Wasp 610/608 Barcode Printer
User's Manual
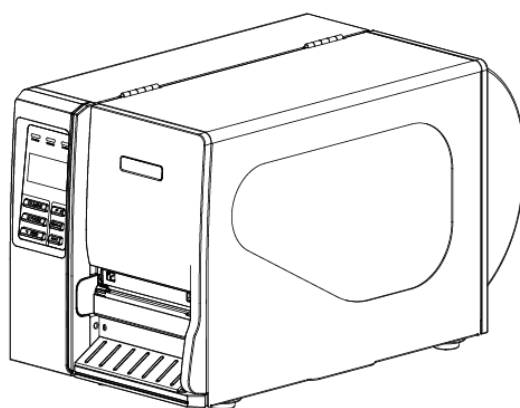
Contents

1. Introduction

1.1 Product Introduction

Congratulations on your purchase of a 610/608 barcode printer.   This durable printer has a die-cast aluminum chassis and print mechanism and a metal cover featuring a large clear media view window. These features ensure your new printer will perform even in industrial environments and applications.

The back-lit graphic LCD display, makes management and operation of the printer status features easy and user-friendly. The moveable sensor design can accept a wide range of label media and all of the most frequently used bar code formats are included. Fonts and bar codes can be printed in four directions. This printer includes the high quality, high performance MONOTYPE IMAGING® True Type font engine and one CG Triumvirate Bold Condensed smooth font. With a flexible firmware design, the user can also download any True Type Font from a PC into the printer memory for printing labels. Besides the scalable fonts, it also provides a choice of five different sizes of alphanumeric bitmap font, OCR-A and OCR-B fonts.

1.2 Compliances

CE Class A:
EN55022:1998+A1:2000+A2:2003:
EN55024:1998+A1:2001+A2:2003:
EN 61000-4 SERIES REQULATIONS
ETSI EN 301 489-17:V1.2.1(2002-08)
FCC:
CFR 47, Part 15/CISPR 22 3RD EDITION:1997, Class A

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.

ANSI C63.4:2003
CANADIAN ICES-003
C-Tick:
AS/NZS CISPR22 (Class A)
UL, CUL
UL 60950 3rd

TÜV-GS:

EN60950: 2000

Important Safety Warnings

1.Please read this reference manual carefully.

2.Keep these safety recommendations for later reference.

3.Before cleaning the printer, disconnect it from the power source.   Do not use abrasive or aerosol cleaners.   A damp cloth is recommended for cleaning.

4.The printer should be located near the power source and the power source should be easily accessible.

5.The printer and accessories should be protected from humidity.

6.Use caution when moving the printer.   Tilting or dropping this equipment could damage it.

7. Pay attention when plugging the unit into the wall outlet as high voltage is involved.

8. The printer should not be stored where temperatures exceed 104 degrees Fahrenheit.

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

2. Operations Overview

2.1 Unpacking and Inspection

This printer has been specially packaged to withstand damage during shipping.   Carefully inspect the packaging and printer upon receiving the bar code printer. Retain the packaging materials in case you need to reship the printer.

The following items are included in the printer packaging.

- One printer unit
- One Windows labeling software/Windows driver CD disk
- One quick installation guide
- One power cord
- One USB interface cable
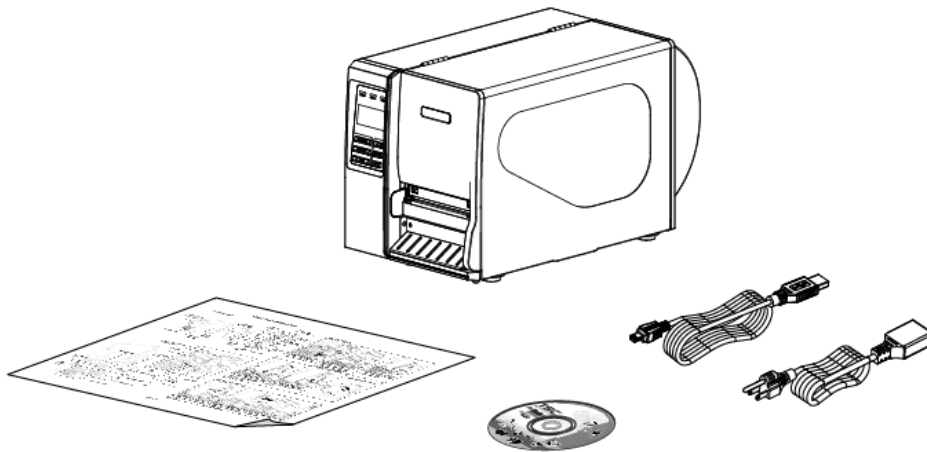
If any parts are missing, please contact Wasp Customer Service.

2.2 Printer Overview

2.2.1 Front View

1. LED indicators
2. LCD display
3. Front panel buttons
4. Paper exit chute
5. Lower front cover
6. Printer right side cover

2.2.2 Interior view
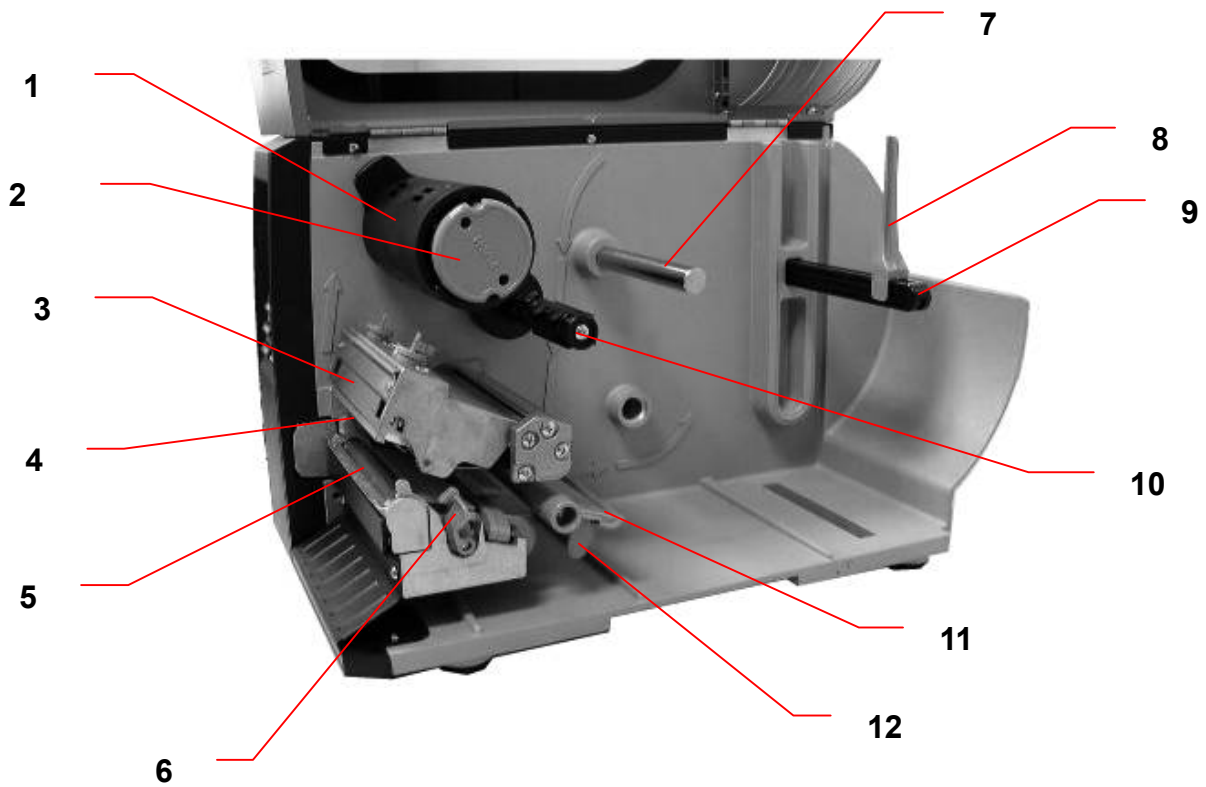
1. Ribbon rewind spindle
2. Ribbon release button
3. Ribbon guide plate
4. Print head
5. Platen roller
6. Print head release lever
7. Media guide bar
8. Label roll guard
9. Label supply spindle
10. Ribbon supply spindle
11. Damper
12. Label guide
13. Z axis mechanism adjustment knob
14. Print head pressure adjustment knob
15. Print head secure screw
16. Ribbon sensor
17. Media sensor
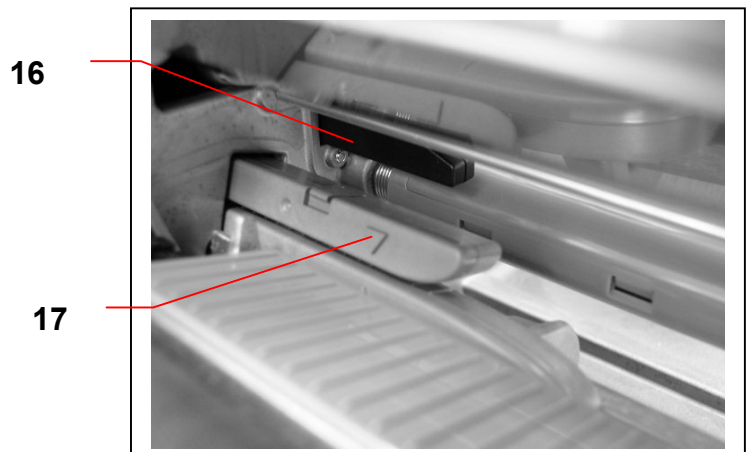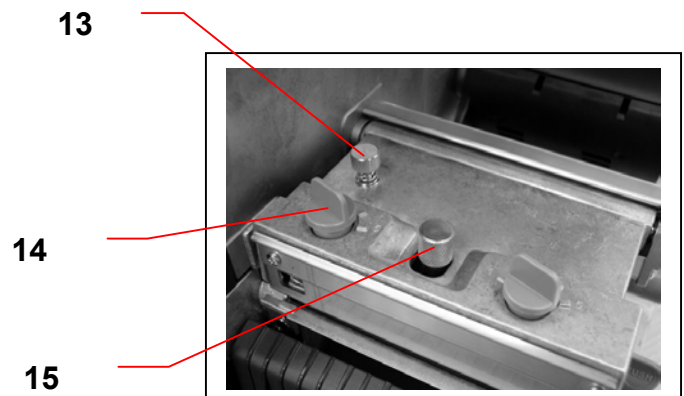
2.2.3 Rear View
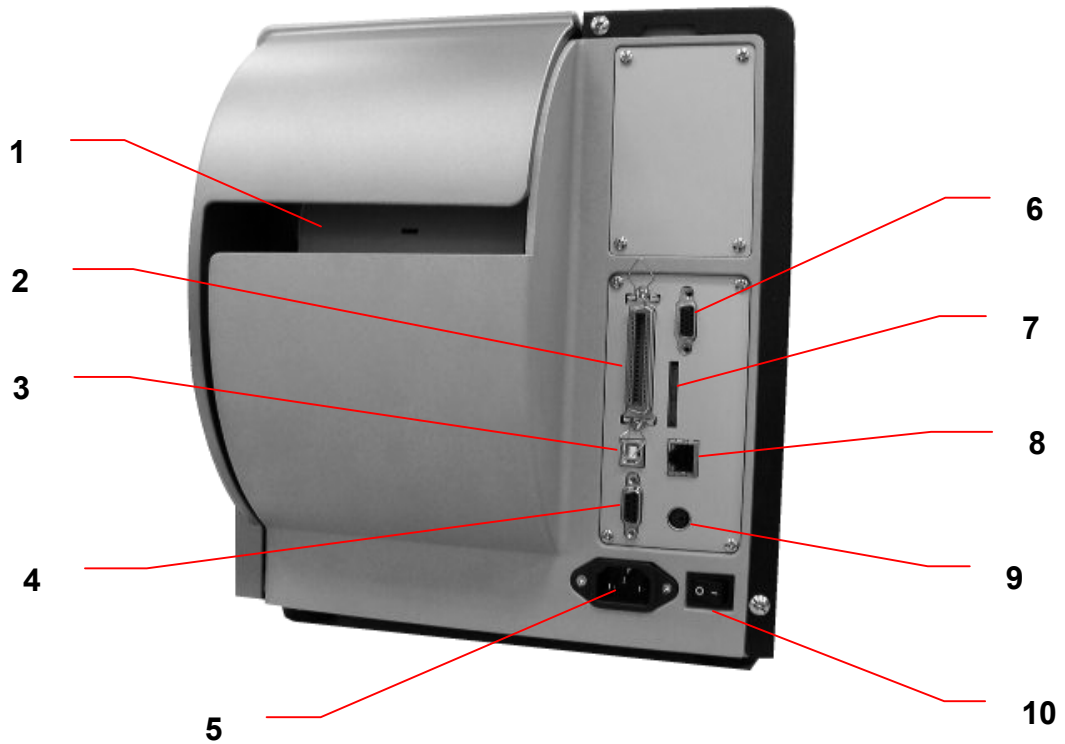
1. Fan-fold paper entrance chute
2. Centronics interface
3. USB interface
4. RS-232C interface
5. Power jack socket
6. GPIO interface
*7. SD card slot
8. Ethernet interface
9. PS/2 interface
10. Power switch

Note:

1. SD card slot, Ethernet interface and PS/2 interface are standard interfaces for WPL610 model, but optional for WPL608 model.

* Recommended SD card specification.

SD V 1.0, V 1.1	SD V 2.0 (SDHC)
✓ 128MB	✓ 4GB class 6
✓ 256MB	
✓ 512MB	
✓ 1GB	
-Supported DOS FAT file system.	
-Folders stored on the SD card should be in the 8.3 filename format.	
-Approved SD card manufacturer: SanDisk, Transcend.	

2.3 Operator Controls

2.3.1 Front Panel Display

LED indicators

LCD display

READY

Model Name   VX.XX

☰ MENU   UP ⊛

Ⓥ PAUSE   DOWN ⊙

⊤ FEED   SELECT

Front panel buttons
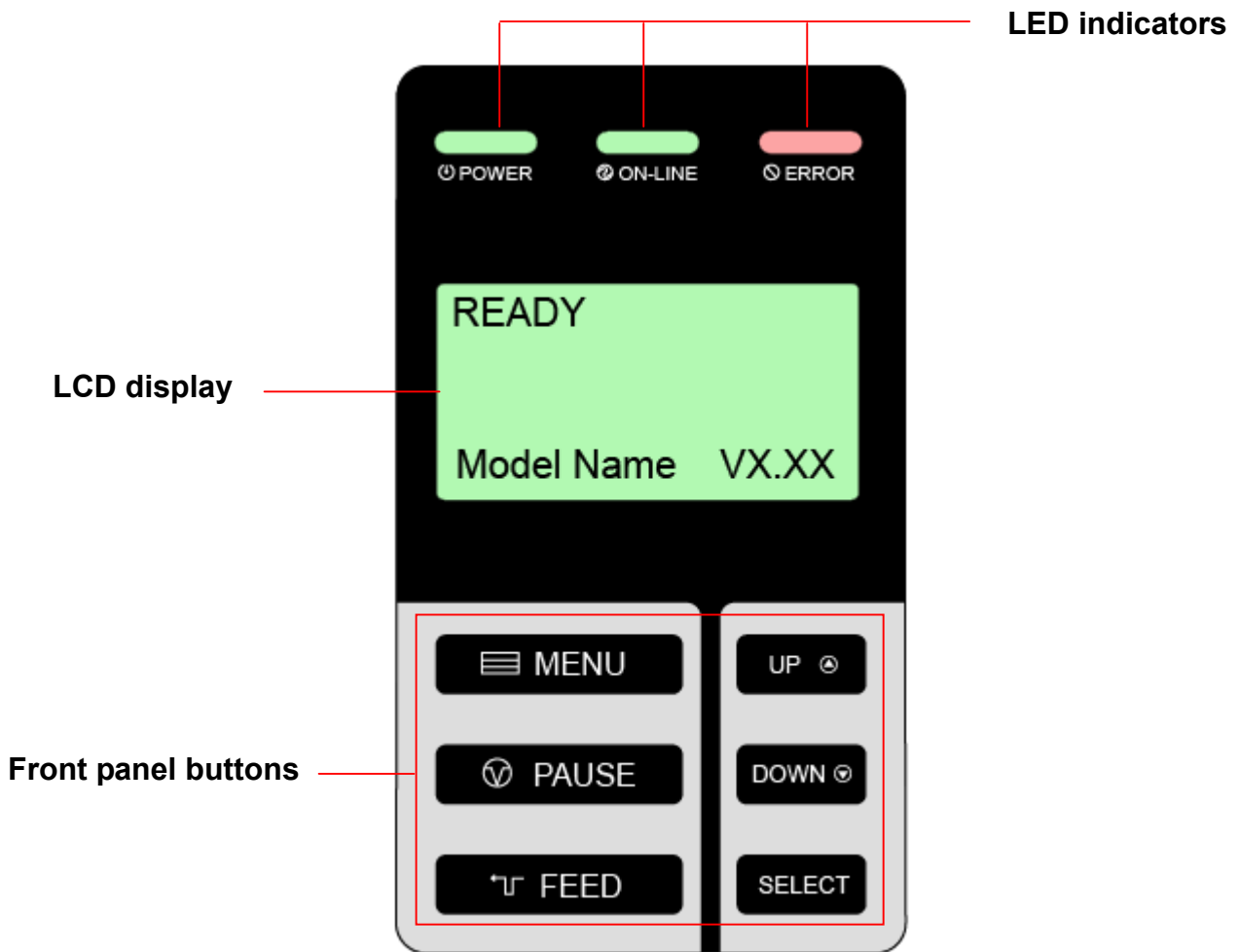
⏻ POWER   ⊘ ON-LINE   ⊘ ERROR

2.3.2 LED Indicators

LED	Status	Indication
⏻ POWER	Off	The printer power is turned off
	On	The printer power is turned on
⊘ ON-LINE	On	Printer is ready
	Blinking	Pause
		Downloading data into printer.
⊘ ERROR	Off	Printer is ready
	On	"CARRIAGE OPEN" or "CUTTER ERROR"
	Blinking	"NO PAPER", "PAPER JAM" or "NO RIBBON"

2.3.3 Front Panel Keys

Keys	Function
▤ **MENU**	1. Enter the menu
	2. Exit from a menu or cancel a setting and return to the previous menu
ⓥ **PAUSE**	Pause/Resume the printing process
⅂ **FEED**	Advance one label
UP ⊙	Scroll up the menu list
DOWN ⊙	Scroll down the menu list
SELECT	Enter/Select cursor located option

2.4 Setting Up the Printer

1. Place the printer on a flat, secure surface.

2. Make sure the power switch is off.

3. Connect the printer to the computer with the provided USB cable.

4. Plug the power cord into the AC power cord socket at the rear of the printer, and then plug the power cord into a properly grounded power outlet.

2.5 Installation of Ribbon

2.5.1 Loading Ribbon

1. Lift the right side printer cover to open it.

2. Push the print head release lever to open the print head mechanism.
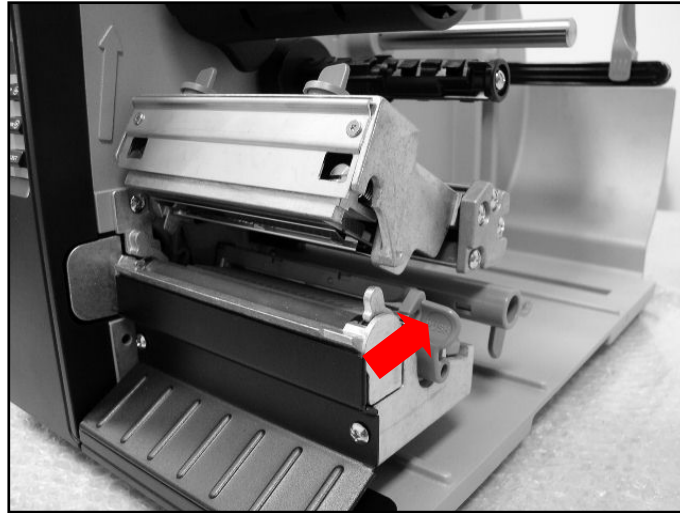
3. Install the ribbon onto the ribbon supply spindle.
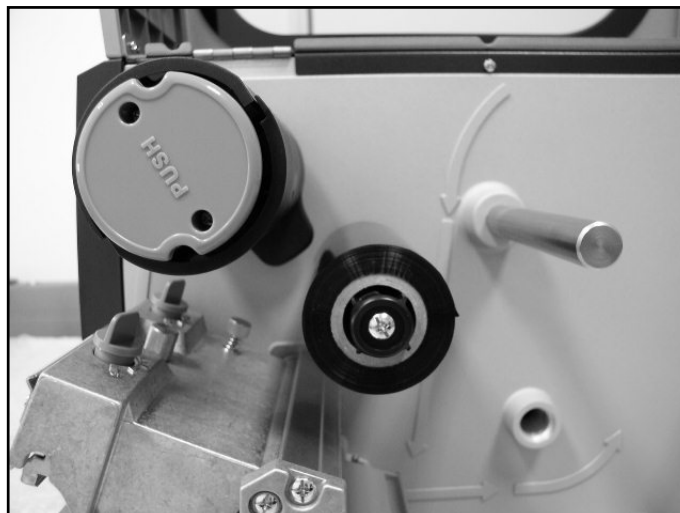
4. Thread the ribbon through the ribbon sensor slot and then through the open space in between the print head and platen.

Ribbon

Ribbon sensor
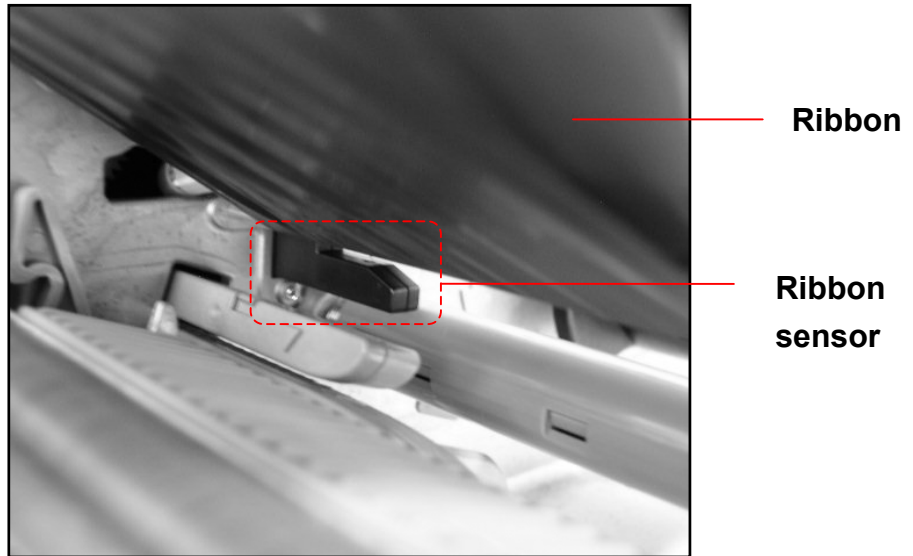
5. Wrap the ribbon onto the ribbon rewind spindle, keeping the ribbon flat and without wrinkles.

6. Wind the ribbon clockwise about 3~5 rotations onto the ribbon rewind spindle until it is smooth and properly stretched.
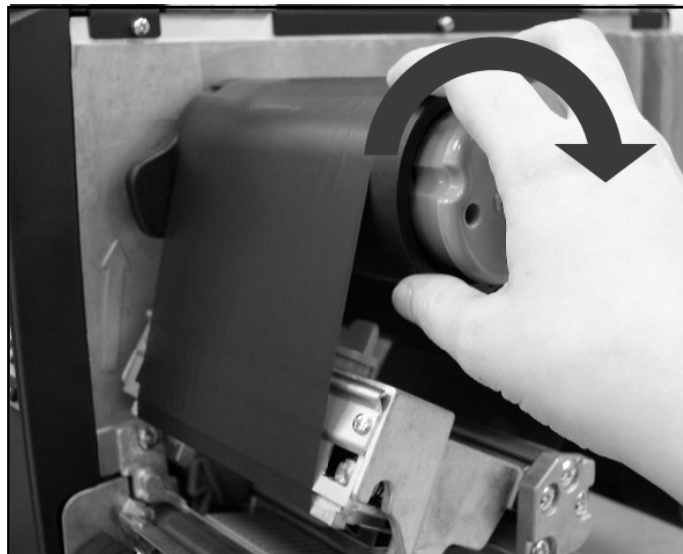
7. Close the print head mechanism making sure the latches are engaged properly.
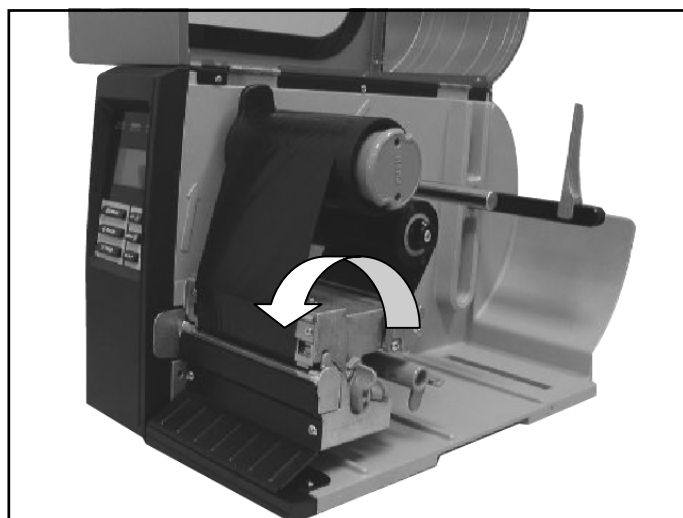
- **Loading path for ribbon**
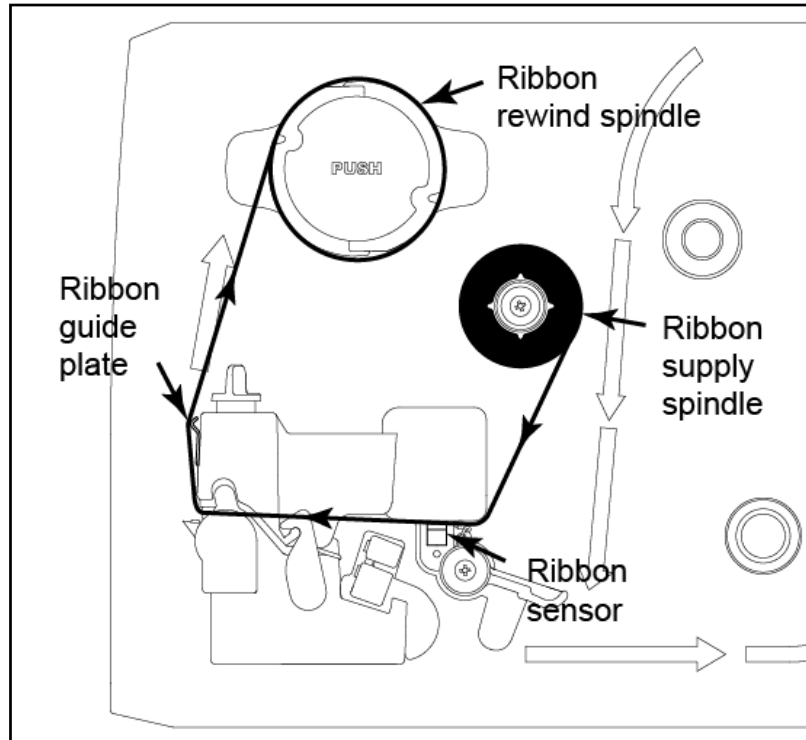
2.5.2 Remove Used Ribbon

1. Cut the ribbon between ribbon guide plate and the ribbon rewind spindle.
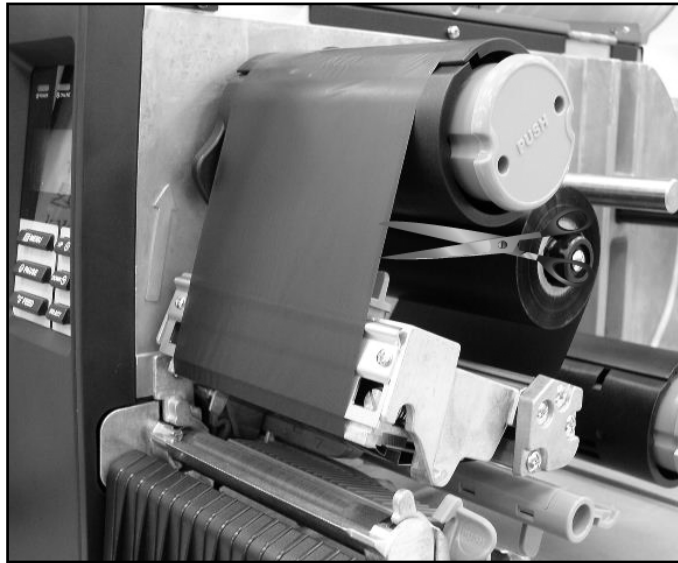
2. Push the ribbon release button to release the ribbon on the ribbon rewind spindle.

3. Then, slide off the ribbon from ribbon rewind spindle and discard.

2.6 Installation of Media

2.6.1 Loading Roll Labels

1. Lift open printer right side cover.

2. Push the print head release lever to open the print head mechanism.

3. Move the label roll guard horizontally to the end of label spindle then flip down the label roll guard.
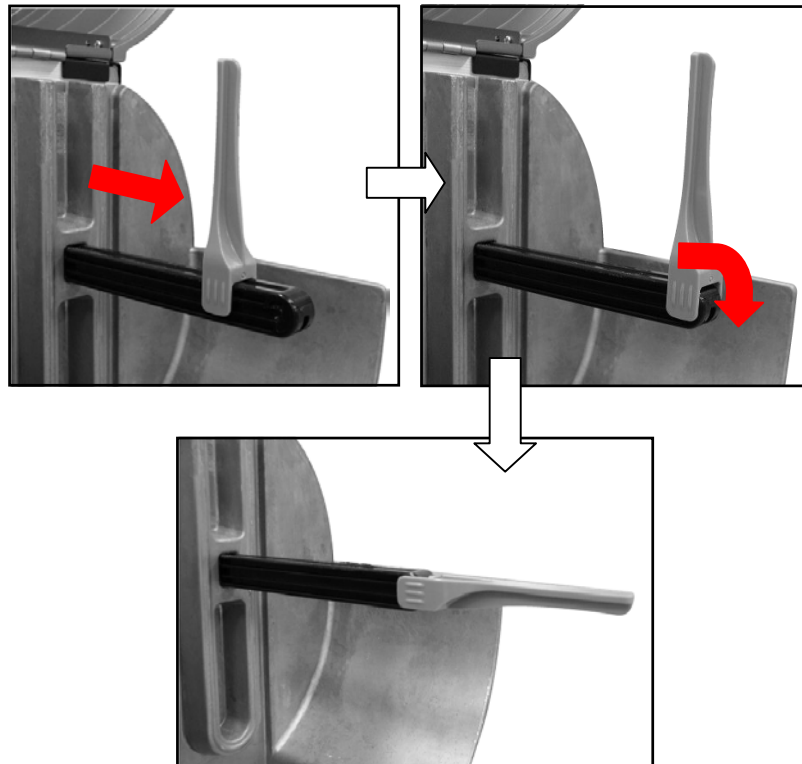
4. Place the roll of media on the label supply spindle. Flip up the label roll guard. Move the label roll guard horizontally to gently fit the width of label roll.
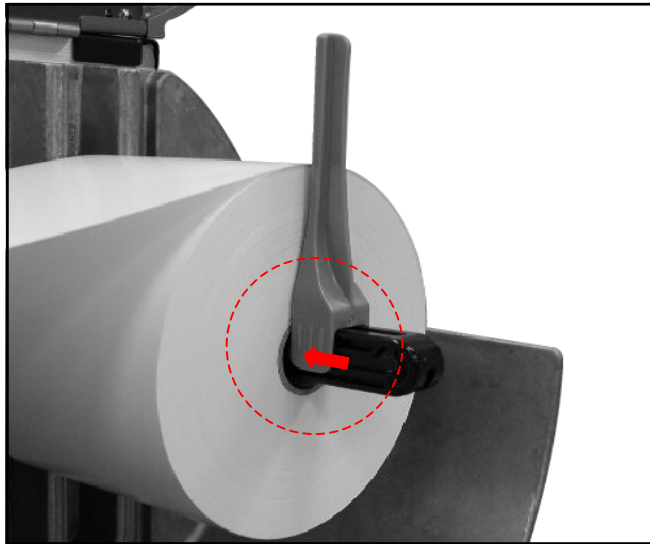
5. Pull label roll leading edge forward through the media guide bar, damper, media sensor and place the label leading edge onto the platen roller.
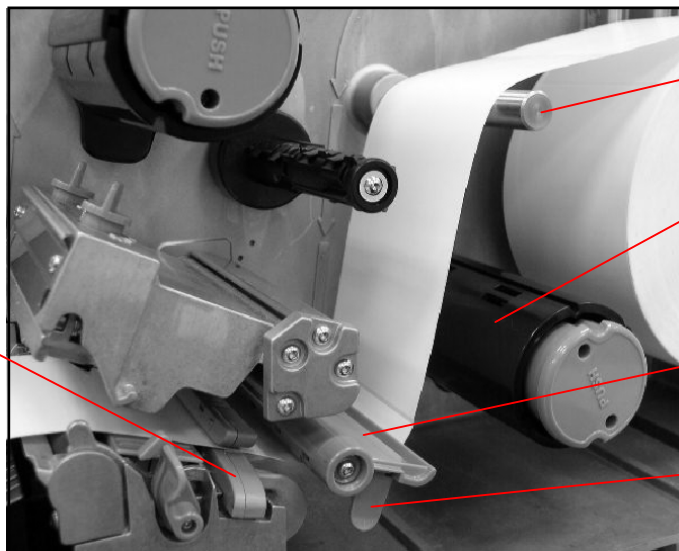
Media sensor

Media guide bar

Internal rewind (Option)

Media sensor

Damper

Label guide

6. Adjust the label guide to fit the width of the label.
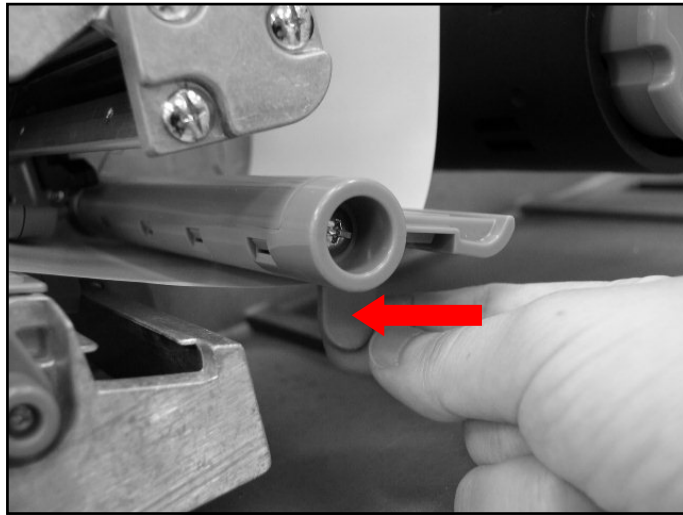
7. Close the print head mechanism making sure the latches are engaged properly.

8. Using the front display panel, set the media sensor type and calibrate the selected sensor. (Please refer to section 3.1.2)

Note: Please calibrate the gap/black mark sensor when changing media.

● **Loading path for roll labels**
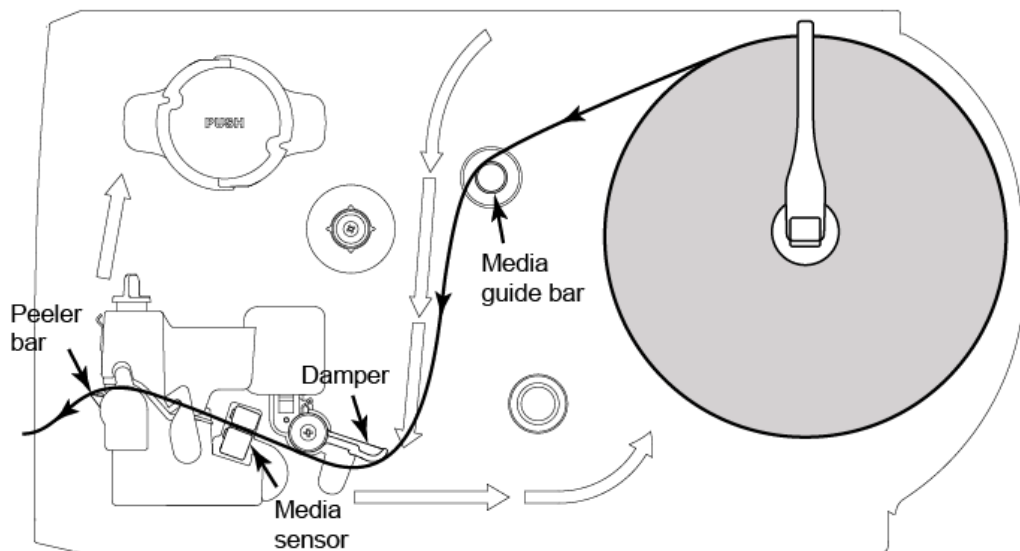
2.6.2 Loading Fan-fold Labels

Fan-fold media feeds through either the bottom or rear external label entrance chute.

1. Lift open printer right side cover.
2. Push the print head release lever to open the print head mechanism.
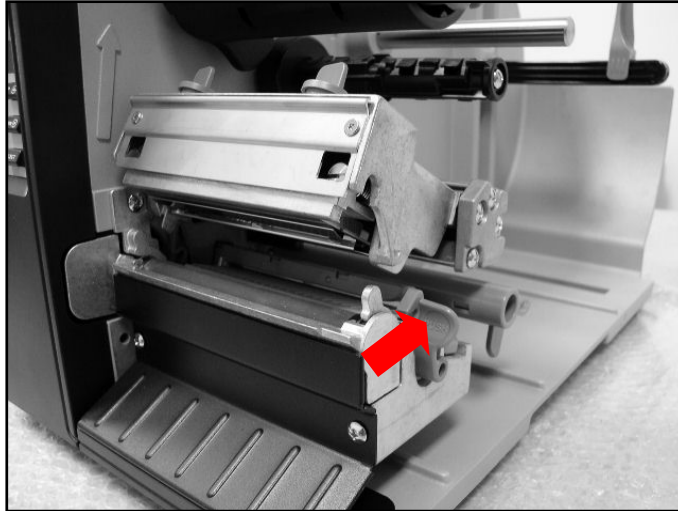
3. Insert the fan-fold media through the bottom or rear external label entrance chute.
4. Pull fan-fold label leading edge forward through the media guide bar, damper media sensor and place the label leading edge onto the platen roller.
5. Adjust the label guide by sliding to fit the paper width.
6. Close the print head mechanism making sure the latches are engaged properly.
7. Set the media sensor type and calibrate the selected sensor. (Please refer to section 3.1.2)

Note: Please calibrate the gap/black mark sensor when changing media.

● **Loading path for fan-fold labels**

Peeler
bar

Media
guide bar

Damper

Media
sensor

Bottom media
loading slot
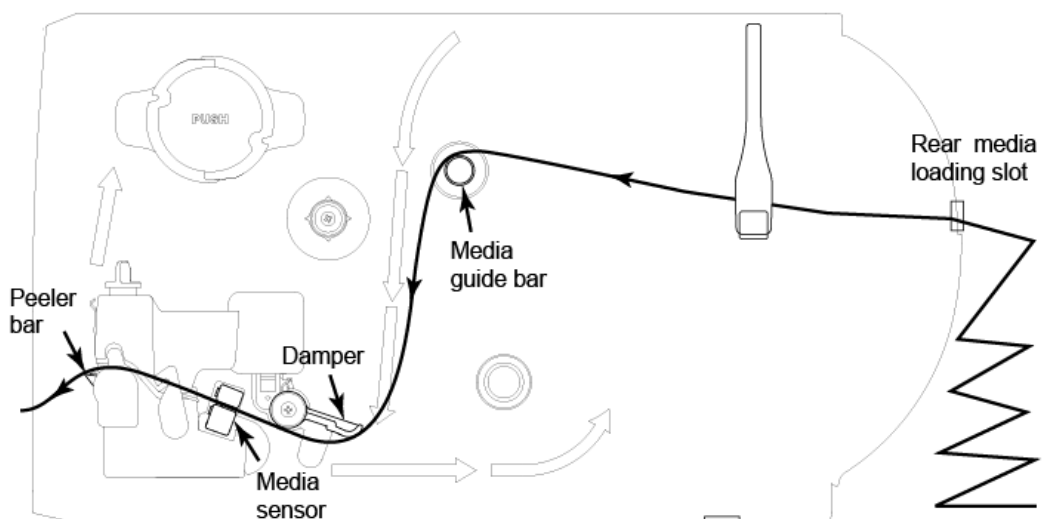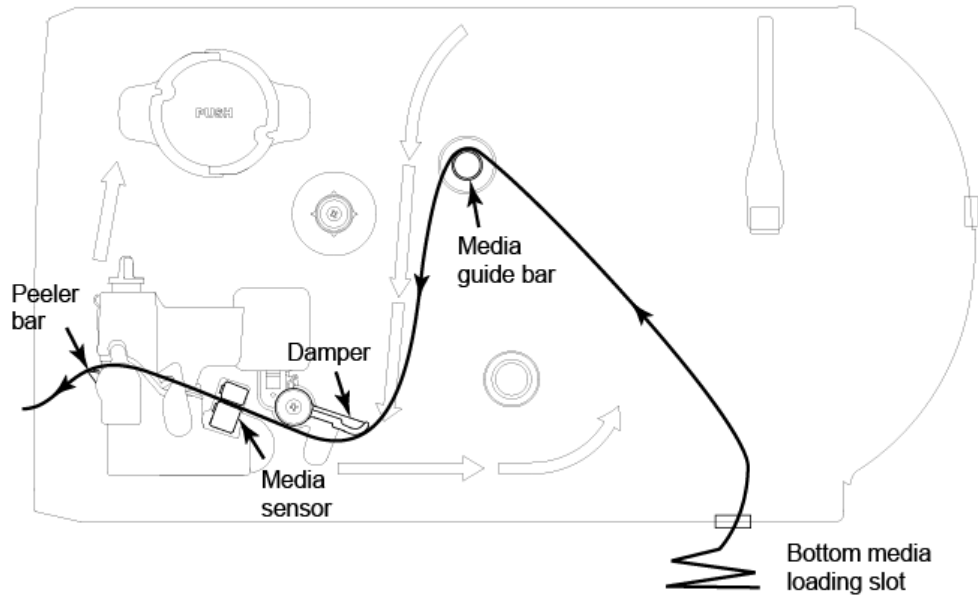
2.6.3 Loading Media in Peel-off Mode (Option)

1. Lift open printer right side cover.
2. Push the print head release lever to open the print head mechanism.
3. Move the label roll guard horizontally to the end of label spindle then flip down the label roll guard.
4. Place the roll of media on the label supply spindle. Flip up the label roll guard. Move the label roll guard horizontally to fit the width of label roll.
5. Pull label roll leading edge forward through the media guide bar, damper media sensor and place the label leading edge onto the platen roller.
6. Adjust the label guide to fit the width of the label.
7. Using the front display panel, set the media sensor type and calibrate the selected sensor. (Please refer to section 3.1.2)
8. Then, pull approximately 25"/650mm of label through the front of the printer.
9. Push down the peel-off roller release lever.

Peel-off roller release lever

10. Feed the label between peel-off roller and platen roller.
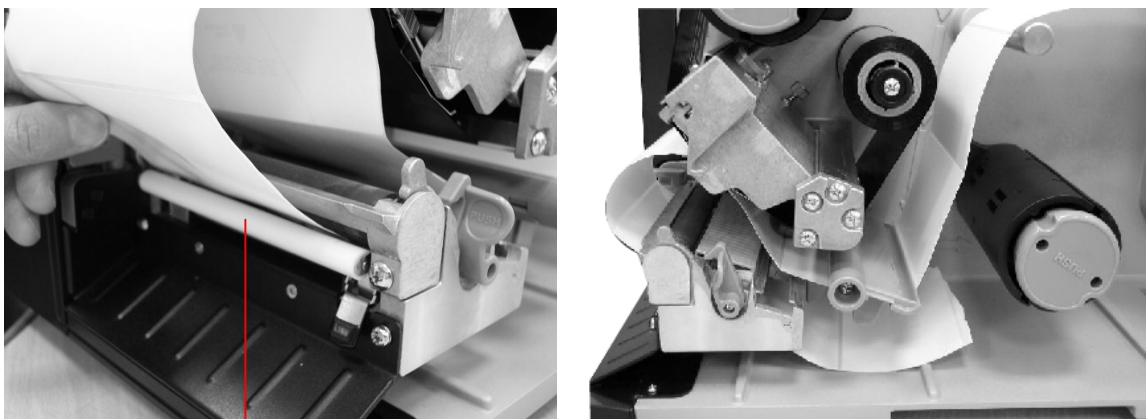
Peel-off roller

11. Wrap the label onto the internal rewind spindle and wind the spindle counter-clockwise about 3~5 rotations until the label is properly stretched.
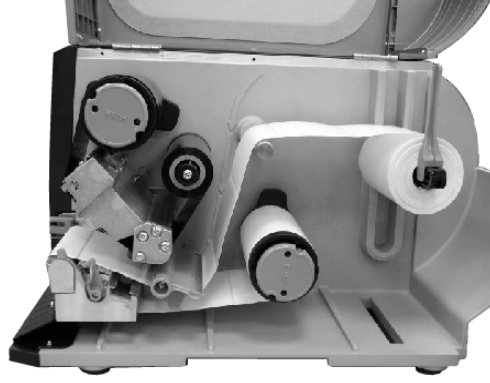
12. Lift up the peel-off roller release lever and close the print head mechanism.

13. Rotate the peel-off sensor toward the paper exit chute.

Peel-off
sensor
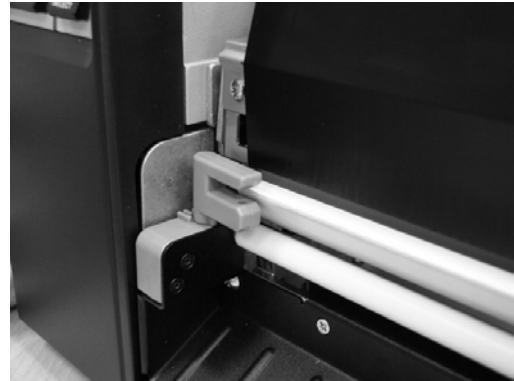
14. Peeling will automatically start. Press the FEED button to test.

Label
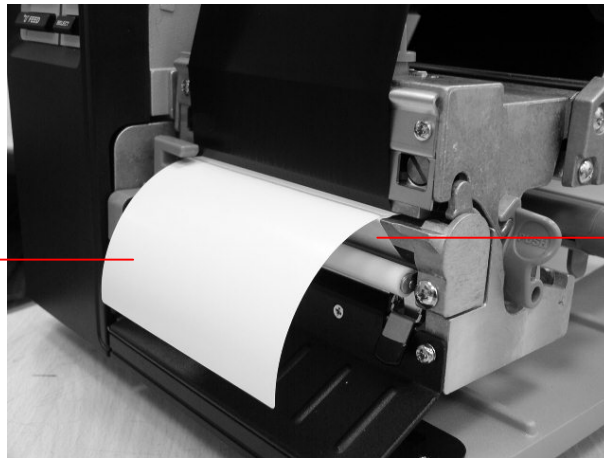
Liner

Note:

Please calibrate the gap/black mark sensor when changing media.

2.6.4 Remove Liner from Internal Rewind

1. Cut the liner between peel-off roller and the internal rewind spindle.

2. Push the liner release button to release the liner on the internal rewind spindle.

3. Then, slide off the liner from internal rewind spindle and discard.
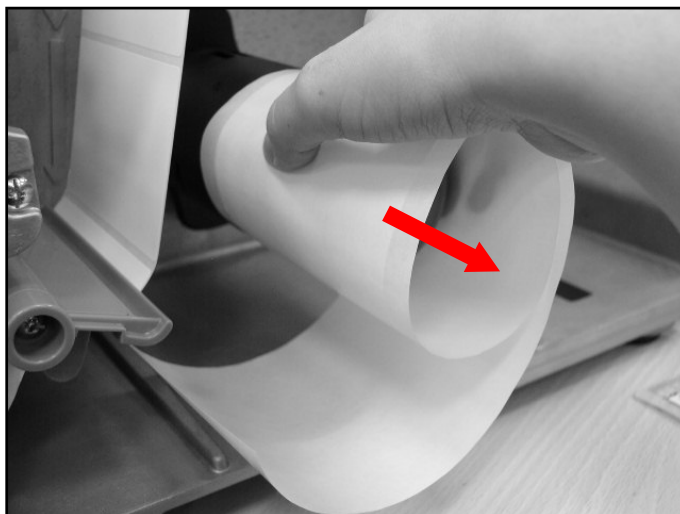
## 2.6.5 Loading Media in Rewind Liner with Label Mode (Option)

This mode can rewind the media including liner and label on the rewind spindle.

1. Lift open the printer's right side cover.
2. Insert the supply holder guide and paper core into the internal rewind for 1" core label roll.
   Insert the supply holder guide, 3" label core adapter and paper core into the internal rewind for 3" core label roll.

1" core label roll	3" core label roll

Supply holder guide

Paper core

Paper core   Supply holder guide   3" label core adapter
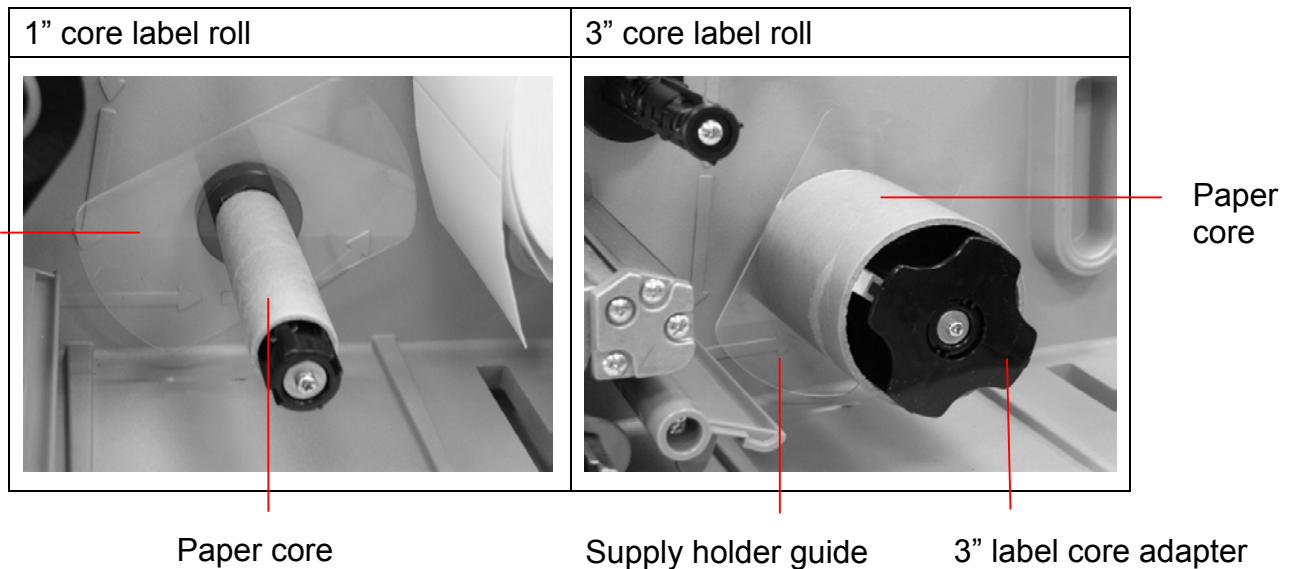
3. Insert media into the printer label spindle. Pull label roll leading edge forward through the media guide bar, damper media sensor and place the label leading edge onto the platen roller. (Please refer to section 2.6.1)
4. Then, pull approximately 650mm of label through the label redirect front panel.
5. Wrap the label onto the internal rewind spindle and stick the label onto the paper core.
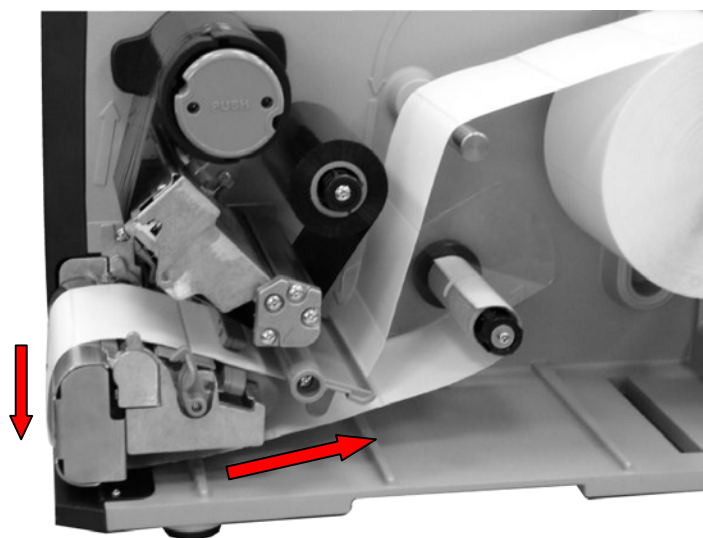
6. Insert another supply holder guide into the internal rewind for 1" core label roll.
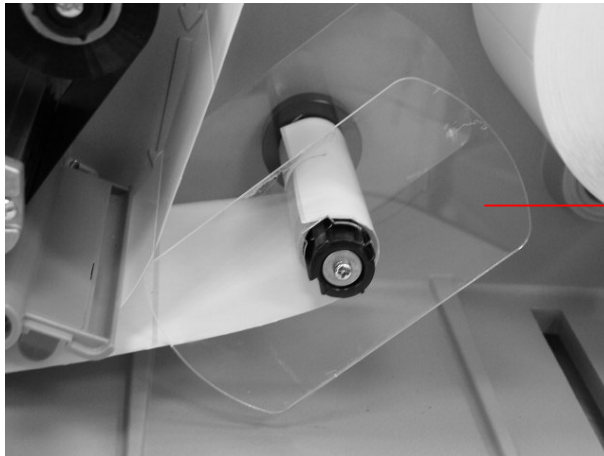
Supply holder guide

7. Using the LCD panel set the media sensor type and calibrate the selected sensor. (Please refer to section 3.1.2)
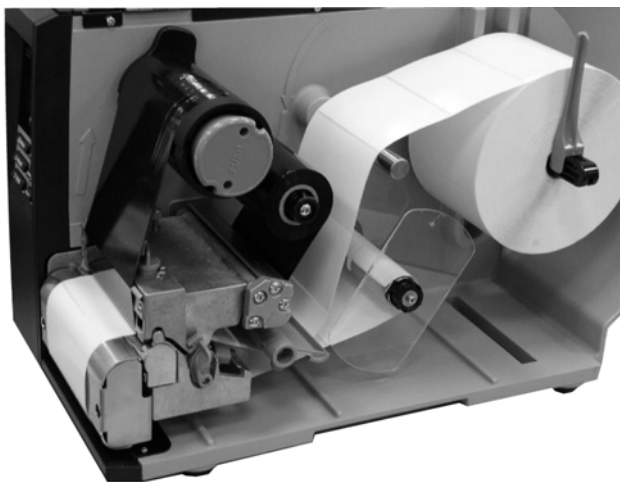
Note:

Please calibrate the gap/black mark sensor when changing media.

2.6.6 Remove Labels from Internal Rewind (Option)

1. Slide off the labels with supply holder guides from the internal rewind spindle.

Supply holder guides

2.7 Adjustment Knob

2.7.1 Print head Pressure Adjustment Knob
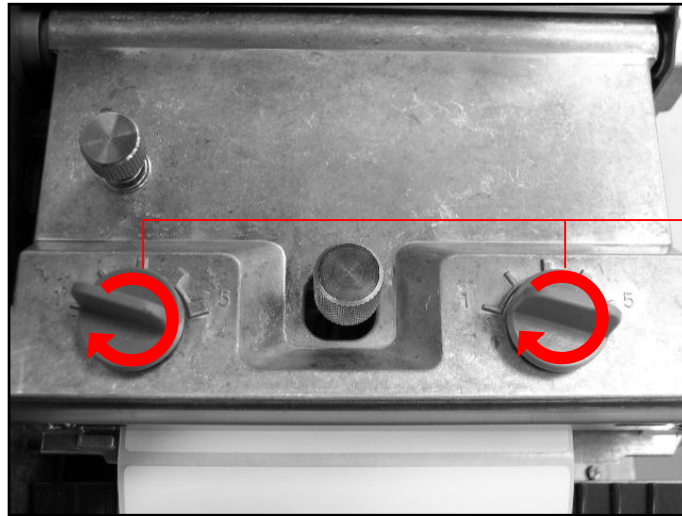
Print head pressure adjustment knobs

The print head pressure adjustment knob has 5 levels of adjustment. Because the printer's paper alignment is to the left side of the mechanism, different media widths require different pressure to print correctly. Therefore, you may need to adjust the pressure knob to achieve the best print quality. For example, if the label width is 4", adjust both print head pressure adjustment knobs to the same level. If the label is less than 2" wide, increase the left side print head pressure by rotating the adjustment knob clockwise and decrease the right side pressure by rotating the adjustment knob counter-clockwise to level 1.

2.7.2 Print Head Burn Line Adjustment Knob
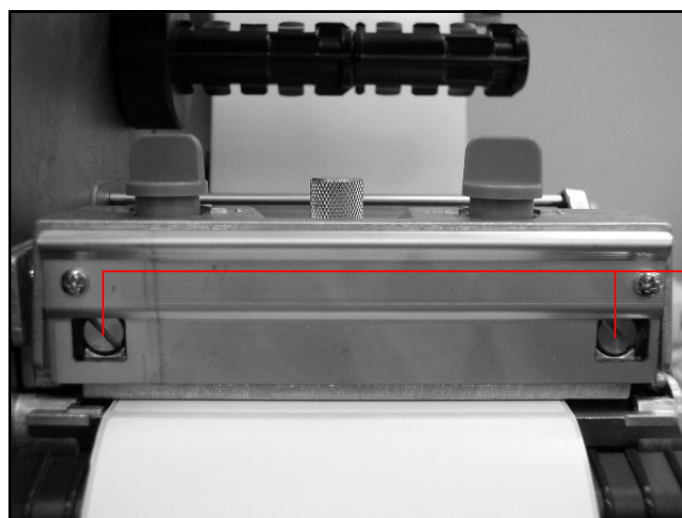
Print head burn line adjustment knobs

The print head burn line adjustment knobs are used to fine-tune the print quality for different thickness of media. Turning the knobs adjusts the print head's burn line forward or backward as it relates to the platen roller.

Caution: Incorrectly adjusting these knobs can lead to poor print quality and may cause damage to the printer. Proceed with caution.

The print head burn line default is set for general purpose printing media (plain paper and paper thickness less than 0.20mm). The adjustment knobs default position is screwed clockwise to the end of thread.

Poor print quality when using paper thicker than 0.20mm may be due to the print head burn line not being at the optimized position. To improve the print quality, increase the head pressure or adjust the knobs counter-clockwise to move the print head burn line toward the paper out direction then print again. Continue to adjust the burn line position and test print as necessary until the printout image is clear.

3. Menu Function

Main Menu Overview
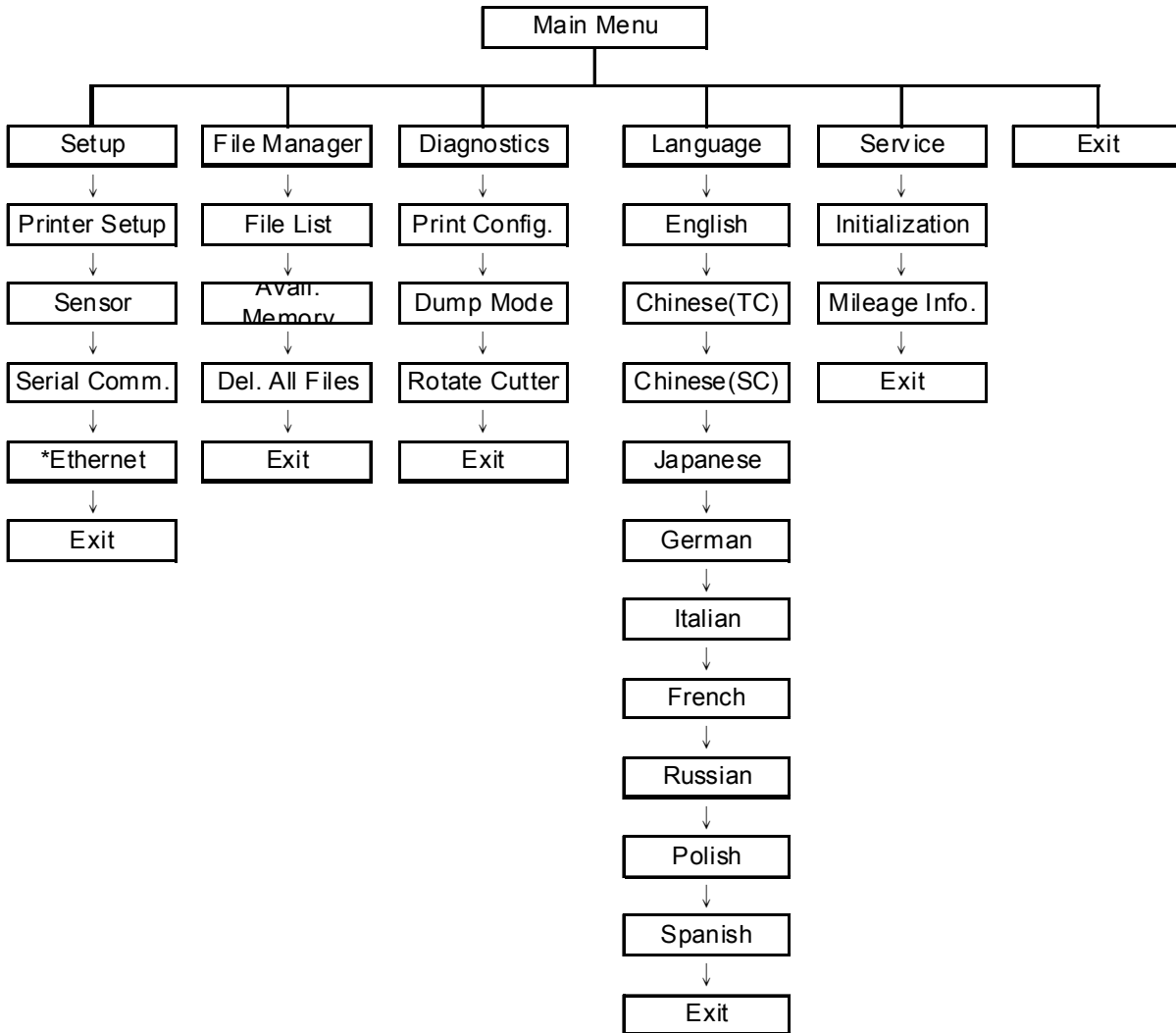
```
                              ┌──────────────┐
                              │  Main Menu   │
                              └──────┬───────┘
     ┌──────────┬──────────┬─────────┼──────────┬──────────┬──────────┐
┌─────────┐ ┌───────────┐ ┌───────────┐ ┌──────────┐ ┌───────────┐ ┌────────┐
│  Setup  │ │File Manager│ │Diagnostics│ │ Language │ │  Service  │ │  Exit  │
└────┬────┘ └─────┬─────┘ └─────┬─────┘ └────┬─────┘ └─────┬─────┘ └────────┘
     ↓            ↓             ↓            ↓             ↓
┌──────────────┐ ┌──────────┐ ┌────────────┐ ┌─────────┐ ┌───────────────┐
│Printer Setup │ │ File List│ │Print Config.│ │ English │ │ Initialization│
└──────┬───────┘ └────┬─────┘ └─────┬──────┘ └────┬────┘ └───────┬───────┘
       ↓              ↓             ↓             ↓               ↓
┌──────────┐ ┌──────────┐ ┌──────────┐ ┌─────────────┐ ┌──────────────┐
│  Sensor  │ │  Avail.  │ │ Dump Mode│ │Chinese(TC)  │ │ Mileage Info.│
│          │ │  Memory  │ │          │ │             │ │              │
└────┬─────┘ └────┬─────┘ └────┬─────┘ └──────┬──────┘ └──────┬───────┘
     ↓            ↓            ↓               ↓               ↓
┌──────────────┐ ┌────────────┐ ┌────────────┐ ┌─────────────┐ ┌────────┐
│ Serial Comm. │ │Del. All Files│ │Rotate Cutter│ │Chinese(SC) │ │  Exit  │
└──────┬───────┘ └─────┬──────┘ └─────┬──────┘ └──────┬──────┘ └────────┘
       ↓               ↓              ↓               ↓
┌──────────┐ ┌────────┐ ┌────────┐ ┌──────────┐
│ *Ethernet│ │  Exit  │ │  Exit  │ │ Japanese │
└────┬─────┘ └────────┘ └────────┘ └────┬─────┘
     ↓                                  ↓
┌──────────┐                       ┌──────────┐
│   Exit   │                       │  German  │
└──────────┘                       └────┬─────┘
                                        ↓
                                   ┌──────────┐
                                   │  Italian │
                                   └────┬─────┘
                                        ↓
                                   ┌──────────┐
                                   │  French  │
                                   └────┬─────┘
                                        ↓
                                   ┌──────────┐
                                   │  Russian │
                                   └────┬─────┘
                                        ↓
                                   ┌──────────┐
                                   │  Polish  │
                                   └────┬─────┘
                                        ↓
                                   ┌──────────┐
                                   │  Spanish │
                                   └────┬─────┘
                                        ↓
                                   ┌──────────┐
                                   │   Exit   │
                                   └──────────┘
```

Notice:

* The Ethernet function is available for 610 series only and option for 608 series.

* Ethernet function is available on the LCD display when Ethernet card is installed.

3.1 Setup Menu Overview
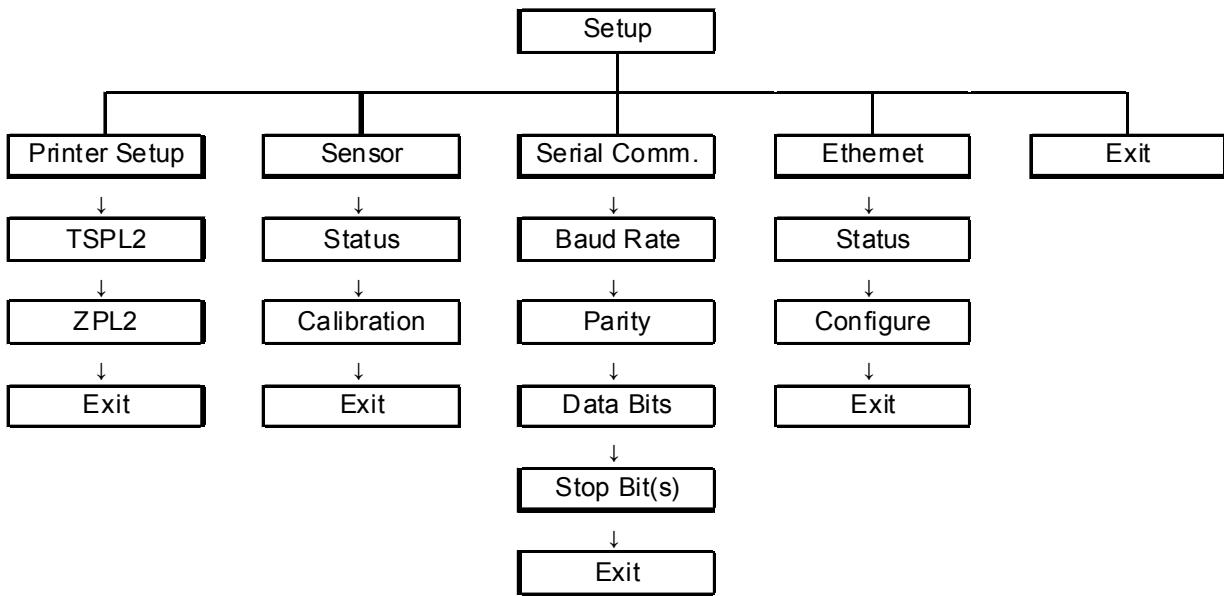
```
                                    ┌─────────────┐
                                    │    Setup    │
                                    └──────┬──────┘
        ┌──────────────┬──────────────┼──────────────┬──────────────┐
┌───────────────┐ ┌───────────┐ ┌──────────────┐ ┌───────────┐ ┌───────────┐
│ Printer Setup │ │  Sensor   │ │ Serial Comm. │ │ Ethernet  │ │   Exit    │
└───────────────┘ └───────────┘ └──────────────┘ └───────────┘ └───────────┘
        ↓              ↓              ↓               ↓
┌───────────────┐ ┌───────────┐ ┌──────────────┐ ┌───────────┐
│     TSPL2     │ │  Status   │ │  Baud Rate   │ │  Status   │
└───────────────┘ └───────────┘ └──────────────┘ └───────────┘
        ↓              ↓              ↓               ↓
┌───────────────┐ ┌───────────┐ ┌──────────────┐ ┌───────────┐
│     ZPL2      │ │Calibration│ │    Parity    │ │ Configure │
└───────────────┘ └───────────┘ └──────────────┘ └───────────┘
        ↓              ↓              ↓               ↓
┌───────────────┐ ┌───────────┐ ┌──────────────┐ ┌───────────┐
│     Exit      │ │   Exit    │ │  Data Bits   │ │   Exit    │
└───────────────┘ └───────────┘ └──────────────┘ └───────────┘
                                       ↓
                                ┌──────────────┐
                                │ Stop Bit(s)  │
                                └──────────────┘
                                       ↓
                                ┌──────────────┐
                                │     Exit     │
                                └──────────────┘
```

Notice:

* The Ethernet function is available for 610 series only and option for 608 series.

* Ethernet function is available on the LCD display when Ethernet card is installed.

3.1.1 Printer Setup

Printer Setup
→ **TSPL2**

Speed	Density	Direction	Print Mode	Offset	Shift X	Shift Y	Reference X	Reference Y	Code Page	Country	Exit
4	0	0	None	+000~-	+000~-000	+000~-000	000~999	000~999	USA	001	
5	1	1	Batch Mode						BRI	002	
6	2		Peeler Mode						GER	003	
7	3		Cutter Mode						FRE	031	
8	4		Cutter						DAN	032	
9	5		Exit						ITA	033	
10	6								SPA	034	
11	7								SWE	036	
12	8								SWI	038	
	9								437	039	
	10								850	041	
	11								852	042	
	12								860	044	
	13								863	045	
	14								865	046	
	15								857	047	
									1252	048	
									1250	049	
									1253	055	
									1254	061	
									1251	351	
									1255	358	
									1256	Exit	
									1257		
									1258		
									8859-1		
									8859-2		
									8859-3		
									8859-4		
									8859-5		
									8859-6		
									8859-7		
									8859-8		
									8859-9		
									8859-10		
									8859-15		
									950		
									936		
									932		
									949		

3.1.1.1 Speed:

```
Print Setup      1/12
> Speed
  Density
  Direction
```
```
        Speed
          6
```

Use this option to setup print speed. The available print speed is between 4~12 ips and each increament/decreament is 1 ips. The default print speed is 6 ips.

Press the **UP** ⊕ key to raise the print speed, and press the **DOWN** ⊖ key to decrease print speed. Press the **SELECT** key to set it into printer. Press the ▤ **MENU** key to cancel the setting and return to the previous menu.

Note: If printing from enclosed software/driver, the software/driver will send out the SPEED command, which will overwrite the setting selected on the front panel.

3.1.1.2 Density:

```
Print Setup      2/12
  Speed
> Density
  Direction
```
```
        Density
          8
```

Use this option to setup printing darkness. The available setting is from 0 to 15, and the step is 1. Printer default density is 8.You may need to adjust your density based on selected media.

Press **UP** ⊕ and **DOWN** ⊖ to increase/decrease the printing darkness. Press the **SELECT** key to enable the setting. Press the ▤ **MENU** key to cancel the setting and return to the previous menu.

Note: If printing from enclosed software/driver, the software/driver will send out the DENSITY command, which will overwrite the setting selected on the front panel.
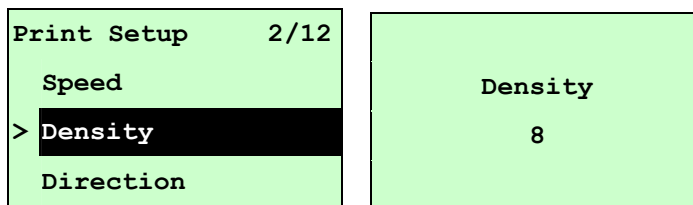
3.1.1.3 Direction:

```
Print Setup      3/12
  Speed
  Density
> Direction
```
```
        Direction
          0
```
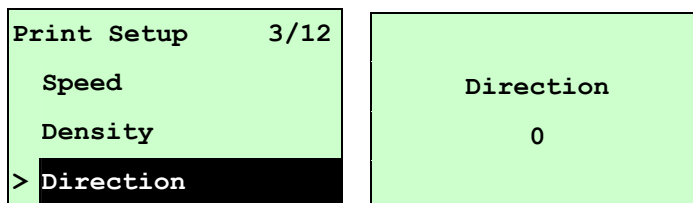
The direction setting value is either 1 or 0. Use this option to setup the printout direction. Printer default printout direction is DIRECTION 0.

Press the **UP** ⊕ key to set the direction as 1, and **DOWN** ⊖ to set it as 0, and the **SELECT** key to enable the setting. Press the ▤ **MENU** key to cancel the setting and return to the previous menu.

The following 2 figures are the printouts of DIRECTION 0 and 1 for your reference.
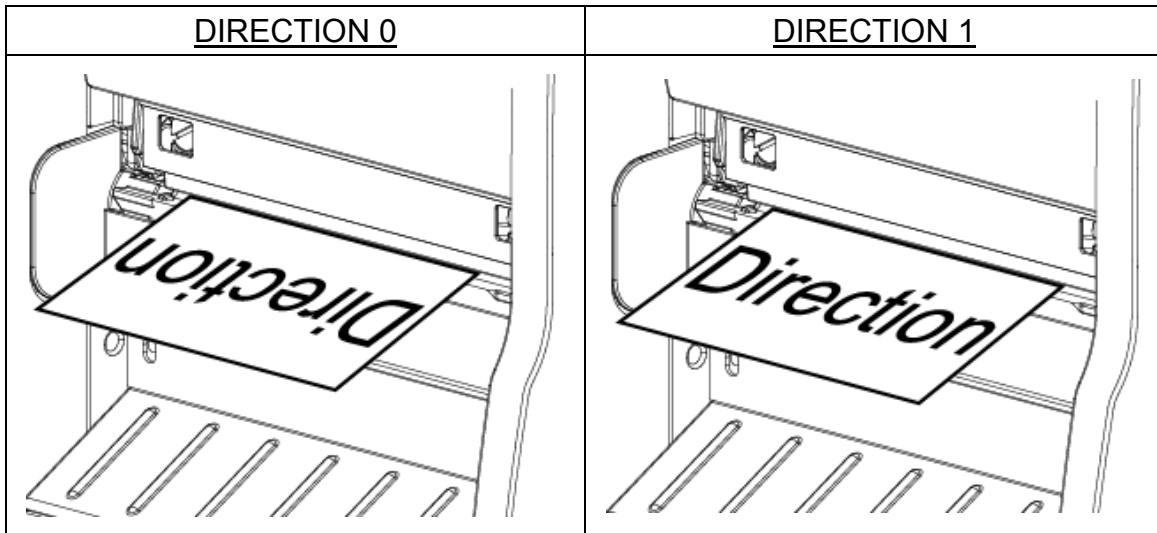
DIRECTION 0	DIRECTION 1

Note: If printing from enclosed software/driver, the software/driver will send out the command, which will overwrite the setting selection made on the front panel.

3.1.1.4 Print Mode: (None/Batch Mode/Peeler Mode/Cutter Mode/Cutter Batch)

```
Print Setup      4/12      Print Mode       2/6

  Density                 > Batch Mode

  Direction                 Peeler Mode

> Print Mode                Cutter Mode
```
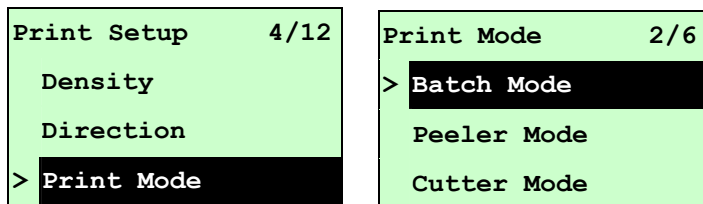
This option is used to set the print mode. Printer default setting is Batch Mode. When enter this list, the print mode in the right side of " **>**" icon is the printer current setting. Press **UP** ⊕ and **DOWN** ⊙ to select the different print mode and press the **SELECT** button to enable the setting. Press the ▤ **MENU** key to cancel the setting and return to the previous menu.

Printer Mode	Description
None	Next label top of form is aligned to the print head burn line location. (Tear Off Mode)
Batch Mode	Once image is printed completely, label gap/black mark will be fed to the tear plate location for tear away.
Peeler Mode	Enable the label peel off mode.
Cutter Mode	Enable the label cutter mode.
Cutter Batch	Cut the label once at the end of the printing job.

Note: If printing from enclosed software/driver, the software/driver will send out the

command, which will overwrite the setting set from the front panel.

3.1.1.5 Offset:

```
Print Setup     5/12            
                                
  Direction                       Offset
                                
  Print Mode                       +000
                                
> Offset                         
```
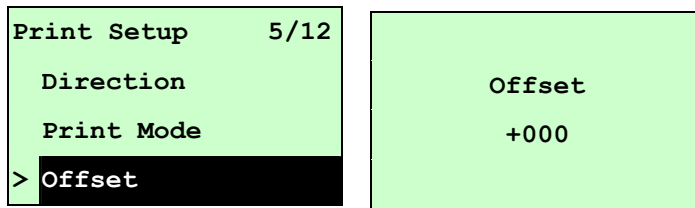
This option is used to fine tune media stop location. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊕ button to set the value from "+" to "-" or "0" to "9". Press the **SELECT** button to set the value into printer. Press ▤ **MENU** key to cancel the setting and return to the previous menu. The default value is +000.

Note: If printing from enclosed software/driver, the software/driver will send out the
OFFSET command, which will overwrite the setting set from the front panel.

3.1.1.6 Shift X & Shift Y:

```
Print Setup     7/12            
                                
  Offset                          Shift Y
                                
  Shift X                          +000
                                
> Shift Y                        
```

This option is used to fine tune print position. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊕ button to set the value from "+" to "-" or "0" to "9". Press the **SELECT** button to set the value into printer. Press ▤ **MENU** key to cancel the setting and return to the previous menu. The default value is +000.

Note: If printing from enclosed software/driver, the software/driver will send out the SHIFT
command, which will overwrite the setting set from the front panel.

3.1.1.6 Reference X & Reference Y:

```
Print Setup     9/12            
                                
  Shift Y                         Reference Y
                                
  Reference X                       000
                                
> Reference Y                    
```

This option is used to set the origin of printer coordinate system horizontally and vertically. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊕ button to set the value from "0" to "9". Press the **SELECT** button to set the value into printer. Press ▤ **MENU** key to cancel the setting and return to the previous menu. The default value is 000.

Note: If printing from enclosed software/driver, the software/driver will send out the

3.1.1.7 Code Page:

```
Print Setup    10/12      Code Page      11/41

  Reference X            > 850

  Reference Y              852

> Code Page                860
```
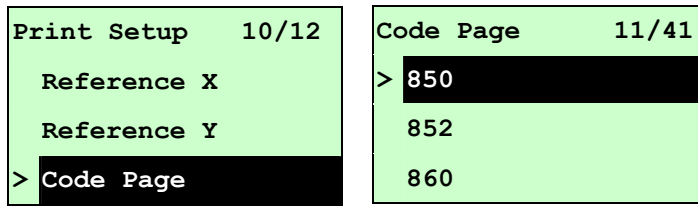
Use this option to set the code page of international character set. For more information about code page, please to refer the programming manual.

When enter the code page list, the code page in the right side of "**>**" icon is the printer current setting.

Press the **UP** ⊙ and **DOWN** ⊙ to select the code page, and press the **SELECT** button to enable the setting. Press ☰ **MENU** key to cancel the setting and return to the previous menu.

Note: If printing from enclosed software/driver, the software/driver will send out the command, which will overwrite the setting set from the front panel.
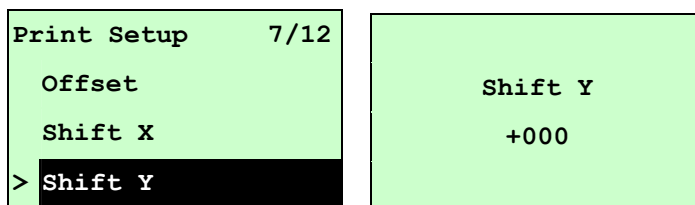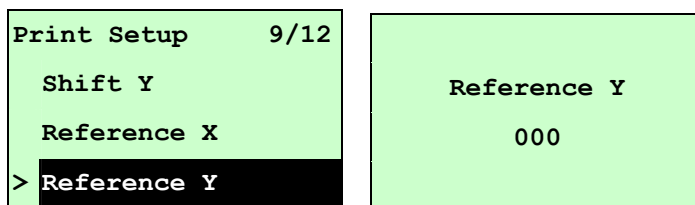
7-bit		8-bit	
code page name	International Character Set	code page number	International Character Set
USA	USA	437	United States
BRI	British	850	Multilingual
GER	German	852	Slavic
FRE	French	860	Portuguese
DAN	Danish	863	Canadian/French
ITA	Italian	865	Nordic
SPA	Spanish		
SWE	Swedish		
SWI	Swiss		

Windows Code Page (SBCS)		Windows Code Page (DBCS)	
code page number	International Character Set	code page number	International Character Set
1252	Latin 1	950	Traditional Chinese Big5
1250	Central Europe	936	Simplified Chinese GBK
1253	Greek	932	Japanese Shift-JIS
1254	Turkish	949	Korean
1251	Cyrillic		
1255	Hebrew		
1256	Arabic		
1257	Baltic		

| 1258 | Vietnam | | |

ISO Code Page		ISO Code Page	
code page name	International Character Set	code page number	International Character Set
8859-1	Latin 1	8859-7	Greek
8859-2	Latin 2	8859-9	Turkish
8859-3	Latin 3	8859-10	Latin 6
8859-4	Baltic	8859-15	Latin 9
8859-5	Cyrillic		

3.1.1.8 Country:

```
Print Setup    11/12          Country         1/23

   Reference Y              > 001

   Code Page                  002

> Country                     003
```

Use this option to set the country code for the LCD display. Press the **UP** ⊕ key and **DOWN** ⊙ key to select the country code, and press the **SELECT** button to set the value into printer. When enter this list, the country code in the right side of "**>**" icon is the printer current setting. Press **MENU** key to cancel the setting and return to the previous menu.

Code	Country	Code	Country	Code	Country	Code	Country
001	USA	034	Spanish (Spain)	044	United Kingdom	055	Brazil
002	Canadian-French	036	Hungarian	045	Danish	061	English (International)
003	Spanish (Latin America)	038	Yugoslavian	046	Swedish	351	Portuguese
031	Dutch	039	Italian	047	Norwegian	358	Finnish
032	Belgian	041	Switzerland	048	Polish		
033	French (France)	042	Slovak	049	German		

3.1.2 Sensor

```
                    ┌─────────────┐
                    │   Sensor    │
                    └──────┬──────┘
          ┌────────────────┼────────────────┐
   ┌──────┴──────┐  ┌──────┴──────┐  ┌──────┴──────┐
   │   Status    │  │ Calibration │  │    Exit     │
   └─────────────┘  └─────────────┘  └─────────────┘
```
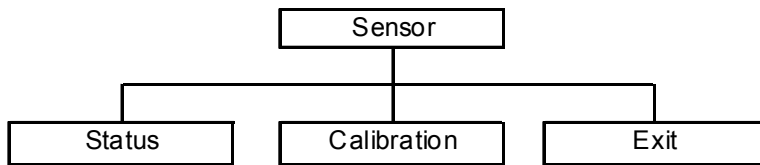
3.1.2.1 Status

This function is available to check the printer's sensor status. When enter the [Status] option, you will see following message.

```
Paper Len.        812
Gap Size           24
Intensity           3
Ref. Level        512
```

3.1.2.2 Calibration

This option is used to set the media sensor type and calibrate the selected sensor.　We recommend you calibrate the sensor before printing when changing the media.

```
                         ┌─────────────┐
                         │ Calibration │
                         └──────┬──────┘
        ┌───────────────┬───────┴───────┬───────────────┐
 ┌──────┴──────┐ ┌──────┴──────┐ ┌──────┴──────┐ ┌──────┴──────┐
 │  Gap Mode   │ │ Bline Mode  │ │ Cont. Mode  │ │    Exit     │
 └──────┬──────┘ └──────┬──────┘ └──────┬──────┘ └─────────────┘
        ↓               ↓               ↓
 ┌─────────────┐ ┌─────────────┐ ┌─────────────┐
 │  Automatic  │ │  Automatic  │ │  Automatic  │
 └──────┬──────┘ └──────┬──────┘ └──────┬──────┘
        ↓               ↓               ↓
 ┌─────────────┐ ┌─────────────┐ ┌─────────────┐
 │   Manual    │ │   Manual    │ │   Manual    │
 └──────┬──────┘ └──────┬──────┘ └──────┬──────┘
        ↓               ↓               ↓
 ┌─────────────┐ ┌─────────────┐ ┌─────────────┐
 │ Pre-Printed │ │ Pre-Printed │ │    Exit     │
 └──────┬──────┘ └──────┬──────┘ └─────────────┘
        ↓               ↓
 ┌─────────────┐ ┌─────────────┐
 │    Exit     │ │    Exit     │
 └─────────────┘ └─────────────┘
```

A. Gap Mode

```
Calibration      1/4
> Gap Mode
  Bline Mode
  Cont. Mode
```

```
Gap Mode         1/4
> Automatic
  Manual
  Pre-Printed
```
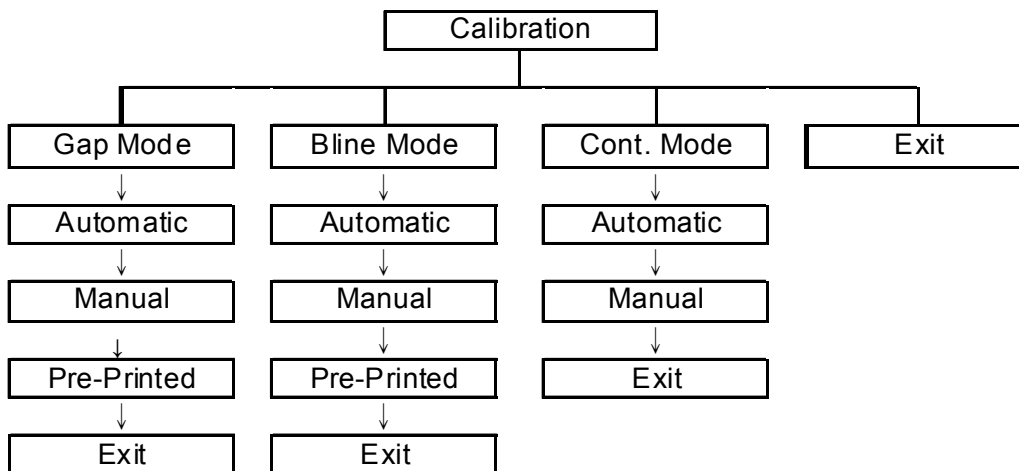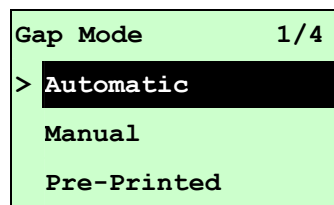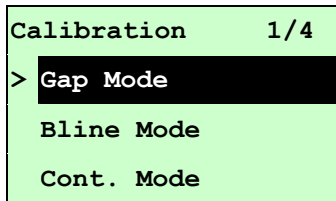
Press the **UP** ⊕ and **DOWN** ⊙ buttons to scroll the cursor to the media type and press the **SELECT** button to enter the sensor calibration mode.

Note: If printing from enclosed software/driver, the software/driver will send out the GAP or BLINE command, which will overwrite the sensor type setting set from the front panel.

A-1 Automatic

When you select the [Automatic] option, you will see the following message, and the printer will feed 2 to 3 gap labels to automatically calibrate the sensor sensitivity. When calibration is completed, the LCD screen will return to the previous menu.

```
Gap Mode
Automatic
```
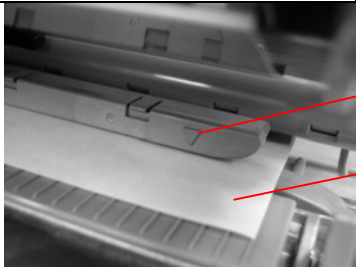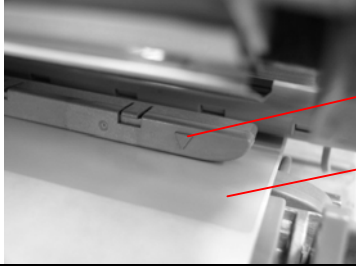
A-2 Manual

In case "Automatic" sensor calibration cannot apply to the media, please use the "Manual" function to calibrate the gap sensor manually.

```
Gap Mode         2/4
  Automatic
> Manual
  Pre-Printed
```
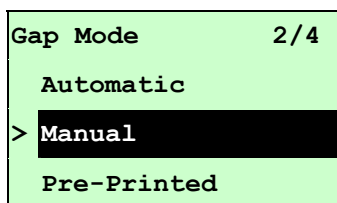
When you select the [Manual] option, you will see the message below. Please complete these steps：

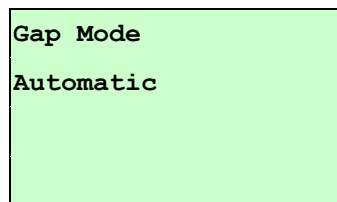|	
Paper Len. **00812 dot**	1. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊕ button to set the value from "0" to "9" and the "dot/ mm/ inch". Press the **SELECT** button to set the paper length into the printer.
Gap Size **0024 dot**	2. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊕ button to set the value from "0" to "9" and the "dot/ mm/ inch". Press the **SELECT** button to set the gap size into the printer.

``` Gap Mode Scan Backing Intensity x Ref. Level xxx ```	3. Open the print head mechanism, put the label backing (liner) under the media sensor. Press the **SELECT** button to set the value into the printer.
Media sensor Label backing (liner)	
``` Gap Mode Scan Paper Intensity x Ref. Level xxx ```	4. Then, put the label with liner under the media sensor. Press the **SELECT** button to set the value into the printer.
Media sensor Label with liner	
``` Gap Mode Complete Intensity x Ref. Level xxx ```	5. The gap sensor calibration is complete. Press the **SELECT** button the LCD screen will return to the previous menu.

A-3 Pre-Printed

This function is used to set the paper length and gap size before the system auto-calibrates the sensor sensitivity. This function can be used to set the sensor sensitivity accurately.

```
Gap Mode         3/4

  Manual

> Pre-Printed

  Exit
```

When you select the [Pre-Printed] option, you will see the following message. Please complete these steps：

Paper Len. **00812 dot**	1. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊙ button to set the value from "0" to "9" and the "dot/ mm/ inch". Press the **SELECT** button to set the paper length into the printer.
Gap Size **0024 dot**	2. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊙ button to set the value from "0" to "9" and the "dot/ mm/ inch". Press the **SELECT** button to set the gap size into the printer.
Gap Mode **Pre-Printed**	3. Then, printer will feed labels to calibrate the sensor sensitivity automatically. When calibration is completed, the LCD screen will return to the previous menu.

B. Bline Mode
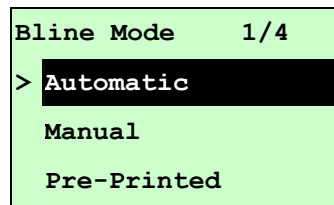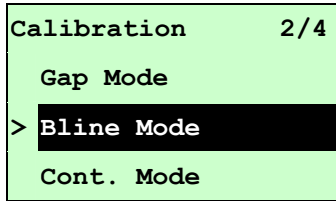
```
Calibration      2/4
  Gap Mode
> Bline Mode
  Cont. Mode
```

```
Bline Mode      1/4
> Automatic
  Manual
  Pre-Printed
```

Press the UP ⊕ and DOWN ⊙ buttons to scroll the cursor to the sensor type. Press the SELECT button to enter the black-mark sensor calibration mode.

B-1 Automatic

When enter the [Automatic] option, you will see the following message and the printer will feed the black mark label to calibrate the sensor sensitivity automatically. When the calibration process is completed, the LCD screen will return to the previous menu.

```
Bline Mode
Automatic
```
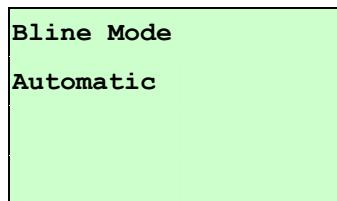
B-2 Manual

In case "Automatic" sensor calibration cannot apply to the media, please use the "Manual" function to calibrate the bline sensor manually.

```
Bline Mode      2/4
  Automatic
> Manual
  Pre-Printed
```

When you select the [Manual] option, you will see the following message. Please complete these steps：

Paper Len. **00151 dot**	1. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊕ button to set the value from "0" to "9" and the "dot/ mm/ inch". Press the **SELECT** button to set the paper length into the printer.
Bline Size **0024 dot**	2. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊕ button to set the value from "0" to "9" and the "dot/ mm/ inch". Press the **SELECT** button to set the bline size into the printer.

Bline Mode **Scan Mark** **Intensity x** **Ref. Level xxx**	3. Open the print head mechanism, put the black mark under the media sensor. Press the **SELECT** button to set the value into the printer.
Media sensor Black mark	
Bline Mode **Scan Paper** **Intensity x** **Ref. Level xxx**	4. Then, put the label without black mark under the media sensor. Press the **SELECT** button to set the value into the printer.
Media sensor Label without black mark	

Note:
Normally, the value of "Ref. Level" for mark should be larger than paper for over 128. If the media sensor fails to do so, you have to manually change the Intensity by pressing **UP** ⊕ and **DOWN** ⊙ to reach the above value.

Bline Mode **Complete** **Intensity x** **Ref. Level xxx**	5. The bline sensor calibration is complete. Press the **SELECT** button the LCD screen will return to the previous menu.

B-3 Pre-Printed

This function can be used to set the paper length and gap size before you auto-calibrate the sensor sensitivity. It is used to set the sensor sensitivity accurately.

```
Bline Mode        3/4
  Manual
> Pre-Printed
  Exit
```

When you select the [Pre-Printed] option, you will see the following message. Please complete these steps：

Paper Len. **00812 dot**	1. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊙ button to set the value from "0" to "9" and the "dot/ mm/ inch". Press the **SELECT** button to set the paper length into the printer.
Bline Size **0024 dot**	2. Press the **DOWN** ⊙ button to move the cursor from left digit to right digit, and press the **UP** ⊙ button to set the value from "0" to "9" and the "dot/ mm/ inch". Press the **SELECT** button to set the bline size into the printer.
Bline Mode **Pre-Printed**	3. Then, printer will feed labels to calibrate the sensor sensitivity automatically. When calibration is completed, the LCD screen will return to the previous menu.

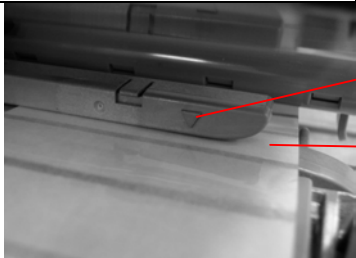## C. Cont. Mode

```
Calibration      3/4
  Bline Mode
> Cont. Mode
  Exit
```

```
Cont. Mode       1/3
> Automatic
  Manual
  Exit
```

Press the **UP** ⊙ and **DOWN** ⊙ buttons to scroll the cursor to the sensor type. Press the **SELECT** button to enter the black-mark sensor calibration mode.

C-1 Automatic

When you select the [Automatic] option, you will see the following message and the printer will calibrate the sensor sensitivity automatically. When the calibration process is completed, the LCD screen will return to the previous menu.

```
Cont. Mode
Automatic
```
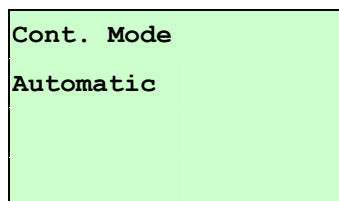
C-2 Manual

In case "Automatic" sensor calibration cannot apply to the media, please use the "Manual" function to calibrate the sensor manually.
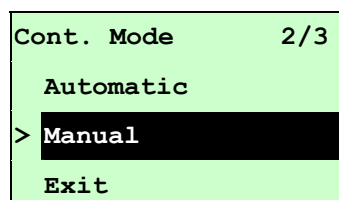
```
Cont. Mode       2/3
  Automatic
> Manual
  Exit
```
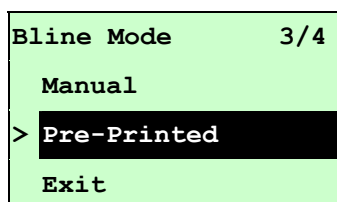
When you select the [Manual] option, you will see the following message. Please complete these steps：

```Cont. Mode``` ```Remove Label``` ```Intensity x``` ```Ref. Level xxx```	1. Remove the continuous label. Press the **SELECT** button to set the value into the printer.
```Cont. Mode``` ```Scan Paper``` ```Intensity x``` ```Ref. Level xxx```	2. Then, put the continuous label under the media sensor. Press the **SELECT** button to set the value into the printer.

| ```
Cont. Mode

Complete

Intensity         x

Ref. Level      xxx
``` | 3. The sensor calibration is complete. Press the **SELECT** button the LCD screen will return to the previous menu. |

3.1.3 Serial Comm.

```
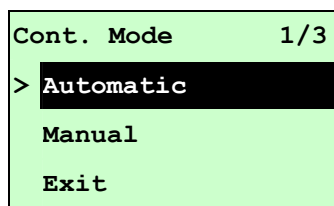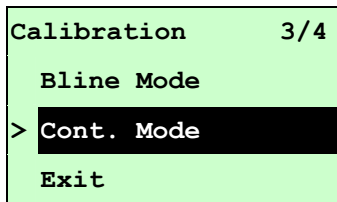                              ┌──────────────┐
                              │ Serial Comm. │
                              └──────┬───────┘
        ┌──────────────┬────────────┼────────────┬──────────────┐
        ↓              ↓             ↓            ↓              ↓
  ┌───────────┐  ┌───────────┐ ┌───────────┐ ┌───────────┐ ┌───────────┐
  │ Baud Rate │  │  Parity   │ │ Data Bits │ │ Stop Bit(s)│ │   Exit   │
  └─────┬─────┘  └─────┬─────┘ └─────┬─────┘ └─────┬─────┘ └───────────┘
        ↓              ↓             ↓            ↓
  ┌───────────┐  ┌───────────┐ ┌───────────┐ ┌───────────┐
  │ 1200 bps  │  │   None    │ │     7     │ │     1     │
  └─────┬─────┘  └─────┬─────┘ └─────┬─────┘ └─────┬─────┘
        ↓              ↓             ↓            ↓
  ┌───────────┐  ┌───────────┐ ┌───────────┐ ┌───────────┐
  │ 2400 bps  │  │    Odd    │ │     8     │ │     2     │
  └─────┬─────┘  └─────┬─────┘ └─────┬─────┘ └─────┬─────┘
        ↓              ↓             ↓            ↓
  ┌───────────┐  ┌───────────┐ ┌───────────┐ ┌───────────┐
  │ 4800 bps  │  │   Even    │ │   Exit    │ │   Exit    │
  └─────┬─────┘  └─────┬─────┘ └───────────┘ └───────────┘
        ↓              ↓
  ┌───────────┐  ┌───────────┐
  │ 9600 bps  │  │   Exit    │
  └─────┬─────┘  └───────────┘
        ↓
  ┌───────────┐
  │ 19200 bps │
  └─────┬─────┘
        ↓
  ┌───────────┐
  │ 38400 bps │
  └─────┬─────┘
        ↓
  ┌───────────┐
  │ 57600 bps │
  └─────┬─────┘
        ↓
  ┌───────────┐
  │115200 bps │
  └─────┬─────┘
        ↓
  ┌───────────┐
  │   Exit    │
  └───────────┘
```

3.1.3.1 Baud Rate

```
Serial Comm.    1/5       Baud Rate       4/9
> Baud Rate               > 9600 bps
  Parity                    19200 bps
  Data Bits                 38400 bps
```

This option is used to set the RS-232 baud rate. The default setting is 9600 bps.
Press **UP** ⊛ and **DOWN** ⊙ buttons to select the different baud rate and press **SELECT** button to set the value into printer. When you enter this list, the baud rate value in the right side of ">" icon is the current setting in the printer. Press ▤ **MENU** key to cancel the setting and return to the previous menu.

3.1.3.2 Parity

```
Serial Comm.    2/5       Parity          1/4
  Baud Rate               > None
> Parity                    Odd
  Data Bits                 Even
```

This option is used to set the RS-232 parity. The default setting is "None". Press **UP** ⊛ and **DOWN** ⊙ buttons to select the different parity and press **SELECT** button to set the value into printer. When you enter this list, the parity in the right side of ">" is the printer current setting. Press ▤ **MENU** key to cancel the setting and return to the previous menu.

3.1.3.3 Data Bits:

```
Serial Comm.    3/5       Data Bits       2/3
  Baud Rate                 7
  Parity                  > 8
> Data Bits                 Exit
```

This option is used to set the RS-232 Data Bits. The default setting is "8" data bits. Press **UP** ⊛ and **DOWN** ⊙ buttons to select the different Data Bits and press **SELECT** button to set the value into printer. When you enter this list, the Data Bits in the right side of ">" icon is the printer current setting. Press ▤ **MENU** key to cancel the setting and return to the previous menu.

3.1.3.4 Stop Bit(s):

```
Serial Comm.     4/5      Stop Bit(s)      1/3
  Parity                  > 1
  Data Bits                 2
> Stop Bit(s)               Exit
```

This option is used to set the RS-232 Stop Bits. The default setting is "1" stop bit. Press **UP** ⊕ and **DOWN** ⊙ buttons to select the different Stop Bits and press **SELECT** button to set the value into printer. When you enter this list, the option in the right side of ">" icon is the printer current setting. Press ▤ **MENU** key to cancel the setting and return to the previous menu.

3.1.4 Ethernet

Use this menu to configure internal Ethernet configuration check the printer's Ethernet module status, and reset the Ethernet module. This function is available on the LCD display when Ethernet card is installed.

Press the **UP** ⊙ and **DOWN** ⊙ buttons to select the different options and press **SELECT** button to enter the option. Press the ☰ **MENU** key to cancel the setting and return to the previous menu.

```
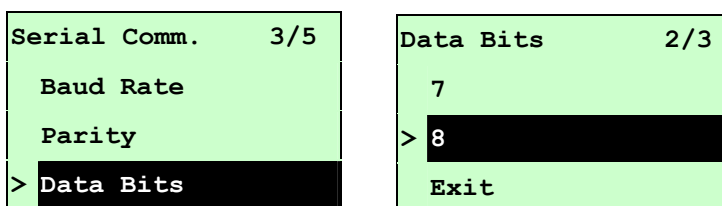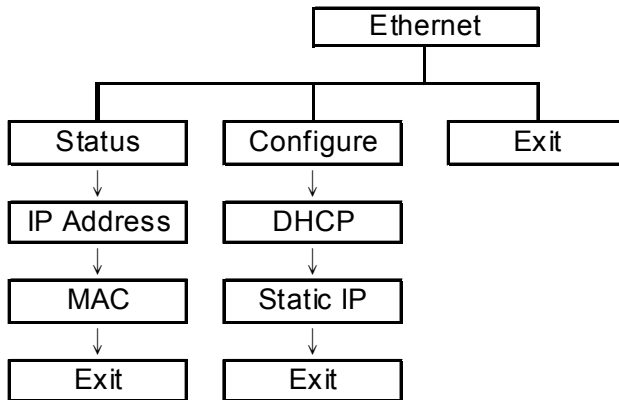                          ┌──────────────┐
                          │   Ethernet   │
                          └──────────────┘
              ┌──────────────────┼──────────────────┐
       ┌──────────────┐   ┌──────────────┐   ┌──────────────┐
       │    Status    │   │  Configure   │   │     Exit     │
       └──────────────┘   └──────────────┘   └──────────────┘
              ↓                  ↓
       ┌──────────────┐   ┌──────────────┐
       │  IP Address  │   │     DHCP     │
       └──────────────┘   └──────────────┘
              ↓                  ↓
       ┌──────────────┐   ┌──────────────┐
       │     MAC      │   │   Static IP  │
       └──────────────┘   └──────────────┘
              ↓                  ↓
       ┌──────────────┐   ┌──────────────┐
       │     Exit     │   │     Exit     │
       └──────────────┘   └──────────────┘
```

Note:

This function is available for 610 series only and option for 608 series.

3.1.4.1 Status: (IP Address / MAC)

Use this menu to check the Ethernet setting status.

3.1.4.1.1 IP Address

```
Ethernet      1/3        Status        1/3        IP Address
                                                  0.0.0.0
> Status                 > IP Address
                                                  Subnet Mask
  Configure                MAC
                                                  0.0.0.0
  Exit                     Exit
                                                  Gateway

                                                  0.0.0.0
```

The IP address information will be shown on the LCD display. Please press **SELECT** or ☰ **MENU** button to return to the previous menu.

3.1.4.1.2 MAC

```
Ethernet        1/3      Status          2/3      MAC Address
> Status                   IP Address
  Configure              > MAC                     001B82-FF0918
  Exit                     Exit
```

The MAC address information will be shown on the LCD display. Please press **SELECT** or **☰ MENU** button to return to the previous menu.

3.1.4.2 Configure: (DHCP / Static IP)

Use this menu to set the printer's DHCP and Static IP.

3.1.4.2.1 DHCP

```
Ethernet        2/4      Configure       1/3
  Status                 > DHCP
> Configure                Static IP
  Reset                    Exit
```

Press **UP ⊙** and **DOWN ⊙** buttons to select the DHCP function and press **SELECT** to enter. Press **☰ MENU** key to cancel the setting and return to the previous menu.

```
        DHCP
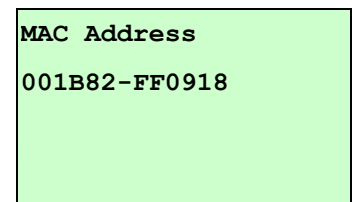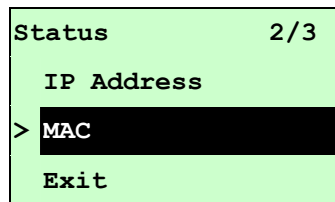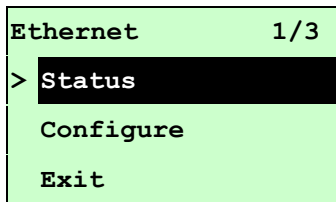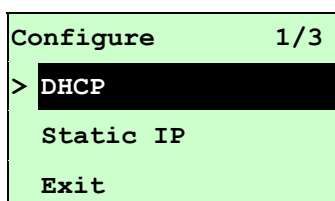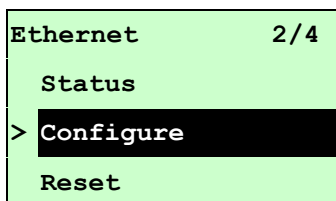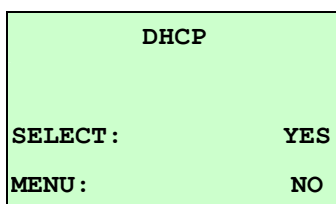

SELECT:          YES
MENU:             NO
```

Press **SELECT** button the printer will set DHCP and restart to reset the setting.

Press **☰ MENU** button to return to the previous menu.

3.1.4.2.2 Static IP

Use this menu to set the printer's IP address, subnet mask and gateway.

```
Ethernet          2/3        Configure          2/3
  Status                       DHCP
> Configure                  > Static IP
  Exit                         Exit
```

Press **UP** ⊕ and **DOWN** ⊙ buttons to select the different options and press **SELECT** button to enter the option. Press ▤ **MENU** key to cancel the setting and return to the previous menu.

```
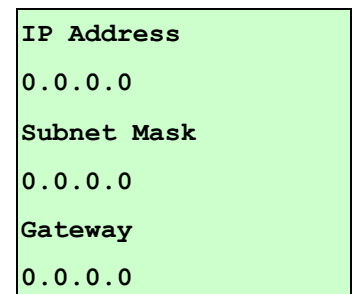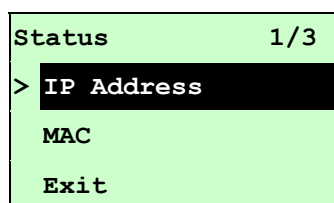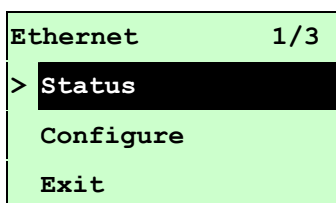IP Address                   Subnet Mask                  Gateway
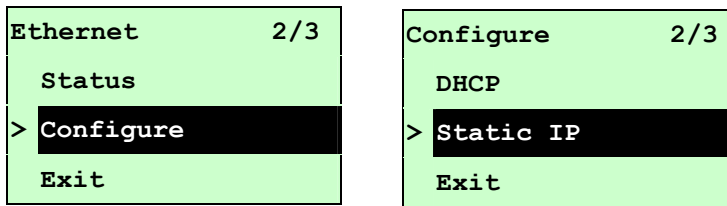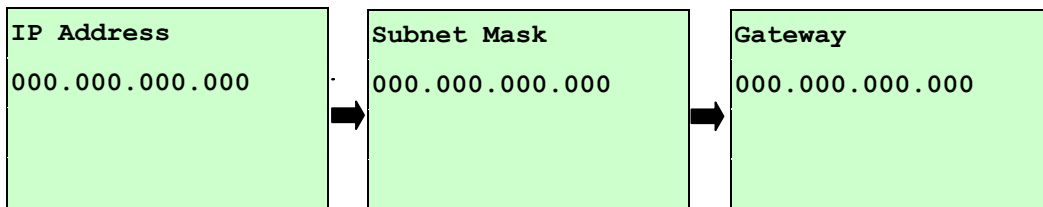
000.000.000.000              000.000.000.000              000.000.000.000
```

Press **DOWN** ⊙ button to move the cursor from left to right digits and press the **UP** ⊕ button to scroll the value from "0" to "9". Press **SELECT** button to next setting.

```
       Static IP


SELECT:           YES
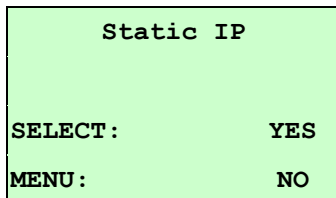
MENU:              NO
```

Press the **SELECT** button printer will restart to reset the Ethernet module setting. Press ▤ **MENU** key to cancel the setting.

3.2 File Manager

This feature is used to check the printer available memory and file list.

```
                    ┌──────────────────┐
                    │   File Manager   │
                    └──────────────────┘
         ┌──────────────┬──────────────┬──────────────┐
  ┌───────────┐  ┌──────────────┐ ┌──────────────┐ ┌──────────┐
  │ File List │  │ Avail. Memory│ │ Del. All Files│ │  Exit    │
  └───────────┘  └──────────────┘ └──────────────┘ └──────────┘
        ↓                              ↓
  ┌───────────┐                  ┌──────────────┐
  │   DRAM    │                  │    DRAM      │
  └───────────┘                  └──────────────┘
        ↓                              ↓
  ┌───────────┐                  ┌──────────────┐
  │   FLASH   │                  │    FLASH     │
  └───────────┘                  └──────────────┘
        ↓                              ↓
  ┌───────────┐                  ┌──────────────┐
  │   CARD    │                  │    CARD      │
  └───────────┘                  └──────────────┘
        ↓                              ↓
  ┌───────────┐                  ┌──────────────┐
  │   Exit    │                  │    Exit      │
  └───────────┘                  └──────────────┘
```

3.2.1 File List

Use this menu to show, delete and run (.BAS) the files saved in the printer DRAM/Flash/Card memory.

To show the files：

```
File Manager    1/4     File List       2/4     FLASH File List
> File List             > FLASH                 > DEMO.TTF
  Avail. Memory           CARD                     DEMO.BAS
  Del. All Files          Exit
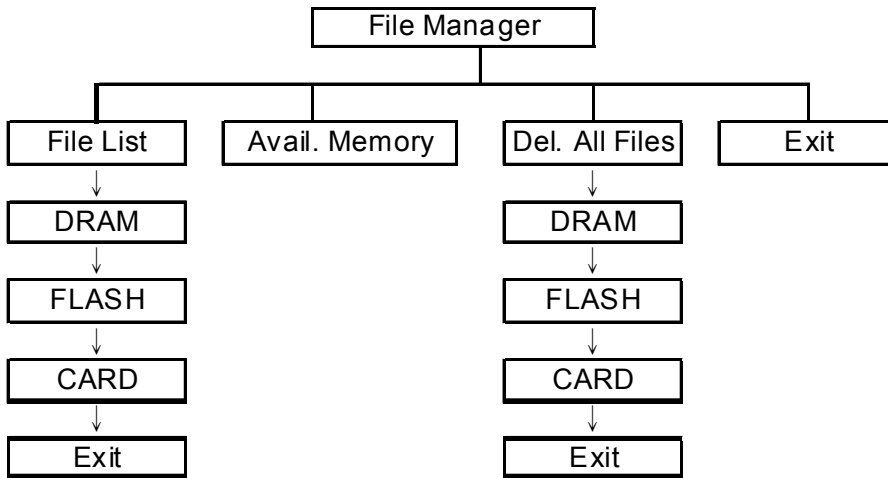```

To delete the file：Please follow the order to press the **DOWN** ⊙ button.

```
FLASH File List         DEMO.TTF
> DEMO.TTF                            1.75 MB
  DEMO.BAS
                        DOWN:          Delete
```

To run the file (.BAS)：Please follow the order to press the **SELECT** button.

```
FLASH File List         DEMO.BAS
  DEMO.TTF                          406 Byte(S)
> DEMO.BAS              DOWN:          Delete
                        SELECT:           Run
```

3.2.2 Avail. Memory

Use this menu to show available memory space.

```
File Manager      2/4      Avail. Memory
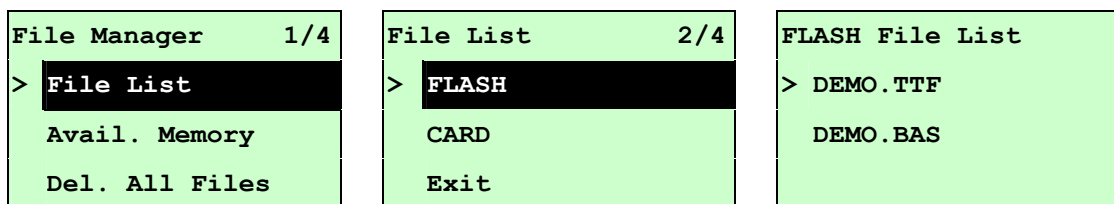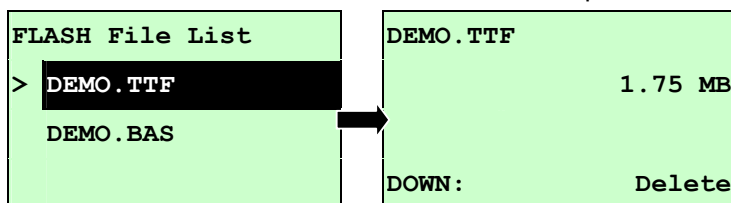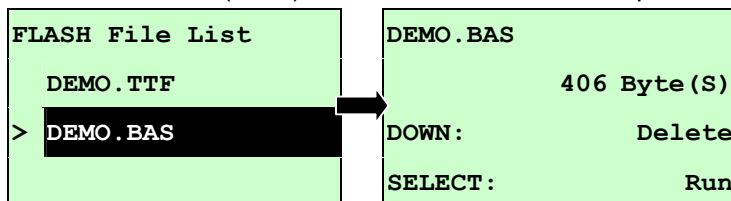
    File List              DRAM:            256 KB

>   Avail. Memory          FALSH:          6656 KB

    Del. All Files         CARD:              0 KB
```

3.2.3 Del. All Files

Use this menu to delete all files. Press **SELECT** button to delete all files in the device. Press ☰ **MENU** to cancel deleting files and go back to previous menu.

```
File Manager      3/4      File List        1/4      Del. All Files

    File List            >  DRAM

    Avail. Memory           FALSH                    SELECT:           YES

>   Del. All File           CARD                     MENU:              NO
```

3.3 Diagnostics

```
                          ┌─────────────┐
                          │ Diagnostics │
                          └──────┬──────┘
         ┌────────────────┬──────┴────────┬────────────────┐
┌────────────┐  ┌────────────┐  ┌──────────────┐  ┌────────┐
│Print Config.│  │ Dump Mode │  │ Rotate Cutter│  │  Exit  │
└────────────┘  └────────────┘  └──────────────┘  └────────┘
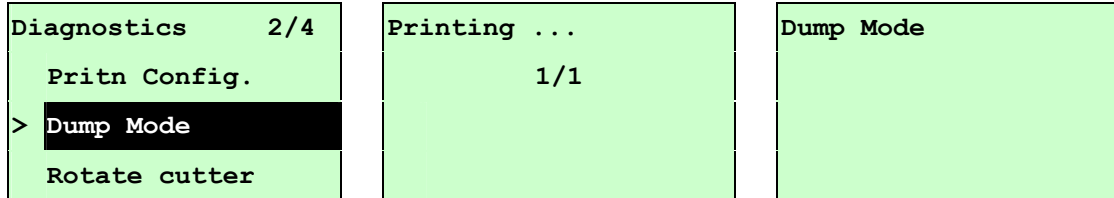```

## 3.3.1 Print Config.

This feature is used to print current printer configuration to the label. On the sconfiguration printout, there is a print head test pattern, which is useful for checking if there is any dot damage on the print head heater element.

```
┌───────────────────────┐  ┌───────────────────────┐  ┌───────────────────────┐
│ Diagnostics      1/4  │  │ Self Test ...         │  │ Printing ...          │
│                       │  │                       │  │                       │
│> Print Config.        │  │                       │  │              1/1      │
│                       │  │                       │  │                       │
│  Dump Mode            │  │                       │  │                       │
│                       │  │                       │  │                       │
│  Rotate Cutter        │  │                       │  │                       │
└───────────────────────┘  └───────────────────────┘  └───────────────────────┘
```

Self-test printout

```
PRINTER INFO.                           ──── Print head check pattern
[print head check pattern]              ──── Model name and F/W version
XXXXXXXX Version: X.XX                   ──── Printed mileage (meter)
MILAGE(m): 0                            ──── Firmware checksum
CHECKSUM: XXXXXXXX                       ──── Serial port configuration
SERIAL PORT: 9600,N,8,1                  ──── Code page
CODE PAGE: 850                          ──── Country code
COUNTRY CODE: 001                        ──── Print speed (inch/sec)
SPEED: X INCH                           ──── Print darkness
DENSITY: 8                              ──── Label size (inch)
SIZE: 4.00 , 4.00                        ──── Gap distance (inch)
GAP: 0.12 , 0.00                         ──── Gap/black mark sensor sensitivity
TRANSPARENCE: XX
**********************************
FILE LIST:
DRAM FILE:            0 FILE(S)
                                         ──── Numbers of download files
FLASH FILE:          0 FILE(S)               Total & available memory space
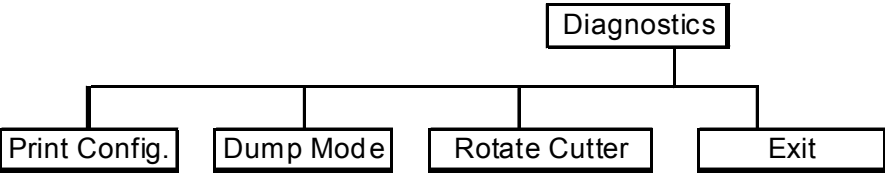
PHYSICAL  DRAM:     XXXX KBYTES
AVAILABLE DRAM:     XXXX KBYTES FREE
PHYSICAL  FLASH:    XXXX KBYTES
AVAILABLE FLASH:    XXXX KBYTES FREE
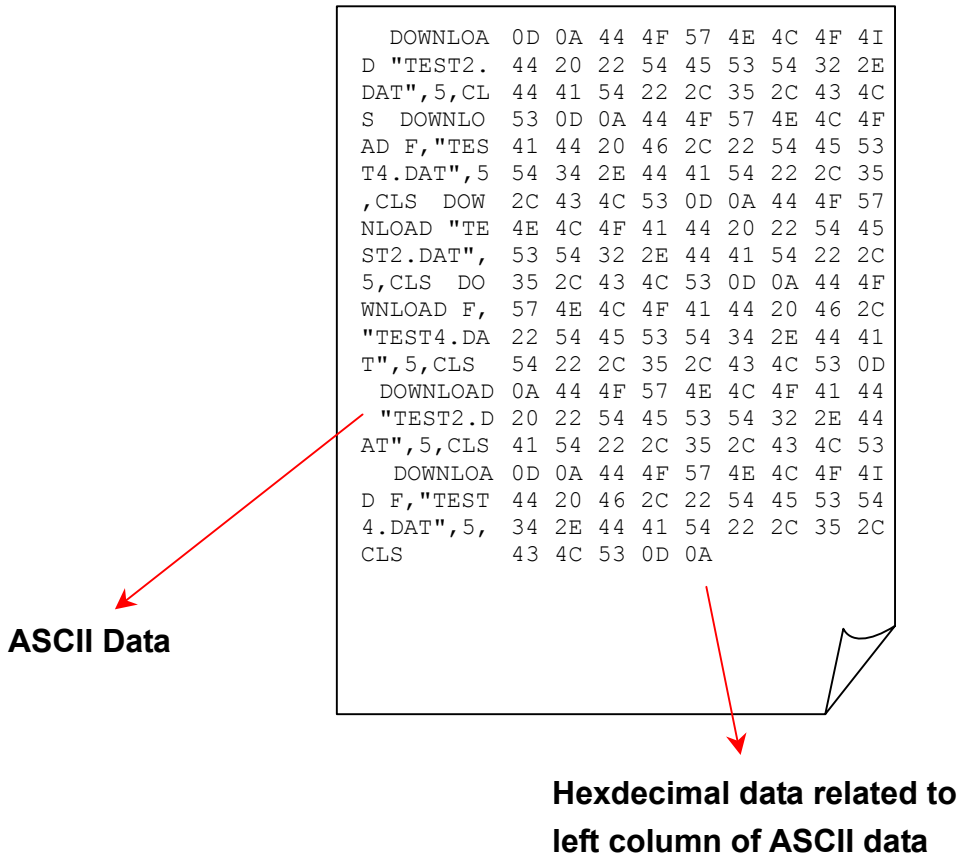END OF FILE LIST
**********************************
```

50

3.3.2 Dump Mode

Captures the data from the communications port and prints out the data received by printer. In the dump mode, all characters will be printed in 2 columns as following. The left side characters are received from your system and right side data are the corresponding hexadecimal value of the characters. It allows users or engineers to verify and debug the program.

```
Diagnostics      2/4          Printing ...              Dump Mode
  Pritn Config.                       1/1
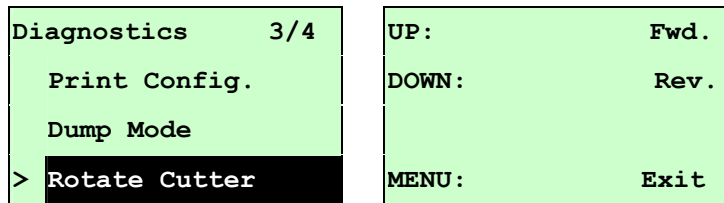> Dump Mode
  Rotate cutter
```

Note:

1. Dump mode requires 4" wide paper width.

2. Turn off / on the power to resume printer for normal printing.

3. Press FEED button to back to the previous menu.

```
  DOWNLOA   0D 0A 44 4F 57 4E 4C 4F 4I
D "TEST2.   44 20 22 54 45 53 54 32 2E
DAT",5,CL   44 41 54 22 2C 35 2C 43 4C
S  DOWNLO   53 0D 0A 44 4F 57 4E 4C 4F
AD F,"TES   41 44 20 46 2C 22 54 45 53
T4.DAT",5   54 34 2E 44 41 54 22 2C 35
,CLS  DOW   2C 43 4C 53 0D 0A 44 4F 57
NLOAD "TE   4E 4C 4F 41 44 20 22 54 45
ST2.DAT",   53 54 32 2E 44 41 54 22 2C
5,CLS  DO   35 2C 43 4C 53 0D 0A 44 4F
WNLOAD F,   57 4E 4C 4F 41 44 20 46 2C
"TEST4.DA   22 54 45 53 54 34 2E 44 41
T",5,CLS    54 22 2C 35 2C 43 4C 53 0D
 DOWNLOAD   0A 44 4F 57 4E 4C 4F 41 44
 "TEST2.D   20 22 54 45 53 54 32 2E 44
AT",5,CLS   41 54 22 2C 35 2C 43 4C 53
  DOWNLOA   0D 0A 44 4F 57 4E 4C 4F 4I
D F,"TEST   44 20 46 2C 22 54 45 53 54
4.DAT",5,   34 2E 44 41 54 22 2C 35 2C
CLS         43 4C 53 0D 0A
```

ASCII Data

**Hexdecimal data related to
left column of ASCII data**

3.3.3 Rotate Cutter

In case paper is jammed in the cutter, this feature can rotate the cutter blade forward or backward, which is helpful to remove the jammed paper from the cutter.

```
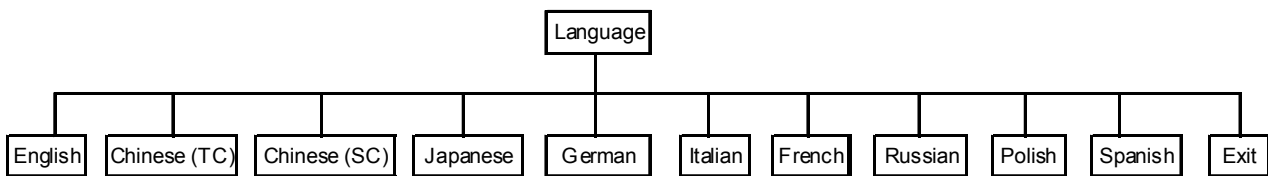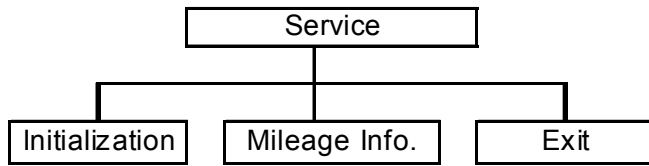Diagnostics    3/4        UP:            Fwd.

   Print Config.          DOWN:          Rev.

   Dump Mode

>  Rotate Cutter          MENU:          Exit
```

3.4 Language

```
                              Language
   ┌──────┬─────────┬──────────┬─────────┬─────────┬────────┬────────┬────────┬────────┬──────┐
English  Chinese (TC) Chinese (SC) Japanese  German   Italian  French  Russian  Polish  Spanish  Exit
```

This option is used to setup the language on LCD display.

Press **UP** ⊙ and **DOWN** ⊙ buttons to scroll the curser to desire language and press **SELECT** button to select this option. Press ▤ **MENU** key to cancel the setting and return to the previous menu. The default language setting is English.

3.5 Service

```
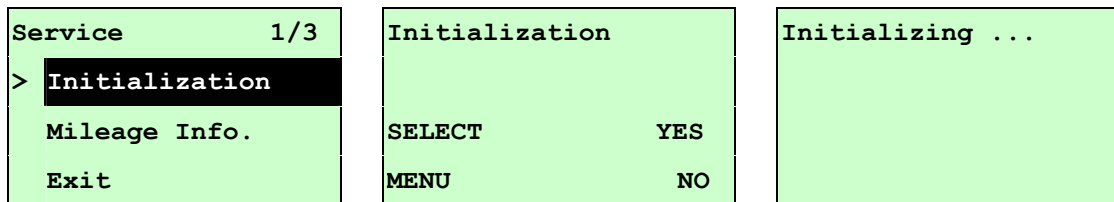                    ┌─────────────────────┐
                    │       Service       │
                    └─────────────────────┘
              ┌──────────────┼──────────────┐
    ┌──────────────┐  ┌──────────────┐  ┌──────────────┐
    │ Initialization│ │ Mileage Info.│  │     Exit     │
    └──────────────┘  └──────────────┘  └──────────────┘
```

This feature is used to restore all printer settings to their defaults and to display printer mileage information.

3.5.1 Initialization

```
┌─────────────────────┐  ┌─────────────────────┐  ┌─────────────────────┐
│ Service        1/3  │  │ Initialization      │  │ Initializing ...    │
│                     │  │                     │  │                     │
│ > Initialization    │  │                     │  │                     │
│                     │  │                     │  │                     │
│   Mileage Info.     │  │ SELECT         YES  │  │                     │
│                     │  │                     │  │                     │
│   Exit              │  │ MENU            NO  │  │                     │
└─────────────────────┘  └─────────────────────┘  └─────────────────────┘
```

The printer settings are restored to defaults as below once printer is initialized.

Note :

When printer initialization is done, please calibrate the gap or black mark sensor before printing.

Parameter	Default setting
Speed	WPL610： 6 IPS (152 mm/sec) WPL608：4 IPS (101.6 mm/sec)
Density	8
Label width	4.00"(101.6mm)
Label height	4.00"(101.6mm)
Sensor type	Gap sensor
Gap setting	0.12"(3.0mm)
Print direction	0
Reference point	0,0(upper left corner)
Offset	0
Print mode	Batch mode
Serial port settings	9600 bps, none parity, 8 data bits, 1 stop bit
Code page	850
Country code	001
Clear flash memory	No
Shift X	0
Shift Y	0
Gap sensor sensitivity	3 (Will be reset. Need to re-calibrate the gap)

Bline sensor sensitivity	2 (Will be reset. Need to re-calibrate the gap)
Language	English
IP address	DHCP

3.5.2 Mileage Info.

Use this option to check the printed mileage (displayed in meter).

```
Service        1/3
  Initialization
> Mileage Info.
  Exit
```

```
Mileage:(m)
                  4016
Labels: (pcs.)
             51698
```

4. Troubleshooting

4.1 Common Problems

The following guide lists the most common problems that may be encountered when operating this bar code printer. If the printer still does not function after you have tried all of these suggested solutions, please Wasp Customer Server for assistance.

Problem	Possible Cause	Recovery Procedure
Power indicator does not illuminate	* The power cord is not properly connected.	* Plug the power cord in printer and outlet. * Switch the printer on.
`Carriage Open`	* The printer carriage is open.	* Please close the print carriage.
`No Ribbon`	* Running out of ribbon. * The ribbon is installed incorrectly.	* Supply a new ribbon roll. * Please refer to the steps in user's manual to reinstall the ribbon.
`No Paper`	* Running out of label. * The label is installed incorrectly. * Gap/black mark sensor is not calibrated.	* Supply a new label roll. * Please refer to the steps in user's manual to reinstall the label roll. * Calibrate the gap/black mark sensor.
`Paper Jam`	* Gap/black mark sensor is not set properly. * Make sure label size is set properly. * Labels may be stuck inside the printer mechanism.	* Calibrate the gap/black mark sensor. * Set label size correctly.
`Take Label`	* Peel function is enabled.	* If the peeler module is installed, please remove the label. * If there is no peeler module in front of the printer, please switch off the printer and install it. * Check if the connector is plugging correctly.

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

Not Printing	* Cable is not well connected to serial or USB interface or parallel port. * The serial port cable pin configuration	* Re-connect cable to interface. * If using serial cable, - Please replace the cable with pin to pin

	is not pin to pin connected.	connected.
		- Check the baud rate setting. The default baud rate setting of printer is 9600,n,8,1.
		* If using the Ethernet cable,
		  - Check if the Ethernet RJ-45 connector green LED is lit on..
		  - Check if the Ethernet RJ-45 connector amber LED is blinking.
		  - Check if the printer gets the IP address when using DHCP mode.
		  - Check if the IP address is correct when using the static IP address.
		  - Wait a few seconds let the printer get the communication with the server then check the IP address setting again.
		* Chang a new cable.
		* Ribbon and media are not compatible.
		* Verify the ribbon-inked side.
		* Reload the ribbon again.
		* Clean the printhead.
		* The print density setting is incorrect.
		* Printhead's harness connector is not well connected with printheat. Turn off the printer and plug the connector again.
		* Check if the stepping motor is plugging in the right connector.
		* Check your program if there is a command PRINT at the end of the file and there must have CRLF at the end of each command line.

Memory full (FLASH / DRAM)	* The space of FLASH/DRAM is full.	* Delete unused files in the FLASH/DRAM. * The max. numbers of file of DRAM is 50 files. * The max. user addressable memory space of DRAM is 256 KB. * The max. numbers of file of FLASH is 256 files. * The max. user addressable memory space of FLASH is 2560 KB for 608 Plus and for 610.

SD card is unable to use	* SD card is damaged.
	* SD card doesn't insert correctly.
	* Use the non-approved SD card manufacturer.
		* Use the supported capacity SD card.
		* Insert the SD card again.
		* The supported SD card spec.
		  - 128MB
		  - 256MB
		  - 512MB
		  - 1GB
		  - 4GB SDHC CLASS 6
		* Approved SD card manufacturers; SanDisk, Transcend

PS/2 port does not work	* Did not turn off power prior to plug in the PS/2 keyboard. * PS/2 keyboard is damaged. * PS/2 keyboard doesn't plug-in correctly. * There is no BAS file in the printer.	* Turn off printer power prior to plug in the PS/2 keyboard . * Plug the PS/2 keyboard again. * Make sure the keyboard is fine. * Make sure if there is any BAS file downloaded into printer.
Poor Print Quality	* Ribbon and media is loaded incorrectly * Dust or adhesive accumulation on the print head. * Print density is not set properly. * Printhead element is damaged. * Ribbon and media are incompatible. * The printhead pressure is not set properly.	* Reload the supply. * Clean the printhead. * Clean the platen roller. * Adjust the print density and print speed. * Run printer self-test and check the print head test pattern if there is dot missing in the pattern. * Change proper ribbon or proper label media. * Adjust the printhead pressure adjustment knob. - If the left side printout is too light, please adjust the left side pressure adjustment knob to the higher index (higher pressure). If the pressure

		adjustment knob has been adjust to index "5" and the poor print quality is still at the left side of the printout, please adjust the pressure adjustment knob to index "1" and use the Z-axis adjustment knob to fine tune the pressure. - If the right side printout is too light, please adjust the right side pressure adjustment knob to the higher index (higher pressure) to improve the print quality. * If the label thickness is more than 0.22 mm, the print quality might be not good enough, please adjust the heater line adjustment screw counter clockwise to get the best print quality. * The release lever does not latch the printhead properly.
LCD panel is dark and keys are not working	* The cable between main PCB and LCD panel is loose.	* Check if the cable between main PCB and LCD is secured or not.
LCD panel is dark but the LEDs are light	* The printer initialization is unsuccessful.	* Turn OFF and ON the printer again. * Initialize the printer.
LCD panel is dark and LEDs are lit on, but the label is feeding forward	* The LCD panel harness connector is loose.	* The LCD panel harness connector is plugged upside down.
Ribbon encoder sensor doesn't work	* The ribbon encoder sensor connector is loose.	* Fasten the connector.
Ribbon end sensor doesn't work	* The connector is loose. * The ribbon sensor hole is covered with dust.	* Check the connector. * Clear the dust in the sensor hole by the blower.
Peel sensor is not working	* Peel sensor is not located on the correct position. * The connector is loose.	* Make sure that the media goes through the Peel sensor. * Plug the connect cable correctly.
Cutter is not working	* The connector is loose.	* Plug in the connect cable correctly.
Label feeding is not stable (skew) when printing	* The media guide does not touch the edge of the media.	* If the label is moving to the right side, please move the label guide to left. * If the label is moving to the left side, please move the label guide to right.
Skip labels when printing	* Label size is not specified properly. * Sensor sensitivity is not set properly. * The media sensor is covered with dust.	* Check if label size is setup correctly. * Calibrate the sensor by Auto Gap or Manual Gap options. * Clear the GAP/Black mark sensor by blower.
The printing position of small label is incorrect	* Media sensor sensitivity is not set properly. * Label size is incorrect. * The parameter Shift Y in the LCD menu is incorrect. * The vertical offset setting in the driver is incorrect.	* Calibrate the sensor sensitivity again. * Set the correct label size and gap size. * Press [MENU] → [SELECT] x3→[DOWN]x6 → [SELECT] to fine tune the parameter of Shift Y. * If using the software BarTender, please set the vertical offset in the driver.

	* Wrong label size setup.	* Set the correct label size.
The left side printout position is incorrect	* Wrong label size setup. * The parameter Shift X in LCD menu is incorrect.	* Set the correct label size. * Press [MENU] → [SELECT] x 3 → [DOWN] x 5 → [SELECT] to fine tune the parameter of Shift X.
Missing printing on the left or right side of label	* Wrong label size setup.	* Set the correct label size.
RTC time is incorrect when reboot the printer	* The battery has run down.	* Check if there is a battery on the main board.
Multi interface board doesn't work	* The installation is incorrect.	* Check if the board is plugged in the right connector.
Power and Error LEDs are blinking fast	* Power switch OFF and ON too fast.	* Turn off the printer and wait all LEDs are dark, and turn on the printer again.
Wrinkle Problem	* Printhead pressure is incorrect. * Ribbon installation is incorrect. * Media installation is incorrect. * Print density is incorrect. * Media feeding is incorrect.	* Please refer to the 5.2 chapter. * Please set the suitable density to have good print quality. * Make sure the label guide touch the edge of the media guide.
Gray line on the blank label	* The printhaed is dirty. * The platen roller is dirty.	* Clean the printhead. * Clean the platen roller.
Irregular printing	* The printer is in Hex Dump mode. * The RS-232 setting is incorrect.	* Turn off and on the printer to skip the dump mode. * Re-set the Rs-232 setting.

4.2 Mechanism Fine Adjustment to Avoid Ribbon Wrinkles

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

Adjustable Printer Parts	Print head pressure adjustment knob — Z-axis mechanism adjustment knob — Ribbon guide plate
Symptom	**1. Wrinkle happens from label lower left to upper right direction (" ╱ ")** — **2. Wrinkle happens from label lower right to upper left direction (" ╲ ")**
Wrinkle Example	Feed direction
	Adjust the print head pressure adjustment knob / **Adjust the print head pressure adjustment knob**

Adjust the print head pressure adjustment knob

Left knob   Right knob

The print head pressure adjustment knob has 5 levels of settings. Clockwise direction adjustment is to increase the print head pressure. Counter Clockwise adjustment can decrease the print head pressure.
If the wrinkle on the label starts from the lower left side to upper right side, please do following

Adjust the print head pressure adjustment knob

Left knob   Right knob

The print head pressure adjustment knob has 5 levels of settings. Clockwise direction adjustment is to increase the print head pressure. Counter Clockwise adjustment can decrease the print head pressure.
If the wrinkle on the label starts from the lower right side to upper left side, please do following

adjustment.

1. Decrease the right side print head pressure adjustment knob setting 1 level per each adjustment then print the label again to check if wrinkle is gone.
2. If the right side print head adjustment knob setting has been set to index 1 (the lowest pressure index), please increase the left side print head pressure.
3. If the left side print head adjustment knob setting has been set to 5 (the highest pressure index) the wrinkle can't be avoid, please rotate the both knobs back to setting 1 then rotate the Z-axis mechanism adjustment knob clockwise for a few degrees and print again for fine tune the print head pressure distribution.

Z axis mechanism adjustment knob

Note for step 3:
*Factory default setting - the Z-axis knob is rotated counter clockwise to the end of thread.
*Turn the Z-axis mechanism adjustment knob clockwise until you feel the knob touch the mechanism for the first adjustment.
* If the wrinkle is still there, please turn the Z-axis mechanism adjustment knob clockwise about 1/4 circle each time for adjustment
* If the winkled direction is change from " ⁄ " to " ＼ " by adjusting the Z-axis mechanism adjustment knob, please turn the Z axis mechanism adjustment knob counter clockwise to avoid the wrinkle.

adjustment.

1. Decrease the left side print head pressure adjustment knob setting 1 level per each adjustment then print the label again to check if wrinkle is gone.
2. If the left side print head adjustment knob level has been set to index 1 (the lowest index), please increase the right side print head pressure.

5. Maintenance

This chapter provides information on the proper cleaning tools and methods to maintain your printer.

1. Please use one of following materials to clean the printer.
- Cotton swab (Head cleaner pen)
- Lint-free cloth
- Vacuum / Blower brush
- 100% ethanol

2. The cleaning process is described as following

Printer Part	Method	Interval
Print Head	1. Always turn off the printer before cleaning the print head. 2. Allow the print head to cool for a minimum of one minute. 3. Use a cotton swab (Head cleaner pen) and 100% ethanol to clean the print head surface. 	Clean the print head when changing a new label roll
Platen Roller	1. Turn the power off. 2. Rotate the platen roller and wipe it thoroughly with 100% ethanol and a cotton swab, or lint-free cloth.	Clean the platen roller when changing a new label roll
Tear Bar/Peel Bar	Use the lint-free cloth with 100% ethanol to wipe it.	As needed
Sensor	Compressed air or vacuum	Monthly
Exterior	Wipe it with water-dampened cloth	As needed
Interior	Brush or vacuum	As needed

Note:
- Do not touch the printer head. If accidentally touch it, use ethanol to clean it.

- Please use 100% Ethanol. DO NOT use medical alcohol, which may damage the printer head.
- Regularly clean the print head and supply sensors when installing a new ribbon to maintain optimal printer performance and extend the printer life.