Operation Manual

STE5

GoDEX

P/N. 920-013911-00
Rev. D, 03.2013

CAUTION
Danger of explosion if battery is incorrectly replaced
Replace only with the equivalent type recommended by the manufacture.
Dispose of used batteries according to the manufacturer’s instructions.

Safety Instructions

Bitte die Sicherheitshinweise sorgfältig lesen und für später aufheben.

1. Die Geräte nicht der Feuchtigkeit aussetzen.

2. Bevor Sie die Geräte ans Stromnetz anschließen, vergewissern Sie Sich, dass die Spannung des Geräts mit der Netzspannung übereinstimmt.

3. Nehmen Sie das Gerät bei Überspannungen (Gewitter) vom Netz. Das Gerät könnte sonst Schaden nehmen.

4. Sollte versehentlich Flüssigkeit in das Gerät gelangen, so ziehen sofort den Netzstecker. Anderenfalls besteht die Gefahr eines lebensgefährlichen elektrischen Schlags.

5. Wartungs- und Reparaturarbeiten dürfen aus Sicherheitsgründen nur von autorisierten Personen durchgeführt werden.

6. Bei Wartungs- und Reparaturarbeiten müssen die Sicherheitsvorschriften der zuständigen Berufsverbände und Behörden unbedingt eingehalten werden.

7. Bei Verletzungen unbedingt den Arzt aufsuchen und die gegebenenfalls die zuständigen Stellen benachrichtigen. Unterlassung kann zum Verlust der Versicherungsleistungen führen.

Safety Instructions

Please read the following instructions seriously.

1. Keep the equipment away from humidity.

2. Before you connect the equipment to the power outlet, please check the voltage of the power source.

3. Disconnect the equipment from the voltage of the power source to prevent possible transient over voltage damage.

4. Don’t pour any liquid to the equipment to avoid electrical shock.

5. ONLY qualified service personnel for safety reason should open equipment.

6. Don’t repair or adjust energized equipment alone under any circumstances. Someone capable of providing first aid must always be present for your safety

7. Always obtain first aid or medical attention immediately after an injury. Never neglect an injury, no matter how slight it seems.

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1. Barcode Printer and RFID Tag Encoder

The main purpose of STE5 is encoding a series of label attributes into a RFID tag. It can also print readable content on the Smart Label that contains the RFIF tag. However, it cannot perform normal printing alone. Please note that the printing function is only available when doing RFID encoding. The Smart Media Manger software is provided to control all of STE5 printing and encoding functions.

1-1. Printer Accessories

After unpacking, please check the accessories that come with the package, and store appropriately.

- STE5
- Power cord
- Switching Power
- USB Cable
- Label Roll Core
- Label Stop Plate
- Quick Start Guide
- Product CD

1-2. General Specifications

Model	STE5
Print Method	Thermal Transfer / Direct Thermal
Resolution	203 dpi (8 dot/mm)
Print Speed	4 IPS (100 mm/s)
Print Width	4.25” (108 mm)
Print Length	Min. 0.39” (10 mm); Max. 68” (1727 mm)
Memory	4MB Flash (2MB for user storage) ; 8MB SDRAM
Sensor Type	Adjustable reflective sensor. Fixed transmissive sensor, central aligned
Ribbon	Types: Wax, wax/resin, resin Length: 981’ (300 m) Width: 1.18” Min. - 4.33” (30 mm - 110 mm) Max. Ribbon roll diameter: 2.67“ (68 mm) Core diameter: 1” (25.4 mm)
RFID	HF RFID tag can support the transponder ICs which the radio frequency is on 13.56MHz and follows the ISO/IEC 15693 standard
Printer Language	EZPL
Software	Label design software: SMM (Smart Media Manager)
Resident Fonts	Bitmap fonts: 6, 8, 10, 12, 14, 18, 24, 30, 16X26 and OCR A & B Bitmap fonts 90°, 180°, 270° rotatable, single characters 90°, 180°, 270° rotatable Bitmap fonts 8 times expandable in horizontal and vertical directions Scalable fonts 90°, 180°, 270° rotatable

Dimension	Length: 11.2" (285 mm) Height: 6.8" (171 mm) Width: 8.9" (226 mm)
Weight	6 lbs (2.72Kg) ,excluding consumables
Options	Label Stripper External label roll holder for 10" (250 mm) O.D. label rolls External label rewinder

Specifications are subject to change without notice. All company and/or product names are trademarks and/or registered trademarks of their respective owners.

1-3. Communication Interface

Parallel Interface

Handshake : DSTB connects to the printer, BUSY connects to the host

Interface cable : Parallel cable compatible to IBM PC

Pin out : See below

PIN NO.	FUNCTION	TRANSMITTER
1	/Strobe	host / printer
2-9	Data 0-7	host
10	/Acknowledge	printer
11	Busy	printer
12	/Paper empty	printer
13	/Select	printer
14	/Auto-Linefeed	host / printer
15	N/C	
16	Signal Gnd	
17	Chasis Gnd	
18	+5V,max 500mA	
19-30	Signal Gnd	host
31	/Initialize	host / printer
32	/Error	printer
33	Signal Ground	
34-35	N/C	
36	/Select-in	host / printer

Serial Interface

Serial Default Setting : 9600 baud rate、no parity、8 data bits、1 stop bit、XON/XOFF protocol and RTS/CTS。

RS232 HOUSING (9-pin to 9-pin)

DB9 SOCKET		DB9 PLUG
---	1 ——— 1	+5V,max 500mA
RXD	2 ——— 2	TXD
TXD	3 ——— 3	RXD
DTR	4 ——— 4	N/C
GND	5 ——— 5	GND
DSR	6 ——— 6	RTS
RTS	7 ——— 7	CTS
CTS	8 ——— 8	RTS
RI	9 ——— 9	N/C
PC		PRINTER

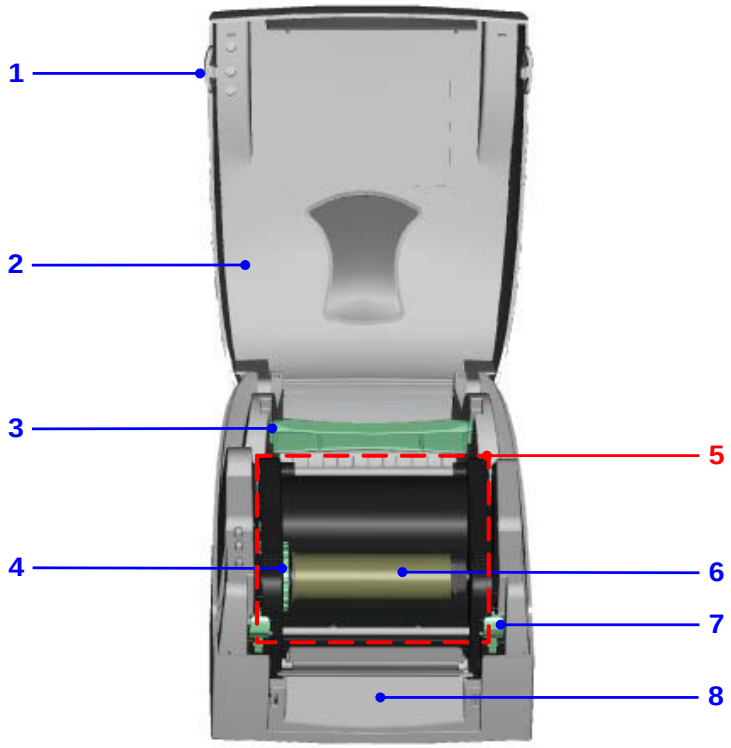
【Note】The total current output from parallel port and serial port altogether can not exceed 500mA.

USB Interface

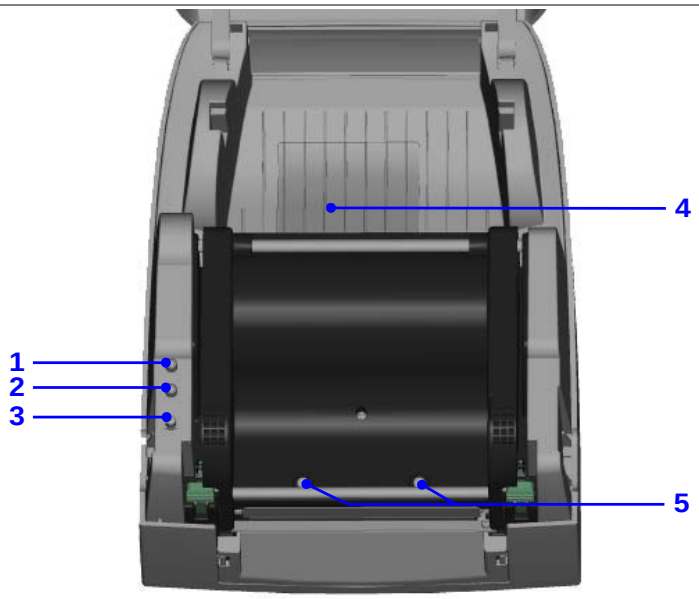
Connector Type : Type B

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

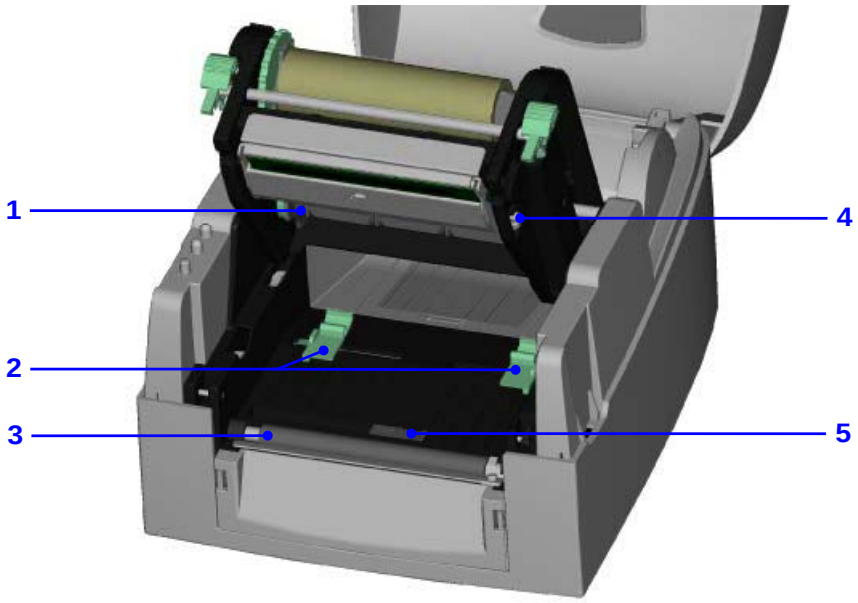
1-4. Printer Parts



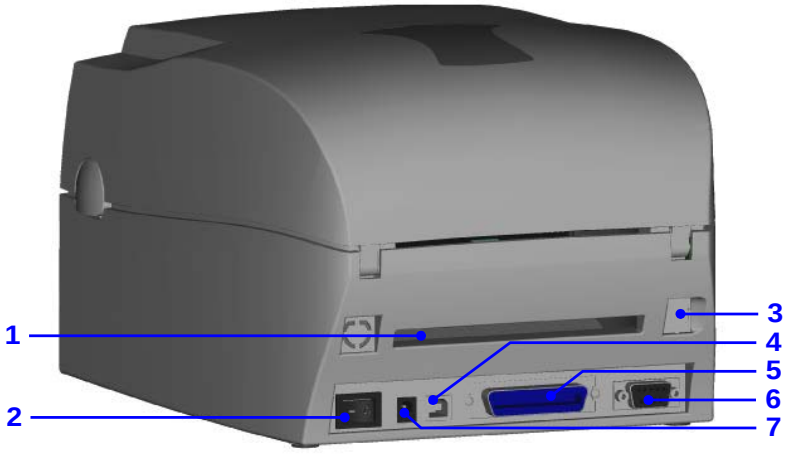
1.	Cover Open Button
2.	Top Cover
3.	Label Roll Core
4.	Ribbon Rewind Wheel
5.	Print Mechanism
6.	Ribbon Rewind Shaft + Empty Ribbon Roll
7.	Locking Tenon (left/right)
8.	Front Cover Piece



1.	LED Light (Ready)
2.	LED Light (Status)
3.	FEED Key
4.	CF Card Slot Cover
5.	Print Head Pressure Adjustment Screw (left/right)



1.	Ribbon Supply Shaft
2.	Label Guide
3.	Platen Roller
4.	Print Line Adjustment Gear
5.	Label Sensor



1.	Fan-Fold Label Insert
2.	Power Switch
3.	Ethernet Socket (Option)
4.	USB Port
5.	Parallel Port
6.	Serial Port (RS-232)
7.	Power Socket

* The communication ports may vary depending on product types.

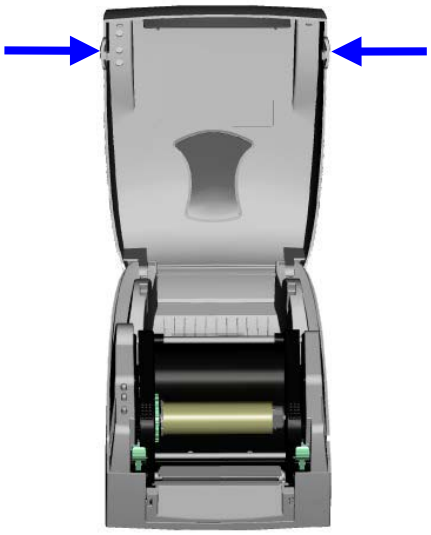
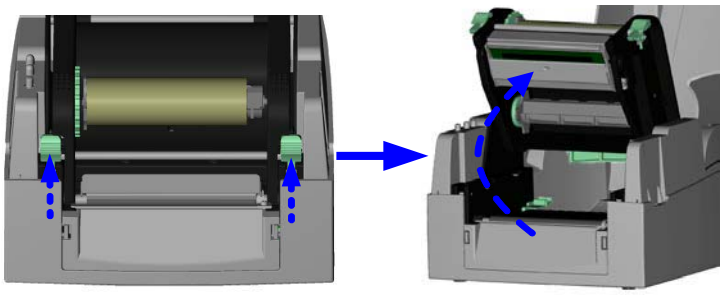
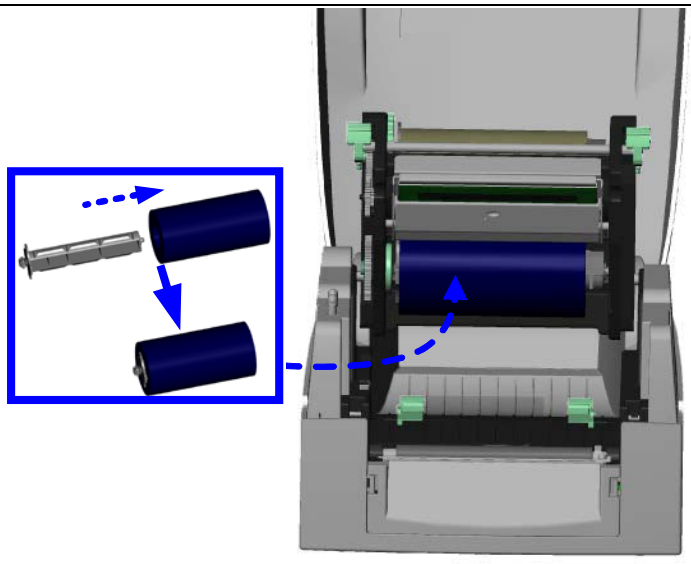
2. Printer Installation

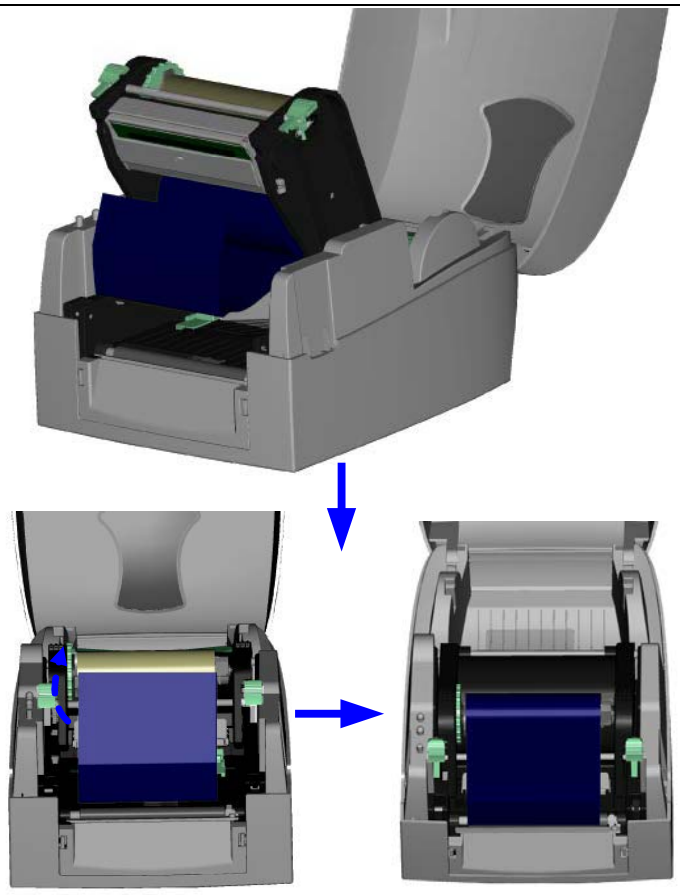
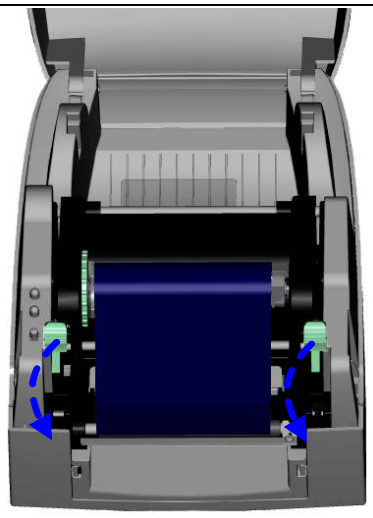
This printer model has the following print modes:

Thermal Transfer (TT)	When printing, ribbon must be installed to transfer the print contents onto the media.
Direct Thermal (DT)	When printing, no ribbon is necessary; it only requires direct thermal media.

Please check which print mode you will use and then go into the Setting Mode to change the print mode setting if necessary.

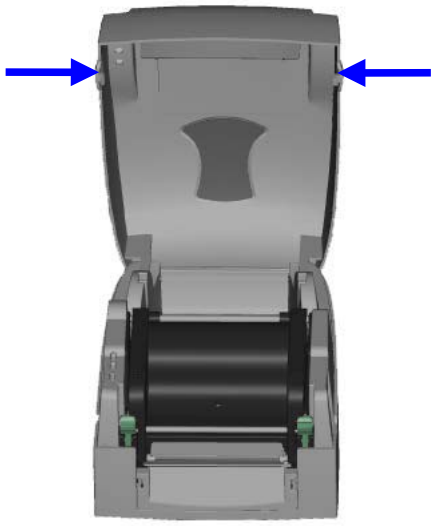
2-1. Ribbon Installation

1. Place the printer on a horizontal surface, and open the top cover by pressing the Cover Open Buttons on both sides.	
2. Loosen and then lift the upper print mechanism by pressing the locking tenons.	
3. Place a new ribbon roll onto the ribbon supply shaft.	

4. Feed the ribbon from the Ribbon Supply Shaft under the Print Head. 5. Wrap the ribbon around the Ribbon Shaft and stick the ribbon onto the Empty Ribbon Roll Core.	
6. Firmly close the upper print mechanism.	

2-2. Label Installation

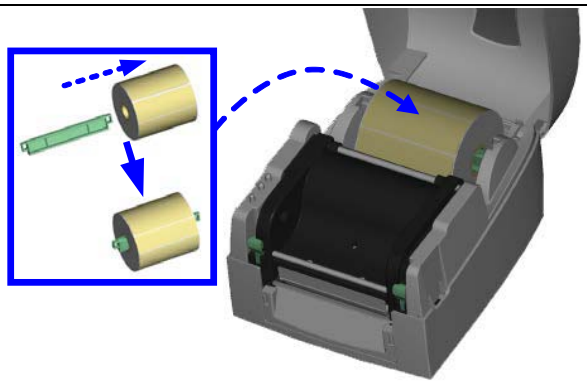
1. Open the top cover by pressing the Cover Open Buttons on both sides.



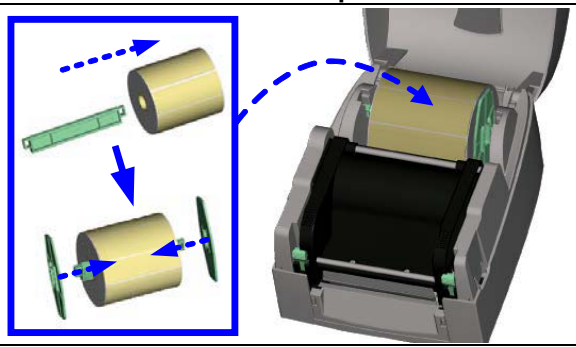
2. Insert the Label Roll Core into the label roll and then place it into the printer.

3. If it's necessary, you can also assemble the Label Stop Plates on both sides of label roll.

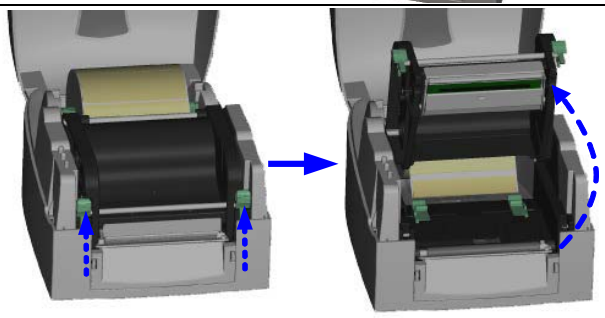
Without Label Stop Plate

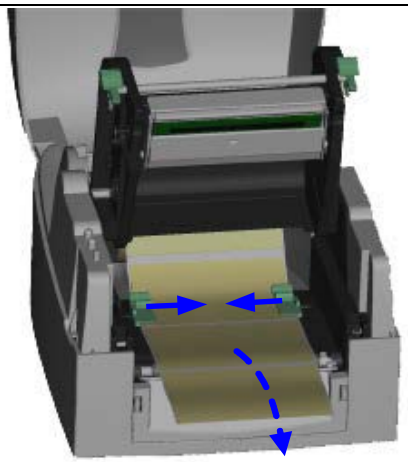
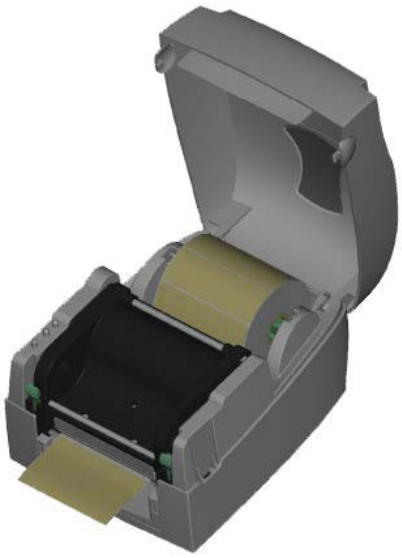


With Label Stop Plate

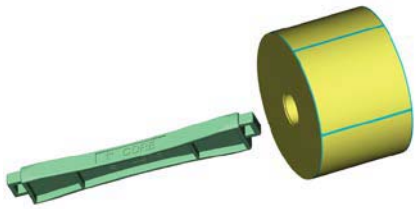
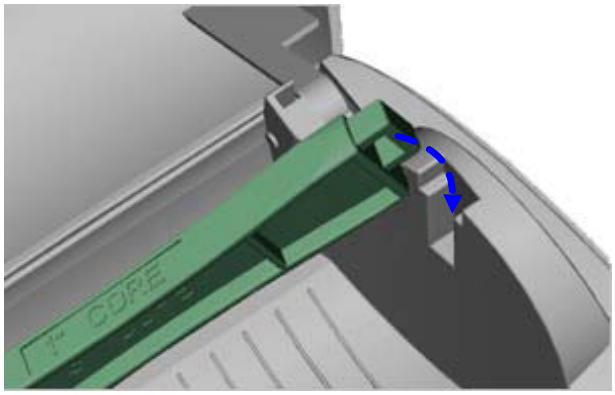
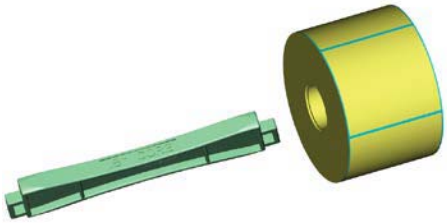
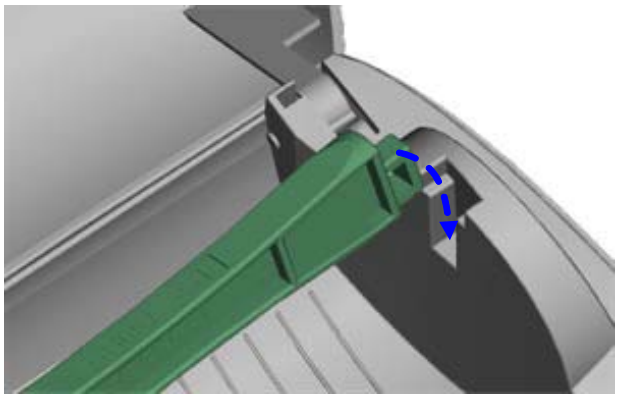
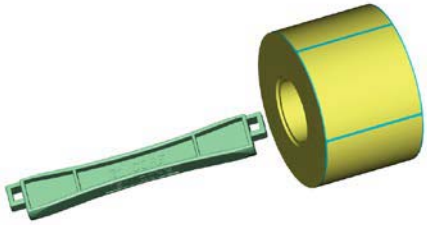
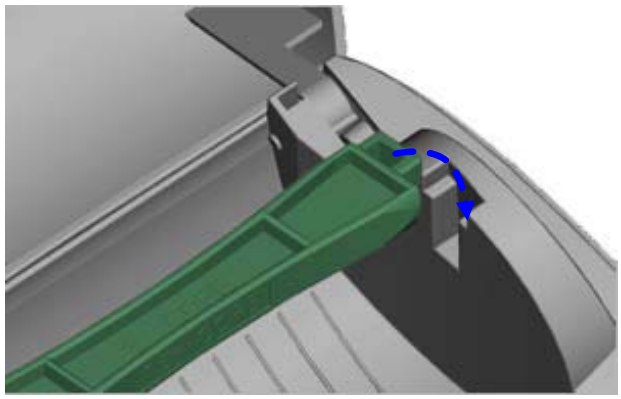


4. Loosen and lift the upper print mechanism by pressing the locking tenons.



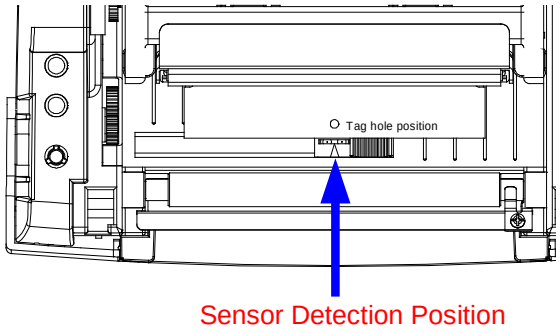
5. Feed the label through the two Label Guides to the Tear-off Bar. 6. Align the label guides to the label edge.	
7. Close the upper print mechanism from the top to finish label installation.	

2-3. Label Roll Core Installation Instruction

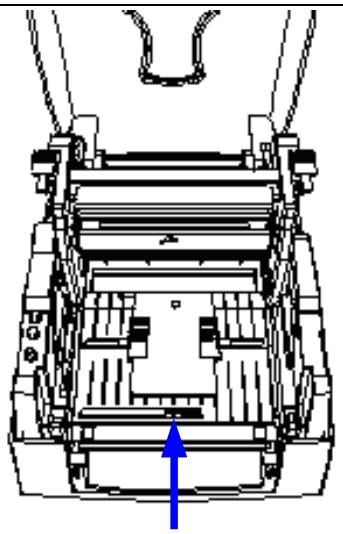
(A) 1” roll core installation 	
(B) 1.5” roll core installation 	
(C) 3” roll core installation 	

2-4. Card / Hang tags Installation

When installing cord tags, the tag hole must align with the sensor arrow (as indicated in figure), then use the Label Guide to secure the tags.



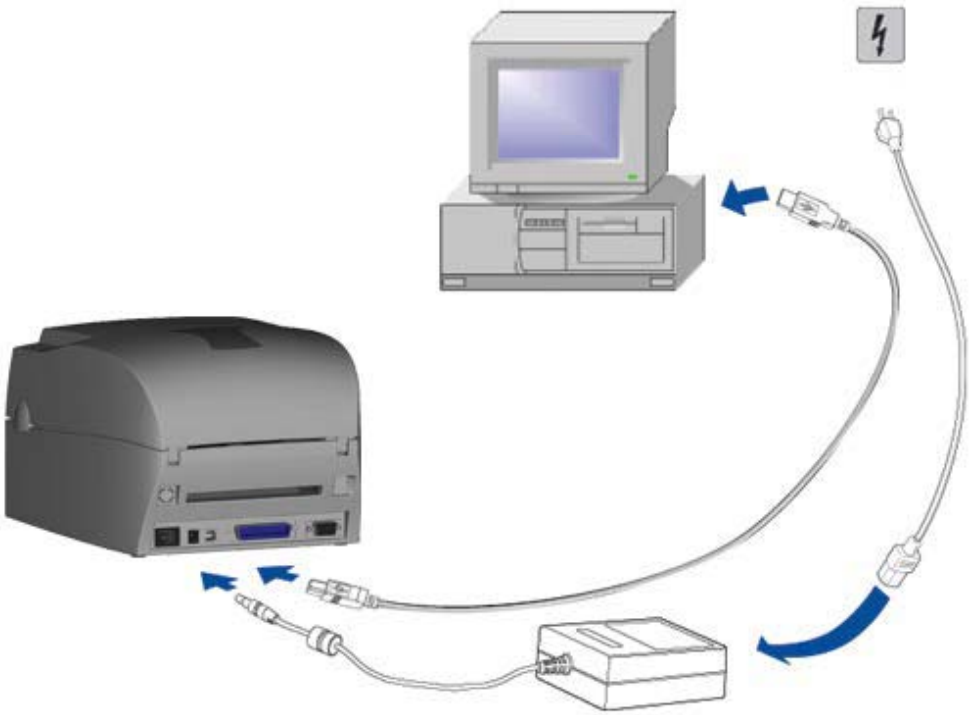
Sensor Detection Position



Sensor

2-5. PC Connection

1. Please make sure the printer is powered off.
2. Take the power cable, plug the cable switch to the power socket, and then connect the other end of the cable to the printer power socket.
3. Connect the cable to the USB/parallel port on the printer and on the PC.
4. Power on the PC and the printer and the printer's LED light will shine.



3. Printer Setting

3-1. FEED Key

After pressing the FEED key, printer will feed the media (according to media type) to the specified stop position. When printing with continuous media, pressing the FEED key will feed the media out to a certain length. When printing with labels, the printer will feed one label each time the FEED key is pressed. If the label is not sent out in a correct position, please proceed with the Auto Sensing (see next section).

3-2. LED Status

Press and hold the FEED key then power on the printer. Wait for the LED light flashing red and then release the FEED key, the printer will enter into Auto Sensing Mode to do the calibration. A Self-Test page will be printed out automatically after the calibration is completed. Below are the sequence and the description of two modes:

LED Light		Beep	Status	Description
READY	Green	X	**Normal status**	Normal status
STATUS	X			
Press and hold the FEED Key then power on the printer. ↓				
READY	Red (Flash)	3	**Auto Sensing Mode**	Printers are currently in Auto Sensing Mode. The calibration will be performed and a Self-Test page will be printed out to show the configurations of printer. For more detail about Auto Sensing Mode, please refer to next section. For the descriptions of Self-Test page please refer to page 17.
STATUS	Orange			

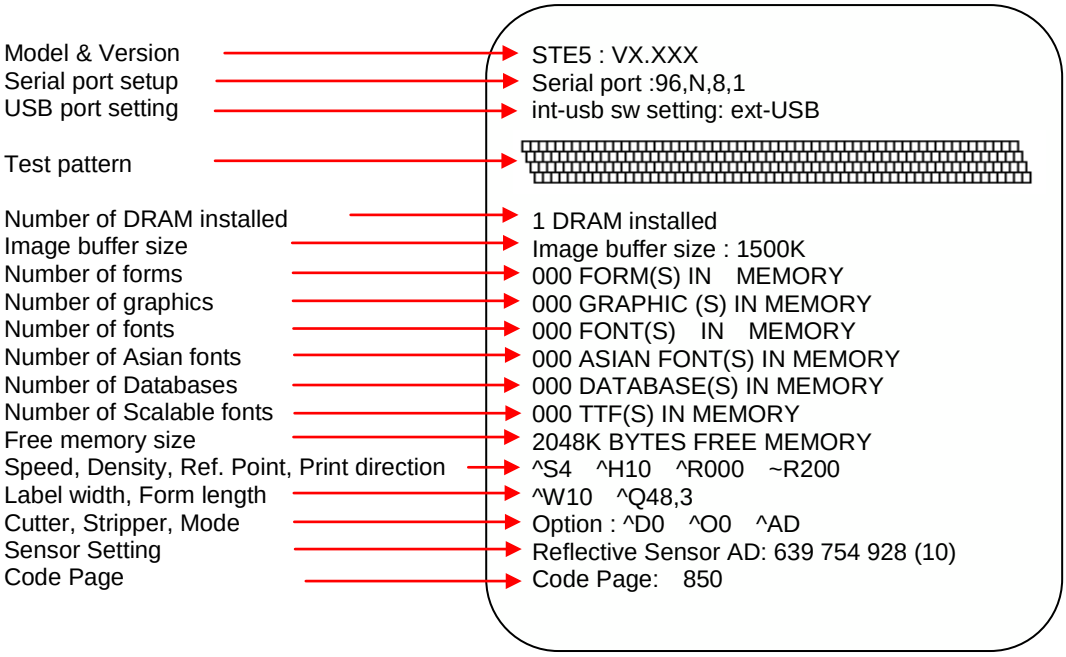
3-3. Auto Sensing

Printer can automatically detect the label and store the result of detecting. By doing this, the printer will calibrate the printing position of the label and the user can do printing without setting the label length. To perform the Auto Sensing, please do as follows:

1. Check if the label is correctly loaded on the printer.
2. Power off the printer, press and hold the FEED key.
3. Power on the printer while still holding the FEED key. Keep holding the FEED key, wait for the LED light turn to flash red and then release the FEED key. Printer will automatically detect the label and record it.
4. A Self-Test page will be printed out after Auto Sensing is completed and the printer goes back to standby mode.

3-4. Self-Test page

The Self-Test page helps user to figure out whether the printer is operating normally. Below are some general descriptions about the content of Self-Test page:



3-5. Error Messages

LED Light		Beep	Description	Solution
Ready	**Status**			
	Red	4 beeps twice	Print head is not firmly closed.	Re-open the print head and make sure it closes tightly.
Red (Flash)	Red (Flash)	None	The temperature of print head is too high.	Wait for the print head temperature drops to the normal temperature range, printer will go back to the standby mode and the LED light will stop flashing.
	Red	3 beeps twice	Ribbon is not installed, and printer shows error message.	Make sure the printer is in the Direct Thermal mode.
			Ribbon is used up or ribbon supply shaft is not moving.	Replace with new ribbon roll.
	Red	2 beeps twice	Unable to detect paper.	Make sure the movable sensor mark is at the correct position, if the sensor is still unable to detect paper, and then go through Auto Sensing again.
			Paper used up.	Replace with new label roll.
	Red	2 beeps twice	Abnormal paper feed.	Possible causes: card tags or paper fall into the gap behind the platen roller, can't find label gap/black mark, black mark paper out. Please adjust it according to actual usage.
	Red	2 beeps twice	Memory is full; printer will print out "Memory full."	Delete unnecessary data in the memory.
	Red	2 beeps twice	Can't find the file; printer will print out "Filename can not be found."	Use "~X4" command to print out all the files, and then check whether the file exist and the file name is correct.
	Red	2 beeps twice	File name is repeated; printer will print out "Filename is repeated."	Change the file name and download again.

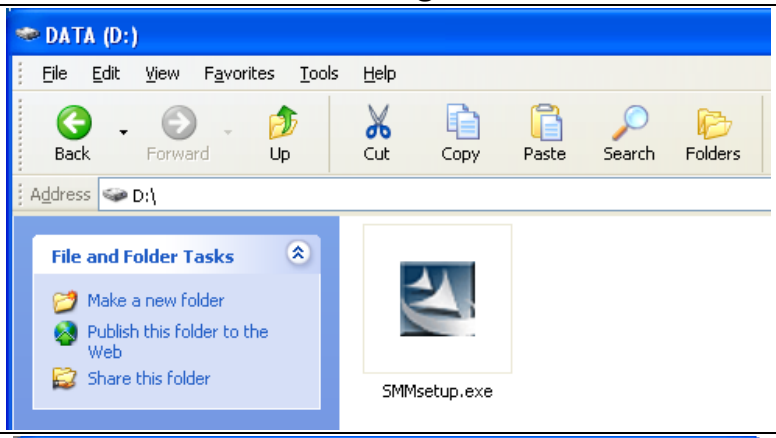
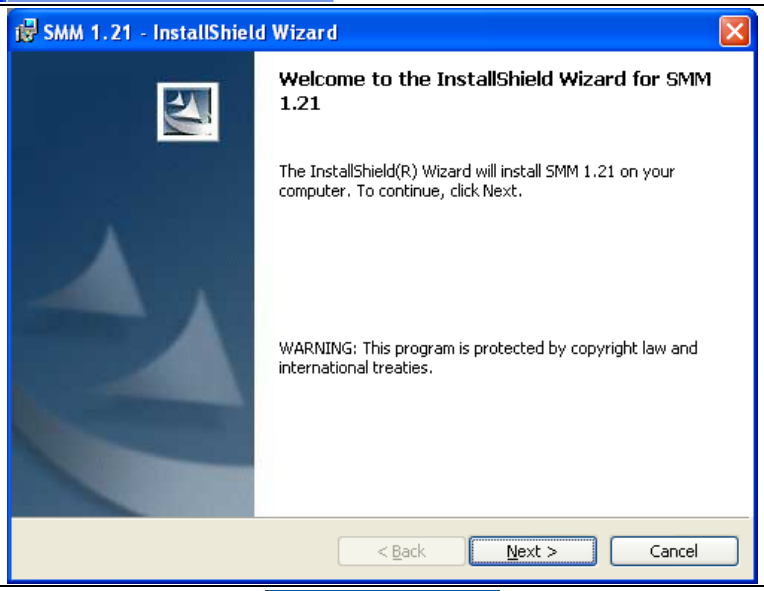
4. RFID Tag Encoding

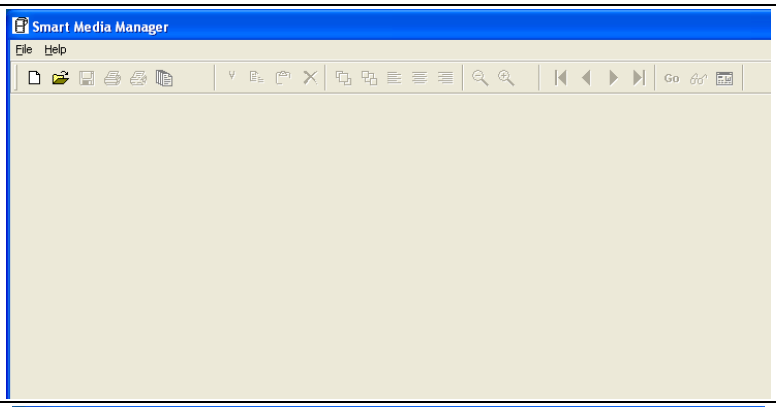
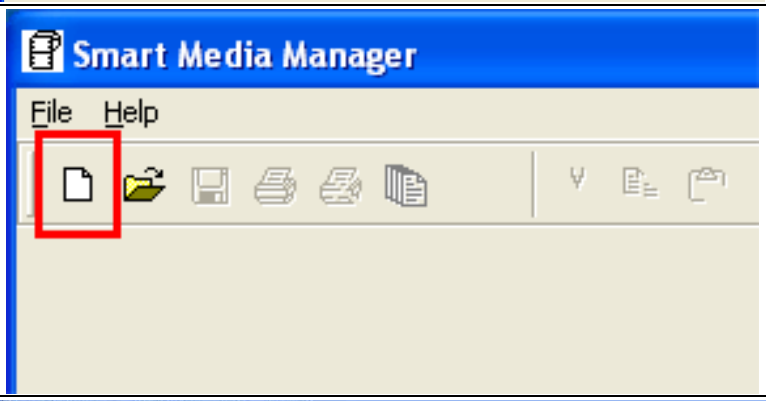
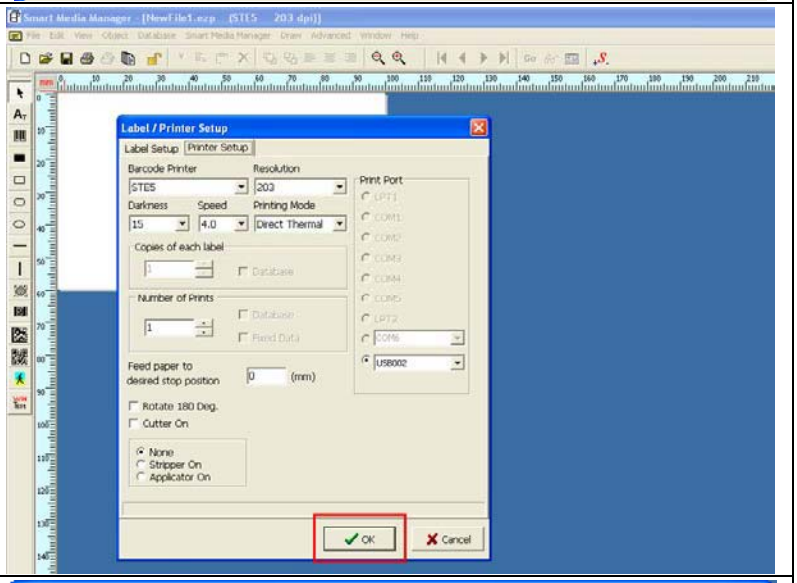
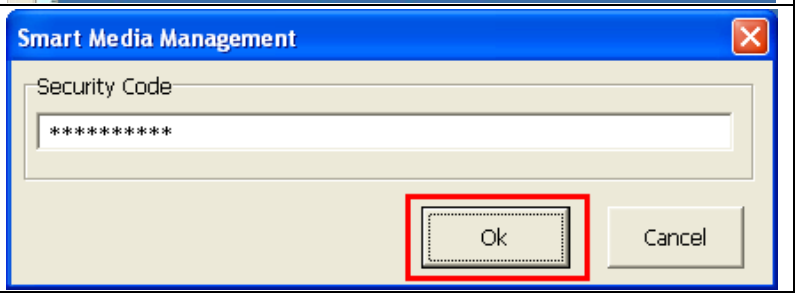
Before doing the RFID tag encoding, you should make sure below items are ready:

- A STE5 printer that has been connected to PC through USB port.
- The installation file of Smart Media Manager (SMM). You can get from the product CD.
- A security code of SMM, which you can get from Godex.
- The register file (with .LIC extension) of SMM. It should be provided by Godex, too.
- Smart Labels with RFID tag that has been registered by Godex.

To do the RFID tag encoding, you should register the SMM first and then perform the encoding and printing through the SMM. Please note that SMM is the only tool to make STE5 printing or encoding.

4-1. Install and Register Smart Media Manager

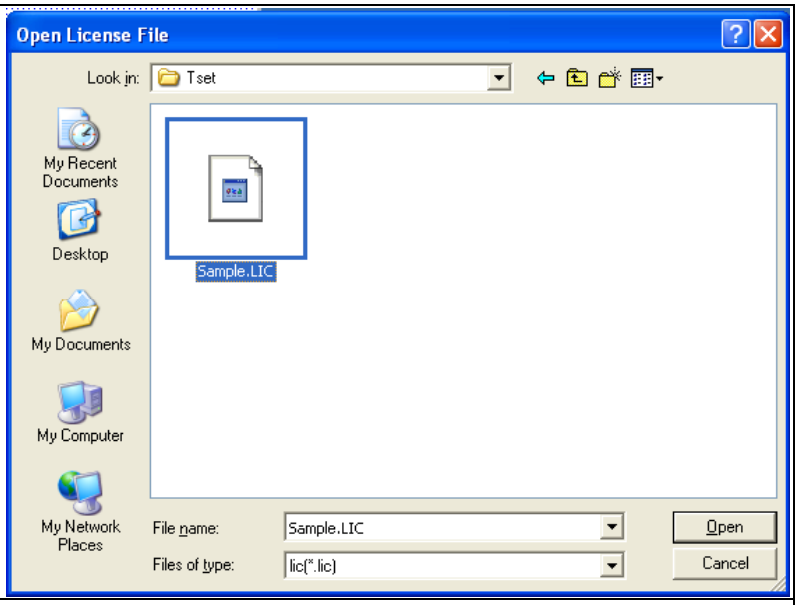
1. Insert the product CD into PC's optical driver. 2. On the user interface of product CD, click the installation link to start the installation. Or you can open the file directory of product CD and find the installation file icon as the figure showed.	
3. Follow the instruction of "Installation Wizard" to complete the installation.	
4. You can find SMM icon on PC's desktop after the installation is completed. To start the SMM, just double click the icon.	

5. Before running the SMM, please first connect the STE5 to PC through USB port and turn on the power. 6. Double click the SMM icon to start the program.	
7. Click the "New" icon on the up-left corner of program window to create a new label file.	
8. Complete label and printer settings and click the "OK" button. A pop-up window will be showed and ask you to enter the Security Code. *Note: please refer to "SMM Operation Manual" for more details about using and setting of SMM.	
9. Enter the Security Code on registration window and then click the "OK" button.	

10. If the Security Code is accepted, the program will then ask to check the register file. Please specify the file path of register file on the "Open License File" window.

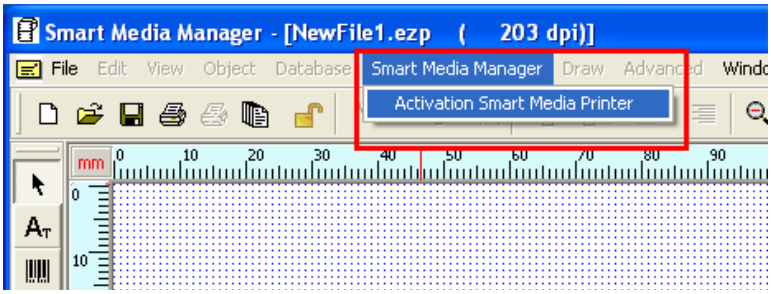
11. If the authorization of Security code and register is passed, then you can start to use SMM now.

【Note】
The Security Code and register file should be matched to each other and can't be used separately.



12. After SMM has been registered, you can start to register STE5 printer now.

13. Please open the registration window from SMM's menu bar and enter the same Security code to register STE5 printer.

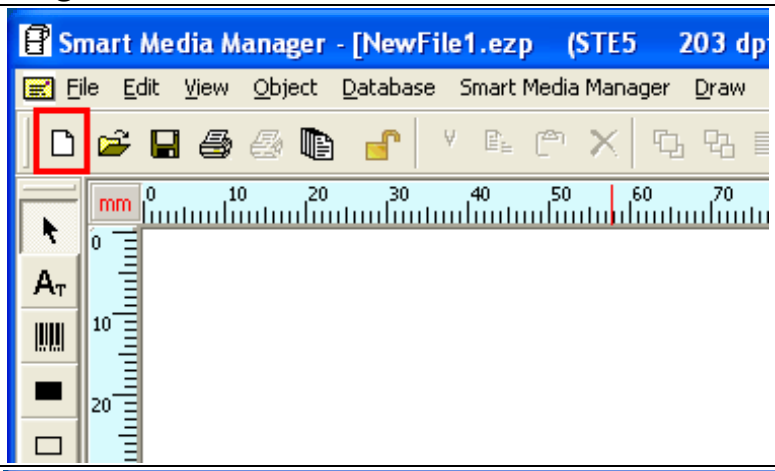


【Note】
1. All SMM functions will be disabled before the registration is completed.
2. For security reason, you still need to enter the Security Code every time when the SMM is started. However, the register file checking will be skipped after completed of first time registration.

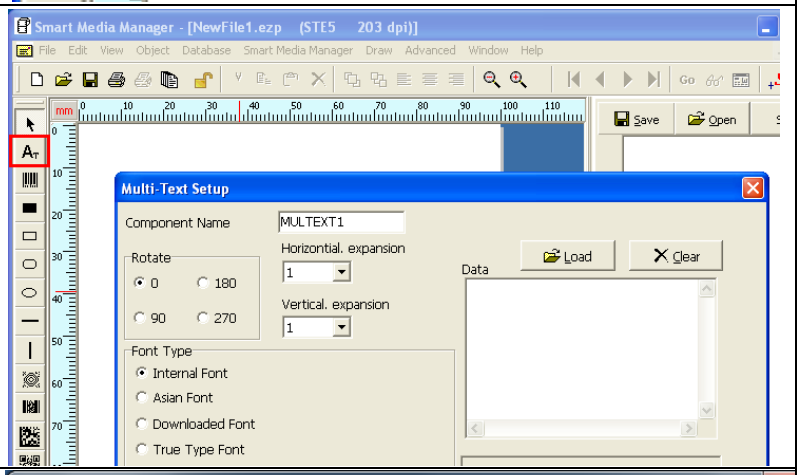
4-2. RFID Tag Encoding

1. Follow the instruction on "Chapter 2.2 Label Installation" to load the Smart Label properly on STE5.

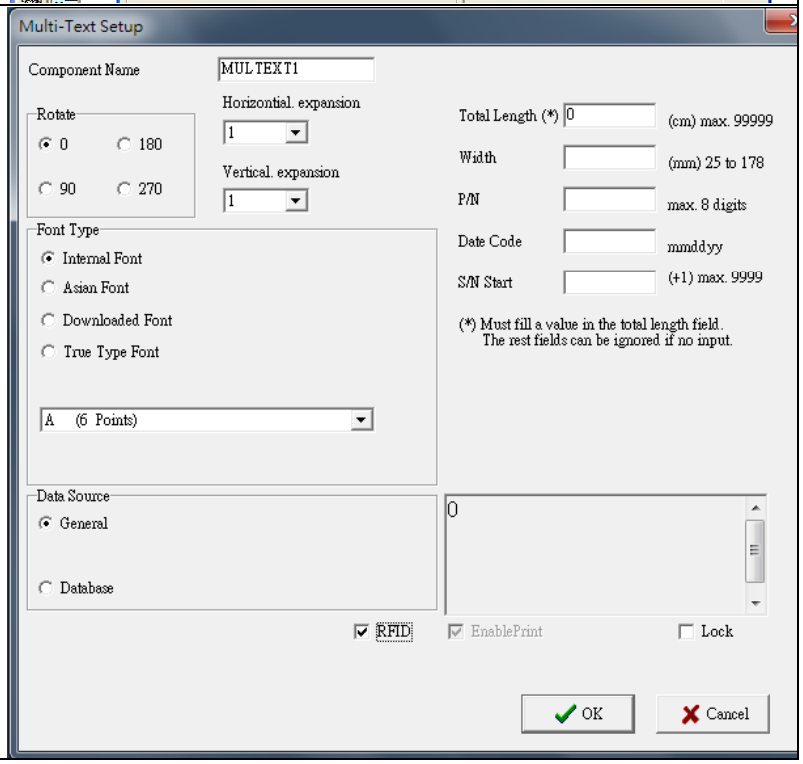
2. Press the "New Label" icon on SMM tool bar to start editing a new label.

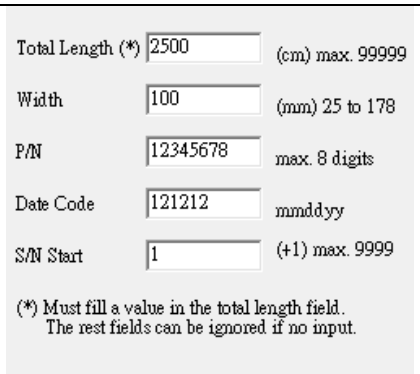
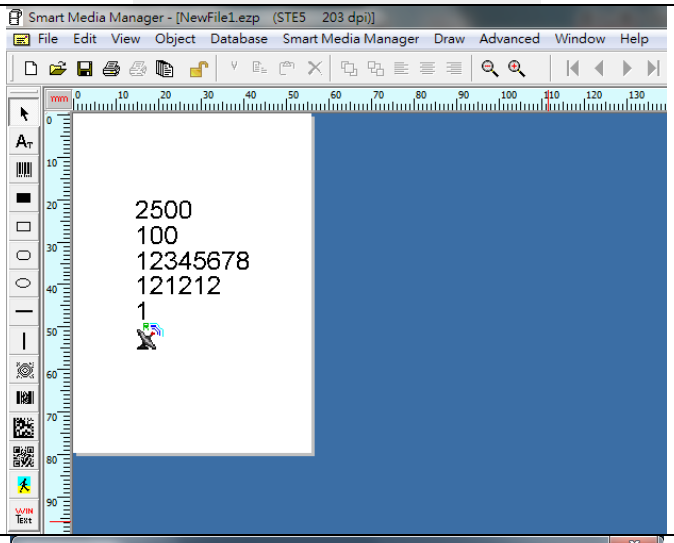
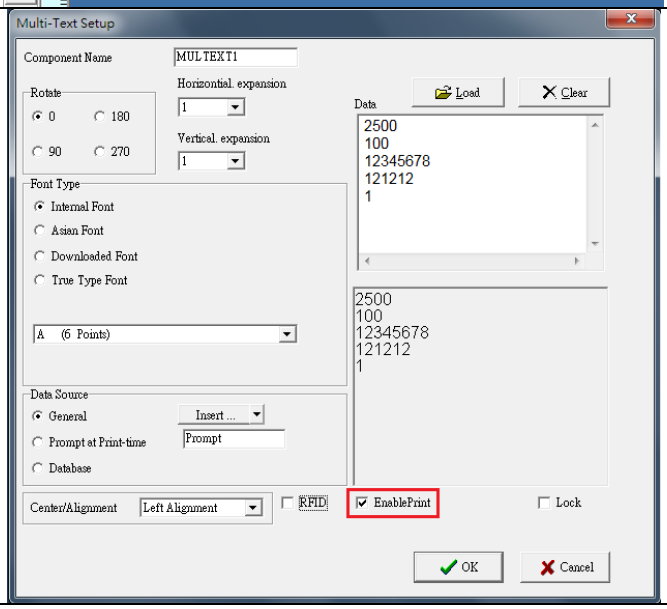


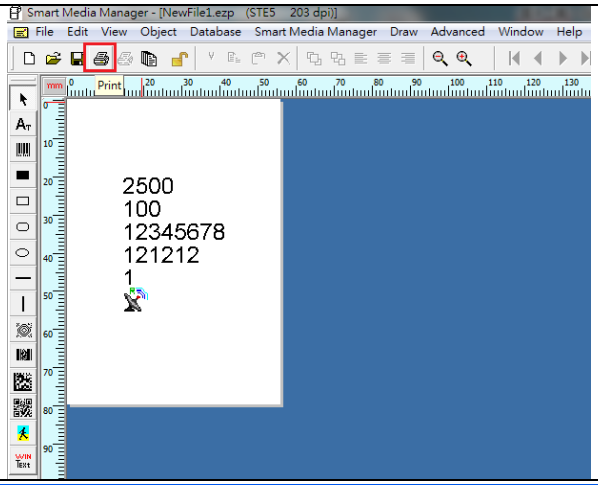
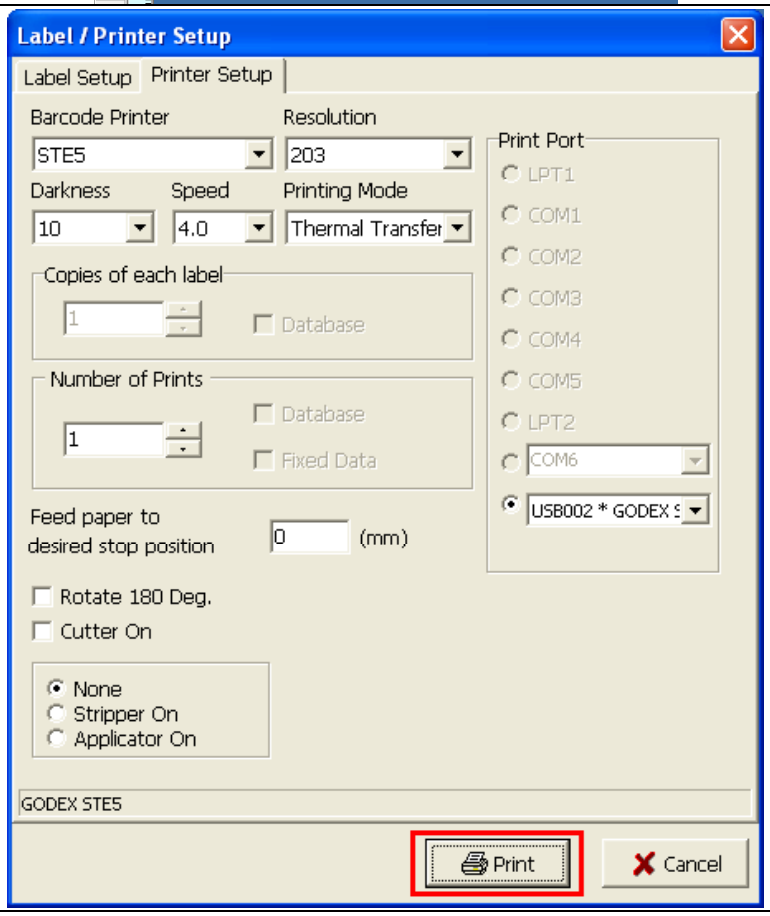
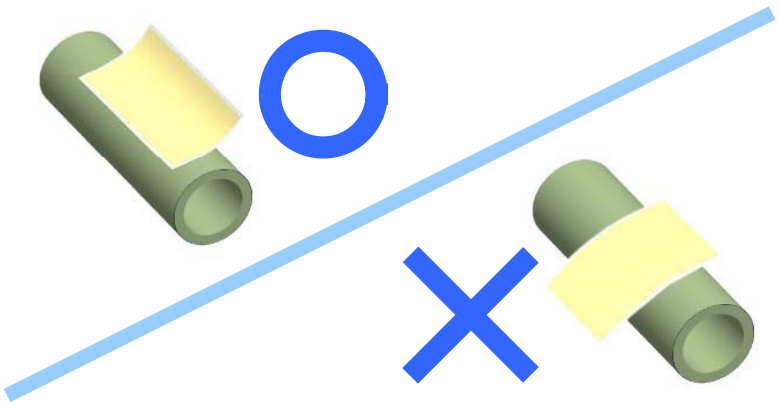
3. Press the "Printer Font A_T" icon on SMM tool bar, a Printer Font setting page will pop up.



4. Tick the "RFID" option on Printer Font setting page, then the Printer Font entry area will switch to RFID entry fields.



5. In RFID entry fields, you can put various ribbon / label configurations and encode the information into RFID tag.	
6. Press "OK" button on the Printer Font setting page when all RFID entry fields are filled. A RFID icon will appear on the label editing page to show the data content in RFID tag.	
7. If you need to print readable content with printer font on Smart Label, just tick the "Enable Print" option and fill in the content you want to print then press "OK" button.	

8. Press the "Printer" icon on SMM tool bar to enter Label / Printer Setup page after RFID tag and label editing are completed.	
9. On Label / Printer Setup page, you can change label and printer settings accordingly. Press the "Print" button and the printer will encode RFID tag and print out readable content at the same time.	
10. When sticking a programmed Smart Label on a new label core, the Smart Label should be parallel to the label core as the figure showed.	

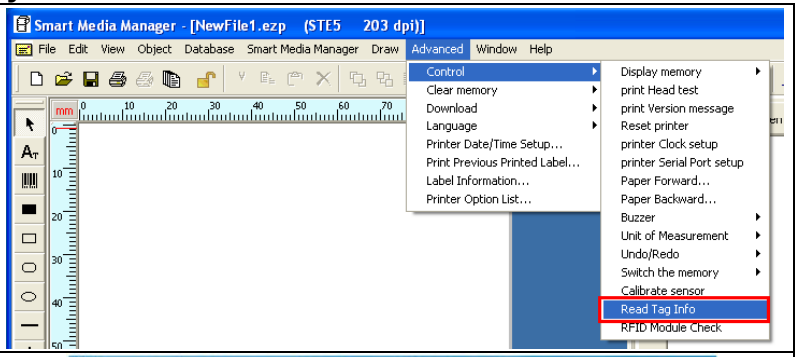
4-3. RFID Utilities

SMM also provides two other RFID utilities to help user to check the status of RFID tag and RFID module. The "RFID tag reading utility" can read the information in the RFID tag and the "RFID module testing utility" will check if the module still works properly.

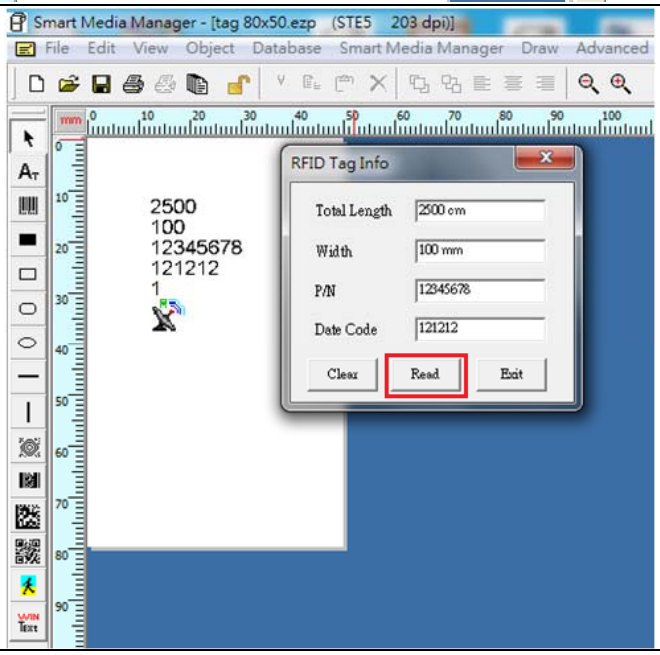
RFID tag Reading Utility

1. Load the Smart Label properly on STE5.

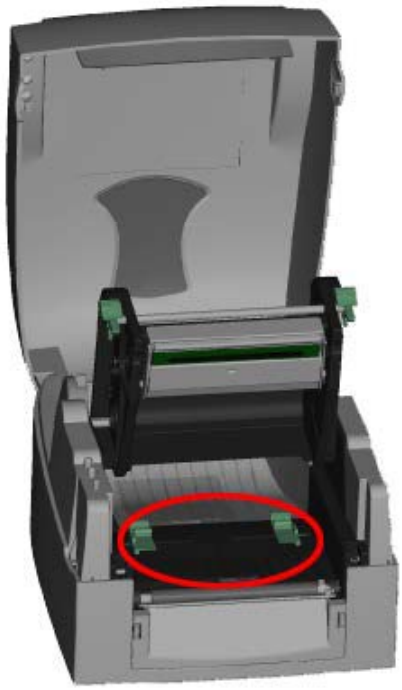
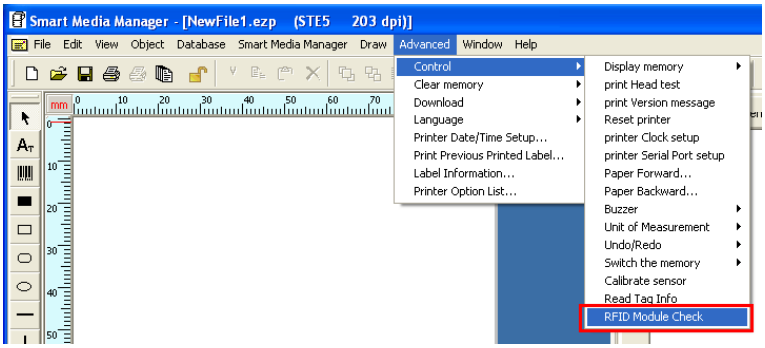
2. Select the "Read Tag Infor" function from advanced functions on SMM.



3. Press the "Read" button on the bottom of "RFID Tag Info" display page. The printer will start to read the data that has been encoded in RFID tag and list the data on corresponding data fields. Hence you can use this function to check the correctness of encoded data.



RFID Module Testing Utility

1. Connect the STE5 to PC and make sure it is on standby mode. Open the top cover and printing mechanism of printer. 2. Put a Smart Label on the place that is marked with red circle in figure. This is the place where the RFID module is embedded.	
3. Select the "RFID Module Check" function from advanced functions on SMM. The printer will then keep beeping if RFID module works well. 4. To leave from RFID Module Checking mode, jut press the FEED key on printer.	

4-4. RFID Messages

During the process of RFID functions, there may be some popup windows to show various messages. Below are some general descriptions of these messages.

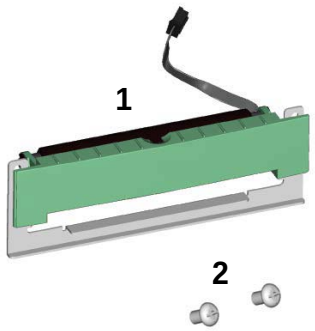
	Content of message	Description or Solution
When registering the printer	"Register Successfully"	The printer is registered successfully.
	"Register Fail"	The registration is failed. It maybe because of wrong Security Code input. Please make sure the Security Code is correct and try again.
	"This printer has registered"	The printer has been registered before. There is no necessary to register again.
When encoding the RFID tag	"Tag Invalid!"	The message will appear when encoding with RFID tag which is not provided by Godex. Please change to right one.
	"Communication Fail"	There may be some problems on data transmission between printer and PC. Please make sure the printer is connected with PC through USB port.
	the message "FAIL" is printed out on Smart Label	The process of RFID encoding failed because error occurred. The printer will try to encode again on next Smart Label.
When reading the RFID tag	"No Tag"	The printer cannot read the RFID tag because there is no RFID tag or the RFID tag is not loaded correctly.
	"No Data in Tag"	There is no data in RFID tag.
	"Read Fail"	Error occurred when reading RFID tag. Load the Smart Label correctly and try to read again. If it keeps happen, the RFID tag maybe broken.

5. Accessory

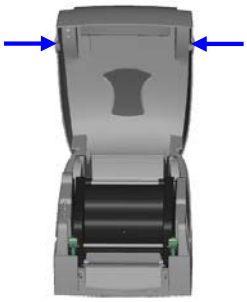
5-1. Stripper Module Installation

1	Stripper Module
2	Screw (TAP 3*8) x 2pcs

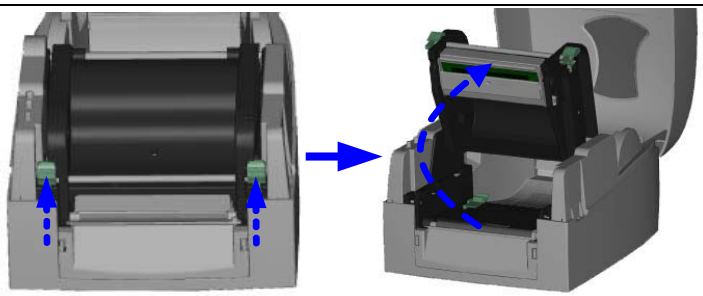
【Note1】 Please power off the printer before installing the stripper module.
【Note2】 Label liner thickness is recommended to be 0.06mm ± 10% with basic weight 65g/㎡± 6%.
【Note3】The max width for stripper is 110mm



1. Open the top cover by pressing the Cover Open Buttons on both sides.

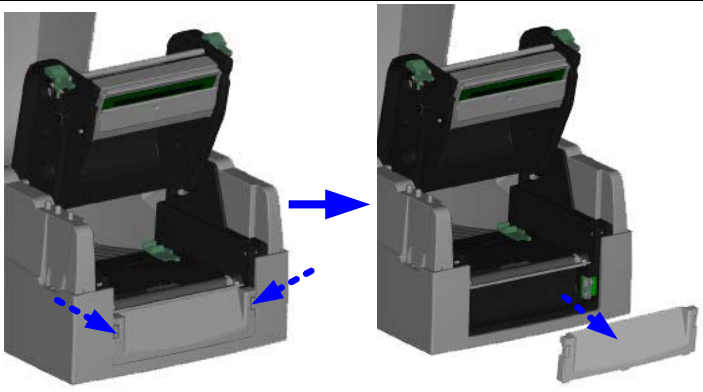


2. Loosen and then lift the upper print mechanism by pressing the locking tenons.



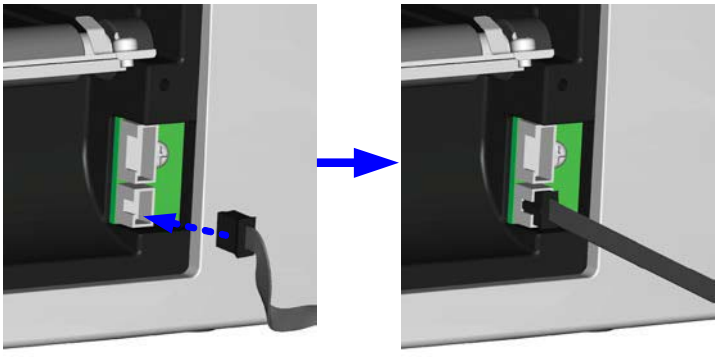
3. Unlock the front cover piece by pushing locks inward.

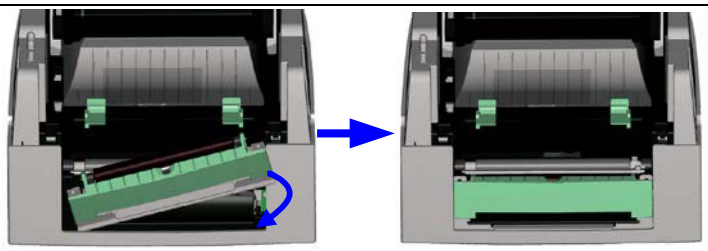
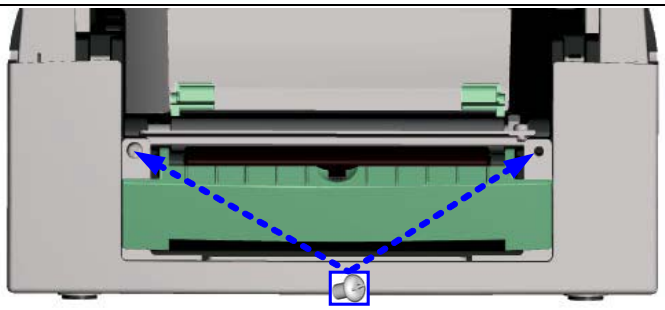
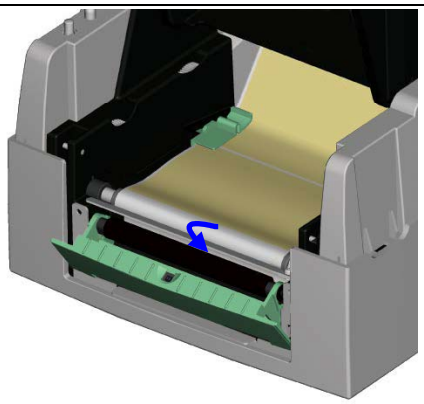
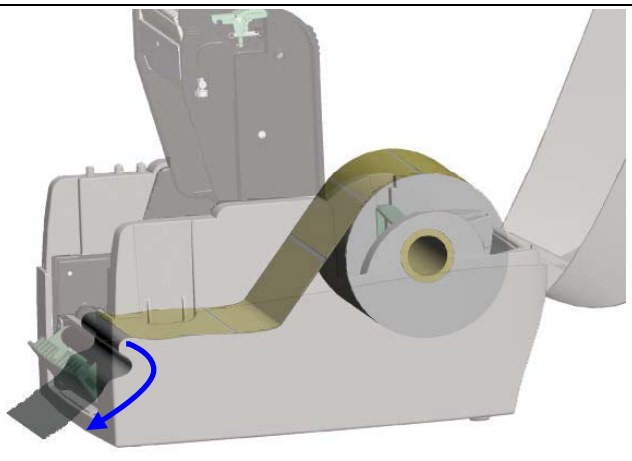
4. Lift/take off the front cover piece according to the direction shown in the figure.

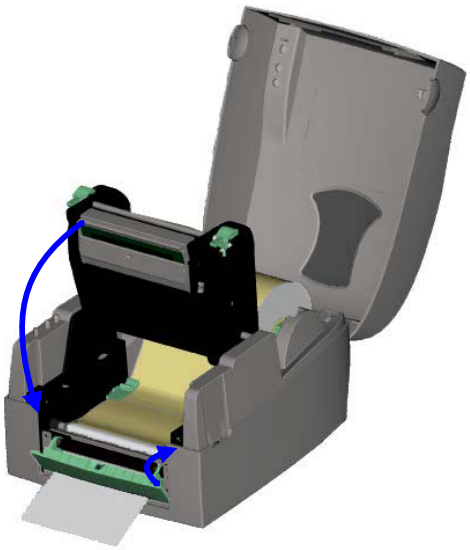


5. Plug in the stripper connector onto the switchboard socket. (refer to right figure)

【Note】
There are 2 sockets on the converting boards (one is for stripper installation, and another one is for cutter), before plug the connector into socket, please check the pin first.



6. Place the left side of the stripper first, and then fit the right side.	
7. Hold the stripper module and tighten the screws.	
8. Feed the label through the Label Guides. *【Note】The label / paper used for stripper is suggested to be at least 25mm in height.* *【Suggestion】When printing with stripper module, it is suggested to set the stop position (^E) to 9.*	
9. Peel off the first label, and feed the liner through the roller and the Tear-off Bar.	
10. Follow the direction as shown in figure to feed the liner across the stripper.	

11. Close the upper print mechanism and the stripper.	
12. Press the FEED key to adjust the position of label and complete the installation.	

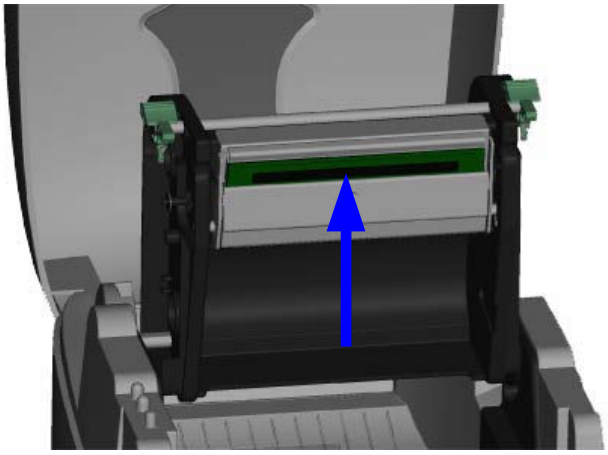
6. Maintenance and Adjustment

6-1. Thermal Print Head Cleaning

Unclear printouts may be caused by dusty print head or label liner glue. Therefore, it's necessary to keep the top cover closed when printing. Also, check and prevent paper/label from being stained or dusty to ensure print quality and to prolong the print head life. Print head cleaning instructions are as follows:

1. Power-off the printer.
2. Open the top cover.
3. Open the print head by pressing the locking tenons.
4. If on the print head (see blue arrow) there's label pieces or other stain, please use a soft cloth with industrial use alcohol to wipe away the stain.

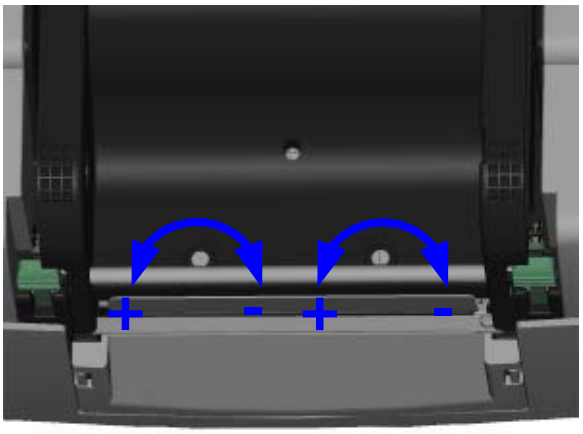
【Note1】
Weekly cleaning on the print head is recommended.
【Note2】
When cleaning the print head with soft cloth, make sure there is no any metal or hard particles attached on it.



6-2. Thermal Print Head Balance Adjustment

When printing with different label materials, unbalanced print quality may occur due to the material differences of media, thus it's necessary to adjust the Thermal Print Head pressure.

1. Open the top cover.
2. Turning the print head adjustment screws slightly by screwdriver to increase or decrease print head pressure.

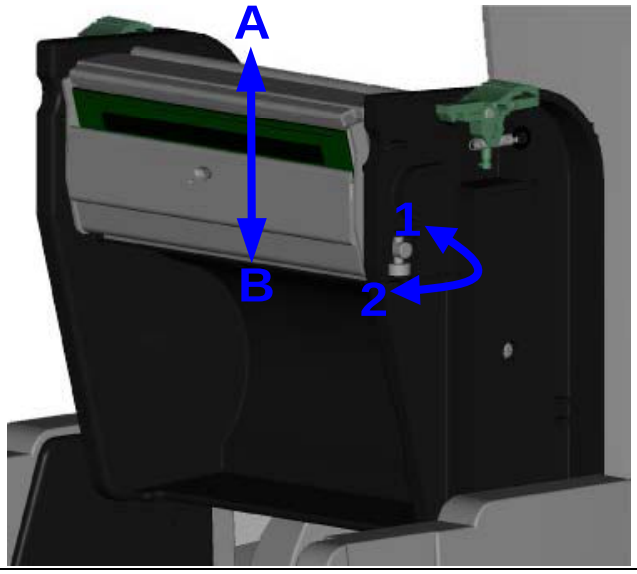


6-3. Print Line Adjustment

To get better printing balance and quality, use print head adjusting gear to adjust the contacting surface between print head and label.

1. When turning print head adjusting gear counter-clockwise (as arrow 1 shows), print head would move in the direction where arrow A shows.

2. When turning print head adjusting gear clockwise (as arrow 2 shows), print head would move in the direction where arrow B shows.



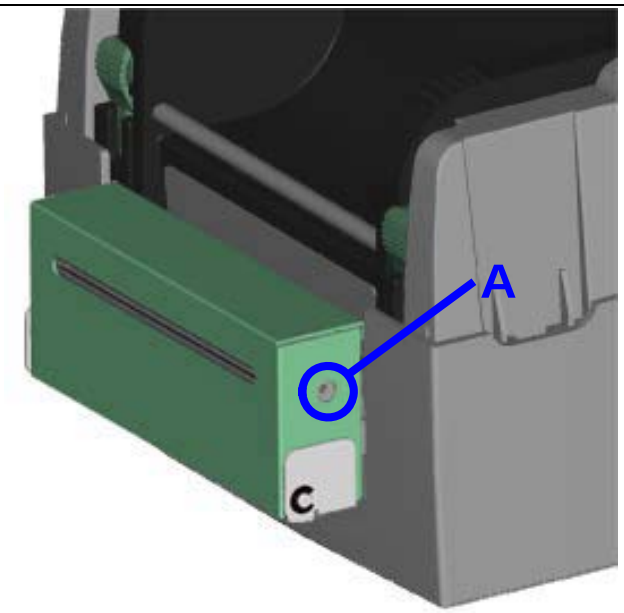
6-4. Adjust the cutter

1. A cutter-adjusting hole is present on the side of cutter (where A is pointing to).

2. The cutter will not work properly if there is a paper jam. Turn the power off and use a #M3 hexagon wrench inserted into hole “A”, and then turn it counter-clockwise.

3. Power on the printer after clearing the paper jam, the cutter will reset automatically.

【Note】
The label / paper used for cutting is suggested to be at least 30mm in height.



6-5. Troubleshooting

Problem	Recommended Solution
Power on the printer, but the LED does not light up	♦ Check the power connector
LED light turns red (power/status) after printing stops	♦ Check for software setting or program command errors ♦ Replace with suitable label or ribbon ♦ Check if label or ribbon is all out ♦ Check if label is jammed/tangled up ♦ Check if printing mechanism is not closed (Thermal Print Head not positioned correctly) ♦ Check if sensor is blocked by paper/label ♦ Check for abnormal cutter function or of no actions (if cutter is installed)
Printing started, but nothing was printed on the label	♦ Check if label is placed upside down or if label is not suitable for the application ♦ Select the correct printer driver ♦ Select the correct label and print type
When printing, label is jammed/tangled up	♦ Clean the label jam, and if label is stuck on Thermal Print Head, please remove it by using soft cloth with alcohol.
When printing, only part of the contents were printed	♦ Check if label or ribbon is stuck on the Thermal Print Head ♦ Check if application software has errors ♦ Check if start position setting has errors ♦ Check if ribbon has wrinkles ♦ Check if ribbon supply shaft is creating friction with the platen roller. If the platen roller needs to be replaced, please contact your reseller for more information ♦ Check if power supply is correct
When printing, part of the label wasn't printed completely	♦ Check if Thermal Print Head is stained or dusted ♦ Use internal command "~T" to check Thermal Print Head can print completely ♦ Check the media quality
Printout not in desired position	♦ Check if sensor is covered by paper or dust ♦ Check if liner is suitable for use, please contact reseller for more information ♦ Check if label roll edge is aligned with Label Width Guide
When printing, page skipping occurs	♦ Check if error occurs on label height setting ♦ Check is sensor is covered by dust
Unclear printout	♦ Check print darkness setting ♦ Check if Thermal Print Head is covered with glue or stain
When using cutter, label wasn't cut straight	♦ Check if label is set up straight
When using cutter, label wasn't cut successfully	♦ Check whether label thickness exceeds 0.2mm
When using cutter, label couldn't feed or abnormal cutting occurs	♦ Check if cutter is installed properly ♦ Check if Paper Feed Rods are sticky
When using stripper, abnormal function occurs	♦ Check if stripper sensor is covered with dust ♦ Check if label is installed properly

【Note】

Your dealer is knowledgeable about printers, printing software, and your unique system. Please contact your local dealer for further technical support.

FCC Statement : FCC ID:WD6STE5

Federal Communication Commission Interference Statement

This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

FCC Caution: Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.