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Peripherals

DW/20 Series Daisy Printer User Manual

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DW/20 Series Daisy Printer User Manual

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PREFACE

This manual describes the characteristics and operation of the DW/20 Series Daisy Printers, designed by Wang Laboratories, Inc., as an option for Wang Word Processing Systems and Office Information Systems. It is assumed that the user is familiar with these Wang systems. For additional information on the use of printers with these systems, refer to the Wang Word Processor Operators Guide (700-4455) or the OIS Operator Guide (700-5937).

Chapter 1 of this manual contains general information on printer capabilities. Chapter 2 describes printer controls and indicators. Chapter 3 contains information on printer operation. The appendix contains printer specifications.



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CHAPTER 1
GENERAL INFORMATION

1.1 INTRODUCTION

The DW/20 Series Daisy Printers, shown in Figure 1-1, provide low-cost, letter-quality output for all models of Wang Word Processing (WP) and Office Information Systems (OIS).

The bidirectional DW/20 Series Printers use interchangeable plastic daisy wheels containing 96 characters to print uppercase and lowercase letters, numerals, and special symbols and characters. Additional characters can be obtained by overstriking a print feature described in the WP and OIS operators guides.

The DW-20 Series Daisy Printers are available in three models. Model DW/5 is used with the Wang Word Processing System 5; Model DW/WP-20 is used with Wang Word Processing Systems 20, 25, and 30; and Model DW/OS-20 is used with all Wang Office Information Systems.

The printers can produce a 132-character line (10-pitch), a 158-character line (12-pitch), or a 13-inch line (proportionally spaced characters) at an average rate of 20 characters per second (cps). In addition, 198 characters per line (15-pitch) can be printed on the Model DW/OS-20. Up to 6-part paper can be used with the printers. Standard features include a print wheel that can be removed without taking off the ribbon cartridge, a Test pushbutton to check on printer operation, and Low and High print impression pushbuttons.

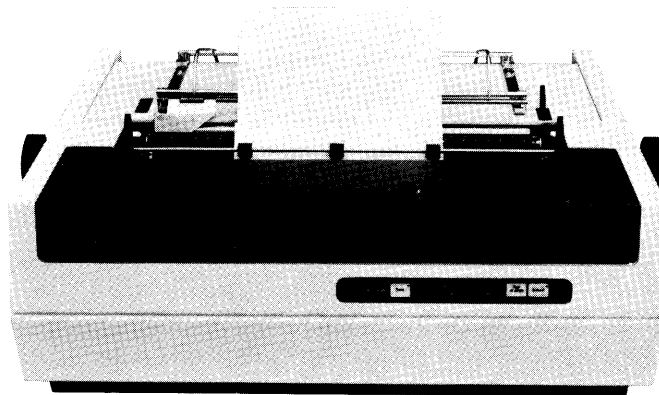


Figure 1-1. DW/20 Series Printer

The printers can be mounted on any desk or table top, and located up to 2000 feet (609.6 meters) from the master unit; the Model DW/5 can be located 50 feet (15.2 meters) from the master unit. Printer options include a Twin-Sheet Feeder for single sheets, Monodirectional and Bidirectional Forms Tractors, and an Envelope Feeder for standard business-size envelopes.

1.2 UNPACKING AND INSTALLATION

DW/20 Series Daisy Printers must be unpacked, inspected, and installed by a qualified Wang service representative. Failure to follow this procedure voids the warranty.

CHAPTER 2
PRINTER CONTROLS AND INDICATORS

2.1 ON/OFF SWITCH

The printer ON/OFF switch is located at the left end of the rear panel (refer to Figure 2-1). To turn the printer on, press 1 on the switch. To turn the printer off, press 0 on the switch. When the printer is off, the Power lamp on the control panel is extinguished.

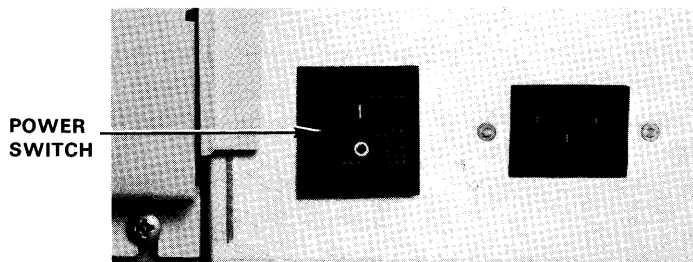


Figure 2-1. Printer Power Switch

2.2 CONTROL PANEL

The control panel on the front of the printer (refer to Figure 2-2) contains buttons and indicators for controlling printer operation. The indicators provide the operator with a visual cue of printer status. Whenever a Stop condition (Malfunction, Change Daisy, Change Ribbon, or Change Paper) is encountered, the printer stops printing and deselects (the Select lamp extinguishes). In addition, an audible tone sounds and an indicator displays the action required before printing can be resumed. Detailed descriptions of the pushbuttons and indicators follow, together with the operator actions required. After the appropriate action has been performed, the printer must be reselected by pressing the Select button.

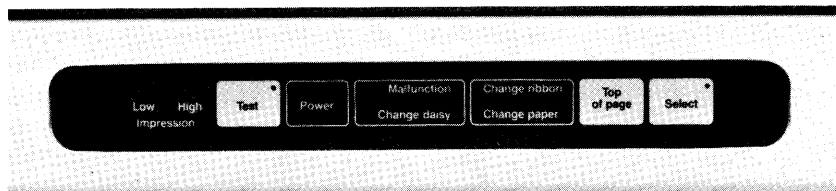


Figure 2-2. Printer Control Panel

Select Button

Press the Select button to initially activate the printer or to restart it after it has been deselected. The button lights to indicate that the printer is selected. When the printer is selected, the Low, High, and Test buttons are inactive. Before turning off power to the printer, deselect the printer by pressing the Select button.

Top of Page Button

The Top of Page button positions continuous-form paper to the top of the page; it can also be used to reprint an entire page if a problem is noticed during the printing. To reprint the current page, deselect the printer and press the Top of Page button. The printer advances to the top of the next page. Select the printer, and the entire page reprints from the beginning. This button can be used only if the printer is first deselected. It cannot be used to reprint the current page if the last line on the page has been printed, or if the printer is automatically deselected by a malfunction.

NOTE

The distance from the top edge of continuous-form paper to the line where printing begins is set during paper insertion. Refer to Section 3.6 for instructions on how to set this distance.

The Top of Page button is also used with the optional Twin-Sheet Feeder to eject a sheet of paper from the printer.

Change Daisy Indicator

Anytime a Stop condition is encountered in the text being printed, the Change Daisy lamp illuminates, an audible tone sounds, and the printer automatically deselects. When this occurs, change the print wheel using the procedure described in Section 3.4; then press Select to continue printing.

The Change Daisy lamp also illuminates if the pitch or character set of the current printout is different from the pitch or character set used for the last printout. Press Select to continue printing.

Change Paper Indicator

When the printer nears the end of the last sheet of paper, the Change paper lamp illuminates, a tone sounds, and the printer automatically deselects. (To continue printing one or more lines on the sheet, press Select once for each line to be added.) Use the platen knob to remove the remaining paper from the printer. Insert additional paper into the printer using the procedures described in Sections 3.2 and 3.3; then press Select to continue printing.

If the cause of the malfunction is not obvious, reselect the printer by pressing the Select button. If it will not reselect, power off the printer, wait a few seconds, then power on the printer and reselect it. If the Malfunction indicator remains on, lift the front cover and note the number displayed on the error indicator. Refer to Section 2.3 for the location of this indicator, and the action required to correct the malfunction.

2.3 ERROR CODE INDICATOR

When a printer malfunction occurs, the printer stops, the front panel Malfunction indicator lights, and an error code numeral is displayed on the indicator located below the printer top cover (refer to Figure 2-4). Error codes are printed on a label located inside the printer (refer to Figure 2-5).

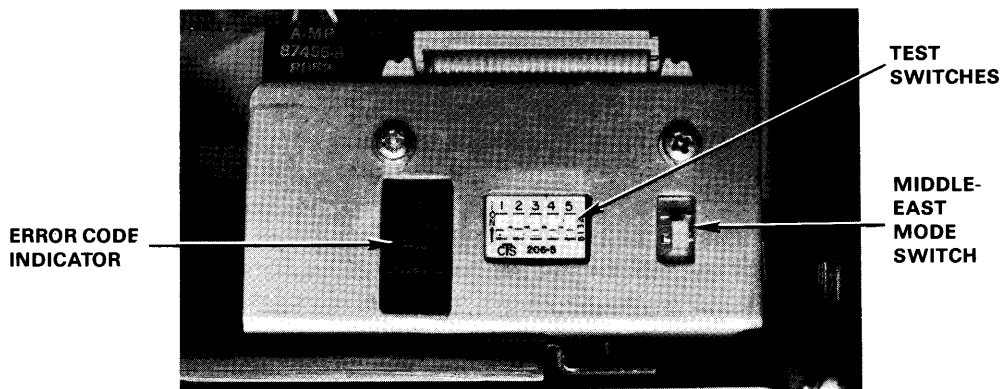


Figure 2-4. Error Display and Switch Panel

ERROR CODES (WANG)	
0	COVER OPEN
1	CPU
2	DATA LINK OR SYSTEM
3	DRIVER CARD
4	DAISY HOME
5	CARRIAGE SENSOR
6	FEEDER
7	MIDDLE EAST MODE
	<input type="checkbox"/> SWITCH POS.

Figure 2-5. Printer Error Codes

The printer error codes, plus the possible causes for each error and corrective actions to clear the malfunctions, are listed in Table 2-1.

Table 2-1. Error Code Descriptions and Corrective Actions

Error Code	Error Location	Description and Corrective Action
0	COVER OPEN	If the printer top cover is raised, the printer stops functioning. This feature is included as a safety measure, to protect the operator. The remedy is to close the cover and reselect the printer.
1	CPU	This error is due to a malfunction in the central processor unit (CPU) in the printer. Contact a Wang service representative.
2	DATA LINK OR SYSTEM	This error is indicated when there is a fault related to the OIS master or connecting cabling. It can also be due to a malfunction within the printer. Check that the system power is on, and that the cabling between the printer and the system is connected. If the above remedies do not correct the malfunction, contact a Wang service representative (refer to Section 3.8).
3	DRIVER CARD	This error is indicated if there is a malfunction in the printer; contact a Wang service representative (refer to Section 3.8).
4	DAISY HOME	This error is indicated if there is a malfunction in the printer; contact a Wang Service Representative (refer to Section 3.8).
5	CARRIAGE SENSOR	If the carriage is unable to move because of a paper jam or other obstruction, or because of a faulty carriage sensor, this lamp lights. Try to remove the jammed piece of paper using the Top of Page button. Switch off printer power. If there is an obstruction in the carriage, such as a foreign object or piece of paper, remove it. Turn on the printer, and then press Select. If the same error is indicated, contact a Wang service representative (refer to Section 3.8).
6	FEEDER	If a Twin-Sheet Feeder and an Envelope Feeder are both connected to the printer at the same time, this indicator lights. The remedy is to disconnect one of the feeders from the printer, switch off the printer power, then switch the power on.
7	MIDDLE EAST MODE	This indicator is lighted whenever the Middle East Mode switch, described in Section 2.4, is in the On position (up).

2.4 MIDDLE EAST MODE SWITCH

The Middle East Mode switch is located on a panel below the printer top cover, and is shown in Figure 2-4. This switch is normally set to the Off position, toward the front of the printer. When using an Arabic language print wheel, this switch should be set to On, causing the printer to print so that the text reads from right to left. When this switch is on, the error code indicator displays the numeral 7. If a malfunction occurs, another error code is displayed.

2.5 TEST SWITCHES

A group of test switches, located under the printer cover and shown in Figure 2-4, are intended for use by the customer service engineer. These switches should all be set to the Off position for normal printer operation.

2.6 PAPER CONTROLS

The paper controls include two platen knobs, a paper release lever, and a copy control lever. The controls are described in the following paragraphs.

Platen Knobs

The platen knobs, located at the left and right ends of the paper carriage and shown in Figure 2-6, are used to insert paper into the printer. When the left-hand platen knob is pushed inward, a fine adjustment can be made (upward or downward) to the paper position. This platen knob is also used in conjunction with the Top of Page button for setting the top-of-form position when using continuous form paper. Refer to Section 3.6, Steps 7 and 8, for setting the top of form.

Paper Release Lever

The Paper Release lever, located on the top right side of the printer and shown in Figure 2-6, releases the paper so that it can be moved in any desired direction. The normal operating position for this lever is toward the rear of the printer; the release position is toward the front of the printer.

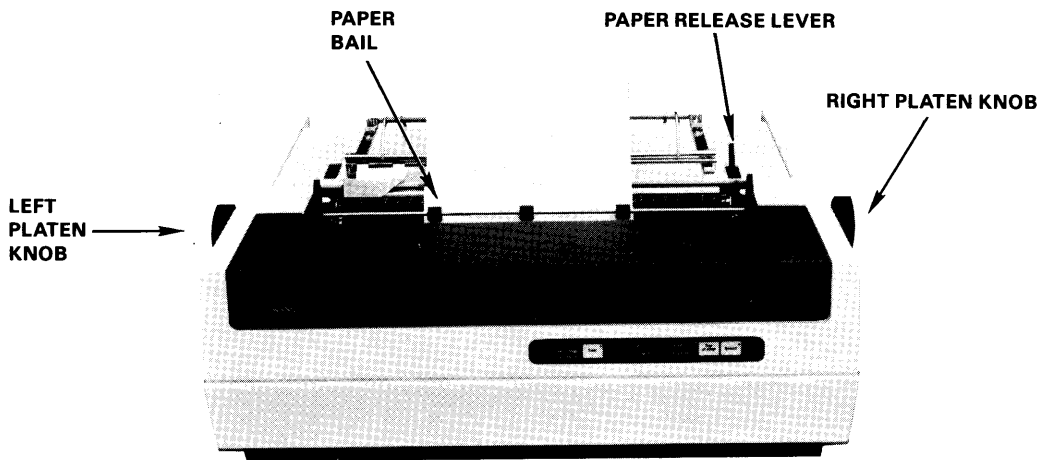


Figure 2-6. Platen Knob and Paper Release Lever

Copy Control Lever

The Copy Control lever, shown in Figure 2-7, is located below the daisy wheel carriage and is accessible by lifting the top cover of the printer. This lever is used to accommodate various thicknesses of paper. For single-sheet paper, the lever should be set to Position 1. For multi-part forms bind or do not feed properly in the printer, set the Copy Control Lever to a higher number.

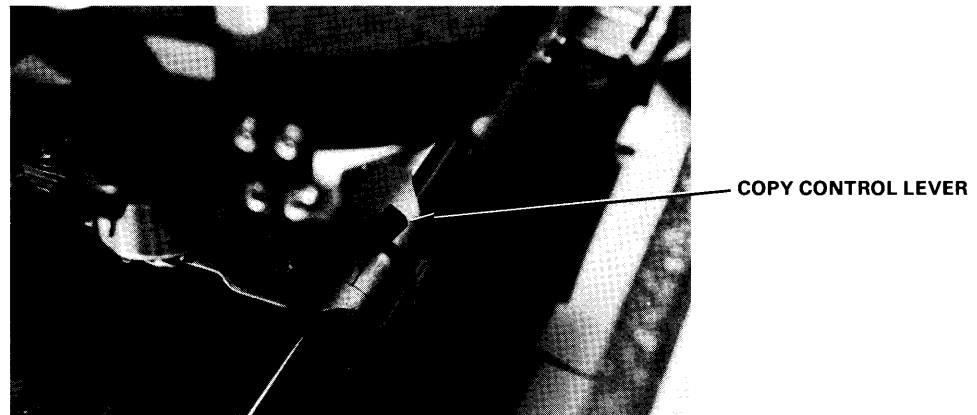


Figure 2-7. Copy Control Lever



CHAPTER 3
PRINTER OPERATION

3.1 PRINTER OPERATION SUMMARY

To power on an OIS or WPS, perform the following steps.

1. Ensure that all power cords are connected to a source of electrical power and that the two printer signal cables are connected to the Wang master.
2. Turn on the system power switches in the sequence specified in the systems operator guide.

Perform the following steps to operate the printer.

1. Plug the printer into a source of electrical power.
2. Turn on the system master, and then the printer. Check to see that there is a ribbon cartridge (refer to Section 3.3) and a daisy wheel (refer to Section 3.4, Step 5) installed on the printer.
3. Insert paper into the printer. For single sheet paper, refer to Section 3.5. For continuous-form paper, refer to Section 3.6. To protect the platen, always operate the printer with paper inserted into it.
4. Complete the Print Document menu, and then press EXECUTE.
5. Press SELECT to enable the printer to begin printing.

NOTE

If power to the printer is shut off while a WPS is printing a document, perform the following steps after the power has been turned on again. First, cancel the print request for the document, and then enter a new print request. For the OIS, the print request is automatically cancelled if printer power is shut off while printing. Re-enter the print request after power has been turned on again. Intentionally shutting off power during the printing operation is not recommended because other print requests in the print queue might also be cancelled.

3.2 REMOVING A RIBBON CARTRIDGE

Use the following procedure to remove a ribbon cartridge from the printer.

NOTE

The installation and removal procedures for the DW/20 ribbon cartridge differ slightly from other Wang printers. Therefore, please disregard the instructions printed on the ribbon cartridge package.

1. Deselect the printer by pressing the Select button. The Select lamp goes out. (If the Change Ribbon lamp is on, the printer is already deselected.)
2. Open the front cover by gently lifting the back edge of the printer front cover.
3. Push the Cartridge Release Lever (refer to Figure 3-1) toward the rear of the printer until it clicks into position.

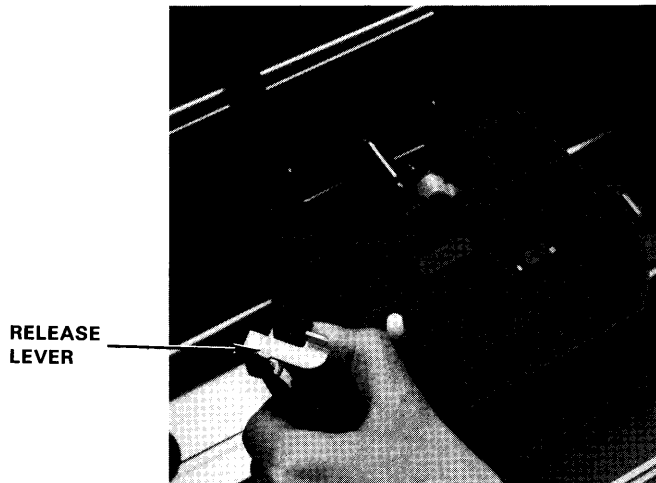


Figure 3-1. Pressing the Cartridge Release Lever

4. Push the left cartridge side latch (refer to Figure 3-2) to the left, releasing the cartridge.



Figure 3-2 Pressing the Cartridge Side Latch

5. Using both hands, remove the ribbon cartridge by gently lifting it up and out of the printer.

3.3 INSTALLING A RIBBON CARTRIDGE

Use the following procedure to install a new ribbon cartridge in the printer.

1. Rotate the Ribbon Advance knob on the new cartridge clockwise until the ribbon is taut.
2. Insert the pin on the right end of the ribbon cartridge into the right side latch on the print head carriage (refer to Figure 3-3).



Figure 3-3. Inserting Cartridge in Right Side Latch

Position the cartridge so that the exposed length of ribbon is behind the two ribbon guide posts located in front of the print wheel (refer to Figure 3-4).

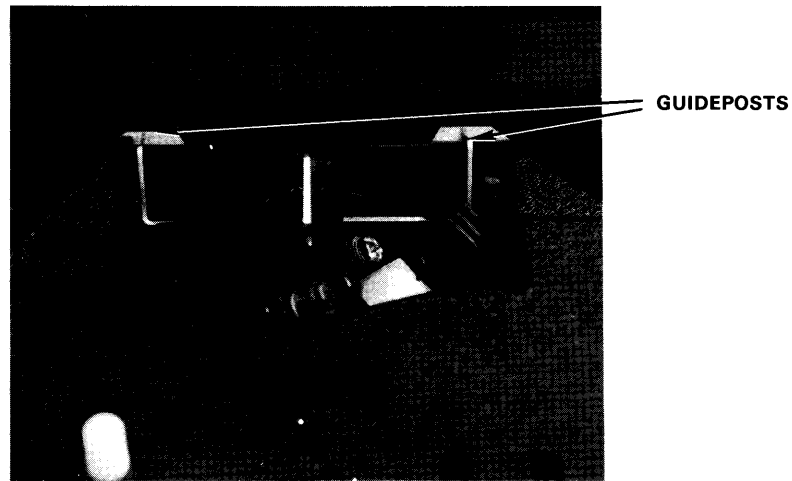


Figure 3-4. Ribbon Position

3. Press downward on the left side of the cartridge until the pin on the left side of the cartridge snaps into place in the left side latch (refer to Figure 3-5).

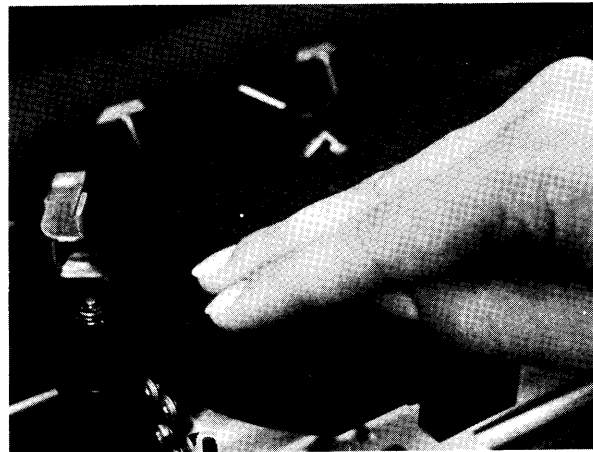


Figure 3-5. Inserting Cartridge in Left Side Latch

4. Push the Locking lever shown in Figure 3-6 toward the rear of the printer, causing the Release lever to snap forward into place.

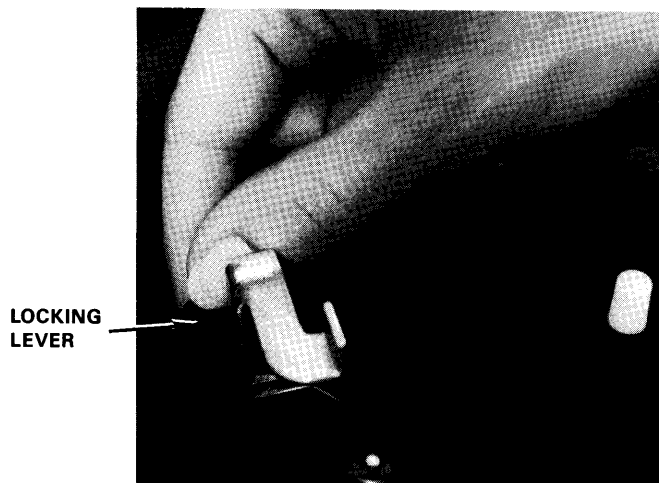


Figure 3-6. Pressing Cartridge Locking Lever

5. Lower the paper bail and close the printer cover. The printer will not print with the cover open.
6. Press the Select pushbutton to continue printing.

3.4 CHANGING THE PRINT WHEEL

Use the following procedure to remove and install a print wheel in the printer. Use care when removing, installing, or storing a print wheel. Use plastic wheels only, as metal print wheels may damage the printer.

1. Open the front cover by gently lifting the back edge of the printer front cover.
2. Grasp the print hammer and gently tilt the print wheel assembly away from the platen (refer to Figure 3-7).



Figure 3-7. Tilting the Print Wheel Assembly

3. To remove the print wheel, grasp the rubber hub and gently pull the print wheel upward and away from the printer (refer to Figure 3-8).

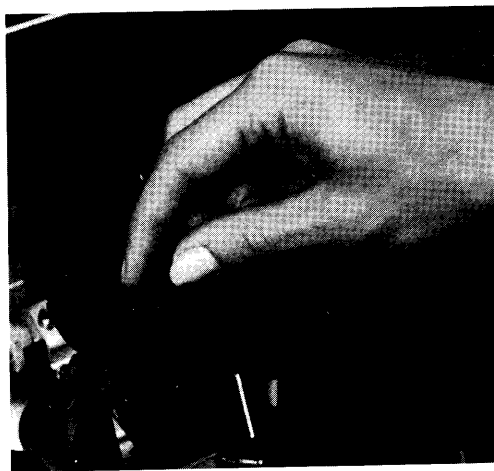


Figure 3-8. Removing the Print Wheel

4. To install a print wheel, hold the wheel so that the edge of the wheel is under the ribbon. Then rotate the wheel so the tab protruding from the shaft hub lines up with the alignment slot on the print wheel (refer to Figure 3-9). Push the wheel firmly onto the end of the print wheel shaft, making sure the tab enters the alignment slot on the wheel. Then grasp the print hammer and push it toward the platen until it clicks into position.

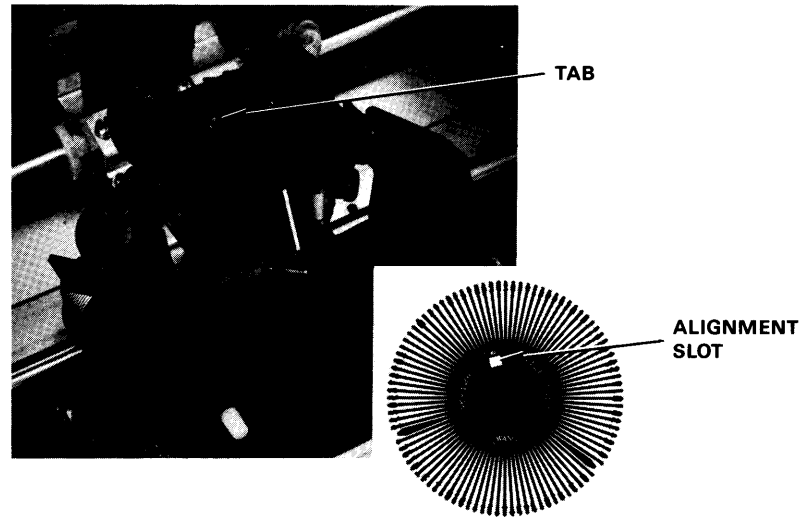


Figure 3-9. Tab and Alignment Slot Locations

3.5 SINGLE-SHEET PAPER INSERTION

Single-sheet paper is loaded in the printer in a manner similar to loading paper in a standard typewriter. Paper loading controls are shown in Figure 2-6. Use the following procedure to load single-sheet paper into the printer.

1. Position the Paper Release lever (located on the top right side of the printer) to the rear.
2. Pull the paper bail forward, away from the platen.
3. Insert the paper behind the platen. Be sure that the paper is also threaded behind (to the rear) of the paper scale rod. If the paper is threaded in front of this rod, the change paper sensor will not function. Turn the platen knob until the paper comes around and up in front of the platen.
4. Position the Paper Release lever to its most forward position and align the paper.
5. After the paper is correctly positioned, return the Paper Release lever to the rear position. Push the paper bail against the platen. To move the paper upward or downward a small amount, push the left platen knob inward, rotate the platen knob to position the paper as desired, and then release the platen knob.

3.6 CONTINUOUS-FORM PAPER INSERTION

Continuous-form paper can be used with the DW-20 Series printers when the optional monodirectional or bidirectional paper tractor is mounted on the printer.

Monodirectional Forms Tractor (Forms Feeder)

Use the following instructions to mount the Forms Feeder and insert paper in the printer.

1. Pull the paper bail forward (away from the platen), and pull the Paper Release lever to the forward position.
2. Center the Forms Feeder over the printer with the white Latch Release buttons (refer to Figures 3-10 and 3-11) facing the top of the printer.

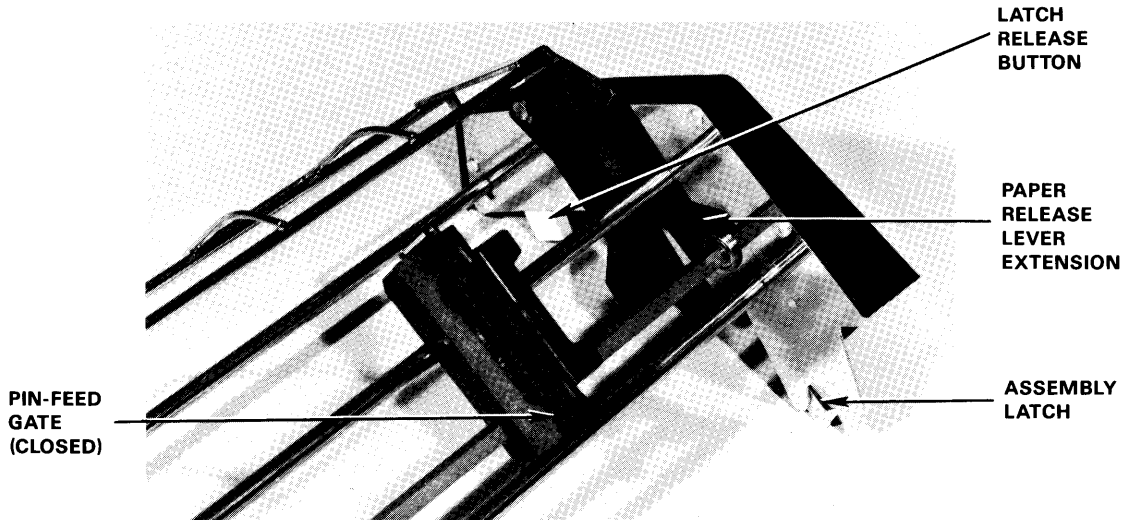


Figure 3-10. Forms Feeder, Right Side

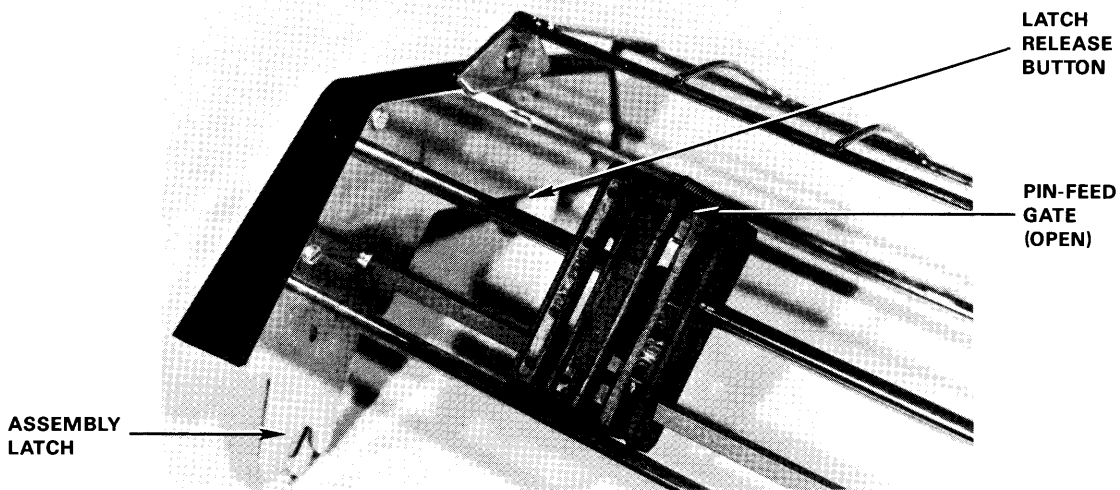


Figure 3-11. Forms Feeder, Left Side

3. Press in both Latch Release buttons on the Forms Feeder and lower the feeder onto the platen shaft. At the same time, position the Paper Release Lever Extension (refer to Figure 3-10) over the Paper Release lever. The latches fit readily onto the platen shaft at the right and left ends of the platen. Release the Latch Release buttons to lock the Forms Feeder into place.
4. Push the Paper Release lever to the rear by gently pulling up on the upper paper rack. Insert continuous-form paper between the upper and lower paper racks and down behind the platen. Be sure the paper is also threaded behind (to the rear) of the paper scale rod. If the paper is threaded in front of this rod, the change paper sensor will not function. Turn the platen knob until the paper comes around and up in front of the platen.
5. Position the Paper Release lever forward and align the paper.
6. Open the pin-feed gates on the Forms Feeder by gently pulling forward on the front of the gates. Align the holes on the paper with the pins on the feeder. To change paper width or margins, pull the side(s) of the pin-feed gate(s) forward, adjust the gate(s), align the holes on the paper with the pins on the Feeder, and push the side(s) of the gate(s) back into operating position. Close the pin-feed gates by gently pushing them back.
7. Turn the platen knob to position the paper to where the first line of printing is to begin. To make fine adjustments in paper position, press the left platen knob inward then rotate the platen knob as required.
8. After the top of page position has been set, press and hold the left platen knob inward, then press the Top of Page button. The paper drive motor now rotates to the top-of-page position, and then stops. After it stops, release the left platen knob.
9. When printing, the paper should exit over the top of the upper paper rack toward the back of the printer.

Bidirectional Forms Tractor

Instructions for mounting the bidirectional forms tractor and a paper insertion procedure are contained in the Bidirectional Forms Tractor Operating Procedures Summary Card (700-6153), supplied with the forms tractor.

3.7 CLEANING THE PRINTER

Use the following materials to clean the platen, feed rollers, print wheel, and plastic parts on the printer.

- o Use platen cleaner to clean the platen or feed rollers. Do not use alcohol.
- o The print wheel does not need cleaning under normal operating conditions. Slight ink build-up is normal, especially with a new ribbon. Only unusually severe operating conditions make print wheel cleaning necessary. When necessary, clean the print wheel with ethyl or isopropyl alcohol. Do not use methyl alcohol.
- o Do not use platen cleaner to clean plastic parts. Clean plastic parts with ethyl or isopropyl alcohol. Do not use methyl alcohol.

3.8 REPORTING A PRINTER PROBLEM

Supply the following information on the phone when reporting a printer problem.

1. If the Malfunction indicator is lit, what error number is displayed on the error indicator?
2. How does the printer respond when the Test button is pressed?
3. For Office Information Systems only, check the system mailbox, and record the diagnostic message (if any) in the mailbox. To access the mailbox, select Control Functions on the main Disk Operating System (DOS) menu, then choose Message Control. On the Message Control menu, choose Receive. In the Mailbox field, enter the letter D and the printer device number, and then press EXECUTE. The time of occurrence and a description of the problem will be displayed on the screen.

APPENDIX A
PRINTER SPECIFICATIONS

Printer Size

Height 9.0 in. (22.9 cm)
Height with Forms Tractor 12.5 in. (31.7 cm)
Depth 19.5 in. (49.5 cm)
Width 25.0 in. (63.5 cm)

Approximate Net Weight

43.0 lb (19.5 kg)

Speed

20 characters per second average, bidirectional

Pitch/Line Length

10-pitch -- 132 characters
12-pitch -- 158 characters
15-pitch -- 198 characters (OIS only)
Proportional spacing -- 13 in. (33 cm)

Paper Specifications

Minimum Width 3.5 in. (8.9 cm)
Maximum Width 15 in. (38.1 cm)

Paper Thickness

.027 in. (.069 cm) (5 copies, plus original)

Print Wheels

Plastic wheels only

Character Set

96 characters, plus additional characters created by overstriking

Switches

Top of Page, Select, Test, Low and High Impression

Indicators

Power, Malfunction, Change Daisy, Test,
Change Ribbon, Change Paper, Select, Low, High

Ribbon Cartridges

Carbon or fabric

Cabling

25 ft (7.6 m) printer to CPU

Power Requirements

115 or 230 VAC \pm 10%
50 or 60 Hz \pm 1 Hz
1.2 amps at 115V
.6 amps at 230 V
125 watts (427 Btu/hr)

Operating Environment

o o o o
50 F to 90 F (10 C to 32 C)
20% to 80% relative humidity, noncondensing

Available Options

Workstation table
Additional cable lengths up to 2,000 ft. (609.6 m);
50 ft. (15.2 m) maximum for WPS 5
Twin Sheet Feeder
Monodirectional Forms Tractor
Bidirectional Forms Tractor
Envelope Feeder (not for WPS 5)

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Customer Comment Form

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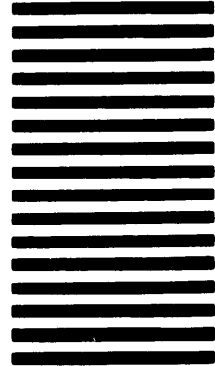


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