CENTRONICS

AUTOMATIC SHEET FEEDER

37403506-9E00 REV. E OCTOBER 1984

TP 7-80

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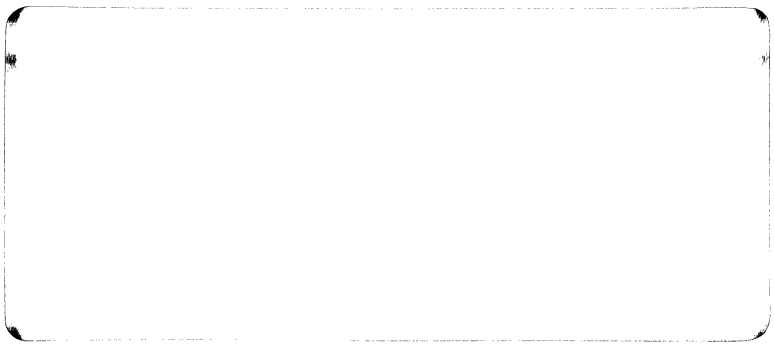

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9/80 Rev. C

AUTOMATIC
SHEET FEEDER

37403506-9E00 REV. E OCTOBER 1984

REFERENCE MANUAL

TABLE OF CONTENTS

INTRODUCTION

This manual provides information needed to install and use the Centronics Automatic Three-Bin Sheet Feeder. Subsequent sections are organized as follows:

This manual does NOT include procedures for operating the sheet feeder. Since feeder operations are controlled by the printer, operating procedures are detailed in your printer user manual. Paragraph 1.4 of this manual identifies the user, technical, and illustrated parts manuals used in conjunction with this manual.

SECTION 1
GENERAL INFORMATION

1.1 GENERAL DESCRIPTION

The sheet feeder is an optional mechanical device which permits specially equipped Centronics printers to handle three types of paper at one time.

The more important features and capabilities of the feeder include:

- All Mechancial Design—The feeder is all mechanical. No electrical connections are required to install or operate the feeder.
- Cartridge Loading System—Cartridges are used for paper loading. Interchangeable cartridge inserts allow one cartridge to handle different sizes and types of paper.
- Three-Cartridge Capability—The sheet feeder contains three bins which accept fixed-width, variable-width, and envelope cartridges.
- Optional Cartridges—A fixed-width sheet cartridge, a variable-width sheet cartridge, and an envelope cartridge.
- Automatic Operation*—Feeder operation can be controlled via host generated escape sequences.
- Manual Operation*—Feeder operation can be controlled locally from the printer control panel.
- Bin Feature Selection—Print parameters can be set for each cartridge bin.
- Local or Remote Selection of Bin Features*—Bin features can be set from the printer control panel or via host generated escape sequences.
- Paper Tray—The standard feeder tray mounts on the front of the feeder and accepts sheets as they leave the printer in proper collating sequence.
- Fault Signals—Paper Empty conditions or misfeeds are signalled by the printer fault indicator and/or LCD.

* All operations are dependent on printer model.

1.2 PHYSICAL DESCRIPTION

The three-bin cut sheet feeder is composed of:

- The feeder body
- A front mounted paper tray
- Magnetic Window (Printer)

The feeder body includes a molded cover system, cartridge guides, a gear train, paper baffling, and feed rollers.

During operation, the sheet feeder is positioned on top of the printer, directly above the platen area. The feeder body is hinged to the rear of the printer, and can be tilted back to gain access to the printer mechanism.

One paper tray is provided with the feeder. The tray mounts to the front of the feeder body and accepts sheets as they leave the printer.

1.3 SHEET FEEDER OPTIONS

Purchaseable options for the sheet feeder include:

- Fixed-Width Cartridges—U.S. cartridge accepts 8½" wide sheets; European cartridge accepts 210 mm wide sheets.
- Variable-Width Cartridge—Contains an adjustable insert; insert can be adjusted to accept paper widths between 5.83 in. (148 mm) and 12.00 in. (305 mm).
- Envelope Cartridge—Contains an envelope insert and a special feed mechanism. Cartridge accepts up to fifty #9 or #10 envelopes.

An order form for the options is provided at the back of this manual.

1.4 RELATED PUBLICATIONS

The cut sheet feeder can be used with the following printers:

- Model 353-3,-4
- Model 354
- Model 358-3,-4

The following publications document the above listed printers. Publications can be ordered from Centronics, Hudson, NH, or be purchased at any of the Centronics Sales & Service Walk-in Centers, listed on the last page of this manual.

PUBLICATIONS FOR MODEL 353-3,-4

- Model 353-3,-4 User Manual Package—Includes one manual which details the installation, operation, and maintenance of the Model 353-3,-4 printer.

- Model 353-3,-4 Technical Manual Package—Includes one manual which details the theory of operation, the adjustment, and the maintenance of the Model 353-3,-4 printer. The manual lists recommended spare parts and provides step-by-step procedures for removing and replacing recommended spares. Schematic drawings for the print controller and format controller PCBs are included in the manual.

- 350 Series Illustrated Parts Manual Package—Includes one manual which contains illustrated part breakdowns of the mechanical assemblies and subassemblies used in the the Model 353-3,-4 printer.

PUBLICATIONS FOR MODEL 354-1,-2

- Model 354-1,-2 Technical Manual Package (P/N 37403440-6001)—Includes the following three manuals:
  - —Model 354-1,-2 General Technical Manual—Provides a general description of the printer and how it operates. Includes printer specifications, maintenance procedures, and a description of field installable options.
  - —Model 354-1,-2 Printer Mechanism Technical Manual—Contains procedures for the removal and the replacement of many printer assemblies and piece parts, including recommended spare parts.
  - —Model 354-1,-2 CPU/Print Controller Technical Manual—Describes printer electronics, and includes a detailed theory of operation, an electrical parts breakdown for each PCB, a PCB revision history, and schematic and assembly drawings of the PCBs.

- Model 354-1,-2 Operators Manual Package—Includes one heavily illustrated manual describing the installation, operation, and maintenance of the Model 354 printer. This basic reference manual includes step-by-step procedures for routine operations such as paper loading, ribbon replacement, impression adjustment, and use of the control panel switches. A troubleshooting guide is included in the manual.

- Model 354-1,-2 Illustrated Parts Manual Package—Consists of one illustrated parts manual that contains illustrations and lists of materials of all printer assemblies and subassemblies down to the piece part level. The manual also contains an index listing all printer parts in numerical order.

- Model 354-1,-2 Programmers Manual Package—Consists of one manual that identifies printer functions and features that can be controlled from the host device. Includes a description of control codes and escape sequences that are valid for the Model 354.

- Model 354-1,-2 Options Manual Package—Consists of one manual that contains information about each optional electronic module for the Model 354-1,-2 printer. Modules expand the capabilities of the printer and may effect certain operating procedures. The options manual package describes the modules, provides schematic/assembly diagrams, lists module parts, and explains how modules are installed. The options manual also describes operating procedures that are peculiar to the modules.

PUBLICATIONS FOR MODEL 358-3,-4

- Model 358-3,-4 User Manual Package—Includes one manual which generally describes the Model 358-3,-4 printer and details printer installation, operation, programming, and maintenance.

- Model 358-3,-4 Technical Manual Package—Includes the following three manuals:
  - —Model 358-3,-4 Technical Manual—This manual provides general information on the Model 358-3,-4 printer. Information includes specifications, installation and operation, maintenance, and field installable operations.
  - —355 Series Printer Mechanism Service Manual—This manual contains mechanism adjustment and removal/replacement procedures for Model 358-3,-4 and all other 355 Series printers.
  - —Format Controller/Print Controller Technical Manual—This manual details the two PCB assemblies in the printer. The manual provides a detailed theory of operation, electrical parts breakdowns, a PCB revision history, and schematic and assembly diagrams.

- 355 Series Illustrated Parts Manual Package—Includes one manual which contains illustrations and lists of materials of all Model 358-3,-4 mechanical assemblies and subassemblies down to a piece part level. The manual contains a numerical index listing every part in numerical order and referencing each part to a figure and index number.

1.5 FEEDER SPECIFICATIONS

Table 1-1 Sheet Feeder Specifications

PHYSICAL DIMENSIONS Width Height Depth Weight	 19.8″ (503 mm) 14.0″ (356 mm) 12.8″ (325 mm) 10.3 lbs (4.7 kg)
POWER SOURCE	Printer paper feed system
CARTRIDGES	Fixed-Width Sheet Cartridge Variable-Width Sheet Cartridge Envelope Cartridge
CYCLE TIME	5.5 sec., maximum (time elapsed between last printable line of current page to first printable line of next page from the same bin.)
RELIABILITY (sheet feeding only)	1000 mean feeds between operator correctable faults (last 3 sheets not included as fault)
OUTPUT TRAY CAPACITY	300 sheets (20 lb. paper) 50 envelopes (20 lb. paper)

Table 1-2 Cartridge Media Compatibility

FIXED-WIDTH CARTRIDGE, U.S. Paper Width Paper Length Paper Weight Capacity	 8.5″ ± 1/32″ 6″-14.0″ (8″-14″ when used in bin 3) 16 lb.-24 lb. (60-90 g/m²). 20 lb-24 lb recommended for optimum reliability. 150 sheets, 20 lb. paper (capacity varies for different types/weights of paper). Maximum stack heights of 5/8″ compressed and 1 1/8″ free state are recommended.
FIXED-WIDTH CARTRIDGE, EUROPE Paper Width Paper Length Paper Weight Capacity	 210 mm ± 1 mm 152 mm-356 mm (203 mm-356 mm when used in bin 3) 16 lb.-24 lb. (60-90 g/m²). 20 lb-24 lb. recommended for optimum reliability. 150 sheets, 20 lb. paper (capacity varies for different types/weights of paper). Maximum stack heights of 16 mm compressed and 29 mm free state are recommended.
VARIABLE-WIDTH CARTRIDGE* Paper Width Paper Length Paper Weight Capacity	 5.83″-12″ (148 mm-305 mm) 6″-14.0″ (152 mm-356 mm). (8″-14″ when used in bin 3) 16 lb.-24 lb. (60-90 g/m²). 20 lb-24 lb. recommended for optimum reliability. 150 sheets, 20 lb. paper (capacity varies for different types/weights of paper). Maximum stack heights of 5/8″ compressed and 1 1/8″ free state are recommended.
ENVELOPE CARTRIDGE Envelope Size Paper Weight Capacity	 #9; 8.875″ x 3.875″ ± .062″ (225 mm x 98 mm) #10; 9.500″ x 4.125″ ± .062″ (24 mm x 105 mm) 20-24 lb. (75-90 g/m²). 24 lb. diagonally folded recommended. 50 envelopes

* Not currently available.

SECTION 2
THEORY OF OPERATION

2.1 GENERAL

The Sheet Feeder is a mechanical device which is powered and controlled by the "host" printer. The sheet feeder can only be used with Centronics printers that have been designed (or modified) to accept the option.

2.2 MECHANICAL OPERATION

As shown in Figure 2-1, the main sheet feeder component, the feeder body, mounts on top of the printer, directly above the platen area. The body contains three receptacles, or bins, which accept cartridges containing sheets or envelopes.

When a cartridge is inserted into a bin, the cartridge selector mechanism couples with a gear train mounted on the right side of the feeder body. This train is connected to the printer feed roller gear. The feed roller gear is, in turn, connected to the printer feed motor, which drives the entire gear system.

Individual bins are selected through the mechanical action of the feeder gear train and the cartridge selector mechanisms.

Upon instruction to select a particular bin, the printer logic directs the paper feed motor to go through a unique series of rotations and counterrotations. Rotary motions are transmitted through the entire gear system, but engage the selector mechanism of only one cartridge. When instructed to select a different bin, the logic directs the feed motor to execute a different series of rotations/counterrotations, thereby causing a different bin/cartridge to be selected.

Once a cartridge is engaged, rotary motion from the cartridge selector mechanism is transmitted to the cartridge paper roll shaft. As the shaft turns, attached rollers friction feed one sheet downward, through a baffling system, and into the paper rollers of the printer. These rollers turn and position the sheet for printing.

After printing, the printer paper feed mechanism/sheet feeder output rollers eject the paper, directing it toward the output tray mounted on the front of the feeder.

2.3 BIN SELECTION/DESELECTION

Bin selection/deselection is entirely controlled by the printer logic. Upon instruction to select a bin, the printer logic directs:

1. The paper feed motor/feed mechanism to eject any sheet which is in the printer.
2. The paper feed motor to go through the series of rotations/counterrotations that cause one sheet to be loaded into the printer from either the front, middle, or rear bin of the feeder.

While the logic is directing these mechanical operations, it also:

1. Addresses memory locations which store print parameters for the selected bin.
2. Performs logical operations which make the print parameters operational.
3. Waits for a print command.

Normal printing operations can then occur.

Deselection of a bin occurs when:

1. The printer logic is instructed to select a different bin

   or

2. The logic is instructed to deselect the feeder.

Instruction to select a different bin causes the logic to repeat the routine just described.

Instruction to deselect the feeder is, in effect, instruction to select fanfold/single cut sheet mode. The logic configures the printer for fanfold/cut sheet parameters whenever it receives a feeder deselect command.

NOTE

Your printer user manual details control panel selection of the feeder, and provides the escape sequences used to select/deselect the feeder.

2.4 SETTING BIN PRINT PARAMETERS

A set of print parameters can be set for each of the feeder bins. Parameter selection/deselection is also controlled by the printer logic. Your printer user manual details the local selection of bin parameters and provides the escape sequences used to set parameters.

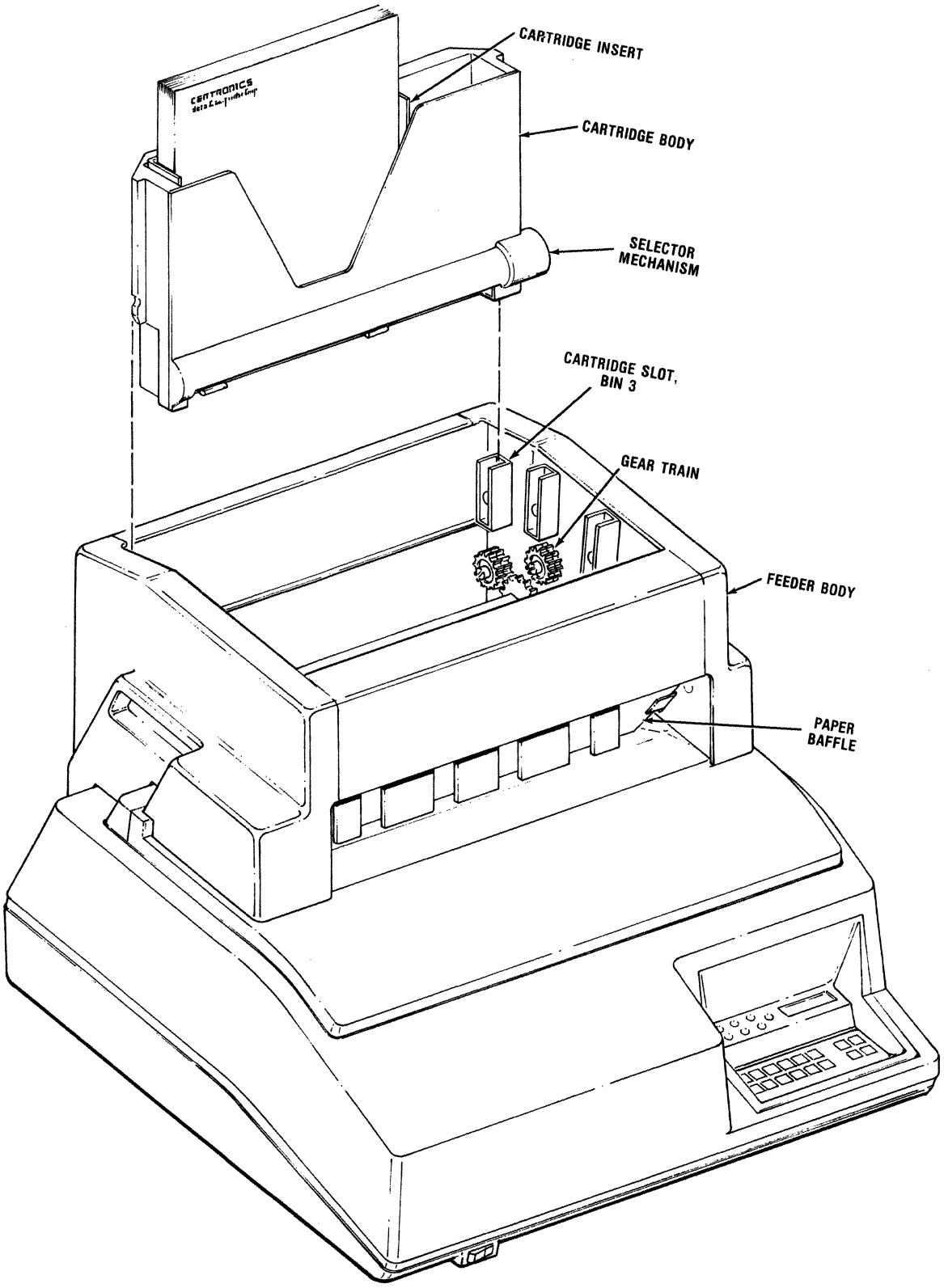

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Figure 2-1 Feeder Components

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SECTION 3
INSTALLATION

3.1 INTRODUCTION

This section details sheet feeder installation and is organized as follows:

- 3.2 Preliminary Procedures
- 3.3 Sheet Feeder Installation
- 3.4 Sheet Feeder Adjustment
- 3.5 Paper Tray Installation

3.2 PRELIMINARY PROCEDURES

Referring to Figure 3-1, perform the steps below before installing the sheet feeder.

1. Ensure the printer is on a flat, stable surface.
2. Remove the rear cover from the printer.
3. Open the tractor paper guides and remove fan-fold paper.
4. Close the paper guides.
5. Loosen the tractor locking levers, slide the left/right tractors to the extreme left/right, then lock tractors in place.

NOTE

Tractors must be positioned close to the side frames of the printer to clear the paper path of the sheet feeder.

6. Set the printer forms lever to "SHEET" position.
7. If your printer is equipped with a line locator, move the locator to the left end of the column scale/tear bar.
8. Remove the standard clear window attached to the top cover of the printer.
9. Attach the clear window shipped with your sheet feeder to the top cover of the printer.

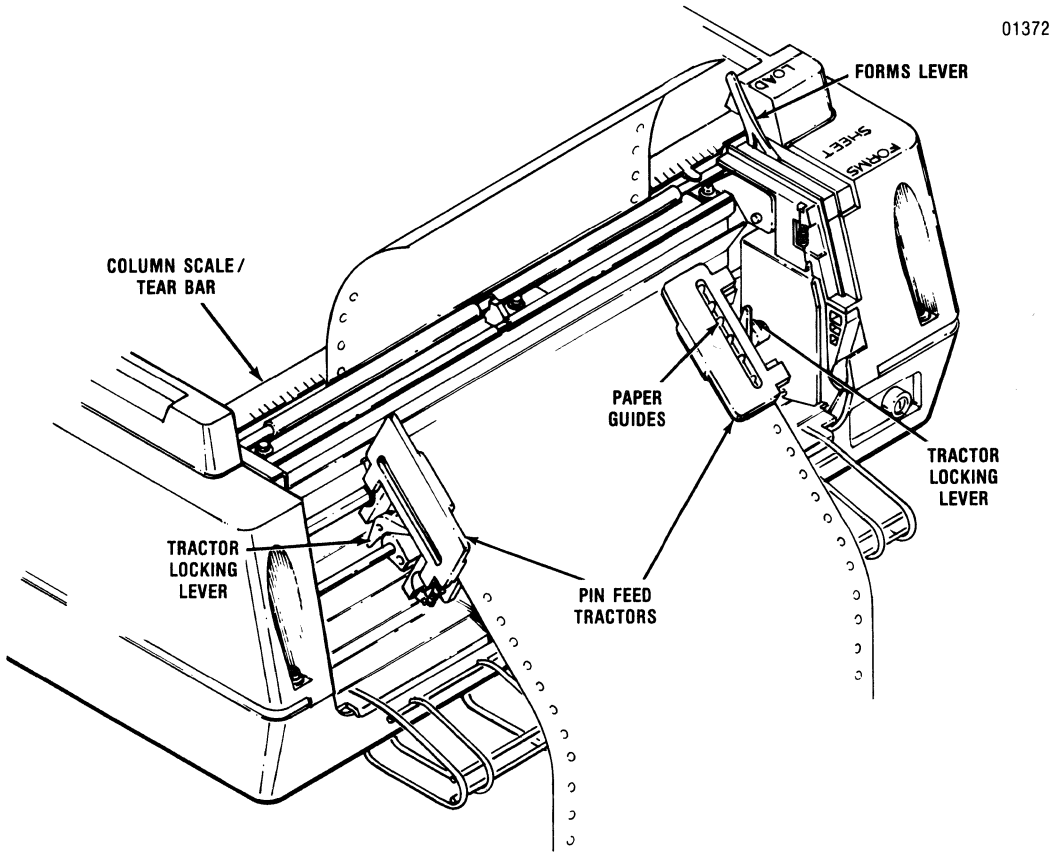

Figure 3-1 Preliminary Adjustments

3.3 SHEET FEEDER INSTALLATION

Refer to Figure 3-2 and perform the following steps to install the sheet feeder.

1. Pick up the sheet feeder and carefully guide the ends of the feeder adjustment rod (see exploded view, Figure 3-2) into the mounting slots at the back of the printer body cover.

2. Once the ends of the rod are in the slots, grasp the sides of the sheet feeder and lower it; note if the sheet feeder housing contacts either of the printer link shaft holders.

3. If the feeder housing does contact a shaft holder, turn the sheet feeder adjustment knob to change the lateral position of the sheet feeder. Continue adjusting until the housing does not contact the link holder(s).

4. Firmly grasp the sheet feeder stay arm, pull the arm forward, and insert the arm hook into the arm bracket, as shown in Figure 3-2.

5. Once the hook is inserted into the bracket, tilt the feeder back to lock the hook in place.

6. Move the sheet feeder into operating position by lowering the sheet feeder until the upper feeder support rod snaps into the plastic mounting clips that are on the printer platen.

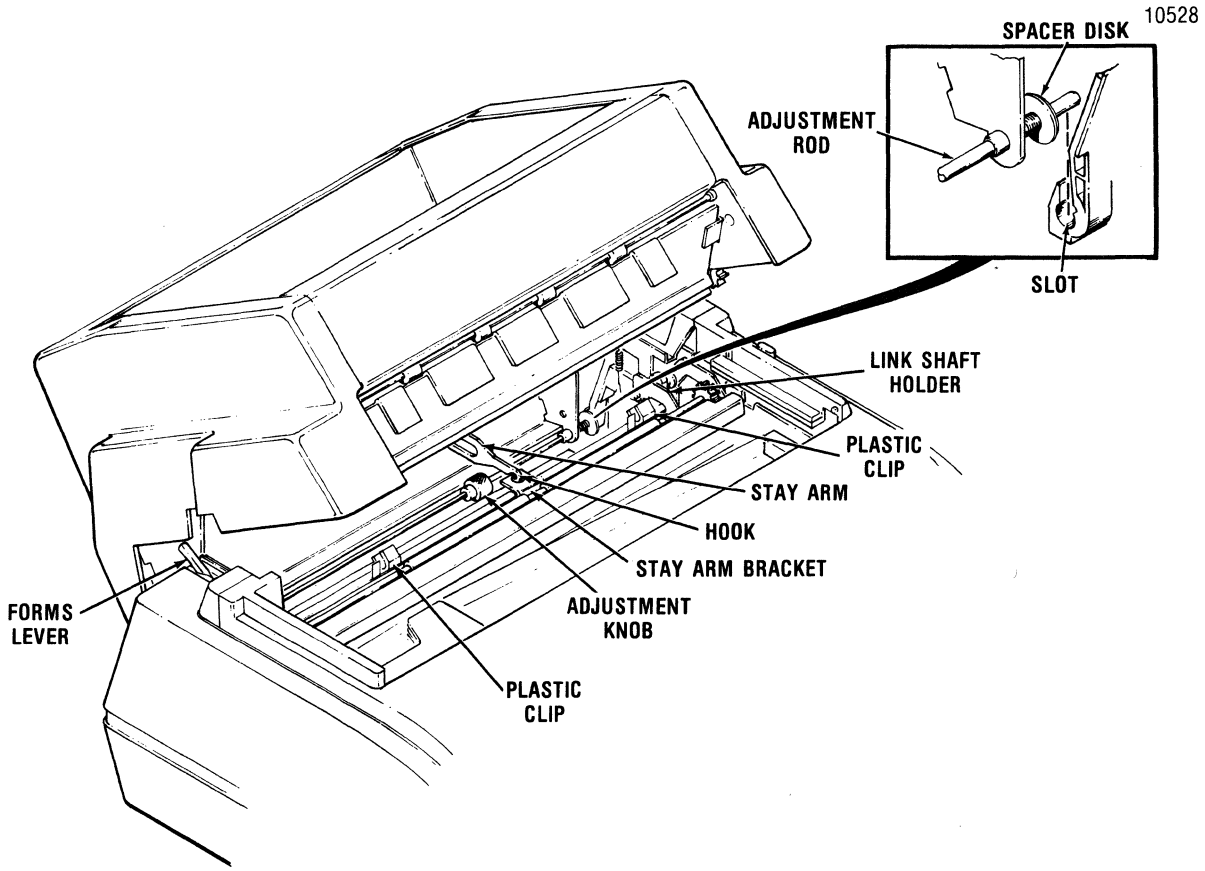

Figure 3-2 Installation, Sheet Feeder

3.4 SHEET FEEDER ADJUSTMENT

Horizontal adjustment of the sheet feeder is usually required after initial installation. To determine if your feeder needs horizontal adjustment, perform the following steps:

1. Load sheets into a cartridge. Be sure the cartridge insert is justified LEFT (refer to paragraph 4.9).
2. Load the cartridge into bin 1 (front bin).
3. Load a sheet into the printer from bin #1 of the feeder. Refer to your printer user manual for details concerning sheet feeder paper loading.
4. Lift the feeder body up and note how the left edge of the sheet that is in the printer lines up with the right edge of the cut sheet load indicator on the printer scale/tear bar (see Figure 3-3).
5. If the edge of the sheet lines up with the edge of the load indicator, the feeder is properly aligned with the printer and no horizontal adjustment is required. If the sheet does not line up with the edge of the indicator, perform the adjustment described in paragraph 3.4.1.

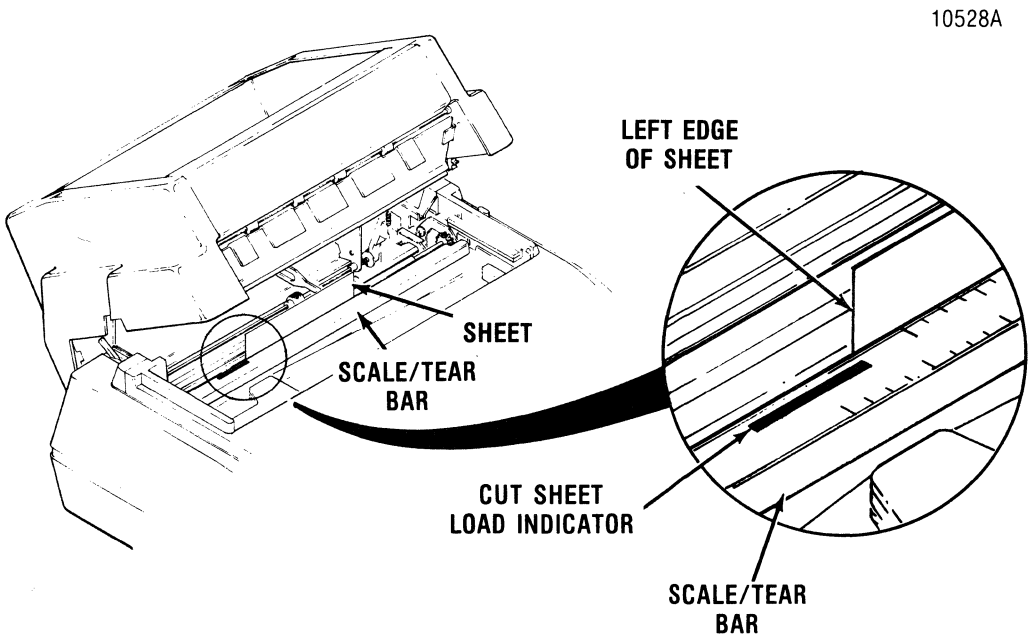

Figure 3-3 Sheet Alignment; Horizontal Adjustment

3.4.1 ADJUSTMENT PROCEDURE—This procedure involves turning the feeder adjustment rod to change the lateral position of the feeder on the printer. Turning the rod in one direction moves the feeder closer to one side of the printer; turning the rod in the opposite direction moves the feeder closer to the other side of the printer.

The adjustment rod in your feeder is turned using either (1) an adjustment wheel, which is at the back of the feeder, or (2) an adjustment knob, which is inside the feeder body.

Look at the back of your feeder to determine if it has an adjustment wheel, like that shown in Figure 3-4. If the wheel is present, perform steps 1 and 2 below. If your feeder does not have the wheel, skip to steps 3 through 7 below.

1. Turn the adjustment wheel UP (see Figure 3-4) to move the feeder closer to the LEFT (form lever) side of the printer; turn the wheel DOWN to move the printer toward the RIGHT (control panel) side of the printer.

NOTE

One full turn of the wheel moves the feeder approximately 1/20".

2. **Eject the loaded sheet and load another to determine if the new sheet lines up with the edge of the load indicator. Repeat steps 1 and 2 until alignment is correct.**

3. Tilt the feeder body back and locate the horizontal adjustment knob, shown in detail in Figure 3-5.

4. Tilt the feeder all the way back to gain access to the adjustment knob.

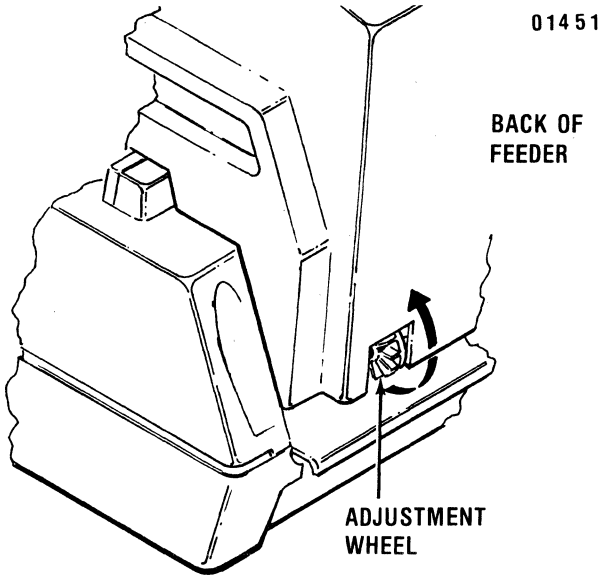

Figure 3-4 Horizontal Adjustment; Adjustment Wheel

5. Turn the knob UP (see Figure 3-5) to move the feeder toward the RIGHT (control panel) side of the printer; turn the knob DOWN to move the feeder toward the LEFT (forms lever) side of the printer.

NOTE

One full turn of the knob moves the feeder approximately 1/20".

6. **Lower the feeder back into operation position; eject the loaded sheet and reload another sheet, then determine if the edge of the new sheet lines up with the edge of the load indicator.**

7. **Repeat steps 4 through 6 until alignment is correct.**

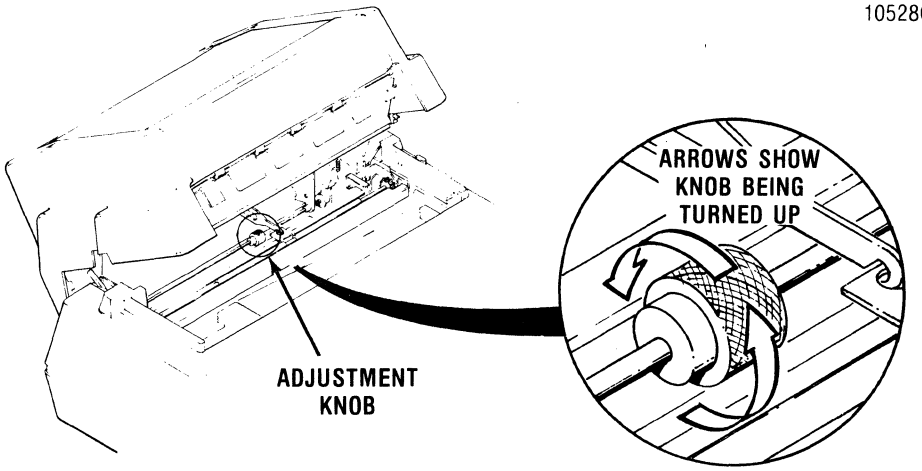

Figure 3-5 Horizontal Adjustment; Adjustment Knob

3.5 PAPER TRAY INSTALLATION

The tray attaches to the front of the feeder. To install the tray, refer to Figure 3-6 and perform the following steps:

1. Guide the tray into the feeder body so that the back panel of the tray is just behind the baffle dentations.

2. Lower the front of the tray until the front supports contact the printer top cover.

3. Pull the tray forward until the baffle dentations press against the back panel.

4. To remove the tray, pivot the tray up while pushing down and pulling forward.

CAUTION

To eliminate the possibility of the paper tray falling to the floor, always **REMOVE THE TRAY BEFORE LIFTING THE FEEDER BODY** to clear paper jams or to make adjustments.

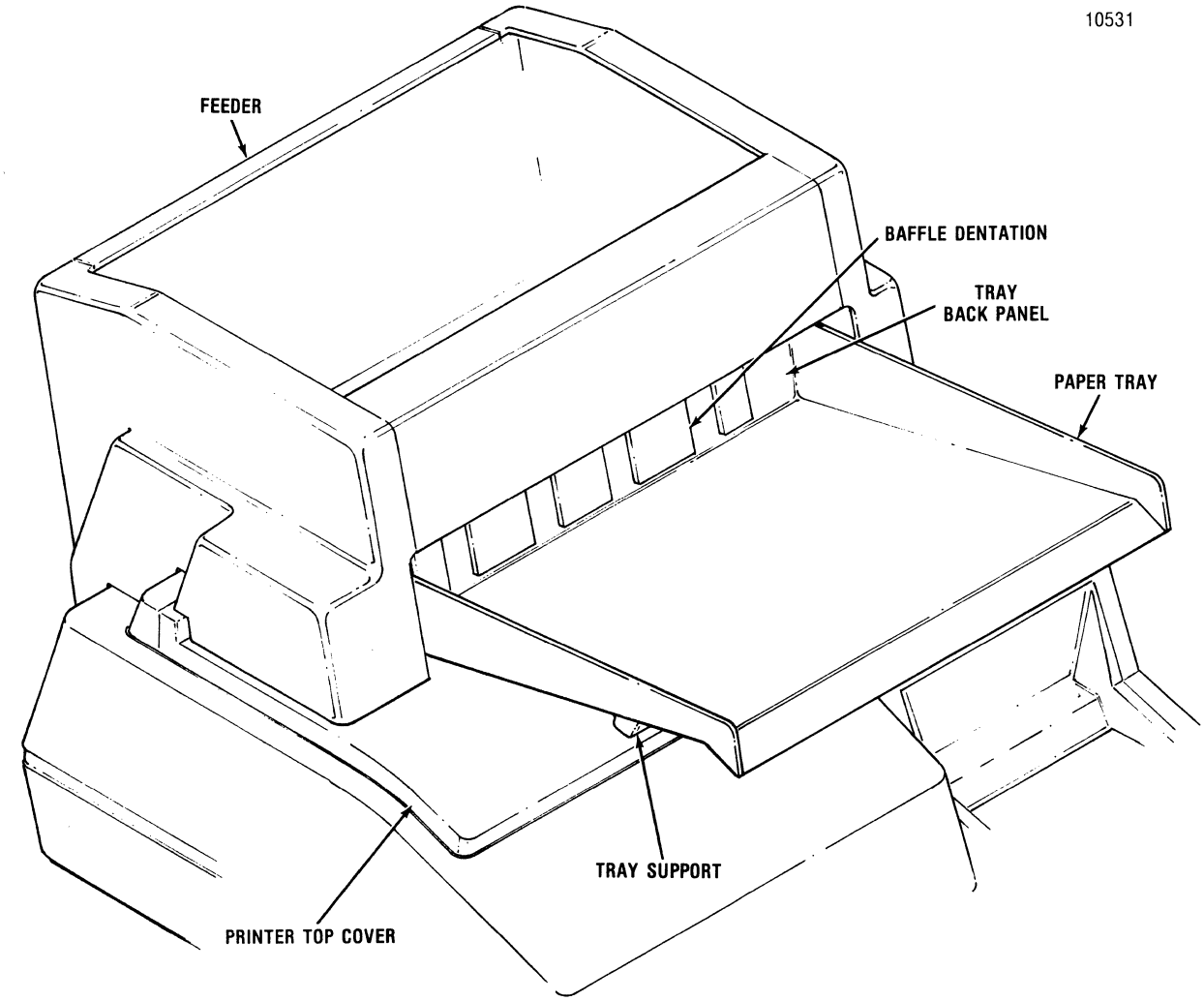

Figure 3-6 Installation, Paper Tray

SECTION 4
PAPER LOADING

4.1 INTRODUCTION

This section details paper loading and is organized as follows:

- 4.2 Working with Paper
- 4.3 Cartridges; General Information
- 4.4 Loading the Fixed-Width Cartridge
- 4.5 Loading the Variable-Width Cartridge
- 4.6 Loading the Envelope Cartridge
- 4.7 Loading Cartridges into the Sheet Feeder
- 4.8 Removing/Replacing Fixed-Width Cartridge Inserts
- 4.9 Removing/Replacing the "T" Shaped Paper Support

4.2 WORKING WITH PAPER

The quality and condition of the paper you use in the sheet feeder is important. If you use suitable paper which is in good condition, you can expect the sheet feeder to operate smoothly and efficiently. If you use unsuitable paper, or paper in poor condition, you are inviting misfeeds, paper jams, and other paper handling problems.

The following guidelines should be followed to ensure optimum sheet feeder performance:

USE SUITABLE PAPER

Plain bond paper is recommended above all other types. Ideally, composition should be 25%-50% cotton, weight should be 20 lb. bond (75 g/m^2).

Acceptable compositions include:

- No. 1 Sulfite (100% chemical wood pulp)
- 100% cotton content
- Paper made from recycled office paper

Acceptable weight range is as follows:

- 16 lb.-24 lb. bond (60 g/m^2-90 g/m^2)
- 20 lb.-24 lb. recommended for optimum reliability.

AVOID CERTAIN TYPES OF PAPER/MEDIA

The following are **NOT RECOMMENDED** for use in the sheet feeder. Use may cause misfeeds, jams, or other problems which reduce overall reliability.

- Paper excessively curved or wavy. 1/32 in. per inch and 1/8 in. total maximum flatness.
- Coated papers
- Vellum paper
- Coated erasable bond
- Synthetic paper (rice paper, parchment, etc.)
- Translucent paper
- Multipart forms
- Forms using peel-off, pressure sensitive labels
- Chemically treated papers (carbonless copy papers)
- Card stock
- Dark colored paper
- Preprinted forms requiring critical registration accuracy
- Folded or creased documents
- Highly embossed paper
- A mix of different sizes/types of paper
- Reams of paper with edges or corners folded or bonded
- Paper with poorly cut (rough) edges
- Paper exposed to adverse temperature and/or humidity

STORE PAPER IN A PROPER ENVIRONMENT

Dimensional changes occur in paper which is exposed to variations in temperature and/or humidity. Low humidity tends to shrink paper, while high humidity tends to expand the size of paper. Since paper handling problems are more likely to occur if sheets are not of uniform size, it is important to store paper in an environment which is not subject to variations of temperature/humidity.

Ideally, paper should be stored in an area where the temperature is approximately 72°F (23°C) and the relative humidity is between 40% and 60%.

NOTE

Paper exposed to extremes of temperature and/or humidity may not recover to original dimensions when returned to an ideal environment.

INSPECT PAPER BEFORE LOADING

Always use new paper in the feeder.

Before opening a package of paper, inspect the wrapper. If it is torn, dented, or otherwise less than perfect, be sure the enclosed stack of paper is not damaged.

Riffle through a stack of paper before loading the paper into a cartridge. Remove any torn or wrinkled forms, and be sure to square off all edges of the stack before loading the paper into the cartridge.

4.3 CARTRIDGES, GENERAL INFORMATION

Two types of cartridges are now available:

FIXED-WIDTH CARTRIDGE—The fixed-width cartridge holds up to 150 8.5 inch wide sheets. The European version of the fixed-width cartridge holds up to 150 210 mm-wide sheets.

A spring loaded insert holds paper in place inside the cartridge body. This insert can be positioned at the left or right side of the cartridge to permit special types of printing. Normally, the insert is justified LEFT, i.e., positioned at the left side (facing front) of the cartridge. The fixed-width cartridge may be used in any of the three bins in the sheet feeder.

ENVELOPE CARTRIDGE—An optional cartridge that holds 50 business sized (#9 or #10) envelopes.

The envelope cartridge can only be loaded into the front bin of the sheet feeder. Never load the cartridge into the middle or the rear bin.

A third type of cartridge will be available soon:

VARIABLE-WIDTH CARTRIDGE—An optional cartridge. The cartridge holds up to 150 sheets. An adjustable side plate inside the cartridge can be moved to accommodate paper widths from 5.83″ (148 mm) to 12″ (305 mm).

Like the standard fixed-width cartridge, the variable-width cartridge can be used in any of the feeder bins.

Refer to Table 1-2 for cartridge specifications.

4.4 LOADING THE FIXED-WIDTH CARTRIDGE

Refer to Figure 4-1 and perform the following steps to load sheets into the fixed-width cartridge:

1. Unpack the sheets to be loaded.
2. Secure enough sheets to load the cartridge.

NOTE

The fixed-width cartridge can hold up to 200 sheets of paper, overloading the cartridge may result in improper feeding. 20 pound, plain bond paper is recommended for optimum performance.

3. Fan through the sheets and remove any ripped/wrinkled sheets; ensure all letterhead/printed sheets are positioned the same way.
4. Even sheet edges to make a neat stack.
5. Lay the stack aside, with sheet sides to be printed facing up.
6. Remove the empty cartridge from the feeder.
7. Grasp the bottom, middle part of the cartridge—keep fingers against the back, palm against the base, and thumb pressing down on the spring-loaded insert plate.
8. Ensure locking tabs of cartridge insert are properly engaged. If not snap into place.
9. Pick up the stack of sheets and insert into the cartridge insert per paragraph 4.3.
10. Once the bottom of the stack presses against the base of the insert, release the spring-loaded plate. The top sheet will press against the feed rollers.
11. Ensure all sheets are below the corner separators (refer to Figure 4-1), and against the base of the insert.
12. Adjust the "T" shaped paper support. Ideally, the support should be extended so that the top of the "T" is just below the top of the stack of sheets.
13. Load the cartridge into a bin. (Refer to paragraph 4.7.)
14. Select the feeder and load from bin 1, 2, or 3 using the procedure described in your printer user manual.

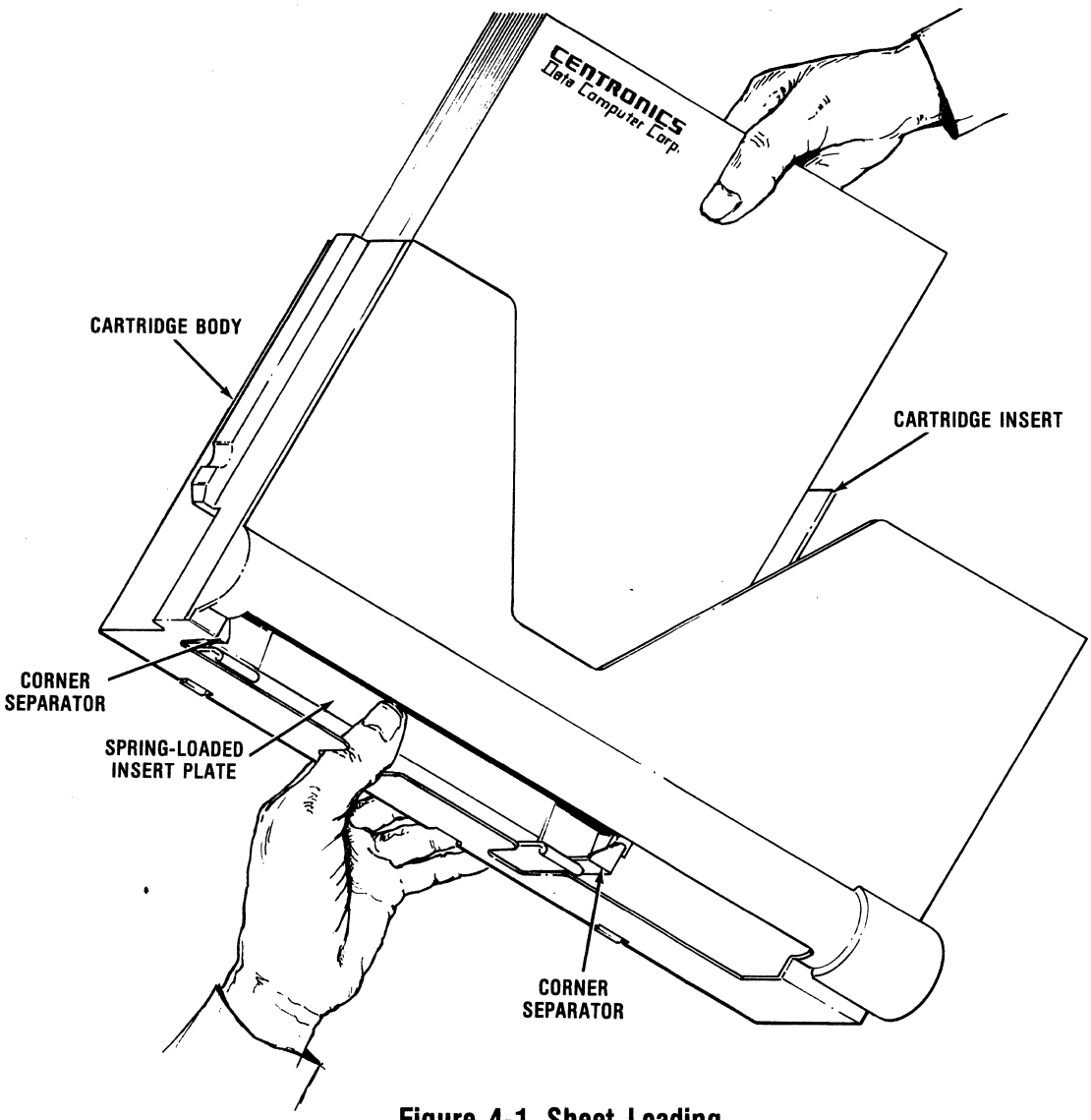

Figure 4-1 Sheet Loading

4.5 LOADING THE VARIABLE-WIDTH CARTRIDGE

Refer to Figure 4-2 and perform the following steps to load sheets into the variable-width cartridge.

1. Secure a stack of sheets for loading.

NOTE

The cartridge can be adjusted for sheet widths from 5.83 inches to 12.00 inches. Up to 150 sheets can be loaded at one time. Overloading may result in improper feeding.

2. Fan through the sheets and remove any ripped/wrinkled sheets; ensure all letterhead/printed sheets are positioned the same way.

3. Even sheet edges to make a neat stack.

4. Lay the stack aside, with sheet sides to be printed facing up.

5. Remove the empty cartridge from the feeder.

6. Carefully move the width adjustment slider to the right until the distance between the adjustable side plate and the fixed side plate on the left side of the cartridge exceeds the width of the sheets you are loading.

NOTES

1. Rough handling/excessive use of the slider promotes wear of the slider and/or width guage.
2. The inch/millimeter marks on the width guage indicate distances between the adjustable side plate and the fixed side plate. Stop moving the slider when the pointer on the slider has passed the inch/millimeter mark which corresponds to the width of the paper being loaded.

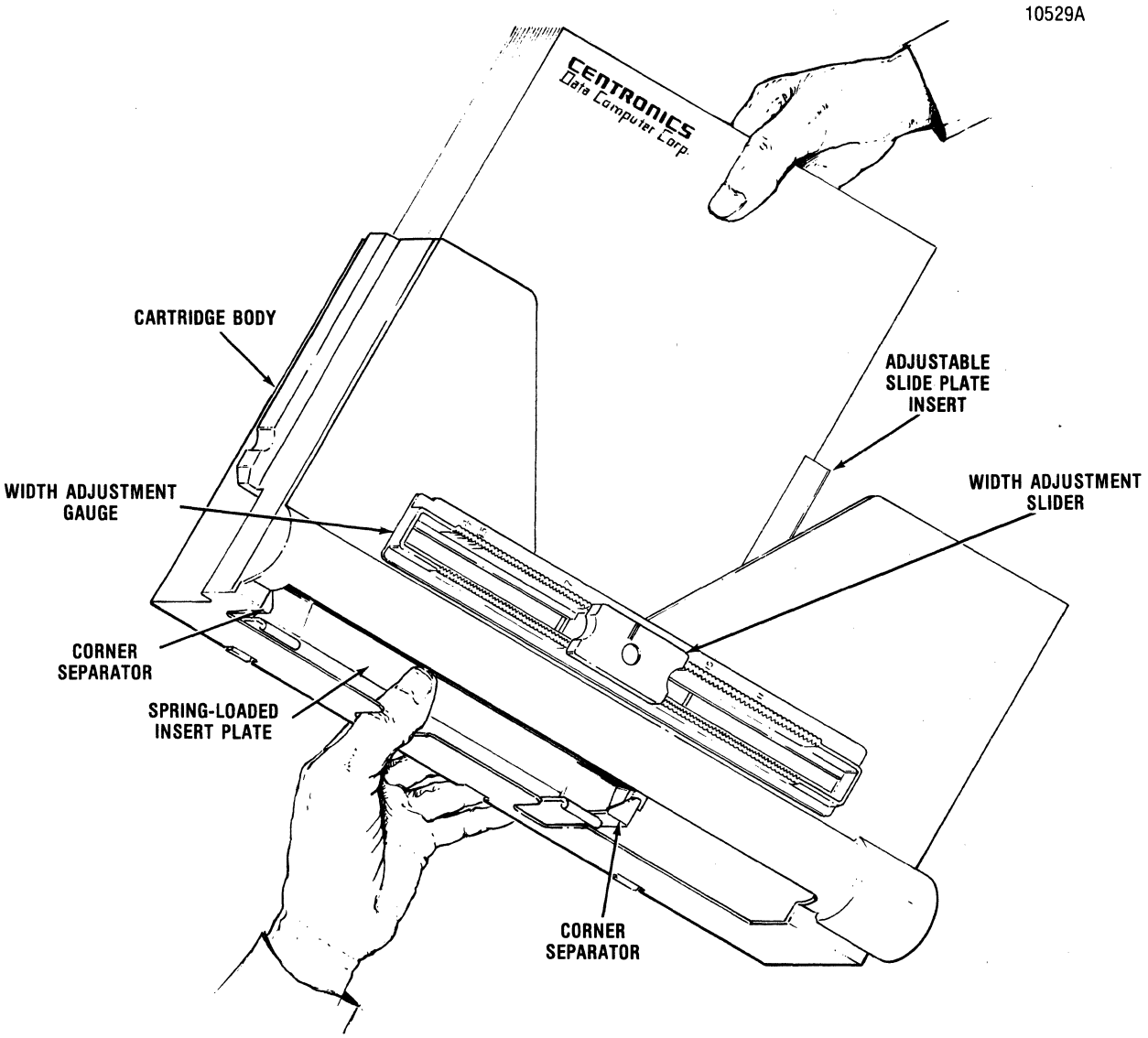

Figure 4-2 Loading the Variable-Width Cartridge

7. Grasp the bottom, middle part of the cartridge—keep fingers against the back, palm against the base, and thumb pressing down on the spring-loaded insert plate.
8. Pick up the stack of sheets and insert into the cartridge insert per paragraph 4.2.
9. Once the bottom of the stack presses against the base of the insert, release the spring-loaded plate. The top sheet will press against the feed rollers.
10. Ensure all sheets are below the corner separators (refer to Figure 4-2), and against the base of the insert.
11. Move the slider to the left until the side plate contacts the right side of the stack of sheets, then move the slider one notch to the right.
12. Adjust the "T" shaped paper support. Ideally, the support should be extended so that the top of the "T" is just below the top of the stack of sheets.
13. Load the cartridge into a bin. (Refer to paragraph 4.7.)
14. Select the feeder and load from bin 1, 2, or 3 using the procedure described in your printer user manual.

4.6 LOADING THE ENVELOPE CARTRIDGE

ADJUSTMENT PROCEDURE (Refer to Figure 4-3)
The insert should be adjusted before envelopes are loaded. To adjust for size 9 envelopes, loosen the adjustment knob at the back of the cartridge (see Figure 4-2), move the adjustment knob to the far right, then tighten the knob to lock the adjustable side plate in position. To adjust for size 10 envelopes, loosen the knob, move the knob to the far left, then tighten the knob to lock the adjustable side plate in place.

LOADING PROCEDURE

NOTE

Loading more than 50 envelopes may result in improper feeding. Refer to Table 1-2 for correct paper weights.

1. Secure a stack of envelopes for loading.
2. Fan through the envelopes and remove any ripped/wrinkled envelopes; ensure all envelopes are positioned the same way.
3. Even envelope edges to make a neat stack.
4. Lay the stack aside, envelope faces facing up.
5. Remove the empty envelope cartridge from bin 1.

NOTE

The envelope cartridge can only be used in bin 1 (front bin).

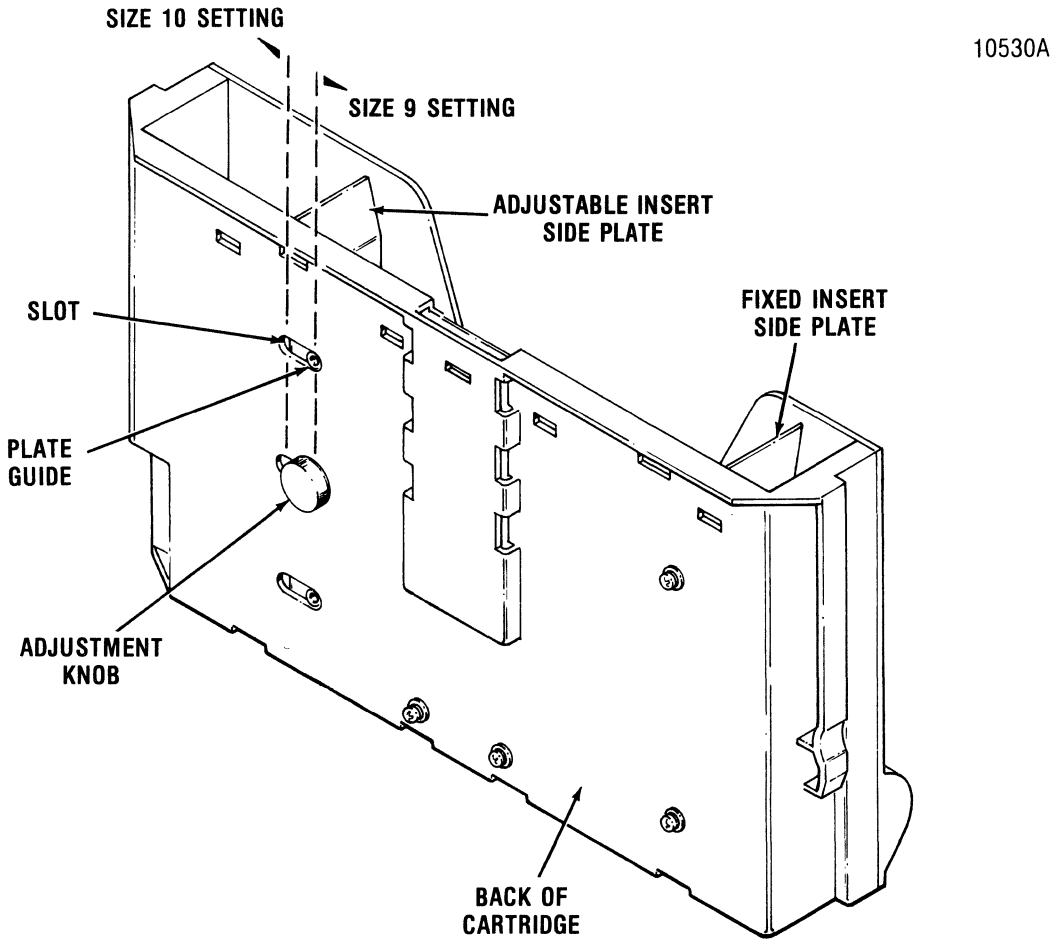

Figure 4-3 Adjustable Envelope Cartridge; Set for Size 9 Envelopes

6. Grasp the bottom, middle part of the cartridge—keep fingers against the back, palm against the base, and thumb pressing down on the spring-loaded insert plate.

7. Pick up the stack of envelopes and insert into the cartridge insert.

8. Once the bottom of the stack contacts the base of the insert, relax thumb pressure so that the spring-loaded plate presses the top envelope against the feed rollers.

9. Ensure all envelopes are against the cartridge base.

10. Load the cartridge into bin 1. (Refer to paragraph 4.7.)

11. Select the feeder and load from bin 1 using procedures described in your printer user manual.

NOTE

Because of design differences between cut paper envelope cartridges, left edges of paper do **not** line up with left edges of envelopes. Envelope edges are 1″ to the right of cut sheet form edges.

4.7 LOADING CARTRIDGES INTO THE SHEET FEEDER

Six slots mounted on the inside left/right side frames of the feeder compose the feeder bins. The front pair of slots compose bin 1, the middle pair bin 2, the rear pair bin 3.

The feeder will operate with one, two, or three bins loaded. You can load three paper cartridges, or one envelope cartridge and two paper cartridges. The envelope cartridge can only be used in bin 1.

To load a cartridge, refer to Figure 4-4 and perform the following steps:

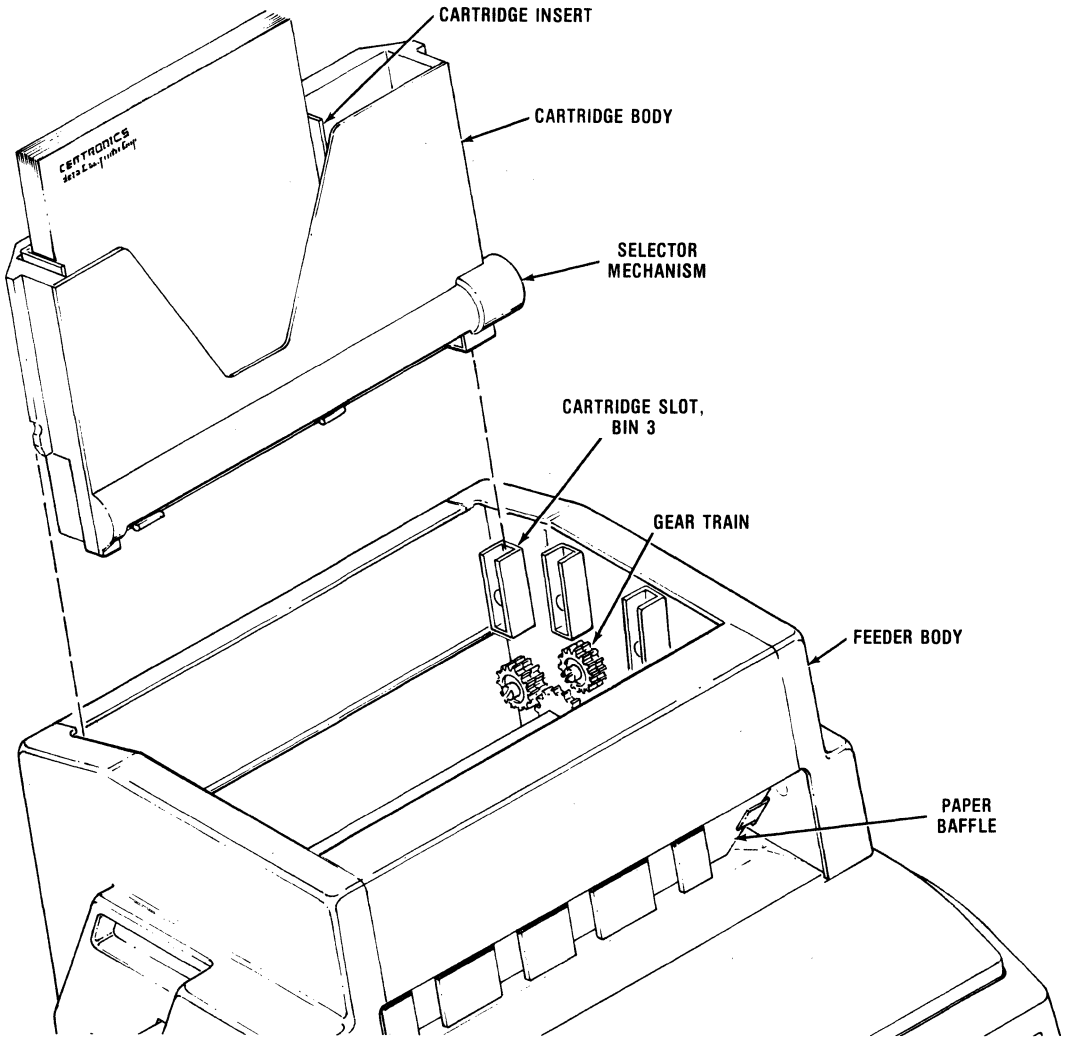

Figure 4-4 Loading Cartridges into the Sheet Feeder

1. Facing the front of the feeder, position the cartridge above the required bin (pair of slots). The cartridge selector gear should be to your right.
2. Carefully guide either end of the cartridge into the slots on the side frames.
3. Grasp the end of the cartridge and push down until the cartridge locks into place in the bin.

NOTE

Apply equal pressure at both ends while pushing to avoid binding.

To unload a cartridge:

1. Perform steps 1 through 3, above, in reverse order.

4.8 REMOVING/REPLACING; FIXED WIDTH CARTRIDGE INSERTS

The cartridge inserts may be left or right justified to meet the printing requirements at hand.

TO REMOVE AN INSERT (refer to Figure 4-5)

1. Remove the cartridge from the feeder (par. 4.5).

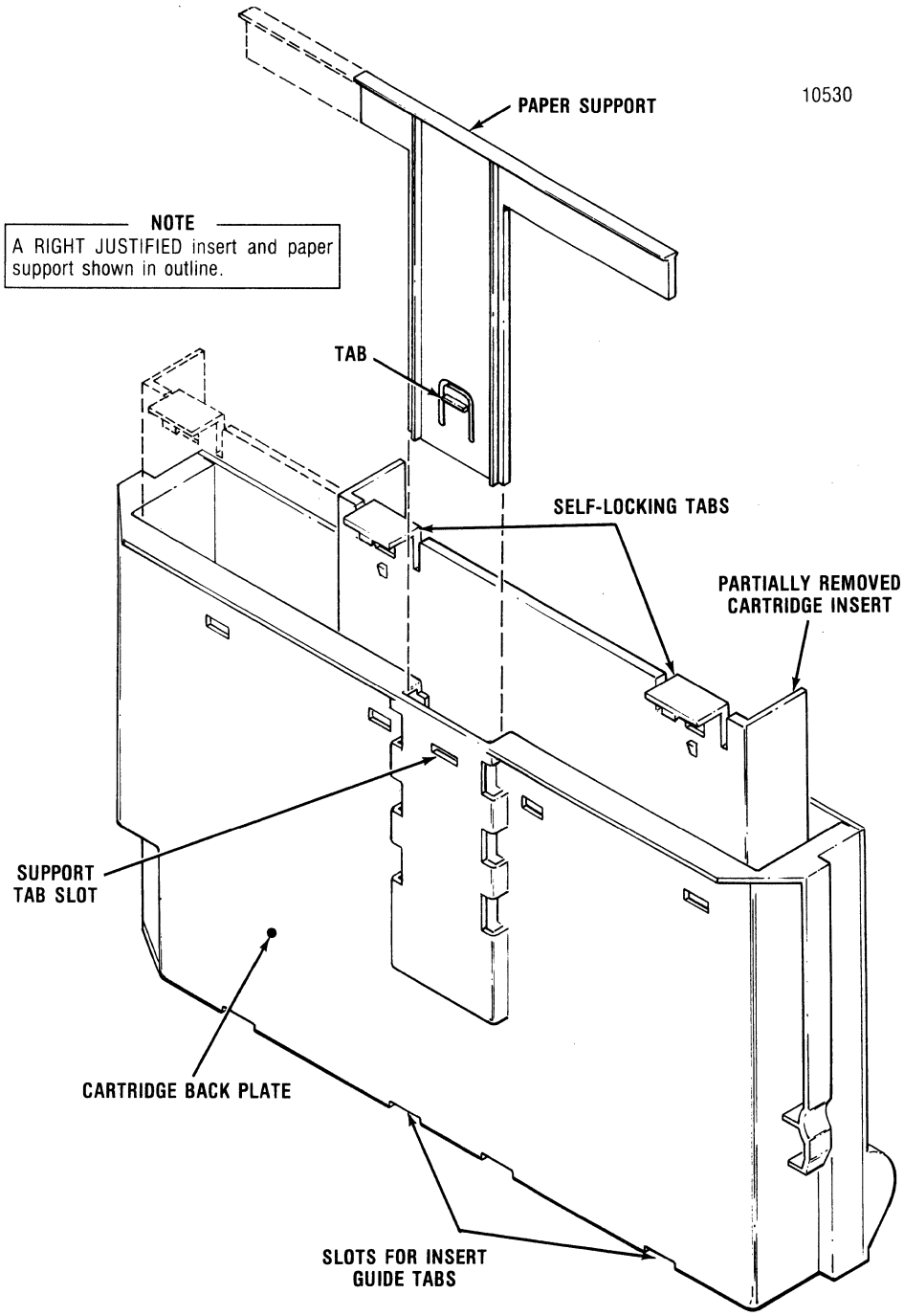

Figure 4-5 Removal/Replacement, Cartridge Insert (Fixed-Width Cartridge Shown: Insert and Support Justified Left)

2. Remove any sheets loaded in the insert.
3. Facing the cartridge backplate, unsnap the self-locking insert tabs which secure the top of the insert to the cartridge back plate.
4. Pull the insert up and out of the cartridge.

TO REPLACE AN INSERT (refer to Figure 4-5)

1. Ensure paper support is in place and properly justified (refer to par. 4.9).
2. Guide the insert into the cartridge body.
3. Slide the insert to the extreme left or right to justify as required.
4. Tilt the base of the cartridge up and adjust the insert left/right until the two guide tabs at the bottom of the insert are positioned in the slots in the cartridge base.
5. Snap the two top insert tabs into locked position by pressing the top of the insert against the cartridge back plate.

4.9 REMOVING/REPLACING THE "T" SHAPED PAPER SUPPORT

The paper support should always be justified in the same direction as the cartridge insert (see Figure 4-5). To reverse justification of the support, perform the removal/replacement procedures described below.

TO REMOVE THE PAPER SUPPORT—Obtain a flatblade screwdriver and perform the following steps:

1. Remove the cartridge from the insert (par. 4.8).
2. Raise the paper support until it locks into maximum-extended position.
3. Insert the edge of the screwdriver into the support tab slot and gently push the tab back while pulling the support up.
4. Once the tab is above the slot, remove the screwdriver and pull the support up and out of the cartridge.

TO REPLACE THE SUPPORT

1. Ensure the insert is removed from the cartridge.
2. Insert the support into its guide, making sure the support arm is justified in the proper direction.

You may now install the cartridge insert. Refer to paragraph 4.8.

SECTION 5
TROUBLESHOOTING

5.1 INTRODUCTION

This section provides suggestions for correcting paper handling problems such as misfeeds, jam, etc.

CAUTION

Jams/misfeeds should be corrected immediately to avoid possible damage to a mylar paper guide inside the sheet feeder body.

5.2 TROUBLESHOOTING PAPER HANDLING PROBLEMS

Most paper handling problems can be corrected quickly and with minimal effort.

Table 5-1, the Paper Handling Troubleshooting Guide, lists the more common paper handling problems, lists possible causes, and describes the actions you should perform to correct the problems.

Table 5-1 Troubleshooting Guide

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Complete lack of feed.	Cartridge empty.	Load cartridge.
	Cartridge improperly installed in bin causing improper/no gear engagement.	Ensure cartridge is installed squarely and "bottomed" in the bin.
	Feeder body not engaging printer mounting blocks.	Ensure body engages blocks.
	Media in cartridge too wide or poorly stacked.	Ensure media is of proper width and is neatly stacked in cartridge.
	Paper too heavy.	Ensure maximum paper weight of 24 #.
	Faulty selector assembly.	Replace selector assembly.
Partial feed.	Media in cartridge too wide or poorly stacked.	Ensure media is of proper width and is neatly stacked in cartridge.
	Paper too heavy.	Ensure maximum paper weight of 24 #.
	Paper not flat, wrinkled, etc.	Ensure paper is flat and free of wrinkles. Maximum 1/32" per inch, 1/8" total curl.
	Paper path obstructed.	Clear obstruction.
	Printer forms lever not in "SHEET" position.	Set forms lever in "SHEET" position.
	Locking tab of cartridge insert not properly engaged.	Snap into place.
Incomplete insertion.	Printer forms lever not in "SHEET" position.	Set forms lever in "SHEET" position.
	Forms length/lines per inch ratio too low for length of media being used.	Verify forms length and lines per inch settings (refer to printer user manual) and ensure ratio is correct.
Excessive insertion.	Forms length/lines per inch ratio too low for length of media being used.	Verify forms length and lines per inch settings (refer to printer user manual) and ensure ratio is correct.

Table 5-1 Troubleshooting Guide (cont.)

PROBLEM	POSSIBLE CAUSE	CORRECTIVE ACTION
Paper buckles in print cavity during insertion.	Paper path in printer is obstructed.	Remove obstruction.
	Paper tear bar (printer) improperly adjusted.	Adjust tear bar.
	Paper set plate (printer) damaged.	Replace set plate.
No/incomplete paper discharge.	Paper/envelope not flat, wrinkled, etc.	Ensure paper/envelopes are flat, wrinkle-free, etc.
	Mylar gate on upper paper guide assembly (feeder) damaged.	Replace upper paper guide assembly.
	Feeder misadjusted.	Perform horizontal adjustment per paragraph 3.4.

SECTION 6
PARTS BREAKDOWN

6.1 INTRODUCTION

This section contains illustrated parts breakdowns of the automatic sheet feeder and associated paper/envelope cartridges.

Exploded-view drawings in this section are accompanied by lists of materials identifying assemblies and piece parts shown in the drawing. An example of an item listing is shown below:

ITEM	PART NUMBER	DESCRIPTION	QTY
4	64003821-2001	Screw Assembly, Pan Head, Rec.	6

In the listing:

- **4** is the item figure reference number
- **64003821-2001** is the item part number
- **Screw Assembly, Pan Head, Rec.** is the item description. . . in this example, a pan-head screw assembly
- **6** is the item quantity, i.e. the number of such items used in the sheet feeder. Typically, an item will be designated in the figure only once, regardless of quantity used.

In this section, parts breakdowns are organized as follows:

FIGURE	BREAKDOWN
6-1	Sheet Feeder, Cover Panels
6-2	Sheet Feeder, Mechanism
6-3A	Sheet Feeder, Mechanism
6-3B	Sheet Feeder, Mechanism
6-4	Sheet Feeder, Power Take Off (PTO) Assembly
6-5	Cartridge, Fixed-Width (8.5″ or 21 cm)
6-6	Cartridge, Envelope

NOTE

Two "stand-alone" auxiliary items for the sheet feeder are not illustrated in this section. Part numbers and descriptions are as follows:

PART NO.	DESCRIPTION	QTY
64002005-2001	Paper Tray (attaches to feeder)	1
64003735-5001	Modified 350 Series Printer top cover	1

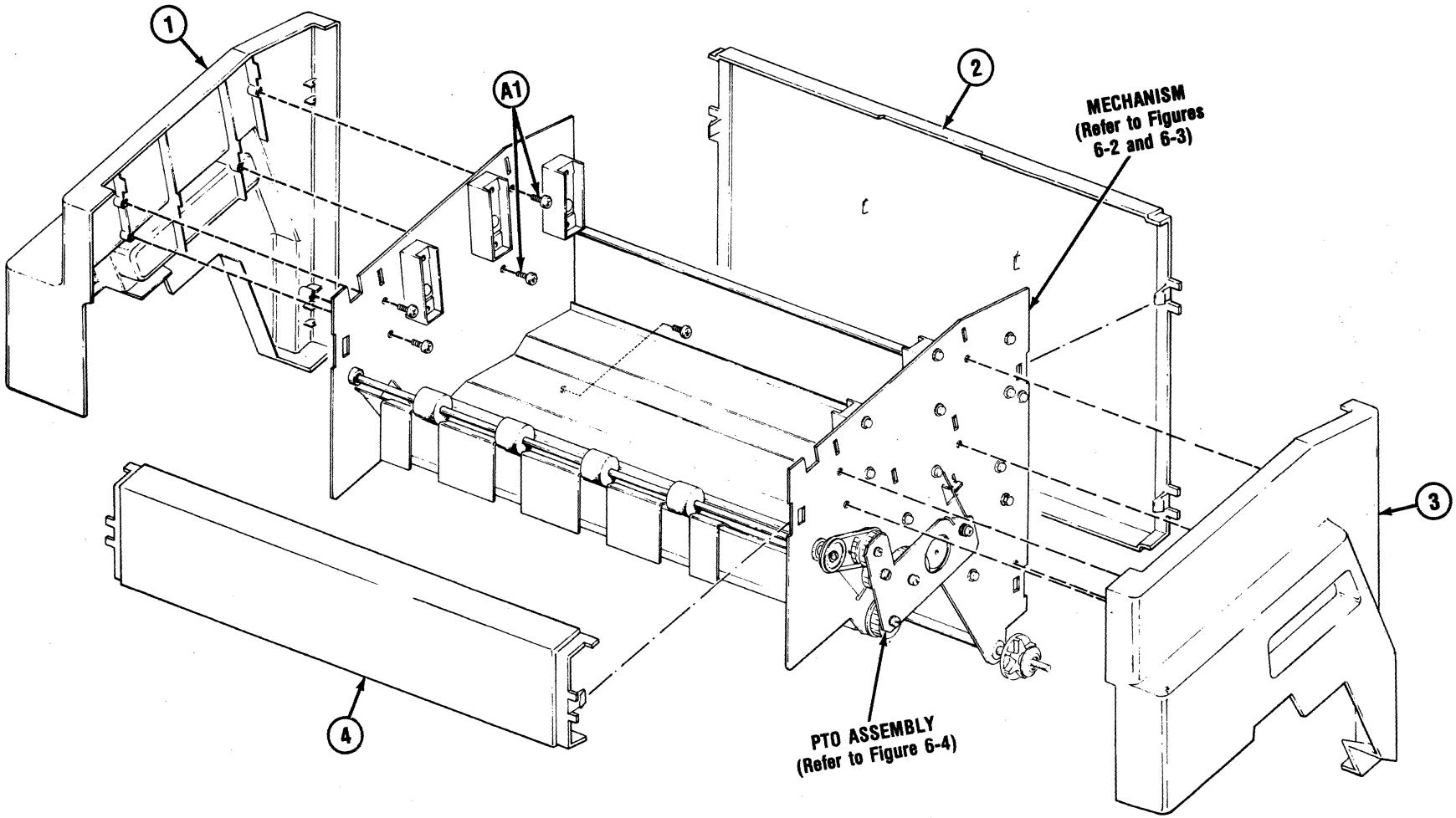

Figure 6-1 Sheet Feeder Cover Panels

LIST OF MATERIALS
SHEET FEEDER COVER PANELS
(Refer to Figure 6-1)

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	64003364-5001	Side Panel Assembly, Left	1
2	64001077-2001	Rear Panel	1
3	64003370-5001	Side Panel Assembly, Right	1
4	64002004-2001	Front Panel	1
ATTACHING HARDWARE			
A1	34000775-2084	Screw Assembly, Sems, M4	10

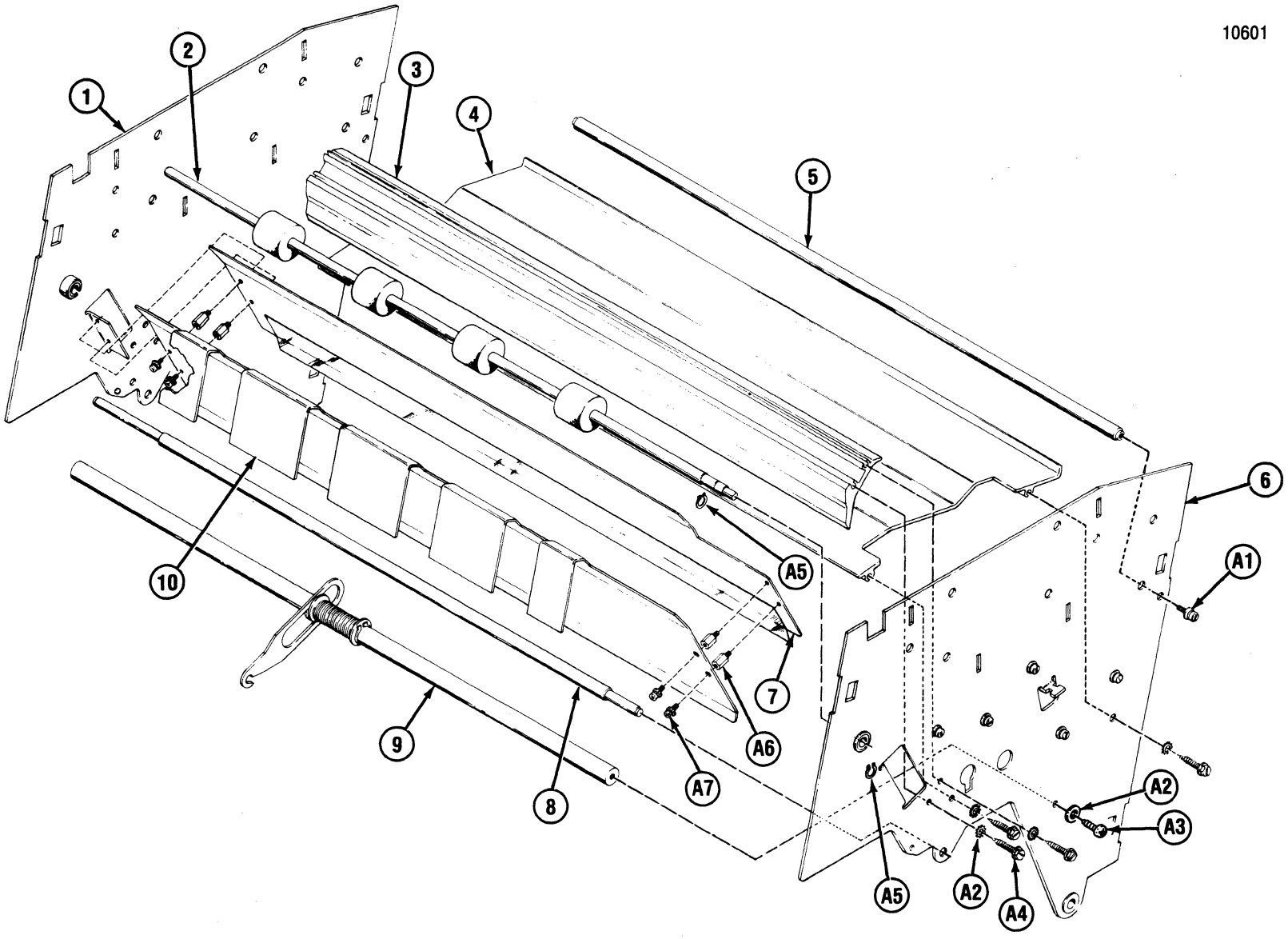

Figure 6-2 Sheet Feeder, Mechanism

LIST OF MATERIALS
SHEET FEEDER, MECHANISM
(Refer to Figure 6-2)

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	64003012-5001	Side Plate Assembly, Left	1
2	64001147-2001	Output Roll Shaft Assembly	1
3	64003341-2001	Paper Guide, Upper Extrusion	1
4	64003343-2001	Paper Guide, Lower Extrusion	1
5	64001144-2001	Tie Bar, Upper	1
6	64003013-5001	Side Plate Assembly, Right	1
7	64003178-5001	Upper Paper Guide Assembly	1
8	64001164-2001	Upper Mounting Rod	1
9	64003559-5001	Lower Tie Rod Assembly	1
10	64003041-2001	Lower Output Guide	1
		ATTACHING HARDWARE	
A1	34000775-2085	Screw Assy, Pan Head, M4 x 0.7 x ,10	2
A2	34832007-2001	Washer, Lock, Ext. Tooth, #8	10
A3	34000664-2039	Screw Pan Head, Rec, M4 x 0.7 x 8	2
A4	34000224-2029	Screw, Thread Forming, #8	8
A5	33115100-2009	Retaining Ring	2
A6	64003173-2001	Standoff, Guide Mount	4
A7	34000775-2043	Screw Assembly, Pan Head, M3 x 0.5 x 6	4

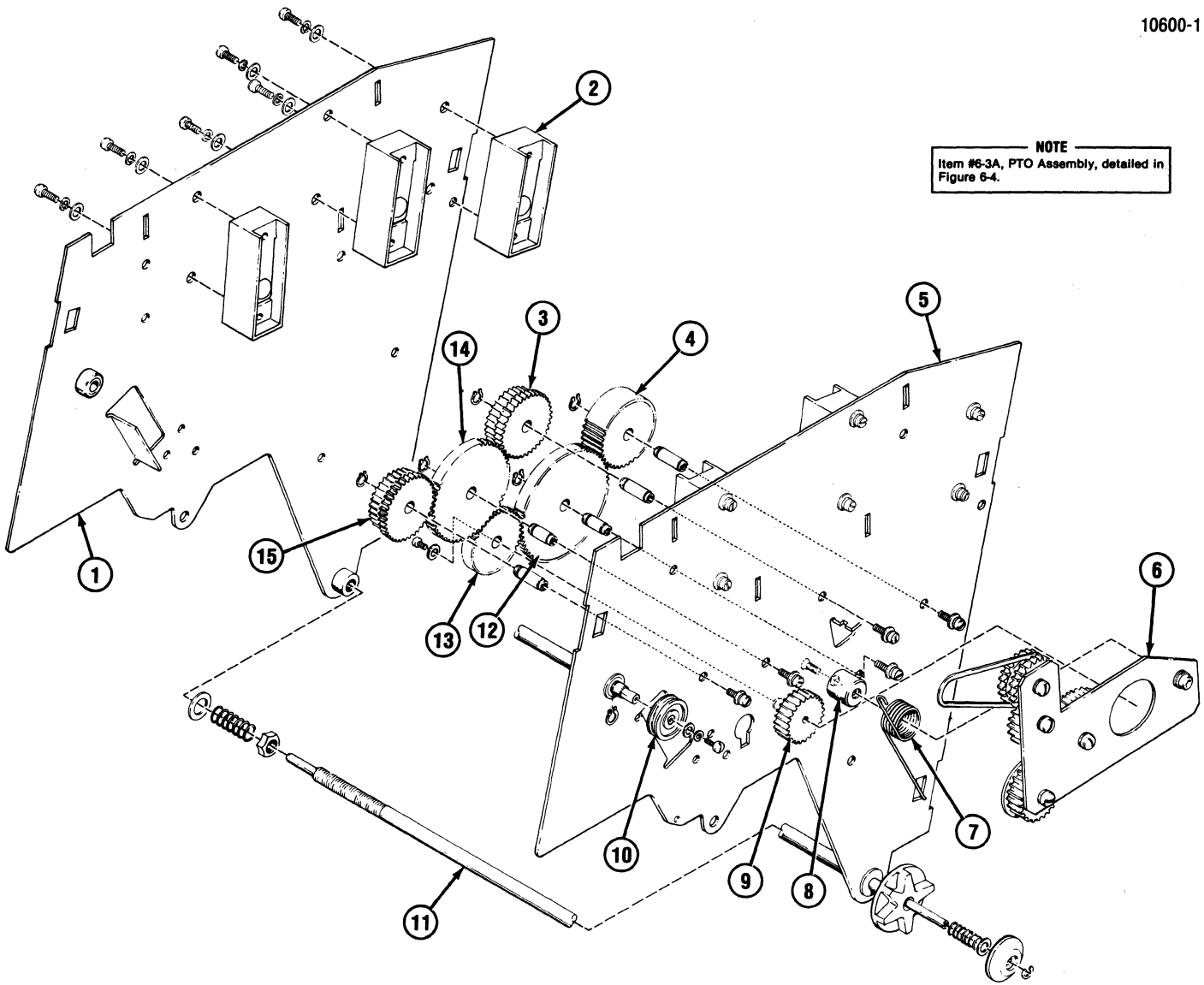

Figure 6-3A Sheet Feeder, Mechanism

LIST OF MATERIALS
SHEET FEEDER, MECHANISM
(Refer to Figure 6-3A)

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	64003012-5001	Side Plate Assembly, Left	1
2	64002090-2001	Guide, Cartridge	6
3	64002039-2001	Gear, Idler, 40/36 T	1
4	64002040-2001	Gear, Idler, 40 T	1
5	64003561-5001	Side Plate Assembly, Right	1
6	64003560-5001	Power Take Off (PTO) Assembly	1
7	64001140-2001	Torsion Spring	1
8	64001095-2001	Stud, Pivot	1
9	64002093-2001	Gear, Driver 20 T	1
10	64001165-2001	Pulley, Drive	1
11	64003367-5001	Adjustment Rod Assembly	1
12	64002077-2001	Gear, Idler, Inner, 70 T	1
13	64002073-2001	Gear, Pinion, 40 T	1
14	64002075-2001	Gear, Idler, Inner, 55 T	1
15	64002038-2001	Gear, Idler 40/32 T	1

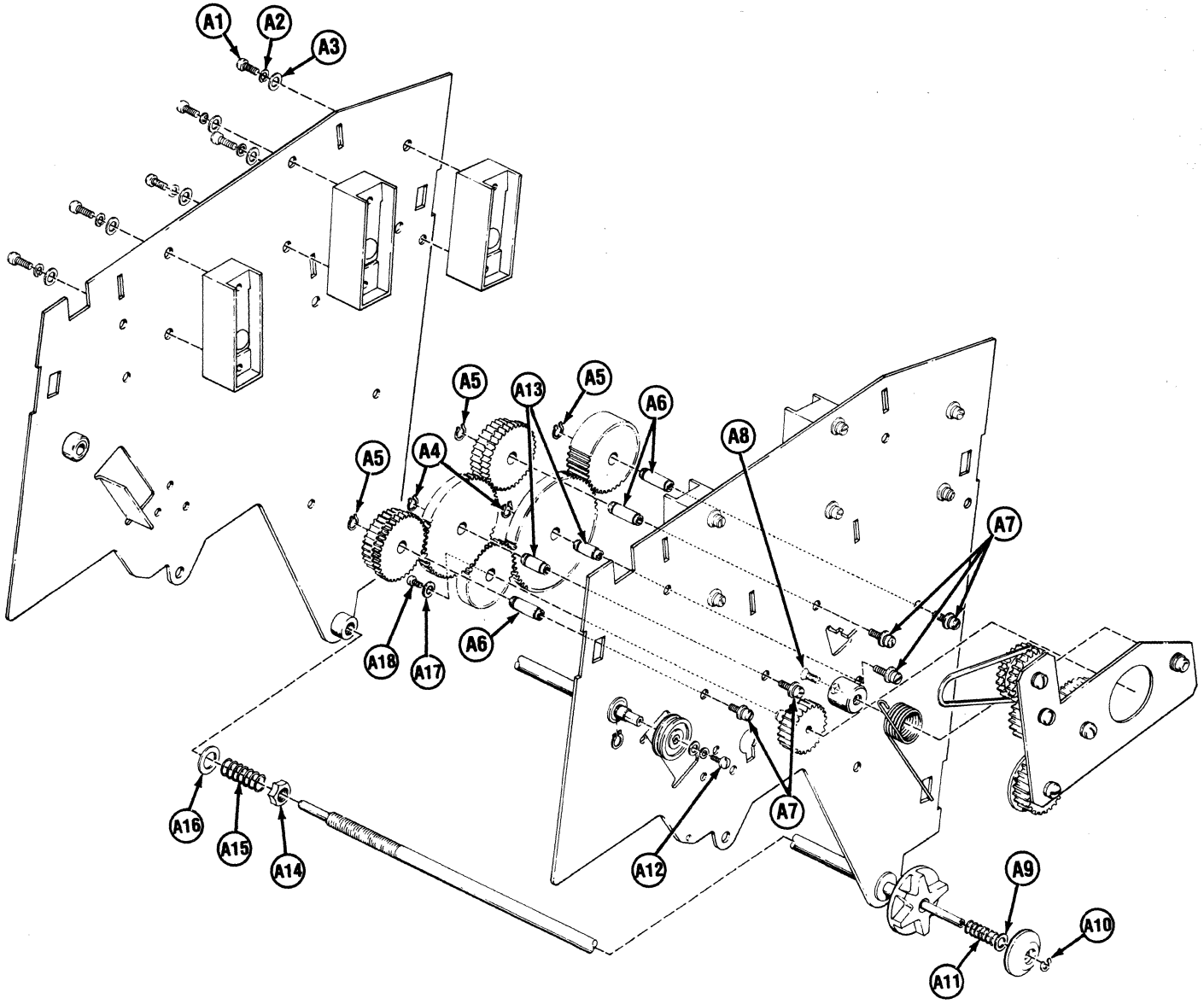

Figure 6-3B Sheet Feeder, Mechanism

LIST OF MATERIALS
SHEET FEEDER, MECHANISM
(Refer to Figure 6-3B)

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
A1	33724717-2014	Screw, Thread Forming	12
A2	34828006-2001	Lockwasher	12
A3	34923147-2001	Flatwasher, #6	12
A4	33115100-2012	Retaining Ring	2
A5	33113100-2011	Retaining Ring	3
A6	64001143-2001	Mounting Stud	3
A7	34000775-2043	Screw Assembly	5
A8	34003354-2037	Screw, Flathead, M4 x 8	1
A9	34941147-2001	Flatwasher, #10	1
A10	33115133-2020	Retaining Ring	1
A11	36700022-2009	Compression Spring	1
A12	34000775-2043	Screw Assembly	1
A13	64001142-2011	Mounting Stud	2
A14	34661007-2001	Nut, Hex, 5/16—24	1
A15	36700044-2008	Compression Spring	1
A16	34961187-2001	Washer, Flat, 5/16 x .56, .025 THK	1
A17	34902087-2001	Flatwasher, #2	1
A18	33721717-2008	Screw, Thread Forming	1

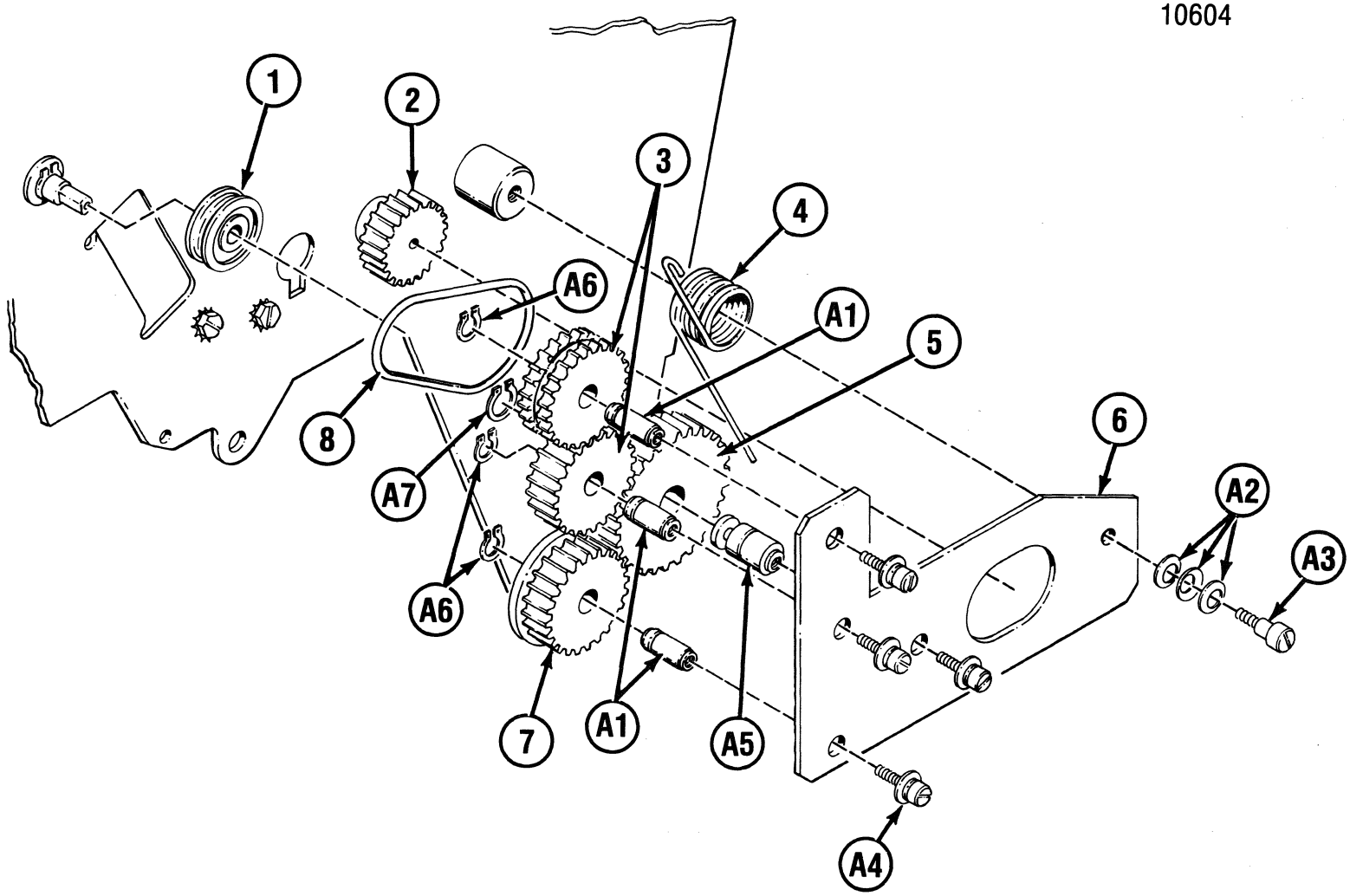

Figure 6-4 Sheet Feeder, Power Takeoff Assembly

LIST OF MATERIALS
SHEET FEEDER, POWER TAKEOFF ASSEMBLY
(Refer to Figure 6-4)

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	64001165-2001	Pulley	1
2	64002093-2001	Gear, Driver, 20 T	1
3	64001170-2001	Gear, O-Ring Drive	1
4	64001140-2001	Spring, Torsion	1
5	64001133-2001	Gear, Idler, PTO, 40 T	1
6	64001172-2001	Mounting Plate	1
7	64001169-2001	Gear, PTO, 25 T	1
8	36350016-2001	O-Ring, 0.125	1
ATTACHING HARDWARE			
A1	64001171-2001	Stud, Gear	3
A2	34700021-2001	Washer, Belleville	3
A3	34000120-2008	Screw, Shoulder, M4	1
A4	34000775-2085	Screw Assy, Pan Head, Rec, M4 x 0.7 x 10	4
A5	64001134-2001	Stud, Idle Gear	1
A6	33115100-2012	Retaining Ring	3
A7	33115100-2016	Retaining Ring	1

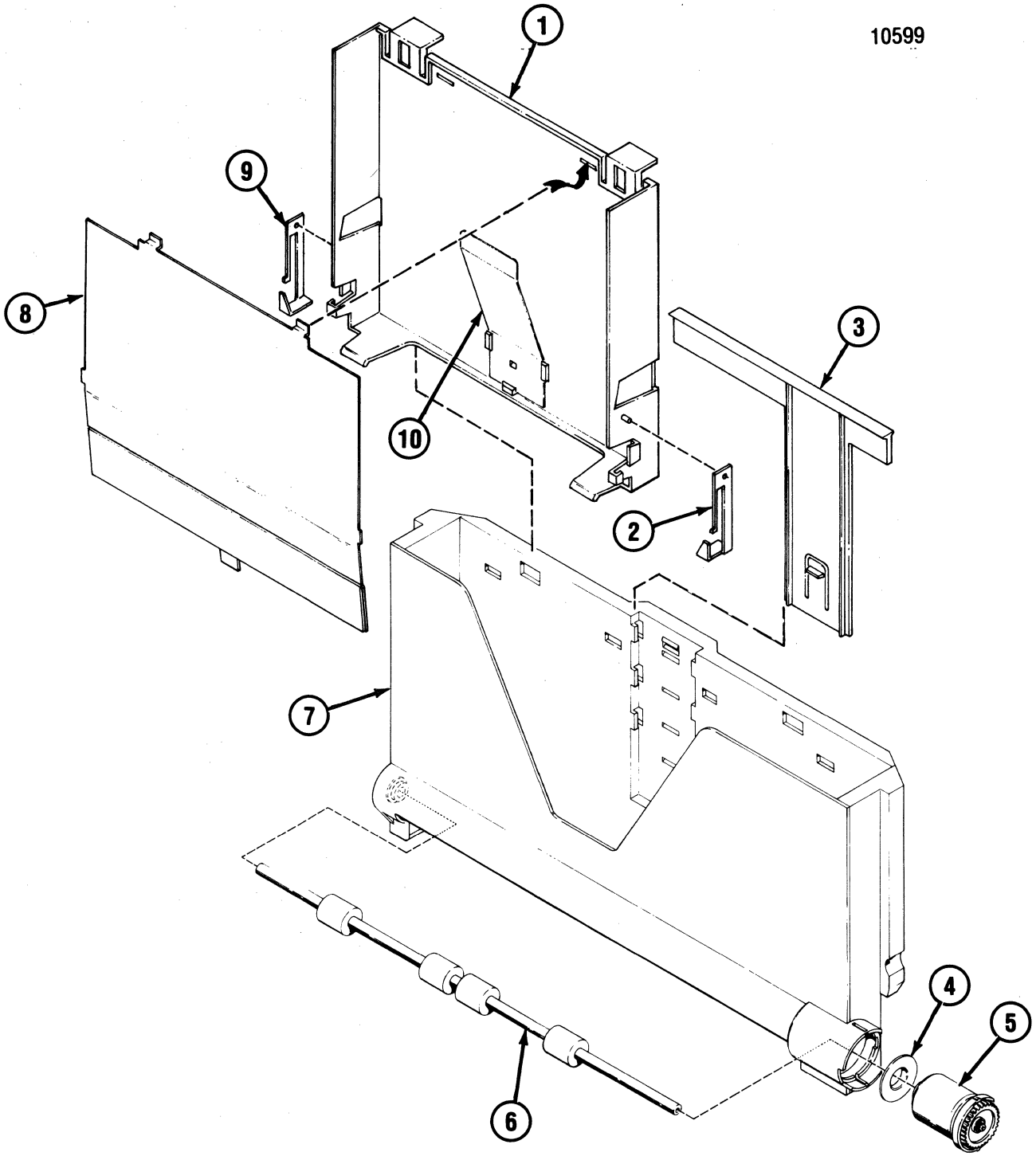

Figure 6-5 Fixed-Width Paper Cartridge (Figure valid for both the 8.5″ cartridge and the 21 cm cartridge)

LIST OF MATERIALS
8.5" FIXED-WIDTH PAPER CARTRIDGE
64003045-5001
(Refer to Figure 6-5)

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	64002068-2001	Tray	1
2	64003001-2002	Corner Separator, RIght	1
3	64002061-2001	Support Bar	1
4	64003177-2001	Bearing	1
5	64003311-5001	Selector Assembly	1
6	64003000-2001	Shaft, Feed Roll	1
7	64003044-5001	Body & Cover Assembly	1
8	64003027-5001	Pressure Plate Assembly	1
9	64003001-2001	Corner Separator, Left	1
10	64002094-2001	Spring	1

LIST OF MATERIALS
21 CM FIXED-WIDTH PAPER CARTRIDGE
64003045-5003
(Refer to Figure 6-5)

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	64003307-2001	Tray	1
2	64003001-2002	Corner Separator, RIght	1
3	64002061-2001	Support Bar	1
4	64003177-2001	Bearing	1
5	64003311-5001	Selector Assembly	1
6	64003000-2001	Shaft, Feed Roll	1
7	64003044-5001	Body & Cover Assembly	1
8	64003027-5002	Pressure Plate Assembly	1
9	64003001-2001	Corner Separator, Left	1
10	64002094-2001	Spring	1

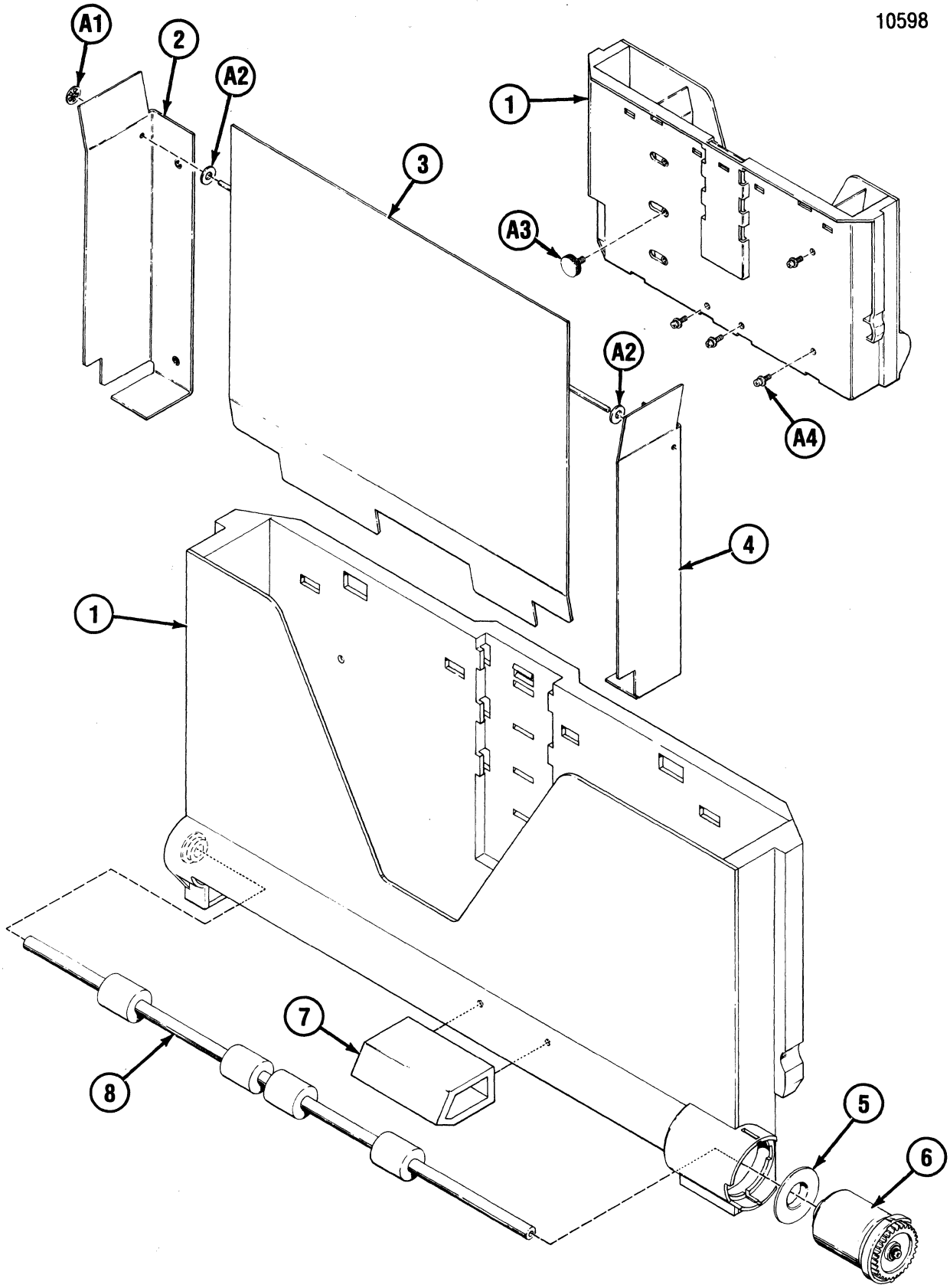

Figure 6-6 Envelope Cartridge

LIST OF MATERIALS
ENVELOPE CARTRIDGE ASSY.
64003314-5001
(Refer to Figure 6-6)

ITEM	PART NUMBER	DESCRIPTION	QUANTITY
1	64003044-5002	Body and Cover Assy.	1
2	64003185-2001	Side Guide, Left	1
3	64003316-2001	Pressure Plate	1
4	64003310-2001	Side Guide, Right	1
5	64003177-2001	Bearing Selector	1
6	64003311-5001	Selector Assembly	1
7	64003312-2001	Wedge, Machined	1
8	64003000-2002	Shaft, Feed Roll	1
		ATTACHING HARDWARE	
A1	33115115-2212	Retaining Ring	1
A2	34923147-2001	Washer, Flat, #6 × .43 OD, .040 Thick	2
A3	64003317-2001	Knob Assembly	1
A4	34000775-2084	Screw Assy., Pan Head Rec., M4 × 0.7 × 8L	4

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