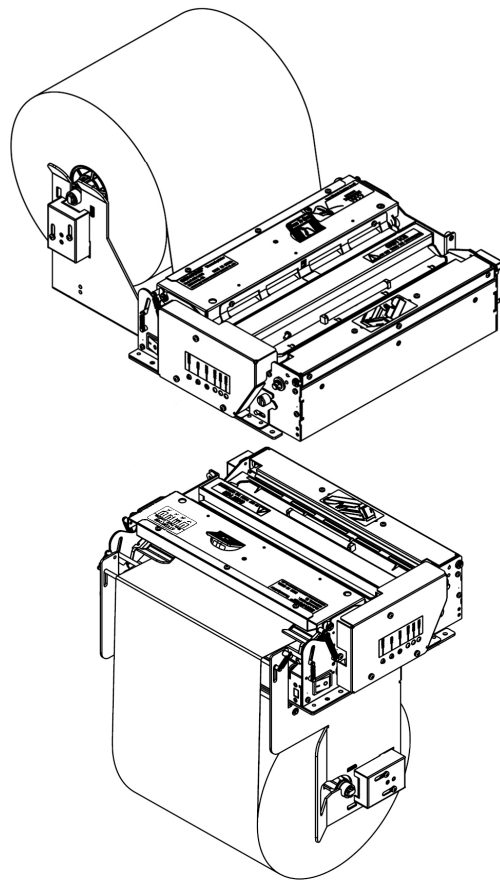




TRAINING MANUAL

MTP7582 KIOSK Printers



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1. Features, application and specification

1.1 General description

MTP7582 is a high performance thermal printer with cutter and presenter as optional and can accept up to 203mm (Outer diameter) paper rolls. The maximum print width is 216mm. It can be widely used in Kiosk applications like data communication terminal, test instrument terminal and information consulting terminal etc.

MTP7582 consists of the following modules.

- Thermal printing unit
- Presenter (optional or with paper out path structure)
- Paper holder (optional, or not configured)
- Control board
- Cutter

According to different paper roll installation mode, MTP7582 has models in horizontal and vertical structures for customers to select. MTP7582 can be connected with other devices by serial interface and parallel interface, or serial interface and USB interface. Drivers are available for Win98/NT4.0/2000/XP/LINUX. MTP7582 could be operated and maintained very easily.

1.2 Main features

- **Printing**
 - High-speed printing
 - Thermal print with low noise
 - High reliability
- **Presenter**
 - Accommodate and present printout
 - Retract printout after waiting time
 - Hold printout for user to take away
- **Applications**
 - Character processing: 1-6 times enlargement vertically and horizontally, Rotation (0⁰, 90⁰, 180⁰,

270°), white/black reverse, underline, inverse printing

- Barcode printing: Barcode printing is available by using a bar code command. Barcodes can be printed both in the vertical direction and in the horizontal direction.
- Character font size (font 0 or font 1) can be selected via a command
- **Printer maintenance**
 - Easy paper roll loading
 - Easy Print head cleaning
 - Various features and parameters can be selected by using a software tool
 - Auto paper cutting
 - Semi-automatic paper loading
 - Mark identification and checkout
 - Updating firmware online

1.3 Specifications

Items		Parameter		
		203dpi Model	300dpi Model	
Print	Print method	Direct thermal line		
	Resolution	203DPI	300DPI	
	Paper Width	210mm-216mm	210mm-216mm	
	Print Width	Max.216mm (8.5 ")	Max.216mm (8.5 ")	
		Max.1728 dot	Max.2560 dot	
	Print height (driver)	Standard mode	Max:2A4 mm Min: 82.5mm	
		Special mode	Max: 1000mm Min: A4/3 (82.5mm)	
	Print speed	125mm/s	100mm/s	
	RAM memory	8MB SDRAM		
	Flash memory	1MB/2MB/4MB		
	Print head temperature detecting	Thermal resistor		
	Print head position detecting	Micro switch		
	Paper / mark detecting	Photoelectrical Sensor		
	Paper near end detecting	Photoelectrical Sensor		
Interface	RS-232, Centronics(optional), USB(optional)			
Barcodes Fonts	Barcode	UPC-A, UPC-E, EAN 13, EAN 8 CODE 39, CODE 93, ITF, CODABAR, CODE128, PDF417		

Items		Parameter	
		203dpi Model	300dpi Model
Graphics	Fonts	English font 0: 12×24 English font 1:9×17 Big font: 24X24	English font 0: 18×34 English font 1:13×24 Big font: 36 X36
		Big Font can select Simplified Chinese GB2312, Simplified Chinese GB18030, traditional Chinese, Japanese, Korean	
	Fonts Process	All fonts can be enlarged 1 to 6 times vertically and horizontally, Rotation (0°, 90°, 180°, 270°), Bold, white/black reverse, Underline	
	Graphics	Support BMP bit Image download to RAM or FLASH Support direct BMP Print	
Medium	Paper type	Continuous paper / marked paper (can use folded paper)	
	Paper roll OD	Max. 203mm	
	Paper roll ID	25.4mm or ≥50mm	
	Thickness	60~100 um	
	Thermal layer	External	
Power	Input voltage	AC 220V±5%, 50/60Hz	
	Output voltage	DC 24V, 2.5A	
PRSENTER	Paper out speed	≥400mm/s	
	Paper retracting speed	≥400mm/s	
	Function modes	Retraction/Hold/Commands control/close	
Reliability	Print head lifetime	≥100Km	
	Cutter lifetime	≥500,000(paper thickness:0.08mm)	
	MTBF	360,000 hours	
Environment	Operation Environment	5°C to 45°C, 20% to 90% RH (40°C)	
	Storage Environment	-40°C to 60°C, 20% to 93% RH (40°C)	
Physics Character	Dimensions	212(L) ×294(W)×97(H)	
	Weight	About 3.8kg (without paper roll and paper holder)	

2. Printer setting and self-test page

2.1 Unpacking

Open up the carton and all packing materials, and check whether all items in the packing list are short or damaged. In case of damages or missing items, please contact local distributor or Telpar for assistance.

2.2 Printer setting (for vertical and horizontal models)

Printers and Paper holders are packed separately during transportation, user can install them according to the following figure:

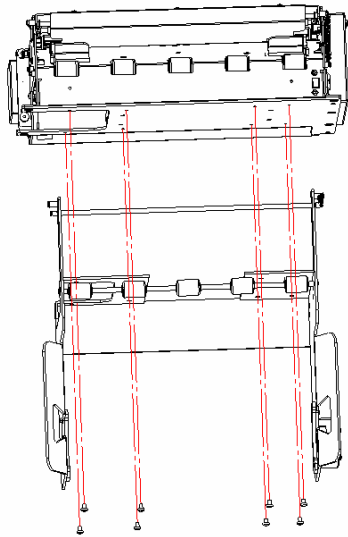


Figure 2.2.1 Vertical setting

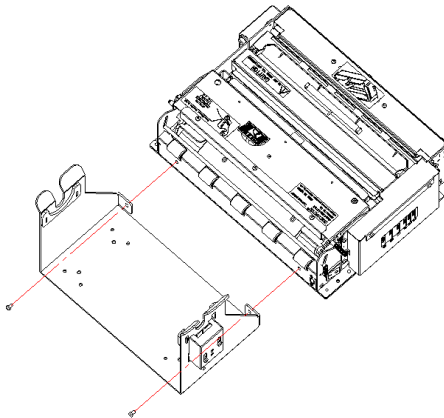


Figure 2.2.2 Horizontal setting



Caution:

- ✧ After installing the paper holder, please insert paper near end sensor into the paper near end sensor transfer socket.

2.3 Connecting the grounding line

To ensure that the printer has a nice grounding status, please follow figures below to connect the grounding wire.

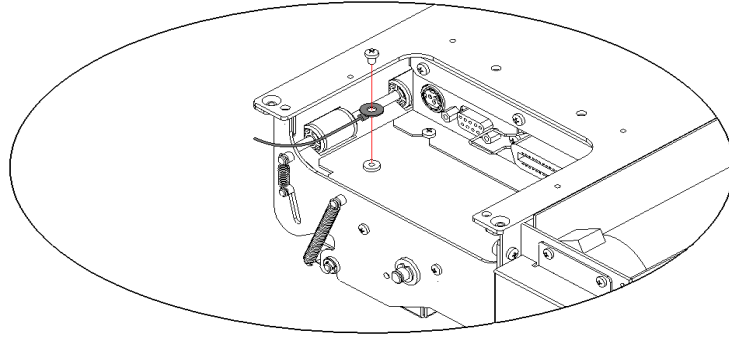


Figure 2.3.1 Ground line connection

2.4 Connecting the AC power adapter

- Make sure the print is turned off.
- With the flat side of the cable pin of AC adapter facing downward, plug the cable pin into the power interface on the bottom of the printer.
- Connect the AC power cable to a nearby electrical outlet.

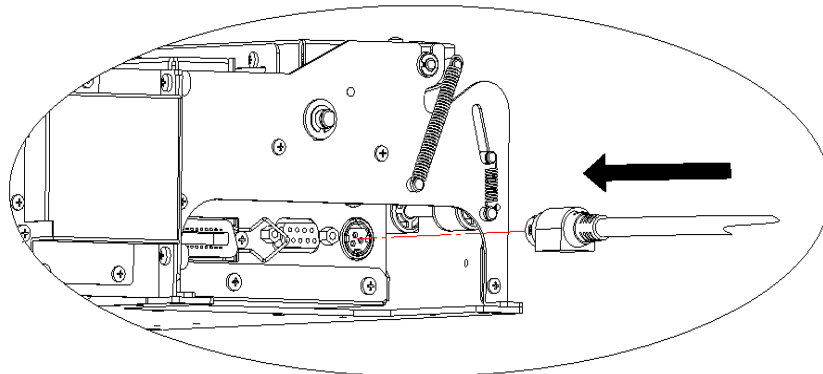


Figure 2.4.1 Connection with power adapter



Caution

- ❖ Use recommended power adapter or the one with the same quality.
- ❖ Connect power adapter connector at right angle between pin and socket.
- ❖ When connecting or disconnecting the cable connector of the AC adapter, always hold the connector shell and don't pull the cable forcibly.
- ❖ Avoid dragging or pulling the cable of AC adapter, otherwise the cable may be damaged or broken and a fire and electric shock may be caused accordingly.
- ❖ Avoid placing the AC adapter near an overheating device; otherwise the cover of the cable may melt and cause a fire or electric shock.
- ❖ If leaving the printer idle for a long time, please disconnect the power of AC adapter of printer.

2.5 Connecting interface cable

- Make sure that printer has been shut down, that is, sign “O” in power switch is pressed down.
- Connect one end of the interface cable into a relevant interface of the printer and fix them with screws or latch springs as Fig.2.5.1, Fig.2.5.2 and Fig.2.5.3.
- Connect the other end of the interface cable to the computer.

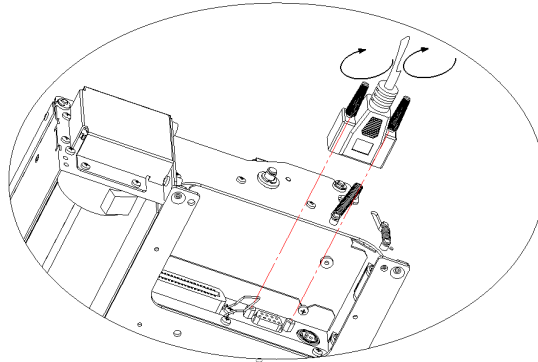


Figure 2.5.1 Serial interface layout

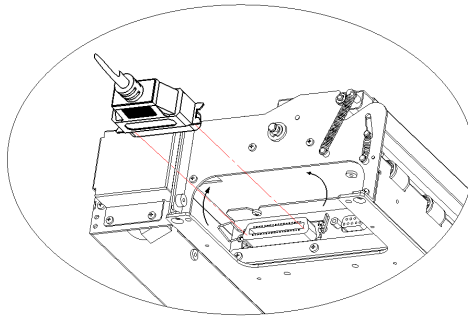


Figure 2.5.2 Parallel interface layout

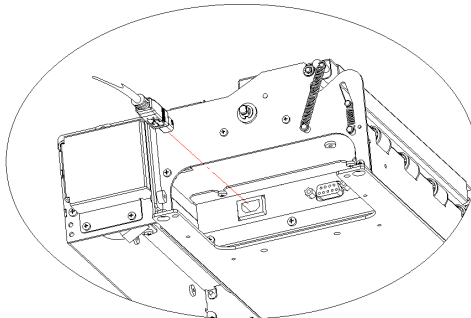


Figure 2.5.3 USB interface layout



Caution:

- ✧ Make sure the interface cable is connected in correct direction.
- ✧ When connecting serial interface cable, do not forget to tighten the fixing screws. For parallel

interface cable, make sure to close the clips.

- ◇ When connect or disconnect the interface cable, make sure to hold the plug shell instead of dragging the cable forcibly.

2.6 Loading paper roll

Before starting to load the paper roll, confirm whether the paper specifications are in conformity with printer requirements.

2.6.1 Steps of load paper roll

- Before starting to load the paper roll, please check whether the paper width is 210mm or 216mm and decide whether paper roll fixing board is needed according to paper width.

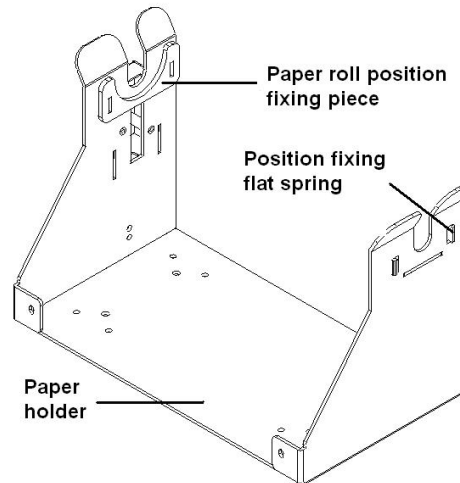
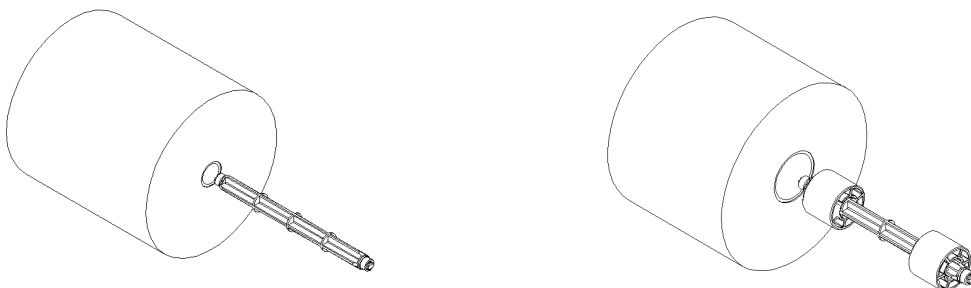


Figure 2.6.1 Paper roll position fixing piece

210mm wide: paper roll position fixing piece is needed. To install the paper roll position fixing piece, please latch position fixing flat spring into the holes in paper holder.

216mm wide: paper roll position fixing piece is not needed. To remove the paper roll position fixing piece, please move position fixing flat spring to center and get it off.

- Insert the paper roll holding shaft into the core of the paper roll as the following figures:



Paper roll ID: 25mm

Paper roll OD: 50mm

Figure 2.6.2 Explanation of installing paper roll holding shaft

- Make sure that the paper winding direction is backward and then put the paper roll onto the paper holder.

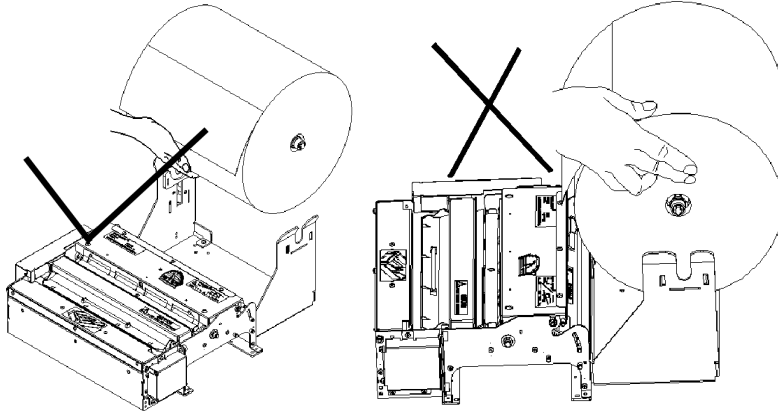


Figure 2.6.3 Explanation for loading paper roll



Caution:

- ✧ Avoid the mistaken operation not to hurt fingers.
- ✧ Cut the paper neatly by consulting the figure below.

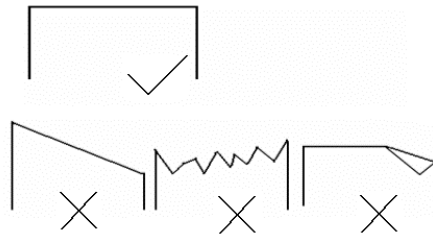


Figure 2.6.4 Paper head explanation

- ✧ Sliding the paper guider according to paper width

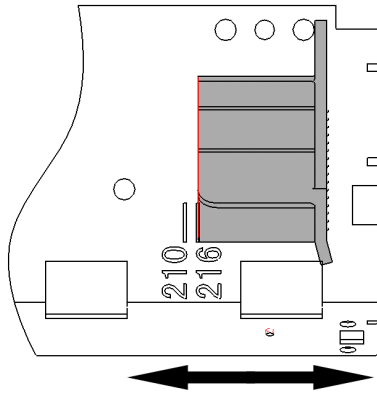


图 2.6.5 Adjusting paper guider explanations

Sliding the paper guider to appropriate position (scale: 210mm or 216mm) according to paper width.

2.6.2 Semi-automatic paper loading or manual paper loading

● Semi-automatic paper loading

- Turn on the power. The buzzer will beep for paper end.
- See the figure below, inset the front end of the paper roll smoothly through the paper feeding path and loose hands when platen roller starts running and holds the paper.
- The printer starts to load paper. After paper loading is finished, paper head halts at normal printing position, and then printing task can be performed.

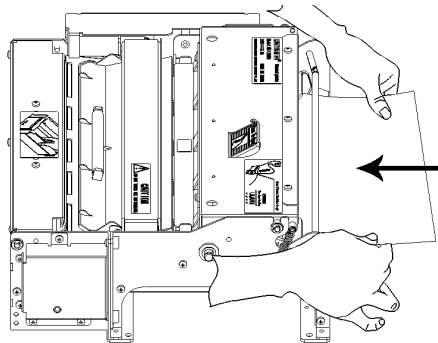


Figure 2.6.6 Semi-Auto paper load



Caution:

- ✧ The paper head shall go through the horizontal positioning shaft (vertical structure doesn't have this shaft).
- ✧ The paper shall go through between the up and down sliding plates of paper guide.

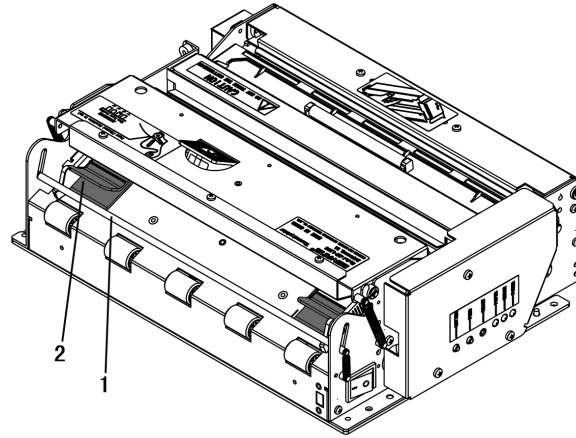


Figure 2.6.7 Paper loading explanation

1—positioning shaft (for horizontal structure only) 2—sliding plates

- **Manual paper loading**

- Turn on the power and the buzzer will alarm paper end.
- Press down the button on the print upper cover, and lift the print head.
- Manually load paper as following figure, and make sure that the printing platen roller is fully covered by paper.
- Close the print head. The printer will automatically feed paper to right position.

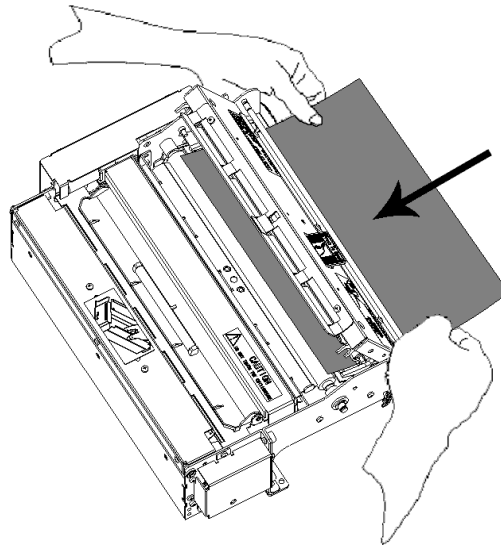


Figure 2.6.8 Manual paper loading

2.7 Installing the printer

MTP7582 printer is designed for embedded application.

- **Installation notes:**

- Install the printer on a flat and stable place. Recommend to use horizontal installation. The inclination shouldn't exceed $\pm 15^\circ$ (paper feeding direction) when inclination installation is done. Inclination in other directions is strictly

forbidden.

- Keep the printer far away from water source.
- Do not place the printer in the place exposed to vibration and impact.
- while operating and doing routine maintenance, we suggest reserving the space as follows (figure 2.7.1, 2.7.2, 2.7.3) in order to guarantee printer working reliability and easy operation efficiently.

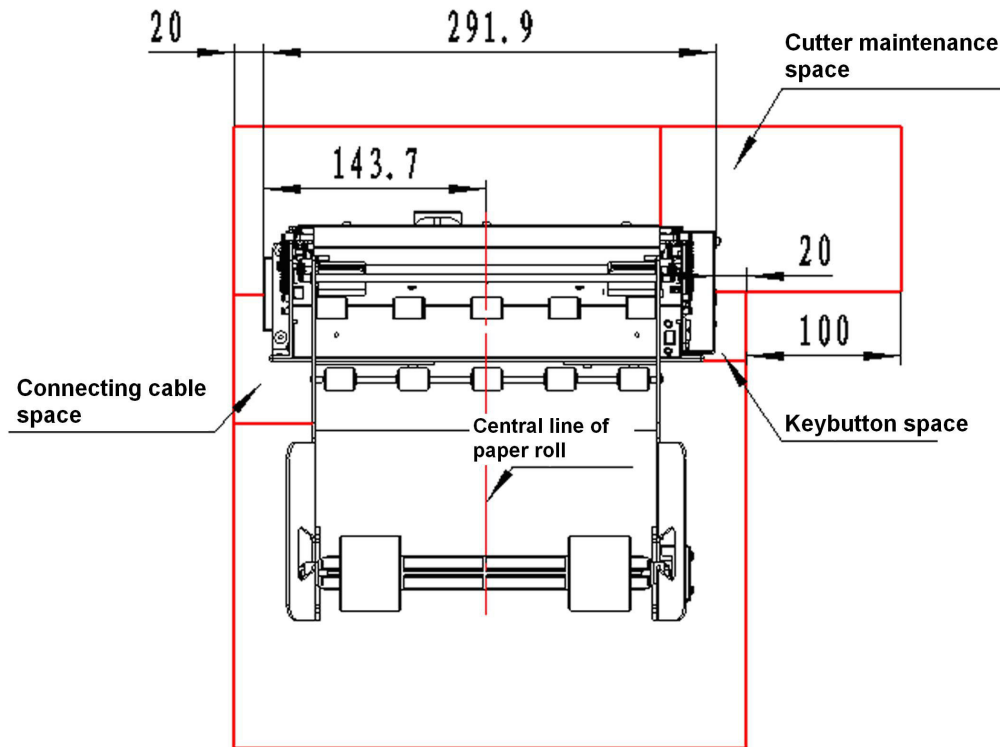
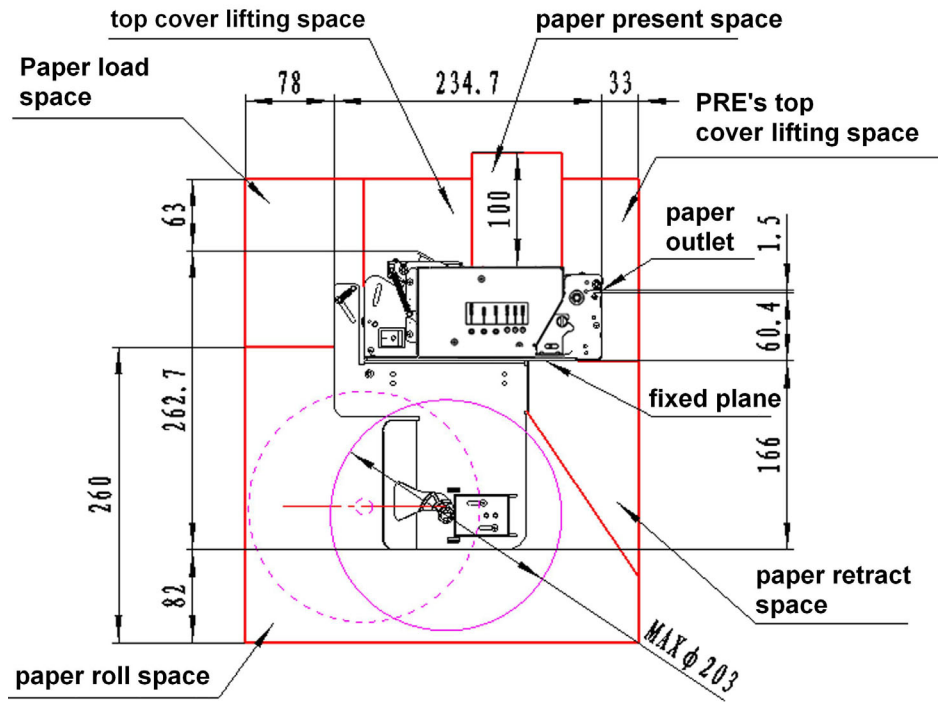


Figure 2.7.1 Vertical structure

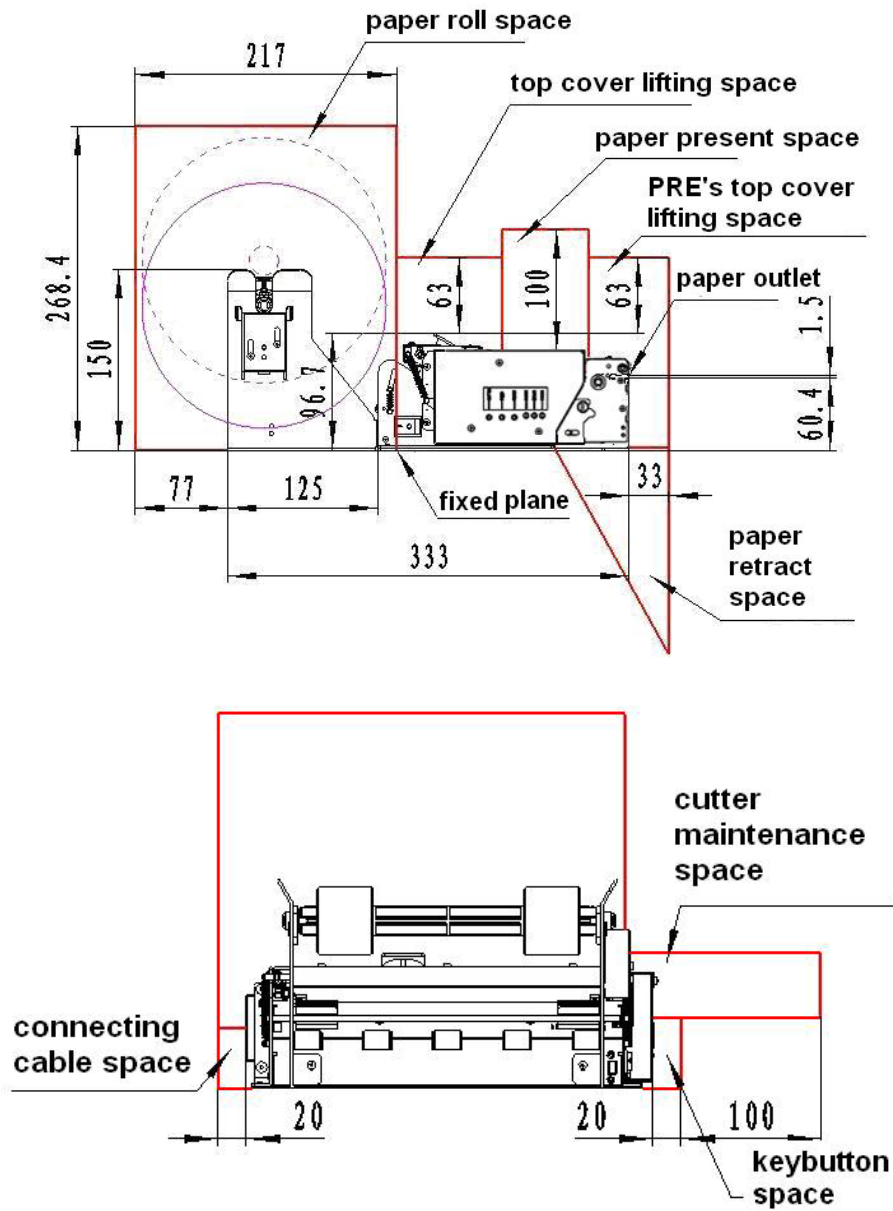


Figure 2.7.2 Horizontal structure

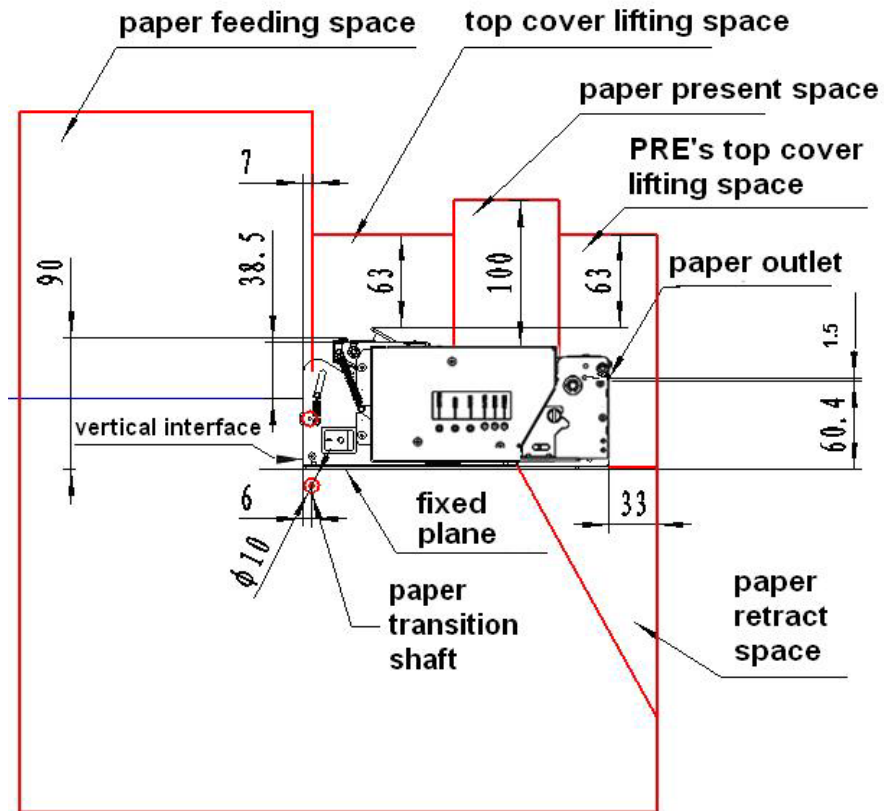


Figure 2.7.3 Structure without paper holder

Notice:

- ✧ Spaces in above figure are as follows: printer work space, printer routine maintenance space and printer operating space. Printer work space include paper accommodating space and paper backing space; Printer routine maintenance space include PRE's upper cover opening space, upper cover opening space and cutter routine maintenance space; Printer operating space include paper roll loading space, paper loading space , button space and connection wire space.
- ✧ The dimension given in above figures is only for references.
- ✧ To ensure reliable paper accommodating, enough space should be left. There shall be no sharp edges, corners or edges around the space to avoid the printout damaged.
- **Spaces explanation**
 - A: paper loading space; make sure to reserve enough space for semi-automatic paper loading;
 - B: upper cover uplifting space. Make sure to reserve enough space to enable the upper cover open.

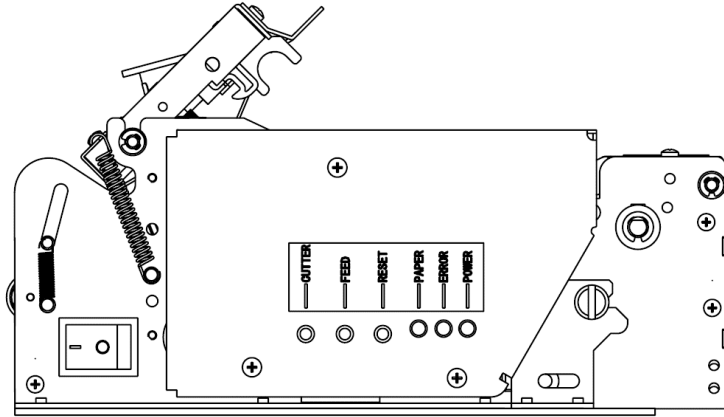


Figure 2.7.4 Upper cover opening

- C: Paper accommodating space. Make sure to reserve enough space for the PRE turning board uplifting and paper looping height (For A4 size paper, the looping height is around 100mm).

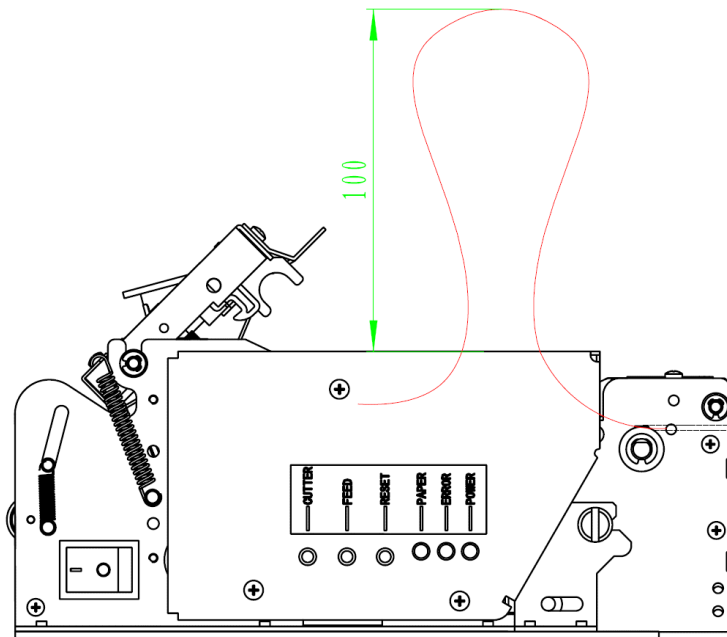


Figure 2.7.5 Paper looping

- D: PRE (PRESENTER) upper cover uplifting space. Make sure to reserve enough space for Pre upper cover to lift up and loose.

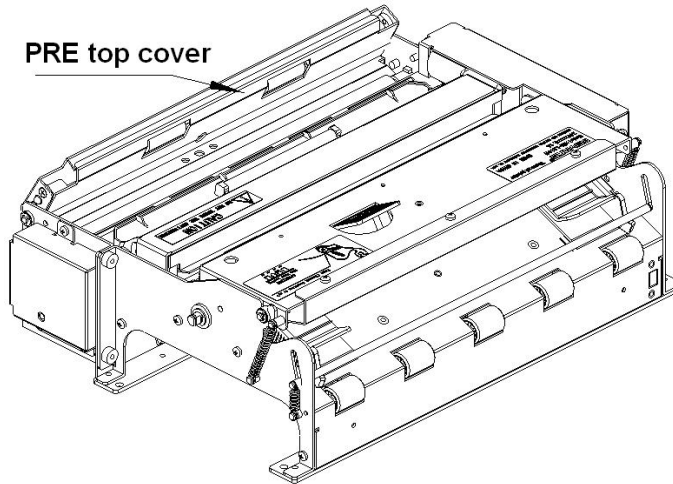


Figure 2.7.6 PRE upper cover lift up

- E: Paper rolls loading space; Make sure to reserve enough space to load paper roll.
- F: Paper backing space. Presenter module waits for the user to take the paper away. If the user does not need the paper, the paper backs to the dustbin of the machine, Paper backing mouth should be left when the machine is fixed (as figure 2.7.7, paper backing mouth is positioned with fixing hole. The hole you design had better be bigger the one in the figure). If your printer doesn't have paper backing function, just neglect this point.

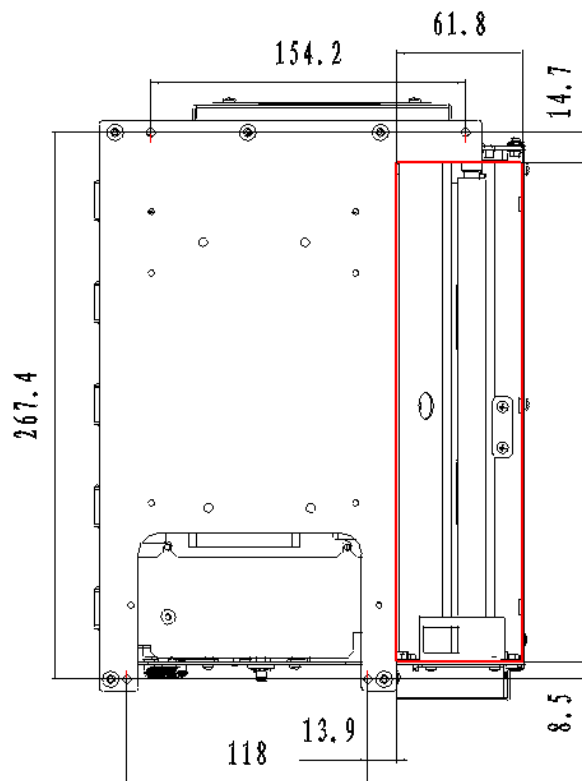


Figure 2.7.7 Paper retraction outlet

- **G:** connection wire space; make sure there are enough space to connect and disconnect power cable and communication cable of print mechanism.
- **H:** button space; make sure there are enough space to finish the operation of the CUT button, FEED button and power switch.
- **I:** cutter maintenance space; make sure there are enough space to finish the disassembly of the protective cover and the operation of cutter manual resetting.
- **J:** paper feeding space allowed by the paper roll; If your printer doesn't have paper holder or the paper holder is made by yourself, please consider the space. (figure 2.7.3) There is a blue line in the space. If paper feeding is controlled above the blue line, your printer is considered to be horizontal .Or else, it is vertical. For horizontal type, you had better control the paper roll above the space, mainly in order to use the buffer mechanism of print mechanism to avoid compression. For vertical type, Please add buffer mechanism to paper holder (as figure 2.7.8). In addition, if paper feeding touches vertical critical interface (as figure 2.7.3), please add paper transition roller to the paper holder in order to avoid that paper touches metal parts directly , causing paper damaged.

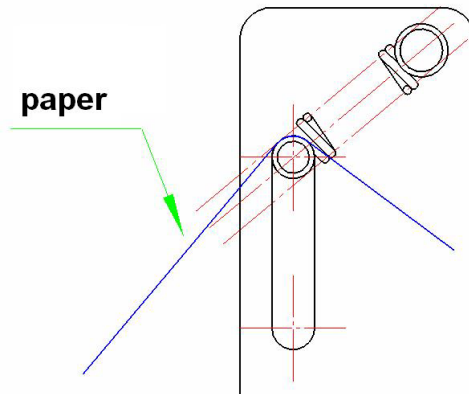


Figure 2.7.8 Buffer explanation

- **Notes for paper holder separate installation**

If available, install the printer and paper holder together. If the paper holder has to be installed separately because of limited space, to ensure the reliability of paper feeding, please pay attention to following items:

- For installation dimension, please refer to the explanation of "J" in last section.
- Keep paper path expedite, avoid sharp folder to cause overload.
- Avoid that paper rubs with sharp object, in order to prevent paper thermal layer damaged.
- Make sure that paper keeps certain pressure to printer elastic shaft to get buffer effect.
- Make sure that paper center is in consistent with the center of the paper feeding path, in order to prevent paper from going to one side during feeding and printing.
- The intensity of the paper holder and paper shaft should be parallel with printer head, cutter etc.

- **Notes when designing external paper out path**

In your system, it may be necessary to connect paper out path to match with the printer. To make sure paper feeding is

smooth, we suggest design project in the place where external paper out path matches with the printer (as figure 2.7.9), and request that the paper-feeding path is smooth without burr, sharp corner and tuber.

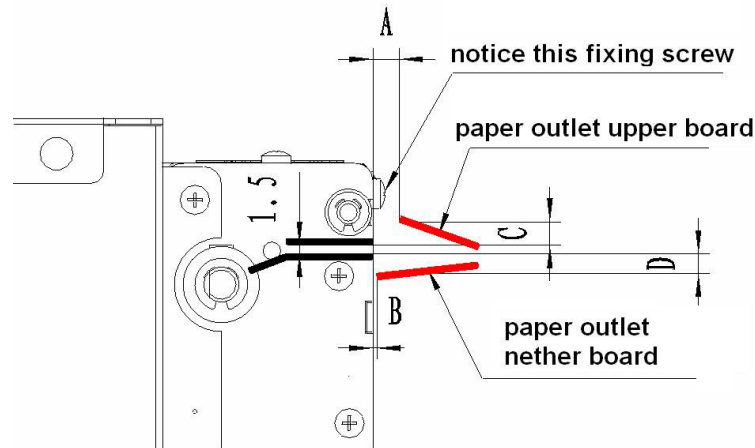


Figure 2.7.9 Paper outlet explanation

- Upper board "A" dimension of paper out path should be controlled from 4.5 to 5.5 mm and "C" dimension should be from 4 to 5mm. This is mainly to avoid the interference when the upper cover of PRE uplifts, and also to avoid interference with the fixing screw (M2.5) of the PRE upper cover.
- Nether board B dimension of paper out path is controlled to be within 1mm, and D is from 2 to 4mm.

Notice:

- ◇ The paper outlet shown in figure is just a sketch map; the paper outlet angle can be designed according to actual need. But try to avoid the paper outlet bend in order to increase the smoothness of the paper path.
- ◇ We leave fixing holes in printer mechanism for connecting paper out path for you as figure 2.7.10 (Notice the position of four fixing screw):

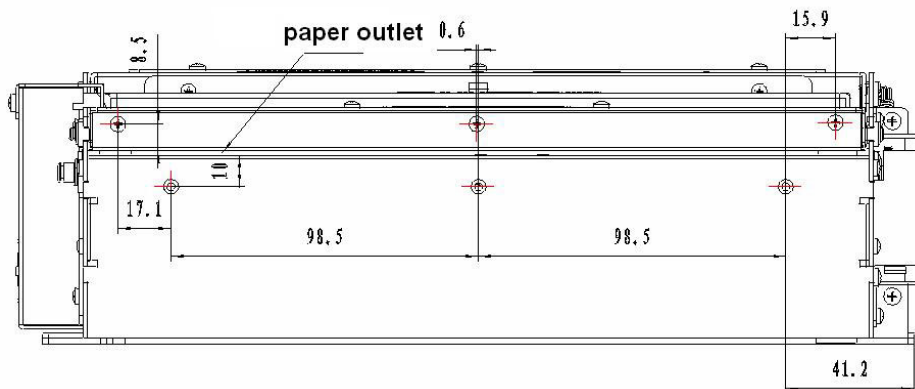


Figure 2.7.10 Fixing holes

- ◇ If you need to use our fixing holes, Please design the size of paper out path according to above request strictly. If your paper outlet is not assembled on the printer, that is, the paper outlet can be separated with printer during maintenance, "A" and "C" dimension needn't be as the figure so strictly.
- ◇ If you design paper jam preventing mechanism in paper outlet, the paper outlet can be designed as figure 4.7.11. But as a result of the design, the paper can't fall off automatically during paper out. You can design it in other shapes, but try to keep the smoothness of the paper outlet.



Figure 2.7.11 Paper outlet preventing jammed paper

2.8 Printer self test

2.8.1 To print self test page

- 1) Make sure the printer is powered on and loaded paper roll.
- 2) Make sure the POWER LED is off, and the printer is shut down.
- 3) Press and hold the FEED button for at least 1 second while turning on the printer. The printer will start to print a self-test page.

2.8.2 Self test page content

MTP7582(200) TEST FORM

Boot Firmware	:FV1.010
Main Firmware	:FV1.000
H/W Parameters	
H/W ID	:MTP7582(U) 1
Flash Memory Size	:1M bytes
Flash Logos Size	:64k bytes
Resolution	:300×300DPI
Print Width (Max)	:216mm
Fixed Left Margin	:0mm
Fixed Right Margin	:0mm
Print Speed (MAX)	:100mm/s
Dark Scale	:110
Cutter	:Enabled

PRSENDER	:Enabled
Bundelr Mode	:Command Control
Communication Interface	
Rx Buffer Size	:4096 bytes
Interface Type1	:RS232
Baud Rate	:38400bps
Data Bits	:8
Stop Bits	:1
Parity	:NONE
Flow Control	:DTR/DSR
Command CR	:Ignored
Data Receive Error	:Print '?'
Interface Type2	:USB_BK-L216II_1
Resident Fonts	
Font0(12X24)	:English
Font1(9X17)	:English
Code Pages	:437,850,852
	:858,860,863
	:865,866,1252
	:Katakana
International Character	:U.S.A
	:France
	:Germany
	:U.K.
	:Denmark I
	:Italy
	:Spain I
	:Japan
	:Norway
	:Denmark II
	:Spain II
	:Latin America
Bar Code Available	:UPC-A
	:UPC-E
	:EAN-8
	:EAN-13
	:CODE 39
	:CODE 93
	:ITF

:CODABAR
:CODE128
:PDF417

2.8.3 Self-test page content explanation

Boot Firmware----- printer BOOTLOADER version
Main Firmware----- printer main firmware version
H/W Parameters ----- printer parameter setting
 H/W ID----- printer ID setting
 Flash Memory Size----- printer FLASH size
 Flash Logos Size----- size of flash used to download bitmap
 Resolution ----- printer resolution
 Valid Print Width (Max) ---- max printe width
 Fixed Left Margin ----- left printe margin(user can configure)
 Fixed Right Margin ----- right printe margin(user can configure)
 PrintSpeed (MAX) ----- print speed
 Dark Scale----- printer darkness(user can configure)
 Cutter ----- printer cutter function
 PRSETER ----- PRSETER function
 PRSETER Mode ----- PRSETER paper out mode
Comm Interface----- communication interface setting
 Rx Buffer Size ----- receive data buffer size
 Interface Type----- interface type
 Baund Rate----- baud rate setting of serial port (user can configure)
 Data Bit----- data bites setting of serial port (user can configure)
 Stop Bit----- stop bits setting of serial port (user can configure)
 Parity ----- parity setting of serial port (user can configure)
 Flow Control----- data stream mode of serial port(handshake mode)(user can
configure)
 Command CR----- CR command function(user can configure)
 Data Received Error-----serail port dispose mode of receive data whenreceived
error(user can configure)
 Interface Type2----- second interface type

Resident Fonts ----- font setting
Font 0(12×24)----- character 0 setting
Font 0(9×17) ----- character 1 setting
Code Pages ----- code page type
International Character ----- international character type
BarCode Available ----- available barcode type

3. Match software demo (DEMO, LOGO)

3.1 KIOSK demo

KIOSKDemo is mainly used as product demo, the major function is supplying on-line firmware update, Logo bitmap download and print, A4, 2/3A4, 1/3A4 sample printing demo, mix printing demo, codepage edit and download and other normal printing functions demo. Supported Operating Systems is Windows 98/2000/XP/Server 2003

During the demo, please refer to the help document.

3.2 KIOSK utility

KIOSK Utility is mainly supplied to the System Integration Producer. Its major function is on-line firmware update, printer status monitor, printer parameter setting and simple printing demo. Supported system is Windows2000/XP/Server 2003.

During the demo, please refer to help documents.

3.3 KIOSK monitor

KIOSK Monitor is supplied to the terminal customer, which is used to do status monitor of KIOSK series printer and long-distance monitor by e-mail. When the device occurred errors, KIOSK Monitor will report the error status to the inquire center, inquire center also can send e-mail to the device to get current status of the device.

KIOSK Monitor is installed in every long-distance terminal workstation, the inquire center can monitor multi-printers. When the program is installed, it will run together with system and inquire the printers' status. When the device occurred errors, the program will report the error status to inquire center by e-mail. Inquire center also can send e-mail to the device to get current status of the device. This program can also be used in stand-alone PC, ie not using e-mail function.

During the demo, please refer to help documents.

4. Installation and demo of driver

MTP7582 supplies standard windows driver. Supported systems are Windows98, NT4.0, 2000, XP, Server 2003, Vista (NT doesn't support USB). Driver module of Windows XPE is also provided.

During demo, please refer to help documents.

5. Printer disassembly and assembly

Notice items when operating:

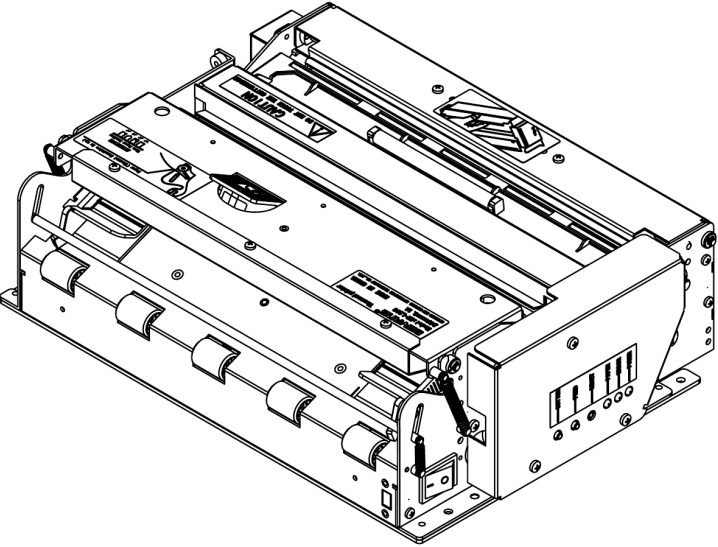
- 1) Don't disassemble any part and any screw of the device.
- 2) When disassembling parts, please check whether the connection cable is damaged.
- 3) Please do take steps to defend static electricity when disassembling print head and electric unit.
- 4) Don't let parts such as screw into the inside of the printer when disassembling the printer.
- 5) Avoid scratching the surface of the printer head when assembling the printer.

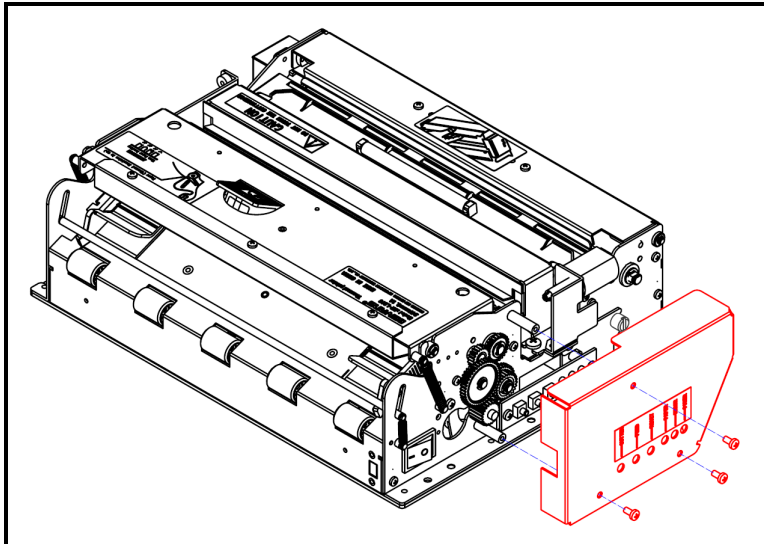
Maintenance tool: cross screw-driver, needle mouth clamp, wire cutter.

Assistant material: lubricate fat, alcohol, absorbent cotton ball.

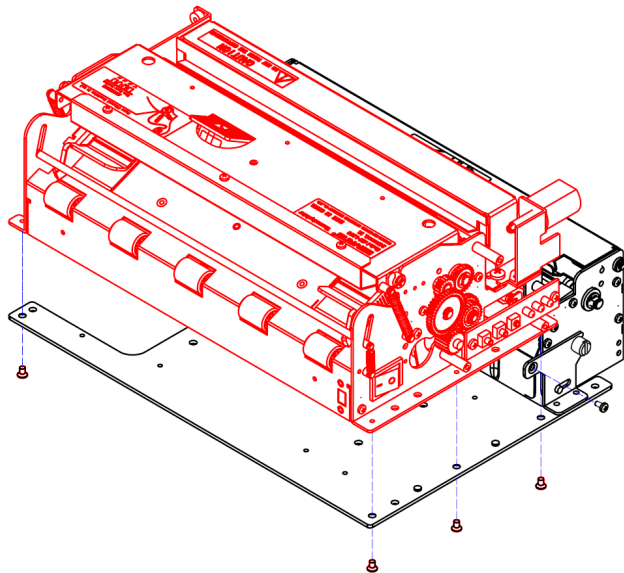
5.1 disassemble printer

5.1.1 Disassemble mechanism and Presenter

Figure	Explanation
<p>1</p> 	<p>Printer appearance figure</p>
<p>2</p>	<p>1. Disassemble the three M3x5 crossing cheese head screws with crossing screw-driver, take off the print gear cover module.</p>

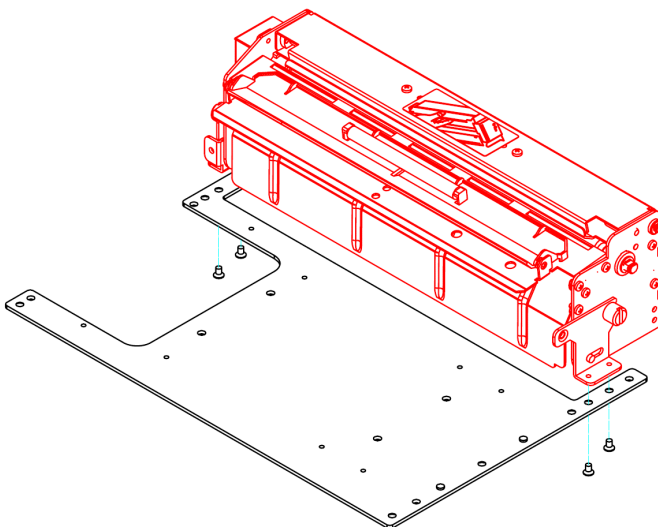


3



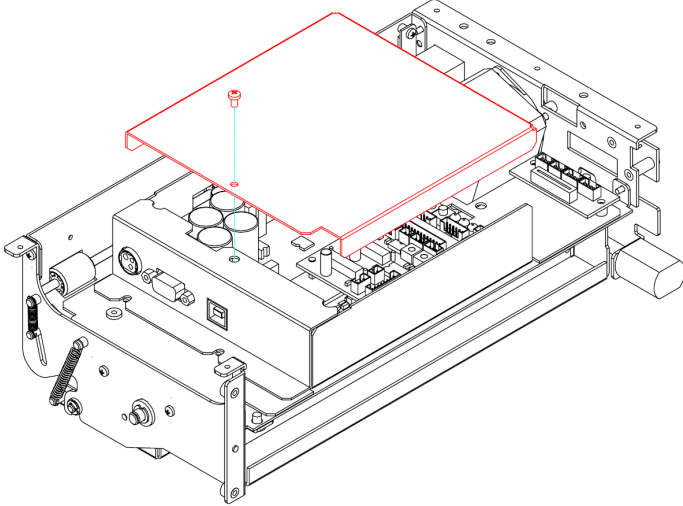
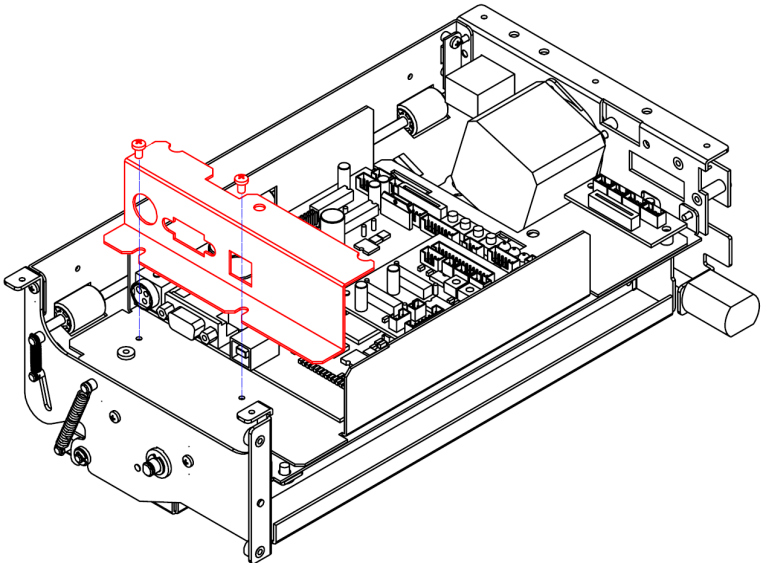
1. Disassemble the five M3x5 crossing slot socket screws, one M2.5x5 crossing cheese head screws. Pull off the flat cable connecting print mechanism and presenter, then take off the print mechanism.

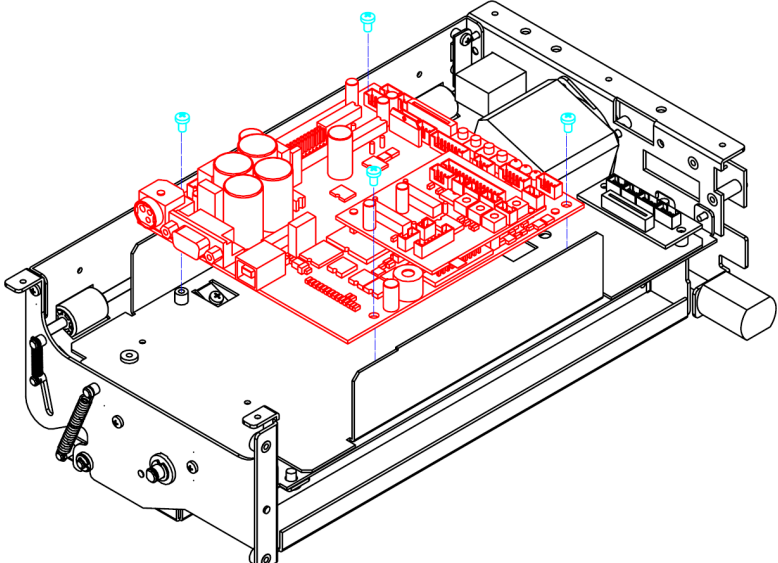
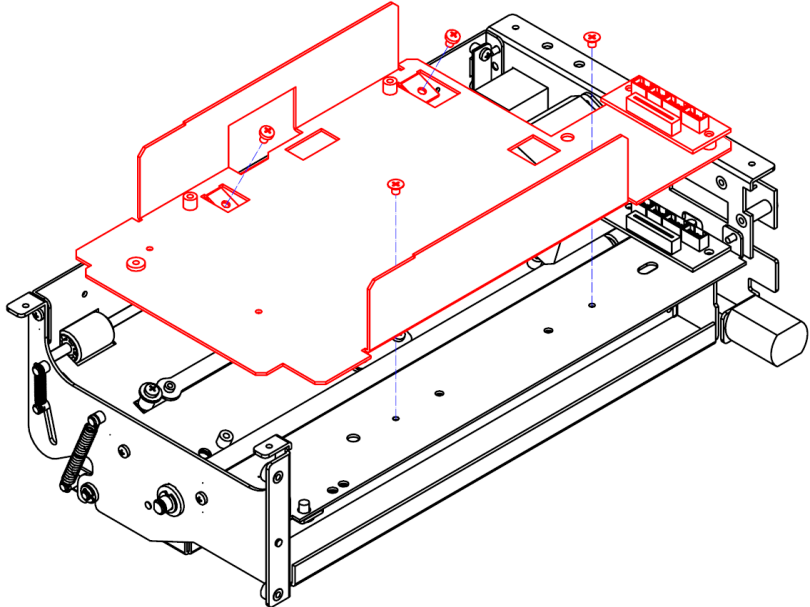
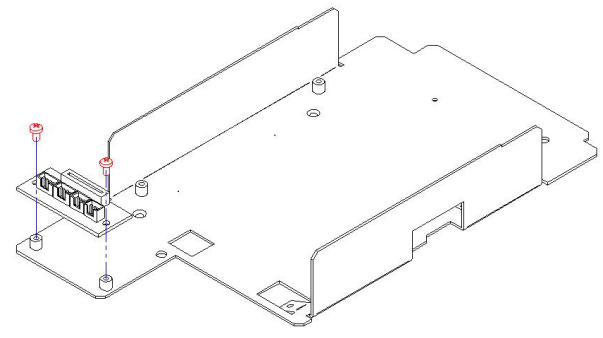
4

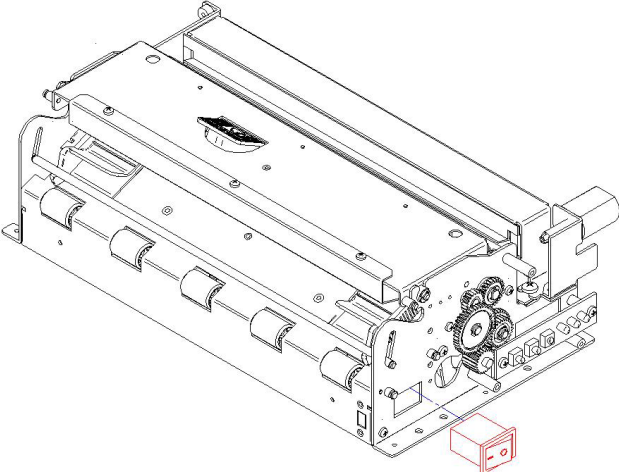
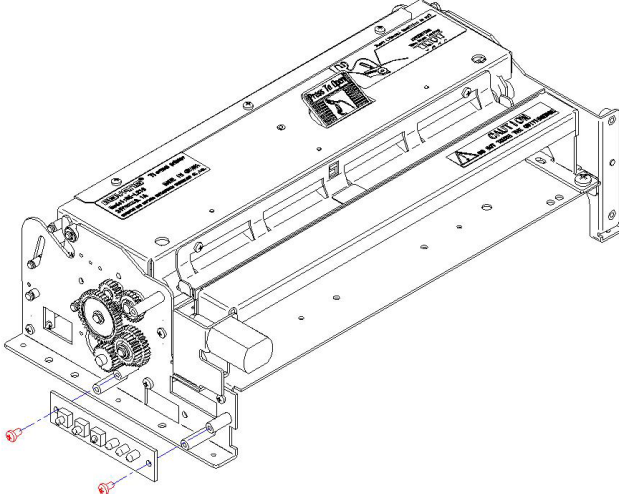
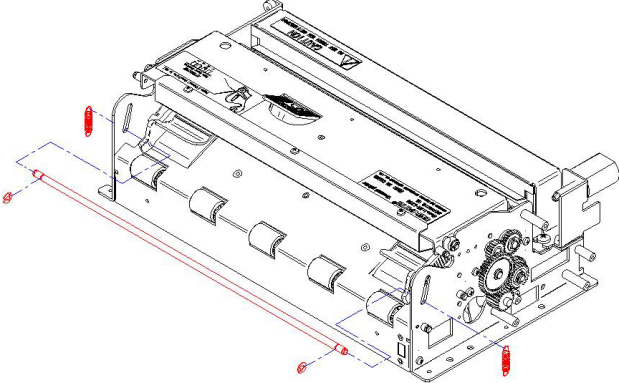



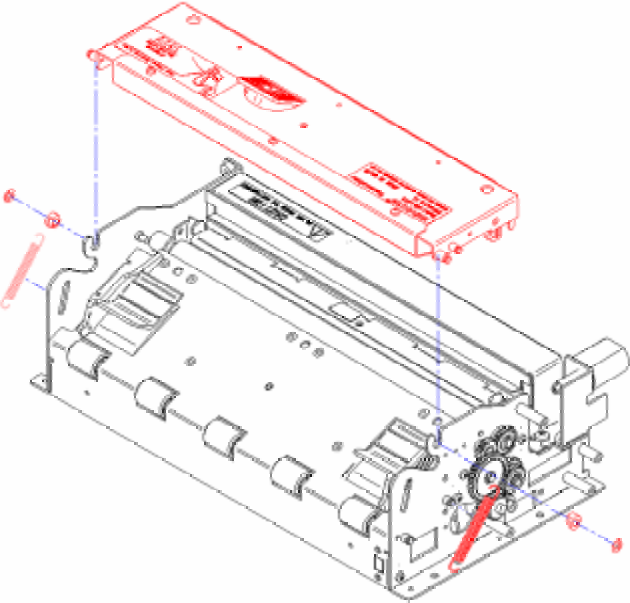
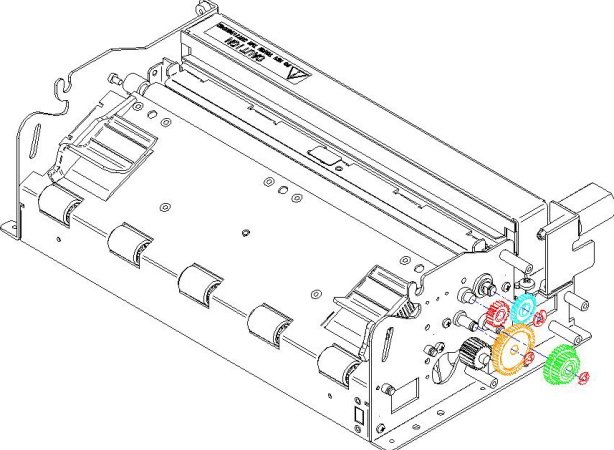
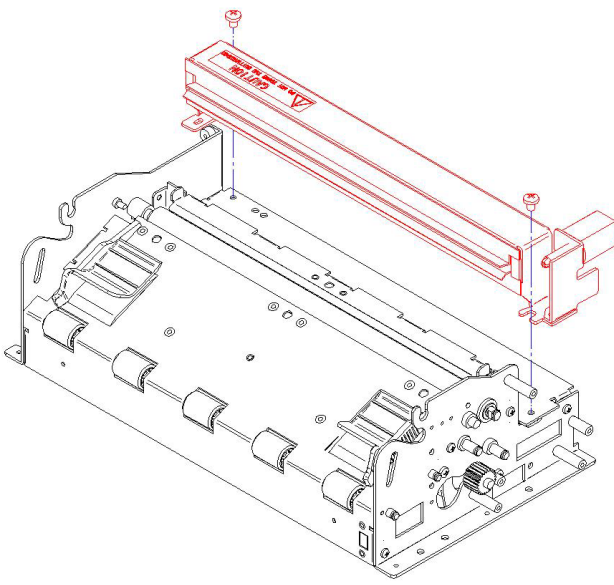
1. Disassemble the four M3x5 crossing slot socket screws, take off the holding paper part of presenter.

5.1.2 Disassemble print mechanism

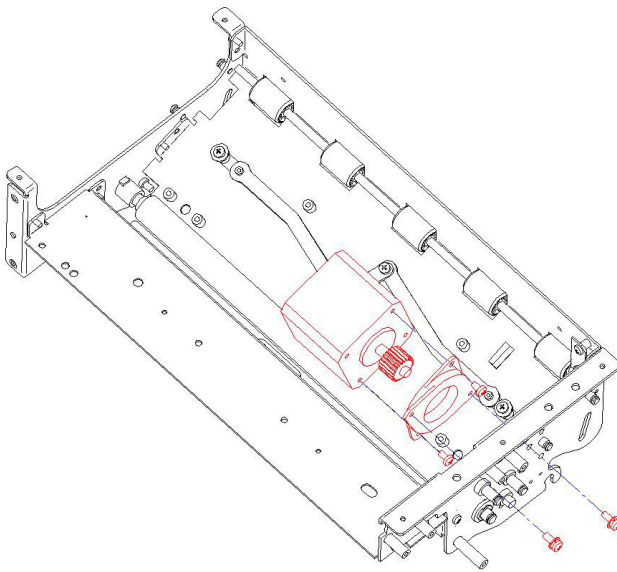
Figure	explanation
<p>1.</p> 	<p>1. Disassemble M3x5 crossing cheese head screw, take off control board box.</p>
<p>2.</p> 	<p>1. Disassemble the two M3x5 crossing cheese head screw, take off control board baffle. Note: There are two kinds baffle: USB baffle and parallel baffle.</p>
<p>3.</p>	<p>1. Pull off the connection cable in the control board. 2. Disassemble the four M3x6 crossing cheese head screws, take off the control board.</p>

	
<p>4.</p> 	<p>1. Pull off the relative connection cable on the transmission board.</p> <p>2. Disassemble the two M3x6 crossing cheese head screws, two M3x6 crossing socket screws, take off the control board hanging module.</p>
<p>5.</p> 	<p>1. Disassemble the two M3x6 cross cheese head screws, take off transmission board.</p>
<p>6.</p>	<p>Push out the power switch from the fixed position, separate it from the other parts.</p>

	
<p>7.</p> 	<p>1. Disassemble the two M3x6 cross cheese head screws with cross screw-driver, take off feed button board.</p>
<p>8.</p> 	<p>1. Take off restrict paper reed on both sides . 2. Take off the twoΦ3 placket with nipper pliers, then you can disassemble the horizontal restrict paper roller.</p> <p>Note: Vertical mode printer doesn't have this part. There is no need to carry this step.</p>
<p>9.</p> 	<p>1. Take off the two draught springs of top cover. 2. Take off the twoΦ3 "E" rings with nipper pliers, take off the two bushes then you can take off the top cover module.</p>

	
<p>10.</p> 	<p>1. Take off the two $\Phi 3$ "E" rings and one $\Phi 4$ "E" ring, then you can take off the gear(33-25), gear(44-25), ear1 and print platen roller gear.</p>
<p>11.</p> 	<p>1. Remove the two flat washers and M4x6 cross cheese head screws with cross screw driver, then take off the cutter.</p>

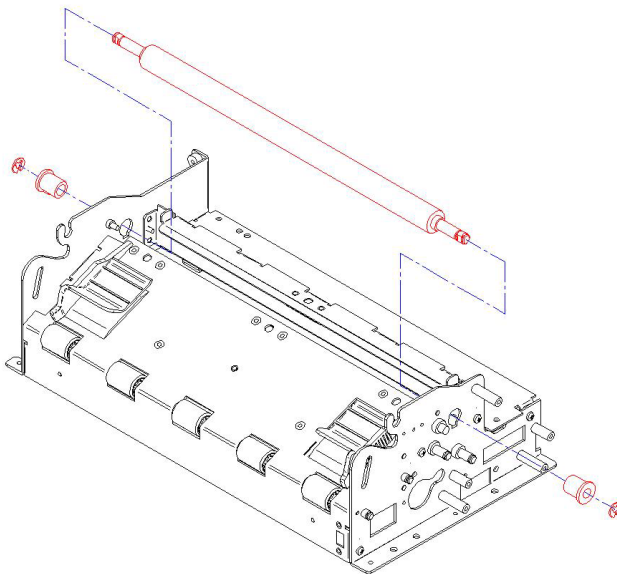
12.



1. Remove the two M3x8 crossing cheese head screws, coil spring lock washers and plain washers combination parts, then take off motor module.

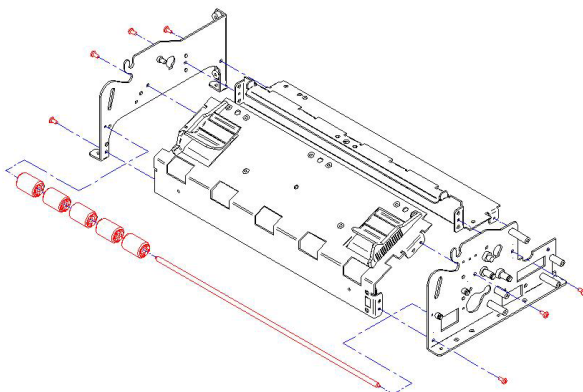
2. Remove the two M3x 6 cross cheese head screws, separate motor and motor damping washers.

13.



1. Take off the platen roller by removing the twoΦ4 “E” rings and the two platen roller bushes.

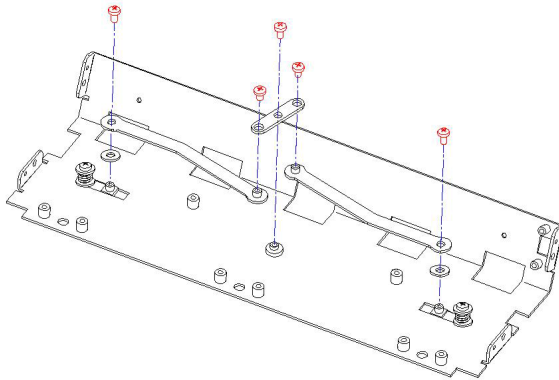
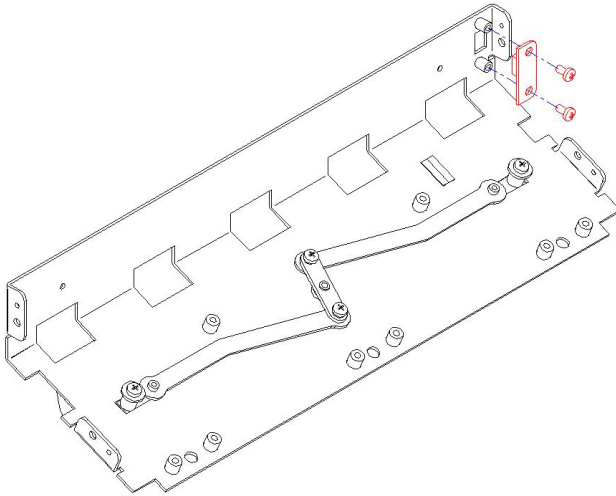
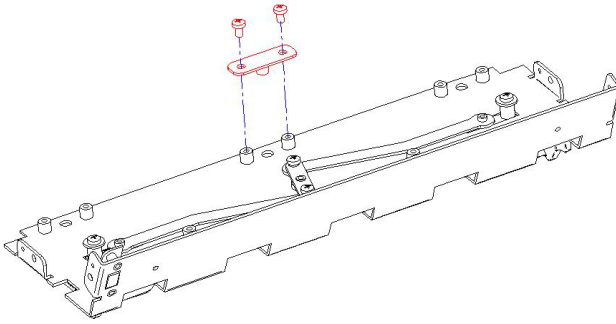
14.



1. Remove seven M2.5x6 cross cheese head screws, separate left vertical plate, right vertical plate, paper path nether plate, bracket module, paper transition roller, back paper guider axis.

Explanation: Horizontal mode doesn't have transition roller and back paper guider axis. There is no need to carry this step.

15.

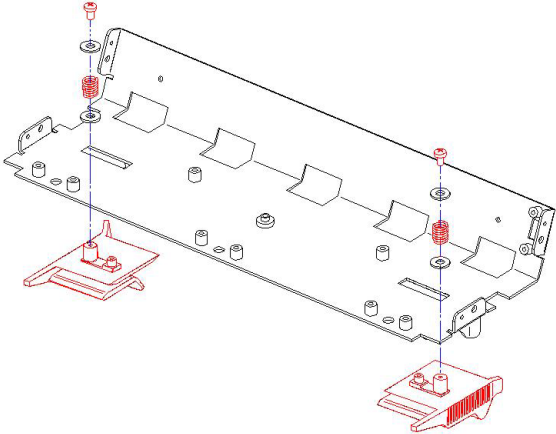
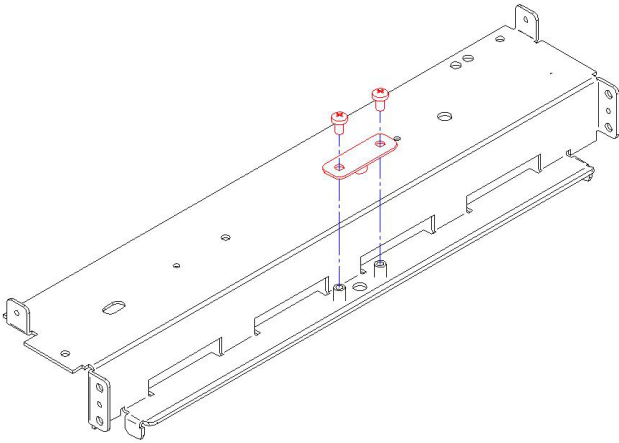
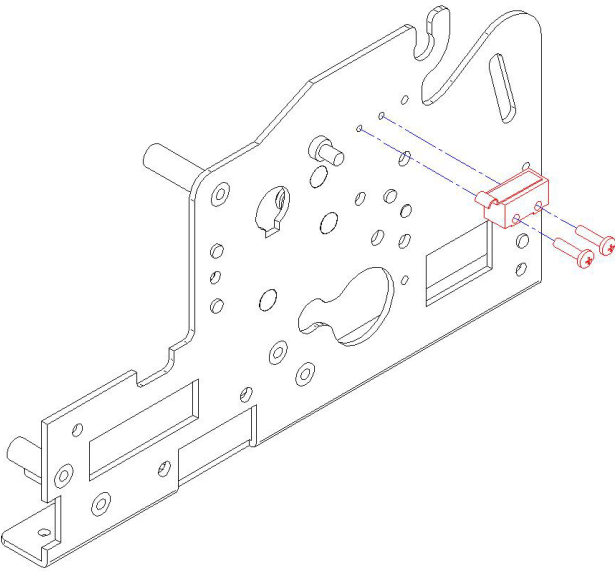


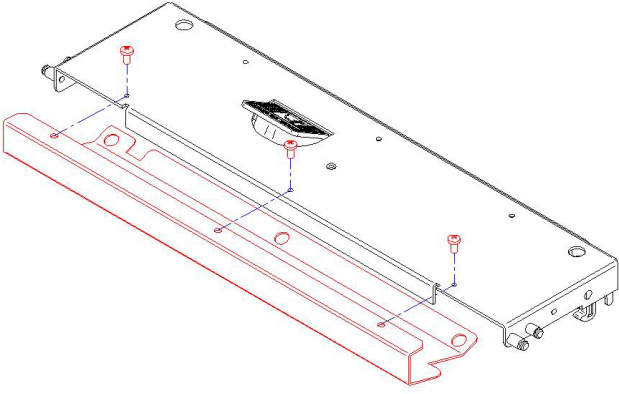
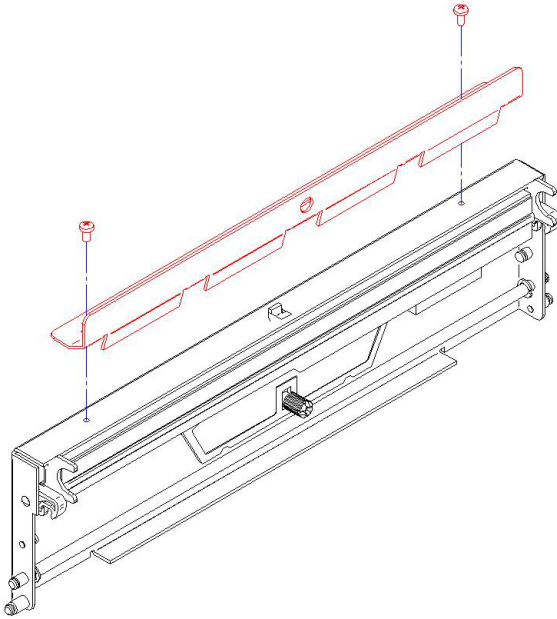
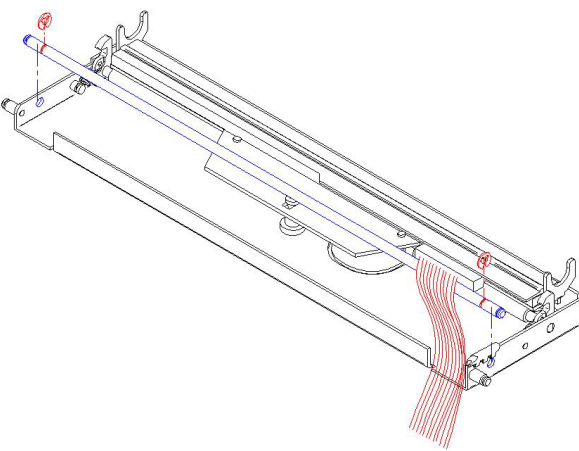
1. Remove the two M3x6 cross cheese head screws with cross screw driver and take off paper end sensor .

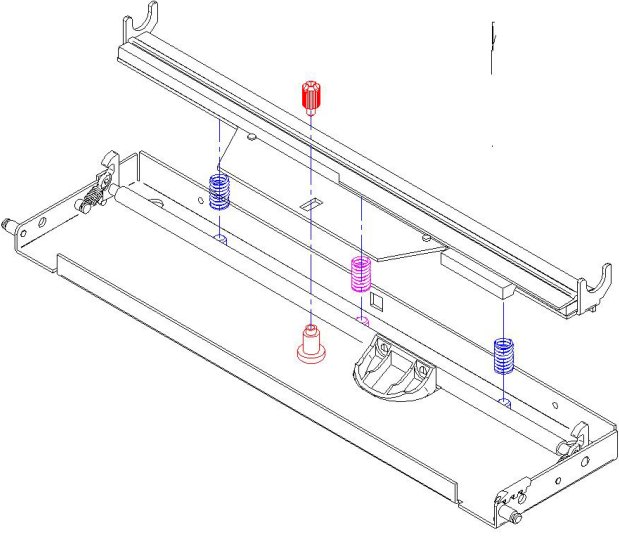
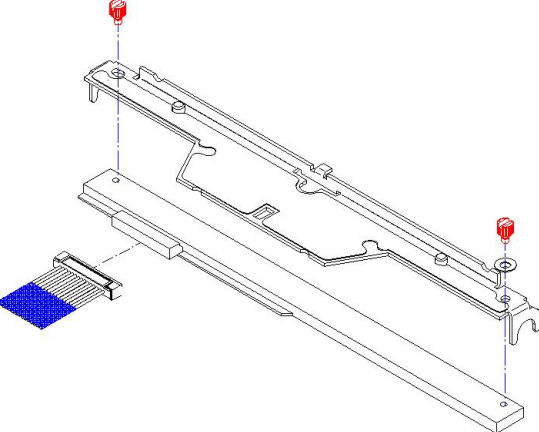
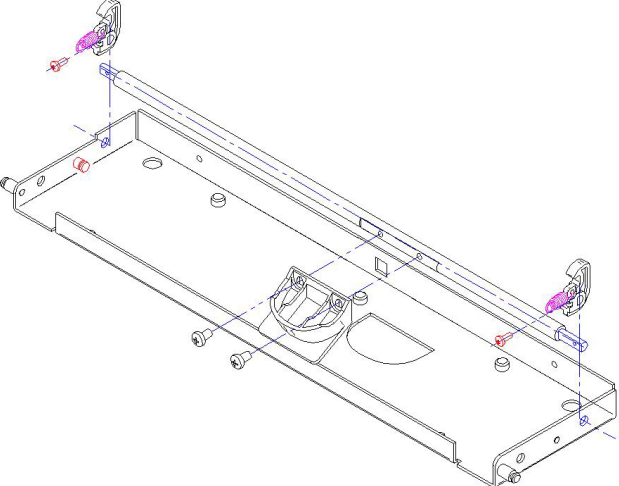
2. Remove the two M3x6 cross pan head screws with cross screw driver, take off paper near end sensor transmission board.

3. Remove the two ST2.6x3 cross pan screws and three M3x4 cross cheese screws, take off fixing paper slide plate, fixing paper middle plate and the two $\Phi 4$ plain washers.

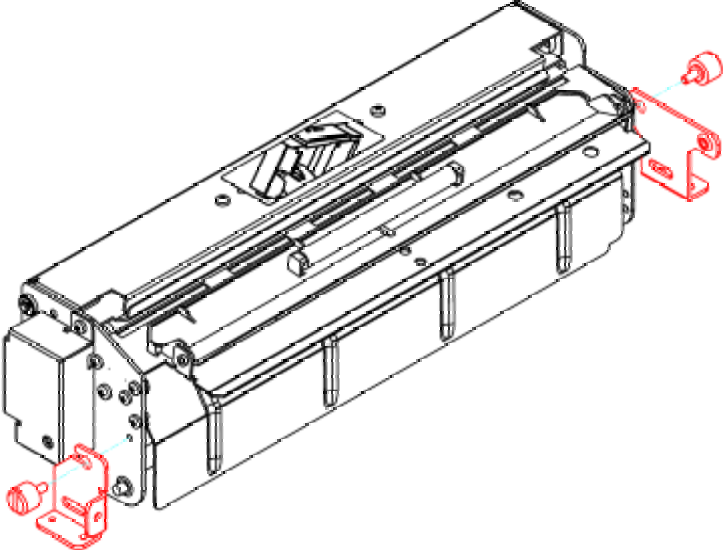
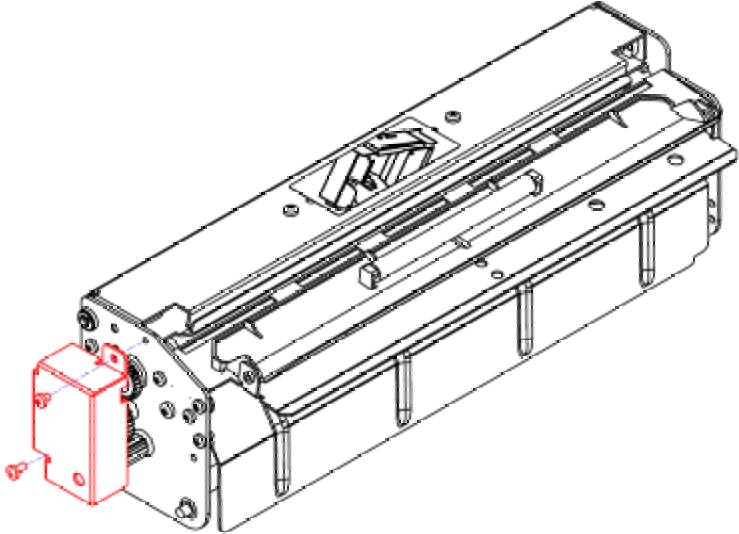
4. Remove the two M2.5x6 screws, the two $\Phi 4$ plain washers, the two fixing paper pressure springs and the two coil spring lock washers. Take off left fixing paper part and right fixing paper part.

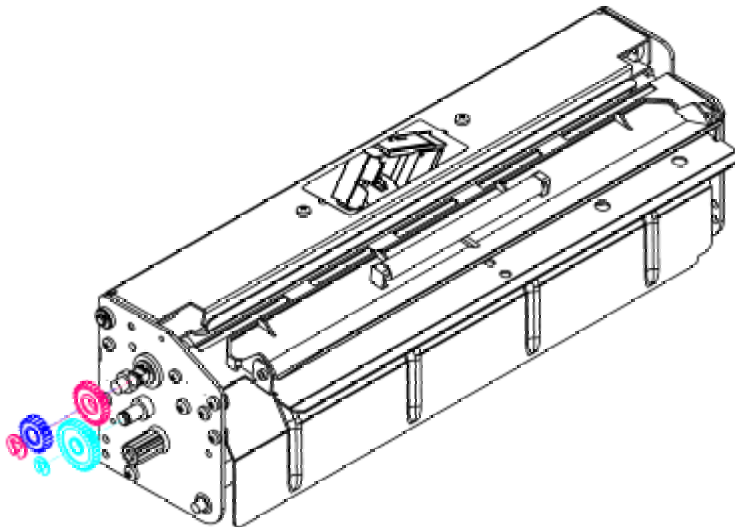
	
<p>16.</p> 	<p>1. Remove the two M3x6 cross cheese head screws with cross screw driver, then take off paper loading sensor.</p>
<p>17.</p> 	<p>1. Remove the two M2x8 cross cheese head screws with cross screw driver, then take off micro- switch module.</p>
<p>18.</p>	<p>1. Unscrew the three M2.5x6 cross cheese head screws with cross screw driver, take off paper path upper plate.</p>

	
<p>19.</p> 	<p>1. Unscrew the two M2.5x6 cross cheese head screws with cross screw driver, take off paper guide plate.</p>
<p>20.</p> 	<p>1. Unscrew the twoΦ3 "E" rings with nipper pliers, then take off axis.</p>
<p>21.</p>	<p>1. Unscrew one printer head splint fixing screw, take off printer head module, two</p>

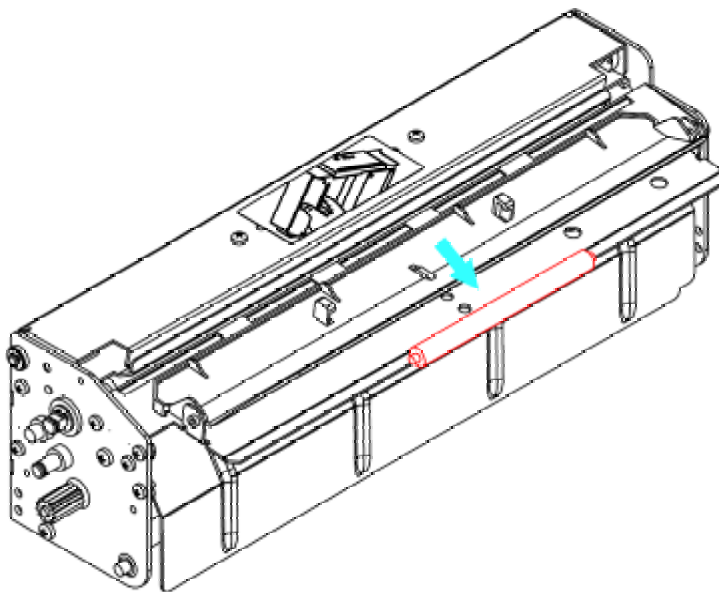
	<p>pressure spring and one pressure spring.</p>
<p>22.</p> 	<p>1. Unscrew two printer head fixing screws and one plain washer with cross screw driver, take off the printer head and unplug printer head cable.</p>
<p>23.</p> 	<p>1. Remove two latch draught springs with nipper pliers. 2. Unscrew two M2x4 cross cheese head screws with cross screw driver, take off latch and latch axis module. 3. Unscrew two M3x6 cross cheese head screws with cross screw driver, then take off pressure plate.</p>

5.1.3 Disassemble Presenter

Figure	explanation
<p>1.</p> 	<p>1. Disassemble the two latch wheels of presenter's two sides. Take off the left and right latch brackets of PRE module.</p>
<p>2.</p> 	<p>1. Unscrew two M2.5x5 cross cheese head screws with cross screw driver, take off PRE gear cover plate.</p>
<p>3.</p>	<p>1. Remove oneΦ3 "E"ring with nipper pliers, oneΦ4 "E" ring, then take off transition gear, gear 1 and print platen roller gear in turn.</p>

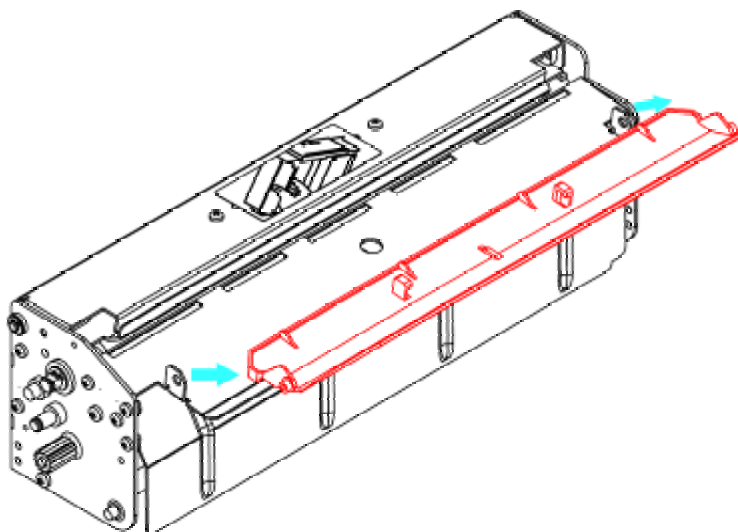


4



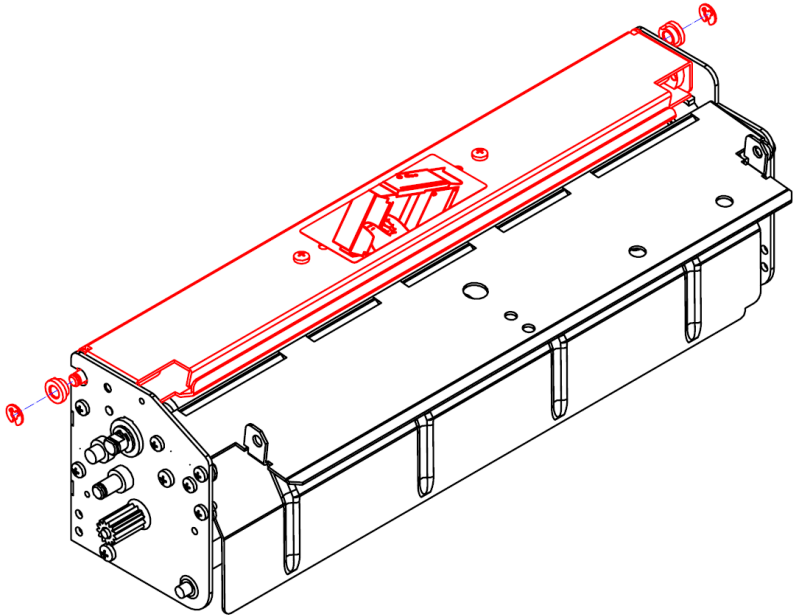
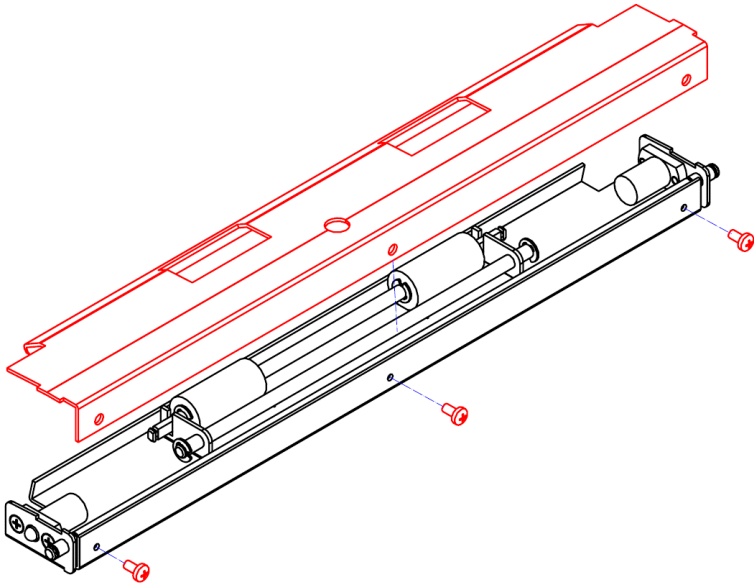
1. Take off PRE weighting axis as the figure showed direction forcefully with hands.

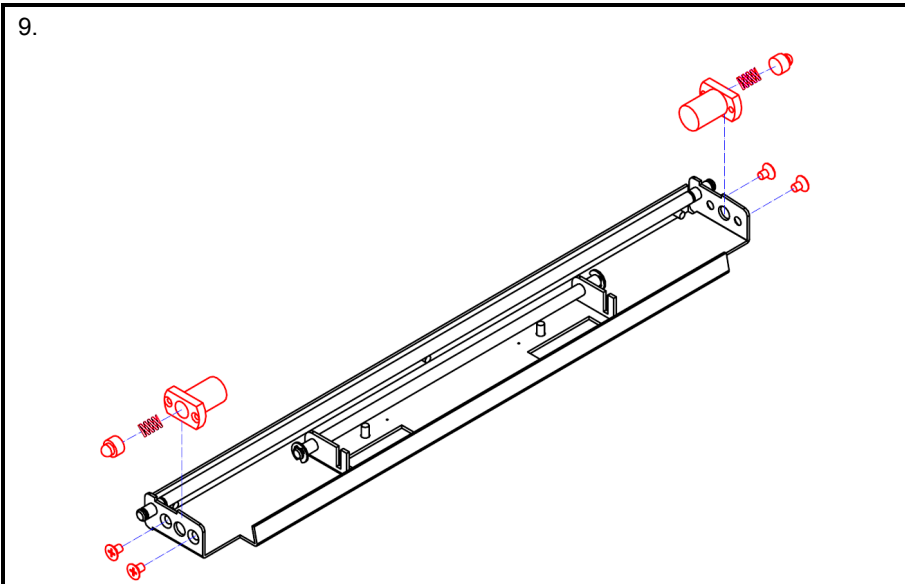
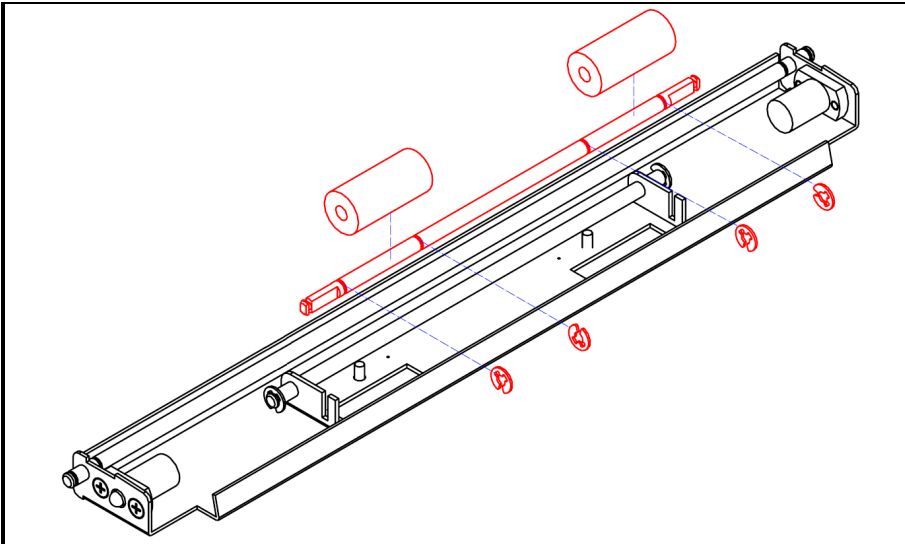
5.



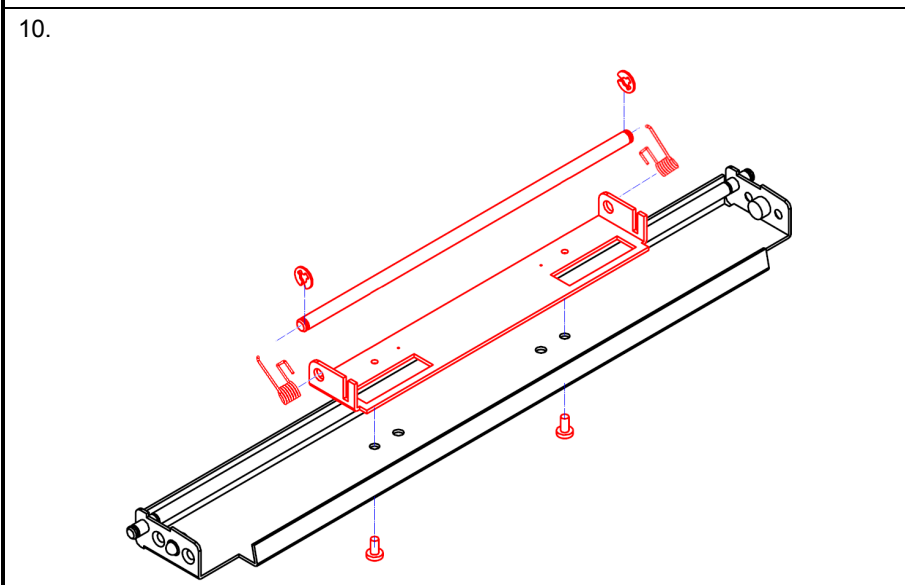
1. Pull the PRE turning plate gently with hands, make it bend and take it off.

Note: you should energize equably when turning the PRE plate, not to damage the plastic part.

<p>6.</p> 	<p>1. Disassemble two $\Phi 3$ "E" rings with nipper pliers, take off two PRE axis bushings, then take off top cover part of PRE.</p>
<p>7.</p> 	<p>1. Disassemble three M2.5x5 cross cheese head screws with cross screw driver, take off PRE back path upper board.</p>
<p>8.</p>	<p>1. Take off PRE paper exit upper roller axis module.</p> <p>2. Disassemble four $\Phi 3$ "E" rings with nipper pliers, take off two transition rollers.</p>

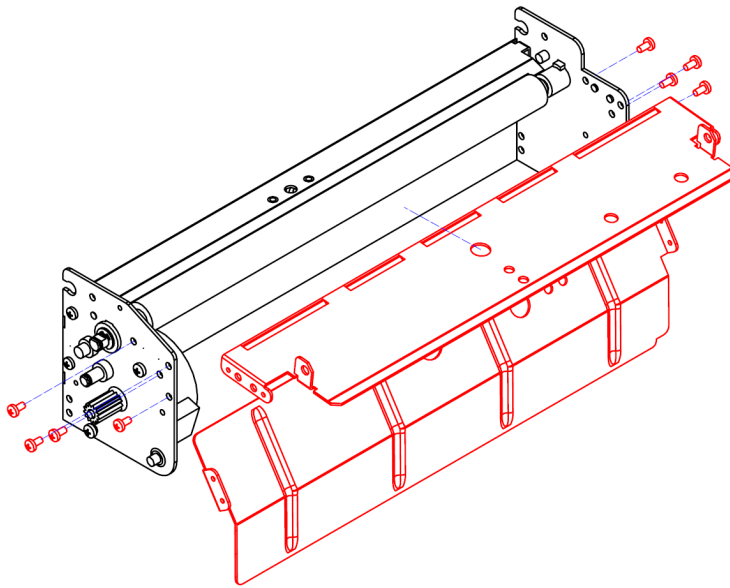


1. Loose four cross countersunk head screws (M2.5X4) with a cross driver, then take off two PRE lock sleeves, two PRE lock springs and two PRE lock shaft.



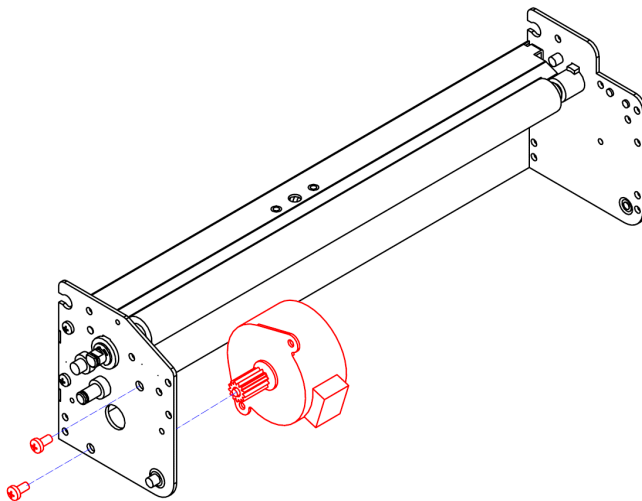
1. Unscrew two screws (M2.5x5) and take off PRE spring support holder parts with a cross driver;
 2. Disassemble two opening washer ($\Phi 3$) with a nipper plier, then take off PRE two springs on two ends of the platen for paper out and also PRE spring support shaft.

11.



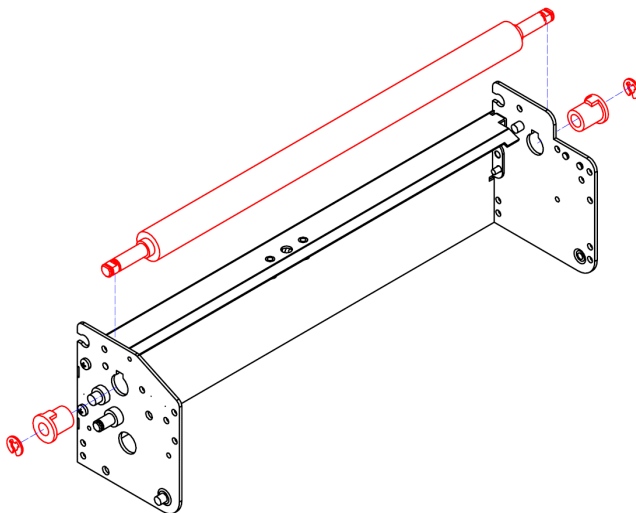
1. Unscrew eight cross countersunk head screws (M2.5×5) with a cross driver, then take out PRE paper baffle unit and PRE path front plate.

12.

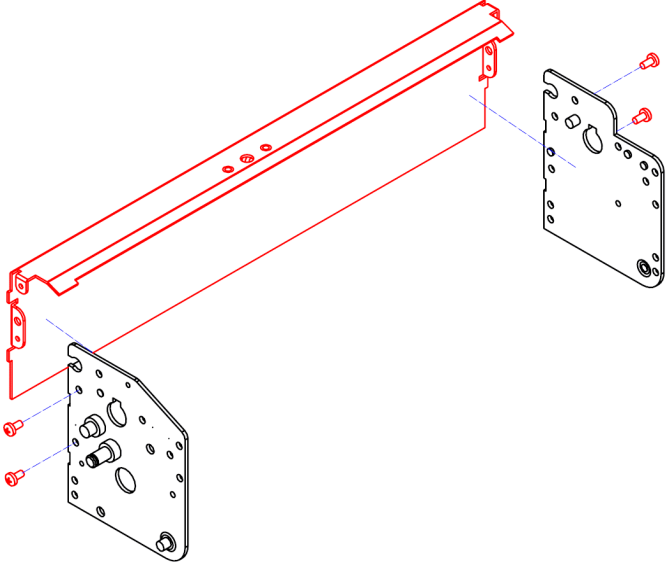
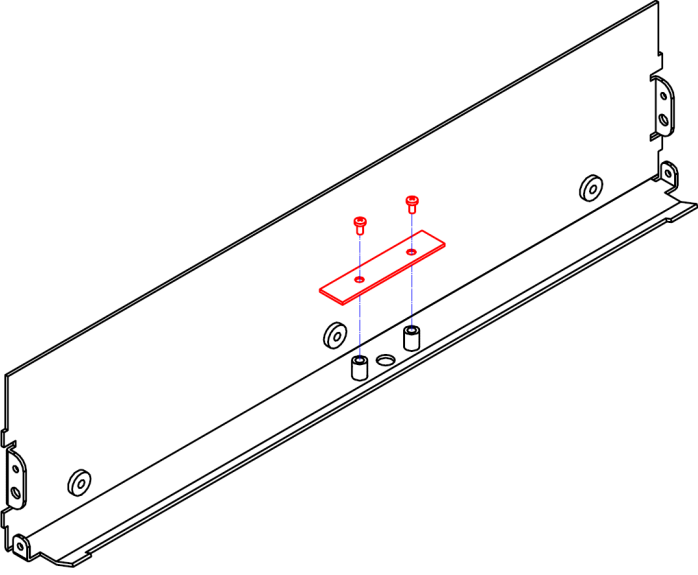


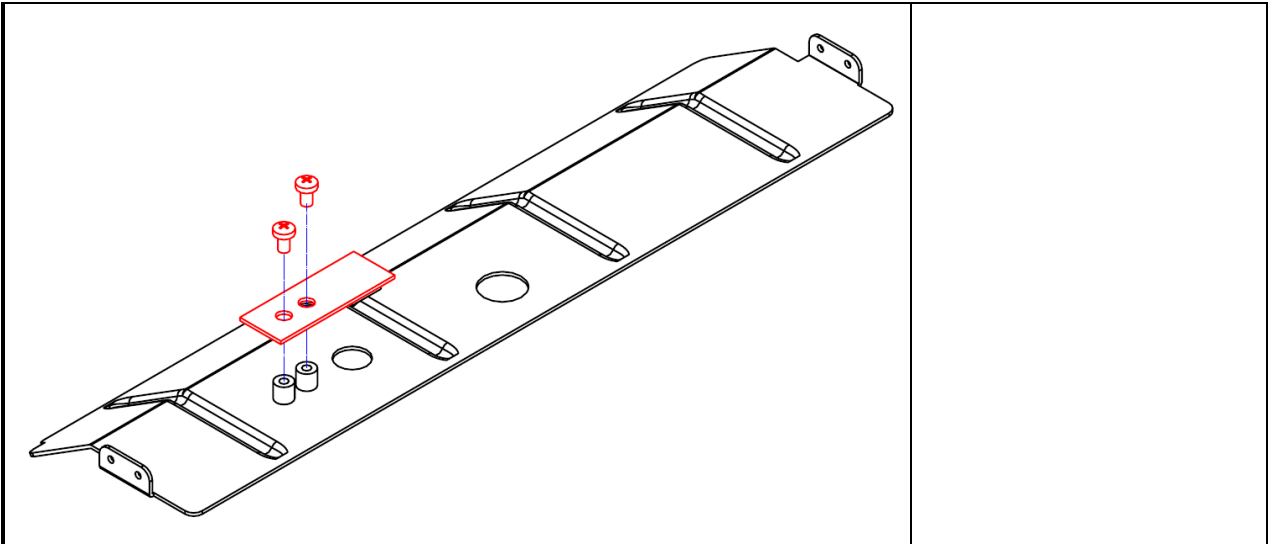
1. Unscrew two cross cheese head screws (M3×8), spring washer and flat washer with a cross driver, then disassemble motor unit.

13.



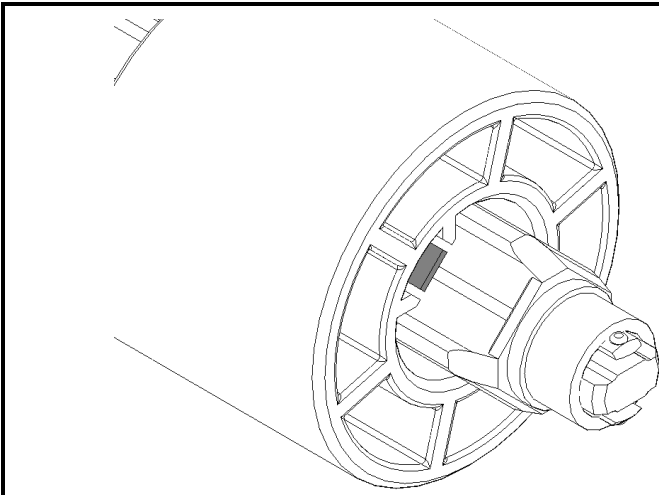
1. Disassemble two opening washer (Φ4) with a nipper plier, then take off two platen bushing and printing platen A.

<p>14.</p> 	<p>1. Disassemble four screws (M2.5×5) with a cross driver, then take off lower plate unit of PRE back path.</p>
<p>15.</p> 	<p>1. Unscrew two screws (M3×6) with a cross driver, then take off paper-out sensor on lower plate of PRE back path.</p>
<p>16.</p>	<p>1. Unscrew two screws (M3×5) with a cross driver, then take off the retraction sensor on the baffle of PRE back path.</p> <p>Note: This sensor could be configured according to customers' request.</p>

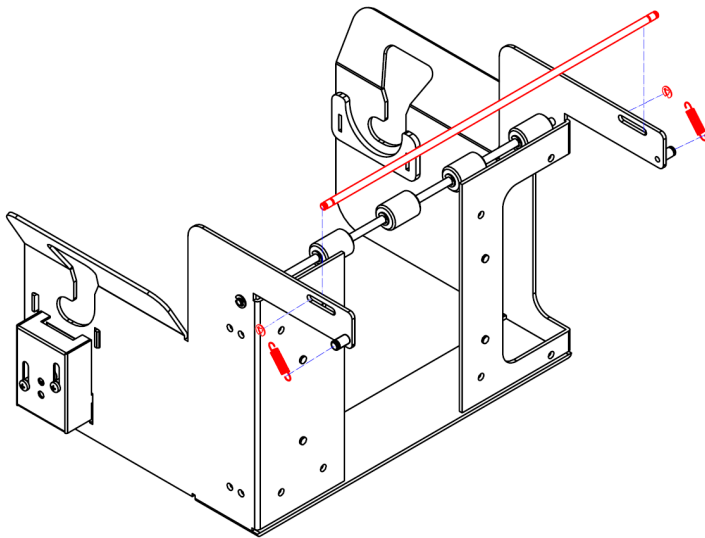


5.1.4 Disassemble paper holder module

Figure	Explanation
<p>1. Vertical retraction holder</p>	<p>1. Take off paper holder parts with your hand.</p>
<p>2.</p>	<p>1. Take off two paper roll shaft bushing according to the direction mentioned in the figures</p> <p>2. Pull the black part towards outside, and take off two big paper roll holders respectively.</p>

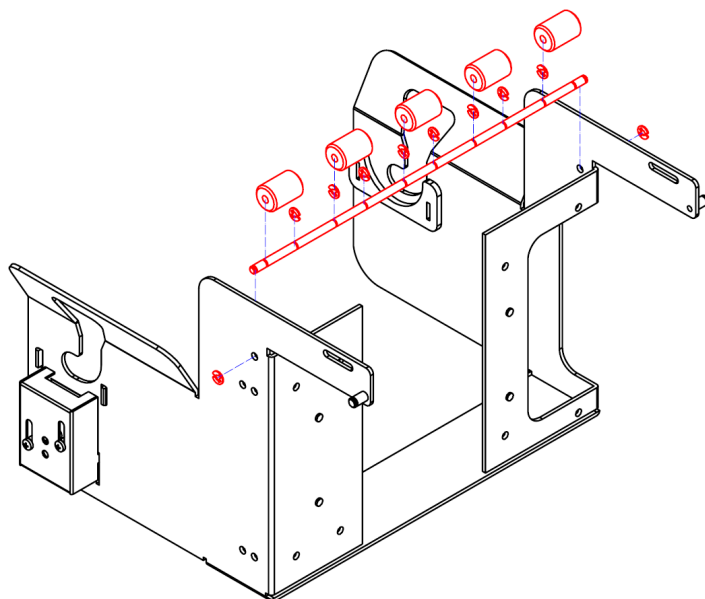


3.

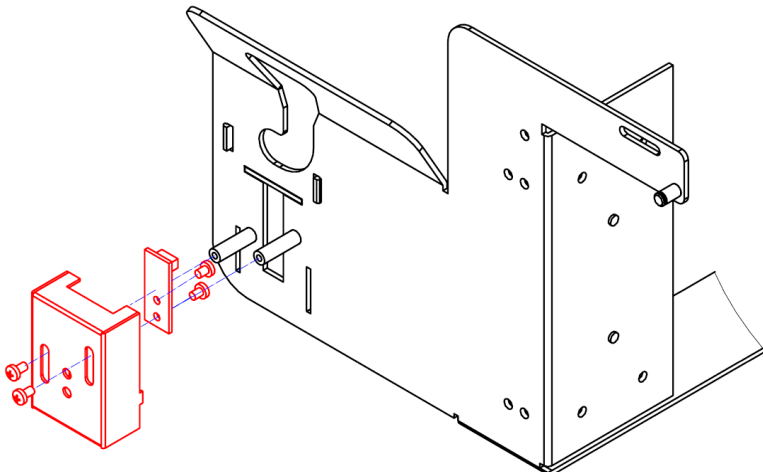
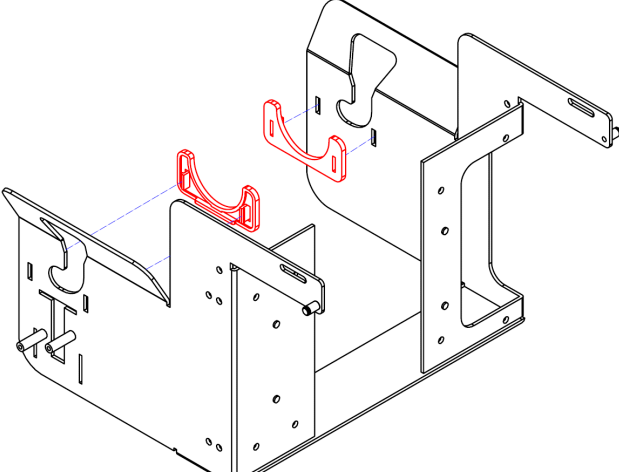
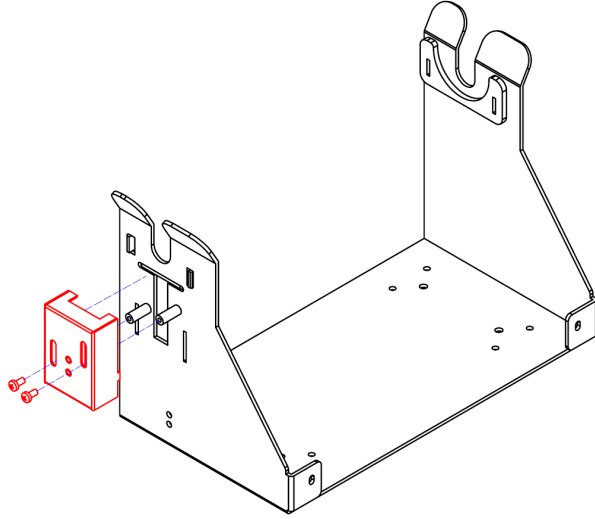


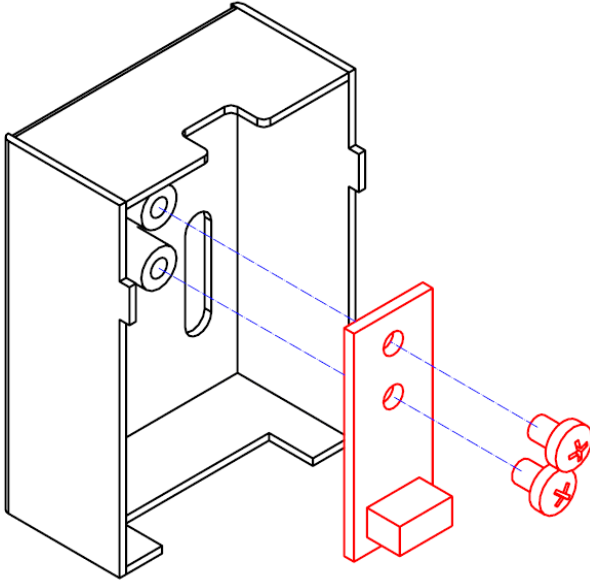
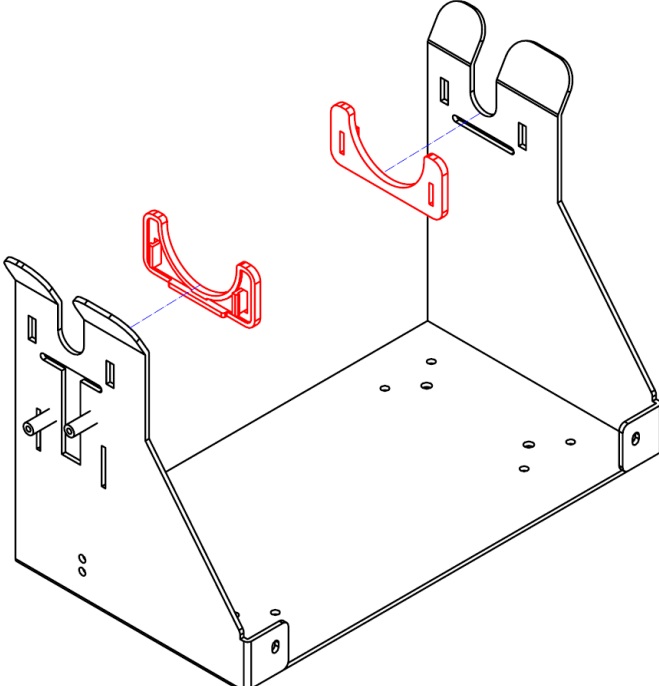
1. Take off the spring at the ends of vertical paper limit shaft;
2. Disassemble two opening washers ($\Phi 3$) with a nipper plier, then take out the vertical paper limit shaft.

4.



1. Disassemble two opening washer with a long nose pliers, then take off the shaft core parts of back paper guide platen;
2. Disassemble eight opening washers Of the paper guide shaft core, then take off five paper pass axes.

<p>5.</p> 	<ol style="list-style-type: none"> 1. Cut off wire clip with a wire cutter, then pull out the reflection sensor from the Outlet; 2. Disassemble two cross cheese head screws (M3×5) with a cross driver, then take out the reflection sensor parts; 3. Unscrew two cross cheese head screws (M3×5) with a cross driver, then take off the reflection sensor plate.
<p>6.</p> 	<ol style="list-style-type: none"> 1. Take off paper roll limiting parts by force; <p>Please note that the paper limiting parts should be taken out with proper force to avoid the part damage.</p>
<p>7. Horizontal retraction holder</p> 	<ol style="list-style-type: none"> 1. Disassemble two cross cheese head screws (M3×5) with a cross driver, then take off the reflection sensor parts.
<p>8.</p>	<ol style="list-style-type: none"> 1. Disassemble two cross cheese head screws (M3×5) with a cross driver, then take off the paper near end sensor plate.

	
<p>9.</p> 	<p>1. Take off the paper roll limiting parts by Force; Please note that the paper limiting parts should be taken out with proper force to avoid the part damage.</p>

5.2 Printer assembly

When assembly, you can follow the reverse sequence.

6. Printer service

6.1 Replacement and maintenance of main parts

6.1.1 Print head

6.1.1.1 Print head maintenance

To ensure the print head's lifetime and printout, we suggest that the print head should be cleaned after each paper roll is printed.

The clean steps are as below:

- 1) Turn off the printer power;
- 2) Clean the print head surface with alcohol cotton twisted;
- 3) The printer power can be turned on until the print head is dry.

6.1.1.2 Print head replacement

- 1) Referring to step 18 of [5.1.2](#), take off the upper plate of paper path;
- 2) Referring to step 21 of [5.1.2](#), pull off the print head connecting line and take off print head parts;
- 3) Referring to step 22 of [5.1.2](#), disassemble the print head and pull off its cable;

6.1.1.3 Caution

- **Because the print head is a calorific part, disassemble it only when it is cool down completely after the printing;**
- **The print head is so easy to be damaged that you should avoid it impacted or scratched with hard object;**
- **Avoid the print head spring missing in the disassembly.**

Tools: long nose pliers, cross screw driver.

6.1.2 Platen

6.1.2.1 Platen maintenance

To ensure the print head's lifetime and printout, we suggest that the platen should be cleaned after cleaning the print head.

Clean steps are as below:

- 1) Turn off the printer power;
- 2) Clean the platen with alcohol cotton (should be twisted);
- 3) Turn on the printer power until the platen is dry;

6.1.2.2 Platen replacement

- 1) Referring to Step 10 of [5.1.2](#), disassemble the platen gear;
- 2) Referring to Step 13 of [5.1.2](#), take off the platen.

6.1.2.3 Caution

- **The platen material is rubber. During the maintenance and disassembly, do not press or scratch it with hard or sharp object.**

Tools: Long nose pliers and cross screw driver.

6.1.3 Micro-switch

6.1.3.1 Changing the micro-switch

- 1) Referring Step 1-4 of [5.1.2](#), take off the base plate of PCB and pull out the connector of micro-switch from the outlet;
- 2) Referring Step 17 of [5.1.2](#), disassemble the micro-switch;
- 3) Cut off the wire clip with the wire cutter, then take out micro-switch connector from the outlet. (Note: the outlet is on the switch plate)

6.1.3.2 Caution

- **Because the micro-switch could be damaged by force easily, avoid the micro-switch impacted or cabled dragged by force during the installation and assembly.**

Tool: cross screw driver and wire cutter

6.1.4 Sensor replacement

This printer has six sensors collectively: paper near end sensor, paper load sensor, paper-out sensor, retraction sensor and paper end sensor.

6.1.4.1 Paper near end sensor replacement (horizontal mode)

- 1) Referring Step 7 of [5.1.4](#), take off PCB parts;
- 2) Referring Step 8 of [5.1.4](#), take off the paper near end sensor;
- 3) Cut off the relative wire clip with a wire cutter, and then pull out the paper near end sensor connector from the outlet.

Note: The disassembly method of vertical paper near end sensor is referred to Step 5 of [5.1.4](#).

6.1.4.2 Paper out sensor replacement

- 1) Referring Step 1-4 of [5.1.2](#), take off the base plate of PCB and pull out the paper-out sensor connector from the outlet;
- 2) Referring Step 13 of [5.1.3](#), disassemble the paper-out sensor plate and pull out its connector along the line space.

6.1.4.3 Paper load sensor replacement

- 1) Referring Step 1-4 of [5.1.2](#), take off the base plate of PCB;
- 2) Referring Step 16 of [5.1.2](#), disassemble the paper load sensor;
- 3) Cut off the relative wire clip with a wire cutter, and pull out the paper load sensor connector from the outlet.

6.1.4.4 Retraction replacement

- 1) Referring Step 1 of [5.1.2](#), take off the base plate of PCB;
- 2) Referring Step 15 of [5.1.3](#), disassemble the retraction sensor;
- 3) Cut off the relative wire clip with a wire cutter, and pull out the retraction sensor connector from the outlet.

6.1.4.5 Paper end sensor replacement

- 1) Referring Step 1-4 of [5.1.2](#), take off the base plate of PCB;

- 2) Referring Step 1 of [5.1.2](#), take off paper end sensor;
- 3) Cut off the relative wire clip with a wire cutter, and then pull out the paper sensor connector from the outlet.

6.1.4.6 Caution

- **Do not use gasoline or acetone to clean this sensor.**

Tool: cross screw driver and wire cutter.

6.1.5 Cutter replacement

6.1.5.1 Cutter replacement

- 1) Referring Step 9 of [5.1.2](#), disassemble top cover parts;
- 2) Referring Step 11 of [5.1.2](#), take off the cutter;
- 3) Cut off the relative wire clip with a wire cutter, and then pull out the cutter connector from the outlet.

6.1.5.2 Caution

- **Do not drag the lines by force when disconnecting cutter lines in order to avoid the line joint broken;**

Tool: cross screw driver

6.1.6 Motor replacement

Tool: cross screw driver and long nose pliers.

6.1.6.1 Pre motor replacement

- 1) Referring Step 2 of [5.1.3](#), take off Pre gear cover;
- 2) Referring Step 11 of [5.1.3](#), take off the motor;
- 3) Cut off the relative wire clip with a wire cutter, and then take out the motor connector from the outlet.

6.1.6.2 Print unit motor replacement

- 1) Referring Step 1-4 of [5.1.2](#), take off the PCB parts;

- 2) Referring Step 12 of [5.1.2](#), take off the motor;
- ✧ Cut off the relative wire clip with a wire cutter, and then take off the motor connector from the outlet.

6.2 Printer adjustment

6.2.1 Paper/mark sensor position adjustment

Three sensor positions are set at the right, middle and left of paper inlet path. Based on the different mark position, you can adjust the paper sensor position.

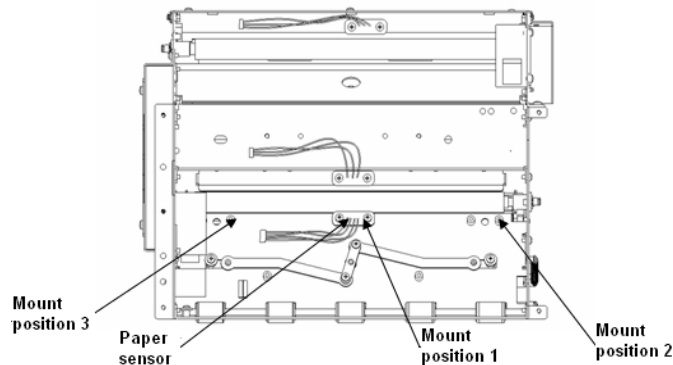


Fig. 2.1 Paper sensor assembly positions

Note: Sensor position 1 is factory default position.

6.2.2 Paper near end sensor adjustment

Remaining paper is changed with ID and OD of paper roll shaft core. The minimum value of remaining paper is shown as below (in theory):

Paper thickness (mm)	Paper roll shaft core ID (A) : ϕ 25.4mm, OD (B) : ϕ 32mm		Paper roll shaft core ID (A) : ϕ 50mm; OD (B) : ϕ 59mm	
	Min. check diameter (C)/length	Max. check diameter (C)/length	Check diameter(C)/length	
0.06	ϕ 36mm/3.5m	ϕ 62mm/37m	ϕ 62mm/5m	
0.08	ϕ 36mm/2.6m	ϕ 62mm/28m	ϕ 62mm/3.5m	

Table 2.1 Minimum value of remaining paper

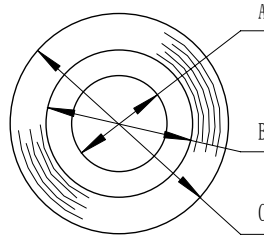
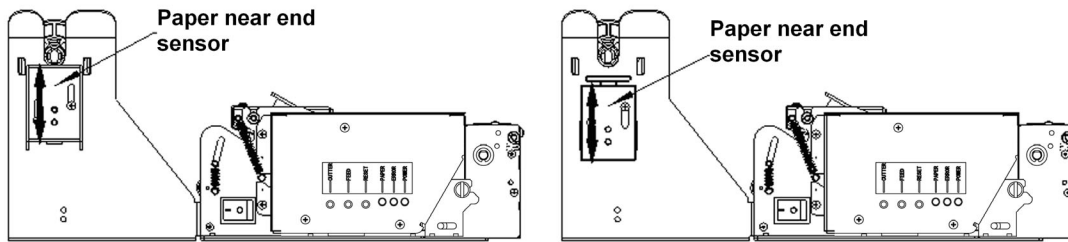


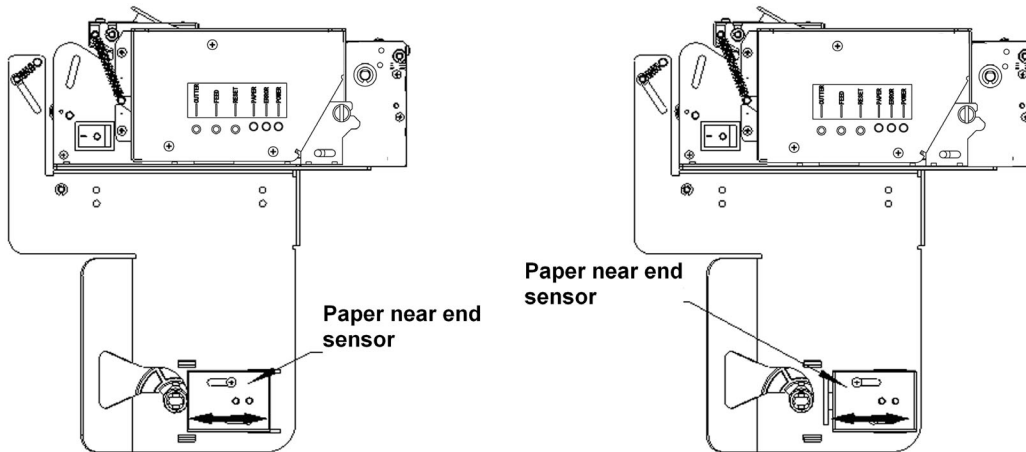
Fig. 2.2 Paper roll



Horizontal paper holder

Fig. 2.3 Paper near end sensor position 1

Fig.2.4 Paper near end sensor position 2



Vertical paper holder

Fig.2.5 Paper near end sensor position 1

Fig.2.6 Paper near end sensor position 2

Caution:

✧ Min. amount calculation of paper near end checked as above table is based on theoretical calculation . Slight difference could occur in actual work;
 The factory default position of paper near end sensor is as Fig. 2.4 sensor position 2 on horizontal paper near end holder or Fig.2.6 sensor position 2 on vertical paper near end holder. Max. paper near end amount check conditions: paper roll shaft core ID is $\phi 25.4\text{mm}$ and $\phi 50\text{mm}$.

7. Caution

- Install the printer on a flat and stable surface;
- Reserve adequate space around the printer so that convenient operation and maintenance can be performed;
- Keep the printer away from water source, direct sunlight, strong light and heat;
- Do not place the printer on a surface exposed to vibration or risk from impact;
- Avoid exposing the printer to condensation. In case of condensation, ensure it has been completely removed before turn on the power.
- Connect the power adaptor to an appropriate ground outlet. Avoid sharing a single electrical outlet with large power motors and other devices that may cause the fluctuation in voltage.
- Disconnect the power adapter if the printer is idle for a long time.
- Do not spill water or other electric substances (like metal) on the printer. If this happens, turn off the power immediately.
- Do not allow the printer to start printing when there is no paper, otherwise the print head and platen roller will be damaged.
- To ensure print quality and normal lifetime, use recommended or good quality paper.
- Shut down the printer when connecting or disconnecting interface connectors to avoid damage to the control board.
- Set the print darkness to a lower grade as long as the print quality is acceptable. This will help to keep the print head durable.
- The printer should only be disassembled or repaired by a technician, who is certified by Telpar.

8. Troubleshooting

8.1 Frequency errors and solution

8.1.1 Errors in paper load

Error	Cause	Solution
Paper roll fails to be put on paper holder smoothly	Paper roll width does not match the printer	Change the paper roll
Cannot feed paper automatically	Paper head is not trim Paper jam Paper does not cover paper sensor Dust or wastepaper covers paper load sensor	Trim paper head according to request Remove paper jam Check paper head which should cover paper load sensor Clean paper load sensor
Buzzer sounds	Paper end Top cover of print is not closed completely	Replace paper roll Close printer top cover
Paper does not stop at normal print Position after semi-automatic paper load	Dust or wastepaper cover paper feed sensor	Clean paper load sensor

Table 8.1.1 Errors in paper load

8.1.2 Errors in the print

Error	Cause	Solution
Paper cannot be fed out properly.	Paper jam	Open print unit top cover and PRE top cover, and check paper path to clean wastepaper, then load paper automatically again.
Printout is not clear	Paper loading direction is wrong or the paper quality is poor Print head should be cleaned Print darkness is too light Print input voltage is lower	Load paper roll in proper mode Use recommended or equivalent paper Clean print head Adjust the print darkness (*) Use the qualified power adaptor
Cutter operates improperly	Paper jam at cutter Cutter is damaged	Check any dust in cutter space(*) Contact with our distributor or manufacturer

Error	Cause	Solution
Print data is missing or does not print	Printer top cover is closed improperly Paper jam	Close top cover properly Remove paper jam

Table 8.1.2 Errors in the print

* Consult with our distributor or Telpar for print darkness adjustment.

8.1.3 Errors in paper out

Error	Cause	Solution
Printer stops working or alarms In printing	Paper end Paper jam at cutter Dust or wastepaper covers paper near end sensor	Install a new paper roll Check the path at cutter Clean paper near end sensor

Table 8.1.3 Errors in paper out

* The dirty paper surface could result test failure.

8.1.4 Other errors

Error	Cause	Solution
LED is off and printer does not work.	Printer does not be connected with power adapter properly. Print is not turned on.	Connect with printer power Turn on the printer
Printer does not work after receiving the command	Print is in error status Communication cable Is not connected Properly; Interface settings error	Remove the error (*) Check communication cable connection Reset the interface according to the printer self-test page.

Table 8.1.4 Other errors

* Paper near end is a prompt of our printer which cannot be settled as an error. When the printer prompts paper near end, it can continue to transmit the print job;

* If paper jam is at the cutter, please remove it first, then press down cut button to reset the cutter.