P510S
Service Guide

Version: 1.1

Revision History

Date	Revision	Description	Remark
2008/8/8	1.0	First Edition	
2009/04/22	1.01	Add Paper jam error code	P74
2010/06/11	1.1	1. Updates “Error Message”. 2. TPH Voltage adjustment 3. Fine tune Chapter 4 Disassembly and Assembly.	

Outlines:

Chapter 1: Introduction

This document contains operation theory and parts replacement procedures that are intended to ease the task of transportation, usage, maintenance and parts replacement.

The HiTi 510S is a new generation printer that is designed for fast and massive printing solution. As compare to other series, HiTi Research & Development Team has reduced many adjustment and alignment of mechanism and hardware of this printer to reduce the time and effort in servicing.

Chapter 2: Specifications

Item	Description
Resolution	300 x 300 dpi
Max Prints Size	6x9 borderless
Printing Speed (6x4)	Less than 13 sec (From Y-Layer to Paper exit)
Printing Speed (5x7)	Less than 20 sec (From Y-Layer to Paper exit)
Printing Speed (6x8)(6x9)	Less than 23 sec (From Y-Layer to Paper exit)
Capacity	6x4: 330 images
	5x7: 190 images
	6x8 / 6x9: 150 images
Printing Category	6x4 / 5x7 / 6x8 / 6x9 / 6x9-2UP
Display	3.6-inch TFT LCD (Tilt-able) Number of Dots: 320 x 240 Color Numbers: 8 bit RGB
Media	CF & Micro Drive / SD /SDHC / MMC / MS / MS Pro / USB Pen Drive
Wireless Support	Blue-tooth & Wi-Fi (P510Si only)
Driver	Windows 2000/XP (32/64-bit)/Vista (32/64-bit)/Mac OS X 10.2~10.5
Dimension & Weight	392x298x245mm, 30lbs (consumables excluded)
Print Kit 	6x4-660 images (CTN) **1) 330 Prints Per Roll, 2 Rolls In a Carton** **2) Paper Size: 152mm x 102mm**
	5x7-380 images (CTN) **1) 190 Prints Per Roll, 2 Rolls In a Carton** **2) Paper Size: 127mm x 178mm**
	6x9-300 images (CTN) **1) 150 Prints Per Roll, 2 Rolls In a Carton** **2) Paper Size (6x8): 152mm x 203mm** **3) Paper Size (6x9): 152mm x 229mm**
CF Slot	X1 (For Compact Flash & Micro Drive)
Multi-Memory Card Slot	X1 (For SD/SDHC/MMC/MS/MS Pro)
USB Host	X1
Computer Interface	USB 2.0HS
LED Indicator	X3
Universal Power Supply	100-240v, 50-60Hz
Memory	32MByte
Power Consumption	Idling : 20W (or less) Operating : 400W (or less)

2-1. Documentation & Configuration

- User Manual
- Warranty Sheet
- P510S x 1
- USB Cable x 1
- Power Cord x 1
- Master CD x 1 (Driver, e-User Manual, ID Creator)
- Flange x 2 (2 Colors: Green & Orange)
- Spacer x 2
- Paper Tube x 1 (For Cleaning Paper)

2-2. Environment & Reliability Specification

	Item	Spec	Remark
Operation	Temperature	+5ºC to +40ºC	No quality degradation
	Relative Humidity	20% to 80% RH	
Storage	Temperature	-20ºC to +60ºC	No quality degradation after testing
	Relative Humidity	20% to 90% RH	
Transportation	Dropping with packing	Height:0.76m for 1 corner, 3 edges, 6 surfaces	No quality degradation after testing
	Vibration	5Hz to 9Hz, A=3.5m/s2 9Hz to 100Hz, A=10m/s2	
Reliability	Jam Rate	< 1/1000	Refer to those in incurred by mechanical problem only
Image Size	Resolution Pixel	6x4 = 1844 x 1224 7x5 = 2128 x 1544 6x8 = 2434 x 1844 6x9 = 2740 x 1844	Exact image size for actual print

2-3. PC Compatibility

Compatible with both Windows & Mac Users

1. Windows Vista™ Capable (both 32 & 64 bit OS)
2. Windows XP™ Capable (both 32 & 64 bit OS)
3. Windows 2000™ Capable
4. Macintosh OS X™ v10.2~v10.5

   Note:

   v10.2 = Jaguar, v10.3 = Panther, v10.4 = Tiger, v10.5 = Leopard

2-4. Software provided

◆ ID Creator

Specially designed for passport/ID photo business users. You can design various custom ID formats in a few simple steps then load them to the printer for further use.
This software specially designed for 510S, allowing users to make custom ID formats and print directly with the printer stand alone mode. **Note this is not a printing software, but a ID creating one.**

◆ IDQuickDesiree

PC-based software which gives users who don't need color adjustment an easy and fast way to print passport/ID photos. Users can create ID formats and then print the photo at same time.

◆ eFrame Converter

It is a dedicated utility/tool for users to convert TIFF file to HiTi designated eFrame formats. Users design the eFrame with Alpha channel in PhotoShop and then use eFrame Converter to convert the TIFF file into specific template P510S/P510Si can read. **Note this is not a printing software, but a template converter.**

◆ EventDesiree Deluxe

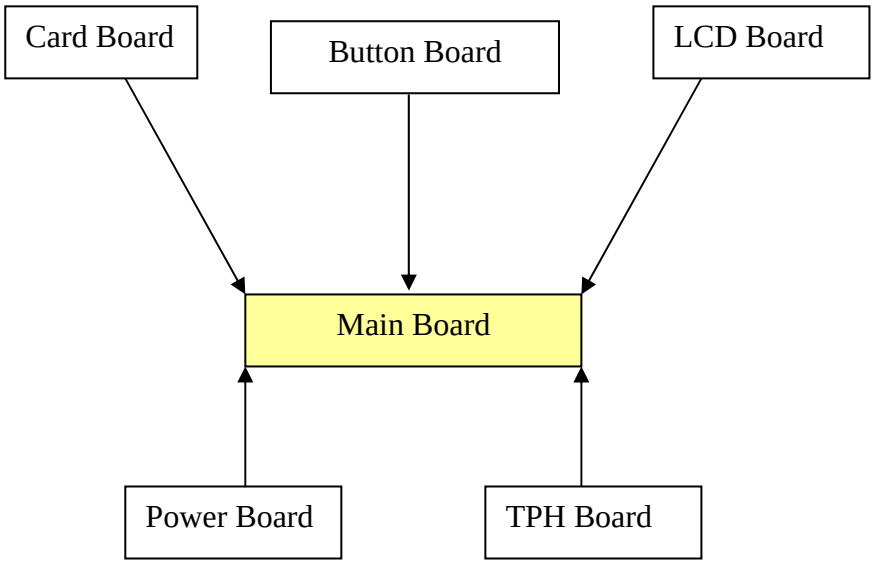
Designed for event business users to print a large quantity of photos with or without template in a limited amount of time. The software permits users to assign a specific folder, and P510S/P510Si will automatically print out photos saved to this folder.

Chapter 3: Operation Theory

■ Hardware

Circuit Boards Definition:

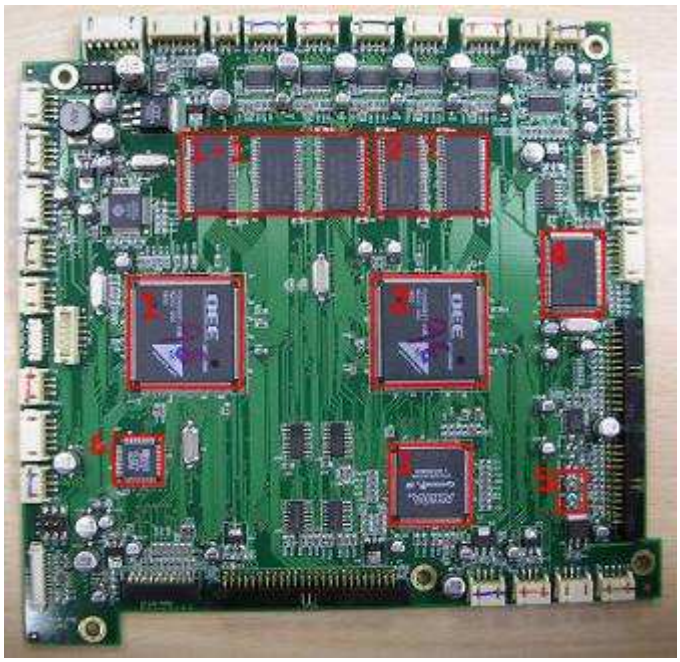
There are six different types of circuit boards in P510S and each of them has different functions as the following:

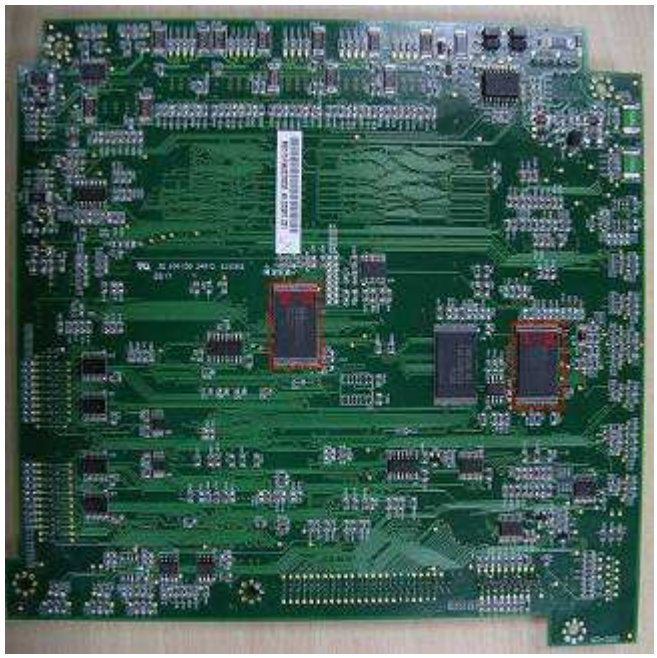


Notes: All boards are connected to the main board, so in most cases, during problem checking, we advise to start with the individual boards before checking the main board.

- **Main board** (MAIN_BD) adopts 30V from power board to control the motor driver ICs that drives the motors and the mechanisms. The main board also converts input from 30V to 5V and 3.3V by voltage regulators of ASIC to Memory, Video IC, and the I/Os.

Notes: There is no hardware adjustment required for the 510S main board; the ribbon sensors can be adjusted through special software device.





ASIC (also known as central processor)

On this system, two ASIC units are applied to increase the printing speed, one is to control motors, sensors/LEDs and TPH heating energy, another one controls the card/USB including the wireless device connections, and video display image enhancement, below has more detail about these two ASIC.

1. **OEE ASIC – DSP**
   During standalone operation, this ASIC proceed the images from the card board; action includes rotate, color adjustment, resizing and all modification in the edit function.
   (Possible cause of image process failure, due to this ASIC)

   1-1. SDRAM for DSP. This 32MB SDRAM is to be used as the data buffer storage. The image file, print data, video frame are temporarily stored here during operation.
   1-2. NOR Flash for DSP. This 1MB flash memory stores the MCU code, the DSP code, the logo, the OSD (On-Screen Display) map and etc.

2. **OEE ASIC – Print Engine**
   We call this the print engine because it's in charge of the motor and USB connection.

   2-1. SDRAM for Print Engine. This 32MB SDRAM is to be used as storing data buffer. The image file, print data, video frame are temporarily stored during operation.
   2-2. NOR Flash for Print Engine. This 1MB flash memory stores the MCU code.

3. **FPGA – ALTERA**
   This chip controls the TPH interface、Capstan motor、cutter door motor、and I/O.

4. **USB2.0**
   This is the USB 2.0 IC chip.

5. **VR**
   This is the various resistors for ribbon sensors, but now HiTi provides a software to adjust the ribbon sensing values, so its not necessary to adjust this VR every time.

6. **IC 7171,**
   This chip is used to convert the CCIR601/656 digital interface signals to NTSC/PAL video signals.

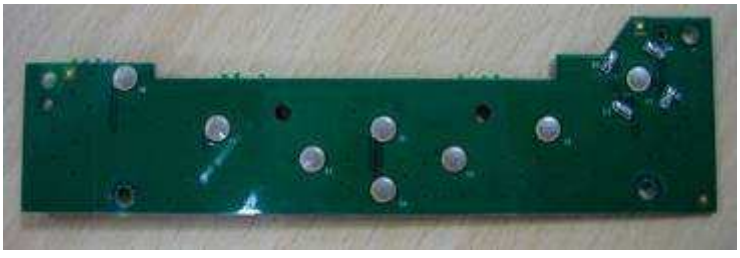
- **Power board** (POWER BD) is an AC to DC power convert device. It generates 400W max, 30V, DC source to drive the printer. There is also no hardware adjustment required for the 510S power board; the printout density can be adjusted through special software device.
  (Please refer to Chapter 5 of this service guide adjustment instruction)

- **TPH Board** is an extended circuit board from main board that converts the 27V (+/- 10%) to the thermal print head.

- **Card Board** is like a card reader that connects to the main board, it supports Compact Flash Card (including CF type I, CF type II and Micro Drive); Multi Media Card, Secure Digital Card, and Memory Stick Card.

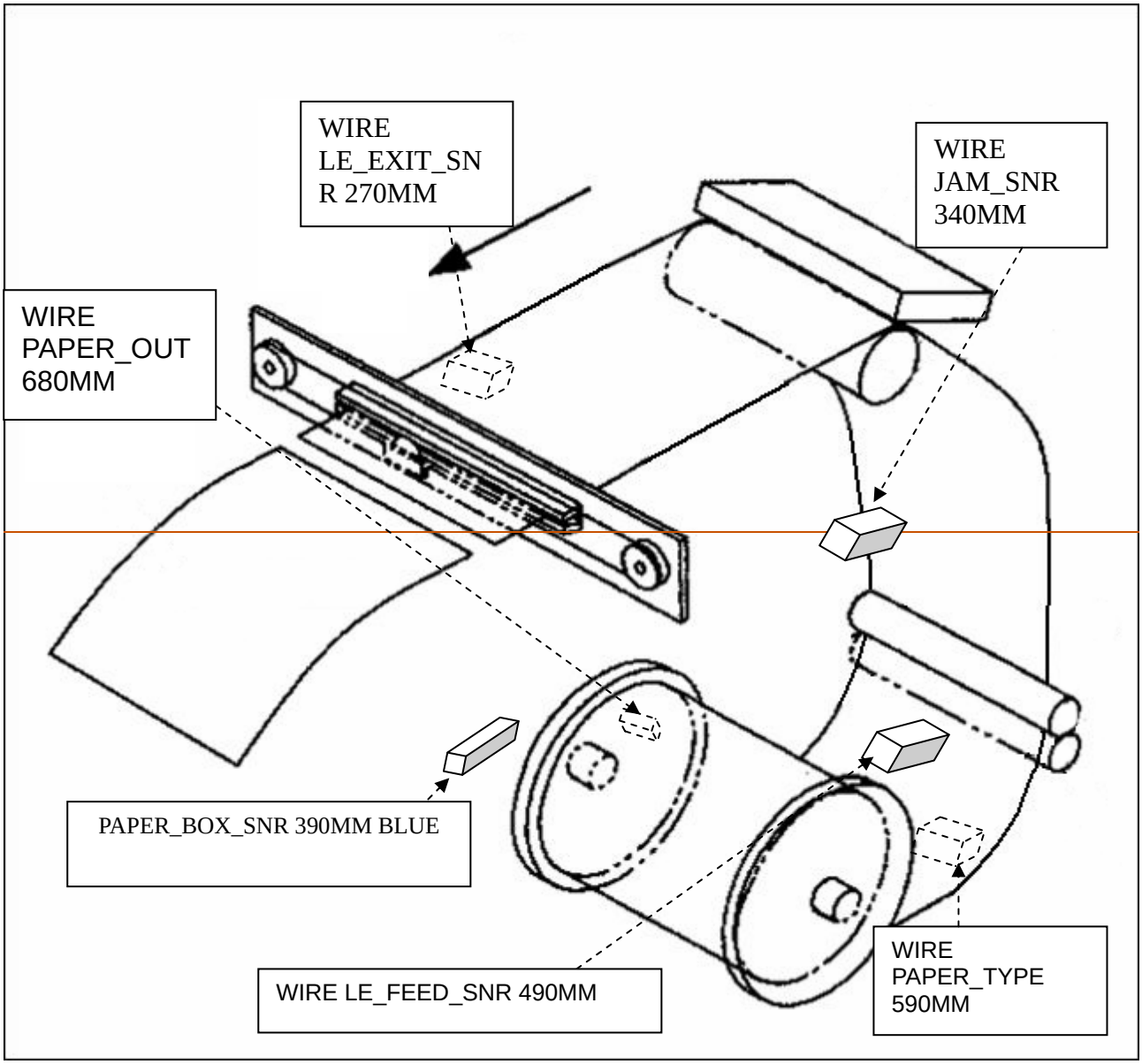
- **LCD Board** controls the 3.6-inch TFT-LCD panel. .The TFT-LCD panel is to display images and messages for user operations.

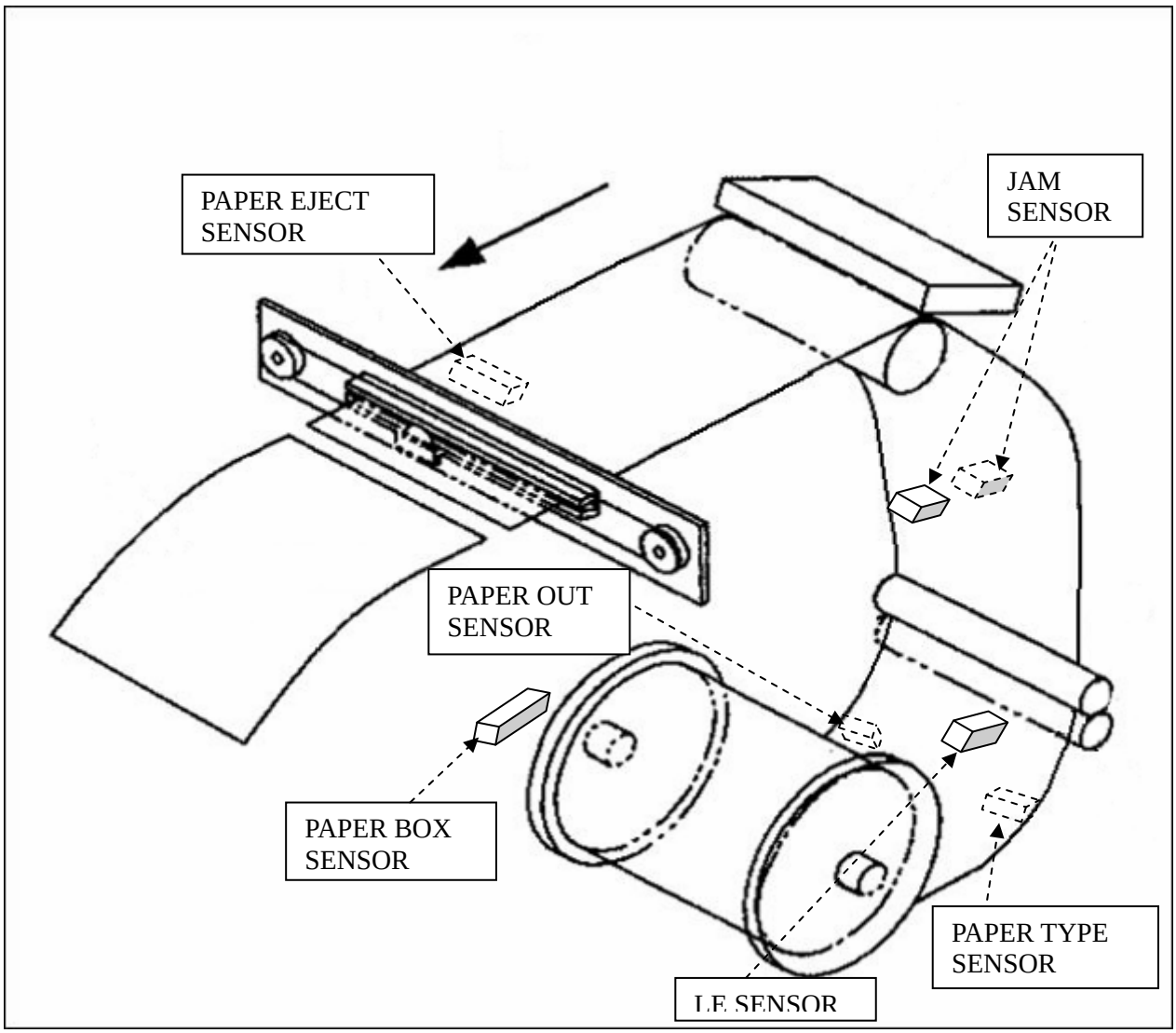
- **Button Board**
  As to its name, this board controls the buttons that are below the LCD panel. In most cases the problem of button insensitive can be solved by check this circuit board.



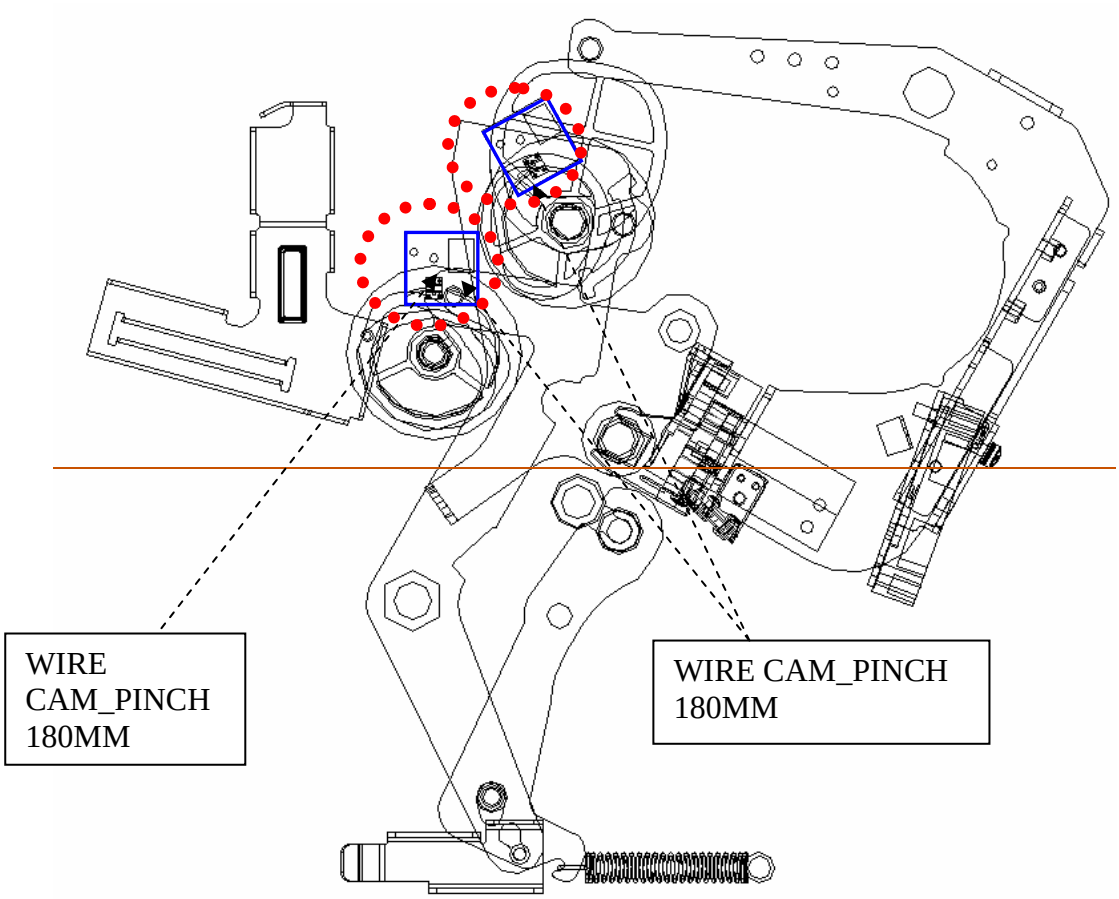
- **LED & Sensors**
  - **LED**
    - Status LED (blue) – light up shows power on and ready.
    - Card reading LED (green) – light up shows insert cards, blinking shows card reading.
    - Error LED (red) – blinking shows error –message. (Please refer to Chapter 7 for Error Messages)

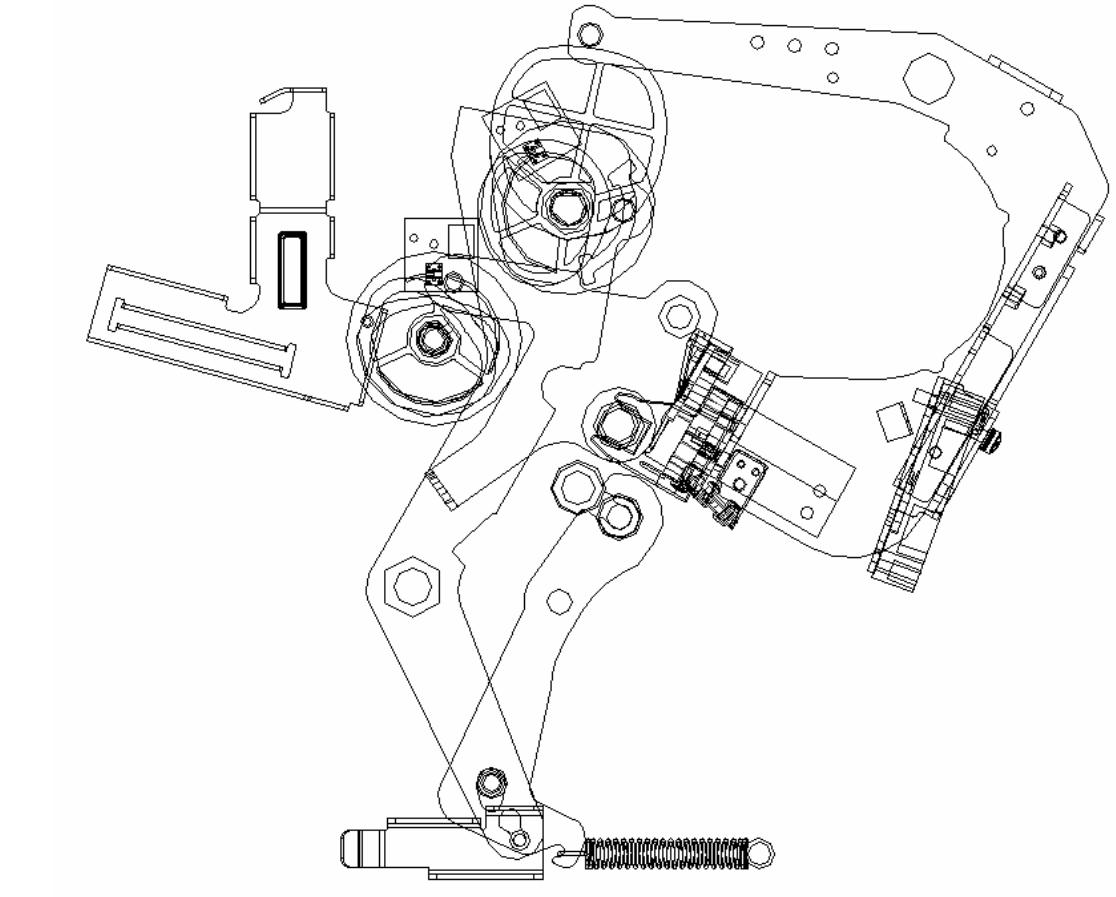
  - **Paper Sensors' function**





Sensor Type	Function	Activity Time	Error Message (Red LED blinking times)
PAPER_BOX_SNR 390MM BLUE	Detect paper box is well locked or not	When front cover closed, sensor will detect if paper box exist or not.	Paper Out (4)
WIRE PAPER_TYPE 590MM	Detect different paper types (6", 5")	After paper box sensor activated, paper type sensor will detect paper type.	Paper Mismatch (6)
WIRE PAPER_OUT 680MM	Detect paper position and if running out or not	After paper box sensor activated, paper out sensor will detect if paper appear or show error.	Paper Out (4)
WIRE LE_FEED_SNR 490MM	Detect the existence of paper and detect paper rolling back position	When load paper, detect paper exist and when the edge of paper passes sensor in paper rewind, printer will slow down the rolling speed.	Paper Out (4)
WIRE JAM_SNR 340MM	Detect the existence of paper and detect position where start to print	When print fails, paper jammed in printer, it will show error.	Paper Jam (5)
WIRE LE_EXIT_SNR 270MM	Detect paper size which would be cut	When printed finish, sensor will detect paper length which needed and cutting paper.	Paper Jam (5)


WIRE
CAM_PINCH
180MM
WIRE CAM_PINCH
180MM



- **Cam Sensors function.**

Sensor Type	Function	Activity Time	Error Message (Red LED blinking times)
WIRE CAM_PINCH 180MM	Cam sensor (2 pcs) indicates the position of platen roller and pinch roller. There are three positions: P1 initial position, P2 load position, and P3 print position.	If sensors detects wrong positions in necessary conditions.	Cam Platen Error (7) OR Cam Pinch Error (8)

- **Cover and Chip Sensors' function**

These two sensors are visible without disassembling the machine. Please refer to assembly and disassembly for more details of how to replace them.

Sensor Type	Function	Activity Time	Error Message (Red LED blinking times)
WIRE DOOR_SNR 310MM	Detect front cover is well positioned or not	When front cover opens, printer will stop all actions and show error.	Cover Open (1)
WIRE SMART_CHIP 240MM	Detect ribbon type and sheet.	Sensor will detect if the area code match or not between ribbon and printer; and detect ribbon size type.	Ribbon Missing (2)

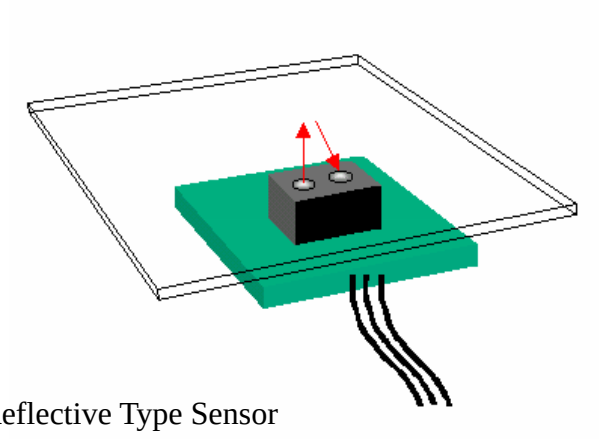
- **Ribbon LED/Sensor**

The 510 Ribbon LED/Sensor are different from other series, it's now an infaraed sensor that only detects the **black bars** between each colors. Please also refer to assembly and disassembly for more details of how to replace them. There are totally 4 sets of items, including 2 LED and 2 sensors of left and right side.

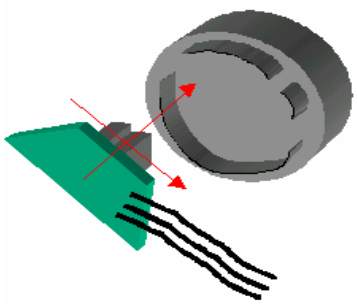
Sensor Type	Function	Activity Time	Error Message (Red LED blinking times)
WIRE RBN_LED_LEFT 350MM WIRE RBN_SNR_LEFT 120MM	Detect ribbon colors Y, M, C and O, which are index as black bar individually.	When ribbon can't be taken to correct position, it will show error.	Ribbon Out (3) OR Print Fail (N/A)
WIRE RBN_LED_RIGHT 470MM WIRE RBN_SNR_RIGHT 160MM			

	Y	M	C	O
WIRE RBN_LED_LEFT 350MM WIRE RBN_SNR_LEFT 120MM	B	-	-	-
WIRE RBN_LED_RIGHT 470MM WIRE RBN_SNR_RIGHT 160MM	B	B	B	B

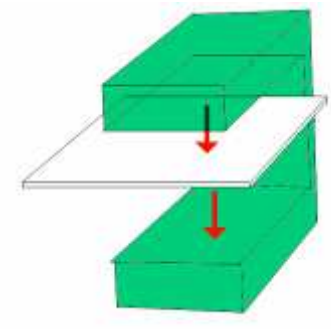
Black bar sample pictures on the ribbon cartridge



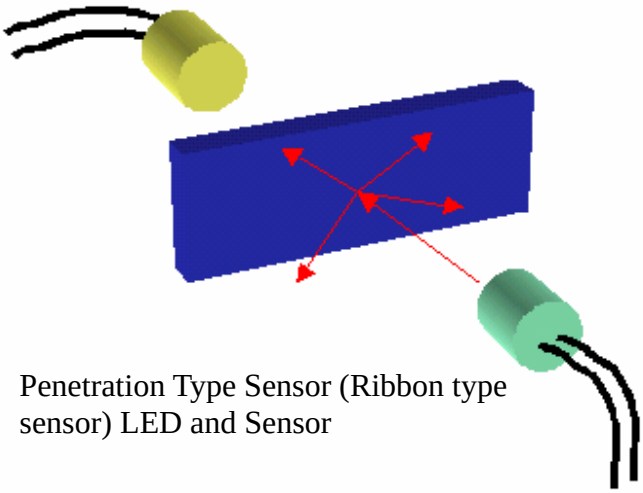
Reflective Type Sensor



Penetration Type Sensor (Cam Sensor Type)



Penetration Type Sensor (Jam type sensor)



Penetration Type Sensor (Ribbon type sensor) LED and Sensor

The Motors:

Motor Type	Function
MTR STEP_7.5_6OHM_CAM_PLTN_200MM RED	Control the position of Cam Platen
MTR STEP_7.5_4OHM_CAM_PINCH_90MM	Control the position of Cam Pinch
MTR STEP_1.8_2.4V_2.5A CAPSTON_250MM	Control the Capstan roller, move the paper forward and backward
MTR STEP_7.5_6OHM_RBN_S_160MM ROHS	Control the ribbon supply side
MTR STEP_7.5_6OHM_RBN_T_350MM	Control the ribbon take side
CUTTER_C104KZ (Module Set)	Control the cutter moving
MTR STEP_3.75_8.5OHM_PAPER_EXIT 240MM BL	Control the cutter door motions

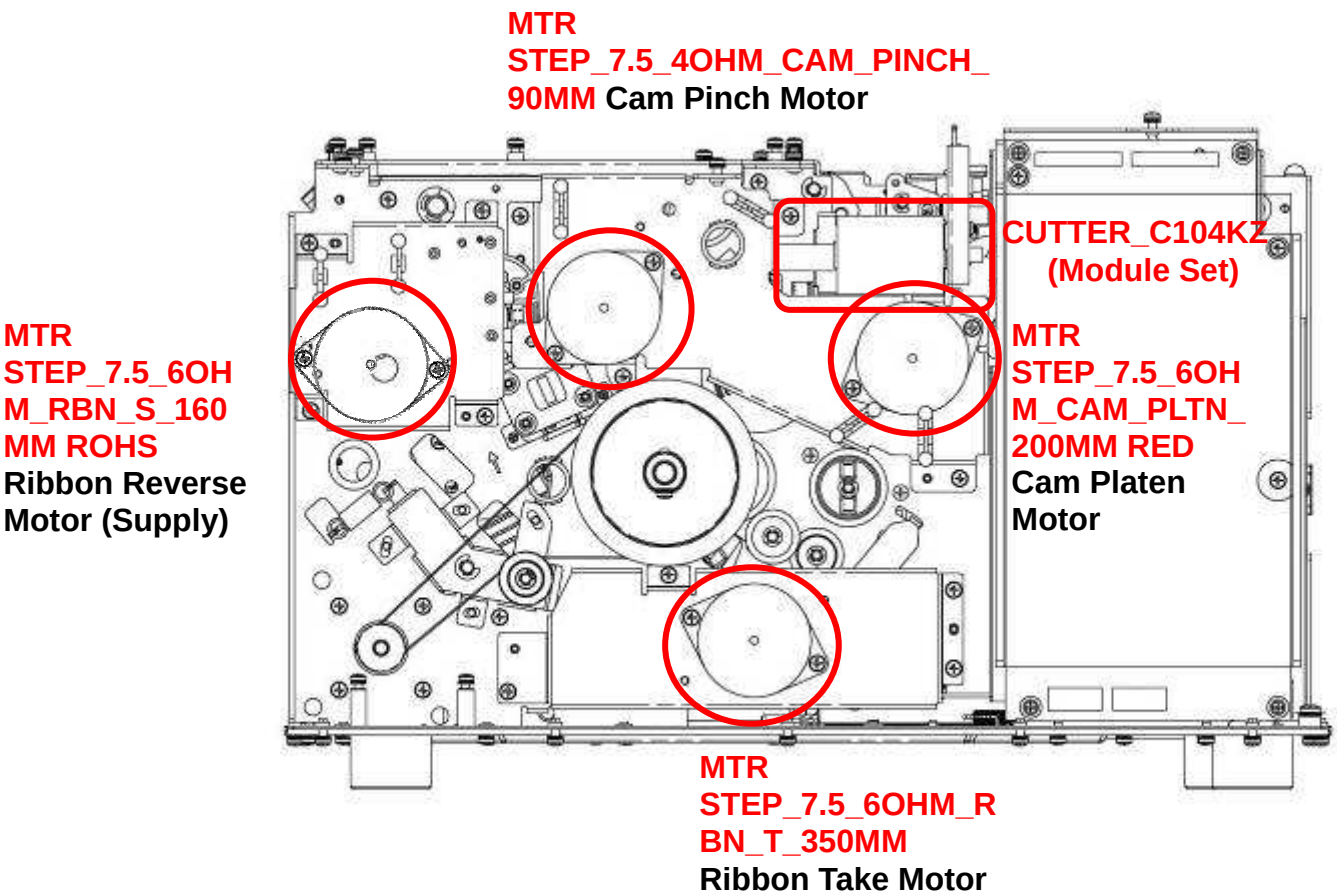
Cam Platen Motor controls a set of cam gear that moves the platen roller toward the TPH (thermal print head) to start the dye diffusion thermal transfer process.

Cam Pinch Motor controls a set of cam gear which moves the pinch roller toward the capstan roller in order to produce enough attrition to move the paper to the printing position.

Ribbon Take Motor, as to its name, it winds the ribbon to the printing color.

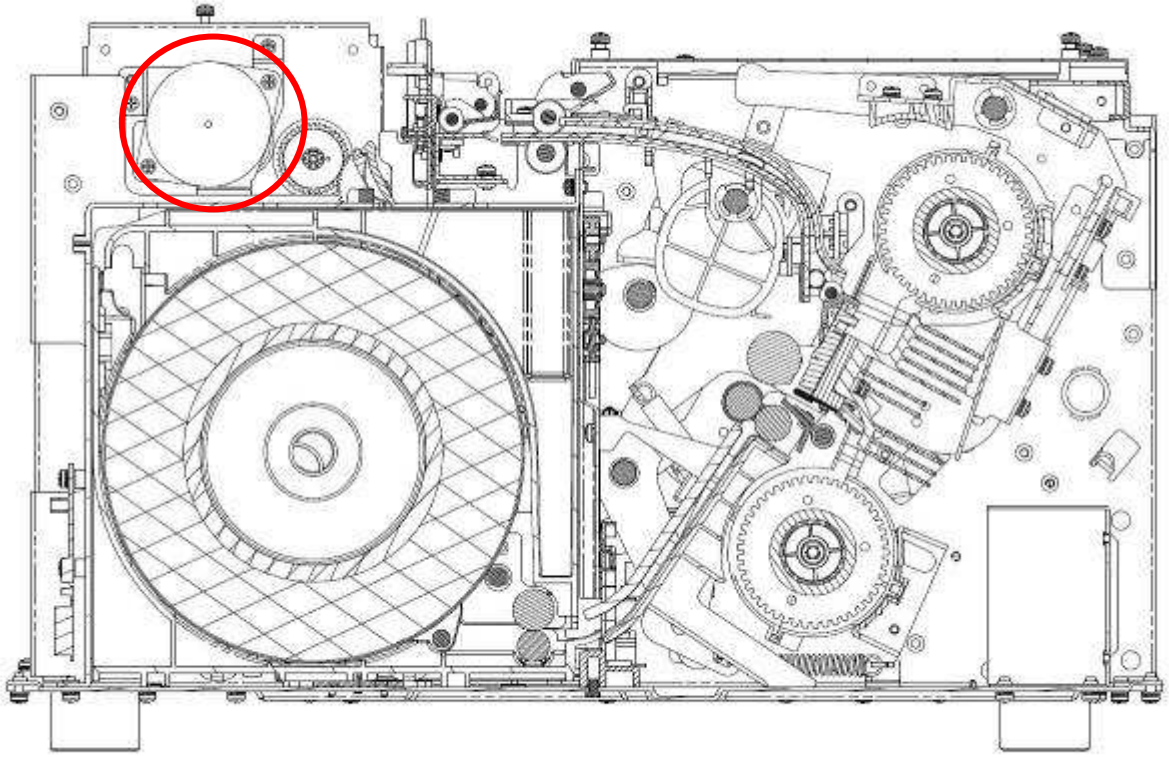
Ribbon Reverse Motor provides the power of the reverse TQL that rewinds the ribbon backward.

Cutter Motor connects to a belt that pulls the cutter knife during separation of printout from the paper roll.

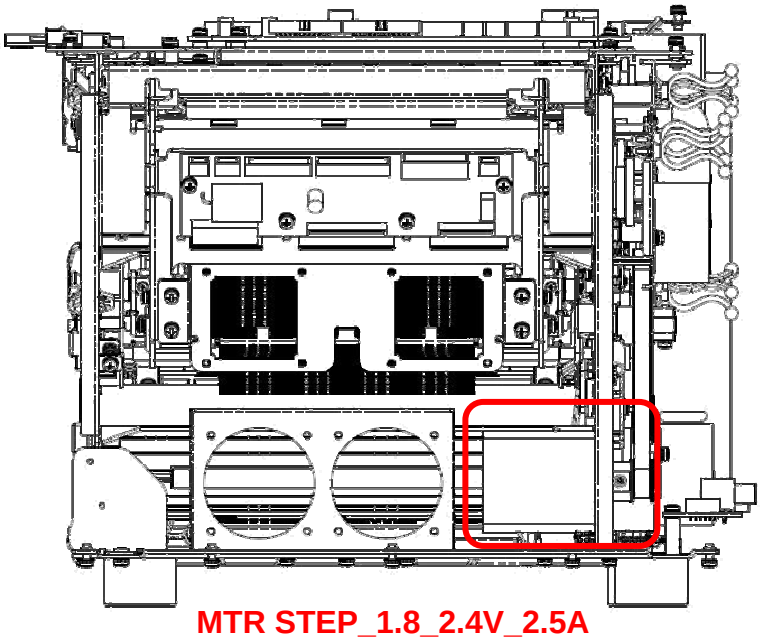


Cutter Door Motor controls the door that separates paper roll and it's left over scrap into the paper cassette.

MTR STEP_3.75_8.5OHM_PAPER_EXIT 240MM BL Cutter Door Motor

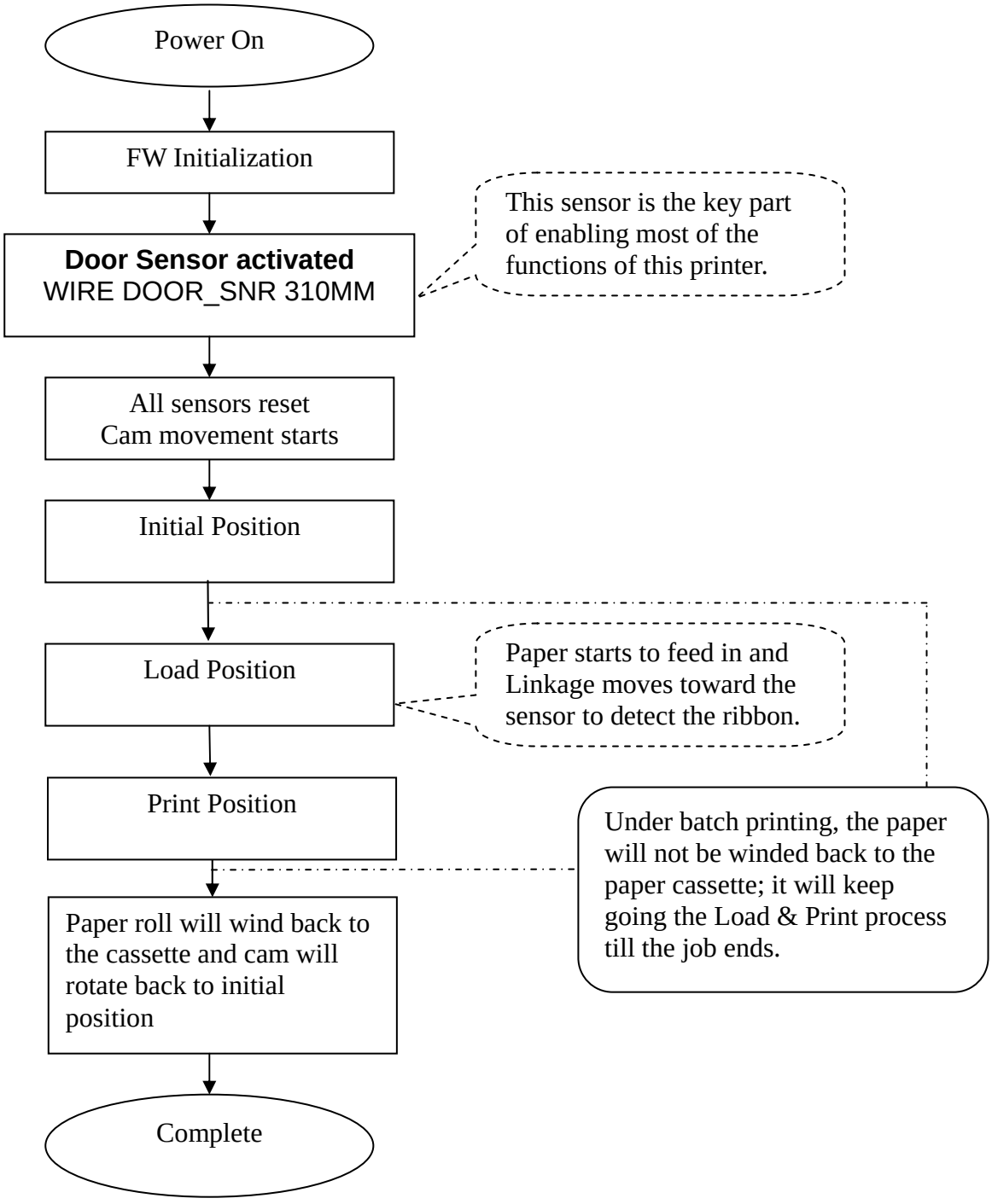


Capstan Motor is the most powerful motor in this printer; it controls the capstan roller through a belt and set of gears that controls the movement of the paper roll during printing process.



MTR STEP_1.8_2.4V_2.5A
CAPSTON_250MM
Capstan Motor

Printer Operation Chart



Mechanism & Movements

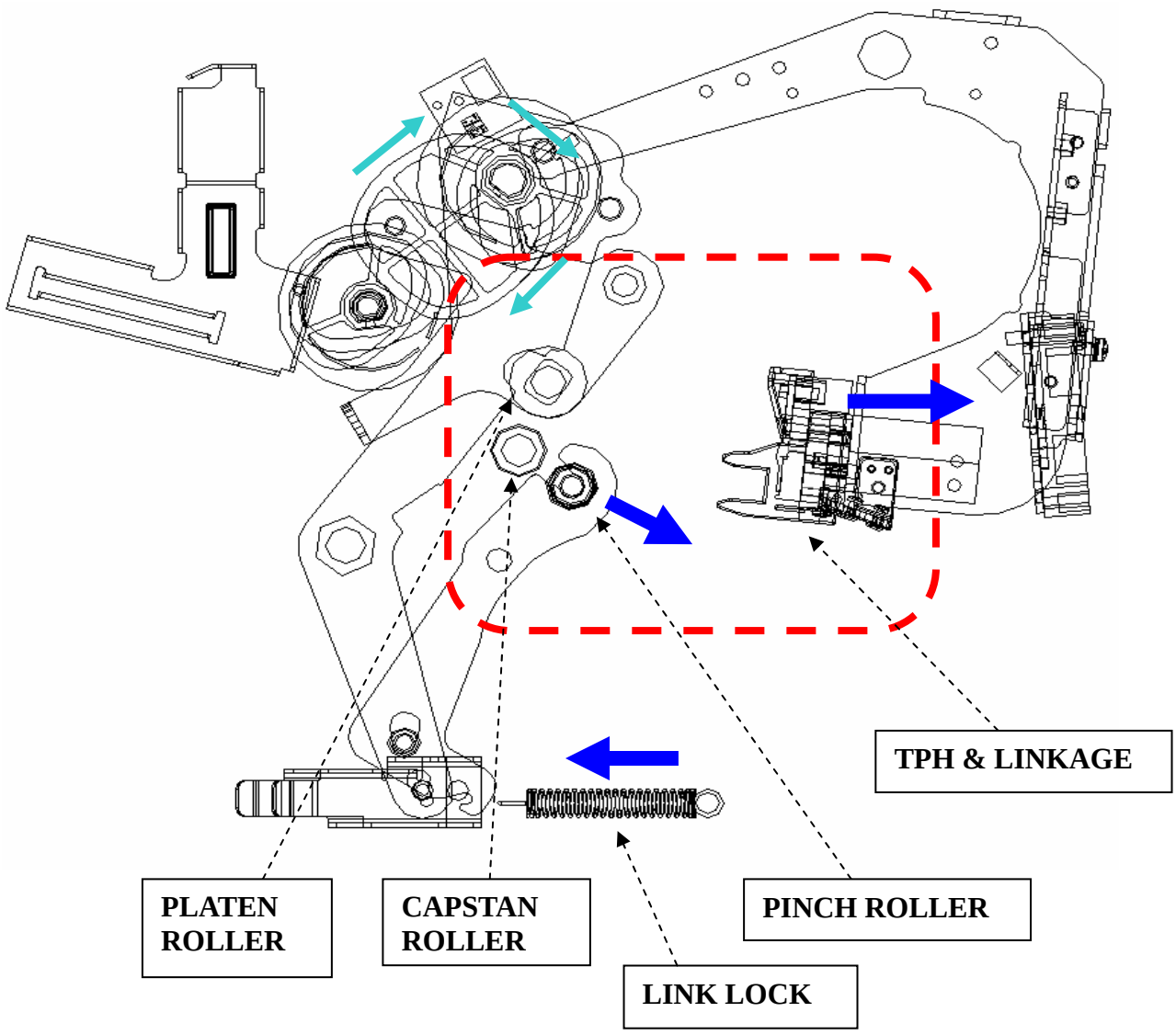
- **Cam Motion – Initial**

Q1 (cam platen postion)

- ✓ Platen roller is in released position.

P1 (cam pinch postion)

- ✓ Pinch roller is released from the capstan roller.
- ✓ Link_lock is released.
- ✓ TPH Linkage is widely opened.



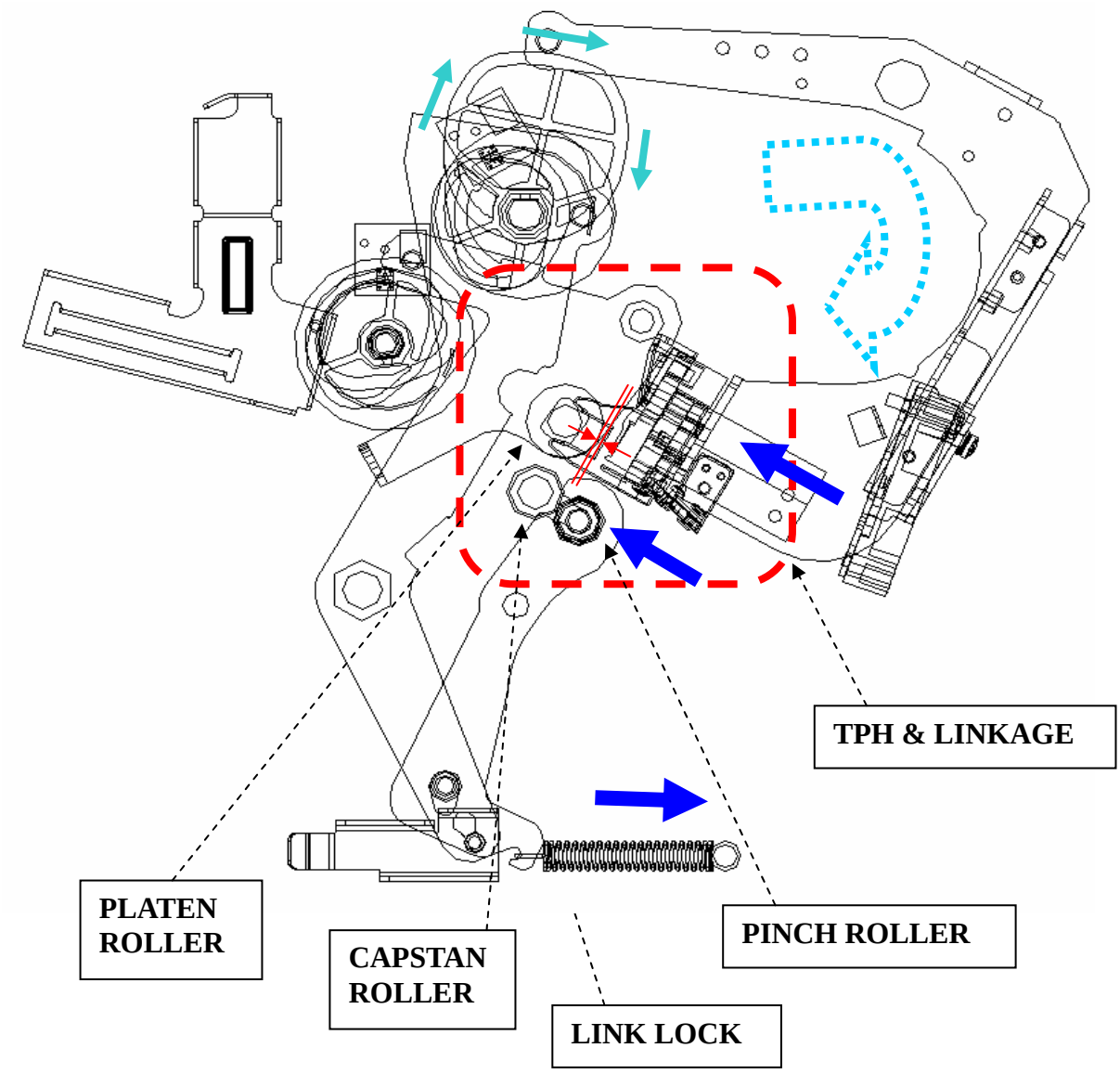
Cam Motion – Load

Q1(cam platen position)

- ✓ Platen roller is still in released position.

P2 (cam pinch position)

- ✓ Pinch roller now is attached with the capstan roller.
- ✓ TPH is moved to active position but TPH is not touching the platen roller.
- ✓ Link_lock is activated so the Paper_Box cannot be taken away.



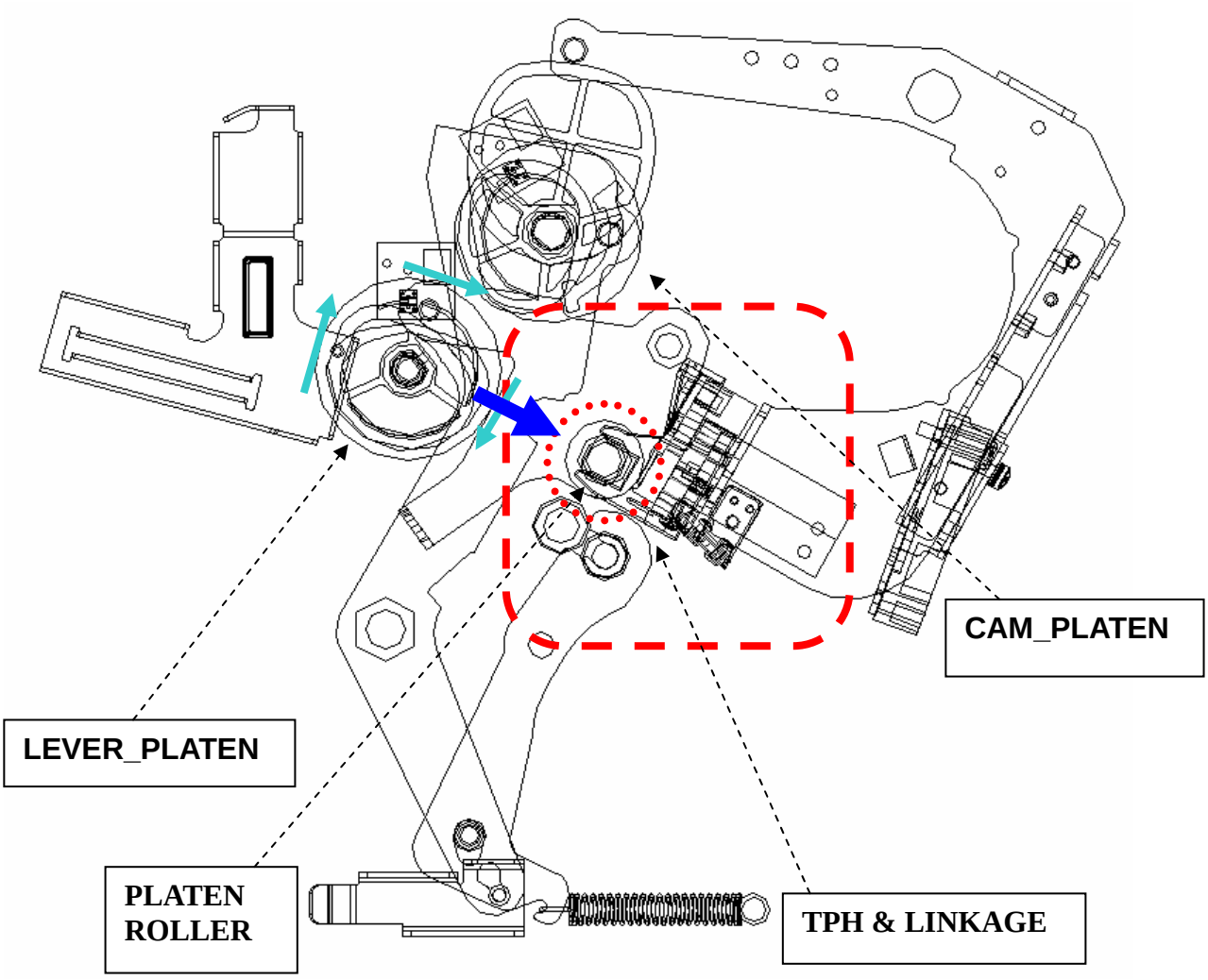
Cam Motion – Print

Q2(cam platen postion)

- ✓ CAM_PLATEN rotates, and cause LEVER_PLATEN rotates.
- ✓ Platen roller is now contacting with TPH.

P2 (cam pinch postion)

- ✓ Pinch roller is still attached with the capstan roller.
- ✓ Link_lock is still activated so the Paper_Box cannot be taken away.
- ✓ TPH is still in active position and TPH is touching the platen roller.



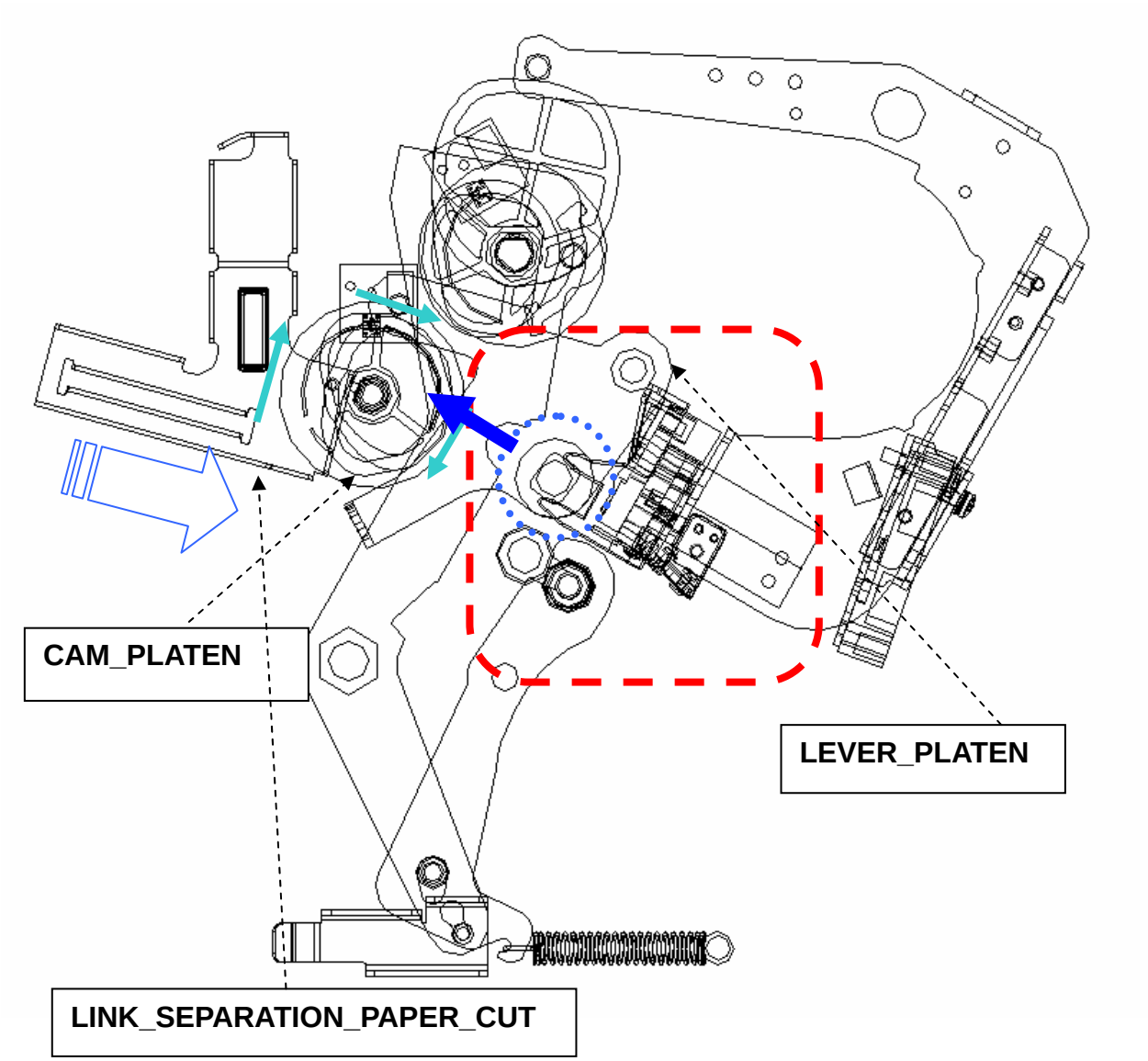
Cam Motion – Cutting

Q3(cam platen postion)

- ✓ CAM_PLATEN rotates, and caused LEVER_PLATEN rotates.
- ✓ Platen roller is released again.
- ✓ LINK_SEPARATION_PAPER_CUT shifts.

P2 (cam pinch postion)

- ✓ Pinch roller is still attached with the capstan roller.
- ✓ Link_lock is still activated so the Paper_Box cannot be taken away.
- ✓ TPH is still in active position but TPH is not touching the platen roller.

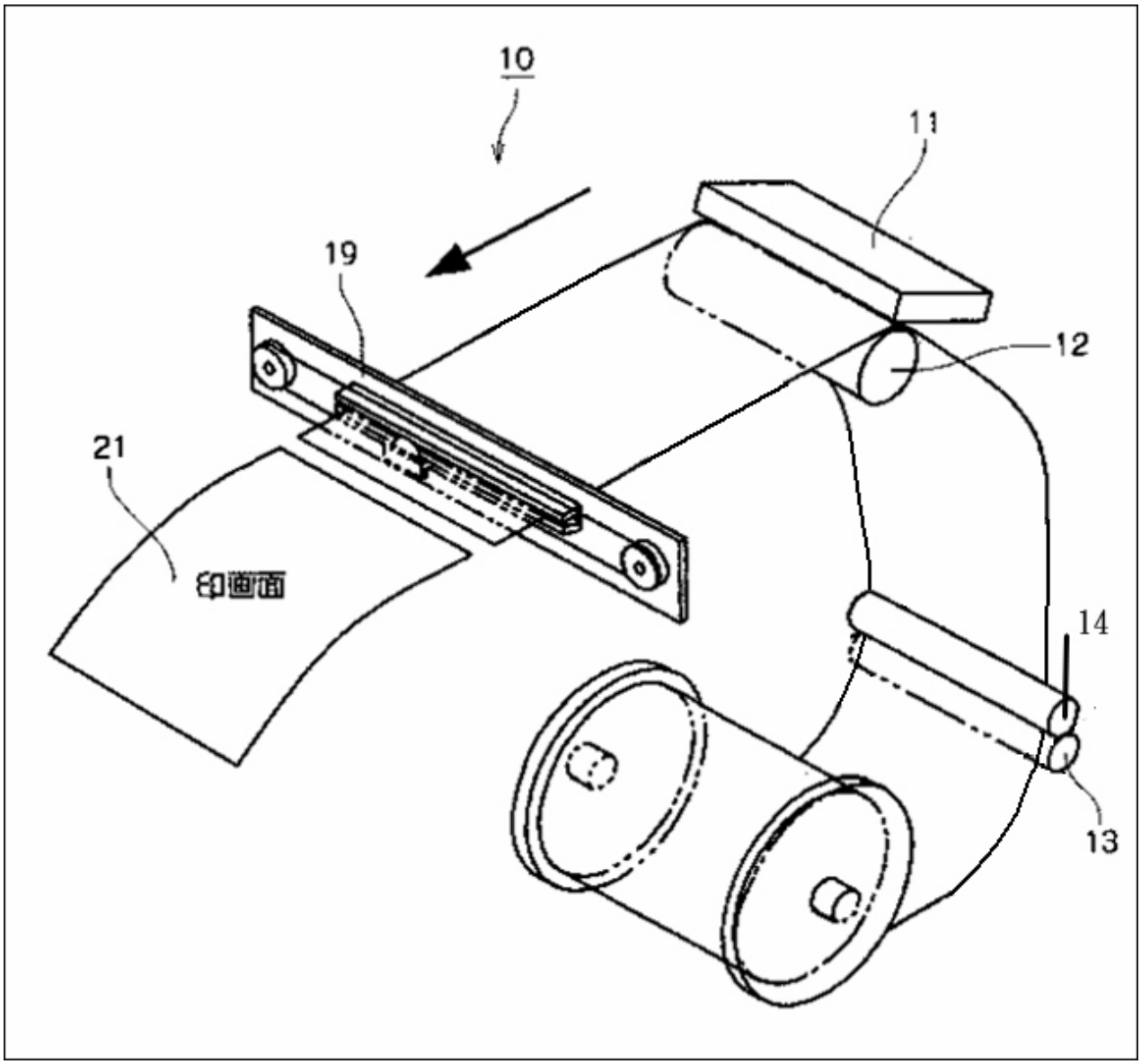


● Paper Path & Cutting

As shown below is the how the paper moves during printing process.

After the paper is being pulled out of roll and passed on to Pinch and Capstan Roller; these two rollers will grab the paper to the next printing stage

- **13** – Pinch Roller
- **14** – Capstan Roller
- **11** – TPH
- **12** – Platen Roller
- **10** – Paper Movement
- **19** – Cutter
- **21** – Printout



Chapter 4: Disassembly & Assembly

Safety Instructions

- Read these instructions carefully. Save these instructions for future reference.
- Follow all warnings and instructions marked on the printer.
- Before disassembly, it should be off the switch and removed the plug of power cord
- Do not place the printer on an unstable cart, stand, or table. The printer may get damaged by a fall.
- Openings in the chassis and the bottom are provided for ventilation purposes and to ensure reliable operation of the printer by protecting it form overheating: these openings must not be blocked or covered.
- Placing the printer on a bed, sofa, rug, or other similar, not firm surfaces may block the openings. The printer should never be placed near or over a radiator or heat register, proper ventilation and cooling must be provided at all times.
- The printer should only be operated with the type of power indicated on the marking label. If you are not sure of the type of power available in your area, consult your dealer or local power company.
- If an extension cord is used with this product, make sure that the total ampere rating of the equipment plugged into the extension cord does not exceed the extension cord ampere rating. Also, make sure that the total rating of all products plugged into the wall outlet does not exceed the fuse rating.

4-1 Tools Required

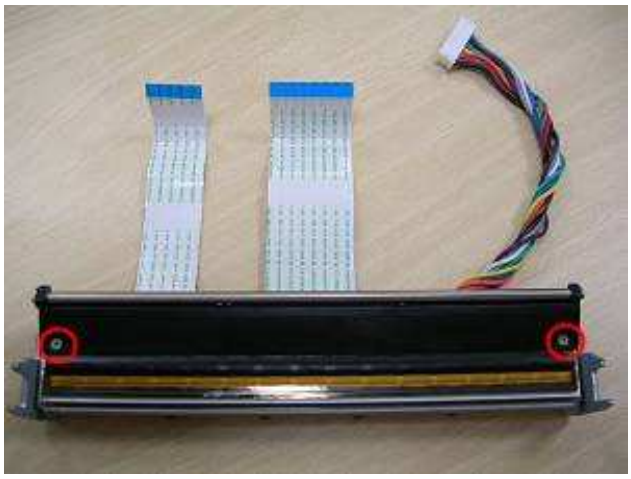
Nam	Model	Q'ty
Phillips Screwdriver (#2)	#2	1
Screwdriver (small)	-	1
Flat-blade screwdriver (small)	2.5×100	1
Spring hook	-	1
Nipper	-	1
Pliers	-	1

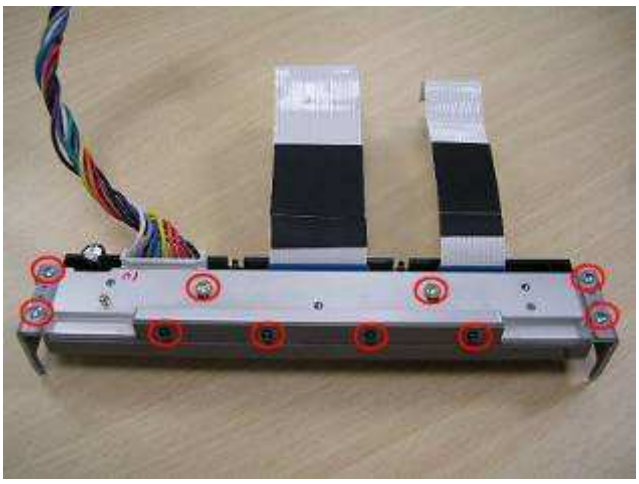
4-2 Prohibition

The cutter and thermal print head are prohibited to disassemble; it requires special aligning equipments that is only available in the manufacturer's factory. Any improper artificial alignment would affect its performance, and will be judged as "Out-Of-Warranty" (Pay for repair).

Do not turn loose or remove the screws shown below.

(1) Thermal Print Head





(2) Cutter

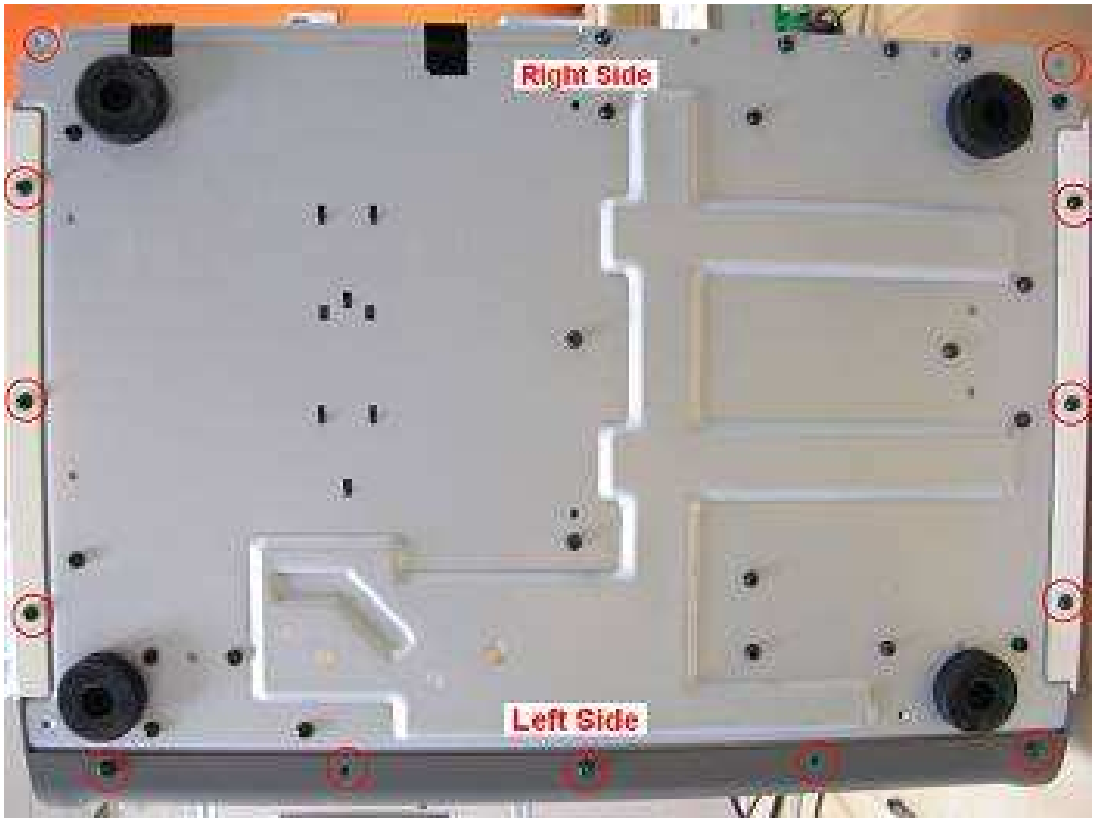
4-3 Parts Replacement Procedure

Maintenance Parts Replacement Procedures				
Parts	Name	MAIN COVER REMOVAL PROCEDURE	Part No.	
Tools	Phillips screwdriver (#2)		Procedure No.	1

Parts Name	1. DOOR_RIGHT_A5RT 2. CASET_RIGHT_A5RT 3. CASE_LEFT_A5RT 4. CASET_FRONT_A5RT 5. CASE_BACK_A5RT	Part No.	1. 56.D0966.013 2. 56.D0965.014 3. 56.D0907.011 4. 56.D0964.001 5. 56.D0963.001

[Step 1] Open the DOOR_RIGHT_A5RT, remove 5 screws that hold the CASE_RIGHT_A5RT on the right side.

[Step 2] Turn the printer around to the bottom; you'll see that there are total 13 screws shown as below picture. Remove 2 screws of right, and then can take off the right cover (CASE_RIGHT_A5RT). Remove 6 screws both front/back sides, and then take out front cover (CASE_FRONT_A5RT) and (CASE_BACK_A5RT). Remove 5 screws of left that hold (CASE_LEFT_A5RT).



[Step 3] Move back to the right side; slide the DOOR_RIGHT_A5RT to front side, then take off DOOR_RIGHT_A5RT.

[Step 4] Now turn the printer to left side, remove 3 screws that hold CASE_LEFT_A5RT, then take off CASE_LEFT_A5RT.

[Step 5] Remove 2 connectors that connect with power core and POWER BD, remove 1 screw that ground, and then take off CASE_LEFT_A5RT.

Total 5 pieces of appearance cover of this printer as shown below:

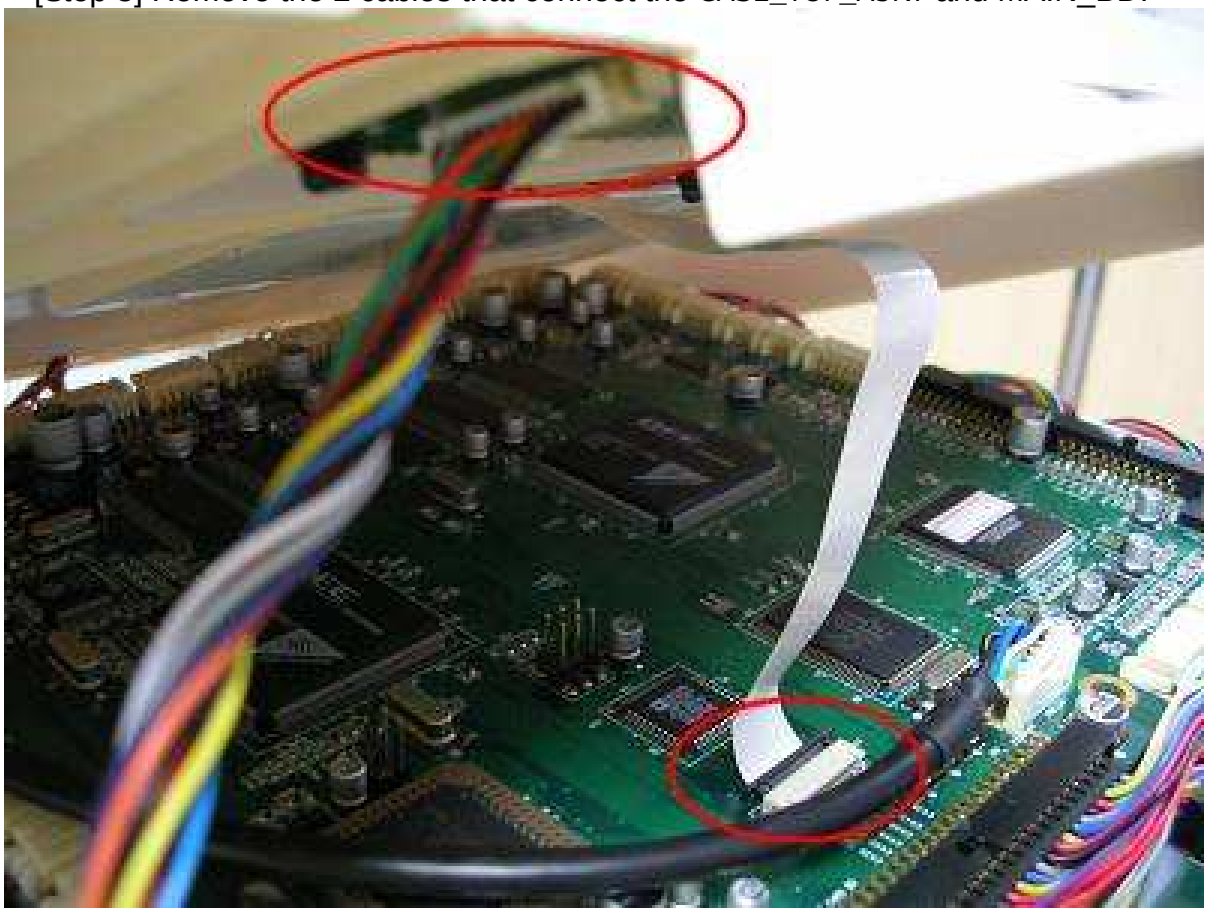
Maintenance Parts Replacement Procedures				
Parts	Name	CASE_TOP_A5RT	Part No.	56.D0908.001
Tools	Phillips screwdriver (#2)		Procedure No.	2

Maintenance part: CASE_TOP_A5RT

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”and ” CASE_LEFT_A5RT”, according to **Procedure No. 1**

[Step 2] After take off CASE_LEFT_A5RT/ CASET_RIGHT_A5RT, remove 6 screws that hold the CASE_TOP_A5RT on the top side.

[Step 3] Remove the 2 cables that connect the CASE_TOP_A5RT and MAIN_BD.



[Step 4] Replace the new CASE_TOP_A5RT and assemble it in the reverse order of the disassembly procedure.

Note:
While installing the cables during [Step 3], make sure that it’s properly inserted into the connector.

Inspection	· Verify that the connectors are properly connected.
	· Perform the test print and verify that all the operations are normal.

Circuit Boards

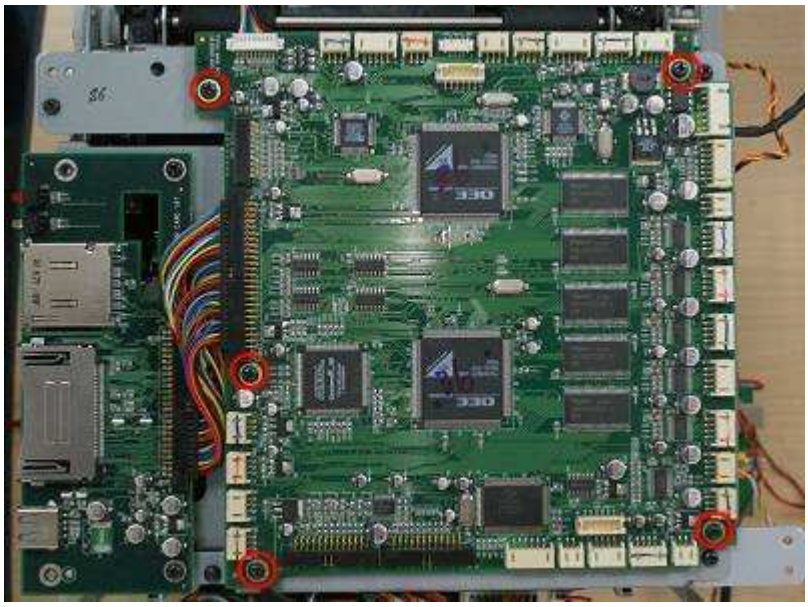
Maintenance Parts Replacement Procedures

Parts	Name	MAIN_BD	Part No.	45.D09R1.041
Tools	Phillips screwdriver (#2)		Procedure No.	3

Maintenance part: MAIN_BD

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT” and “CASE_TOP_A5RT” according to **Procedure No. 1 and 2**

[Step 2] Remove all connectors of MAIN_BD, and remove 5 screws that hold the PCB, and then take off the PCB.



[Step 3] Replace the new MAIN_BD and assemble it in the reverse order of the disassembly procedure.

Note:
During installation in [Step 2], confirm that the PCB is securely inserted into the connectors.

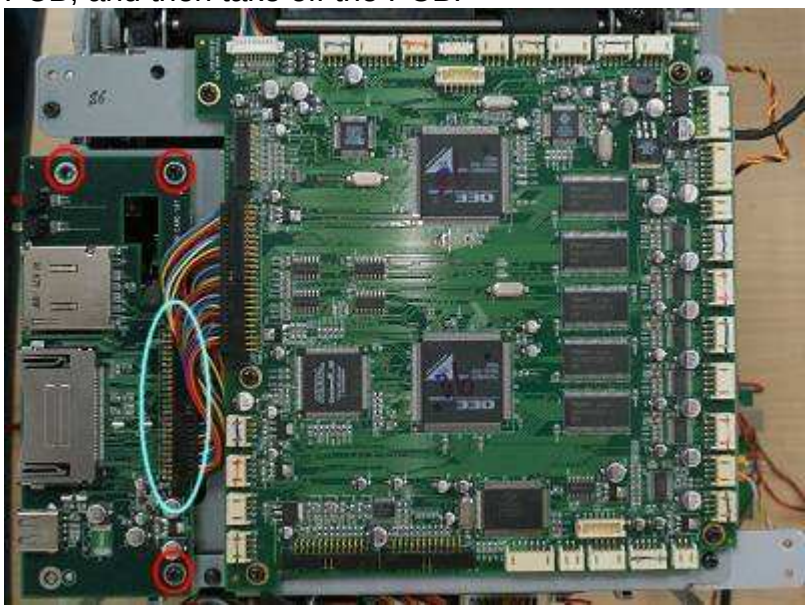
Inspection	· Verify that the connectors are properly connected.
	· Perform the test print and verify that all the operations are normal.

Maintenance Parts Replacement Procedures				
Parts	Name	CARD_BD	Part No.	45.D09R3.031
Tools	Phillips screwdriver (#2)		Procedure No.	4

Maintenance part: CARD_BD

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT” and “CASE_TOP_A5RT” according to **Procedure No. 1 and 2**

[Step 2] Remove 1 connector that connect with MAIN_BD, and remove 3 screws that hold the PCB, and then take off the PCB.



[Step 3] Replace the new CARD_BD and assemble it in the reverse order of the disassembly procedure.

Note:
During installation in [Step 2], confirm that the PCB is securely inserted into the connectors.

Inspection	· Verify that the connectors are properly connected.
	· Perform the test print and verify that all the operations are normal.

Maintenance Parts Replacement Procedures

Parts	Name	POWER BD	Part No.	44.D09R2.002
Tools	Phillips screwdriver (#2)		Procedure No.	5

Maintenance part: POWER BD

[Step 1] Remove ” CASE_LEFT_A5RT”, according to **Procedure No. 1**

[Step 2] Remove 4 screws that hold the PCB, unplug 2 connectors, and then take off the PCB.

[Step 3] Replace the new POWER BD and assemble it in the reverse order of the disassembly procedure.

Note:
During installation in [Step 2], its very important to make sure that the PCB is securely inserted into the connectors.

Inspection	· Verify that the connectors are properly connected.
	· Perform the test print and verify that all the operations are normal.

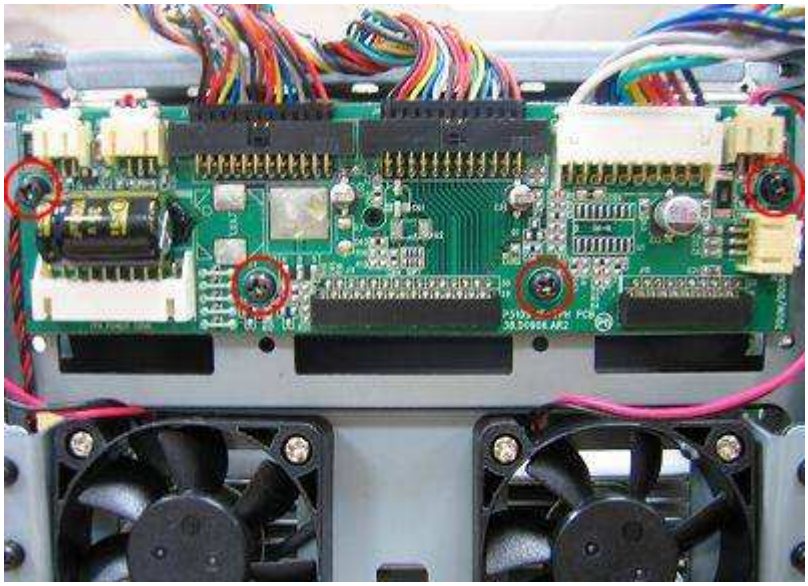
Maintenance Parts Replacement Procedures

Parts	Name	TPH_BD	Part No.	45.D09R6.031
Tools	Phillips screwdriver (#2)		Procedure No.	6

Maintenance part: TPH_BD

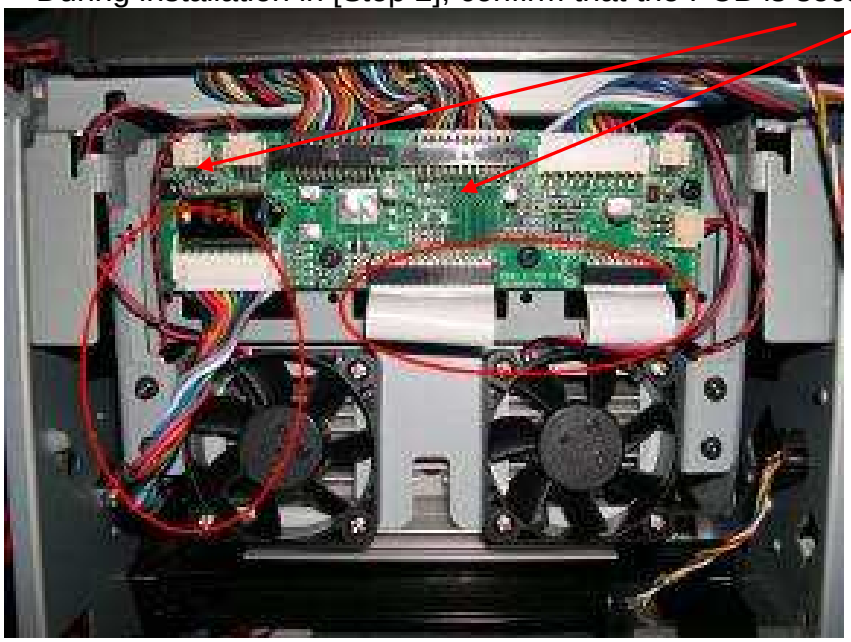
[Step 1] Remove ”CASE_BACK_A5RT” according to **Procedure No. 1**

[Step 2] Remove 4 screws that hold the PCB, unplug all connectors, and then take off the PCB.



[Step 3] Replace the new TPH_BD and assemble it in the reverse order of the disassembly procedure.

Note:
During installation in [Step 2], confirm that the PCB is securely inserted into the connectors.



Inspection	· Verify that the connectors are properly connected. · Perform the test print and verify that all the operations are normal.

Maintenance Parts Replacement Procedures				
Parts	Name	LCD_BD	Part No.	45.D09RB.031c
Tools	Screwdriver (small)		Procedure No	7

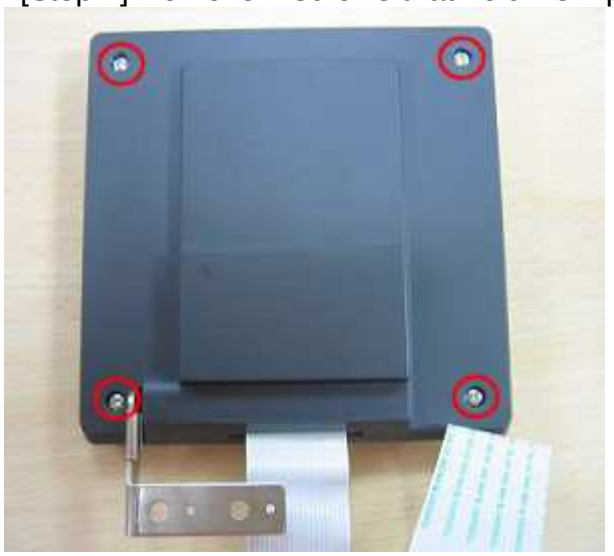
Maintenance part: LCD_BD

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT” and “CASE_TOP_A5RT” according to **Procedure No. 1 and 2**

[Step 2] Remove 2 screws that hold the LCD panel frame from CASE_TOP_A5RT.

[Step 3] Reversed CASE_TOP_A5RT, remove 2 screws, and then take off the LCD panel frame.

[Step 4] Remove 4 screws that hold LCD panel frame cover, and then take off the LCD_BD.



[Step 5] Replace the new LCD_BD and assemble it in the reverse order of the disassembly procedure.

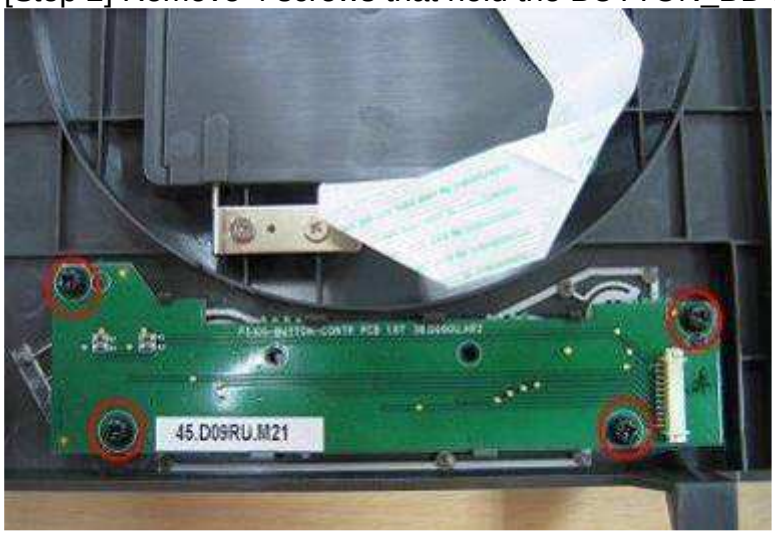
Inspection	· Verify that the connectors are properly connected. · Perform the test print and verify that all the operations are normal.

Maintenance Parts Replacement Procedures				
Parts	Name	BUTTON_BD	Part No.	45.D09RU.021
Tools	Phillips screwdriver (#2)		Procedure No	8

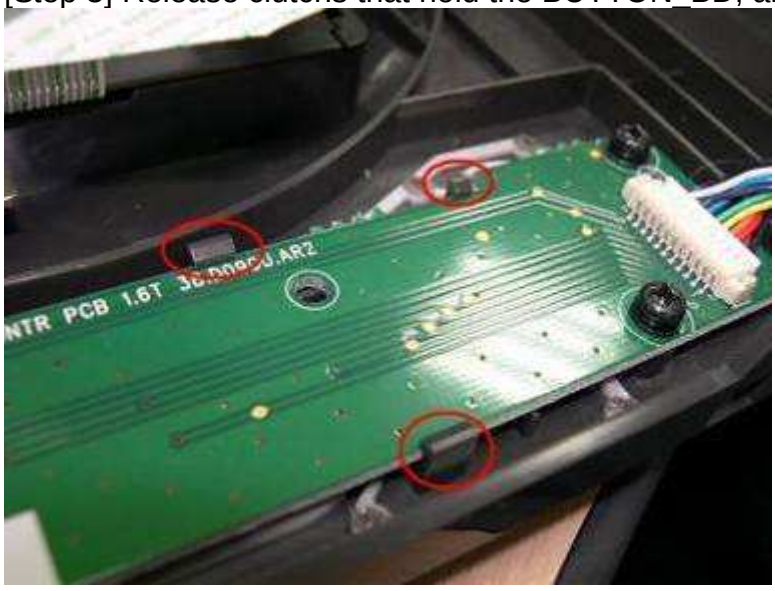
Maintenance part: BUTTON_BD

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT” and “CASE_TOP_A5RT” according to **Procedure No. 1 and 2**

[Step 2] Remove 4 screws that hold the BUTTON_BD from CASE_TOP_A5RT.



[Step 3] Release clutchs that hold the BUTTON_BD, and then take off the BUTTON_BD.

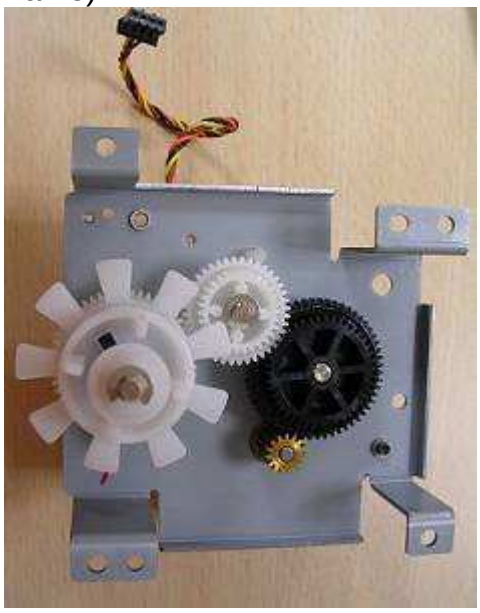


[Step 4] Replace the new BUTTON_BD and assemble it in the reverse order of the disassembly procedure.

Motors

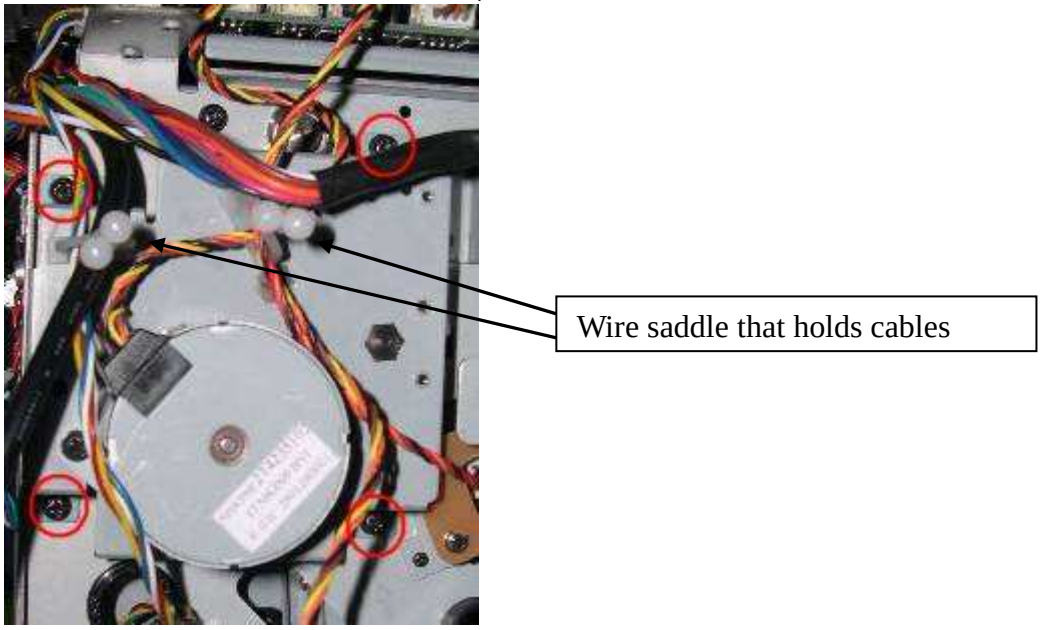
Maintenance Parts Replacement Procedures				
Parts	Name	MTR STEP_7.5_6OHM_RBN_S_160MM ROHS (Ribbon reverse motor frame)	Part No.	17.MKD09.BN1
Tools	Phillips screwdriver (#2)		Procedure No	9

Maintenance part: MTR STEP_7.5_6OHM_RBN_S_160MM ROHS (Ribbon reverse motor frame)



[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASE_BACK_A5RT” and “CASE_TOP_A5RT” according to **Procedure No. 1 and 2**

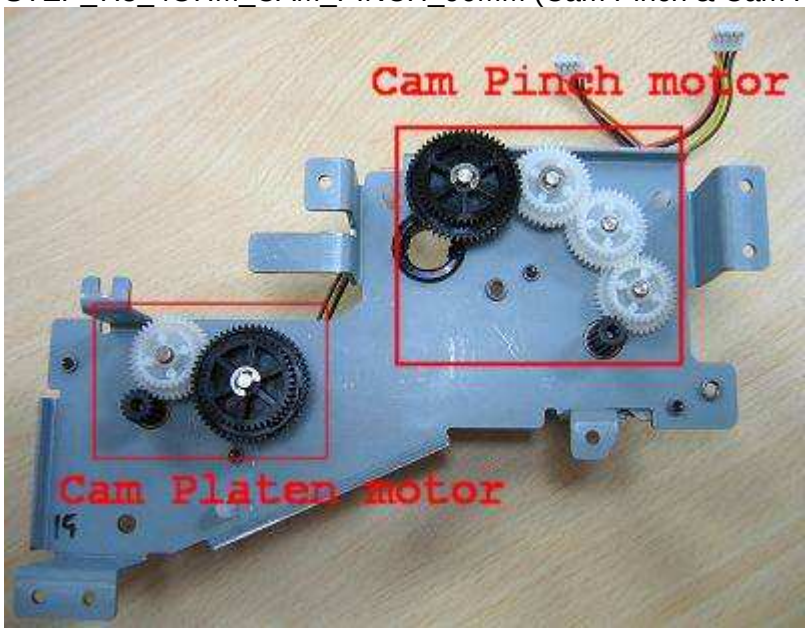
[Step 2] Remove 4 screws that hold the ribbon reverse motor frame, then release the wire saddle that hold the motor cables, and then take off the motor frame.



[Step 3] Replace the new ribbon reverse motor frame and assemble it in the reverse order of the disassembly procedure.

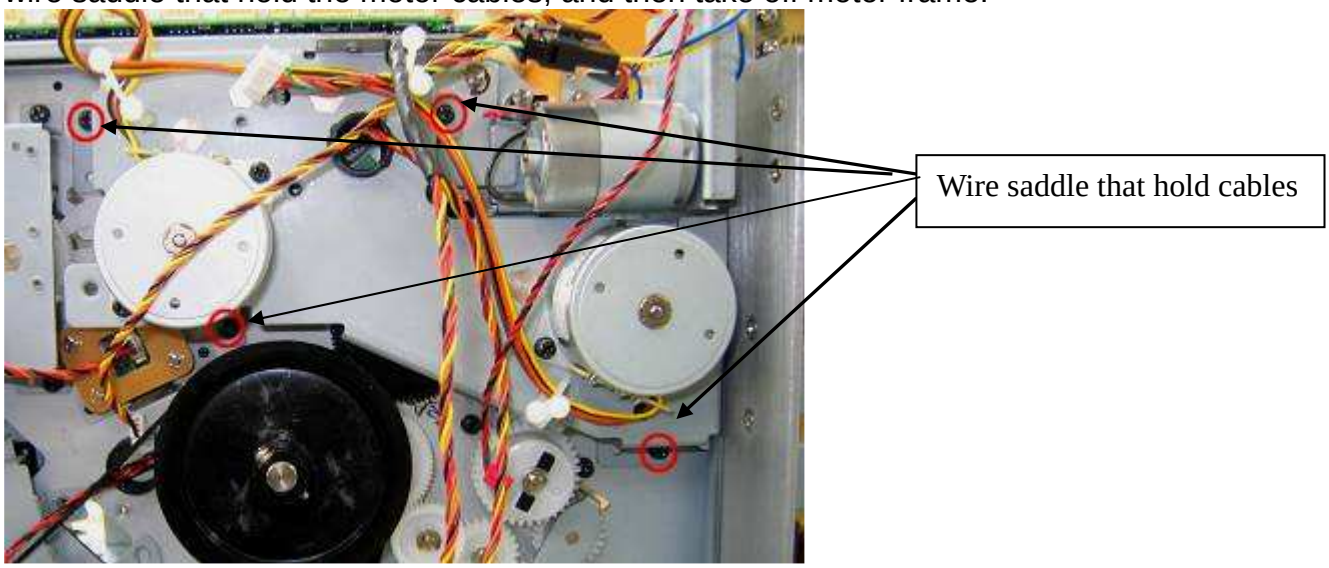
Maintenance Parts Replacement Procedures				
Parts	Name	MTR STEP_7.5_6OHM_CAM_PLTN_200MM RED & MTR STEP_7.5_4OHM_CAM_PINCH_90MM (Cam Pinch & Cam Platen motor frame)	Part No.	17.MCD09.BM1 & 17.MHD09.BM1
Tools	Phillips screwdriver (#2)		Procedure No	10

Maintenance part: MTR STEP_7.5_6OHM_CAM_PLTN_200MM RED & MTR STEP_7.5_4OHM_CAM_PINCH_90MM (Cam Pinch & Cam Platen motor frame)



[Step 1] Remove ” CASE_LEFT_A5RT”, according to **Procedure No. 1**

[Step 2] Remove 4 screws that hold the cam pinch & cam platen motor frame, then release the wire saddle that hold the motor cables, and then take off motor frame.



[Step 3] Replace the new cam pinch & cam platen motor frame and assemble it in the reverse order of the disassembly procedure.

Maintenance Parts Replacement Procedures				
Parts	Name	MTR STEP_7.5_6OHM_RBN_T_350MM (Ribbon take motor frame)	Part No.	17.MBD09.BN1
Tools	Phillips screwdriver (#2)		Procedure No	11

Maintenance part: MTR STEP_7.5_6OHM_RBN_T_350MM(Ribbon take motor frame)

[Step 1] Remove ” CASE_LEFT_A5RT”, according to **Procedure No. 1**

[Step 2] Remove 3 screws that hold the ribbon take motor frame, and then take off motor frame.

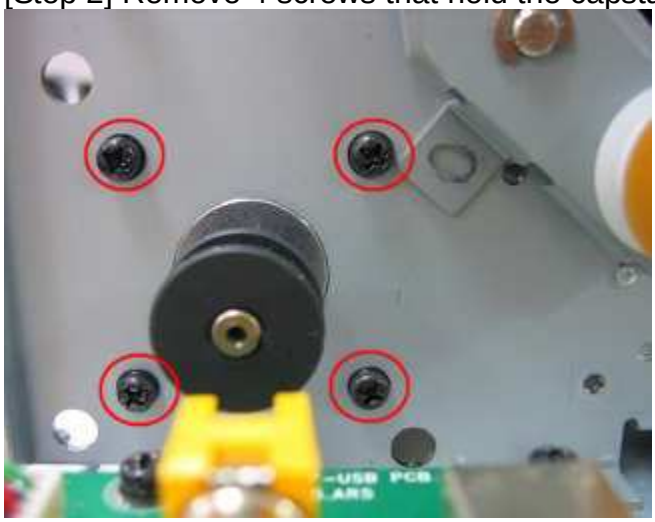
[Step 3] Replace the new ribbon take motor frame and assemble it in the reverse order of the disassembly procedure.

Maintenance Parts Replacement Procedures				
Parts	Name	MTR STEP_1.8_2.4V_2.5A CAPSTON_250MM (Capstan Motor)	Part No.	17.MAD09.BT1
Tools	Phillips screwdriver (#2)		Procedure No	12

Maintenance part: MTR STEP_1.8_2.4V_2.5A CAPSTON_250MM (Capstan Motor)

[Step 1] Remove," CASE_LEFT_A5RT", and"CASE_BACK_A5RT" according to **Procedure No. 1**

[Step 2] Remove 4 screws that hold the capstan motor, and then take off capstan motor.



[Step 3] Replace the new capstan motor and assemble it in the reverse order of the disassembly procedure.

Maintenance Parts Replacement Procedures				
Parts	Name	MTR STEP_3.75_8.5OHM_PAPER_EXIT 240MM BL (Cutter door motor)	Part No.	17.MJD09.BN1
Tools	Phillips screwdriver (#2)		Procedure No	13

Maintenance part: MTR STEP_3.75_8.5OHM_PAPER_EXIT 240MM BL (Cutter door motor)

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, and “CASE_TOP_A5RT” according to **Procedure No. 1 and 2**

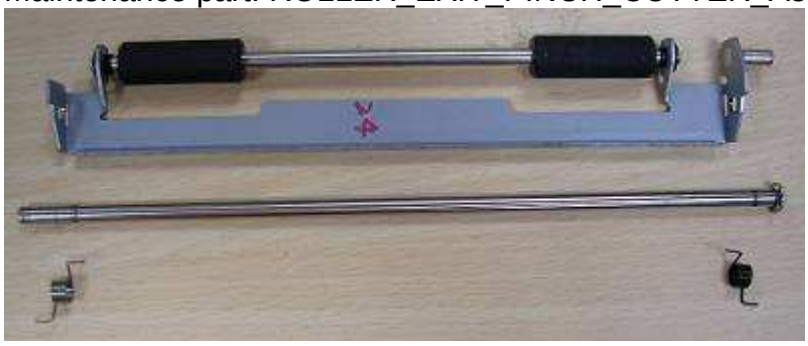
[Step 2] Remove 2 screws that hold the cutter door motor, and then take off cutter door motor.

[Step 3] Replace the new cutter door motor and assemble it in the reverse order of the disassembly procedure.

Other parts

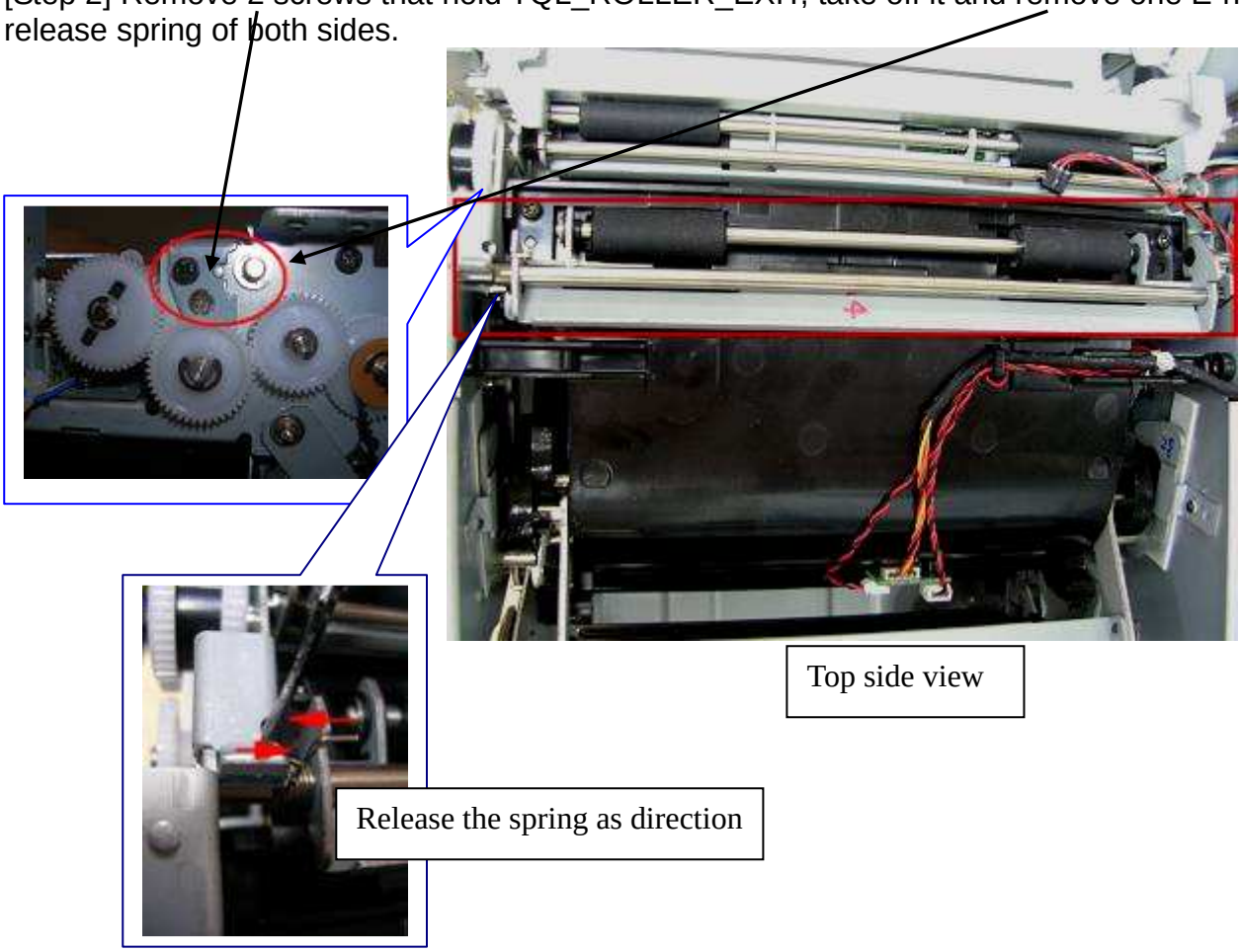
Maintenance Parts Replacement Procedures				
Parts	Name	ROLLER_EXIT_PINCH_CUTTER_A5	Part No.	59.D0909.001
Tools	Phillips screwdriver (#2), Screwdriver (small), spring hook		Procedure No	14

Maintenance part: ROLLER_EXIT_PINCH_CUTTER_A5



[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, and “CASE_TOP_A5RT” according to **Procedure No. 1 and 2**

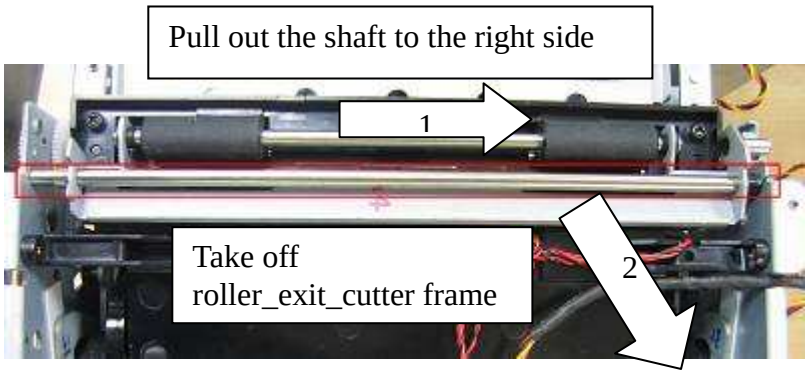
[Step 2] Remove 2 screws that hold TQL_ROLLER_EXIT, take off it and remove one E-ring, release spring of both sides.



Top side view

Release the spring as direction

[Step 3] pull out the shaft_cutter to the right side and take off ROLLER_EXIT_PINCH_CUTTER_A5



Note:
Be careful not to drop spring between the gap when replacing the parts, and the spring is different between left and right side.

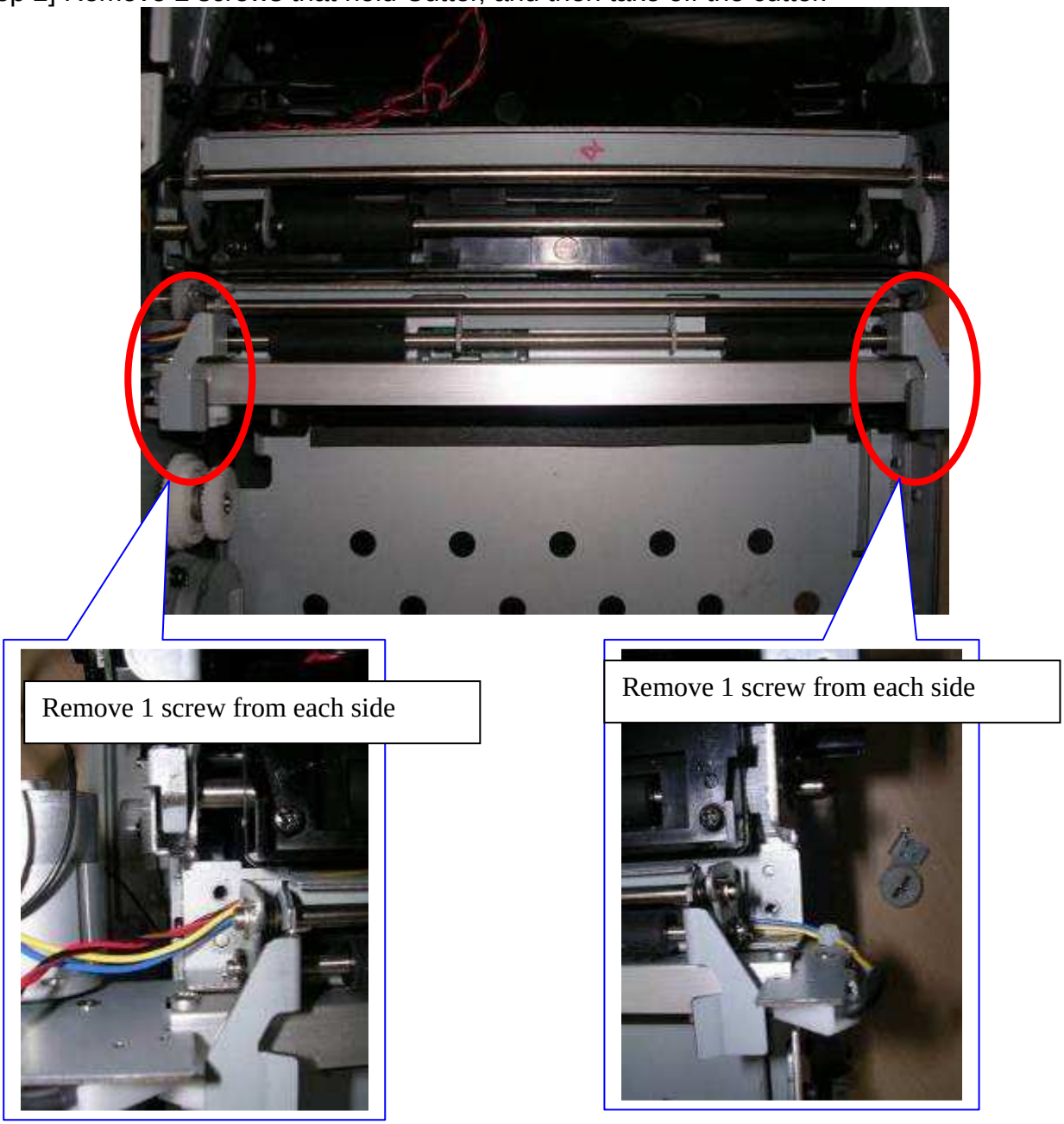
[Step 4] Replace the new ROLLER_EXIT_PINCH_CUTTER_A5 and assemble it in the reverse order of the disassembly procedure.

Maintenance Parts Replacement Procedures				
Parts	Name	CUTTER_C104KZ (Cutter)	Part No.	48.D0917.001
Tools	Phillips screwdriver (#2)		Procedure No	15

Maintenance part: CUTTER_C104KZ

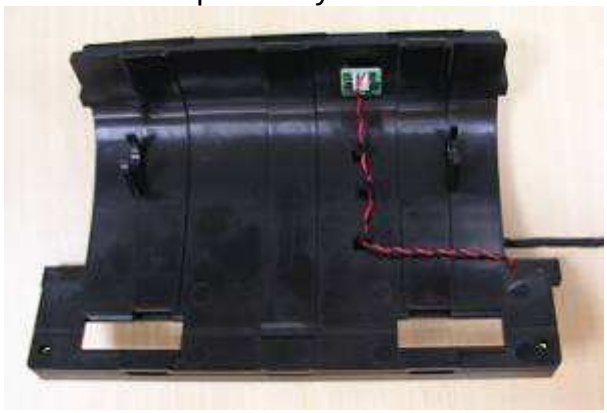
[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, “CASE_TOP_A5RT” and “ROLLER_EXIT_PINCH_CUTTER_A5” according to **Procedure No. 1, 2 and 14**

[Step 2] Remove 2 screws that hold Cutter, and then take off the cutter.



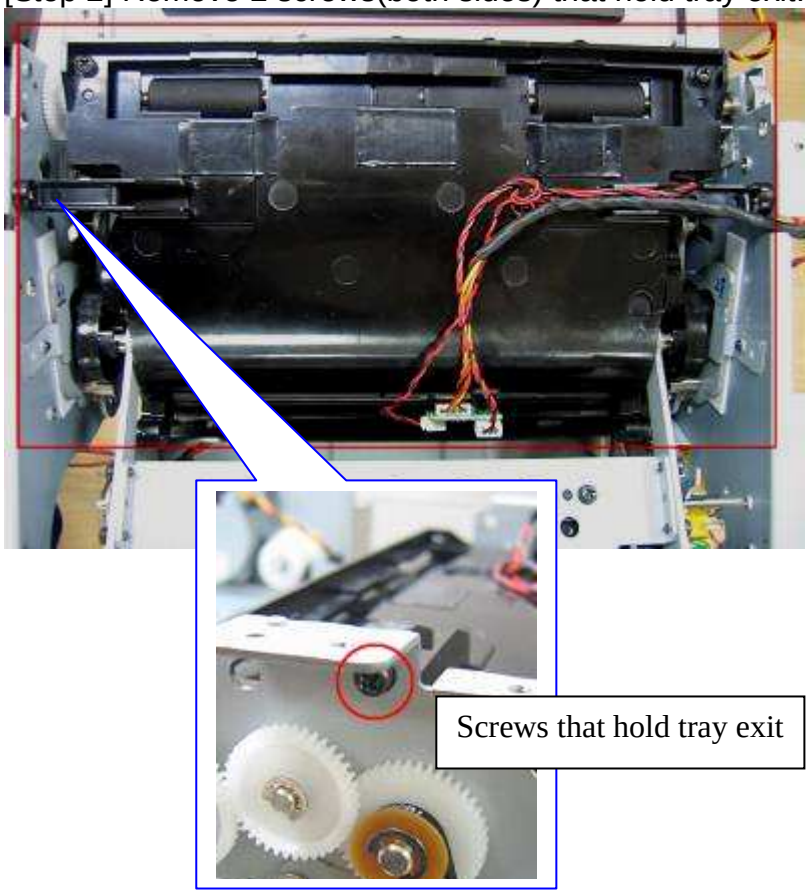
Maintenance Parts Replacement Procedures				
Parts	Name	Tray exit	Part No.	48.D0911.001
Tools	Phillips screwdriver (#2)		Procedure No	16

Maintenance part: Tray exit



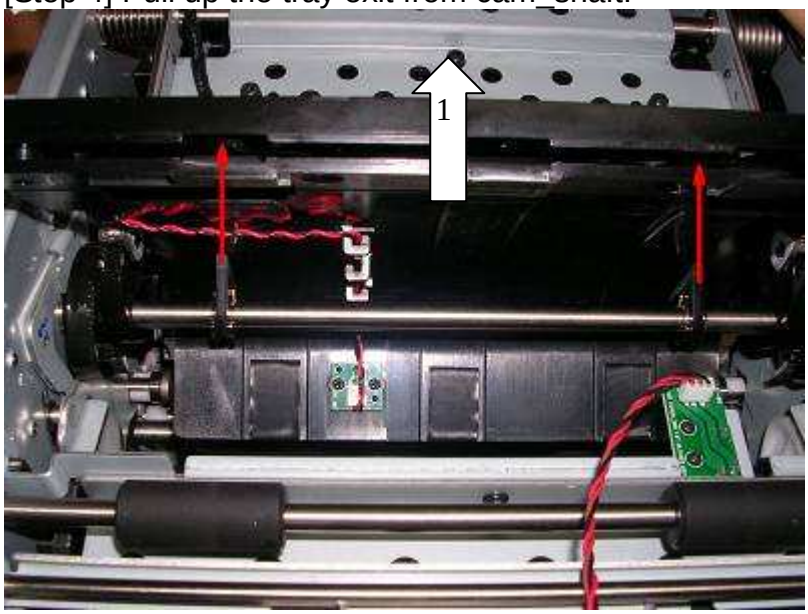
[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD” and “ROLLER_EXIT_PINCH_CUTTER_A5” according to **Procedure No. 1, 2 ,3 and 14**

[Step 2] Remove 2 screws(both sides) that hold tray exit.

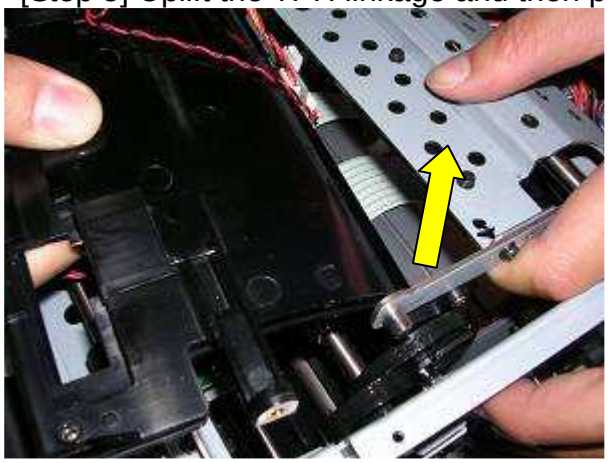


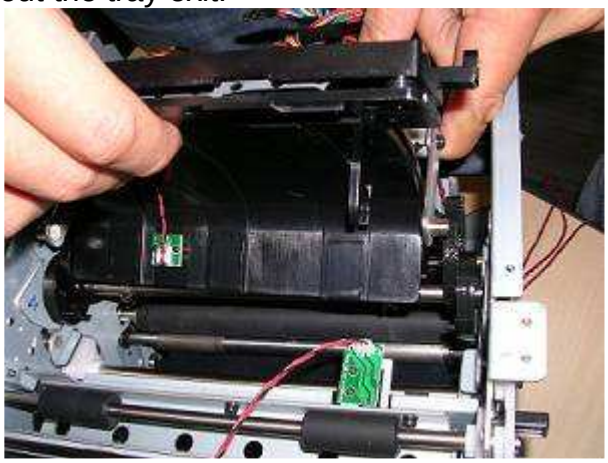
[Step 3] Remove 1 connector as below.

[Step 4] Pull up the tray exit from cam_shaft.



[Step 5] Uplift the TPH linkage and then pull out the tray exit.



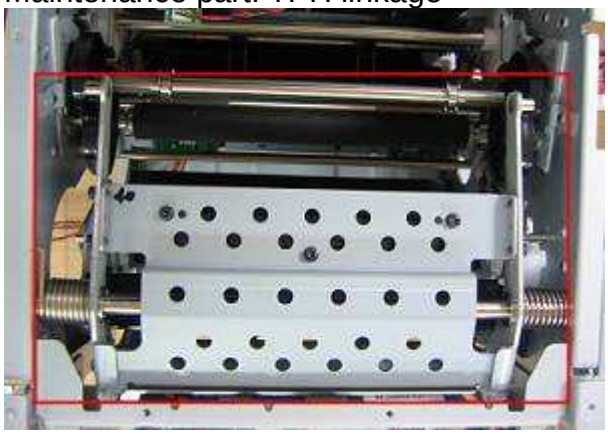


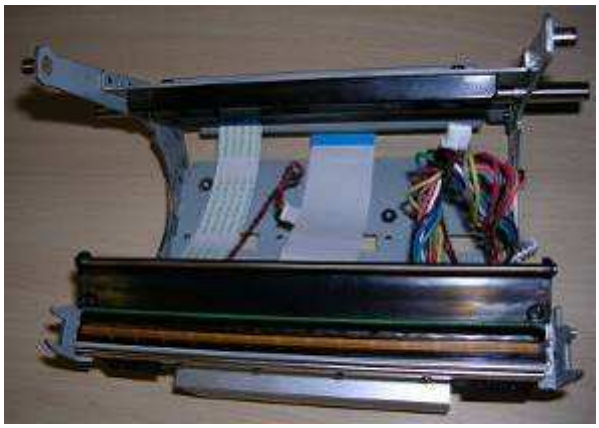
[Step 6] Replace the new Tray exit and assemble it in the reverse order of the disassembly procedure.

Maintenance Parts Replacement Procedures

Parts	Name	TPH linkage	Part No.	47.D0928.001
Tools	Phillips screwdriver (#2), Flat-blade screwdriver (small), Pliers		Procedure No	17

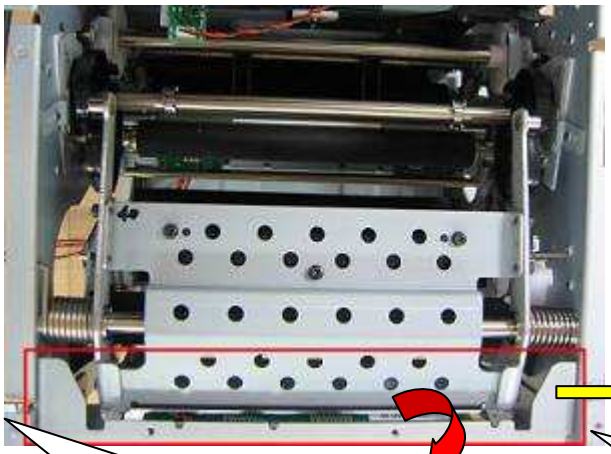
Maintenance part: TPH linkage

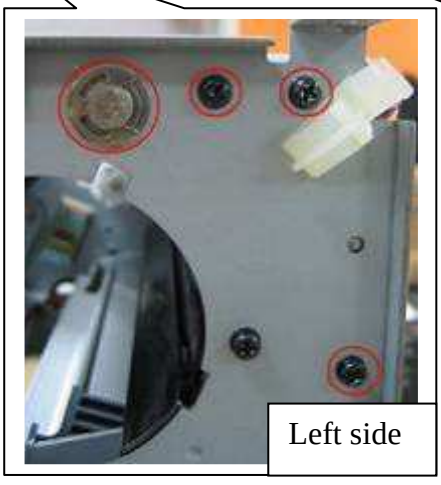




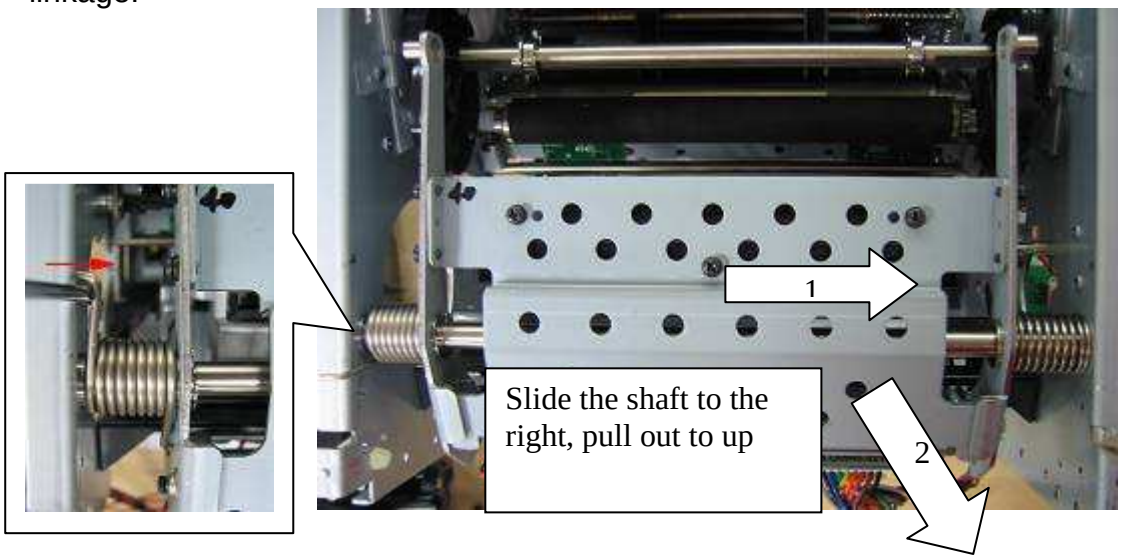
[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD” and “RIBBON REVERSE_MOTOR_FRAME” according to **Procedure No. 1, 2 ,3 and 9**

[Step 2] Remove 6 screws that hold “k_frame_main_top” and chassis, and remove E-ring that hold shaft_TPH linkage of both sides,then take off k_frame_main_top.





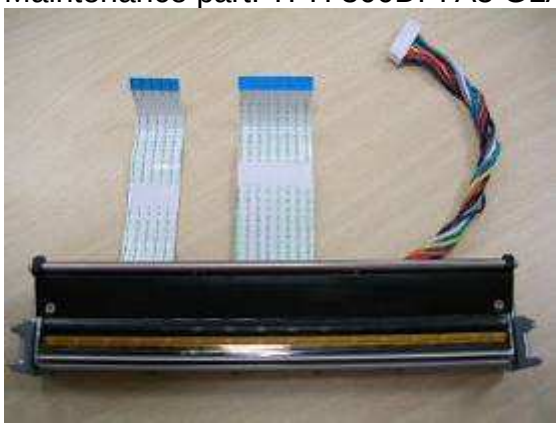
[Step 3] Release the spring, slide the shaft to the right side, pull out to up, then take out the linkage.



[Step 4] Replace the new TPH linkage and assemble it in the reverse order of the disassembly procedure.

Maintenance Parts Replacement Procedures				
Parts	Name	TPH 300DPI A5 GLAZE 70UM (TPH ASSY)	Part No.	37.P3U60.T11
Tools	Phillips screwdriver (#2)		Procedure No	18

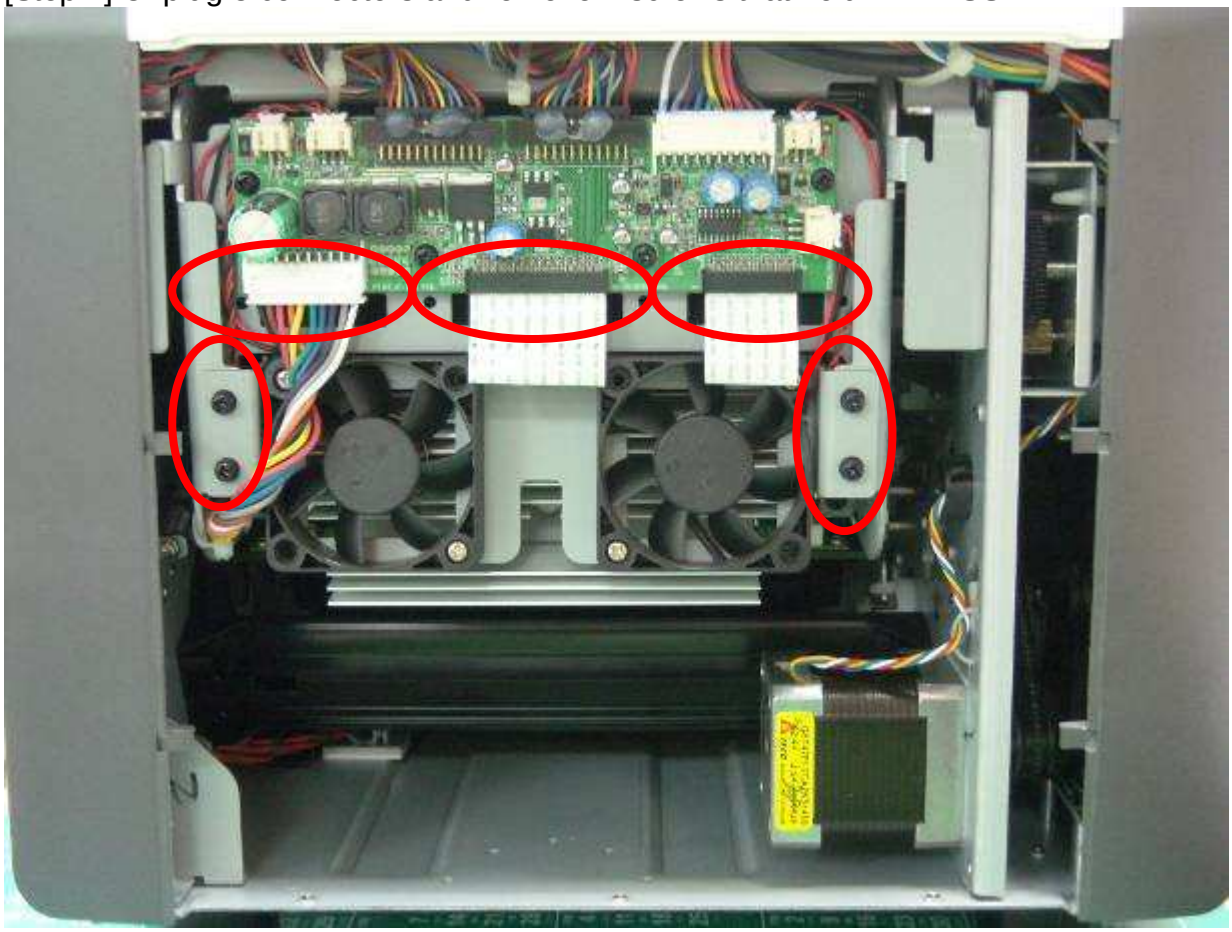
Maintenance part: TPH 300DPI A5 GLAZE 70UM (TPH ASSY)



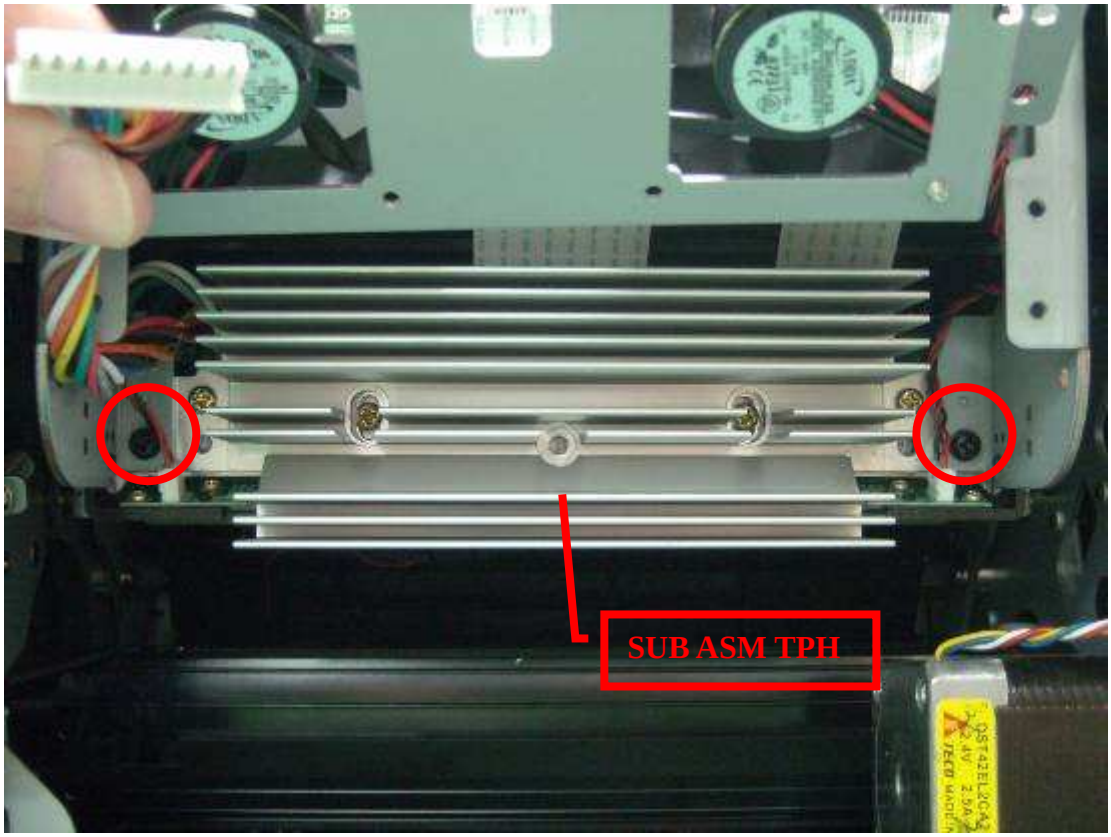
Fast Way

[Step 1] Remove ”CASE_BACK_A5RT” according to **Procedure No. 1**

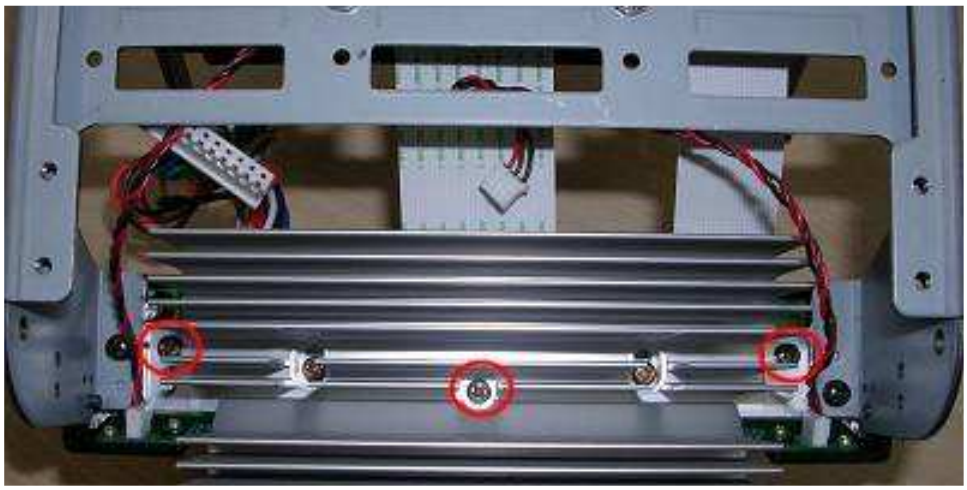
[Step 2] Unplug 3 connectors and remove 4 screws that hold FAN ASSY



[Step 3] Remove 2 screws that hold SUB ASM TPH A5RT, and then take off SUB ASM TPH A5RT



[Step 4] Remove 3 screws that hold TPH ASSY and then take off TPH ASSY.

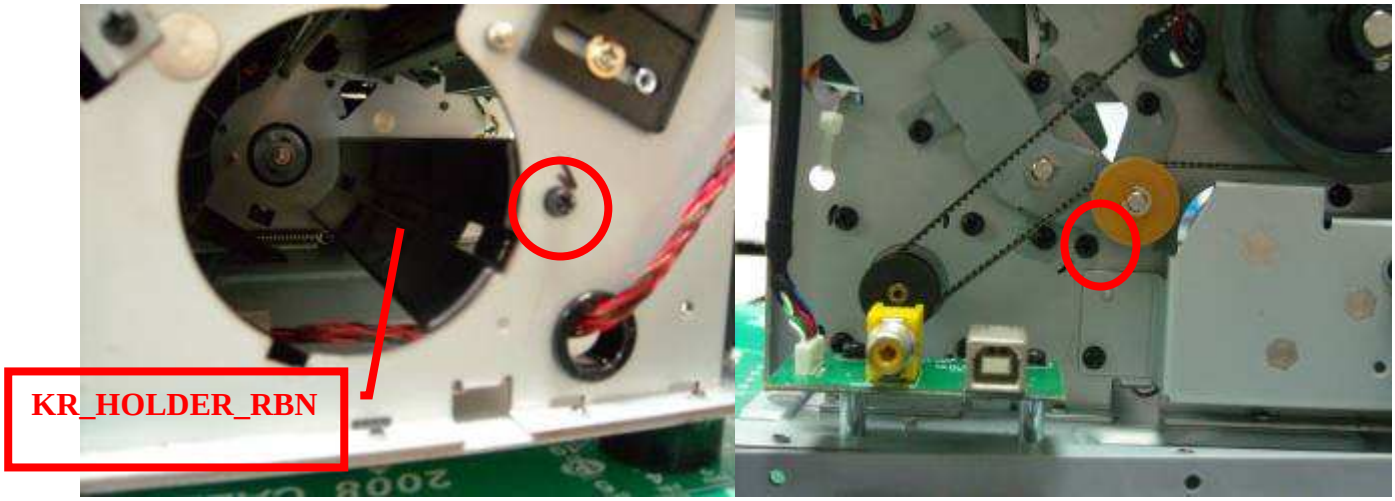


[Step 5] Replace the new TPH ASSY and assemble it in the reverse order of the disassembly procedure.

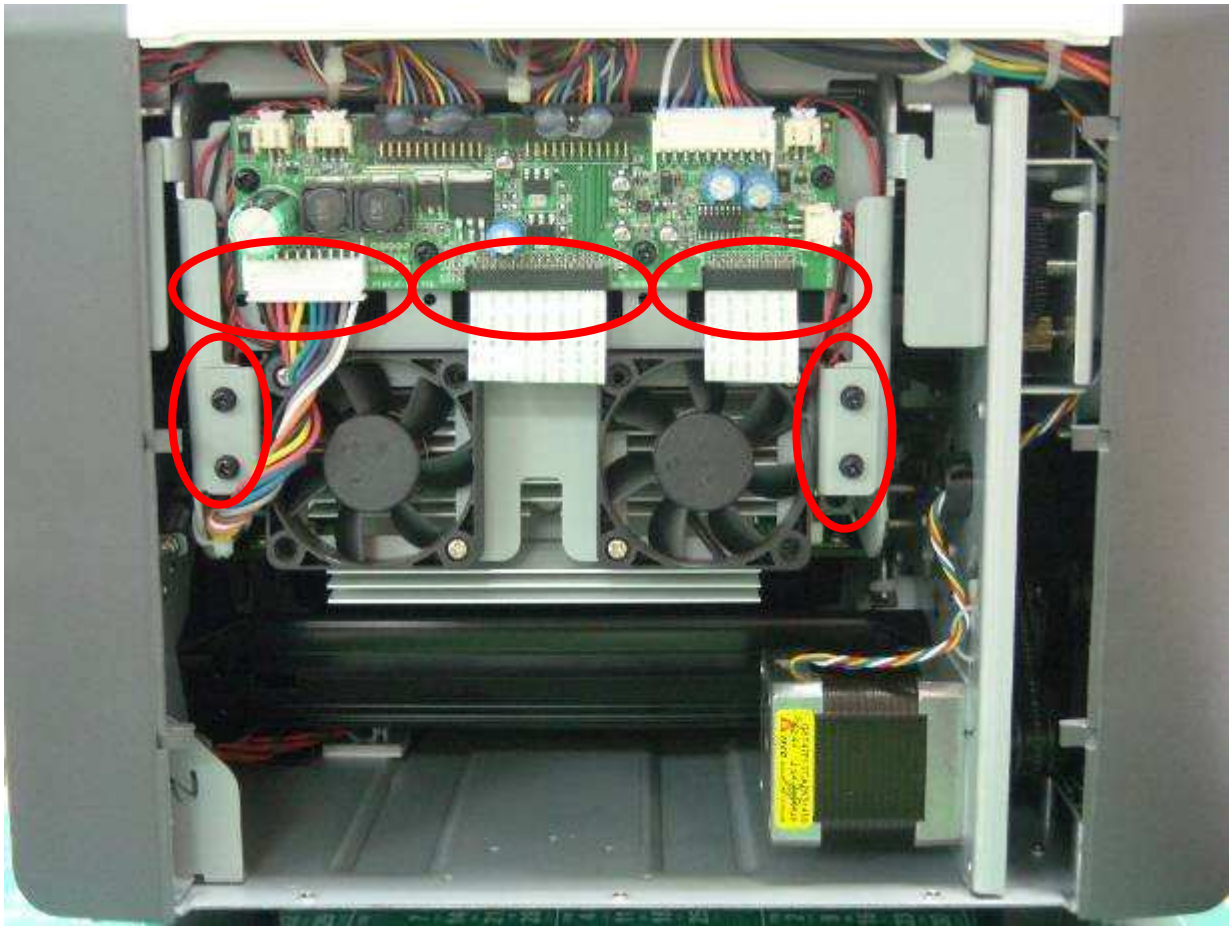
Easy Way

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”,” ”CASE_BACK_A5RT”, according to **Procedure No. 1**

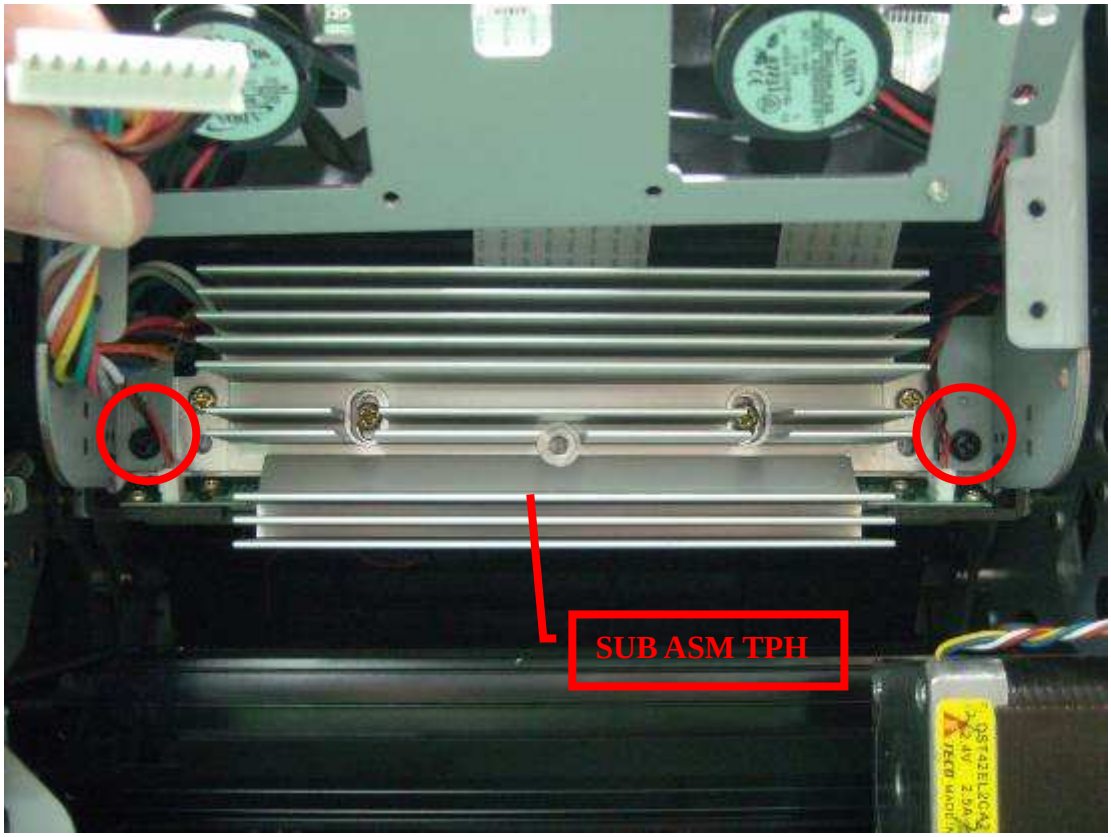
[Step 2] Remove 2 screws that hold KR_Holder_RBN and take off KR_Holder_RBN .



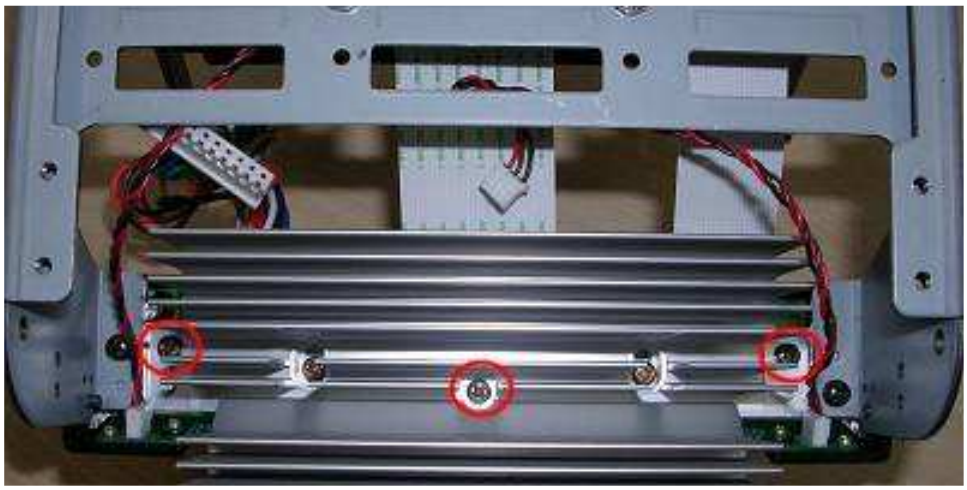
[Step 3] Unplug 3 connectors and remove 4 screws that hold FAN ASSY



[Step 4] Remove 2 screws that hold SUB ASM TPH A5RT, and then take off SUB ASM TPH A5RT



[Step 5] Remove 3 screws that hold TPH ASSY and then take off TPH ASSY.



[Step 5] Replace the new TPH ASSY and assemble it in the reverse order of the disassembly procedure.

Note:
During installation in [Step 3], confirm that the TPH ASSY is securely inserted into the connectors.

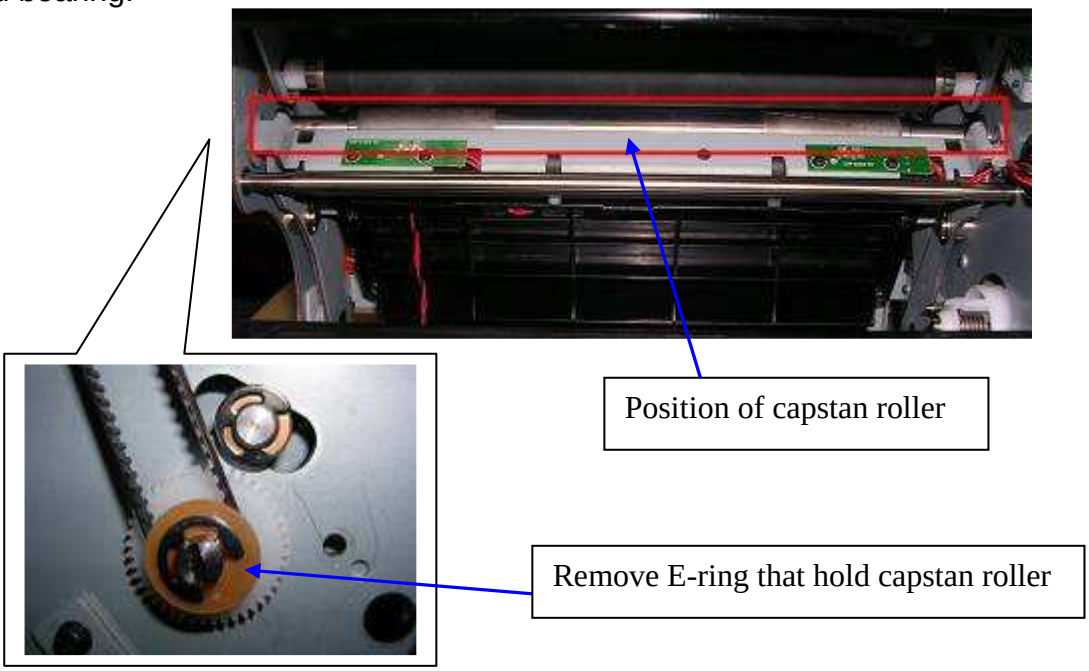
Inspection	· Verify that the connectors are properly connected.
	· Perform the test print and verify that all the operations are normal.

Maintenance Parts Replacement Procedures				
Parts	Name	CAPSTAN_ROLLER_A5	Part No.	53.D0911.001
Tools	Phillips screwdriver (#2), Flat-blade screwdriver (small)		Procedure No	19

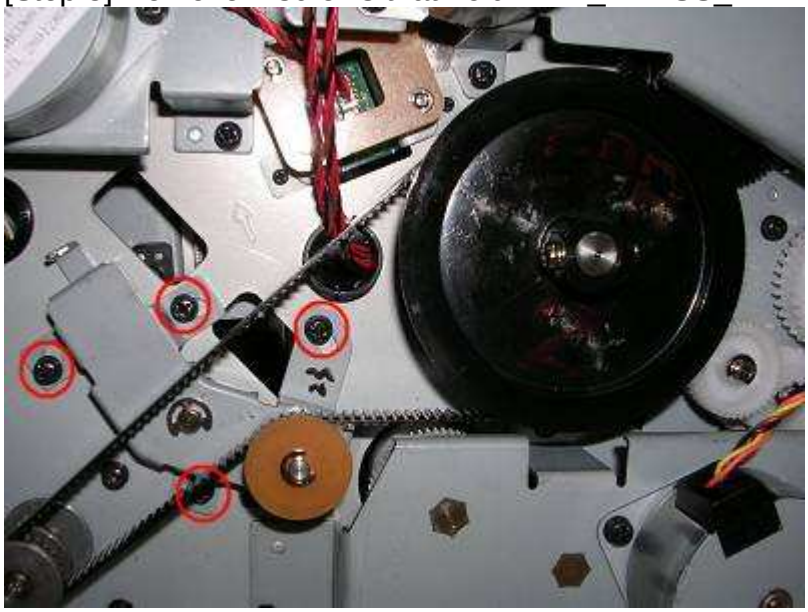
Maintenance part: CAPSTAN_ROLLER_A5

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”, and ” CASE_LEFT_A5RT” according to **Procedure No. 1**

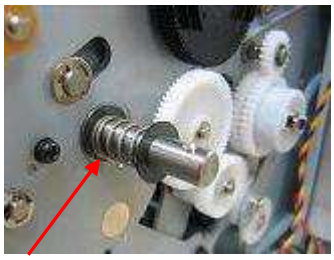
[Step 2] Remove E-ring that hold CAPSTAN_ROLLER_A5, and take out ring gasket, belt, gear and bearing.



[Step 3] Remove 4 screws that hold LINK_PRESS_BELT, and the belt will be release.

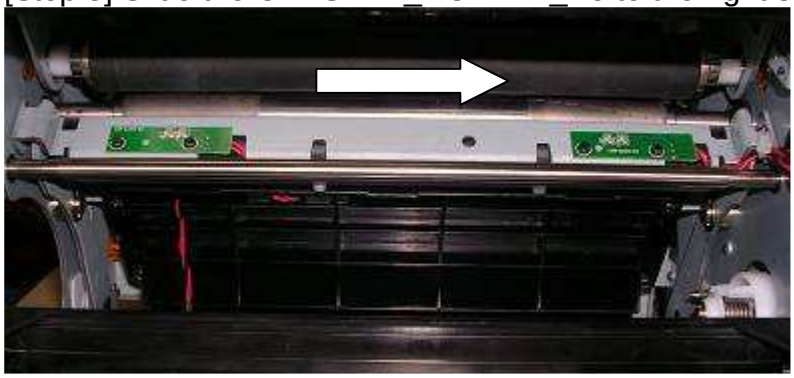


[Step 4] Remove 1 screw that hold gear_capstan



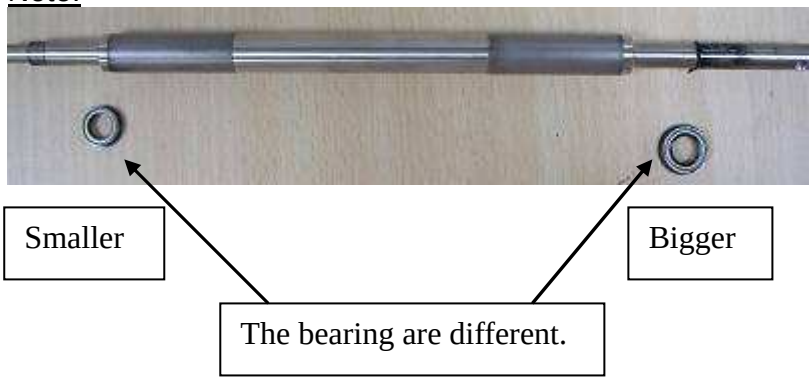
Note: Please be noticed ring gasket and spring position.

[Step 5] Slide the CAPSTAN_ROLLER_A5 to the right side, pull out the roller.



[Step 6] Replace the new CAPSTAN_ROLLER_A5 and assemble it in the reverse order of the disassembly procedure.

Note:



Maintenance Parts Replacement Procedures

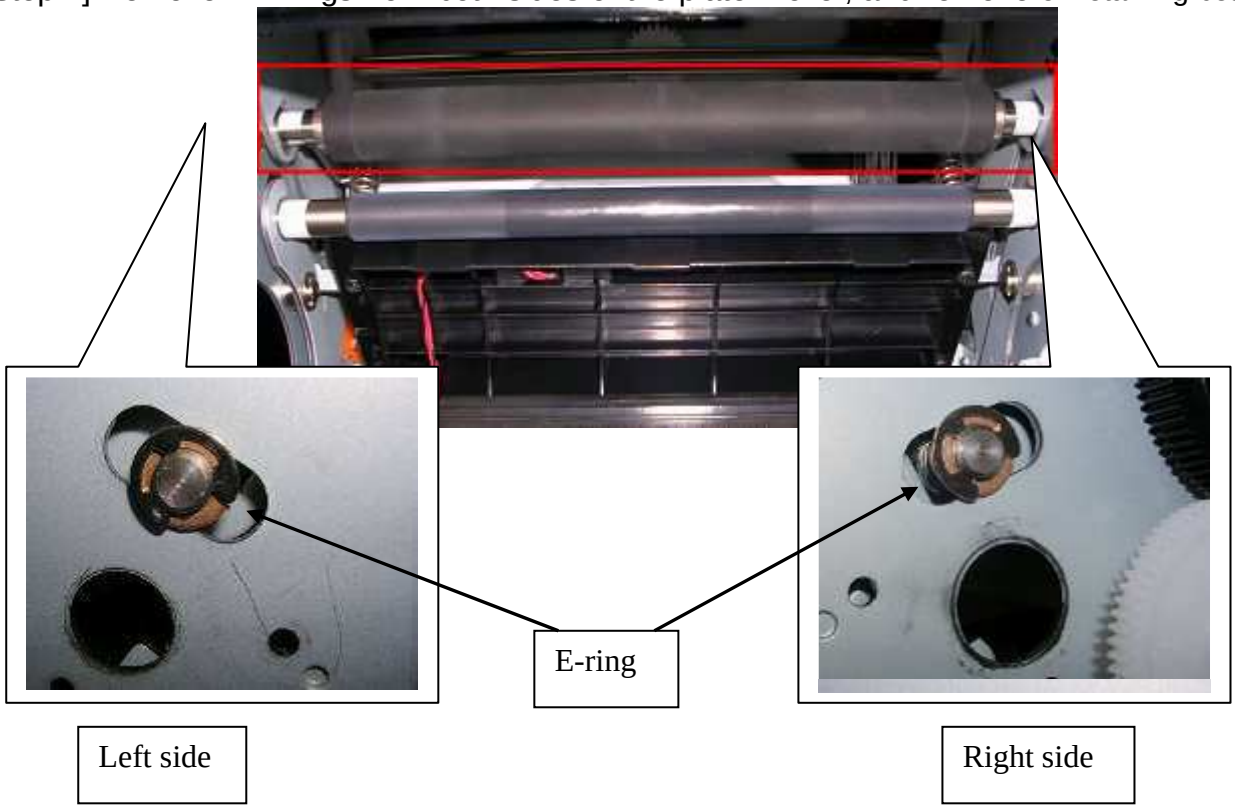
Parts	Name	ROLLER_PLATEN_NEW_A5 (Platen roller)	Part No.	59.D0906.001
Tools	Flat-blade screwdriver (small)		Procedure No	20

Maintenance part: ROLLER_PLATEN_NEW_A5 (Platen roller)

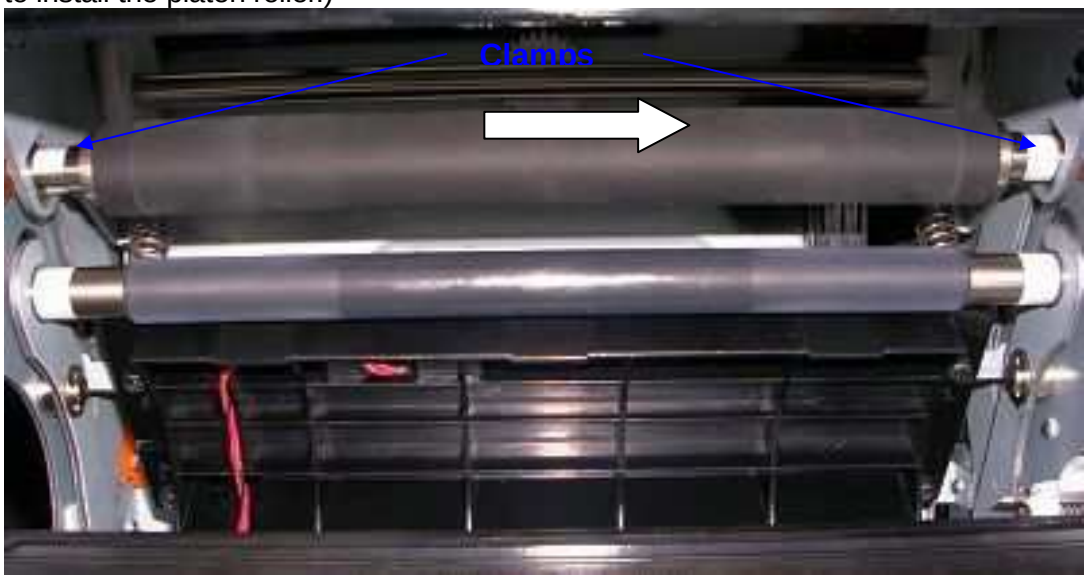
[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD”, “ROLLER_EXIT_PINCH_CUTTER_A5”, ““TRAY_EXIT_ASSY “ “RIBBON REVERSE_MOTOR_FRAME” and “TPH Linkage” according to **Procedure No. 1, 2 ,3, 9 14,16 and 17**

.

[Step 2] Remove 2 E rings from both sides of the platen roller, and remove oil-retaining bearing



[Step 3] Remove 2 clamps from both sides of the platen roller, slide the roller to the right, and then pull it out to the front. Remove the oil-retaining bearing together. (The oil-retaining bearing is used to install the platen roller.)



Note: Please noticed the related postion between the bearing, washer and oil-retaining bearing.

[Step 4] Replace the new platen roller and assemble it in the reverse order of the disassembly procedure.

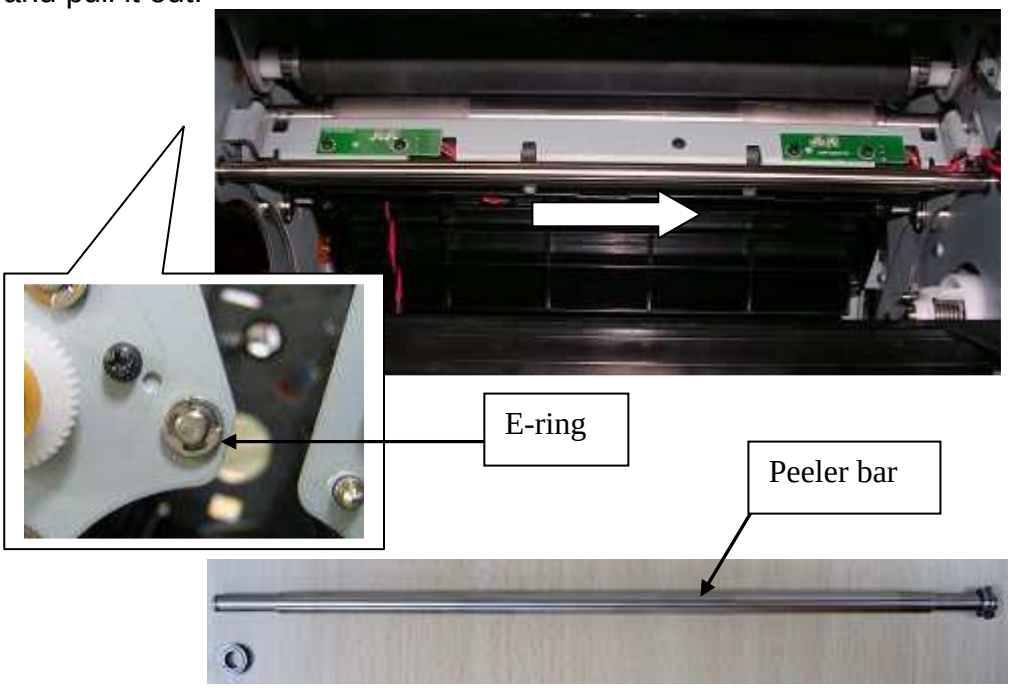
Maintenance Parts Replacement Procedures

Parts	Name	ROLLER_PINCH_A5 (Pinch roller)	Part No.	59.D0905.001
Tools	Phillips screwdriver (#2), Flat-blade screwdriver (small)		Procedure No	21

Maintenance part: ROLLER_PINCH_A5 (Pinch roller)

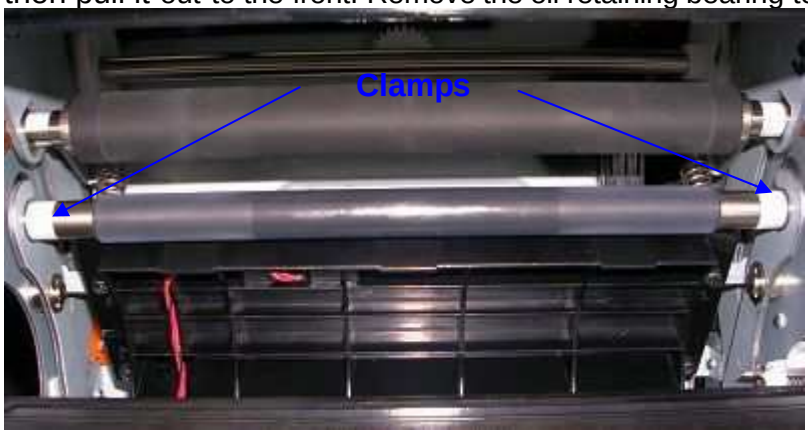
[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD”, “ROLLER_EXIT_PINCH_CUTTER_A5”, “TRAY_EXIT_ASSY “ “RIBBON REVERSE_MOTOR_FRAME” and “TPH Linkage” “CAPSTAN_ROLLER_A5” according to **Procedure No. 1, 2 ,3, 9 14 16, 17and 19**

[Step 2] Remove 1 E-ring and bearing from left side of the peeler bar, slide the peeler bar to the right and pull it out.



[Step 3] Remove 2 screws that hold “p_frame_holder_led”, and pull it out to the front.

[Step 4] Remove 2 clamps from both sides of the pinch roller, slide the roller to the right, and then pull it out to the front. Remove the oil-retaining bearing together.



[Step 5] Replace the new pinch roller and assemble it in the reverse order of the disassembly procedure.

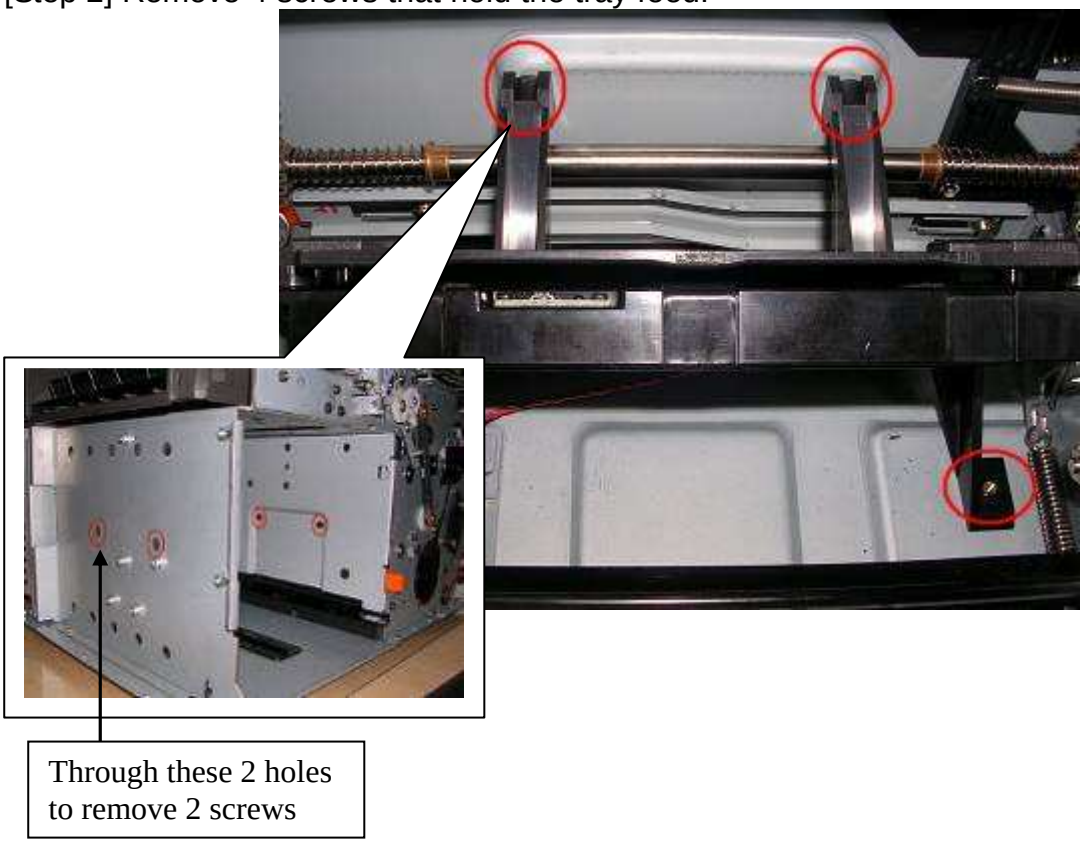
Maintenance Parts Replacement Procedures

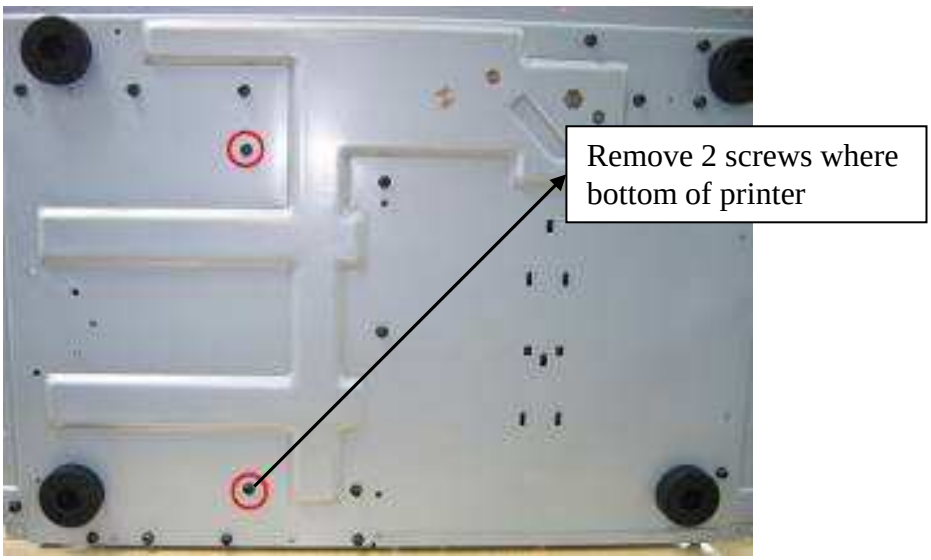
Parts	Name	Tray feed	Part No.	48.D0910.001
Tools	Phillips screwdriver (#2)		Procedure No	22

Maintenance part: tray feed

[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASET_FRONT_A5RT” ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD”, “ROLLER_EXIT_PINCH_CUTTER_A5”, “TRAY_EXIT_ASSY“,“RIBBON REVERSE_MOTOR_FRAME” “TPH Linkage”,” CAPSTAN_ROLLER_A5”, “ROLLER_PLATEN_NEW_A5” and ”ROLLER_PINCH_A5” according to **Procedure No. 1, 2 ,3, 9,14,16,17, 19,20 and 21**

[Step 2] Remove 4 screws that hold the tray feed.

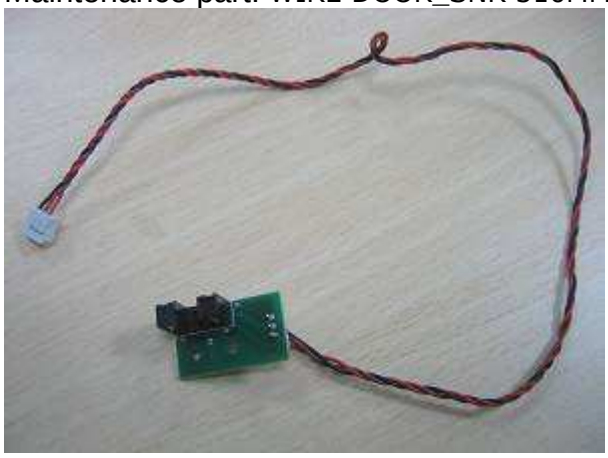



Remove 2 screws where
bottom of printer

Sensors

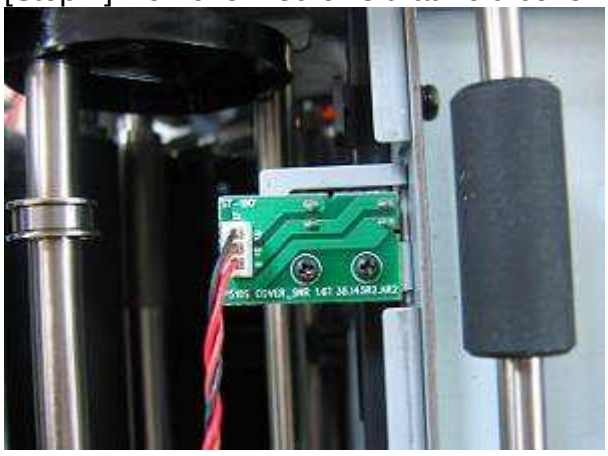
Maintenance Parts Replacement Procedures				
Parts	Name	WIRE DOOR_SNR 310MM (Cover open Sensor)	Part No.	40.D0909.R01
Tools	Screwdriver (small)		Procedure No	23

Maintenance part: WIRE DOOR_SNR 310MM (Cover open Sensor)



[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASET_FRONT_A5RT” ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD” and “ROLLER_EXIT_PINCH_CUTTER_A5” and “Tray exit”according to **Procedure No. 1, 2 ,3 ,14 and 16**

[Step 2] Remove 2 screws that hold cover open sensor, and then take it off.



[Step 3] Replace the new cover open sensor and assemble it in the reverse order of the disassembly procedure.

Inspection	· Verify that the connectors are properly connected.
	· Perform the test print and verify that all the operations are normal.

Maintenance Parts Replacement Procedures

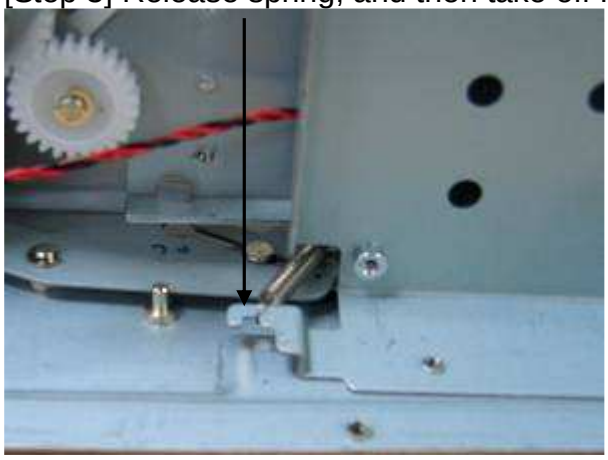
Parts	Name	WIRE PAPER_BOX_SNR 390MM BLUE (Paper Box Sensor)	Part No.	40.D0903.R01
Tools	Phillips screwdriver (#2), Screwdriver (small)		Procedure No	24

Maintenance part: WIRE PAPER_BOX_SNR 390MM BLUE (Paper Box Sensor)

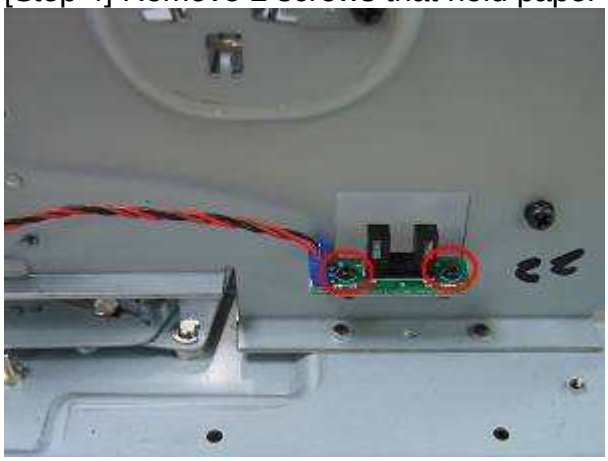
[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT” and “POWER BD” according to **Procedure No. 1 and 5**

[Step 2] Remove 4 screws that hold POWER BD bedframe.

[Step 3] Release spring, and then take off POWER BD bedframe.



[Step 4] Remove 2 screws that hold paper box sensor, and then take it off.



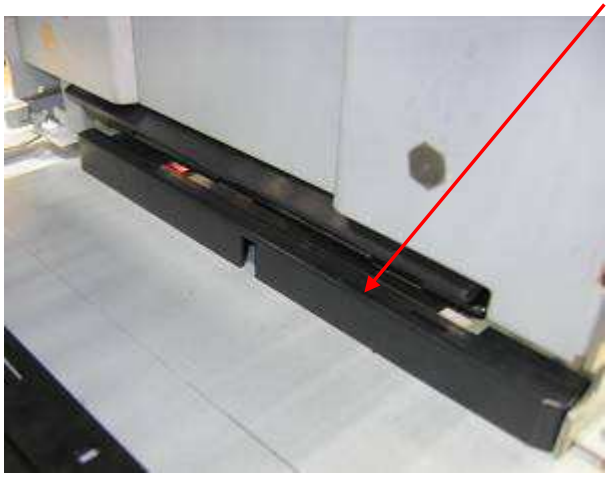
[Step 5] Replace the new paper box sensor and assemble it in the reverse order of the disassembly procedure.

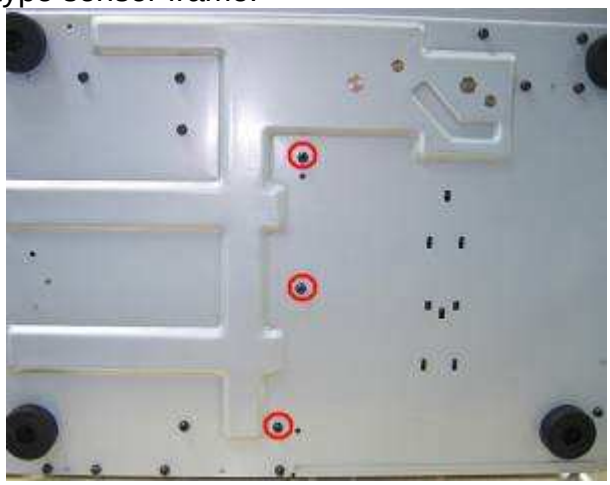
Inspection	· Verify that the connectors are properly connected. · Perform the test print and verify that all the operations are normal.

Maintenance Parts Replacement Procedures				
Parts	Name	WIRE PAPER_TYPE 590MM (Paper type Sensor) (white connector)	Part No.	40.D0911.R01
Tools	Phillips screwdriver (#2), Screwdriver (small)		Procedure No	25

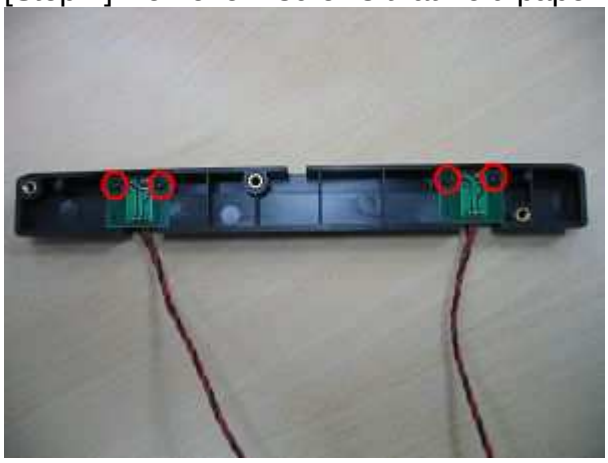
Maintenance part: WIRE PAPER_TYPE 590MM (Paper type Sensor) (white connector)

[Step 1] Remove 3 screws that hold paper type sensor frame.





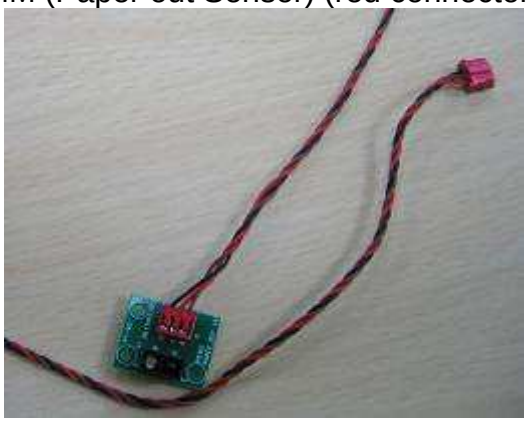
[Step 2] Remove 2 screws that hold paper type sensor (white connector) , and take it off.



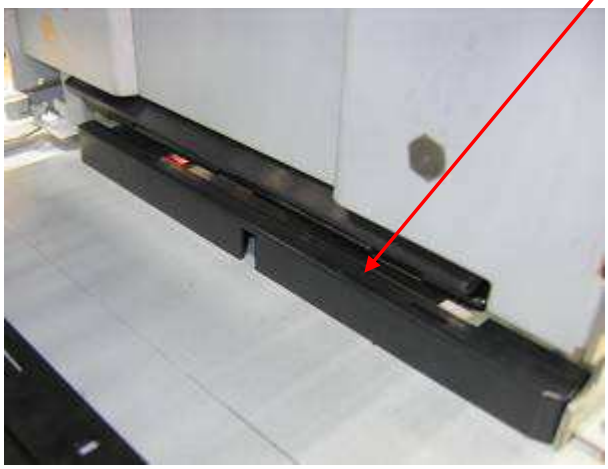
[Step 3] Replace the new paper type sensor and assemble it in the reverse order of the disassembly procedure.

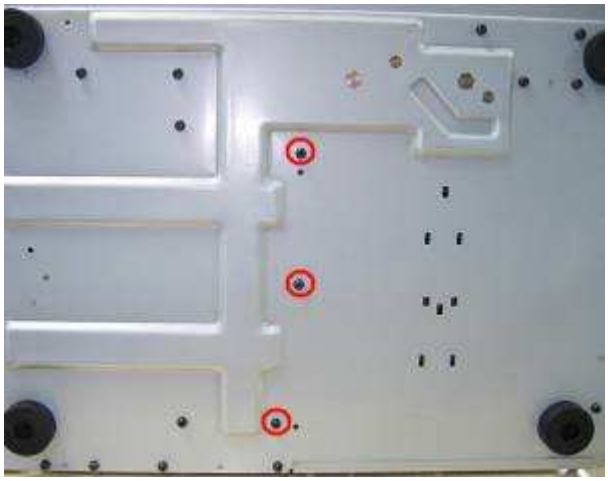
Maintenance Parts Replacement Procedures				
Parts	Name	WIRE PAPER_OUT 680MM (Paper out Sensor) (red connector)	Part No.	40.D0910.R01
Tools	Phillips screwdriver (#2), Screwdriver (small)		Procedure No	26

Maintenance part: WIRE PAPER_OUT 680MM (Paper out Sensor) (red connector)

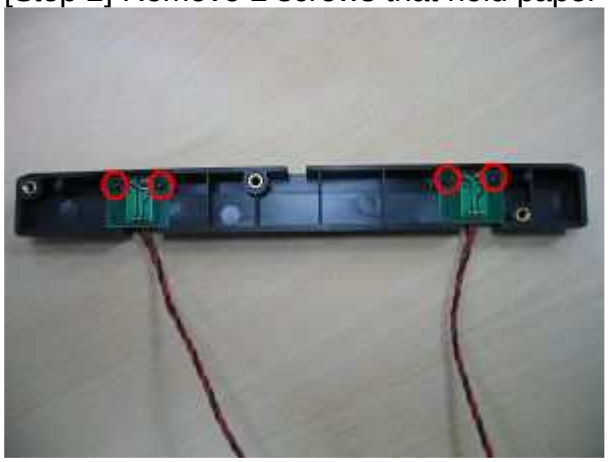


[Step 1] Remove 3 screws that hold paper out sensor frame.





[Step 2] Remove 2 screws that hold paper out sensor (red connector), and take it off.

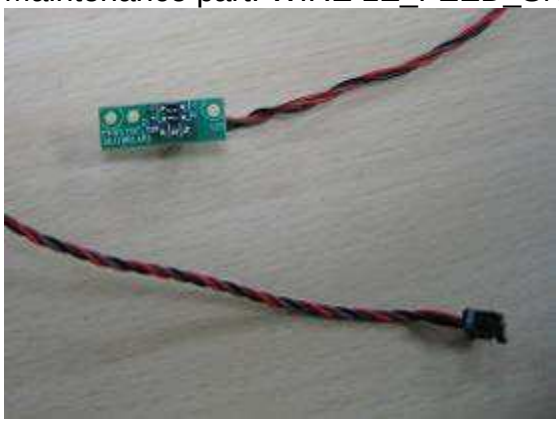


[Step 3] Replace the new paper out sensor and assemble it in the reverse order of the disassembly procedure.

Maintenance Parts Replacement Procedures

Parts	Name	WIRE LE_FEED_SNR 490MM (LE Sensor)	Part No.	40.D0902.R01
Tools	Phillips screwdriver (#2), Screwdriver (small)		Procedure No	27

Maintenance part: WIRE LE_FEED_SNR 490MM (LE Sensor)



[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD”, “ROLLER_EXIT_PINCH_CUTTER_A5” and “TRAY_EXIT_ASSY ““RIBBON REVERSE_MOTOR_FRAME” “TPH Linkage”,” CAPSTAN_ROLLER_A5”, “ROLLER_PLATEN_NEW_A5”, ”ROLLER_PINCH_A5” and “Tray feed”according to **Procedure No. 1, 2 ,3, 9, 14,16,17, 19, 20, 21and 22**

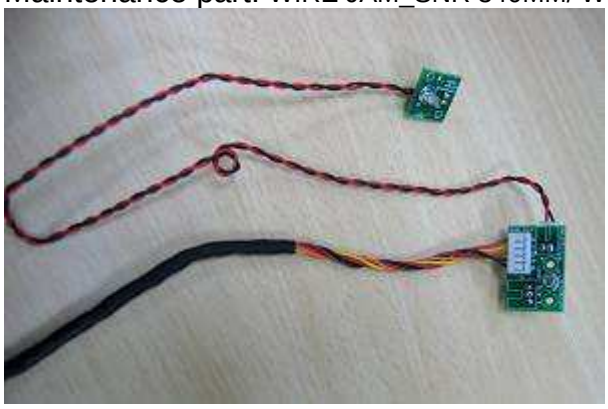
[Step 2] Remove 4 screws that hold tray feed, and separate them.

[Step 3] Remove 2 screws that hold LE Sensor, and then take it off.

[Step 4] Replace the new LE Sensor and assemble it in the reverse order of the disassembly procedure.

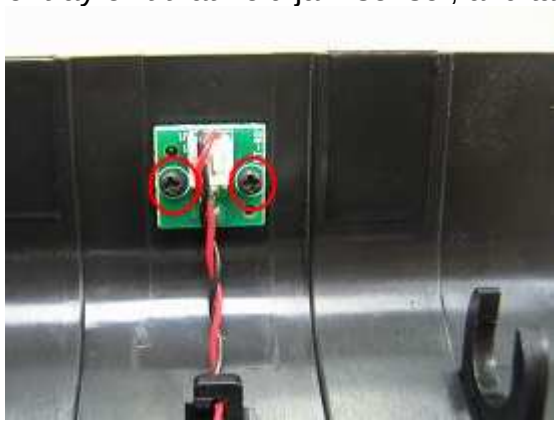
Maintenance Parts Replacement Procedures				
Parts	Name	WIRE JAM_SNR 340MM/ WIRE JAM_LED_290MM (Jam Sensor)	Part No.	40.D0914.R01 & 40.D0915.R01
Tools	Phillips screwdriver (#2) , Screwdriver (small)		Procedure No	28

Maintenance part: WIRE JAM_SNR 340MM/ WIRE JAM_LED_290MM (Jam Sensor)



[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD” “ROLLER_EXIT_PINCH_CUTTER_A5” “Tray exit” “RIBBON REVERSE_MOTOR_FRAME” and “TPH Linkage” according to **Procedure No. 1, 2 ,3 ,9, 14 ,16 and 17**

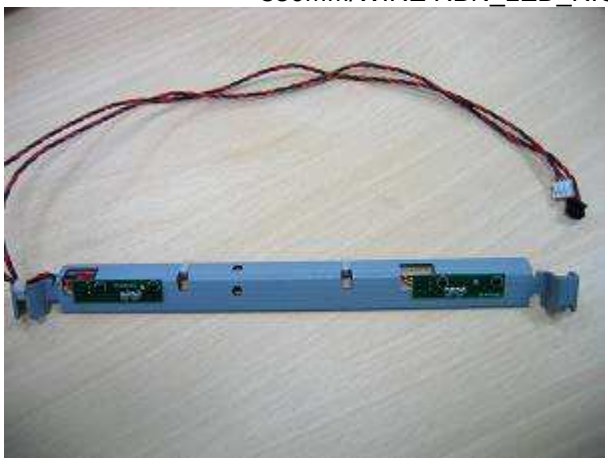
[Step 2] Remove 4 screws from both sides of tray exit that hold jam sensor, and take it off.



[Step 3] Replace the new Jam Sensor and assemble it in the reverse order of the disassembly procedure.

Maintenance Parts Replacement Procedures				
Parts	Name	WIRE RBN_SNR_LEFT 120MM/WIRE RBN_SNR_RIGHT 160MM/WIRE RBN_LED_LEFT 350MM/WIRE RBN_LED_RIGHT 470MM (Ribbon LED/Sensor)	Part No.	40.D0907.R01 & 40.D0908.R01 & 40.D0912.R01 & 40.D0913.R01
Tools	Phillips screwdriver (#2)		Procedure No	29

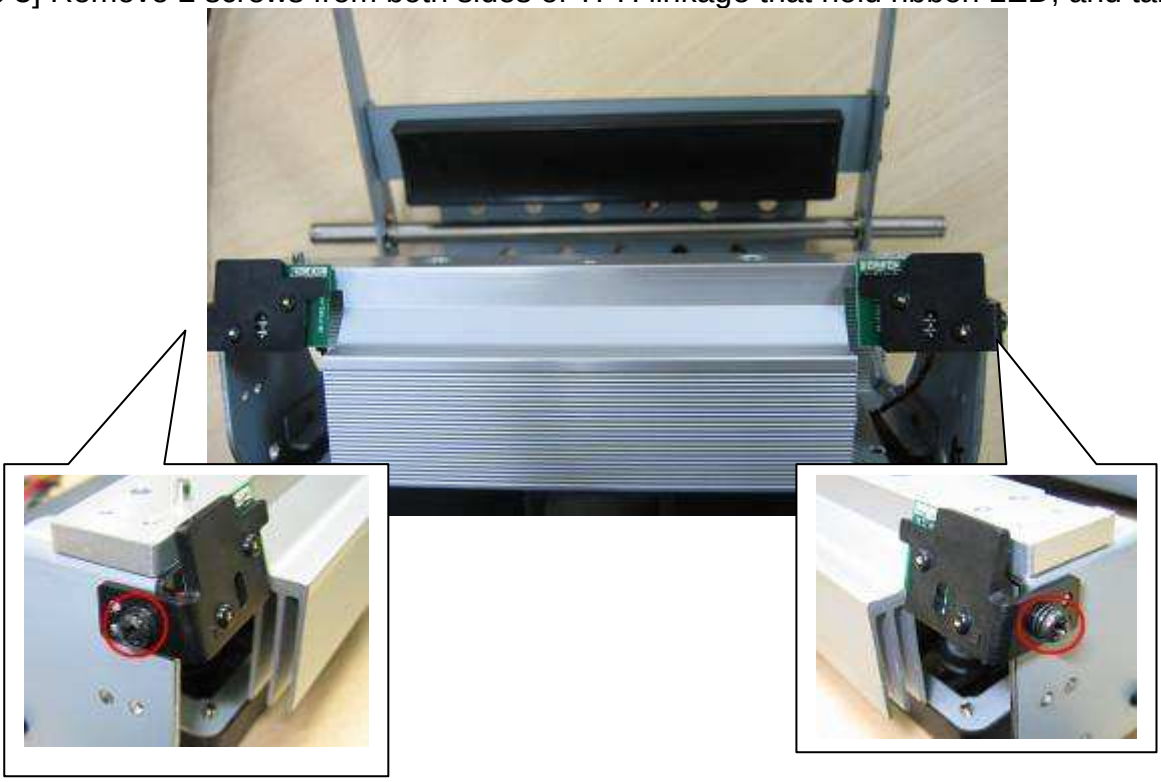
Maintenance part: WIRE RBN_SNR_LEFT 120MM/WIRE
RBN_SNR_RIGHT 160MM
WIRE RBN_LED_LEFT
350MM/WIRE RBN_LED_RIGHT 470MM (Ribbon LED/Sensor)



[Step 1] Remove “DOOR_RIGHT_A5RT”,”CASET_RIGHT_A5RT”,” CASE_LEFT_A5RT”, ”CASE_BACK_A5RT” “CASE_TOP_A5RT”,”MAIN_BD”, “ROLLER_EXIT_PINCH_CUTTER_A5”, “TRAY_EXIT_ASSY “RIBBON REVERSE_MOTOR_FRAME” “TPH Linkage” and “CAPSTAN_ROLLER_A5” according to **Procedure No. 1, 2 ,3, 9 14,16 17 and 19**

[Step 2] Remove the “HOLDER_SENSOR_RBN_LEFT “ according to pinch roller replacement procedure. **Procedure No 21 setp 1, 2 and 3**

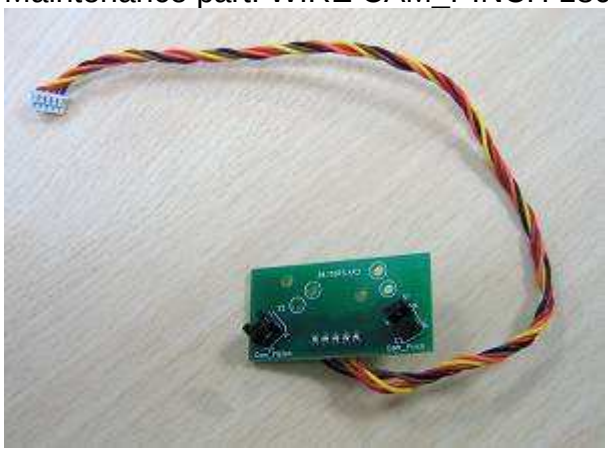
[Step 3] Remove 2 screws from both sides of TPH linkage that hold ribbon LED, and take it off.



[Step 4] Replace the new ribbon LED/sensor and assemble it in the reverse order of the disassembly procedure.

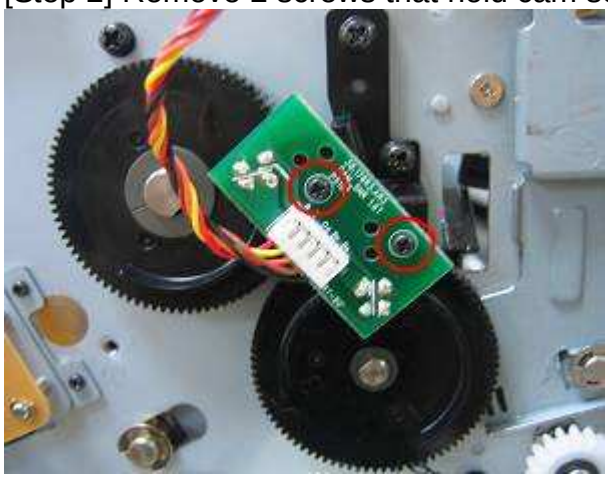
Maintenance Parts Replacement Procedures				
Parts	Name	WIRE CAM_PINCH 180MM (Cam sensors)	Part No.	40.D0916.R01
Tools	Screwdriver (small)		Procedure No	30

Maintenance part: WIRE CAM_PINCH 180MM (Cam sensors)



[Step 1] Remove ” CASE_LEFT_A5RT”, and “Cam Pinch & Cam Platen motor frame” according to **Procedure No. 1 and 10**

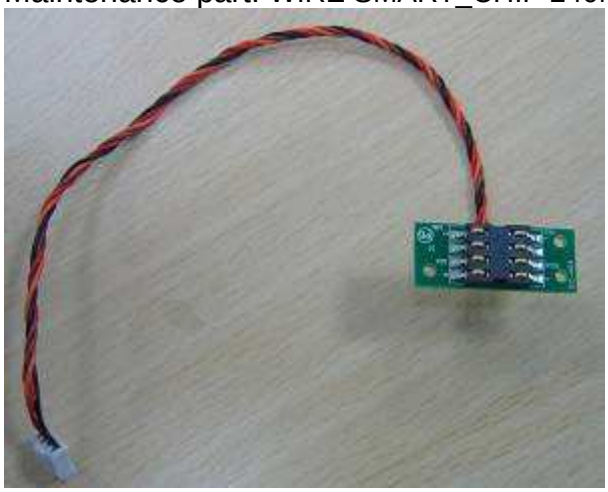
[Step 2] Remove 2 screws that hold cam sensors, and take it off.



[Step 3] Replace the new cam sensors and assemble it in the reverse order of the disassembly procedure.

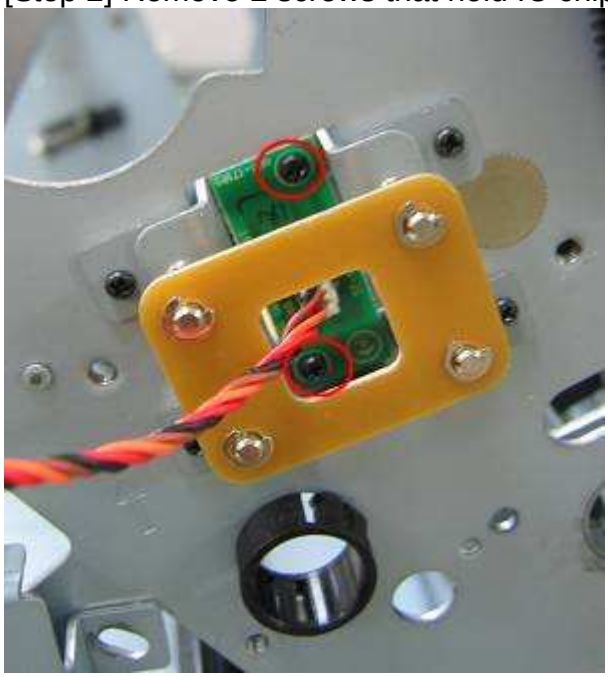
Maintenance Parts Replacement Procedures				
Parts	Name	WIRE SMART_CHIP 240MM (IC chip sensor)	Part No.	40.D0906.R01
Tools	Screwdriver (small)		Procedure No	31

Maintenance part: WIRE SMART_CHIP 240MM (IC chip sensor)



[Step 1] Remove ” CASE_LEFT_A5RT”, “Ribbon reverse motor frame “ and “Cam Pinch & Cam Platen motor frame” according to **Procedure No. 1, 9and 10**

[Step 2] Remove 2 screws that hold IC chip sensor, and remove wire and take it off.



[Step 3] Replace the new IC chip sensor and assemble it in the reverse order of the disassembly procedure.

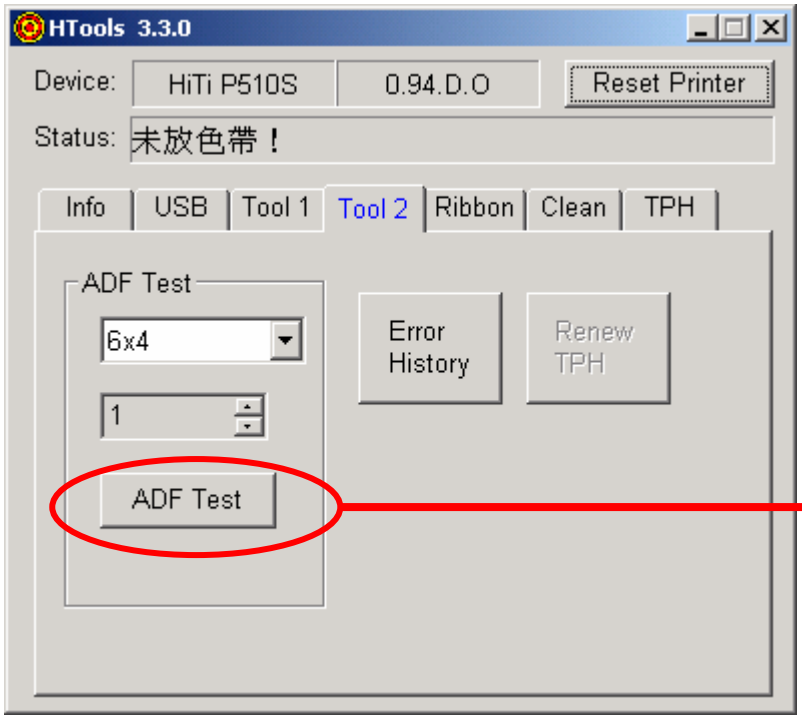
Chapter 5: Adjustment

Please make sure you got the latest version of this special “HTools” from HiTi service Team (service2@hi-ti.com)

Any adjustment that needs disassembly of appearance cover, the door sensor is required to be enabled (pressed-in) in order to have the printer is ready mode.

ADF Test (Check the paper feeding function)

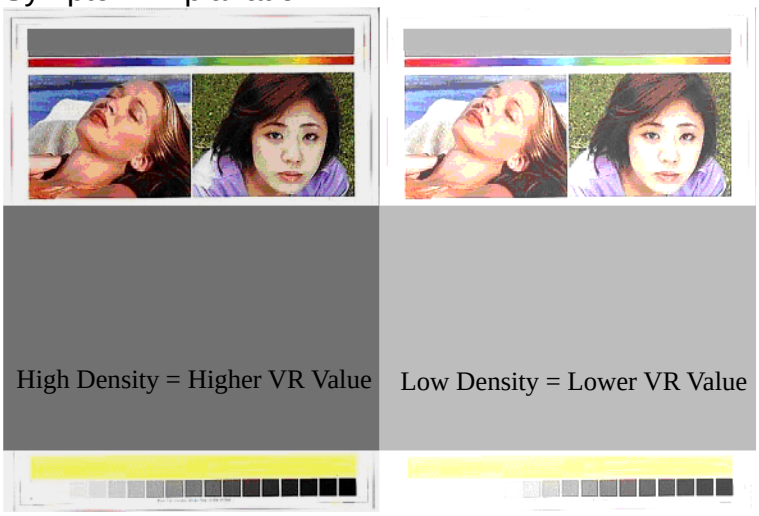
Please make sure the paper roll & cassette is properly installed.



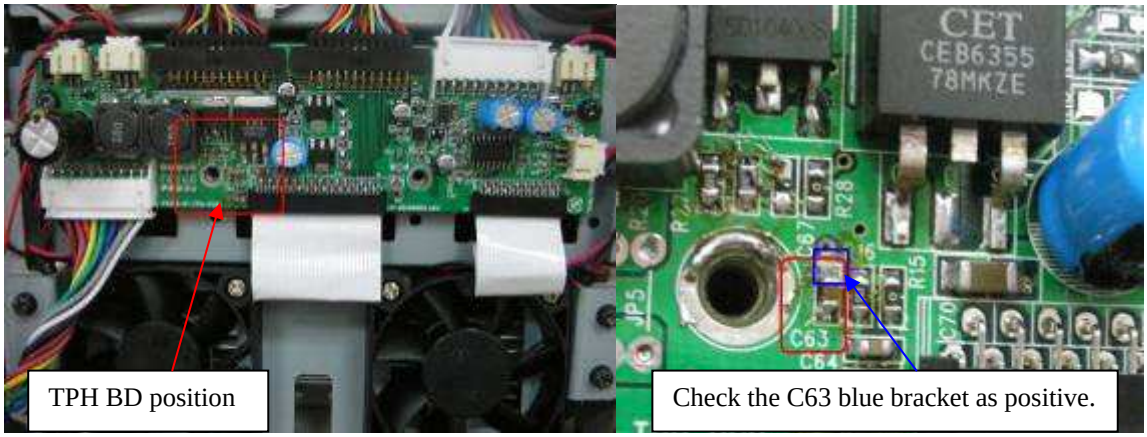
Press this single test button to start the paper feeding function.

TPH Calibration (Printout density adjustment)

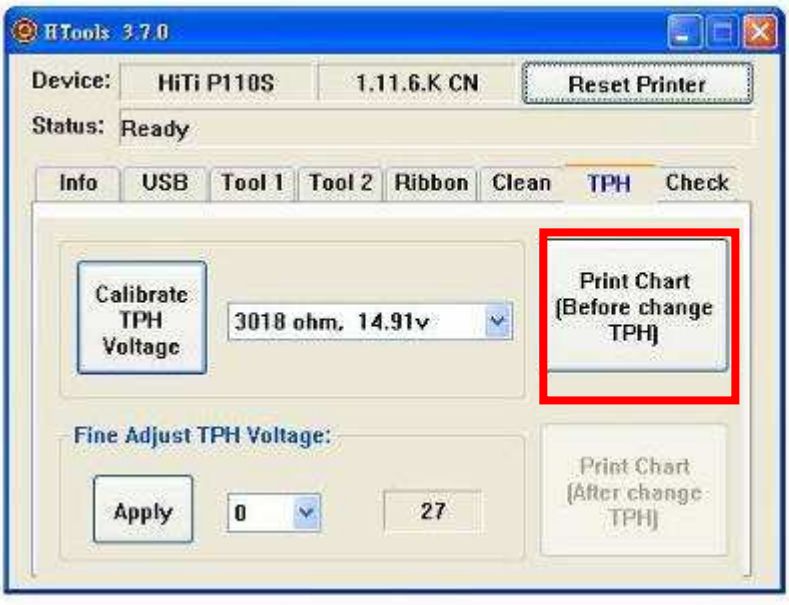
Symptom Explanation:



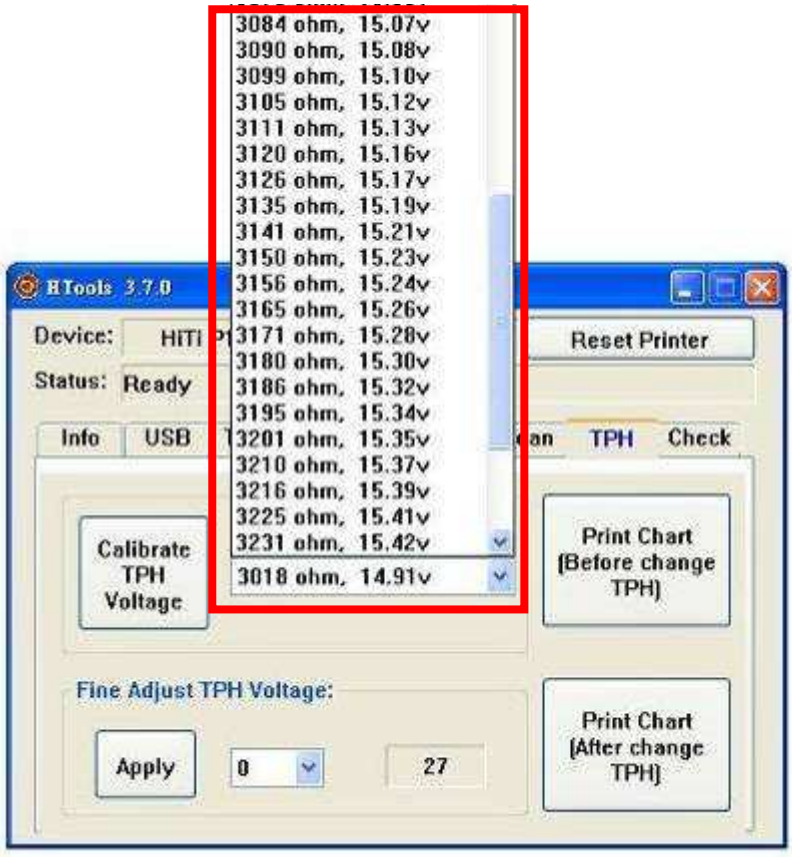
You can also check the actual voltage on POWER BD, before adjusting through this tool.



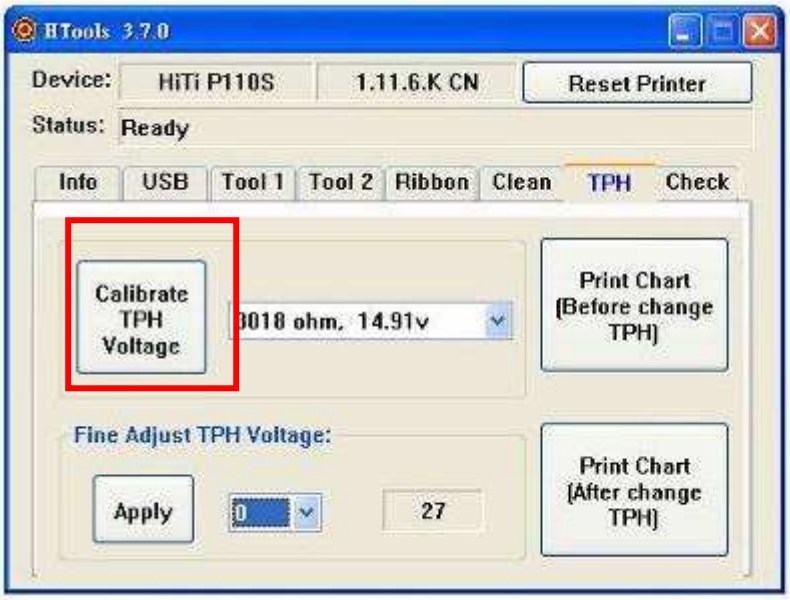
1. Before replacing TPH, please print 3 reference charts first.(P1, P2, P3)



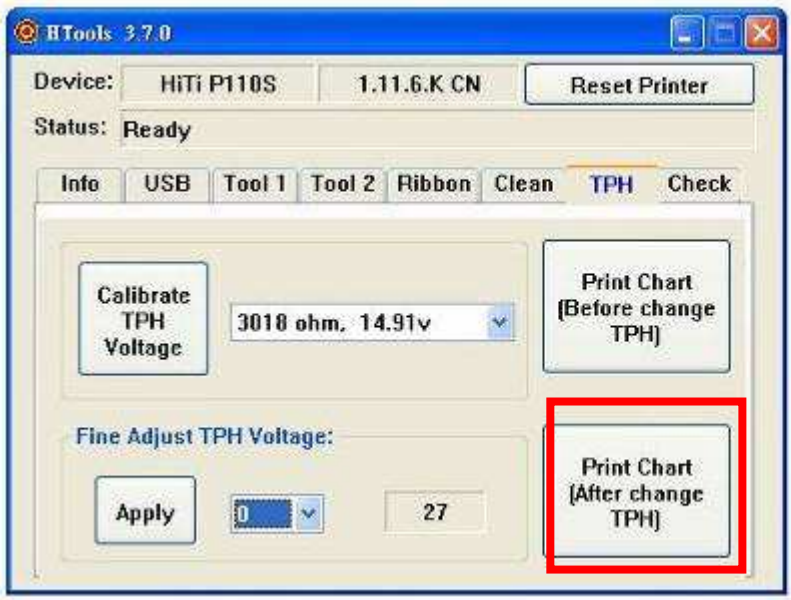
2. According to new TPH Ω, choose the close TPH Ωand Voltage.



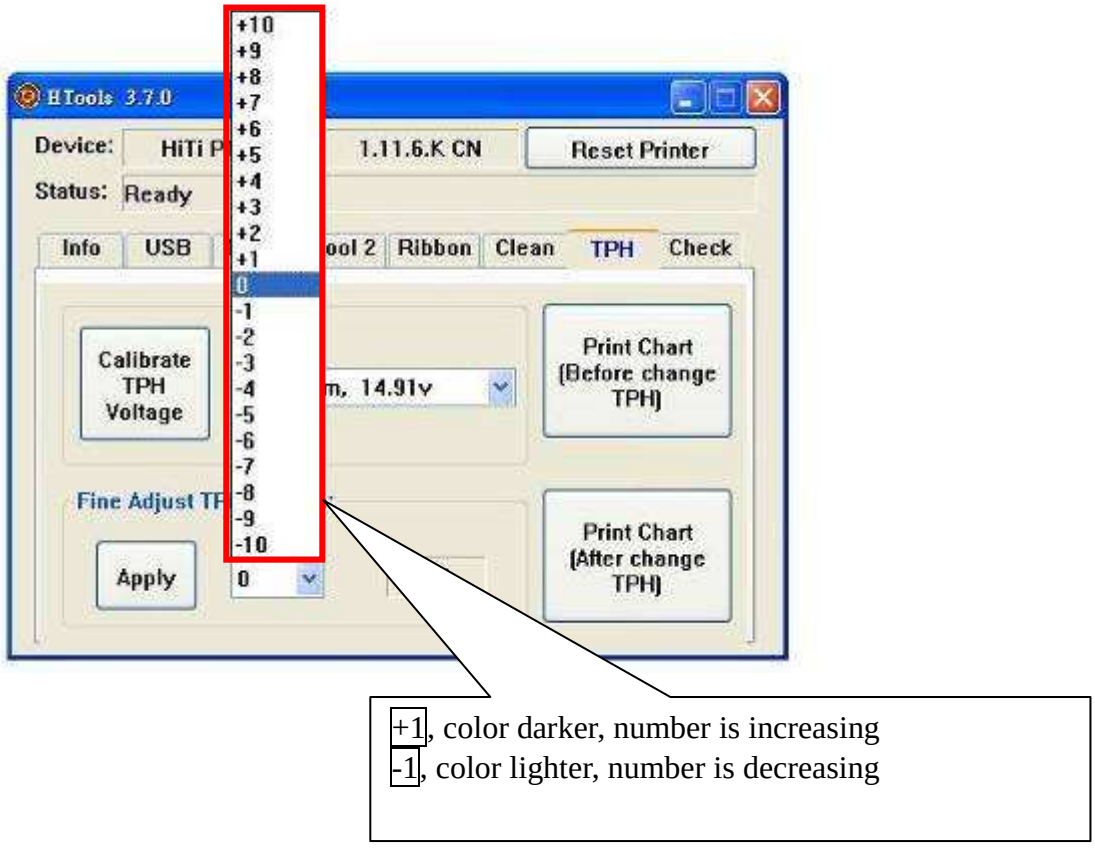
3. Push **Calibrate TPH Voltage** Button



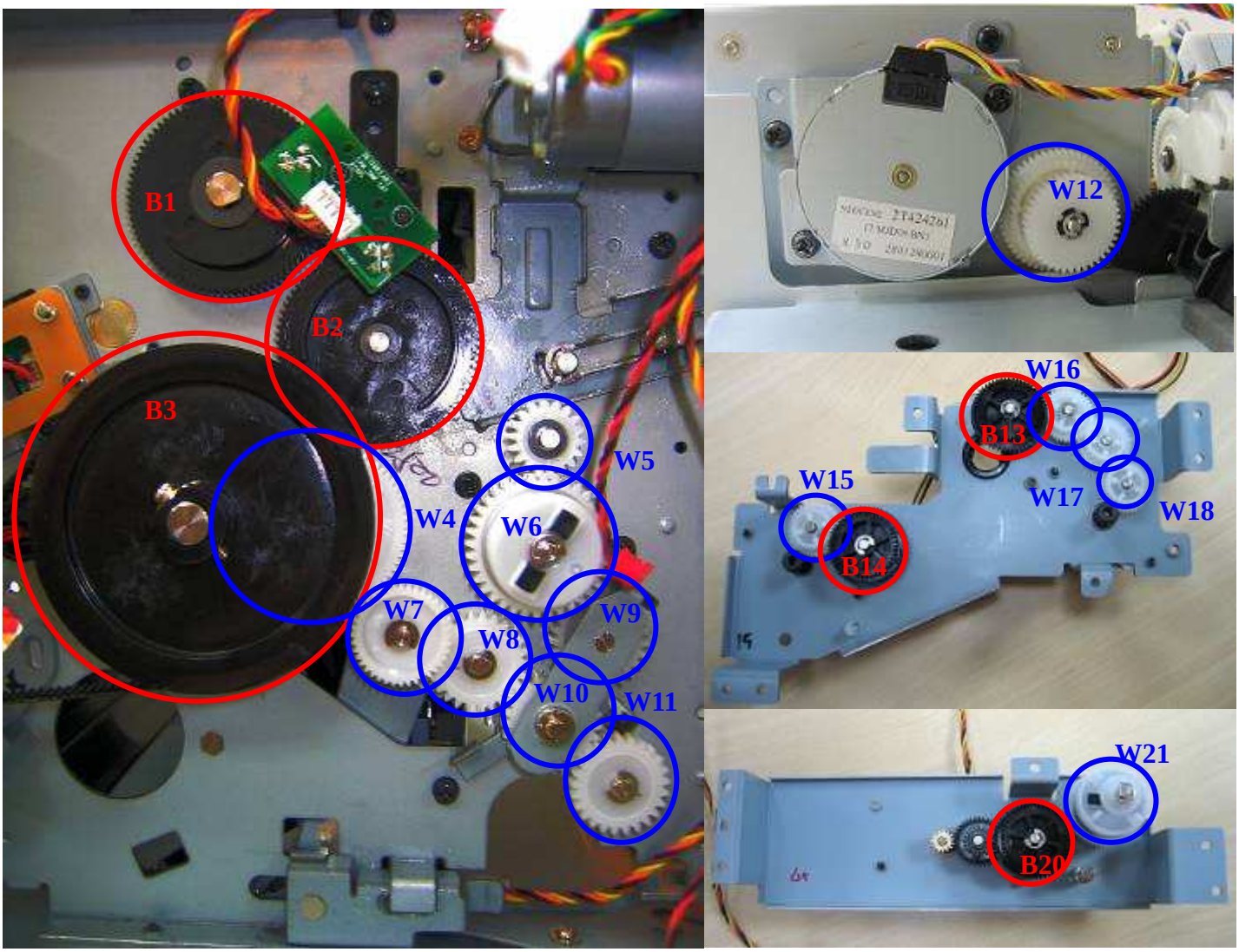
4. Push **Print Chart** button, and take P4 to compare to P1, P2, P3



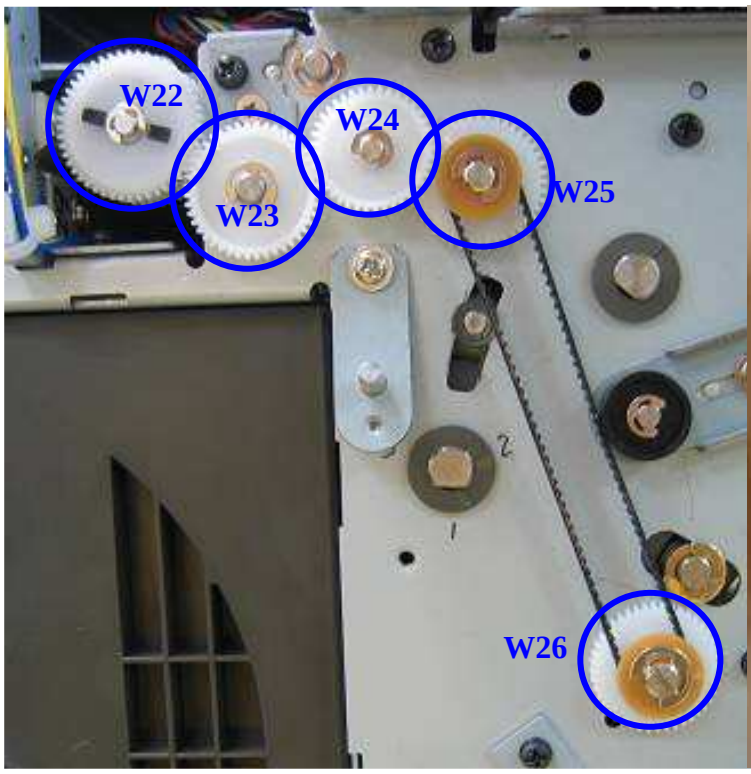
5. If P4 color is too dark, choose **-1**
   If P4 color is too light, choose **+1**
   Color density should be in P1, P2 and P3 color density range. Keep doing +1 or -1 if color density is not in the range of P1, P2 and P3.

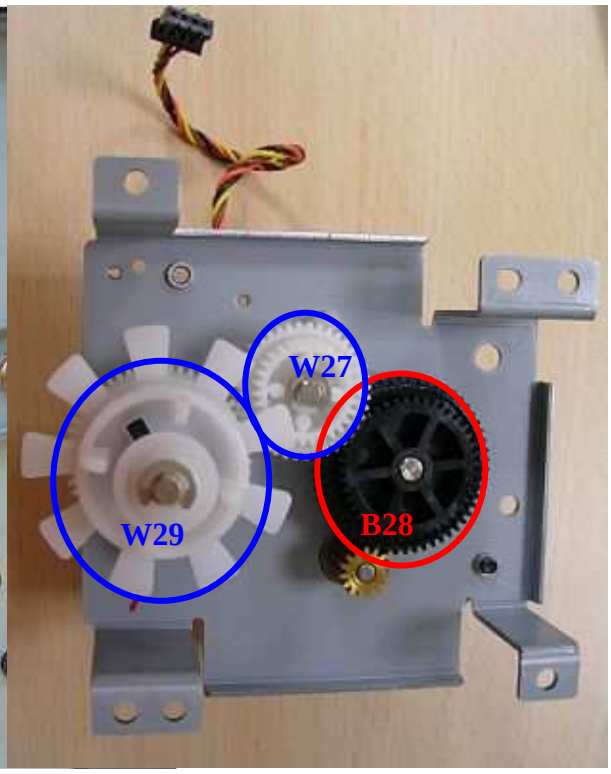


Chapter 6: Gear List



No.	Part Number	Gear Name	No.	Part Number	Gear Name
B1	65.D0914.001	GEAR_CAM_TPH_2	W12	56.P1002.002	BARRICADE_TQL_G2
				56.P1005.G02	GEAR_RBN_TQL_G2
B2	65.D0913.001	GEAR_CAM-LINK_DOOR_2		60.P1001.001	FELT_TQL_G2
B3	65.D0911.001	PULLEY_CAPSTAN_COMPOUND		65.D0915.001	GEAR_DRIVER_TQL_DOOR_CUT
W4	65.D0904.001	GEAR_DRIVE_IDLE		73.81201.306	E RING 3X7.1X0.6T STEEL
W5	65.D0921.001	GEAR_LINKER		73.81241.204	E-RING D2X5X0.4T NI
W6	65.D0909.001	GEAR_TQL_TAKE_C		74.13H53.6P0	MACH PAN FLAT+SPRING WASHER M3
W7	65.D0903.001	GEAR_DRIVE	B13	56.P0829.G01	GEAR_ROLLER_EXIT
W8	65.D0907.001	GEAR_SWING_A5_M1	B14		
W9			W15	56.D0103.G21	IDLE_GEAR2_FEEDROLLER
W10			W16		
W11			W17		
			W18		
			B20	56.P0829.G01	GEAR_ROLLER_EXIT
			W21	65.D0902.001	GEAR_TQL_DRIVE_TYPEC





No.	Part Number	Gear Name	No.	Part Number	Gear Name
W22	65.D0917.001	GEAR_TQL_DRIVE_ROLLER_EXIT	W27	56.D0103.G21	IDLE_GEAR2_FEEDROLLER
	46.D0905.001	TQL_ROLLER_EXIT(OTL VS6-200B	B28	56.P0829.G01	GEAR_ROLLER_EXIT
	65.D0917.001	GEAR_TQL_DRIVE_ROLLER_EXIT	W29	56.D0921.001	CLAW_SPOOL_SUPPLY
W23	65.D0920.001	PULLEY_ROLLER_EXIT_MXL		65.C0104.011	GE_TQL_DRIVER_NEW_C1
W24	65.D0916.001	GEAR_IDLE_ROLLER_EXIT		46.D0902.001	TQL_ORING_SUPPLY
W25	65.D0920.001	PULLEY_ROLLER_EXIT_MXL			
W26	65.D0919.001	PULLEY_CAPSTAN_MXL			

Chapter 7: Error Message

Error Message	RED LED blinking times	Possible Cause		Solution
Cover Open	1 time	1. The printer cover is not closed properly. 2. Connection of the Cover Sensor is not good. 3. The Cover Sensor is damaged.		1. Open and close the cover again. 2. Check connection of the Cover Sensor. 3. Change the Cover Sensor.
Ribbon Missing	2 times	1. The ribbon cartridge is not inserted properly. 2. The ribbon cartridge is damaged. 3. Connection of the IC Chip Sensor is not good. 4. The IC Chip Sensor is damaged.		1. Insert the ribbon cartridge again. 2. Try with another ribbon set. 3. Check connection of the IC Chip Sensor. 4. Change the IC Chip Sensor.
Ribbon Out	3 times	1. There is no more ribbon frames inside the ribbon cartridge. 2. Connection of the Ribbon LED & Sensor (left & right) is not good. 3. The Ribbon LED (left & right) is damged. 4. The Ribbon Sensor (left & right) is damaged		1. Confirm the ribbon is finished. Change the ribbon cartridge. 2. Check connection of Ribbon LED and Sensor (left& right). 3. Change the Ribbon LED (left & right). 4. Change the Ribbon Sensor (left & right). 5. Change the Cover_TPH. 6. Change the Peeler_Press
Paper Out	4 times	1. Paper has run out. 2. The Paper roll is not properly installed. 3. Connection of the Paper Out Sensor is not good. 4. The Paper Out Sensor is damaged.		1. Put a new set of paper roll. 2. Install the paper roll again. 3. Check connection of the Paper Out Sensor. 4. Change the Paper Out Sensor.
Paper Jam*	5 times	Code 21	USB disconnected between PC and printer	Change another USB port or use 2. 0 USB Hub to connecting.
		Code 22	There is paper jammed inside printer when power on	This error happens except 26,27,28 error happened. TBD
		Code 23	Jam sensor can't detected paper after LE sensor detected during paper loading (It might be these 2 sensors NG)	1. Take out jammed paper. 2. Replace these 2 sensors.
		Code 24	Eject sensor can't detected paper when printing finished (It might be eject sensor NG)	1. Take out jammed paper. 2. Replace Eject sensor.
		Code 25	When paper needs to rewind back during printing, but it can't.	1. Take out jammed paper. 2. Replace LE/Jam/Eject sensors.
		Code 26	Eject sensor dectected paper when power on.(Paper stuck nearby)	1. Take out jammed paper. TBD
		Code 27	Jam sensor dectected paper when power on.(Paper stuck nearby)	1. Take out jammed paper. TBD
		Code 28	LE sensor dectected paper when power on.(Paper stuck nearby)	1. Take out jammed paper. TBD
		Code 29	1. Ribbon melt 2. Paper jam near the exit 3. Capstan roller works abnormally 4. Ribbon cannot be rolled smoothly and correctly	1. Change Capstan roller or Jam sensor. 2. Change Cover_TPH_A5 or Peeler_Press_A5RT. 3. Change capstan motor
		Code 30	1. Paper jam near the TPH 2. Capstan roller works abnormally 3. Ribbon cannot be rolled smoothly and correctly	1. Cover_TPH_A5, Peeler_Press_A5RT. 2. Change Capstan roller or Jam sensor. 3. Change capstan motor
Paper Mismatch	6 times	Paper type does not match the ribbon.		1. Check the paper and ribbon were for the same size or not.
Cam Platen Error	7 times	Position of the Cam Platen has been misaligned or other hardware mechanism error		1. Check connection of the Cam Platen Sensor. 2. Change Cam Platen Sensor. 3. Change Cam Platen Motor. 4. Change Printer Main Board.
Cam Pinch Error	8 times	Position of the Cam Pinch has been misaligned or other hardware mechanism error		1. Check connection of the Cam Pinch Sensor. 2. Change Cam Pinch Sensor. 3. Change Cam Pinch Motor.

			4. Change Printer Main Board.
Nvram Error	9 times	Main BD internal error	Change Printer Main BD
Ribbon Chip Error	10 times	1. Ribbon Chip faulty. 2. Ribbon cartridge is damaged. 3. the Chip Sensor is damaged.	1. Use an eraser to clean the ribbon chip. 2. Change the Chip Sensor.
ADC Error	12 times	TPH heating problem	1. Check connection of the TPH Wire and Flat Cable between the TPH Board and Printer Main BD. 2. Change Flat Cable. 3. Change the TPH Wire. 4. Change the TPH Board. 5. Change the TPH ASSY.
FWCheckSum Error	13 times	Firmware problem	Rewrite firmware
Printer Error	14 times	TBD	TBD
Cutter Error	15 times	Cutter Stuck or faulty	1. Clean wastepaper. 2. Change the Cutter Sensor. 3. Change the Cutter ASSY.

*Needs Htools software to see Code 21~30

Error Code

Error Code	Description
0x0000001A	Printer has no response.
0x0000002A	Printer has no response.
0x0000274D	Connection refused.
0x00000080	Printer is off-line!!
0x11000002	Data format error! This print job will be cancelled.
0x11000008	System resource is insufficient to print this page. Please reboot your system.
0x000100FE	Paper roll mismatch!
0x000301FE	Command sequence error.
0x00030001	SRAM error!
0x00030101	Cutter error!
0x00030201	ADC error!
0x00030301	NVRAM R/W error!
0x00030302	Check sum error - SDRAM!
0x00030402	DSP code check sum error!
0x00030501	Cam Platen error!
0x00030601	Cam pinch error!
0x00030701	Firmware write error!
0x00030502	Nvram CRC error!
0x00030602	Check sum error - SRAM!
0x00030702	Check sum error - FLASH!
0x00030802	Check sum error - wrong firmware!
0x00031201	Nand flash error.
0x00050001	Cover open/Ribbon cassette door open! Please close the door before continue.
0x00050101	Cover open/Ribbon cassette door open! Please close the door before continue.
0x00080004	Ribbon missing! Please put in the ribbon before continue.
0x00080103	Out of ribbon!

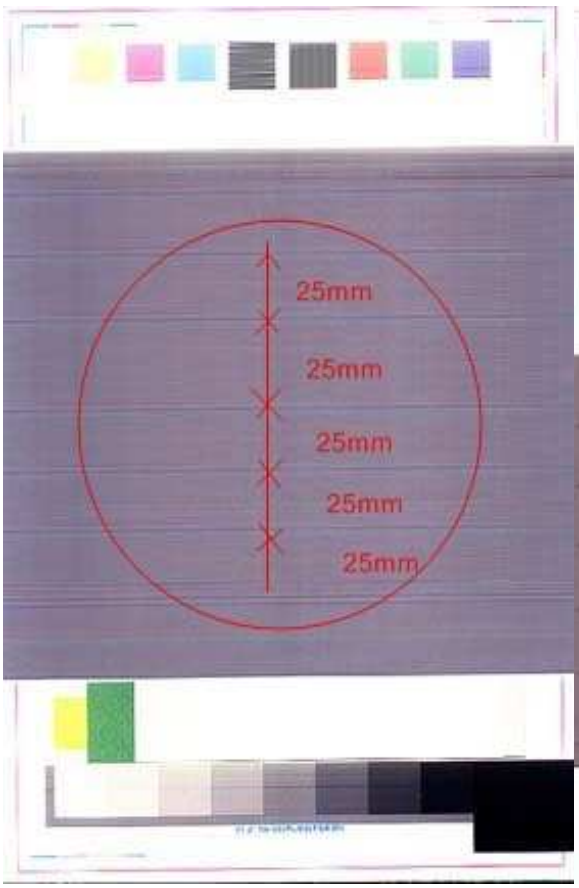
	Please reload a new ribbon cartridge.
0x00080104	Out of ribbon! Please reload a new ribbon cartridge.
0x00080105	Printing fails!! Please reload a new ribbon cartridge.
0x000802FE	Ribbon error! Please reload a new ribbon cartridge
0x00080007	Ribbon is just inserted.
0x000804FE	Ribbon IC R/W error.
0x000806FE	Unsupported ribbon.
0x000808FE	Unknown ribbon.
0x00030000	Paper Jam! Please follow the instructions on printer LCD monitor before continuing the print job.
0x0003000F	Paper Jam! Printer has no response.
0x00008000	Paper out or feeding error. Please pull out the paper box and insert again after papers refill or sorting.
0x00008010	Paper roll mismatch! Please put in the correct paper roll before continue.
0x00080200	Ribbon type mismatch! Please put in the correct ribbon cassette before continue printing.
0x00007540	Printer is at Standalone Mode! Please exit Standalone Mode before continue printing.

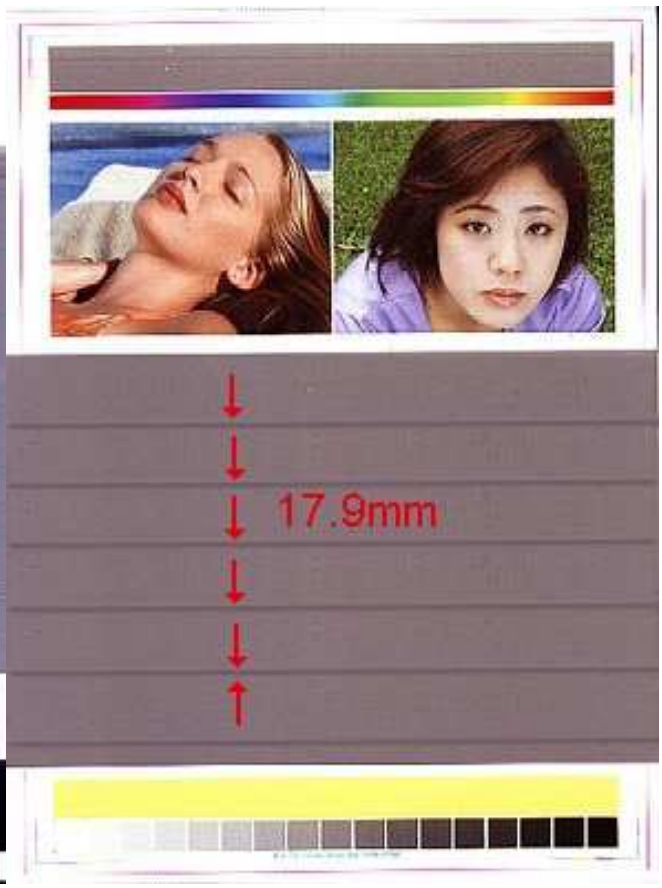
Service Code for Service Centers		
Error Codes	**Problem**	**Check Item**
LCD No/Wrong Signal	LCD screen not showing properly	LCD panel and LCD BD
Button Insensitive	Panel button faulty	Replace the Button BD
Button No Response	Panel button faulty	Replace the Button BD
LCD Defect Dot	LCD problem	Change the LCD
Button Noise	Panel plastic button misaligned	Replace plastic buttons
Unsupported Ribbon	Wrong ribbon placed	Change to correct ribbon Replace IC chip sensor
Ribbon Read/Write Error		
Ribbon Error		
Paper Box Missing	Box not inserted properly or box sensor faulty	Insert the box properly or replace the box sensor.
Image Device Error	Card BD faulty	Replace Card BD
Printing Fail	Ribbon detection failure during printing	Check Main BD
Noise		
Printer No Response/Write Port Fail	Main BD faulty	Replace Main BD
Printer Off-Line	Driver not set properly, USB connector faulty	Reinstall the driver or check the USB connector
Data Format Error		
Command Sequence Error		
No Power	Power BD faulure	Replace Power BD
Printer Cannot Get Ready (Red LED Fast Blinking)	FW Losing	Replace Main BD
Cover Open	Cover Sensor faulty or cover itself not closing properly	Check the sensor and the cover.
Skew	Pinch Roller faulty	Replace pinch roller

Pixel Registration	Capstan or pinch roller problem	Replace these rollers
Uniformity	TPH misaligned	Reinstall or replace the TPH
TPH Pixel Fail	TPH NG	Replace the TPH
Density	Color not correct	Use the Htools to adjust the TPH VR.
Wrinkle		
Printout Contamination	Dust contamination or other sources	Clean the printer
Scratch	Mechanism contamination or other misaligned device causing the scratch on printout	Clean or align the mechanism properly
Horizontal Band	Roller or motor faulty	Check the below Jitter reference chart to find out which roller causes it.
Vertical Band	Something stuck on the mechanism causing it to scrape on to the printout.	Clean the still mechanisms of printer. Change the Main BD
Debris (dot)	Contamination inside the printer mechanism	Clean the printer thoroughly
Debris (trail)	Contamination inside the printer mechanism	Clean the printer thoroughly
Chart Abnormal	ASIC faulty	Change the Main BD
NTF(No Trouble Found)	TBD	TBD
Artificial Case	Any sort of cases done artificially by any means	Depend on the situation it should be charged as per actual cost.
Ribbon Jam	Ribbon jammed on the capstan roller or other mechanisms	Use the Htools to roll out the jammed ribbon.
Alien Object Inside	Stuffs that should not be inside the printer	Remove and Clean the printer
Others	Any other errors that are not mentioned here in this chart	Send the details to service2@hi-ti.com

Jitter (Interval between bandings lines)

For problems such as below 2 pictures, please refer to the reference chart to check which roller is causing it. Gray chart image are recommended to check the banding problem.





Reference Chart

Pitch Diameter	Jitter Pitch (mm)
Pulley Driver Motor	8.43
Pulley Capstan_Compound(pulley)	38.33
Pulley Capstan_Compound(gear)	38.33
Idle wheel	9.63
Capstan roller	38.33
Pinch Roller	37.7
Platen Roller	56.55
L_Gear_Driver_Idle	79.05
L_Gear_Driver	47.91
L_Gear_Swing_A5_M1	63.04
L_Gear_TQL_Driver_C	90.78
L_Gear_Roller_Feed	45.39
L_Holder_Tube_Paper	204.24

Chapter 8: Contact Information

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