DURA PRINTER SF

THERMAL PRINTER

Operator's Manual   Rev.B

SF600   600dpi

├─ **SF600-Cutter (Cutter Model)**

└─ **SF600-Peeler (Peeler Model)**

NITTO DENKO

Preface

Thank you very much for your purchasing DURA PRINTER SF by NITTO DENKO.

This manual explains how to operate DURA PRINTER SF and directions for the use of the printer.

Before using DURA PRINTER SF, be sure to read this manual all of the way through in order to use the printer in an optimal fashion.

Keep this manual for future reference.

NITTO DENKO CORPORATION

For the safe use of DURA PRINTER SF, be sure to read "Important Safeguards" before the operation.

■ Items You are Prohibited from Replicating or Printing

You can not always replicate or print everything with this printer. Note that there are cases where you are punished under law.

1. Items you are prohibited from replicating or printing
(There are cases where replicating or printing one of the following items even if "Sample" is written on it.)
· paper notes, bills, bank bills, international securities, local government bonds, and similar items
· postage stamps and revenue stamps of Japan and foreign countries

(Related Laws)
· Bills Similar to Paper Notes Control Law
· Counterfeit Bills and Securities Control Law
· Counterfeit and Forged Postal Stamps and Similar Items Control Law
· Forged Revenue Stamps and Similar Items Control Law
(Penal Code of Japan   Article 148, Article 162)

2. Items you are prohibited from replicating or printing illegally
· foreign paper notes, foreign bills and foreign bank bills
· valuable papers such as stock certificates, drafts and checks
· documents and drawings issued by national or local governments such as passports, licenses, written permissions, identification cards and similar items
· documents and drawings issued privately or by privately-owned companies that approve the rights or facts such as season tickets, coupon tickets, passenger's tickets, meal tickets, and similar items

(Related Laws)
Penal Code of Japan   Article 149, Article 155, Article 159, Article 162
· Law against Counterfeiting, Forging, and Altering Bills, Paper Notes, and Bank Bills that Circulate in Foreign Countries

3. Items protected by copyright
It is prohibited under law to print or make copies of publications protected by copyright (books, music, paintings, printings, maps, drawings, movies, photographs and similar goods) for any purpose other than your own personal use within your home or a similar limited area.

Remedies for Electromagnetic Interference

When DURA PRINTER SF is installed near other electronic gear, they can have a deleterious effect on each other.　Noise may be generated especially on nearby TV sets and radios.

The remedies for such electromagnetic interference are listed below.

- Install the printer as far away as possible from radios and TV sets.
- Reorient the receiving antenna of the TV set or the radio.
- Use separate outlets.

JIS C61000-3-2 compliant device

DURA PRINTER SF complies with JIS C61000-3-2, the harmonic current standard.

DURAPRINTER SF

Contents

DURAPRINTER SF

1. Guides and Manuals

DURA PRINTER SF comes with the following guidebooks.

- Operator's Manual (this document)

  Operator's Manual briefly explains how to operate the printer.   It gives you basic operations you have to know in order to print labels on the printer, such as how to set up the printer and how to load labels and ink ribbon.   It also provides you with important information to operate the printer.

- Printer Driver Manual

  Printer Driver Manual gives you important explanations such as how to use and set up printer driver.

- Easy Guide to Setting up DURA PRINTER SF

  Easy Guide to Setting up DURA PRINTER SF explains the printer setup procedure.

  Operator's Manual and Printer Driver Manual are stored also in the attached CD-ROM.

Important Safeguards

For the safe use of DURA PRINTER SF, the following safety precautions should always be followed.

⚠ Warnings

Be sure to connect the ground. A leakage of current without a proper ground may cause an electric shock or a fire. When you can't use the grounding terminal on the receptacle, ask an electrician to establish a ground. Do not use this printer without grounding.
Do not use a gas pipe as a ground, which could result in a fire or a gas explosion.
Be sure to connect the ground before plugging the power cord in the receptacle. When you remove the grounding, be sure to unplug the power cord to avoid electric shock.

Be sure to use DURA PRINTER SF at the indicated power supply voltage and frequency.
Do not use a multi-outlet adapter to avoid an electric shock and a fire.
Do not use an extension cord.
Do not break, damage, bundle, or adapt the power cord. It is also prohibited to put heavy materials on the cord, to yank the cord or bend it excessively. A damaged power cord may cause an electric shock or a fire.
The plug blades must be clear of metal matters to avoid a fire and an electric shock.
Do not put a vase, a flower pot, a cup, a case containing liquid or metal matters on the printer. The spilt liquid or a foreign material may get into the printer and cause an electric shock or a fire.
The packaged power cord set is exclusive to DURA PRINTER SF. You can't apply it to other electric devices. Do not use a power cord set other than the packaged one for DURA PRINTER SF. An electric shock or a fire may be caused.
Keep away volatile flammables such as benzine, alcohol, thinner, cosmetics, adhesives and coatings from the printer. Do not use flammable and explosive fumes and liquids and other flammables near the printer and toward the inside of the printer. A fire or an explosive may be caused.

Set up the printer as close as possible to the receptacle so that you can easily unplug the power cord under abnormal conditions.
When the power cord is damaged, its core is bare, or it has breaks, ask our service locations for replacement. It may cause a fire or an electric shock to use the damaged power cord.

Do not remove the covers and screws that are not directed to be removed in this document. Since there are parts with high voltage inside the printer, an electric shock is caused if you accidentally touch those parts. Ask one of our service locations for maintenance, adjustment and repair of the components inside the printer.

Do not make modifications to the printer. A fire or an electric shock may be caused.

When abnormal conditions such as smoke or abnormal odors coming from the machine are encountered, turn the power off at once, unplug the power cord, and make contact with one of our service locations. It may cause a fire or an electric shock.

Do not keep using the printer under abnormal conditions.

When some foreign material such as a piece of metal, water and other liquid goes into the printer, turn the power off at once, unplug the power cord, and then make contact with one of our service locations. It may cause an electric shock or a fire to keep using the printer under abnormal conditions.

Do not plug or unplug the power cord with moistened hands to avoid an electric shock.

For the safe use of DURA PRINTER SF, the following safety precautions should always be followed.

⚠ Cautions

Do not place the printer where it will be exposed to dust or dampness to avoid a fire and an electric shock.

Avoid installing the printer on an unstable place such as an unsteady or inclined rack. The printer may fall down or drop down on someone and may cause an injury.

Do not leave the printer with the front and the side covers open. The printer may fall down and cause an injury.

Unplug the power cord before you move the printer to avoid damaging the power cord. A damaged power cord may cause a fire or an electric shock.

If you do not use the printer for a long time, unplug the power cord for the safety reason.

When you care for the printer, unplug the power cord for the safety reason.

Whenever you plug or unplug the power cord, always grasp the plug, not the cord to avoid any damage to the cord. A damaged power cord may cause a fire or an electric shock.

Thermal head is very hot. Be sure not to touch the parts not instructed in this document in removing jammed paper, replacing paper, or cleaning so as not to burn your hands.

Before you clean the thermal head or replace it with a new one, wait more than one hour after turning off the power for the thermal head to cool. A heated thermal head causes burns.

Be careful not to pinch your fingers to avoid injuries when you open or close covers.

The printer weighs approximately 20kg.

When you move the printer, hold it on the bottom and lift it up slowly without undue stress on your body. Straining your body to lift the printer up or treating it roughly, you may drop the printer and be injured.

When you install the printer on the rack, make sure that enough space of the rack surface is kept around the printer. (front: 15cm or more, rear: 5cm or more, left: 10cm or more, right: 30cm or more)

If enough space is not provided, the printer may fall from the rack to cause injuries.

Disconnect the plug from the power supply and clean the blades and the parts around them at least once a year. Gathered dust may cause a fire.

2 Notes on Use

The high temperature inside the printer causes a breakdown.   Do not put things before or against the air outlet so as not to obstruct the flow of air.

The warmth of the air outlet and its surrounding parts is not abnormal, since there are cases where those parts are warmed by exhaust.

Be sure not to open the front and the side covers or move the printer while printing.

Be sure not to turn off the power, unplug the power cord or remove cables while printing.

Turn off the printer when not in use.

Turn off the power before you connect a cable to the connector.

Use a shielded cable for the interface cable.   If an unshielded cable is used, noise may be generated on nearby TV sets and radios.

3 Specifications for Labels and Ribbons

3.1. Specifications for Labels and Ribbons

Use the specified labels and ribbons (ink ribbons) on this printer.

No.	Label	Ribbon
1	DURATACK 10PN	DURAINK 10PN
2	DURATACK PON	DURAINK 10PN
3	DURATACK PT	DURAINK DLH, H, H20
4	DURATACK PTNS	DURAINK DLH, H, H20
5	DURATACK P	DURAINK H, H20
6	DURATACK S40H	DURAINK DWH
7	DURATACK PF	DURAINK PF
8	coated paper	DURAINK G
others	other labels and ribbons specified by NITTO DENKO	

Be sure to use the specified labels and ribbons.

Using non-specified labels or ribbons can result in poor print quality.

Non-specified labels and ribbons may damage the thermal head or the other printer components.

Use non-specified labels or ribbons on your own authority.
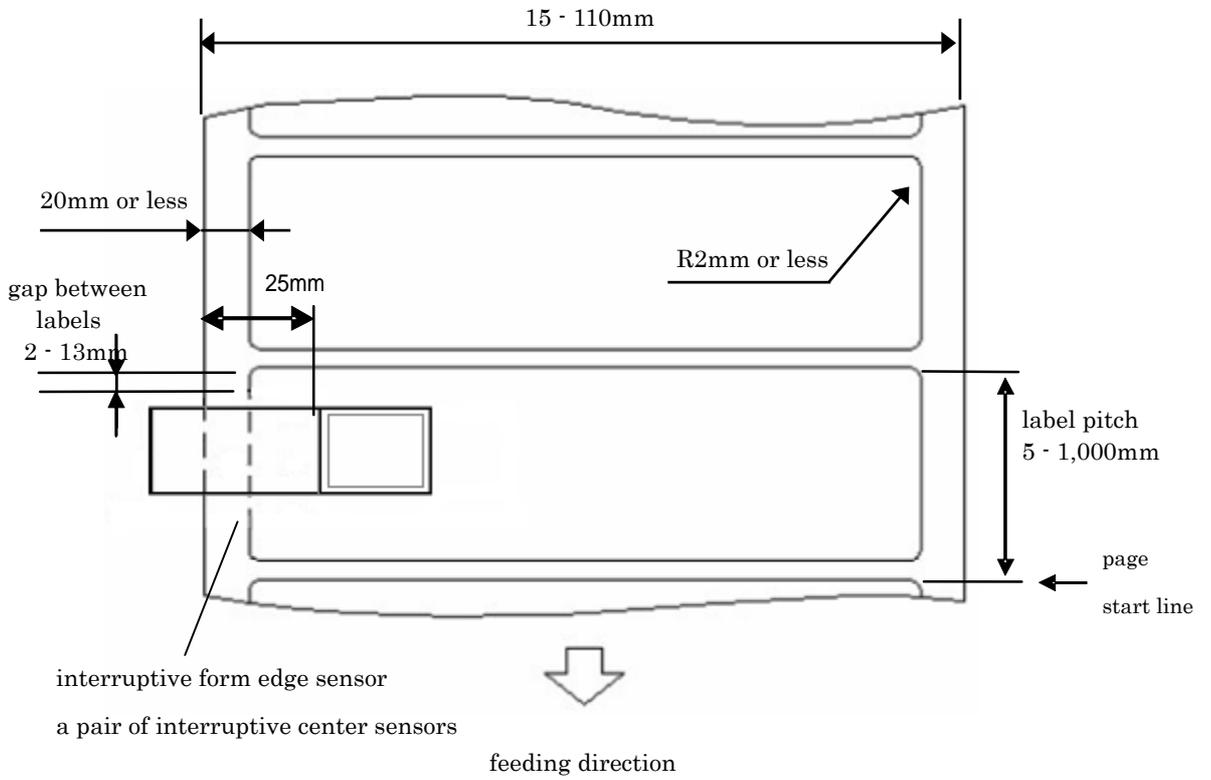
3.2 Paper Size / Ribbon Size

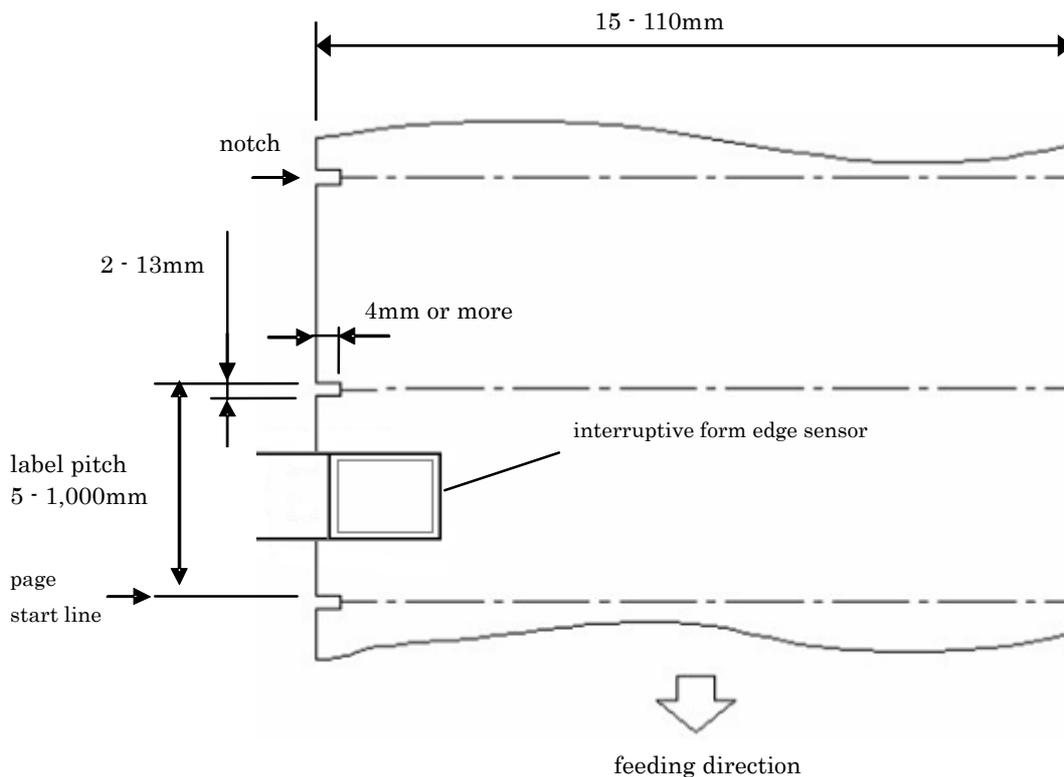| Entries	Standard model	Peeler model	Cutter model
Page width (backing paper width)	15mm - 110mm		
Page thickness (total)	0.08mm - 0.26mm		
Page length (label pitch)	5mm - 1,000mm	12mm - 1,000mm	10mm - 1,000mm
Label length	-	10mm - 998mm	-
Label width	-	10mm or more	-
Label thickness	-	0.05mm or more	-
Backing paper thickness	-	0.1mm or less	-
Backing paper material	-	glassine paper	-
Paper form	Paper roll (Printing surface inside / outside)	Paper roll (Printing surface inside)	Paper roll (Printing surface inside / outside)
Paper roll outer diameter	φ200MAX		
Roll core inner diameter	φ76.2mm		
Ribbon width	40 - 120mm		
Winding direction (ribbon)	Inked surface outside		
Ribbon core inner diameter	φ25.4mm - φ26.4mm		
Ribbon end	Length of ending silver tape 200mm or more		
Ribbon outer diameter	φ70mm or less (Ribbon length: 300m or less)		

Important

You can't use perforated papers on the peeler model.
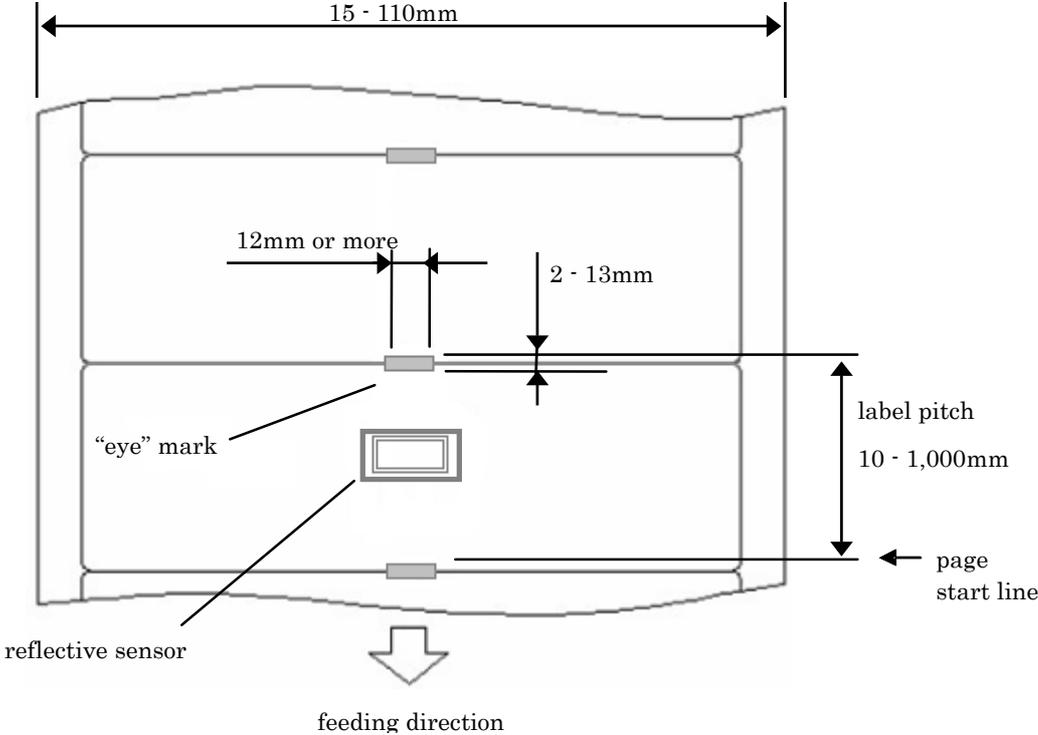
3.3 Paper Type and Suitable Sensor

1. Diecut Paper

15 - 110mm

20mm or less

gap between labels
2 - 13mm

25mm

R2mm or less

label pitch
5 - 1,000mm

page
start line

interruptive form edge sensor

a pair of interruptive center sensors

feeding direction

2. Notched Paper

15 - 110mm

notch

2 - 13mm

4mm or more

interruptive form edge sensor

label pitch
5 - 1,000mm

page
start line

feeding direction

3.　"Eye" Mark Paper

15 - 110mm

12mm or more

2 - 13mm

"eye" mark

label pitch

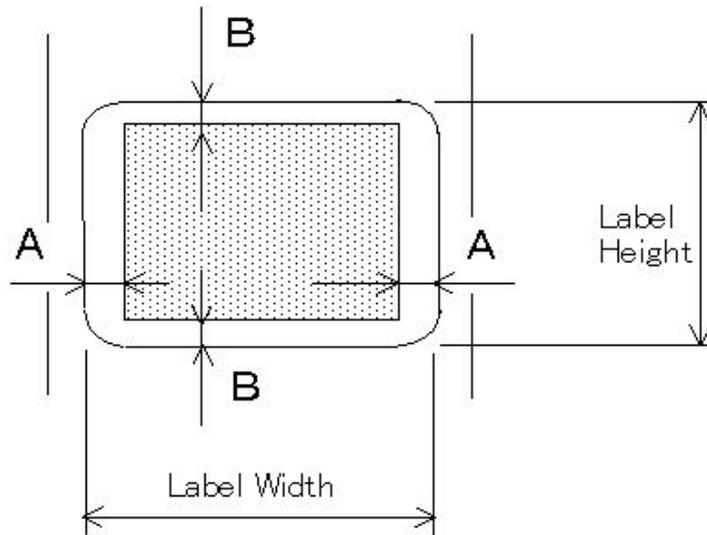10 - 1,000mm

reflective sensor

page start line

feeding direction

3.4. Printing Area

Printing must occur within the shaded regions in the illustrations.
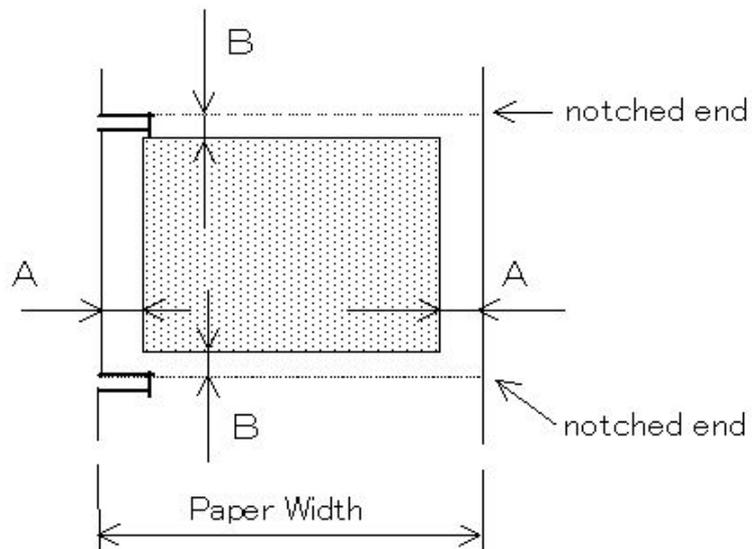
1. Diecut Paper

A = 2mm or more

B = 1.5mm (when the label height is 100mm or less)

B = 2.5mm (when the label height is more than 100mm)

2. Notched Paper

A = 2mm or more

B = 1.5mm (when the notch pitch is 100mm or less)

B = 2.5mm (when the notch pitch is more than 100mm)

3.5. Instructions for Storing Labels and Ribbons

Do not store labels and ribbons in a damp place.

Do not store labels and ribbons in direct sunlight.

Do not store labels and ribbons at a high temperature.

Store the labels and ribbons wrapped up, avoiding dust and dirt.

Store the labels and ribbons on a hard and flat surface so that they will not curl.

3.6. Unsuitable Labels and Ribbons

labels with wrinkles, creases or rips

labels covered with dust

labels and ribbons wavy in the edges

curling labels

damp labels and ribbons

already printed labels / already used ribbons

labels with a worked surface (except those recommended by NITTO DENKO)

labels whose thickness is not within specifications

labels with perforations or holes (except those recommended by NITTO DENKO)

labels with glues coming out on the backing paper from under the labels

labels with highly colored parts

labels and ribbons past the expiration dates

Notes on Selecting Labels and Ribbons

There are a lot of types of ribbons and labels depending on materials, surface types, and works on the surfaces.　To get the best print quality, use labels and ribbons exclusive to this printer. Please take note that NITTO DENKO assumes no responsibility for deteriorations in print quality caused by the paper you get at your own discretion.

Pre-printed Labels

The pre-printed labels that already have frames or lines printed on them may damage the thermal head because of the ink used in pre-printing.　The ink that contains pigment particularly shortens the useful life of the thermal head remarkably.　When you are going to use pre-printed labels, contact us or your dealer and check whether the labels are suitable.

Contact us if you want to use labels pre-printed on the back with a reflective paper sensor ("eye" mark detector).　The reflective paper sensor covers labels pre-printed with special ink only.

What to do when the paper or the ribbon come to end

Ordinarily, all data have not been printed on the label that is coming out of the printer when the paper or the ribbon comes to end.

When the format happened to have white space on the pay-off side of the label, it looks as if the printer finished printing all data on the label. In fact, however, the printer judges that print process for that label has not finished yet, since the label has not fed completely.

When the print process is resumed after a new ribbon or a new paper roll is loaded, the label at which the ribbon or the paper came to end is printed again if Yes is selected in Reprint after error on <Menu> of the control panel. If No is selected, the print process is resumed with the next label. See "9. Control Panel" for further information.

4. Parts Descriptions

External Appearance of DURA PRINTER SF

side cover

Open the side cover when you load the paper roll or the ribbon.

check window

You can check the remaining amount of the labels and the ribbon.

front cover unlock button

Press this button when you open the front cover.

side cover handle

Hold this handle when you open the side cover.

paper outlet slot

The printed labels come out through the outlet slot.

front cover

Open the front cover when you load the paper roll.

control panel

See "9. Control Panel".

power switch

Turn on or off the printer with this switch.

Rear Appearance

USB interface connector

The printer is connected to PC through this connector.

DC5V jack

The optional peripheral equipments are supplied with power through it.

air outlet

The heat inside the printer escapes from the air outlet.

external signal connector

You can connect the printer with external equipments through this interface connector.
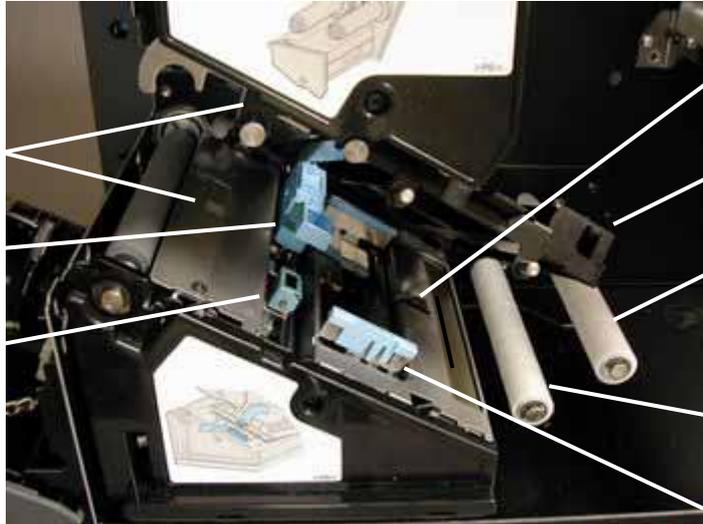
AC power connector

paper feeding slot

Fanfold paper is fed through this slot from outside.

rear cover

- Inside the Printer: Lower Unit

paper end sensor	reflective paper sensor
paper holder	interruptive form edge sensor
paper roll damper	a pair of interruptive center sensors
paper roll guide	
paper guide	

Inside the Printer: Head Unit
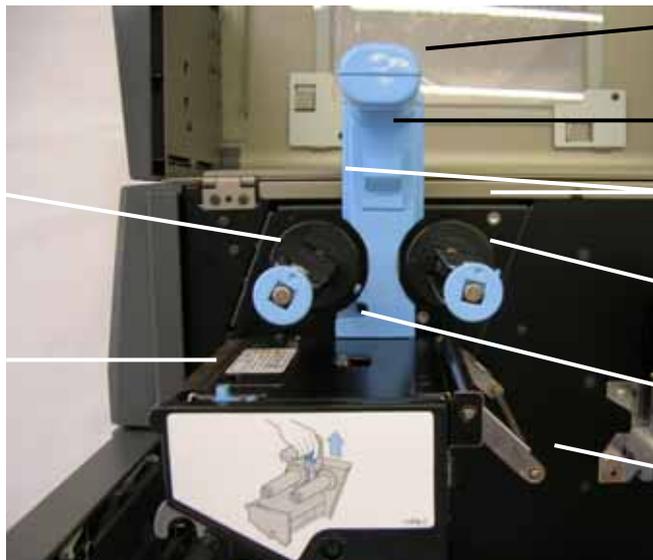
head unit handle	thermal head removing lever
head unit unlock lever	take-up ribbon shaft
ribbon stopper	head pressure changing lever
pay-off ribbon shaft	ribbon tensioner

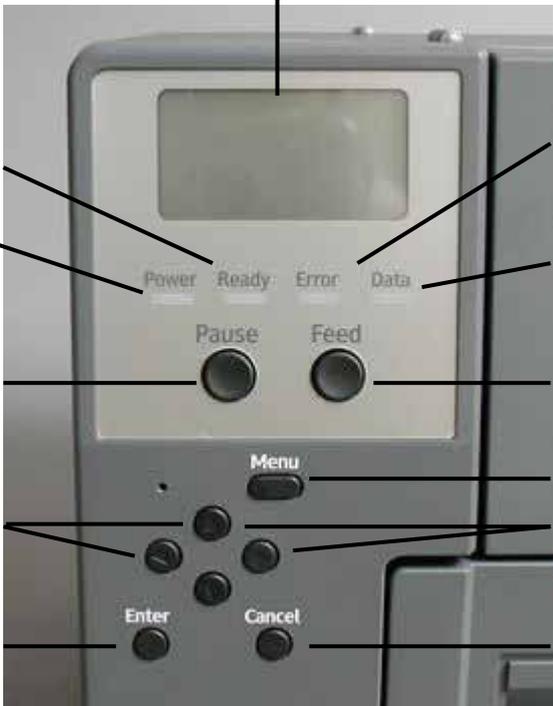● Inside the Printer: Components for Printing
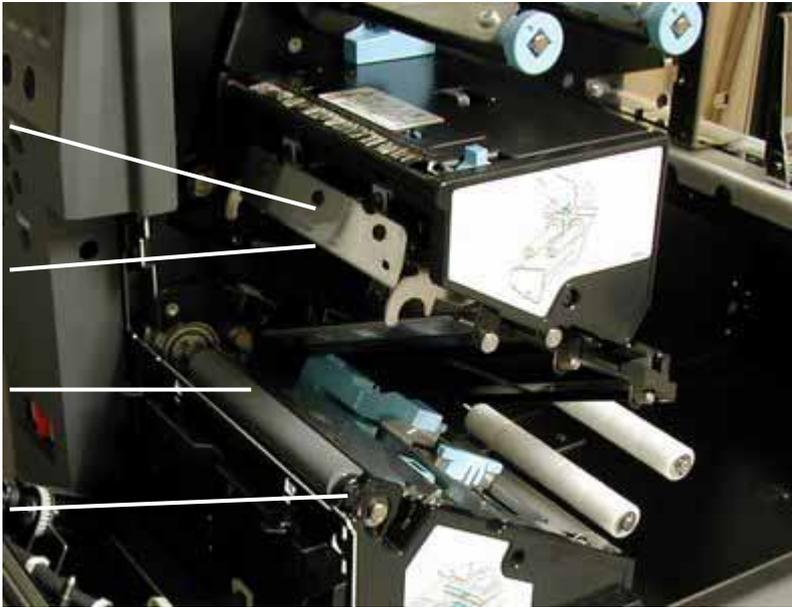
ribbon peeling plate
thermal head
platen roller
platen stopper

● Inside the Printer: Roll Holder
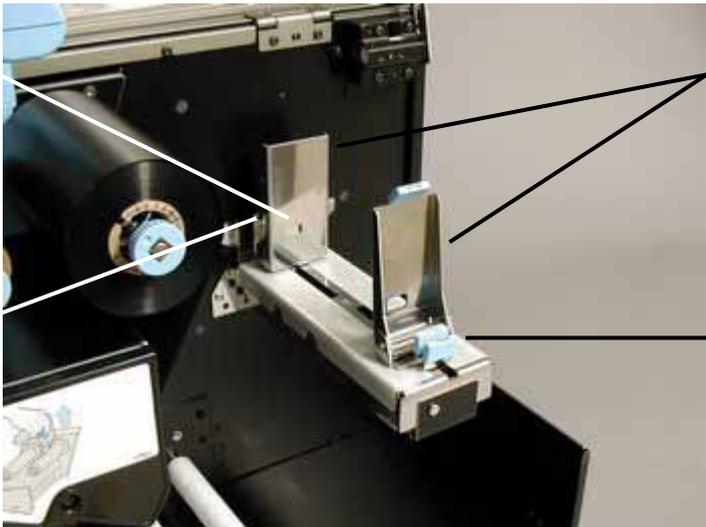
paper guides
paper guide unlock lever
paper near end sensor
paper near end changing lever

Control Panel

LCD	**Pause key**
Power LED (green)	**Feed key**
Ready LED (green)	**Menu key**
Error LED (red)	**Arrow keys**
Data LED (green)	**Enter key**
	Cancel key

Functions of LEDs and keys are listed in the table on the following page.

LCD	Menu and error information are displayed.
Power LED	The LED lights in green during power-up.
Ready LED	The LED lights in green when the printer is ready. It stays out while printer is in pause mode or Menu is displayed.
Error LED	The LED lights in red when an error occurs.
Data LED	The LED flashes when the printer receives data. It lights while data exist in receiving buffer.
Pause key	This key switches the printer between "Pause" and "Ready".
Feed key	The paper is fed by one page..
Menu key	By pressing Menu key while the printer is in ready or pause mode, menu is displayed. Menu key is locked when you press and hold it for a while. When you press and hold it for a while again, the menu key is unlocked.
◀ key	Press this key while menu is displayed to move to the entry on the left side.
▶ key	Press this key while menu is displayed to move to the entry on the right side.
▲ key	Press this key while menu is displayed to move to the entry above.
▼ key	Press this key while menu is displayed to move to the entry below. **If your printer is a cutter model, press and hold this key while the printer is in ready or in pause mode to cut the label.**
Enter key	Press this key while menu is displayed to make the selection.
Cancel key	The value of "Printed Labels" is cleared. When an error occurs, this key cancels the error condition. **Press and hold this key for a while to clear the print data.**

● The details of how to use the keys on control panel are described in "9. Control Panel".

5. How to Print Labels

On this printer, labels are printed with Windows printer driver.

- Printing with Windows printer driver

    You can print labels with Windows applications.

    You can print labels with fonts stored in PC, using DURA PRINTER SF as a Windows printer.

See "Printer Driver Manual" for the procedure and operation in printing labels with Windows printer driver.

6. Unpacking and Installation

6.1 Unpacking

⚠ Cautions

The printer weighs approximately 20kg.

When you move the printer, hold it on the bottom and lift it slowly without undue stress on your body.   Straining your body to lift the printer up or treating it roughly, you may drop the printer and be injured.

Open the outer carton and take out the printer and accessories.

The unpacking instructions, the outer carton, and the padding materials will be needed when it becomes necessary to repack the printer.   Store them carefully for future use.
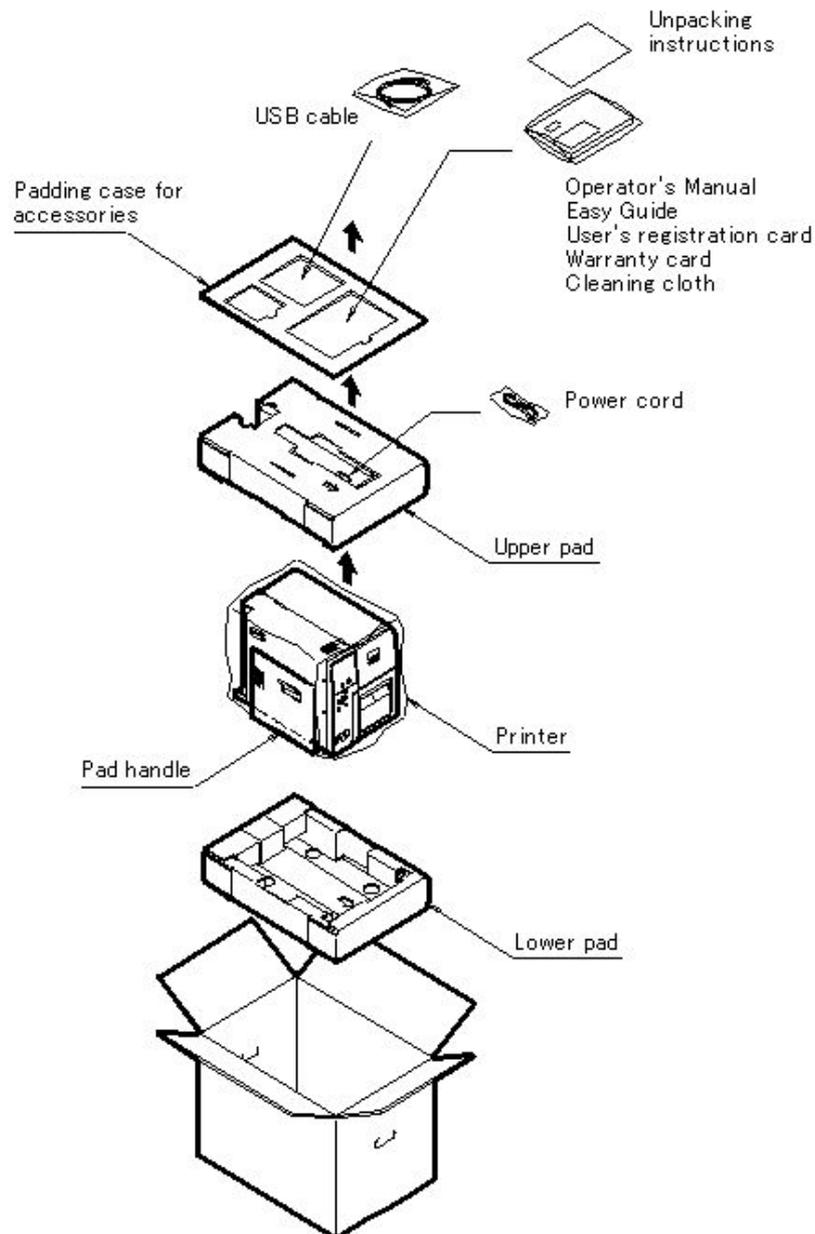
6.2. Packing List Check

⚠ Warning

🚫 The packaged power cord set is exclusive to DURA PRINTER SF. You can't apply it to another electric device. Do not use a power cord set other than the packaged one for DURA PRINTER SF. An electric shock or a fire may be caused.

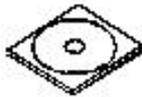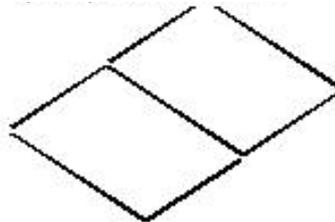Check to see that you have all of the items shown below.

Power cord   Ribbon core

CD-ROM   Printer Driver Manual   Operator s Manual
(this document)

Easy Guide to setting up DURAPRINTER SF

USB2.0-capable cable 2.5m

User's registration card

Warranty card

Unpacking instructions

6.3 Removing the Protective Devices on the Printer

⚠ Caution

Be careful not to pinch your fingers when you open and close the covers to avoid injuries.
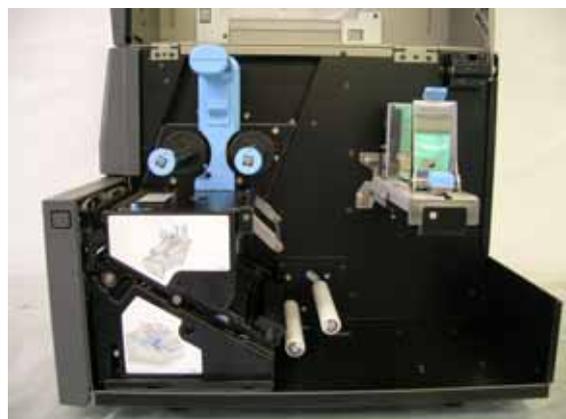
1. Remove all packing materials.

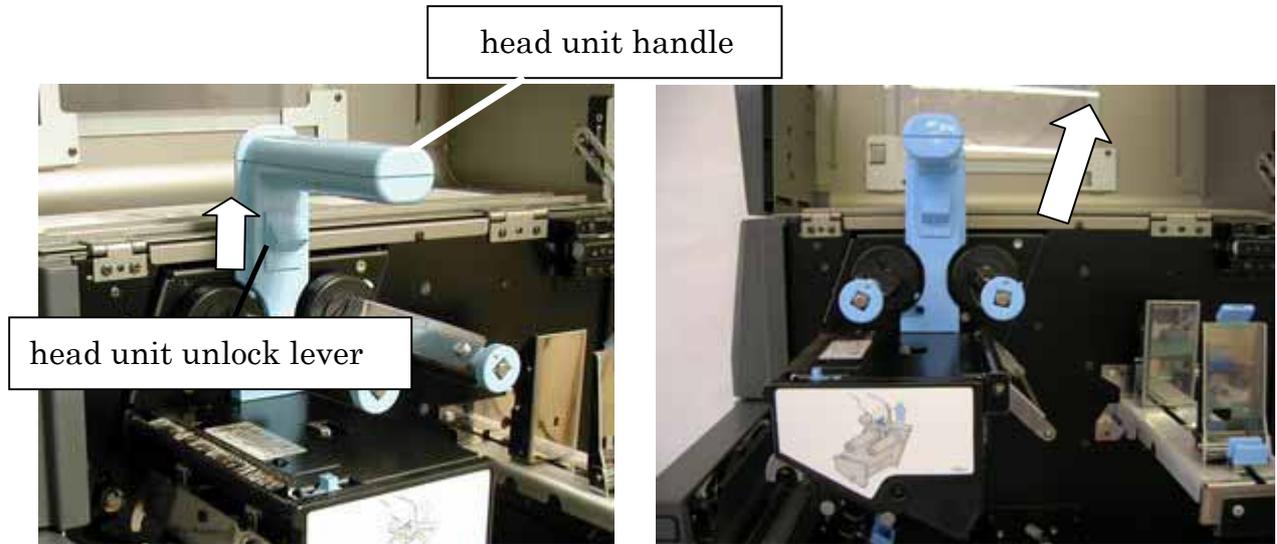**Important**

Do not set the power cord until you finish the installation of the printer.

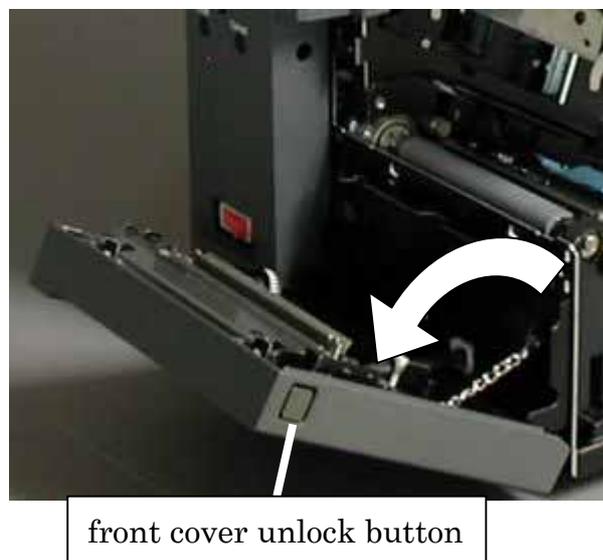2. Hold the side cover handle and open the side cover.

3. Hold the head unit handle and pull up the head unit unlock lever.

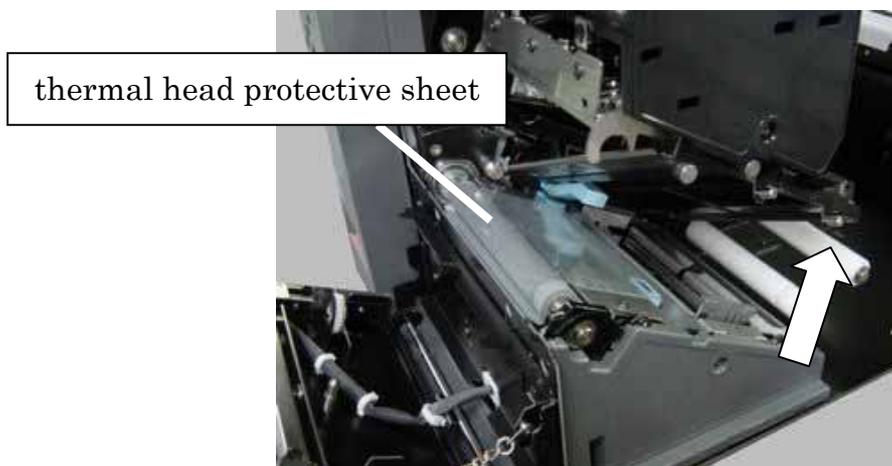4. Pull up the head unit handle till the head unit locks.

head unit handle

head unit unlock lever

5. Remove the black protective beads that hold the ribbon tensioner in the head unit.

protective beads

ribbon tensioner

6. Unlock the front cover by pressing the front cover unlock button and pull open the cover.

front cover unlock button

7.   Lift up the paper holder and remove the thermal head protective sheet.

thermal head protective sheet

8.   Hold the head unit handle and pull the head unit unlock lever.

9.   Press down the head unit handle till the head unit locks.
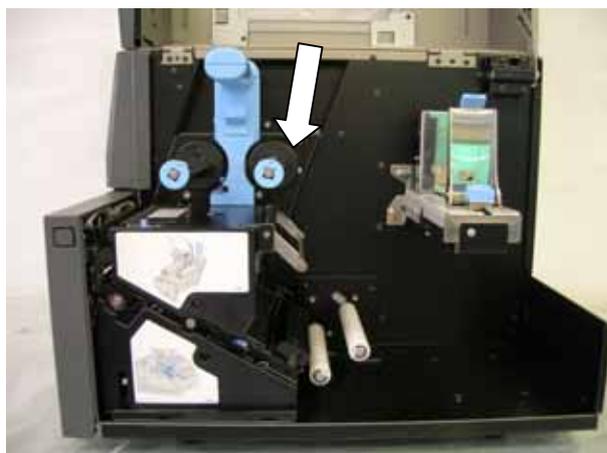
10. Close the front and the side covers.

6.4. Installation Environment

1. Check the place and the environment where the printer is installed.

   Install the printer stably on a level surface.   Make sure that any one of the four feet of the printer never leaves the installed surface and support the printer body securely.
   The wrack on which the printer is installed must not be inclined more than two degrees in all directions.
   See the graph below for the operating temperature and humidity (non-condensing).
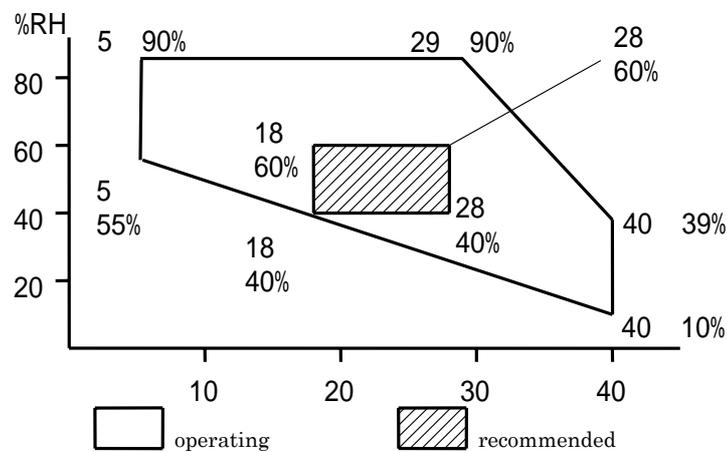
In order to make it easier to operate and inspect the printer, make sure that the space around the printer is free of obstacles.   See the figure below.
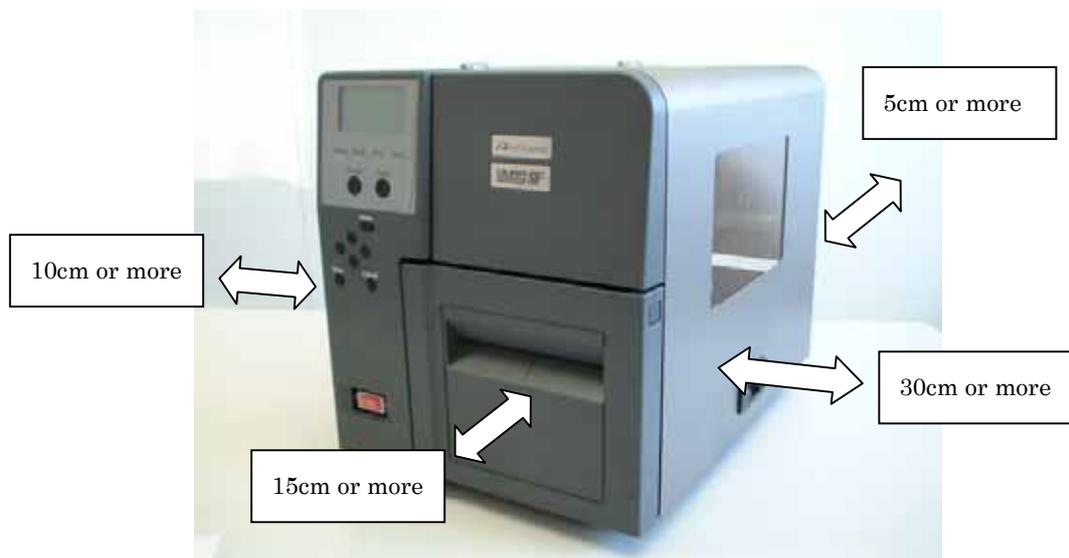
Important

In order to avoid breakdown, be sure not to place the printer in the places:

exposed to direct sunlight,

exposed to warm wind and radiation of heat from air conditioner or heater,

near other electronic gear such as a radio and a TV set,

subject to vibration, or

that are too hot, too humid, too cold, or too dry.

Condense may occur in a place where temperature changes a great deal.   When condensation occurs, wait more than an hour before you use the printer.   Do not use the printer until the condensed water changes into vapor and is removed.

When you use a peeler, an option, the backing paper is ejected from the lower side of the paper unit getting longer after the labels on it are removed.   Install the printer so that the labels do not stick to the label-removed backing paper or to the printer rack.

2. Check the power supply.

The current of the receptacle must be 15A or more.   The voltage must be 110V or less when the printer is not connected and 90V when the printer is connected and operates.   The frequency must be 50/60Hz.
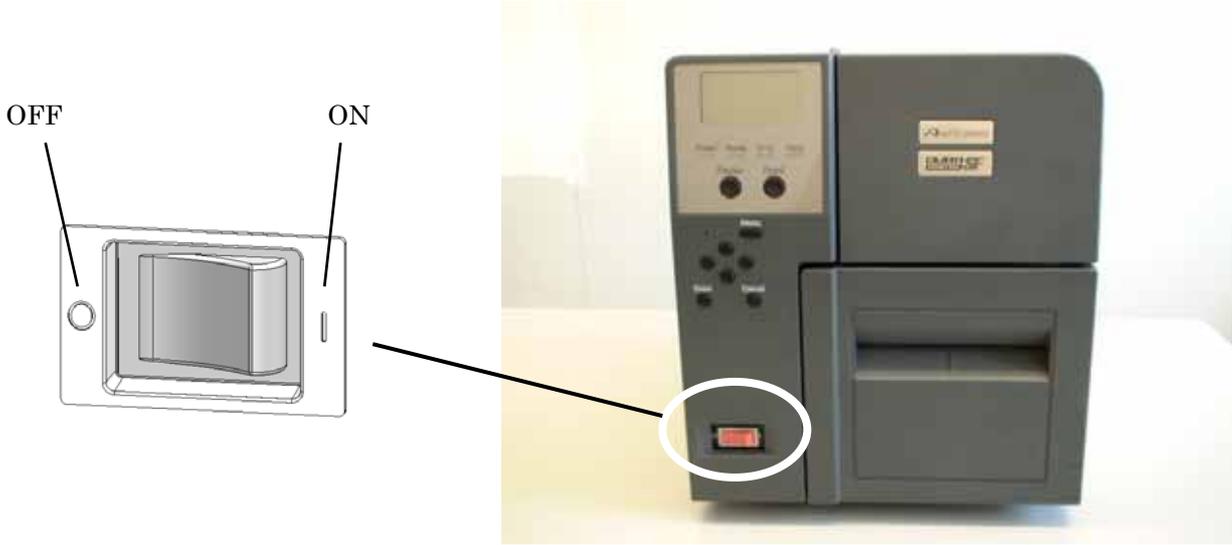
3. Check the grounding.

To prevent a fire and an electric shock in case of a leak, connect the ground cable to:

a grounding terminal on the receptacle, or

the cable properly grounded (class D).
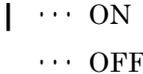
6.5. How to Connect the Power Cord

1.   Make sure that the printer is turned off.
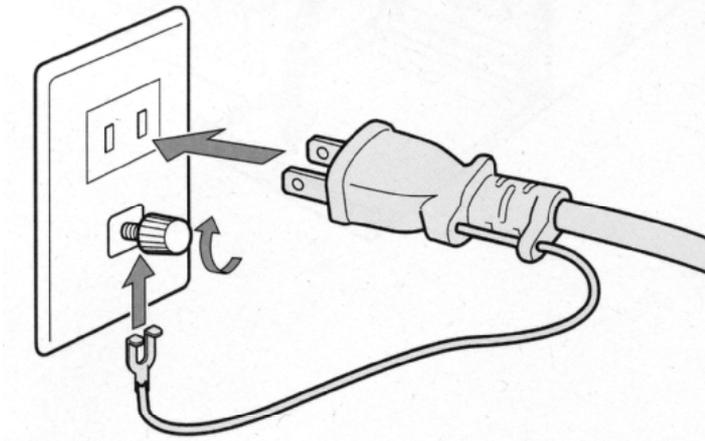

OFF   ON

Important

We use on the power switch of this printer the symbols shown below adhering to IEC60417, international standard of graphic symbols for machinery and equipments.

ON

OFF

2.   Push the cord into the socket on the printer.

3.   Connect the grounding cable and plug the cord in the power outlet.

6.6. Connection to PC

1. Connection Using a USB Cable

Important

- Use the packaged cable or a USB 2.0-capable cable.
- Be careful to orient the connector properly.
- Use a shielded one for the interface cable.

7. How to Load the Ribbon
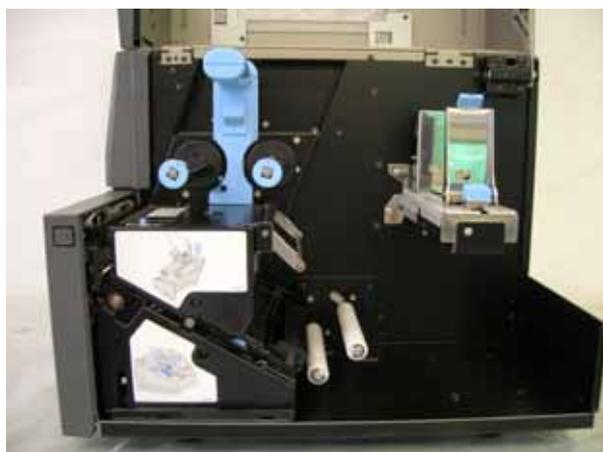
⚠ Caution

🚫✋	Be careful not to pinch your fingers to avoid injuries when you open or close the covers.

Important

- Load the ribbon when you print on the thermal transfer paper.
- Do not load the ribbon when you print on the direct thermal paper.

1. Open the side cover of the printer.

2 Pull up the head unit unlock lever and lift up the head unit.
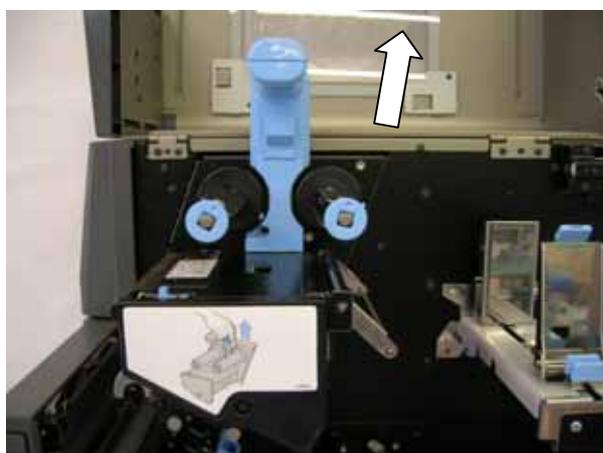
3. Pressing the positioning button, move the ribbon stopper so that it fits the ribbon edge, using the marking lines as guides.

ribbon stopper

positioning button

marking lines
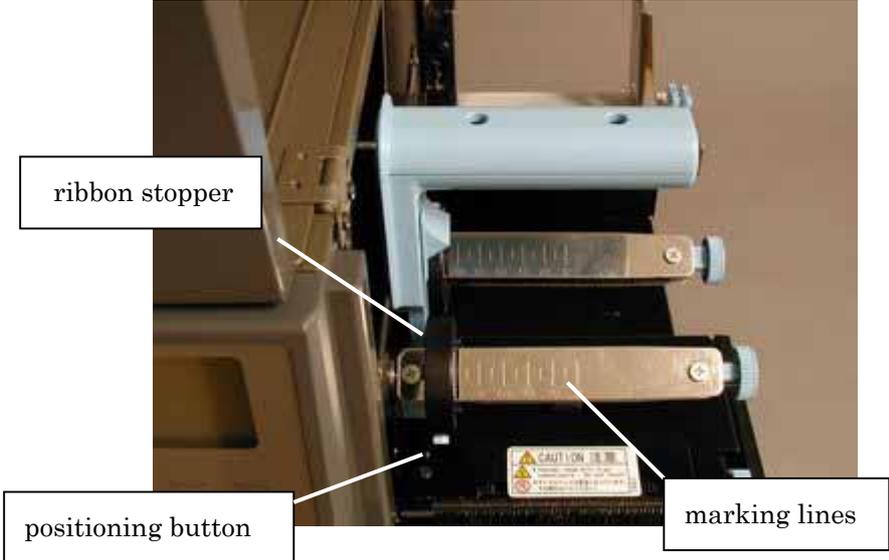
4. Insert the pay-off ribbon shaft to the core of the new ribbon roll.   The inked side of the ribbon must face the side opposite to the thermal head.

5. Move the ribbon stopper so that it fits the take-up ribbon core and fix it, following the same manner explained in step 3.

6. Set the ribbon core to the pay-off ribbon shaft.

7. Peel the end of the new ribbon off the roll.   Pull the ribbon out, run it under the head unit and paste the end of the ribbon (adhesive on it) to the take-up ribbon core.

8   Turn the knob of the take-up shaft a few times to take up the ribbon.
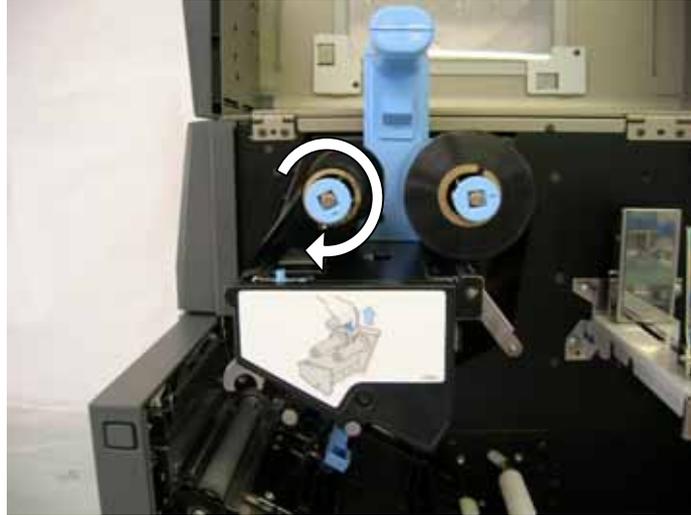
Important

- When you take up the ribbon, be careful not to twist the ribbon or make wrinkles on it.

9.   Bring down the head unit.

Important

- When you lift up the head unit in an error or for some other reason, turn the knob a few times and take up the ribbon before you bring down the head unit.

8 How to Load the Paper Roll

1. Open the side cover and lift up the head unit.
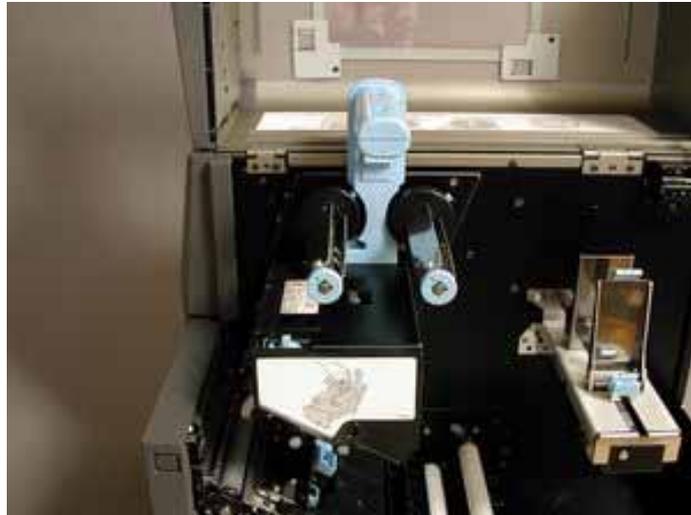
2. Holding the paper roll guide unlock lever, pull the paper roll guide plate nearer to you and broaden the space between the two guide plates.
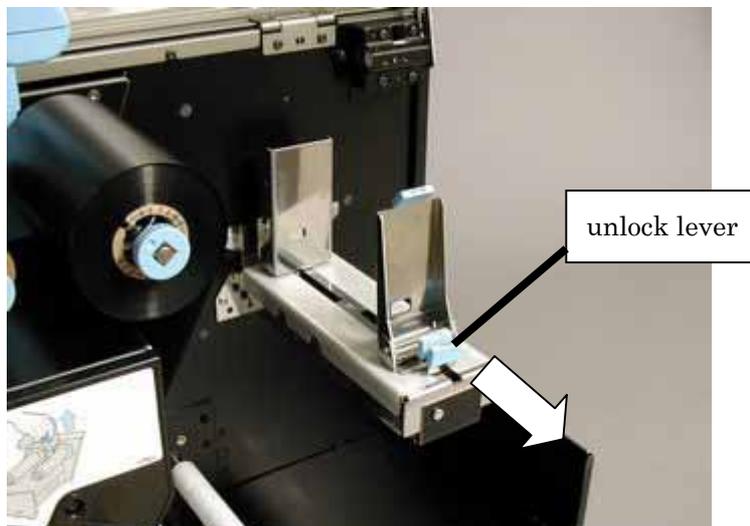
unlock lever

3. Lay down the paper roll guide plate nearer to you.
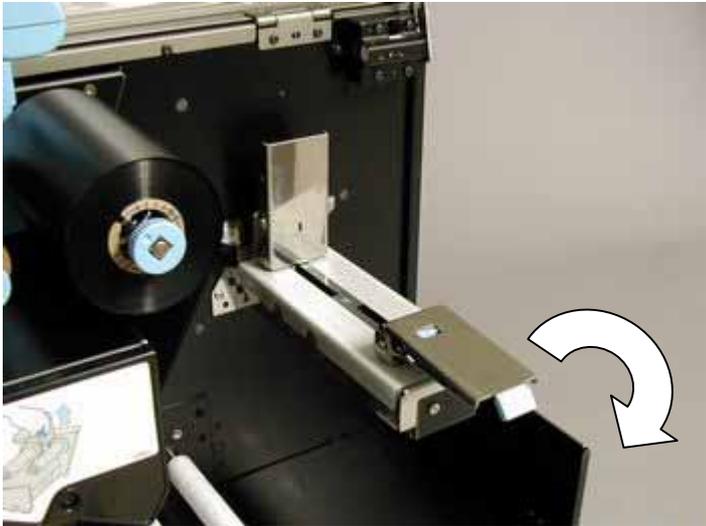
4. Set the paper roll and raise the laid paper roll guide plate up.

5. Holding the unlock lever, push the guide plate till it meets the paper roll.
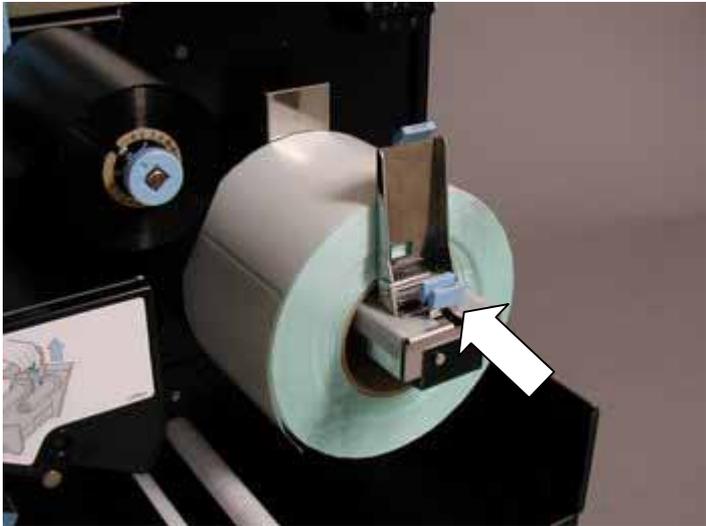
6.   Pull up the paper guide.   When you use a roll wound with labels outside, run the paper under the paper roll damper and the paper roll guide.

paper roll damper

paper roll guide

7.   When you use a roll wound with labels inside, run the paper over the paper roll damper and under the paper roll guide.
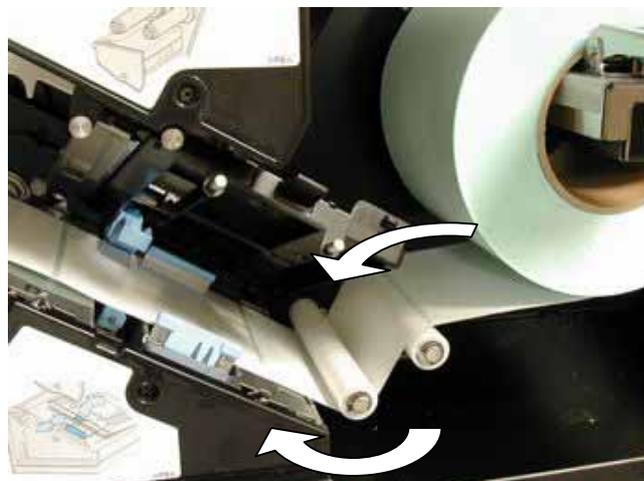
Important

When you use the peeler, an option, do not use the paper roll damper. Run the paper under the paper roll guide.
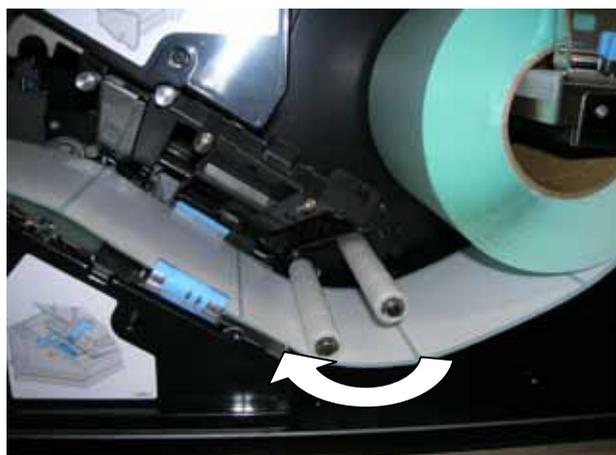
8. Adjust the position of the paper guide to the paper width.
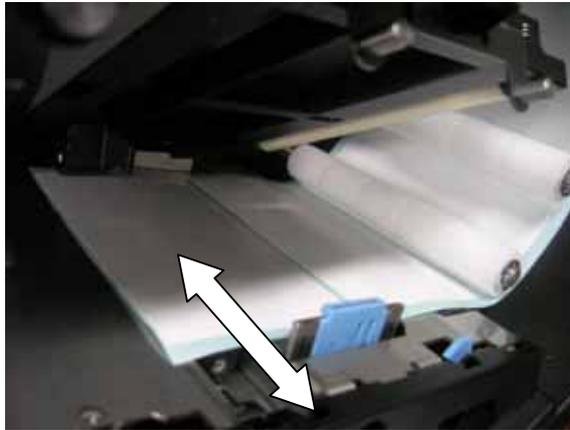
Important

- Do not leave clearance between the paper guide and the paper. When the guide is not in its proper position, a deterioration of print quality or wrinkles in the ribbon may occur.
- Set the paper with the print surface upward.

Set the head pressure changing lever according to the paper width.

head pressure changing lever

low
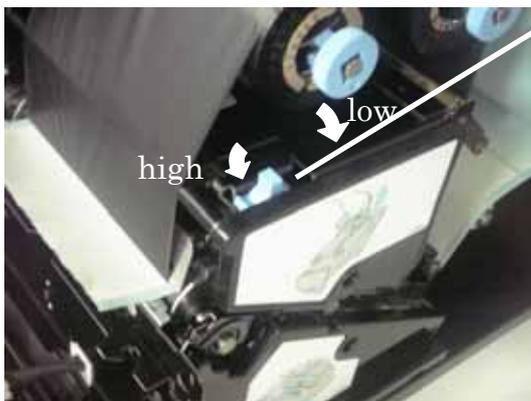
high

Page Width	Pressure	Level Position
	Low	
	Medium	
	High	

10. Select the paper sensor according to the paper type and adjust its position.

a pair of
interruptive center sensors

interruptive form edge sensor

reflective sensor
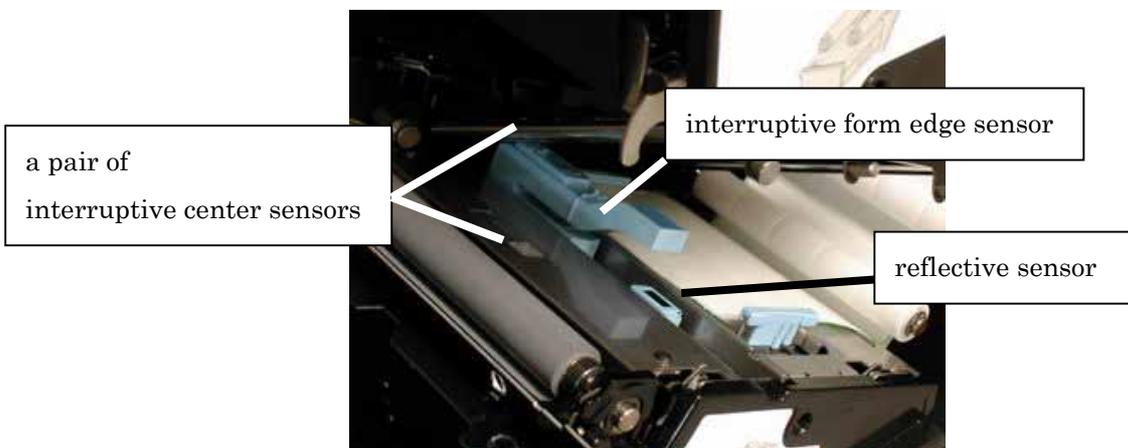
Important

See "3. Specifications for Labels and Ribbons" for the combination of paper and the sensor.

Pull out the paper from above the platen roller and set the paper so that the same numbers of the guide marks are seen on the right and the left of the paper. (Peeler model does not have marks. Locate the paper, checking visually, so that the same-sized spaces are left on the right and the left sides of the paper.)

guide marks
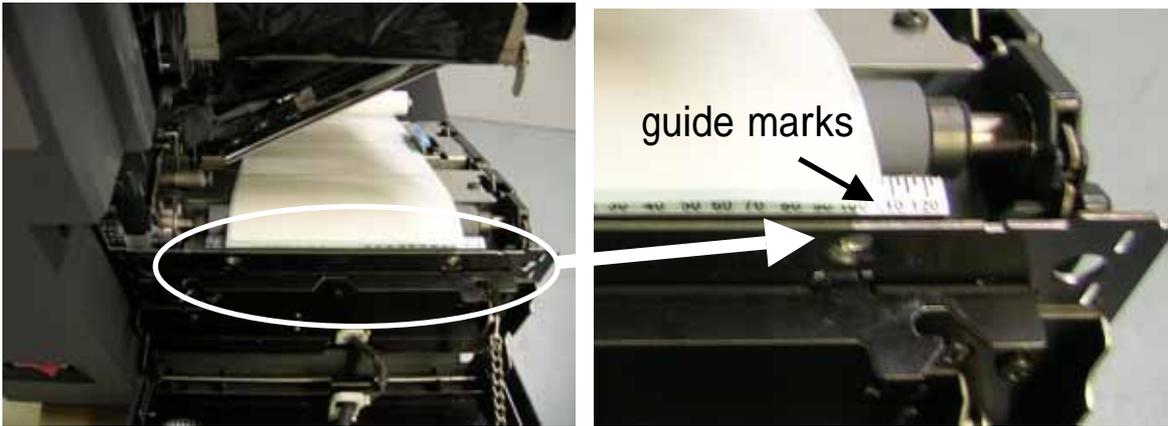
Close down the paper holder and bring down the head unit.
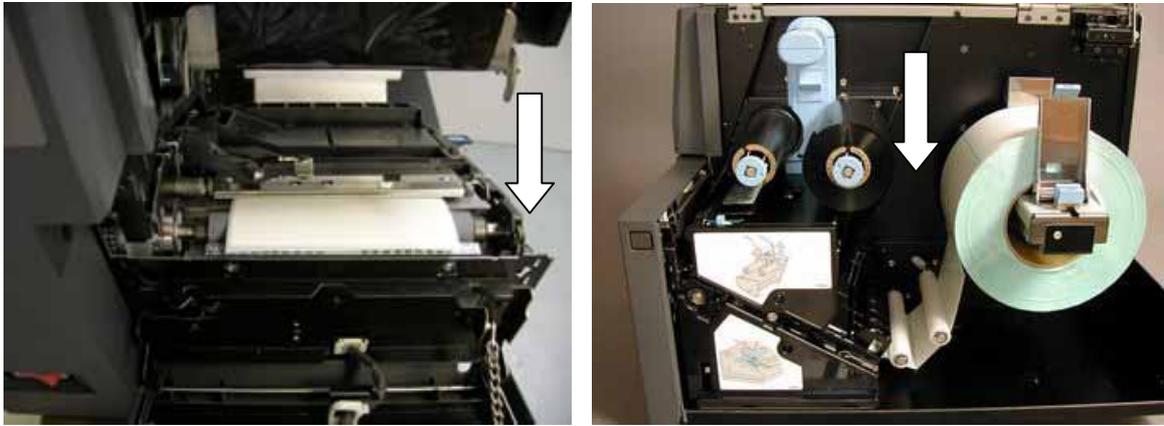
9. Control Panel

DURA PRINTER SF displays printer status on LCD.   You can make settings with the keys on the control panel.

9.1 Displays on LCD

displays	printer status
Printer Ready	The printer is ready. You can print labels.
Pause (printed labels)	The printer is paused.
Pause (Head unit lifted)	The printer is paused. The head unit is lifted up.
Pause (Front cover open)	The printer is paused. The front cover is open.
Pause (Side cover open)	The printer is paused. The side cover is open.
Printing	The printer is printing labels.
Take off the label.	The label stays on the peeler unit (peeler model only).
Error	An error has occurred.
Low-power standby mode	The printer is in low-power standby mode.

1. Printer Ready

   Normal

Ready
No. 00000

Power Ready Error Data
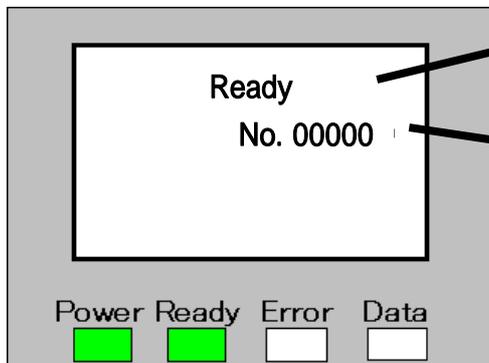
Printer status is displayed.

The accumulated number of labels printed after power-on is displayed here.
The value is cleared when you turn off the printer.
(You can clear the value on <Menu>, too.)

   Warning

Ready
No. 00000
Bad thermal head

Power Ready Error Data
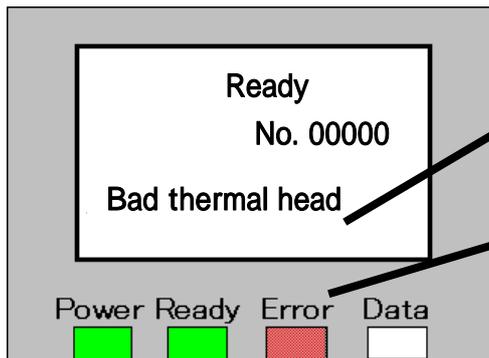
Warning messages are displayed.
(Bad thermal head, Paper near end, and so on)

When a warning occurs, the buzzer beeps and Error LED flashes.
(The buzzer stops beeping when the beeping time specified on <Menu> passes or when you press any key on the control panel.)

41

2   Pause

Pause (The number of "printed labels" are displayed.)

Press "Pause" on this screen, and then Printer ready screen appears.

Pause

No. 00000

Power Ready Error Data
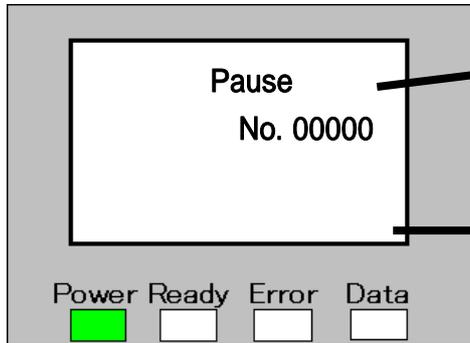
Printer status is displayed.

Warning messages are displayed as they are displayed on Printer ready screen.

(Error LED flashes and the buzzer beeps in similar way, too.)

Pause (Head unit lifted)

Pause

Head unit lifted.

Power Ready Error Data
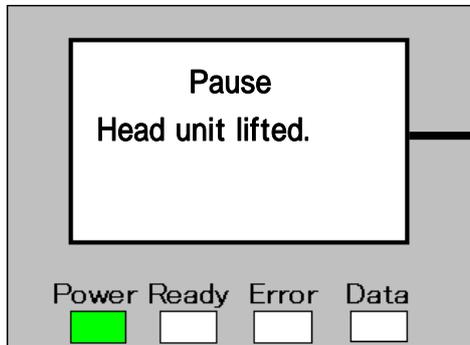
While the head unit is lifted up, the number of the printed labels is not displayed. It appears when the head unit is fully brought down.

Pause (Front cover open)

Pause

Front cover open.

Power Ready Error Data
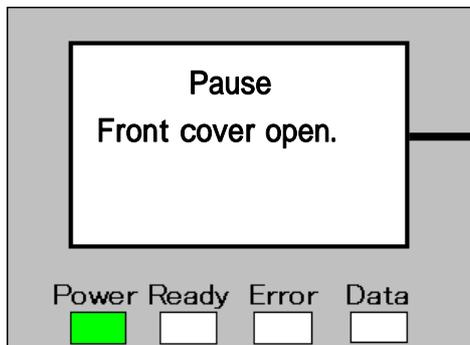
While the front cover is open, the number of the printed labels is not displayed. It appears when the front cover is closed.

Pause (Side cover open)

Pause

Side cover open.

Power Ready Error Data
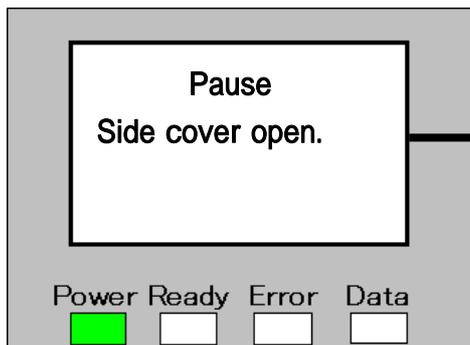
While the side cover is open, the number of the printed labels is not displayed. It appears when the side cover is closed.

3. Printing
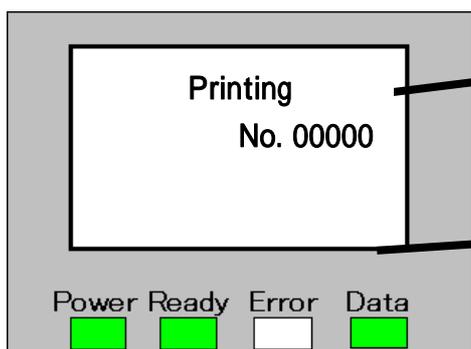
Printing

No. 00000

Power Ready Error Data

Printer status is displayed.

Warning messages are displayed in similar way as they are displayed on Printer ready   screen.
(Error LED flashes and the buzzer beeps in similar way, too.)

4. Take off the label.   (Peeler model only)

Take off the label

No. 00000

Power Ready Error Data
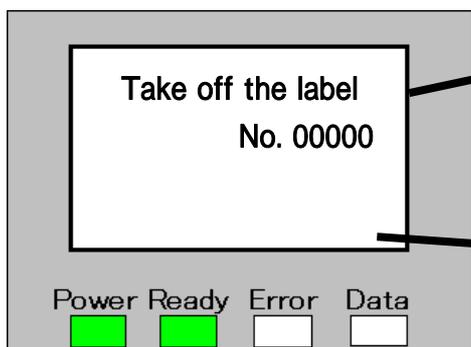
Printer status is displayed.
(When the label held on the peeler unit is taken off, the display on the LCD is changed.)
Warning messages are displayed in similar way as they are displayed on Printer ready   screen.
(Error LED flashes and the buzzer beeps in similar way, too.)

5. Error   (at "End of Paper")

End of paper
Set new paper

Power Ready Error Data
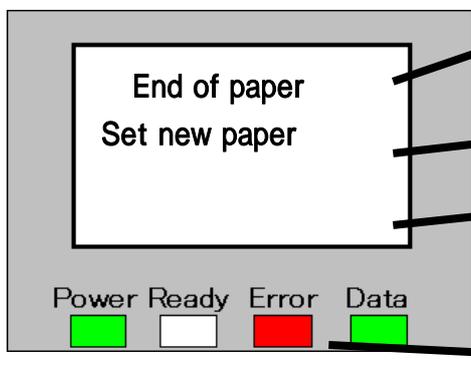
Error messages are displayed.
(See "15. Errors" for each error.)

The remedy for the error is displayed.

Warning messages are displayed in similar way as they are displayed on Printer ready   screen.

When an error occurs, the buzzer beeps and Error LED lights.
(The buzzer stops beeping when the beeping time specified on <Menu> passes or when you press any key on the control panel.)

6. Low-power standby mode

Ready

No. 00000

Power Ready Error Data
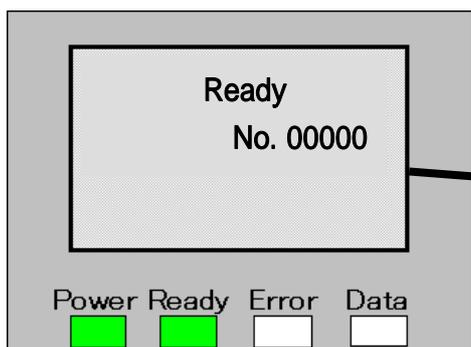
LCD back light is out while the printer is in low-power standby mode.

9.2 Operation of the Printer with Keys on Control Panel

You can operate the printer with the keys on control panel.

Operations	Button Control
how to switch between "Pause" and "Ready"	Press "Pause" key.
how to feed the paper by one page	Press "Feed" key. (Pages are fed continuously while you press and hold "Feed" key.)
how to stop the buzzer	Press any key.
how to clear the data left unprinted in the printer	Press and hold "Cancel" key until Data LED goes out. (Do not start printing until Data LED goes out after the data are cleared.)
how to switch display on LCD from　Error　to　Pause	Press "Cancel" key.
how to switch between ON and OFF of "Menu" key	Press and hold "Menu" key for a while.
how to display <Menu> (See "9.3. Detailed Information of <Menu> Entries" for further information.)	Press "Menu" key. (When "Menu" key is OFF, make it ON and press "Menu" key again.)
how to cut the paper (cutter model only)	Press and hold " ▼ " key.

9. 3 Detailed Information of <Menu> Entries

Press "Menu" key on control panel while printer is in Printer ready or Pause mode, and then <Menu> appears on LCD.
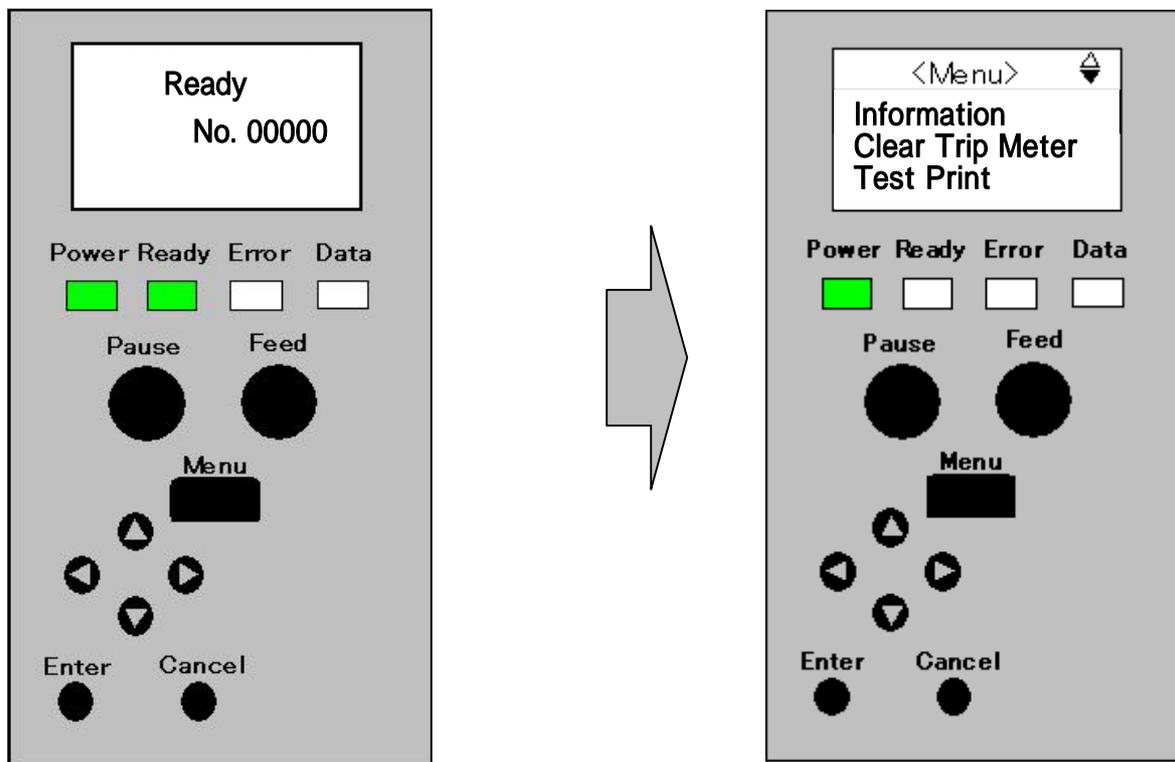
<Menu> Entries

Menu Entries	Remarks
Information	Information about the printer such as firmware version is displayed.
Clear Trip Meter	The value of TRIP (running meters) displayed in product information is cleared.
Test Print	You can execute test print. (See "11. Test Print" for further information.)
Reprint Error Page	Specify whether reprint the error page or not.
TOF After Booting	Specify whether you align the print start position before the first label after the printer is turned on is printed.
Low Power Mode	Specify whether you make low-power standby mode effective or not.
Low Power (min)	Specify the time before the printer enters low-power standby mode.
Beep Volume	You can adjust the volume of the buzzer.
Beep pattern	Specify the beeping time of the buzzer.
LCD contrast	Adjust the contrast of LCD.
Language	Select the language with which information is displayed on LCD.
Counter Reset	The value of "printed labels" displayed on LCD is cleared.

Information

The product data listed below are displayed.

	Title	data
1st line	S/N	serial number of the product
2nd		resolution / equipped options
3rd	FW	firmware version
4th	FPGA1	FPGA1 version
5th	FPGA2	FPGA2 version
6th	CPLD	CPLD version
7th	ODO	accumulated running meters (You can't clear the value.)
8th	TRIP	running meters (You can clear the value.)
9th	Cut	accumulated number of cut labels.
10th	Lc	measured length Lc
11th	FL	measured length FL
12th	Lo	measured length Lo
13th	UP	measured length UP

Clear Trip Meter

The value of TRIP (running meters) is cleared.

Test Print

The test pattern is printed.

Select TTP when you print the test pattern on the thermal transfer paper.

Select DTP when you print the test pattern on the direct thermal paper.

(The factory-shipping configuration is TTP .)

Reprint Error page

Specify whether you reprint the error page or not when an error occurs halfway through printing.

If you select Yes , the print process is resumed with the error page.

If you select No , the print process is resumed with the next page. The error page is not reprinted and becomes missing.

(The factory-shipping configuration is Yes .)

When an error occurs halfway through printing, there are cases where it looks as if the printer finished printing all data on the error page, depending on the print format. Select No when two labels with the same data are not allowed.

TOF After Booting

Specify whether you align the print start position or not before the first label after the printer is turned on is printed.

When you select Precise print mode , the print start position alignment is executed before printing the first label. When you select Paper saving mode , the printer print labels without print start position alignment if the format and other conditions of the first sent data after power-on are the same as those of the last sent data before the printer was last turned off. If data with different conditions are sent, the printer performs the print start position alignment. Replacing the paper roll with a new one or lifting up the head unit while the power is turned off may cause displacement of the images on the page or a feeding error.

(The factory-shipping configuration is Precise print mode .)

Low Power Mode

Specify whether you make low-power standby mode effective or not.

When you select Enable , the printer enters low-power standby mode after all conditions listed below are satisfied.

When you select Disable , all conditions listed below are not satisfied and the printer does not enter low-power standby mode.

(The factory-shipping configuration is Enable .)

Conditions for the printer to enter Low Power Mode

The printer enters low-power standby mode when all conditions listed below are satisfied.

No	Conditions
1	Enable is selected for "Low Power Mode" on <Menu>.
2	Ready , Pause (Printed labels) or Take off the label. is displayed on LCD during the time specified on "time before standby mode".
3	The number of warnings displayed on LCD does not change during the time specified on "Low Power Mode (min)".
4	No key on the panel is pressed during the time specified on "Low Power Mode (min)".
5	Data LED do not light or flash during the time specified on "Low Power Mode (min)".

Conditions for the printer to return from Low Power Mode

The printer returns from low-power standby mode when at least one of the four conditions in the list on the following page is satisfied.

No	Conditions
1	What is displayed on LCD is changed.
2	The number of warnings on LCD changes while the printer is in Low Power Mode.
3	A key on the panel is pressed.
4	Data LED lights or flashes.

Low Power Mode (min)

Specify the time before the printer enters Low Power Mode when Enable is selected on "Low Power Mode (min)".

Select from 1 minute, 5 minutes, 10 minutes, and 30 minutes.

(The factory-shipping configuration is 5 minutes.)

Beep Volume

Specify the buzzer volume in error or in warning.

Select from Off, Min, Mid, and Max. You can check the volume in specifying it.

(The factory-shipping configuration is Mid.)

Beep pattern

Specify how long the buzzer beeps in error or in warning.

Select from 10 seconds, 60 seconds, and Continuous.

(The factory-shipping configuration is 10 seconds.)

10. LCD contrast

Specify the contrast of LCD. Five contrast settings are provided and you can select one, checking the contrast.

(The factory-shipping configuration is the third level of the contrast.)

11. Language

Specify the language in which information is displayed on LCD.

Select Japanese to display information in Japanese.

Select English to display information in English.

(The factory-shipping configuration is Japanese.)

12. Counter Reset

The value of number of printed labels displayed on LCD is cleared.

Select Counter Reset and press "Enter" key to clear the value.

10 Test Print

You can check the condition of the thermal head by performing test print.

10 1 Procedure

1. Load the printer with 100mm-wide paper and the ribbon.
2. Press "Menu" key, and then <Menu> is displayed on LCD.
3. Select <Test print> with arrow keys.
4. Press "ENTER" key.
5. Select TTP with arrow keys.
6. Press "ENTER" to perform test print.
   - Select DTP when you use direct thermal paper in test print.
   - Test patterns are printed on ten pages continuously.   When you want to stop printing test patterns halfway, press "Cancel" key.

10 2 Test Pattern
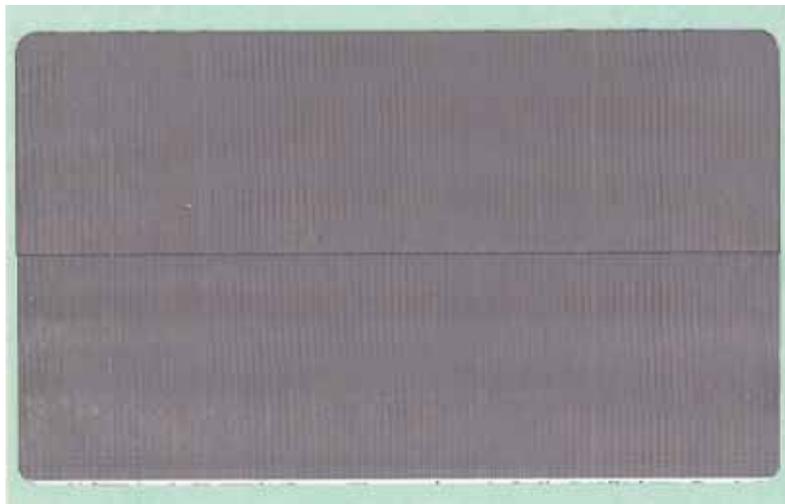
11.　Cutter / Peeler

11. 1 Cutter Model

The explanations in this section are applied only to cutter models.

1. You can cut the printed pages with cutter model.

The cutter lies at the back of the paper output slot.

Important

The cutter can cut the paper of 0.08mm to 0.26mm thick.　Do not cut any other paper to avoid a breakdown.

When you use the labels with glue, be sure to cut the backing paper part between labels.
The cutter is likely to break down by cutting the label part owing to the glue.
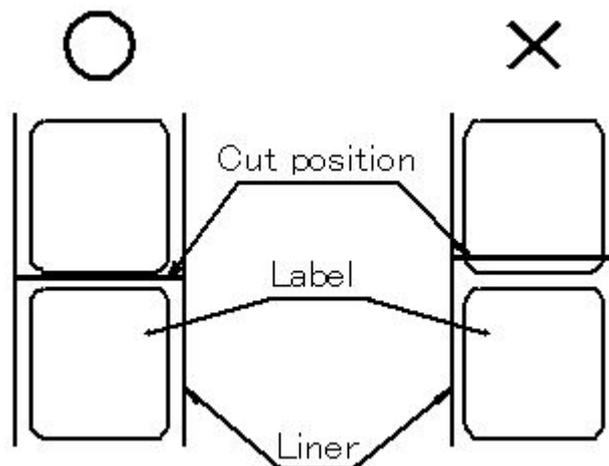
Important

Cutting is prohibited within the 1mm region before and after the perforation.

A paper jam occurs at the cutter unit, which causes a breakdown.
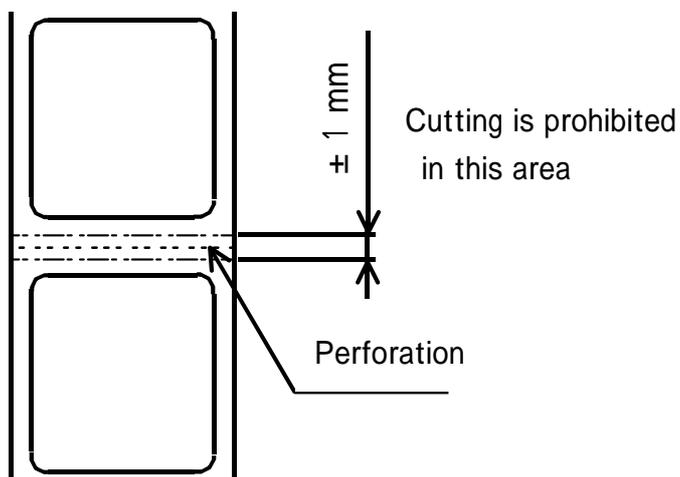
Do not cut materials other than paper, such as cloths and films. A breakdown may occur.

The cutter is a consumable component. The cutting edge wears out from use with time.

Contact our service locations for the replacement of the cutter. Please note that replacement is available at cost.

2. How to Clear the Paper Jam at the Cutter

⚠ Caution

Be careful not to pinch your fingers when you open and close covers to avoid injuries.

The remedy for "Cut Error" is shown below.

Turn off the power, open the front and the side covers and lift up the head unit.

Hold the carriage sliding shaft and move the carriage either rightward or leftward as far as it will go.

carriage sliding shaft

cutter carriage
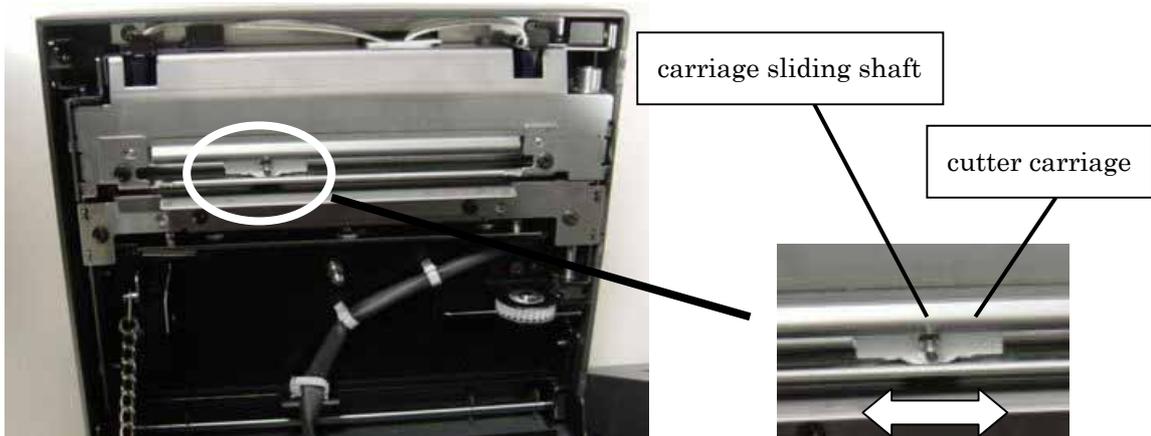
Remove the jammed paper.

Re-load the paper roll, bring down the head unit, and close the front and the side cover.

3. Cutter Performance Check

Press and hold "▼" key on the control panel while the printer is in either "Ready" or "Pause" mode.

---

11. 2 Peeler Model

The explanations in this section are applied only to peeler models.

1. Names of Components
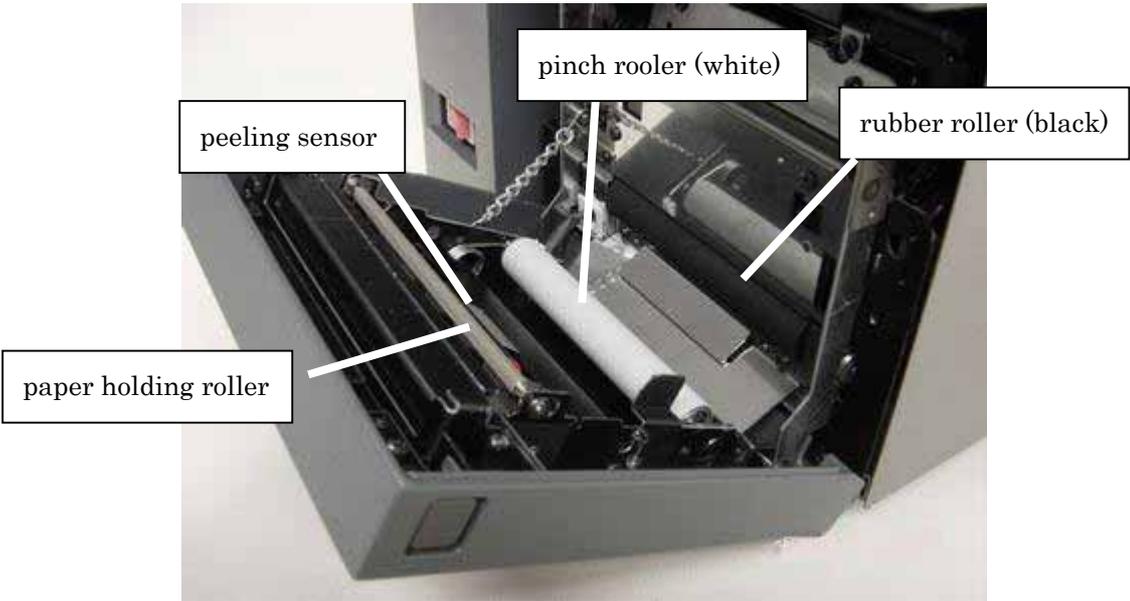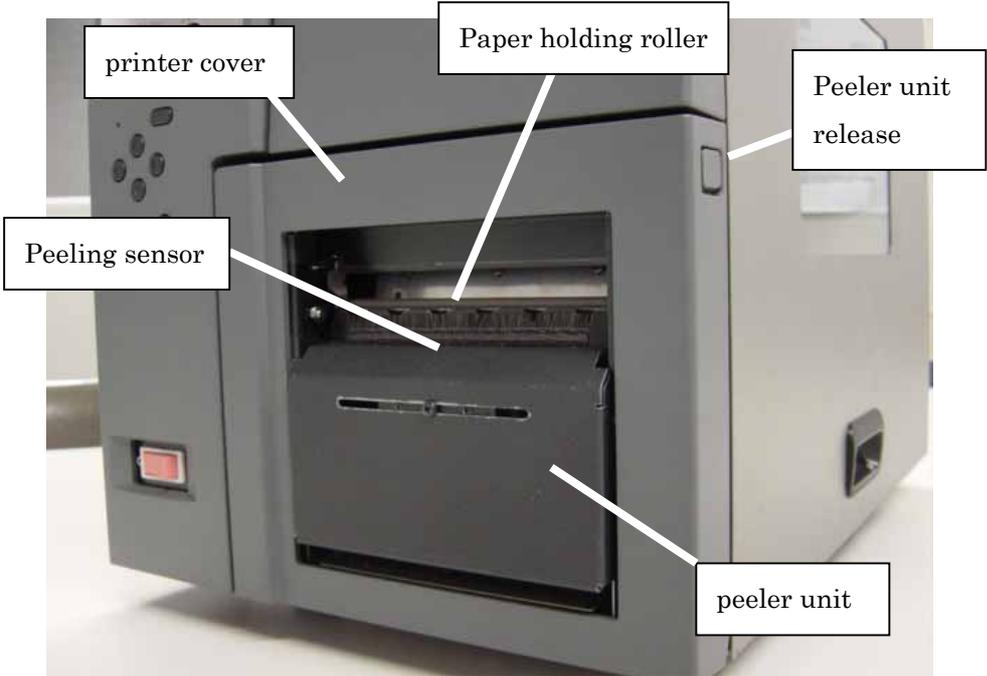
2. Notes on Use

Please be careful about the points listed below when you use the peeler, an option.

- Print labels at the speed of 101.6mm/s (4ips) or slower.
- How to set the paper roll on peeler model is explained in Important in Section 7., in Chapter 8.
- Do not use perforated papers.   Paper feeding error can be caused.
- The peeler may not be able to peel such a label that has a scar around it on the backing paper marked strongly when the unnecessary portions were removed.
- Do not take off the label until the printer, after the peeler peels the label, stops feeding.
- When you do not use the peeler model in peeling mode, run the paper, together with the backing paper, over the paper holding roller and pull out the paper until the front end comes out of the printer.   Be sure to set the paper so that the front end of the paper does not fall off the paper holding roller into the printer when the paper is back-fed after tear-off. Otherwise, a paper feeding error is likely to occur.
- The peeling sensor may malfunction directly underneath a three-wavelengthed fluorescent lamp.   In such a case, lower the illumination or install the printer in another place.
- Do not cut the paper with the peeling plate edge.   It may lead to an injury or a breakdown.
- Specify "Peel" in Windows driver settings.
  See "Printer Driver Manual" for further information.

Important
- The rubber roller on the peeler unit is a consumable component.   It wears out with time, which makes it unable for the peeler to peel labels.   Replace the rubber roller with a new one after the paper run of about 20km.   Contact our service locations for the replacement of the rubber roller. Please note that replacement is available at cost.

3. How to Load the Paper Roll

How to load paper the roll on the peeler model is explained here.

Press peeler unit release button and release the peeler unit.

peeler unit release button

Measure length with the unit closed and without setting labels through the peeler.

If you measure length with the labels set through the peeler unit, "Feeding Error" occurs. See to it that the paper of at least 15cm long sticks out of the printer cover when the length measurement is completed. If the length of the sticking paper is less than 15cm, repeat the alignment of print start position until the paper longer than 15cm comes out (when label pitch is small).

15cm or more
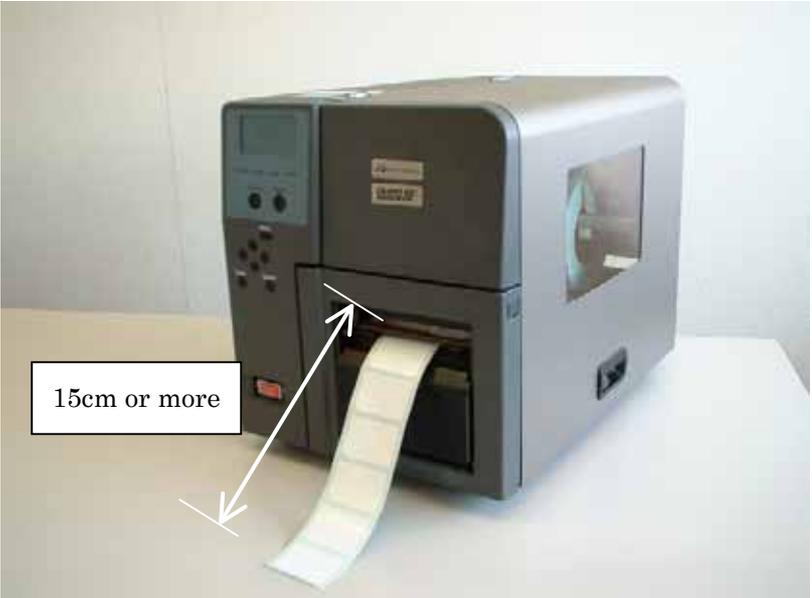
Remove all labels outside the cover from the backing paper.

Insert the label-removed backing paper into the slot between the rubber roller (black) and the pinch roller (white).
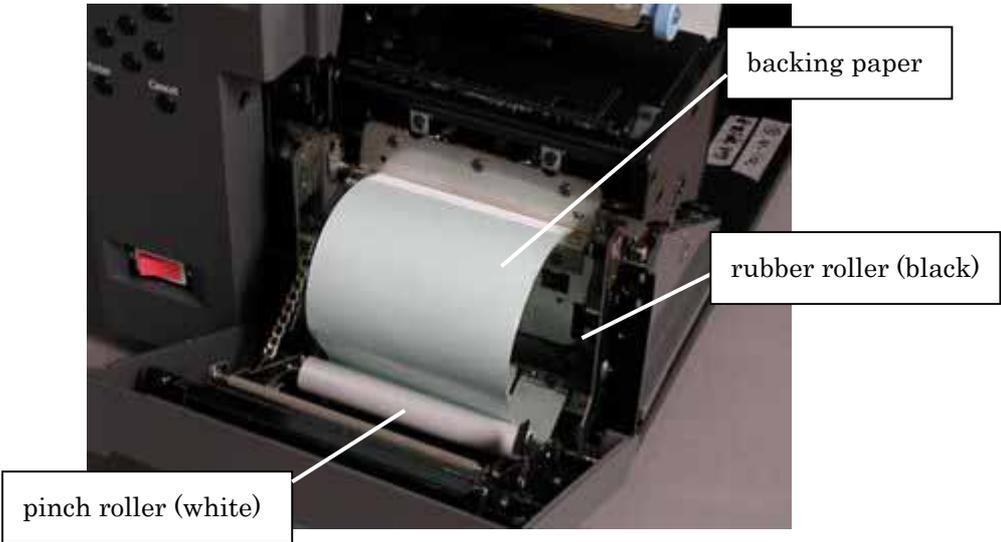
Remove the slack in the backing paper outside the printer cover. Push both ends of the peeler unit until it clicks into the printer. Now the printer is ready.

A printed label is peeled off from the backing paper and held on the upper side of the peeler unit. In the case of printing more than one labels, the next label is printed and held similarly after the previous one is taken off.

4. How to Load the Paper (After Adding a New Paper / In Normal Use)

When an error occurs while printing or when the head unit is lifted up and the paper may become misaligned, re-load the paper following the steps shown below to eliminate waste labels if you print labels in peeling mode.

Open the front and the side covers and lift up the head unit.

When an error occurred and the printer stopped printing, remove the error label from the backing paper.

Turn the knob of the ribbon take-up shaft and take up the ribbon by at least 100mm.

Re-load the paper roll. The edge of the first label must lie in 5 to 10mm inward from the edge of peeling plate edge.

end of the first label

5 – 10mm

peeling plate edge
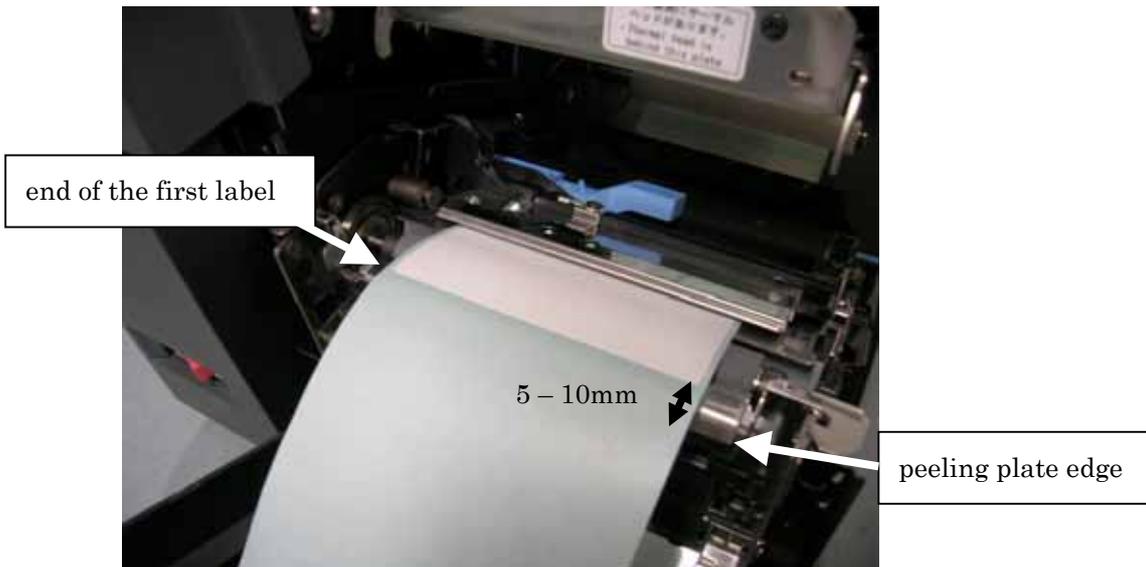
Bring down the head unit and close the side cover.

Remove the slack in the backing paper outside the printer cover and close the front cover. Push both ends of the front cover until it clicks into the printer.

5. How to Load the Narrow Paper

When you use the narrow paper, mount the packaged output slot paper guides on peeling plate to prevent the paper from meandering.

Load the paper roll, feed the paper more than 50mm by pressing "Feed" key on the control panel, and peel the labels off the backing paper outside the printer.

Feed the paper by pressing the "Feed" key and peel the labels outside.
You can measure length instead of pressing the "Feed" key.

Turn off the power and open the front cover.　Set paper guides to the peeling plate on both the right and the left sides of the paper.

output slot
paper guide

peeling plate

output slot
paper guides
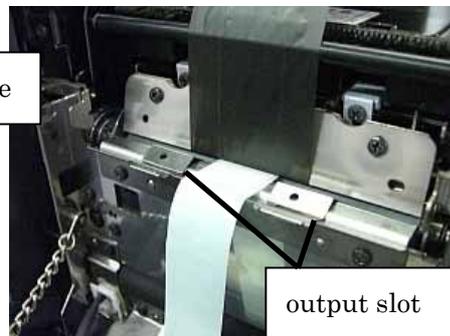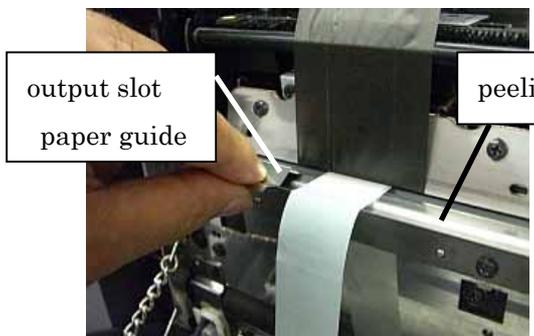
Move each paper guide toward the paper (in the directions of the arrows) till each guide touches the backing paper edge. Close the front cover.

backing paper edges
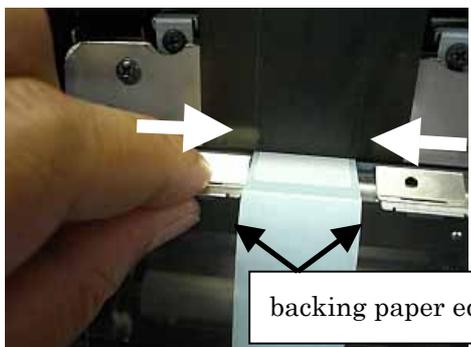
12　Remedies for Paper Jam

⚠ Caution

Be careful not to pinch your fingers when you open and close covers to avoid injuries.

1. How to Remove the Paper Wrapped around the Platen Roller

　　　Turn off the power, open the side and the front covers, and lift up the head unit,.

　　　While pressing the platen release lever, raise up the platen stopper.

platen stopper

platen release lever
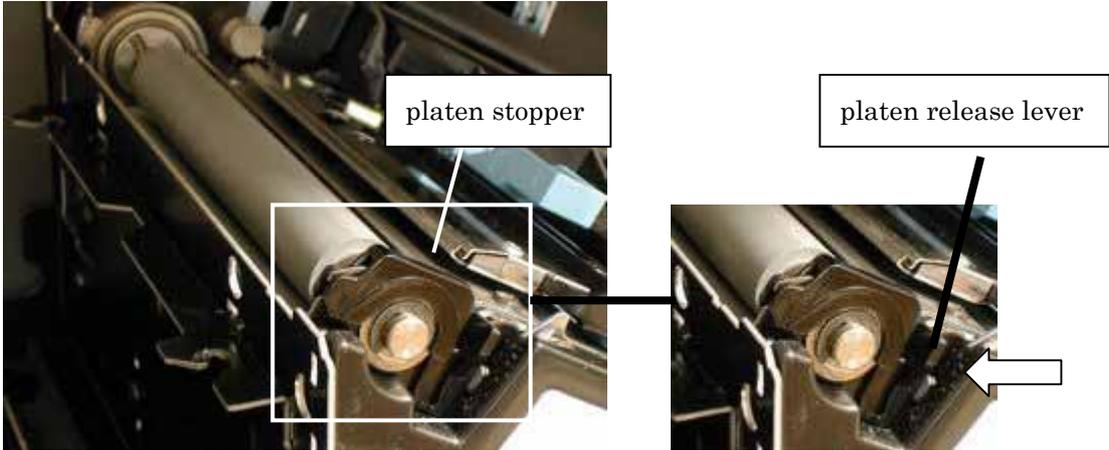
Pull the platen roller toward you and take it out.

Remove the paper wrapped around the platen roller.

Insert the guide pin on the platen roller into the shaft holding slot and press down the platen stopper.
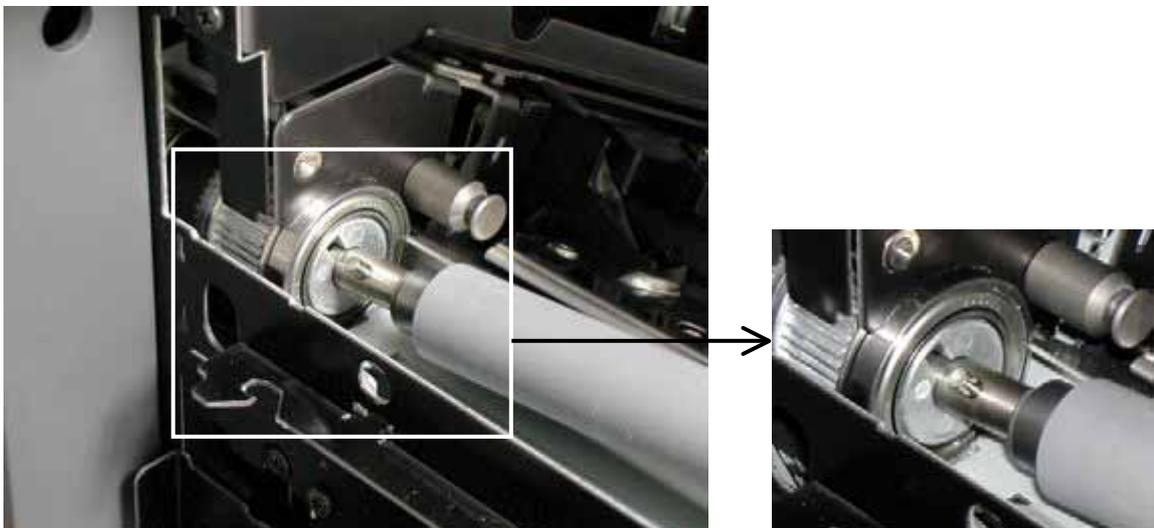
Re-load the paper, bring down the head unit, and close the front and the side covers.

2. How to Remove Jammed Paper from Front Cover Side

Open the front cover.

Remove the jammed paper.

Re-load the paper and close the front cover.

3. How to Remove the Jammed Paper on Cutter
   See "11.1 2How to Clean a Paper Jam at the Cutter".

13. Cleaning

Important

In order to keep the printer operating in peak condition for a long time, clean the inside of the printer after every paper run of 300m (The standard ribbon is about 300m long.).

If you do not clean the printer, the warranty does not apply to it.

Use the cleaning cloths packaged with the printer.

If you have used up all the cloths, order some from our service locations.

Before you touch the inside of the printer, remove precious metals or gloves from your hands.

Be careful not to scratch the thermal head with rings, bracelets, or other metallic objects.

Do not apply lubricants to the printer.　A breakdown will be caused.

Do not spray the printer with solvents, detergents, insecticides or other chemicals.　The breakdown will be caused.

13.1 How to Clean the Paper Sensor

1. Turn off the power and unplug the power cord.

2. Open the front and the side covers, and lift up the head unit.

3. Clean the surface of the reflective sensor.

reflective sensor
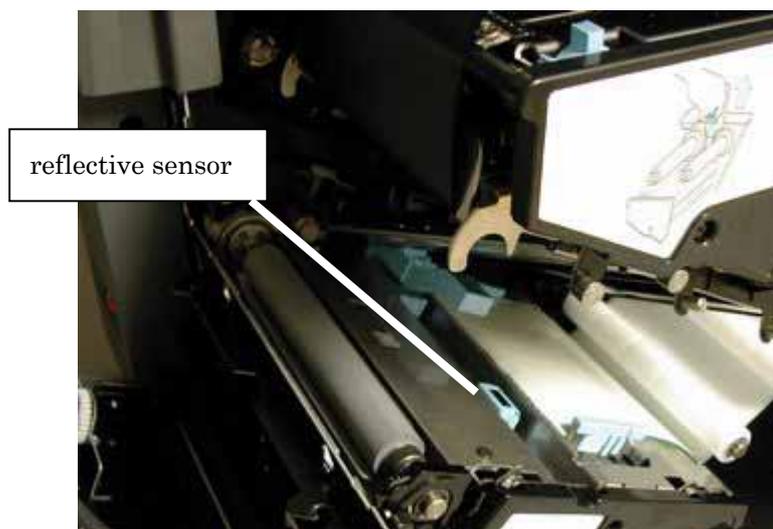
4. Pull out the interruptive form edge sensor and clean both the upper and the lower parts.
   Do not forget to clean the gap between the two parts.

interruptive form edge sensor
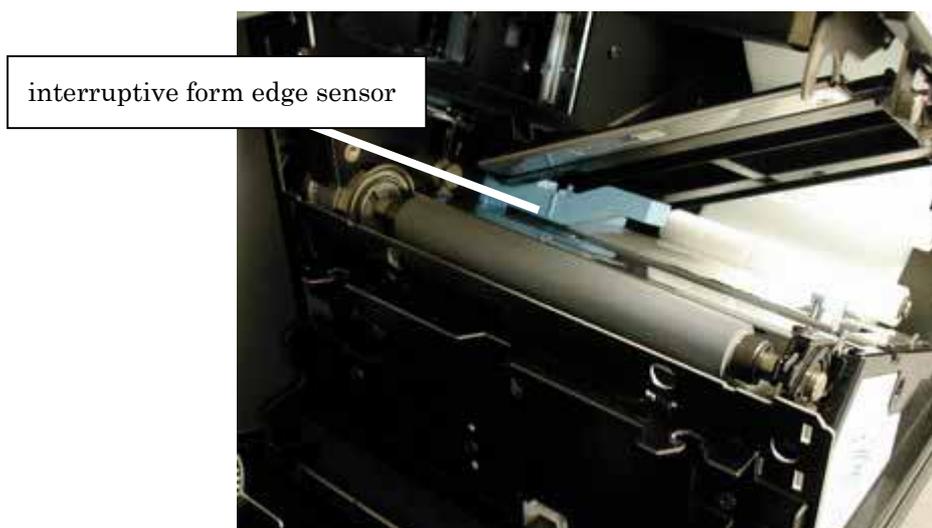
5.   Clean the interruptive center sensors.

a pair of interruptive center sensor

13.2 How to Clean the Platen Roller

1.   Turn off the power and unplug the power cord.

2.   Open the front and the side covers and lift up the head unit.

3.   Clean the platen roller.
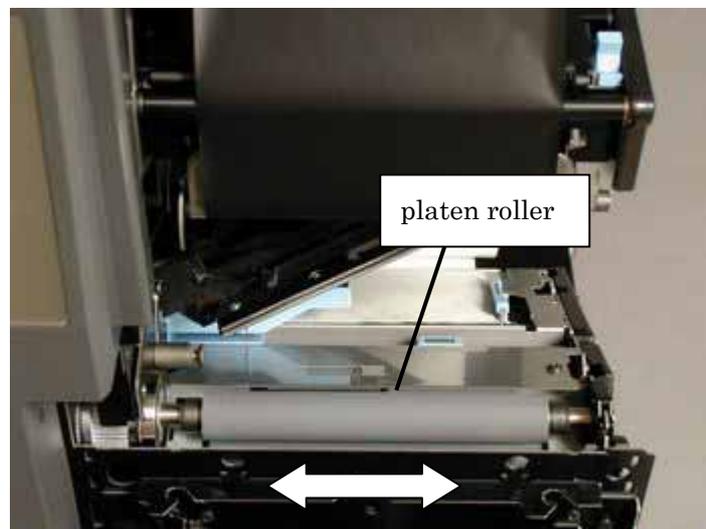
platen roller

4.   When the platen roller has too much dust, remove it from the printer and clean it.

13.3. How to Clean the Ribbon Peeling Plate

1. Turn off the power and unplug the power cord.

2. Open the front and the side covers and lift up the head unit.

3. Clean the ribbon peeling plate.

ribbon peeling plate
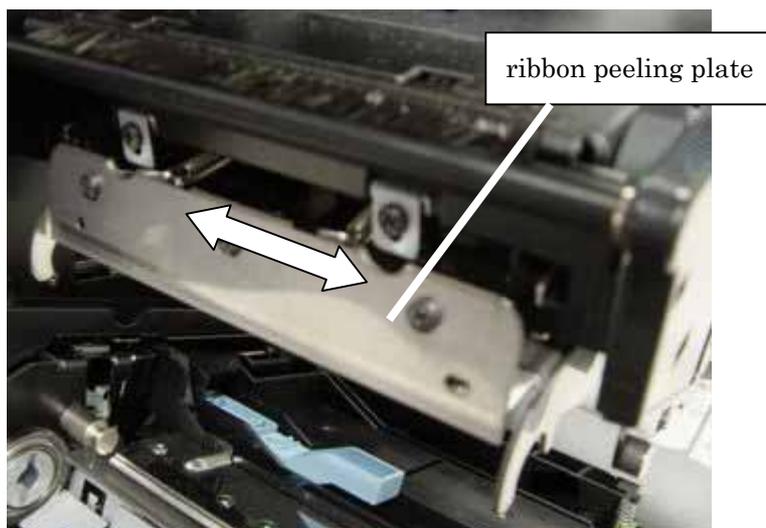
13.4. How to Clean the Ribbon Guide Bar

1. Turn off the power and unplug the power cord.

2. Open the front and the side covers and lift up the head unit.

3. Clean the ribbon guide bar and the ribbon tensioner.

ribbon tensioner

ribbon guide bar
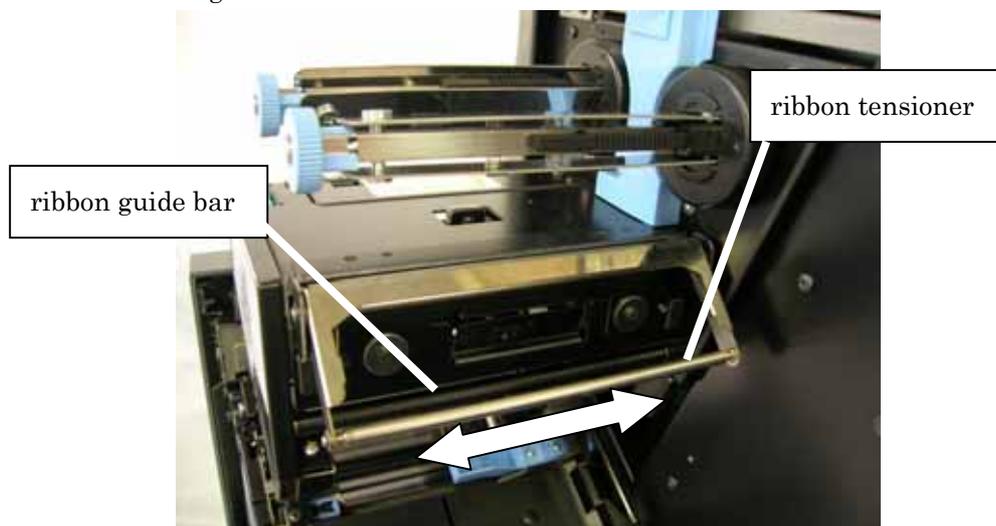
13. 5. How to Clean the Thermal Head

1. Turn off the power and unplug the power cord.

2. Open the front and the side covers and lift up the head unit.

3. Make sure that the thermal head is not hot and then clean it.

thermal head
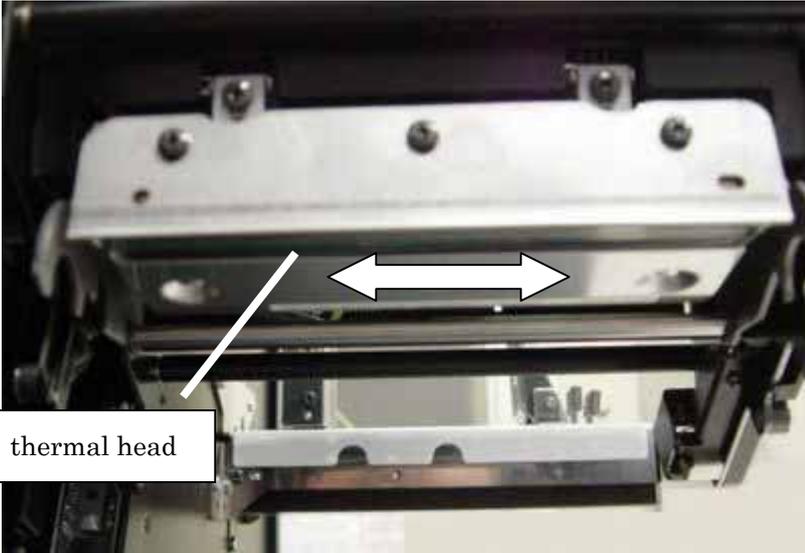
13. 6. How to Clean the Peeler (Option)

The explanations in this section are applied only to peeler models.

1. Turn off the power and unplug the power cord.
2. Open the peeler unit.
3. Clean the rubber roller (black) and the pinch roller (white).

rubber roller (black)

pinch roller (white)
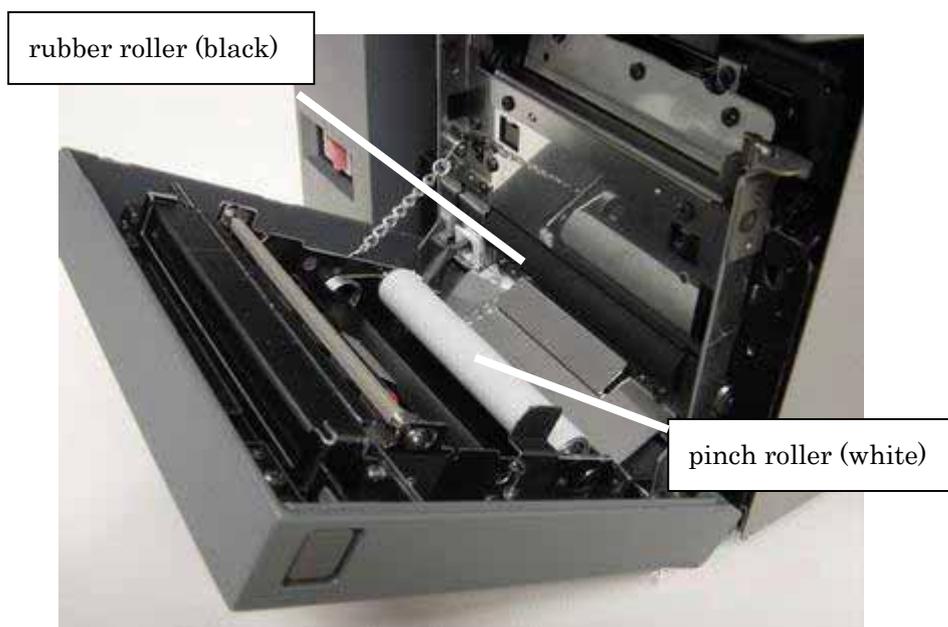
4. Clean the peeling sensor.

peeling sensor

14. How to Replace Components

The thermal head is a consumable component.　After being used for a long time, the broken wiring in the thermal head causes white vertical lines or blurred Images.　Replace the thermal head with a new one in such a case.

The platen roller is a consumable component.　After being used for a long time, the worn platen roller causes blurred Images.　Replace the platen roller with a new one in such a case. Replace it after the paper run of about 30km.

Before you touch the inside of the printer, remove precious metals or gloves from your hands. Be careful not to scratch the thermal head with rings, bracelets, or other metallic objects.

14. 1 How to Replace the Thermal Head
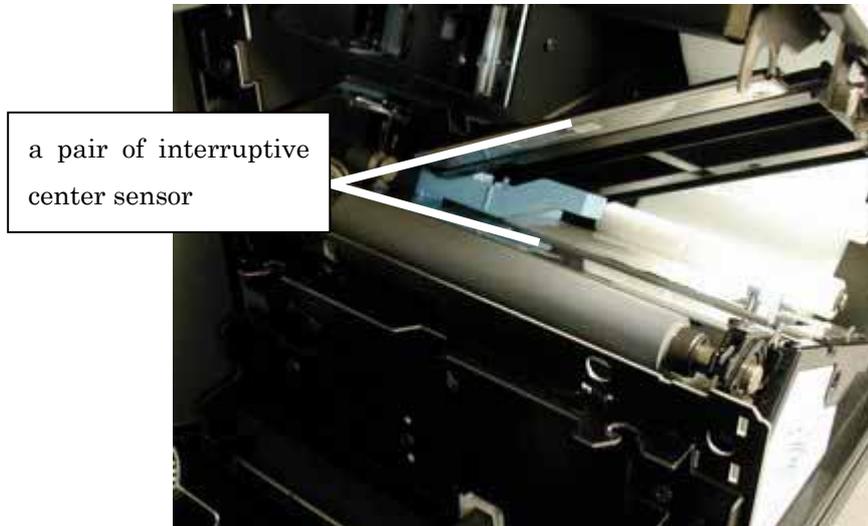
1.   Turn off the power and unplug the power cord.

2.   Open the front and the side covers and lift up the head unit.   Remove the ribbon if loaded.

3.   Support the thermal head with your hand from underneath.   Push the thermal head removing lever in the direction opposite to you and remove the thermal head from the head unit.

thermal head removing lever
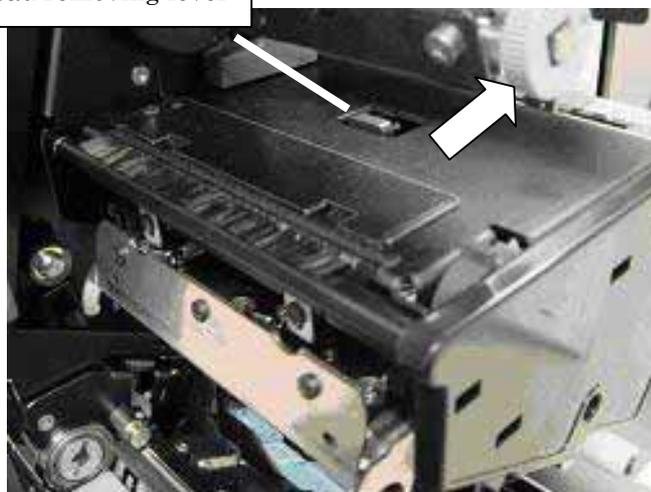
4.   Remove the two connectors on the thermal head and take the thermal head out of the printer.
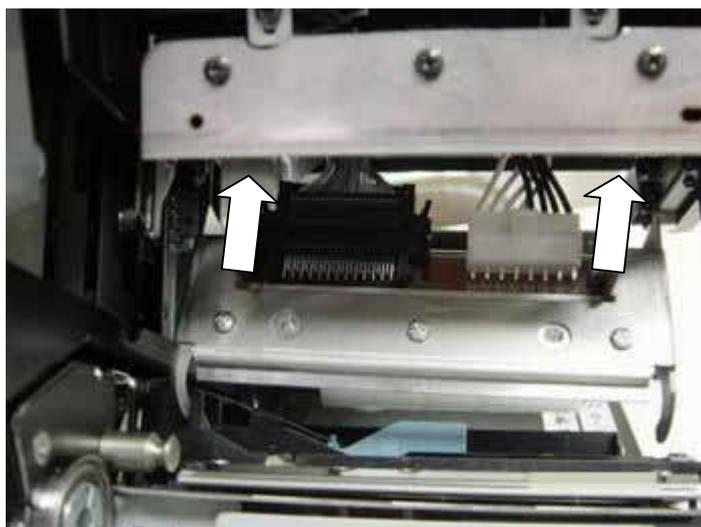
5. Set the connectors to a new thermal head.
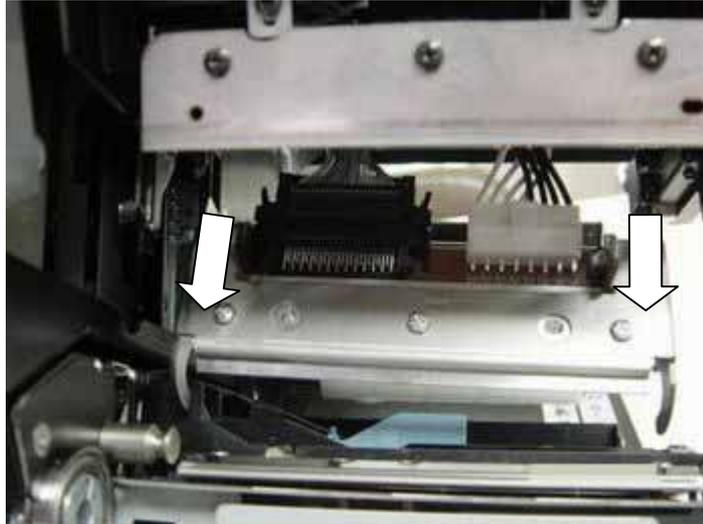
Important   Be careful not to scratch the new thermal head.

6. Set the guide pins on the new thermal head to the guide holes on the printer. Push the thermal head and lock it.

guide pin
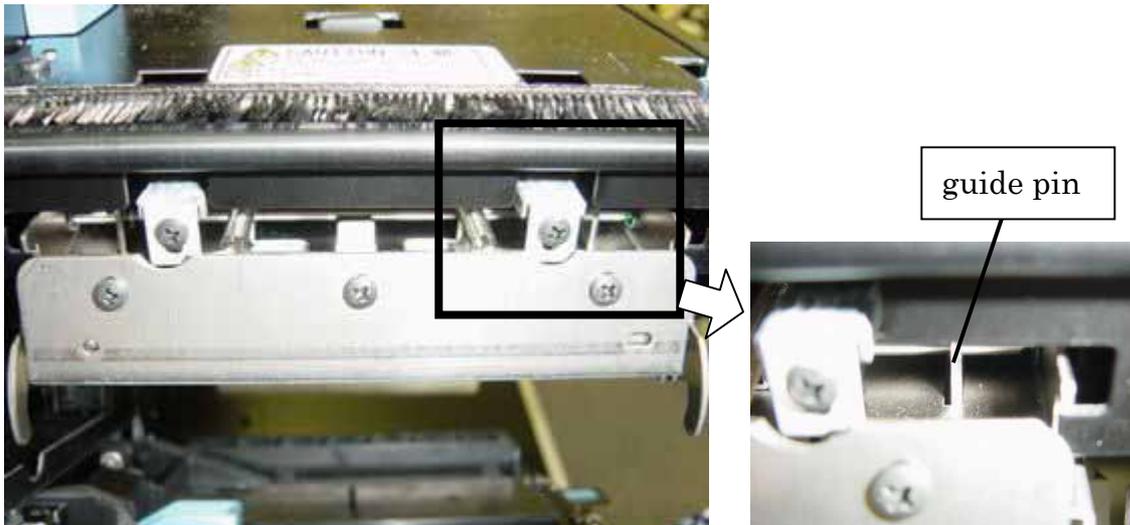
Important   Tuck the wire harness into the printer so that it does not go out.
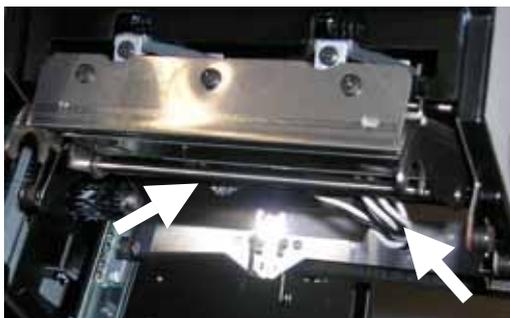
The harness lies outside. (wrong)

The harness is tucked. (right)

7. Bring down the head unit and close the front and the side covers.

14. 2 How to Replace the Platen Roller

Remove the platen roller following the same steps as is described in   through   in "12. 1 How to Remove the Paper Wrapped around the Platen Roller".

Insert the guide pin on the new platen roller into the shaft holding slot and press down the platen stopper.

1.   Bring down the head unit and close the front and the side covers.

15. Errors

When an error occurs on the printer, the error message is displayed on LCD.

Error Messages	Causes	Remedies
Paper feed error	A paper jam has occurred.	Remove the jammed paper and re-load the paper.
	The paper is not fed properly.	Match the paper information with the loaded paper.
End of Paper	The labels are used up.	Load a new paper roll.
End of ribbon	The ribbon has come to end.	Load a new ribbon.
Side cover open	The side cover is open.	Close the side cover.
Head unit lifted	The head unit is lifted up.	Bring down the head unit.
Paper info conflict	Length measurement has failed.	Measure paper length again. Check that the right paper sensor is selected. Check that the height of printable area is correct.
No ribbon required	The ribbon is loaded when direct thermal paper is used.	Remove the ribbon.
No thermal head	The thermal head is not mounted.	Turn the power off and mount a thermal head properly.
Front cover open	The front cover is open.	Close the front cover.
Damaged ribbon	The ribbon is damaged.	Mend the ribbon and re-load it.
Ribbon feed error	The ribbon is not fed correctly.	Lift up the head unit and bring it down again. The limit switches on the front and the side covers may be broken.
Peeling failed	The peeler could not peel the label properly.	Check the paper at peeling position.
Cut failed	The cutter could not cut the label properly.	Lift up the head unit and check the paper at cutting position.
Page Info. Error	The page information command is wrong.	Clear the data both in the host and the printer.
Action Info. Error	The action information command is wrong.	Clear the data both in the host and the printer.
Image Info. Error	The Image information command is wrong.	Clear the data both in the host and the printer.

Error Massages	Causes	Remedies
Unable to respond	The printer can't send back a response to the host.	Check that "bidirectional" is selected on "Device" that appears by clicking the "Device" tab in the printer driver and restart the printer.
Overheated thermal head	The thermal head is overheated.	Wait for a while.

Warning Messages	Causes	Remedies
Bad thermal head	There is a broken wiring in the thermal head.	The printer is ready when this message is displayed. But please replace the thermal head with a new one.
Paper near end	The paper is running short.	The printer is ready when this message is displayed. But please prepare a new paper roll.
Checking head unit	The thermal head is being checked.	Wait for a while.

Service Person Call	Causes	Remedy
Hardware failure	The printer can't feed the ribbon.	Contact one of our service locations for assistance.
	The printer can't access the contents of the flash ROM.	
	An error that can't be recovered has occurred.	

16. Troubleshooting

You can't turn on the printer.

The Power LED does not light up when the power switch is turned on.

Check that the power code is securely connected to the power outlet.
See <u>6.5. How to Connect the Power Code</u>.
Check that the power code is securely connected to the printer.
See <u>6.5. How to Connect the Power Code</u>.
Check that there is nothing wrong with the power outlet.
You can check it by connecting another electrical appliance that operates normally to the power outlet.
Turn off the power and then turn it on again.

The printer does not operate though the power can be turned on.

Make sure that the front and the side covers are closed.
If you have replaced the thermal head with a new one, check that it is mounted correctly.
See <u>14.1. How to Replace the Thermal Head</u>.
Check that aborted or suspended data are not left in the printer.
See "9. Control Panel".
Check that the printer is connected to PC with the interface cable.
See <u>6.6. Connection to PC</u>.
Check the printer driver.   See "Printer Driver Manual".
Does the printer driver of this printer match the application?
Do you use the printer driver for this printer?

The printed labels do not come out.

Check that the paper roll is loaded correctly. Is the paper set between the upper and the lower part of the interruptive form edge sensor? See <u>8. How to Load the Paper Roll</u>. Does the paper lie over the reflective sensor? See <u>8. How to Load the Paper Roll</u>. Does the paper guide meet the paper edge?　　See <u>8. How to Load the Paper Roll</u>. Is jammed paper not left inside the printer?　　See <u>12. Remedies for Paper Jam</u>. Does the paper not curl?　　See <u>3.6. Unsuitable Labels and Ribbons</u>. Is the paper suitable?　　See <u>3.6. Unsuitable Labels and Ribbons</u>.
If you have replaced the platen roller with a new one, check that it is mounted correctly. See <u>14.2. How to Replace the Platen Roller</u>.
When you use thermal transfer paper, check that the ribbon is loaded correctly. See <u>7. How to Load the Ribbon</u>.
Check that "Printer ready" is displayed on LCD.

The labels on which nothing is printed come out of the printer.

Check that the specified print energy is not too low. See "Printer Driver Manual".
Check that the paper is not reversed. See <u>8. How to Load the Paper Roll</u>.
Check that the thermal transfer paper is not loaded while a direct thermal paper is specified. See <u>8. How to Load the Paper Roll</u>.
Check that the ribbon is not reversed. See <u>7. How to Load the Ribbon</u>.
When the thermal transfer paper is used, check that the ribbon is loaded. See <u>7. How to Load the Ribbon</u>.
If you have replaced the thermal head with a new one, check that it is mounted correctly. See <u>14.1. How to Replace the Thermal Head</u>.

The ribbon is cut.　The ribbon comes out with the label.

Check that the ribbon is a recommended one. 　　　See3.1. Specifications for Labels and Ribbons.
Check that the specified print energy is not too high. 　　　See "Printer Driver Manual".
Check that the ribbon is loaded correctly. 　　　See 7 How to Load the Ribbon.
Check that you turned the take-up knob in the direction indicated by the arrow when you loaded the ribbon.　　See 7 How to Load the Ribbon.
Check that the ribbon peeling plate does not have scratches on it. 　　　See 13.3. How to Clean the Ribbon Peeling Plate.

Print quality is poor.　1

All Images printed on the labels are blurred.　Images printed on one side are blurred.

Check that you are combining the ribbon and the paper in the recommended way. 　　　See 3.1. Specifications for Labels and Ribbons.
Check that the specified print energy is not too low. 　　　See "Printer Driver Manual".
Check that the thermal head is clean. 　　　See 13.5. How to Clean the Thermal Head.
Check that the platen roller is clean. 　　　See 13.2. How to Clean the Platen Roller.
Check that the platen roller is not worn out. 　　　See 14.2. How to Replace the Platen Roller.
Check that the paper or the ribbon past the expiration date is not used. 　　　See 3.6. Unsuitable Labels and Ribbons.
Check that the ribbon is loaded correctly.　　See 7. How to Load the Ribbon. 　　Check that the value of ribbon core inner diameter lies between 25.4mm and 26.4mm.
Check that the labels do not have dust on their surfaces. 　　Blurred print occurs when dust comes between labels and the ribbon. 　　Use the labels recommended by NITTO DENKO. 　　Install the printer avoiding dust.
It is recommendable to print ladder barcodes as slowly as possible.

Print quality is poor. 2

White lines appear irregularly on the labels. The ribbon becomes wrinkled.

Check that the specified print energy is not too high. 　　See "Printer Driver Manual".
Check that the platen roller is clean. 　　　See 13.2. How to Clean the Platen Roller.
Check that the platen roller is not worn out. 　　　See 14.2. How to Replace the Platen Roller.
Check that the ribbon is loaded correctly.　　See 7 How to Load the Ribbon. 　　Is the ribbon not wrinkled?　Smooth down the wrinkles in the ribbon and re-load it. 　　Check that the value of ribbon core inner diameter lies between 25.4mm and 26.4mm. 　　Check that the ribbon is taken up evenly around the ribbon take-up shaft. 　　Check that the ribbon width is larger than the paper width.
Check that the printer is installed in the proper operating temperature and humidity. 　　　See 6.4. Installation Environment.
Check that the paper guide is set correctly in parallel with the paper edge. 　　　If some space is left between the paper guide and the paper, white lines appear 　　　on the labels since the printer can't feed the paper straight.

Print quality is poor. 3

Streaks appear on the printed label surface. Thin lines that are not to be printed appear.

Check that the thermal head is not scratched or does not have foreign materials on it. 　　　See 13.5. How to Clean the Thermal Head.
Check that the ribbon peeling plate is not scratched or does not have foreign materials on it. 　　　See 13.3. How to Clean the Ribbon Peeling Plate.

Print quality is poor.　4

Data are printed off the label.　The positions of the Images are wrong.　Wrong data are printed.

Check that the paper guide is set correctly, touching the paper edge. 　　　See <u>8. How to Load the Paper Roll</u>.
Check that the paper does not lie slanting inside the printer. 　　　Adjust the position of the paper.
Check the printer driver settings.　　See "Printer Driver Manual". 　　Check the values of page size. 　　Check the label type. 　　Check that the label format matches the loaded labels.
Check that the paper length is measured correctly. 　　　See "Printer Driver Manual".
Check that the shielded interface cable is used. 　　　See <u>2. Notes on Use</u>.

Print quality is poor.　5

The print position gradually deviates.

Check that you use a paper that has an accurate label pitch or an accurate "eye" mark pitch. 　　　See <u>3. Specifications for Labels and Ribbons</u>.
Check that the value set to the label height is right. 　　　See "Printer Driver Manual".
Check that the platen roller is clean. 　　　See <u>13.2. How to Clean the Platen Roller</u>.
Check that the platen roller is not worn out. 　　　See <u>14.2. How to Replace the Platen Roller</u>.
Check that the paper length is measured correctly. 　　　See "Printer Driver Manual".

A paper measurement error occurs.

Check that the paper roll is loaded correctly.

Is the paper set between the upper and the lower parts of the interruptive form edge sensor?
     See <u>8. How to Load the Paper Roll</u>.
    Does the paper lie over the reflective sensor?
     See <u>8. How to Load the Paper Roll</u>.
    Does the guide plate meet the paper edge?
     See <u>8. How to Load the Paper Roll</u>.
    Is the paper loaded on the printer with its front end pulled out toward you over the platen roller?
     See <u>8. How to Load the Paper Roll</u>.
    Is jammed paper not left inside the printer?
     See <u>12. Remedies for Paper Jam</u>.
    Is the paper on the printer suitable?
     See <u>3.6. Unsuitable Labels and Ribbons</u>.

Check the printer driver settings.   See "Printer Driver Manual".   Check the sensor type.

A cut error occurs.

Is there jammed paper left on the part where cutter carriage moves?   See 2 How to Clear the Paper Jam at the Cutter in <u>11.1. Cutter Model</u>.
Is the paper size proper?   See <u>3.2. Paper Size / Ribbon Size</u>.

Check the printer driver settings.   See "Printer Driver Manual".
    Check that the paper size is correct.
    See <u>11.1. Cutter Model</u>.

Is the cutting edge not worn out?   See <u>11.1. Cutter Model</u>.

A peeling error occurs.

Is the jammed paper not left inside the front cover? See 4. How to Load Labels (After Adding a New Paper / Normal Use) in <u>11.2. Peeler Model</u>.
Is the paper size proper? See <u>3.2. Paper Size / Ribbon Size</u>.
Check the printer driver settings.　　　See "Printer Driver Manual". Check that the paper size settings are right. Check that the proper print speed is specified. See "2. Notes on Use" in <u>11.2. Peeler Model</u>.
Is the rubber roller on the peeler not worn out? See "2. Notes on Use" in <u>11.2. Peeler Model</u>.

When you can't troubleshoot your problem:

Ask our service locations for inquiries about the printer, advices on the troubles, and requests for maintenance services.

17. Specifications

1. Printer

Entries		Specifications
Model		DURAPRINTER SF600
Resolution (dot density)		600 dpi (23.6 dots/mm)
Printing Method		thermal transfer / direct thermal
Print Speed		150mm/sec (MAX) [1]
Reference points in printing		center positions of the paper and the ribbon
Maximum Print Width		104mm
Maximum Print Length		1,000mm
Page Width		15 - 110mm
Control Panel	LCD	Graphics type LCD 128dot×64dot
	LED	Power (green), Ready (green), Error (red), Data (green)
	Keys	Pause, Feed, Menu, ▲, ◀ , ▶ ,▼, Enter, Cancel
Host Interface		USB2.0 High Speed
Printer Driver covering OSes		Windows 2000, Windows XP, Windows Server 2003
External dimension	Depth	455mm
	Width	300mm
	Height	353.5mm (including the height of rubber feet)
Weight		20.6kg (without supplies)
rated power	input voltage	AC 100V - 240V
	frequency	50/60Hz (48 – 62Hz)
	power consumption	under normal operation mode: 250W or less
operating temperature and humidity		5 - 40 (recommended: 18 - 28)
		10 - 90% RH (recommended: 40 - 60%
temperature and humidity for storage		-20 - 70
		5 - 90% RH
Environmental Standard		DURA PRINTER SF adheres to RoHS Directive.

The print speed has a limitation depending on the paper type, the ribbon type, and the data.

2. Supply

Entries	Specifications		
	Standard Model	Peeler Model	Cutter Model
Page width (backing paper width)	15mm - 110mm		
Page thickness (total)	0.08mm - 0.26mm		
Page length (label pitch)	5mm - 1,000mm	12mm - 1,000mm	10mm - 1,000mm
Label length	-	10mm - 998mm	-
Label width	-	10mm or more	-
Label thickness	-	0.05mm or more	-
Backing paper thickness	-	0.1mm or less	-
Backing paper material	-	glassine paper	-
Paper form	Paper roll (Printing surface inside / outside)	Paper roll (Printing surface inside)	Paper roll (Printing surface inside / outside)
Paper roll outer diameter	φ200mmMAX		
Roll core inner diameter	φ76.2mm		
Ribbon width	40　120mm		
Winding direction	Inked surface outside		
Ribbon core inner diameter	φ25.4mm - φ26.4mm		
Ribbon end	Length of ending silver tape 200mm or more		
Ribbon outer diameter	φ70mm or less (Ribbon length: 300m or less)		

When you use long labels, install the printer where labels are unlikely to stick to the printer body or to the floor.

5. Specifications of Cutter (Option)

Entries	Specifications
Cutter-operating paper thickness	0.08mm - 0.26mm
Cutter-operating label pitch	10mm - 1,000mm
Cutting mode	· Continuous cut · Cut after printing · Batch cut
Conditions against Cutting	· labels with glues · within the 1mm regions before and after perforation · Cloths · Films

6. Specifications of Peeler (Option)

Entries	Specifications
Peeler-operating print speed	101.6mm/s or slower (The feeding speed is the same.)
Peeling method	The labels are pulled and peeled.
Peeling detecting method	The reflective photo sensor detects the presence or absence of the label.
Conditions against Peeling	· labels on the perforated paper · labels on the fanfold form · cloths · films · labels other than rectangular diecut labels

Trademarks

MS, Microsoft, and Windows are registered trademarks of US Microsoft Corporation in the United States and in other countries.

Windows® 2000 has the following product types.

Microsoft® Windows® 2000 Professional

Microsoft® Windows® 2000 Server

Microsoft® Windows® 2000 Advanced Server

Windows® XP has the following product types.

Microsoft® Windows® XP Home Edition

Microsoft® Windows® XP Professional

Windows Server™ 2003 has the following product types.

Microsoft® Windows Server™ 2003 Standard Edition

Microsoft® Windows Server™ 2003 Enterprise Edition

Microsoft® Windows Server™ 2003 Web Edition

Designations used by manufacturers and sellers to distinguish their products are claimed as trademarks or registered trademarks.

DURAPRINTER SF

Notices

1. The contents of this document may be changed with no advance notice.

2. We assume no responsibility for damages resulting from the use of the products (both hardware and software) or this manual.

3. No part of this document may not be reproduced, replicated, quoted or reprinted in any form without permission.

4. Note that because of the improvements and refinements of the product, the descriptions and illustrations provided in this manual may slightly differ from your printer.