H K SERIES

H-400K Line Matrix Printer User's Manual

—Read the User's Manual carefully, and keep it as easy reference.

* Read the User's Manual thoroughly before your operation.
* Keep the User's Manual for easy reference.

SHENZHEN CATIC INFORMATION TECHNOLOGY INDUSTRY CO., LTD

ATTENTION

● Protection from radio interference

DECLARATION
This is a class A product. In a domestic environment this product may cause radio interference in which case the user may need to perform practical actions.

● Revision of User's Manual

The User's Manual will be changed with improvement of products, Pardon for no special announcements.

● Copy/Translation

It is forbidden to copy or translate all or any portion of the User's Manual.

● ENERGY STAR

The product is up to the standard of ENERGY STAR.

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PREFACE

* The User’s Manual provides the notes and procedures for using the printer.
* For your safety and machine's best performance, you’d better perform all the procedures in this chapter in the order presented.
* Keep this User’s Manual for easy reference.
* Read this User’s Manual if accident happens during your operation.

NOTES:

- The User’s Manual will be changed with improvement of products, Pardon for no special announcements.
- It is forbidden to copy or translate all or any portion of the User’s Manual.

*** Discharge of static**

Static will be aroused with the movement of people and paper in low temperature, and it will accumulate in clothes and the printer. And static in people will be discharged when people touch the printer, and people will feel pain.
Discharge of static may be aroused by sudden malfunction. In order to avoid these problems, appropriate temperature and humidity of the working environment should be ensured, especially in winter.

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CAUTION IN USAGE

- Read the User's Manual thoroughly prior to starting operation.
- Keep this User's Manual for easy reference.
- Please operate the printer according to the explanation and steps in this User's Manual.
- Do comply with all information of the printer and the manual, or damage will occur to people or machines.

Before You Operate

- About icons For safely and correctly using line printer, prevent damages to your or others and wealth, the printer and manual using kinds of icons, meanings of icons are remarked as below:

⚠ **Warning:**	A warning notice calls attention to a condition that could harm you.
⚠ **Attention:**	An attention notice calls attention to a condition that could damage the printer.

Besides, "ADVERTS" calls attention to a condition that couldn't harm you directly.

Operation or Action

- Don't make any operation or action to the printer beyond this manual.
  When something is wrong with the printer, you must cut off the power supply firstly, and pull out the power line (or turn off the power), and contact with the local dealer or your technicians.

Taking care of yourself

- Accident still may happen although the notes in this manual are carefully considered. When operating the printer, you should not only follow User's Manual, but also should pay special attention to your safety.

WARNINGS

■ In case of abnormal condition

- In case of abnormal condition of too hot, smoking, unusual sound and smell, power should be cut off at once, and power line should be pull out.
- In case of objects, such as water, liquid, metal falling into line printer, power should be cut off at once, and power line should be pulled out.

■ Don't put articles on line printer

- Don't put metal articles, such as pins and clips on line printer, and don't put containers with water, such as vases and flowerpots on line printer, neither. Otherwise it may cause fire or electric shock.

■ Please use the assigned power supply.

- Please use the assigned voltage. otherwise fire and electric shock may happen.
- Please use socket with ground wire.
- Please use socket with ground wire, or electric shock may happen.
- Don't use several equipments in one socket.
- Don't use several equipments in one socket at the same time, or fire may happen, and the electric quantity will exceed the regulation quantity, disjunctor will turn off, and bad effect will be brought to other equipments.

■ Power line should be well protected

- Don't put heavy cases on the power line, and don't pull, bend, and change power line, or power line will be destroyed, and fire and electric shock may happen.
- Please use the power line attached with line printer. Or fire and electric shock may happen.
- Don't put the power line under the line printer, or it will be damaged, and fire and electric shock may happen. If the power line was covered by other things, you may put heavy things on it unconsciously, so you should take care.
- If the power line was damaged(the core of line was exposed or the line was broken), Please contact with dealer and related technicians If you continue use the line, fire and electric shock may happen.
- Make sure no dirt in the socket before plugging, then plug tightly and check. Or fire and electric shock may happen.

■ Don't put articles on line printer

- Don't put metals or combustible into the intake of the printer, or fire and electric shock may happen.

WARNINGS

■ Don’t take off covers fixed by screws.

- The inner of covers fixed by screws, which contain rolling components, high-temperature components, and components, and may cause electric shock accident. So please don’t take off the covers.
- Don’t touch the rolling components. It is very dangerous since the object such as hands, sleeve, hair or tie, touches may be convolved by them.

■ Please keep the line printer from being bumped.

- Please cut off the power supply and turn off the switch once the printer is fallen or damaged components are found. Contact the dealer or your technicians immediately. Otherwise the continuous usage may cause fire or electric shock.

■ Don’t modify line printer by yourself.

- Don’t modify line printer by yourself, or fire and electric shock may happen.

WARNINGS

■ Pay attention to labels.

- Pay attention to labels, which are written with notices about body safety when using line printer, the place was indicated as follow.

■ Don't block the vent.

- Don't block the vent of line printer. If the intake was jammed, the heat inside the printer will accumulated, which may cause the fire.

■ Notice of carriage

- Before carrying line printer, please pull off the power line, and take down other outside lines, in case of pulling down other using metal objects, or the power line and line printer will be distorted and broken, and fire and electric shock may happen..

■ Close covers and doors when using line printer

- Please close covers and doors when using line printer for more safety and less noise.

■ Don't climb or lean against line printer, neither put heavy things on line printer

- Don't climb or lean against line printer, or it will be rolled over and broken, and injuries may happen.
- Don't put heavy things on line printer, or the printer will be rolled down and broken, and injuries may happen.

■ Notice when cut off the power

- After cutting off the power supply, it is necessary to wait five minutes before turn on line printer again. Otherwise you may fail to turn on the printer, turn off the power at once, wait thirty minutes for anther switch.
- When the line printer is connected with PC or other equipment, do not cut off the power unless emergencies, or it will cause data lost. Especially when line printer is working, the result of printer can't be guaranteed if the power was turned off, you may need to print again.

■ Notice for loading print paper and changing ribbons

- Make sure line printer is completely turned down before loading paper or changing ribbons.
- Test to check print performance after loading paper or changing ribbons.

■ Notice before and after printing

- Before formal printing, test to check printing performance. After printing, test printed materials, and reprint when needed.

ATTENTION

■ Don't drag the power line arbitrarily

- Don't put the power line near appliances of high temperature, otherwise the pack of the power line will be melted, which may cause the fire/electric shock..
- Please hold the plug when pull in or out the power line. If the power line was drag forcibly, it will be broken.

■ Notice of using data cable

- Don't pull in or out the cable during work..

■ Don't put your hand into the printer

- Don't put your hand into the printer, otherwise the injury would happen by touching the printer components.
- Magnets in printer may cause the error on your watch..

■ Check and clean the printer periodically

- It is necessary to check and clean the printer periodically by the professional technicians to ensure the printing quality.

■ Please keep the printer away from radio or TV.

- Mutual interference may happen if the printer is close to radio or TV. You can do as follows if there is a noise in your radio or TV:
  - Keep the printer away.
  - Reorient its antenna.
  - Change another socket.

■ Cleaning requirements

- Cut off the power source before cleaning the printer.
- Clean the outside of the cabinet with a clean, dry cloth, or cloth bedewed in mild detergent liquid or water, then wringed out. Don't use abrasive powders or chemical solvents, or the printer will be distorted or broken down.

■ The printer without usage for a long time

- Please be sure the power source is disconnected during your vocation or business trip.

■ Paper and ribbon

- The genuine paper and ribbon is recommended. Otherwise the life of printer and working reliability would be affected.

■ Notices of operating

- Working without paper or ribbon will make the printer broken down.
- Don't operate a variety of handle while printing, otherwise the printer will be damaged.

ATTENTION

■ Indoor Movement

- The printer is over 50 kg, so two more people are recommended to move the printer.
- Static electricity will appear when crossing carpet or resinous floor.
  Please hold the plate with your naked hands immediately after moving the printer to a new location. Put the tip of the metal tool to the metal panel of the printer. Start the machine after the static electricity is cleared.

■ Environmental Characteristics

- For safe and correct operation, do NOT use the printer under the environments as follows:
  (1) Temperature or humidity is too high or too low
  recommendation:
  Temperature: 10~30℃
  Humidity: 35~65%
  (2) Air conditioners, heaters, ventilation port, humidifiers and other equipment, where the wind be blowing directly
  (3) The radiator and any other heating equipments
  (4) Temperature changes suddenly
  (5) The location where the sun shines directly
  (6) Bad ventilated
  (7) Dusty and quivery
  (8) Near curtain or volatility combustible
  (9) The location where the floor isn't firmly
  (10) The location where the floor isn't flat

ATTENTION

■ Bad ribbon will cause damage to your printer, and brings unnecessary loss to your work

Forbidden

Make Sure of Using Genuine Ribbon

The trouble caused by using non-genuine ribbon, can not be guaranteed by manufacturer/dealer.

- The printer head would be blocked by using non-genuine ribbon.
- The block of printer head will cause print gaps, stains, etc, and even stop the printer working, and you should change it.

Bad ink was stuck near the printer head

The printer head was blocked

Normal print result

Print result with blocked print head

ATTENTION

■ The impurity in non-genuine ribbon will make print pins worn.
When the print pins were wore, the character printed will be bolded and missed, and the density will be reduced.
Change the ribbon to solve those problems.

Normal print result　　Print result with worn print pins

ATTENTION

- Non-genuine ribbon will cause damage to the ribbon wheel:
- The joint of non-genuine wheel is broken easily，and when the joint is broken, the ribbon will be wrapped into the ribbon ring, and the pins will clasp the ribbon, too. If the wheel should be changed if the ribbon is wrapped into the printer.

Trouble of Ribbon Figure 1

Trouble of Ribbon Figure 2

■ Please use CITIC K Series genuine ribbon from the authorized dealers to avoid your unnecessary loss. (K-Series genuine ribbon core is suit for H400K/H502K/H702K/H802K/H1002K)

※The troubles or damages caused by non-genuine ribbon will not be guaranteed by manufacturer nor authorized dealer, no matter the printer is in or beyond the warranty. To ensure your printer life and your printing work, please use CITIC K Series Genuine Ribbon.

.

Chapter 1 Setting up and Connection

1.1 Before You Begin

Before setting up the printer, you must finish the tasks as follows:

- Testing paper dimension: continuous, 381mm width(15 in).
- Prepare Centronics cable: to connect with computer; prepared by yourself.
- Check accessories: packed with printer; if you find any mismatch with manual, please contact your dealer directly.

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1.2 Setting up the printer

ATTENTION
Put the printer on a horizontal floor without incline.

1.2.1 Strip transporting stickers and check accessories

1. Open the top cover. Remove the adhesive tape as shown in the following diagram in each part. Then close the top cover.

2. Confirm the following accessories:

☐Vice ribbon cassette (with ribbon)

☐ Ribbon Guide

☐ Power Cable (soft line with pins)

Plastic bag

☐ CD-ROM (with driver and instructions/manuals)

3. Confirm each part of Paper Stacker:

☐Guardrails

☐ Paper Holder

1.2.2 Setting up the power cable (Soft line with plug)

Put the power cable (soft line with plug) into socket

1.2.3 Setting up the paper stacker

1. Set up the paper holder
   Insert the front of the paper holder into the hole A.

2. Set up the guardrails in the paper holder (You should install the guard bars according to the thickness of the continuous printer paper, please refer to section "2.3.2 set up the guardrails)

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1.2.4 Setting up vice ribbon cassette

1. Open the top cover, then push FT lever to OPEN, to open the paper feeding part.

2. Unload the ribbon cassette cover.

3. Install the ribbon guide on the left of ribbon cassette.

4. Unload the top cover of vice ribbon cassette, then put the ribbon cassette with box into the printer after the guide plate is on the right.

ATTENTION

Please note to avoid wringing and twisting when installing the ribbon.

5. Loosen the hook on the left of vice ribbon cassette.

6. Pressing the guide plate of vice ribbon cassette, and pull out its inner box as shown by the arrow direction . Then remove the guide plate.

7. Loose screw ⑧ and tighten it after pulling the ribbon mask⑨ in front of you.
8. Install the ribbon in accordance to step①～⑥

①②: Press ribbon block holder as shown by the arrow direction and thread the ribbon around ① ②.

③～⑤: Thread the ribbon around ribbon guide plate (left) ③, ribbon mask④, and ribbon guide plate (left) ⑤.

⚠ ATTENTION

An injury may happen to you due to the sharp edge of ribbon mask. Please watch out.

ATTENTION

Be sure to thread the ribbon between the hammer bank cover and the ribbon mask.

⑥～⑦: Hang the ribbon on ribbon sensor ⑥, then press ribbon lever as shown by the arrow direction, make the ribbo to thread the ribbon round ribbon roller⑦.

9. Rotate ribbon clockwise to tight the ribbon.

10. Loosen screw⑧, Pull the ribbon mask⑨beside tractor, then tighten screw⑧.

11. Close the cover of ribbon cassette.

12. Push FT lever forward to close the paper feeding components.

13. Close the top cover.

1.2.5 Connecting the data cable

Connect the data cable to the Centconics.

Chapter 2 Pre-printing

2.1 Name and function of Printer Component

2.1.1 Appearance and specification

Front of the printer

Rare of the printer

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2.1.2 Name of print components

2.1.3 Function of print components

Name	Function
TOF Indicator	It is used when loading forms or adjusting the printing start line.
Tractor and Tractor lock lever	It is used when adjusting form width or column width. The tractor is unlocked and movable from side to side by pulling the tractor lock lever. The tractor is locked by releasing the tractor lock lever.
Manual feeding knob	It is used when feeding forms manually.
FT lever	It is used: (1) To adjust the clearance between the hammer and the platen according to the forms thickness, or (2) To open or close the platen for easy replacement of forms and ink ribbons. Set the FT knob within the range from 1 to 6 to adjust the clearance between the hammer and the platen. Push the FT knob as far as it will go to make the clearance between the hammer and the platen maximum.
Column scale	It is used when adjusting horizontal printing position.
Ribbon mask	It is only used when cleaning, checking, replacing the ribbon or ribbon mask. Attention: It should be closed when printing!

2.1.4 The Control Panel

Switch and indicator	Name	Operating Modes ONLINE/ OFFLINE	Function
☐POWER	POWER INDICATOR(Green)	-	It lights when the printer power is on.
☐ALARM	ALARM INDICATOR(Orange)	-	It lights when the printer has any problem.
ON-LINE	ONLINE KEY	-	It's used to switch online model or offline model. Operating model will be changed in turn when you press the button. When errors display, you can remove them by pressing the button. (refer to section 4.2) If the inspection of paper is set as "rewrite", the remain paper is inspected as 25.4mm (1 in), Press the button to reprint 1 line.
	ONLINE INDICATOR (Green)	ONLINE/ OFFLINE	In online mode, the printer can receive and print data sent from the host, and the indicator lamp lights. In offline mode, the printer can't receive and print data sent from the host, and the indicator is off.
FORM FEED	form feed key	OFFLINE	A page of form is sent to the next TOF by press of this switch.
LINE FEED	Line feed key	OFFLINE	A line of forms is fed by a press of this switch. If continuous press, Paper will be fed continuously line by line.
UP	Up key	OFFLINE	The paper will move backward 0.14mm (1/180 in). If you press switch continuously, the paper will move backward continuously at a speed of 0.144 mm.

Switch and indicator	Name	*Operating Modes ONLINE/ OFFLINE	Function
▼DOWN	Down key	OFFLINE	The paper will move forward 0.14mm (1/180 in). If you press this switch continuously, the paper will move forward continuously at a speed of 0.144 mm.
■ TOF	LOAD PAPER	OFFLINE	The form is fed backward to the TOF position by a press of this switch after aligning the perforation to the TOF indicator. Please refer to section "2.7.2 adjust the starting location for printing".
	LOAD PAPER INDICATOR (Green)	-	The indicator lamp lights when the top of form is positioned at TOF position.
■TEST	TEST Key	OFFLINE	It turns to the test printing mode by keeping pressing this switch for 1 second. Test printing is started or stopped by pressing this switch in the test printing mode.
	TEST INDICATOR	-	Test indicator lamp lights during test printing.
MODE	MODE Key	OFFLINE	It turns to operator setting mode by pressing this switch, then the operator can set various data.
RESET	RESET Key	OFFLINE When errors display	Buzzer rings by pressing this switch more than 3 seconds. The ringing buzzer is stopped by pressing this switch.
■ HIGH SPEED DRAFT ■ HIGH SPEED ■ NORMAL ■ NEAR LETTER QUALITY ■ LETTER QUALITY PRINT MODE NOTICE 1)	Print Mode Key	OFFLINE	The printing mode is changed by pressing this switch. Please refer to section "3.1 print method"
	Super Hi-Speed Print Indicator (Green)	-	This indicator lamp lights when Super Hi-Speed printing mode is selected.
	Hi-Speed Print Indicator (Green)	-	This indicator lamp lights when Hi-Speed printing mode is selected.
	Normal Print Indicator (Green)	-	This indicator lamp lights when NORMAL printing mode is selected, And it will light as soon as the turn on the printer power.
	Near Letter Quality Print Indicator (Green)	-	This indicator lamp lights when Near Letter Quality printing mode is selected.
	Letter Quality Print Indicator (Green)	-	This indicator lamp lights when Letter Quality printing mode is selected.
	Information Display	-	Display the state of the printer.

NOTICE 1) Please refer to section "Appendix A Printer Specifications" for printing speed and density of all kinds of print modes.

NOTICE 2) Only in available mode can operate the corresponding keys.

2.2 Power on / power off the Printer

2.2.1 Turn on power

1. Power on the printer switch on the left of the printer. (Press the switch beside"|").

2. The power indicator lamp on control panel lights.

3. The online mode indicator lamp lights.

ATTENTION

If the printer power can't be switch on, or alarm indicator lamp lights, or information appeared on the control panel display, please refer to section "Chapter 4 Troubleshooting"

2.2.2 Turn off the power

1. Make sure that you've finished printing.

2. Power off the printer switch on the left of the printer.
   (Press the switch beside"0").

3. The power indicator lamp cuts off.

> NOTICE
>
> Don't turn down the power when printing.
>
> After turning off the power, you need wait 5 seconds for another switch at least.

> ATTENTION
>
> After turning off the power, "POWER OFF" appeared on the control panel display.
>
> But that doesn't mean anything is wrong with the printer.

2.2.3 Lower consumption model

If there was no data sent to the printer in 10 minutes, the printer went to lower consumption model, and "POWER SAVING" appeared on the control panel display. If print data is sent to the printer in online mode, Lower consumption model will be removed.

2.3 change paper

2.3.1 Reload Paper

1. Make sure that the online mode indicator lamp on control panel cuts off, If it lights, please press ONLINE key to turn off it.

2. Remove the paper existing (refer to section 2.3.3 Unload Paper).

3. Pull FT lever to the position of "OPEN" to open the paper feeding component.

4. Take out paper from carton, put it straight with print surface up According to the chart below.

ATTENTION

Use the paper in carton untouched can cause paper jams.

5. Turn tractor lock lever downward, then move tractors to left and right separately, raise the cover of tractor.

6. Put the front of paper into paper outlet, then push to tractor.

7. Pull the print paper out of the tractor.

8. Move around the tractor according to the width of the paper, Pull the feeding holes of both ends of print paper into tractor gear.

9. Close cover of tractor, Pull out tractor to tighten paper, then fix tractor lock lever (turn upward).

Relative position between feeding holes and tractor gear

NOTICE

Pulling print paper too tight or too loose can cause paper jams.

ATTENTION

- Keep printing paper parallel with the tractor.
- You can print within a column scale of 1~136.
- The left tractor can be moved to column scale of 7.

10. Adjust the both sides of print set position to align with paper on tractor.

11. Close FT lever and set its position according the kind of print paper.
(Refer to section "2.7.1 Adjust printer paper thic

Paper thickness setting standards Table

The kind of paper		The location of FT lever
1layer	55～70kg	1～2
	90～110kg	2～3
2 layers	30～45kg	1～2
3 layers	30～34kg	2～3
4 layers	30～34kg	3～4
5 layers	30～34kg	3～5

12. Close the top cover.

SUGGESTION

- The table is a reference only. As the set position depends on the type of printing paper, you should determine the best location according to results of test print (refer to section 2.5).
- In order to get good print result, not more than 3 layers of print paper is recommended.

NOTICE

- Using the ribbon exceeded the disposal time will cause printing errors or ribbon feeding errors, and therefore result in print fault, So the ribbon should be replaced as soon as possible.

2.3.2 set guardrail

1. The guardrail should be installed in designated location according to the length of paper used.

Length of paper	Location of guardrail
Below 5 in	5
6 in	6
7 in	7
8 in	8
9 in	9
10 in	10
11 in	11
12 in	12

NOTICE: Please install the guardrail with stable rails (plastic) at the position as shown on the right.

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ATTENTION

- Place the first printing paper following the paper folds (concave, convex) to prevent paper jams.

- If the print paper stacked on the paper holder is curled in the folds, Please flatten it with your hand. Press the paper to get a good folding effect per 500 pages papers.

- After each printing, take away the paper, do not store it in the paper holder.

2.3.3 Unload Paper

1. Make sure the online mode indicator on the control panel cuts off.
   If not, press online key to turn it off.

2. Please feed paper to the position, on which the paper is easy to tear off, by form feed key on control panel and manual feeding knob.

3. Tear off the printed paper on the seams of the paper.

4. Pull the FT lever to the "OPEN" position to open the feed component.

5. Open covers of tractor of both ends, Drag paper feed ing holes of both ends of the printing paper out of the tractor gear.
   To prevent seams of paper from being blocked in the ribbon mask on the outside of ribbon
   (Be careful not to bend), Please push print paper towards the direction of paper outlet, and then take out.

6. Take out the paper from the paper holder.

2.4 Check and change ribbon

2.4.1 Check ribbon

Before a print job, Check ribbon following the order listed.

1. Make sure the power is turned off (Press the switch beside”0”).

2. Open the top cover and ribbon cassette cover.

3. Check the ribbon is broken or distorted, or it is in the correct ribbon path or not.

ATTENTION

- If the print color turns light, or ribbon becomes old, wrinkled or damaged, replace the ribbon early.
- The general standard for replacement is roughly after printing 800 million words.

NOTICE

- If use expired ribbon, it may occur print or ribbon feed error, which might leads in print problem, so timely replacement of ribbon is necessary.

2.4.2 Change spare ribbon(vice ribbon box)

NOTICE

- Please put on gloves in order to keep your hand from ink stain while changing ribbon.
- Don't print without ribbon, or components such as print hammer, print roller will be damaged, and the using life of the printer will be shortened.

ATTENTION

- The ribbon chips will make the inside of printer dirty, so refer to section "5.2 ribbon path cleaning" to clean the ribbon path.

1. Make sure the online mode indicator on the control panel cuts off. If not, press online key to turn it off.

2. Turn off the power of printer (Press the switch beside"0").

3. Open the top cover, Push FT lever back to "OPEN" to open the paper feeding component.

4. Open the cover of ribbon cassette.

5. Loosen screw ①, Pull the ribbon mask ② in front of you, and then tighten screw ①.

6. Hold the ribbon on both ends of ribbon guide plate, then remove the ribbon from the ribbon mask.

7. Push the on/off lever of ribbon roller to the direction indicated by an arrow, at the same time, remove the ribbon from the ribbon roller.

8. Push ribbon block device to the direction indicated by an arrow, at the same time, remove the ribbon.

9. Remove old ribbon and install a new one.

10. Move ribbon guide to the left of ribbon cassette.

11. Upload the top cover of spare ribbon, Move ribbon guide to right, and put it into the ribbon cassette with the box.

12. Loosen the tongue hook in the left of spare ribbon inside.

ATTENTION

- Be careful when installing the ribbon, in order to avoid distorting or winding.

13. Pull out the inside of spare ribbon according to the direction indicated by the arrow, while pressing the spare ribbon guide plate, and then remove the guide plate.

14. Install the ribbon following the order ①～⑥.

①②: Press ribbon block device lever according to the direction indicated by an arrow, and get the ribbon round ① ②in turn.

③～⑤: Get the ribbon round ribbon guide plate (left) ③ ribbon mask ④, ribbon guide plate (right)⑤ in turn.

NOTICE

- An injury may happen to you due to the sharp edge of ribbon mask. Please watch out.

ATTENTION

Make sure the ribbon is in front of the ribbon mask (between the printing hammer and ribbon mask).

⑥～⑦: Hang the ribbon on ribbon sensor ⑥, then press ribbon lever according to the direction indicated by an arrow, make the ribbon round ribbon roller ⑦.

15. Rotate ribbon feeding knob clockwise to tight the ribbo

16. Loosen screw ①, Pull the ribbon mask ② in front of you, and then screw down the screw ①.

17. Close the ribbon cassette.

18. Put FT lever forward to close the paper feeding component.

19. Begin the FT print.
(Refer to section “2.6 Test printing”)

ATTENTION
Print quality and ribbon action should be confirmed by printing test.

2.5 Change ribbon mask

NOTICE

- Please put on gloves when changing ribbon, or else your hands will be stained by ink on the ribbon.
- Don't print without ribbon, or components such as print hammer, print roller will be damaged, and the using life of the printer will be shortened.

ATTENTION

- The ribbon chips will make the inside of printer dirty, so refer to section "5.2 ribbon path cleaning" to clean the ribbon path.

[Removal Methods]

1. Make sure the online mode indicator on the control panel cuts off. If not, press online key to turn it off.
2. Turn off the power of printer (Press the switch beside"0").
3. Open the top cover ②, Pull FT lever to the position of "OPEN" to open the paper feeding component.
4. Loosen screw ①, Pull it in front of you, and then screw down the screw ①.
5. Hold the ribbon on both ends of ribbon guide plate, and then remove the ribbon from the ribbon mask.

6. Press the rails of both sides of ribbon mask from the upper side, remove it from the lock pin component.

7. At the same time, pull up rails at both sides of the ribbon and ribbon mask, then remove it from the bracket.

[Installation Methods]

1. Pull up rails at both sides of the ribbon and ribbon mas
   Push “a part” of the rail to the bottom along the bracke

2. Push rails of ribbon mask to print hammer until abnormal sound occurred.

3. Install the ribbon in order of ribbon guide plate (left), ribbon mask, ribbon guide plate (right).
4. Rotate ribbon feeding knob clockwise to tight the ribbon.
5. Loosen the screw of ribbon mask, press to the bottom of tractor, and then screw down the screw.
6. Push FT lever in front of you, close the paper feeding component.

2.6 Test printing

You should test printing before making a formal print or checking the print quality.

1. Power on the printer switch on the left of the printer. (Press the switch "|" side).
2. Press online key and conform the online mode indicator lamp has been off.
   The printer enters offline mode.
3. Press test key for one second. The printer enters test printing mode.
4. Press test key again, Then test printing is started.

> ⚠ NOTICE
>
> - Please use the printing paper with a width above 381mm (15 inches) during test printing.
> - If the print paper is insufficient wide, the print hammer will play air, and the components such as print hammer, print roller will be damaged, and the using life of these components will be shortened.

5. Press test key to end the test printing. Press mode key, the printer enter into the offline mode.
6. Press online key, online mode indicator lamp lights, and the printer enter into the online mode.

2.7 Adjustment

2.7.1 Adjust the thickness of the papers

Please adjust the thickness of the papers according to the thickness of paper, or pieces of carbon paper by FT lever.

1. Set the position of FT lever according to the kind of paper, referring to the table as follow:

Paper thickness setting standards Table

The kind of paper		The location of FT lever
1layer	55～70kg	1～2
	90～110kg	2～3
2 layers	30～45kg	1～2
3 layers	30～34kg	2～3
4 layers	30～34kg	3～4
5 layers	30～34kg	3～5

SUGGESTION

- The table is a reference only. As the set position depends on the type of printing paper, you should determine the best location according to results of test print (refer to section section 2.6).
- In order to get good print result, not more than 3 layers of print paper is recommended.

NOTICE

- If the scale of FT lever is set too small When using thick paper, it will cause paper jams, ribbon jams, printer failure and so on. So make sure to adjust from the big side.

2.7.2 Adjust the starting location for printing

1. Make sure the online mode indicator on the control panel be cut off. If not, press online key to turn it off.

2. Rotate manual feeding knob to adjust the seam of printing paper to TOF indicator on tractor cover, then align the seam with the first two pages.

3. Press “LOAD PAPER”, the paper will back off, and aligns with print starting position.

NOTICE

- Align the seam after the first two pages with TOF indicator. If you align first two papers with TOF indicator, the paper will depart from the tractor.
- If you press “LOAD PAPER” twice, the starting position won’t be aligned with the seam, and the paper may depart from the tractor, and errors may occur.

2.7.3 Vertically print adjustment

(A) Print data turns upper

1. Make sure the online mode indicator on the control panel cuts off. If not, press online key to turn it off.

2. Press UP to move the print paper forward.

(A) Print data turns upper

(B) Print data turns lower

1. Make sure the online mode indicator on the control panel cuts off. If not, press online key to turn it off.

2. Press DOWN to move the print paper backward.

(B) Print data turns lower

SUGGESTION

Press UP or DOWN every time, the print paper will shift 0.14 mm forward or backward.

3. Pull FT lever to OPEN to separate paper feeding component.

4. Tighten down the printing paper gently.

5. Pull FT lever forward to close the paper feeding component.

6. Press ONLINE, confirm the online mode indicator lights after adjustment.

2.7.4 Horizontally print adjustment

(A) The print data deflected to the right

1. Make sure the online mode indicator on the control panel cuts off. If not, press online key to turn it off.

	年	月	日	金额
	98	3	15	6.500
	98	3	30	9.800
	98	4	10	4.733

(A) 当打印的数据偏右时

(A) The print data deflected to the right

2. Turn up the column knob to move the print paper to the right.

3. Pull FT lever to OPEN to separate paper feeding component.

4. Tighten down the printing paper gently.

Turn to page 2-28 for step 5.

(B) The print data deflected to the left

1. Make sure the online mode indicator on the control panel cuts off. If not, press online key to turn it off.

	年	月	日	金额
	98	3	15	6.500
	98	3	30	9.800
	98	4	10	4,733

(B) The print data deflected to the left

2. Turn down the column knob to move the print paper to the left.

3. Pull FT lever to OPEN to separate paper feeding component.

4. Tighten down the printing paper gently.

5. Pull FT lever forward to close the paper feeding component.

6. Press the online mode indicator on the control panel, the online indicator lights.

SUGGESTION

- The adjusting scale of column knob is among 3 mm.
- If the print data deflected horizontally a lot, move the tractor to adjust the position of paper, turn the column knob slightly.

2.7.5 Adjust the printing tension

(A) When the paper feeding hole is stretched verticall

The paper feeding hole is stretched vertically

1. Increase the FT value.

SUGGESTION
If you can't repair it, please contact with technicians.

(B) When the paper feeding hole is stretched horizontally

1. Make sure the online mode indicator on the control panel cuts off. If not, press online key to turn it off.

.

The paper feeding hole is stretched

2. Turn down the both sides of tractor lock lever, then move tractor to loosen the paper tension.

3. Turn up the tractor lock lever to fix the tractor after adjusting the paper tension.

SUGGESTION
Printing while the paper feeding holes are stretched, will cause paper jam.

2.8 Install Printer Driver

CITIC H400K printer driver of Microsoft Windows 98/Me/2000/XP (Simplified Chinese) version is written on the CD-ROM attached.

Select the installation method, and install the printer driver in accordance with the steps below:

- Install the printer driver in the version of Windows 98
- Install the printer driver in the version of Windows 2000
- Install the printer driver in the version of Windows Me
- Install the printer driver in the version of Windows XP

1. Install the printer driver in the version of Windows 98

(1) Start Windows98.

(2) Click the “Start” button, select “Settings” – “Printers”.

(3) Double-click the “Add Printer” icon.

(4) Click “Next” button.

(5) Select “Local printer” or “Network Printer”, then click “Next” button.

(6) Click the “Install from a floppy disk” button.

(7) Put CD-ROM attached into the CD-ROM driver. Input “D:\Prn_drv\WIN98” in “Manufacturers to copy files from:”, click "OK" button. (Drive name “D” can be changed with computer's CD-ROM drive).

(8) Select “CITIC H400K” from the “Printer:” list, then click “Next” button.

(9) Select the required printer port from “Available ports:” list, and then click “Next” button.

(10) If you want to set this printer as the default one, select “Yes” If not, select “No”, then click “Next” button.

(11) If you need to test printing, select “Yes - recommended to print.” If not, please select “no”, then click “Finish” button.

(12) If the following screen is shown, click “OK” button.

(13) Insert the CD-ROM tagged for “Windows98 CD-ROM”, Input “D: \win98” in “in the copy file” box (Replace corresponding letter “D:”, if the CD-ROM drive is not “D:”), then click “OK” button.

(14) After selecting test printing, the following screen will be shown. If the test print result is correct, please click the “correct” button.

(15) After installation, the printer driver icon will appear in the “Printers” window.

Then the CITIC H400K printer driver installation is finished.

2. Install the printer driver in the version of Windows 2000

(1) Start Windows 2000.

(2) Click the “Start” button, select “Settings” – “Printers”.

(3) Double-click the “Add Printer” icon.

(4) Select “Local printer” or “Network Printer”, then click “Next” button.

(5) Select the required printer port from “Available ports:” list, and then click “Next” button.

(6) Click the “Install from a floppy disk” button.

(7) Put CD-ROM attached into the CD-ROM driver. Input “D:\ Prn_drv\w2k” in “Manufacturers to copy files from:”, click "OK" button. (Drive name “D” can be changed with computer's CD-ROM drive).

(8) Select “CITIC H400K” from the “Printer:” list, then click “Next” button.

(9) If you want to set this printer as the default one, select “Yes” If not, select “No”, then click “Next” button.

(10) If you need to share this printer with other users, select “Shared as” and enter the share name. If not, please select “Do not share this printer” and then click “Next” button.

(11) If you need to test printing, select “Yes - recommended to print.” If not, please select “no”, then click “Finish” button.

(12) If the following screen is shown, click “OK” button.

(13) After selecting test printing, the following screen will be shown. If the test page printed, click “OK” button.

(14) After installation, the printer driver icon will appear in the “Printers” window.

Then the CITIC H400K printer driver installation is finished.

3. Install the printer driver in the version of WindowsMe

(1) Start WindowsMe.

(2) Click the “Start” button, select “Settings” – “Printers”

(3) Double-click the “Add Printer” icon.

(4) Select “Local printer” or “Network Printer”, then click “Next” button.

(5) Click the “Install from a disk” button.

(6) Put CD-ROM attached into the CD-ROM driver. Input “D:\Prn_drv\Winme” in “Manufacturers to copy files from:”, click "OK" button.

(7) Select “CITIC H400K” from the “Printer:” list, then click “Next” button.

(8) Select the required printer port from “Available ports:” list, and then click “Next” button.

(9) If you want to set this printer as the default one, select “Yes” If not, select “No”, then click “Next” button.

(10) If you need to test printing, select “Yes - recommended to print.” If not, please select “no”, then click “Finish” button.

(11) After selecting test printing, the following screen will be shown. If the test page printed, click “OK” button.

(12) After installation, the printer driver icon will appear in the "Printers" window.

Then the CITIC H400K printer driver installation is finished.

4. Install the printer driver in the version of Windows XP

(1) Start Windows XP.

(2) Click the “Start” button, select “Settings” – “Printers and Faxes”

(3) Double-click the “Add Printer” icon.

(4) Select “Local printer” or “Network Printer”, then click “Next” button.

(5) Select the required printer port from “Available ports:” list, and then click “Next” button.

(6) Click the “Install from a disk” button.

(7) Put CD-ROM attached into the CD-ROM driver. Input “D:\ prn_drv\winxp” in “Manufacturers to copy files from:”, click "OK" button. (Drive name “D” can be changed with computer's CD-ROM drive).

(8) Select “CITIC H400K” from the “Printer:” list, then click “Next” button.

(9) Input the printer name in the “Printer Name”, then click “Next” button.

(10) If you want to set this printer as the default one, select “Yes” If not, select “No”, then click “Next” button.

(11) When the following screen displayed, click “DONE” button.

(12) When the following screen displayed, click “Continue” button.

(13) After installation, the printer driver icon will appear in the “Printers and Faxes” window.

Then the CITIC H400K printer driver installation is finished.

6. Recommendation of advanced options settings for print driver. (please refer to picture below)

The combination of print quality settings 1 of printer function and print quality settings 2 of pictures will affect the final print quality.

Select appropriate print quality settings 2 of pictures, according to print quality settings 1 of printer function will bring better print results.

Suggest to set according to the following matching:

Print Function—》Print Quality Settings	Pictures—》Print Quality Settings
High Speed Draft	90x90 dots per inch
High Speed	90x120 dots per inch
Normal	120x120 dots per inch
Near Letter Quality	90x180 dots per inch
Letter Quality	180x180 dots per inch

Chapter 3 Print

3.1 print method

3.1.1 Common print

(1) Confirm the plug is in the power socket.

(2) Power on the printer switch (Press the switch ”|” side)

3.1.2 Select printing model

(1) Press “ONLINE”
The “ONLINE” indicator cuts off, The printer turns to offline.

(2) Press “MODE” to change print mode.
(The indicator lights in order of “NORMAL - HIGH SPEED DRAFT- HIGH SPEED- LETTER QUALITY- NEAR LETTER QUALITY”)

(3)Press “ONLINE”
The “ONLINE” indicator lights, The printer turns to online, and start printing.
* About print velocity and density of every modes, please refer to “Appendix A Printer Specifications”

SUGGESTION
Check the printing result after printing!

3.2 The Configuration Menus

3.2.1 Parameter Modification (1)

Operator setup mode **: Default value**

Operator setup mode flowchart

[Procedures]

(1) When the printer is in “DESELECT”, Press “MODE”, The printer turns into “OPERATOR SETUP” mode.

Press “MODE”, Printer turns into “OPERATOR SETUP”.

Press “MODE”, Printer returns to “DESELECT”.

Press “FORM FEED”, The display turns to display next set.

Set form length

Factory settings: 66 lines adjustable scale:1～99 lines.

Press UP/DOWN to increase or decrease lines set.

Press “FORM FEED”, The display turns to display next set.

Set default line space

Press UP/DOWN to select “6LPI” or “8LPI”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set default font data

Press UP/DOWN to select “OCR-B” or “NORMAL”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set HANZI pitch

Press UP/DOWN to select “5CPI”, “6CPI”, “6.7CPI”, “7.5CPI”, “0 POINT”, “3 POINT”, “6 POINT”, or “12 POINT”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set default pitch

Press UP/DOWN to select “10”, “12”, “13.3”, or “15”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set point density of print mode

Press UP/DOWN to select “LQ”, “NLQ”, “NR”, “HS” or “HSD”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set hanzi font size (Abbreviations Character Select)

Press UP/DOWN to select “24×24”, “16×24”, or “12×24”.

Press “FORM FEED”, store the setting, and display turns to display next set.

“16×24”, “12×24”: Abbreviations Character

Set high density print mode

Press UP/DOWN to select “OFF”, “LEVEL1”, “LEVEL2”, or “LEVEL3”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set uni-direction

Press UP/DOWN to select “INVALID” or “VALID”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set bar code width

Press UP/DOWN to select “NORMAL” or “NARROW”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set character mode

Press UP/DOWN to select “CHINESE” or “ENGLISH”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set half size font

Press UP/DOWN to select “DengXian” or “Song”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set methods of changing print mode

Press UP/DOWN to select “PANEL” or “PANEL & COMMAND”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set TOF and FF

Press UP/DOWN to select “ENABLE” or “DISABLE”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set nibble mode

Press UP/DOWN to select “INVALID” or “VALID”.

Press “FORM FEED”, store the setting, and display turns to display next set.

Set function of interface

Press UP/DOWN to select “PARALLEL” or “LAN”.

Press “FORM FEED”, store the setting, and display turns to display next set.

3.2.2 Parameter Modification (2)

Service Engineer Setup Mode **: Default value**

Service Engineer setup mode flowchart

[Procedure]

(1) When the printer is in “DESELECT”, Press “TEST” and “ONLINE” at the same time, Three seconds later, the printer enter into “SETUP”.

Press “TEST” and “ONLINE” at the same time for three seconds.

“PRINT/TEST” only can be used by service engineer.
Press “MODE”, The printer turns into “DESELECT” mode. Press “FORM FEED”, The display turns to display next set.

Press “MODE”, The printer turns into self-testing mode. Press “FORM FEED”, The display turns to display next set.

The printer is in “SELECT/DESELECT” after turning on the power.
Press UP/DOWN to select “SELECT” or “DESELECT”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set auto line feed at buffer over.
Press UP/DOWN to select “NO (ORWRITE)” or “NO” or “YES”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set printing when detecting paper end.
Press UP/DOWN to select “OVERRIDE” or “TOF”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set CR code function.
Press UP/DOWN to select “CR”, “LF” or “IGNORE”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set skip perforation at test and online printing
Press UP/DOWN to select “YES” or “NO”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set an international character
Press UP/DOWN to select “USA”, “LAT AMERICA”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set the AN code table.
Press UP/DOWN to select “GRAPHICS”, “ITALIC”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set the prime signal's response
Press UP/DOWN to select “ENABLE”, “DISABLE”.
Press “FORM FEED”, store the setting, and display turns to display next set.

(B)

Set the auto connection function
Press UP/DOWN to select “INVALID”, “VALID”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set ASCII mode function
Press UP/DOWN to select “OFF”, “ON”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set the recognize FT function
Press UP/DOWN to select “ENABLE”, “DISABLE”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Set the power save mode
Press UP/DOWN to select “5MIN”, “10MIN”, “20MIN”, or “30MIN”.
Press “FORM FEED”, store the setting, and display turns to display next set.

Press “MODE” to turn to “SETUP” mode in every setting step.

(2) Reconnect the power after setting and adjustment.

NOTICE

In principle, the "PRINT" and "TEST" function in DIAG (diagnostic) mode can only be used by the service engineers in maintenance. If you must use it, please operate under the guidance of engineers.

Chapter 4 Troubleshooting

4.1 Error location confirmation

Sometimes you can repair by simple operation when trouble occurs. Before contacting our technicians, please confirm the trouble according to the steps introduced in this section, in order to solve it by yourself.

- When the power can not be connected.
- When there is nothing in display.
  - Please cut off the power, and reconnect after 30 seconds.
  - Push the pin into the power socket firmly.

- When some information displayed on the operation panel display screen
  - Please refer to “4.2 Error display and solutions”

- When the print effect is not good
  - Please refer to “4.5 Solution to negative printing performance”

- Other troubles
  - Please cut off the power, and reconnect after 5 seconds.

If all the solutions mentioned above can’t work, please contact with technicians.

Please describe troubles as detailed as possible (such as print sample, operation before troubles, environments (temperature and humidity), status and frequency of relapse).

4.2 Error display and solutions

Grasping Troubles and Corrective Actions

INFORMATION	OPERATION
PLATEN OPEN	Put FT lever forward to close the paper feeding components.
END OF FORM	Change paper according to the steps descriped in “2.3 change paper”.
FORMS CHECK	Please refer to “4.3 Solution to Paper Jam”.
RIBBON CHECK	Please refer to “4.4 Solution to Ribbon Jam”.
PLATEN CHECK	Put FT lever forward to close the paper feeding components, then press online over 1 seconds.
SELECT POWER SAVING or DESELECT POWER SAVING	Please refer to “2.2.3 Lower consumption model”.
“other” information “ALARM” indicator lights	Confirm the information, cut off the power, then reconect. Refer to “Powering On The Printer”.

If the operation above can’t work, please confirm the information, and contact with the technicians.

4.3 Solution to Paper Jam

If paper jams, Alarm indicator lights, the following information appears:

FORMS CHECK

Remove paper jam according to the following steps:

1. Open the top cover.

2. Put FT lever to “OPEN”, Open tractor cover, and pick out jammed paper.

3. Check the following items:
   - Check that the FT knob is set correctly.
     (Please refer to “2.7.1 adjust the thickness of the papers”.)
   - Check that the paper tension is correct.
     (Please refer to “2.7.5 adjust the printing tension”.)
   - Check that the forms are set correctly.
     (Please refer to “2.3.1 Reload Paper”.)
   - Check that the forms meet the specifications specified.
     If you use sub-standard printing paper, paper jams will be caused.
   - Check that the printing paper is not damped.
     Direct sunlight and other bright light can cause paper jam sensor failure detection, you should cover the light with a protective cover

4. If the perception surface of paper jam sensor (on the left of tractor top) is dirt, please clean it with gauze.

5. Check that the paper holder and paper path system is normal.
   If there are chips in the paper holder and paper path system, please cut off the power, and clean them with dust collector.
   Check that the forms are stacked correctly.

6. Reload paper, and adjust the location.
   Please refer to “2.3.1 Reload Paper”.

7. Put FT lever forward to close the paper feeding components.

8. Press “ONLINE” more than one second.
   and confirm FORMS CHECK disappeared from the display.

9. Close the top cover.

4.4 Solution to Ribbon Jam

If ribbon jams, Alarm indicator lights, the following information appears:

RIBBON CHECK

Remove ribbon jams according to the following steps:

SUGGESTION
Please wear gloves when working to prevent hands from stained by the ink in the ribbon.

1. Open the top cover and ribbon cassette cover in turn.

2. Check that the ribbon path system is correct.
   - Check the ribbon roller is closed.
   - Set the ribbon correctly, if that ribbon is loosen, caught in or jammed in ribbon roller. (Please refer to “2.4.2 change spare ribbon(vice ribbon box)”.)
   - I f the ribbon is worn or aging, you should change a new one. (Please refer to “2.4.2 change spare ribbon(vice ribbon box)”.)
   - I f the ribbon separator is worn, please contact with technicians.
3. Clean chips in the ribbon guide plate of both sides, or in the ribbon feeding knob.

4. Check that the FT knob is set correctly.
   If the FT knob is set incorrectly, the ribbon will be jammed.
   (Please refer to “2.7.1 Adjust the thickness of the papers”)

5. Close the ribbon cassette cover and the top cover in turn.

6. Press ONLINE more than one second.
   and confirm RIBBON CHECK disappeared from the display.

NOTICE

If you operate the printer according to the steps above, is still on the display, please cut off the power, and reconnect. If you still can’t repair it, or ribbon jam occurred frequently, please contact with technicians.

4.5 Solution to negative printing performance

When the print quality is poor, please operate as follows:

	Problems	Operation	Refer Section
1	Dot missing 	(1) Decrease FT value. (2) Remove paper feeding path. (3) Replace the ribbon.	2.7.1 5.3 2.4
2	Light print density (Too light overall.) 	(1) Decrease FT value. (2) Replace the ribbon.	2.7.1 2.4
3	Light print density (Too light in the specific position or locally.) 	(1) Remove paper feeding path.	5.3

	Problems	Operation	Refer Section
4	Character missing 	(1) Decrease FT value. (2) Replace the ribbon. (3) Paper chips may be jammed in the paper feeding path, please remove them.	2.7.1 2.4 5.3
5	Line skew 	(1) Set the forms straight. (2) Replace the forms.	2.3
6	Distortion 	(1) Adjust FT value.	2.7.1
7	Wavy printing 	(1) Adjust FT value.	2.7.1

	Problems	Operation	Refer Section
8	Horizontal dots missing 	(1) Adjust FT value.	2.7.1
9	Smear 	(1) Adjust FT value. (2) Reinstall the ribbon. (3) Remove paper feeding path. (4) Replace the ribbon.	2.7.1 2.4 5.3 2.4
10	Faint printing (Horizontal line) 	(1) Increase FT value.	2.7.1
11	Light print density (Too light in the specific position.) 	(1) Remove paper feeding path.	5.3

	Problems	Operation	Refer Section
12	Shortened	(1) Check the tension of paper.	2.7.5
13	Misaligned	(1) Check the tension of paper.	2.7.5

NOTICE

If you still can't improve the print performance according to the solutions above, please contact with technicians.

Chapter 5 Cleaning

5.1 Instruction

NOTICE

Disconnect the power source before cleaning the printer!

NOTICE

- Do not touch the Hammer mechanisms immediately after printing, because the hammer mechanism is very hot. (Wait for about 10 minutes, then start the work.)
- Do not touch the sharp edges of the ribbon separator inadvertently to avoid injury.
- Do not use any solvent for cleaning.
- The print component has strong magnets. Do not bring any metallic object near it. Never bring the wrist watch or floppy disc close to the printer as there is a possibility to be damaged.
- Be careful not to scratch the ribbon separator, friction plate, dot head, etc.

1. Cleaning Tools: Electric vacuum cleaner, soft cloth dry wiping (gauze)
2. Cleaning component and periods

	Cleaning component	Cleaning period	Cleaning method
①	Ribbon path	After replacing ribbon	Refer to section 5.2
②	Paper feeding path	Everyday(after printing)	Refer to section 5.3

5.2 Ribbon path cleaning

NOTICE

- Do not insert the intake of the vacuum cleaner inside the printing mechanism by force.
- Be careful not to bend the ribbon separator.
- If the ribbon separator was worn, contact with technicians. If you continue using the ribbon, that not only take bad effect on ribbon and print performance, but also damage the printer.

1. Cut off the power ((Press the switch beside"0").

2. Put FT lever to "OPEN", Open the paper feeding component.
   If printing paper is loaded, remove it.

3. Loosen two screws, pull the ribbon separator cover forward.

4. Remove ribbon dust adhered to the ribbon path using a vacuum cleaner or gauze. Especially never fail to remove ribbon dust adhered to the printing mechanism, the ribbon guides at both sides and the ribbon sensor because such dust give a bad influence upon the ribbon movement.

5.3 Print paper path cleaning

NOTICE

- Do not insert the intake of the vacuum cleaner inside the printing mechanism by force.
- Be careful not to bend the ribbon separator.

1. Cut off the power ((Press the switch beside"0").

2. Put FT lever to "OPEN", Open the paper feeding component.
   If printing paper is loaded, remove it.

3. Loosen two screws, pull the ribbon separator cover forward.

4. Remove paper dust adhered around the printing mechanism, tractor pins at both sides, jam sensor and platen using a vacuum cleaner or gauze.

Chapter 6 Consumables

Please refer to the following detailed function requirements of the consumables, chose appropriate print paper and ribbon.

1. Printer

- ✧ Please use high-quality printer-specific paper. It may affect needle life using paper with metal components (silicon, magnesium compounds, etc.) .
- ✧ If the hole chips between papers (the hole chips left by perforating) is not removed, the leakage or other errors will occur during printing. So don't use print papers with hole chips.
- ✧ Print quality will be affected by printing paper quality. Test printing with paper sample before selecting print paper. Especially check whether thick or reinforced paper will cause troubles when testing.

2. Ribbon

- ✧ Please use the specified ribbon. If you use other ribbon, the print quality will be deteriorated and the printer will be damaged, and the needle will be worn.
- ✧ The ribbon should be used within 6 months. If the ribbon storage is over one year, the ink in the ribbon will be deposited and dried, otherwise, abnormal ribbon bending phenomenon will occur, and the ribbon will be jammed.
- ✧ Don't store the ribbon in the room with high temperature to prevent ribbons from being deteriorated. You'd better put the ribbon in an air-conditioned room.

3. Ribbon separator

- ✧ Do hold the cage (blue) of both sides with two hands during handling the ribbon mask. Otherwise, It may be bent or broken
- ✧ Bent or broken ribbon mask will seriously affect the ribbon life, print quality, and may damage the printer. Do not use these kinds of ribbon mask.

Printer Specifications

Projects		Printer Specifications	
Print velocity and density		Refer to the following "Print velocity and density"	
Velocity of paper feeding		20 in/s	
Maximum print width of a line		13.6 in（2,448 point）	
Row spacing		1/8, 1/6, n/180 (n＝1～255) in	
Character form (Horizontal/Vertical)		HANZI	Alphanumeric characters
		24(Horizontal)×24(Vertical) point	13(Horizontal)×18(Vertical) point
Maximum print width		90 characters / line	136 characters / line
Replication capacity		Five pieces (including one piece of original manuscript)	
Print paper	Shape	Both ends with holes (folding continuous paper)	
	Amount	55～110kg	
	Size	Horizontal: 88.9～406.4mm（3.5～15in）	
		Vertical: 101.6～304.8mm（4～12in）	
		Folding: 203.2～304.8mm（8～12in）	
Ribbon		Annular cycle ribbon	
Dimension		Height: about 990 mm	
		Width: about 626 mm	
		Depth: about 570 mm	
Weight		H400K：490N（50kg）	

Print velocity and density

Print mode (indicator on the operator panel)	**Print velocity (line/second)**	**Print density (Horizontal×Vertical) [point/inch]**
High Speed Draft	350～400	90×90
High Speed	260± 3 %	90×120
Normal	200± 3 %	120×120
Near Letter Quality	180± 3 %	90×180
Letter Quality	95± 3 %	180×180

Notice 1) Print velocity and density is determined by the operating environment, such as Character type, number of characters, and temperature.

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