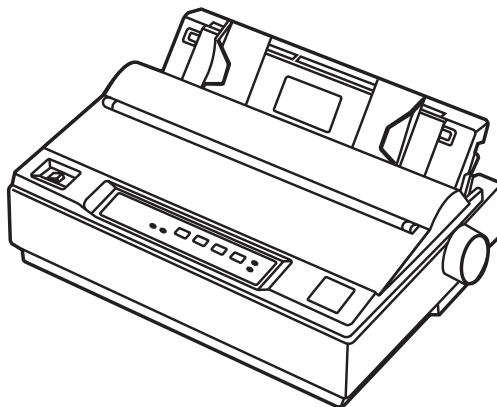


Jolimark

User's Manual

DP320

Dot Matrix Printer



Important Safety Instructions

Read all of these instructions carefully and thoroughly and save them for later reference. The unauthorized operation would lead to malfunction or accident. Manufacturers have no responsibilities for the problems which are led by misoperations.

1. Follow all warnings and instructions in the manual as well as marked on the product.
2. If the printer has been used just now, please not touch the print head for overheating.
3. Do not put your fingers under the left and right tractor sprocket covers of the tractor when installing the tractor paper.
4. Unplug this product from the power outlet before cleaning. Do not use liquid or aerosol cleaners. Use a damp cloth for cleaning.
5. Do not use this product near water.
6. Do not place this product on an unstable cart, stand or table. The product may fall, causing serious damage to you or the product.
7. Slots and openings on the cabinet and the back or bottom are provided for air ventilation. To ensure reliable operation of the product and to protect it from overheating, do not block or cover these openings. The openings should never be blocked by placing the product on a bed, sofa, rug or other similar surface. This product should never be placed near or over a radiator or heater. This product should not be placed in a built-in installation or kiosk stand unless proper ventilation is provided.
8. This product should never be placed near or over a radiator or heat origin, and should avoid of direct sunshine.
9. Do not locate this product where the cord would be walked on. When the cord or the plug is mangled, please stop using and get a new one replaced. Make sure the old one is far away from the printer, so it can avoid someone who does not know the inside story getting damage.
10. Do not use in locations subject to high humidity or dust levels. Excessive humidity and dust may cause equipment damage or fire.
11. Never push objects of any kind into this product though cabinet slots as they may touch dangerous voltage dots or short out parts.
12. Don't remove the printer's out-cover and repair the printer. When needed, call or take it to the professional.
13. To ensure safety, please unplug this product prior to leaving it unused for an extended period. The wall outlet you plan to connect to should be nearby and unobstructed.
14. Unplug this product from the power outlet and leave servicing to qualified service personnel under the following conditions:
 - A. When the power cord or plug is damaged or frayed.
 - B. If liquid has been spilled into the product.
 - C. If the product has been exposed to rain or water.
 - D. If the product does not operate normally when the operating instructions are followed.
 - E. If the product has been dropped or the cabinet has been damaged.
 - F. If the product exhibits a distinct change in performance, it indicates a need for service.

Note: The contents of this manual are subject to change without notice.

*** All parts of the printer can be recycled. When it is abandoned, we can call it back freely. Please contact us when you abandon it.**

Warnings, Cautions, and Notes

Pay attention to the following promises when using this manual:

Warning:

Warnings must be followed carefully to avoid bodily injury.

Caution:

Cautions must be observed to avoid damage to your equipment.

Note:

Notes contain important information and useful tips on the operation of your printer.

The Guide

First thanks for purchasing this Jolimark printer. Your printer is a 24-pin 80-column dot matrix printer, offering a wide range of features and multiple functions. It can be widely used in tax, mail, telecom, police, hospital, insurance, finance, stock, customhouse, cabaret, aviation and transport etc.

Printer Features:

- **Install print paper easily**

The installation design makes you operate easily, install paper rapidly and save your time.

- **Tear off function**

This causes tractor paper to be automatically fed to the tear-off position at the edge of the window, for easy tear-off at the perforations after printing. This zero tear-off capability helps eliminate paper wastage.

- **Facility switch between cut-sheet and tractor paper**

Feed the tractor paper back to the installing position through **LOAD/EJECT** key on the control panel, pull the paper select lever to the cut-sheet position, and then insert the cut-sheet from front to print. If you want to use tractor paper again, pull the paper select lever back to the tractor paper position after cut-sheet printing, then press **LOAD/EJECT** key, tractor paper may be fed to the printer again.

- **Eject function**

The function allows the user eject the tractor paper through the facility key on the control panel.

- **Select the data transfer interface function automatically**

The printer configures with parallel interface, USB interface or serial interface (according to specific interface standards). Connect the printer to the computer with the correct cables. The printer would switch the correct interface according to the type of data automatically.

- **Emulation**

The printer supports the Epson ESC/PK2 emulation as standard.

- **Enhance Chinese Character Set**

This printer contains GB18030 Chinese character set and also supports 4 bytes Chinese printing.

- **Break pin compensation function**

User can set the printer to print using the pin which is in good condition to compensate the break pin.

- **Pin switch rotation function**

User can set pins to switch while printing form transverse line in order to improve print head life.

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Chapter 1 Installing the Printer

1.1 Unpacking & Checking

Check the following items in the package, if any of these items is missing, please contact your dealer.

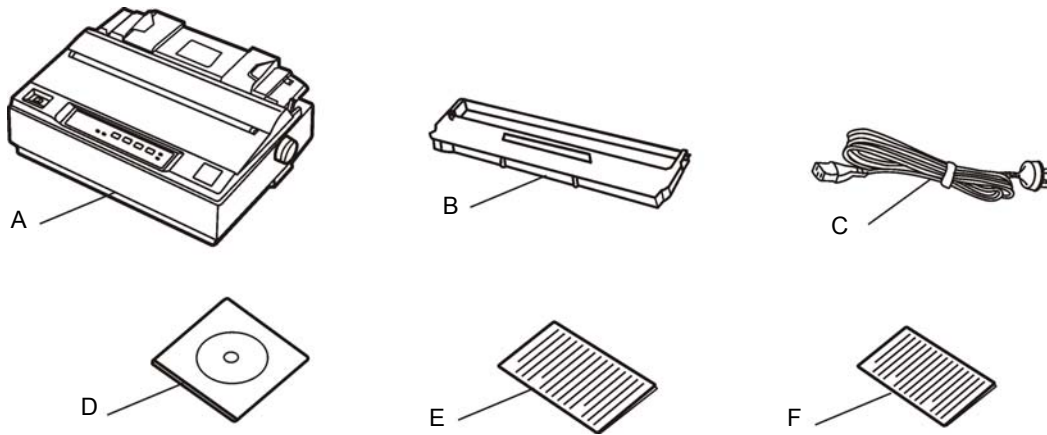


Figure1-1 Packing list

- A: Printer
- B: Ribbon cartridge (JMR111)
- C: Power cord
- D: Driver CD (Including *user's manual* and driver)
- E: Packing list
- F: Facility user's guide

Caution: The fittings please refer the packing list. The packing style above is subject to change without notice.

1.2 Removing the Protective Materials

1. Open the packing box, take out the printer, open the window of the printer, and remove the protective materials shown in the following figure.
2. Save all the original packing materials so that they can be used when transporting the printer.

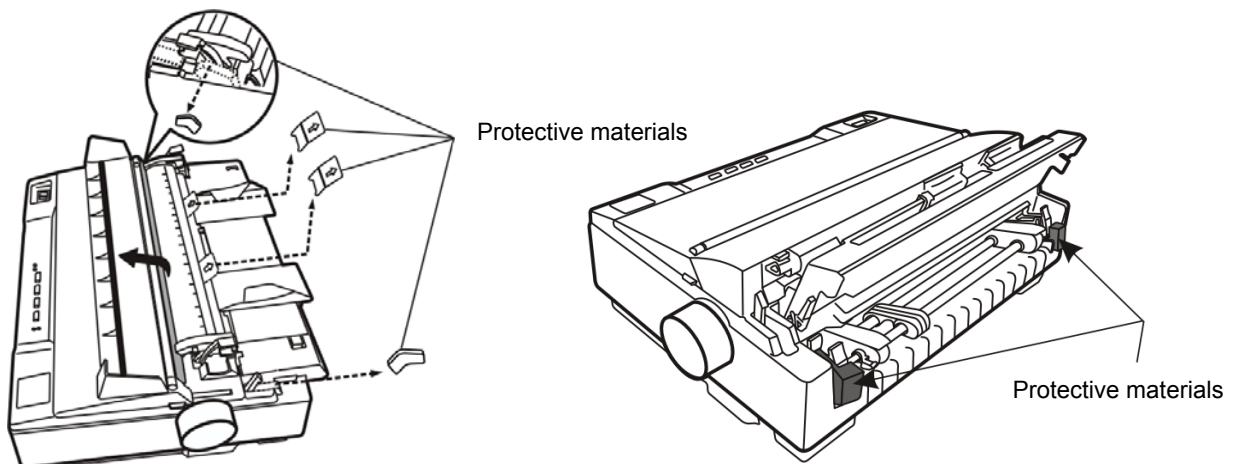


Figure1-2 Removing protective materials

1.3 Main Parts of the Printer

Figure1-3, Figure1-4 and Figure 1-5 shows the main parts of DP320.

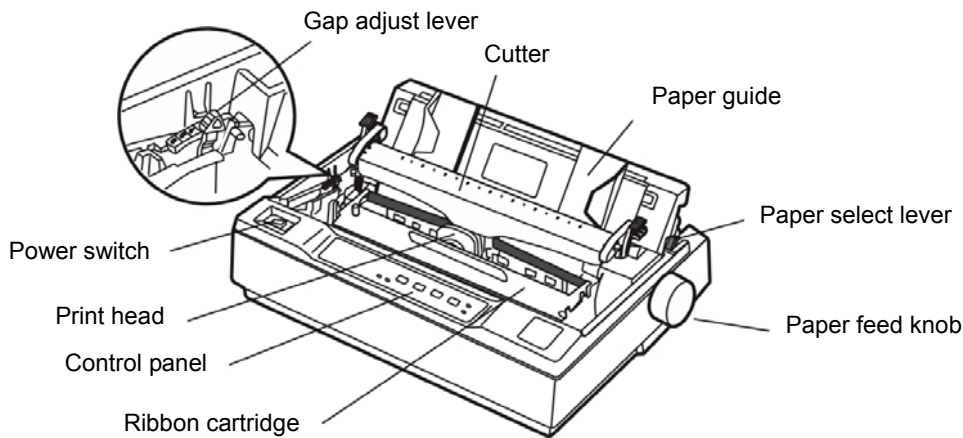


Figure1-3 Main parts of printer (front view)

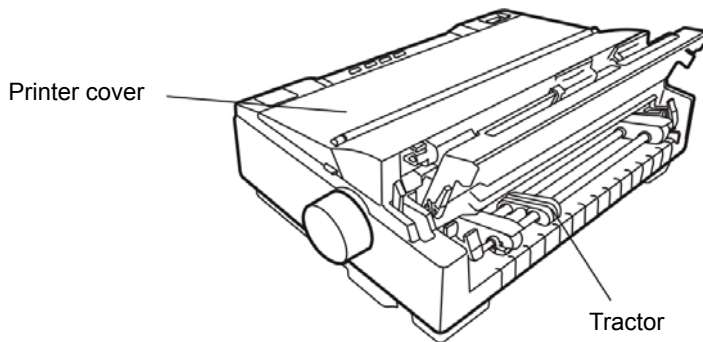


Figure1-4 Main parts of printer (side view)

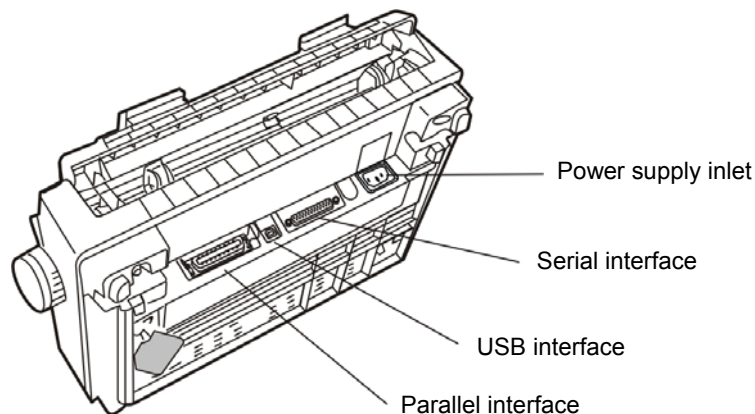


Figure1-5 Main parts of printer (back view)

Note: According to the specific interface standards

1.4 Choosing a Place for the Printer

When selecting a place to set up your printer, choose a convenient location that provides the following items:

1. A flat, stable surface
2. Adequate room around the printer to allow easy operation and maintenance. Make sure it's close enough to the computer for the printer cable to reach, and be sure you can easily unplug the power cord.

3. Moderate environmental conditions. Select a cool, dry area and protect your printer from direct sunlight, excessive heat, moisture, or dust.
4. Appropriate power source. Make sure you use a grounded outlet; do not use an adapter plug. Avoid electrical outlets controlled by timers or wall switches; an interruption in power can wipe out the information in your computer or printer memory.

If you place the printer on a stand, follow these guidelines:

1. Use a stand that supports at least 9 kg (19 lb).
2. Never use a stand which is slant. Always keep it level.
3. Provide enough clearance below the stand and between the printer rack and the legs of the rack so the tractor paper flows smoothly.
4. Place cables so they do not interfere with paper feeding; secure them to a leg of the stand if possible.

1.5 Installing the Printer

Follow the steps in this section to install your printer.

1.5.1 Installing the Paper Feed Knob

1. Insert the paper feed knob into the hole on the right side of the printer.

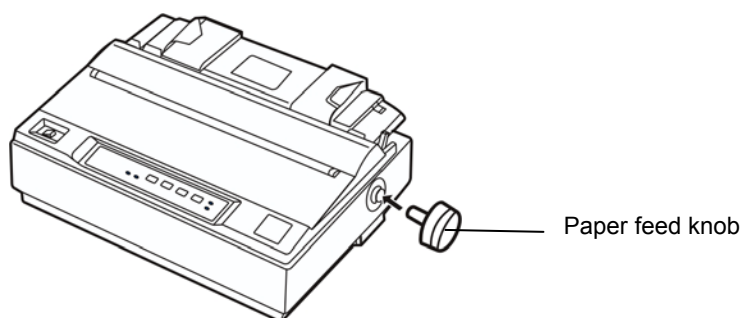


Figure1-6 Install the paper feed knob

Note: The D shape of knob should be aim at the D shape shaft inside the printer case.

2. Push firmly on the knob until it fits against the printer case.

1.5.2 Installing the Ribbon Cartridge

1. Before installing the ribbon cartridge, make sure the printer is turned off.
2. Remove the window: As shown below, turn the window backwards and then pull up to remove it.

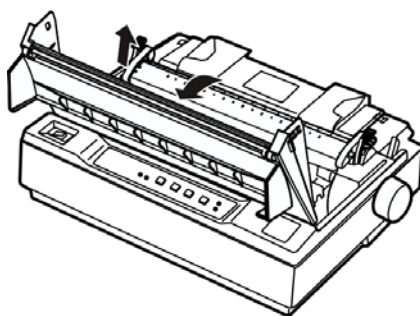


Figure1-7 Remove the window

3. Remove the cutter: Press the lock sheets on both side of the cutter, and then pull the cutter upwards as shown below.

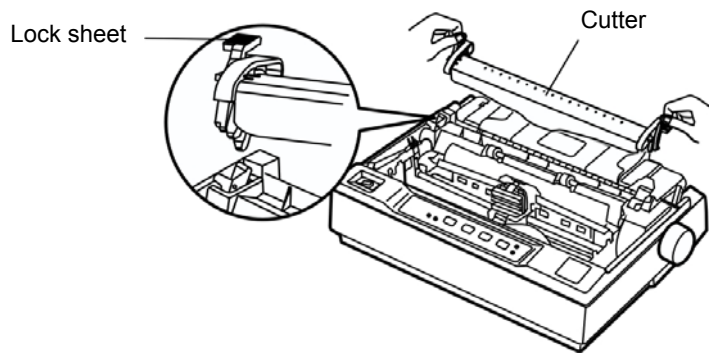


Figure1-8 Remove the cutter

4. Pull the gap adjust lever to the highest position.
5. Move the print head to the middle.

Note: Never move the print head when the printer is on, or else the printer may get damaged. Besides, do not touch the print head if the printer has just been recently used as the print head may be hot.

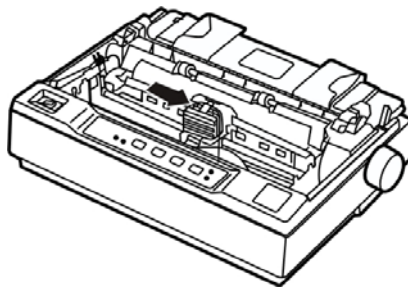


Figure1-9 Slide the print head to the middle of the printer

6. Hold the ribbon cartridge with the ribbon knob facing upwards. Turn the ribbon knob in the direction of the arrow to remove any slack from the ribbon, so that it is easier to install.

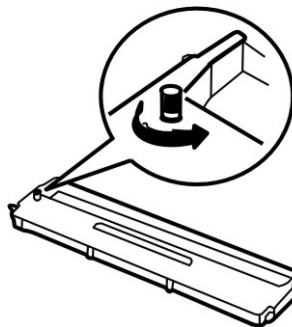


Figure1-10 Tighten the ribbon

7. Insert the ribbon cartridge into the printer as the following figure shown; then press both sides of the cartridge down firmly to fit the buckles into the printer slots.

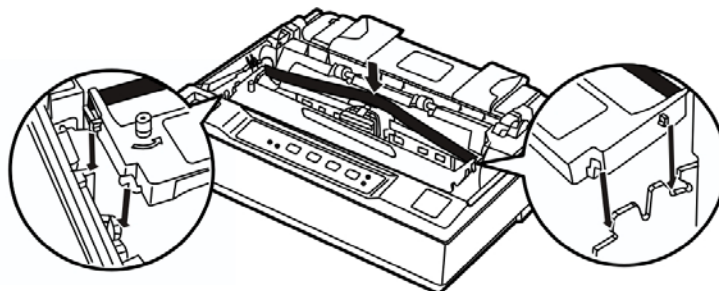


Figure1-11 Install ribbon cartridge

8. Use hands or other auxiliaries, to guide the ribbon between the print head and metal sheet. Turn the ribbon knob to feed the ribbon into place, it should not be twisted or creased.

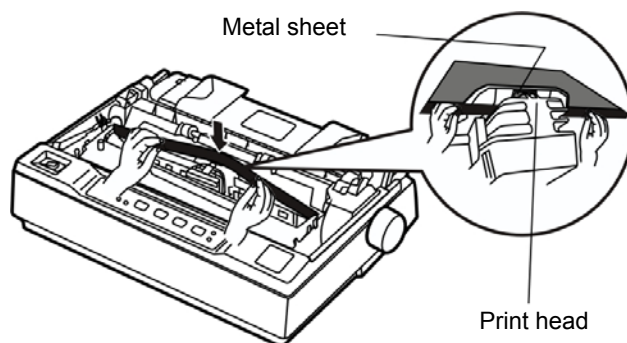


Figure1-12 Guide the ribbon between the print head and metal sheet

9. Slide the print head from side to side several times to make sure it moves smoothly.
10. Pull the gap adjust lever back to the original position. Reinstall and close the window.

NOTE: 1. When your printing becomes faint, you need to replace the ribbon cartridge. Otherwise, the print quality will be affected and the print head may be damaged.

2. To remove the old ribbon cartridge, first make sure the power is turned off, move the print head to the center of the printer. Then hold both sides of the ribbon cartridge and lift it out of the printer upwards. Install a new one as the above steps.

3. Please use the original ribbon cartridge only. Manufacturer will not honor warranty when using unauthorized ribbon cartridge.

1.6 Installing the Tractor

There are two positions for the tractor to be installed, one is push installation position (back of printer), and the other is pull installation position (top of printer). The tractor that installed in the back of printer is called drive tractor, and the one installed in the top of printer is called draught tractor.

Generally, you can use drive tractor when using standard tractor paper. Only in this way, can the printer tear paper normally. If the print position requires high precision, such as printing on the paper with forms, you are suggested using draught tractor.

1.6.1 Installing the Drive Tractor

Aim the mounting slots on both sides of tractor at the alignment pins which are at the back of printer, press forward till it locks in place. (Shown as the following figure)

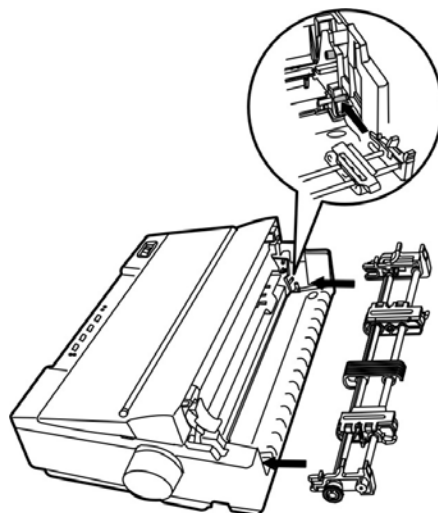


Figure1-13 Install the drive tractor

1.6.2 Installing the Draught Tractor

If the tractor has been installed the push position (back of printer), take down the tractor, remove the cutter, and then install the tractor in the pull position. The concrete steps are as follows.

1. Make sure the printer is turned off, take down the paper guide, and then pull the paper select lever to the tractor paper position according to following figure.

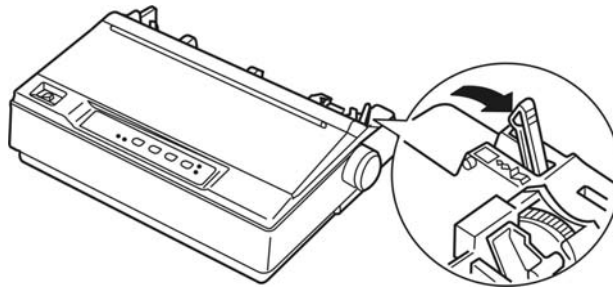


Figure1-14 Set paper select lever

2. Take down the drive tractor as the following steps: Press the lock sheets of the tractor tightly (shown as the following figure), and pull out the tractor from the printer, and then remove the window.

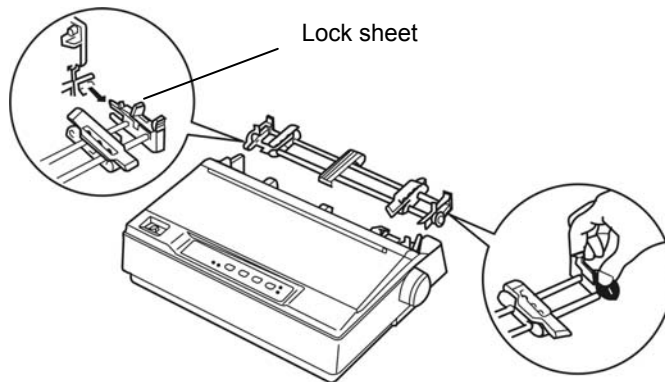


Figure1-15 Take down the drive tractor

3. Press the lock sheet of the cutter tightly (shown as the following figure), and then lift it upwards.

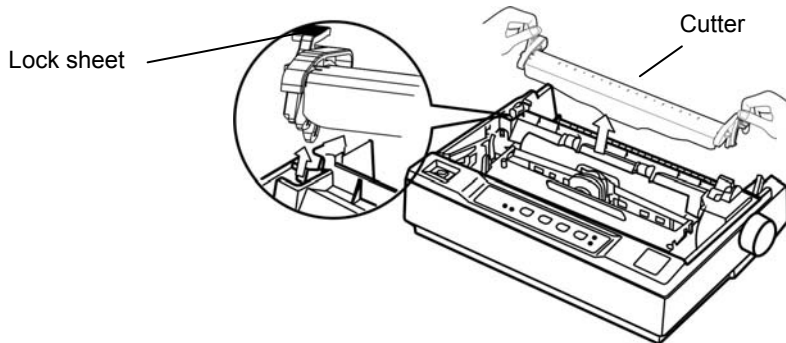


Figure1-16 Take down the cutter

4. Take up the tractor aiming at the mounting slots on the top of printer (the slot for the cutter to be installed), press the tractor until it locks into the slots according to the following figure.

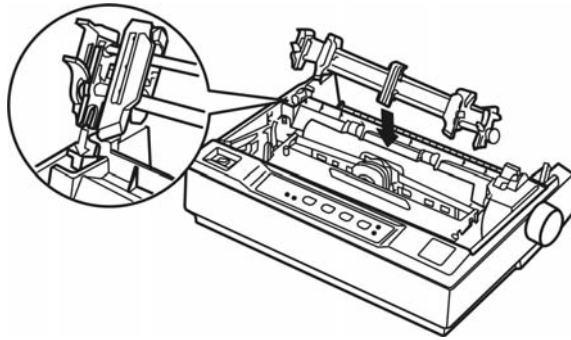


Figure1-17 Install the draught tractor

1.7 Connecting the Power Cord

1. Make sure the printer is turned off. ("O" mark on the power switch is pressed down.)

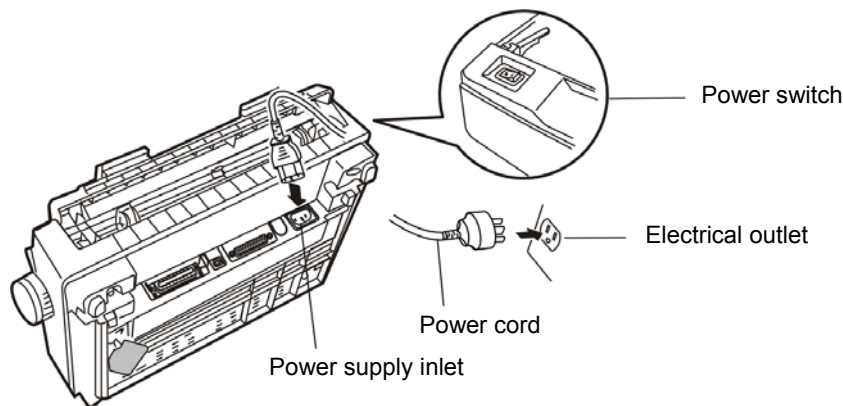


Figure1-18 Turn off the printer

2. Make sure the voltage required by the printer matches that of your electrical outlet.
3. Plug one end of power cord into the printer power supply inlet.
4. Plug the other end of power cord into a properly grounded electrical outlet.

Caution: 1. If the rated voltage and your outlet voltage do not match, contact your dealer for assistance. Do not plug in the power cord.

2. Use the electrical outlet connecting the ground properly.

1.8 Running the Self-test

The built-in self-test function demonstrates that the printer is working properly. You can run the test with either tractor paper or cut sheets; this section describes the easier way with cut sheets.

Note: You should use paper at least 210 mm wide to run the self-test; otherwise, the print head prints directly on the platen.

1. Make sure the printer is turned off and the paper select lever is at the cut sheet position. Raise the paper guide upright.

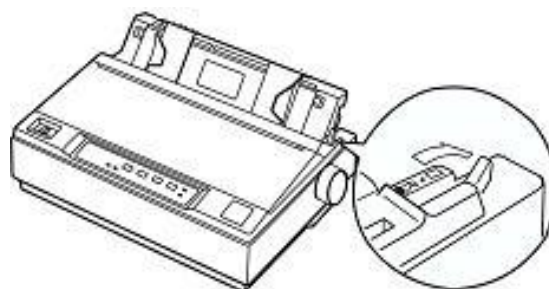


Figure1-19 Set paper select lever

2. While holding down the **TEAR** key, turn on the printer. At that time, the **POWER** indicator blinks and the **ONLINE** indicator is off, which indicates the printer is out of paper.



Figure1-20 Startup self test

3. Slide the left guide until it reaches at the triangular guide mark. Next, adjust the right guide to match the width of your paper.

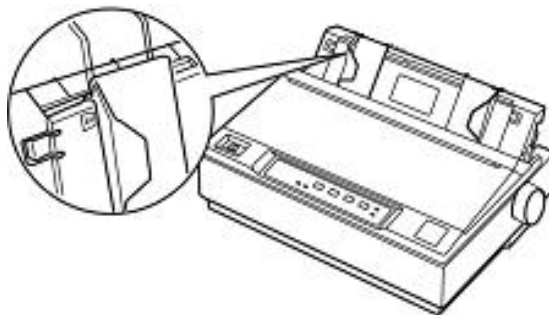


Figure1-21 Adjust the right and left guides

4. Slide a sheet of paper down firmly between the guides until it meets resistance. The printer loads the sheet automatically and begins printing when pressing **ONLINE** key.

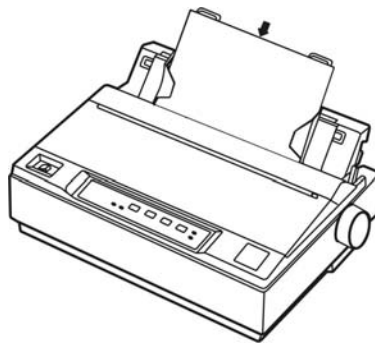


Figure1-22 Install cut sheets

Warning: Always close the window while the printer is printing.

5. To stop printing temporarily, press the **ONLINE** key.
6. After the printer finishes printing, press **LF/FF** key or **LOAD/EJECT** key to eject cut sheet, and then turn off the printer to exit self test mode.

```

ASCII Self-test mode
Jolimark DP320  VX.X  20XX/XX/XX

!"#$%&'()*+,-./0123456789;:<=>?@ABCDEFGHIJKLMNQRSTUvwxyz[\]^_`ab
!"#$%&'()*+,-./0123456789;:<=>?@ABCDEFGHIJKLMNQRSTUvwxyz[\]^_`abcd
!"#$%&'()*+,-./0123456789;:<=>?@ABCDEFGHIJKLMNQRSTUvwxyz[\]^_`abcde
    
```

Figure1-23 ASCII Self-test mode

NOTE: If the self test does not print satisfactorily, see Chapter 4. If it prints correctly, go on to the next section.

1.9 Connecting the Printer to Your Computer

The printer can be configured with parallel interface, USB interface or Serial interface (according to the specific interface standards). Connect the printer to the computer with the correct cables. Before you begin, place the printer upright, as shown below.

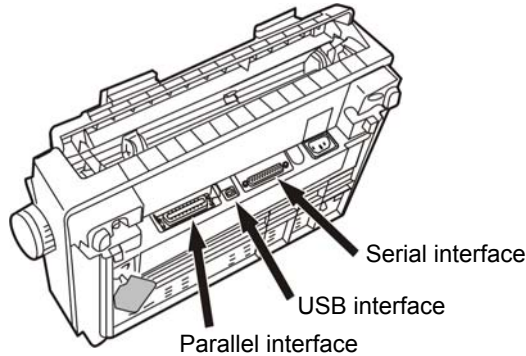


Figure1-24 Lay the back of printer upwards

Note: Before connecting the parallel cable or the serial cable, please make sure the power of the printer is shut down. Only after tightening the cable may you turn on the power, or it will damage the printer.

1.9.1 Connecting to the Parallel Cable

1. Turn off both the computer and the printer. Plug the parallel cable securely into the printer's parallel interface. Squeeze the wire clips together until they are locked in place on both sides of the connector.

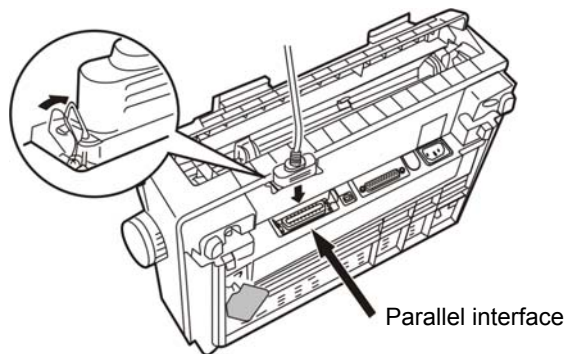


Figure1-25 Connect to the parallel cable

2. Plug the other end of the cable into the computer's parallel interface. And then tighten the screws on both sides.

1.9.2 Connecting to the USB Cable

1. Plug the A end of the USB cable (flat shape) into the computer's USB interface.
2. Plug the B end of the USB cable (square shape) into the printer's USB interface. (As figure1-26 shown)

Note: Don't impact the plug after connecting to the USB cable.

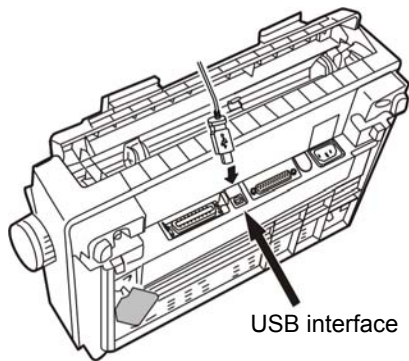


Figure1-26 Connect to the USB cable

1.9.3 Connecting to the Serial Cable

1. Turn off both the computer and the printer. Plug the serial cable securely into the printer's serial interface. Tighten the screws on both sides of the connector.

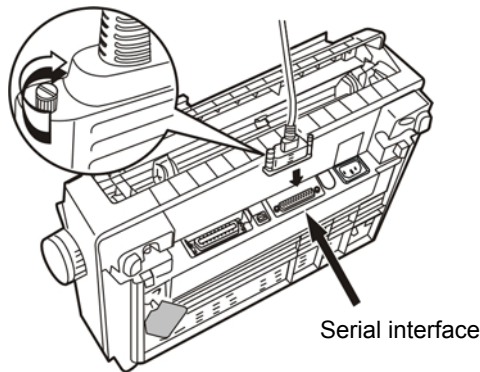


Figure1-27 Connect to serial cable

2. Plug the other end of the cable into the computer's serial interface; then tighten the screws on both sides of the connector.

1.10 Installing Driver

Please use the cable to connect computer with printer, then turn on the computer and the printer, put the drive CD into the CD-ROM. Install driver by the following ways:

Auto-installing way

Double click the file "Setup.exe" in the driver disc, install driver by the following direct.

Note: Auto-installing way needs the operating system of Windows 2000 or above.

Hand operated installing way

Note: The hand-operated installing ways of serial interface and parallel interface are the same.

1) The installing steps of parallel interface for Windows 2000/XP/Vista are as follows:

- 1 Click "Start" → "Settings" → "Select Printers".
2. Click "Add Printer", then it pops up a window of "Add Printer Wizard", click "Next", then please read the select guide carefully, such as, select "Local printer" in the "Local or Network Printer" window, then click "next".
3. A window of "Select a Printer Port" pops up, select a usable port. Such as, select "LPT1: (Recommended Printer Port)", click "Next".
4. A window of "Install Printer Software" pops up, click "Have Disk...", click "Next".
5. A window of "Install From Disk" pops up. Please according to the operating system environment, you

should select the path as follow: CD-ROM → “Driver” → “WIN2000 (XP-Vista-Win7)”, click “Open”, then click “OK” to return to the window of “Install Printer Software”, select the respective model, click “Next”.

6. Follow the guide click “Next” gradually till the installation is finished.

2) The installing steps of parallel interface for Windows 7 are as follows:

1. Click “Start” → “Device and Printers”.
2. Click “Add Printer”, then it pops up a window of “Add Printer Wizard”, click “Next”, then please read the select guide carefully, such as, select “Local printer” in the “Local or Network Printer” window, then click “next”.
3. A window of “Select a Printer Port” pops up, select a usable port. Such as, select “LPT1: (Recommended Printer Port)”, click “Next”.
4. A window of “Install Printer Software” pops up, click “Have Disk...”, and click “Next”.
5. A window of “Install From Disk” pops up. Please according to the operating system environment, such as Windows XP operating system, you should select the path as follow: CD-ROM → “Driver” → “WIN2000 (XP-Vista-Win7)”, click “Open”, then click “OK” to return to the window of “Install Printer Software”, select the respective model, click “Next”.
6. Follow the guide click “Next” gradually till the installation is finished.

The USB interface installing steps for Windows 2000/XP/Vista/Win7 are as follows:

The following steps are used Windows XP as example. There are slight differences among different operating systems.

1. Connect the printer to computer with an USB cable and turn on the printer.
2. After the computer find out new hardware and finish searching, pop up a window of “Found New Hardware Wizard”, choose “Install from a list or specific location (Advanced)”, click “Next”.
3. A window of “Found New Hardware Wizard” — “Please choose your search and installation options” pops up, choose “Don't search, I will choose the driver to install”, click “Next”.
4. A window of “Add Printer Wizard” pops up, click “Have Disk...”, click “Browse”.
5. A window of “Install From Disk” pops up. Please according to the operating system environment, you should select the path as follow: CD-ROM → “Driver” → “WIN2000 (XP-Vista-Win7)”, click “Open”, then click “OK” to return to the window of “Add Printer Wizard”, select the respective model, click “Next”.
6. Follow the guide click “Next” gradually till the installation is finished.

The installing steps for Windows 98 are as follows:

(1) The installing steps with a parallel cable or a serial cable:

1. Click “Start” → “Settings” → “Printers”.
2. Click “Add Printer”, then a window of “Add Printer Wizard” pops up, click “Next”, then please read the select guide carefully, such as, select “Local printer” in the “Local or Network Printer” window, then click “Next”.
3. A window of “Click the manufacturer and model of your printer” pops up, click “Have Disk...”, please click “Browse”, select the path as follow: CD-ROM → “Driver” → “WIN98 (WINME)”, then click “OK”.
4. A window of “Install From Disk” pops up, click “OK”, return to a window of “Add Printer”, select the respective model, and then click “Next”.
5. A window of “Printer port” pops up, select “Available ports”, such as, select “LPT1: Printer Port”, click “Next”, and then show the printer's name. If the system is not installed by other printer driver process, the printer is treated as default printer by the application process of Window98 environment, click “Next”. Otherwise according to prompt, choose the printer is default: “Yes”, click “Next”, choose “Yes-(recommended)”, click “Finish”. A window of “Printer test page completed” pops up, click “Yes”.

6. The printer driver process is installed successfully.

(2) The installing steps with an USB cable:

Note: 1. As the system of Windows 98/ME doesn't have integrated USB driver control, please install USB driver before using USB interface printing. Then install USB printer driver.

2. If it has installed the USB driver, please install the USB printer driver directly as the following steps.

USB driver installing steps:

1. Connect an USB cable and turn on the printer.
2. After the computer find out new hardware and finish searching, a window of "Add New Hardware Wizard" pops up, click "Next".
3. A window of "Add New Hardware Wizard" — "Windows operation" pops up, choose "Search the best driver for the device (recommended)", and click "Next".
4. A window of "Search for new drivers" pops up, check "Specify a location", click "Browse", select the path as follows: CD → ROM → "Driver"-"[WIN98 (WINME) \ USBdriver]", then click "OK".
5. Return to a window of "Search for new drivers", click "Next"; a window of "Windows driver file search for the device" pops up, click "Next".
6. After the system finishing installing the file automatically, a window of "USB Print Supported" pops up, click "Finish".
7. The printer USB driver process is installed successfully.

USB printer driver installing steps:

1. Click "Start" → "Settings" → "Printers".
2. Click "Add Printer", then a window of "Add Printer Wizard" pops up, click "Next".
3. A window of "Click the manufacturer and model of your printer" pops up, click "Have Disk...", please click "Browse", select the path as follow: CD-ROM → "Driver" → "WIN98 (WINME)", and then click "OK".
4. A window of "Install From Disk" pops up, click "OK", return to a window of "Add Printer", then click "Next".
5. A window of "Printer port" pops up, select "Available ports", select "JMUSB", click "Next", and then show the printer's name. If the system is not installed by other printer driver process, the printer is treated as default printer by the application process of Window98 environment, click "Next". Otherwise according to prompt, choose the printer is default: "Yes", click "Next" choose "Yes-(recommended)", click "Finish". A window of "Printer test page completed" pops up, click "Yes".
6. The printer driver process is installed successfully.

Chapter 2 Control Panel

You can use the four keys on the control panel to operate your printer, such as line feed, form feed, load paper, eject paper or set print speed. The indicator lights on the control panel show the current print speed.

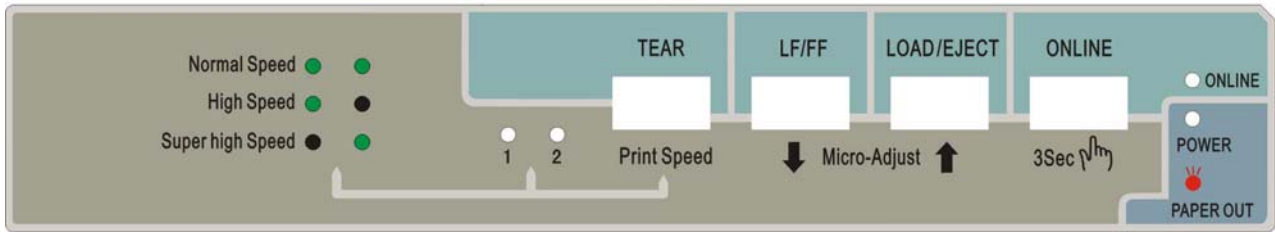


Figure 2-1 Control panel

2.1 Indicator light

Indicator	ON	BLINK	OFF
ONLINE (Green)	Online	Micro-Adjust	Offline
Indicator 1, 2	Indicate the current print speed		
POWER (Red)	Turn on	Paper out or malfunction occurs	Turn off

2.2 Key Functions

2.2.1 In the Tractor Paper Mode

TEAR

1. In the offline mode, if the paper is at the print position, press **TEAR** key once and the printer feeds paper to the tear off position.
2. In the offline mode, if the paper is at the tear off position, press **TEAR** key once and the printer ejects paper to the next page or the printing home position of the current page.

LF/FF

In the offline mode, if the paper is at the print position, press the **LF/FF** key once (less than 0.5 second), the printer will feed the paper one line base on current line spacing set. Alternatively, hold the **LF/FF** key down, the printer will load tractor paper one page continuously.

LOAD/EJECT

1. When the paper is at the ready position, press **LOAD/EJECT** key once, the paper will be fed into the printing home position automatically.
2. When the paper is at the printing home position, press **LOAD/EJECT** key in the offline mode, the paper will return the ready position.
3. When the paper is at the general print position (not the printing home position), press **LOAD/EJECT** key once in offline mode less than 0.5 seconds, the paper is ejected one line. Alternatively, hold the **LOAD/EJECT** key down, the printer will eject one page when the ejectable length is longer than one page. If the paper ejectable length is less than one page, the paper will go back to the ready position.
4. When the paper is at the tear off position, press **LOAD/EJECT** key once, the printer will eject the one page automatically.

ONLINE

1. If the printer has loaded paper in the offline mode, press the key to enter **ONLINE** mode, the **ONLINE** indicator is on and the printer available to print now.

Press this key in the online mode, the printer is offline, **ONLINE** indicator is off and the printer is unavailable to print.

2. If the paper is at the tear off position in the offline mode, press **ONLINE** key, the printer will go back to the printing home position of the current page or the next page.

2.2.2 In the Cut Sheet Mode

LF/FF

If the paper is at the print position in the offline mode, press the **LF/FF** key once (less than 0.5 second), the printer will feed the paper one line base on current line spacing set. Alternatively, hold the **LF/FF** key down, the printer will eject the paper until the cut sheet is entirely ejected.

LOAD/EJECT

If the paper is at the print position, press the **LOAD/EJECT** key once in the offline mode, the paper will be entirely ejected from the printer.

ONLINE

If the printer has loaded paper in the offline mode, press **ONLINE** key to enter **ONLINE** mode, the **ONLINE** indicator is on and the printer is available to print.

Press this key in the online mode, the printer is offline, **ONLINE** indicator is off and the printer is unavailable to print.

2.2.3 Print Speed

When printer is in the offline mode, holding the **ONLINE** key down for about 3 seconds, the **ONLINE** indicator blinks with a beep. The printer is in the alternate mode. Press the **PRINT SPEED** key to change the print mode among Normal Speed mode, High Speed mode and Super High Speed mode. The combination ON (○) and OFF (●) of the indicator lights to show the printer current print speed. Press the **ONLINE** key again save the value and quit the alternate mode.

Print Speed	Speed Indicator	
	1	2
Normal speed	○	○
High speed	○	●
Super high speed	●	○

2.2.4 Micro-Adjust of Printing Home Position and Tear Off Position

1. After turning on the printer, install tractor paper properly using drive tractor and feed paper to the printing home position.
2. Hold the **ONLINE** key down over 3 seconds in the offline mode till the **ONLINE** indicator blinks with a beep.
3. Press **UP** or **DOWN** key to feed paper upwards or eject paper downwards.
4. Press the **ONLINE** key again to save the setting and quit the alternate mode after finishing adjusting. Before adjusting again, the printing home position or the tear off position will be effective all the time. After the tear off position is adjusted, press **ONLINE** key to make the printer online and you can send commands to print. Only after the printing home position is adjusted, the printer ejects all the paper and feeds paper again, does it print.

The printing home position adjusting methods of cut sheet and tractor paper are the same.

Note: The adjustable range of printing home position is from -18/60 inch to +60/60 inch (base on default position set by the factory).

The adjustable range of tear off position is from -15/60 inch to +15/60 inch (base on default position set by the factory).

2.2.5 Feed Paper to the Tear Off Position

1. Turn on the printer, and then hold the **ONLINE** key down for about 3 seconds in the offline mode till the **ONLINE** indicator blinks with a beep.
2. Hold the **TEAR** key down for about 3 seconds to switch the function of automatically feeding paper to the tear off position **ON** or **OFF**.

2.2.6 Other Functions of the Panel

Key	Function
ONLINE + POWER	Enter printer setting mode to change the printer default setting. Long press LOAD/EJECT key in online mode to enter menu setup mode.
LOAD/EJECT + POWER	Chinese self-test mode
LF/FF + POWER	Print pin test mode
TEAR + POWER	English self-test mode
TEAR + LF/FF + POWER	Hex dump mode

2.3 Paper Select Lever

Use the paper select lever to specify the printing mode of cut sheet or tractor paper. If you use cut sheet to print, please pull the paper select lever to cut sheet position; if you use tractor paper to print, pull the paper select lever to tractor paper position.

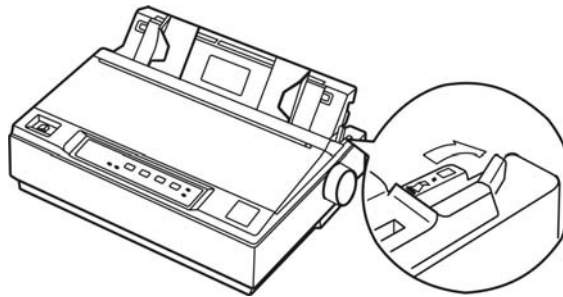


Figure 2-2 Paper select lever

2.4 Paper Feed Knob

The paper feed knob is used to load or eject paper manually. In general, it's better not to use it.

2.5 Gap adjust Lever

Set the gap adjust lever to proper position according to the thickness of your printing materials. It is factory-set for standard office paper.

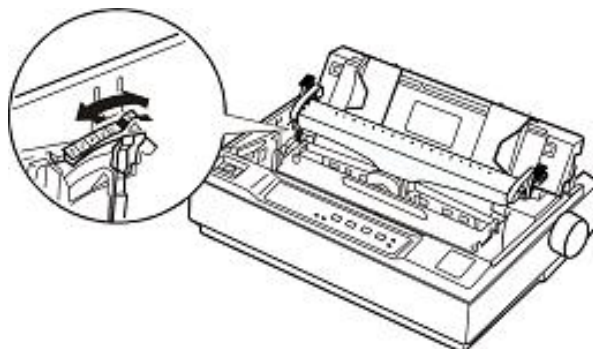


Figure 2-3 Gap adjust lever

Copies (including original)		Lever position
(Reserved)		-1
Standard paper (cut-sheet or tractor paper)		0
Multi-ply paper	2-ply	1
	3-ply	2
	4-ply	3
	5-ply	4
Envelopes	20-pound	4
	24-pound	5
(Reserved)		6

Chapter 3 How to use the printer

Here are the steps of using printer:

1. Assemble the printer as the chapter 1, connect the printer to your computer and install the driver correctly.
2. Load the correct type of paper.
3. Set the printer if necessary.
4. Send the print command to the printer to print.

3.1 Installing the Print Paper

In addition to printing on cut sheets and tractor papers, your printer can also print on a wide variety of paper types, including multi-ply papers, labels and envelopes.

Caution: When printing on multi-ply paper, as it is thicker than general paper, it needs the bigger print force, so printing past or at the edge of these papers may damage the print head.

Please make sure the printing contents are all within the printable area while printing. The correlative printable area, see the Appendix.A for reference.

3.1.1 Loading Cut Sheets

1. Make sure the printer is powered off, and open the window of the printer, refers to chapter 2.5 Gap adjust lever of this manual according to the paper type.

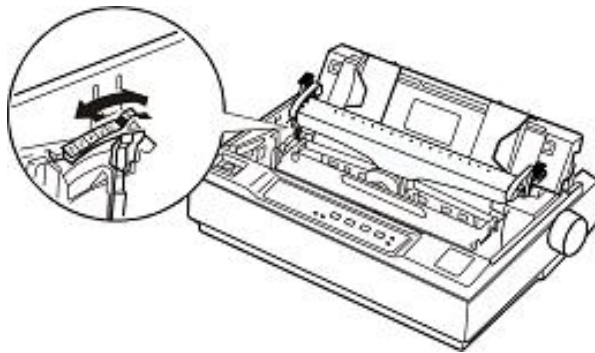


Figure 3-1 Adjust gap adjust lever

2. Close the window, and set paper select lever toward the cut sheet position.

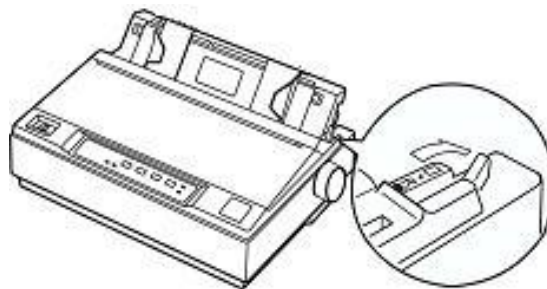


Figure 3-2 Adjust paper select lever

3. Raise the paper guide upright, and then turn on the printer.



Figure 3-3 Raise the paper guide upright

4. Slide the left edge guide until it reaches the triangular guide mark. Next, adjust the right edge guide to match the width of your paper. (As shown below)

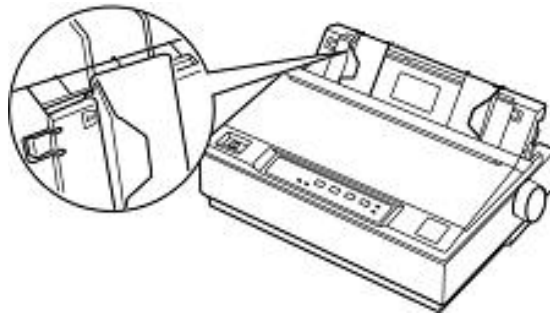


Figure 3-4 Adjust the paper guide

5. Slide a sheet of paper down firmly between the edge guides until it meets resistance. The printer loads the sheet automatically. (As shown below)

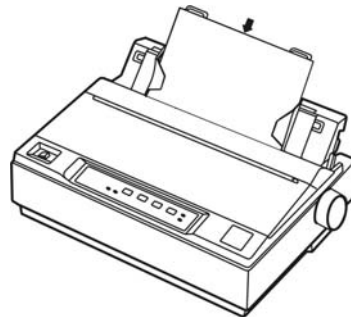


Figure 3-5 Insert cut sheet

6. Adjust the printing home position according to the steps in chapter 2.2.4 if necessary.

Note: Don't feed the paper with Paper feed knob, or it will influence the paper not feeding properly.

3.1.2 Loading Tractor Paper

If you use the tractor paper, you must decide which tractor to be installed. Then you install the tractor in the corresponding way.

For easy to switch between printing on cut sheets and tractor paper, or easy to tear off tractor paper sheet by sheet, you should use the tractor in push position. The printer comes with the tractor installed in this position at the factory settings.

If you want to print on labels, you should use the tractor as a draught tractor.

You can use a drive tractor and a draught tractor at the same time to strengthen the function of dealing with the tractor papers, which is fit for the printing requiring high precision in the print position, such as tractor paper with printed tables, multi-ply paper and labels.

Here's how to load tractor paper:

Using drive tractor:

1. Make sure the printer is turned off. Remove the paper guide and place the paper select lever in the tractor paper position. Open the printer window, and then adjust the gap adjust lever according to paper type.

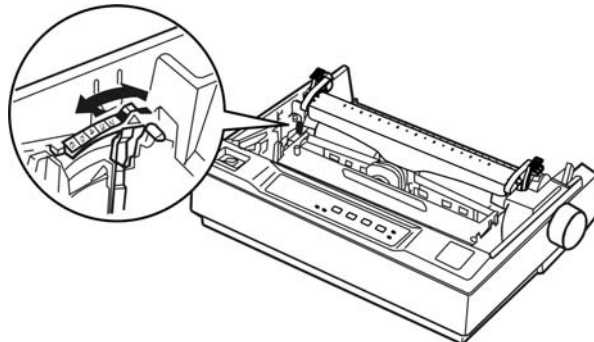


Figure 3-6 Adjust gap adjust lever

2. Make sure the tractor is installed correctly (refer to chapter 1).
3. Pull the sprocket lock lever of the drive tractor upwards to release the sprocket. (As shown below)

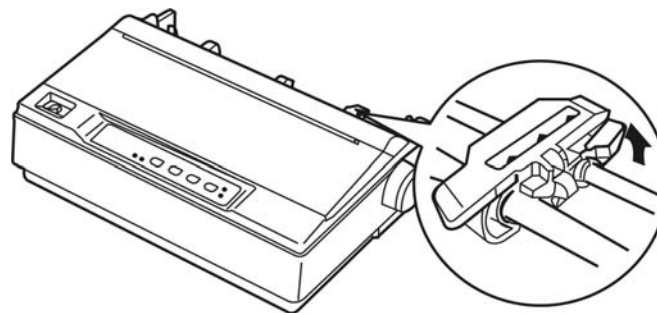


Figure 3-7 Release the sprocket

4. Slide the left sprocket referring to the scale on the printer. The printer prints to the right of the 0 scale. Push the left sprocket lock lever to lock the left sprocket in place. Then slide the right sprocket to match the width of your paper, but do not lock it. Move the paper support so it is midway between the tractors. (Shown as below)

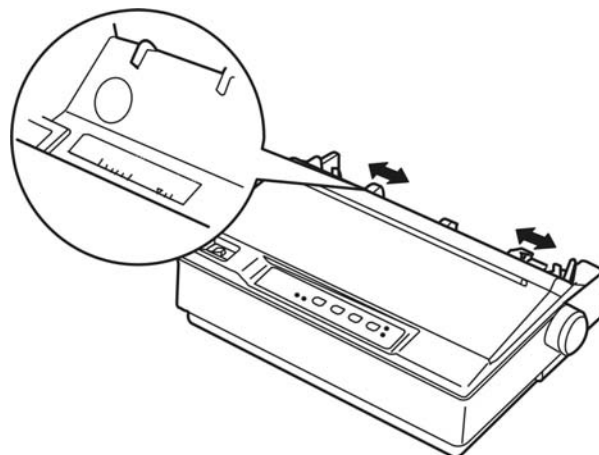


Figure 3-8 Adjust the position of the sprockets

5. Make sure your paper has a clean, straight leading edge. Open the sprocket covers. Fit the first holes of the paper over the sprocket pins and then close the sprocket covers. Slide the right sprocket unit to remove any slack in the paper and lock it in place. Now the paper is in the ready position.

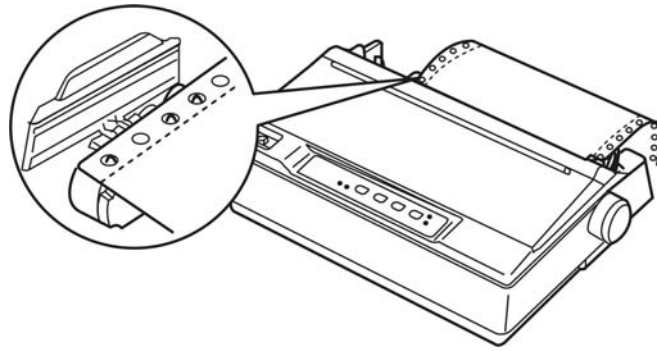


Figure 3-9 Load the tractor paper in the tractor

Note: Only to clean the paper jams when the printer is turned off, can use the paper feed knob on the right side of the printer. Otherwise, you may damage the printer or change the printing home position.

6. Hold the paper guide horizontally and install it according to the follow figure, then block it in the direction shown by the arrow.

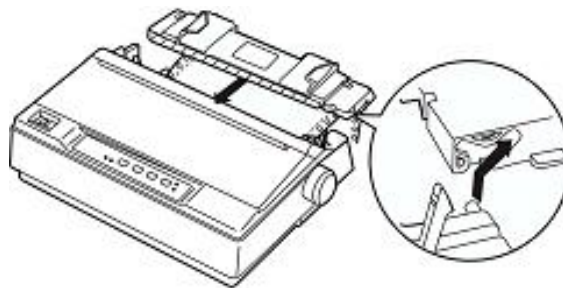


Figure 3-10 Install paper guide

7. Slide the right and left edge guides of the paper guide to make them stop at the triangular mark on the paper guide. (As shown below)

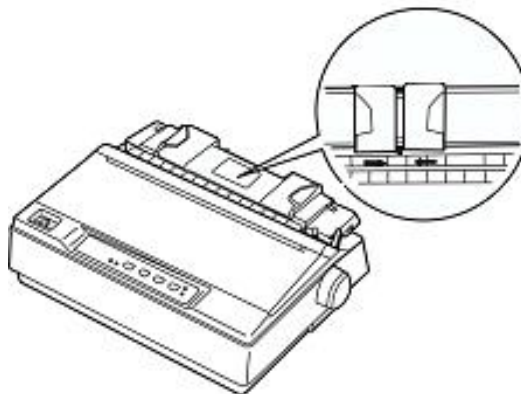


Figure 3-11 Adjust the position of paper guide

8. Make sure the window is closed. Turn on the printer, and Press **LOAD/EJECT** key to feed paper. You can adjust the printing home position according to chapter 2.2.4. When the printer receives data, it begins printing automatically.

Note: Do not use the knob to adjust the printing home position due to the micro-range is limited. When the adjustment exceeds the up-limit or down-limit, the beeper beeps and the position can not be adjusted for a further time. The position is in effect before next adjustment. (The margin set in the software can cover this adjustment, so you had better adjust the printing home position with the software.)

9. When you finish printing (the printer receives no data for several seconds) the printer feeds the

perforation of the tractor paper to the edge of the window so that you can tear off the last sheet.

Note: Set the function of feeding paper to tear off position in the Print Setting mode on. Otherwise, the printer does not feed the perforation to the edge of the window.

10. If the perforation and the edge of the window do not match, you should adjust the tear off position following the steps in chapter 2.2.4 until they are matched, and then tear down the paper having been printed.

When you send print data again, the paper automatically feeds back to the printing home position and ready to print.

How to switch tractor paper to cut sheet

Firstly, tear down the tractor paper having been printed, then hold **LOAD/EJECT** key to eject the paper in the offline mode. Pull the paper select lever to the cut sheet position, and load the cut sheet according to chapter 3.1.1.

Caution: Make sure tractor paper having been printed is tore off before ejecting the paper, as too many pages to be ejected may cause paper jammed.

Use draught tractor

1. Turn the printer off; then remove the paper guide. Pull the paper select lever to the tractor paper position and remove the window and cutter. Adjust the gap adjust lever according to the paper type.
2. Make sure the tractor is installed correctly (refer to chapter 1).
3. Pull the sprocket lock lever of the drive tractor upwards to release the sprocket. (As shown below)

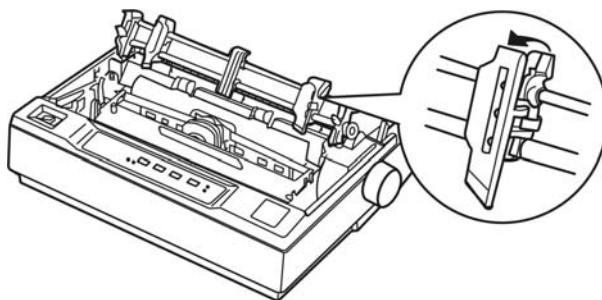


Figure 3-12 Release the sprocket lock levers

4. Insert the paper into the paper slot as shown below (printing surface is facing down), then pull it out between the print head and the platen. Position the paper using the scale on the printer as a guide. The printer prints to the right of the position marked 0.

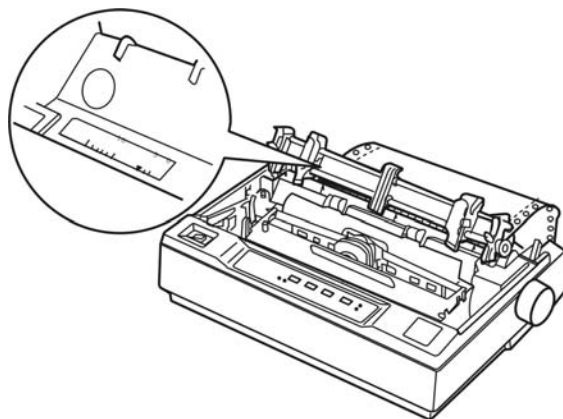


Figure 3-13 Insert the tractor paper into the paper slot

5. Slide the left sprocket unit so that its sprockets match the position of the holes in the paper and lock it in place. Then slide the right sprocket unit to match the width of your paper, but do not lock

it. Move the paper support midway between the two sprockets.

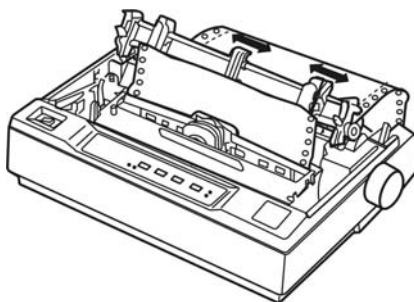


Figure 3-14 Adjust the position of the sprocket

6. Make sure your paper has a clean, straight leading edge. Open the sprocket covers. Fit the first holes of the paper over the sprocket pins and then close the sprocket covers. Slide the right sprocket to remove any slack in the paper and lock it in place.

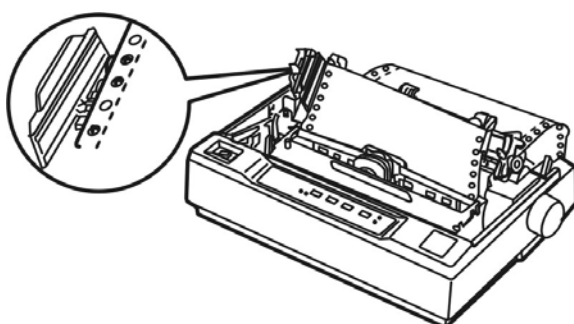


Figure 3-15 Load paper in the pull tractor

7. To separate the incoming paper from the printed paper, you should install the paper guide. Hold it horizontally and fit it into the printer's mounting slots. Then slide the paper guide toward the back of the printer until it locks tightly.
8. Slide the left and right edge guides to the center until it stops at the triangular guide mark.
9. Make sure the window is closed and then turn on the printer. When the printer receives data, it begins printing automatically.

Using drive tractor and draught tractor at the same time

1. Turn the printer off; then remove the paper guide. Pull the paper select lever to the tractor paper position. Remove the window and adjust the gap adjust lever according to the paper type.
2. Make sure the tractor is installed correctly (refer to chapter 1).
3. Load the tractor paper on the sprocket of the drive tractor referring to "Using drive tractor".
4. Turn on the printer, press **LOAD/EJECT** key to load the paper automatically and the print head is at the printing home position of the first page. Refer to chapter 2.2.4 to adjust the printing home position if necessary. Hold **LF/FF** key, the printer feeds one page automatically.
5. Release the sprocket lock lever of the draught tractor and open the sprocket cover. Pull straight the paper upwards, and then adjust the left and right sprockets unit they match the width of your paper. Then fit the tractor holes of the paper into the sprockets of the draught tractor, lock the sprockets at last. The paper should be without twisted.

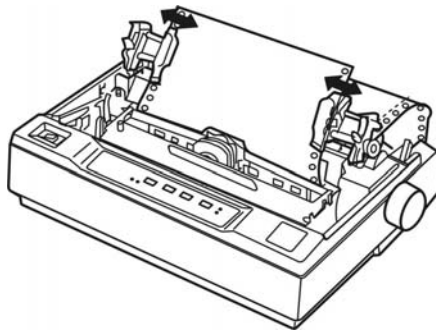


Figure 3-16 Adjust the position of the draught tractor

6. If the tractor holes of the paper do not match with the sprocket of the draught tractor when tightening the paper lengthways, then you can do as follows:
 - 1) Pull the paper select lever to the cut sheet position.
 - 2) Turn the paper feed knob until the paper is tightened lengthways.
 - 3) Pull the paper select lever forward to the tractor paper position.
7. Install the paper guide and printer window again.
8. The printer begins printing automatically when receiving print commands

3.1.3 Loading Multi-ply papers

The installing ways of multi-ply papers and tractor paper are the same. Just pay attention to the following tips when installing:

1. Must refer to the figure below to lift up the paper guide, otherwise, it may cause paper jam during printing.



Figure 3-17 Lift up paper guide

2. Never load multi-ply papers joined by metal staples, tape, or continuous gluing.
3. Avoid printing beyond the printable area of multi-ply papers, or it may damage the print head (see Appendix for details).

3.1.4 Loading Labels

You must use the tractor as a draught tractor to print on labels (using draught tractor and drive tractor at the same time is fine also). The installing ways of labels and tractor paper are the same. Keep these tips in mind:

1. Set the gap adjust lever to "1" position.
2. Make sure the printing stays entirely within the printable area. (See the Appendix for specifications.)
3. Because labels are especially sensitive to temperature and humidity, so please use them only under normal operating conditions.

4. Do not leave labels in the printer while doing other jobs, or they would curl around the platen and may jam when you resume printing.
5. Remove the labels from the printer, tear off the fresh supply at the rear of the printer, and then press **LF/FF** key to eject the remaining labels out of the printer.

Caution: Never feed labels backward through the printer; they can easily peel off the backing and jam the printer. If a label does become stuck in the printer, contact your dealer.

3.1.5 Loading Envelopes

The method of loading envelopes is basically the same with that of the cut sheet. Just pay attention to the following tips:

1. Before loading an envelope, set the gap adjust lever to position 4 or 5.
2. Insert the envelope into the printer paper guide (as shown below), push it down gently until it feeds into the printer.

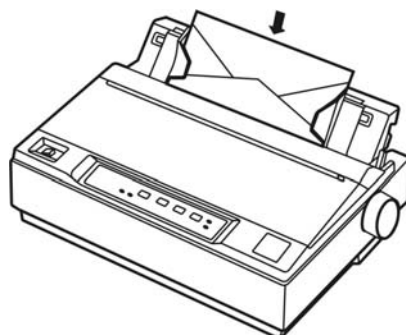


Figure 3-18 Insert the envelop into the paper guide

3. Make sure the printing stays entirely within the printable area or it may damage the print head. (See the Appendix for specifications.) It's a good idea to print a test sample using a piece of cut sheet before you print on the envelopes.
4. Use envelopes only under normal temperature and humidity conditions.

3.2 Changing Printer Settings

3.2.1 Setting printer parameter through the control panel

1. Press the **ONLINE** key on the control panel while turning on the printer. The print head returns with the printer beeping once. It is paper out if the **ONLINE** indicator is off and the **Power** indicator blinks.
2. Set the paper select lever to the proper position. (If in cut sheet mode, the paper select lever should in the cut sheet position, otherwise, it should in the tractor paper mode.)
3. After loading paper, in cut sheet mode, the printer would print out the current setting and facility operation guide of control panel automatically. In tractor mode, after installing the paper to the drive tractor, once you press **LOAD/EJECT** key, the printer would load paper to printing home position and then print out the current setting and the facility operation guide of control panel.

**Jolimark DP320
Current Setting Report**

VX.X-XXX XXXX/XX/XX

SYSTEM SETUP

LANGUAGE **ENGLISH** CHINESE
CHAR. MODE **ASCII** CHINA

CHARACTER

FONT **ROMAN** SANS SER COURIER PRESTIGE SCRIPT OCR-B OCR-A
 ORATOR

ENG PITCH **10 CPI** 12 CPI 15 CPI PROPORTIONAL

CHI PITCH **6.7 CPI** 7.5 CPI

INTL CHAR SET **U.S.A.** FRANCE GERMANY U. K. DENMARK1 SWEDEN ITALY
 SPAIN 1 JAPAN NORWAY DENMARK2 SPAIN 2 LATIN AM KOREA
 LEGAL HOLLAND TURKEY

CHARACTER SET **ITALICS** **GRAPHICS**

CODE PAGE **U.S.A.** MULTI PORTUGAL CANADA NORWAY EAST EURO CYRILLIC
 RUSSIAN HUNGARY KAMENICKY TURKEY ICELAND BULGARIA MAZOVIA
 GRK 437 GRK 851 GRK8859-7 GRK 1253 ARAB NLS ARAB EXT WIN LAT1
 WIN LAT2 ISO LTN1 ISO LTN2 TUR8859-9 ISO LTN9 KBL LATIN 7

PAGE LAYOUT

LINE SPACING **6 LPI** 8 LPI

FORM LENGTH 3 INCH 3.5 INCH 11/3 INCH 4 INCH 5 INCH 5.5 INCH 6 INCH
 7 INCH 8.5 INCH **LETTER** A4 12 INCH

FORM LOCK **OFF** ON

PAGE SKIP **OFF** ON

COMPRESS PRINT **NORMAL** 75% 50%

PRINT SETUP

PRINT DIR BI-DIR UNI-DIR **AUTO**

QUIET MODE **OFF** ON

AUTO LF **OFF** ON

TEAR OFF OFF **ON**

TEAR POS **TEARER** HEAD TOP

PIN SWITCH **OFF** ON

SERIAL 1/F

BAUD RATE 19200 BPS **9600 BPS** 4800 BPS 2400 BPS 1200 BPS

PARITY **NONE** ODD EVEN

DATA BIT **8 BIT** 7 BIT

STOP BIT **1 BIT** 2 BIT

PROTOCOL XON/XOFF **DTR**

Figure 3-19 Current settings

Please press the **ONLINE** key, ensure the online light is on, then hold down the **EJECT/LOAD** key about 3 seconds to enter Menu Setup Mode.

Note: It's suggest using the paper which is not smaller than 8*11inch (width*length).

Note: 1. The items in net lines are the current setting.

2. When select the compress printing in the setup menu, high speed printing is invalid.

1. The printer is in online mode, holding the “**LOAD/EJECT**” key down for 3 seconds.
 - The **Power** indicator and **Online** indicator blink twice simultaneously which indicates that the printer enters the menu setup mode.
 - The title and main menu are printed out firstly (as the following figure shown), the default settings are underlined. Print head stays under the current default item.

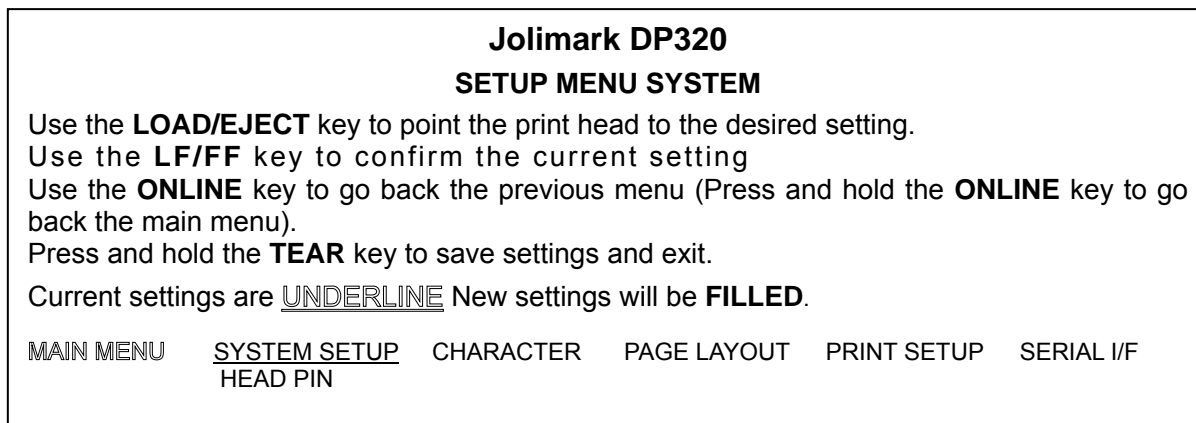


Figure 3-20 Menu setup mode

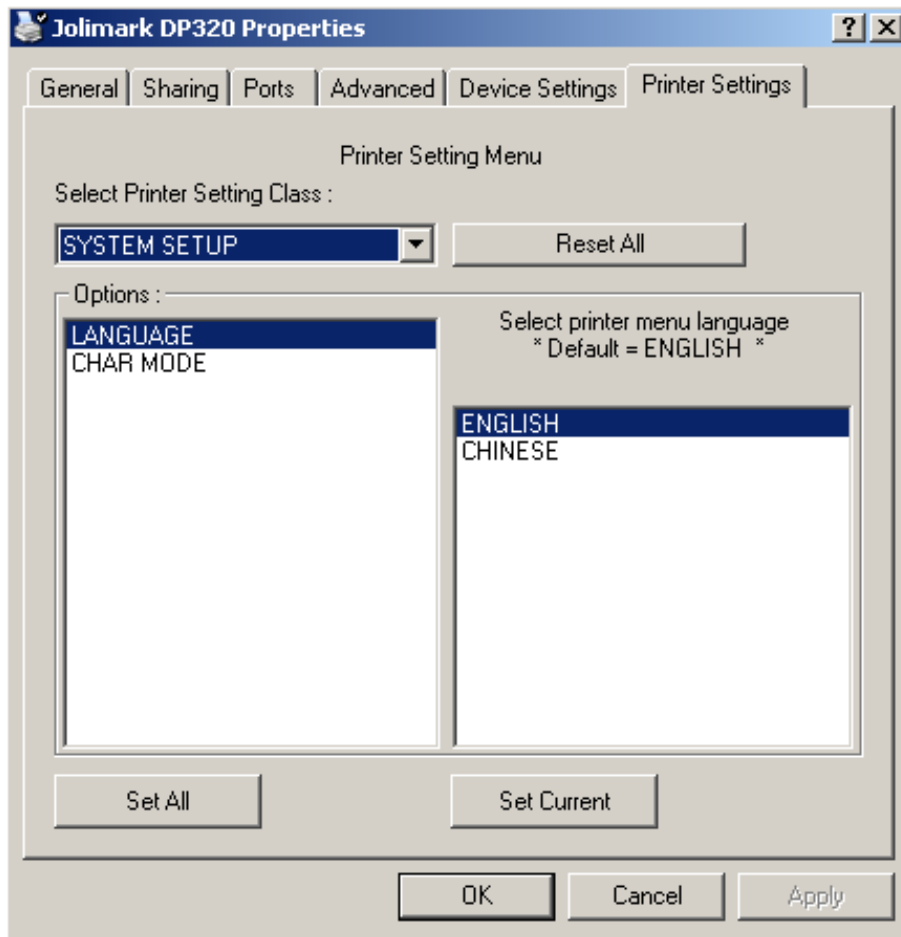
2. Using the following keys to modify the menu setting:
 - LOAD/EJECT** Select the menu option or menu setting value.
 - LF/FF** Enter into submenu or confirm menu setting value.
 Note: Newly setting option would be shown in **FILLED**.
 - ONLINE** Return to upper menu (Hold on pressing **ONLINE** key would return to main menu directly).
 - TEAR** Save and exit the menu setup mode.
3. Giving up the settings just modified, just turn off the printer directly. If you need to save the newly setting, long press **TEAR** key to save and exit the menu setup mode.
4. Turn off and restart the printer, newly settings are in operation.

3.2.2 Online-aptitude Parameter Settings

DP320 supports the function of online-aptitude parameter settings, which can be set in the PC with the driver installed in.

The concrete setting steps are shown as follows:

1. Make sure that the host and the printer are connected with a cable and both the host and the printer are turned on, the printer should be in normal working condition as well.
2. Click “Start” → “Settings” → “Printers”.
3. Right click “Jolimark DP320” in the “Printers”, select “Properties”.
4. Click “Printer Settings” in the property page.



5. The setting way is corresponding with that of printer menu system. In the “Printer Settings” layout, select the first class menu in the combobox of “Select Printer Setting Class”, select the second menu in the “Options” and set the item in the current parameters list.
6. Click the key “Reset All” to reset all the parameters to be the driver’s default, but not change the printer’s settings.
7. When setting the parameters: you can click “Set Current” to save the current settings after setting each item, or you can also click “Set All” after setting all parameters. After clicking “Set All” or “Set Current”, the parameter’s instruction will be sent to the printer.
8. The printer’s parameter settings are changed at once after receiving the instruction and the printer does not need to restart.
9. After finishing settings, click “OK”, exit the “Properties” window.

3.3 Printer setting descriptions

This section describes all the settings available in the Printer Setting mode.

Options	Description
LANGUAGE	Specify the printer menu language as English or Chinese.
CHAR. MODE	Select ASCII or Chinese character mode to print when printer receives character printing task.
FONT	Specify a kind of ASCII fonts to print when printer receives character printing task. If the print data with font instruction, printer gives priority to print data instruction. (Only valid when CHARACTER MODE is choosing ASCII)

ENG PITCH	Specify the ASCII character spacing in characters per inch (cpi).
CHI PITCH	Specify the Chinese character spacing in characters per inch (cpi).
INTL CHAR SET	Specify the printer internal character set according to different using circumstances of international characters.
CHARACTER SET	Specify character set as Italic Character or Graphic Character.
CODE PAGE	Select the code page according to different national characters use circumstances.
LINE SPACING	Specify the line spacing in lines per inch (lpi). If the print data with vertical pitch instruction, printer would give priority to print data instruction.
FORM LENGTH	Specify the page length of the form, for both cut sheet and continuous paper. Printer feeds to next page according to the specified page length. If the print data with page length instruction, printer would give priority to print data instruction.
FORM LOCK	After selecting this function on, printer would lock the page length setting. Printer feeds to next page according to the current setting parameter and would not be affected by the page length instruction of the print data.
PAGE SKIP	After selecting this function on, printer would leave one inch (25.4mm) margin at the perforation of the tractor paper automatically. If the print data with page margin instruction, printer would give priority to print data instruction.
COMPRESS PRINT	After selecting this function on, printer would print out transverse compressed content according to the specified percentage in normal speed. When auto-compress mode is selected, printer would detect paper width automatically and choose the proper percentage to print.
PRINT DIR	Select the printing direction of the print head: unidirectional, bidirectional or selected via software.
QUIET MODE	Disable or enable the low noise function, when this function is on, print speed would be reduced.
AUTO LF	If this function is on, printer would advance the paper one line automatically after receiving every carriage return instruction.
TEAR OFF	Select the function of feeding the paper to tear off position ON or OFF in tractor paper mode. After selecting this function on, if the printer receives FF command for a period of time, but receives no printing data, printer would feed the page bottom to tear off position automatically.
TEAR POS	After selecting this function on, when the printer has finished printing, paper would be fed to the set tear off position automatically, and you should tear off the paper manually.
PIN SWITCH	After selecting this function on, printer would switch different pins to print table line automatically.
BAUD RATE	Specify the printer serial data transfer rate.
PARITY	Specify the parity bit for serial data transfer.
DATA BIT	Specify the serial data bits.
STOP BIT	Specify the serial data transfer stop bit.
PROTOCOL	Specify the protocol of printer serial data transfer as software control (XON/XOFF) or hardware control (DTR).

3.4 Restore the Default Settings

1. Hold on **TEAR**, **LOAD/EJECT** and **LF/FF** keys on the control panel at the same time while turning on the printer. The indicators of the **POWER** and **ONLINE** on the control panel blink 3 times respectively at the same time and the printer makes two beeps to confirm that the printer's factory settings have been restored.
2. Release the keys and switch the printer off and on again.
3. After these steps, the printer's factory settings work.

Chapter 4 Problems and Solutions

Most problems you may encounter while operating your printer, herein, have simple solutions for those problems.

You can check the operation of your printer using the self test. See "Running the Self-test" on chapter 1.8. If the self test works properly, the problem probably lies in the computer, the software, or the interface cable. If the self test does not work, contact your dealer or qualified service person for assistance.

Note: Press LOAD/EJECT key while turning on the printer, you can run the Chinese self test.

Press TEAR key while turning on the printer, you can run the ASCII self test.

Note: If you are an experienced user or a programmer, you can print a hexadecimal dump to isolate communication problems between the printer and computer. To print a hex dump, firstly to install paper and turn off the printer. Next, hold down the LF/FF and TEAR keys at the same time while you turning on the printer. Then send data from your computer. The printer prints all the codes it receives in hexadecimal format.

4.1 Power Supply

Power is not being supplied normally.

Phenomenon 1: The lights on the control panel do not go on, and the printer has no action.

Solutions:

1. Check that the power cord is properly plugged into the electrical outlet.
2. If the electrical outlet is controlled by an outside switch or automatic timer, use another outlet.
3. Plug another electrical device, such as a lamp, into the outlet to determine whether the outlet is operating properly.

Phenomenon 2: The lights come on briefly and then go off. The lights stay off even when the power is turned on again.

Solutions: Check whether the printer's rating voltage is matched with the power cord. If not, unplug the power cord immediately and contact your dealer or a specified Jolimark service center for advice. Do not plug the power cord to the electrical outlet again.

4.2 Printing

The printer does not print.

Phenomenon 1: The Online light is on but nothing is printed.

Solutions:

1. Check that the Driver is installed properly for your printer, as described on chapter 1.10. Check the driver's printer settings.
2. Check both ends of the interface cable. Make sure the cable meets both the printer and computer specifications.

Phenomenon 2: The Online indicator is off and the ONLINE indicator blinks with the printer beeping once.

Solutions: The printer may be out of paper. Load paper in the printer.

Phenomenon 3: The printer sounds like it is printing, but nothing is printed.

Solutions:

1. The ribbon cartridge may not be installed properly. See chapter 1.5.2.
2. The ribbon may be worn out. Replace the ribbon.
3. The gap adjust lever may be too high. If so, move it to the corresponding thickness position with

the paper.

Phenomenon 4: The printer makes a strange noise while printing.

Solutions:

1. Turn off the printer and check for a paper jam, a ribbon jam, or other problems.

Phenomenon 5: The beeper sounds several times and the ONLINE indicator is off.

Solutions:

1. Switch off the printer and power on again.
2. If the **ONLINE** indicator stays off, check for a paper jam or ribbon jam. If it does, turn the printer off and clear the jam.
3. If an error occurs when you switch between cut sheets and tractor paper, make sure the paper select lever is in the correct position.
4. If the printer still does not work correctly, turn off the printer and contact your dealer or a specified Jolimark service center.

● **The print is faint or uneven**

Phenomenon 1: Printed characters have parts missing at the top or bottom.

Solutions: The ribbon cartridge may not be installed properly. See chapter 1.5.2.

Phenomenon 2: The printout is faint.

Solutions: The ribbon may be worn out. Replace the ribbon as described on chapter 1.5.2.

● **The ribbon can not move smoothly.**

Solutions: The ribbon may be worn out. Replace the ribbon as described on chapter 1.5.2.

● **Dots are missing in printed characters or graphics**

Phenomenon 1: A line of dots are missing in the printout.

Solutions: The print head may be damaged. Stop printing and contact your dealer or a specified Jolimark service center to have the print head replaced.

Phenomenon 2: Dots are missing in random positions.

Solutions: The ribbon may be damaged. Replace a new one.

● **Printed characters are not what you expected**

Phenomenon 1: The fonts or characters you sent with your software did not print.

Solutions: Check whether the driver is correctly configured for your printer. For instructions, see chapter 1.10.

Phenomenon 2: The font selected on the control panel can not be printed.

Solutions: Your software may be overriding your control panel setting. Use the font setting in your software program.

● **The print position is not what you expected**

Phenomenon 1: The printing home position is not correct or the bottom part of one page is printed at the top of the next page.

Solutions:

1. See chapter 2.2.4 to adjust the printing home position.
2. Check the page length set by your software and adjust it in the software or in the printer to match the paper length.

Phenomenon 2: Regular gaps occur in the printout.

Solutions: Page Skip may be on. Set Page Skip function to off in the Menu Setup mode. See "Changing printer settings" on page 3.2.2.

4.3 Paper Handling

- **Cut sheets do not be fed properly**

Phenomenon 1: Paper does not feed.

Solutions:

1. Tractor paper may be left in the printer. Remove the tractor paper. Set the paper select lever to the cut sheet position. Insert a new sheet.
2. May be the sensor can not check there is paper if there is no tractor paper in the printer and the paper select lever is in the proper position. Try to move the paper a little left to make sure to touch the paper in sensor.

Phenomenon 2: Paper feeding is crooked or the paper jammed.

Solutions: Turn off the printer and pull out the jammed paper. Reinsert a piece of cut sheet straight into the paper guide, and adjust the paper guide to match with paper width. Make sure that the window is closed, and power on again.

Phenomenon 3: Paper does not eject completely.

Solutions:

1. Use the **LOAD/EJECT** key to eject the paper.
2. Make sure the window is closed.
3. The paper may be too long. Check whether the paper used meets the specifications specified in the Appendix, and the Using paper must be within the specified range. See the paper specifications in the Appendix.

- **Tractor paper does not feed properly**

Phenomenon 1: The tractor does not feed the paper.

Solutions:

1. Check that the paper select lever is pulled forward to the tractor paper position. If not, move the lever to the correct position.
2. If this problem still can not be solved. The cause may be that the paper has come off the tractor. Reinstall the paper to the tractor.

Phenomenon 2: Paper feeding is crooked or the paper jammed.

Solutions:

1. Make sure the paper guide is in the upright position.
2. Make sure the position of your paper supply can not prevent it from feeding straight.
3. Make sure your paper supply is positioned within 1 meter (3 feet) off the printer.
4. Make sure the window is closed.
5. Make sure the edge guide positions are correct. Position the edge guides at the triangular guide marks.
6. Check that the holes on the both sides of the paper are aligned with each other. Also, make sure the sprockets are locked and their covers are closed.
7. Check whether the paper specifications meet the standard request according to the Appendix A.

Phenomenon 3: The paper does not eject completely.

Solutions:

1. May be the page length is too long. When using the draught tractor, tear off the paper having entered the printer, then press the **LF/FF** key to feed the paper forward. When using the drive tractor, tear off the last paper printed out, then press the **LOAD/EJECT** key to feed the paper backward.
2. Please make sure the paper length is within prescribed range. (Refer to the paper specifications in Appendix A)

Phenomenon 4: When you switch between cut sheets and tractor paper, the beeper sounds several times and the online indicator is off.

Solutions: There is paper left in the paper in channel while you change the paper select lever position. Return the paper select lever to the previous position and eject the paper. Then change the paper select lever position again.

4.4 Alignment Adjust Mode

Enter the alignment adjust mode to improve the print quality when the printer is used for a long time.

Note: When the gap adjust lever is in the position of 2 or above, the printer is in copy mode automatically. Users can set the gap adjust lever according to specific paper type (cut sheet or tractor paper), then adjust the alignment following the steps below:

1. Turn on the printer, make sure the printer is paper in and then turn off the printer.
2. Entering method of alignment adjust mode:
 - (1) In the online mode, press and hold on the **LF/FF** key and **TEAR** key until the **Power** and **ONLINE** indicators blink simultaneously, the printer enters LQ and DP alignment adjust mode (DP alignment adjust and LQ alignment adjust mode are adjusted respectively), then the printer would print out the LQ alignment state.
 - (2) In the online mode, press and hold on the **LOAD/EJECT** key and **TEAR** key until the **Power** and **ONLINE** indicators blink simultaneously, the printer enters graphic alignment adjust mode, and then the printer would print out the high speed graphic alignment states.
3. After entering the alignment adjust mode, press the following keys to adjust the degree of make columns:

EJECT/LOAD	Each press this key, the even line would move left with one step (30 steps is maximum)
LF/FF	Each press this key, the even line would move right with one step (30 steps is maximum)
TEAR	Switch to the next DPI adjust state
ONLINE	Store current setting to the printer (Power and ONLINE indicators blink simultaneously several times)
4. Restart the printer and exit the alignment adjust mode.

Note: Alignment adjust mode would affect the printing quality, think over before adjust it and strict to the instructions while adjusting.

Chapter 5 Printer maintenance

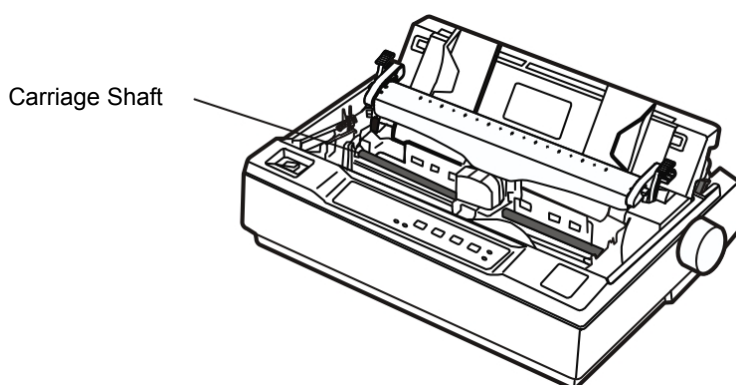


Figure 5-1 Printer cleaning

Periodical cleaning and cleaning tool

Periodical cleaning: Every 6 months or 300 working hours

Cleaning tool: Dry cloth (Use soft cloth while cleaning metal)

Cleaning carriage shaft:

There is a layer of oil covered on the carriage shaft which guarantees the carriage runs smoothly. But the oil is easy to absorb dust, please clean the dust with soft cloth first, and then add proper lube (NYE180 lube of NYE Company is recommended), move print head back and forth to make lube scattered.

Cleaning the form feed path:

Wipe off wastepaper, clean dirt and dust.

Note: 1. Turn off printer and pull out the power cord before cleaning.

2. Being used under dust circumstance, the carriage shaft may stack much dust and affect the print quality.
3. If you have just finished using the printer, let the print head cool for a few minutes before you touch it.
4. Please use a soft cloth for cleaning, do not use combustible solvent.

Appendix A Specifications

A.1 General

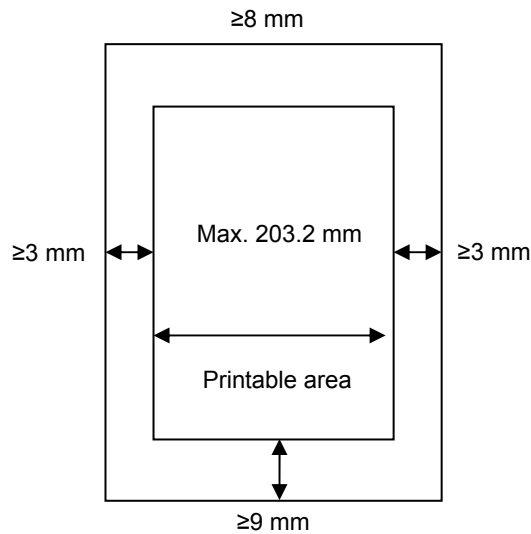
Item	Description					
Printing method	24-Pin Dot Matrix Impact Printer					
Printing direction	Bidirectional logic seeking					
Printing width	80 columns(10cpi)/ 203.2 mm					
Printing speed	ASCII			Chinese		
	Speed	10 CPI	12 CPI	Speed	6.7 CPI	7.5 CPI
	Normal speed	90 CPS	108 CPS	Normal speed	60 CPS	67 CPS
	High speed	180 CPS	216 CPS	High speed	117 CPS	132 CPS
	Super high speed	267 CPS	333 CPS	Super high speed	169 CPS	190 CPS
Print head	Diameter of wire: 0.23 mm					
	Life: 500 million dots/wire					
Resolution	360 x 180 dpi (Max.)					
Character set	ASCII: 17 international character sets (U.S.A, FRANCE, GERMANY, U.K, DENMARK I, SWEDEN, ITALY, SPAIN I, JAPAN, NORWAY, DENMARK II, SPAIN II, LATIN AM, KOREA, LEGAL, NETHERLANDS, TURKEY)					
	Chinese: GB 18030					
Bar code	EAN-13, EAN-8, Interleaved 2 of 5, Matrix 2 of 5, Industrial 2 of 5, Code 39, Code 128 B, Code 128 C, NW-7					
Fonts set	ASCII: Draft, Roman, Sans Serif, Courier, Prestige, Script, OCR-A, OCR-B, Orator					
	Chinese: GB 18030 Song type					
Code Page	U.S.A, MULTI, PORTUGAL, CANADA, NORWAY, EAST EURO, CYRILLIC, RUSSIAN, HUNGARY, KAMENICKY, TURKEY, ICELAND, BULGARIA, MAZOVIA, GRK 437, GRK 851, GRK8859-7, GRK 1253, ARAB NLS, ARAB EXT, WIN LAT1, WIN LAT2, ISL LTN1, ISO LTN2, TUR8859-9, ISO LTN9, KBL, LATIN 7					
Character pitch	ASCII: 10 CPI,12 CPI,15 CPI, proportional					
	Chinese: 6.7 CPI, 7.5 CPI					
Line spacing	1/6 inch, 1/8 inch, programmable in 1/360 inch increments					
Paper feed Speed	Normal mode: 91.44mm per second / 3.6 inches per second (Continuous feed) 60ms formfeed one line (1/6 inch)					
	Copy mode: 76.2mm per second / 3 inches per second (Continuous feed) 68ms formfeed one line(1/6 inch)					
Emulation	EPSON ESC/PK2					
Interface	Parallel Interface: Centronics (IEEE1284 NIBBLE)					
	USB Interface: USB 2.0 Full-Speed Serial interface: RS-232C Note: According to specific interface standards					
Buffer	132KB					
Ribbon	Model: JMR111					
	Life: 6 million characters (draft mode)					
Noise	<57 dB (A) (ISO7779 standard)					
Control panel	The control panel consists of four keys and four indicator lights.					
Paper feed type	Cut sheet		Feed paper by friction			
	Tractor paper		Feed paper by drive tractor			
			Feed paper by draught tractor			

paper thickness adjustment	Set through gap adjust lever	
Paper specification	Cut sheet (Feed by paper guide)	Width: 148 ~ 257 mm
		Thickness: 0.065 ~ 0.14 mm
		Weight: 52 ~ 90 g/m ²
	Tractor paper (Feed from rear to front)	Width: 101.6 ~ 254 mm
		Total Thickness: 0.065 ~ 0.39 mm
		Weight (Single sheet): 52 ~ 82 g/m ²
		Multi-ply paper (Each sheet): 40 ~ 58 g/m ²
	Not dry gum label (Feed from rear to front)	Width (Mount): 101.6 ~ 254 mm
		Smallest label: 63.5 × 23.8 mm
		Thickness (mount): 0.07 ~ 0.09 mm
		Total thickness: 0.16 ~ 0.19 mm
		Weight: 68 g/m ²
Max. paper thickness	0.39 mm	
Copy	Original + 4 copies	
Compression	Support graph and character compression printing.	
Especial functions	Pin Break Compensation, Pin Rotation Replacement, Automatic Emulation Match, Online Parameter Setting	
Physical dimensions	366 (Width) × 275 (Depth) × 156 (Height) mm	
Weight	Approx. 4.3 Kg	
Environmental conditions	Operating environment	Temperature: 5 ~ 35 °C
		Humidity: 40 %RH ~ 80 %RH (No condensation)
	Storage environment	Temperature: -40 ~ 55°C
		Humidity: ≤93%RH (40 °C, No condensation)
Power requirements	Rated voltage: 110V/220VAC Note: Please refer to the nameplate label on the printer for detailed voltage specification.	
	Rated frequency range: 50Hz ~ 60Hz	
Power consumption	① Operation: 47 W; ② Max.: 130 W; ③ Standby: 6.3 W. Note: Only when the produce doesn't connect power supply, could consume zero energy.	
Reliability	MTBF≥15,000 hours (IEC 605.7standard)	
Wireless disturbance	Grade B	

A.2 Printable Area

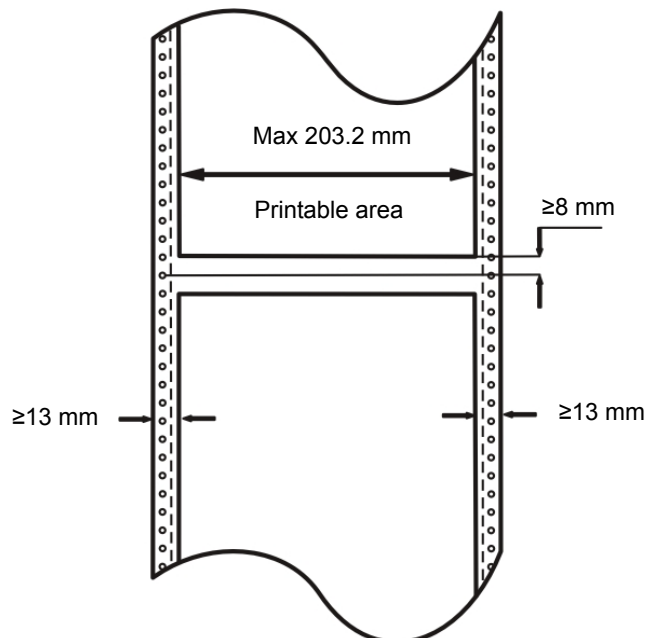
- Note:** 1. To assure the print quality, please make sure the print contents are within the printable area.
 2. If the print contents exceed the printable area, the print head may be damaged.

A.2.1 Cut Sheets



- Top margin ≥ 8 mm
- Right/left margins ≥ 3 mm
- However, the maximum printable width is 203.2 mm
- Bottom margin ≥ 9 mm

A.2.2 Tractor Paper



- The top and bottom margins above and below the perforation are ≥ 8 mm
- The left and right margins are ≥ 13 mm
- The maximum printable width is 203.2 mm

A.3 Interface Specifications

Your printer can be equipped with a parallel interface, a USB interface or a serial interface. The printer switches automatically to the appropriate interface when it receives data.

A.3.1 Parallel Interface

The parallel interface has the following characteristics.

- Data format:** 8-bit
- Synchronization:** STROBE pulse
- Handshaking:** BUSY and ACKNLG signals
- Signal level:** TTL compatible

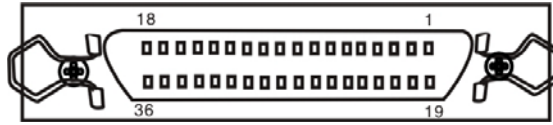


Figure A-1 Parallel interface connector pin numbers

A.3.2 USB Interface

The following table provides the standardized contact terminating assignments by number and color for Series "A" and Series "B" connectors of Full-speed USB 2.0.

Contact Number	Signal Name	Color
1	VBUS	Red
2	D-	White
3	D+	Green
4	GND	Black

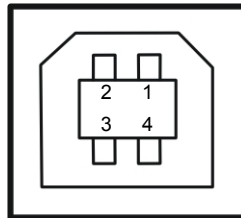


Figure A-2 USB-B type connector

A.3.3 Serial Interface

The serial interface has the following characteristics.

- Baudrate:** 1200 bps, 2400 bps, 4800 bps, 9600 bps, 19200 bps (selectable)
- Word length:** 7 or 8-bit (selectable)
- Start bit:** 1 bit
- Parity bit:** Odd, even or none (selectable)
- Stop bit:** 1 bit
- Handshaking:** DTR protocol, XON/XOFF protocol (selectable)

Serial pin assignments

The following table lists the serial connector pin assignments and describes their respective interface signals.

Pin No.	Signal	Direction	Description
1	Protective Ground (FG)	—	Printer's chassis ground
2	Transmitted Data (TXD/SD)	Out	Printer has transmitted serial data
3	Received Data (RXD/RD)	In	Printer has received serial data
7	Signal Ground (SG)	—	Return path for data control signals
20	Data Terminal Ready (DTR/ER)	Out	Positive when the printer is ready to receive data, and negative when the printer is not ready

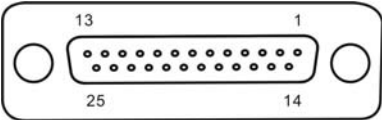


Figure A-3 Serial interface connector pin numbers

Appendix B Command Summary

This printer supports EPSON ESC/PK2 control commands shown as the follow table:

Classify	No	Command	Description
Printer control commands	1	ESC @	Initialize Printer
	2	CAN	Cancel Line
	3	DC1	Select Printer
	4	DC3	Deselect Printer
	5	DEL	Delete Character
	6	ESC #	Cancel MSB Control Sequence
	7	ESC >	Set MSB to 1
	8	ESC =	Reset MSB to 0
	9	BEL	Beeper
	10	BS	Backspace
	11	ESC U	Select Print Direction
	12	ESC <	Select character Unidirectional Mode (on one line)
	13	ESC s n	Select/Cancel Quiet Print Mode
	14	CR	Carriage Return
	15	LF	Line Feed
	16	FF	Form Feed
	17	ESC \$	Set Absolute Horizontal print position
	18	ESC \	Set Relative Horizontal print position
	19	ESC (U	Define Unit
	20	ESC (V	Set Absolute Vertical Print Position
	21	ESC (v	Set Relative Vertical Print Position
	22	ESC J	n/180" Line Feed
	23	ESC j	n/180" Reverse Line Feed
	24	HT	Horizontal Tab
	25	VT	Vertical Tab
Image and color handling	26	ESC ? m n	Reassign Graphics Mode
	27	ESC *	Set Graphics Mode
	28	ESC (G	Select Graphics Mode
	29	ESC .	Print Raster Graphics
	30	ESC K	8 dot Single-Density Graphics Mode
	31	ESC L	8 dot Double-Density Graphics Mode
	32	ESC Y	8 dot High-speed, Double-Density Graphics Mode
	33	ESC Z	8 dot Quadruple-Density Graphics Mode
	34	FS &	Set Chinese character mode
	35	FS ·	Cancel Chinese character mode
	36	FS SO	Select Double Width Mode (Chinese)

Chinese character print command	37	FS DC4	Cancel Double Width Mode
	38	FS W	Select/Cancel quadruple-size mode for Chinese character
	39	FS J	Select lengthways printing
	40	FS K	Select transverse printing
	41	FS D	Two character lengthways half-size mode paratactically printing
	42	FS -	Select/Cancel Underline Mode for Chinese character
	43	FS S	Select full-size mode pitch for Chinese character
	44	FS T	Select half-size mode pitch for Chinese character
	45	FS U	Select half-size mode pitch adjustment for character
	46	FS V	Cancel half-size mode pitch adjustment for character
	47	FS x	Select /Cancel high speed printing
	48	FS 2	Chinese character of user-defined
	49	FS SI	Select half-size mode for Chinese character
	50	FS DC2	Cancel half-size mode for Chinese character
	51	FS r	Select demisemi-size mode for Chinese character
	52	FS !	Select Chinese character print mode
	53	FS v	Select/Cancel form connect line
	54	FS k	Select Chinese font
55	FS Y	Select Chinese character dot-matrix and width	
56	FS c	Set Chinese character HMI (Horizontal motion space)	
57	FS b	Set Chinese character datum line	
58	ESC I	Select Chinese CC-DOS print mode	
ASCII Character	59	ESC k	Select Font Style
	60	ESC X	Select ASC II character width and height
	61	ESC P	Select 10CPI Mode
	62	ESC M	Select 12CPI Mode
	63	ESC g	Select 15CPI Mode
	64	ESC p	Select/Cancel Proportional Mode
	65	ESC x	Select Print Quality
	66	ESC 4	Select Italic Mode
	67	ESC 5	Cancel Italic Mode
	68	ESC E	Select Emphasized Mode
	69	ESC F	Cancel Emphasized Mode
	70	ESC ! n	Select Print Mode
	71	ESC q n	Select Character Style
	72	ESC t n	Select Character Table
	73	ESC (t	Assign Character Table
	74	ESC R	Select International Character Set

	75	ESC &	Define Downloaded Characters
	76	ESC :	Copy ROM Characters Set into RAM
	77	ESC % n	Select/Deselect User-Defined Set
	78	ESC 6	Enable Character Set 2
	79	ESC 7	Cancel command ESC 6
Font enhancement	80	SI	Select Compressed Mode
	81	DC2	Cancel Compressed Mode
	82	SO	Select Double Width Mode
	83	DC4	Cancel Double Width Mode
	84	ESC W n	Select/Cancel Double Width Mode
	85	ESC w n	Select/Cancel Double height Mode
	86	ESC G	Select Double Strike Mode
	87	ESC H	Cancel Double Strike Mode
	88	ESC - n	Select/Cancel Underline Mode
	89	ESC (-	Define and Apply a Style of Scoring
	90	ESC (^	Print Data as Characters
	91	ESC S n	Select Superscript/Subscript Mode
92	ESC T	Cancel Superscript/Subscript Mode	
Format control	93	ESC C	Set Form Length in Lines
	94	ESC C NUL	Set Form Length in Inches
	95	ESC (C	Set Form Length in Defined Unit
	96	ESC (c	Define Form Format
	97	ESC N n	Select Skip-Over-Perforation
	98	ESC O	Cancel Skip-Over-Perforation
	99	ESC I	Set Left Margin
	100	ESC Q	Set right Margin
	101	ESC D	Set Horizontal Tab Positions
	102	ESC B	Set Vertical Tab Positions
	103	ESC /	Select a VFU Channel
	104	ESC b	Select VFU Positions
	105	ESC 0	Select 1/8-inch Line Spacing
	106	ESC 2	Select 1/6-inch Line Spacing
	107	ESC 3	Select n/180-inch Line Spacing
	108	ESC A	Select n/60-inch Line Spacing
	109	ESC +	Select n/360-inch Line Spacing
	110	ESC SP	Set Character Space
	111	ESC a n	Select Justification Mode

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