



Desktop POS Printer

TP806L

User Manual



Rev.1.1

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STATEMENT

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Version 1.1

CAUTIONS

Warnings :



This must be complied with in order to avoid any damage to the human body and to the equipment.



This is showing the important information and tips for the printer operating.



Note: Due to the continuous improvement of the product, the specifications, fittings, parts, designs and procedures described in the manual are subject to the actual machine without prior notice.

IMPORTANT SAFETY INSTRUCTIONS

1. Safety warning



Warnings: The print head will become very hot during printing; avoid contact with the print head after printing has finished.



Warnings: Do not touch the printer head and connector in case static damage the printer head.

2. Instructions

Carefully read the installation and operating instructions provided with the printer before starting up your printer.

- 1) Place the printer on a flat and stable surface.
- 2) Leave enough space around printer for operation and maintenance.
- 3) Do not insert anything into the ventilation slots or openings on the printer.
- 4) Do not place the printer on or near a heat source.
- 5) Do not use the printer near water. Never spill liquid into the printer.
- 6) Do not expose the printer to high temperatures, direct sunlight or dust.
- 7) Protect the printer from shock, impact and vibration.
- 8) Be certain the power source is within the voltage rating and frequency listed for the printer.
- 9) Switch off the printer power supply when won't use it for a long time.
- 10) Do not place the power cord where it can be stepped on. If the power cord becomes damaged or frayed, replace it immediately.
- 11) To ensure the print quality and reliability, you are suggested to use the recommended paper or the same quality paper.
- 12) Pls switch off the power supply when connect/disconnect all the ports or it will cause damage to the printer control circuit.
- 13) Never carry out maintenance or repair work yourself. Always contact a qualified service technician.
- 14) Keep this User Manual in a place which is easily accessible at all times.

◆ Other Precautions

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◆ WEEE (Waste Electrical and Electric Equipment)

This mark shown on the product or its literature indicates that the corresponding item should not be discarded at the end of its working life with others household waste. To prevent possible harm to the environment or human health from uncontrolled waste disposal, please separate marked items from other types of waste and recycle them responsibly to promote the sustained reuse of material resources. Household users should contact either the retailer where they purchased this product, or their local government office for details of where and how they can conduct environmentally safe recycling of such items. Commercial users should contact their suppliers and check the terms and conditions of purchase contracts. This product should not be combined with other commercial waste for disposal.



Caution: This is a Class A product. In a domestic environment this product may cause radio interference in which the user may be required to take adequate measures.

1 OVERVIEW

1.1 Introductions

TP806L is a thermal receipt printer with auto-cutter, featured by high print quality, high print speed, high stability, etc. It can be used in commercial POS system, food industry and occasions which need real-time field print receipts.

TP806L can connect with other equipment through cash drawer, serial, USB, and Ethernet interfaces. And the printer drivers are available for the WINDOWS XP/7/8/Vista operating system.

1.2 The Main Features

- 1) Patent design of unique vertical double auto cutter
- 2) Low noise
- 3) High print speed
- 4) Easy paper loading
- 5) Support page mode printing
- 6) Compatible with various width paper
- 7) Cash drawer interface
- 8) Communication interfaces optional

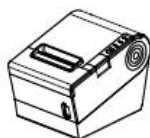
2 GETTING STARTED

2.1 Packing List

After receiving your printer, please check for possible shipping damage:

- 1) Inspect the outside of both the box and the printer for possible damage.
- 2) Check whether you have received the following accessories together with the printer, if there is any items missing, please contact with your local dealer.

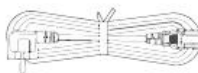
■ Standard Accessories



Printer



Power Adapter



Power Cord



CD



Quick Start Guide



USB Cable



Roll Paper

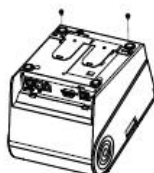


Serial Cable

■ Optional Accessories



Cable Cover



Wall Mounting Kit

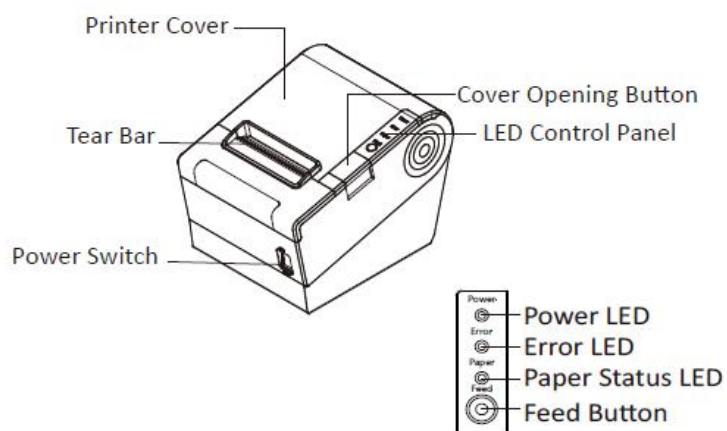


Notes:

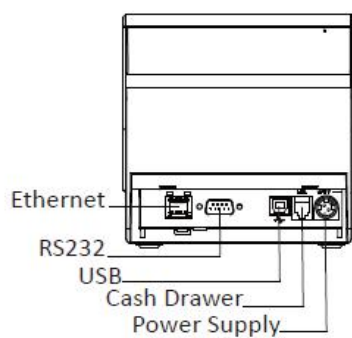
- 1) The power cord varies by region.
- 2) Some customers may require not packing some parts of the standard accessories for special, if users are confused, please contact with your dealer for more detail.

2.2 Appearance and Components

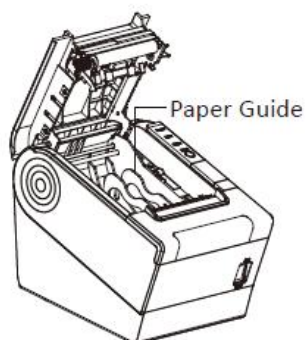
■ Front View



■ Rear View



■ Inside View



Specification of some part elements**1) Power switch**

Press “0” to turn off power and press “|” to turn on power supply.

2) Feed Button

Feed paper: When it's not in the alarm status, push the button to feed paper. Push the button continuously to feed a long distance.

3) Power LED

It indicates the power status.

4) Paper LED

It detects the status of paper, such as paper near end and paper end. See more details in “3.2 Specification of Indicated light and beeper”.

5) Error LED

If there is abnormal phenomenon and error LED flashing, it means the printer is in the wrong status. Please turn off the power immediately.

6) Paper Guide

Use the paper guide in the paper container to meet different paper widths.

TP806L paper container has 2 paper guide slots. Paper guide slot 1 meets the 80mm width paper, and slot 2 meets the 58mm width paper.

**Warnings:**

Paper guide is essential for adjusting the paper width. Please keep it properly. And the paper guide should NOT be taken away during printing in case of print offset.

3 SPECIFICATION

3.1 Printer Specification

General Specification

Item		Parameter
Printing Parameter	Printing method	Direct thermal line printing
	Resolution	Default 203 dpi, 180 dpi can be emulated
	Printing width	72mm (576dots)
	Printing speed	Max. 250mm/s
	Print density	Adjustable from degree 1 to degree 4
	Printing Direction	Vertical and horizontal
Interface	Default	Built-in USB, RS232, LAN
Auto cutter		Partial Cut
Page mode		Support
Memory	RAM	2MB
	Flash	4MB
Character set	Font	Font A:12*24 Font B:9*17 CHN: 24*24
	Number of Columns	48/64
	Alphanumeric	95
	Expanded Character	128*47
	Code page	47
Graphics		Support bitmap printing with different density and user defined bitmap printing (Max. 256K for total)
Barcode	1D	UPC-A, UPC-E, EAN8, EAN13, CODE39, ITF, CODEBAR, CODE128, CODE93
	2D	PDF417, QR code
Detection	Sensor	Paper end, cover open, over-temperature and high/low voltage sensors
Power supply	Input	AC100V-240V 50-60HZ
	Output	DC 24V±5%, 2.5A
Paper	Paper Loading	Easy-loading structure of upward open cover
	Paper Type	Standard thermal paper
	Paper Width	79.5±0.5mm/57.5±0.5mm (with 1" spacer)
	Paper Thickness	0.056~0.1mm
	Paper Roll Diameter	83mm Max.

Item		Parameter
Emulation		ESC/POS
Condition	Operating	0~40℃/20~85%RH
	Storage	-20~70℃/5~95%RH
Reliability	TPH Life	150km
	Cutter Life	2,000,000 times
Packing Information	Dimensions (W*D*H)	145*197*146mm
	Accessories	Standard: power adaptor, power cord, serial cable, CD, quick guide, paper guide for 58mm width paper, paper roll Optional: cable cover, wall mounting kit, kitchen bell
Driver		Windows (POSReady/Win8/Win7/Vista/XP/2000), Linux CUPS, JavaPOS, OPOS.net, OPOS
Certifications		CE/FCC/CCC/RoHS/Energy Star
Eco Features		Paper saving mode, Energy Star qualified

3.2 Media Specification

3.2.1 Continuous Thermal Paper Specification

Paper Type: Standard thermal paper
Paper Width: $79.5 \pm 0.5\text{mm}$ / $57.5 \pm 0.5\text{mm}$ (with 1" spacer)
Paper Roll Diameter: 83mm Max.
Paper Thickness: 0.056~0.1mm

Paper Type	Manufacturer
FD210,PD150R,PD160R	OJI Paper CO.,LTD.

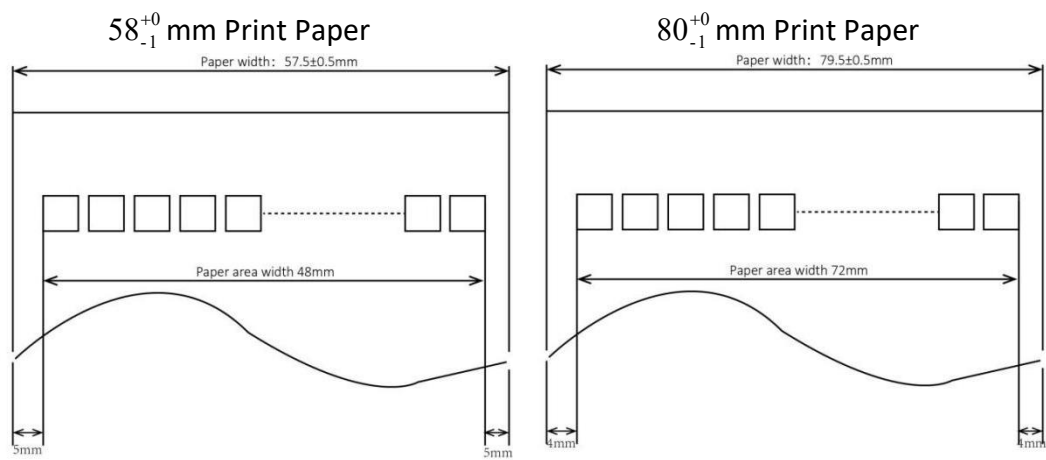


Notes:

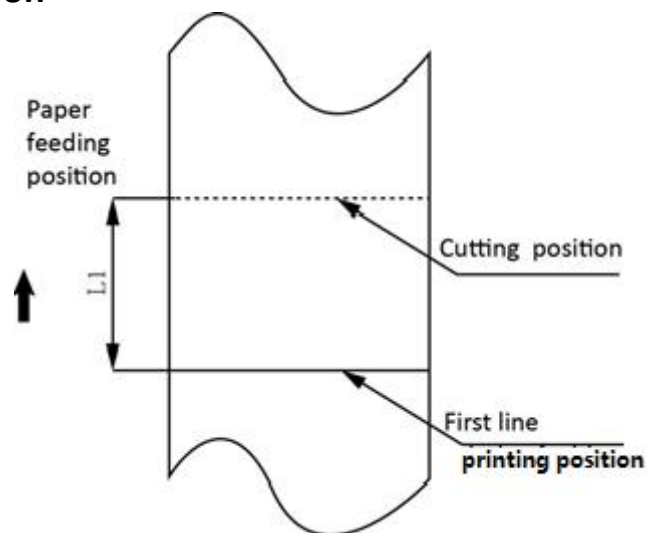
- Please use the recommended thermal paper or same quality paper, otherwise it will influence the print quality and decrease the thermal printer head life;
- Don't stick the paper on the core of paper roll;
- If the thermal paper is polluted by chemical or oil, the thermal paper heat sensibility would decrease, which would influence the print quality;
- Don't use finger nail or hard articles to touch the surface of thermal paper, otherwise it will cause color fading;
- When the environment temperature is higher than 70°C, the thermal paper color will fade, so pay attention to the influence of temperature, humidity and sunlight.

3.3 Printing and Cutting Position

3.3.1 Printing Position



3.3.2 Cutting Position



Type	Paper Cutting Position(L1)
TP806L	15.4mm

4 INSTALLATION AND USAGE

4.1 Unpacking

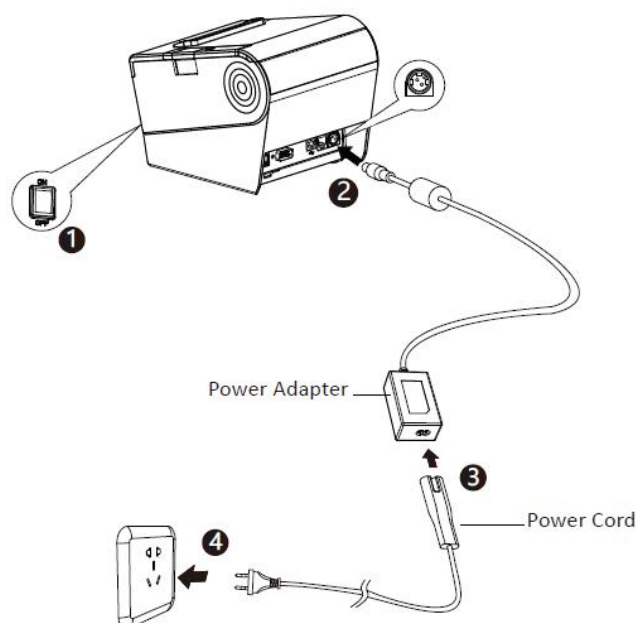
When opening the package, check if any items are missing or damaged according to the packing list, if so, contact with the local dealer or manufacturer.

4.2 Installation Site and Direction of Printer

- 1) TP806L has two ways to install: wall-hanging(optional:wall-hanging kit) and horizontal installation. It's recommend to install the printer at a horizontal surface;
- 2) The printer should install at a flat and steady place. It's recommend to install the printer at a horizontal surface. The incline angle should not exceed $\pm 10^\circ$ to the paper feed direction, and other direction of inclination is forbidden;
- 3) Keep printer far away from source of water;
- 4) Avoid putting the printer on places with vibration and shock;
- 5) Make sure the printer ground power connection is safe;
- 6) When operating or maintaining, it is recommended to keep enough space to ensure the reliability and simplicity.

4.3 Power Adapter Connection

- 1) Make sure the printer's power switch is turned off;
- 2) Connect power adapter with printer.
- 3) Connect power adapter with power cord.
- 4) Plug the other side of power cord into the socket outlet.



Notes:

- 1) The power cord varies by region.
- 2) Disconnect or connect the power adapter by correct method, or damage may be caused.

The power adapter plug is designed with switch type. When the power adapter makes a "click " sound, the socket switch is locked and the adapter is connected in place, otherwise, please reconnect with the socket.

When pulling out the adapter, please pinch the shell of power adapter and pull the switch up, when the switch is fully opened then pull out the power adapter.

Don' t put forth your strength to pull the plug by squeezing any place of power adapter. Because it is more difficult to pull it out and easy to damage the cable.



Notes:

- 1) Please only use the power adapter recommended by supplier or equivalent products.**
- 2) When disconnecting the power adapter plug, handhold plug connector shell to avoid the pulling on the cable in force.**
- 3) Avoid dragging the power adapter cable, otherwise it will damage the cables, causing fire and shock.**
- 4) Avoid putting power adapter around a heating device, otherwise the cable may melt, causing fire and shock.**
- 5) If you do not use the printer in a long time, disconnect the power supply of printer power adapter.**

4.4 Interface Cable Connection

- 1) Make sure the printer's power switch is turned off;
- 2) Put the interface cable into the matched interface and fixed with screws (or spring) on the plug;
- 3) Connect the other end of the interface cable to the host.

4.5 Cash Drawer Connection

- 1) Make sure the printer's power switch is turned off;
- 2) Connect the cash drawer cable to the cash drawer interface on the rear side of the printer.

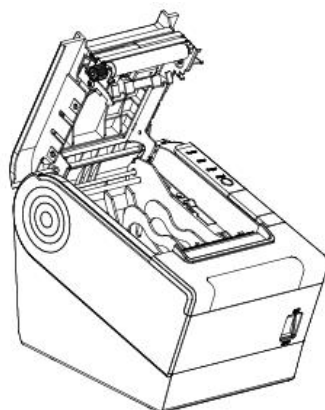


Warning: Cash drawer interface can only be connected to a voltage of 24V cash drawer device (can't connect to the phone line, etc.)

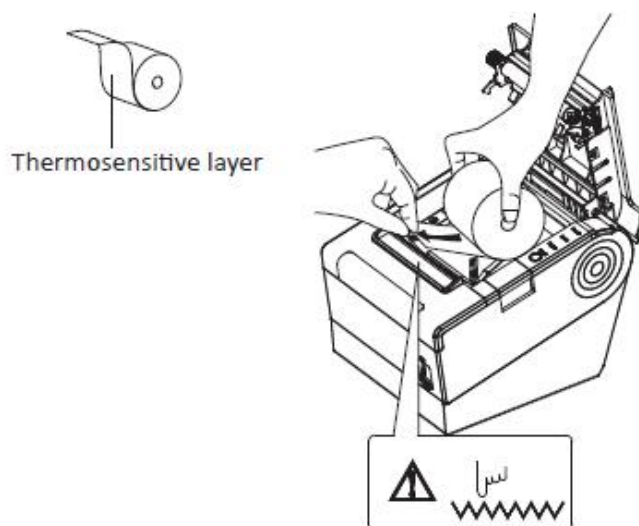
4.6 Paper Loading

Confirm the type of paper used by the printer before printing. The default paper type is specified thermal paper. Choose the paper guide according to the width of printing paper.

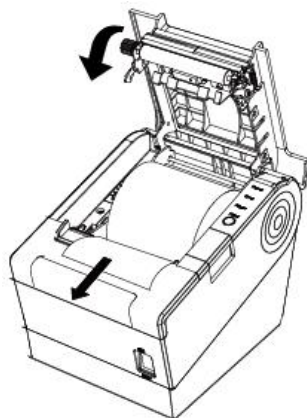
- 1) Turn off the printer.
- 2) Press the cover opening button to open the printer cover.
- 3) Remove the used core of paper roll, if any.



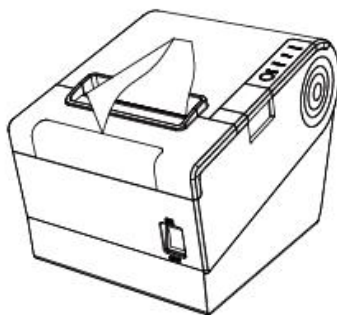
- 4) Load the paper roll in the correct direction as shown below. The thermosensitive layer of paper must face to the thermal print head.



5) Pull out some paper and close the printer cover.



6) Tear the extra paper.



Notes:

- 1) Adjust the paper guide according to the paper width;**
- 2) Make sure the paper roll inside is at tight status, or it may cause paper jam or other fault.**

4.7 Specification of LED Indication and Beeper

4.7.1 Specification of LED Indication

Name	Status	Specification
POWER LED (Green)	ON	The printer works well
	OFF	The printer is power off.
ERROR LED (Red)	Flash	The printer in an error status
	OFF	The printer in a normal status
PAPER LED (Red)	ON	The printer in paper end status
	OFF	The printer in a normal status

4.7.2 Beeper

Description	POWER LED	ERROR LED	PAPER LED	Beeper
Cover open	ON	ON	ON	"Beep ,Beep-,Beep"
Paper sufficient	ON	OFF	OFF	Silent
Paper end	ON	ON	ON	"Beep Beep Beep".
Paper near end	ON	OFF	ON	Silent
Cutter jam	ON	Flash	OFF	"Beep-, Beep--"
Over-temperature warning before stop printing	ON	Flash	OFF	"Beep--,Beep,Beep--"
Over-temperature alarm when stop printing	ON	Flash	OFF	"Beep--,Beep,Beep--"
Low voltage alarm	ON	Flash	OFF	"Beep, Beep, Beep--"
High voltage alarm	ON	Flash	OFF	"Beep, Beep, Beep--"



Notes:

The printer use a thermistor to detect the temperature of the print head. If the temperature of print head is more than 65° C, printer will send a warning. If the temperature of print head is more than 80° C, printer will stop working until the temperature is in the normal range.

4.8 Print Self Testing

The self-test checks the printer's current settings, status and whether the printer has any problem.

- 1) Make sure the power is connected and paper is loaded properly.
- 2) Make sure the printer is off and top cover is closed properly.
- 3) Press the paper feed button and power button simultaneously to turn the printer on. The printer is ready to receive data as soon as it completes the self-test.

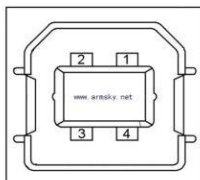
4.9 Printing of Windows Driver Program

- 1) Install the Windows Driver program. (Please refer to the Windows Driver Manual)
- 2) Please set the "Interface" as the type you use.
- 3) Use the Windows Driver Program to print out the "Self-test page".

5 INTERFACE SIGNAL

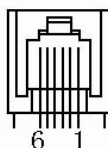
Printer TP806L supports cash drawer interface and many other communicate interfaces, such as serial interface, USB interface, Ethernet interface. The printer has the communication board with the default USB interface and cash drawer interface.

5.1 USB



PIN NO.	Signal Name
1	VBUS
2	D-
3	D+
4	GND

5.2 Cash Drawer

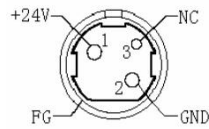


PIN NO.	Signal Name
1	FG
2	Drawer 1
3	DRSW
4	VDR
5	Drawer 2
6	GND

Electrical characteristics

- Driving voltage: DC 24 V
- Driving current: maximum 0.8 A (In 510 ms)
- Drawer check signal: "L" = 0 ~ 0.5 V "H" = 3 ~ 5 V

5.3 Power Connector



PIN NO.	Signal Name
1	+24V
2	GND
3	N.C
SHELL	F.G

Printer end: Unetop DC-002 or similar products;

User end: Unetop DC-002 or similar products.



Note: Strictly prohibit unplugging the power cable while the printer is power on.

5.4 Serial Interface

Printer TP806L serial interface is compatible with RS 232 standard, with 9 pin socket.

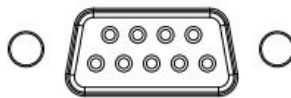
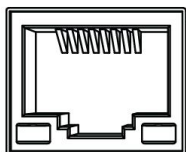


Figure 5-2

PIN NO.	Signal Name
1	-
2	TXD
3	RXD
4	-
5	GND
6	RTS
7	CTS
8	RTS
9	-

5.5 Ethernet Interface



PIN NO.	Signal Name
1	TX+
2	TX-
3	RX+
4	-
5	-
6	RX-
7	-
8	-



Note: The printer is equipped with an Ethernet interface, and use the network connection router, switch and other network communication equipment which meet RJ45 interface standard. When connecting directly with PC, it is suggested that the cross network line in accordance with RJ45 interface standard should be adopted.

6 TROUBLESHOOTING

Your printer is very reliable, but occasionally problems may occur. This chapter provides information on some common problems you may encounter and how to solve them. If you encounter problems that you can not resolve, contact with your dealer for assistance.

6.1 Printer Not Working

Problem Description	Probable Reason	Solution
LED is not on, printer is not working	Printer has no power	Connect to the power supply
	Printer is not on	Turn on the printer
	Circuit board is broken	Contact with the dealer

6.2 LED Indicator On The Control Panel and Beeper Alarm

Problem Description	Probable Reason	Solution
Paper LED is always on	Paper near end	The roll paper is near end, the printer can work normally
Error LED is always on and beeper alarms	Printer cover is open	Close the printer cover
Paper Error LED is always on and beeper alarms	Paper end	Reload the roll paper
Error LED blinks and beeper alarms	Thermal print head is overheated	Turn the printer off and resume when it cools
	Over-voltage	Print with specified voltage
	Low-voltage	Print with specified voltage

6.3 Troubles Occur During Printing

Problem Description	Probable Reason	Solution
Coloured stripe in the paper	Paper near end	Reload the paper roll
Blurred printing or spot	Incorrect paper loading	Reload the paper roll
	Unqualified paper	Use recommended thermal paper
	Dirty thermal head or print roller	Clean the thermal head or print roller
	Low print density	Increase the print density level
Paper is not feeding normally	Paper jam	Open the printer cover, check the paper path and remove jammed paper
Vertical print words missing	Dirty thermal head or print roller	Clean the thermal head or print roller
	Thermal head is damaged	Contact with your dealer for assistance

6.4 Problems Emerge During the Paper Cutting Processes

Problem Description	Probable Reason	Solution
Cutter jam, the movable cutter cannot go back	Cutter abrasion, insufficient cutting	Replace the cutter
	Worm gear and worm wheel abrasion	Replace the worm gear and worm wheel
	Motor is burnt	Replace the motor
	Paper scraps	Clean the paper scraps on the transmission system
Insufficient cutting	Cutter edge abrasion, paper is too thick	Replace the cutter
Paper jam	Thermal printer head is over heated	Reduce the density of printing
	Driving too fast	Reduce the printer speed to the limit of thermal printer head
	Wrong paper feeding position	Put the paper parallel with the paper mount and insert into the space between platen roller and the thermal printer head.

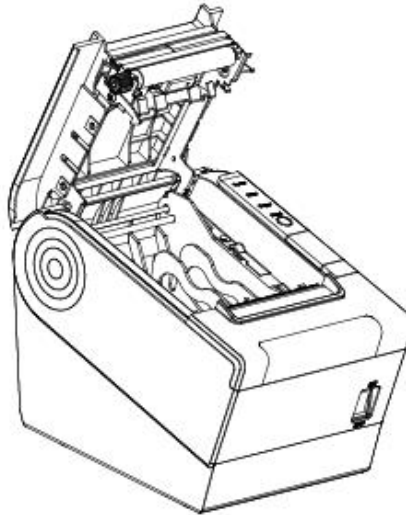
6.5 Remove Jammed Paper



Warning: Do not touch the thermal print head because it becomes very hot after printing.

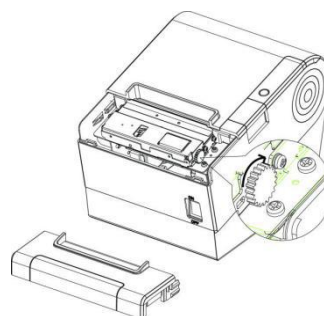
If the top cover can be opened, operate it according to the next steps.

- 1) Turn off the printer and press open cover button.
- 2) Remove jammed paper, reload the paper roll, and close the printer cover.



If the auto cutter jam occurs on printer and you cannot open the printer cover, open the cutter cover as shown on the below.

- 1) Turn the printer off and open the cutter cover.
- 2) Turn the knob until cutter returns to its normal position (tip tag).
- 3) Close the cutter cover.
- 4) Open the printer cover and remove jammed paper.



7 PRINTER CLEANING AND MAINTENANCE

Print quality might be degraded by dust, foreign substance, adhesive substance, or other pollution materials stuck in the printer head or inside the printer.

When dirty, clean the print head as following steps:

※ CAUTION

- 1) Make sure to turn off the printer prior to cleaning.
- 2) As the print head gets hot during printing, turn the printer off and wait approximately 2~3 minutes before starting to clean.
- 3) When cleaning the print head, take care not to touch the heated portion of the print head.
Print Head is susceptible to damage from static electricity, etc.
- 4) Take care not to allow the print head become scratched and/or damaged in any way.

7.1 Cleaning Head

- 1) Open the printer cover and then use cotton stick with medical alcohol to clean the head in the direction from the center of the head to the edges.
- 2) After cleaning the head, do not use the printer until the alcohol used for cleaning evaporates completely (1~2 min.) and the printer has completely dried.

7.2 Cleaning Sensors, Roller and/or Paper Path

- 1) Open the printer cover and then remove the paper.
- 2) Remove any dust or foreign substance using dry cloth or cotton swab.
- 3) Soak the cloth or cotton swab in alcohol for medical use and use it to remove adhesive foreign substances or other pollution materials.
- 4) After cleaning the parts, do not use the printer until the alcohol evaporates completely (1~2 min.) and the printer has completely dried.

※ ***Clean the parts whenever print quality or paper detection degraded.***