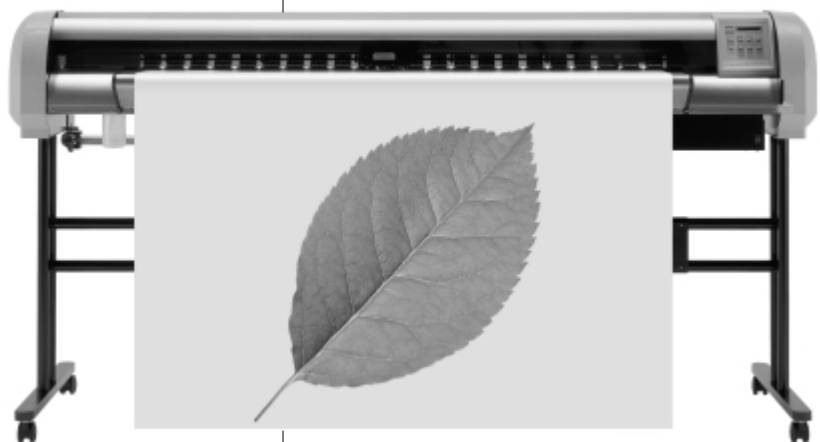


# MUTOH

# USER GUIDE

Full Color Inkjet Printer  
***FALCON*** Graphics  
**RJ-6000 Series**  
**Basic Edition**



RJ600EX-A-01

# **USER GUIDE**

## **RJ-6000 Series**

**Full-Color Inkjet Printer  
Basic Edition**

Mutoh Industries Ltd.

1-3 Ikejiri 3-chome  
Setagaya-ku, Tokyo 154-8560  
Japan

# Types and Usage of User Guide

---

This product is supplied with the following three types of User Guide:

## **Basic Edition**

This manual which you now have open is the **Basic edition of the User Guide.** It contains information on installation, preparation, direct key menu operations from online printing, daily maintenance, specifications, lists of options and supplies, etc. Please be sure to read it as it contains matters essential for the normal use of the printer.

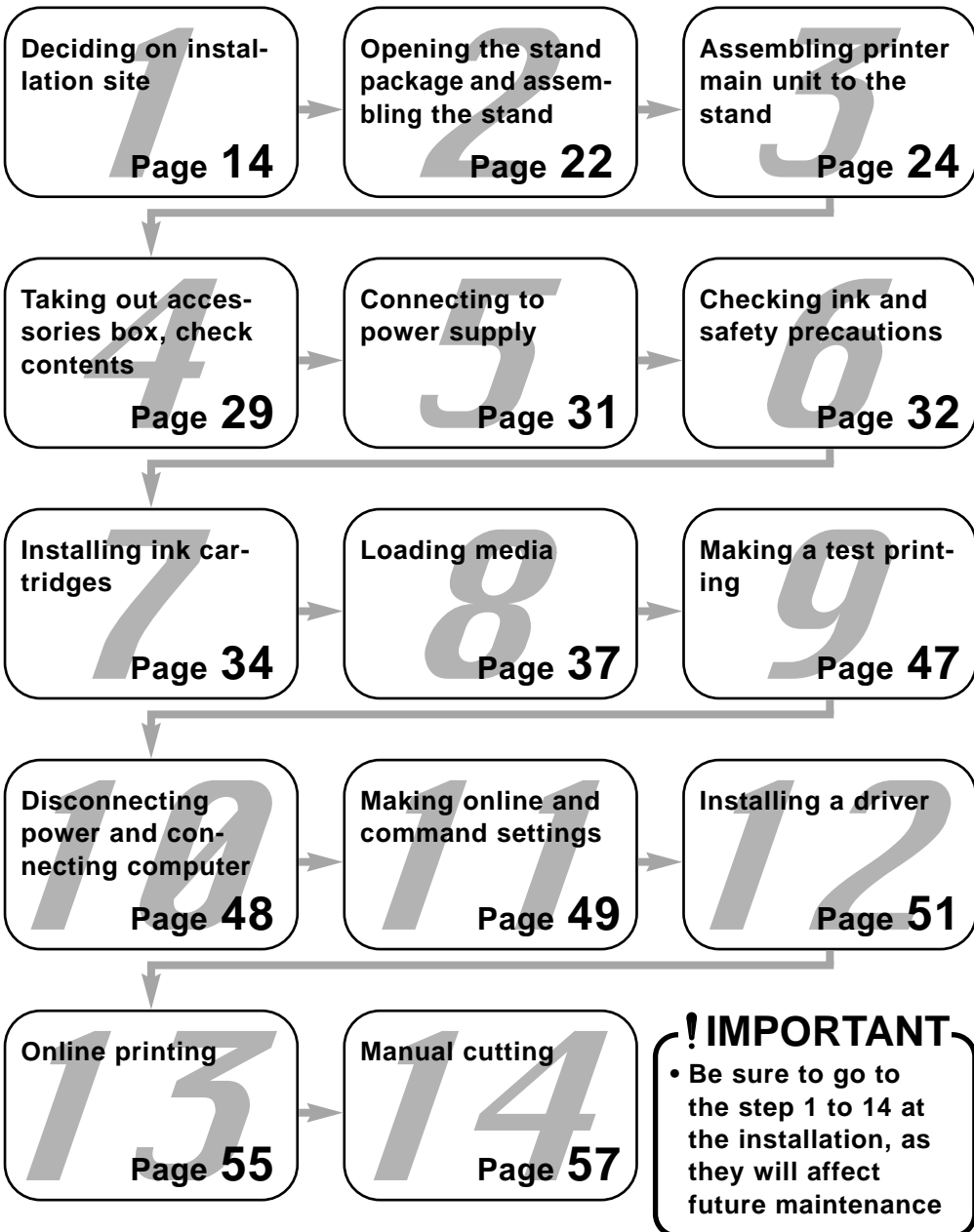
## **Functions Edition**

This manual explains about the printer's functions. Information essential for using this printer, such as how to use the functions and operations, is explained in detail. It is easy to look up "what does this function do to the printing?" The fitting of options and error messages are also included in detail for you to read essential items as required.

## **Drivers Edition**

You may need to install drivers for output from computer. The Drivers Manual explains about installation and settings to suit your computer operating system. Please read it when you are installing drivers.

# From Unpacking to Printing On-line



What must be done every day? Page 75

When trouble strikes Page 91

Ordering supplies Page 106

**This equipment complies with radio interference regulations for data processing devices. When used in a residential area, this equipment may cause radio interference, in which case the user may be required to take appropriate corrective measures.**

#### **#Concerning radio interference**

This product generates weak radio signals and may interfere with radio and television reception if not installed and used correctly. If you suspect that it is causing interference with radio and television reception, try one or more of the following measures:

- Change the direction of your reception antennae and feeders
- Change the direction of this product
- Change the distance between your receiver and this product
- Use separate power supply circuits for your receiver and this product

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September 2000

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# Introduction

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Thank you for purchasing a RJ-6000 Series Full-color Inkjet Printer.

This RJ-6000 Series is a 43-inch (1092 mm) wide, 54-inch (1372 mm) wide or 62-inch (1575 mm) wide, full-color inkjet printer equipped with 720 dpi / 360 dpi and simulated 1440 dpi resolution, that supports Centronics (bidirectional parallel interface, IEEE1284 compatible, with Nibble and ECP modes) and, optionally, Ethernet interfaces.

This User Guide deals with printer installation and operation methods as well as usage precautions. In order to use the printer safely and effectively, please read the User Guide carefully before you use the printer and then use it correctly.

Keep the manual beside the printer. It is sure to be useful in case something that you are not sure about should occur while you are using the printer.

## **! IMPORTANT**

- **Because the RJ-6000 Series is an inkjet printer, it needs to be cleaned and inspected periodically. User registration and a service contract are recommended for detecting trouble promptly and maintaining printing quality in top condition. For details, contact your local Mutoh dealer.**

## For Safe Usage

Introducing the safety symbol that is used in this manual.

The following warning indicator is used in this manual to prevent injury to the user and damage to property.

## **! CAUTION**

- **Applies to a case where ignoring this instruction or incorrect action may lead to serious injury and may cause physical damage to the printer. You must read this and work correctly.**

## Introduction For Safe Usage

---

Introducing the Note and Reference symbols that are used in this manual.

### **IMPORTANT**

- An explanation of a matter that is very important for proper use of the printer. You must read this and work appropriately.



### **NOTE**

- An explanation of a matter that is useful for you to know or that may affect the printing result. You should read this and bear it in mind.



### **REFERENCE**

- A reference to where further useful detailed information is available. Refer to this if necessary.

# Using the Printer

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## CAUTION

RJ-6000 Series is a precision device. When you use it, be careful of the following.

- Don't use the printer in extreme heat, cold or humidity.
- Covers secured by screws must not be opened other than parts noted in this manual.
- Don't have a radio or television nearby as the printer may cause interference.
- Don't connect the printer cable to the same power source as an appliance that generates electrical noise.
- This printer uses 100 to 120 V, or 200 to 240 V AC power. Don't use it with power other than 100 to 120 V, or 200 to 240 V AC.
- Be sure to use a power source with an earth connection.
- Avoid placing objects on top of the printer or subjecting it to severe vibration or impact.
- Don't tilt or shake the printer when you move it. This may cause the ink to spill or the mechanism to malfunction. If tilting is unavoidable, contact your local Mutoh dealer.
- Don't wipe the printer with thinners or benzene.
- Be sure to use RJ-6000 Series special cartridges (the printer will be damaged if an ink other than a special cartridge is used.)
- If the printer makes a strange noise or acts abnormally, refer to "When trouble strikes" on page 91 and contact your local Mutoh dealer.
- There is no question about the safety of the ink but since it is mildly toxic it should be kept out of the reach of children.





### **CAUTION**

- Ink cartridges should be kept in a cool dark place. However, the ink will freeze if it is stored for a long period below  $-10^{\circ}\text{C}$  for black ink and below  $-10^{\circ}\text{C}$  for colored ink so storage under these conditions should be avoided. If the ink becomes frozen, it should be thawed for at least three hours at room temperature ( $25^{\circ}\text{C}$ ) before use.
- Don't put the hold lever in the up position while the head is moving (during printing, media size detection, media cutting and cleaning, etc.). The head and media keeper blade will touch, causing damage or faulty printing.
- When the hold lever is to be put in the up position for loading media, etc., make sure that the head is in a position where it will not touch the media keeper blade.
- Don't move the head while the hold lever is up. The head may touch the media keeper blade.

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# Before Using the Printer

---

This section lists matters that must be attended to before the printer is used.

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# Usage Environment

An appropriate location for installing the printer should be selected after referring to the following conditions for the installation site and installation space.

## CAUTION

- Always use a separate, earthed power outlet.
- Avoid places subject to sudden change of temperature or humidity, dust, or the direct rays of the sun.
- The RJ-6000 Series printer should not be in the direct draft from an air conditioner.
- Don't block the ventilation holes of the RJ-6000 Series printer.
- The floor should be level and free from vibration.
- Avoid places near a device that produces heat, such as a stove or heater.
- Avoid using the printer under strong light globes or halogen lamps.

## Environmental Conditions for the Installation Site

We recommend setting up the printer in a place that conforms to the conditions in the following table.

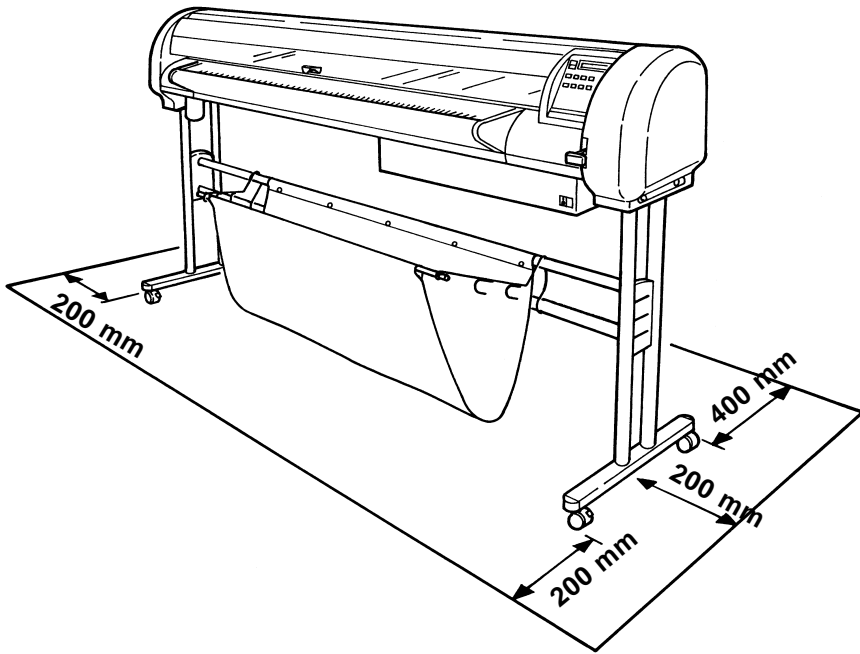
With regard to temperature and humidity in particular, even if the conditions fall within the ranges indicated, places subject to sudden changes should be avoided.

We recommend setting up in a place that can be air conditioned in order to maintain constant temperature and humidity.

<b>Area for Installation</b>	<b>At least 3 m<sup>2</sup> with a doorway of 1.5 m</b>
<b>Floor Strength</b>	<b>At least 2490 Pa (300 kg/m<sup>2</sup>)</b>
<b>Power Supply</b>	<b>Voltage</b> 100 V to 120 V AC 10% or 200 V to 240 V AC 10%
	<b>Frequency</b> 50/60 Hz 1%
	<b>Capacity</b> Use a power outlet rated for at least 10 A
<b>Temperature</b>	10°C to 35°C (16°C to 25°C for assured printing accuracy) Variation rate: Not more than 2°C per hour)
<b>Humidity</b>	35% to 80% (50% to 60% for assured printing accuracy) with no condensation Variation rate: Not more than 5°C per hour)

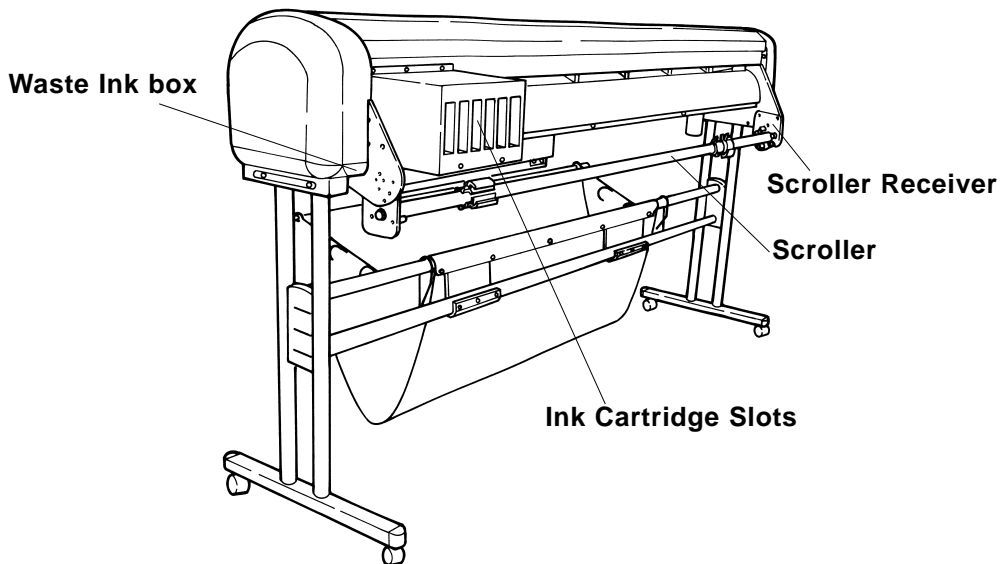
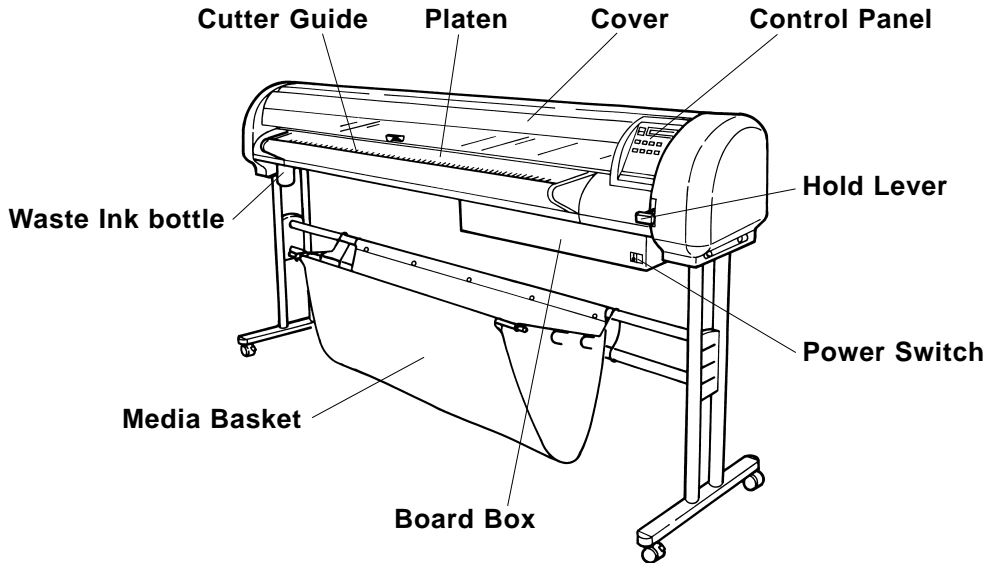
## Space Required for Installation

The space required for setting up is as shown below.





# Names of Parts

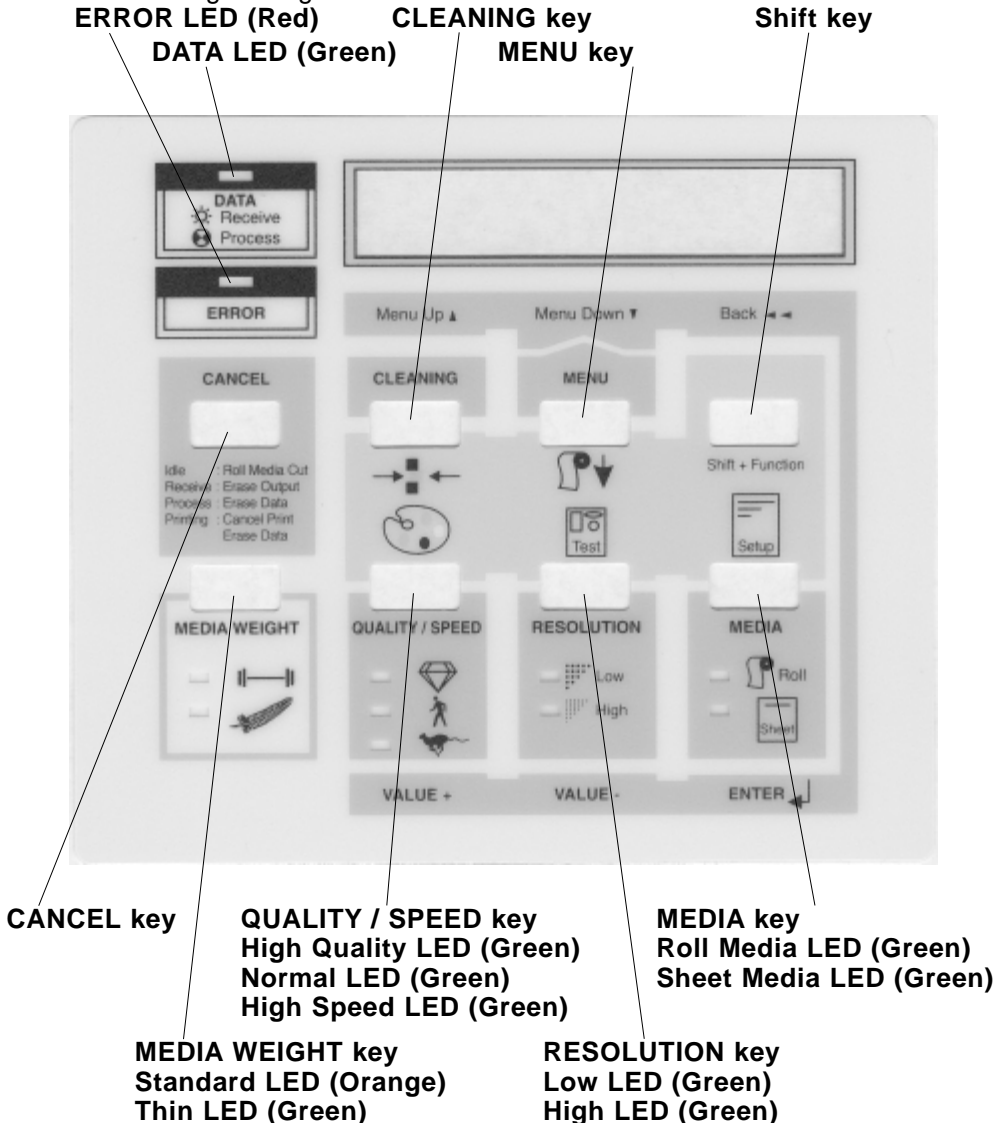


## CAUTION






- The head must never be moved with the hold lever up
- Don't place anything on top of the cover

# Control Panel Names





The control panel is for setting operating conditions, displaying printer conditions and making settings for various functions.



## Control Panel Names




Name	Function
DATA LED (Green)	Lit: Data reception in progress Flashing: Data reception completed, processing in progress or internal data preparation in progress
ERROR LED (Red)	Lit or flashing: An error has occurred
CANCEL key	Before data reception: Roll media is cut During data reception: Input data is erased During data processing: Processed data is erased During printing: Printing is forcibly stopped, the data is erased and media is ejected Waiting for ink to dry: Ink drying time is cancelled and media is ejected
MEDIA WEIGHT key	Selects the type of media
Standard LED (Orange) 	Lit: Standard media type is specified
Thin LED (Green) 	Lit: Thin media type is specified
QUALITY / SPEED key	Changes print mode to high quality, normal or high speed
High Quality (Green) 	Lit: High quality print mode is established
Normal (Green) 	Lit: Normal print mode is established
High Speed (Green) mode 	Lit: High speed print mode is established
RESOLUTION key	Switches head resolution when printing
Low	Lit: 360 dpi resolution is established
High	Lit: 720 dpi resolution is established
Simulated 1440 dpi	When both 360 dpi and 720 dpi are lit simultaneously, simulated 1440 dpi mode is established

## Control Panel Names

Name	Function
<b>MEDIA key</b>	<b>Switches between roll media and cut media</b>
<b>Roll media (Green)</b> 	<b>Lit: Indicates that the loaded media is roll media</b>
<b>Sheet media (Green)</b> 	<b>Lit: Indicates that the loaded media is cut media</b>
<b>CLEANING key</b>	<b>Directs head cleaning (press for at least 2 seconds)</b>
<b>MENU key</b>	<b>Moves to menu screen for function setting mode When the menu display key is pressed, the panel keys take on the purplish-red set of functions. Normal (purplish-blue) functions are not resumed until setting mode is cancelled with the previous level key or enter key.</b>
<b>Menu Up ▲ key</b>	<b>In setting mode, returns liquid crystal display menu by one page at a time</b>
<b>Menu Down ▼ key</b>	<b>In setting mode, advances liquid crystal display menu by one page at a time</b>
<b>VALUE + key</b>	<b>In setting mode, moves the menu or parameter on the liquid crystal display forward one by one If a numerical parameter value is entered, the parameter value is incremented</b>
<b>VALUE - key</b>	<b>In setting mode, moves the menu or parameter on the liquid crystal display back one by one If a numerical parameter value is entered, the parameter value is decremented</b>
<b>Back ◀◀ key</b>	<b>Shifts the set menu level back</b>
<b>ENTER ↵ key</b>	<b>Confirms a menu change or parameter value</b>
<b>Shift key</b>	<b>Changes the function of each key to the light-blue set</b>
<b>Shift key + Media Feed key</b> 	<b>Feeds media in the normal direction</b>
<b>Shift key + Palette Print key</b> 	<b>Prints the color palette Reserves palette printing if no media is loaded</b>

## Control Panel Names

---

Name	Function
Shift key + Test Print key 	Reserves test printing if no media is loaded
Shift key + Setup print key 	Reserves setup printing if no media is loaded
Shift key + Fine adjustment key 	Makes fine adjustment and shifts to key entry screen

\* Shift + means "while the [Shift] key is pressed"



### NOTE

- All keys other than [CANCEL], [CLEANING] and [MEDIA WEIGHT] are disabled when the DATA LED is lit (during data reception) or flashing (during processing data). If data reception starts while the setting menu is displayed, operations are enabled but the settings that are made will not take effect until the next printing operation after data reception has finished.
- Panel settings from the printer only become effective (display switches to setting menu) when no data is being received and there is no processed data remaining in the printer.
- Operations involving the shift key have no effect in setting mode.

# Preparing for Printing

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This section deals with preparations for using the printer.

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# Open the Box

The printer is delivered in two boxes containing the main unit (including accessories) and the stand. First, open the stand carton.

Open the stand carton and take out the stand parts.

## CAUTION

- After opening the cartons, quickly move the packaging materials (cartons, vinyl bags, foam styrene, etc.) out of the reach of children or dispose of them appropriately.

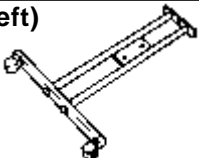
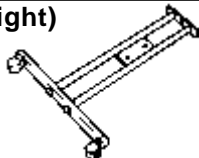
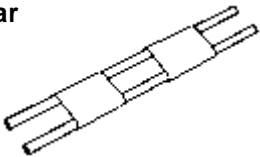

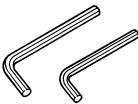



After unpacking, check that all necessary parts are present.



## REFERENCE

- If any of the cartons is missing, contact your Mutoh dealer.

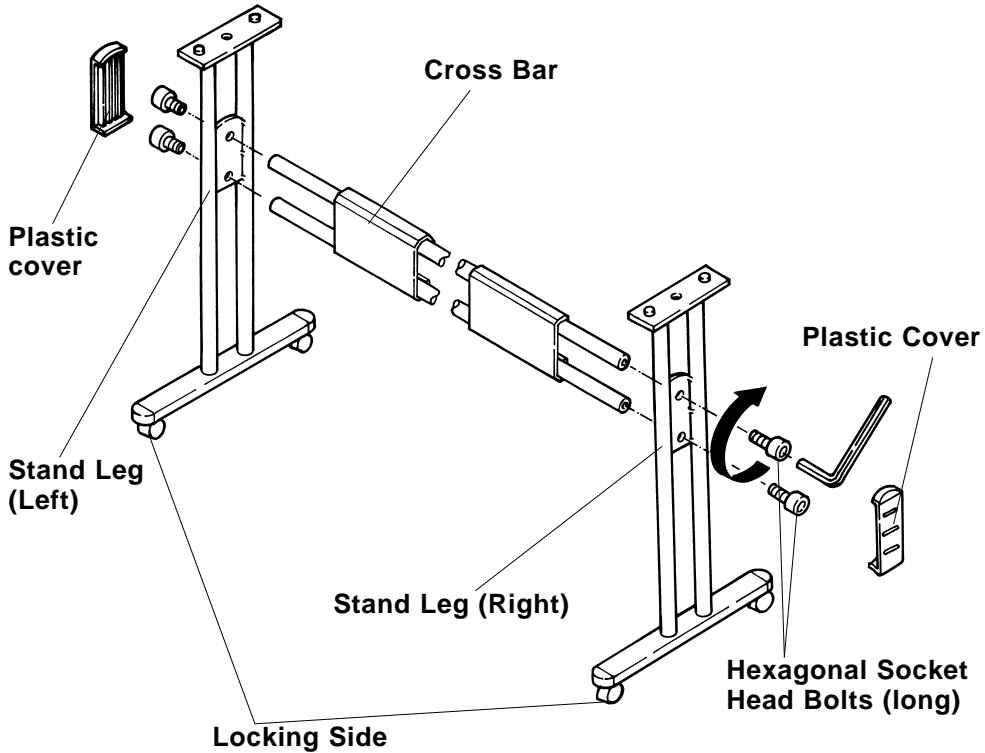
## Check the stand carton

Stand Carton	
<b>Stand Leg (Left)</b>  1 pce.	<b>Stand Leg (Right)</b>  1 pce.
<b>Cross Bar</b>  1 pce.	<b>Plastic Covers</b>  2 pcs.
<b>Allen Keys (large, small)</b>  1 each	<b>Hexagonal Socket Head Bolts (long)</b>  4 pcs.
<b>Hexagonal socket head bolts (short)</b>  2 pcs.	<b>Media Basket Assy</b>  1 set

# Assembling the Stand

## Step 1

With the welded parts of the stand leg (left and right) that fasten the cross bar facing out, align the attaching holes of the cross bar and fasten them temporarily with hexagonal socket head bolts (long). After the hexagonal socket head bolts have been re-tightened, fit the plastic covers over them.





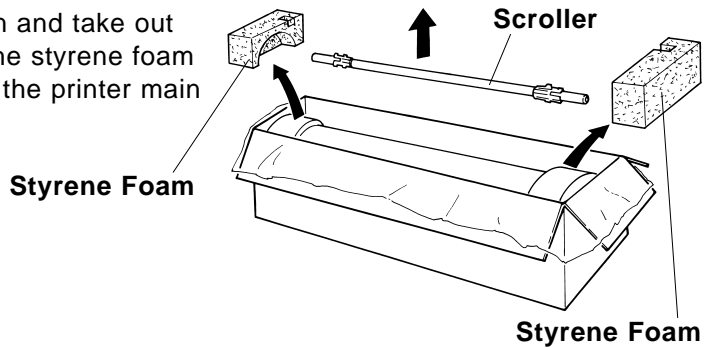
# Assembling the Printer

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The printer carton contains the main unit, scroller, and a box of accessories. The warranty document and customer registration postcard are attached to the carton itself. Store the warranty document securely, fill in the details on the customer registration and and mail it.

## **Step 1**

Open the printer carton and take out the scroller. Remove the styrene foam on the left and right of the printer main unit.

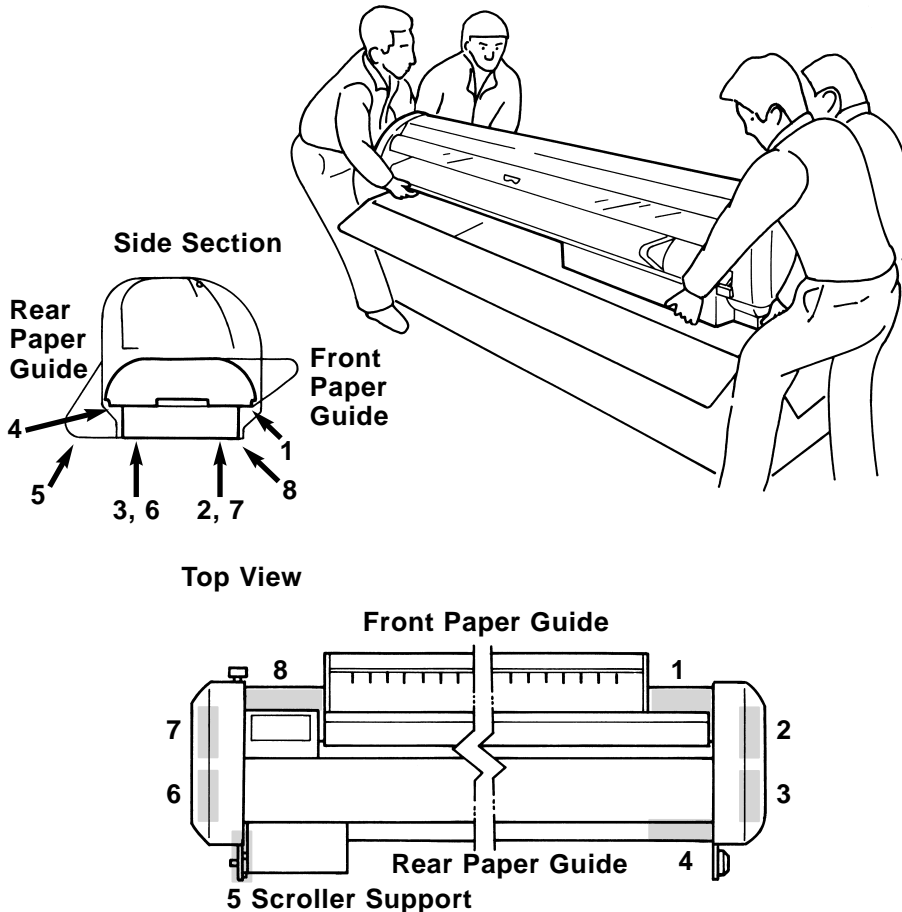


## **Step 2**

Bring the stand close to the printer carton and lock the castors. Roll up the vinyl wrapping on the printer.

## ⚠ CAUTION

- For safety, at least four people are needed for assembling the printer.
- When taking the main unit out of the carton, remove the vinyl first and handle the printer directly. There is a risk of your hands slipping if the main unit is handled with the vinyl on.
- The main unit must be lifted by four people at the places marked (1) to (8) below. If it is lifted at other places (left and right side covers, ink cartridge cover, side plates, etc.) the printer may fall and cause injury or damage.



## Assembling the Printer

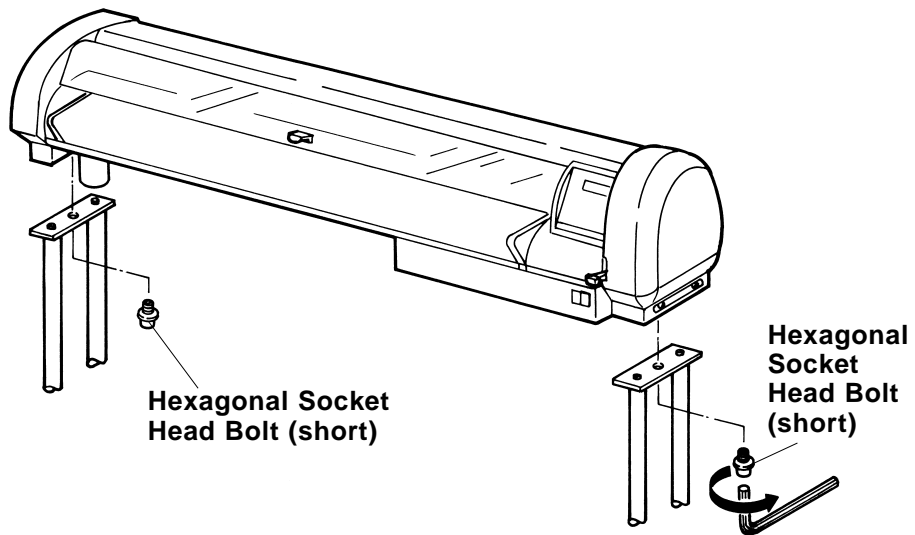
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### Step 3

Place the main unit on the stand with the front towards the locking castors on the stand.

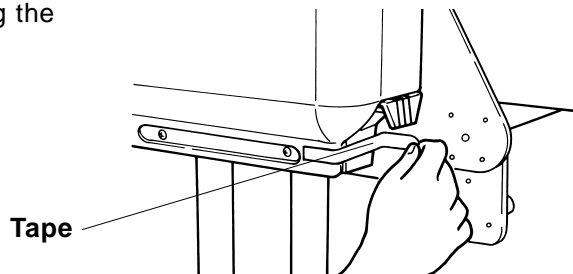
### Step 4

Fasten the main unit to the stand using hexagonal socket head bolts (short) through the holes on both sides of the stand.



### Step 5

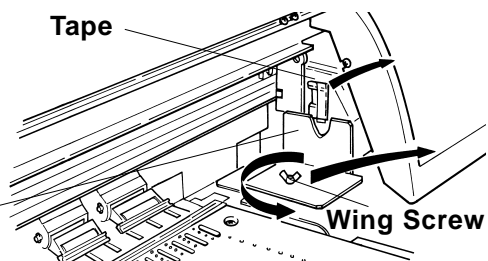
Peel off the white tapes holding the cover and waste liquid box.



### Step 6

Undo the wing screw holding the printing table and remove the head fastening fitting. Be careful not to drop the wing screw inside the printer. Peel off the white tape holding the cutter section.

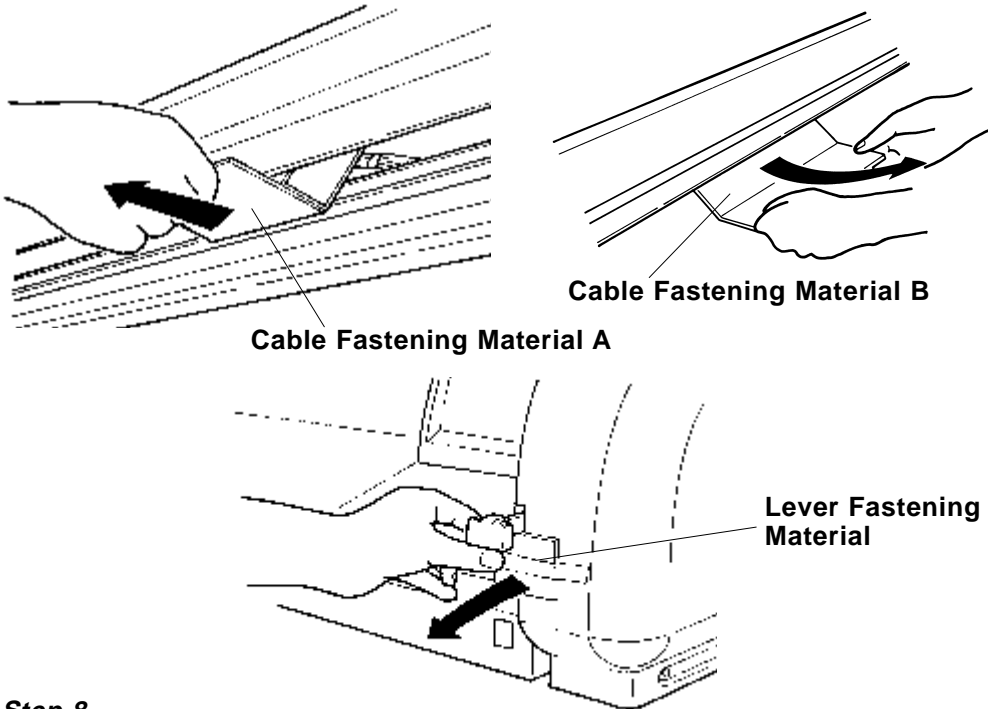
**Head Fastening Fitting**



## Assembling the Printer

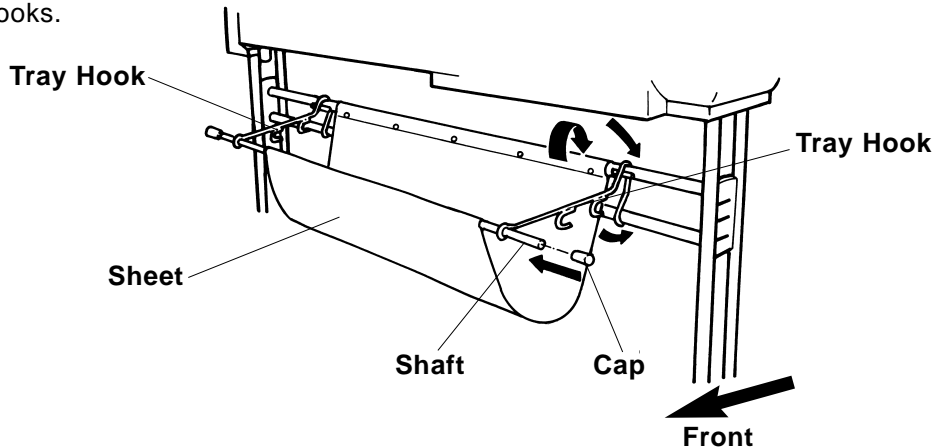
### Step 7

Remove cable fastening materials A and B between the rail and cover. Remove the lever fastening material that holds the lever.



### Step 8

Thread the tray hook, sheet, tray hook in that order over the media ejection basket shaft and replace the cap. Hook the tray hooks over the side stays. Wrap the sheet over the upper side stay and fasten it on the outside with hooks.



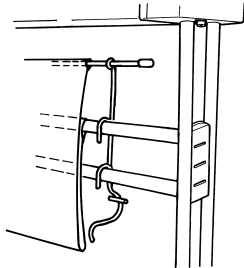
## Assembling the Printer

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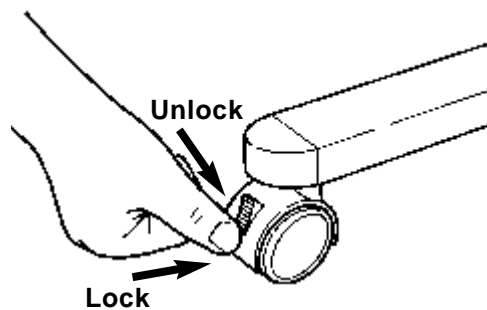
### NOTE

- When it is not in use, the media eject tray can be folded up as shown in the diagram.



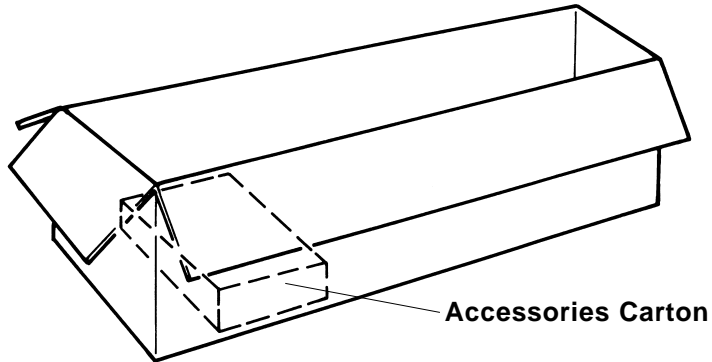
### Step 9

When the assembly of the main unit is completed, move the printer to the place where it is to be used and set it up on a firm floor. Lock the castors.



# Check Printer Accessories

Printer accessories are contained in the accessories carton in the bottom of the printer carton.

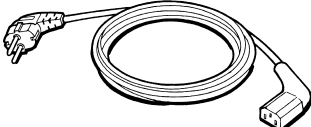

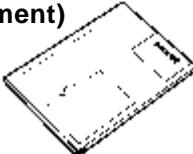

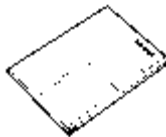
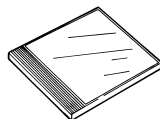


Open the accessories carton and check that nothing is missing.



## NOTE

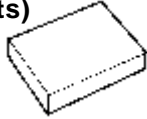
- If any packaged item is missing, contact your local MUTOH dealer.

<p><b>Power Cable</b> 1 pce.</p> 	<p><b>Cable Clamp</b> 1 pce.</p> 
<p><b>User Guide Basic Edition (this document)</b> 1 pce.</p> 	<p><b>User Guide Functions Edition</b> 1 pce.</p> 
<p><b>User Guide Drivers Edition</b> 1 pce.</p> 	<p><b>Printer Drivers CD</b> 1 set (for Windows 95 / 98 / NT4 and for Macintosh)</p> 

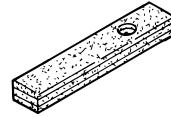
## Check Printer Accessories

---

Cleaning Wipers for Cleaning (replacements) 1 pce.

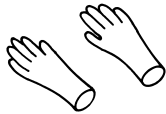


Waste Liquid Absorbent Sheet 3 sets



Gloves

1 pair



### NOTE

- Ink cartridges are not included in printer accessories. If you have not arranged for them beforehand, please obtain them separately by referring to the “List of Optional Items and Supply Items” on page 106.

# Connecting the Power Cable

## ⚠ CAUTION

- Use a power supply that is separate from devices that produce electrical noise.
- Don't have multiple connections on the power cord. These will cause heating and fire. Take power directly from a household power outlet.
- An earth lead must be used.

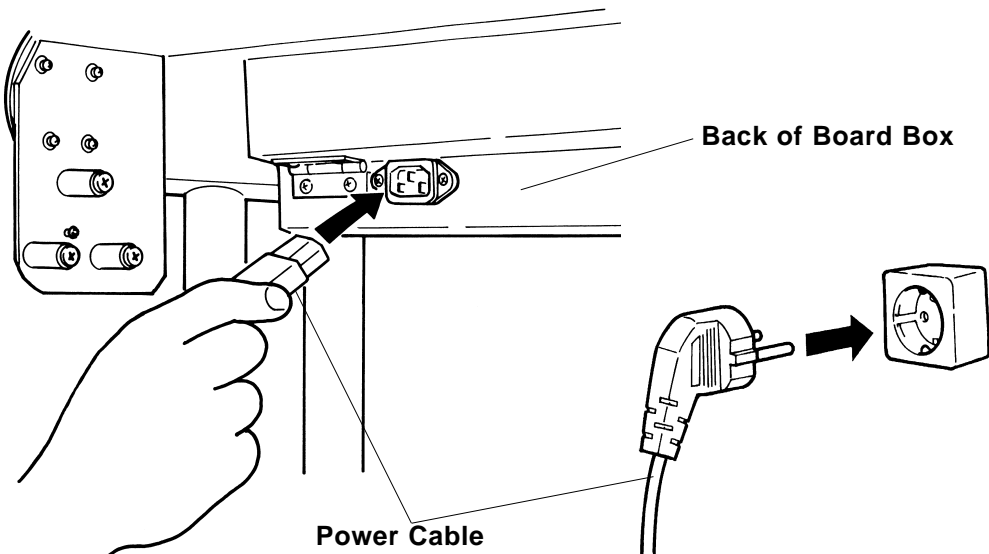
## 👉 NOTE

- Value settings will be recorded after the power switch has been turned off. Wait for about 5 seconds before switching on again.

Plug the power cable into the power socket on the left side at the back of the printer and insert the power plug into a power outlet that matches the following power supply specifications.

### Power Supply Specifications

Voltage	100 to 120 V AC $\pm 10\%$ , 200 to 240 V AC $\pm 10\%$
Frequency	50/60 Hz $\pm 1$ Hz
Capacity	Use a power outlet rated for at least 10 A





# Ink Cartridge Precautions

---

## CAUTION

- Although there is no question about the safety of the ink, it should not be touched, licked or swallowed. If you accidentally touch the ink, wash it off immediately with soap and water. If it should get into your eye, wash with plenty of water and consult your doctor. If it is licked, wash it out immediately by gargling with water. If it has been swallowed, drink plenty of water immediately and you must see a doctor.
- For the reasons given above, ink cartridges should be kept out of reach of children as it would be dangerous for them to be licked or swallowed.
- The ink in ink cartridges burns easily so direct contact with heat or flame should be avoided.
- Ink cartridges may leak so they should not be shaken roughly or dismantled. If the ink leaks, wipe it up with a sponge and discard it in a sealed container.
- Ink cartridges should be discarded in accordance with local government regulations.

## IMPORTANT

- When a RJ-6000 Series printer is to be used for the first time, all four colored ink cartridges must be loaded into the slots at the rear of the printer.
- Don't remove the seals attached to the ink cartridges.
- A malfunction will be caused if a seal becomes dirty, so the dirty place must be wiped clean.
- Only genuine ink cartridges can be used. They also need to be turned in the proper direction for insertion. Make sure not to confuse the direction and place for insertion.



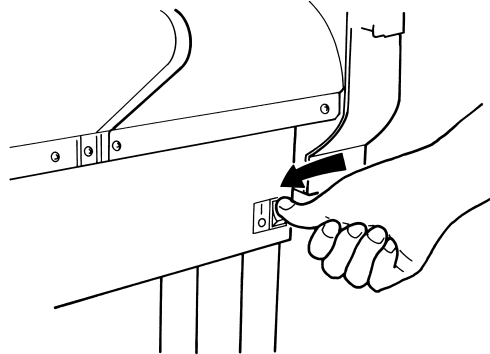
### NOTE

- Ink cartridges should be kept in a cool dark place. However, the ink will freeze if it is stored for a long period below  $-10^{\circ}\text{C}$  for black ink and below  $-10^{\circ}\text{C}$  for colored ink so storage under these conditions should be avoided. If the ink becomes frozen, it should be thawed for at least three hours at room temperature ( $25^{\circ}\text{C}$ ) before use.
- Open the ink cartridge just before you load it into the slot. Printing may be blurred if the ink cartridge is left open for a long time.
- Printing may not be possible even though there is ink remaining in the cartridge. Therefore, after an ink cartridge has been installed, it should not be taken out and re-inserted until it needs to be replaced by a new cartridge.
- Ink cartridges should be used within two years of the date that is printed on the package. Cartridges that have been loaded into the printer should be used up within six months.
- Condensation will occur if an ink cartridge has been moved from a cold place to a warm place. It should not be used until it has been left for at least three hours at room temperature and the condensation has disappeared.
- Since capping will not occur unless the head is at the right hand end, an ink leakage may occur. Therefore, the power switch should not be turned off or the power cord disconnected during printing or while the head is moving.

# Loading the Ink Cartridges

## Step 1

With the hold lever down, turn on the power switch at the bottom right of the printer.



## Step 2

The printer is initialized and, because no ink cartridges are loaded, the following display appears.

Cartridge None



## NOTE

- Initialization will not occur if the cover is open or the hold lever is up.

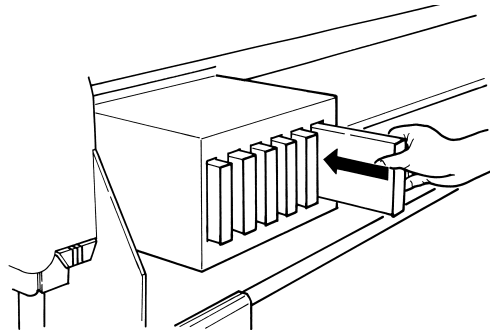
## Step 3

Go to the back of the printer and insert ink cartridges of each color into the ink cartridge slots that you can see on the left end.

Type 1	Lc	Lm	Y	M	C	K
Type 2	G	O	Y	M	C	K

\* Lc and G are shown "6".

Lm and O are shown "5".



If the print result is reversed between Lc and Lm, change the Data Order setup or RIP driver setup.

## Step 4

The following display appears and the ink filling operation starts automatically. Ink filling means that the head is filled with ink and is ready for printing.

Ink Refill 1M

## ! IMPORTANT

- Filling will not occur unless four of the same type ink cartridges are installed.

### **CAUTION**

- Power must not be switched off during the ink filling operation otherwise the printer may be damaged.

### **NOTE**

- If the "Cartridge None" display on the Control panel does not disappear even though ink cartridges have been installed, it means that the ink cartridges have not been loaded correctly. Take out the cartridge whose color is displayed and reload it correctly.
- If the initial ink filling fails, clean the head several times. If the initial filling is not done even after several head cleanings, contact your local Mutoh dealer.

# Specify the Type of Media

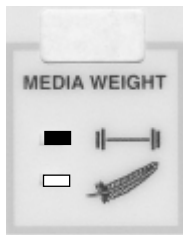
Here we select whether the media to be loaded in the RJ-6000 Series printer will be standard media or thin media.



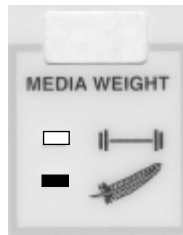
## NOTE

- If you are unable to judge whether the media to be used is standard media or thin media, you should do the "Media Feed" as shown on page 67 before printing. At that time, check whether the media is catching or wrinkling.

With the hold lever up, press the [MEDIA WEIGHT] key. If the media to be loaded is standard media, light up standard media. If the media to be loaded is thin media, light up thin media.



For thin media



For standard media

□ : Lit  
■ : Not lit



## CAUTION

- Be careful. A paper jam will be caused and the head may be damaged if thin media is loaded in the printer and thin media is not selected at the panel.
- If you are using media other than media specified by Mutoh in the "List of Optional and Supply Items" on page 106, if thin media is loaded, thin media must be specified at the panel.

# Loading the Media

## ! IMPORTANT

- Don't use media that is creased, blemished, torn or curled.
- Problems caused by using media other than that specified by Mutoh will not be covered by warranty. Always use cut media or roll media specified by Mutoh (See the "List of Optional and Supply Items" on page 106)
- Temperature and humidity suitable for printing are shown below. We recommend setting up in an environment that can be air conditioned in order to maintain constant temperature and humidity.

Temperature	10°C to 35°C (16°C to 25°C for assured printing accuracy) Variation rate: Not more than 2°C per hour
Humidity	35% to 80% (50% to 60% for assured printing accuracy) with no condensation Variation rate: Not more than 5% per hour

- The absolute dimensions of printing media will be changed by variations in temperature and humidity. Therefore, printing media such as tracing media and high quality media that are readily susceptible to the effects of environmental changes should be acclimatized to the environment for about 30 minutes before printing. This acclimatization is called seasoning. Inadequate seasoning may cause the printing media to slip, crease or jam. It also affects the printing quality.
- With media recommended by Mutoh, you should be aware that a 1% variation in humidity may cause the media to expand or contract by the proportions shown below.

Type of Media	Rate of Dimensional Change
Good quality media	0.018%
Double-matte polyester film	0.0012%

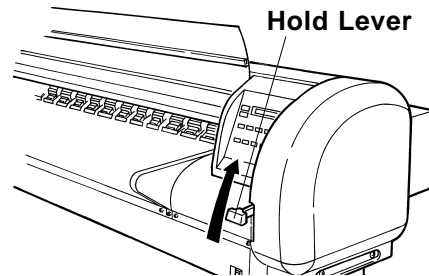
- Oil from your skin may interfere with the way the ink sits on the media so you should wash your hands thoroughly before handling the media.
- If media that is larger than the prescribed size is used, the result of the printing may be affected by the media touching the floor during printing.
- Don't leave media loaded in the printer for a long period. This may cause the media to curl, lift up or jam. (This should be avoided especially in winter, dry periods and for formal printed output.)
- Media has a printing surface and non-printing surface. Printing on the non-printing surface may cause blurring or blemishes.

## Loading the Media Loading Cut Media

### Loading Cut Media

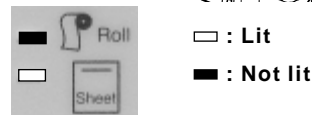
#### Step 1

Open the cover, check that head is in a position where it will not touch the media keeper blade and put the hold lever up.



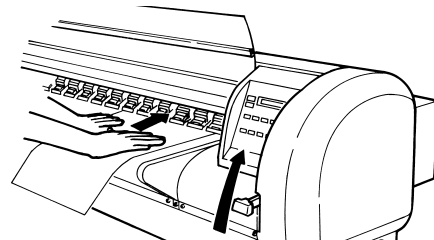
#### Step 2 Selecting media

Press the [MEDIA] key on the Control panel to light the Sheet media LED.



#### Step 3 Loading media

Insert seasoned media between the pressure roller and the drive roller.



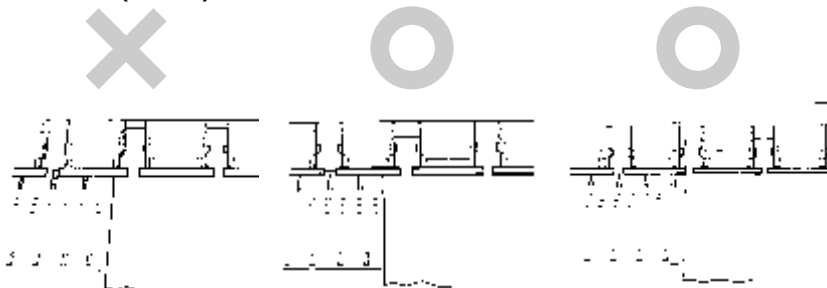
#### Step 4

Align the right edge of the media with the middle of the guide line (holes).

### ! IMPORTANT

- The guide line (holes) is a guide

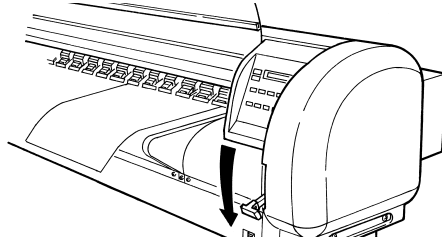
There is a possibility of a media jam if the pressure roller is not holding the left edge of the media and the pressure roller is near the right edge. Either hold the left edge of the media completely with the pressure roller or slide it so that pressure roller is about 5 mm away from the right edge of the media and the right edge of the media is within 5 mm to the left or right of the guide line (holes).



## Loading the Media Loading Cut Media

### Step 5

Put the hold lever down.



### NOTE

- Remove the roll media and scroller from the main unit before using.
- Don't load the media slantwise. The media size may be misidentified and the printing will not be normal.
- If the roll media lamp is lit by the Control panel setting, a "Roll media end" error may appear and printing will not terminate normally or the media may be cut.
- Apart from the maximum size that may be loaded, cut media can be loaded either longitudinally or laterally.
- Media has a printing surface and non-printing surface. Printing on the non-printing surface may cause blurring or blemishes. The printing surface is usually lighter.

### Step 6

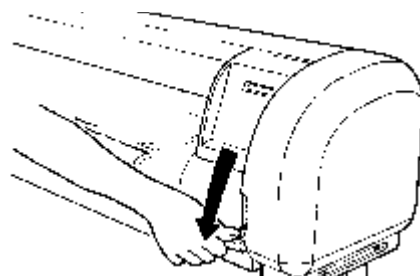
Close the cover. The head will move automatically to detect the size of the media.

C o n f i r m P a p e r K i n d

P l o t O K

### Step 7 Removing the media

To remove the media, open the cover and put the hold lever up, then remove the media without touching the media keeper blade.





## Loading the Media

### Loading Cut Media

---



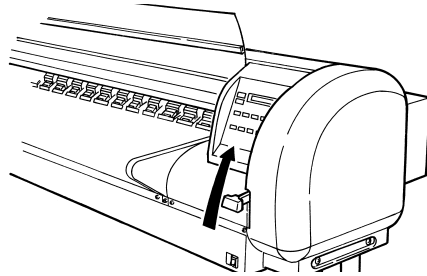
#### NOTE

- Don't put the hold lever up while the head is moving (during printing, media detection, media cutting, cleaning, etc.)
- When putting the hold lever up to load media, etc., make sure the head is in the stand-by position (maintenance position). The lever can not be put up if the head is not in the stand-by position.
- Don't move the head while the hold lever is up. The head may contact the media keeper blade.

## Loading Roll Media

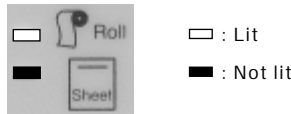
### Step 1

Open the cover, check that head is in a position where it will not touch the media keeper blade and put the hold lever up.



### Step 2 Selecting media type

Press the [MEDIA] key on the Control panel to light the Roll media LED.

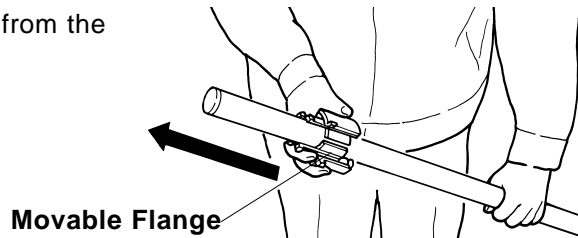


### Step 3

Take out a roll of media.

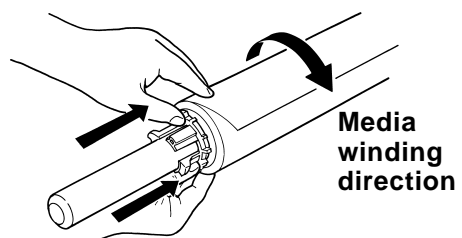
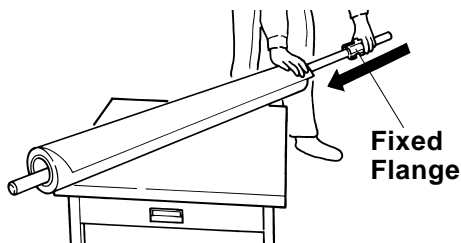
### Step 4

Remove the movable flange from the scroller.



### Step 5 Loading roll media on the scroller

Turn the roll media as shown in the diagram and pass it over the scroller until the media tube fits firmly over the fixed flange. Replace the movable flange on the scroller and fit it firmly into the media tube.



## Loading the Media

### Loading Roll Media

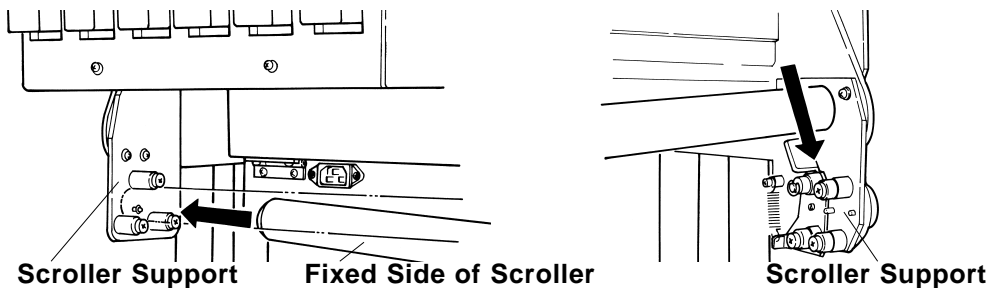
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#### NOTE

- Roll media generally comes with externally wound specifications in which the front surface of the media is on the outside, or internally wound specifications in which the front surface of the media is on the inside. Roll media specified by Mutoh is wound to external specifications in order to give effect to the printing. Please use media specified by Mutoh.

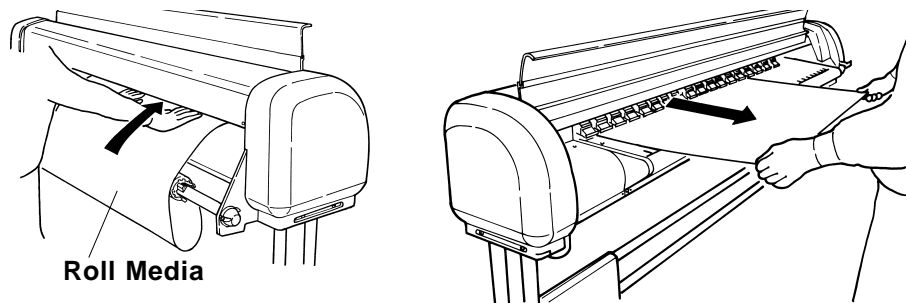
#### **Step 6 Mounting the scroller on the printer**

Attach the scroller, with roll media loaded, to the scroller receiver. Hold the fixed flange side with your left hand, insert the left side into the scroller support from the inside and press the right side from above.



#### **Step 7**

Remove the tape from the roll media and unroll a length of roll media. From the rear, insert the end of the roll media between the pressure roller and the drive roller, being careful that the end of the roll media does not catch on the media keeper blade, and let it hang down at the front.

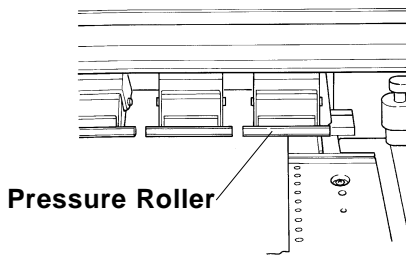


## CAUTION

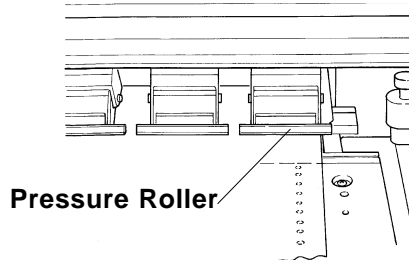
- When inserting roll media from the rear, be careful not to be injured by the pressure unit.

### Step 8 Checking the position of the roll media

Turn the scroller by hand and wind up several turns of roll media. As you wind up the media, check the relative positions of the drive roller on the right and the right hand edge of the roll media. It is normal if, with the roll media pulled tight, the portion that is being wound and the portion that was unwound are straight and the right hand edge of the media is on the guide line. If this is not so, adjust the position of the roll media in accordance with step 9.



Guide line (holes) can be seen



Guide line (holes) is hidden

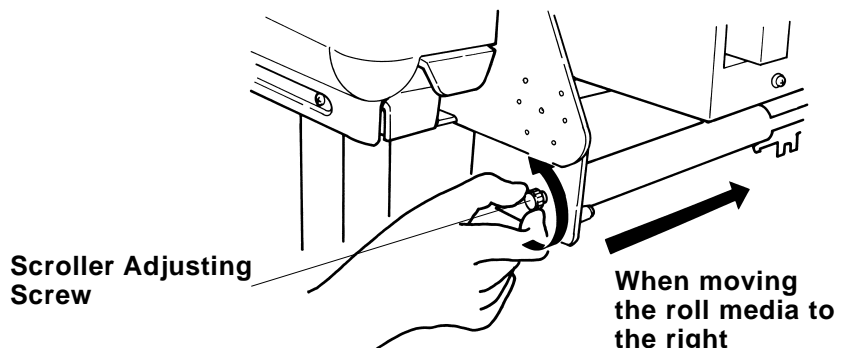
### Step 9 Adjusting roll media position

If the guide line (holes) can be seen, the roll media must be moved to the right.

If the guide line (holes) are hidden, the roll media must be moved to the left.

**\* If the roll media must be moved to the right**

Turn the scroller adjusting screw at the rear left side of the printer to the left

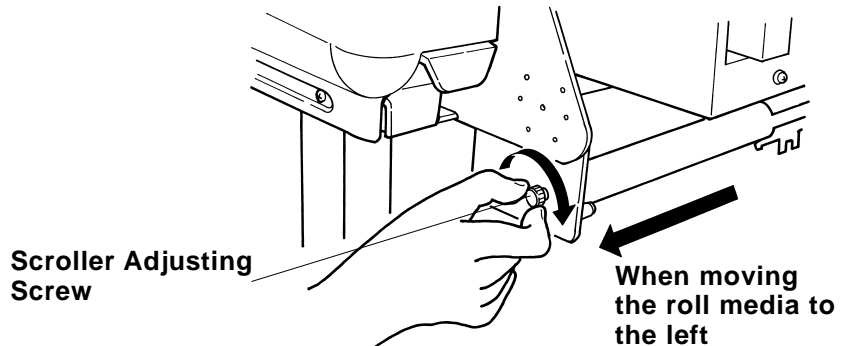


## Loading the Media

### Loading Roll Media

**\*If the roll media must be moved to the left**

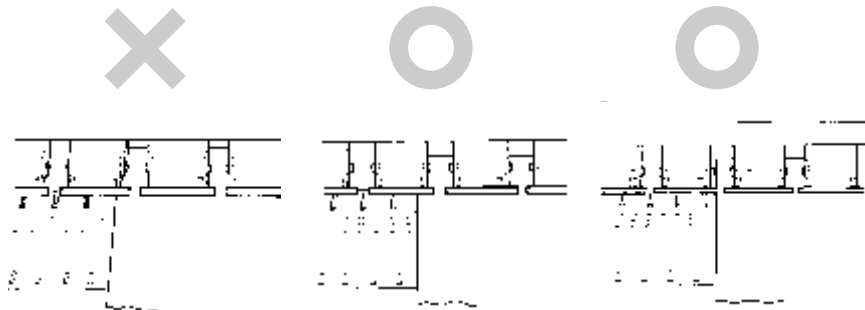
Turn the scroller adjusting screw at the rear left side of the printer to the right



## ! IMPORTANT

- The guide line (holes) is a guide

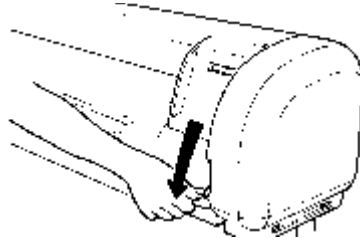
There is a possibility of a media jam if the pressure roller is not holding the left edge of the media and the pressure roller is near the right edge. Either hold the left edge of the media completely with the pressure roller or slide it so that pressure roller is about 5 mm away from the right edge of the media and the right edge of the media is within 5 mm to the left or right of the guide line (holes).



## Loading the Media Loading Roll Media

### Step 10

If the right edge of the roll media is near the guide line (holes), put the hold lever down. At this time, check and bear in mind where the edge of the roll media is in relation to the guide line. Close the cover. The head will move automatically to detect the size of the media.



ConfirmPaperKind

Plot OK

### Step 11

During media detection, the roll media will return parallel to the guide line. Check again the position of the right edge of the roll media after media detection. If it is almost over the same line as the position of the edge of the media that was checked before the cover was closed, then the media setting is a success.

If the position of the edge of the media after media detection is offset from the position of the edge of the media before closing the cover, then repeat the loading of the media from step 8.



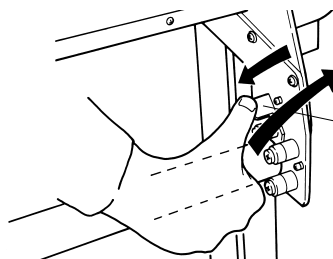
### NOTE – Removing roll media

#### Step 1

After printing has finished, open the cover, put the hold lever up and re-roll the roll media.

#### Step 2

Go to the back of the printer and press the scroller lock lever as you lift up the right side of the scroller, then slide the scroller to the right and take it out.



Remove while  
pressing the  
scroller lock  
lever.

## Loading the Media

### Loading Roll Media

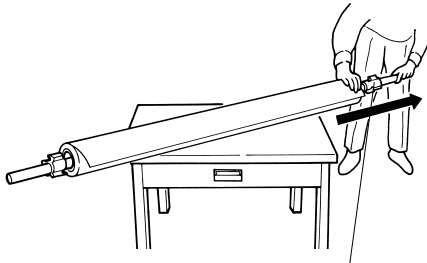
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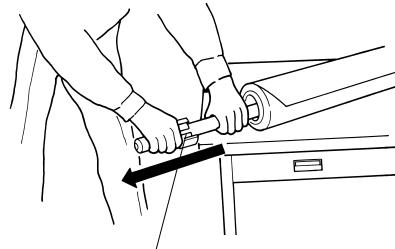
#### **NOTE** – Removing roll media

##### *Step 3*

While pressing the roll, pull the fixed flange end of the scroller sharply several times then remove the movable flange and take off the roll.



Fixed Flange



Pull off the movable flange



#### **NOTE**

- Don't put the hold lever up while the head is moving (during printing, media detection, media cutting, cleaning, etc.) otherwise the head will touch the media keeper blade and cause damage and bad printing.
- When putting the hold lever up to load media, etc., make sure the head is in the stand-by position (maintenance position). The lever can not be put up if the head is not in the stand-by position.
- Don't move the head while the hold lever is up. The head may contact the media keeper blade.

# Making a Test Print

Make a test print to verify that the printer is working properly.

## Step 1

Open the cover and check that the hold lever is up.

## Step 2

Press the **[MEDIA]** key to light the Sheet media LED. (Cut media is selected)

## Step 3

Load an A3 size sheet of cut media and put the hold lever down.

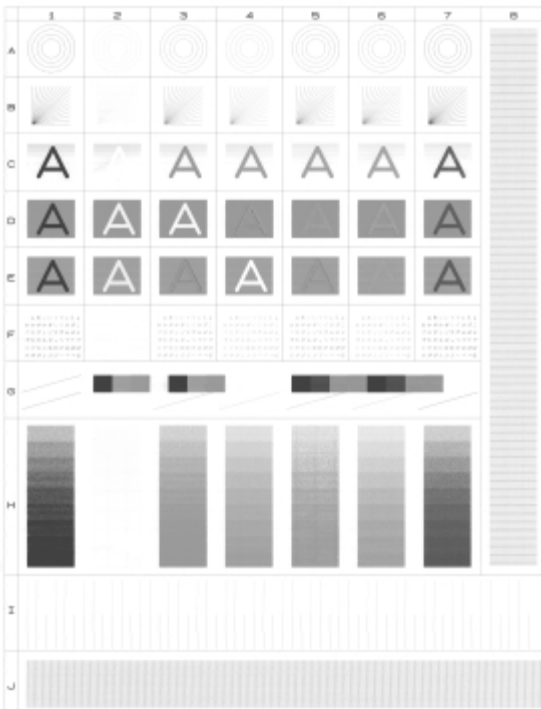
Plot OK

## Step 4

After initialization has finished, press the **[Test Print]** key (RESOLUTION, VALUE key) while you are pressing the **[shift]** key. (Test print: pale blue)

Printing

Test print sample (paste your test print on this page)



## NOTE

- If you are unable to make a test print like the above sample, contact your local Mutoh dealer.

Paste your test print on this bordered

Paste your test print on this bordered



# Connecting the Interface Cable

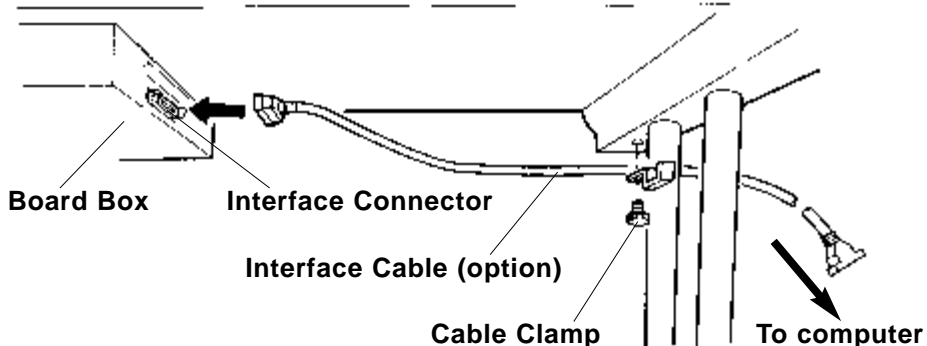
## CAUTION

- Make sure the power to the printer and to the computer is switched off when you connect the printer and computer.

## NOTE

- For optimum output, please use a cable recommended by Mutoh. If some other cable is to be used, select one by referring to "Centronics (Bi-directional Parallel Interface: IEEE1284 compatible) Specifications" on page 103.

The printer can use the Centronics interface (IEEE1284 compatible, Nibble, ECP). Connect to the printer as shown in the following diagram with an interface cable (option) for the connection system you will use. Connect to the host computer with another interface cable.



## NOTE

- The use of an unnecessarily long cable may affect data transmission. Interface cables should be as short as possible.
- An Ethernet board RJ-ETH13TX (for networking) is available as an optional extra. Installation is explained "Installation of options, Network interface board installation" in the separate Functions Edition of the User Guide.

# To Receive Data from the Computer

First, prepare the printer to receive data from the computer. The conditions for connecting the printer and computer must be aligned beforehand on the printer side and on the computer side. This is called set-up.

The basic printer set-up for receiving data from a computer involves the following four types of settings.

<b>Command Settings</b>	<b>Specifies the type of online commands</b>
<b>Setting the Position to Start Writing</b>	<b>Selects the position (initial position) to begin writing after the printing media has been mounted</b>
<b>Centronics Settings</b>	<b>Settings related to the Centronics interface (IEEE1284 compatible, Nibble, ECP)</b>
<b>Network Settings</b>	<b>Specified if an optional network interface (Ethernet) is to be used.</b>

## Input Port

Input port means the type of interface port. RJ-6000 Series input ports are set as follows.

<b>Input Port</b>	<b>Type of Interface</b>
<b>Port 1</b>	<b>Centronics (IEEE1284 compatible, Nibble, ECP)</b>
<b>Port 2</b>	<b>Option board (empty)</b>

## Online Set-up

There are two types of online-related settings: Centronics settings with respect to the computer and Centronics connection, and network settings with respect to the computer and network connection.

### Settings at the time of shipping by Mutoh

<b>Centronics Settings</b>		<b>Network Settings (option: empty)</b>
<b>Mode</b>	<b>Bitronics</b>	<b>IP address 192.034.043.015</b>
<b>Timing</b>	<b>AB system</b>	

## To Receive Data from the Computer Command Set-up (User Settings)

---



### NOTE

- If values other than those set at the time of shipping from Mutoh are used, be sure to refer to "Centronics Settings" or "Network Settings" in the separate Functions Edition of the User Guide.

## Command Set-up (User Settings)

Each user will specify the online commands from the computer and the command conditions.

### Commands

The type of command for verification is the MH-GL system (MH-GL/GL2, MH-GL2, RTL-PASS).

**MH-GL system commands (emulation of Hewlett-Packard printer commands)**

### Settings at the time of shipping by Mutoh

Command	Item
Initial position	P1
Terminator	Normal
Resolution	360 dpi



### NOTE

- If values other than those set at the time of shipping from Mutoh are used, be sure to refer to "Command Settings" in the separate Functions Edition of the User Guide.

# Installing Printer driver

---

A printer driver serves as a bridge (a software connection) for sending data from a computer to a printer. By installing a printer driver, the computer can know for the first time the printer to which it is connected. Here we explain only the case of using Windows 95/98 as a standard computer.



## NOTE

- Apart from Windows 95/98, drivers are available for Windows NT 4.0 and Macintosh. Please refer to the separate publication "Drivers Edition of the User Guide" if Windows NT 4.0 or Macintosh is to be used. For computers using other operating systems, please consult your local MUTOH dealer.

## Operating Conditions

Operating System	Windows 95/98
CPU	i486SX or higher (Pentium 120 MHz or better recommended)
RAM	32 MB or more (at least 48 MB recommended)
Hard Disk Space	100 MB of unused disk space



## NOTE

- Memory requirements will differ according to your application software and type of printing data.
- When printing (printing), the driver uses the hard disk for working and requires (empty) space for in a temporary device (under a TEMP directory) controlled by the system.
- We recommend the use of as the largest possible memory and hard disk capacity.

## Installing Printer Driver Installation Procedure

---

# Installation Procedure

### **Step 1 Starting the computer**

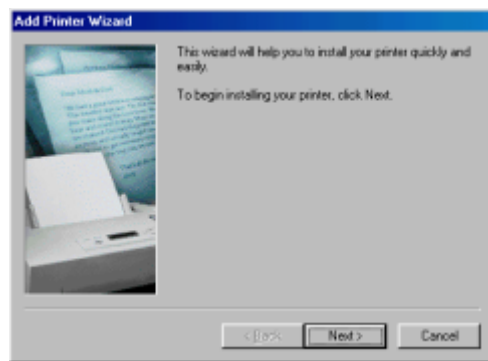
Make sure the printer and computer are connected and switch on the power to the printer. Then switch on the computer.

### **Step 2 Installing the driver**

Make sure that computer starts normally then insert the CD-ROM labeled "MUTOH PRINTER SOFTWARE" in the CD-ROM drive of the computer.

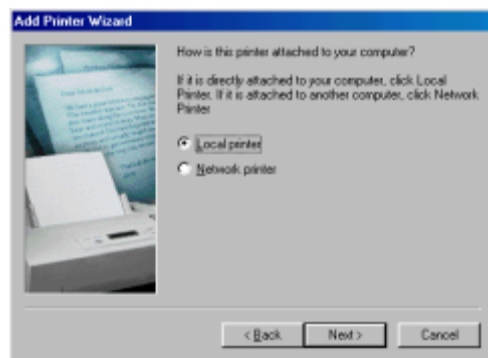
### **Step 3**

Double click "Add Printer" under "Printers" in My Computer. When the Add Printer window appears, click [Next >].



### **Step 4**

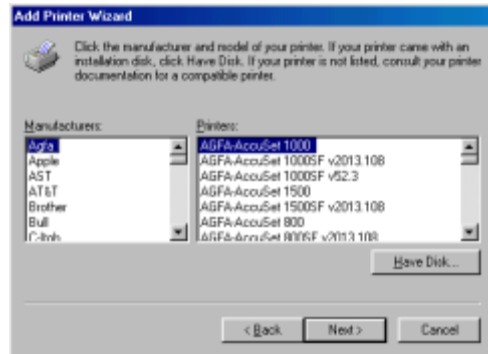
In response to "How is the printer attached to your computer?", select "Local printer" or "Network printer" and click [Next >].



## Installing Printer Driver Installation Procedure

### Step 5

In response to "Click the manufacturer and model of your printer", click [Have Disk...].

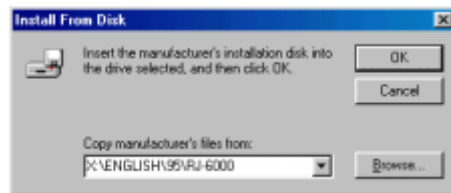


### Step 6

In the "Copy manufacturer's files from" space, enter the CD-ROM name and specify folder (in this case "\ENGLISH\RJ-6000") and click [OK].

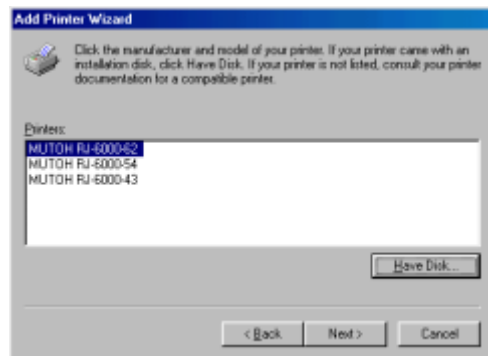
\* Enter the name of your CD-ROM drive instead of X:.

\* Folder names \ENGLISH signifies the English version, \95 is for Windows 95(98) and \RJ-6000 is the name of the printer.



### Step 7

From "MUTOH RJ-6000 Series", select the model you are using and click [Next >].

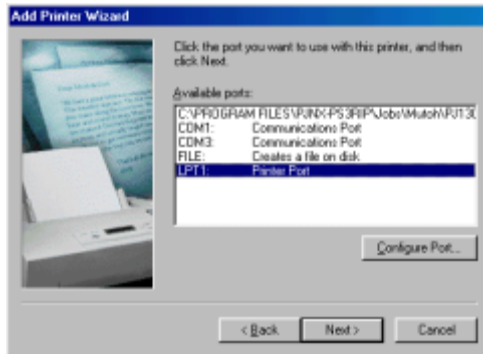


## Installing Printer Driver Installation Procedure

---

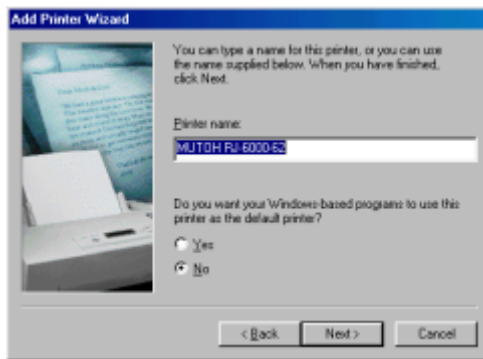
### Step 8

Under "Click the port you want to use with this printer", select the port to which the printer is actually connected and click [Next >].



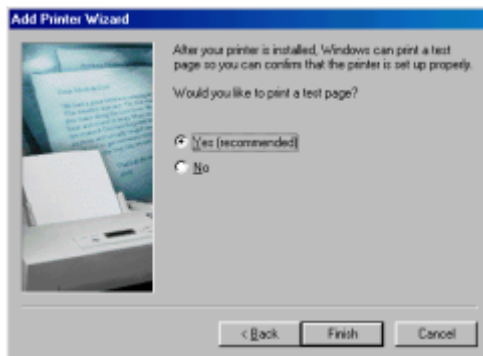
### Step 9

After specifying "Printer name" and "Do you want your Windows-based programs to use this printer as the default printer?" click [Next >].



### Step 10

In response to "Would you like to print a test page?" select "Yes (recommended)" or "No" and then click [Finish].



If you selected "Yes (recommended)" a dialog box will appear after the test printing asking "Was the test page printed correctly?". Click "Yes". This completes the installation of the driver.

# Try Printing Online (for Windows 95/98)

---

Since the computer recognizes the printer when the printer driver is selected, try online printing.

## **Step 1**

Make sure that the computer and printer have the same communication conditions. (Refer to "Command Setting, Function Settings, Centronics Settings, Network Settings and Utilities Settings" in the Functions Edition.)

## **Step 2**

Open the cover, check that the head is in a position where it will not touch the media keeper blade and put the hold lever up.

## **Step 3**

Select the type of media. Press the **[MEDIA]** key and light the Sheet media LED.

## **Step 4**

Load the printer with a cut sheet of the size you wish to output.

## **Step 5**

Start the computer application.

## **Step 6**

Open a simple drawing or create a new one with the application.

## **Step 7**

Click the "File" menu from the application, then click "Print" to print the drawing.

## **Step 8**

Check that the printer has printed the drawing.



## **NOTE**

- If all settings were not correct, it may not have been possible to print as you expected. In any case, you will verify that online printing is possible.



# Printing the Setup List

In online printing was possible, try printing the Setup List.

## Step 1

Open the cover and make the hold lever is up.

## Step 2

Press the **[MEDIA]** key and light the Sheet media LED.

## Step 3

Load an A4 size sheet vertically.

## Step 4

Select the printing of setup List by pressing the **[Setup Print]** key (MEDIA, ENTER key) while you are pressing the **[Shift]** key.

P r i n t i n g

## Step 5

The setup sheet is printed.

## ! IMPORTANT

- Since this setting detail sheet will be needed for future maintenance and repair, paste the completed print on this page.

## Sample Print of Setup List

### Setup List

<b>Panel</b> Plot Mode = Normal Density = 360dpi Roll/Cut = Cut Media = Normal	<b>Information</b> Type = RJ-6Color !Error! PROM = v 1.03 0:None [ ] 3:None [ ] NVRAM = v 1.00 1:None [ ] 4:None [ ] Opt. Memory = 32MB 2:None [ ] 5:None [ ]	SerialNo. = BZ290001
<b>Command</b> Command = RTL-PASS Plot Area = Normal Position = P1 Terminate = Normal Resolution = 360dpi OnlineTimer = 90sec Overwrite = Last	PositionOffset X = 0mm Y = 0mm	<b>Function</b> InkDryTime = 30sec Dist, Adj Halftone = Speed DataX = 1000.00 CMY->BLACK = Yes RealX = 1000.00 Scale = 100.0% Mirror = Off Direct. = Command CutPos. = Data MediaCut = Auto Copy = 1 InkDensity = Normal
<b>Centro</b> Mode = Bi Centro Timing = A-B		
<b>Network</b> IP Address = 192.034.043.015	<b>Utility</b> ErrorDisplay = Off	

# Making a Manual Cut

## ! IMPORTANT

- Cloth must be cut manually (refer to "Function Settings: Media Cut" of the Functions Edition.)

This function is used for manually cutting roll media (such as cloth) that can not be cut automatically after it has been printed.

### Step 1 Specifying manual cutting

Refer to "Function settings: Media cut" on page 49 of the Functions Edition and specify manual cutting.

Media Cut : manual

### Step 2

Preparations for printing (load media, online settings, etc.) must be made beforehand.

Print any image or picture.

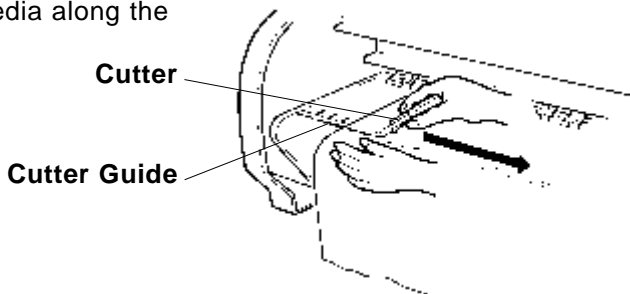
### Step 3

When the printer has finished printing, the media will be fed out to the position for manual cutting.

Manual Cut Paper

### Step 4

Use a cutter to cut the media along the cutter guide.



### Step 5

Press the [ENTER] key on the control panel

Plot OK



# Direct Access Keys

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In this section we explain about direct access key operations that are often used to enable printer functions to be used effectively.

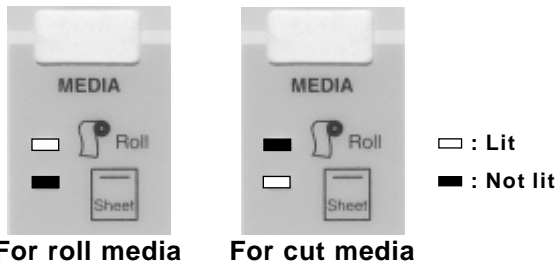
<b>Specifying the Media to be used</b>	<b>PAGE 60</b>
<b>Specifying the Resolution</b>	<b>PAGE 61</b>
<b>High Quality Printing, Normal Printing, High Speed Printing</b>	<b>PAGE 62</b>
<b>Head Cleaning</b>	<b>PAGE 63</b>
<b>Cutting the Media</b>	<b>PAGE 64</b>
<b>Making a Palette Print</b>	<b>PAGE 65</b>
<b>Making a Test Print and a Setup List Print</b>	<b>PAGE 66</b>
<b>Media Feed</b>	<b>PAGE 67</b>
<b>Fine Adjustment of Print Quality</b>	<b>PAGE 68</b>

# Specifying the Media to be Used



Here we select whether we will use roll media or cut media as the media to be loaded in the RJ-6000 Series printer.

Immediately before loading media in the printer, press the **[MEDIA]** key. If roll media is to be specified, light the Roll media LED. If cut media is to be specified, light the Sheet media LED.



## ! IMPORTANT

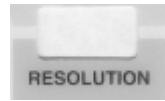
- If roll media is loaded while cut media is selected on the panel, the media will be fed out in order to detect the end of the sheet. Always make sure that the type of media specified on the panel matches the media that is loaded.



## NOTE

- Ink drying times differ according to the type of media. 30 seconds is specified for RJ-6000 Series printers when shipped by Mutoh but this needs to be specified to correspond to the media. The ink drying time specifies the period from the end of printing until the media is fed out (and roll media is cut) in order to allow the ink to dry. For more detail, please refer to "Function settings: Ink Dry Time" in the separate Functions Edition of the User Guide.

# Specifying the Resolution

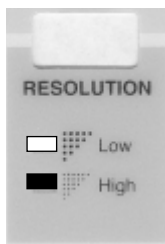


The resolution of the RJ-6000 Series at the time of output can be selected as 360 dpi, 720 dpi or simulated 1440 dpi (RTL-PASS). 720 dpi or simulated 1440 dpi gives high grade printing at near photo quality.

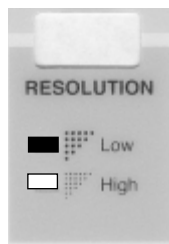
Specify resolution at the time of graphic data output.

When the Low LED is lit, 360 dpi is selected. When the High LED is lit, 720 dpi is selected. When both the Low and High LEDs are lit, simulated 1440 dpi is selected.

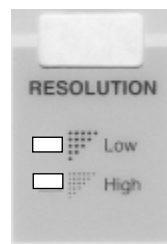
Press the **[RESOLUTION]** key. If the current resolution setting is 360 dpi, then the High LED will be lit and the setting will change to 720 dpi. If the current resolution setting is 720 dpi, then the Low LED and the High LED will be lit and the setting will change to simulated 1440 dpi. If the current resolution setting is simulated 1440 dpi, then the Low LED will be lit and the setting will change to 360 dpi.



Resolution  
For 360 dpi



Resolution  
For 720 dpi



Resolution  
For simulated 1440 dpi

□ : Lit  
■ : Not lit



## NOTE

- High quality printing is obtained at high resolutions of 720 dpi and simulated 1440 dpi but the printing time is longer than at 360 dpi.
- If high resolution image data such as 720 dpi or 600 dpi is printed at 360 dpi, it may not be possible to obtain adequate printing results.

# High Quality Printing, Normal Printing, High Speed Printing



According to the printing environment to be used, three speeds can be specified for a RJ-6000 Series printer.

In changing them, you should consider the resolution and printing time required for the printing.

By changing the printing mode, printing may be high quality, normal or high speed.

- \* **High Quality Printing Mode:** The high quality lamp is lit. The printing is better than normal printing mode but the printing speed is slower.
- \* **Normal Printing Mode:** This is the ordinary printing mode. The normal printing mode lamp is lit.
- \* **High Speed Printing Mode:** Printing speed has priority. The high speed lamp is lit. Use it for check printing.

When the printing mode is altered, the LED of the selected mode lights up.

## Step 1

Press the **[QUALITY / SPEED]** key once or twice until LED for the desired printing mode is lit.

## Step 2

When the printing mode changes, the LED of the selected mode changes to lit.



For high quality mode



For normal mode



For high speed mode

□ : Lit  
■ : Not lit

# Head Cleaning

Head cleaning is a function that cleans the head face and nozzles. Head cleaning should be carried out if the printing is more faint or lacking in detail compared with the previous printing.

## ! IMPORTANT

- When printing for a long period under dusty conditions, dust collects in the maintenance section and inspection and maintenance may be required.
- A paper jam or paper rubbing on the head must be investigated.

### Step 1

With no paper loaded and the lever down, press and hold the [CLEANING] key for at least two seconds.

### Step 2

Head cleaning proceeds.



## NOTE

- Powerful head cleaning will be implemented if the [CLEANING] key is pressed after two pages or less have been output since the last head cleaning operation was performed (or since power was switched on if there has been no head cleaning since power was switched on). (However, if the cover is opened during cleaning, the cleaning will be normal cleaning.) Powerful cleaning should be done if there is severe faintness or lack of detail. After three or more pages, normal cleaning will be carried out.
- If several cleaning do not eliminate the faintness or lack of detail, refer to "When trouble strikes" and carry out the measures and then contact your local Mutoh dealer.
- Make sure the hold lever is down before pressing the [CLEANING] key.
- Head cleaning can also be done with media loaded. However, if the media is too wrinkled it may touch the head so we recommend that head cleaning be done with the media removed.



# Cutting the Media



## NOTE

- When a new roll of media is mounted, the leading edge of the media may not be straight. In this case, the leading edge of the media should be cut.

The **[CANCEL]** key can be switched between the cancel function and the media cut function, depending to the status of the printer. You should use it in accordance with your need.

Printer Status		Result of Pressing the [CANCEL] key
Before data reception	DATA LED off	Media is fed then cut
During data reception	DATA LED on	Input data is cancelled
During data processing	DATA LED flashing	Processed data is cancelled
During printing	During head movement	Printing is forcibly stopped and the data is cancelled

Use the cut function if you want to cut the leading edge of the roll media. The cut function can be used if roll media is loaded and data is not being received or processed.

### Step 1

Make sure that roll media is loaded and data is not being received or processed. (DATA LED is not lit.)

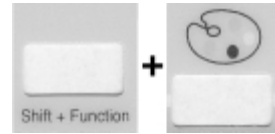
### Step 2

Press the **[CANCEL]** key.

### Step 3

Roll media is fed then cut.

# Making a Palette Print



Palette printing is used when pen colors are specified with the printer's internal data.

Output the color palette for reference and for comparison and selection of line color output from your CAD system.

## Step 1

Load an A3 size sheet of media and put the hold lever down.

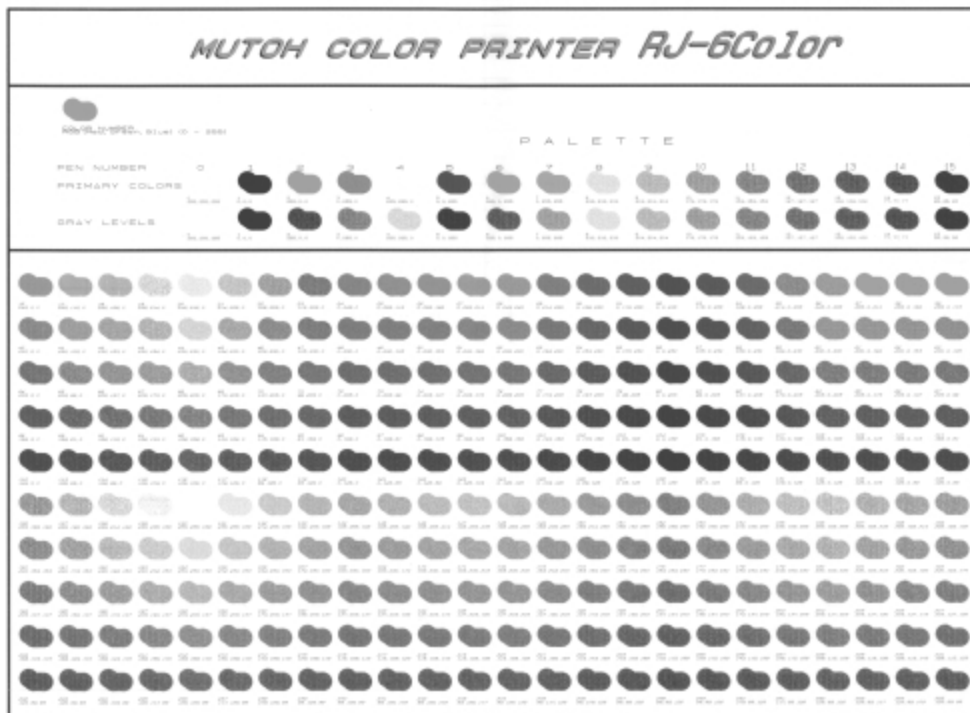
## Step 2

Press the **[Palette Print]** key (QUALITY/SPEED, VALUE key) while you are pressing the **[Shift]** key.

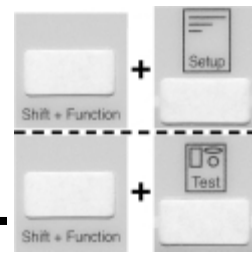
## Step 3

The palette print is printed automatically.

## Sample of the Color Palette Print



# Making a Test Print and a Setup List Print



These are prints of the current status of the printer. Check by printing out the following two types of print.

**Test print:** This checks whether the printer is fully operational by making a print.

**Setup List print:** This prints out details such as printer online settings.



## NOTE

- It is useful to keep the Test print and Setup List print in this book in case trouble occurs later. Keep the Test print on page 47 and the Setup List print on page 56.

### Step 1

Load an A3 size sheet of media and put the hold lever down.

### Step 2

For the test print, press the **[Test Print]** key (RESOLUTION, VALUE key) while you are pressing the **[Shift]** key.

For the Setting details print, press the **[Setup Print]** key (MEDIA, ENTER key) while you are pressing the **[Shift]** key.

### Step 3

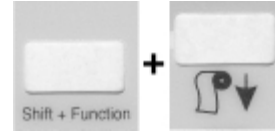
The Test print or Setup List print are output automatically.

### Sample of Setup List print

#### Setup List

<b>Panel</b> Plot Mode = Normal Density = 360dpi Roll/Cut = Cut Media = Normal	<b>Information</b> SerialNo. = BZ290001 Type = RJ-6Color !Error! PROM = v 1.03 0:None [ ] 3:None [ ] NVRAM = v 1.00 1:None [ ] 4:None [ ] Opt. Memory = 32MB 2:None [ ] 5:None [ ]
<b>Command</b> Command = RTL-PASS PositionOffset Plot Area = Normal X = 0mm Position = P1 Y = 0mm Terminate = Normal Resolution = 360dpi OnlineTimer = 90sec Overwrite = Last	<b>Function</b> InkDryTime = 30sec Dist. Adj Halftone = Speed DataX = 1000.00 CMY->BLACK = Yes RealX = 1000.00 Scale = 100.0% Mirror = Off Direct. = Command CutPos. = Data MediaCut = Auto Copy = 1 InkDensity = Normal
<b>Centro</b> Mode = Bi Centro Timing = A-B	
<b>Network</b> IP Address = 192.034.043.015	<b>Utility</b> ErrorDisplay = Off

# Media Feed



If roll media is being used, the media will be fed in the normal direction while the **[Shift]** key and **[Media Feed]** key are pressed. Roll media will not be fed while data is being received or processed. Media is not fed while cut media is in use.

## **Step 1**

The media feed function can be used only when roll media is loaded and data is not being received.

## **Step 2**

Feed roll media by pressing the **[Media Feed]** key (MENU, Menu Down key) while you are pressing the **[Shift]** key.

## **Step 3**

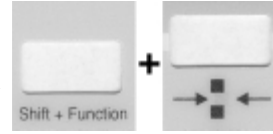
Release the **[Shift]** key and **[Media Feed]** key (MENU, Menu Down key) when the roll media has been fed to the desired position.



## **NOTE**

- If the printing surface of the roll media that is to be used for printing is dirty, press the **[Media Feed]** key (MENU, Menu Down key) while pressing the **[Shift]** key to feed the media until the printing surface is clean. Then use the **[CANCEL]** key to cut off the dirty media.

# Fine Adjustment of Print Quality



Although your printer was adjusted for optimum quality at the time of shipment, the printing quality may vary according to the type of media. In such cases, an accuracy adjustment plot of printing quality can be made with the following procedure.

## ! IMPORTANT

- Unless you understand this function fully, there is a risk that the fine adjustment may make the quality even worse. Normally, no adjustment should be made.
- You need a sheet of media of A3 size or larger, mounted vertically for the fine adjustment. If a sheet of media smaller than A3 is loaded, it may not be possible to obtain a proper print.

### Step 1

With an A3 or larger sheet of media loaded vertically, press the **[Fine Adjustment]** key (CLEANING, Menu Up key) while you are pressing the **[Shift]** key.

P l o t   O K

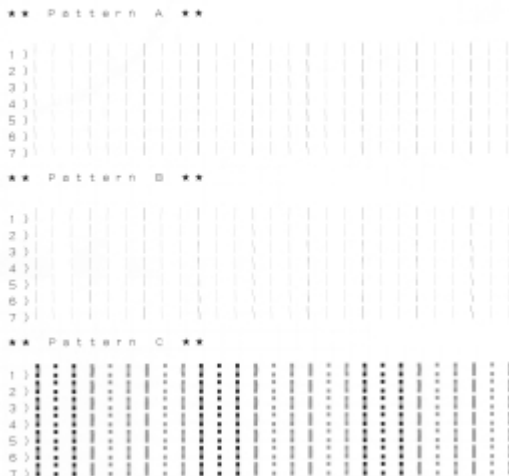
### Step 2

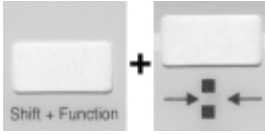
The accuracy adjustment plot is printed automatically.

A c c u r .   A d j   P l o t

### Sample Accuracy Adjustment Plot

Alignment Print





## Fine Adjustment of Print Quality

### Step 3

Look at pattern A on your print. Use the **[VALUE +]** and **[VALUE -]** keys to enter the number of a line with no offset.

P a t t e r n A : 4

### Step 4

Press **[ENTER]** key to confirm the value specified for pattern A.

P a t t e r n A : 6

### Step 5

Look at pattern B on your print. Use the **[VALUE +]** and **[VALUE -]** keys to enter the number of a line with no offset.

P a t t e r n B : 4

### Step 6

Press **[ENTER]** key to confirm the value specified for pattern B.

P a t t e r n B : 5

### Step 7

Look at pattern C on your print. Use the **[VALUE +]** and **[VALUE -]** keys to enter the number of a line with no offset.

P a t t e r n C : 4

### Step 8

Press **[ENTER]** key to confirm the value specified for pattern C.

P a t t e r n C : 4

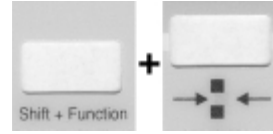
### Step 9

Permanent display is restored.

P l o t O K

## Fine Adjustment of Print Quality

---



### NOTE

- The accuracy adjustment adjusts the color head reciprocal printing position and the black head reciprocal printing position as well as aligning the printing position between the color head and the black head.
- If the cancel key is pressed during fine adjustment printing or it is interrupted by raising the hold lever, there will be no input display screen
- Unless the exclusive media specified by Mutoh is used, the ink may run and proper adjustment will not be possible. Exclusive media specified by Mutoh should be used for printing quality adjustment.

# Menus

---

In this section, we give a summary explanation about menus for the practical use of the printer functions.

**Menu mode Operation**

**PAGE 72**

**Menu Structure**

**PAGE 74**



# Menu Mode Operation



Shift to setting mode for practical functions than cannot be set up by direct access keys.

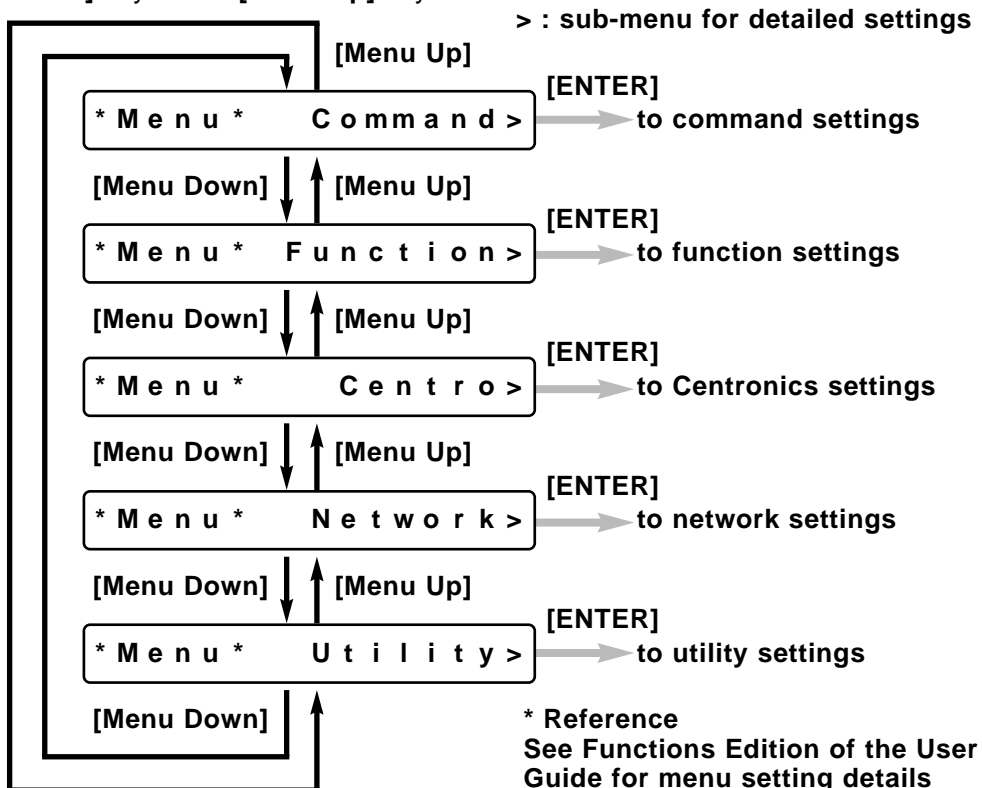
## Step 1

Press the **[MENU]** key to shift to setting mode. Direct access key operation does not work.

**\* M e n u \*    C o m m a n d >**

## Step 2

By pressing the **[MENU]** key, the control panel keys take on the functions shown in purplish-red. Press the Select setting mode by pressing the **[Menu Down]** key or the **[Menu Up]** key.





## Menu Mode Operation

---

### Step 3

- \* Press **[ENTER]** to proceed with the setting
- \* The part of the display that is flashing can be altered. To change a setting, select a value by pressing the **[VALUE +]** or **[VALUE -]** keys.
- \* The setting will not change unless the **[ENTER]** key is pressed.
- \* If the set-up is complete, press the **[Menu Up]** key. If there is no key operation in Menu setting mode for 3 minutes, Direct access key input standby (permanent display) is restored.

# Menu Structure

## \* Menu \* Command >

Command	RTL-PASS / MH-GL, GL2 / MH-GL2
Plot Area	Normal / Expand
Position	P1 / (hardclip) LL / Full
Terminat	Special / Normal
Resolut.	300 dpi / 360 dpi / 720 dpi
Online Timer	Off / 10 sec to 30 sec to 800 sec
Overwrite	Last / Mix

## \* Menu \* Function >

Ink Dry Time	0 sec to 5 sec to 30 sec to 60 min
Halftone	Speed / Quality / Thin
CMY->BLACK	No / Yes
Scale	25% to 100% to 400%
Mirror	Off / Y On
Direct.	Command / MAX-MIN
Cut Pos.	Data / Standard
Media Cut	Auto / Manual / Off
Copy	1 to 99
Ink Density	Normal / Thin / Faint
Dist. Adj.	No / Clear / Change / Confirm

## \* Menu \* Centro >

Mode	Centro / Bitro
Timing	A-B / B-A

## \* Menu \* Network >

IP Address	000.000.000.000 to 192.034.043.015 to 255.255.255.255
------------	-------------------------------------------------------

## \* Menu \* Utility >

Error Display	On / Off
Initial	OK / No
All	OK / No
Command	OK / No
Functi.	OK / No
Centro	OK / No
Network	OK / No
Dump	Start-End / All (cancel with [CANCEL] key)
Data Order	5Lc6Lm / 5Lm6Lc *This item is effective later than the firmware version 1.04.
Head Wash	Yes / No

# Daily Maintenance

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This section gives details of maintenance that should be done every day (cleaning, ink cartridge replacement, etc.) as well as examples of troubles that might occur and how handle them.

<b>Cleaning the Printer</b>	<b>PAGE 76</b>
<b>Replacing Ink Cartridges</b>	<b>PAGE 79</b>
<b>Switching Inks</b>	<b>PAGE 80</b>
<b>Replacing the Cutter</b>	<b>PAGE 82</b>
<b>Replacing Waste Liquid Absorbent Sheet (Waste Box)</b>	<b>PAGE 84</b>
<b>Replacing Waste Liquid Absorbent Sheet (Waste Ink Bottle)</b>	<b>PAGE 87</b>
<b>Cleaning the Cleaning Wiper</b>	<b>PAGE 89</b>
<b>When Trouble Strikes</b>	<b>PAGE 91</b>

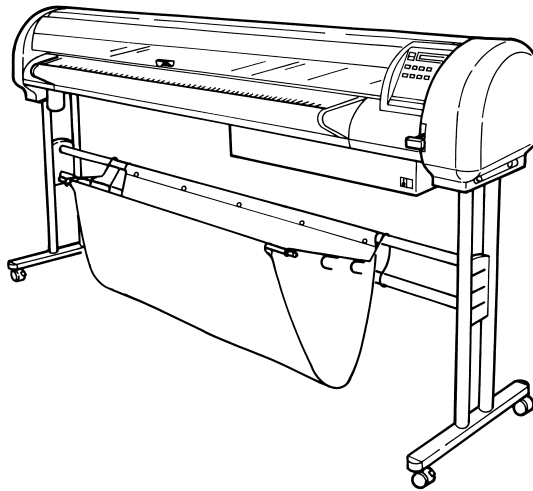
# Cleaning the Printer

---

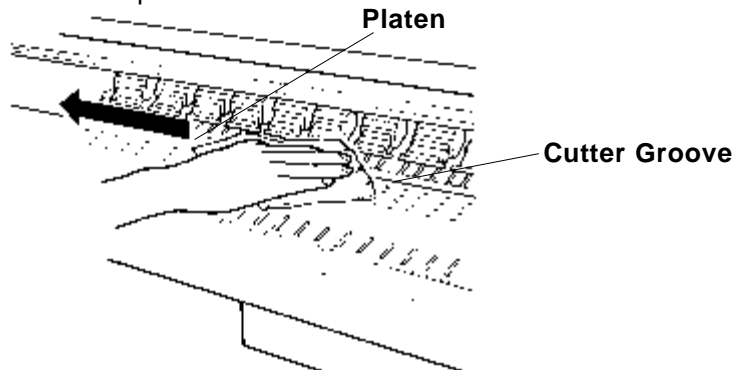
Wipe the printer with a soft cloth.

## CAUTION

- Turn off the power switch when cleaning the printer.
- Don't use thinners or benzene, as these will damage the paint.
- When cleaning, don't open any covers that are fastened by screws as these contain electrical parts.
- Paper dust is produced when the printer is working. This should be wiped off periodically. Don't blow it away.
- For stubborn soiling that resists wiping, use a lint-free cloth moistened with alcohol.



Any scraps of paper clinging to the platen and cutter groove should be wiped off from right to left with a damp cloth.

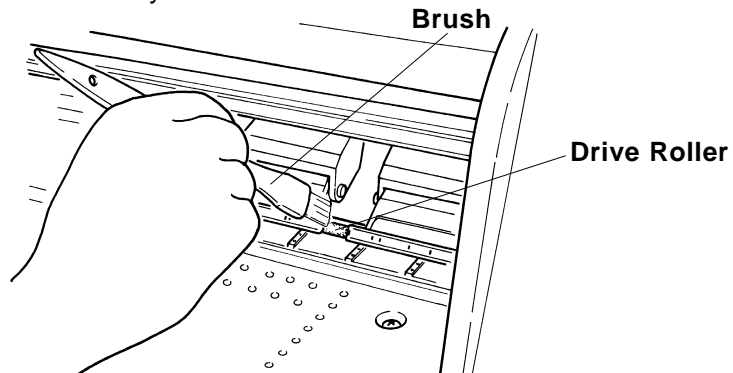


### ! IMPORTANT

- Dust and scraps of paper tend to accumulate over time on the platen and cutter groove. This leads to poor quality printing and cutting.

Use a soft damp cloth to wipe away any paper scraps clinging to the pressure roller.

Clean the drive roller with a nylon brush.

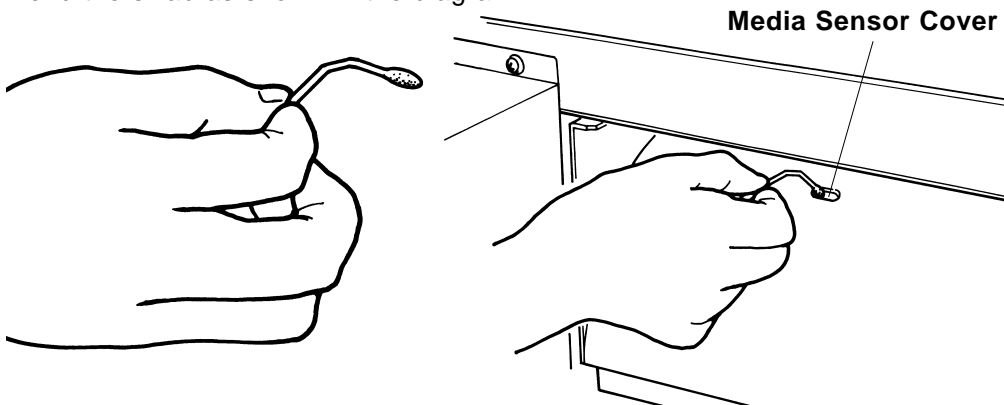


### ! IMPORTANT

- Paper scraps on the pressure roller and drive roller may prevent the media from feeding properly and produce a "Jam check error".

Use a cotton swab to clean dust and paper scraps from the cover of the media sensor at the rear.

Bend the swab as shown in the diagram.



### **! IMPORTANT**

- Progressive soiling affects the sensitivity of the sensors and may cause media to be detected even when no media is loaded.

# Replacing Ink Cartridges

If the RJ-6000 is displaying "No ink" or "No cartridge", the ink cartridge should be replaced or inserted without delay. If "Ink low" is displayed, have a replacement cartridge ready.

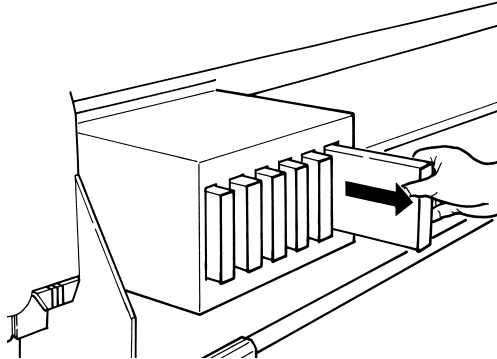
## Step 1

If "No ink" is displayed in the message display section, from the back, pull out the ink cartridge for the color that is shown to be not printing. For example, if black ink has run out,

[ K ] Near End

pull out the black ink cartridge.

[ K ] Cartridge



## Step 2

Open the new ink cartridge package.



## NOTE

- Only genuine ink cartridges can be used. They also need to be turned in the proper direction for insertion. Make sure not to confuse the direction and place for insertion.
- Open the ink cartridge just before you load it into the slot. Printing may be blurred if the ink cartridge is left open for a long time.
- Ink cartridges should be used within two years of the date that is printed on the package. Cartridges that have been loaded into the printer should be replaced within six months.

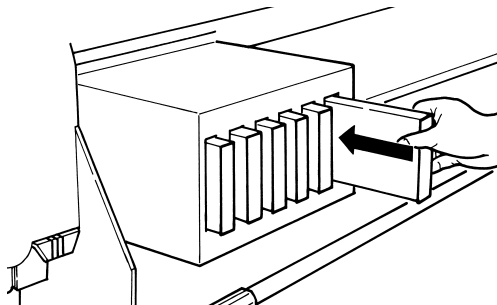
## Step 3

Insert the new cartridge in the slot at the back of the printer.

## Step 4

Check that the permanent message has been restored in message display section.

P l o t O K





# Switching Inks

---

A washing set that is separately sold is required in order to change the type of inks used in the RJ-6000.

Ink switching involves switching light cyan and light magenta for orange and green pigment inks or interchanging pigment inks and dye inks.

## **Step 1**

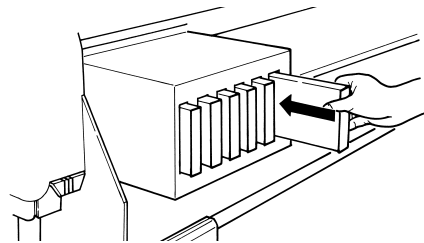
Remove the currently loaded ink cartridges from the back and insert the washing set.

## **Step 2**

Carry out washing by referring to the "Utility Settings: Head Wash" item on page 72 of the Functions Edition of the User Guide.

## **Step 3**

After washing has finished, insert the required type of ink cartridges.



## **NOTE**

- Switching is not possible unless all six inks are of the same type
- Only genuine ink cartridges can be used. They also need to be turned in the proper direction for insertion. Make sure not to confuse the direction and place for insertion.
- Open the ink cartridge just before you load it into the slot. Printing may be blurred if the ink cartridge is left open for a long time.
- Ink cartridges should be used within two years of the date that is printed on the package. Cartridges that have been loaded into the printer should be replaced within six months.

## **Step 4**

Ink filling operations begin.

Ink Refill 1M

### **Step 5**

After ink filling, ink switching is complete.

P l o t   O K

## **! IMPORTANT**

- Ink switching produces a large quantity of waste liquid. Have an absorbent sheet (waste ink tank) ready and dispose of waste fluid in accordance with the "Utility Settings: Head Wash" item of the Functions Edition of the User Guide.

# Replacing the Cutter

Depending on the type of roll media used, paper dust accumulating on the cutter groove and cutter tip may lead to poor cutting. In this case, the cutter tip should be cleaned or replaced and the cutter groove should be cleaned. The cutter is a consumable item. If it is not sharp, replace it. One cutter should last for about 1000 cuts (about 20 rolls) so it should be replaced periodically.

## Step 1

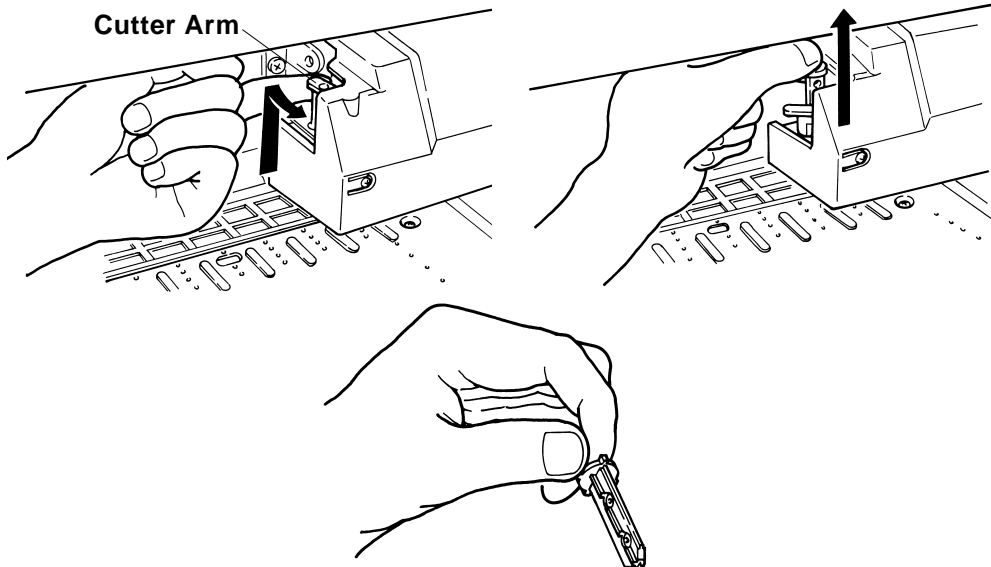
Switch off the power, lower the hold lever and bring the head to the middle.

### CAUTION

- Don't move the head with the hold lever up. The head and media keeper blade may touch, causing damage and poor printing quality.

## Step 2

Hold the cutter down with your finger, turn the cutter arm forward and remove the cutter. Clean the cutter blade with a dry cloth or replace the cutter.



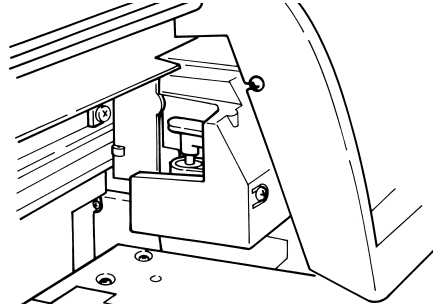
### CAUTION

- There is a spring in the hole of the cutter holder. Be careful not to lose it when the cutter is replaced.

## Replacing the Cutter

### Step 3

Insert a new cutter blade in the hole in the head. Press down on the cutter while you return the cutter arm over the cutter. The cutter will only fit in one direction.



### CAUTION

- The cutter blade is very brittle. Be careful not to bump it or drop it.

### Step 4

Be sure to return the head to the right by hand before switching on the power.



### NOTE

- Cutter life will vary according to the type and thickness of the media and the usage environment, so you should always keep a spare cutter blade handy.

# Replacing Waste Liquid Absorbent Sheet (Waste Box)

Waste ink accumulates in the waste box at the back of the printer. When the waste box is full, "Full Waste Ink Tank" is displayed and printer's printing operation ceases. The waste liquid absorbent sheet/waste liquid box must be replaced.

## CAUTION

- The used waste liquid absorbent sheet and waste liquid box (case) should be disposed of as non-combustible material in accordance with your local civic regulations.
- It would be dangerous for children to lick or swallow the absorbent sheet filled with waste liquid, so dispose of it promptly or put it out of reach.
- If you accidentally touch the waste liquid, wash with soap and water at once.
- If it should enter your eye, wash with plenty of water and see a doctor. If it is licked, gargle with water and wash out straight away. If it is swallowed, immediately drink plenty of water and consult a doctor without delay.

## NOTE

**C h e c k   W a s t e   I n k**

If this message appears you should prepare as replacement waste liquid absorbent sheet/waste liquid box.

If you continue with this message displayed

**F u l l   W a s t e   I n k   T a n k**

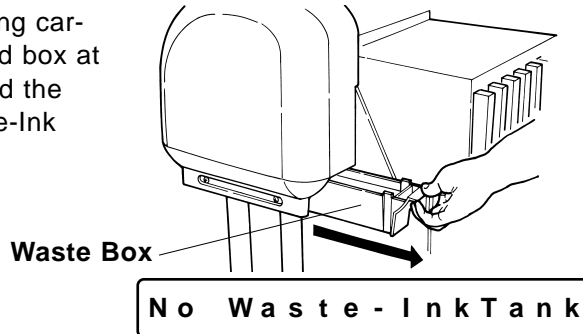
Printing stops when this message appears. Therefore it will not be possible to continue to use the printer unless the waste liquid absorbent sheet/waste liquid box is replaced.

- If the waste box has been pulled out by mistake, leave the "Change Tank? No" display as it is and press [ENTER].
- Leave the printer switched on while you replace the waste liquid absorbent sheet/waste liquid box.

## Replacing Waste Liquid Absorbent Sheet (Waste Box)

### Step 1

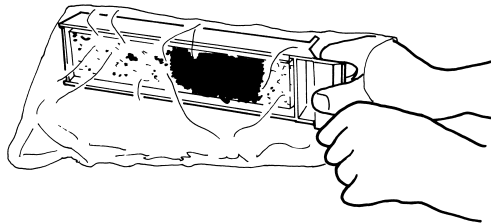
With no printing or cleaning being carried out, pull out the waste liquid box at the back. The alarm will ring and the display will change to “No waste-Ink Tank”.



### Step 2

Without tilting the waste liquid box that you have removed, place it inside a thick vinyl bag then tip out the absorbent material.

If the waste ink absorbent sheet does not come out of the box, put on the accessory gloves and take it out by hand.



## ! IMPORTANT

- Check beforehand that the thick vinyl bag to be used does not leak. Also, be careful not to tear the vinyl bag when you are disposing of the waste liquid absorbent material and closing the bag.

## ! CAUTION

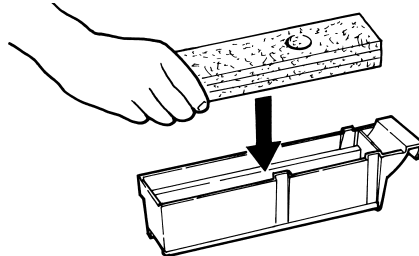
- Since there is a risk of damage, don't hit the waste liquid box or bump it against a hard object. If the waste ink absorbent sheet is difficult to remove, put on the accessory gloves and remove it by hand.

## Replacing Waste Liquid Absorbent Sheet (Waste Box)

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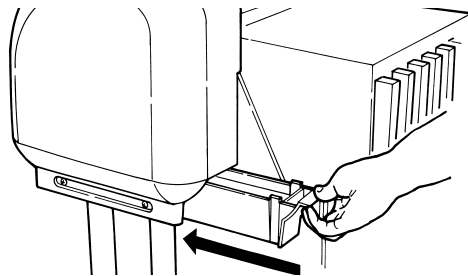
### Step 3

Place the replacement waste liquid absorbent sheet in the waste liquid box with the hole towards the handle of the box.



### Step 4

Install the waste liquid box containing the new waste liquid absorbent sheet in the printer.



### Step 5

The alarm will ring and "Change Tank? No" is displayed.

Press the [VALUE +] or [VALUE -] control panel keys to change the display to "Yes".

Change Tank? No

Change Tank? Yes

### Step 6

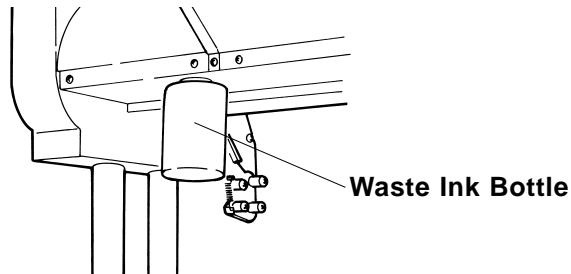
Check that "Change Tank? Yes" is displayed then press [ENTER].

Waste liquid box replacement is finished and "Plot OK" is displayed.

Plot OK

# Replacing Waste Liquid Absorbent Sheet (Waste Ink Bottle)

When printing A0 size or larger widths, very small amounts of ink will be ejected on the left edge for stable printing quality. The waste ink ejected on the left side in that way is collected in a translucent bottle under the main unit (the waste ink bottle).



## Step 1

Since there is no panel display or lamp display when the waste liquid absorbent sheet in the waste ink bottle is to be replaced, you should prepare to replace the waste liquid absorbent sheet when you see that the bottle is about half full. Have a new absorbent sheet, a thick vinyl bag and a pair of forceps ready.

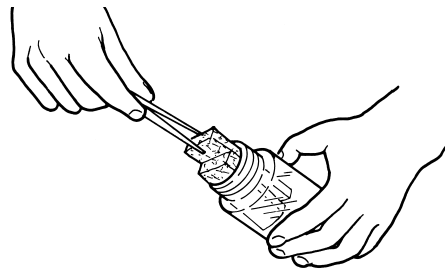


## NOTE

- Conditions vary for the waste ink bottle to become half full but it will be after printing about 2000 A0 pages.

## Step 2

Remove the waste ink bottle by turning it to the left. Using absorbent sheet and forceps, soak up the waste liquid in the bottle and discard the waste liquid absorbent sheet into the open vinyl bag.



## Step 3

The waste ink bottle, fitted with new waste liquid absorbent sheet, is installed in the printer by turning it to the right.



## Replacing Waste Liquid Absorbent Sheet (Waste Ink Bottle)

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### **CAUTION**

- The used waste liquid absorbent sheet should be disposed of as non-combustible material in accordance with your local civic regulations.
- It would dangerous for children to lick or swallow the absorbent sheet filled with waste liquid, so dispose of it promptly or put it out of reach.
- If you accidentally touch the waste liquid, wash with soap and water at once.
- If it should enter your eye, wash with plenty of water and see a doctor. If it is licked, gargle with water and wash out straight away. If it is swallowed, immediately drink plenty of water and consult a doctor without delay.

# Cleaning the Cleaning Wiper

When the head is cleaned and the type of ink is changed frequently, waste matter clinging to the cleaning wiper may cause the printing to become faint or blemished. In such cases, you should clean the cleaning wiper.

## Step 1

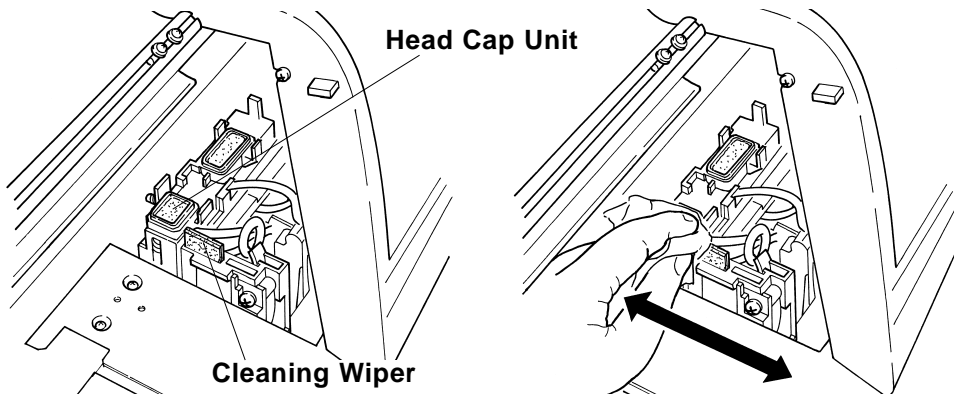
Switch off the power, lower the hold lever and bring the head to the middle.

## ⚠ CAUTION

- Don't move the head with the hold lever up. The head and media keeper blade may touch, causing damage and poor printing quality.

## Step 2

Clean the cleaning wiper backwards and forwards two or three times with the cloth for cleaning the cleaning wiper (an accessory item).



## ⚠ CAUTION

- Clean without your hand coming into direct contact with the head cap unit, which is near the cleaning wiper. Otherwise oil may get on the cleaning wiper and it will be unable to clean the head properly.
- Don't lift up the cleaning wiper when you are cleaning it. Otherwise it be unable to clean the head properly.
- The cleaning wiper and its surroundings will be soiled with waste liquid. Be careful not to dirty your hands and clothes.

## Cleaning the Cleaning Wiper

---

### **Step 3**

Return the head to its former position at the right hand end of the printer.



## **CAUTION**

- The head may be damaged by drying ink, etc. if it is not returned to the right hand end of the printer.



## **NOTE**

- After the cleaning wiper has been cleaned, if head cleaning does not make the faintness or blemishing in the printing disappear, contact your local Mutoh dealer.

# When Trouble Strikes

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If you have trouble that you think may be a malfunction when you are using the RJ-6000 Series, first check the details on the following tables (troubleshooting). If an error has occurred that is not covered by any of the items in the following tables, check of the Functions Edition of the User Guide and then, if necessary, contact your local Mutoh dealer.

## **! IMPORTANT**

- If you are to receive service, please have your warranty document ready. If you can not produce it, it may not be possible to check the warranty period and you may be charged for service, even though it is within the warranty period. Similarly, in the case of a service contract, please have your contract document available.

### #Nothing happens after power is switched on

Possible Cause	Remedy	Reference Page
(1) Is the power cable connected?	Connect the power cable.	Page 31
(2) Is the AC power supply at the specified voltage?	Use specified voltage.	Page 14
(3) Is the printer cover open, or the hold lever up?	Close the cover. Put the hold lever down.	Page 16

### #Nothing happens after media is loaded

Possible Cause	Remedy	Reference Page
(1) Is the printer cover open, or the hold lever up?	Close the cover. Put the hold lever down.	Page 16
(2) Is the media loaded obliquely?	Load the media straight.	Page 37
(3) Are ink cartridges installed?	Install ink cartridges.	Page 34

## When Trouble Strikes

---

### #Nothing happens after the computer sends data

Possible Cause	Remedy	Reference Page
(1) Is the interface cable connected?	Refer to "Connecting the interface cable".	Page 48
(2) Are ink cartridges installed?	Install ink cartridges.	Page 34
(3) Do they contain ink?	Replace ink cartridges.	Page 79
(4) Have you replaced the waste box?	Replace waste box.	Page 84

### #When printer sends data, the printer shows an error and does not print

Possible Cause	Remedy	Reference Page
(1) Does the computer have the proper type of equipment selected?	Check that the equipment type settings are the same on both the computer and printer. (Refer to "To receive data from the computer".	Page 49
(2) Do interface conditions and command modes match on both computer and printer?		

### #Parts of the print are dirty or missing



#### NOTE

- If the media is not media specified by Mutoh, you may be unable to obtain proper printing quality.

Possible Cause	Remedy	Reference Page
(1) Is the media damp?	Replace with new media.	Page 37
(2) Are you using creased or wrinkled media?		

### #It prints but the position is not right (there are places that cannot be printed)

Possible Cause	Remedy	Reference Page
(1) Is the media loaded in the right position?	Load media correctly.	Page 37
(2) Have you made scale or mirror settings?	Cancel scale and mirror settings or repeat the set-up.	Page 45 of Functions
(3) Is an initial position specified?	Cancel initial position setting or repeat the set-up	Page 35 of Functions
(4) Is the printing abnormal after ink was filled?	Leave for 24 hours after ink filling and try printing again	Page 32

### #Media jams occur frequently



#### NOTE

- If the media is not media specified by Mutoh, proper media feeding can not be guaranteed.

Possible Cause	Remedy	Reference Page
(1) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(2) Is your usage environment other than that specified?	Use in the specified environment.	Page 14
(3) Are you using old media?	Replace with new media.	Page 34
(4) Is the media creased or wrinkled?	Replace with new media.	Page 34

### #Roll paper is not cut cleanly

Possible Cause	Remedy	Reference Page
(1) Is the cutter sharp?	Replace cutter.	Page 82
(2) Is the media charged with static electricity?	Remove static charge.	
(3) Are you using cloth?	Cut cloth manually.	Page 57

## When Trouble Strikes

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### #Ink initial filling fails

Possible Cause	Remedy	Reference Page
(1) Is the printer cover open, or the hold lever up?	Close the cover, put the hold lever down.	Page 16
(2) Are all six ink cartridges inserted right to the back?	Insert all six cartridges properly.	Page 34
(3) Do all six ink cartridges have the type of ink?	Insert all six cartridges of the same type.	Page 34

### #Ink does not appear even after initial filling

Possible Cause	Remedy	Reference Page
(1) Is the ink cartridge cold and frozen?	Leave for at least 3 hours at room temperature (25°C) then do cleaning several times.	Page 32
(2) Was the power cut during initial filling?	Switch on again and continue with initial filling.	
(3) Sometimes the printer seems unable to print normally after initial filling	Do several cleanings and check each time.	Page 63

### #Media comes off or is torn during media initialization

Possible Cause	Remedy	Reference Page
(1) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(2) Is the hold lever down?	Put the hold lever down.	Page 16
(3) With cut media, is the leading edge aligned with the edge of the printing board?	Load cut media with the leading edge aligned with the edge of the printing board.	Page 38
(4) With roll media, does the right hand edge of the media move parallel to the guide line during media detection?	Load roll paper correctly so that it moves parallel to the guide line.	Page 41
(5) Is the scroller mounted correctly?	Mount the scroller correctly.	Page 41

## When Trouble Strikes

Possible Cause	Remedy	Reference Page
(6) Is any foreign matter such as media scraps clinging to the drive roller?	Clean the drive roller.	Page 76
(7) Is the media sensor dirty?	Clean the media sensor.	Page 76
(8) Are you using the printer in a place outside the usage environment, such as in direct sunlight?	Bring the environmental conditions for using the printer in line with the specified environment.	Page 14

### #Media wrinkles during media initialization

Possible Cause	Remedy	Reference Page
(1) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(2) Is the hold lever down?	Put the hold lever down.	Page 16
(3) With cut media, is the leading edge aligned with the edge of the printing board?	Load cut media with the leading edge aligned with the edge of the printing board.	Page 38
(4) With roll media, does the right hand edge of the media move parallel to the guide line during media detection?	Load roll paper correctly so that it moves parallel to the guide line.	Page 41
(5) Is the media loaded obliquely?	Load the media straight.	Page 37
(6) Is any foreign matter such as media scraps clinging to the drive roller?	Clean the drive roller.	Page 76
(7) Are you using the printer in a place outside the usage environment, such as in the draft from an air conditioner?	Bring the environmental conditions for using the printer in line with the specified environment.	Page 14



## When Trouble Strikes

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### #Thin media is not detected

Possible Cause	Remedy	Reference Page
(1) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(2) Are you using the printer in a place outside the usage environment, such as in direct sunlight?	Bring the environmental conditions for using the printer in line with the specified environment	Page 14

### #Wrong media size in media initialization

Possible Cause	Remedy	Reference Page
(1) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(2) Is the hold lever down?	Put the hold lever down.	Page 16
(3) Is the media loaded obliquely?	Load the media straight.	Page 37
(4) Does media tend to curl up when it is loaded?	Remove the tendency to curl or load new media.	Page 37
(5) Are you using the printer in a place outside the usage environment, such as in the draft from an air conditioner?	Bring the environmental conditions for using the printer in line with the specified environment.	Page 14
(6) Is the media sensor dirty?	Clean the media sensor.	Page 76
(7) Are you re-using media that has already been printed?	Use new media.	Page 37

### #Media is skewed during printing

Possible Cause	Remedy	Reference Page
(1) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(2) Is the hold lever down?	Put the hold lever down.	Page 16
(3) With roll media, does the right hand edge of the media move parallel to the guide line during media detection?	Load roll media correctly so that it moves parallel to the guide line.	Page 41

Possible Cause	Remedy	Reference Page
(4) Is the scroller mounted correctly?	Mount the scroller correctly	Page 41

### #Can't install printer driver

Possible Cause	Remedy	Reference Page
(1) Did you add the printer?	Install it again.	Page 51
(2) After you specified the CD-ROM drive, did you select the "\English\95\RJ-6000" folder?	Install again after correctly specifying the drive containing the "MUTOH PRINTER SOFTWARE" CD-ROM and the folder.	Page 51

### #Can't go online with Centronics

Possible Cause	Remedy	Reference Page
(1) Is the Centronics interface cable connected properly?	Connect the Centronics interface cable properly.	Page 48
(2) Does the DATA LED on the control panel light up when the application sends the printing data?	If the DATA LED does not light up, contact the application supplier or the computer supplier.	
(3) Does the printer's Centronics setting mode and timing agree with the environment on the computer side?	Align the printer's Centronics settings with the timing on the computer side.	Page 56 of Functions
(4) Does the command type that is currently set-up match on the application and on the driver side?	Set up user set-up commands.	Page 33 of Functions

## When trouble strikes

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### #Printed line is blurred

Possible Cause	Remedy	Reference Page
(1) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(2) Are you using thick media and thin media?	Use media specified by Mutoh.	Page 37
(3) Are you using ordinary paper?	Use media specified by Mutoh.	Page 37
(4) Are you printing on the printing side of the media?	Check the printing side of the media and load it correctly.	Page 37
(5) Have you tried head cleaning?	Try head cleaning. Use powerful cleaning.	Page 63

### #White and black bands appear in printing

Possible Cause	Remedy	Reference Page
(1) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(2) Is the hold lever down?	Put the hold lever down.	Page 16
(3) Is the pressure roller positioned correctly relative to the media?	Align the pressure roller with the media and position it correctly.	Page 37
(4) Is the scroller mounted correctly?	Mount the scroller correctly.	Page 41

### #Printed lines do not join

Possible Cause	Remedy	Reference Page
(1) Are the ink cartridges out of date?	Replace with new ink cartridges.	Page 79
(2) Are you using media specified by Mutoh?	Use media specified by Mutoh.	Page 37
(3) Have you tried head cleaning?	Try head cleaning. Use powerful cleaning.	Page 63
(4) Is the ink cartridge cold and frozen?	Leave for at least 3 hours then do cleaning several times.	Page 63
(5) Did you try the fine adjustment of printing quality?	Do a fine adjustment of printing quality.	Page 68

# Appendix

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This section deals with printer specifications, optional items, supply items.

<b>Printer Specifications</b>	<b>PAGE 100</b>
<b>Interface Specifications</b>	<b>PAGE 103</b>
<b>List of Optional and Supply Items</b>	<b>PAGE 106</b>

# Printer Specifications

Model	RJ-6000-43 (43 inch.)	RJ-6000-54 (54 inch.)	RJ-6000-62 (62 inch.)
Drive System	Firmware servo / DC motor drive		
Printing Direction	Minimum distance printing (bi-directional or uni-directional)		
Resolution	720 dpi x 720 dpi 360 dpi x 360 dpi 1440 dpi x 720 dpi (Indicates simulated 1440 dpi printing mode)		
Media Feed	Multiple pressure grid roller system		
Media Supply / Eject	Cut media: Front supply, front eject Roll media: Rear supply, front eject		
CPU	64-bit RISC CPU		
Input Buffer	Standard - 8 MB (fixed) 32 MB (slot 1) + 4 MB (plane) Extended - Up to 72 MB (main) + 4 MB (plane) 2-slot option - 16 MB, 32 MB In slot 1, 32 MB extended only		
Command	Printer command - MH-GL, MH-GL/2 (MH-RTL), RTL-PASS		
Printing Modes	360 dpi	High quality mode - 4 pass Uni-direction Standard mode - 4 pass Bi-direction High speed mode - 2 pass Bi-direction	
	720 dpi	High quality mode - 8 pass Uni-direction Standard mode - 4 pass Bi-direction High speed mode - 4 pass Bi-direction	
	Simulated 1440 dpi	High quality mode - 8 pass Uni-direction Standard mode - 8 pass Bi-direction High speed mode - 8 pass Bi-direction	
Distance Precision	±0.5 mm or 1%, whichever is greater Using media type: Working temperature: 20°C, Humidity: 60%, Printing mode: high quality		
Rectilinear Precision	±0.5 mm /500 mm or less Using media type: Working temperature: 20°C, Humidity: 60%, Printing mode: high quality		
Media Type	High resolution paper, coated paper, glossy paper, glossy film, art paper, cloth, PVC film, Yupo paper, Tybec, thick coated paper, photo glossy film)		

## Printer Specifications

Model	RJ-6000-43 (43 inch.)	RJ-6000-54 (54 inch.)	RJ-6000-62 (62 inch.)		
Roll Media Core	Standard: 2-inch, Option: 2-inch				
Maximum Media Width	1092.2 mm	1371.6 mm	1574.8 mm		
Effective Printing Width	1072.2 mm	1351.6 mm	1554.8 mm		
Maximum Roll Paper Length	50 m (maximum size of roll paper that can be mounted)				
Maximum cut media length	1300 mm (longer sizes are treated as roll paper)				
Media Size	Width	210 to 1092.2 mm	210 to 1371.6 mm	210 to 1574.8 mm	
	Length	297 to 1300 mm			
Roll Media Maximum printing Length	13 m				
Printing Margins		Front	Rear	Right	Left
	Standard Cut	25 mm	20 mm	10 mm	10 mm
	Roll	25 mm	20 mm	10 mm	10 mm
	Optional Cut	25 mm	20 mm	5 mm	5 mm
	Roll	25 mm	20 mm	5 mm	5 mm
	* Printing quality is assured within standard margins				
	* If media wider than 1082.2 mm (43-inch), 1361.6 mm (54-inch) or 1564.8 mm (62-inch) is used, the left and right distances shown in the left will be different.				
Media Holding System	Pressure roller lowered by manual lever				
Media Cutting System	Horizontal auto-cut mechanism (free fall to eject tray), guide for manual cutting				
Ink Cartridges	Dye inks	Black, cyan, magenta, light cyan, light magenta - each 220 ml ±5 ml			
	Pigment inks	Black, cyan, magenta, yellow, (orange, green) or (light cyan, light magenta) - each 220 ml ±5 ml			
Interfaces	Standard	Bi-directional Centronics (IEEE1284 compatible, Nibble, ECP mode)			
	Option	Ethernet (Windows NT, Windows 95, Windows 98, TCP/IP, NetWare, EtherTalk)			
Head Life	Nozzles average at least 2 billion dots (continuous ejection at 25°C with no dust or dirt)				

## Printer Specifications

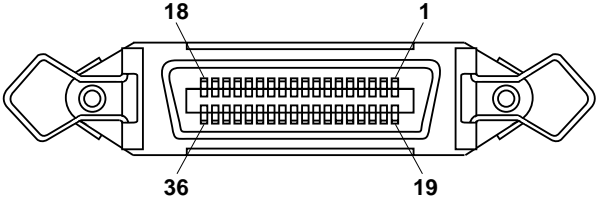
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Model	RJ-6000-43 (43 inch.)	RJ-6000-54 (54 inch.)	RJ-6000-62 (62 inch.)
<b>Environment</b>			
<b>Operation Conditions</b>	Temperature: 10°C to 35°C, Humidity: 20% to 80% (no condensation)		
<b>Variation</b>	Temperature: 2°C/h, Humidity: 5%/h		
<b>Storage conditions</b>	Temperature: -10°C to 60°C Humidity: 20% to 90% (no condensation)		
<b>Power Supply Voltage</b>	100 to 120 V AC ±10%, 200 to 240 V AC ±10%		
<b>Input Frequency</b>	50 Hz ±1%/60 Hz ±1% automatic switching		
<b>Power Consumption</b>			
<b>Standby</b>	60 W or less		
<b>Printing</b>	90 W or less	90 W or less	110 W or less
<b>Cleaning</b>	75 W or less		
<b>External Dimensions</b>			
<b>Height</b>	1164 mm	1164 mm	1164 mm
<b>Width</b>	1935 mm	2215 mm	2350 mm
<b>Depth</b>	676 mm	676 mm	676 mm
<b>Weight</b>			
<b>Main Unit</b>	75 kg	80 kg	85 kg
<b>Stand</b>	9 kg	12 kg	15 kg

# Interface Specifications

## Centronics Interface Specifications

(Bi-directional Parallel Interface: IEEE1284 Compatible)

<b>Modes</b>	Compatible, Nibble, ECP
<b>Port</b>	Port 1
<b>Data Length</b>	8 bits
<b>Transmission Direction</b>	Unidirectional (receive only), Bidirectional
<b>Connector Pin Numbering</b>	

### Parallel interface pin numbers and signals

Pin No.	Name of signal	Signal Direction	Pin No.	Name of signal	Signal Direction
1	STROBE	RJ Printer <-	19	SG	
2	DATA1	RJ Printer <- - >	20	SG	
3	DATA2	RJ Printer <- - >	21	SG	
4	DATA3	RJ Printer <- - >	22	SG	
5	DATA4	RJ Printer <- - >	23	SG	
6	DATA5	RJ Printer <- - >	24	SG	
7	DATA6	RJ Printer <- - >	25	SG	
8	DATA7	RJ Printer <- - >	26	SG	
9	DATA8	RJ Printer <- - >	27	SG	
10	ACK	RJ Printer ->	28	SG	
11	BUSY	RJ Printer ->	29	SG	
12	P ERROR	RJ Printer ->	30	SG	
13	SELECTED	RJ Printer ->	31	INIT	RJ Printer <-
14	AUTOFD	RJ Printer <-	32	FAULT	RJ Plotter ->
15	not used		33	not used	
16	SG		34	not used	
17	FG		35	not used	
18	+ 5V		36	SELECTIN	RJ Printer <-



## Interface Specifications

### Centronics Interface Specifications

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#### Recommended Specifications for Centronics Interface Cable

<b>Interface</b>	<b>IEEE1284 (bidirectional parallel) compatible</b>
<b>Cable Type</b>	<b>AWG28 x 18 pair (twisted pairs)</b>
<b>Shield Type</b>	<b>Metal tapes and braiding (double-shielded cable)</b>
<b>Characteristic Impedance</b>	<b>62Ω</b>

**Interface Specifications**  
**Network Interface (option) Specifications**

---

## Network Interface (option) Specifications

<b>Port</b>	Port 2 (only when optional interface board is fitted)		
<b>Network Type</b>	Ethernet IEEE802.3		
<b>Network I/F</b>	10BASE-T/100BASE-TX * Automatic switching type * Switching type (RJ-45 connector, twisted pair cable, category 5)		
<b>Protocol Mode</b>	<b>TCP/IP</b> <ul style="list-style-type: none"> <li>• ftp</li> <li>• lpr</li> <li>• socket</li> </ul>	<b>NetWare (V3.1J)</b> <ul style="list-style-type: none"> <li>• Remote printer mode</li> <li>• Print server</li> </ul>	<b>EtherTalk</b> <ul style="list-style-type: none"> <li>• Printer name</li> <li>• Zone name</li> </ul>
<b>Spool Memory</b>	384 KB		
<b>Functions</b>	<ul style="list-style-type: none"> <li>• Automatic protocol recognition</li> <li>• Transmission speed 50 to 150 KB/s</li> <li>• IP address is set up by the remote panel utility</li> <li>• Other settings are set up with Telnet commands</li> </ul>		

# List of Optional and Supply Items

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## • Interface Extension Board

Name of Item	Model Number	Qty.
Ethernet interface board (10/100BASE-T)	RJ-ETH13TX	1 set

## • Extended Memory

Name of Item	Model Number	Qty.
Extended memory 16 MB	SIM 16M	1 unit
Extended memory 32 MB	SIM 32M	1 unit

## • Other Options

Name of Item	Model Number	Qty.
43-inch scroller (for 3-inch paper tube)	RJ60-SR43-03 Scroller 3"	1 unit
43-inch scroller (for 2-inch paper tube)	RJ60-SR43-02 Scroller 2"	1 unit
54-inch scroller (for 3-inch paper tube)	RJ60-SR54-03 Scroller 3"	1 unit
54-inch scroller (for 2-inch paper tube)	RJ60-SR54-02 Scroller 2"	1 unit
62-inch scroller (for 3-inch paper tube)	RJ60-SR62-03 Scroller 3"	1 unit
62-inch scroller (for 2-inch paper tube)	RJ60-SR62-02 Scroller 2"	1 unit

## • Ink Cartridges (220 ml)

Name of Item	Model Number	Qty.
Pigment ink cartridge K (black)	RJ41-ING-BK2	1 unit
Pigment ink cartridge C (cyan)	RJ41-ING-CY2	1 unit
Pigment ink cartridge M (magenta)	RJ41-ING-MA2	1 unit
Pigment ink cartridge Y (yellow)	RJ41-ING-YE2	1 unit
Pigment ink cartridge Lc (light cyan)	RJ60-ING-LC2	1 unit
Pigment ink cartridge Lm (light magenta)	RJ60-ING-LM2	1 unit
Pigment ink cartridge O (orange)	RJ60-ING-OR2	1 unit
Pigment ink cartridge G (green)	RJ60-ING-GR2	1 unit

## • Waste Ink Box

Name of Item	Model Number	Qty.
Waste Ink Box	RJ8-HEB	1 unit

## List of Optional and Supply Items

### • Cutter

Name of Item	Model Number	Qty.
Cutter blade	RJ8-CBS	1 unit

### • Media

Name of Item	Model Number	Qty.	Media Size
Thick coated paper	RJ6-THCPAPE137 * 30	1 unit	1,372 mm * 30 m
Glossy paper	RJ6-GRAPE137 * 30	1 unit	1,372 mm * 30 m
Glossy film	RJ6-GPET132 * 20	1 unit	1,321 mm * 20 m
Glossy film	RJ6-GPET150 * 20	1 unit	1,499 mm * 20 m
Fireresistance cloth	RJ6-CLB133 * 20	1 unit	1,330 mm * 20 m
Fireresistance cloth	RJ6-CLB150 * 20	1 unit	1,500 mm * 20 m
Baeklit film	RJ6-BL127 * 30	1 unit	1,270 mm * 30 m
Foam PET film	RJ6-MPET137 * 30	1 unit	1,370 mm * 30 m
Foam PET tack	RJ6-MPETT137 * 30	1 unit	1,370 mm * 30 m
Yupo film	RJ6-YP156 * 45	1 unit	1,560 mm * 45 m
Yupo film tack	RJ6-YPT152 * 30	1 unit	1,520 mm * 30 m



### NOTE

- Dye inks are also available. See your local MUTOH dealer for further details.



## **From Unpacking to Printing On-line**

A simple explanation of the flow from unpacking to getting online. Precautions that must be observed are also explained.

## **Contents**

Read this if you can't find an item you want to look up.

## **Before Using the Printer**

This details what must be done before you start to use the printer. Printer operating environment, user registration, names of parts and names on the control panel are explained.

## **Preparing for Printing**

Preparing the printer for use, assembly, inserting ink cartridges, loading media, installing a driver.

## **Direct Access Keys**

The operation of direct access keys that are normally used for effective control of printer functions.

## **Menus**

An overview of menus for applying printer functions. See the "Functions and Operations" edition of the User Guide for details of menus.

## **Daily Maintenance**

Details of maintenance that should be done every day (cleaning, ink cartridge replacement, etc.).

## **When Trouble Strikes**

More advice on what to do when trouble strikes and how to handle problems.

## **Appendix**

Printer specifications, optional items, supply items, etc.

# **MUTOH**

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