MH240/MH340/MH640/

MH240T/MH340T/MH640T/

MH240P/MH340P/MH640P Series

THERMAL TRANSFER / DIRECT THERMAL BAR CODE PRINTER

SERVICE MANUAL

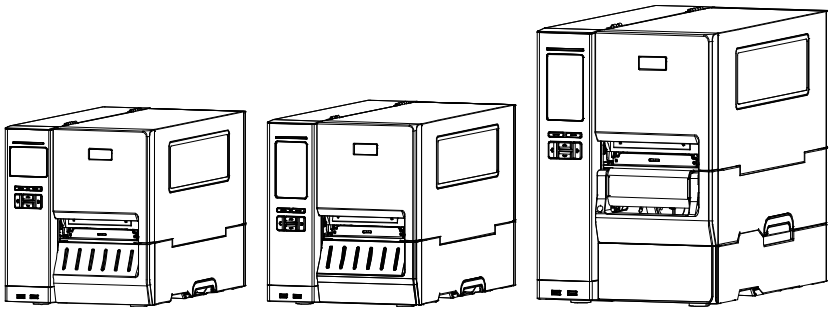


TABLE OF CONTENT

1. FUNDAMENTAL OF THE SYSTEM 3
1.1. Overview 3
2. ELECTRONICS 11
2.1 Summary of Board Connectors 11
2.2 Interface Pin Configuration 13
3. MECHANISM 15
3.1 Remove the Lower Front Panel 15
3.2 Remove the Electronic Cover 16
3.3 Remove the Media Cover 18
3.4 Replacing the Platen Roller Assembly 19
3.5 Replacing the Printhead Assembly 21
3.6 Replacing the LCD Panel Module 23
3.7 Replacing the LCD Control Board & LCD Touch Panel 24
3.8 Replacing the Front Panel Buttons Control Board 25
3.9 Replacing the Label Supply Spindle 26
3.10 Replacing the Power Supply Unit 28
3.11 Replacing the Internal Rewinder DC Motor 30
3.12 Replacing GPIO Interface Board (with Parallel Port) 31
3.13 Replacing the Main Board 34
3.14 Replacing the Stepping Motor Assembly 35
3.15 Replacing the Gap/Black Mark Sensor Module 36
3.16 Cutter Module Installation (Option) 37
3.17 Peel-off Kit Installation (Option) 40
3.18 Replacing Slot-in Wireless Transfer Board 46
3.19 Replacing the Bluetooth module 48
3.20 Care Label Cutter Module Installation (Option) 50
4. TROUBLESHOOTING 54
4.1 Common Problems 54
4.2 Mechanism Fine Adjustment to Avoid Ribbon Wrinkles 59
4.2.1 Ribbon Tension Adjustment Knob Module 59
4.2.2 Use Ribbon Tension Adjustment Knob to Avoid Ribbon Wrinkles 60
5. MAINTENANCE 62
UPDATE HISTORY 64

1. FUNDAMENTAL OF THE SYSTEM

1.1. Overview

Front View

For MH240 Series

1. LED indicator
2. LCD display
3. Front panel buttons
4. USB host x 2
5. Media view window
6. Paper exit chute
7. Printer cover handle

For MH240T Series

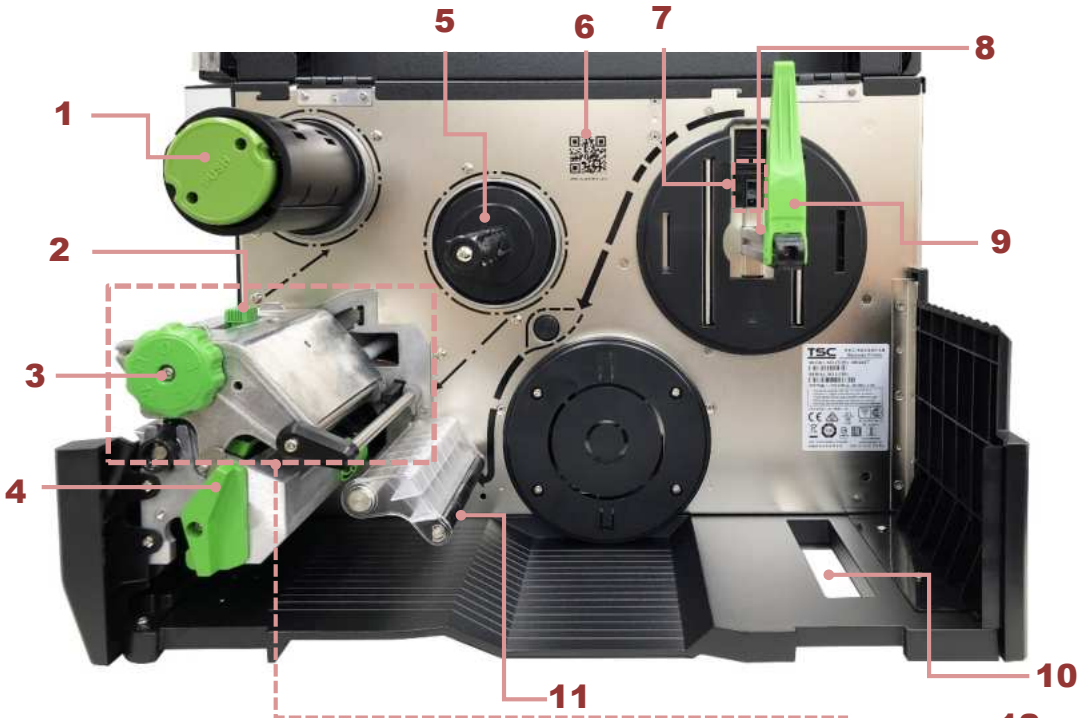
1. LED indicator
2. LCD display
3. Front panel buttons
4. USB host x 2
5. Media view window
6. Paper exit chute
7. Printer cover handle

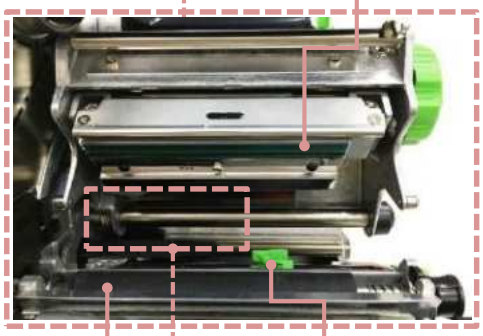
For MH240P Series

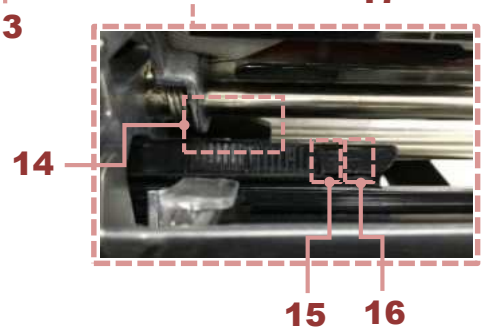
1. LED indicator
2. LCD display
3. Front panel buttons
4. USB host x 2
5. Media view window
6. Paper exit chute
7. Printer cover handle
8. Printer lower cover (MH240P Series only)

Interior View

For MH240 & MH240T Series

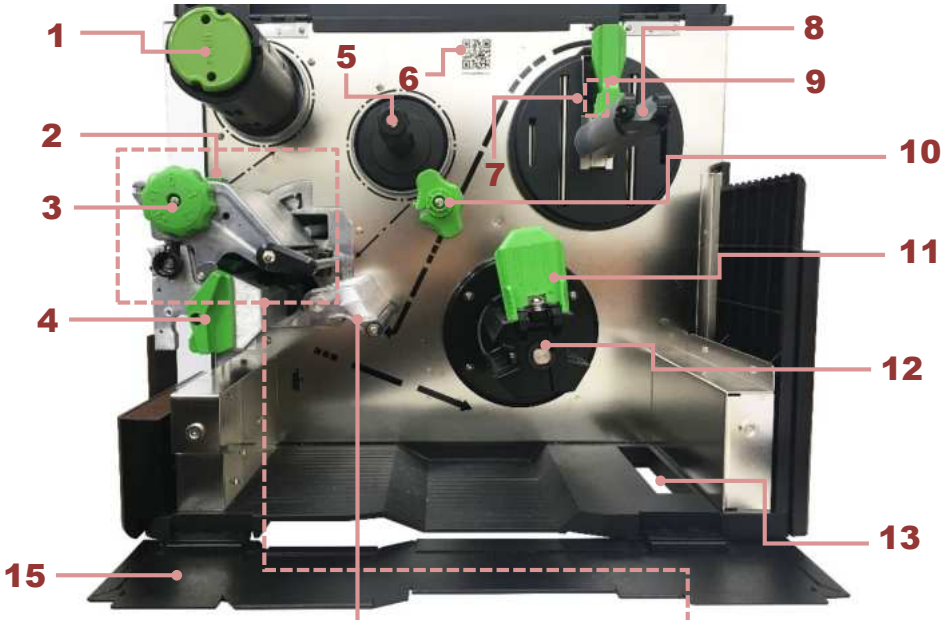




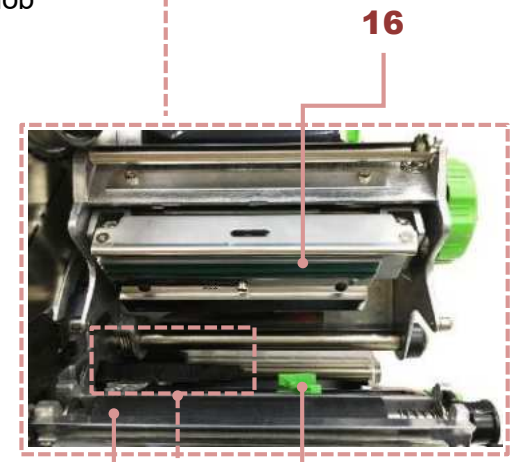


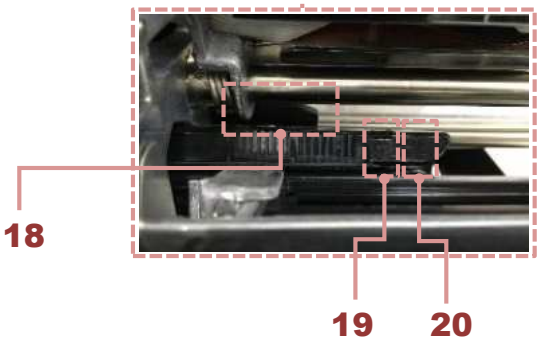
1. Ribbon rewind spindle
2. Print head pressure position adjustment knob
3. Print head pressure adjustment knob
4. Print head release lever
5. Ribbon supply spindle
6. TSC website QR Code
7. Media near end sensor (movable, MH240T Series only)
8. Label supply spindle
9. Label roll guard
10. External label entrance chute
11. Damper
12. Print head
13. Platen roller
14. Ribbon sensor
15. Black mark sensor (shown as ↓)
16. Gap sensor (shown as ▽)
17. Front label guide

For MH240P Series

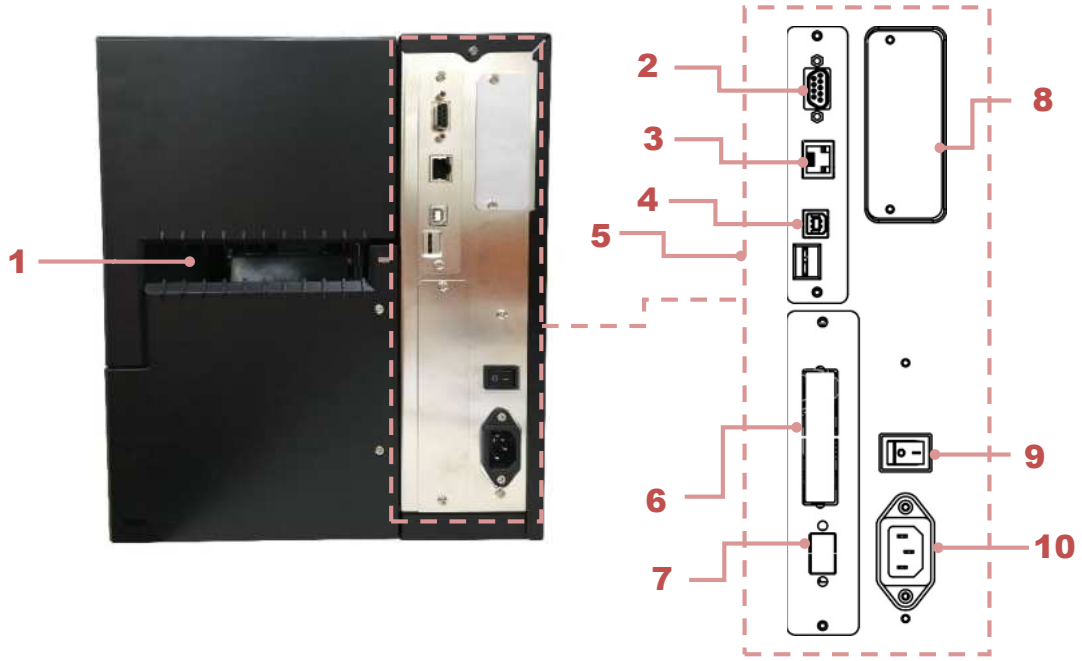


1. Ribbon rewind spindle
2. Print head pressure position adjustment knob
3. Print head pressure adjustment knob
4. Print head release lever
5. Ribbon supply spindle
6. TSC website QR Code
7. Media near end sensor (movable, MH240T/MH240P Series only)
8. Label supply spindle
9. Label roll guard
10. Media guide bar
11. Media rewind guide
12. Media rewind spindle
13. External label entrance chute
14. Damper
15. Printer lower cover
16. Print head
17. Platen roller
18. Ribbon sensor
19. Black mark sensor (shown as ↓)
20. Gap sensor (shown as ▽)
21. Label guide





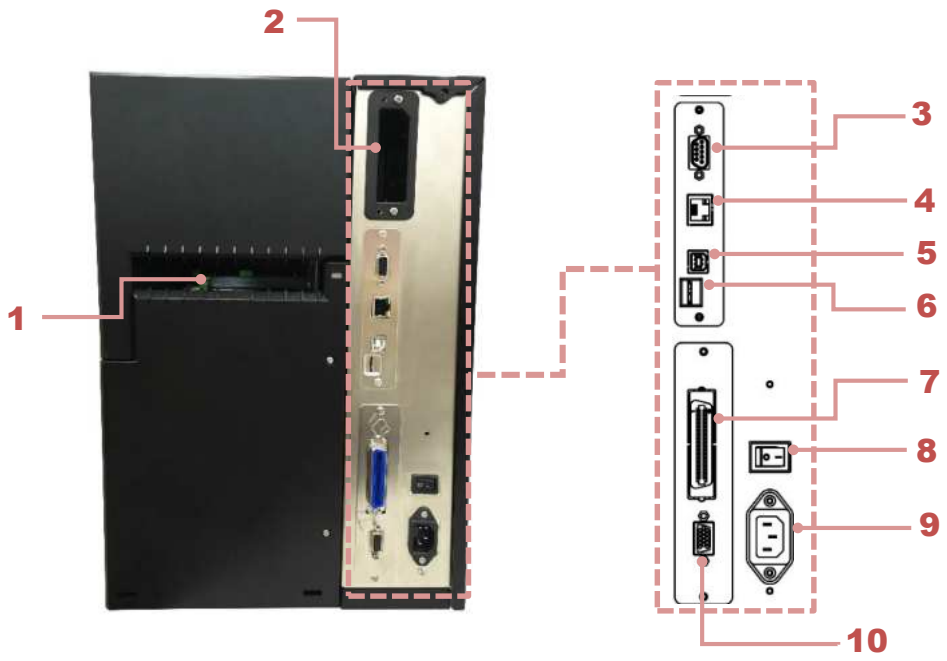
For MH240 & MH240T Series



1. External label entrance chute
2. RS-232C interface
3. Ethernet interface
4. USB interface
5. microSD card slot
6. Centronics interface (Option)
7. GPIO interface (Option)
8. Slot-in Wi-Fi module (Option)
9. Power switch
10. Power cord socket

Note:
The interface picture here is for reference only. Please refer to the product specification for the interfaces availability.

For MH240P Series



1. External label entrance chute
2. Slot-in Wi-Fi module (Option)
3. RS-232C interface
4. Ethernet interface
5. USB interface
6. Micro SD card slot
7. Centronics interface (Option)
8. Power switch
9. Power cord socket
10. GPIO interface (Option)

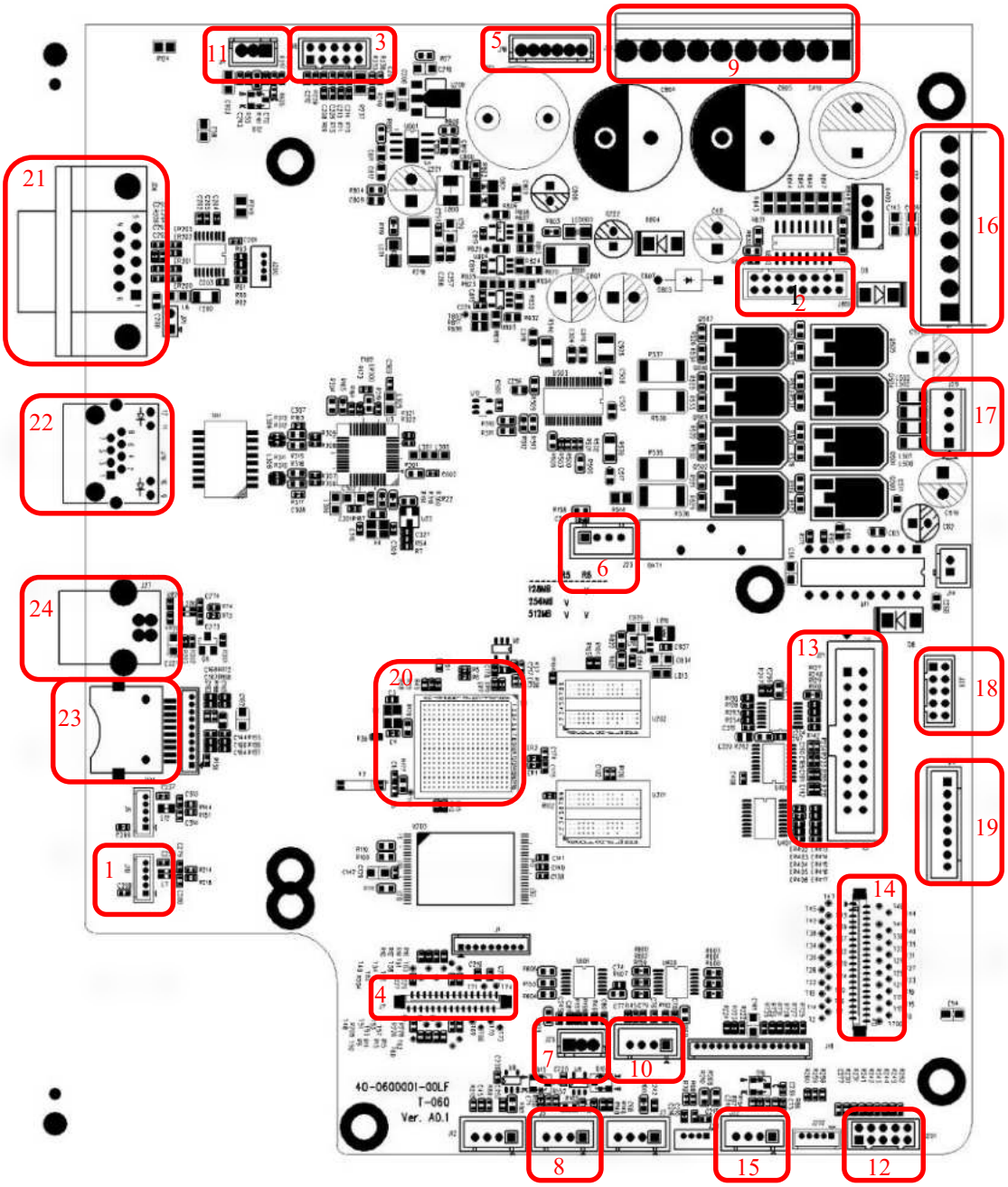
Note:
The interface picture here is for reference only. Please refer to the product specification for the interfaces availability.

*** Recommended microSD card specification**

Type	microSD card spec	microSD card capacity	Approved microSD card manufacturer
microSD	V2.0 Class 4	4G	Transcend
	V2.0 Class 4	8G	Transcend
	V3.0 Class 10 UHS-I	16G	Transcend
	V3.0 Class 10 UHS-I	32G	Transcend
	V3.0 Class 10	16G	Kingston
	V2.0 Class 4	16G	Scandisk
	V3.0 Class 10 UHS-I	16G	Scandisk
- The DOS FAT file system is supported for the microSD card. - Folders/files stored in the microSD card should be in the 8.3 filename format. - The miniSD / SD card to microSD card slot adapter is required.			

2. ELECTRONICS

2.1 Summary of Board Connectors



Main board

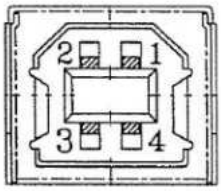
Connector	Description
1	USB Host connector
2	Power supply output (5V/36V DC) connector
3	Wi-Fi Module connector
4	Parallel Port board connector
5	GPIO interface board connector
6	Head open sensor connector
7	Gap sensor connector
8	Ribbon encoder sensor connector
9	Power supply output (24V DC) connector
10	BM Sensor connector
11	Paper Distance Sensor connector
12	BT module connector
13	Print head connector
14	LCD panel connector
15	Ribbon end sensor connector
16	TPH Power (24V DC) connector
17	Stepping motor connector
18	Cutter/peel-off connector
19	Paper REWIND connector
20	Micro processor
21	RS-232C connector
22	Ethernet interface
23	MICRO SD card socket
24	USB interface

2.2 Interface Pin Configuration

RS-232C

PIN	CONFIGURATION
1	+5 V
2	TXD
3	RXD
4	CTS
5	GND
6	RTS
7	N/C
8	RTS
9	N/C

USB

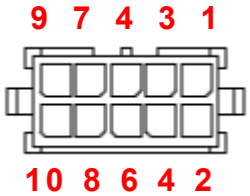


PIN	CONFIGURATION
1	N/C
2	D-
3	D+
4	GND

Ethernet

PIN	CONFIGURATION
1	**Tx+**
2	**Tx-**
3	**Rx+**
4	**N/C**
5	**N/C**
6	**Rx-**
7	**N/C**
8	**N/C**

Cutter/peel-off Sensor Connector

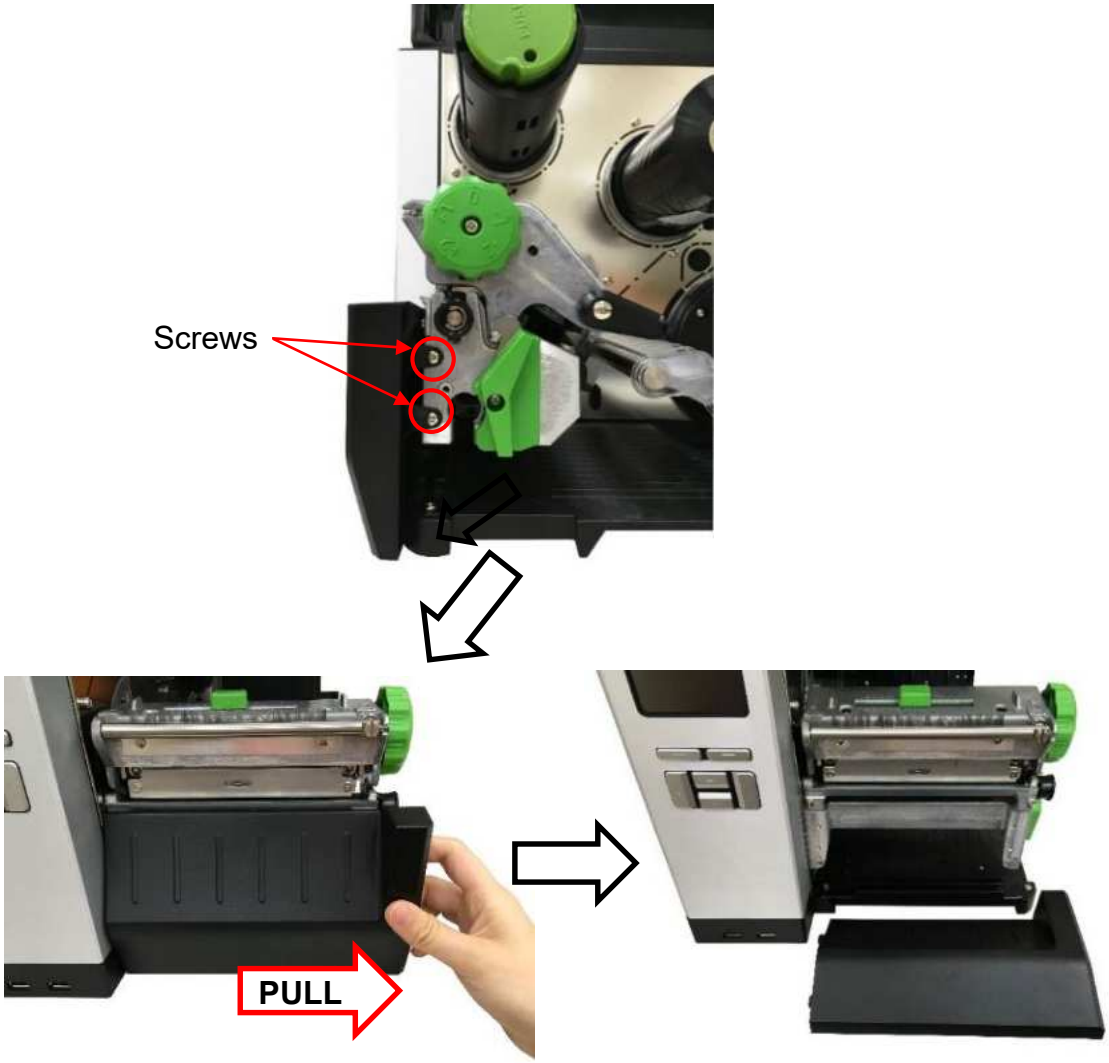


Pin	Description	Voltage
1	Cutter enable	0V: Cutter work 5V: Cutter stop
2	Cutter direction	0V: Cutter positive cut 5V: Cutter negative cut
3	Cutter position sensor switch	0V: Cutter stop 3.3V: Cutter work
4	Peel sensor receiver	A/D: 0~3.3V
5	N/A	N/A
6	Logic power	5V
7	GND	0V
8	Cutter power	24V
9	I2C SCL signal	
10	I2C SDA signal	

3. MECHANISM

3.1 Remove the Lower Front Panel

1. Open the printer cover.
2. Remove 2 screws (fastened by 7.5 kg±15% kg-cm) and pull out the lower front panel.



3. Reassemble the parts in the reverse procedures.

3.2 Remove the Electronic Cover

1. Turn the printer to backside and remove one screw (fastened by 5 kg±15% kg-cm) on the electronic cover.

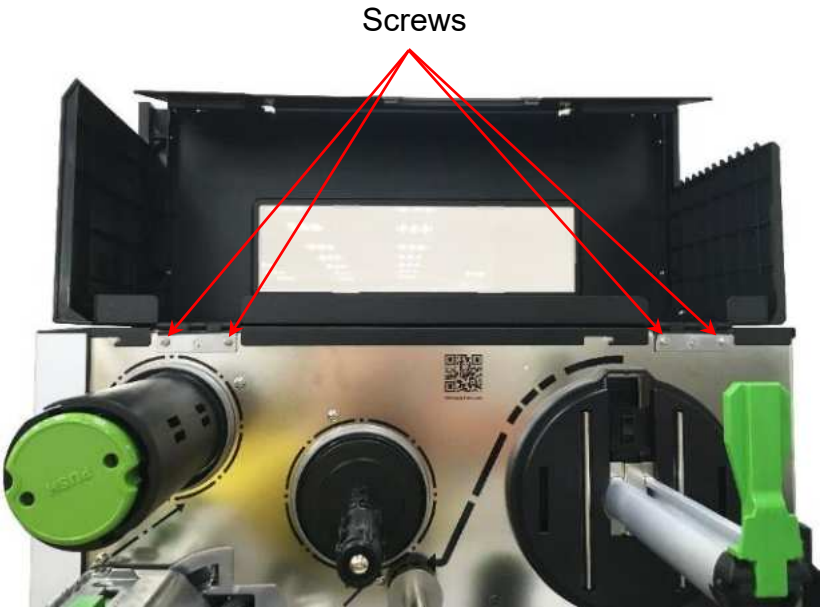
2. Turn back the printer to front side and push the electronics cover forward to leave the loading slot, then pull up the cover with both hands to release the mechanism.

3. Remove the electronics cover.

4. Reassemble the parts in the reverse procedures.

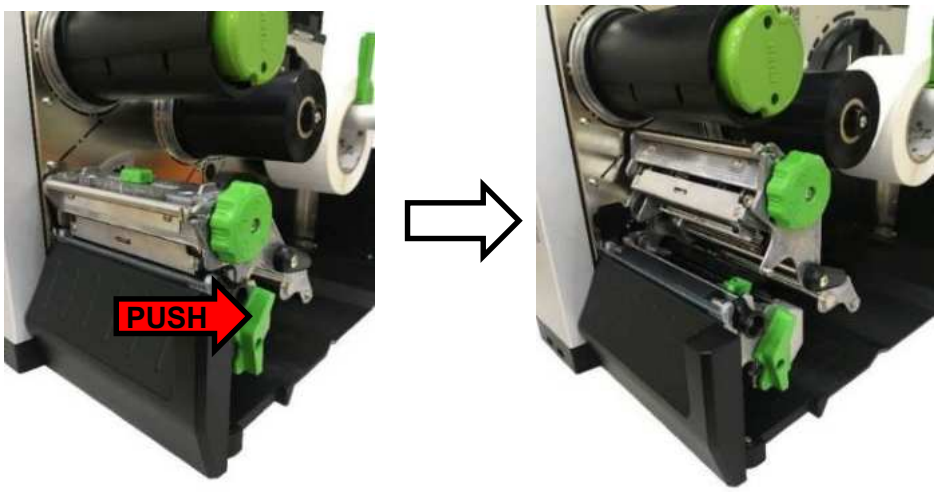
3.3 Remove the Media Cover

1. Open the media cover and remove 4 screws (fastened by 5 kg±15% kg-cm) from each hinge. Be careful the media cover may fall out from the printer when all screws are disengaged.
2. Take out the media cover from the printer.
3. Reassemble the parts in the reverse procedures.



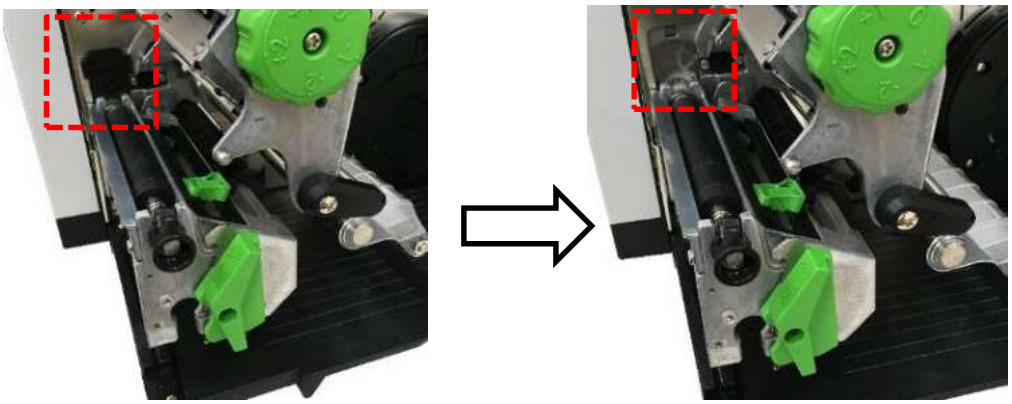
3.4 Replacing the Platen Roller Assembly

1. Open the printer cover.
2. Push the print head release lever to open the print head mechanism.

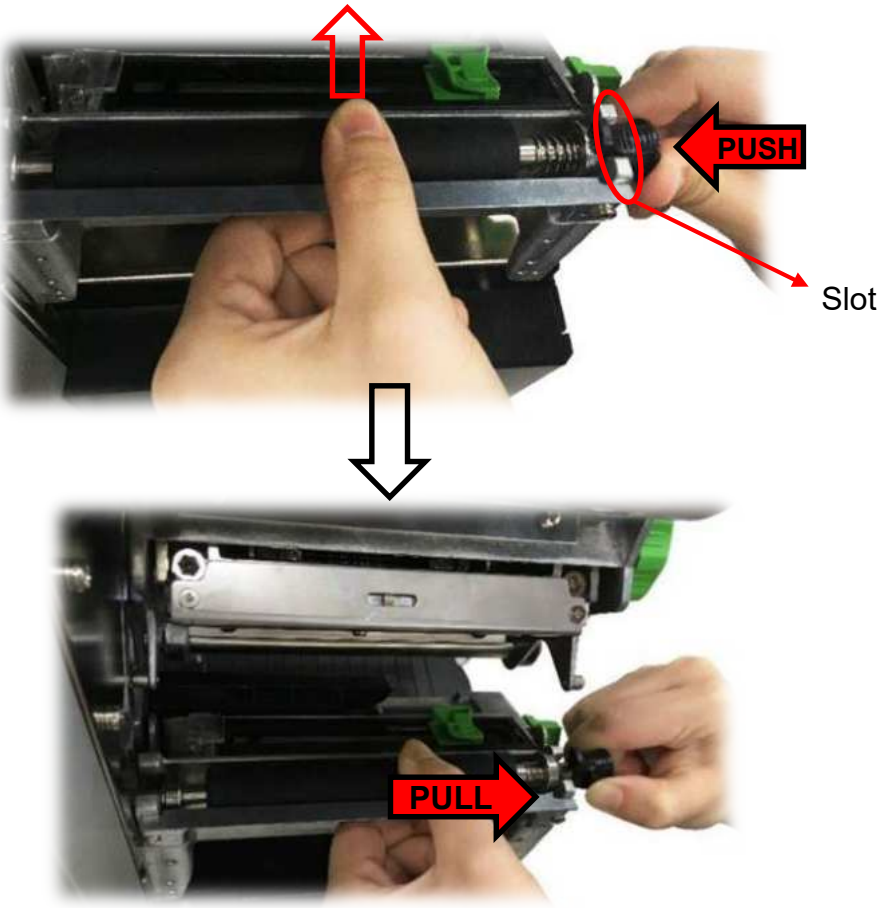


3. Refer to section 3.1 to remove the lower front panel.

4. Remove the platen roller dust cap as indicated.



5. Push the platen roller across the slot by holding both the bar and platen roller to left side and lift up the platen roller about 2mm until the black bar has left the slot. Next, release the platen roller assembly by pulling both platen roller and black bar to the right side and the platen roller can be removed.



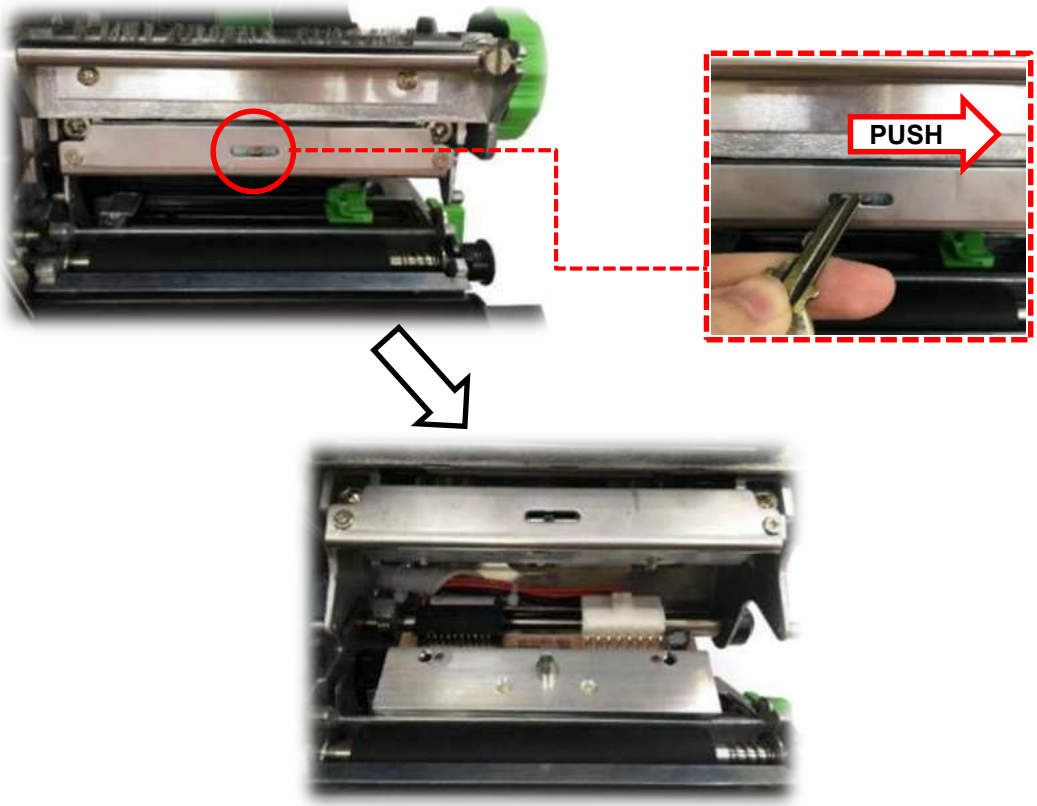
Platen roller assembly

6. Reassemble the parts in the reverse procedures.

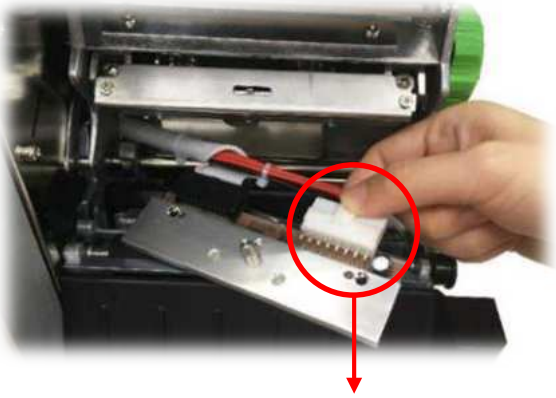
3.5 Replacing the Printhead Assembly

1. Open the printer cover and print head release lever.

2. Release the print head assembly by using the key to push the hook to the right side as indicated.

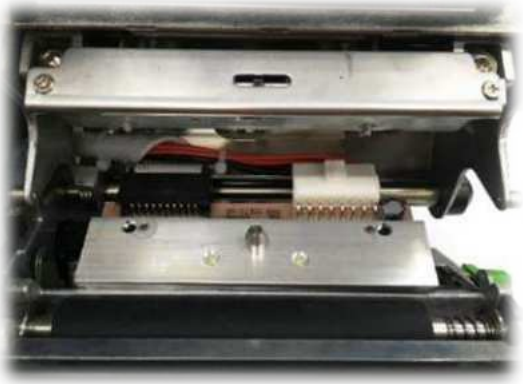


3. Carefully disconnect connectors from the print head assembly. Please do not pull the cable to right and left side alternatively in order to disconnect it from the print head connector. Please push the key in the middle of the connector. When the connector becomes loose from the print head connector, you can disconnect it.



Press the key and disconnect connectors.

4. Remove/Replace the print head assembly.



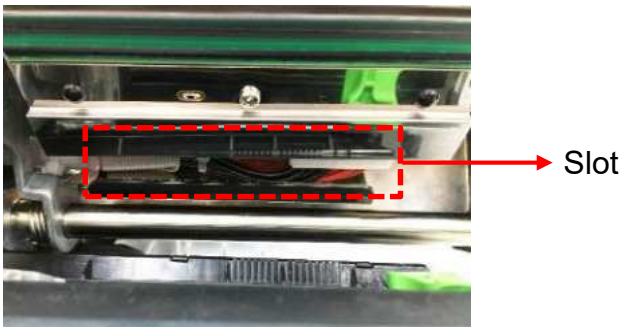
5. Reassemble the parts in the reverse procedures.

Note:

*** Please use the new print head secure screw enclosed with printer to replace the print head assembly.**

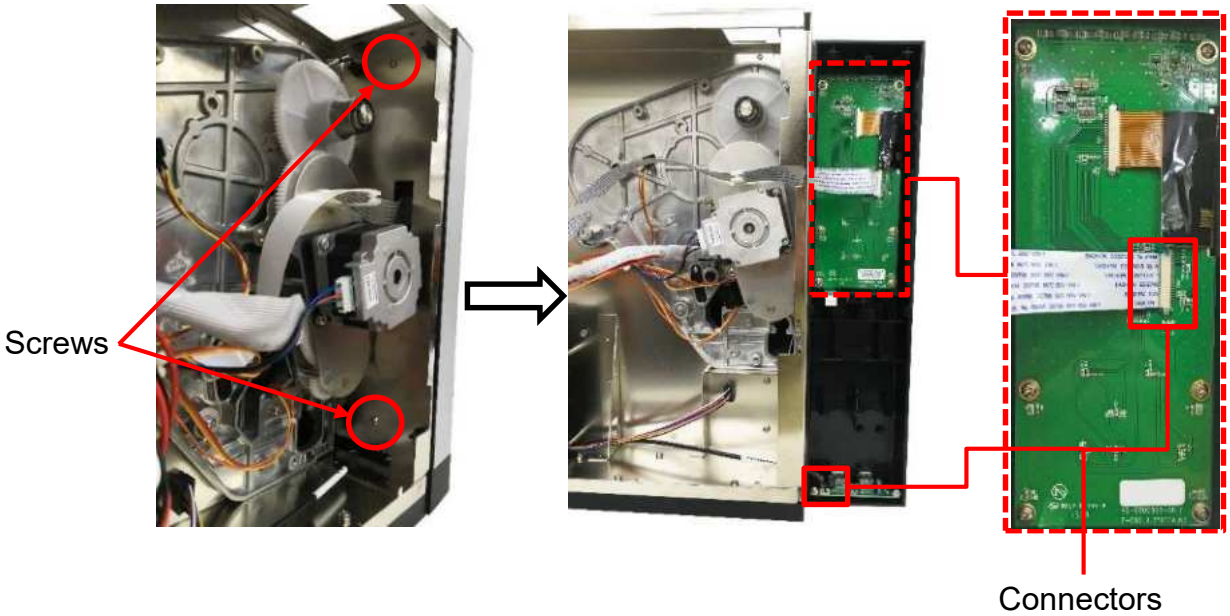
DO NOT re-use the original screw. Use original print head screw will damage the new print head screw hole. This damage is not in the warranty.

*** Please place the cables on the slot to prevent stuck when reinstall the print head assembly.**

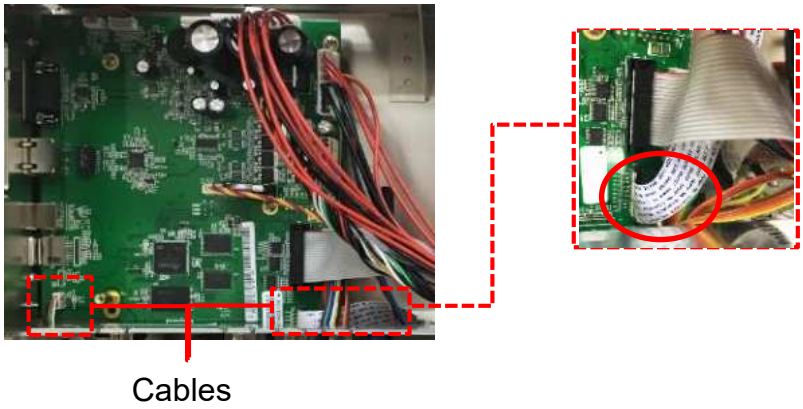


3.6 Replacing the LCD Panel Module

1. Follow the previous steps (refer to section 3.2) to remove the electronics cover.
2. Remove the 2 screws (fastened by 7.5 kg±15% kg-cm) on left front panel cover and disconnect 2 connectors on LCD panel and USB host board.



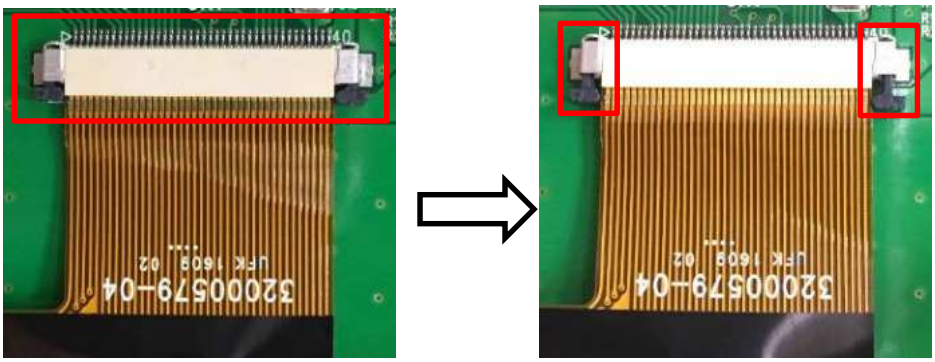
3. Remove the module connecting cable and harness.



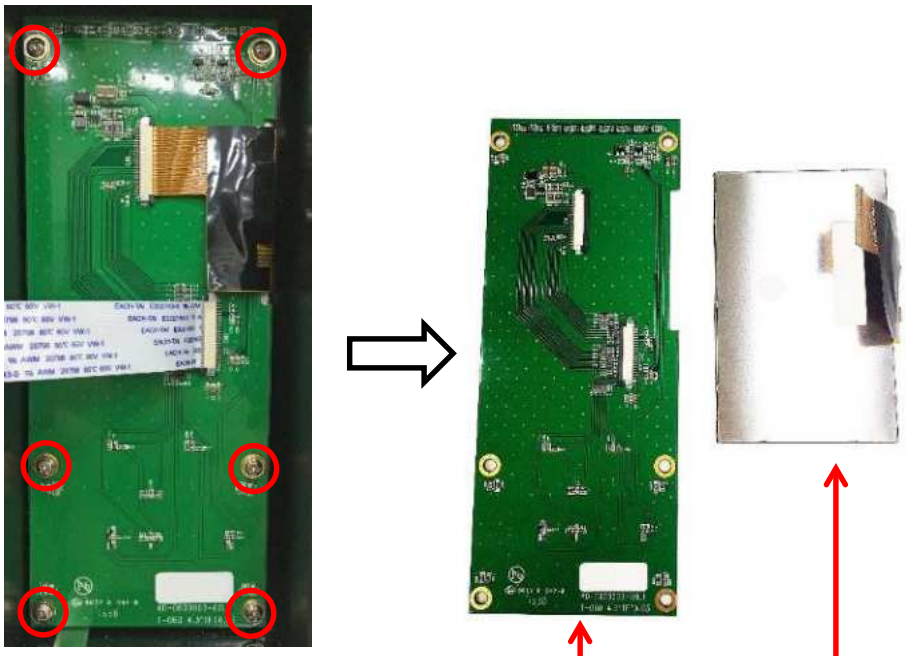
4. Reassemble the parts in the reverse procedures.

3.7 Replacing the LCD Control Board & LCD Touch Panel

1. Follow the previous step (refer to section 3.6) to remove the LCD panel module.
2. Remove the FPC harness from the LCD control board.



3. Remove the marked six fixed screws (fastened by 5 kg±15% kg-cm) to take out LCD control board, the holder and touch panel can be removed.

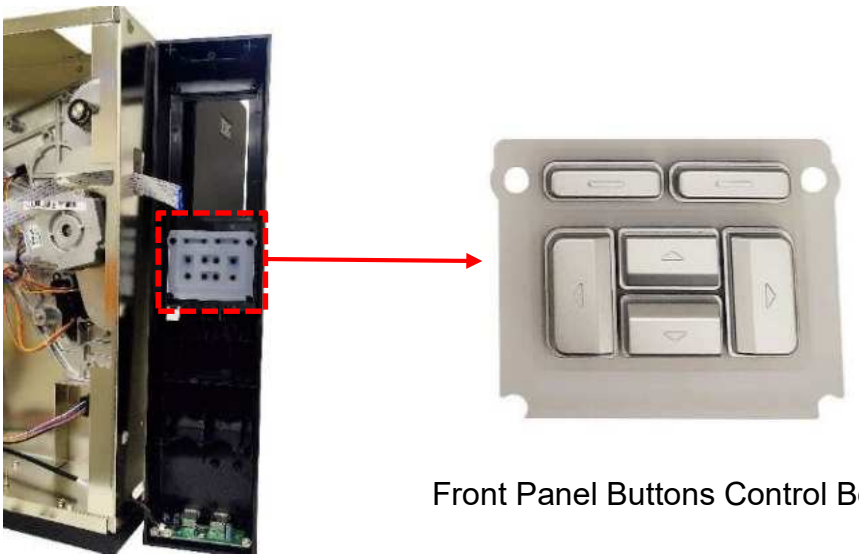


Screws LCD control board Touch panel

4. Reassemble the parts in the reverse procedures.

3.8 Replacing the Front Panel Buttons Control Board

1. Refer to section 3.7 to remove the LCD Control Board & LCD Touch Panel.
2. Remove the front panel buttons control board located below the LCD Panel module.

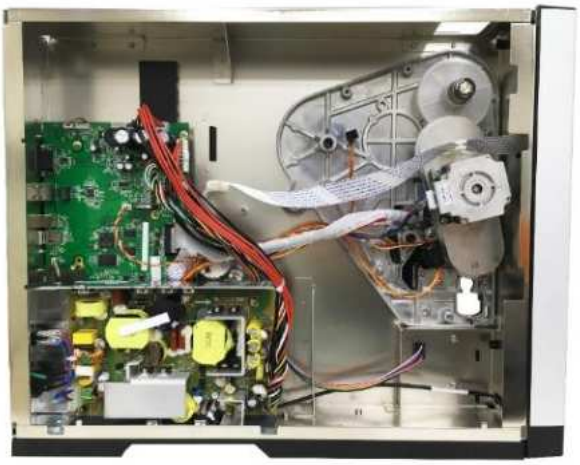


Front Panel Buttons Control Board

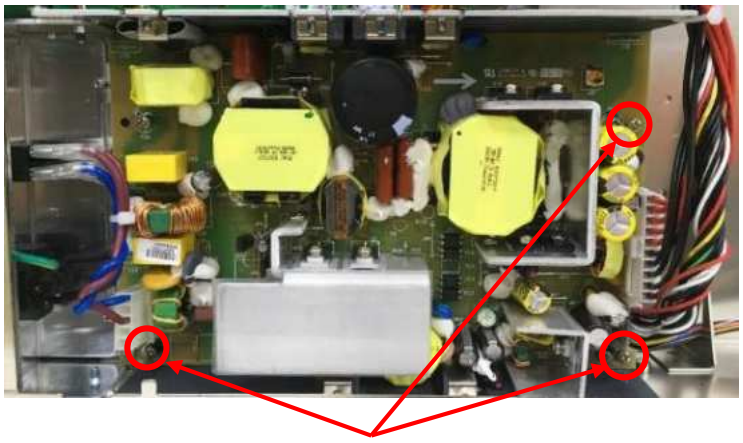
3. Reassemble the parts in the reverse procedures.

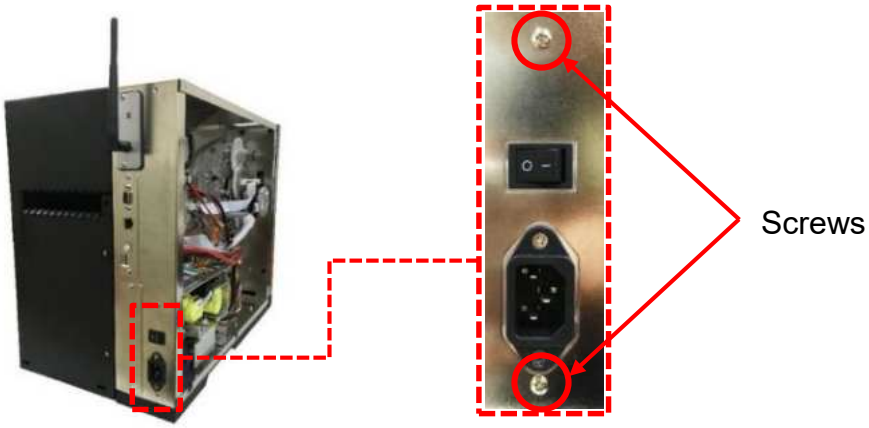
3.9 Replacing the Label Supply Spindle

1. Refer to section 3.2 to remove the electronic cover.

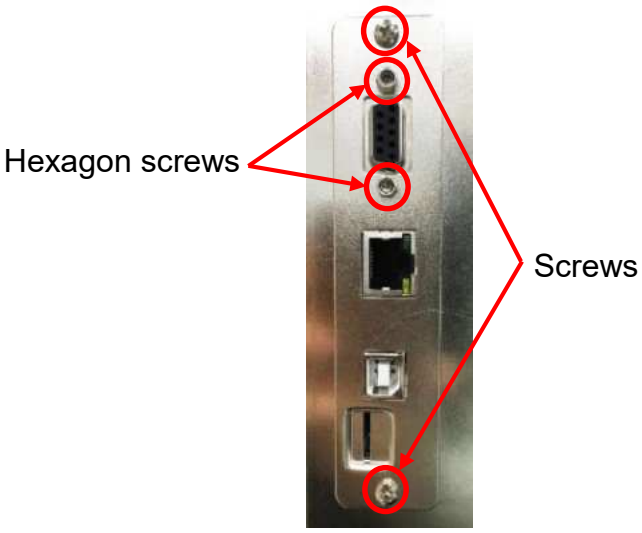


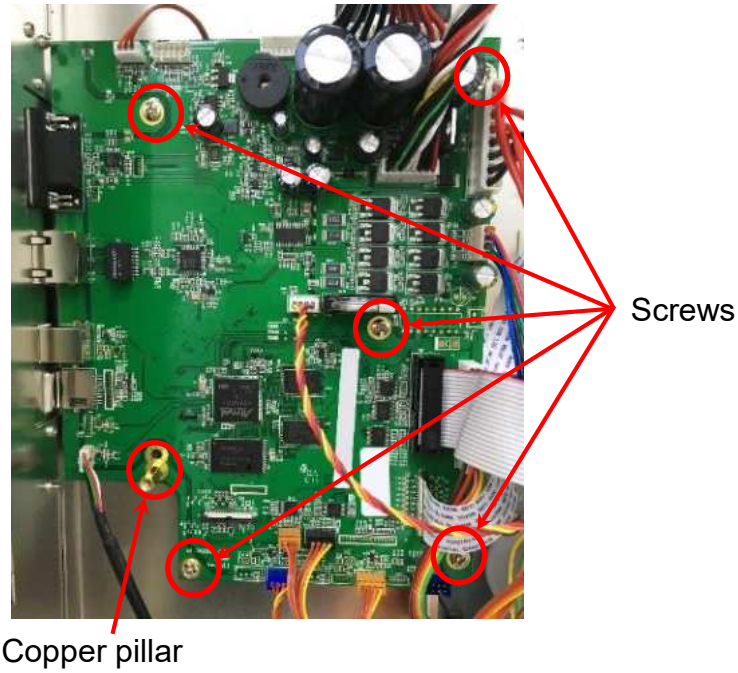
2. Uninstall the power supply unit by remove 5 screws (fastened by 7.5 kg±15% kg-cm) on the main board and interface as indicated below.



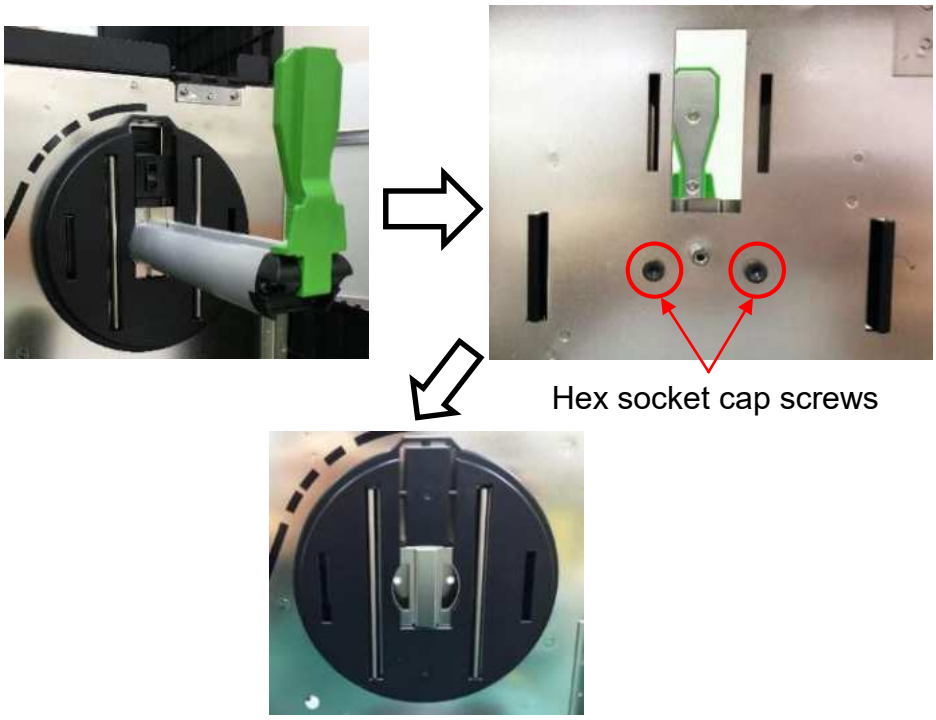


3. Remove the 7 screws (fastened by 7.5 kg±15% kg-cm), 2 hex socket cap screws (fastened by 7.5 kg±15% kg-cm), and 1 copper pillar (fastened by 7.5 kg±15% kg-cm) to uninstall the main board as indicated.





4. Remove the 2 hex socket cap screws (fastened by 10.5 kg±15% kg-cm) on the electronic side to release the label supply spindle assembly.

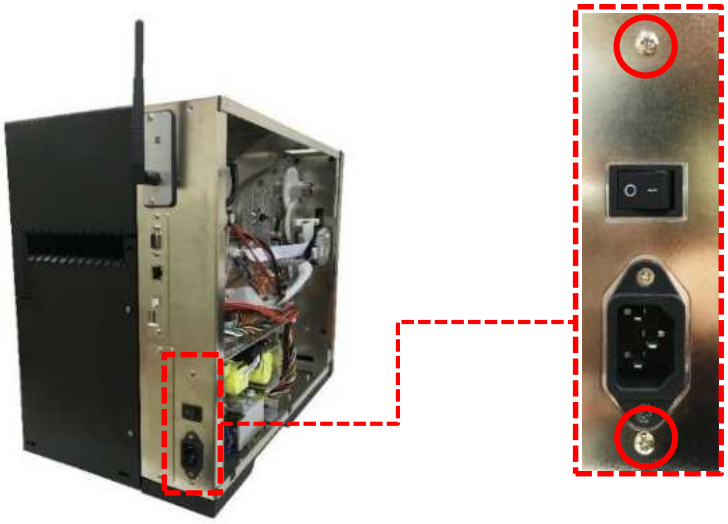


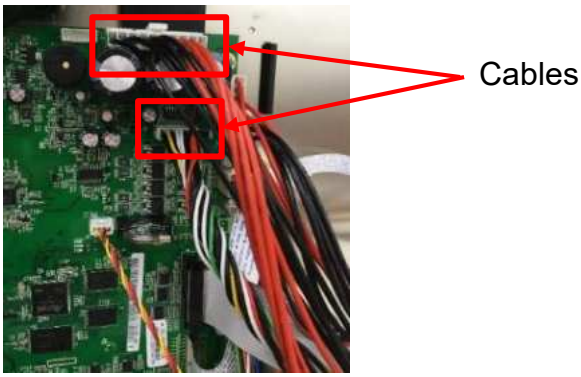
5. Reassemble the parts in the reverse procedures.

3.10 Replacing the Power Supply Unit

1. Refer to section 3.2 to remove the electronics cover.
2. Remove 3 screws (fastened by 7.5 kg±15% kg-cm) as indicated.

3. Remove 2 screws (fastened by 7.5 kg±15% kg-cm) on interface and the cables on the main board to release the power supply unit.





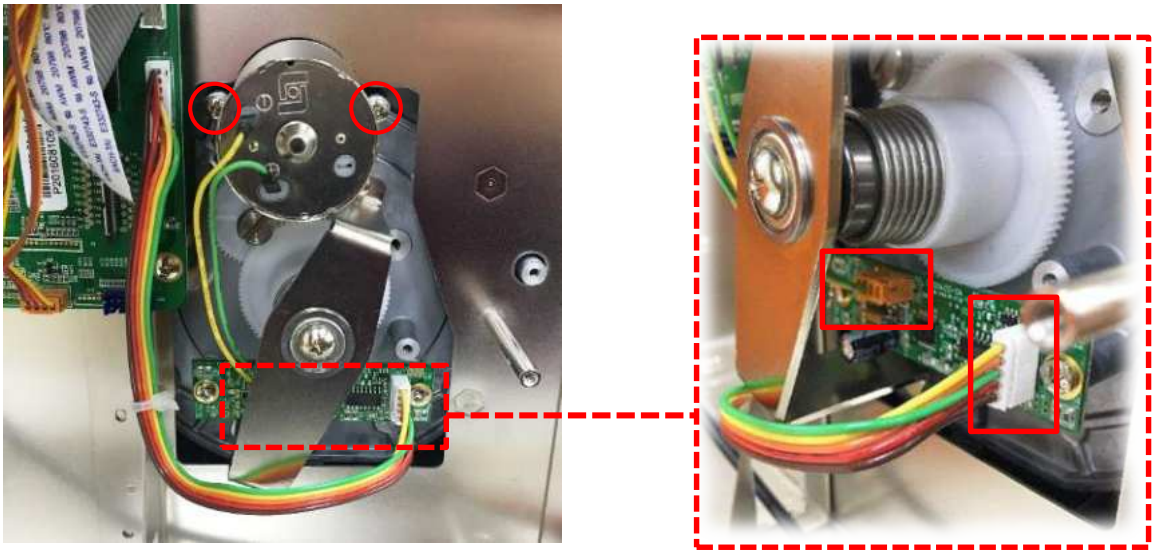
4. Remove/Replace the power supply unit.

Power supply board unit

5. Reassemble the parts in the reverse procedures.

3.11 Replacing the Internal Rewinder DC Motor

1. Please refer to section 3.10 to remove the power supply unit and you can see the DC motor.
2. Remove the 2 marked fix screws (fastened by 7.5 kg±15% kg-cm) from the DC motor. Remove 2 DC motor cable connectors on the main board.

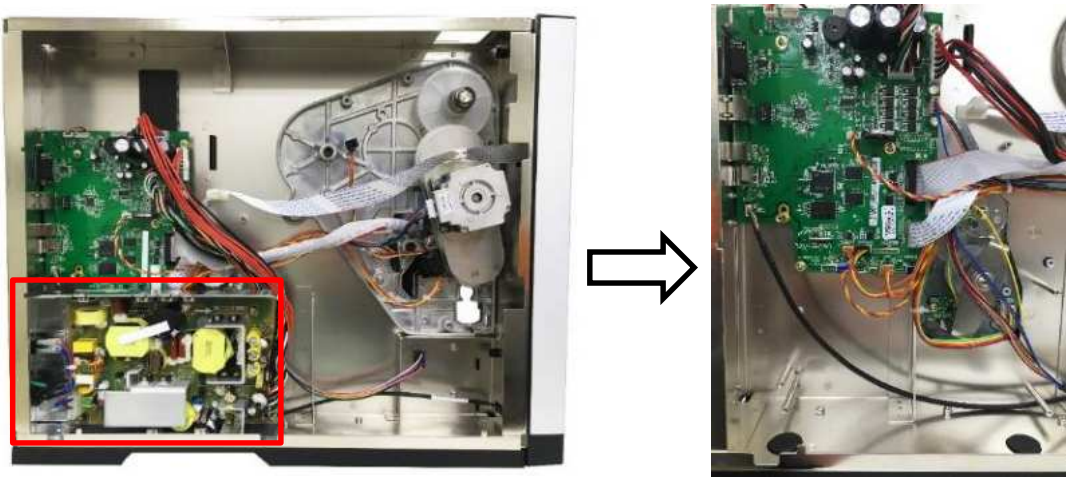


DC motor module

3. Reassemble the parts in the reverse procedures.

3.12 Replacing GPIO Interface Board (with Parallel Port)

1. Refer to section 3.1 to remove the electronics cover.
2. Refer to section 3.10 to remove the power supply unit.

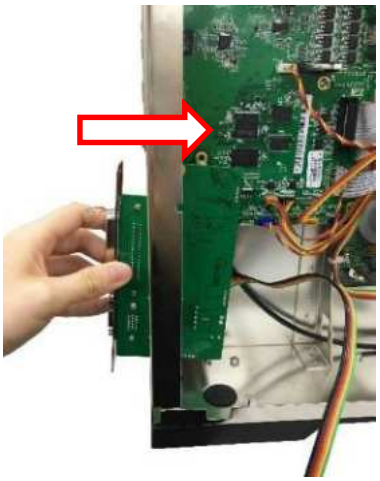


3. Remove the original GPIO interface board (screws torque: 7.5 kg±15% kg-cm) or protective cover as below.

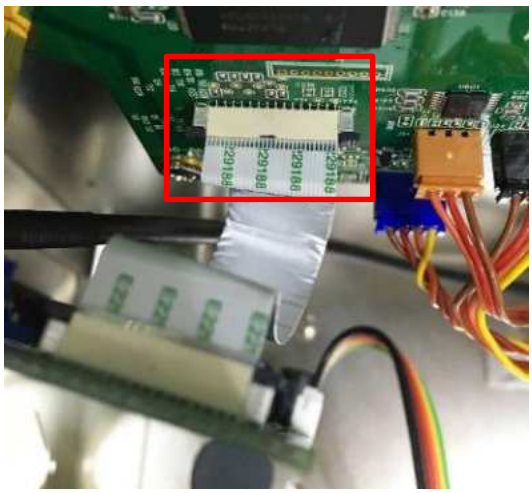
GPIO interface board

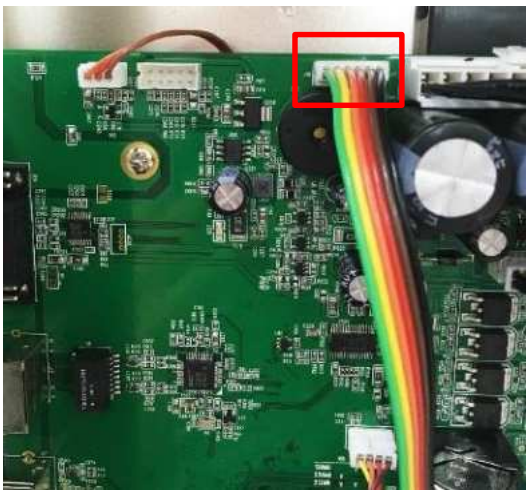
Protective cover

4. Install the GPIO interface board from the outside of interface board.

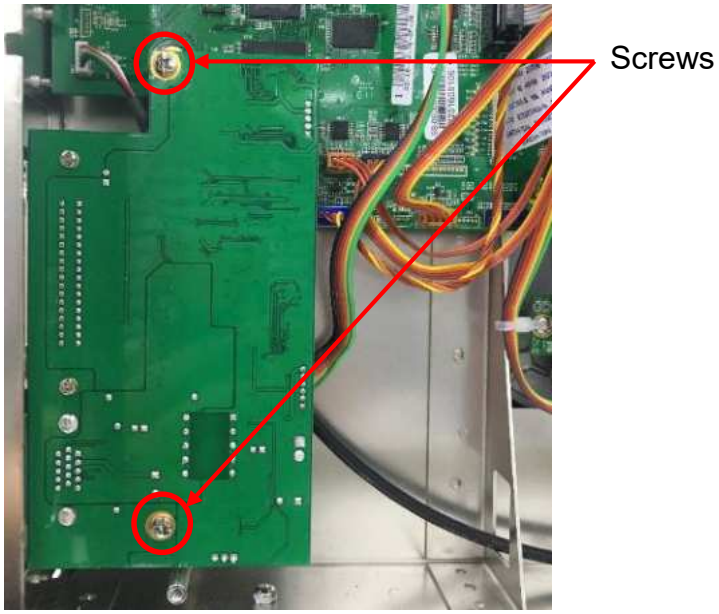


5. Fasten the cables on GPIO interface board as indicated.





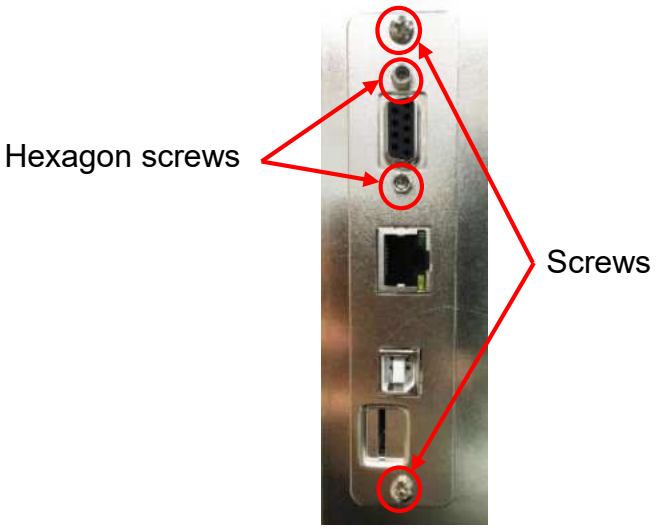
6. Fix the two screws (7.5 kg±15% kg-cm) on GPIO interface board as indicated.



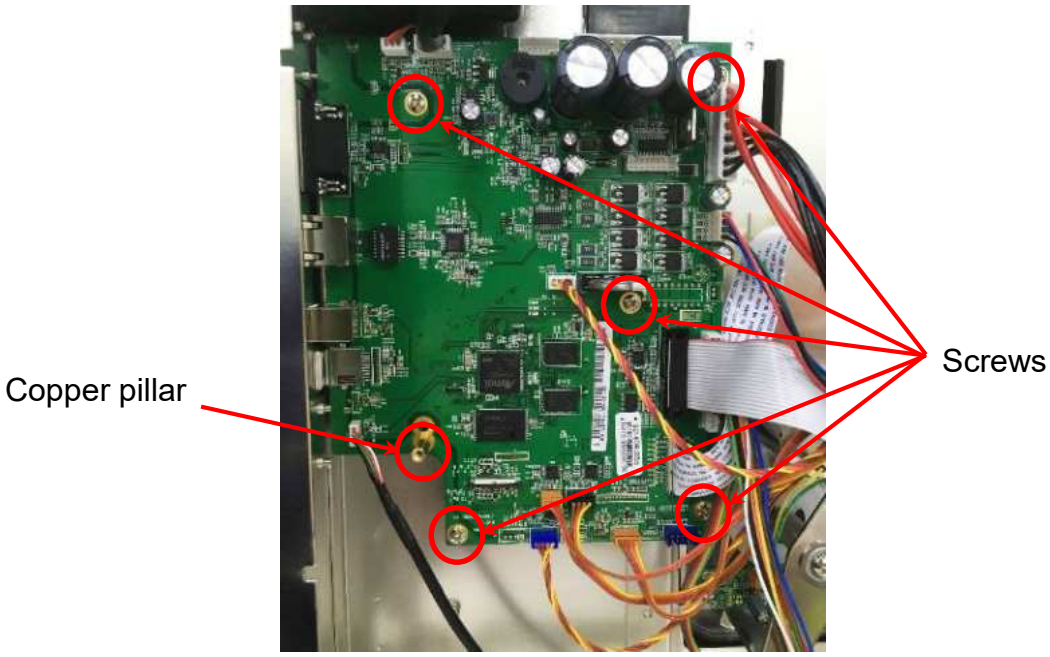
7. Remove/Replace the GPIO interface board.
8. Reassemble the parts in the reverse procedures.

3.13 Replacing the Main Board

1. Refer to section 3.1 to remove the electronics cover.
2. Refer to section 3.10 to remove the power supply unit.
3. Refer to section 3.12 to remove the GPIO interface board (if installed).
4. Remove the 2 screws (fastened by 7.5 kg±15% kg-cm) and 2 hexagon screws.



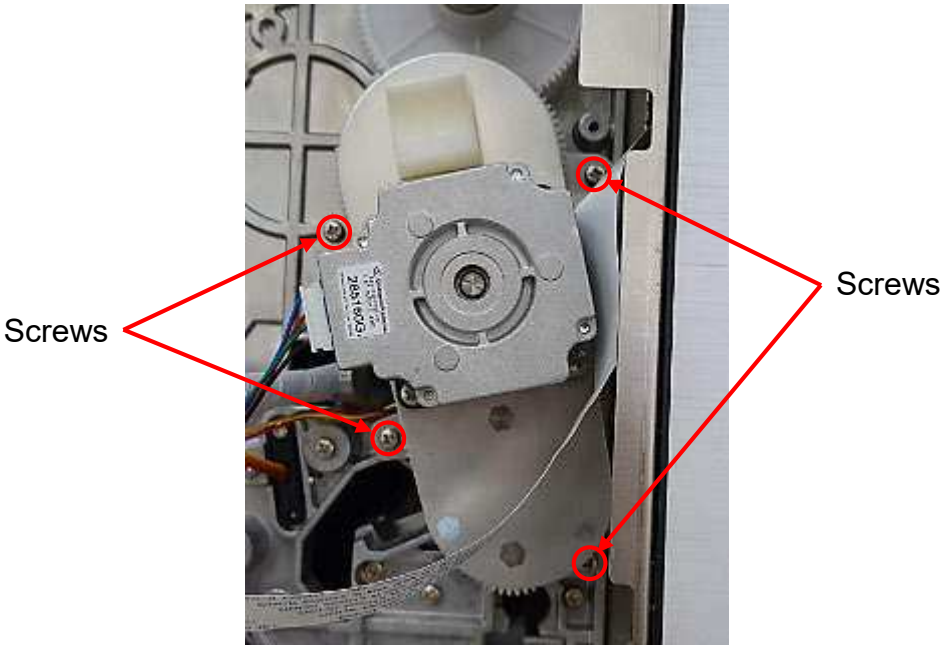
5. Remove 1 copper pillar, 5 screws (fastened by 7.5 kg±15% kg-cm), and all connectors from the main board.



6. Remove/Replace the main board. Reassemble the parts in the reverse procedures.

3.14 Replacing the Stepping Motor Assembly

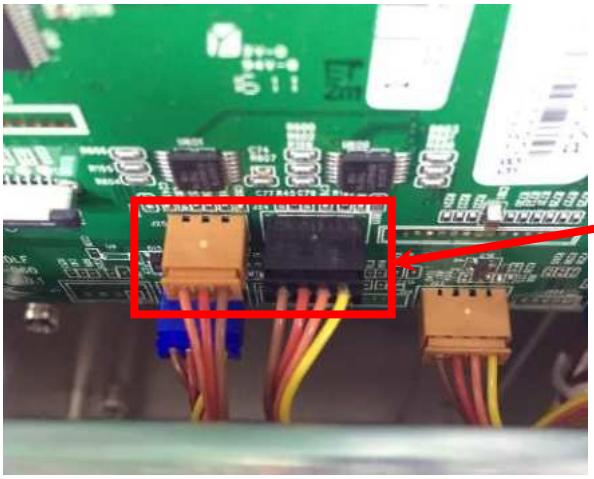
1. Refer to section 3.1 to remove the electronics cover.
2. Remove 4 screws (fastened by 10.5 kg±15% kg-cm) on the stepping motor assembly.



3. Remove/Replace the stepping motor assembly (including belt, gears, and stepping motor).
4. Reassemble the parts in the reverse procedures.

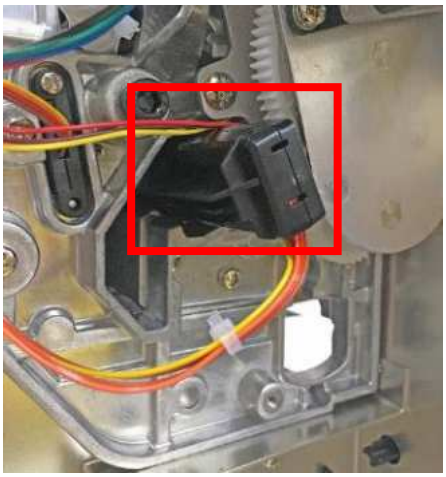
3.15 Replacing the Gap/Black Mark Sensor Module

1. Refer to section 3.1 to remove the electronics cover.
2. Disconnect the gap/black mark sensor connectors from the main board.



Gap/Black mark sensor connector

3. Pull out the media sensor module.



4. Remove/Replace the gap/black mark sensor.

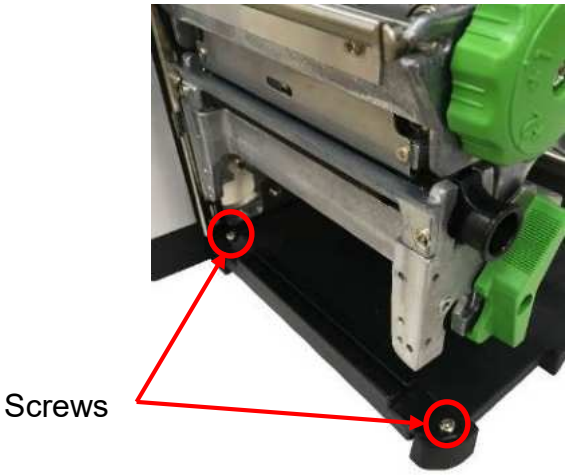
Media sensor assembly

5. Reassemble the parts in the reverse procedures.

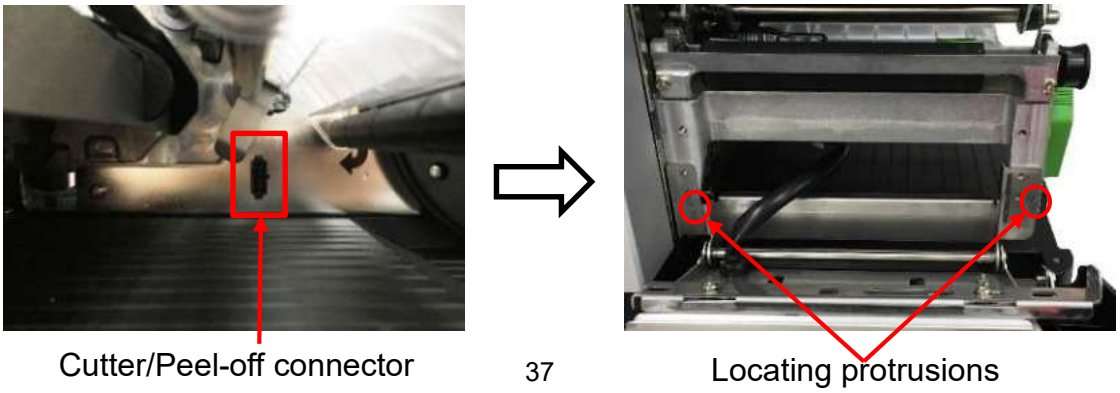
3.16 Cutter Module Installation (Option)

1. Refer to section 3.1 to remove the lower front panel.

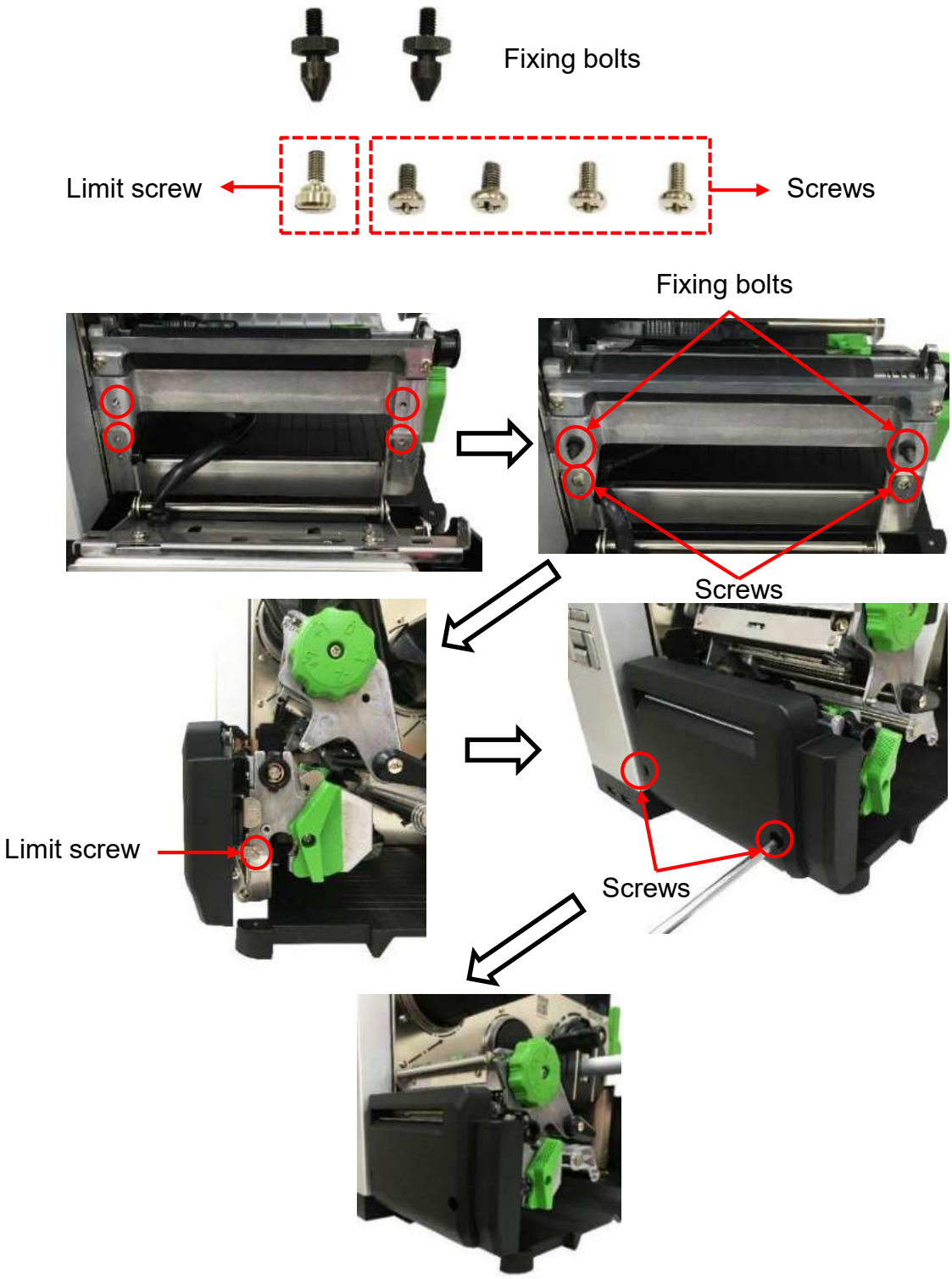
2. Remove the lower fixed bar by disengage the 2 screws (fastened by 7.5 kg±15% kg-cm).



3. Plug the cutter cable connector into the cutter/peel-off cable socket. Put 2 locating protrusions into locating holes as indicated.



4. Fasten the 2 black fixing bolts and 2 screws (7.5 kg±15% kg-cm) to fix the cutter module then closed the plate.
5. Fasten the 1 limit screw (7.5 kg±15% kg-cm) and the rest 2 screws (7.5 kg±15% kg-cm) on cutter module plate as indicated.



6. Reassemble the parts in the reverse procedures.

Regular guillotine cutter

Heavy duty guillotine cutter

3.17 Peel-off Kit Installation (Option)

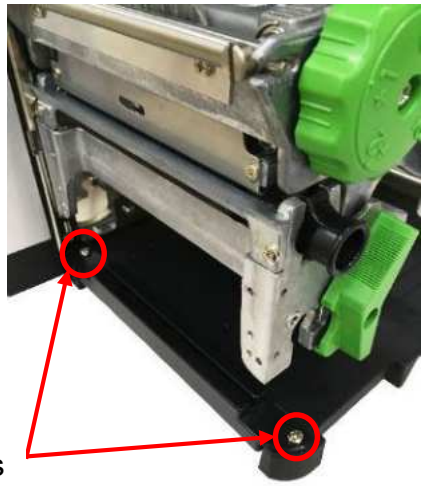
Peel-off Kit parts list:

1. Peel-off roller module
2. Media guide bar & rear label guide module
3. Peel-off sensor module
4. Internal liner rewinder module
5. 2 black fixing bolts and 9 screws

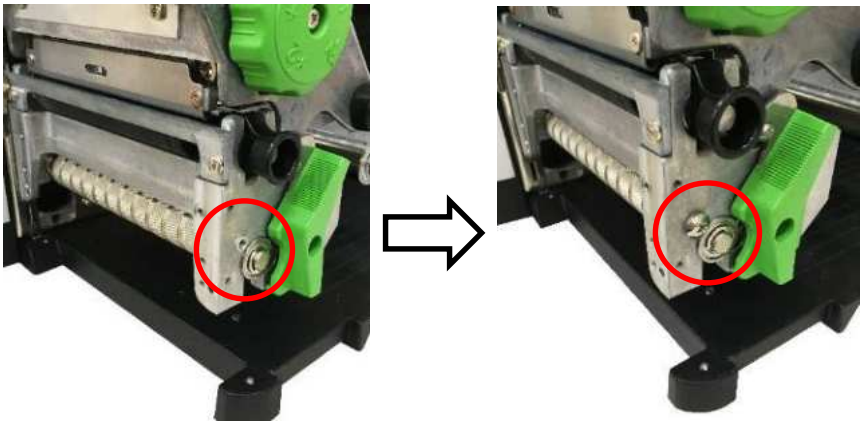
A. Peel-off Sensor Module Installation

1. Refer to section 3.1 to remove the lower front panel.

2. Remove the 2 screws and uninstall the lower fixed bar (fastened by 7.5 kg±15% kg-cm).

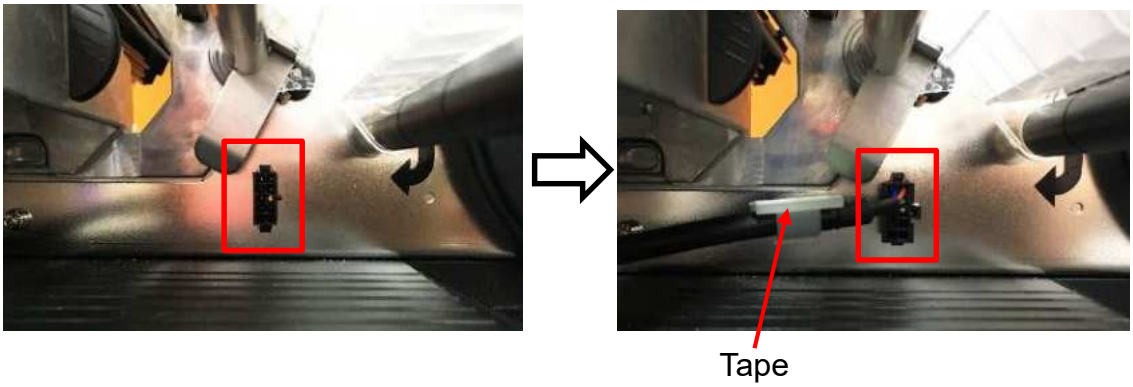


3. Install the peeler roller on the slot, then fix the screw (7.5 kg±15% kg-cm) as indicated.

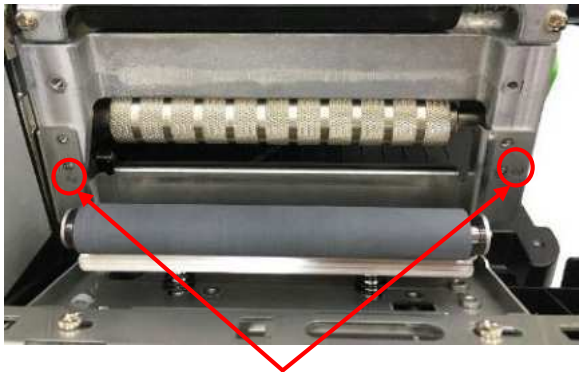


Note: The screw must close to the roller ring to fix it and preventing roller loosen when peeling the label.

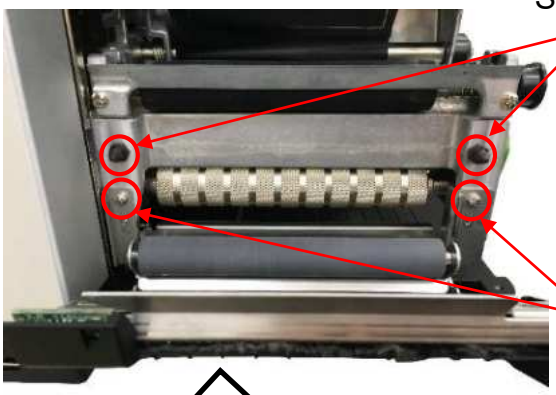
4. Disconnect the power cord than plug the peel-off sensor module cable connector into the cutter/peel-off cable socket.
   Note: The cable can be fixed by stick the tape on electronic side.

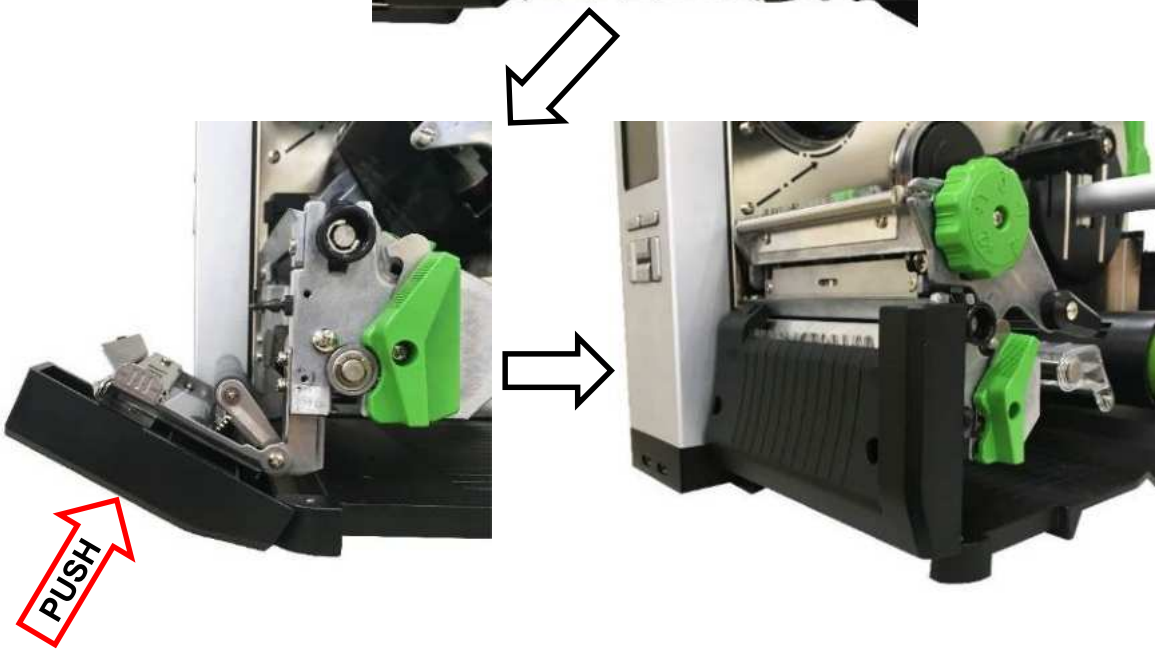


5. Put 2 locating protrusions into locating holes as indicated.



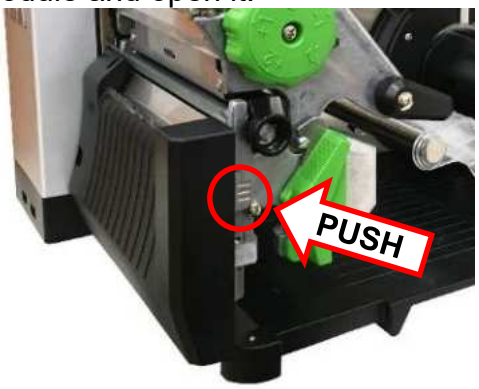
6. Fasten the 2 set bolts (7.5 kg ±15% kg-cm) and 2 screws (7.5 kg±15% kg-cm) into the fixing holes, then close the peel-off module.





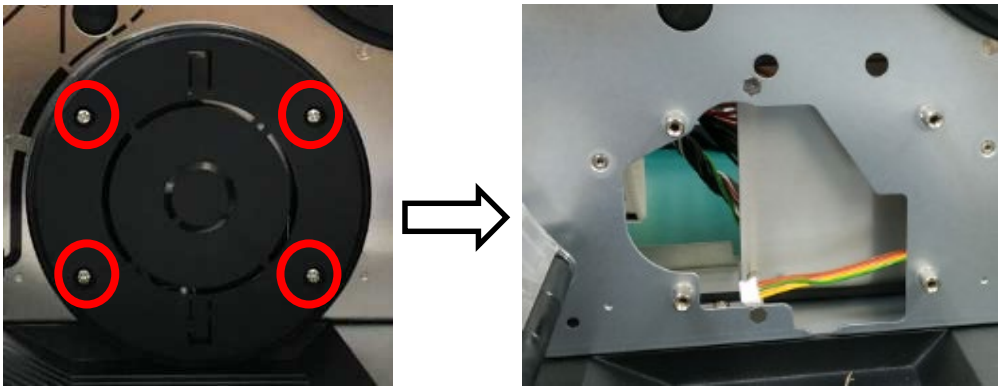
7. Fix the rest 2 screws through the reserved holes.
8. Connect the power cord and complete peel-off sensor module installation.

9. Reassemble the parts in the reverse procedures.
   Note: Push the peel-off module and open it.

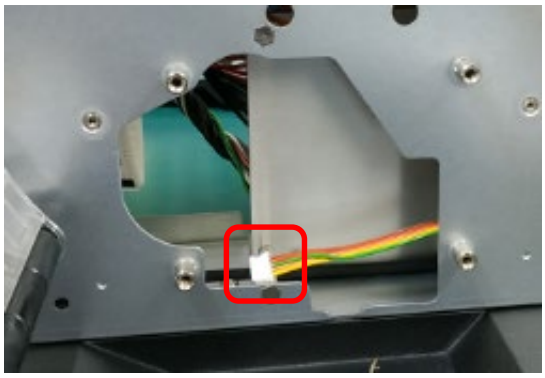


B. Rewind Spindle Installation

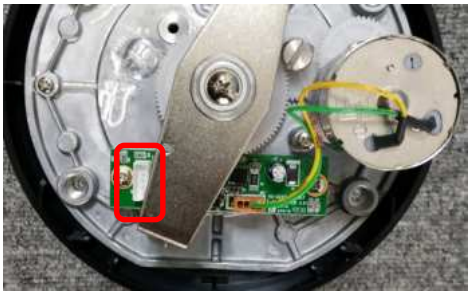
1. Remove 4 screws (10.5 kg±15% kg-cm) as indicated and take out the rewind spindle cover.



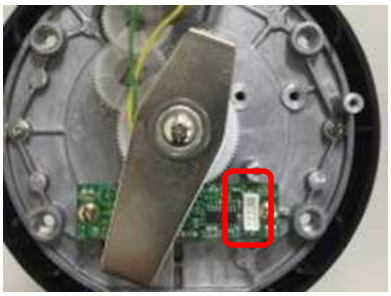
2. Connect the cable to the rewinder power connector (white) as indicated.



MH240/MH240T series



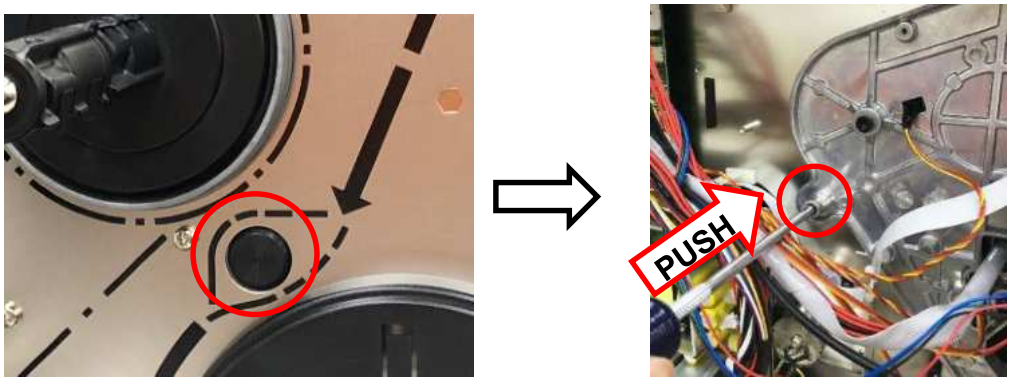
MH240P series



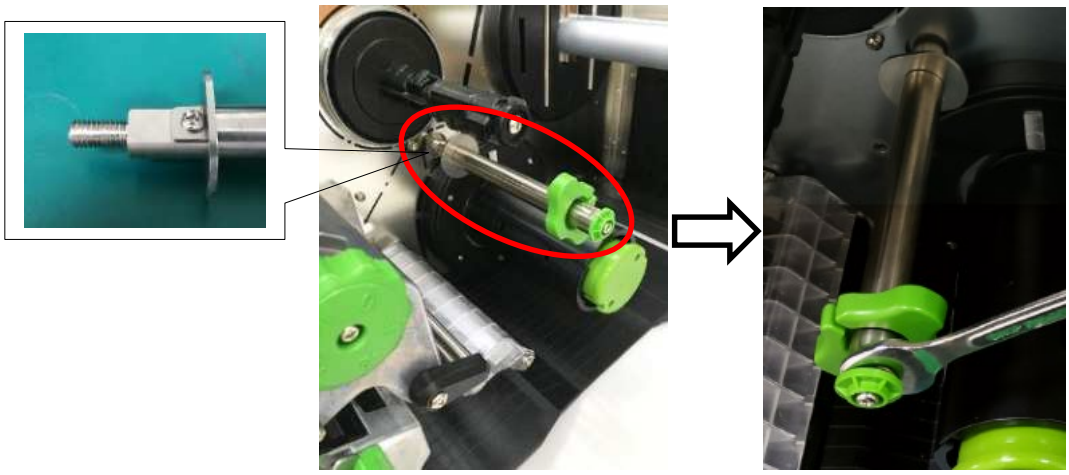
3. Using 4 screws which come with module to fix the whole rewind spindle module.

C. Media guide bar assembly installation

1. Refer to section 3.2 to remove the electronic cover. Use the screw driver to push out the black rubber cover on the hole in electronic side as indicated.



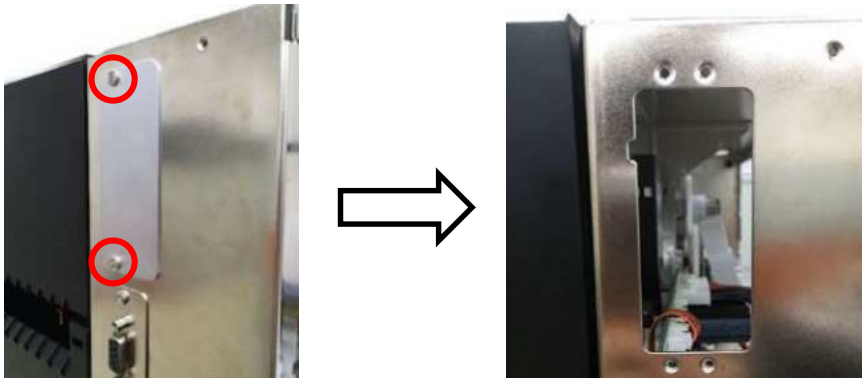
2. Install the media guide bar assembly and use tool to fasten it.



3. Reassemble the parts in the reverse procedures.

3.18 Replacing Slot-in Wireless Transfer Board

1. Refer to section 3.2 to remove the electronics cover.
2. Take off the housing cover by removing 2 screws (fastened by 7.5 kg±15% kg-cm) on rear of printer.



3. Install the Slot-in Wireless Transfer module on the rear of the printer and fix 2 screws as indicated.

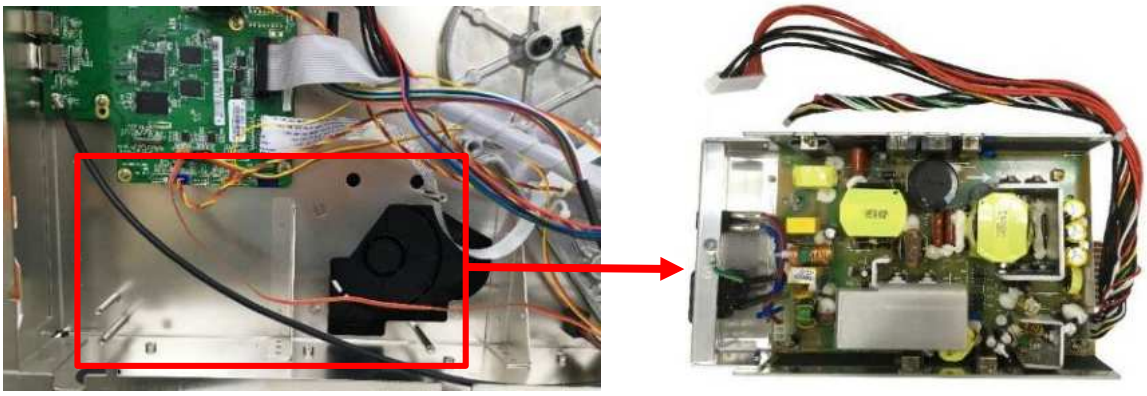
4. Connect the slot-in Wireless Transfer module housing board cable to the main board.

Slot-in Wi-Fi module

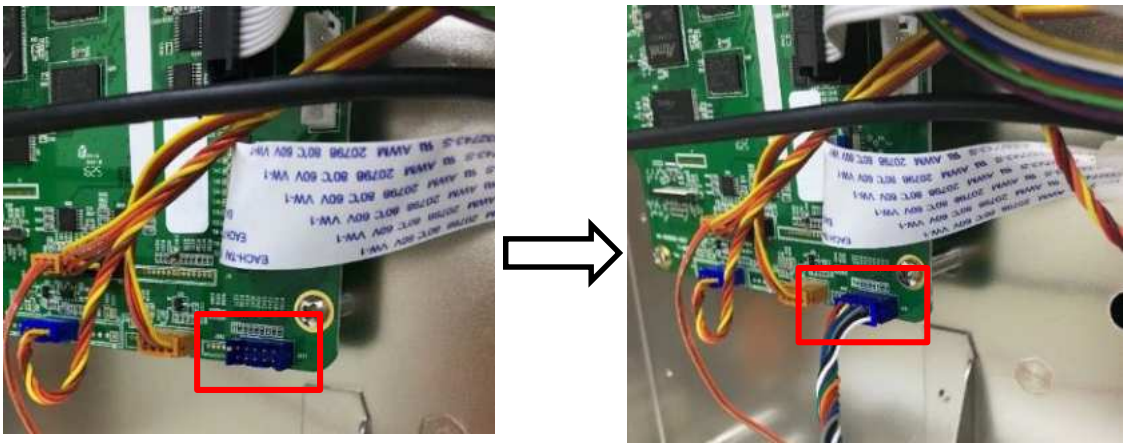
5. Reassemble the parts in the reverse procedures.

3.19 Replacing the Bluetooth module

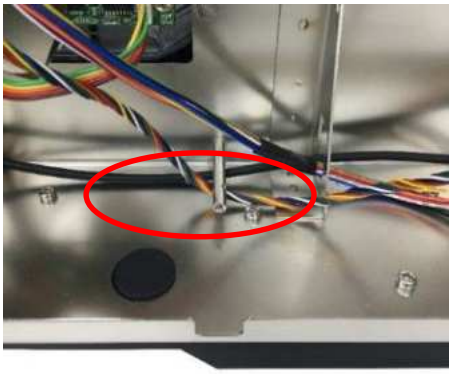
1. Refer to section 3.2 to remove the electronics cover.
2. Refer to section 3.10 to remove the power supply unit.



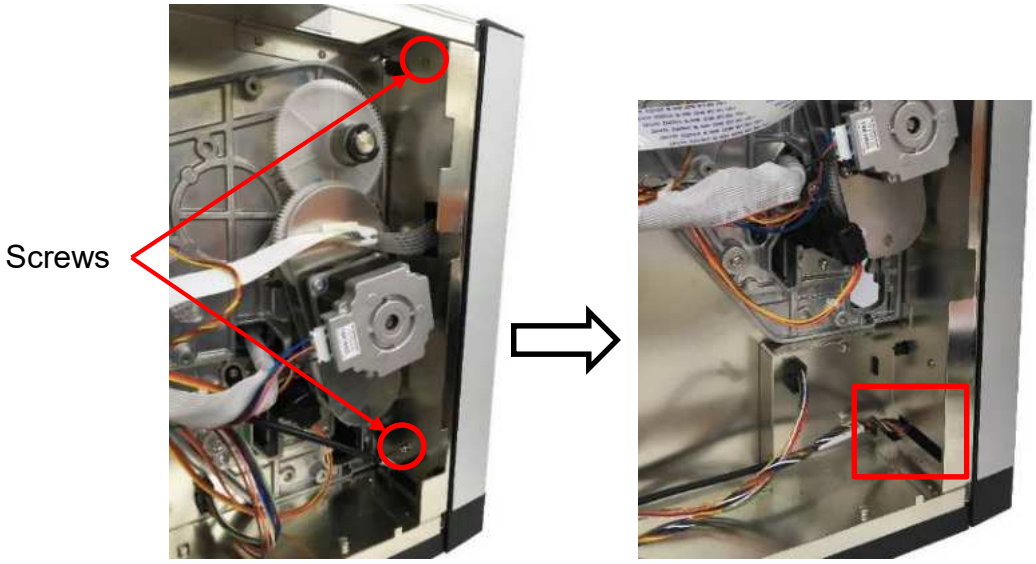
3. Refer to section 3.12 to remove the GPIO interface board (if installed).
4. Plug the Bluetooth module cable to the connector as indicated.



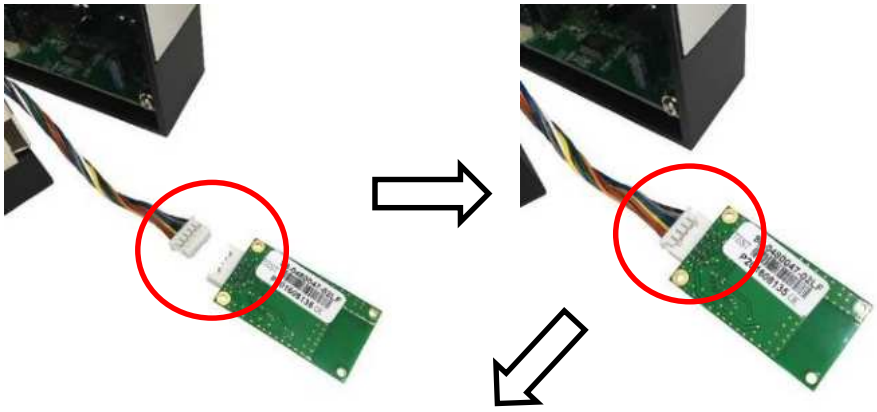
5. Please load the Bluetooth cable through the path as indicated.



6. Remove the two screws (fastened by 7.5 kg±15% kg-cm) on the left front panel cover and install the Bluetooth module to the lower panel as indicated.



7. Connect the Bluetooth and Bluetooth cable and then fix it to the front panel (3 kg±15% kg-cm) as below.



8. Fix the left front panel cover and complete the installation of Bluetooth module.
9. Reassemble the parts in the reverse procedures.

3.20 Care Label Cutter Module Installation (Option)

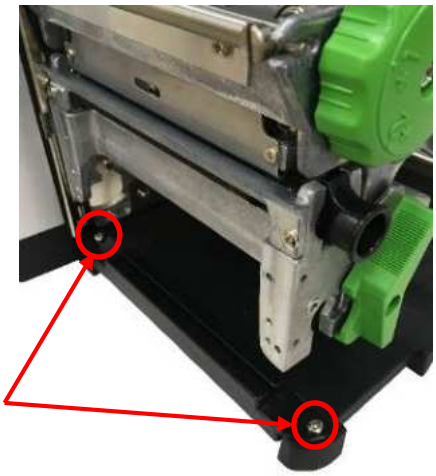
1. Refer to section 3.1 to remove the lower front panel.

2. Please replace the tear bar used with care label cutter module by remove the 2 screws as indicated.

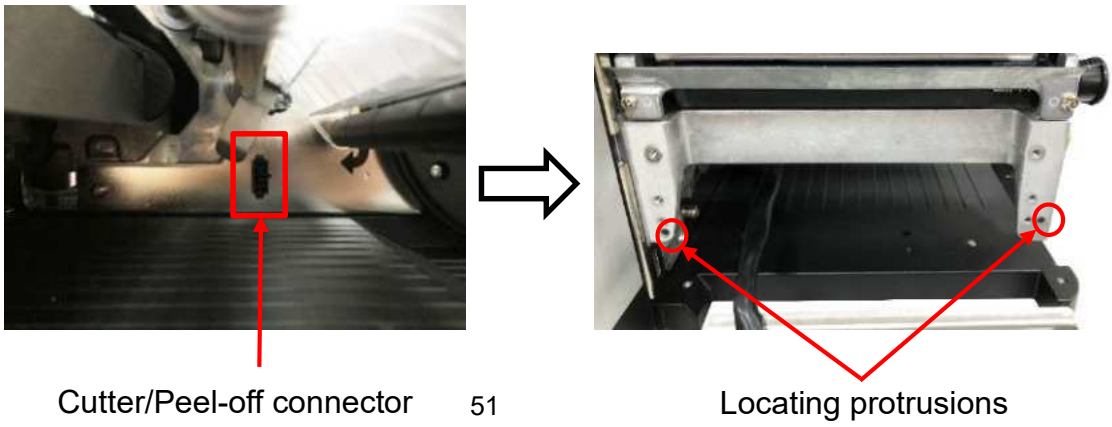
Screws

Tear bar used with care label cutter module

3. Remove the lower fixed bar by disengage the 2 screws (fastened by 7.5 kg±15% kg-cm).

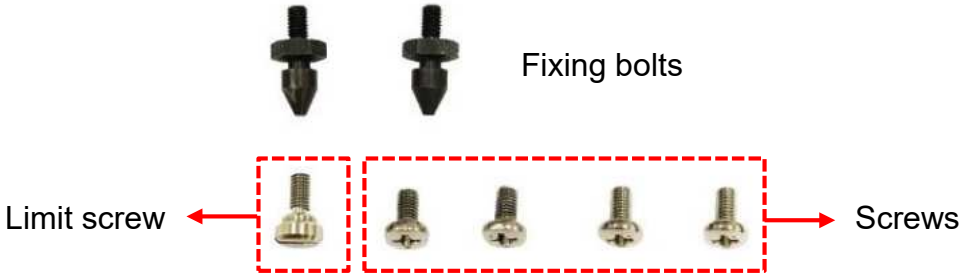


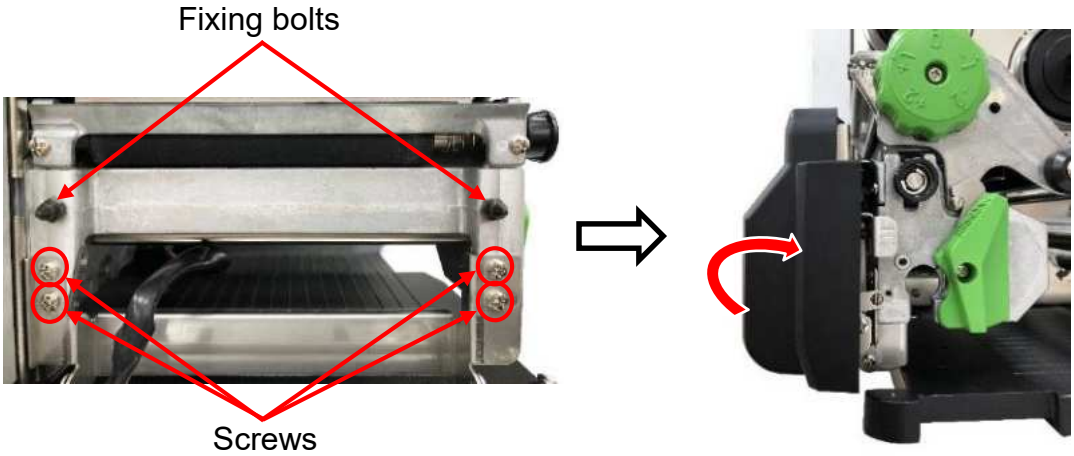
4. Plug the cable connector of care label cutter into the cutter/peel-off cable socket. Put 2 locating protrusions into locating holes as indicated.

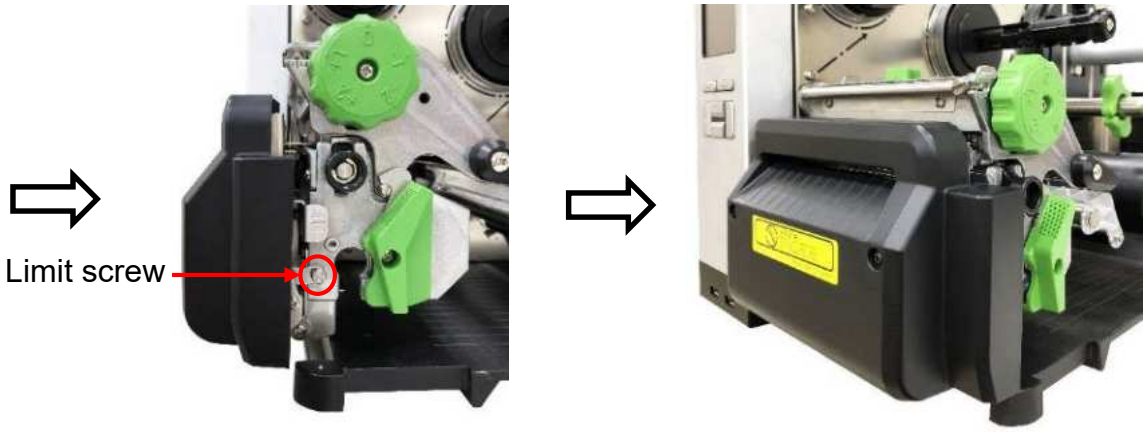


5. Fasten the 2 black fixing bolts and four screws to fix the care label cutter module then closed the module plate.

6. Fasten the 1 limit screw (7.5 kg±15% kg-cm) on printer mechanism as indicated.







7. Reassemble the parts in the reverse procedures.

Care label cutter module

4. TROUBLESHOOTING

4.1 Common Problems

The following guide lists the most common problems that might be encountered when operating this bar code printer. If the printer still does not function after all suggested solutions have been invoked, please contact the Customer Service Department of your purchased reseller or distributor for assistance.

Problem	Possible Cause	Recovery Procedure
Power indicator does not illuminate	* The power cord is not properly connected.	* Plug the power cord in printer and outlet. * Switch the printer on.
`Carriage Open`	* The printer print head release lever or rear paper feed roller release lever is not engaged.	* Please engage the release levers.
`No Ribbon`	* Running out of ribbon. * The ribbon is installed incorrectly.	* Supply a new ribbon roll. * Please refer to the steps in user's manual to reinstall the ribbon.

No Paper	* Running out of label. * The label is installed incorrectly. * Gap/black mark sensor is not calibrated. * Gap/black mark sensor is not on the media	* Supply a new label roll. * Please refer to the steps in user's manual to reinstall the label roll. * Calibrate the gap/black mark sensor. * Align the media sensor on top of the media or black mark or notch.
Paper Jam	* Gap/black mark sensor is not set correctly for the media * Make sure media width and height are set exactly same as actual media width and height. * Labels may be stuck inside the printer mechanism or media sensor	* Select the correct sensor for the media * Calibrate the gap/black mark sensor. * Set media width and height correctly. * Remove the stuck label inside the print mechanism or at the media sensor
Take Label	* Peel function is enabled.	* If the peeler module is installed and function is enabled, please remove the peeled label. * If there is no peeler module installed, please switch off the printer and install it. * Check if the peeler module cable connector is plugged correctly.

UP: Fwd. DOWN: Rev. MENU: Exit	* Cutter jammed. * There is no cutter installed on the printer. * Cutter PCB is damaged.	* If the cutter module is installed, please press UP or DOWN key to rotate the cutter blade up (forward) or down (backward) to make the blade back to the right position. * Remove the label. * Make sure the thickness of label is less than 200 g/m2 (for regular cutter) or 300 g/m2 (for heavy duty cutter). * Replace a cutter PCB.

Not Printing	* Cable is not well connected to serial or USB interface or parallel port. * The serial port cable pin configuration is not pin to pin connected.	* Re-connect cable to interface. * If using serial cable, - Please replace the cable with pin to pin connected. - Check the baud rate setting. The default baud rate setting of printer is 9600,n,8,1. * If using the Ethernet cable, - Check if the Ethernet RJ-45 connector green LED is lit on.. - Check if the Ethernet RJ-45 connector amber LED is blinking. - Check if the printer gets the IP address when using DHCP mode. - Check if the IP address is correct when using the static IP address. - Wait a few seconds let the printer get the communication with the server then check the IP address setting again. * Chang a new cable. * Ribbon and media are not compatible. * Verify the ribbon-inked side. * Reload the ribbon again. * Clean the printhead. * The print density setting is incorrect. * Printhead's harness connector is not well connected with printheat. Turn off the printer and plug the connector again. * Check if the stepping motor is plugging in the right connector. * Check your program if there is a command PRINT at the end of the file and there must have CRLF at the end of each command line.
Memory full (FLASH / DRAM)	* The space of FLASH/DRAM is full.	* Delete unused files in the FLASH/DRAM. * The max. user addressable memory space of DRAM is 256 MB (MH240 Series) / 256 MB (MH240T/MH240P Series) * The max. user addressable memory space of FLASH is 512 MB (MH240 Series) / 512 MB (MH240T/MH240P Series).
SD card is unable to use	* SD card is damaged. * SD card doesn't insert correctly. * Use the non-approved SD card manufacturer.	* Use the supported capacity SD card. * Insert the SD card again. * The supported SD card spec are listed in section 1.1.

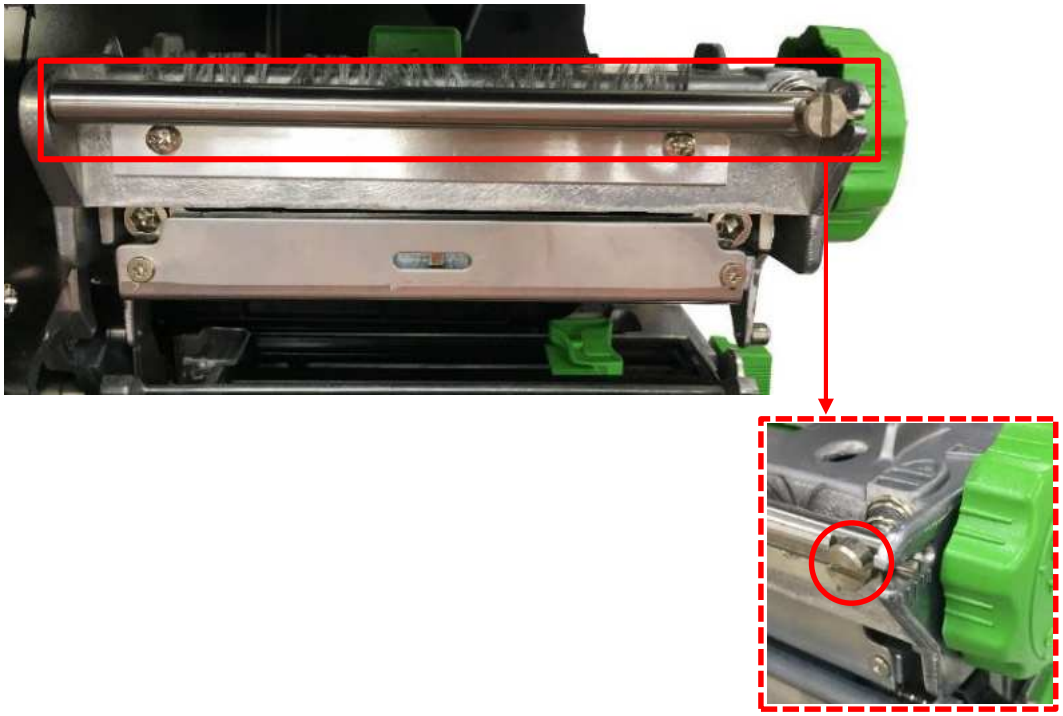
Poor Print Quality	* Ribbon and media is loaded incorrectly * Dust or adhesive accumulation on the print head. * Print density is not set properly. * Print head element is damaged * Ribbon and media are incompatible. * The print head pressure is not set properly	* Reload the supply. * Clean the print head. * Clean the platen roller. * Adjust the print density and print speed. * Run printer self-test and check the print head test pattern if there is dot missing in the pattern. * Change proper ribbon or proper label media. *Please refer to section 4.5 for avoiding the ribbon wrinkle * If the label thickness is more than 0.22 mm, the print quality might not be good enough, please adjust the heater line adjustment screw counter clockwise to get the best print quality. * The release lever does not latch the print head properly.
LCD panel is dark and keys are not working.	* The cable between main PCB and LCD panel is loose.	* Check if the cable between main PCB and LCD is secured or not.
LCD panel is dark but the LEDs are light.	* The printer initialization is unsuccessful.	* Turn OFF and ON the printer again. * Initialize the printer.
LCD panel is dark and LEDs are lit on, but the label is feeding forward.	* The LCD panel harness connector is loose.	* The LCD panel harness connector is plugged upside down.
Ribbon encoder sensor doesn't work.	* The ribbon encoder sensor connector is loose.	* Fasten the connector.
Ribbon end sensor doesn't work.	* The connector is loose. * The ribbon sensor hole is covered with dust.	* Check the connector. * Clear the dust in the sensor hole by the blower.
Peel sensor is not working.	* Peel sensor is not located on the correct position. * The connector is loose.	* Make sure that the media goes through the Peel sensor. * Plug the connect cable correctly.
Cutter is not working.	* The connector is loose.	* Plug in the connect cable correctly.
Label feeding is not stable (skew) when printing.	* The media guide does not touch the edge of the media.	* If the label is moving to the right side, please move the label guide to left. * If the label is moving to the left side, please move the label guide to right.
Skip labels when printing.	* Label size is not specified properly. * Sensor sensitivity is not set properly. * The media sensor is covered with dust.	* Check if label size is setup correctly. * Calibrate the sensor by Auto Gap or Manual Gap options. * Clear the GAP/Black mark sensor by blower.
Missing printing on the left or right side of label.	* Wrong label size setup.	* Set the correct label size.

RTC time is incorrect when reboot the printer.	* The battery has run down.	* Check if there is a battery on the main board.
Multi interface board doesn't work.	* The installation is incorrect.	* Check if the board is plugged in the right connector.
Power and Error LEDs are blinking fast.	* Power switch OFF and ON too fast.	* Turn off the printer and wait all LEDs are dark, and turn on the printer again.
Wrinkle Problem	* Printhead pressure is incorrect. * Ribbon installation is incorrect. * Media installation is incorrect. * Print density is incorrect. * Media feeding is incorrect.	* Please refer to chapter 5.2. * Please set the suitable density to have good print quality. * Make sure the label guide touch the edge of the media guide.
Gray line on the blank label	* The printhead is dirty. * The platen roller is dirty.	* Clean the printhead. * Clean the platen roller.
Irregular printing	* The printer is in Hex Dump mode. * The RS-232 setting is incorrect.	* Turn off and on the printer to skip the dump mode. * Re-set the Rs-232 setting.

4.2 Mechanism Fine Adjustment to Avoid Ribbon Wrinkles

4.2.1 Ribbon Tension Adjustment Knob Module

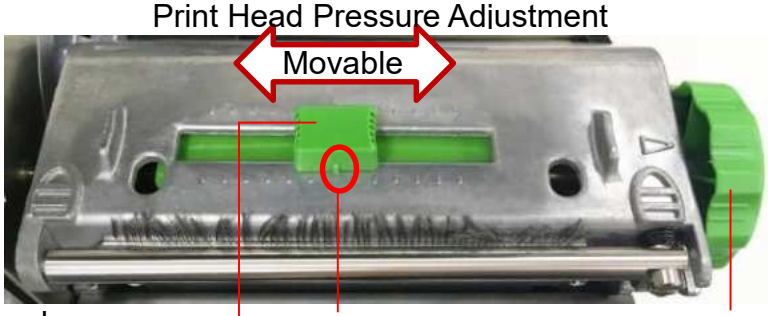
The ribbon tension adjustment knob has 5 positions for adjustment. Because the printer's ribbon alignment is to the left side of mechanism, different ribbon or media widths require different tension to print correctly. Therefore, it may require to adjust the ribbon tension adjustment knob to get your best print quality.



Ribbon Tension Adjustment Knob

4.2.2 Use Ribbon Tension Adjustment Knob to Avoid Ribbon Wrinkles

This printer has been fully tested before delivery. There should be no ribbon wrinkle presented on the media for general-purpose printing application. Ribbon wrinkle is related to the media thickness, print head pressure balance, ribbon film characteristics, print darkness setting…etc. In case the ribbon wrinkle happens, please follow the instructions below to adjust the printer parts.

Adjustable Printer parts	Ribbon Tension Adjustment knob has 5 positions for adjustment. Use flat blade driver to change the ribbon tension position. The Print Head Pressure Adjustment Knob has 5 levels of settings. Switch the Print head Pressure Adjustment Knob and cooperate with the Print Head Pressure Position Adjustment Knob to adjust the pressure and position on print head. Print Head Pressure Adjustment  Print head pressure position adjustment knob **Default** Print head pressure adjustment knob

Wrinkle direction	**1. Wrinkle happens from label lower left to upper right direction (“ ´ ”)**	**2. Wrinkle happens from label lower right to upper left direction (“ ` ”)**
Wrinkle Example	 If the wrinkle on the label starts from the lower left side to upper right side, please do following adjustment. 1. Switch the scale of ribbon tension adjustment knob clockwise per 1 level and print the label again to check if the wrinkle is gone. 2. If the ribbon tension adjustment knob has positioned on the level of innermost side but didn’t improve the ribbon wrinkle, please switch the print head pressure position adjustment knob per 1 level and print the label again to check if the wrinkle is gone. 3. If the ribbon wrinkle still can’t improve after switch the print head pressure position adjustment knob, please adjust the print head pressure adjustment knob per 1 level again to check if the wrinkle is gone.	 If the wrinkle on the label starts from the lower right side to upper left side, please do following adjustment. 1. Switch the scale of ribbon tension adjustment knob counterclockwise per 1 level and print the label again to check if the wrinkle is gone. 2. If the ribbon tension adjustment knob has positioned on the level of outermost side but didn’t improve the ribbon wrinkle, please switch the print head pressure position adjustment knob per 1 level and print the label again to check if the wrinkle is gone. 3. If the ribbon wrinkle still can’t improve after switch the print head pressure position adjustment knob, please adjust the print head pressure adjustment knob per 1 level again to check if the wrinkle is gone.

Feed direction

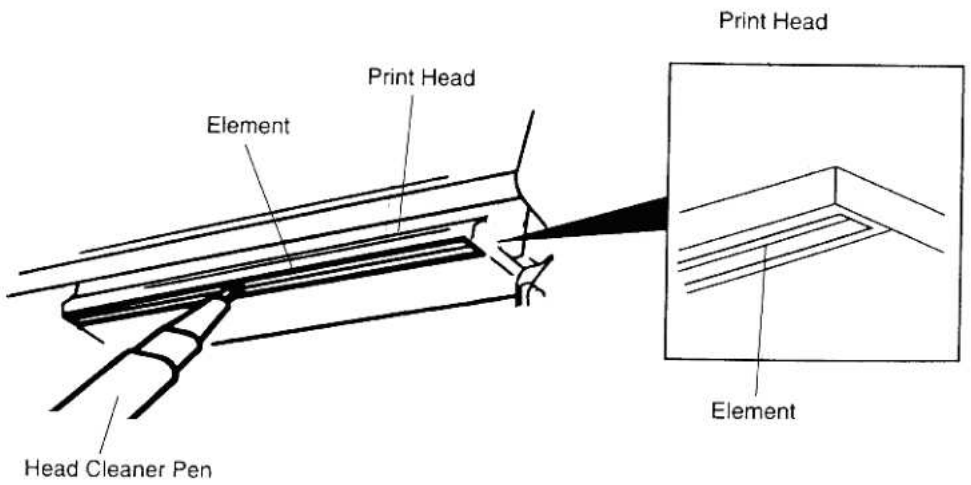
5. MAINTENANCE

This session presents the clean tools and methods to maintain your printer.

1. Please use one of following material to clean the printer.

- Cotton swab (Head cleaner pen)
- Lint-free cloth
- Vacuum / Blower brush
- 100% ethanol

2. The cleaning process is described as following

Printer Part	Method	Interval
Print Head	1. Always turn off the printer before cleaning the print head. 2. Allow the print head to cool for a minimum of one minute. 3. Use a cotton swab (Head cleaner pen) and 100% ethanol to clean the print head surface.	Clean the print head when changing a new ribbon roll.
		
Platen Roller	1. Turn the power off. 2. Rotate the platen roller and wipe it thoroughly with a cotton swab, or lint-free cloth soaked with clean water.	Clean the platen roller when changing a new ribbon roll.

Tear Bar/Peel Bar	Use the lint-free cloth with 100% ethanol to wipe it.	As needed
Sensor	Compressed air blower or vacuum	Monthly
Exterior	Wipe it with water-dampened cloth	As needed
Interior	Brush or vacuum	As needed

Note:

- Do not touch printer head by bare hand. If you touch it careless, please use ethanol to clean it.
- Please use 100% Ethanol. DO NOT use medical alcohol, which may damage the printer head.
- Regularly clean the print head and supply sensors once change a new ribbon to keep printer performance and extend print head life.

UPDATE HISTORY

Date	Content	Editor
2017/10/23	*Revise Ch.3.12 *Revise Ch.3.13 *Revise Ch.3.16 *Revise Ch.3.17 Peel-off Kit parts list diagram *Revise Ch.3.19	Kate
2018/7/9	*Revise Ch.3.17	Kate
2019/3/15	*Revise Ch.3.16 *Add Ch.3.20 Care Label Cutter Module Installation (Option)	Kate
2019/12/3	*Revise Ch.2.2 Interface Pin Configuration	Kate
2019/12/31	*Add the torque value of the screws *Modify Ch.4.1 Common Problems	Kate
2020/2/19	*Modify Ch. 3.14 Replacing the Stepping Motor Assembly	Camille
2020/5/22	*Modify ch. 3.17 Peel-off Kit Installation (Option)	Camille

MH240/MH240T/MH240P Series
Bar Code Printer Service Manual

TSC Auto ID Technology Co., Ltd.

Corporate Headquarters
9F., No.95, Minquan Rd., Xindian Dist.,
New Taipei City 23141, Taiwan (R.O.C.)
TEL: +886-2-2218-6789
FAX: +886-2-2218-5678
Web site: www.tscprinters.com
E-mail: apac_sales@tscprinters.com
tech_support@tscprinters.com

Li Ze Plant
No.35, Sec. 2, Ligong 1st Rd., Wujie Township,
Yilan County 26841, Taiwan (R.O.C.)
TEL: +886-3-990-6677
FAX: +886-3-990-5577