

Cromemco

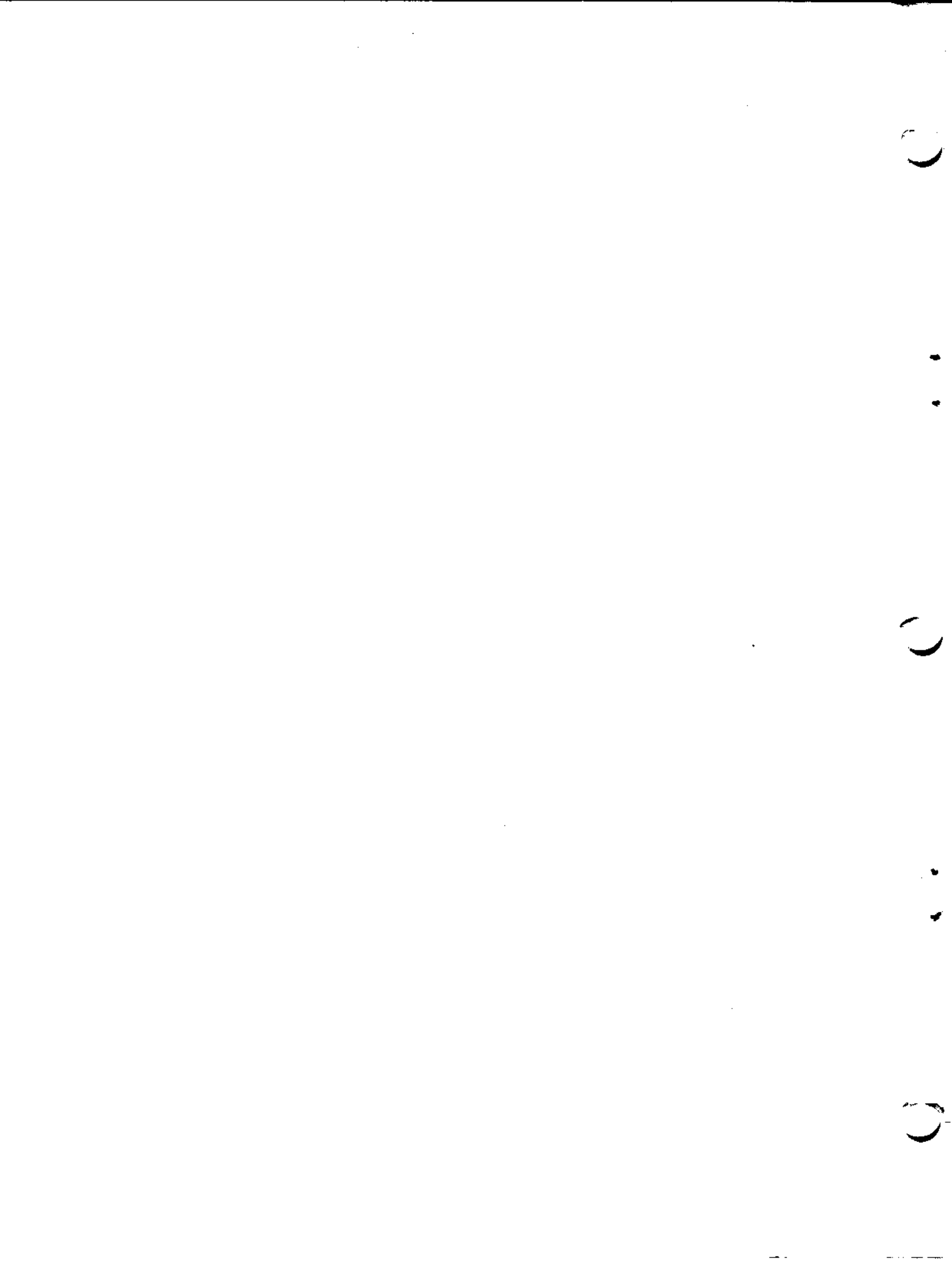
3355A PRINTER

OPERATOR'S GUIDE

**CROMEMCO, Inc.
280 Bernardo Avenue
Mountain View, CA 94043**

Part no. 023-6006

March 1980



marcus b.

Cromemco

3355A PRINTER

OPERATOR'S GUIDE

**CROMEMCO, Inc.
280 Bernardo Avenue
Mountain View, CA 94043**

Part no. 023-6006

March 1980

PROPRIETARY NOTICE

The information and design disclosed herein were originated by and are the property of Nippon Electric Company, Limited (NEC). NEC reserves all patent, proprietary design, manufacturing, reproduction use, and sales rights thereto, and to any article disclosed therein, except to the extent rights are expressly granted to others. The foregoing does not apply to vendor proprietary parts.

Specifications remain subject to change to allow the introduction of design improvements.

Copyright 1979 ©
NEC Information Systems, Inc.
5 Militia Drive
Lexington, MA 02173

Printed in U.S.A.

CONTENTS

	<u>Page</u>
CHAPTER 1 INTRODUCTION	
1.1 DESCRIPTION.....	1-1
1.2 SPECIFICATIONS.....	1-1
1.3 RELATED DOCUMENTS.....	1-3
CHAPTER 2 OPERATING INSTRUCTIONS	
2.1 PRINTER CONTROLS.....	2-1
2.2 PAPER LOADING INSTRUCTIONS.....	2-3
2.2.1 Friction-Feed Paper Loading.....	2-5
2.2.2 Pin-Feed Paper Loading.....	2-5
2.2.3 Forms-Tractor Paper Loading.....	2-6
2.3 SPINWRITER PREPARATION.....	2-6
2.4 TROUBLESHOOTING GUIDE.....	2-7
CHAPTER 3 MAINTENANCE AND REPLACEMENT PROCEDURES	
3.1 MAINTAINING HIGH QUALITY PRINT.....	3-1
3.2 RIBBON CARTRIDGE REPLACEMENT.....	3-2
3.3 PRINT THIMBLE REPLACEMENT.....	3-2
3.4 FRICTION-FEED ATTACHMENT REMOVAL.....	3-4
3.5 VERTICAL TYPE TRACTOR ASSEMBLY REMOVAL.....	3-4
3.6 PIN-FEED PLATEN REMOVAL.....	3-5
3.7 FRICTION PLATEN REMOVAL	3-6
GLOSSARY.....	Glossary-1

ILLUSTRATIONS

<u>Figure</u>	<u>Title</u>	<u>Page</u>
2-1	Printer Controls.....	2-2
2-2	Paper Feed Path - Rear.....	2-4
2-3	Paper Feed Path - Bottom (Optional).....	2-4
3-1	Ribbon Cartridge Removal.....	3-3
3-2	Print Thimble Removal.....	3-3
3-3	Friction-Feed Attachment Removal (Right Side Only).....	3-5
3-4	Vertical Type Assembly Removal.....	3-5
3-5	Pin-Feed Platen Removal.....	3-6
3-6	Friction Platen Removal.....	3-7

TABLES

<u>Table</u>	<u>Title</u>	<u>Page</u>
1-1	Model 5500 Series SPINWRITER Specifications...	1-2
2-1	Troubleshooting Guide.....	2-7

CHAPTER 1

INTRODUCTION

This guide provides you with a general description, operating instructions, replacement procedures, and an operator troubleshooting guide for the Model 5500 Series SPINWRITER. Included are SPINWRITER specifications, use of operator controls, procedures for replacing certain items, and suggestions to help you maintain high quality printing.

1.1 DESCRIPTION

The Model 5500 Series SPINWRITER printer is a microprocessor controlled impact character printer which uses motor control for carriage spacing, print element positioning, paper movement, and ribbon movement to achieve high quality printing at rates up to 55 characters per second at 12 characters per inch (maximum). The SPINWRITER uses a unique small diameter, reinforced plastic print element or "thimble" which contains up to 128 fully formed characters of various typefaces. Print thimbles that contain up to 125 characters have a cutout so that you can see the last characters printed.

You may select a printing format of 10 or 12 characters per inch and up to 163 characters per line. Bidirectional printing, fine-line plotting, and graphing are available. You can position the SPINWRITER within 1/120th inch horizontally and 1/48th inch vertically.

There are presently four Model 5500 SPINWRITERS: Model 5501 (5500D) which has a Diablo-Type interface; Model 5502 (5500B) which has an 8-Bit Naked interface; Model 5503 (5500Q) which has a Qume-Type interface; and Model 5504 (5500N) which has an Ontel-type interface.

1.2 SPECIFICATIONS

Table 1-1 is a list of specifications for the Model 5500 Series SPINWRITER. These specifications should be adhered to for SPINWRITER installation and operation.

Table 1-1 Model 5500 Series SPINWRITER Specifications

FEATURE	SPECIFICATION
Print Speed	55 characters/second (maximum)
Character Set	128 characters (maximum)
Print Line	136 columns at 10 characters/in. 163 columns at 12 characters/in.
Paper Width	16 in. (maximum)
Paper Thickness	0.027 in. (maximum)
Carriage Return Time	400 ms (maximum)
Horizontal Resolution	120 positions/in.
Vertical Resolution	48 positions/in.
Spacing Speed	16 ms at 12 characters/in.
Copy Thickness Control	5-step switching (by operator)
Impression Control	3-level switching (by operator) 7-level switching (by internal or external software control)
Overall Dimensions Without Cover	Width: 21.18 in. (538 mm) Depth: 13.62 in. (346 mm) Height: 8.68 in. (220.5 mm)
With Cover	Width: 24.8 in. (630 mm) (includes left and right platen knobs) Depth: 16.3 in. (415 mm) 19.21 in. (488 mm) including paper guide Height: 8.68 in. (220 mm) 9.84 in. (250 mm) with larger acrylic cover installed
Weight	30.8 lbs (14 kg) without cover and power supply 45.5 lbs (20.7 kg) complete

Table 1-1 Model 5500 Series SPINWRITER Specifications
(contd)

FEATURE	SPECIFICATION
Power Requirements Without Power Supply	+5 Vdc, +3%, 2.0 amps +12 Vdc, +3%, 0.3 amps -12 Vdc, +3%, 0.3 amps +17 Vdc, +6%, 4.0 amps } Peak 12 amps -17 Vdc, +6%, 4.0 amps } for 20 ms 115 Vac, +15%, 0.1 amps or 230 Vac, +15%, 0.05 amps, 50/60 Hz (optional)
With Power Supply	115 Vac, +15%, 50/60 Hz @3.5 amps or 230 Vac, +15%, 50/60 Hz @2 amps (optional)
Environment	Operating: 40°F (5°C) to 100°F (38°C) Storage: -4°F (-20°C) to 158°F (70°C)
Relative Humidity	Operating: 10% to 85% (no condensation) Storage: 10% to 95% (no condensation)
Altitude	Operating: Sea level to 10,000 ft Storage: Sea level to 25,000 ft
Acoustic Noise	67 dBA (without cover) 60 dBA (with cover)

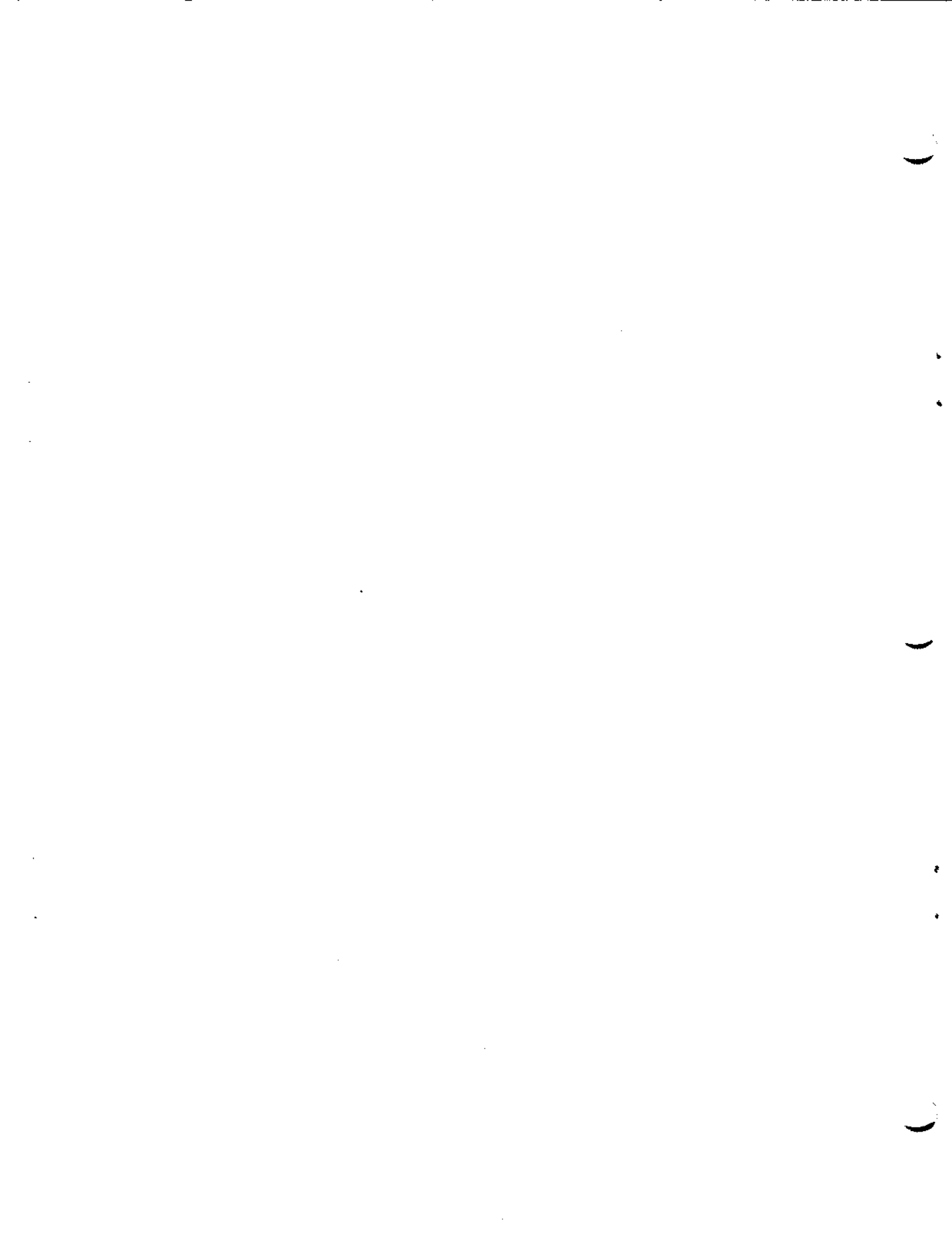
1.3 RELATED DOCUMENTS

The following documents, relating to the Model 5500 Series SPINWRITER, are available from NEC Information Systems, Inc.

Model 5500 Series SPINWRITER Product Description, Doc. No. 10004

SPINWRITER Maintenance Manual, Doc. No. 10000

SPINWRITER Theory of Operation Manual, Doc. No. 10001



CHAPTER 2

OPERATING INSTRUCTIONS

This chapter tells you how to operate the SPINWRITER. It describes the printer controls, shows you how to load the paper, and gives you procedures for SPINWRITER operation.

2.1 PRINTER CONTROLS

Figure 2-1 illustrates the printer controls you will be using. The numbers in the following paragraphs correspond to the numbers in the figure.

- (1) Platen knobs. These allow the platen to be rotated manually to insert paper and position it properly. The right knob provides variable platen action; when you push the knob in, the platen rolls freely in either direction. You can change the position of the writing line by using this variable platen function.
- (2) Copy control lever. This lever moves the platen forward or backward to compensate for different form thicknesses (number of carbons). Place it all the way forward for a single copy, and all the way rearward for an original and seven carbon copies. Intermediate positions provide for form thicknesses between these two extremes. When printing on a form of several copies with this lever moved toward the rear, you may have to increase the print hammer intensity for optimum print quality by changing the impression control switch (see Figure 2-1, 9).
- (3) & (4) Pressure bail levers and pressure bail. The pressure bail holds the paper against the platen for optimum print quality and quietness. To insert paper, pull the bail forward, away from the platen, by moving one of the levers. When using a pin-feed platen or a forms-tractor assembly, move the pressure bail forward away from the platen. The pin-feed paper clamps or the forms-tractor assembly hold the paper in the optimum position for proper operation.
- (5) Ribbon Selector Switch. The ribbon selector switch is located under the top cover under the ribbon cartridge. Place the switch to the left for multi-strike ribbons and to the right for red/black fabric ribbons. The switch can be used in either position for the all-black fabric ribbon.

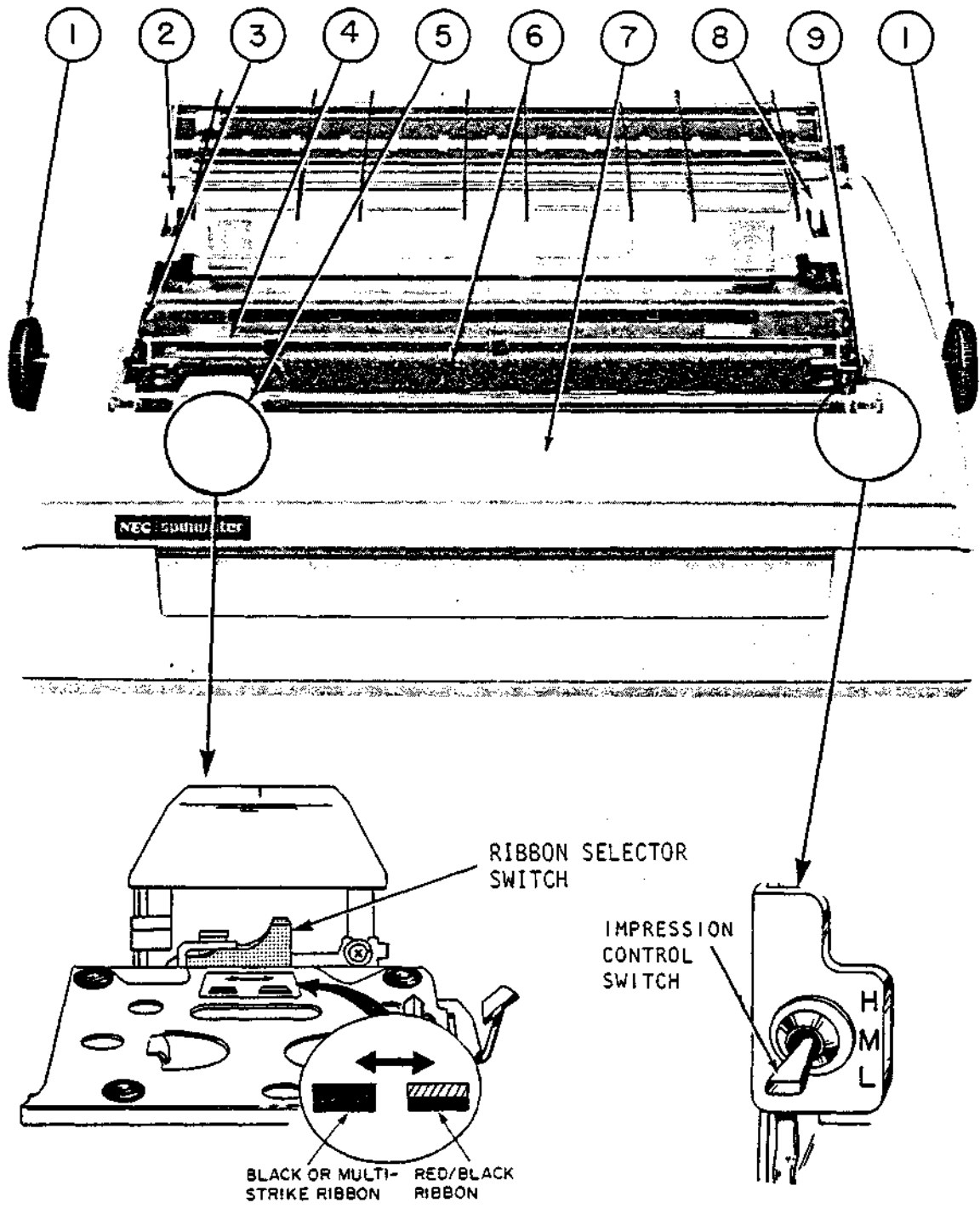


Figure 2-1 Printer Controls

- (6) Silencer hood with combination scale. The silencer hood lowers the printer operation noise level. A long and short hood are available; a short hood must be used with a forms-tractor assembly or a pin-feed platen. When you raise the hood, a switch is activated which inhibits printing; therefore, the hood must be closed for printing. The scale provides a visual indication of the print head position along the typing line. It is marked for both 10 and 12 characters per inch.
- (7) Top cover. This cover raises easily by lifting upward. It provides access to the printer mechanism when it becomes necessary to replace a ribbon cartridge, to change the print thimble, or to change the hammer impression control switch. When you raise the cover, a switch is activated which inhibits printing; therefore, be sure the cover is closed tightly.
- (8) Paper release lever. In the forward position, this lever releases tension on the paper, allowing it to be repositioned or removed. Place the lever back when printing on a friction-feed platen to ensure proper feeding of the paper. PLACE IT FORWARD WHEN PRINTING ON A PIN-FEED PLATEN OR WHEN USING A FORMS-TRACTOR ASSEMBLY.
- (9) Impression control switch. This three position switch located under the top cover controls the printing impression. You may set this switch as follows: L-low for minimum impact pressure which may be required for small typefaces (12 pitch); M-medium for normal impact pressure which is required for most single copy printing; H-high for maximum impact pressure normally only for multiple copies. Poor print quality may result from the incorrect setting of this switch, also, in addition, too high an impression setting may result in reduced font life.

2.2 PAPER LOADING INSTRUCTIONS

The SPINWRITER has three different types of paper feed: friction-feed, pin-feed, and vertical type tractor paper feed. When loading paper, refer to the procedure below that applies to the particular type of paper feed for your machine. Figure 2-2 shows rear paper feed path. Figure 2-3 shows the paper feed path for bottom feed.

NOTE

If you use a single sheet of paper in the SPINWRITER, raise the paper guide to deactivate the paper out switch.

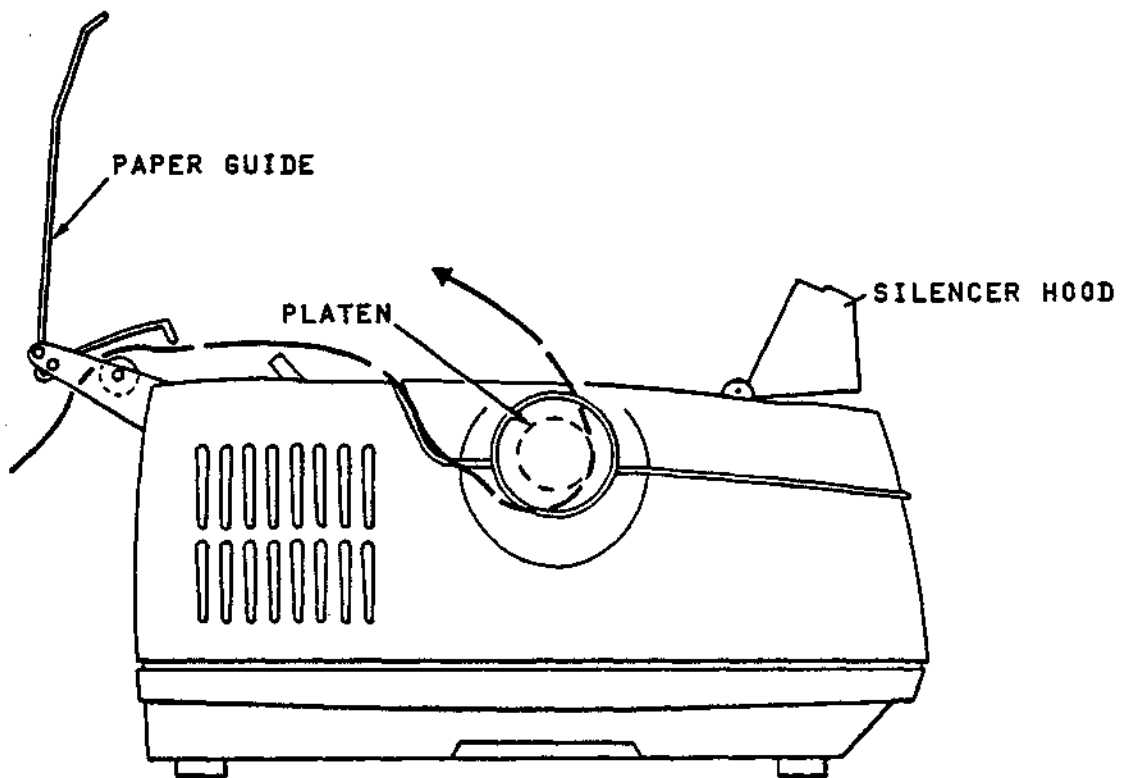


Figure 2-2 Paper Feed Path - Rear

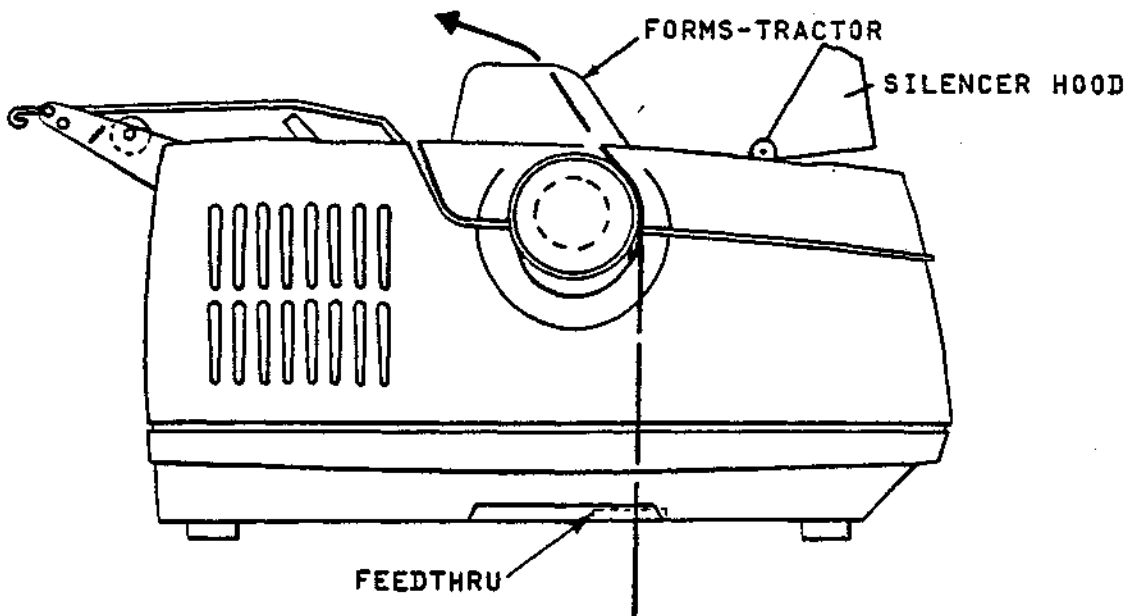


Figure 2-3 Paper Feed Path - Bottom (Optional)

2.2.1 Friction-Feed Paper Loading

- a. Raise paper guide and silencer hood.
- b. Move the pressure bail away from the platen.
- c. Pull paper release lever forward.
- d. Insert paper with printing surface down, as shown in Figure 2-2.
- e. Push paper release lever backward.
- f. Push in and rotate the right knob of the platen to move the paper.
- g. Pull paper release lever forward.
- h. Align the paper horizontally and vertically.
- i. Push paper release lever backward.
- j. Push pressure bail toward the platen.
- k. Move paper to desired top of form position.
- l. Adjust copy control lever. This lever should be in extreme forward position for a single copy and adjusted gradually toward rear as number of copies increases.
- m. Lower the paper guide and silencer hood.

2.2.2 Pin-Feed Paper Loading

- a. Raise paper guide and silencer hood.
- b. Move the pressure bail away from the platen.
- c. Pull paper release lever forward; it must REMAIN in the FORWARD position.
- d. Release the paper cutter bail from the platen.
- e. Insert paper with printing surface down (for rear feed), as shown in Figure 2-2.
- f. Align paper feed holes with the left and right pin on the platen; then lower the cutter bail to the platen.
- g. Pull paper lightly toward the back to remove slack.

- h. Push in and rotate the right knob of the platen to position the paper to the first line position.
- i. Lower the paper guide and silencer hood.

2.2.3 Forms-Tractor Paper Loading

- a. Raise paper guide, if rear feed is used, and raise the silencer hood.
- b. Move the pressure bail away from the platen.
- c. Pull the paper release lever forward; it must REMAIN in the FORWARD position.
- d. Open tractor doors.
- e. Insert paper with printing side down (for rear feed) as shown in Figure 2-2.
- f. Align paper feed holes with the pins of the left and right tractor assemblies.
- g. Close left tractor door.
- h. Align right tractor with paper feed holes. You may have to move the tractor assemblies. Release the locking knobs and slide the assemblies to the desired position.
- i. Push in and rotate the right knob of the platen to position the paper to the first line position.
- j. Lower the paper guide and the silencer hood.

2.3 SPINWRITER PREPARATION

NOTE

Before you apply power to the SPINWRITER, make sure that the carriage is not positioned to the extreme left or to the extreme right.

- a. Raise the top cover and check that the impression control switch (see 2.1,9) and the ribbon selector switch (see 2.1,5) are in the correct positions.
- b. Make sure paper, ribbon, and print thimble are properly installed.
- c. Close the cover.

- d. Connect the power cord to an ac outlet.
- e. Set the POWER switch (located on rear of printer) to the ON position; observe that the carriage moves left to the first print position.

2.4 TROUBLESHOOTING GUIDE

Table 2-1 lists several minor problems you may encounter, their causes, and the corrective action you can take. If, after taking corrective action procedures, the machine is still not functioning properly, call your service representative.

Table 2-1 Troubleshooting Guide

PROBLEM INDICATION	CAUSE	CORRECTIVE ACTION
Does not print (Fan not running)	Power Source	Is SPINWRITER connected to ac power?
Does not print Carriage does not move (Fan running)	Cover Open	Is cover closed tightly?
	Ribbon End	Check ribbon cartridge. If using a multi-strike ribbon, ensure that ribbon is not at end (window on cartridge will be full).
	Paper Out	Check paper supply. Is paper loaded correctly?
Does not print Carriage moves	Ribbon broken or not installed properly	Replace, if necessary. Are ribbon and thimble installed correctly?
	Thimble broken or not installed properly	
Prints but carriage does not move	Obstruction in path of carriage Broken carriage cable	Check for obstruction. Call Service Representative.

CHAPTER 3

MAINTENANCE AND REPLACEMENT PROCEDURES

This chapter suggests ways to help you maintain high quality printing. It includes procedures for replacing ribbons, thimbles, and other items.

3.1 MAINTAINING HIGH QUALITY PRINT

To ensure high print quality, proper attention should be given to such items as various printer control settings, paper quality, ribbon quality, etc. Here are several suggestions you can use to maintain high print quality.

- Select the proper ribbon....multi-strike ribbons give you sharper impressions than a fabric ribbon. Dried or malfunctioning ribbons will give you a faded print image.
- Choose high quality paper to obtain the best print image....sharp, crisp characters and maximum black-and-white contrast. Poor quality paper may result in punctured paper or broken images.
- Select the proper copy control lever setting....all the way forward for a single copy and moved rearward for additional copies.
- Set the impression control switch for the best print image....low for small typefaces (12 pitch), medium for normal impact pressure, and high for large typefaces or multiple copies.
- Set the space pitch setting so that it matches the pitch of the thimble being used....a mismatch will result in cramped or widely spaced characters.
- Align paper correctly with enough tension so that it does not tear or wrinkle.
- Keep the platen clean and free of marks and scratches.
- Establish quality standards for different jobs... similar jobs will be prepared in a similar manner and require similar quality.

3.2 RIBBON CARTRIDGE REPLACEMENT

- a. Turn POWER off and raise the top cover.
- b. Hold the ribbon cartridge lightly; at the same time press the two locking tabs which hold the cartridge in place; remove the cartridge upward (see Figure 3-1).
- c. Rotate the manual feed knob on the new cartridge in the direction indicated by the arrow to establish tension on the ribbon.
- d. Place the new ribbon cartridge over the mounting plate, and insert the ribbon between the card holder and card holder bracket.
- e. Insert the ribbon in the ribbon sensor if a multi-strike ribbon is used (see Figure 3-2).
- f. Press the ribbon cartridge downward until the locking tabs engage.

NOTE

Rotate the manual feed knob on the cartridge in the direction indicated by the arrow to ensure proper seating.

- g. Place tension on the ribbon (see c.).
- h. Close the top cover and restore ac power.

3.3 PRINT THIMBLE REPLACEMENT

- a. Turn POWER off and raise the cover.
- b. Remove the ribbon cartridge (see 3.1).
- c. Push hammer lock lever toward the platen (Figure 3-2); at the same time, tilt the hammer cover toward the front.
- d. Slide the lock piece, at the center of the print thimble, horizontally and then to the upright position.

NOTE

When handling print thimble, hold it at the base, to avoid possible damage to the character type areas.

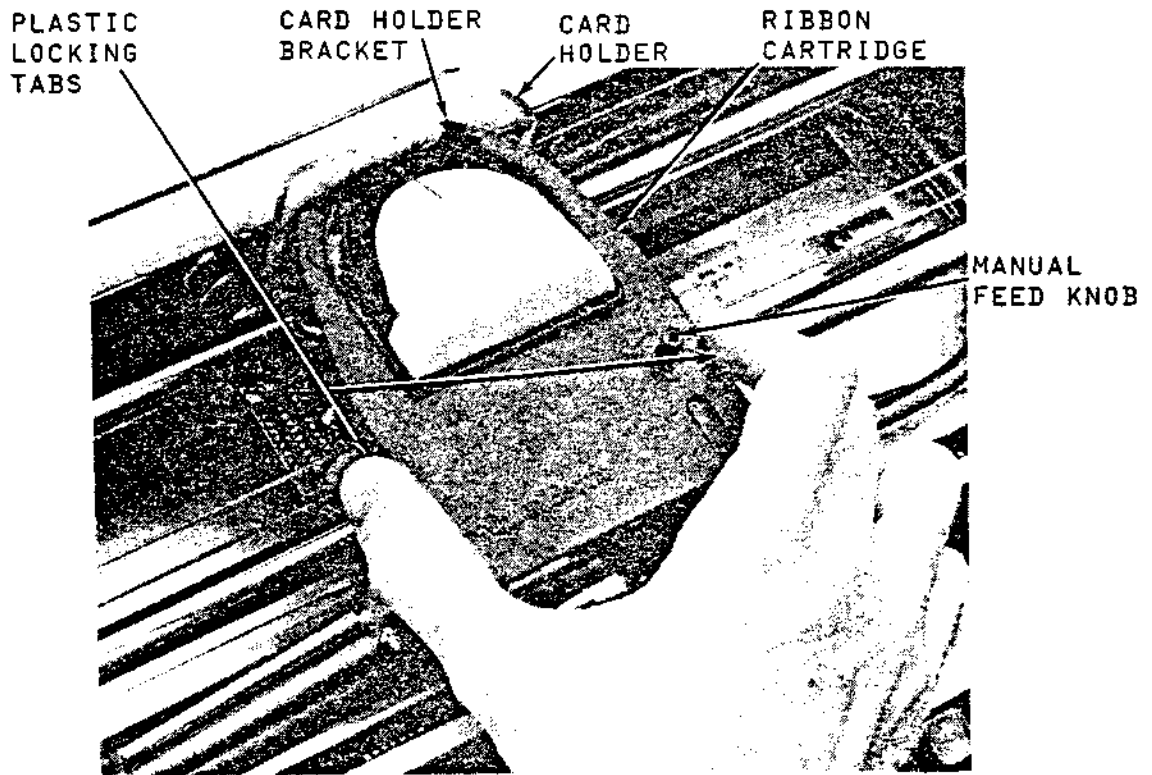


Figure 3-1 Ribbon Cartridge Removal

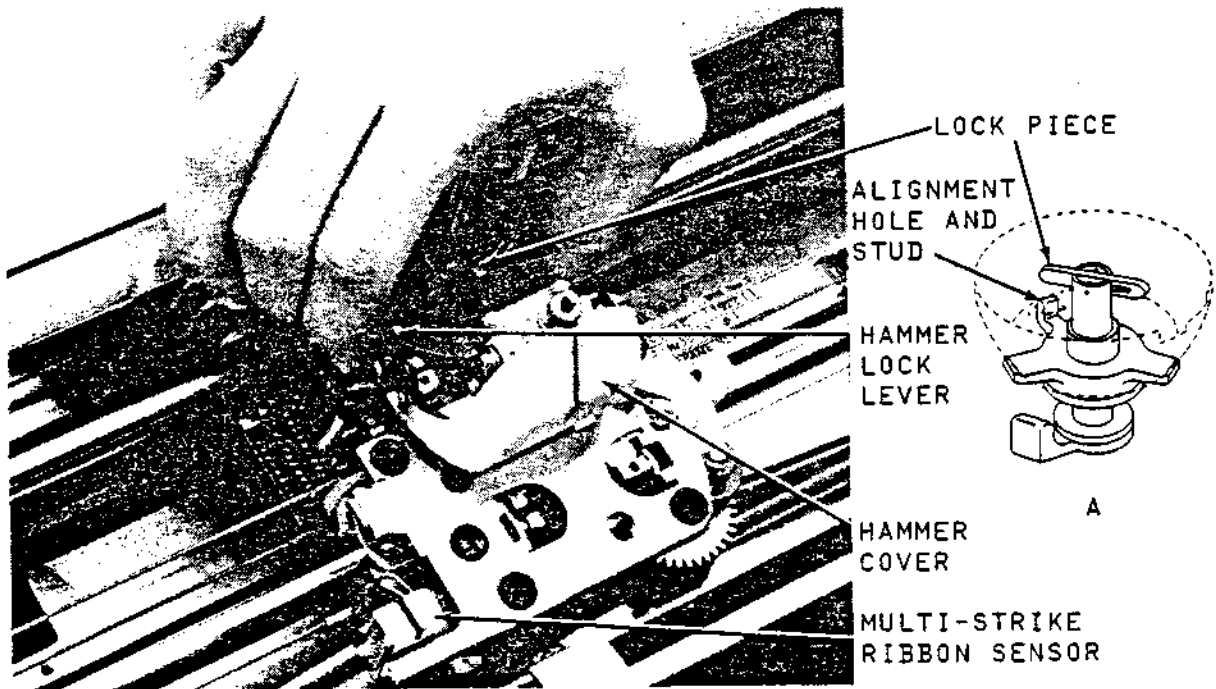


Figure 3-2 Print Thimble Removal

- e. Lift the print thimble upward from the carriage.
- f. Place new print thimble in position aligning the square hole with stud (Figure 3-2A).

NOTE

Be sure that the replacement thimble has the same pitch (10 or 12) as the original print thimble, and use light pressure on the base of the thimble to ensure that it is seated fully downward.

- g. Lay the lock piece flat and slide it until it is positioned as shown in Figure 3-2A.
- h. Push the hammer and its cover into the locked position.
- i. Install the ribbon cartridge.
- j. Close the cover and restore ac power.

3.4 FRICTION-FEED ATTACHMENT REMOVAL

If this option is installed, it can be removed in the following manner:

- a. Turn POWER off and raise the top cover.
- b. Move the pressure bail away from the platen.
- c. Press the lock levers and simultaneously raise the assembly upward and toward the rear of the printer as shown in Figure 3-3.
- d. Close the cover and restore ac power.

3.5 VERTICAL TYPE TRACTOR ASSEMBLY REMOVAL

If this option is installed, it can be removed as follows:

- a. Turn POWER off and raise the top cover.
- b. Move the pressure bail away from the platen.
- c. Press the lock levers and raise the assembly upward and toward the rear of the printer to remove it (Figure 3-4).
- d. Close the top cover and restore ac power.

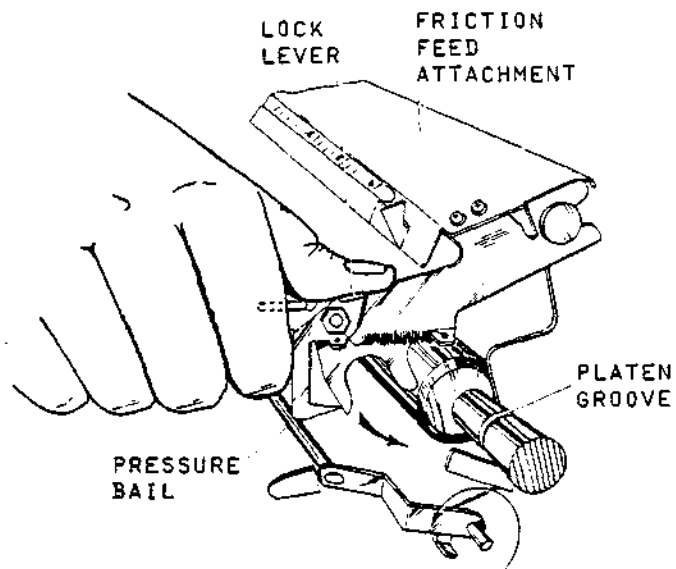


Figure 3-3 Friction-Feed Attachment Removal (Right Side Only)

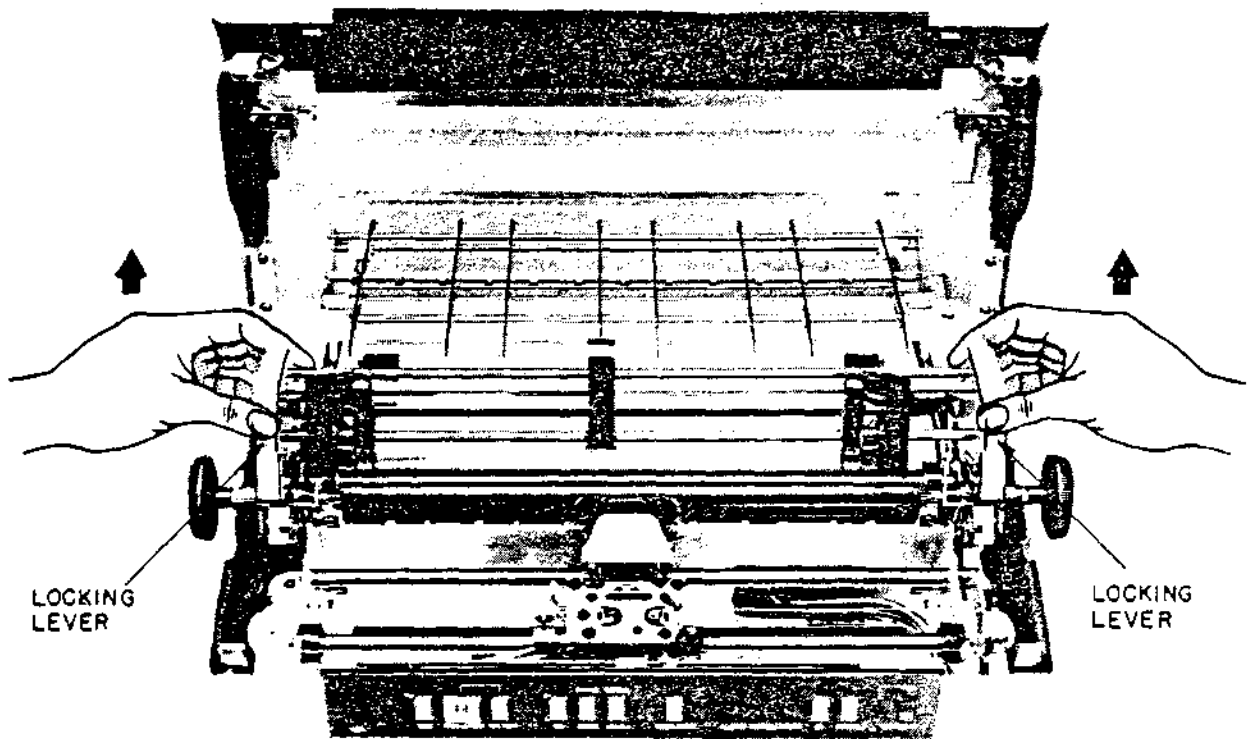


Figure 3-4 Vertical Type Tractor Assembly Removal

3.6 PIN-FEED PLATEN REMOVAL

If this option is installed, it can be removed as follows:

- a. Turn POWER off and raise the top cover.
- b. Move the pressure bail away from the platen.
- c. Press the locking tabs and lift the platen from the printer (Figure 3-5).
- d. Insert the replacement platen into position aligning the platen gear with the line-feed idle gear. Press locking tabs, and press the platen downward until it locks in place.
- e. Close the top cover and restore ac power.

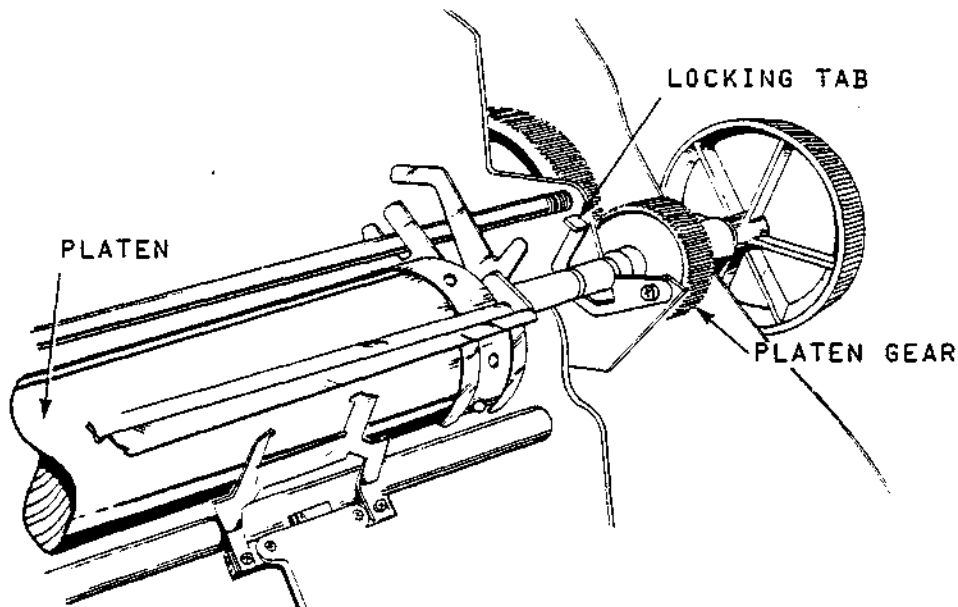


Figure 3-5 Pin-Feed Platen Removal

3.7 FRICTION PLATEN REMOVAL

- a. Turn POWER off and raise the top cover.
- b. Remove the friction-feed attachment or forms-tractor assembly, if installed.
- c. Press the locking tabs and lift the platen upward, out of the printer (Figure 3-6).
- d. Insert the replacement platen into position, aligning the platen gear with the line-feed idle gear.

NOTE

Because it is possible to install the platen backwards, ensure that the widest gear is on the right as the platen is installed from the front.

- e. Grasp the platen knobs, press the locking tabs, and press platen downward until it locks into place.
- f. Close the top cover and restore ac power.

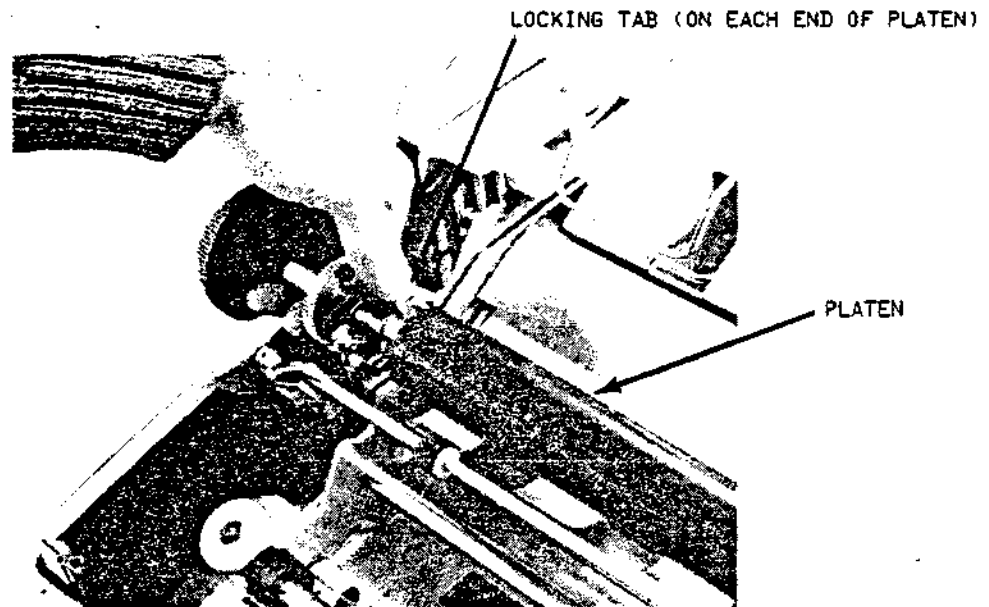


Figure 3-6 Friction Platen Removal

GLOSSARY

- Bidirectional - The machine prints while the print head is moving either right or left.
- Character set - A set or style of alphabetic, numeric, and special characters (symbols).
- Forms tractor unit - A device for aligning and feeding continuous forms through the printer.
- Space pitch - The number of characters per inch printed.

2

...

2

...

2

