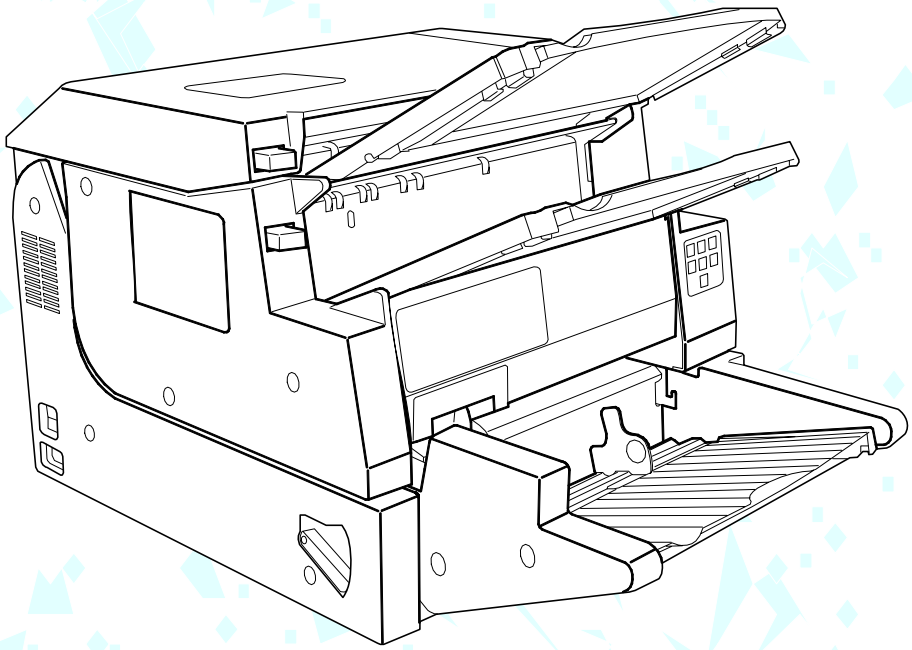
Hitachi OCR Scanner

(HT-4139-28/48)

Instruction Manual



Read and keep this manual

- Read safety instruction carefully and understand them before starting your operation
- Keep this manual at hand for reference。

Preface

Thank you for using Hitachi OCR scanner.

Read this manual thoroughly before using the OCR scanner and operate it properly.

This manual is created for operators of the HT-4139 OCR scanner and describes how to operate it.

Be sure to read this manual and understand the instructions and the safety precautions thoroughly before starting.

Read this manual to the end to use the OCR scanner safely and effectively. After the reading it, keep the manual at hand as reference.

For inquiry about this manual, please contact your local distributor

Notes

- This manual cannot be used or reproduced in whole or in part without permission.
- The contents in this manual may be changed without prior notice.

Safety regulations for Electrical Appliance

Caution

This product conforms to the safety regulations below.

- NRTL Certification（Nationally Recognized Testing Laboratory） UL60950
- FCC Class A (Part 15 of FCC Rules)
- CE marking (Low Voltage Directive) (2006/95/EC)
- BSMI(Bureau of Standards, Metrology and Inspection, Ministry of Economic Affairs) Certification

Note: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case

Disclaimer

Caution

Hitachi does not take on any responsibility for any damage caused by inability or error in OCR reading or data abnormality. The user must perform the system data validation of OCR. Hitachi does not take on any responsibility for any damage caused by using a poor-quality sheet or sheet not up to standard.

Unintended use and alteration

Caution

Never use the OCR scanner for any purpose other than scanning. Also, never alter any part of the OCR scanner. Hitachi does not take on any responsibility for any damage caused by alteration or improper use.

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Feb. in 2010 (1st Edition)

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1. Common Safety Precautions

Read the following safety precautions thoroughly

- Be sure to follow the instructions and directions in this manual when using the device.
- Personal danger or damage to the device may occur when any of the precautions are ignored.
- Be sure to follow the safety notices shown on the device or mentioned in the manual.
- The safety precautions are written on the labels below. The safety precautions are safety alert symbols with signal words such as; "Danger", "Warning", or "Caution".

Danger	:	Indicates an imminent hazardous situation which, if not avoided, will result in death or serious injury.
Warning	:	Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
Caution	:	Indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

This symbol is accompanied by text to indicate that the following information is related to safety.

In addition, "Remark" indicates information that is not directly related to safety.

- Never attempt to do any operation not mentioned in the manual.
  If you have any problem, contact the service personnel.
- Although the safety notices shown on the device or mentioned in the manual are carefully considered, unexpected events may occur. When using the device, besides following the directions, pay much attention to yourself.

Caution

Insertion

Do not insert your fingers or foreign substances into any moving parts, including the Hopper and the Stacker while the device is operating. It may cause injury or damage the device.

Warning

Abnormal temperature, noise, or smell

If any of above abnormalities occur, stop using the device immediately, turn off the device, and unplug the power cable. If you continue using the device, it may cause electric shock or a fire may occur

Warning

Grounding

To prevent electric shock, be sure to connect the grounding cable to the grounding terminal installed by an electrician. If you fail to do so, you may it may cause electric shock

Warning

Foreign substances

Prevent any metals or flammable foreign substances from entering the device through ventilation slots or other openings. If you use the device with these substances inside, it may cause electric shock or a fire may occur.

Warning

Shock

Do not apply shock to the device by dropping it or hitting it against an object. If you use the device after applying shock, it may cause electric shock or a fire may occur.

Warning

Placement

Do not put containers with water inside (e.g., vase or pot) or metal (e.g., paper clip) on the device. If you use the device with water or metal inside, it may cause electric shock or a fire may occur.

Warning

Power cable

Do not stretch, push, bend, alter, or put an object on the power cable. If you do so, the power cable may get damaged, and you may get an electric shock or a fire may occur. Be sure to use the power cable supplied with the device. If you use a power cable other than the one supplied, it may cause electric shock or a fire may occur.

Warning

Power plug

Be sure to plug and unplug the power cable by holding the plug. Pulling the power cable may break the line inside the cable. Be sure to plug and unplug the power cable with dry hands. If your hand is wet, you may get an electric shock. Be sure that the plug is not dusty and insert the plug into the outlet. Do not use a loose plug, which may cause a fire. If you are not using the device for a long time (e.g., during a vacation), be sure to unplug the power cable.

Warning

Power supply

Do not use the device with a power supply voltage other than the one specified. It may cause electric shock or a fire may occur.

Warning

Too many leads

Do not plug too many leads into a single outlet. If you do so, a fire may occur. Also, too many leads may activate the circuit breaker and affect other devices and operations.

Warning

Moist and dusty place

Do not use the device in a moist or dusty environment, or a place where the room temperature changes 10 ^{o}C or more, causing dew outside or inside the device. If dewing occurs, leave the device for several hours in the operation environment before use. If you use the device with dew inside, it may cause electric shock or a fire may occur

Warning

Air Vent

The air vent is provided to prevent the internal temperature from rising too high. Do not block the air vent with an obstacle over or in front of it. If you do so, the internal temperature rises too high and the device failure or fire may occur.

Warning

Placement

Do not bring a flammable solvent (e.g., alcohol or thinner) close to the device.

Warning

Disassembly

Do not disassemble or alter the device.

Warning

Flammable spray

Do not use flammable sprays around the device.

Warning

Cleaning

When cleaning the device, turn off the device and unplug the power cable from the outlet. Use a piece of waste cloth dumped soaked in neutral detergent and wrung dry to wipe the outside of the device. Use a dry piece of gentle cloth (e.g., gauze) to wipe the inside of the device. Do not use flammable solvents (e.g., alcohol or thinner).

Caution

Unstable place

Do not put the device on an inclined, small, or unstable environment. The device may drop or fall down and cause an injury.

Caution

Unauthorized use

Do not use the device for any other purposes (e.g., as a step) than specified. The device may drop or fall and cause device failure or injury.

Caution

Cabling

Route the cables so no person may be caught. If a cable catches someone's foot, a device failure or injury may occur.

Caution

Radio interference

If you use the device in the proximity of another electronic device, noise may occur. In particular, a TV set or radio receiver may get noises. In such instances;

- Separate the devices;
- Change the position of the antenna of a TV set or radio receiver, or;
- Supply power to them from separate outlets.

Caution **Operation**

- Do not wear loose clothes and accessories that may get caught in the device, causing injuries. In particular, pay attention to your necktie or long hair. If you are caught in the device, turn off the device immediately, and gently open the cover.
- When setting original manuscripts or removing jammed papers, pay attention not to cut your finger with the edge of the paper.

Caution **Operation**

- Do not bring your face close to the device when it is operating. Paper ejected onto the stacker may hit your face or eye.

Caution **Operation**

- If the environmental temperature changes rapidly (e.g., when moving the device from a cold place into a warm room in winter), dew may occur (i.e., moisture in the air may condense on the surface of the device) and cause a device failure. In this case, leave the device in the operation environment for three or more hours before use.

2. List of "⚠ Caution" messages

The following lists messages and locations of "Notes" throughout the guide.

- Do not put things on this cover (Top cover)
  (Section 1.3, Page 1-3)
- Open the cover too wide causes breakage. (Cover for imprinting)
  (Section 1.3, Page 1-3)
- Before connecting/disconnecting the USB cable, or turning power the ON, the OCR scanner should be turned OFF. Insert and connect the USB connecter firmly
  (Section 2.1, Page 2-1)
- Do not press the Power switch with force. Your nails may get caught in the gap between the switch
  (Section 2.1, Page 2-1)
- When you restore the power, please wait for about 5 seconds. If you do not wait, sometimes the device can not be recognized by OS or do not start normally. In these cases, power off and wait 5 seconds then turn power ON.
  (Section 2.1, page 2-1)
- When setting an original manuscript or removing a jammed sheet, pay much attention not to cut your finger with the edge of the sheet.
  (Section 2.2, Page 2-4, 2-5)
- Be careful so your watch, bracelet, cuff, or necktie do not get caught by a projection or damaged by the metal part.
  (Section 2.2 Page 2-4, 2-5, Section 2.3 Page 2-6, Section 2.5 Page 2-15, Section 2.7 Page 2-29)
- When the front cover is open, it may close naturally and catch your hand. Be sure to hold the cover with one hand when operating while the cover is open.
  (Section 2.3 Page 2-6, Section 2.3 Page 2-10, Section 2.4 Page 2-9, Section 2.4 Page 2-10, 2-16、Section 2.5 Page 2-12, 15, Section 2.7 Page 2-29)
- When the imprinting ribbon is exposed it may smear your clothes
  (Section 2.3, Page 2-6)
- Push until it latches completely. If you use the device when unlatched , it may cause paper jams, etc.
  (Section 2.3, Page 2-7, 2-8)
- Do not push any other parts other than the “PUSH label” and it should be handled with both hands.

(Section 2.3, Page 2-8)

- Be careful, the guide around the Imprinting might be high temperature

(Section 2.3, Page 2-6, Section2.4, Page 2-9)

- Do not clean the inside of the device with your bare hands. Use a piece of gauze to protect your hands and fingers when cleaning the inside of the device, where glass plate and sharp materials exist.

(Section 2.5, Page 2-12)

- If the scanning surface of the reading unit gets dirty from ink, adhesives, or fingerprints, device failure or reading error may occur. Clean the device regularly (before operation) and whenever a read error occurs. If the error persists after cleaning, contact the service personnel. Perforated sheets produce a lot of dust so frequent cleaning is required.

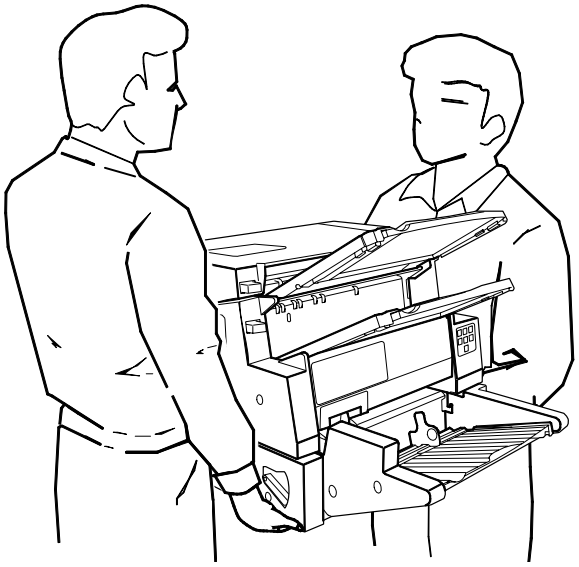
(Section 2.5 Page 2-17, 19)

3. Installation

Caution

Location

- This device weighs approximately 50 kg. Take stable posture when installing the device.
- Be sure to hold the bottom of the device. If you hold other parts, the device may break or drop.
- When placing the device on the floor, be careful not to catch your fingers between the bottom of the device and the floor.
- An earthquake may cause the device to drop. Be sure to take the appropriate measure to prevent the device from dropping and the table from falling down.



4. Cover removal

Warning Any person other than the service personnel must not remove the cover(s) in any case. There are high-voltage components and rotating parts inside the device, which may cause an electric shock, injury, or damage to the device.

5. Management

Depending on the print or written text quality, the device output result will be as follows; "Correctly read", "Cannot read", or "Misread" as follows:

Correctly read：The recognized result can be uniquely determined and are equivalent to printed or written text.

Cannot read：The recognized result cannot be uniquely determined.

Misread：The recognized result can be uniquely determined but are different from printed or written text. The output data may contain misread characters. Therefore, check the characters before using the result.

Note **Misread**

- Hitachi does not take on any responsibility for any damage caused by inability or error in OCR reading or data abnormality.
- The user must be reliable for OCR and system data validation. Hitachi does not take on any responsibility for any damage caused by using a poor-quality paper or paper not up to standard.

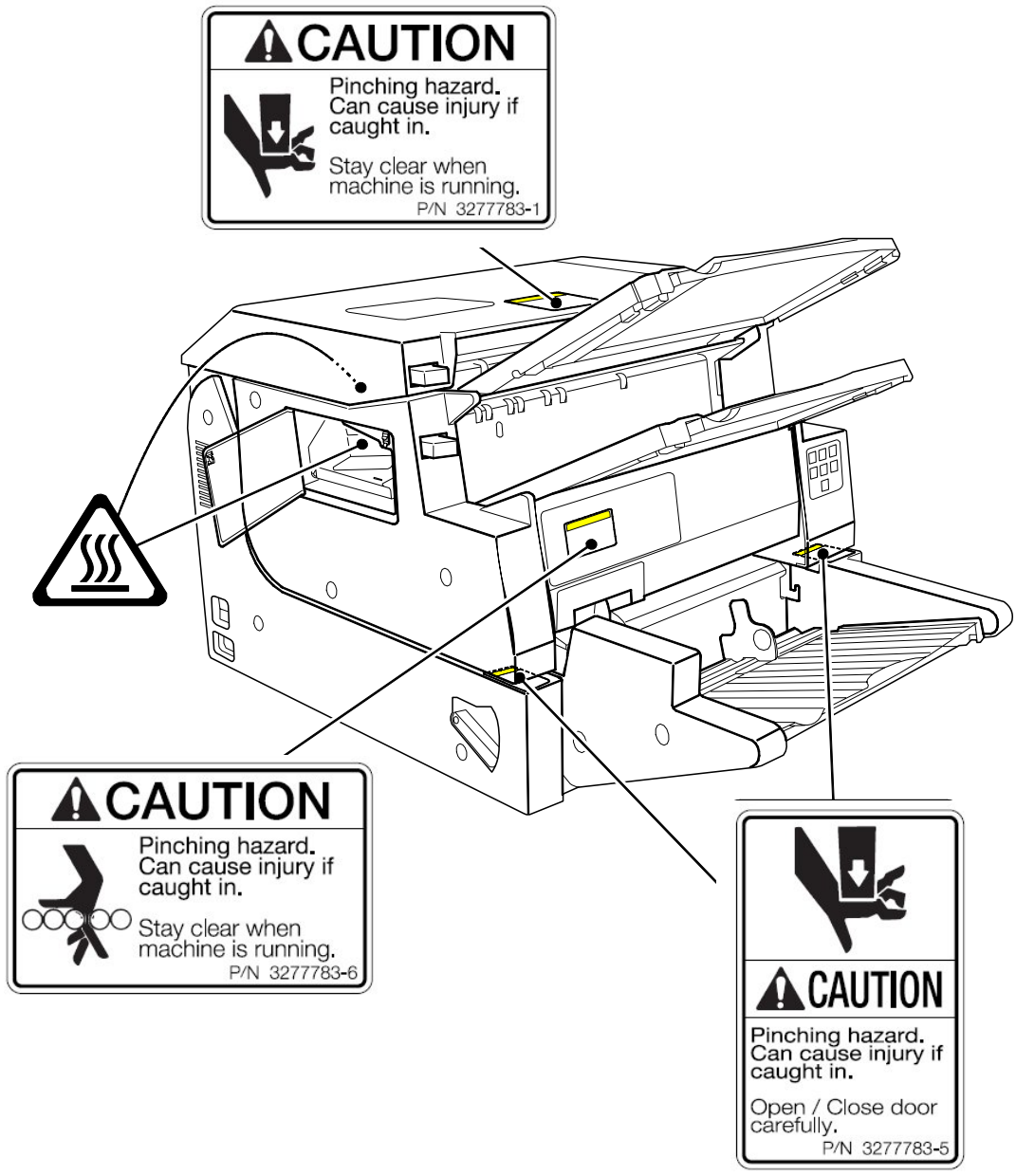
Note **Device operation**

- This device is a high-tech electronic device and may operate abnormally due to unexpected noise or error. When device failure occurs, remove the cause and retry. Hitachi does not take on any responsibility for any damage caused by an operation failure or improper use.

Caution

Safety Notice Label

Clean each safety notice label regularly so the text be read clearly. If the label is broken, contact the service personnel and ask for a new label.



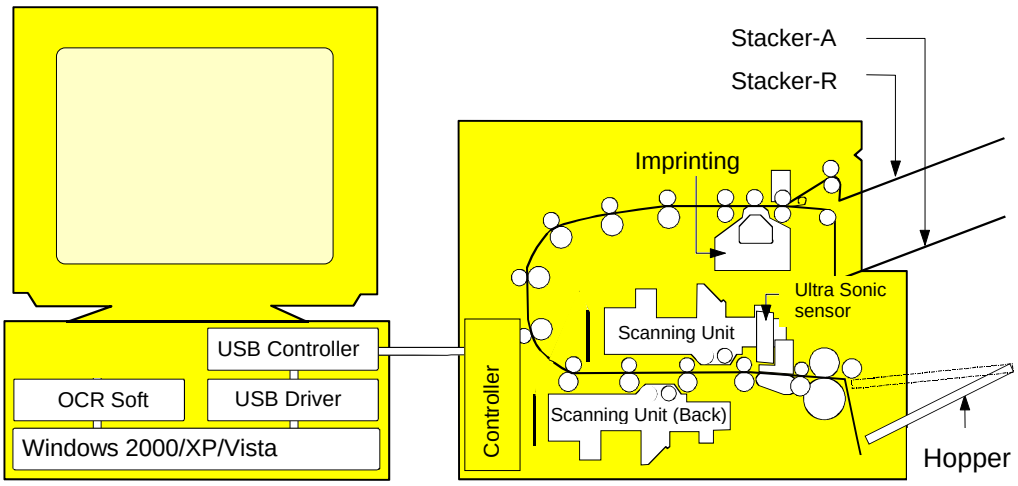
1 Overview

1.1 Device Overview

No.	Model name	Product Name	Function
1	HT-4139-28M	OCR scanner	Simplex model
2	HT-4139-48M	OCR scanner	Duplex model

The OCR Scanners are operated by the host through the USB interface.

Hardware configuration

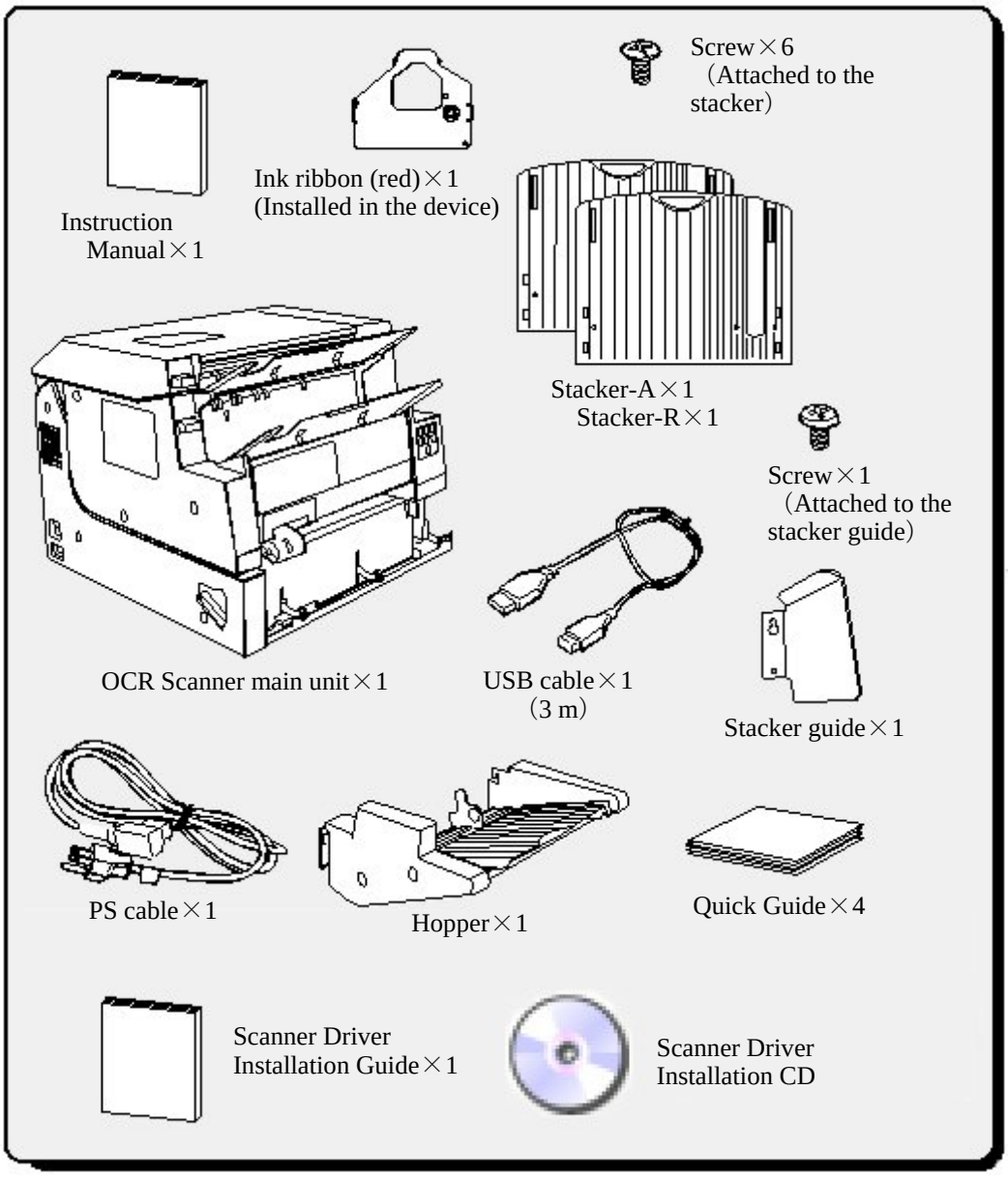


・Scanning

A host program controls scanning and the OCR scanner scans one sheet and transfers data to the host.

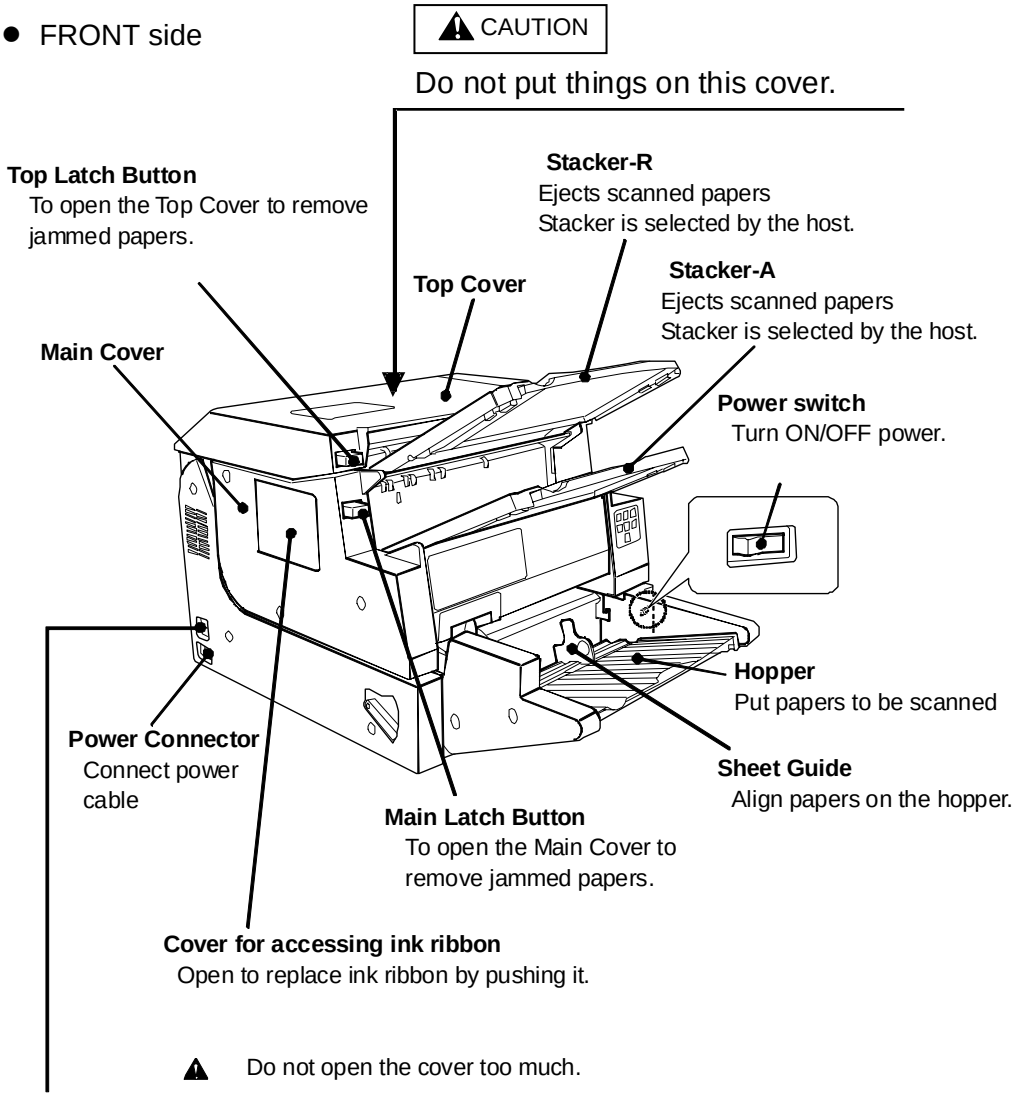
1.2 Device Configuration

Check the device configuration before installation.



1.3 Part Names and Functions

- FRONT side

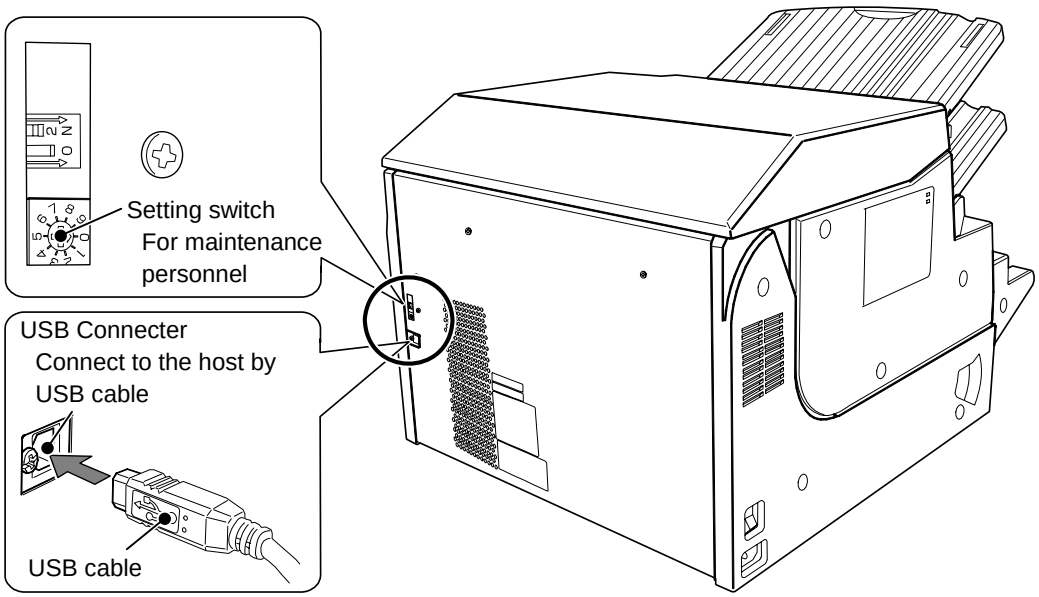


Main power switch

Usually the main power switch should be kept ON（**ー** side）and turn ON/OFF the device by the power switch.

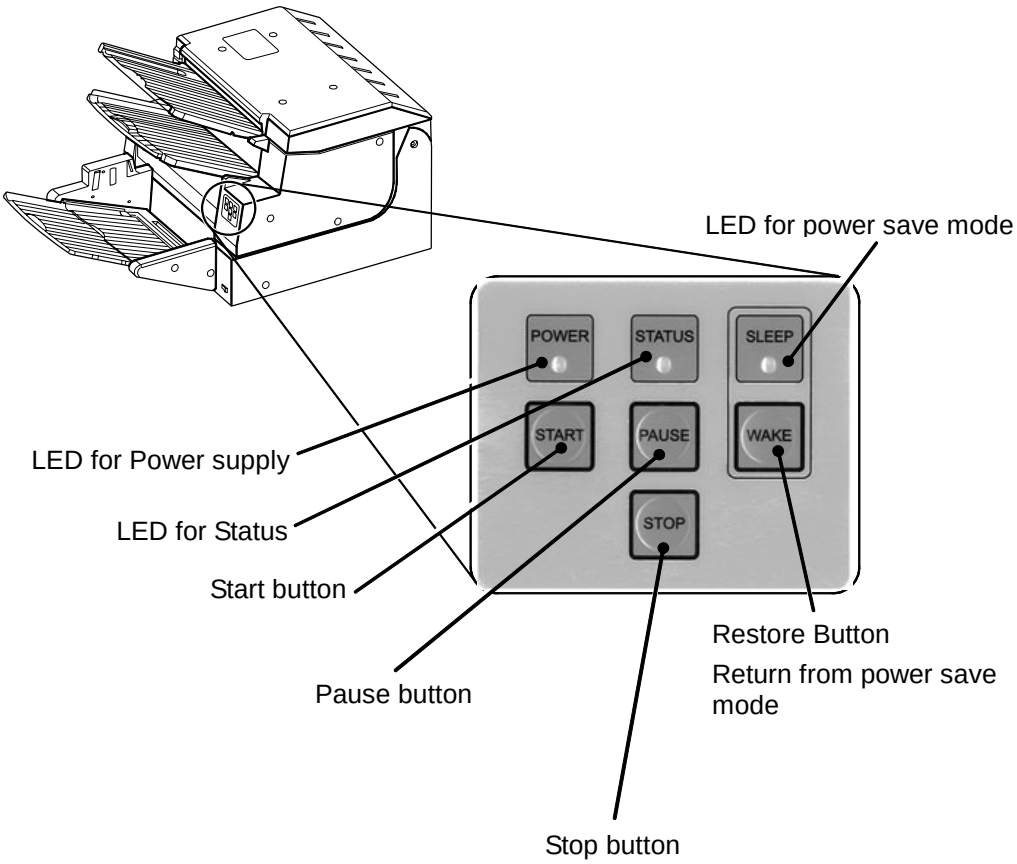
If you do not use the device for a long time, the main SW should be OFF（**O** side）.

- REAR side


Setting switch
For maintenance
personnel
USB Connecter
Connect to the host by
USB cable
USB cable

1.4 Control panel

The control panel displays the condition of the OCR scanner.



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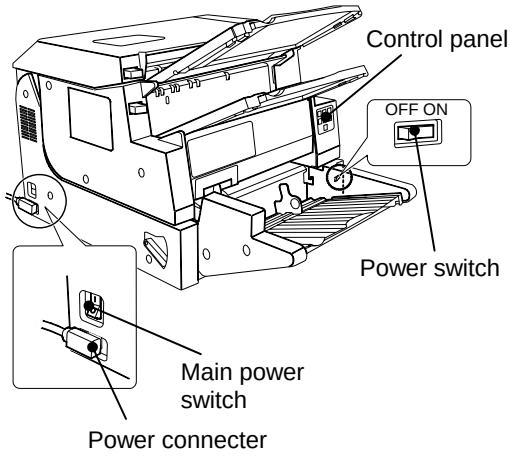
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2 Operations

This chapter describes the process from turning on the power to starting scanning and cleaning. For directions how to operate the OCR scanner from the host, refer to the operation manual.

2.1 Power ON / OFF

■ Power ON



⚠ CAUTION
Before connecting/disconnecting the USB cable, or turning power the ON, the OCR scanner should be turned OFF. Insert and connect the USB connecter firmly.

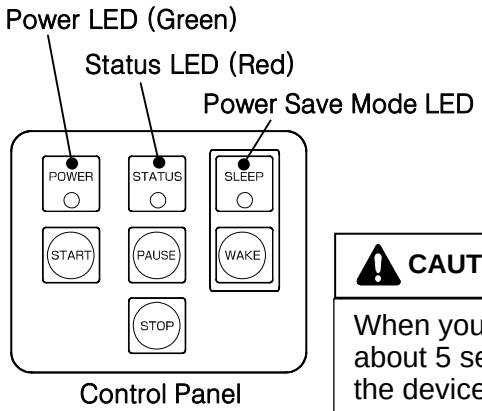
⚠ CAUTION
Do not press the Power switch with force. Your nails may get caught in the gap between the switch

① Turn ON the power by pressing the Power switch.

Self diagnosis will start when the power is turned ON.

Status of diagnosis is indicated by the control panel.
Refer to the following page.

■ Power OFF



Control Panel

① Ensure scanning is completed.
② Check there are no papers left in the Hopper.
③ Check if the condition LED is blinking slowly
④ Turn the power OFF by pushing the Power switch.

⚠ CAUTION

When you restore the power, please wait for about 5 seconds. If you do not wait, sometimes the device may not be recognized by the OS or may not start normally. In these cases, turn the power OFF and wait 5 seconds then turn the power ON

■ Panel Indication

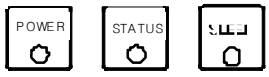
- Normal condition

LED indication : ON lit : OFF unlit : blinking (rapidly) : blinking (slowly)

When power ON

1 

After turning the power ON, the power LED and the Status LED will be lit for about 0.5 seconds (LED check mode).

2 

The power LED and the Status LED will turn OFF for about 0.2 seconds.
(Initializing)

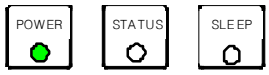
3 

The Status LED will blink rapidly.
(During initialization, it will blink for about 15～20 seconds.)

Under Operation

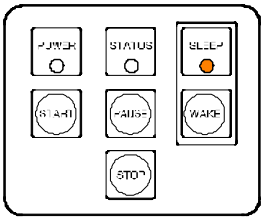
4 

The Status LED will blink slowly
(Waiting for commands from the host.)

5 

The Status LED will be turn OFF.
(On-line operation)
Return to No.4. In case of unrecoverable error, the Status LED will remain turned ON

- Power save mode



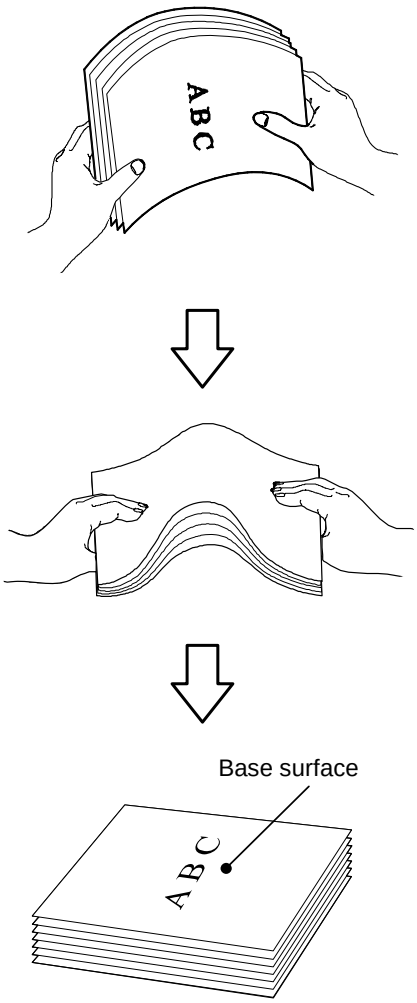
The power save mode LED will turn ON.

Restore process is the same as turning the power ON
Refer to Chapter 3, Power save mode.

2.2 Scanning

To scan papers, follow the instruction below to avoid errors such as paper jam.

■ Advance Preparation



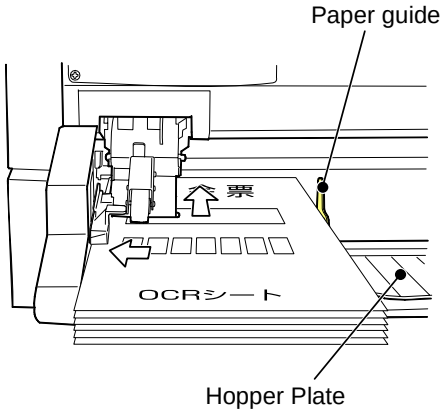
① Check the sheets for the following:

- Remove paper clips, staplers, and other substances.
- If the sheet is wet with ink or adhesive, wait until dries.
- Align the edges of papers to avoid skew.
- If the tip of the sheet is bent, unbend it.
- If the sheet is wrinkled or curled, smooth it out.

② Separate the papers as follows:

- Take a stack of papers about 15-20 mm or thinner, hold both edges gently, and bend it.
- Hold the edges firmly, and unbend the stack of papers. This will remove air between the papers
- Repeat this action two or three times.
- Rotate the stack 90 degrees, and repeat the above process.

■ Paper Setting in the Hopper (Fixed Paper Width)



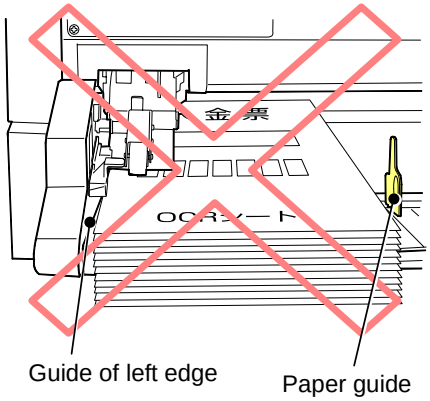
Caution

When setting original manuscript or removing jammed sheet, be careful not to cut your finger with the edge of the sheet.

Caution

Be careful so your watch, bracelet, cuff, or necktie do not get caught by a projection or damaged by the metal part.

Wrong examples



- Paper stack is not aligned to the left edge.
- Paper stack is not straight.
- The paper guide is not touched to paper stack.
- Height of paper stack is higher than the paper guide.

① Slide the paper guide about 5 mm wider than the stack of papers.

② Place the paper stack face up on the Hopper and align it to the top edge and left edge to the Paper Guide. Check if the edge of the papers are not folded

③ Slide the paper guide and press on the paper stack slightly.

Hold the Green part of the paper guide and slide it.

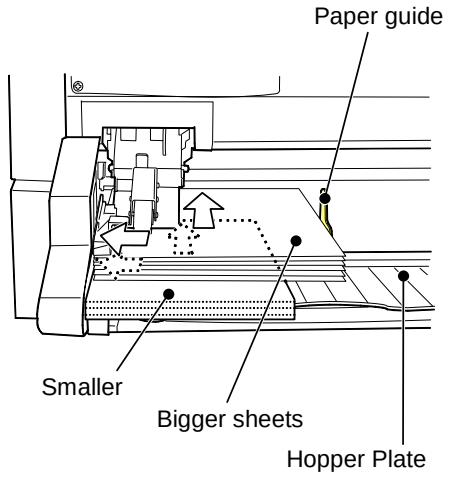
There should be no gaps between the guides and the paper stack.

④ Select the scan mode on the host and start scanning.

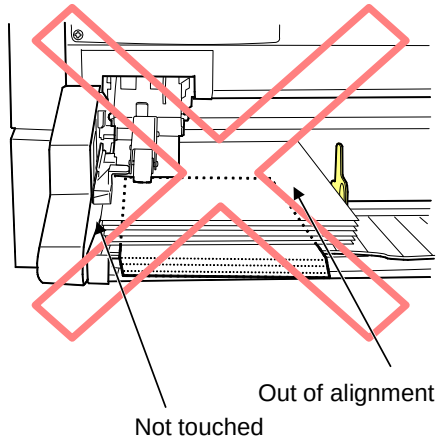
Do not add papers during scanning.

⑤ Remove the scanned papers from the stacker.

■ Setting for Mixed Size Papers in the Hopper



Wrong examples



- Paper stack is not aligned to the left edge.
- Paper stack is not straight.
- The paper guide is not touched to paper stack.

⚠Caution

When setting original manuscript or removing jammed sheet, be careful not to cut your finger with the edge of the sheet.

⚠Caution

Be careful so your watch, bracelet, cuff, or necktie do not get caught by a projection or damaged by the metal part.

① Slide the paper guide about 5 mm wider than the stack of papers.

Hold the Green part of the paper guide and slide it.

② Stack the smaller papers on top

③ Align the papers to the top and left edges.

④ Place the paper stack as face up on the Hopper and align it to the top edge and left edge to the guide. Check if the edge of the papers are not folded. Especially check the paper conditions at the bottom.

⑤ The paper guide aligned with largest papers.

⑥ Select the scan mode by the host and start scanning.

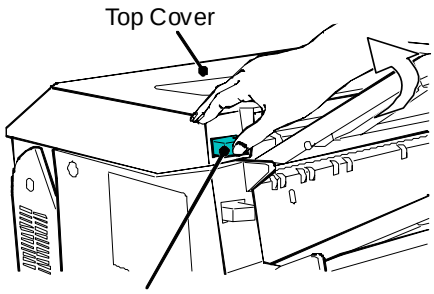
Do not add papers during scanning

⑦ Remove the scanned papers from the stacker.

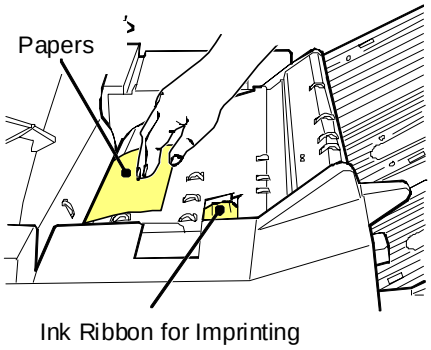
2.3 Handling Paper Jam

Caution Be careful so your watch, bracelet, cuff, or necktie do not get caught by a projection or damaged by the metal part

Remove jammed papers by following the direction below.



① Push the Top Latch Button and open the Top Cover in the direction of the arrow.



② Remove jammed papers.

Caution

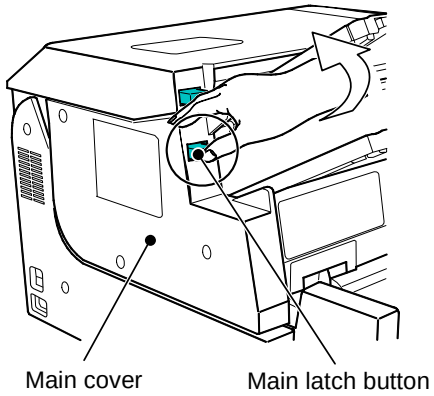
When the Front Cover is open, it may close naturally and catch your hand. Be sure to hold the cover with one hand when operating while the cover is open.

Caution

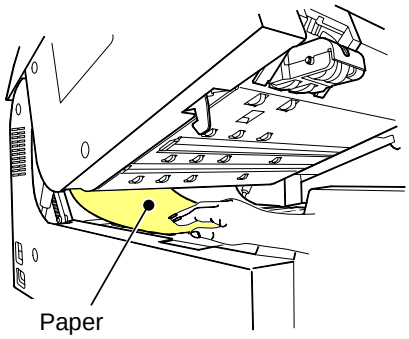
When the Imprinting Ribbon is exposed it may smear your clothes

Caution

The temperature around the Imprinting mechanism guide may be high



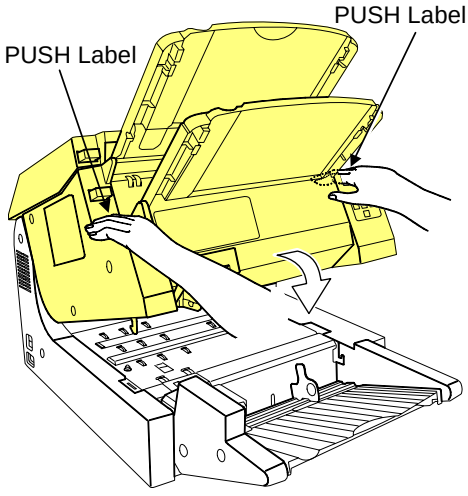
③ If you do not see any papers, press the main latch Button and open the Main Cover in the direction of the arrow.



④ Remove the papers jammed in the paper feeder

⚠Caution

When the Front Cover is open, it may close naturally and catch your hand. Be sure to hold the cover with one hand when operating while the cover is open.

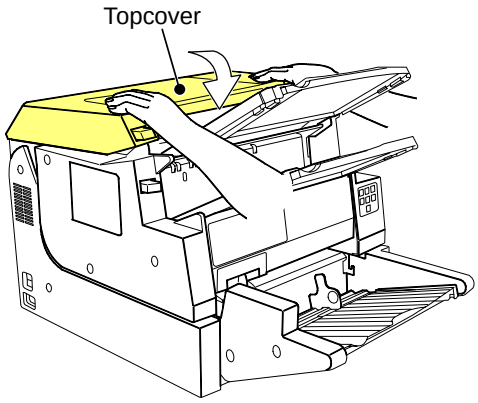


⑤ Close the Main Cover.

When you close the Main Cover, press both “PUSH” labels on the side with fingers and push down the cover until it latches.

⚠Caution

Push until it latches completely. If you use the device when unlatched , it may cause paper jams, etc.



When you close the Top Cover, push it down with both hands until it latches.

Caution

Do not push any other parts other than the “PUSH label” and it should be handled with both hands.

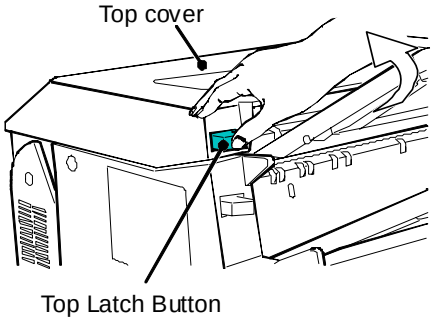
Caution

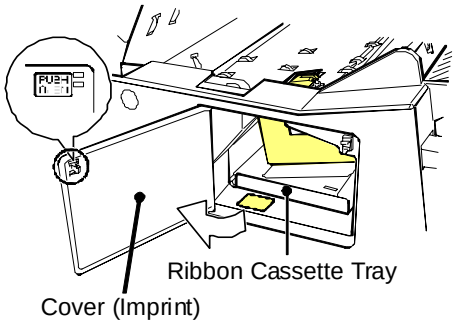
Push until it latches completely. If you use the device when unlatched, it may cause paper jams, etc.

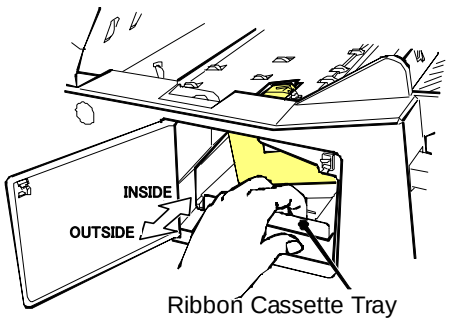
2.4 Imprinting Operation

2.4.1 Change Imprinting Position

You can select the location of imprinting. (INSIDE position or OUTSIDE position)







⚠Caution

When the Front Cover is open, it may close naturally and catch your hand. Be sure to hold the cover with one hand when operating while the cover is open.

① Pressing the Top Latch Button and open the Top Cover in the direction of the arrow

② Push the “PUSH OPEN” label and open the cover (Imprint).

③**The OUTSIDE Position** is the spot where the Ribbon Cassette Tray stops when you pull it out.
The INSIDE Position is the spot where the Ribbon Cassette Tray stops when you push it in.

④ Close the Cover (Imprint).

Close the Top Cover by pushing the “PUSH” label

⚠Caution

Be careful, the guide around the Imprinting might be high temperature.

2.4.2 Replacement of Ribbon Cassette

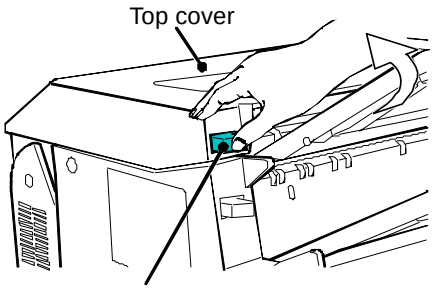
< REMARK >

You need to replace the ribbon cassette in the future even if you have not used it for imprinting.

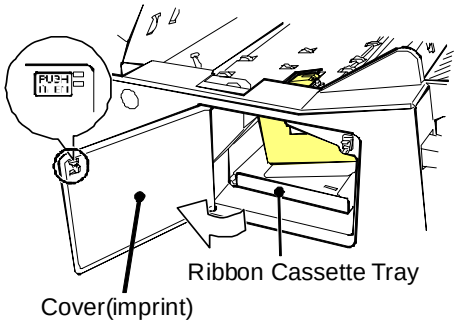
The ribbon cassette should be replaced periodically. If printing becomes thin suddenly, check if the ribbon cassette is out of position.

⚠Caution

When the Front Cover is open, it may close naturally and catch your hand. Be sure to hold the cover with one hand when operating while the cover is open.

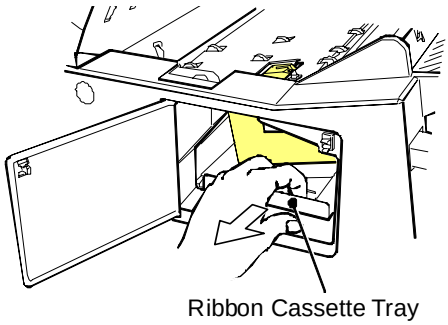


① Press the Top Latch Button and open the Top Cover towards the arrow.

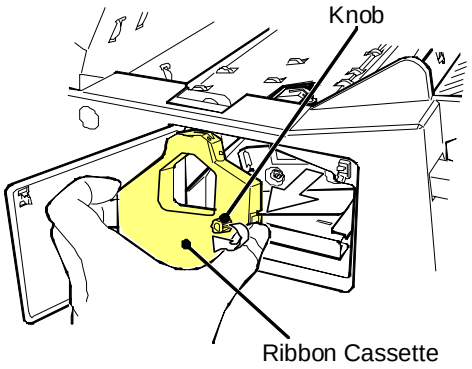


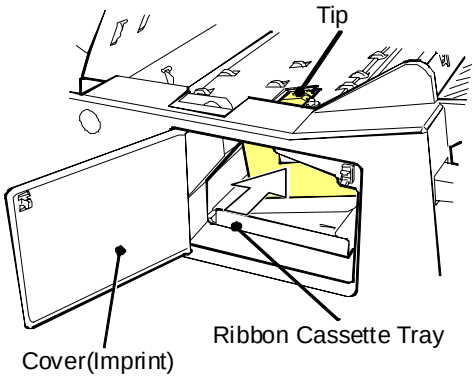
② Press “PUSH OPEN” on the Cover (Imprint) and open it.

Check the position of the Ribbon Cassette Tray



③Pull the Ribbon Cassette Tray to the “OUTSIDE Position”. (Do not pull further if it is already at the “OUTSIDE Position”)





④ Pull out the Ribbon Cassette

⑤ Set the Ribbon Cassette Tray to the "Inside Position". (Push the Tray until it stops.)

⑥ To tighten the Ribbon, turn the knob.

* Do not turn the knob when the Ribbon is attached to the Ribbon Cassette Tray

⑦ Set the Cassette to the Ribbon Cassette Tray carefully so the Tip does not get stuck. Push it until you hear a clicking sound.

⑧ Set the Tray to the original position in instruction ②

⑨ Close the Cover (Imprint).

⑩ Press "PUSH" to close the Top Cover.

2.5 Care for Device before Daily Operation and When Error Happen

Daily inspection and cleaning (conducted by user)

This device handles papers. As paper dust from sheets may affect images, perform inspection and cleaning daily.

No.	Item	Inspection	Frequency	Remarks
1	Cleaning	Photo sensor (2.5.1)	Daily and when something abnormal happens	Remove paper dust, etc.
		Scanning unit (Front) (2.5.2)		
		Scanning unit (Back) (2.5.3)		
		Pick Roller, Separator Roller (2.5.4)		Remove paper dust, etc.
		Reverse Roller (2.5.5)		
		Ultra Sonic Sensor (2.5.6)		
2	Inspection / Check	Imprint condition		

Caution When the Front Cover is open, it may close naturally and catch your hand. Be sure to hold the cover with one hand when operating while the cover is open.

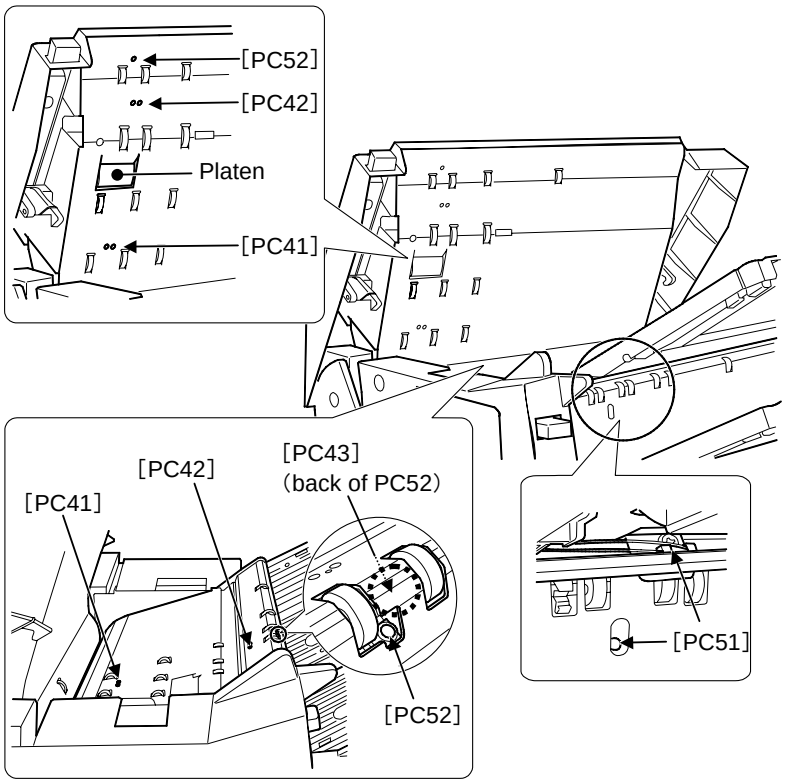
Caution Do not clean the inside of the device with your bare hands. Use a piece of gauze to protect your hands and fingers when cleaning the inside of the device, where glass plate and sharp materials exist.

The OCR scanner is a device that handles papers. Dust from papers and perforated papers may cause various errors.

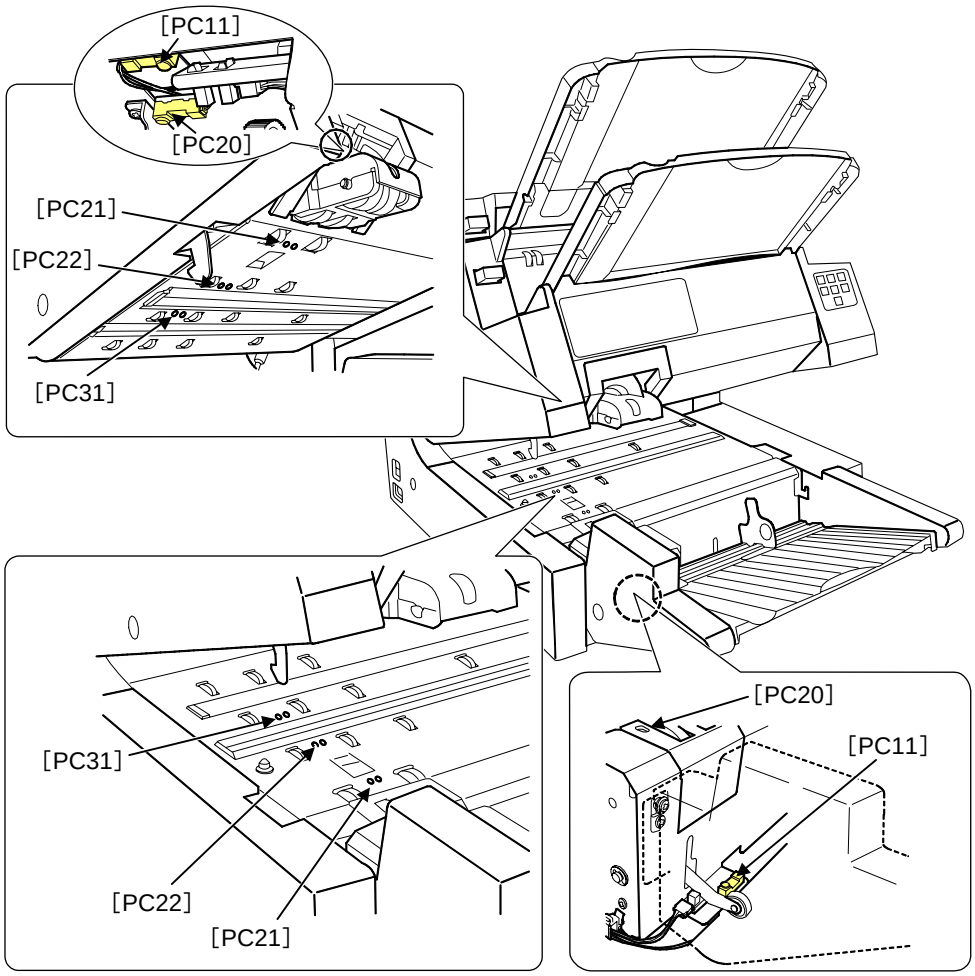
Therefore it is important to clean portions of the paper feed mechanism, paper detection mechanism, reading head, Platen, Pick roller, Separator roller, Reverse Roller, T1 roller with gauze or wet cloth before operation every day or whenever an error occurs. Use gauze that is commercially available. Position of each Detector, Platen, and each Rollers are shown below. (the Main Cover is opened in the pictures)

The Locations of Major Components

The Detectors, the Platens and the Rollers are shown in the picture below)



Perforated sheets produce a lot of dust so frequent cleaning is required.
The position of the Detectors and the Rollers (The Main Cover is opened in the picture below)



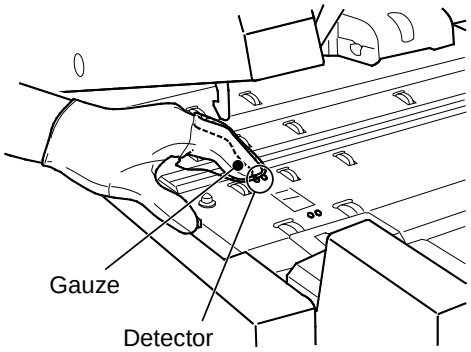
2.5.1 Cleaning of Detectors

Caution When the Front Cover is open, it may close naturally and catch your hand. Be sure to hold the cover with one hand when operating while the cover is open.

Caution Be careful so your watch, bracelet, cuff, or necktie do not get caught by a projection or damaged by the metal part.

How to clean parts are shown below.

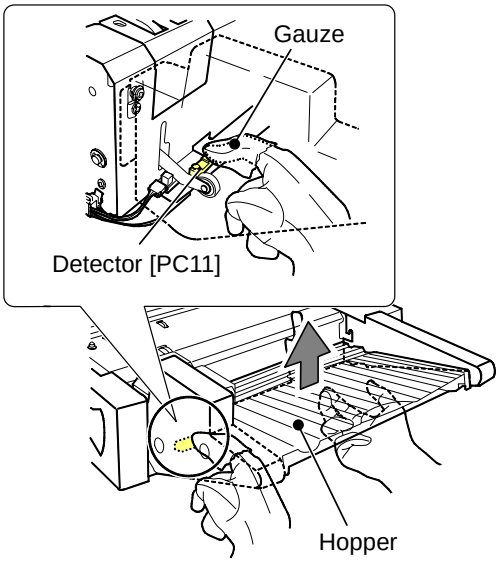
■ Cleaning of Detectors [**PC21**] [**PC22**] [**PC31**] [**PC41**] [**PC42**] [**PC51**] [**PC52**]



① Open the Main Cover

② Twist gauze, wet cloth, etc. around fingers and clean parts as shown in the left. In the case of PC22.

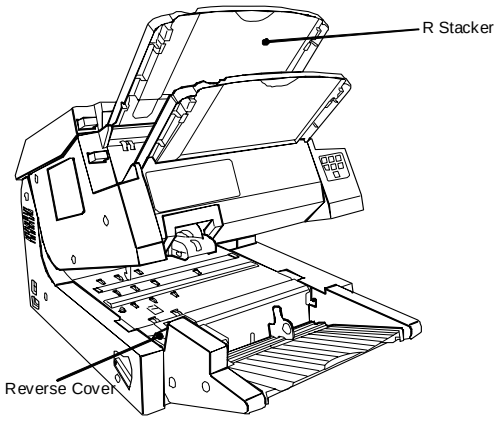
■ Cleaning of Detector [PC11]



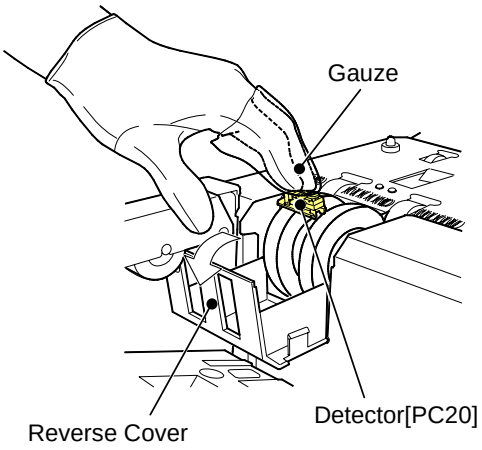
① As indicated in the picture on the left, slide your fingers under the Hopper and push up.

② Twist gauze, wet cloth, etc. around fingers and clean the detector [PC11].

* Look under the Hopper. PC11 is located on the left wall of the Hopper.
Be careful not to pinch your fingers.



■ Cleaning of Detector［PC20］

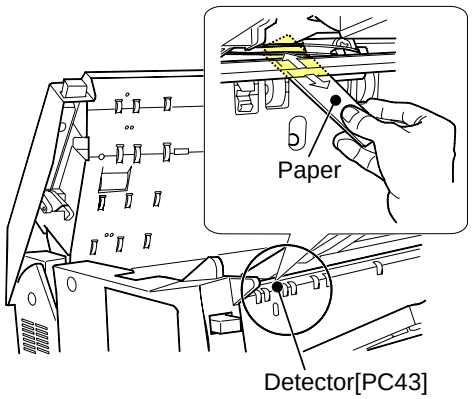


① Open the Main Cover

② Open the Reverse Cover

Twist gauze, wet cloth, etc. around fingers and clean the detector [PC20].

■ Cleaning of Detector［PC43］



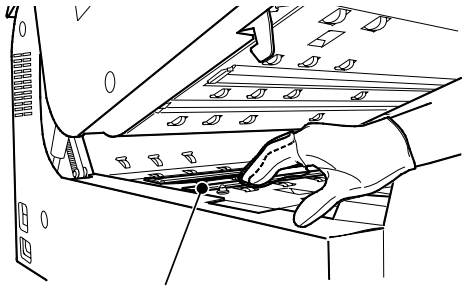
① Put Paper between the Rollers and clean them

* PC43 is located below the R Stacker

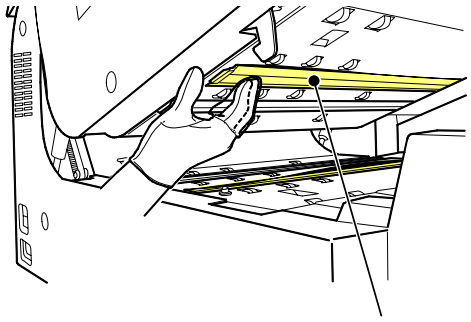
② Open the Top Cover and make sure there are no paper scraps

2.5.2 Cleaning of Lower Mirror (surface) and Cover Sheet (surface)

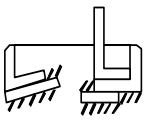
■ Cleaning the Feeding Mechanism



Lower Mirror (surface)



Cover Sheet (surface)



Remove dust from the /// area

Cover Sheet (surface), Cross section view from the left of the device.

① Open the Main Cover

② Clean dirt on the surface of the Cover Sheet (surface) and the Lower Mirror (surface) with gauze.

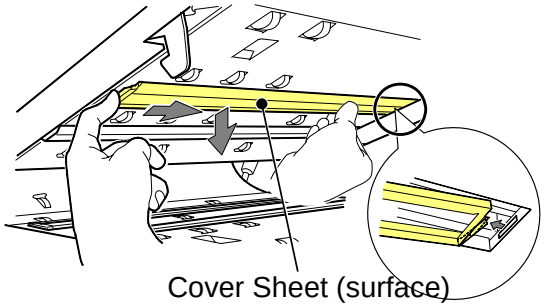
③

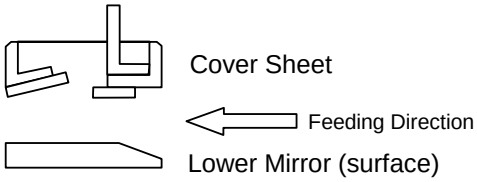
If the inside of the Cover Sheet (surface) or inside of the device is dirty, remove the cover by following the procedure shown in the next page.

⚠Caution

If the scanning surface of the reading unit gets dirty from ink, adhesives, or fingerprints, device failure or reading error may occur. Clean the device regularly (before operation) and whenever a read error occurs. If the error persists after cleaning, contact the service personnel. Perforated sheets produce a lot of dust so frequent cleaning is required.

■ How to Remove the Cover Sheet (surface)





(Cross Section from Left)

① Open the Main Cover

② Put fingers at the left side of the Cover Sheet and shift it to the right with your left fingers and pull it down.

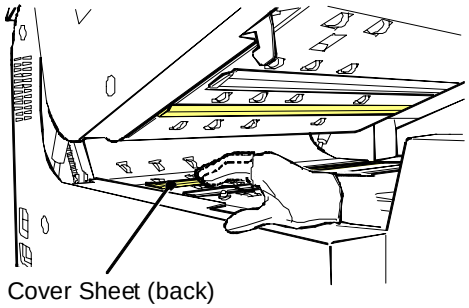
③ Take the reverse step to attach the Cover Sheet (The direction is important. Please look at the picture on the left and attach it correctly. If attached incorrectly, the fluorescent lamp may get scratched.)

< REMARK >

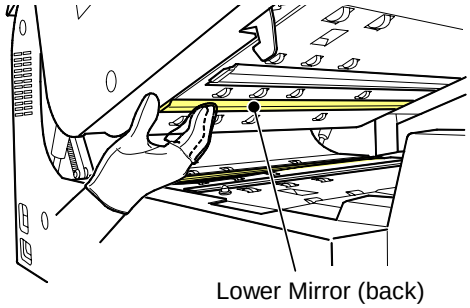
When attaching the Cover Sheet (surface), hold it with both hands to avoid it from dropping.

2.5.3 Cleaning of Lower Mirror (back) and Cover Glass (back) for HT-4139-48

■ Cleaning of Feed Mechanism



Cover Sheet (back)
（48 type double side）



Lower Mirror (back)
（48type double side）

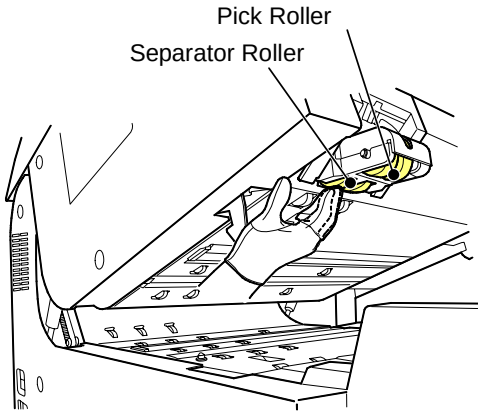
① Open the Main Cover

② Clean dirt on the surface of the Cover Sheet (back) and the Lower Mirror (back) with gauze.

⚠Caution

If the scanning surface of the reading unit gets dirty from ink, adhesives, or fingerprints, device failure or reading error may occur. Clean the device regularly (before operation) and whenever a read error occurs. If the error persists after cleaning, contact the service personnel. Perforated sheets produce a lot of dust so frequent cleaning is required.

2.5.4 Cleaning of Picker Roller and Separator Roller

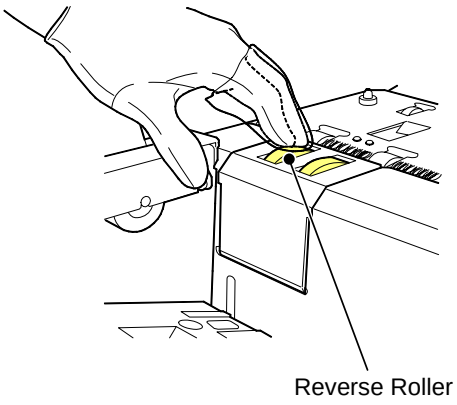


① Open the Main Cover

② Clean dirty on the surface of the Pick Roller and the Separator Roller with gauze or cloth.

③ Make sure to clean the entire Roller

2.5.5 Cleaning of Reverse Roller



① Open the Main Cover

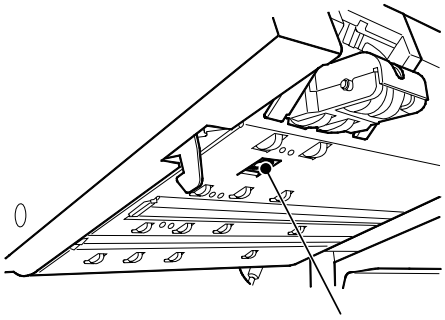
② Clean dirty on the surface of the Reverse Roller with gauze or cloth.

③ Make sure to clean the entire Roller

2.5.6 Cleaning of Ultra Sonic Sensor

< REMARK > Do not apply pressure when cleaning the Ultra Sonic Sensor. The sensor may shift from its set position and causes errors.
Do not apply solvents on the Sensor surface. The resin may transform, and it may decrease the performance of the Scanner.

■ Ultra Sonic Sensor（receiving）

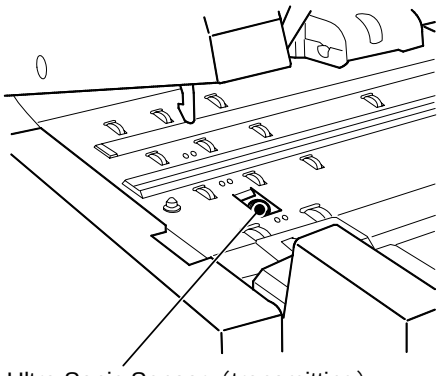


Ultra Sonic Sensor（receiving）

① Open the Main Cover

② Clean the dirt on the surface of the Ultra Sonic Sensor (receiving) with gauze or cloth.

■ Ultra Sonic Sensor（transmitting）



Ultra Sonic Sensor（transmitting）

③ Clean the dirt on the surface of the Ultra Sonic Sensor (transmitting) with gauze or cloth.

2.6 Scanner Utility

The scanner utility should be used when consumables such as the Picker roller, the Separator roller, and the Reverse Roller are replaced by customers in order to reset the number of papers fed.

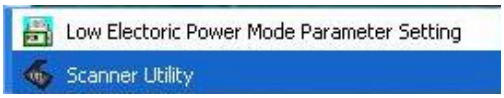
The scanner utility has 3 modes as described in the table below. Refer to following pages for details

Table 2.6.1 Menu and functions of the scanner utility

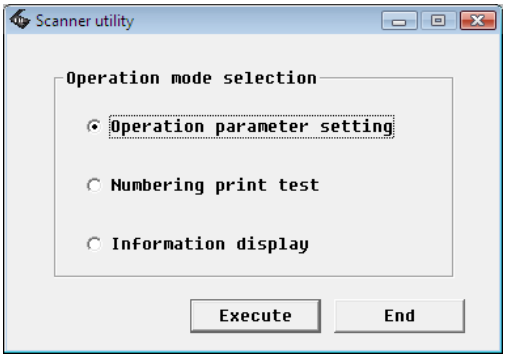
	Menu	Operation	Remark
1	Operation parameter setting	• Reset the number of readings for each roller • Set the number of readings for warning for each roller	
2	Numbering print (Imprint) test	Performs the numbering print test to check the printing pattern.	
3	Information display	Indicates the number of readings for each roller.	

< REMARK > The Scanner Utility should be used when the Picker roller, the Separator roller, and the Reverse Roller are replaced with new ones. This will reset the number of reading and the print information.

●Operation of the scanner utility



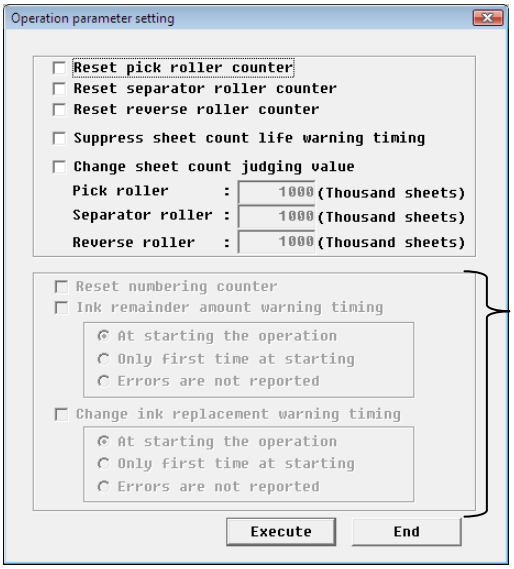
① Click Windows “START” Button, select “PROGRAM” – “HT-4139 Image Scanner”
Click “Scanner Utility”



② Selection of operation mode

- Operation Parameter Setting --- 2-24
- Numbering print (Imprint) test --- 2-27
- Information Display --- 2-30

2.6.1 Operation Parameter Setting

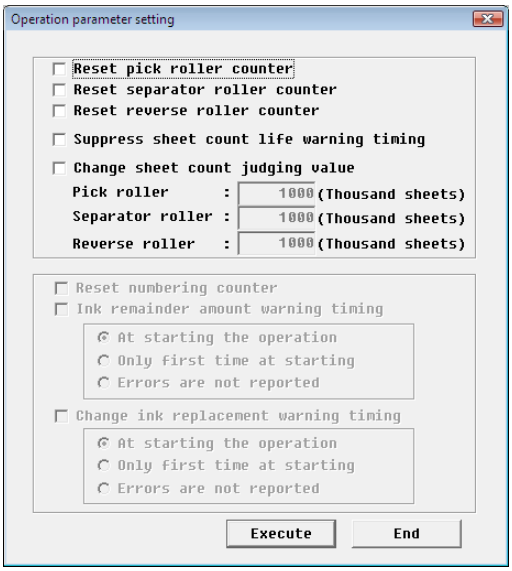


When selecting the “Operation Parameter Setting” you will see the dialog box on the left.

These are not supported.

Menu	Operation
Reset pick roller counter	●Renew the date of replacement in the “Information Display”. ●Reset the counter to “0” ●Perform when the Pick roller is replaced
Reset separator roller counter	●Renew the date of replacement in the “Information Display”. ●Reset the counter to “0” ●Perform when the Separator roller is replaced
Reset Reverse Roller counter	●Renew the date of replacement in the “Information Display”. ●Reset the counter to “0” ●Perform when the Reverse Roller is replaced
Suppress sheet count life warning timing	●Disable the warning by read number.
Change sheet count judging value	●Set the number of reading for warning for each roller

・Counter reset for each roller after roller replacement

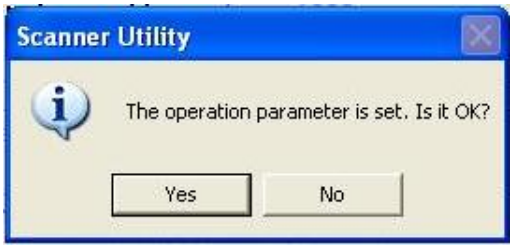


To reset the counter for each roller after roller replacement, put a check mark in the corresponding box.

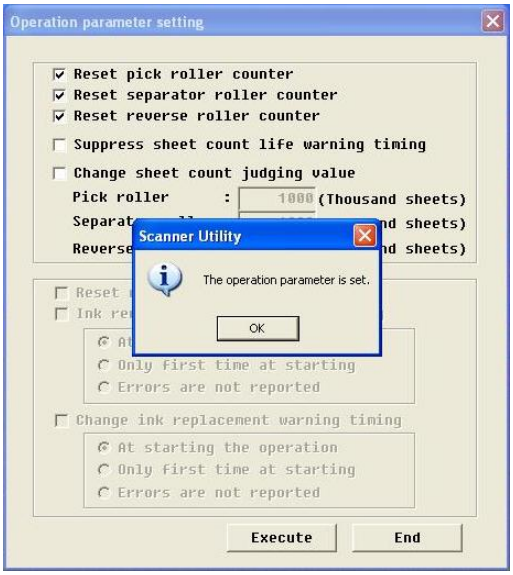
< REMARK >

Put a check mark only for the roller you replaced.

Click the “Execute” Button then confirm with the next screen.

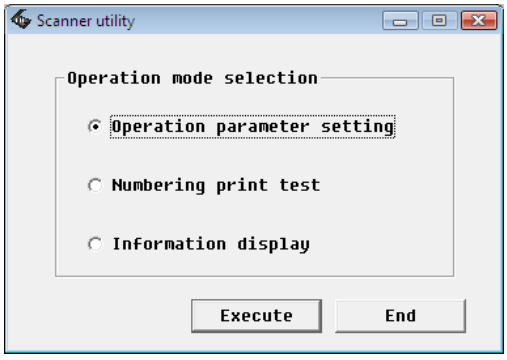


Click the “Yes” Button, and then complete settings.



When you click the “OK” Button, the screen will change to the “Operation Parameter Setting”.

If you finish setting, click the “End” Button.



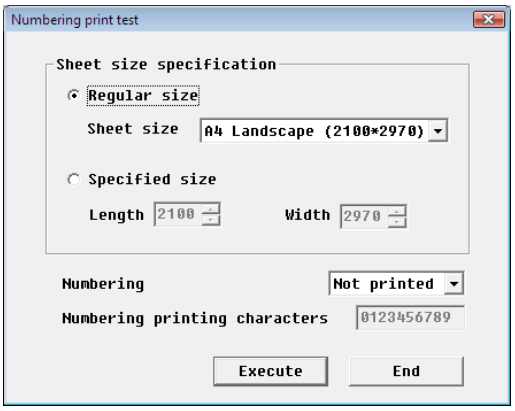
Return to the screen “Operation Mode Selection”.

- If you finish setting, click the “End” Button.

- If you want to confirm the changes, check-mark “Information display” box and press “Execute”

< REMARK > Do not run the imprint test on the back side of paper.

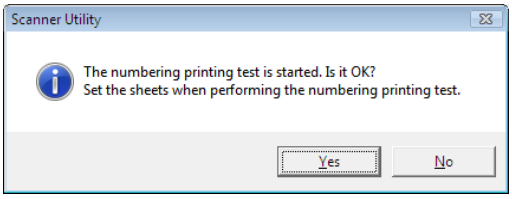
2.6.2 Numbering Print (Imprint) Test



When selecting the “Numbering Print Test” you will see the dialog box on the left

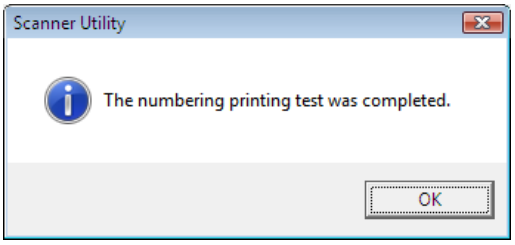
Initial setting is as follows.
- Paper size: A4/Letter landscape
- Numbering: Not Printed

Set regular paper (A4/Letter landscape) in the Hopper and click the “Execute” Button.



Confirmation of running imprinting test. Click the “Yes” Button.

Start the imprint test.



Confirmation of test completion.

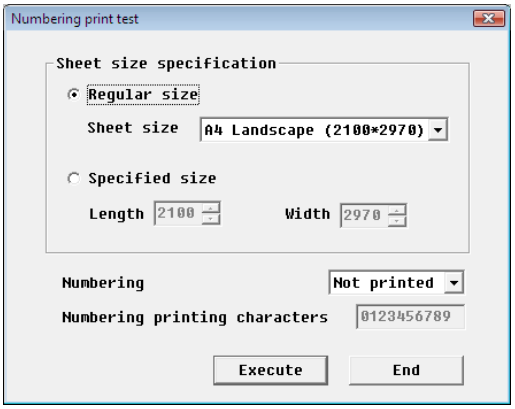
Click the “OK” Button.

Confirm the results of imprinting.

< REMARK >
- Papers for this test should be prepared by the customer.
- The test will run for a single sheet by even stack papers.
- Repeat the test until print results are completed.

◆When you run the test with papers other than A4/Letter size.

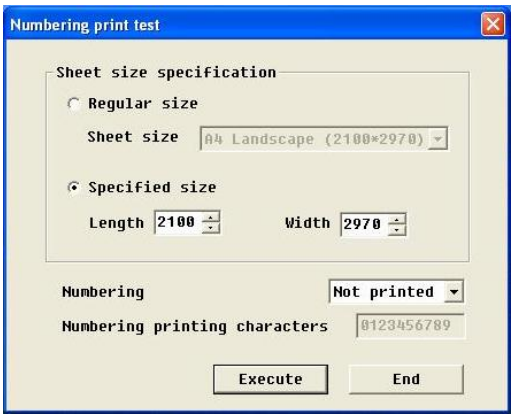
・For regular size paper



Specify paper size as “Ax / Bx”.
Initial setting is A4 L (2100×2970)

・A4～A7：Landscape and Portrait
・A3：Portrait
・B4～B7：Landscape and Portrait
・Japanese post card（1480×1000）

・ Specify paper size (Arbitrary)

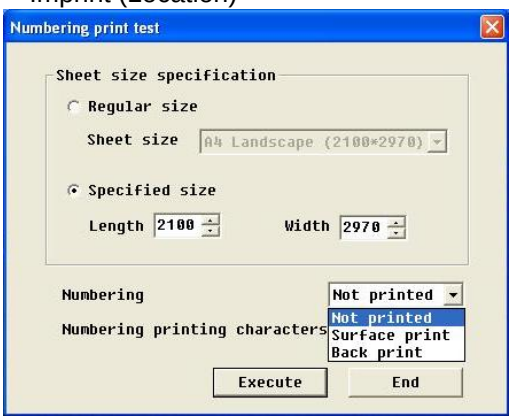


Specify paper size arbitrary from the range below.

Length: 420 mm – 74 mm
Width: 305 mm – 74 mm

The value is entered in 0.1-mm unit.
Ex. 2100 on the screen equals 210.0mm

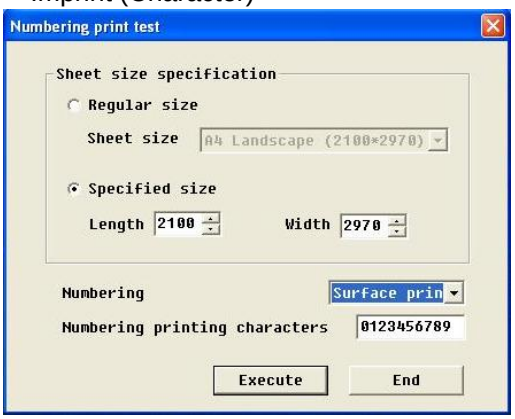
・Imprint (Location)



Selection of print location

- Not printed
- Surface print
- Back print

・Imprint (Character)



Print max 10 characters.

Printable characters.

Numbers: 0123456789

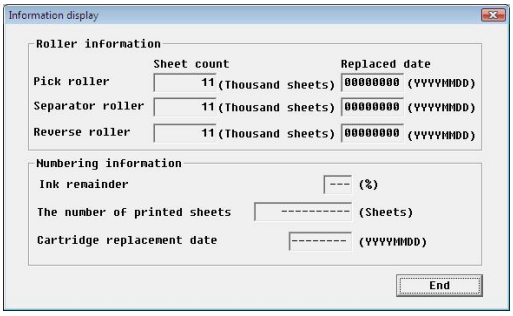
Alphabets: A～Z

Others: “－” , “.”

2.6.3 Information display

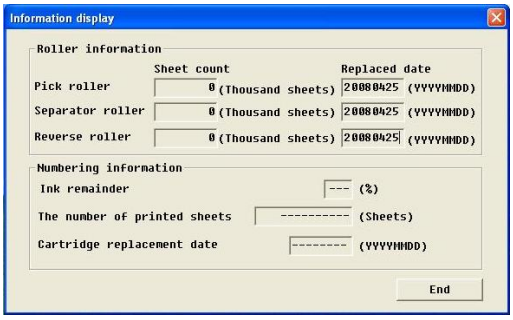
With “Information display” you can confirm the number of readings and the date of replacement for each current rollers. If you reset these with “Operation Parameter Setting ” you will see the latest information.

・Current information of each rollers in use



- Sheet count means the total numbers scanned.
- Date of replacement shows the date for current rollers in use.

・After a roller is replaced and the numbers are reset by “Operation Parameter Setting”



・The sheet count should be “0”.

・Confirm the date of replacement is updated. (Time setting in the PC should be correct.)

If contents of display are correct, click the “End” Button.

If the numbers are not reset, redo the counter reset process.

2.7 Replacement of Rollers

Caution When the Front Cover is open, it may close naturally and catch your hand. Be sure to hold the cover with one hand when operating while the cover is open.

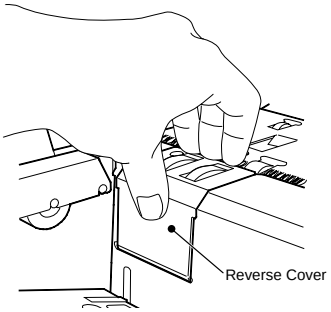
Caution Be careful so your watch, bracelet, cuff, or necktie do not get caught by a projection or damaged by the metal part.

No.	Part Name	Qty	Frequency of Replacement
1	Reverse Roller	2	1 year or about 1000K sheets. (*1)
2	Pick Roller	2	
3	Separator Roller	2	

(*1): The numbers of sheets are based on the test sheet (A4 landscape).

2.7.1 Reverse Roller

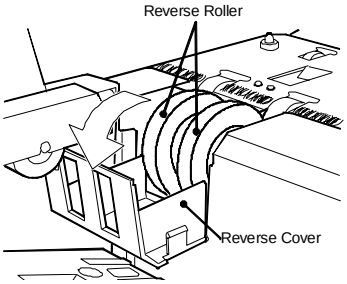
2.7.1.1 Removal of Reverse Roller



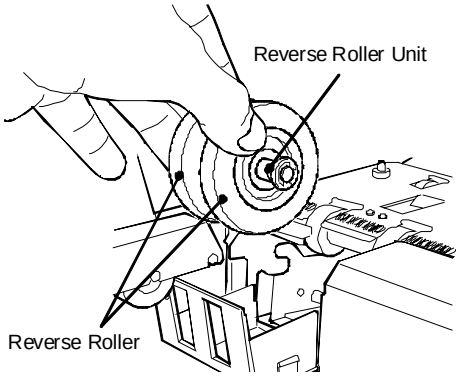
① Push the Main Latch Button and open the Main Cover.

.

② Put fingers on the Reverse Cover

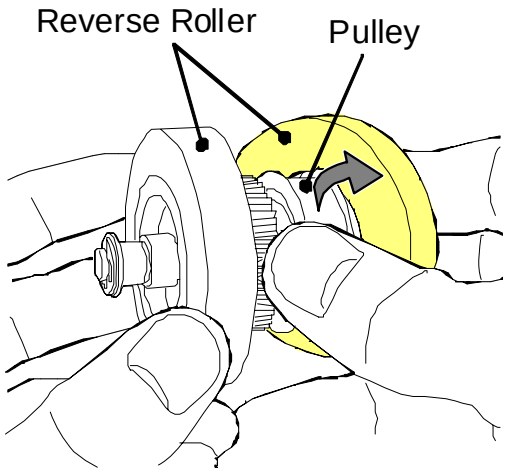


③Pull the Reverse Cover towards the arrow and open it.



④ Lift up the Reverse Roller unit to remove it.

2.7.1.2 Replacement of Reverse Roller

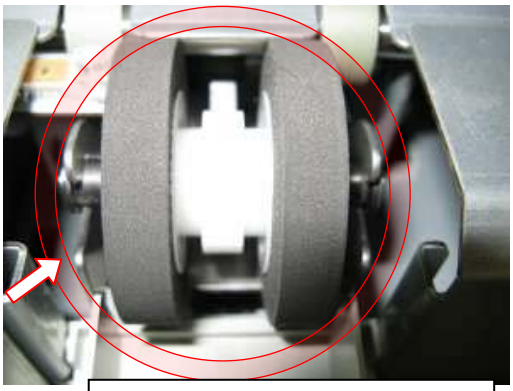


① Remove the Reverse Roller from the Pulley by hand.

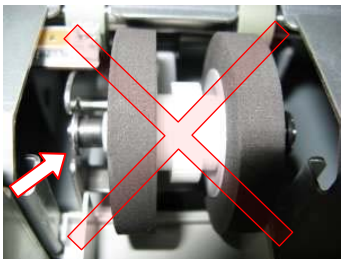
② Take the reverse step to re-attach the Reverse Roller.

③ To tighten the Pulley and the Roller, rotate the Roller strongly using palm.

④ Put the Reverse Roller Unit in both grooves securely and close the reverse cover.



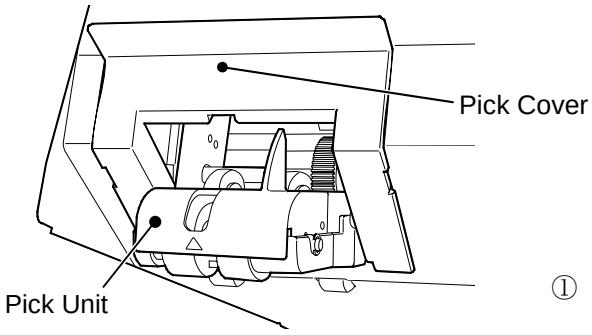
Put in both grooves securely



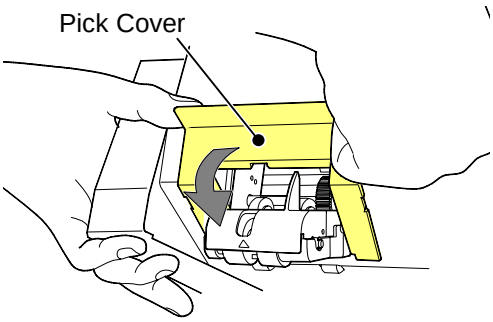
Not in the grooves

2.7.2 Replacement of Pick Roller and Separator Roller

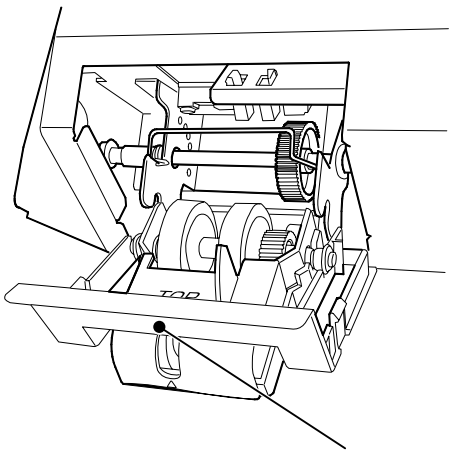
2.7.2.1 Removal of Pick Unit

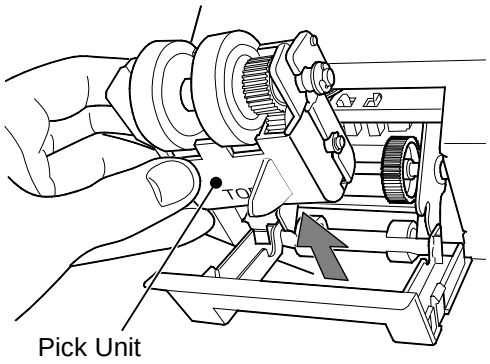


① Open the Main Cover

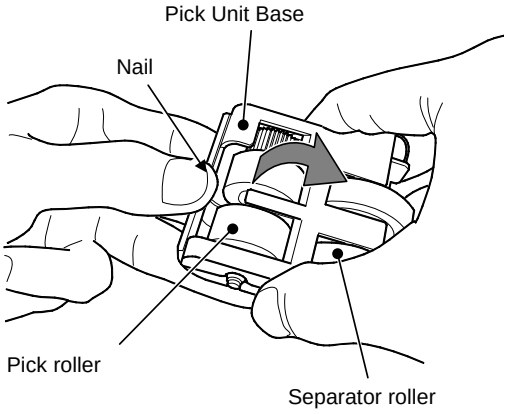


② Pull the Pick Cover down towards the arrow with fingers and open it.

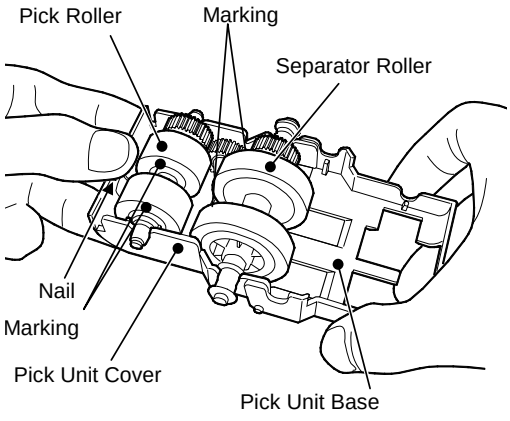




② Pull out the Pick Unit and remove it.



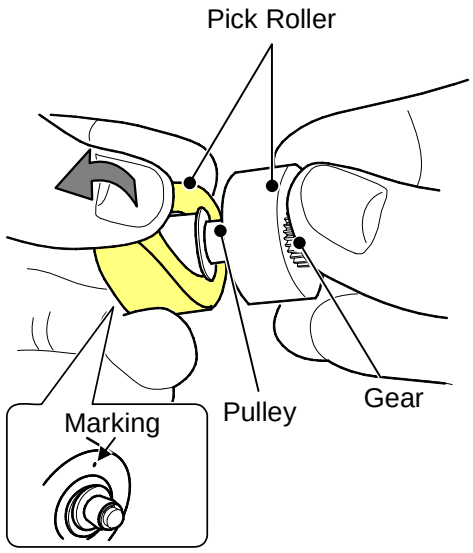
③ Grab the nail part of the Pick Unit Cover and open the Pick Unit Base towards the arrow.



④ Remove the Pick Roller and the Separator Roller.

・Pick roller --- Refer to 2.7.2.2
・Separator Roller --- Refer to 2.7.2.3

2.7.2.2 Replacement of Pick Roller

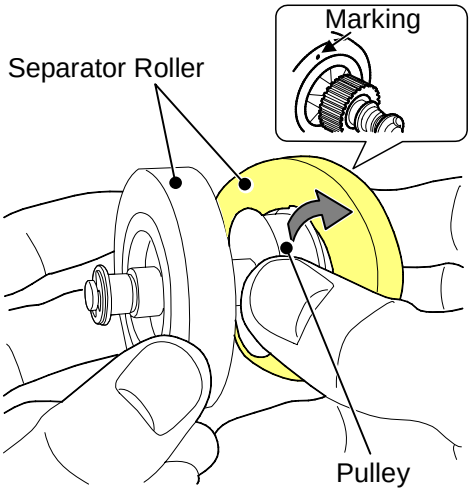


① Remove the Pick Roller from the Pulley by hand.
Both Pick Rollers can be removed by pulling away from the Gear.

② Take the reverse step to re-attach the Pick Roller.
*The Marking on the Pick Roller should be mounted on the other side of the Gear.

③ After re-attaching, to tighten the Pulley and the Roller, rotate the Roller strongly using palm

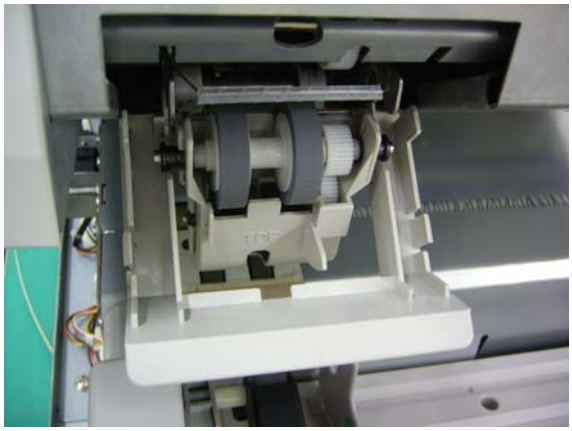
2.7.2.3 Replacement of Separator Roller



① Remove the Separator Roller from the Pulley using hands.

② Take the reverse step to re-attach the Separator Roller.
*The Making on the Separator Roller should be mounted on the other side of the Gear.

③ After re-attaching, to tighten the Pulley and the Roller, rotate the Roller strongly using palm.



④ Put the Pick Unit in the Pick Cover as shown in the picture above.

2.8 Error/Warning Messages for the Maintenance Parts

OCR scanner has fluorescent lamp for reading and rollers for paper transfer/separation. These parts deteriorate due to time and usage and will be cause of failures. To avoid errors caused by these parts, preventive maintenance should be conducted.

The error messages related to component life, contact sales companies.

3 Power Save Mode

3.1 Parameter Setting for Power Save Mode

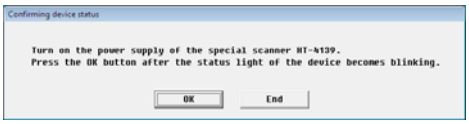
During power ON and the device is not being used, it can save power consumption as less than 4.75W compared to the regular operation (HT-4139-28/48: about 280 W /390 W). The mode is default setting at shipment. The transition time to the power save mode is set 15 minutes.
Setting can be modified as follows.



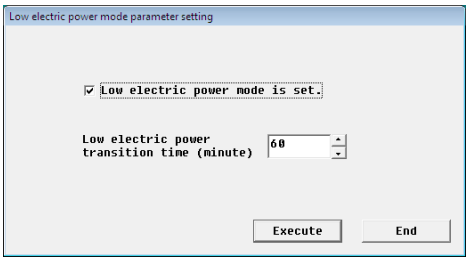
① Click the “START” button of Windows

“PROGRAM” –> “HT-4139 Image Scanner”

Click the “Low Electric Power Mode (Power Save Mode) Parameter Setting”.



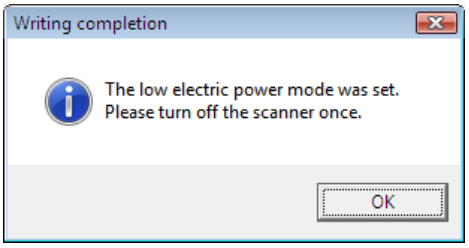
② Click the “OK” button.



③ Select the “Power save mode” and it will be enabled. To restore the setting, remove the check mark of the Power Save Mode.

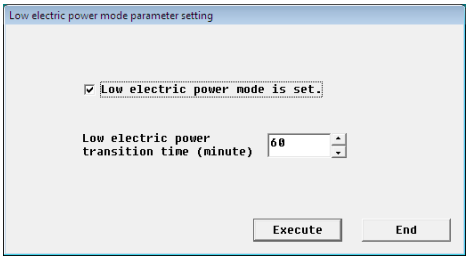
Specify the “Low electric power transition time” from scan completion to start transition of power save mode. (1 ~ 60 minutes)

④ Click the “Execute” button



⑤ Click the “OK” button.

* Please ignore the left box. You do not need to turn off the Scanner.

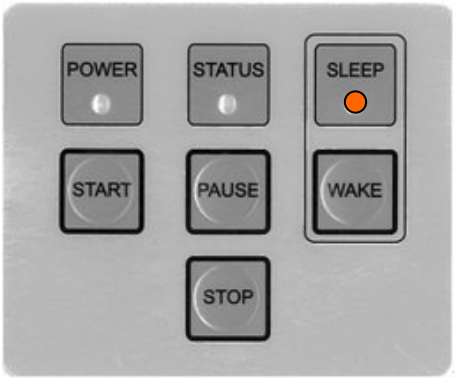


⑥ Click the “End” button.

⑦ When the setting is finished, the device starts rebooting. (The Status LED blinks with short interval. After the reboot, transit from un-used condition (The Status LED blinks with long interval) to the Power Save Mode with the specified transition time.

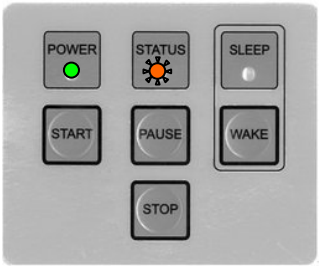
3.2 Restoring from Power Save Mode

Under the condition that Power save mode is enable: The power save mode “SLEEP” LED is lit.



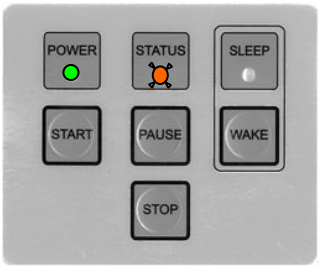
If you try to start scanning during the power save mode, the power save mode “SLEEP” LED turns off and warming up will begin.

【During warming up】



The power LED is lit, the Status LED starts blinking rapidly, and the device will be in warming up condition. . (It takes about 20 seconds to warm up depending on temperature.)

【Finish warming up】



After warming up, the Status LED starts blinking slowly and the device will be ready for scanning.

3. Power Save Mode

4 Maintenance

4.1 Memory Dump and Dump File Copy

For service personnel

4.2 Auto Calibration

For service personnel

5 Specifications

5.1 OCR Scanner Specifications

The chapter describes about device specifications.
The device may not always be able to satisfy the specifications depend on data entry conditions (condition of papers, paper set condition, print condition, etc.) or the device operation environment.

・Performance of OCR varies within a specifications.

・Depend on sheet quality; specifications described in this document may not be satisfied. Investigation of sheets shall be conducted prior to actual operation.

Items to be investigated before operation.

・Paper condition（co efficiency of friction, size, thickness, paper with fold、tear, etc.）
・Scan condition（paper skew, paper separation, dual feed, scanning speed, etc.）
・Print color（status of color drop out, scanning speed, etc.）
・Information onscanned data (Condition of characters, marks, images, and so on.)

(1) Specifications

		HT-4139-28M (Simplex)	HT-4139-48M (Duplex)
Scan Speed *1	Max speed（length: 74mm・Print numbers 10 characters）(High speed mode *2	About 300 pages / minutes	
	A4(L)・Hand written numbers 300 characters （Standard mode）	About 160 pages / minutes	
	A4(L) color image （Simplex 200dpi, Standard mode）	About 140 pages / minutes (TWAIN)) ※Measured by Hitachi CP for reference	
Sheet size (W x L)		74×74mm～305×420mm	
Scanning with image rotation		CW 90 degree, CCW 90 degree	

Paper Quality	Kind of papers	OCR paper / High qual. Paper / Regular paper※ / Recycled paper※ / Sealed post card※ （※Pre-eval. is required）	
	Non-carbon paper	A-paper, C-paper ※ Not support B-paper	
	Carbon paper lined sheet	Not supported	
Paper thickness		41～174 g/m^2	
Number of scanable characters	Max number of characters / line	Max 136 characters / line (Hand written / print)	
	Max number of lines / page	Max 80 lines / page	
	Max number of characters / page	Max 6,000 characters / page	
Image Entry		Part / Whole image	
	Input resolution	OCR image : 200dpi	
		Image :100 / 150 / 200 / 300 / 400/ 600dpi	
	Bitonal image	Half tone : 64 levels	
	Multiple value image	Grayscale : 256 levels	
		Full color : RGB 8 bit each	
	Multiple Streaming	Front: With a single scan, create Max 3 kinds of images	Front / Back: With a single scan, create Max 3 kinds of images for each sides
Output Resolution		50 - 600 dpi (When conversion of output resolution is specified.)	
Drop out color		Single color: Red / Green / Blue	
		Multiple Colors	
Writing utensils		Pencil, Regular ball point pen (black), aqueous ball point pen	
Mixed sheet scanning		（Large / Small, Thin / Thick and OCR sheet / Non-OCR sheet *3	
Imprinting	Front	Max 36 characters (one location) Max 16 characters (two locations)	
	Special mark print	available ※ Protection of dual feed of papers that has not good area for imprinting. Some limitation for scanning mode.	
Multi-Feed Detection	Transmitted light type	Equipped	
	Ultra sonic sensor type	Equipped *4	
Hopper (Input tray) capacity		55mm（550 sheets: 81g/m^2）	
Stacker (Output trays) capacity		Accept stacker: 55mm（550 sheets : 81g/m^2） Reject stacker: 10mm（100 sheets: 81g/m^2）	
Dimension (W x D x H)		Regular usage *5 485×700×405mm (approximately) With extension tray: 485×700×540mm (approximately)	
Mass		About 50 Kg (110 lb)	

Power Consumption	Voltage, Frequency	AC 100～220 V, 50/60±1 Hz	
	Operating	About 280 W	About 390 W
Low power consumption mode		< 4.75W （Comply to the International Energy “STAR” program: < 5W）	
Calorific value		About 1,000 KJ	About 1,400 KJ
Connection interface		USB 2.0（Hi-Speed）	
Interface		TWAIN *6	
Device life / Life for scanning		5 years or scanning 18000K sheets *7	
MTBF		10,000 hours	

*1: Scanning speed varies with performance of the host systems.
Scanning speed shown in the table was measured with Hitachi test sheets and Pentium 4 processor (3.2GHz).

*2: High-speed mode can be applied to number scanning with relatively smaller size slips.

*3: With the ultra sonic sensor type dual feed detection

*4: To avoid mis-detection by paper quality and thickness, pre-evaluation is required.

*5: Height does not include the stacker (output tray).

*6: Need to be ready to connect the OCR scanner.

*7: Depend on paper quality and thickness, these may be varied.

(2) Environmental Specifications

Item		Specifications		Remarks
Temperature / Humidity	Condition	Operation	Non-operation	
	Temp.（℃）	10 ～ 35	−10 ～ 43	
	Temp.（F）	50 ～ 95	14 ～ 109.4	
	Relative Humidity（%）	35 ～ 70	8 ～ 80	Non condensing

5.2 Specifications of Papers

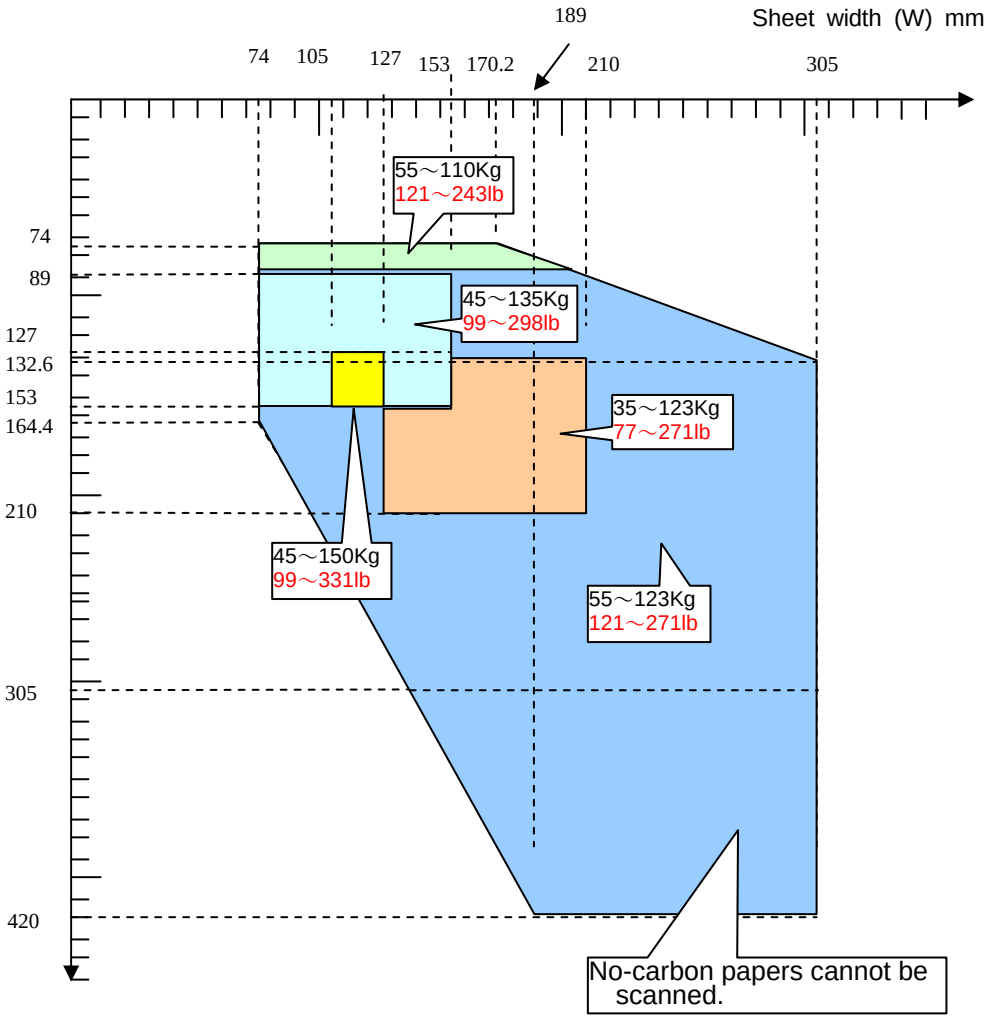
Item		Specifications
Size	Length	74 ~ 420 mm
	Width	74 ~ 305 mm
	W/L ratio	0.45≦W/L≦2.3
	Weight	41～174 g/m^2
Quality		OCR paper / High qual. Paper / Regular paper※ / Recycled paper※ / Sealed post card※ (※Pre-eval. is required)

Note: Before actual job, it is necessary to evaluate the mixed paper scanning with real paper samples.

Regular paper, high quality paper, Non-carbon paper-A / -C

Scannable paper thickness varies with paper size.

41～51 g/m^2 paper is limited only non-carbon paper with high opacity.


189
Sheet width (W) mm
74
105
127
153
170.2
210
305
55～110Kg
121～243lb
74
89
127
132.6
153
164.4
210
45～135Kg
99～298lb
35～123Kg
77～271lb
45～150Kg
99～331lb
55～123Kg
121～271lb
305
420
No-carbon papers cannot be scanned.
Sheet length (L) mm

5.2.1 Mixed Sheet Feeding

- These specifications are applied to the conditions below.
  Papers are aligned to the top/left edges.
  Papers are not folded or tore.

- However papers meet the specification there might be cases they are not scanned well in mixed paper size condition.

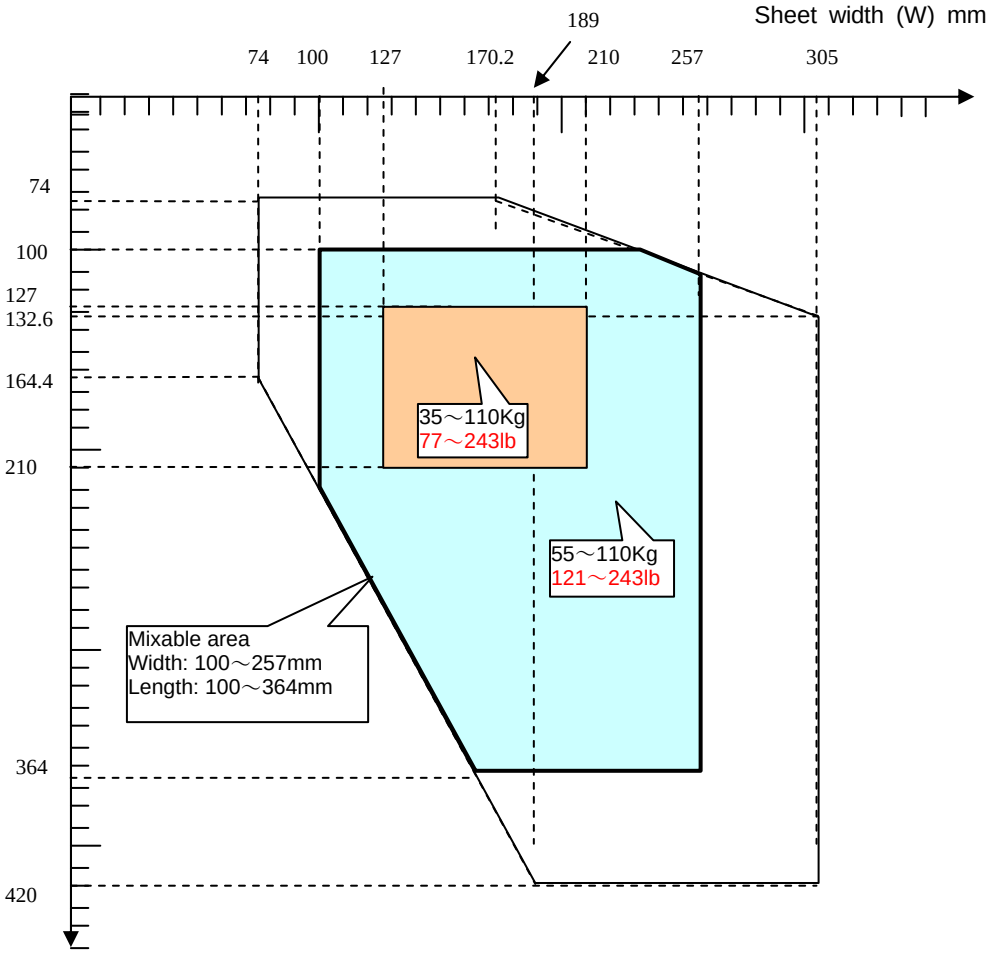
- Before actual job, it is necessary to evaluate the mixed paper scanning with real paper samples.

- No-carbon paper whose coefficient of friction is large might not be scanned with OCR papers and regular papers.

- perforated paper, paper with sprocket, heat seal, wet seal, and dry seal can not be mixed.

- When mixed size papers are fed, ratio of paper length and width should be Min / Max ≧0.7.

- Mixable area of paper thickness is shown in the figure below.



・Feeding speed has limitation with paper thickness as shown in the table below.

Resolution and feeding speed

Resolution	Speed	Limitation
100dpi	0.83m/s	・Maximum speed is 0.55m/s for 35～57g/m^2 ・No speed limitation with sheet > 58g/m^2
200dpi	0.83m/s	
300dpi	0.55m/s	
400dpi	0.41m/s	
600dpi	0.27m/s	

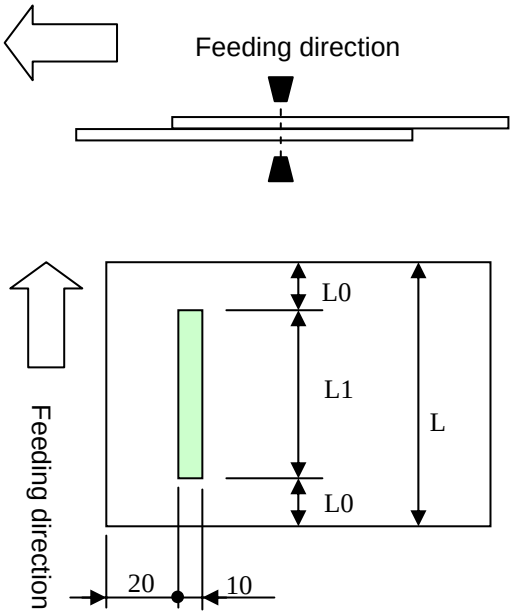
5.2.2 Multi-Feed Detection

(1) Transmitted Light Detection type

Detect thickness by intensity of transmitted light.

Detectable paper thickness is 41g/m^2 ～174g/m^2.

Detection type is specified by the parameter setting of the TWAIN driver. Refer to the TWAIN driver manuals.

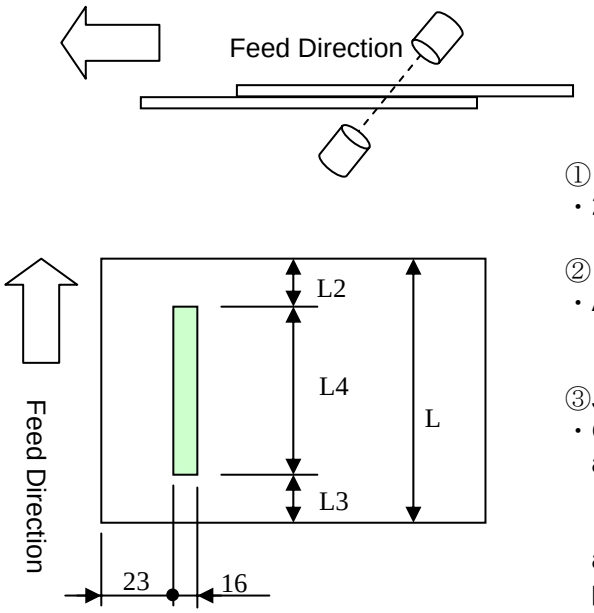


①Detection position
・20～30mm from left edge of sheet
②Detection area
・Area L1excluding L0
（L0is about 25% of sheet length L）
③Judgement
・Compare light intensity between specified thickness and measurement result of L1 area.
※As this type checks intensity of transmitted light, prints on the paper may affect performance.

To avoid mis-detection due to contamination of the detector “PC22”, conduct the daily cleaning before operation.

(2) Ultra sonic Detection type

The specifications of multiple feed detection by the Ultrasonic sensor are shown below.
The ultra sonic type checks multiple feeding by detecting air layer between papers.



① Detection position
・23～39mm from left edge of sheet

② Detection area
・Area L4excluding L2 and L3
（L0is about 25% of sheet length L）
（L2: about 35mm, L3: about 10mm）
③Judgment
・Compare detected length and criteria in area L4.

Note: This type of detection will not affected by print nor written characters on papers but degree of adhesion might be cause of mis-detection.

< Relaxation of multi-feed detection >

In case there are attachment in the area of dual feed detection, it is possible to set the length (L5) to neglect it.

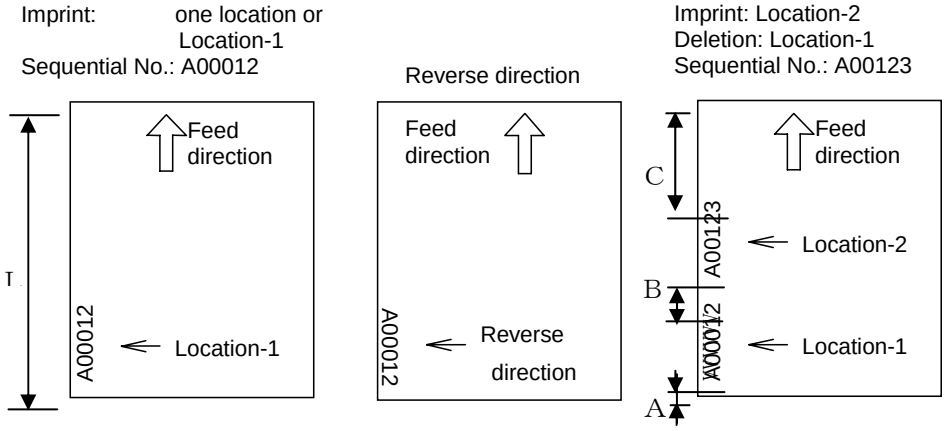
L5：25～394mm（Default is 25mm.）

As this method detects air gap between papers, condition of adhesion of heat-seal papers, tape, and seals affects to the detection accuracy.

5.2.3 Imprinting

Item	Content
Paper side	Front side only
Character	Numbers (0-9), alphabet (A-Z), space, hyphen, period, special character for dual feed protection ＊1
Character size	Standard, double-size character
Print position	Can be specified for each job group, for each sheet group.
Contents	Serial numbers whose initial number is specified, etc.
Print location	2 locations (Location-1, Location-2)
Delete	Mark “V” will be printed continuously for deletion
Direction	Two directions
Number of digit	One location: max 36 digits Two locations: max 16 digits x 2
Color	red

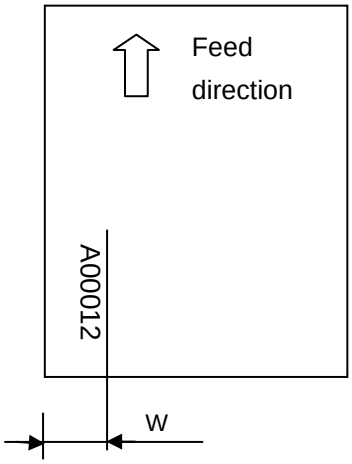
(1) Example of imprinting



Note: If “L” is shorter than 100 mm, imprint at Location-2 cannot be done. Even though the Location-2 is specified, imprint is performed at Location-1.

- ”B” will be equal to print pitch（2.62mm or 3.31mm）x 4 characters.
- “A” should be 5～375±2mm.
- “C” should be longer than 38 mm or an error will be reported.

(2) Print location (Standard size characters)



Standard print location
"W" can be set by hands.
① 16 mm (standard) or
② 26 mm (inside)

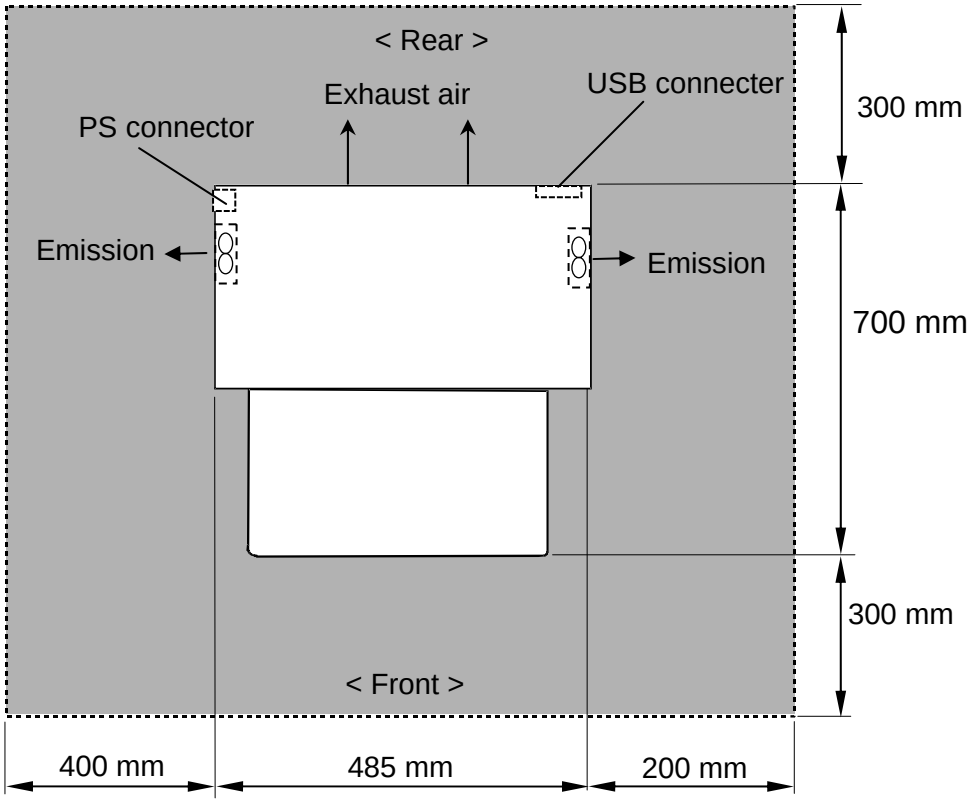
5.3 Installation Conditions

5.3.1 Power Supply

Item	Specifications
Voltage, Frequency	AC 120 V, 60±1 Hz (*1)
Length of power cable	Approx. 2.5 m
PS outlet	UL E78573（15A / 125V)
Grounding	Dedicated grounding line

(*1) As needed basis, take measures to supply stable electrical power to the device.

5.3.2 Space for Device Installation



- : Installation area.
- Maintenance job area requires 500 mm wider than the installation area.
- Do not put things within about 300 mm from exhaust ports. As the exhaust temperature is higher than ambient temperature, avoid working there for a long time.
- The space shown above is a typical one.
- Height required for installation is about 1000 mm.

NOTE:

- As the OCR scanner detects positions of papers with the optical sensors, do not install it in the direct sunlight.

5.3.3 Consumables

Consumables for the OCR Scanner are shown in the table below.

No.	Name	Qty	Frequency	Supplier	Remarks
1	Pick Roller	2	One year or Max 1000K sheets (*1) (*1)	Sales Company.	Replaced by customer or service personnel
2	Separator Roller	2			
3	Reverse Roller	2			
4	Fluorescent lamp	1 or 2	900hours or Warning of low light intensity (*2)		Replaced by service personnel
5	Imprinting head Assembly	1	About 5400K sheets (6 digits / sheet)		
6	Separator clutch	1	About 2000K sheets		
7	Oiles Drymet LF	4			
8	Oiles Bush	2			
9	Gear(S-P)	1			
10	Washer1	2			
11	Washer2	2			
12	Gear(Reverse3)	1			
13	Pick Gear	1			
14	Pick Drive Gear2	1			
15	Reverse assembly	1			
16	Cover sheet assembly	1			
17	Cover glass assembly	1			
18	Ribbon cassette for imprinting(Normal) Red: S-4181 Black: C-4181	1 (*5)	About 60～300K characters (*3)		Replaced by customer
	Ribbon cassette for imprinting(Tank) Red: S-4181T Black: C-4181T		About 400～2000K Characters (*3)		
	Dummy: Y-4181(*4)		About 1000K sheets		

(*1): Rollers for paper feeding deteriorate its material and lose friction coefficient. Due to this the performance is getting lower. The number of sheets for part replacement is based on the test paper 040-7-4 (A4 landscape). The number might depend on paper size and quality.

(*2): Fluorescent lamp loses light intensity after 900hour lit, deteriorate image signal, and it affects scanning performance. When you see the warning of low light intensity, need to replace lamp within one week.

(*3): Imprinting may be diluted when the number of printing characters approach to the number show below.

Mode	Normal Ribbon (characters)		Tank Ribbon (characters)	
	Standard size	Large size	Standard size	Large size
TYPE1:200dpi	About 300K	About 150K	About 2000K	About 1000K
TYPE2:300dpi	About 150K	About 75K	About 1000K	About 500K
TYPE3:400dpi	About 75K	About 60K	About 500K	About 400K
TYPE4:600dpi	About 75K	About 60K	About 500K	About 400K

(*4): Will be used in case of no-imprinting.

(*5): One of cassettes must be attached.

5.3.4 Disposition of Consumables and Devices

Disposition of consumables and devices shall be followed to regulatory of each countries.

6 Software

6.1 Software to be provided

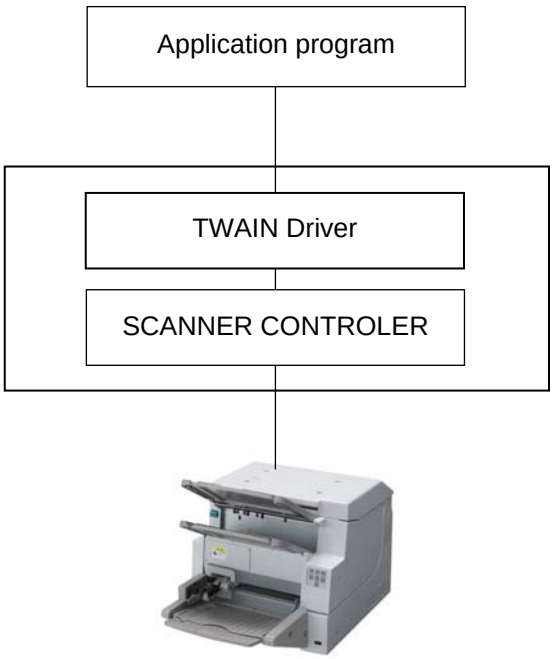
No.	Model name	Product name	Remarks
1	P-242H-J5KJ9	SCANNER DRIVER	Attached to the unit

6.2 System requirement

No.	Item	Condition
1	CPU	Intel Pentium4 > 3.2GHz (recommended)
2	Memory	Windows Vista: >1GB (recommend >1.5GB for color image) Windows XP/2000: >512MB (recommend >1GB for color image) Windows 7 >1.5GB
3	USB 2.0 (*1)	Intel ICH4 chip set or later is recommended.
4	OS	English Microsoft Windows XP Professional SP2 English Microsoft Windows Vista Business SP1 English Microsoft Windows 7 Professional
5	USB 2.0 driver	USB 2.0 driver (*1)

(*1) If you connect a hub the performance of the device may be degraded. If other USB device (High-Speed) is connected the performance of the device may be degraded, too.

6.3 System Configuration



・Application program should use the TWAIN driver.
・For detail, refer to the TWAIN driver Function / Operation manual.
・Character recognition and image processing should be done by application program.

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