the finishing instructions. After stapling, the document is placed in the finisher's output tray 6.

Finisher Saddle-Stitch

In Figure 90 on page 111, the sheet is received from the printer. Notice the short side of the sheet is received into the holding bin 1. The holding bin stores all the sheets that make up the document. When all the sheets are in the holding bin, they are stapled 2. After the sheets are stapled, the sheets move downward into the prefold position 3. The set is then folded on the stapled center line and delivered to the saddle stitch drawer 4.

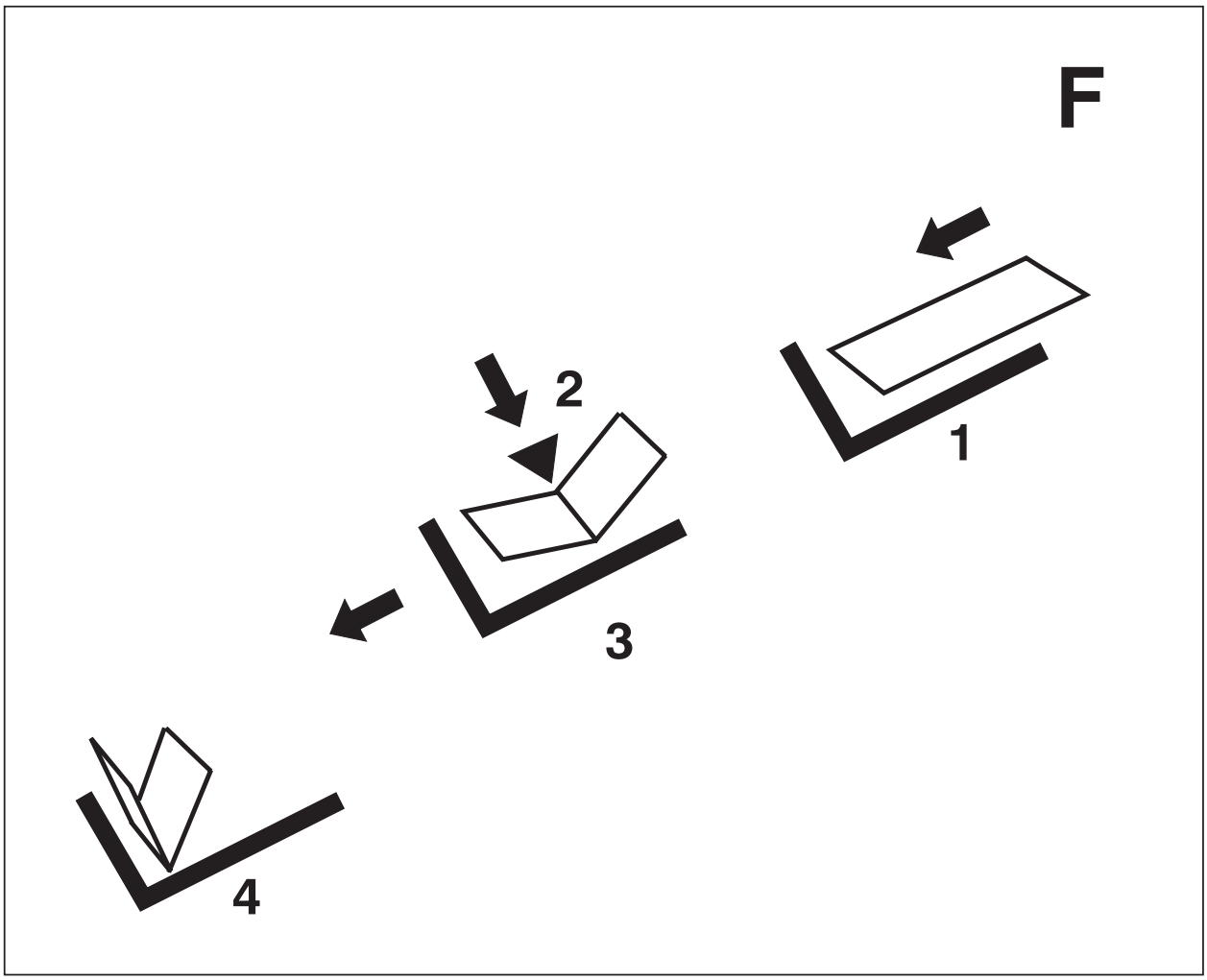

Figure 90. Saddle-Stitch

Simplex, Bin, and Finisher Z-Fold

The z-fold folds a larger sheet size to a common size. For example, ledger to letter or A3 to A4.

Figure 91 on page 112 shows the sheet **1** in the tray as a pre-printed sheet. The pre-printed sheet is face down (the text IBM is blocked) with the top to the left. The sheet travels from the tray **1** to the drum causing the sheet to be turned face up **2** . The drum prints the front side and the sheet advances to position **3** .

When the sheet enters the finisher, it advances to a stop at position **4** . At position **4** the back part of the sheet is sucked between two rollers causing a fold in the sheet. The sheet travels to position **5** where the back part of the sheet is pulled between two rollers causing the second fold. After the second fold, the sheet is placed in the output holding tray **6** . The sheet can be stapled with other z-folded sheets or other sheets in the output holding tray. The sheets are placed in the finisher's output tray **7** .

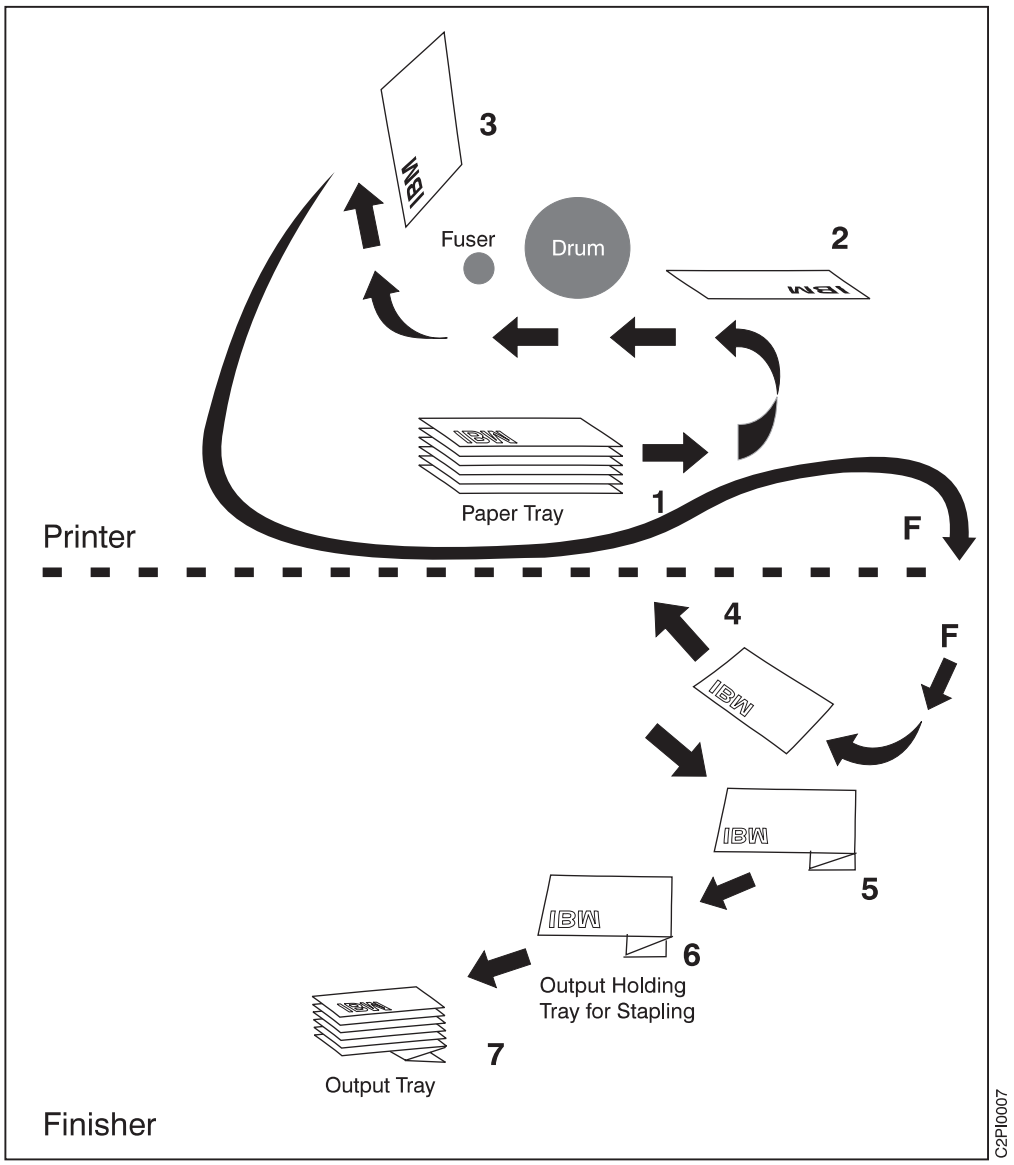

Figure 91. Simplex, Bin, and Finisher Z-Fold

Duplex, Bin, and Finisher Z-Fold

The z-fold reduces a larger sheet size to a common size. For example ledger to letter and A3 to A4.

Figure 92 on page 113 shows the sheet **1** in the printer input tray. The pre-printed sheet is face up (the IBM text is dark) with the top of sheet to the right. The sheet travels from the printer input tray **1** to the drum, which causes the sheet to be turned upside down **2** . The drum prints the back side and the sheet advances to position **3** . The sheet is sent back through the printer **1A** where it is flipped over (top side up (the IBM text is dark) **2A** . The drum prints the front side of the sheet and the sheet advances to position **3A** where it passes out of the printer (front side down (the IBM text is blocked) **F** into the finisher.

When the sheet enters the finisher, it advances to a stop at position **4** . At position **4** , the back part of the sheet is pulled between two rollers, causing a fold in the sheet. The sheet travels to position **5** where the sheet is pulled between two rollers, causing the second fold. After the second fold, the sheet is placed

in the finisher's output holding tray 6 . The document can be stapled with other Z-folded sheets or other sheets. The document is placed in the finisher's output tray 7 when completed.

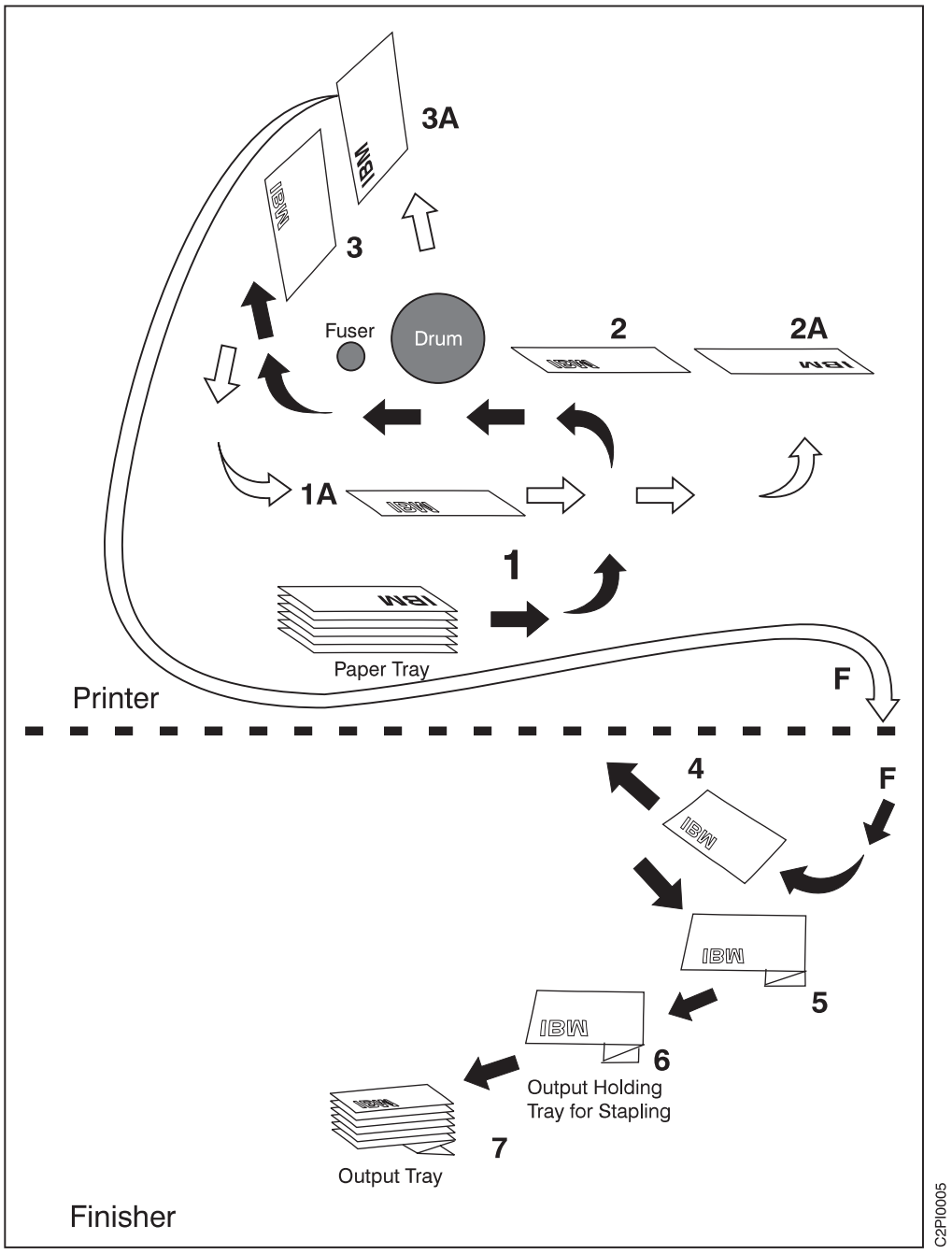

Figure 92. Duplex, Bin, and Finisher Z-Fold

Finisher Input Tray

Sheets from the finisher insert tray can be pre-printed or blank sheets that the InfoPrint printer inserts without additional printing. The sheets in the insert tray are inserted into documents according to the application. Facing the finisher and looking down on the insert tray, the right side of the paper is the leading edge. If the paper is pre-printed, it is face up and the edge to be stapled becomes the leading

edge. When the paper in the finisher insert tray is selected, the paper is turned upside down and the leading edge is on the left to conform to the output from the printer. The finisher insert tray can be used during any finishing operation (see Figure 93).

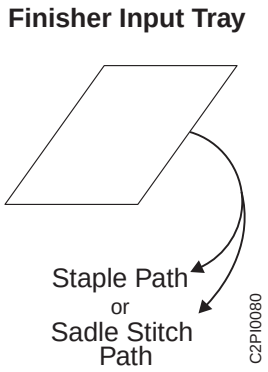

Figure 93. Finisher Paper Path

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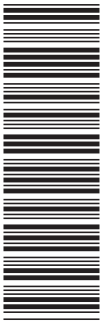
Part Number: 24L3843

Printed in the United States of America
on recycled paper containing 10%
recovered post-consumer fiber.



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