



# **impact 3336**



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*Bilingual Dot Matrix Printer*



Service Manual

**globalis**  
international

# Contents

<b>1. Product Introduction .....</b>	<b>2</b>
1.1 Description.....	2
1.2 Operation .....	2
1.2.1 Indicators.....	2
1.2.2 Buttons.....	3
1.2.3 Configuring the Printer by EDS Setting Options .....	4
1.2.4 EDS Setting Options.....	5
1.2.5 Installing the Ribbon Cartridge .....	6
1.2.6 Installing the Paper Chute .....	7
1.2.7 Host Computer Connection and Drive Installation .....	8
<b>2. F/W Upgrade and Parts Replacement.....</b>	<b>10</b>
2.1 F/W Upgrade.....	10
2.1.1 How to Upgrade the F/W.....	10
2.1.2 Download Specifications .....	10
2.2 Parts Disassembly and Reassembly .....	10
2.2.1 Disassembly .....	10
2.2.2 Disassembly of the Operator Panel.....	13
2.2.3 Disassembly of the Printer Mechanism .....	14
2.2.4 Disassembly of the Printer Controller .....	16
2.2.5 Disassembly of the Power Supply Board .....	17
2.2.6 Disassembly of the Parts in the Printer Mechanism .....	17
<b>3. Adjustments and Tests .....</b>	<b>20</b>
3.1 Adjustment.....	20
3.1.1 Gap Adjustment .....	20
3.1.2 BID Adjustment.....	22
3.2 Testing Tools.....	23
3.2.1 Collective Tests.....	23
3.2.2 Maintenance .....	24
3.2.3 Mistake Indication on the panel.....	28
<b>4. Spare Parts List.....</b>	<b>30</b>
<b>5. Appendix (for old impact 3336): .....</b>	<b>31</b>
5.1 Disassembly of the Print Head.....	31
5.2 Disassembly of the Ribbon Motor Unit .....	33
5.3 Gap Adjustment .....	34

# 1. Product Introduction

## 1.1 Description

Innovative, high-performance and reliable, the impact 3336/2236 printer has a high cost/benefit ratio. With four selective paper paths and advanced paper handling system, impact 3336/2236 is exceptionally easy-to-use. The operator panel of the impact 3336/2236 is designed to have strong capability. It allows the user to switch the status or parameter settings of the printer conveniently through the panel if necessary. Long ribbon life span (6 million characters in draft mode), strong copy capability (One original+4) and wide range of selective paper size (cut sheet: up to 420mm wide, continuous paper: up to 406mm wide) make impact 3336/2236 printer capable of working under heavy load at high efficiency.

### Warning

1. Only qualified service personnel are allowed to maintain the printer.
2. All the marks used in this manual are explained as below:



*Warnings must be followed to avoid body injury.*



*Cautions must be observed to avoid damage to the equipment or personnel.*



*Notes contain important information and useful tips in the box.*

## 1.2 Operation

### 1.2.1 Indicators

#### Power (green)

Lights up when the printer is powered on.

#### Thick Paper (green)

Lights up when paper gap is set at level 2 or at higher level.

#### Paper Empty (red)

Lights up when there is no paper in the selected paper path.

#### Ready (green)

Lights up when printer is ready to receive and print the data.

Lights off when the printer pauses (can not receive and print the data) or the paper is out.

When the paper is loaded, press the Ready button to control the status of the Ready indicator.

**Tractor (green)**

Lights up when continuous paper is selected using the path selection lever.

**LQ (green)**

Lights up when Letter Quality is selected using Font button.

**NLQ (green)**

Lights up when Near Letter Quality is selected using Font button.

**Draft (green)**

Lights up when Draft Quality is selected using Font button.

**1.2.2 Buttons****Ready button**

When the READY indicator is lit, pressing this button causes the temporary stop of the printing job at the end of the current line; the READY indicator is turned off.

When the printing is paused pressing this button the printing will be enabled and the READY indicator is turned on.

**Load/Eject button**

Press this button to load paper. If paper has already been loaded, pressing this button will eject the paper. If the cut sheet is selected using path selection lever, the printer ejects the paper forward; otherwise if the continuous paper is selected, the printer ejects the paper backward to the standby position.

**LF/FF button**

Feeds paper line by line when pressed shortly; ejects a single sheet or advances continuous paper to the next top of form position when held down.

**Shift button**

Hold down this button while pressing another button at the same time, the printer can accomplish the following functions:

**Clear buffer** (Shift + Ready button)

Clears up data in buffer, and initializes the printer.

**Micro adjustment functions:**

Shift + LF/FF button

Feed paper forward in 1/180 inch increment.

Shift + Load/Eject button

Feed paper backward in 1/180 inch increment.

**Font button**

Press this button to choose printing mode among LQ, NLQ, Draft and HSD. This function can also be realized through software command.

### **Tear button**

When the printer is off-line and continuous paper is selected, press this button to feed continuous paper forward to the tear-off position from the loading position. Press it again will cause the printer to feed the paper backward the top-of-form position.

### **Special Functions**

To execute the following functions, hold down relevant button while turning the printer ON. Do not release the button until the print head starts to move.

### **Power-on self-test**

Hold down LF/FF button while turning on the printer, the printer executes self-test. This function can help you check if the printer operates correctly.

### **Bi-directional adjustment**

While holding down Shift button, LF/FF button and LOAD/EJECT button simultaneously, turn on the printer. The printer will enter into bi-directional adjustment mode. This function helps to correct printout alignment problems.

### **Resume factory default settings**

Hold down Shift button and Ready button simultaneously, and turn on the printer. After a long beep, the printer resumes factory default settings.

### **EDS setting**

While holding down Shift button and Font button simultaneously, turn on the printer. The printer enters into EDS setting mode and the parameter settings of the printer can be changed.

## **1.2.3 Configuring the Printer by EDS Setting Options**

The EDS setting can execute different functions by changing default power-on parameters. The EDS setting options can be selected through software, printer driver, or using the operator panel buttons.

### **How to Change the EDS Settings**

Follow the steps below to enter into EDS setting mode and change the printer's default power-on parameters.

1. Make sure the paper is loaded, and the printer is switched off. Hold down the Shift button and Font button simultaneously while turning on the printer, and release buttons after the print head moves. The printer enters into EDS setting mode and prints current EDS settings if the paper is loaded. Otherwise if the paper is not ready, load the paper to print the current EDS settings or set EDS directly.
2. Press LF/FF button to change setting options forward until the status of LQ indicator, NLQ

indicator and Draft indicator indicates the right function option.

3. Press Load/Eject button to change setting options backward until the status of LQ indicator, NLQ indicator and Draft indicator indicates the right function option.
4. Press Shift button to change relative parameter setting until the status of Tractor indicator, Thick Paper indicator and Paper Empty indicator indicates the right parameter setting.
5. Repeat step 2, step 3 and step 4, and change the EDS setting to suit your need.
6. After finishing all the settings, press Ready button to save current setting and escape the EDS setting mode or turn off the printer.

*The settings are automatically saved during the whole process.*

**Note:** the status of LQ, NLQ, and Draft indicators indicates the selected function option and the status of Tractor, Thick Paper, and Paper Empty indicators indicates the selected parameter setting of the relative function. Status of indicator: □ on ■ off \* flash.

The EDS parameter settings in the table with the grid indicate the current setting.

## Changing the EDS Settings through PC

Use the EDS setting software that's on the CD that comes with the printer.

### 1.2.4 EDS Setting Options

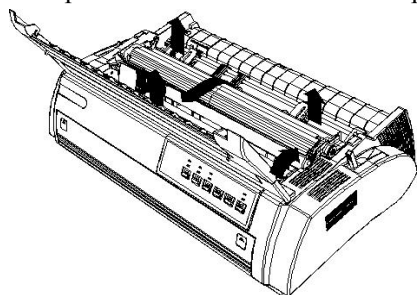
The following table shows all the function options and relative parameter settings available in EDS setting mode. The factory default values are shown in Bold.

Function Option	Settings
Buffer Size	<b>128k</b> , 0k
Reservation	
Copy Capability	<b>Normal</b> , Copy
Auto CR/LF	<b>CR,LF+CR</b> , CR,LF, CR+ <sub>LF</sub> ,LF, CR+ <sub>LF</sub> ,LF+CR
Reservation	
Page Length	<b>11inch</b> , 5.5inch, 8.5inch, 11/3inch, 11/4inch, 70/6inch, 12inch
Skip Perf.	<b>Invalid</b> , Valid
Auto Tear Off	<b>Auto</b> , Manual
Pin Broken	<b>Invalid</b> , 1-12pin, 13-24pin
Reservation	
Reservation	
Zero Style	<b>Normal</b> , Slashed
Reservation	
Interface	Parallel, Serial, USB, <b>Auto</b>

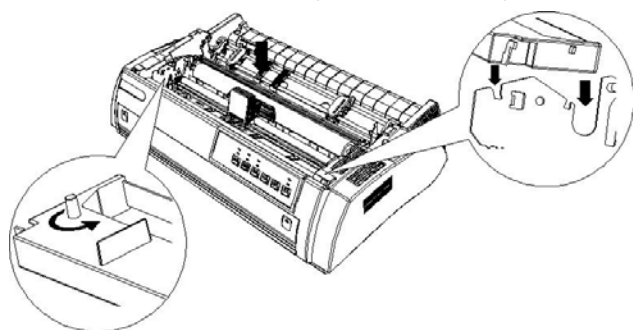
Strobe Timing	<b>Fall Edge</b> , Rise Edge
Font	<b>Roman</b> , Sans serif, Courier, Prestige, Script, OCR-B, OCR-A, Orator, Orator-S
Line Spacing	<b>1/6inch</b> , 1/8inch, 2/15inch
Reservation	
Char Pitch	<b>10CPI</b> , 12CPI, 15CPI, 17CPI, 20CPI, Proportional
Quiet Mode	<b>Invalid</b> , Valid
Data Length	<b>8bit</b> , 7bit
Protocol	<b>DTR</b> , Xon/Xoff
Parity	<b>None</b> , Odd, Even
Baud Rate	<b>9600</b> , 19200, 4800, 2400, 1200, 600
Code Page	<b>PC437</b> , Italic, PC850, PC860, PC863, PC865, PC858, PC864, DPFE, IRANSYS, MAINFRAME, MASKAN, PANIZ, POOYA, SADERAT, SAYEH, SINA, TARTAN, TEJARAT, USER1, USER2, USER3
International Character Set	<b>U.S.A</b> , France, Germany, U.K, Denmark, Sweden, Italy, Spain, Korea, Legal

### 1.2.5 Installing the Ribbon Cartridge

1. Power off the printer before installing the ribbon cartridge.
2. Remove the transparent cover part first. And then hold the plastic hooks on both sides of the sheet holder and pull upwards to remove the transparent sheet holder. After that, move the print head to the middle of the printer.

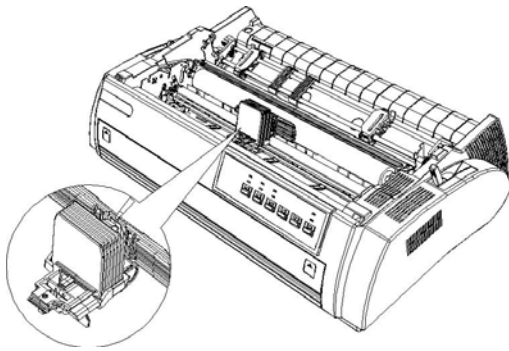


3. Turn the ribbon tension knob according to the direction shown by the arrow on the cartridge. Hold the handle of ribbon cartridge and push the cartridge gently down. Make sure the plastic hook of ribbon cartridge click into the grooves inside the printer.

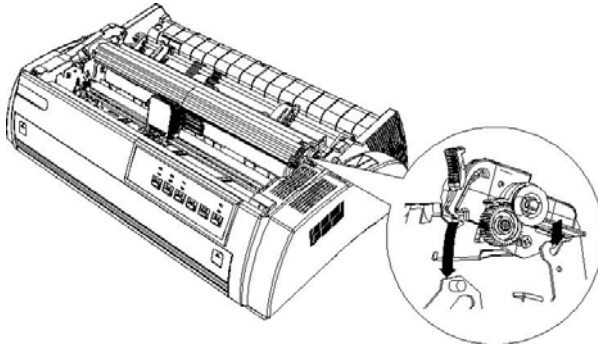


4. Insert the ribbon in the channel between the print head and the ribbon septa. Tense the ribbon by turning the ribbon tension knob. Make sure that the ribbon is inside the right channel and

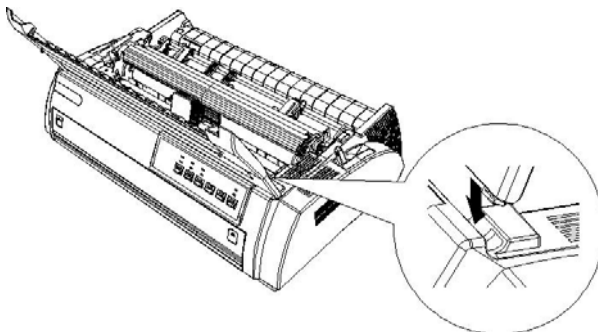
that it can move freely.



5. Reinstall the transparent sheet holder.



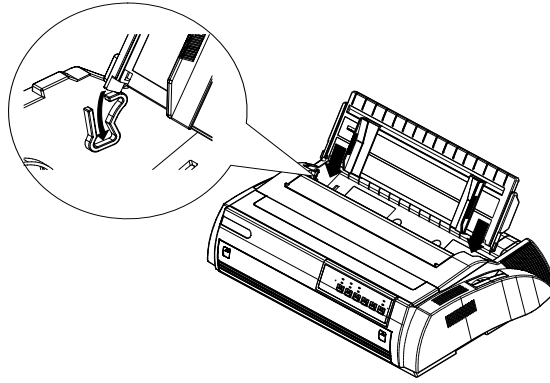
6. Reinstall the transparent printer cover part. Insert the front fixing pegs in the installation groove on the printer and lay it down.



### 1.2.6 Installing the Paper Chute

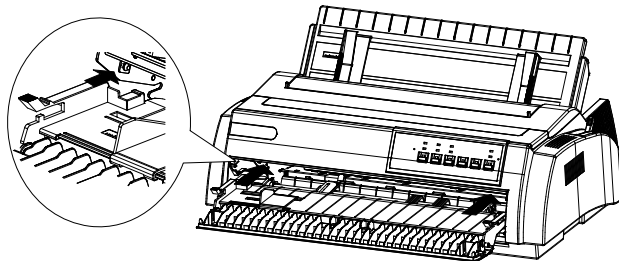
#### **The rear part:**

Insert the paper chute pegs correctly in its allocated position on the printer. Refer to the figure below.



### **The front part:**

Refer to the figure below, hold the small handles on both sides of the front paper chute, and push it along the installation groove to the allocated position. The paper chute is installed correctly when you hear a “click” sound. While installing, make sure to push the paper chute gently and parallelly.

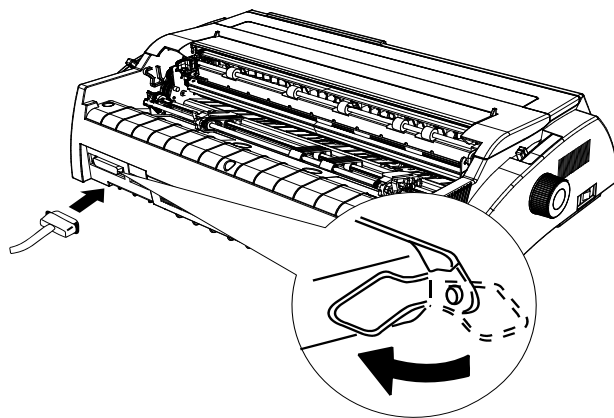


## **1.2.7 Host Computer Connection and Drive Installation**

### **Connect Printer with Computer**

Through parallel interface:

Switch the printer off then connect the interface cable to the printer and computer.



Through USB interface:

1. Make sure the printer is switched off.
2. Insert the USB interface cable plug into the USB interface outlet of printer.
3. Connect the other end of USB interface cable to your computer.

## **USB Port Usage**

WINDOWS 2000 and XP: the USB device driver can be installed automatically.

WINDOWS 98: USB device driver should be installed additionally. The installation steps are as follows:

1. Connect USB interface. If the system finds USB device, a dialog box prompting for the location of the driver installation files appears.
2. The System will find the driver installation files and start the installation.
3. When the system finishes installing the USB device driver, it adds a USB port named "USB00x" to the port options of printer attribute page (x means the number of USB port drive that the current system has already installed).
4. Select the newly added USB port in the attribute page of the printer driver.

## **Printer Driver Installation**

To install the driver, insert the CD in the CD drive or download from the website, and run setup.exe.

You can also use the driver in the operation system. Choose either one of the following:

LQ-1900K

LQ\_1600K

LQ-1000K

LQ-1500K

## **2. F/W Upgrade and Parts Replacement**

### **2.1 F/W Upgrade**

#### **2.1.1 How to Upgrade the F/W**

The new Program and Font can be upgraded through the PC. Please follow the steps below to download the new F/W:

Step 1: Make sure that the Printer is turned off, and connect the printer to PC via LPT cable.

Step 2: Press Tear, Shift and Font buttons at the same time while turning on the printer, and then the Tractor and LQ indicators will blink to show the printer is waiting for the data input.

Step 3: Download the file “\*\*\*.bin” by keying in “Copy /b \*\*\*.bin PRN ”, the F/W will be downloaded via LPT.

#### **2.1.2 Download Specifications**

1. LQ, NLQ, Draft, Tractor, Thick Paper, Paper Empty indicators will be lit in order, which shows the download process. If the F/W is upgraded successfully, the printer will reset automatically.
2. Normally, it will take no more than 30 seconds to upgrade the program. If you fail to upgrade the program after a long time (5 times longer than the time limit mentioned above), you can try again.
3. During the upgrade process, if the indicators blink suddenly, it means the upgrade fails and you should try again. If you still fail to upgrade after several attempts, please contact an agent or qualified maintenance personnel.

## **2.2 Parts Disassembly and Reassembly**

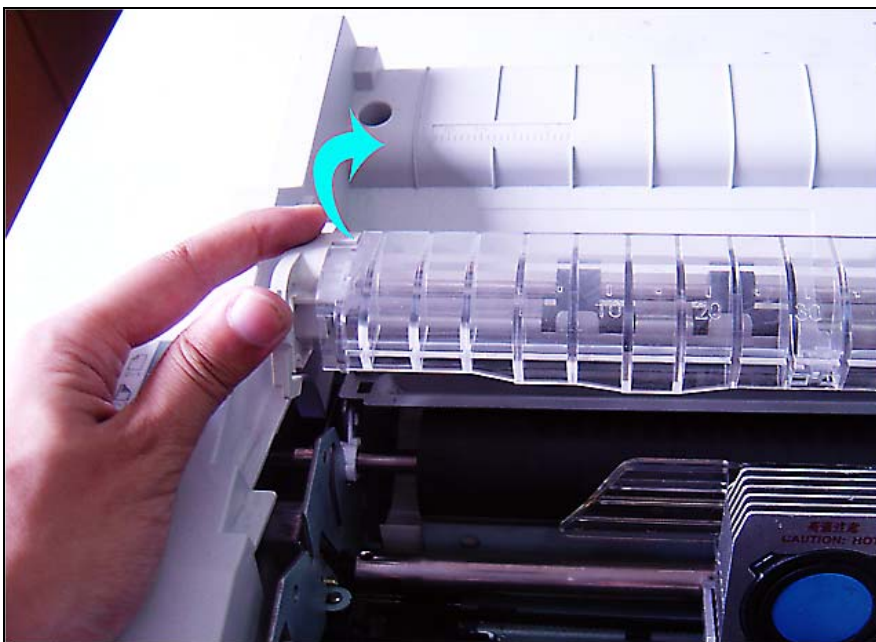
### **2.1.1 Disassembly**

1. Remove transparent printer cover, paper guides (front and rear) and the platen knob. Refer to the operator manual for the details.



2. Remove the tractor if it has been installed on the back of the printer. To remove the tractor, please refer to the operator manual.

3. Remove the transparent sheet holder by pressing the tabs on both sides and turning upward according to the arrow. Refer to the figure below.



4. Press the hook in the middle of the front board (shown in the figure below) and push it out.

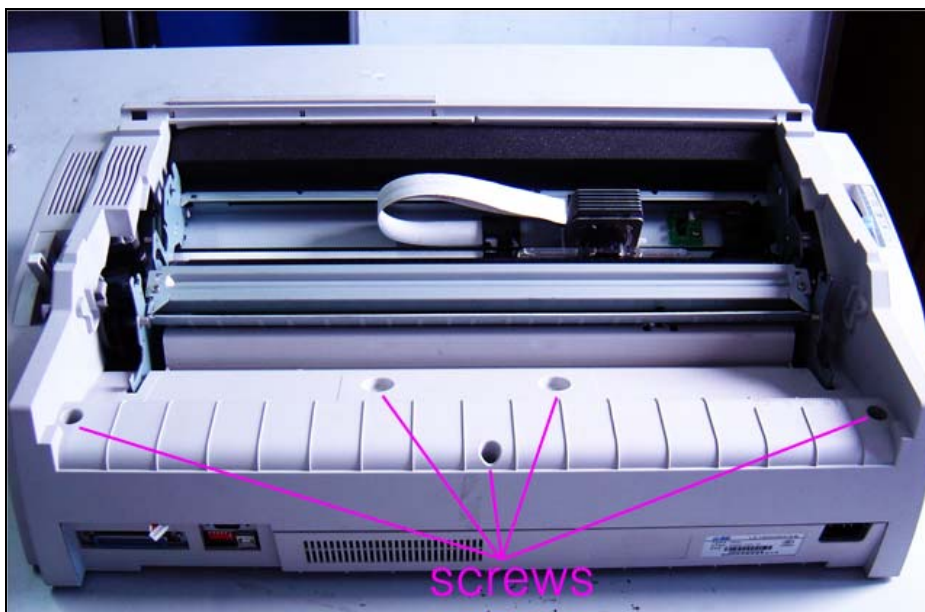


5. Move the operator panel to the left slightly to separate it from the right hook. Turn down the operator panel and separate the cable from the panel.

**Note:** Before removing the upper case, you should take off the operator panel first. Otherwise, the cable may be damaged.

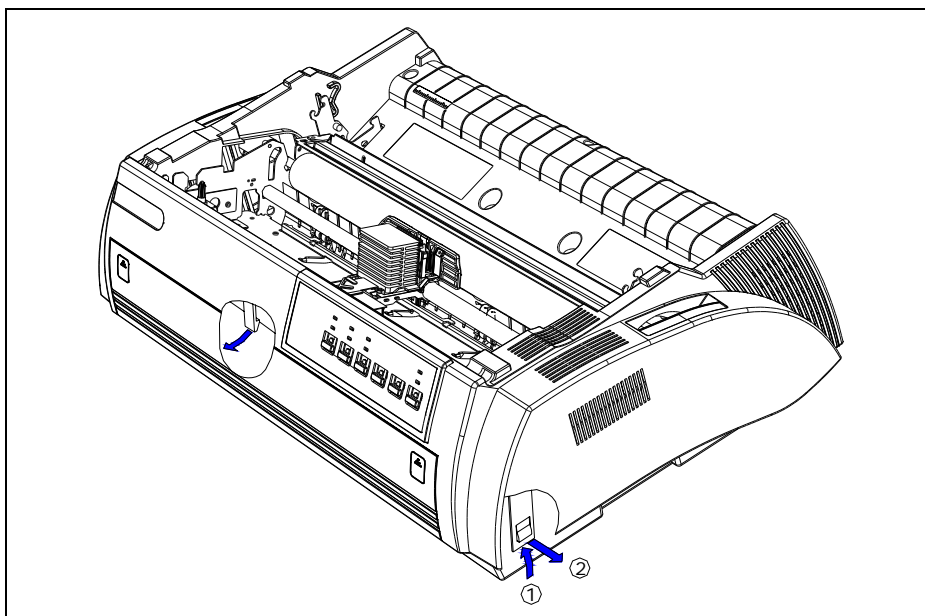


6. Loose 5 screws on the back of the printer (M4\*15 GZL0010013).



7. Refer to the figure below, and loose the clasp in the middle of the front case. Loose two clasps on both sides of the printer by inserting some flat tool. According to the figure below, to loose the clips, first insert the tool from direction①, and push the clips to direction②.

When all the three clasps have been released, separate the upper case from the bottom case.



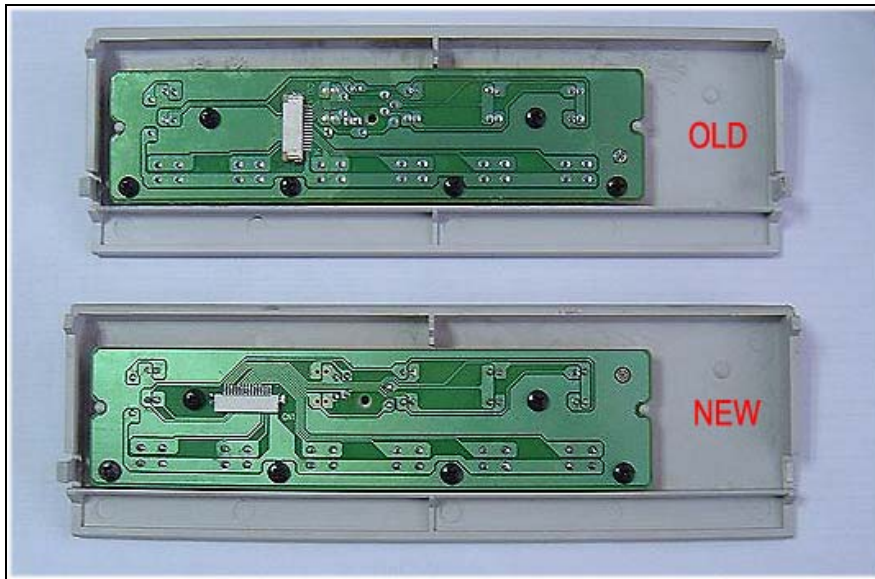
### 2.1.2 Disassembly of the Operator Panel

Please note that there are two kinds of panel boards and cables (old and new) with the same panel case.

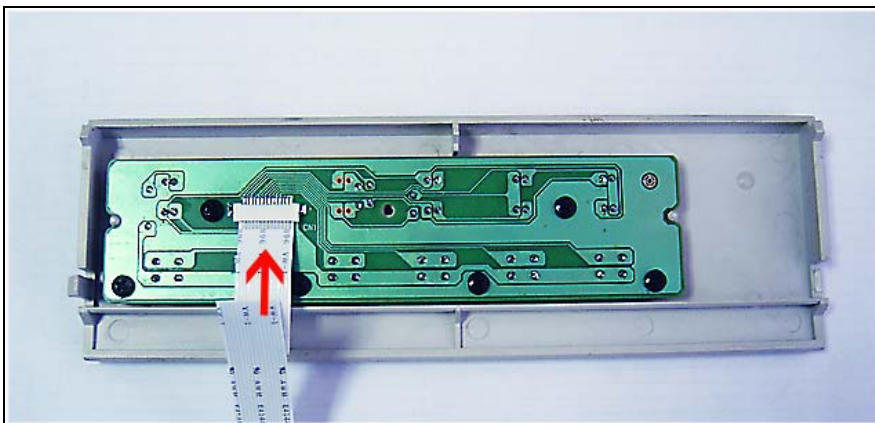
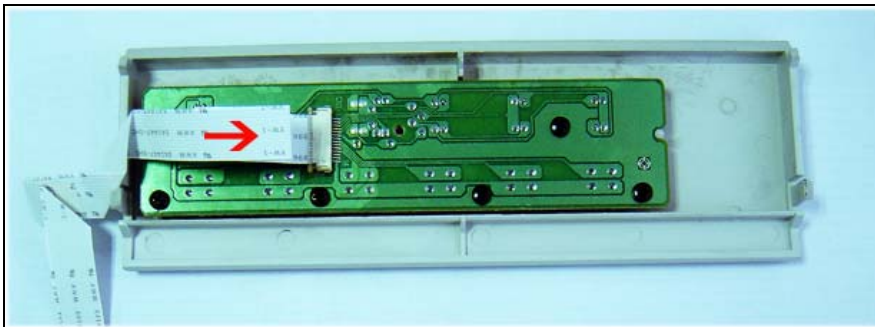
Refer to the figures below for their differences in detail.

The directions of the cable connector are different. The direction of the connector on the old

panel board is set rightward, while the direction on the new panel board is set downward.



Therefore, the cable for the old panel board ends horizontally, while the cable for the new panel board ends vertically.

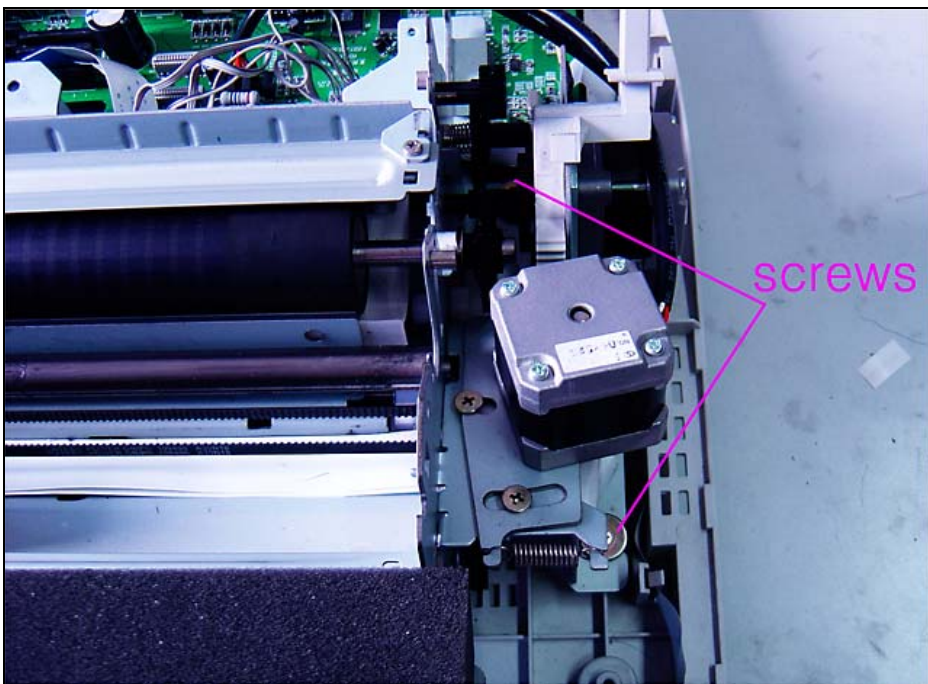
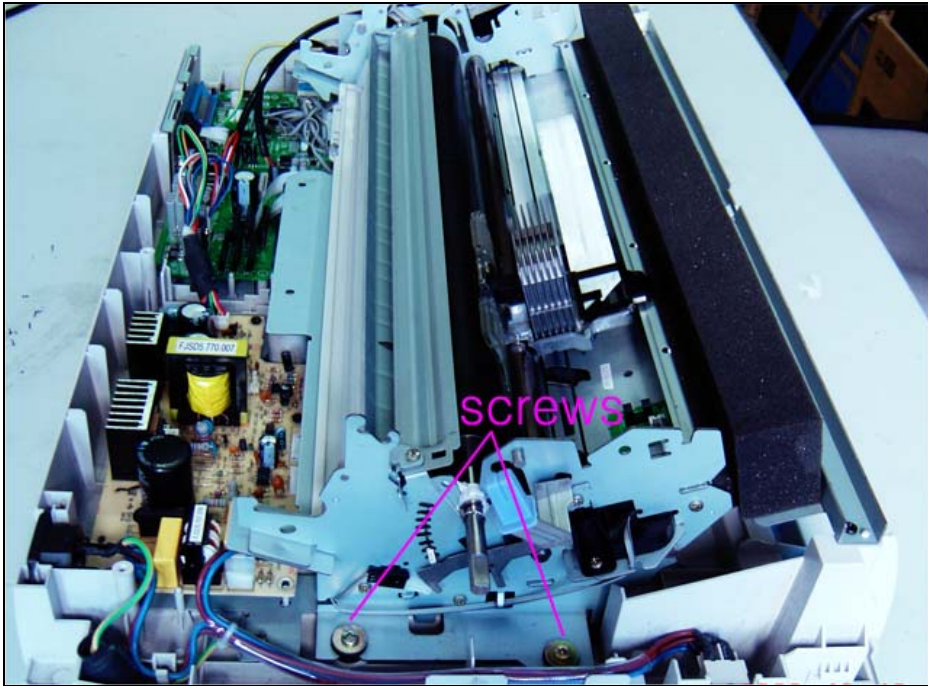


6 screws are used to fix the panel board on the panel case.

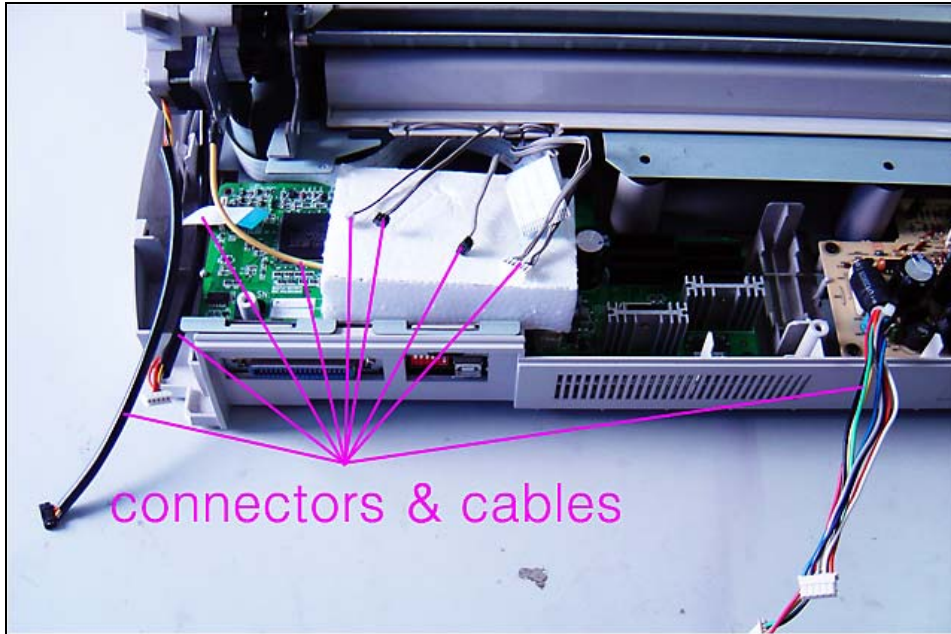
**Note:** Please refer to chapter 2.1.1 for the disassembly of the operator panel.

### 2.1.3 Disassembly of the Printer Mechanism

1. Loose 5 screws fixed on the bottom case (refer to the figures below).

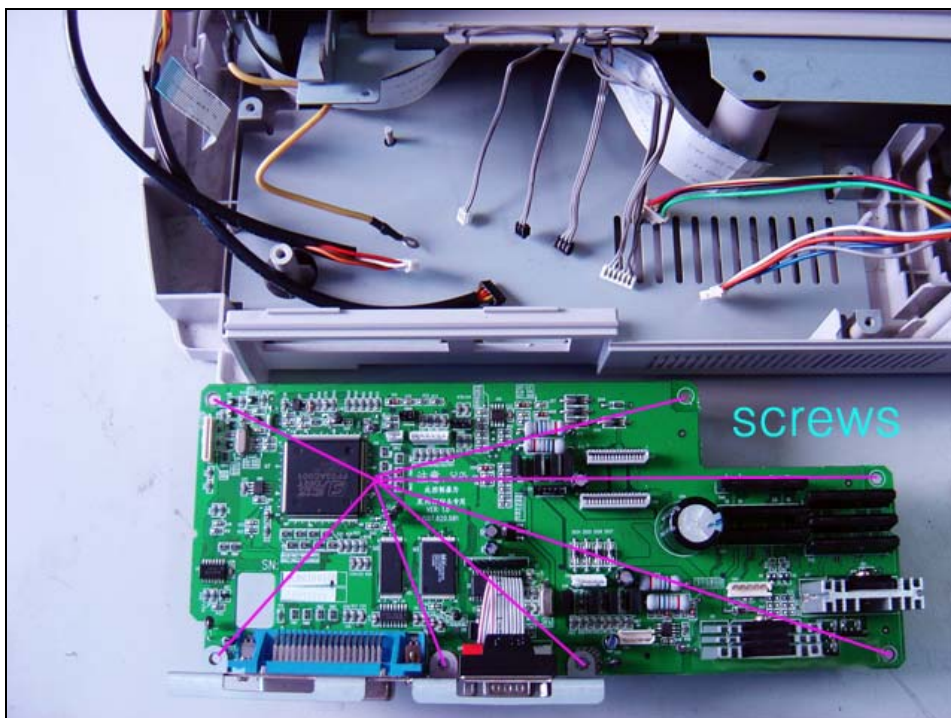


2. Loosen the ground screw fixed on the control board. Pull out all the cables connected to the controller.



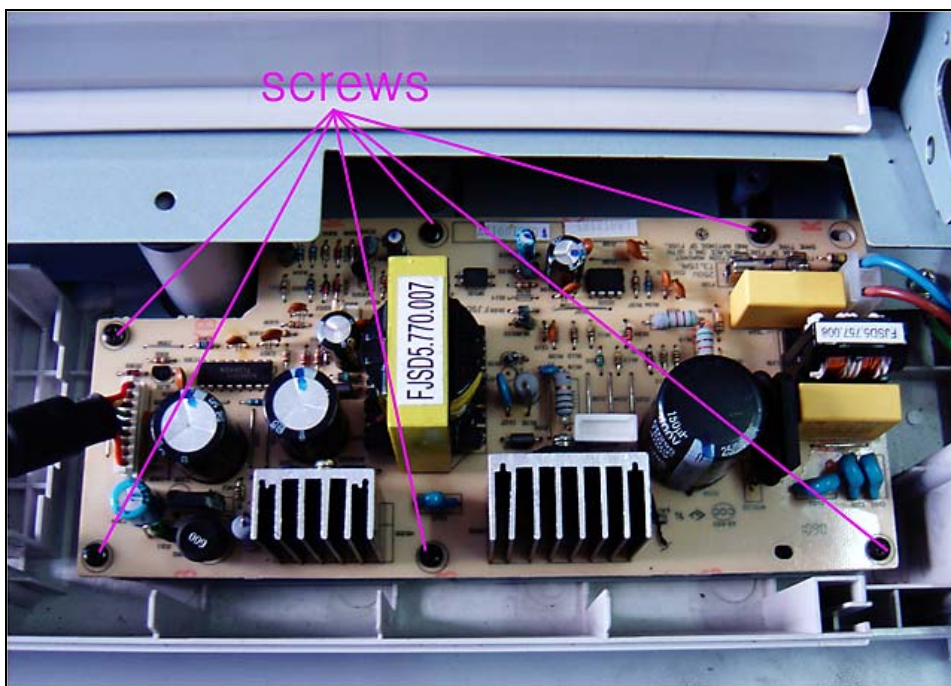
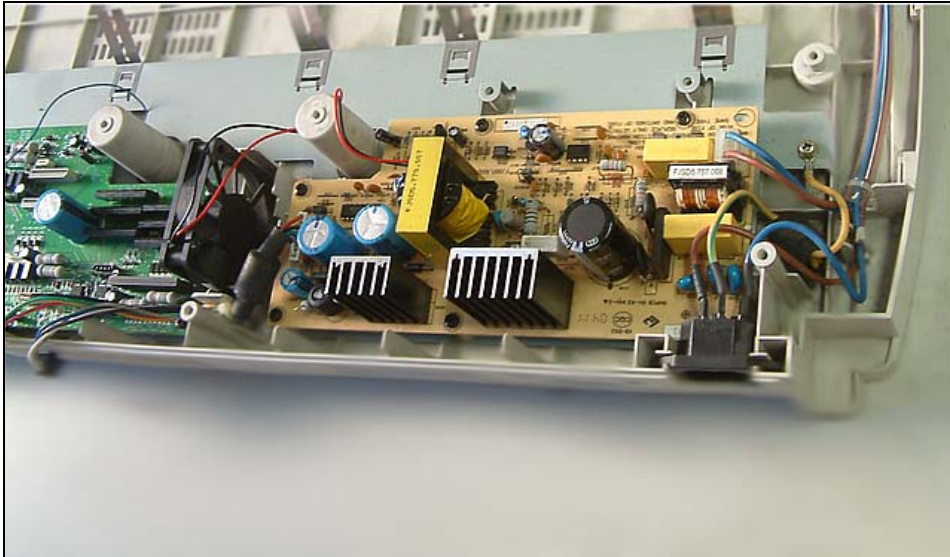
#### 2.1.4 Disassembly of the Printer Controller

1. Pull out all the cables connected to the controller.
2. Loose 6 screws fixed on the controller and remove the control board.  
(Loose two screws fixed on the parallel interface and separate the ground metal board from the controller).



### 2.1.5 Disassembly of the Power Supply Board

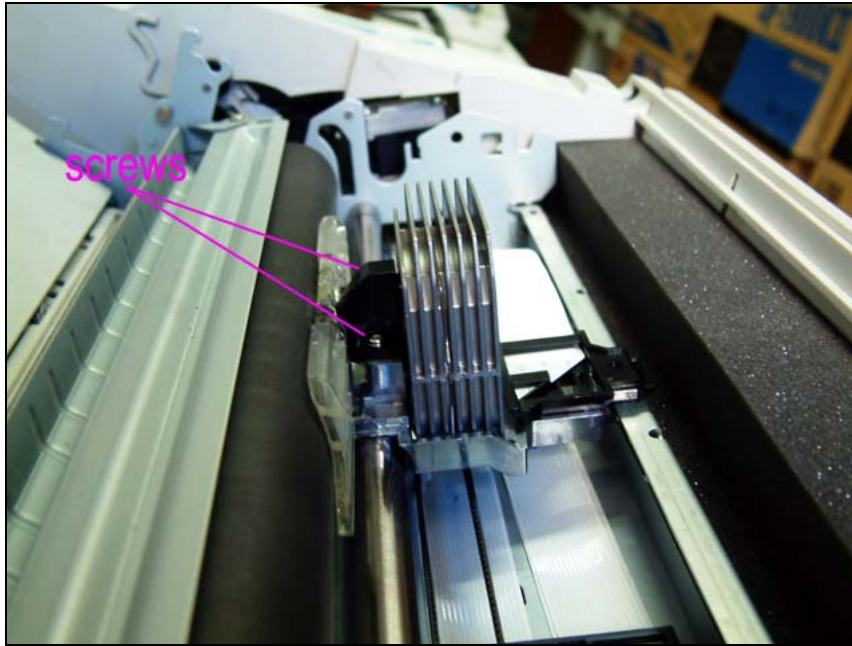
1. Pull out the connector cable for the power input on the right side of the power supply board.
2. Loose 6 screws fixed on the power supply board and remove the power supply board.



### 2.1.6 Disassembly of the Parts in the Printer Mechanism

#### 1. Disassembly of the Print Head

- i. The print head of the impact 2236 and 3336 is fixed on the carriage unit with two screws. Loose these two screws and remove the print head.

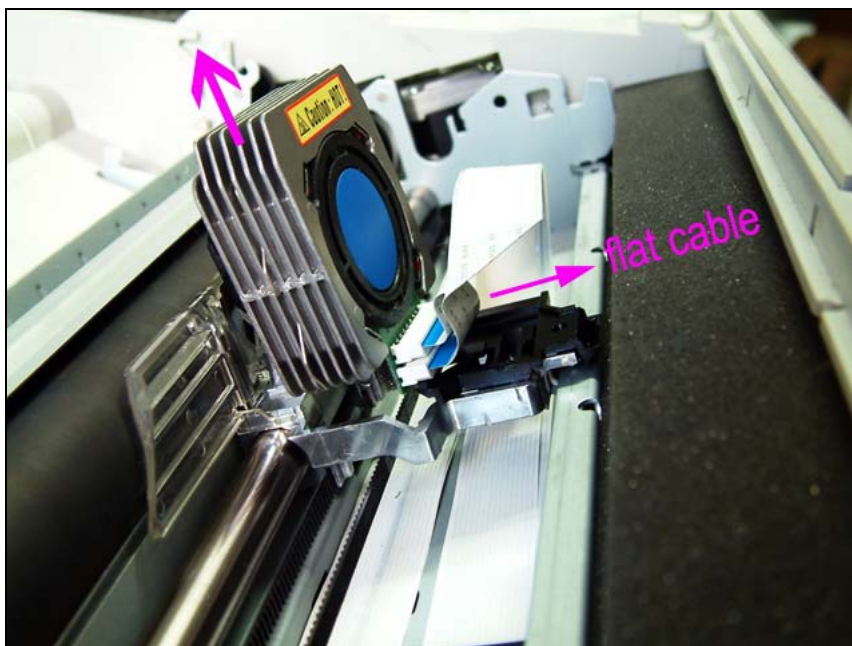


ii. According to the arrow below:

Firstly take off the print head by lifting it upward.

Secondly move the flat cable on the print head out of the fixing groove.

Finally pull the flat cable out of the connector carefully.



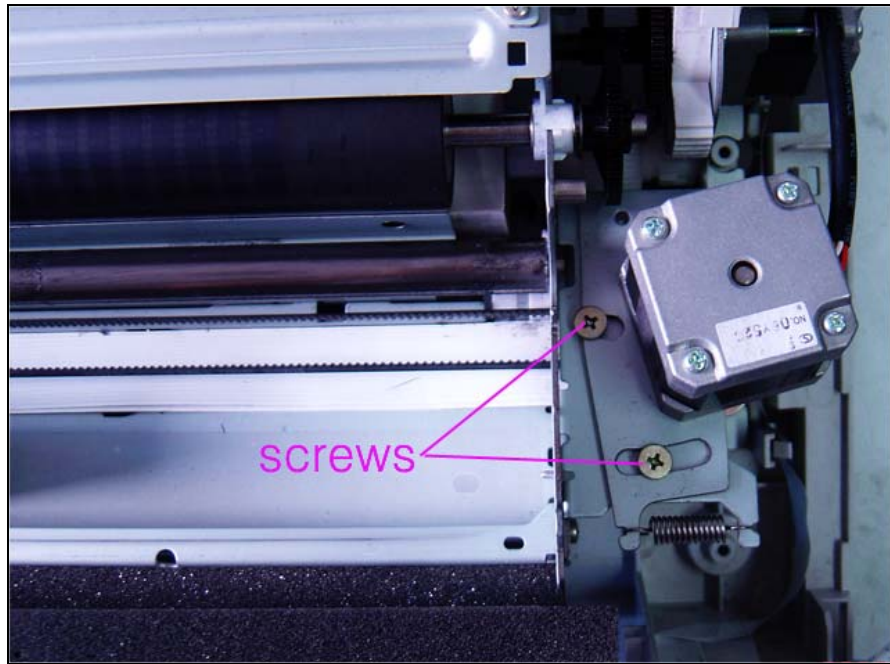
## 2. Disassembly of the Carriage Motor Unit

Carriage motor locates in the right-front of the printer mechanism. Loose the spring first (refer to the figure below).

Loose two screws fixed on the CR motor.

Loose the connection between the timing belt and the gear at the bottom of the CR motor.

Remove the whole carriage motor unit.



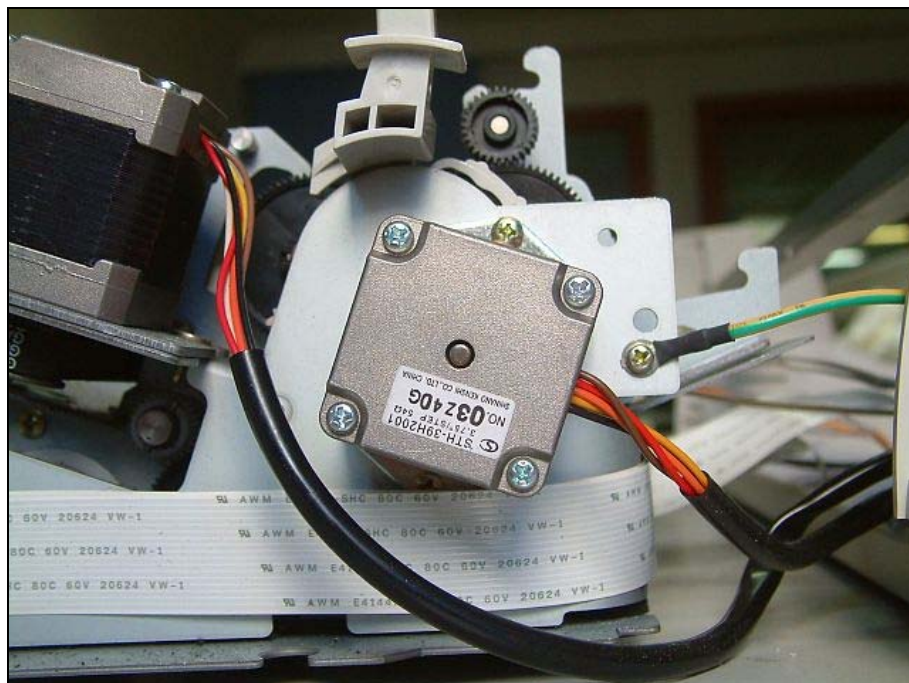
There are minor differences in the appearance of the CR motor between impact 2236 and 3336, but you can follow the same step to remove them.

### 3. Disassembly of the LF Motor Unit

LF motor locates in the left-back of the printer mechanism.

Loose two screws fixed on the LF motor.

Set the path selection lever (white plastic part shown in the figure below) to rear-in position for the tractor and remove the LF motor.

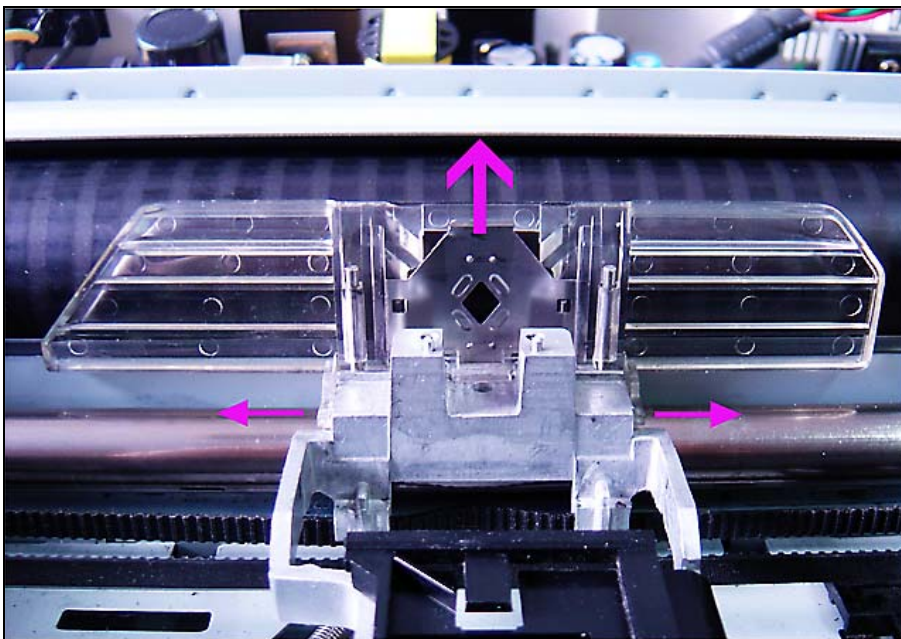


### 3. Adjustments and Tests

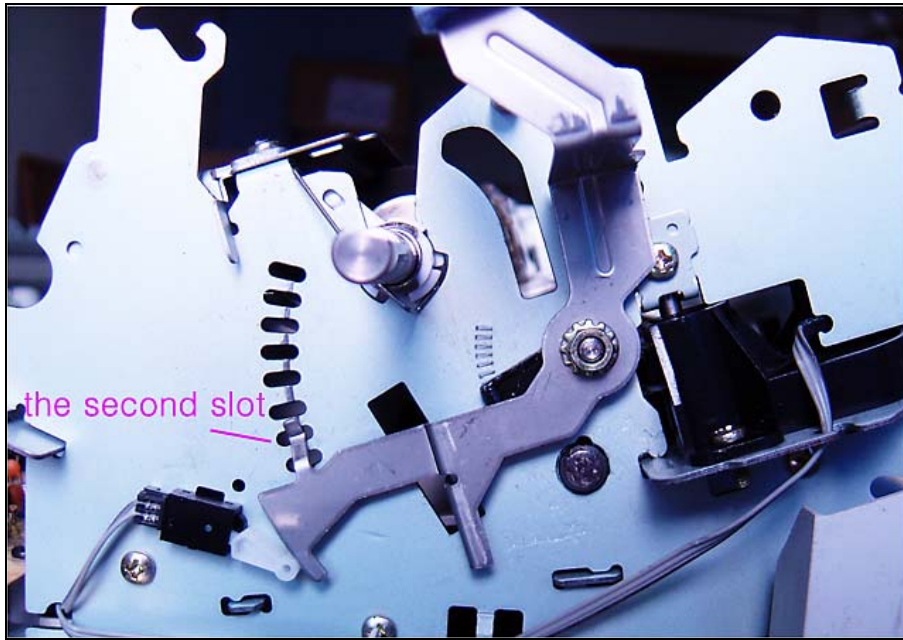
#### 3.1 Adjustment

##### 3.1.1 Gap Adjustment

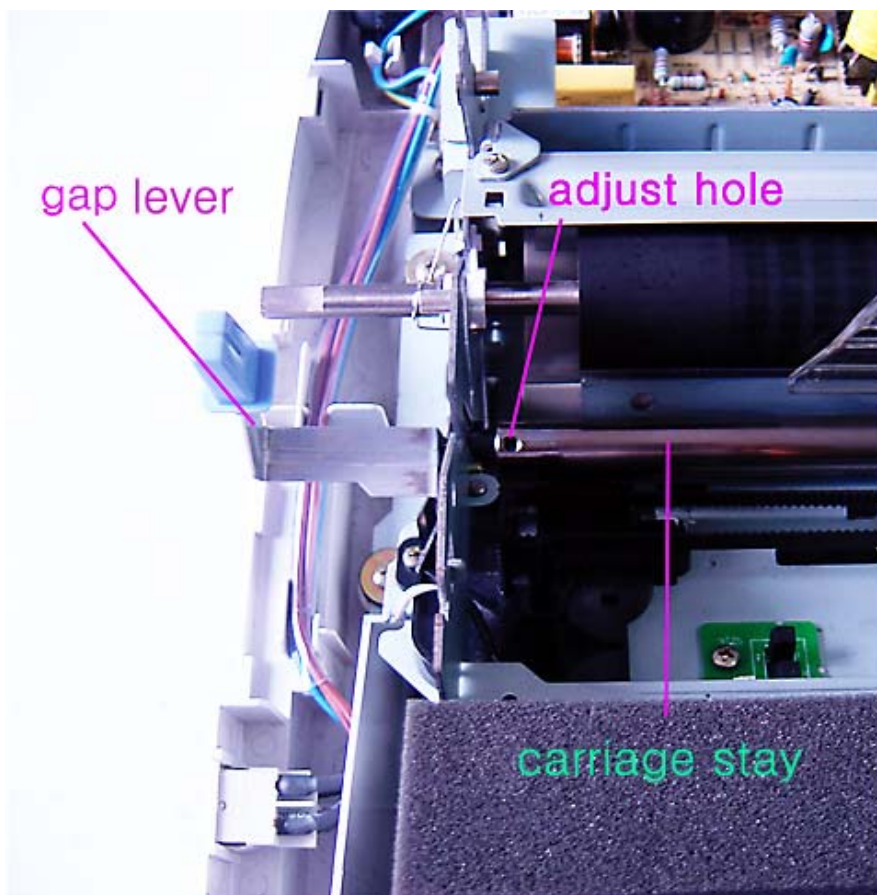
1. Remove the upper case.
2. Remove the print head first, and then loose the plastic clasps on both sides of the CR carriage. After that, take off the plastic ribbon septa holder (including the metal ribbon septa) by lifting it upward, and then reinstall the print head.



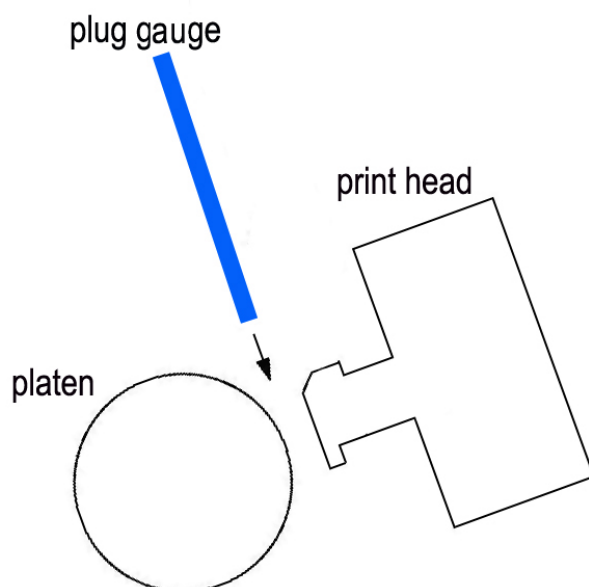
3. Set the gap lever to the second slot from the bottom.



4. Turn the screw to loose the gap lever a little.
5. Set the adjust hole on the left of carriage stay upward.



6. Move the print head to the left, center and right position of the carriage stay and measure the gap with a gauge. The measurement value of the gap should be  $0.35 \pm 0.03$ mm for both impact 2236 and impact 3336.



7. Tighten the screw to fix the gap lever.
8. Follow step 2 to reinstall the ribbon septa holder (remove the print head first) and then the upper case.

### 3.1.2 BID Adjustment

If you find the vertical direction of the text or table is not in line, please use bidirectional adjustment mode. The steps of bidirectional adjustment is as follows:

1. Load cut-sheet or continuous paper, and turn on the printer while pressing Shift button, LF/FF button and Feed/Eject button. The printer enters the bidirectional adjustment mode and then prints the initial adjusted value and three lines “|” to show the status of alignment.
2. Base your adjustment on the first line and the third line:
  - i) If the second line lean to the left compared to the first and the third line, press Shift button and Feed/Eject button, printer will print a new adjusted value and three lines “|” to show the present status of alignment. And you may notice that the value has been added by 1 this time.
  - ii) If the second line lean to the right compared to the first line and third line, press Shift button+ LF/FF button, printer will also print a new adjusted value and three lines “|” to show the present status of alignment. And you may notice the value has been decreased by 1 this time.
3. Repeat step 2 until the three lines “|” are in line vertically. And you have finished adjustment in HSD mode.
4. Press Font button, printer will switch among different speed modes, and then print the initial adjusted value and three lines “|” to show the status of alignment.
5. Repeat step2, and you can make the adjustment for different speed.
6. Turn off the printer or press the Ready button to exit the bidirectional adjustment mode. The printer can save the adjustment automatically.

## 3.2 Testing Tools

### 3.2.1 Collective Tests

The collective testing program is dedicated to the functional test of the printer. Please use the multipart form (1+4) and run the collective tests. Make sure that the printout of the last piece of the multipart form is clear enough and check the results according to the items listed below:

1. Top of form position: Top line test

Target: Check if the form-feed sensor and the sprockets have been fixed correctly. The sprockets should not stagger.

Judging standard:

i) The distance from the TOP line to the edge of the paper should be the same as that of the sample.

ii) The TOP line should be in parallel with the edge of the paper.

2. 48 points on the top left corner: The initial printing test

Target: After a longtime storage, the print head may fail to print correctly, so the 48 points on the top left corner are used to check this capability.

Judging standard: If 6 or more points are missing which means 6 or more pins are unable to print, the test fails.

3. Headline: Fourfold printing test

Target: Check if there exists blank in the fourfold printout of the headline.

Judging standard: There should be no blank in characters.

4. Printing the version of the Program, Boot and Font.

Target: Check if the printer has been installed the right F/W.

Judging standard: The printout should give the right version of the F/W.

5. Pin test

Target: Check if there exists broken pin and the drive circuit of the pin works successfully.

Judging standard:

i) All the 24 pins should stroke on the paper in turn.

ii) If some pins have missed, test fails.

iii) If there exists multi-stroke in any position, test fails.

6. Carriage stay test

Target: Check if the carriage stay and the print head tray are horizontal.

Judging standard:

i) Observe the last piece of the multipart form, if the topmost line and the bottommost line are different in depth obviously, which means the print head tray has not been installed perfectly, test fails.

ii) if the leftmost line and the rightmost line are different in depth obviously, which means the carriage stay has not been installed horizontally, test fails.

iii) If some parts of the line disappear, test fails.

7. Printing the value of the CR sensor

Target: Check if the value of the CR sensor is within the specified range.

Judging standard: If the value of the CR sensor is beyond the specified range, test fails.

#### 8. Printing gridding

Target: Check if the first column is in line at different speed.

Judging standard: Different lines are printed at different speed. If the gridding is not tidy (stagger more than two columns), test fails.

#### 9. Printing EEEEE

Target: Check if the paper can be fed precisely.

Judging standard: If the distance from the top of the “E” in the first line to the top of the “E” in the second line is not precisely 1/6 inch, test fails.

#### 10. Black box test

Target: Check if the impact force fluctuates and the power supply, print head gap and ribbon turning while CR changes its direction are normal.

Judging standard:

- i) if the black box is not even or has blank strips, test fails.
- ii) In the second line, if the printing position is different from the sample after high-speed leap, test fails.
- iii) In the second line, if there appears black trace caused by the ribbon in the blank space, test fails.

#### 11. BID test

Target: Check that the different moving directions of the CR at each speed affect the carrying mechanism evenly.

Judging standard: If the printout is not in line vertically ( $>0.15\text{mm}$ , which is more than half point's mismatch), BID test fails.

#### 12. Font test

Target: Test the font IC and bus.

Judging standard: If some characters are missing or printed in wrong way, the test fails.

### 3.2.2 Maintenance

This section serves as a reference for troubleshooting in daily usage. If the printer still fails to work, please contact qualified maintenance personnel.

#### Power

##### Power indicator unlit:

- Check if the power cable has been inserted into the outlet correctly.
- If the power outlet is controlled by outer switch or automatic timer, please use another power outlet.
- Use another electronic device to make sure if the power outlet works normally.
- Check whether the rating voltage of printer matches with the voltage on power outlet. If it is not, you should pull out the power plug of printer and contact with the agent immediately. Don't insert the power line into the outlet again.

#### Printing

1. If the printer cannot print and Ready indicator is unlit, press Ready button.

2. If the printer cannot print and Ready indicator is lit:

- Check if you install printing drive software correctly, and check the printer parameter setting of the printer.
- Check both sides of interface cable that connects printer and computer, and confirm if this interface cable satisfies the technical specifications of the printer and computer.

3. Paper-empty indicator is lit:

- Please load print paper.
- It sounds the printer is printing, but in fact it prints no nothing. Please check if the ribbon cartridge is installed correctly or the ribbon may be old, so you can replace ribbon cartridge.
- The printer gives out strange noise. It beeps and stops printing suddenly. First please turn off the printer switch, check if there is paper jam or other problems, and then turn on the power and retry printing. If the printer still doesn't print correctly, please contact an agent or qualified maintenance personnel.
- Ready indicator flashes, but the printer cannot print or stops printing suddenly. The print head is too hot, wait for several minutes. After the print head is cools down, the printer will resume printing.

4. Printing fading or abnormal:

- Maybe you didn't install the ribbon cartridge correctly.
- Maybe the ribbon is old, please replace ribbon cartridge.
- Check if the position of gap lever suits the thickness of the paper used.
- If the printer loses dots during printing characters or figures, the print head may be damaged. Please stop printing and contact with agents or qualified maintenance personnel, and replace the print head.
- If the printer loses dots randomly, check if the ribbon is loose and reinstall the ribbon cartridge.

5. The printing characters are not what you need:

- Check if it installs application software correctly.
- If the font printed is not what you have chosen by the application software, check if the right font has been chosen on the operator panel.
- If the printer cannot print what has been set on the operator panel, check what has been set by the software, because the font setting by the application software may cancel the setting on the operator panel.
- Printing error may also be caused by choosing wrong printing mode or international character sets.

6. Printing position is not where you want:

- If the top of form position is too high or too low, please adjust the top of form position by the application software.
- If all the texts are printed on the same line, please set "Auto CR/LF" as "CR+LF, LF", and the printer will insert a line feed code after every carriage return code automatically.

- If an unwanted blank line is added between every two lines of printed text, the printer may receive an extra line feed code. Please set “Auto CR/LF” as “CR, LF”.
- If the setting of page length doesn’t match with continuous paper page length, please use EDS setting 6 to change the setting of page length or check the page length setting of application software, and adjust the page length setting if necessary.
- If regular intervals appear in the printout, the printer may set the skip perforation as valid. Please reset the EDS setting 7 as invalid.
- If the EDS setting 7 (skip Perf.) is set as valid, but the printer fails to perform this function in right position (perforation), please adjust the top of form position.
- If the top margin and the bottom margin are set by the application software, please set the EDS setting 7 as invalid.

If the printer still fails to print correctly, use printer self-test function. If the self-test is correct, it means the printer works normally. The problem may come from computer, software or interface cable. If the self-test has errors, please contact an agent or qualified maintenance personal.

### **Paper handling**

1. Cut-sheet cannot be loaded correctly
  - Check if the path selection lever is on the position of cut-sheet.
  - Cut-sheet may be far away from the left side, please adjust the position of left edge guide, and make it align with the arrow.
  - While loading cut-sheet, if the platen runs but the paper can’t be fed, please load cut-sheet smoothly again.
  - If paper-feed slanting or paper-jam occurs, please turn off the printer power switch, and set the path selection lever to the position of pull tractor, and then remove cut-sheet and check the following two contents:
    - i. Make sure that the size of cut-sheet is within the specified range.
    - ii. Make sure that the cut-sheet aligns with both edge guides.
2. Cut-Sheet cannot be ejected completely
  - Please use LOAD/EJECT button to eject cut sheet. Do not use LF/ FF button.
  - The cut-sheet may be too long, please use the standard-size cut-sheet.
3. The continuous paper cannot be loaded correctly
  - Check if path selection lever is on the correct position.
  - If paper-feed slanting or paper-jam occurs, please confirm whether the continuous paper is blocked by a cable or other objects. You should make sure that the continuous paper can be fed smoothly.
  - Make sure that the distance between the continuous paper and printer is within one meter.
  - The location of the continuous paper may interfere with the vertical feeding of continuous paper.
  - Check if the holes on both sides of continuous paper are parallel with each other, and whether the sprocket of tractor is locked and the cover is closed.
  - Check if the position of the gap lever accords with the type of paper used.

- Check if the size of continuous paper is within the specified range.

### **Cleaning and maintaining**

In order to keep your printer in perfect condition, you should clean thoroughly the dust and dirt several times every year.

1. Make sure that the printer has been turned off, remove the paper guide, printer cover, tractor and other installed options.
2. Use soft brush to clean dust and dirt carefully.
3. If there are dust and dirt on the outer shell or paper guide, you can spray a neutral detergent on a soft cloth and clean them. Remember to close the printer cover to avoid water to enter into the printer.
4. Do not use alcohol or thinner to clean printer, these chemical products will damage printer parts and outer shell.
5. Do not use hard or abrasive brush.
6. Do not spray lubricant oil into the printer, because the improper oil will damage mechanical parts.
7. In the event you need lubricant oil, please contact our agent or qualified maintenance employees.

While using the printer, pay attention to the daily maintenance. According to the working environment and the workload, clear the wastepaper and oil spots and add new oil (Tellus 32 etc.) or grease (EM-50L etc.) periodically. The figure below shows the positions that need to be lubricated.

While oiling and greasing the printer mechanism, pay attention to the notes below:

1. Greasing the adjustment holes for the gap lever (use grease)

While greasing, pay attention to lubricate the area among the adjustment holes with a needle. Refer to the figure below (position 1).

2. Greasing the area between the fixing hole in the side frame and the shaft of the rubber roller for the front paper feeding.

While greasing, pay attention to add a proper quantity of the grease to the gap between the fixing hole and the shaft with a needle. Refer to the figure below (position 2).

3. Cleaning and oiling the area between the back bearing of the carriage tray and the carriage guide track. Refer to the figure below (position 3).

Pay attention to drop a proper quantity of the oil evenly on the carriage guide track.

4. Cleaning and oiling the area between the bearing ring of the carriage tray and the carriage stay. Refer to the figure below (position 4).

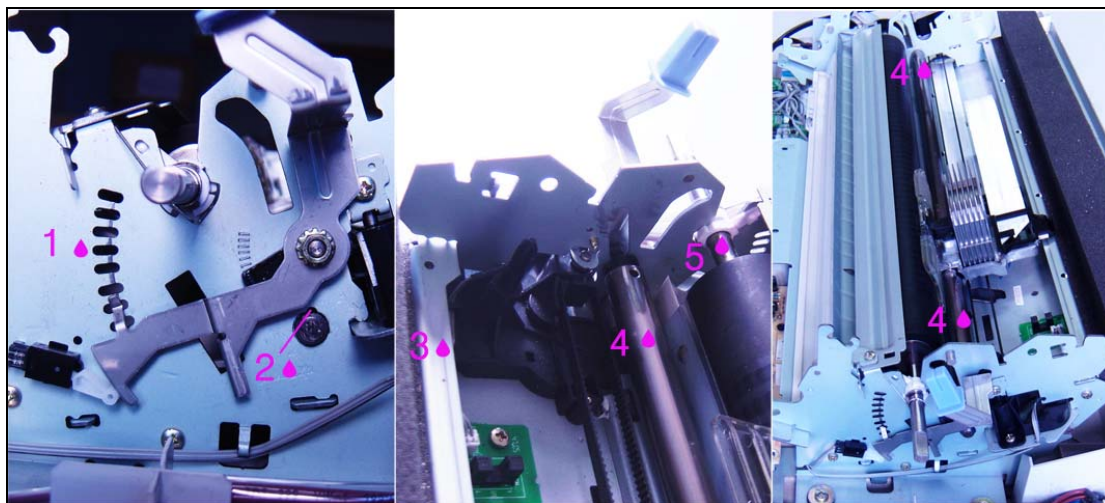
While oiling the carriage stay, please follow the steps below:

- i. Move the CR unit to the middle of the stay.
- ii. Drop a proper quantity of the oil evenly on the carriage stay. Make sure that the oil won't drop on the metal board under the carriage stay.
- iii. Move the carriage from one side to the other several times so that the carriage stay can be lubricated efficiently.

5. Greasing the area between the plastic bearing ring and the platen.

If necessary, add a proper quantity of the grease to the connected area between the bearing

ring and the platen with a needle. Refer to the figure below (position 5).



### Transportation

If the printer needs long-distance transportation, you should use the original box and packing material to repack the printer. It is described as follows:

- a) Turn off the printer.
- b) Remove the paper guide and other installed options.
- c) Pull out the power cable from power socket, and remove the connected interface cable from the printer.
- d) Remove ribbon cartridge.
- e) If the tractor has been removed, please install the tractor again.
- f) Fix the printer with the original protective materials.
- g) Use the original packing material to pack the printer, ribbon, paper guide and power cable well, and encase it into the original box.

### 3.2.3 Mistake Indication on the panel

Many malfunctions of the printer can be confirmed through the indicators on the panel, and the status of the indicators can help to find what causes the failure. When there is an error, the printer head will give out a long beep, and then some of the indicators on the panel will flash **quickly**. Refer to the following table for details:

Panel Indicator	Reason of the Failure
LQ light flashes	RAM test error.
NLQ light flashes	The temperature of the printer head or voltage exceeds the range. Or the cable of printer head hasn't been plugged in.
Draft light flashes	CR motor failure.

Tractor light flashes	EEPROM read/write error.
Paper Empty light flashes	Interface error.
Thick Paper light flashes	Program execution error. Usually it is bus error (such as static electricity interference).

Note: When the printer fails to feed/load the paper correctly because of paper jam or other malfunctions, it will beep three times shortly, and then the Paper Empty light flashes **slowly**. Pay attention to identify the differences between paper jam and interface error.

**When the print head hasn't been installed or the cable of print head hasn't been plugged in, the printer won't move nor alarm, but the error will be shown on the panel.**

## 4. Spare Parts List

### Parts List

<b>LQ-1900KIII/Globalis 3336 Parts List</b>		
<b>Part NO.</b>	<b>Part Name</b>	<b>Remark</b>
GZSP030002	Ribbon Cassette (3336)	For Globalis 3336
GYCP030013	Printhead Unit (3336)	For Globalis 3336
GWY0020001	Printhead FFC F-15 (002)	For Globalis 2236
GWY0020000	Printhead FFC R-17 (002)	For Globalis 2236
GZQP030012	CR Motor (P03)	For Globalis 3336
GZQP030016	PF Motor (P03)	For Globalis 3336
GZQ0020019	Platen (P03)	For Globalis 3336
GYZP030002	Main Board (P03)	For Globalis 3336 Parallel Interface+USB
GYZP030001	Control Panel Board (P03)	For Globalis 3336
GYZ0030200	Power Supply Board (P03)	For Globalis 3336
GYC0020002	Tractor Unit(002)	For Globalis 3336&2236

<b>LQ-1900KIIIE/Globalis 2236 Parts List</b>		
<b>Part NO.</b>	<b>Part Name</b>	<b>Remark</b>
GZSP320000	Ribbon Cassette (2236)	For Globalis 2236
GYCP320001	Printhead Unit(2236)	For Globalis 2236
GWY0020001	Printhead FFC F-15 (002)	For Globalis 2236
GWY0020000	Printhead FFC R-17 (002)	For Globalis 2236
GZQ0020000	CR Motor (002)	For Globalis 2236 STP-42D2022
GZQ0020001	PF Motor (002)	For Globalis 2236 STH-39H2001
GBS0020021	Release Lever (002)	For Globalis 2236
GZQ0020019	Platen (002)	For Globalis 2236
GYZP320000	Main Board (P32)	For Globalis 2236 Parallel Interface
GYZP120001	Control Panel Board (P12)	For Globalis 2236
GYZP320003	Power Supply Board (P32)	For Globalis 2236

## 5. Appendix (for old impact 3336):

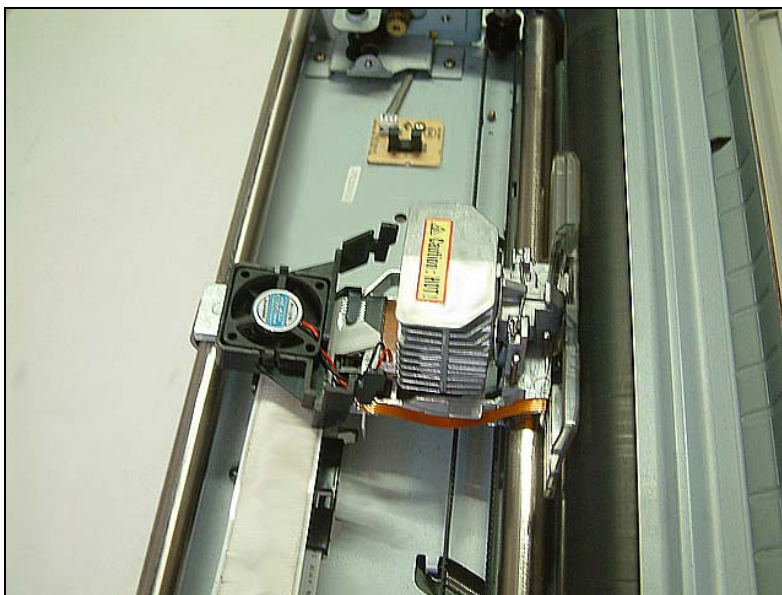
There are minor differences between old impact 3336 and new impact 2236 in the disassembly of the printer mechanism and the gap adjustment.

### 5.1 Disassembly of the Print Head

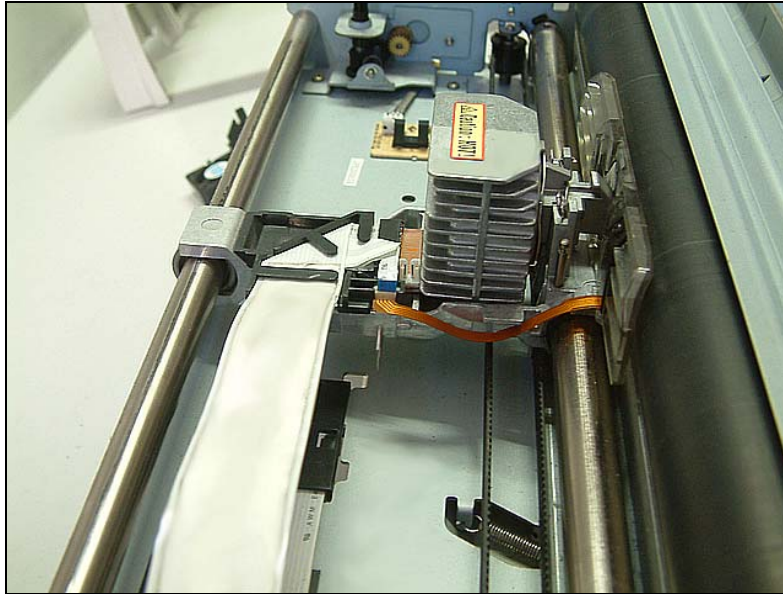
Gently pull out the flexible cable (FPC) of the CR sensor from the fixing bulge on the right side of the carriage.



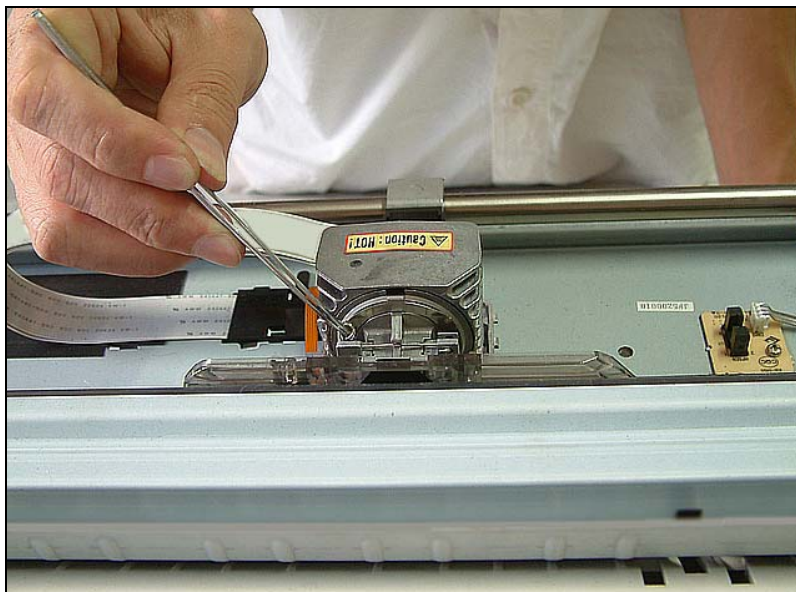
Release two flexible clasps fixing on both sides of the fan unit so that the fan unit can be separated from the carriage.



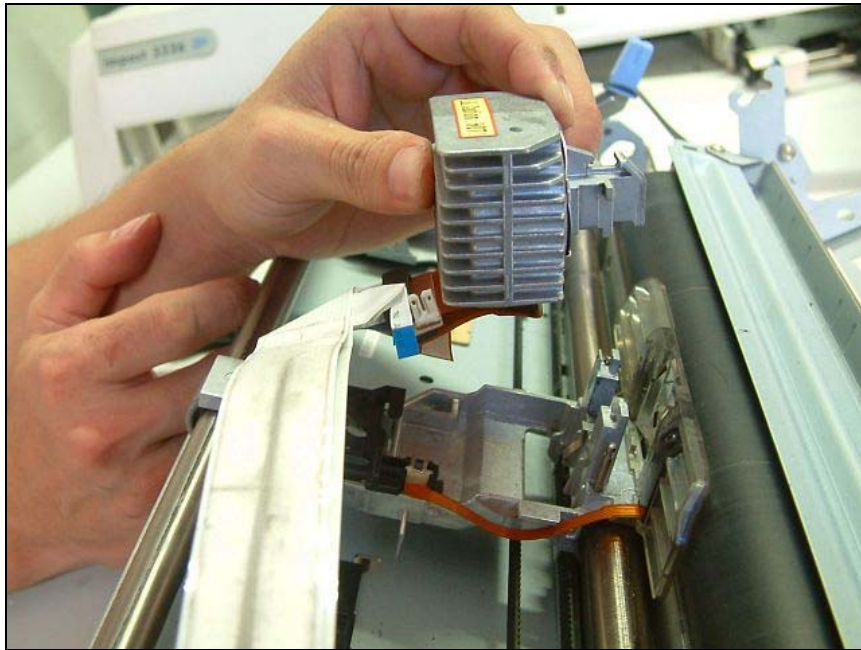
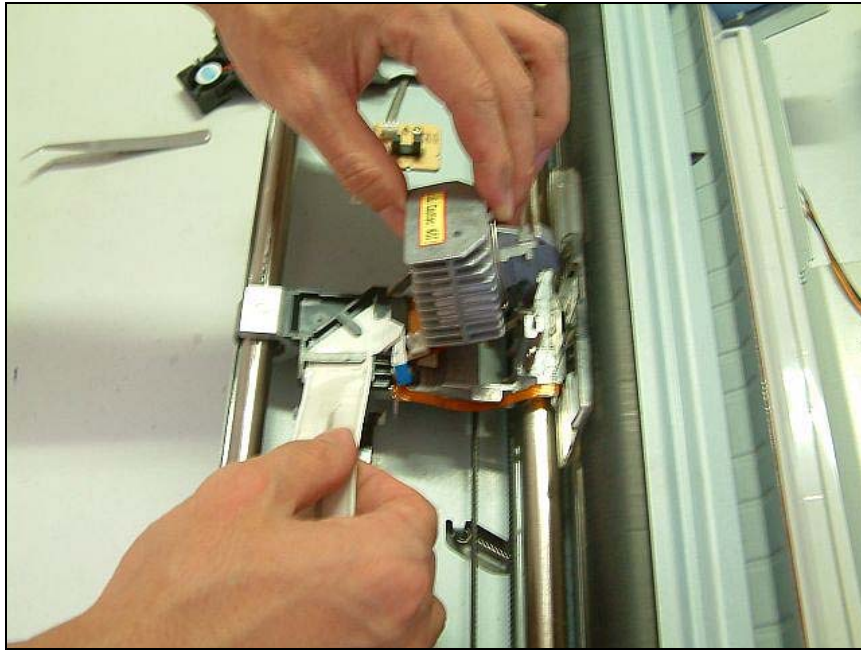
Pull out the cable of the fan from the connector, and remove the fan and its fixing unit.



Loose the fixing spring in the front of the print head (refer to the figure below) so that the spring can be separated from the fixing groove between the print head and the carriage tray.



Take off the print head by lifting it upward, and at the same time, move the flat cable on the back of print head out of the fixing groove.



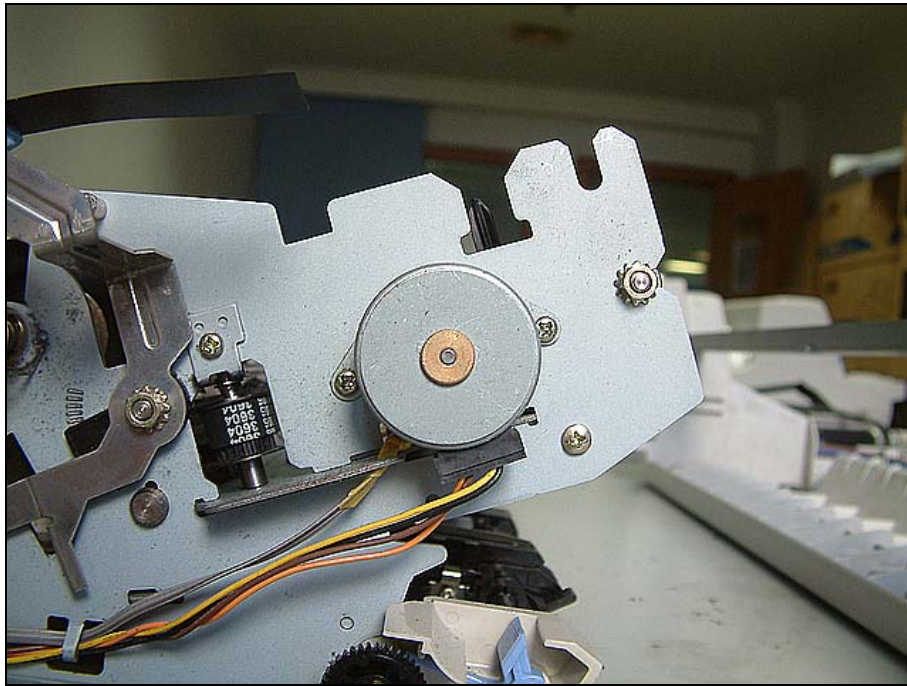
Finally pull out two flat cables from the connector carefully, and remove the print head.

## 5.2 Disassembly of the Ribbon Motor Unit

The ribbon motor unit is designed to drive the ribbon. It locates on the left-front of the printer mechanism (right opposite to the CR motor unit).

Remove two screws fixed on the both sides of the ribbon motor.

Loose all the connections on the printer mechanism for the cables and remove the ribbon motor.



### 5.3 Gap Adjustment

For the old impact 3336, the surface of the pin is a curve. Use the same way as described above to measure and adjust the gap, but the measurement value of the gap should be  $0.30 \pm 0.03\text{mm}$  for the old impact 3336.

