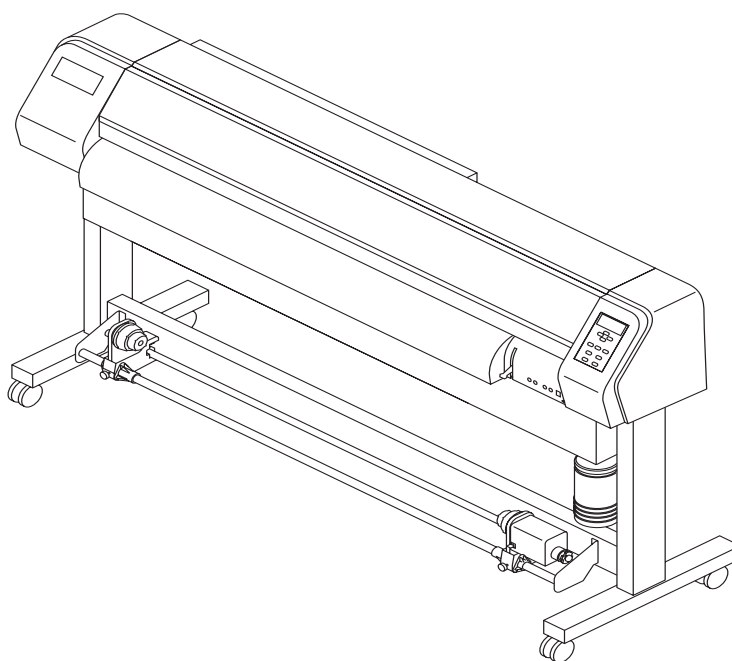


JV3S Series

OPERATION MANUAL



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CAUTION

MIMAKI ENGINEERING CO., LTD. shall have no liability for any damage of any kind (including but not limited to unearned profits, indirect damages, special losses and other debts) caused by the use of malfunction of the product unless otherwise specified in MIMAKI warranty provisions. The same applies to any case where MIMAKI ENGINEERING CO., LTD. has been informed of the possible risk of such damages in prior.

For example, MIMAKI shall not be liable to any damage to medium (works) due to the use of the product or any indirect damage that is caused by a product that is manufactured with damaged medium.

Please be noted that MIMAKI ENGINEERING CO., LTD. shall have no liability for any debts, unearned profits and any claims from any third party resulting from the use of the device.

Requests

- This Operation manual has been carefully prepared for your easy understanding, however, please do not hesitate to contact a distributor in your district or our office if you have any inquiry.
- Description contained in this Operation manual are subject to change without notice for improvement.

- Generally, names and designations referred to in this Operation manual are trade marks or registered trade marks of the manufacturers or suppliers.

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FCC Statement (USA)

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

Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.



- In the case where MIMAKI-recommended cable is not used for connection of this device, limits provided by FCC rules can be exceeded.
To prevent this, use of MIMAKI-recommended cable is essential for the connection of this device.

Interference to televisions and radios

The product described in this manual generates high frequency when operating.

The product can interfere with radios and televisions if set up or commissioned under improper conditions. The product is not guaranteed against any damage to specific-purpose radio and televisions.

The product's interference with your radio or television will be checked by turning on/off the power switch of the product.

In the event that the product is the cause of interference, try to eliminate it by taking one of the following corrective measures or taking some of them in combination.

- Change the orientation of the antenna of the television set or radio to find a position without reception difficulty.
- Separate the television set or radio from this product.
- Plug the power cord of this product into an outlet which is isolated from power circuits connected to the television set or radio.

Foreword

Congratulations on your purchase of a MIMAKI "JV3 Series" model of color ink jet printer.

The JV3 series is a color ink-jet plotter applicable to high quality plotting with 6-color solvent ink.

Read this Operation manual carefully and make the most effective use of your plotter.

Before starting to operate the plotter, be sure to read this Operation manual carefully .

On This Operation manual

- This Operation manual describes the operation and maintenance of Model JV3 Series Color Ink Jet Plotter (hereinafter referred to as the device).
- Please read and fully understand this Operation manual before putting the machine into service. It is also necessary to keep this Operation manual on hand.
- Make arrangements to deliver this Operation manual to the person in charge of the operation of this device.
- This Operation manual has been carefully prepared for your easy understanding, however, please do not hesitate to contact a distributor in your district or our office if you have any inquiry.
- Description contained in this Operation manual are subject to change without notice for improvement.
- In the case where this Operation manual should be illegible due to destruction by fire or breakage, purchase another copy of the Operation manual from our office.

Features

The features of the device are described below. Together with the method of operation of the device explained in this manual, they help you understand how to use the device properly.

Newly developed high-reliability high-coloring solvent ink

The newly developed solvent ink allows the use of raw tarpaulin or other commercially available media, realizing high quality plotting with a low running cost.

This ink has a high water resistance and high weather resistance.

(No lamination is required, and the outdoor durability in weather-resistance is up to 3 years.)

True 720dpi high quality plotting

Plotting with 720dpi high quality is suitable both for small and large posters.

Intelligent heater

Mounts two heaters (preheater and print heater) with independent temperature setting and intelligent functions (standby mode and automatic off),

The device detects the ambient temperature to perform temperature control, allowing heating temperature setup which best suits the medium used.

Easy ink replacement

The ink cartridge can be replaced safely and easily without getting your hands dirty.

Easy maintenance

The automatic capping system allows not to wash the Heads the need of head cleaning before turning off the power.

Nozzle clogging can be recovered by performing the cleaning function.

If the device is not in use for a prolonged period of time, it automatically performs Nozzle-clogging preventive operation at fixed intervals. However, the main power must be left turned on.

The device monitors the time period when not in use. When the power is turned on or when plotting is started, it automatically performs head cleaning to prevent from clogging Nozzle.

Standard device for exhausting gases

The device is provided with the stand exhauster which forcibly discharges air through the duct to the exhaust vent on the front and rear sections.

This helps to reduce the smell of ink in the room.

Indication of the INK Remains

Since the amount of ink that remains can be checked even during operation of the device, you can use the ink and medium without waste.

Simple display

The LCD panel displays the device setting menu in two lines (not one line), making it easier to see. Since the LCD panel is provided with a backlight, the display can be clearly seen even in a dark place.

The LCD panel can display six different languages for each, including English and Spanish.

Display plotting condition

It is possible to have the printing length displayed on the LCD panel and the plotting conditions to be plotted for confirmation during operation of the device.

High-speed interface

The "IEEE-1394" interface allows for high-speed data reception from the computer.

TAKE-UP DEVICE for plotting on a long length

Since the take-up device that is interlocked with the device winds up the medium as it is plotted on, even a long medium can be used.

A newly provided medium support bar

The device is provided with a medium support bar at the back. It is useful when a heavy medium, such as Tarpaulin, is set on the device.

Selectable head height

The head height can be set to 2 or 3 mm using the adjustment lever.

It can be set to 4 or 5 mm through modification by service personnel from Mimaki.

Prevents lifts at both ends of medium

The use of the curl stopper prevents lifts at both ends of diverse media and contact with the head.

For safe operation

Pictorial signs

Pictorial signs are used in this Operation manual for safe operation of and in prevention of damages to the device. Pictorial signs and their meanings are given below. Read and fully understand before reading the text.



- Indicates the case where it is assumed that misuse of the machine, ignoring this sign, as this may cause fire or poisoning. Be sure to read this manual for proper operation.



- Indicates the case where it is assumed that misuse of the machine, ignoring this sign, can cause damage only to property.



- The symbol "💡" indicates helpful information that will facilitate the use of the device.



- Indicates the reference page for related contents.

Example of pictorial signs



- The symbol "⚡" indicates the case where some phenomenon that requires a CAUTION sign (including "DANGER" and "WARNING" signs) exists. A concrete precaution (precaution against an electric shock in the case of the sketch given on the left) is shown in the illustration.



- The symbol "🚫" indicates a prohibited behavior. A concrete illustration of prohibition (disassembly is prohibited in the sketch given on the left) is shown in or next to the illustration.



- The symbol "●" indicates a thing that is forced to be done and instruction that is forced to be followed. A concrete illustration of instruction (the removal of a plug from the receptacle is instructed in the sketch given on the left) is drawn in the illustration.



WARNING

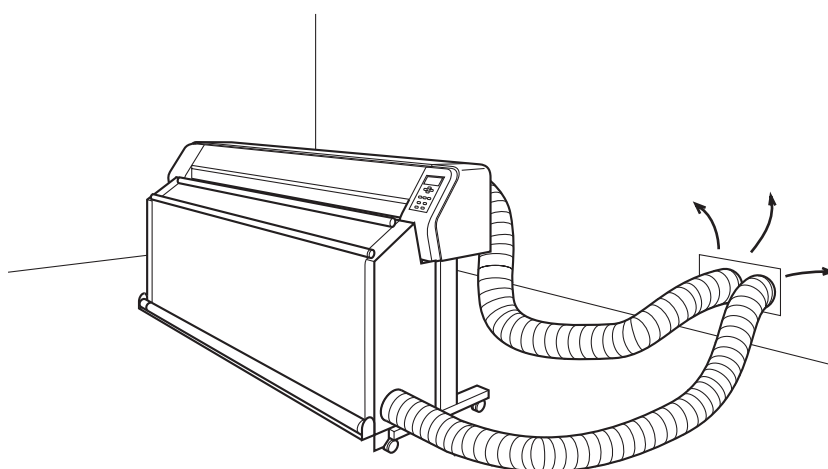


- The special ink used for the device contains organic solvent (cyclohexanone). Therefore, observe the local rules strictly related to organic solvent stuff.



HAZARDOUS

- It is necessary to install a local exhaust unit, push-pull ventilation unit, or global ventilation unit for sufficient ventilation.



FLAMMABLE

- The ink used for this device contains organic solvent (cyclohexanone). Since the ink is flammable, never use fire when using the device.



- When cleaning the ink station and head, be sure to wear the supplied goggle and gloves since you may get ink in your eyes.



- If anyone drinks ink in mistake, keep him or her quiet and see a doctor immediately. Do not allow him or her drink vomit. Then, contact the Poison Control Center.



- If you absorb a lot of vapor and feel bad, immediately move to a location where fresh air is present and then keep yourself warm and quiet. Then, consult a doctor as soon as possible.



- Waste ink is equivalent to waste oil of industrial waste. Request an industrial waste processor for processing of waste ink.

Never Do the Following

WARNING

Handling of ink cartridges



- Ink is hazardous.
If ink settles on the skin or clothes, immediately wash it off with detergent or water.
If you get ink in your eyes, immediately wash your eyes with a lot of clean water for at least 15 minutes. In this case, also wash the backside of eyelids to rinse ink away completely. Then, consult a doctor as soon as possible.



- Store ink cartridges and waste ink tank in a place that is out of the reach of children.



- Never refill the ink cartridge with ink.

MIMAKI assumes no responsibility for malfunction caused by using the device after replenishment of ink.

During assembly



- The pack of the device is as heavy as approximately 200 kg. Perform the assembly work by at least four persons.

Do not disassemble or remodel the device.



- Never disassemble or remodel the main unit of the printer and the ink cartridge. Disassembling/remodeling any of them will result in electric shocks or breakdown of the device.

Do not use the device in damp places.



- Avoid damp environments when putting the device into service. Do not splash water onto the device.

High-humidity or water will give rise to fire, electric shocks or breakdown of the device.

Abnormal event occurs.



- If the device is used under an abnormal condition where the device produces smoke or unpleasant smell, fire or electric shocks can result. Be sure to turn off the power switch immediately and detach the plug from the receptacle. Check first to be sure that the device no longer produces smoke, and contact a distributor in your district for repair. Never repair your device by yourself since it is very dangerous for you to do so.

Power supply and voltage



- Be sure to use the device with the power supply specifications indicated. Set voltage selectors according to the power voltage to be used.

110V : JV3 ... 100-120V

220V : JV3 ... 220-240V



- Be sure to connect the plug of the power cable to a grounded receptacle. If not, fire or electric shocks can result.

Handling of the power cable



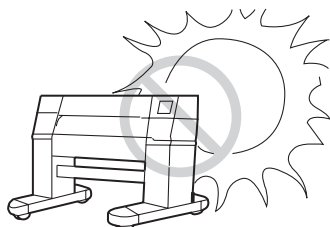
- Use the supplied power cable.
- Take care not to damage, break or work on the power cable.

If a heavy matter is placed on the power cable, heated or drawn, the power cable can break to cause fire or electric shocks.

Precautions in installation

CAUTION

A place exposed to direct sunlight



A place in which temperature and humidity vary by a great margin



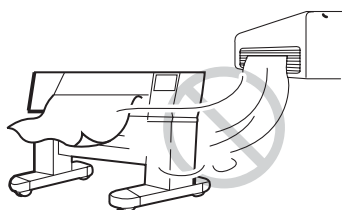
Use the device under the following environment.

Operating environment:

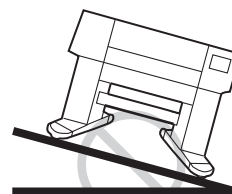
20 to 35°C

35 to 65% (Rh)

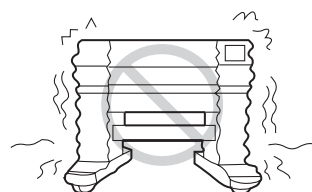
A place exposed to direct air blow from air conditioner, etc.



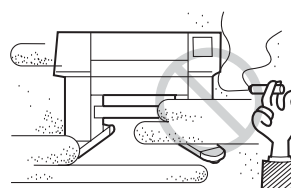
A place that is not horizontal



A place that vibrates



A place where fire is present



Precautions in use

CAUTION

Heater



- Do not spill liquid on the platen as this may cause failure of the heater or ignition.
- Do not touch the platen heater with bare hand while it is hot as this may cause burn.



- When moving the device, wait until the heater temperature drops.

As a criterion, wait at least 30 minutes since you turn off the power of the heater.

The device can be moved within the same floor without steps. When moving it to a different place, contact representative of Mimaki Engineering.

Use the ink specified



- Use the JV3 genuine ink.
The plotter does not operate with other ink than the JV3 genuine ink.
- Do not use the JV3 genuine ink for other plotters as doing so may cause damage to other plotters.

Periodic exchange parts



- There are some parts which must be replaced by service men. You have to make a contract with distributors or dealers for after-sale service.

Power supply




- Leave the breaker turned ON.
- Do not turn OFF the main power switch on the rear face.

Protection against dust



- It is strongly recommended to use the device in a room that is not dusty. Set the Refresh level 2 or 3 when in bad environment.

( page 4.8)



- Keep the front cover to be closed also when the device is not engaged in printing. If not, dust can accumulate on the head nozzle.



- When leaving the workshop after the working hours, be sure to take off any medium from the roll hanger. If any medium is left on the roll hanger, dust can put on it.



- Store medium in a bag. Wiping off dust accumulated on a medium will adversely affect the medium due to static electricity.



- Frequently wipe the capping station clean to eliminate dust and paper chips.



- Dust in the head will also cause drops of ink to fall abruptly down on the medium during printing. If this phenomenon takes place, be sure to clean up the head.

( page 2.21, 4.9)

Front cover and lever



- Never open the front cover and/or lever during printing. Opening the cover or lever will abort printing.

CAUTION

Medium

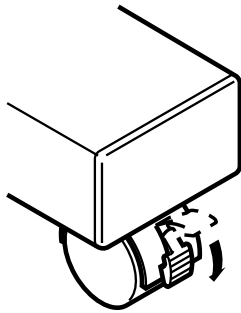


- If medium that is likely to tightly curl, flatten first the paper before using it for printing. Heavily-curved medium affect the plotted result.

Locking the casters



- Make sure to lock the casters before starting job. If the device performs plotting without the casters locked, the device can move out of position.



Ink cartridges



- If the ink cartridge is moved from a cold place to a warm place, leave it in the room temperature for three hours or more before using it.



- Open the ink cartridge just before installing it in the plotter. If it is opened and left for an extended period of time, normal printing performance of the plotter may not be ensured.



- Make sure to store ink cartridges in a cold and dark place.



- Be sure to thoroughly consume the ink in the ink cartridge, once it is opened, within three months. If an extended period of time has passed away after opening the cartridge tank, printing quality would be poor.



- You cannot use any other ink type than the exclusive one.



- Never refill the ink cartridge with ink.



- Neither pound the ink cartridge nor shake it violently so as to prevent leakage of ink.



- Do not touch or stain the contacts of the ink cartridge as doing so may cause damage to the print circuit board.

Warning labels



- This device is adhered with a warning label at two locations. Be sure understand firmly the warnings given on the labels. In the case where any of the warning label has become so soiled that the warning message is illegible or has come off, purchase a new one from your local distributor or our office. Refer to Appendix for the label adhering locations.

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How to read this operation manual

Display on the LCD and Indication of the Keys

In this Operation manual, the characters displayed on the LCD of the operation panel and the keys used to operate the device are explained, together with the operation procedure.  page 1.6.

Operate the device while confirming the display on the LCD.

Display on the LCD

The content of display is shown in characters in a box as shown at right.

Operate the device according to the explanation of the operation procedure and the content of display on the LCD.

In this Operation manual, each setting and messages displayed on the LCD is enclosed in [], like [TYPE.1], [PLEASE WAIT], etc.


FUNCTION SET UP	< ENT >
--------------------	---------

SET UP SELECT	: TYPE.1
------------------	----------

Operation keys

In the text of this Operation manual, the operation keys are shown enclosed in brackets.

[▲] and [▼] indicate JOG keys.

The other operation keys are enclosed in brackets, as [FUNCTION].  page 1.6.

Structure of this Operation manual

This manual consists of the following seven chapters to describe the handling of the device.

Chapter 1 Before Use

This chapter describes the name and function of each section of the device as well as ink and media.

Chapter 2 Operations

This chapter describes a series of operations and settings, ranging from power-on to end of plotting.

Chapter 3 Daily Cleaning

This chapter describes the recovery procedure for ink clogging and the cleaning procedure for each section.

Chapter 4 Setting Function

This chapter describes the setting function.

Chapter 5 Maintenance Functions

This chapter describes the maintenance functions and how to replace a wiper and a worn cutter blade.

Chapter 6 When abnormal conditions are encountered

This chapter describes how to correct troubles after the occurrence of an abnormal condition on the device.

Appendix

This appendix describes the specifications of the device, function menu structure and output samples and introduces separately-available consumables.

CHAPTER 1

Before Use

This chapter describes the name and function of each section of the device as well as ink and media.

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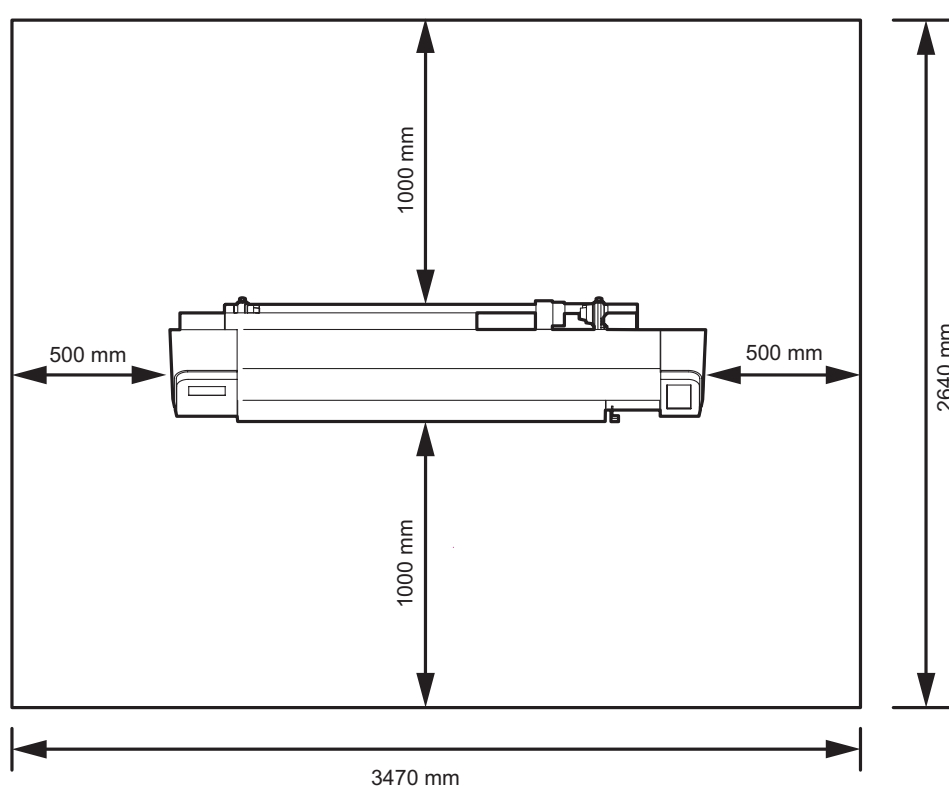
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Where to install the device

Secure a suitable installation space before assembling the device.

The place of installation must have space required not only for the device itself but also for plotting operation.

Model	Width	Depth	Height	Gross weight
JV3-160S	2470 mm	640 mm	1210 mm	About 155 Kg



Working environmental temperature

This equipment should be used at 20-35 °C to implement a stable print.

According to the surrounding temperature condition, the temperature may not rise to the set value.

Moving the device



- When moving the device to a different place, contact local representative of Mimaki Engineering. If you move it, failure of damage may occur. Be sure to request a specialist to move the device.

When moving the device by necessity within the same floor without steps, perform the following procedure.

When moving the device, unlock the caster stoppers.

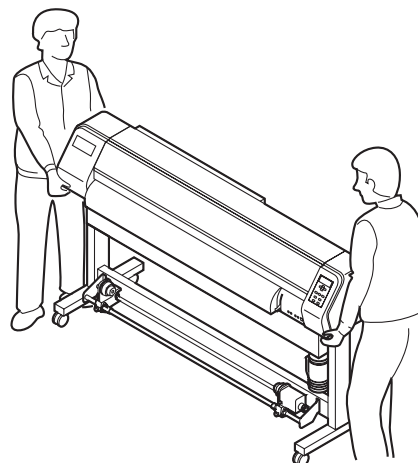


- When moving the device, take care not to apply excessive shock to it.
- After moving the device, be sure to lock the caster stoppers.

Method of moving the device

When moving the device, it must be held up by at least two persons as illustrated at right.

The cover of the device may break if it is pressed hard.

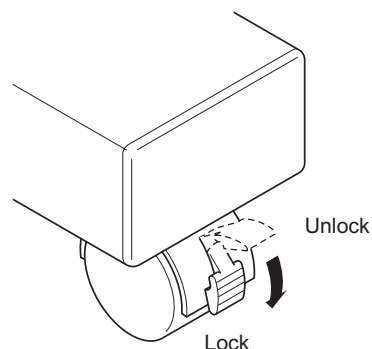


Locking/unlocking the casters

When moving the device, unlock each of the casters by pushing up the stopper.

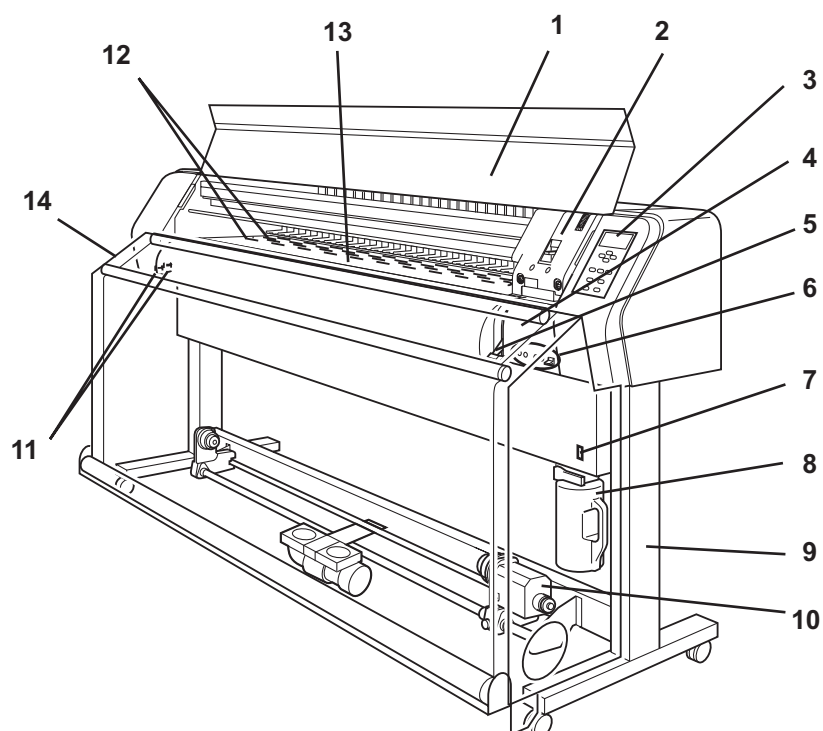
Each of the casters on the pedestals is provided with a stopper.

When installing the device, push down the stoppers to lock the casters.



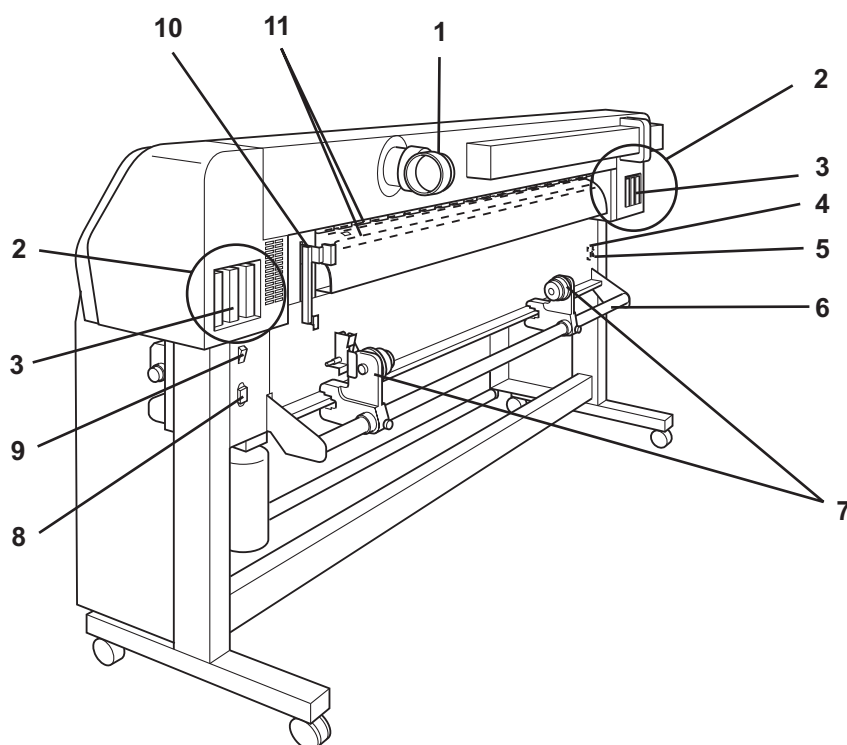
Configuration and function

The Front



	Name	Function
1	Front cover	It is opened when setting medium or taking a corrective measure against a medium jam. Even if the power switch is off, keep the front cover closed to perform the ink clogging preventive operation.
2	Carriage	Moves the print head from side to side.
3	Operation panel	This panel has the operation keys required for operating the device and the LCD for displaying set items, etc.
4	Capping station	Incorporates the ink cap to be capped on the head and the wiper, etc.
5	Clamp lever	It is made to go up-down the pinch roller for holding medium.
6	Heater operation panel	Provides the heater power switch and the heater status LED indicator.
7	Power switch	It turns on/off the power to the device. When the power switch is turned on, the POWER indicator lights in green. While the main power switch is on, the ink clogging preventive operation is performed periodically even if the power switch is off.
8	Waste ink tank	Waste ink gathers in this tank.
9	Stand	It supports the main unit. It is provided with casters that are used to move the device.
10	Take-up device	It supports to wind up the roll medium printed.
11	Voltage selector switch	Switches between 100-120 V and 220-240 V according to the power voltage used.
12	Platen	It puts out the medium as it is plotted on.
13	Printer heater	Fixes and dries printing ink. (Attached inside the platen)
14	Front exhauster	Discharges plotting smell from the medium to out of the room.

The REAR



	Name	Function
1	Rear exhauster	Discharges plotting smell from the medium to out of the room.
2	Ink station	Set the ink cartridges specified.
3	Ink cartridge	Each cartridge contains ink of a specific color.
4	Parallel connector	Bi-directional parallel interface connector (complies with IEEE1284)
5	IEEE-1394 connector	A 400M bps interface connector compatible with IEEE-1394.
6	Paper roll setting bar	This bar facilitates a paper roll to be set in position.
7	Roll holder	Roll holder is inserted in the right and left core of roll medium to hold the roll medium. The roll holder is applicable to diameter of medium cores with 2 and 3 inches. The attachment position (height) of the roll holder can be set in three steps. To increase the heater contact time, attach it at the bottom position.
8	AC inlet	The power cable is connected to the AC inlet.
9	Main power switch	Turns on/off the main power of the device. Leave the main power turned on to prevent ink clogging.
10	Clamp lever	Works together with the clamp lever on the front face of the device.
11	Preheater	Preheat the medium before plotting. (Attached inside the platen)

Operation Panel

The operation panel that is used to operate the device.

JOG keys [▲] [▼] [◀] [▶]

They are used to shift the carriage and the medium under the LOCAL mode. In addition they are used to select a set value.

[HEATER] key

Used to set the temperature of the printer heater and preheater and check the current temperature of the platen.

[FUNCTION] key

Enter to the setting function menu.

[END] key

Used to cancel the last set item that has been input or to return to the previous setting menu.

[TEST & CLEANING] key

Plots the test pattern for checking Nozzle clogging, and performs head cleaning when ink clogging occurs.

Display

Displays a set item, a guidance error, etc.

POWER lamp

It lights up (in green) when the power to the device is turned on.

[DATA CLEAR] key

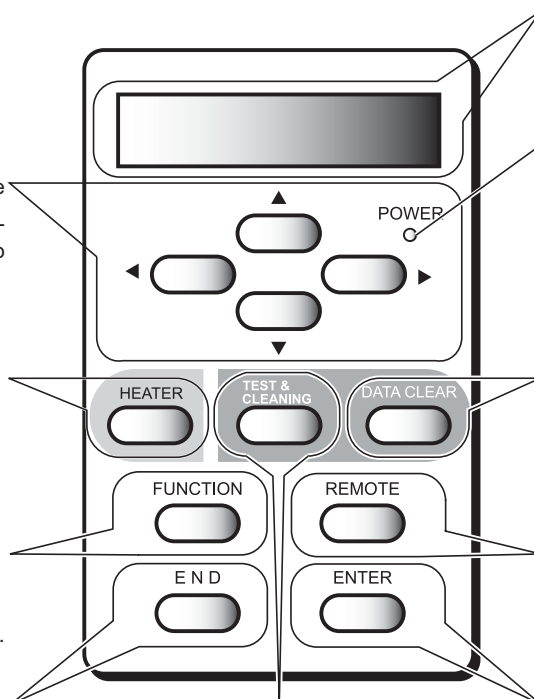
Erase the data has been received.

[REMOTE] key

Change the operation mode between the REMOTE mode and the LOCAL mode.

[ENTER] key

Used to move to the lower-level menu and establish the settings.



Functions of the JOG keys

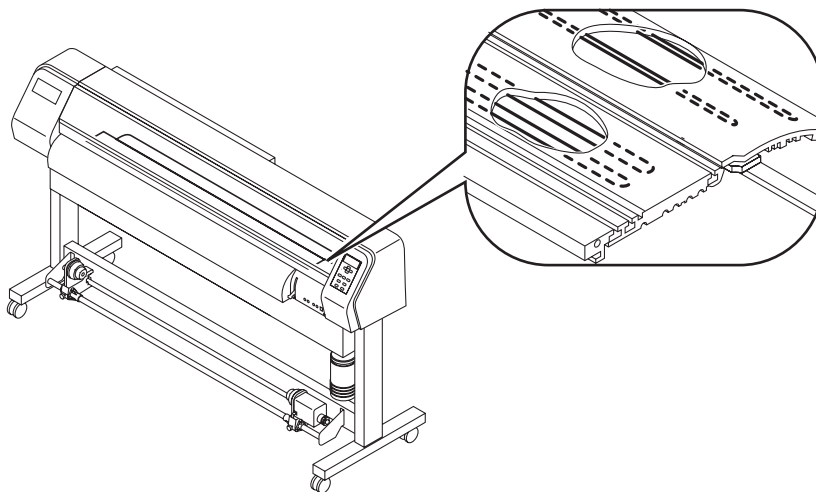
Each of the JOG keys varies in function according to the time at which it is used.

The functions of the JOG keys are explained below.

	Before the detection of a sheet	After the detection of a sheet	When selecting a function	When inputting a choice selected among several alternatives
◀	Detects the width and length of the medium.	Shifts the carriage to the left.	_____	_____
▶	Detects the width and length of the medium.	Shifts the carriage to the right.	_____	_____
▲	_____	Shifts the medium away from you.	Restores the last previous function.	Selects the next value.
▼	_____	Moves the medium toward you.	Moves to the next function.	Selects the last previous value.

Heater panel

The platen has heater built-in for printing and pre-printing. Turns on/off the power of the heaters and displays their statuses with LED indicators. When the power switch of the device is turned off, the power of the heaters is also turned off.



HEAT indicator

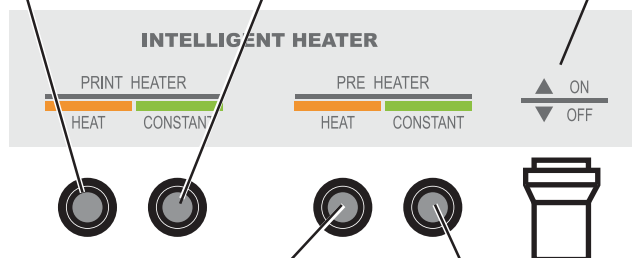
Lights in orange while the print heater is being heated.

CONSTANT indicator

Lights in green when the temperature of the print heater reaches the set temperature.

Heater power switch

Turns on/off the power of the heaters



HEAT indicator

Lights in orange while the print heater is being heated.

CONSTANT indicator

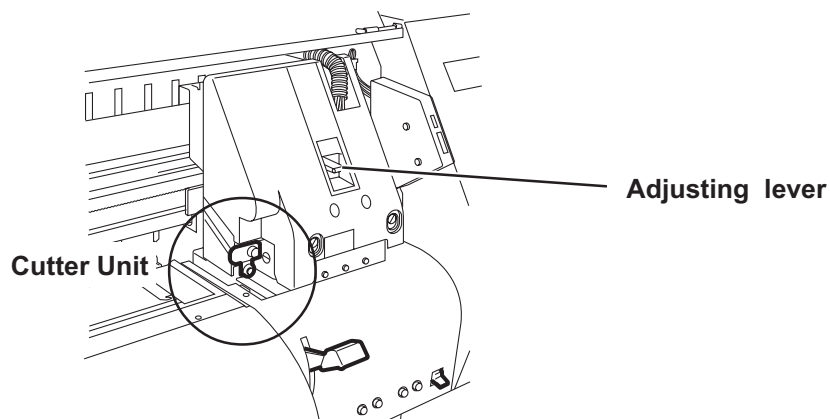
Lights in green when the temperature of the print heater reaches the set temperature.



- The HEAT indicator may go off while the CONSTANT indicator is lighting. This is not an error but an indication that the temperature of the print heater have reached the set temperature and heating is interrupted.

Carriage

The carriage is provided with ink heads for printing, a cutter unit for cutting off medium, etc. It is also provided with a lever for adjusting the head height according to the thickness of the medium used.



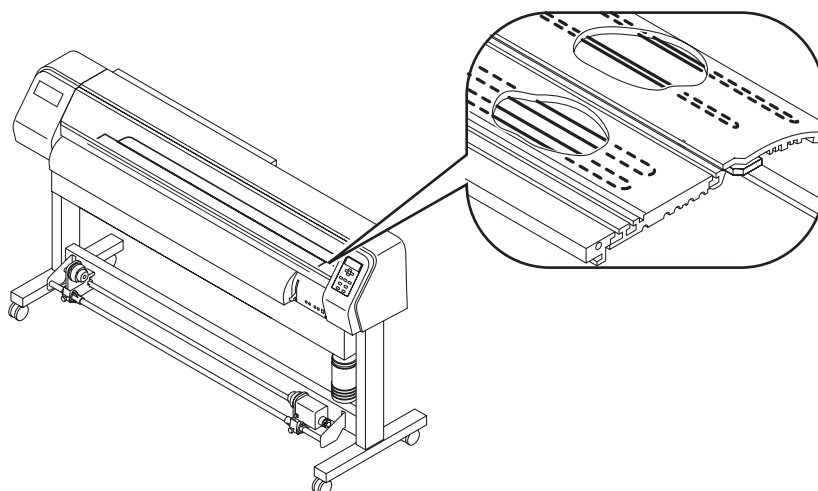
Heater

The platen has heater built-in for printing and preprinting.

The preheater preheats the medium before plotting to prevent rapid temperature change at the printing section. The print heater improves the plot quality and dries ink after printing.



- While the heater is heating, the platen is very hot. When opening the front cover or replacing the medium, lower the heater temperature and wait until the platen temperature drops. Doing so while the platen is hot may cause burn.
- When replacing the medium with a thin one, lower the heater temperature and wait until the platen temperature drops. Doing so while the platen is hot may cause the medium to stick to the platen or cause wrinkles or curls of the medium.



Capping station



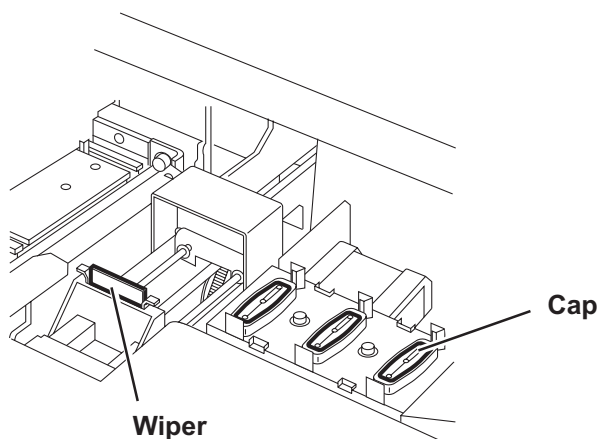
- When cleaning the capping station, be sure to wear the supplied goggle and gloves since you may get ink in your eyes.

The capping station consists of ink caps, wipers for cleaning the heads, etc.

Cap : It covers the nozzle so as to prevent the head nozzle from drying up.

Wiper : It is used to clean the head nozzle.

The wipers are consumable parts. If the wiper is deformed or the medium is stained, replace the wiper with a new one.



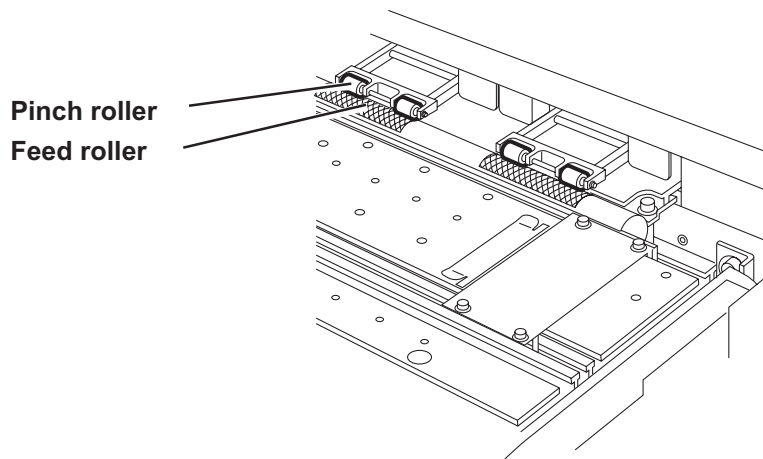
The pinch roller and The feed roller



- While the device is not being used, keep the pinch roller in the upper position. If the pinch roller is left lowered for an extended period of time, it can deform and fail to securely retain the medium.

This device retains a medium with the pinch roller and the feed roller.

During plotting operation, the feed roller feeds the medium forward.



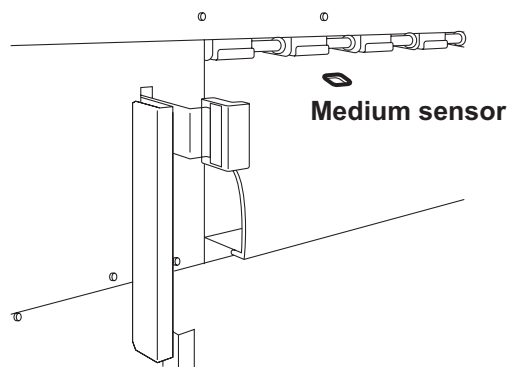
The medium sensor

The medium sensors detects the presence of the medium and the medium length.

There is a medium sensors on the platen.



- Set up medium to cover medium sensor at the back side of platen absolutely.
If the part of medium is not on medium, the medium can not be detected.



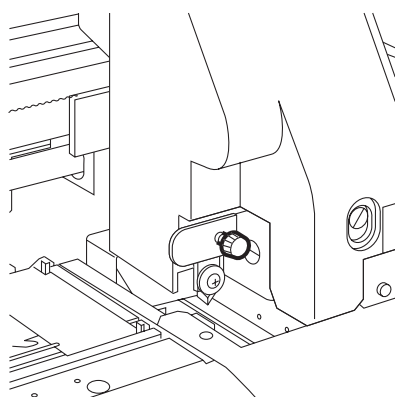
Cutter blade and cutting line

The carriage is provided with a cutter unit for cutting off the medium that has been plotted on.

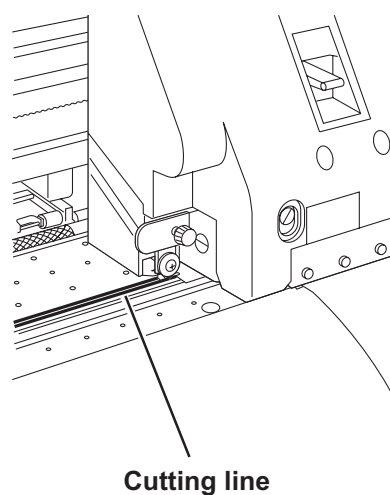
The cutting line along which to cut off the medium is shown below.

☞ “Cutting by Hand” (page 2.25) “Automatic Cutting [AUTO CUT]” (page 4.7).

Cutter blade



Cutting Line



Precautions in handling the ink cartridge



- Ink is hazardous. If ink settles on the skin or clothes, immediately wash it off with soap and water.

If you get ink in your eyes, immediately wash your eyes with a lot of clean water for at least 15 minutes. In this case, also wash the backside of eyelids to rinse ink away completely. Then, consult a doctor as soon as possible.



- Never disassemble the ink cartridge.



- Do not shake the ink cartridge violently. Shaking or turning it roughly can cause leakage of ink.



- Never refill the ink cartridge with ink. Refilling the ink cartridge can cause a trouble. Remember that Mimaki assumes no responsibility for any damage caused by the use of the ink cartridge replenished with ink.



- Use the JV3 specified ink.

Using any ink type other than the exclusive one can cause a trouble.

Remember that the user shall be charged for a repair to correct any damage resulting from the use of ink other than the exclusive type.



- If the ink cartridge is moved from a cold place to a warm place, leave it in the room temperature for three hours or more before using it.



- Be sure to thoroughly consume the ink in the ink cartridge, once it is opened, within three months. If an extended period of time has passed after opening the cartridge tank, plotting quality would be poor.



- Be sure to store ink cartridges in a cold and dark place.



- Store ink cartridges in a place that is out of the reach of children.



- Request an industrial waste processor for processing of empty cartridges.



- Do not touch or stain the contacts of the ink cartridge as doing so may cause damage to the print circuit board.

Precautions in handling the medium

Carefully observe the following when handling the medium.



- **Use media recommended by MIMAKI for stable, high-quality plotting.**

- **Heater temperature setting according to medium characteristics**

Set the temperature of the preheater and print heater according to the type and characteristic of the medium used. Automatic temperature setting can be made from the operation panel through profile specification from the dedicated RIP.

- **Expansion and contraction of the medium**

Do not use medium immediately after unpacking. The medium can expand and contract due to the room temperature and humidity.

The medium have to be left in the atmosphere in which they are to be used for 30 minutes or more after unpacked.

- **Curled medium**

Avoid the use of curled medium. They can be a cause of a medium jam.

If regular-sized coating medium is stored with rolled, the coating face has to face outside.

Types of medium that can be used

The types of medium that can be used with the device are roll medium and cut sheet medium.

The types and sizes of medium that can be used with the device are explained below.

Types of medium that can be used

- Tarpaulin
- FF (Flexible Face)
- PVC

Sizes of medium that can be used

	Medium Size	JV3-160S
Roll medium	Maximum	1620 mm
	Minimum	210 mm
	Plotting width	1610 mm In case setting high-speed scan mode, the maximum scope is 1570 mm.
	Thickness	1.0 mm or less
	Roll outside diameter	Ø 180 mm or less
	Roll weight	25 Kg or less (Without slack on the roll when it is retained at both ends)
	Roll inside diameter	3 or 2 inches
	Plotting surface	Faces OUT
	Roll end treatment	Light-adhesive tape is used to allow the paper to be removed from the core with ease.
Cut sheet medium	Maximum	1620 mm
	Minimum	210 mm
	Plotting width	1610 mm In case setting high-speed scan mode, the maximum scope is 1570 mm.

MENU mode

There are the following four mode in this device.

Each of the four modes is explained below.

< NOT-READY > mode

This is the mode before the medium detector.

The keys other than the [REMOTE] key are effective.

< LOCAL > mode

This is the mode after the medium detection.

All keys are effective to enable setups.

The device is able to receive data from computer, however, it will not perform plotting.

In this mode, it is possible to perform the following operations.

1. Pushing the appropriate [JOG] keys to detect a medium and set up an origin.
2. Pushing the [TEST&CLEANING] key to start test plotting and cleaning the head.
3. Pushing the [DATA CLEAR] key to erase the plotting data the device has received.
4. Pushing the [FUNCTION] key to set plotting conditions.
5. Pushing the [HEATER] key to set temperature of the heater.

< REMOTE > mode

The device plots an image from data it receives.

During the plotting operation, push the [REMOTE] key to interrupt the plotting operation.

< FUNCTION > mode

This is the mode in which plotting conditions can be set.

While the device is in the LOCAL mode, push the [FUNCTION] key to put the device into the FUNCTION mode.

CHAPTER 2

Operation

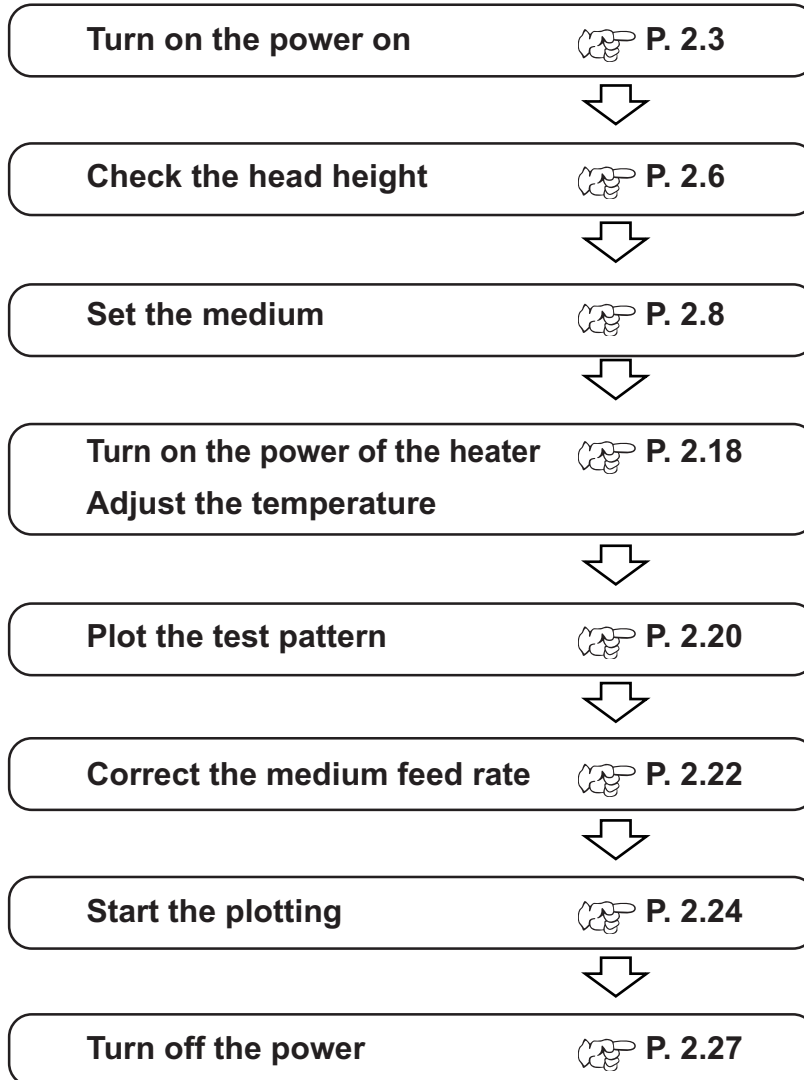
This chapter describes a series of operations and settings, ranging from power-on to end of plotting.

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Operation

The following shows a series of operations and settings, ranging from power-on to end of plotting.
For details on each item, refer to the reference page.



Switching on the power supply

The device is provided with the following two different power switches.

Main power switch : Located on the rear face of the device. Normally, leave this switch turned on.
If this switch is left turned off, the head nozzles may be clogged. Nozzle clogging may not be recovered depending on the symptom.



- When the main power switch is turned ON with the power switch set to OFF, the nozzle clogging preventive function operates. After operation, the power is turned OFF automatically.

Power switch : Located on the front face of the device. Normally, use this switch.
Press this switch once to turn on the power of the device. Press it again to turn off the device. Even when the power switch is off, the power is turned on periodically and the nozzle clogging preventive function is activated.

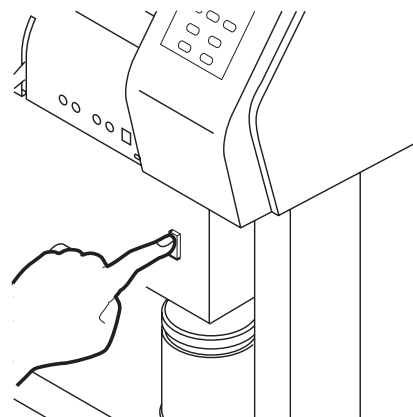
Turning the power on

1. Turn on the power to the device.

Tilt the power switch toward the “I” side.



- Make sure that the front cover is closed.
If it is open, initialization is not performed.



When the power is switched on, the LCD first displays “BOOT” and then displays the firmware version number.

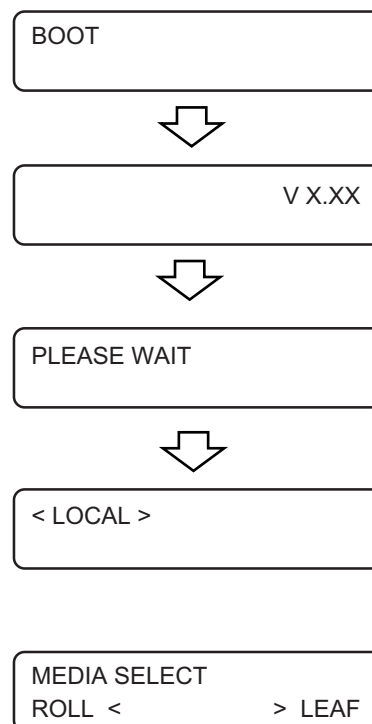
2. The message “PLEASE WAIT” appears flashing on the LCD.

The initial operation of the device is performed.

3. The device enters the LOCAL mode.

If a medium has been set on the device, the prompt Media Select is displayed on the LCD.

4. Turn on the power to the computer which is connected to the device.



Front cover

Opening/closing the front cover



- Keep the front cover closed during plotting operation. Opening the front cover during plotting interrupts image plotting and disables continuous processing.
- Open and close the front cover while holding the handles. Doing so while holding the resin face may cause damage to the device.

If you open the front cover during plotting, the carriage will stop for safety, resulting in abortion of plotting. In this case, re-start the device and computer following the procedure described below.

Cautions during operation

STEP

1. **When opening the cover during plotting, the message shown on the right will be displayed.**
Stop the drawing.

Close a cover

2. **Stop the data transmission from the computer.**

3. **Close the front cover.**


(COVER OPEN)
PRESS < ENT > KEY

4. **Push the [ENTER] key.**



INITIALIZING
PLEASE WAIT

5. **The carriage will start to move.**

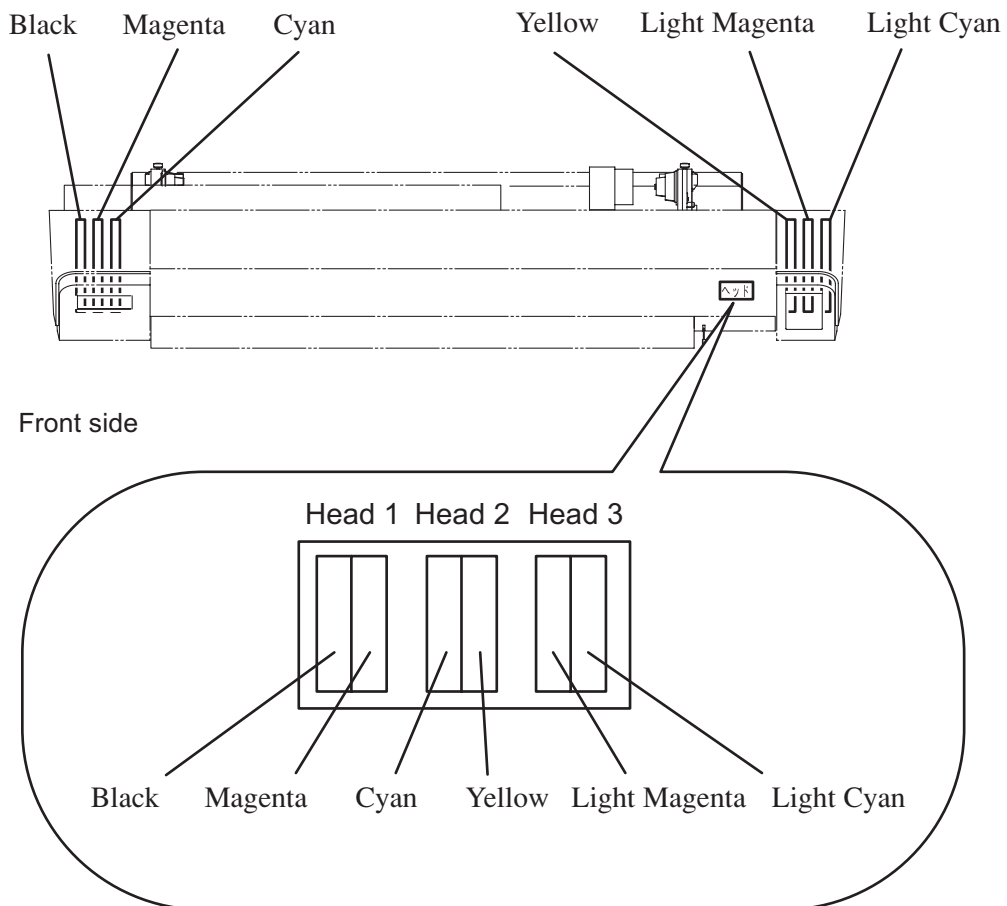
The carriage will carry out a series of performance same as that taken after turning on the power to the device (i.e., the predetermined initial performance).  page 2.3

Relationships between ink station and head row

The carriage mounts three heads each with two rows of nozzles.

One color ink is applied to each row of nozzles.

Remember these relationships when checking the heads for clogged nozzles, replacing ink cartridge and replenishing inks.



Adjusting the head height

The head can be adjusted in height in two different stages, upper and lower, according to thickness of a medium used for plotting.

This adjusting function enables the device to respond to light-weight medium such as paper and film and heavy-weight medium such as tarpaulin as thick as 0.5 mm.



- Adjust the head height before placing a medium on the device. If the head height has been set for light-weight media when a heavy-weight medium is to be placed on the device, moving the carriage from the capping station for adjusting the head height after the medium is placed on the device can cause paper jamming or head breakage.
- To use the device with the plotting direction set to “BIDIRECTIONAL”, re-adjust “Y” contained in “DOT POSITION CORRECTION” after adjusting the head height.

Medium	Height adjusting lever
PVC	Thin : light-weight
Tarpaulin FF	Thick : heavy-weight



- Set the lever to the lower stage (Thick) if dust is likely to gather in the head or the head is likely to rub the medium to leave ink on it.

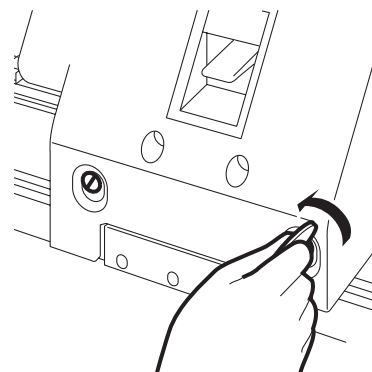
1. Move the carriage to the platen.

When the device is turned on : Execute [CARRIAGE OUT].

 page 5.4

When the device is turned off : Open the front cover, then move the carriage.

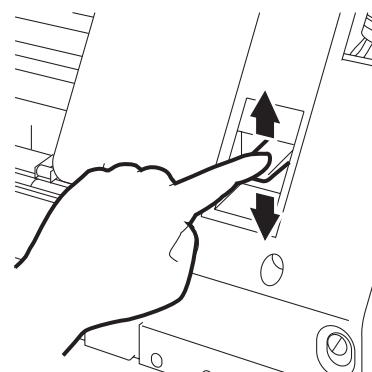
2. Loosen two screws mounted on the front face of the head with a coin or the like.



3. Adjust the height adjusting lever according to the medium to be used.



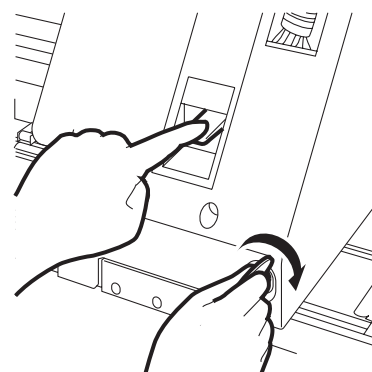
- Set the height adjusting lever to the highest stage or the lowest stage. Setting it to the intermediate height, a plotting fault can result.



4. Keeping the height adjusting lever held at the aforementioned position, tighten the two screws.



- If you tighten the screws without keeping the height adjusting lever held at the set position, the head may not be secured at the normal position.
- Fasten the screw securely.



5. Return the carriage to the station position.

Setting the medium on the device

The medium that can be used with the device are roll medium and leaf medium.

Use the medium commended by MIMAKI.



- If a transparent medium is set, the following message appears on the LCD and the medium may not be detected.

ERROR 50
MEDIA SENSE

- If the medium is exposed to direct sunshine, the medium width may not be detected correctly.
- Do not use printed media, or ink adheres to a pinch roller and media may not be detected.
- Strong or internal curled media must be set to be along the platen by rolling it in the opposite direction.

Setting a roll holder




- Attach the roll holder with two people.

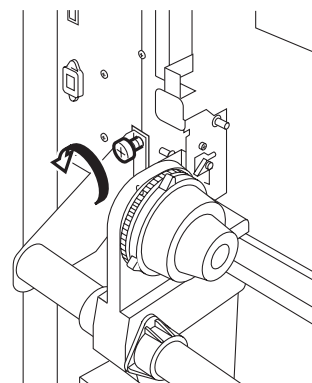
The attachment position (height) of the roll holder can be set in three steps.

Depending on the medium, change the attachment position of the roll holder by reducing or increasing the heater contact time.

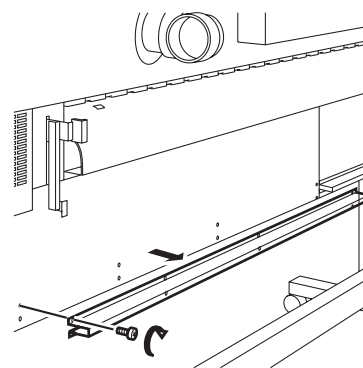
To reduce the heater contact time, attach the roll holder at the top position ; to increase the heater contact time, attach it at the bottom position.

When it is attached to the top or bottom position, it is necessary to use the lock pin to set the medium.  page 2.14

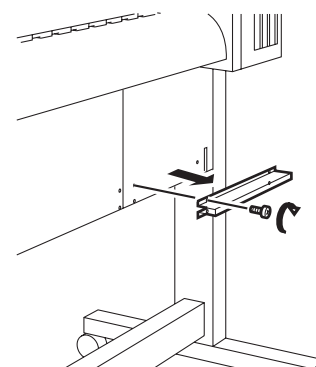
1. **Remove the four screws, and then remove roll assy.**



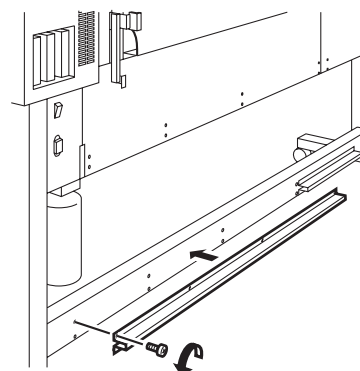
2. Remove the eight screws, and then remove roll guide rail (long).



3. Remove the four screws, and then remove roll guide rail (short).

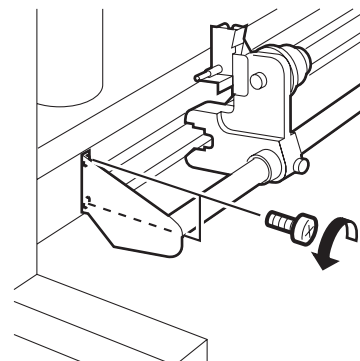


4. Attach the roll guide rail (short/long) to another position in reverse order of removal.



5. Fit the roll assy.

Fit the roll assy so that the horseshoe-shaped section at the end of the roll base fits the roll guide rail.



Setting a paper roll on the device

The procedure for setting roll medium on the device is described below.



- The roll medium is heavy in weight. Take care not to drop it on your foot.

1. Pull up the clamp lever at the back of the device.

When the roll holder is attached at the top or bottom position, it is necessary to use the lock pin.

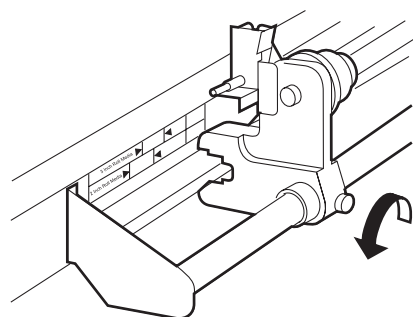
 page 2.14

2. Loosen the screw of the left-hand roll holder.

3. Determine the position of the roll holder.

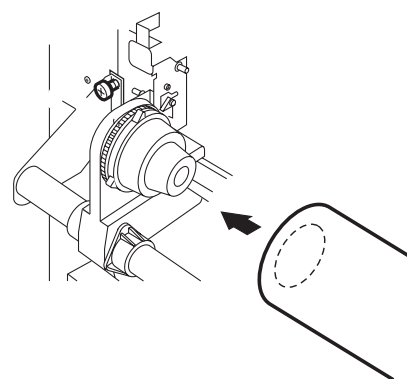
The inside diameter of the roll medium core may be 2 inches or 3 inches.

A roll holder is tighten with screws along the sticker [Roll holder set].



4. Insert the left-hand roll holder into the core of the roll medium.

Push roll medium onto the roll holder till the roll core no longer moves.

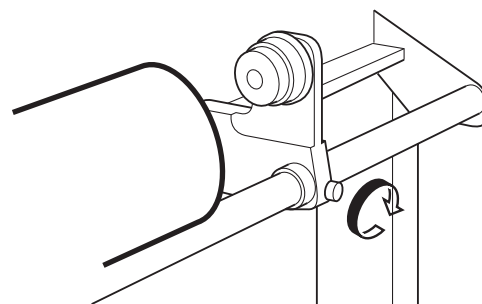


5. Loosen the screw of the right-hand roll holder.

Adjust the roll holder position to the width of the roll medium.

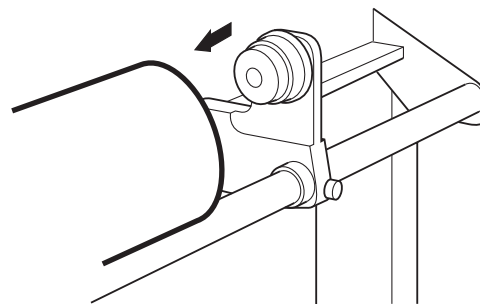


- By placing the roll medium on the medium support bar, the position of roll holder can be adjusted easily.

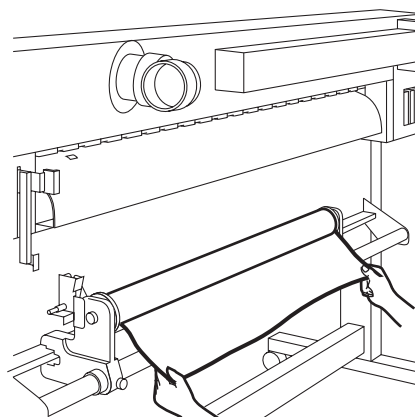


6. Insert the right-hand roll holder into the core of the roll medium.

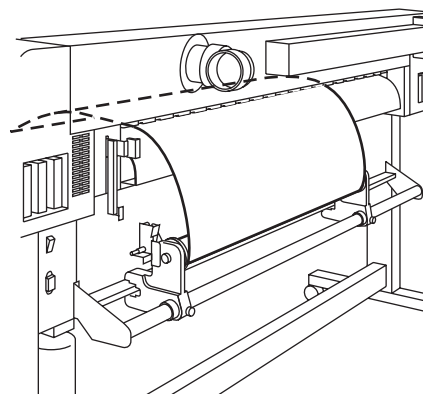
After inserting the roll holder completely into the core of the roll medium, fix it with the screw.



7. Pull out the roll medium from the back of the device until it reaches the end of the platen.

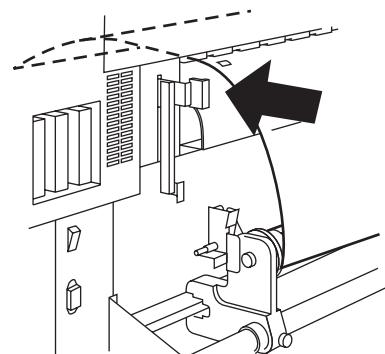


8. Insert the roll medium that has been pull out between the platen and the pinch rollers and pull it to the front of the device.

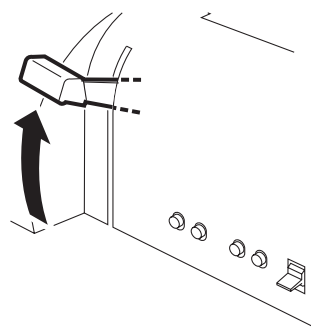


9. Push the clamp lever at the back of the device.

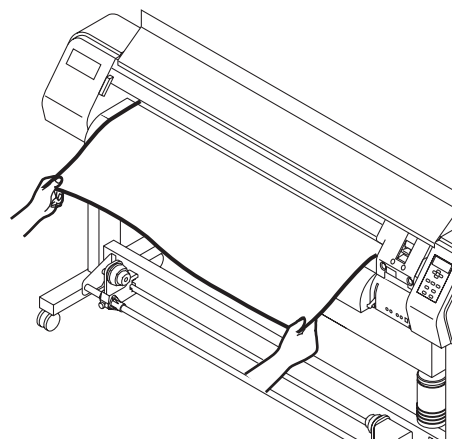
The clamp lever on the front face is lowered to hold the medium. (for temporary setting)



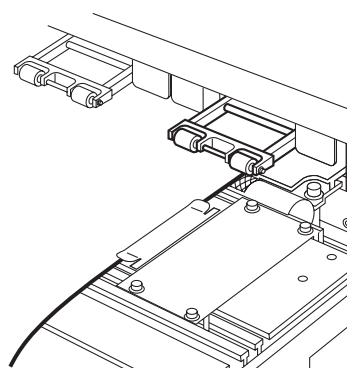
- 10. Open the front cover and pull up the clamp lever at the front of the device.**



- 11. Pull out the roll medium gently and then stop pulling when locked lightly.**



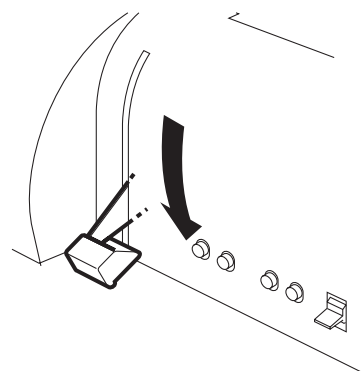
- When using a leaf medium, set it so that it does not run off to the right of the pinch roller at the right end.



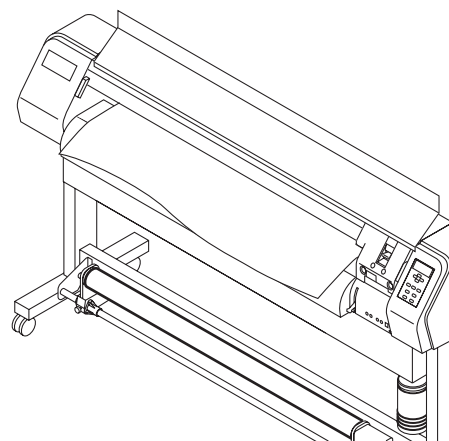
- 12. Pull the roll medium from side to side evenly and push down the clamp lever.**

When the roll holder is attached at the top or bottom position, it is necessary to use the lock pin.

 page 2.14



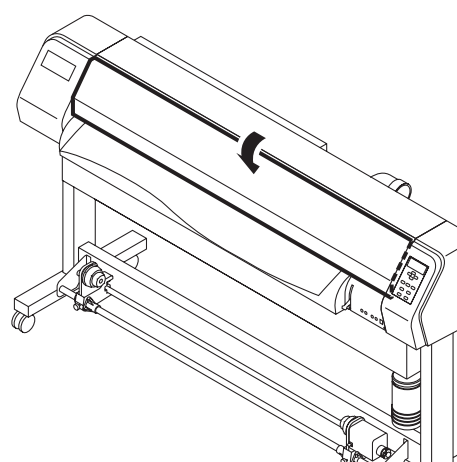
13. Set an empty paper tube to the take-up device.



14. Close the front cover and push the [ENTER] key.

The width of the medium is detected.

Press the [▼] jog key to feed the medium up to the paper tube position of the take-up device.



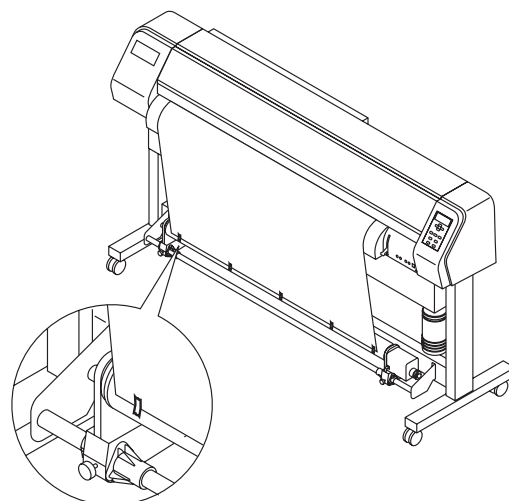
15. Fix the medium to the empty paper tube using an adhesive tape.



- Check that there is no slack or wrinkle, caused by uneven tension, on the roll medium in the range between the roll holder and the platen. While pulling the roll medium from side to side evenly, clamp the lever.
- If the roll medium used is wide, the edges of the paper may get loose from the platen during plotting. Use the media plate to hold down the edges of the medium. This prevents the medium from being stained with the ink by getting loose from the platen.



- When using a thick medium, remove the media plate from the medium before plotting.



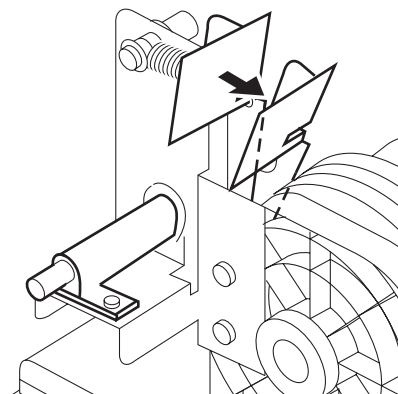
Operating the lock pin

Use the lock pin attached to the roll holder when it is attached to the top or bottom position.

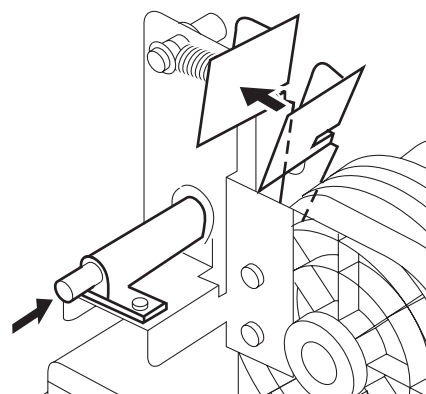


- Be sure to pull out the medium on the platen before using the lock pin.
Once unlocked, resetting of the medium is necessary.

1. Turn over the lever of the roll holder toward you.



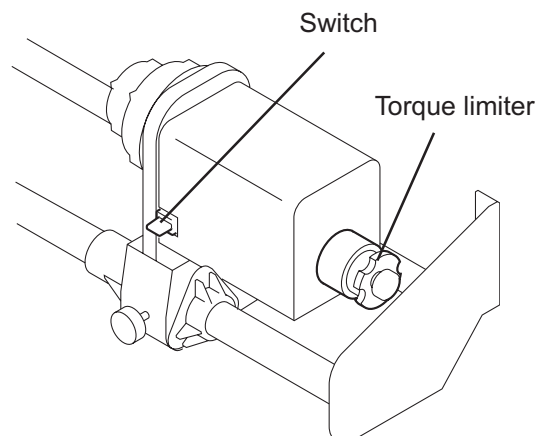
2. Push the lock pin and release the lever.



Switching the direction of winding of the medium

The take-up device is mounted with a switch that specifies the direction in which a medium is wound.

- FORWARD** : The take-up device winds the medium with its plotting face faced out.
- OFF** : The take-up device will not wind the medium.
- REVERSE** : The take-up device winds the medium with its plotting face faced in.



Setting the torque limiter

There is torque limiter adjustment mechanism in take-up device.

Strength of take-up is possible to be changed by adjusting the torque limiter.

(When shipping, it's set at the strongest.)

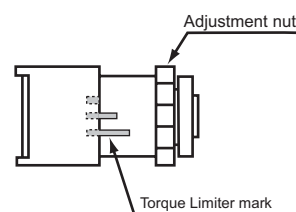
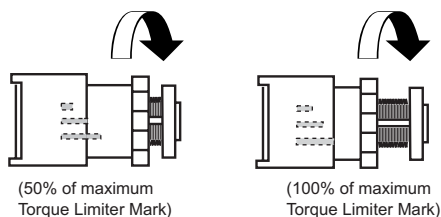
When using this media and tension is too strong, weaken the adjustment for the torque limiter.

• Clockwise : It becomes strong

Medium to be used : The thick media, such as Tarpaulin.

• Anti-clockwise : It becomes weak

Medium to be used : A light medium



- If the torque limiter on the take-up device side is adjusted weaker than the roll holder side, a roll paper fails to be sent smoothly.
In case adjustment of the torque limiter is too strong, weaken the adjustment for the torque limiter.

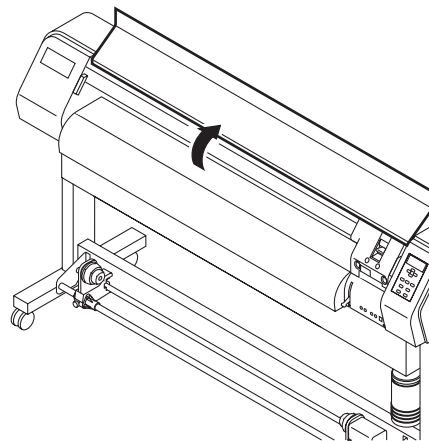
Setting cut sheet medium on the device

Unlike roll medium, the cut sheet medium need not be fixed onto the roll holders.

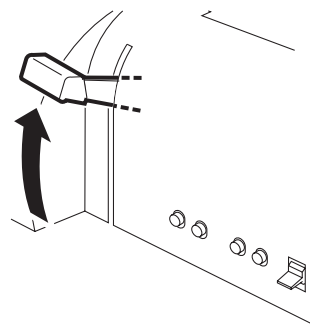


- When using cut sheet medium, take care that it is set straight forward.

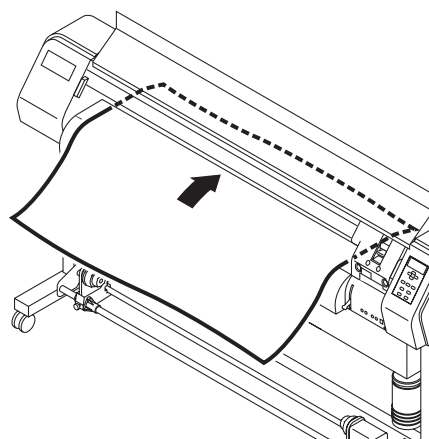
1. Open the front cover.



2. Push up the clamp lever.

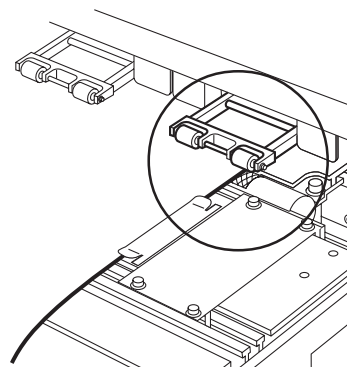


3. Insert the cut sheet medium between the platen and the pinch rollers.

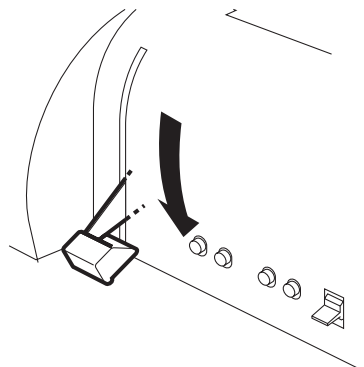




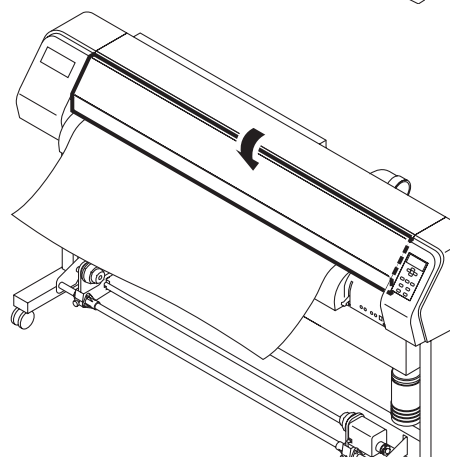
- When using a leaf medium, set it so that it does not run off to the right of the pinch roller at the right end.



4. Push down the clamp lever.



5. Close the front cover.



6. Push the [ENTER] key.

After the initial operation, the device enter the LOCAL mode.

page 1.14



(COVER OPEN)
PRESS < ENT > KEY

7. Push the [▶] key.

The carriage moves to detect the medium.
Then, the device enters the LOCAL mode.



MEDIA SELECT
ROLL < > LEAF

< LOCAL >
width : 1272 mm

Heater-Temperature control

To store the Heat temp., set the HEATER of the FUNCTION mode.

FUNCTION mode - SET UP - TYPE - HEATER

This section describes how to adjust the Heat Temp., which has been stored at FUNCTION mode beforehand.

It can be adjusted even in printing, and will be expected temp.

To control Heat Temp, press [HEATER] key and set up the temp. following to the step described below. However, it takes few minutes or more to get to the expected temp.



- This equipment should be used at 20-35°C to implement a stable print. According to the surrounding temperature condition, the temperature may not rise to the set value.
- Heat temp. will be kept up until the power is turned off or, it is reset under following condition.
 - To change the type of the FUNCTION mode
 - To change the Heat Temp. of the FUNCTION mode
 - To control the Heat Temp. through PC.



- If the application software has the temp control function, it could be remote. Refer to the Operation manual of that Application Software.

Parameter: OFF, 20~60 °C (per1 °C)
 OFF, 68~140 °F (per1 °F)
 According to a rounding error, it's possible not to set by 1 °F unit.

Standard of temperature set value

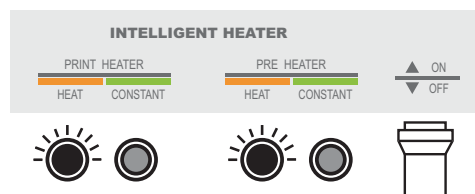
Heater \ Medium	PVC	Tarpaulin	FF
Pre	40 °C	30 °C	55 °C
Print	40 °C	42 °C	55 °C

Adjust to the suitable temperature according to the media condition.

1. Make sure the Heater Switch to be ON.

HEAT indication turns on a light when heating.

When the Heater temp. is up to the set temp, CONSTANT indication turns on a light.

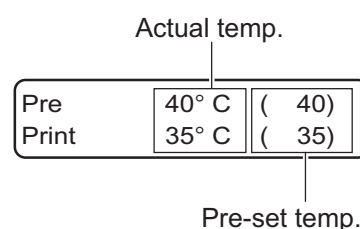


2. Push the [HEATER] key.

Indicate the actual Heater temp. and pre-set temp. at the same time.

Press the [HEAT] key again, then return to previous indication.

Any key operation has not been done up to 30sec., it turns to be Local or Remote mode.



3. Push the [ENTER] key.

The cursor is shown up on the LCD display, then can change the Temp. of Pre-Heater.

Pre	40° ▶	40° C
Print	35° ▶	35° C

4. Select the temperature by pushing the JOG keys [▲] and [▼].

Pre	40° ▶	45° C
Print	35° ▶	35° C

5. Press the Jog key [▶] and Select the PRINT HEATER.

The cursor moves on the indication of Print Heater, and can change the Temp.

Pre	40° ▶	45° C
Print	35° ▶	35° C

6. Change the temperature by pushing the JOG keys [▲] and [▼]

Pre	40° ▶	45° C
Print	35° ▶	40° C

7. Push the [ENTER] key.

Pre	40° C	(45)
Print	35° C	(40)

8. Push the [HEATER] key.

Return to Local or Remote mode.

* REMOTE *	
TYPE. 1	0.0 0 m

When the Heater temp. is still increasing up to the set temp, the LCD will be the right side of indication.

When the Heater temp. goes up to the set temp., the alarm sounds, the CONSTANT indication of Pre-heater and Print Heater turns on a light, then to be Remote mode.

TEMP. CONTROL PLEASE WAIT



These two messages alternately appear.



- To start Printing before reaching the set temp., press [ENTER] key and return to Remote mode.

Pre	40° C	(45)
Print	35° C	(40)

In case of faultiness with Heater

In case the Power turns off, or the Heater is in problem, the LCD indicates below.

When pressing the [HEATER] key while indicating below, it shows Error message.

LOCAL mode

<LOCAL> ■ HEATER
width: xxxxx mm

REMOTE mode

REMOTE ■ HEATER
TYPE. 1 0.0 0 m

Checking and solving nozzle clogging


Make test plotting to check whether there is nozzle clogging or other plotting failures.

If the finished test pattern shows any sign of abnormal conditions, carry out the cleaning function.

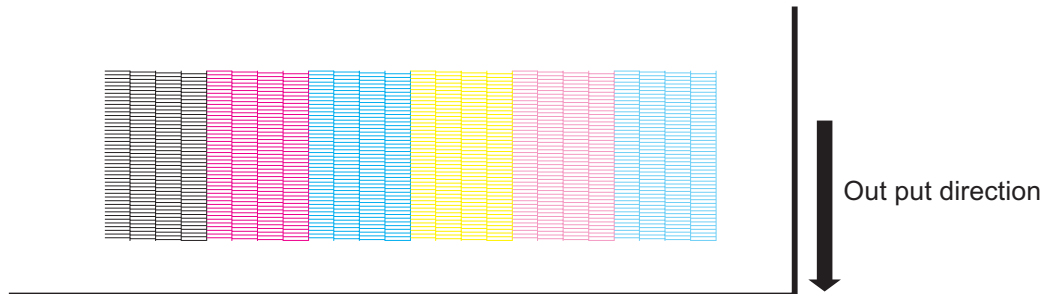


- To perform the test plot on a cut sheet medium, use a medium whose size is A4 or larger with placed in landscape configuration.

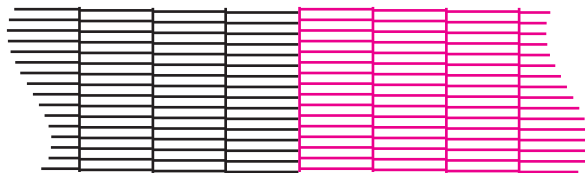


- If a normal test pattern cannot be obtained even after the cleaning function is executed, clean the wiper and ink cap.  page.3.4

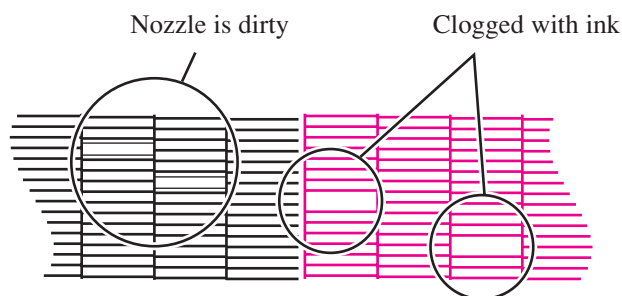
Test pattern



Normal pattern



Abnormal pattern



STEP

1. The device enters the LOCAL mode.

Push the [REMOTE] key and put the device back into the LOCAL mode.

REMOTE



< LOCAL >
width : 1272 mm

2. Push the [TEST&CLEANING] key.

TEST &
CLEANING



TEST DRAW
< ENT >

3. Push the [ENTER] key.

The device plots the test pattern.

ENTER



* * TEST DRAW * *

4. Check the test patterns.

If a failure occurs, proceed with step 5; otherwise, terminate the operation.

< LOCAL >
width : 1272 mm

5. Push the [TEST&CLEANING] key twice.

TEST &
CLEANING



CLEANING
TYPE : normal

6. Select the method of cleaning by pushing the JOG keys [▲] and [▼].

soft : Select this if there is any missing line.
normal : Select this if any line is bent.
strong : Select this if inferior plotting cannot be recovered after [normal] or [soft] cleaning.



CLEANING
TYPE : normal

CLEANING
TYPE : soft

CLEANING
TYPE : strong

7. Push the [ENTER] key.

Cleaning starts. The operation status is displayed as * in the second line.

ENTER



CLEANING ACTIVE
* * * * - - - - -

8. The device revert the LOCAL mode.

< LOCAL >
width : 1272 mm

9. Repeat steps 2, and check the result of the test plotting.

Repeat steps 2 to 7 until normal plotting result is obtained.

Correcting the medium feed rate [MEDIA COMP.]

When the medium type or heater temperature is changed, the amount of medium feed changes. Be sure to correct dot positions.

If the correction value is not appropriate, stripes may occur in the plotting, disturbing neat plotting.



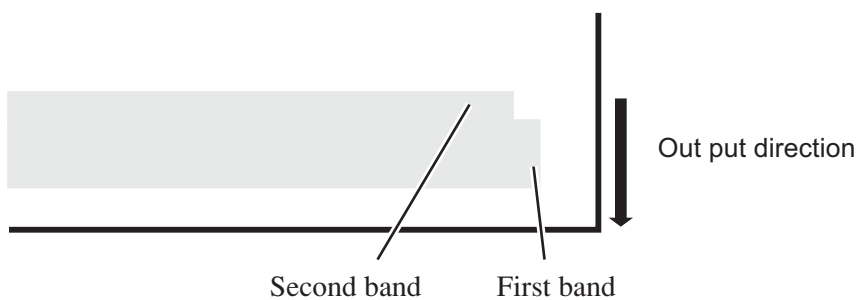
- When the heater temperature is changed, make sure that the CONSTANT indicator is lit and the set temperature is reached before making correction.

CORRECTING PATTERN

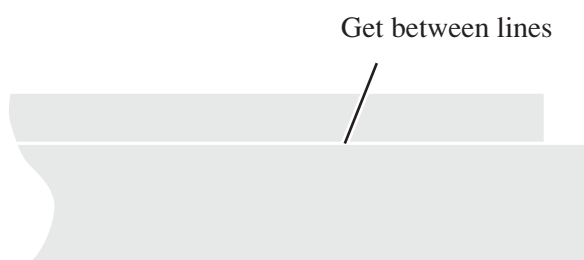
Plot two bands.

Adjust the plot density so that the boundary of the two bands is plotted with an even density,

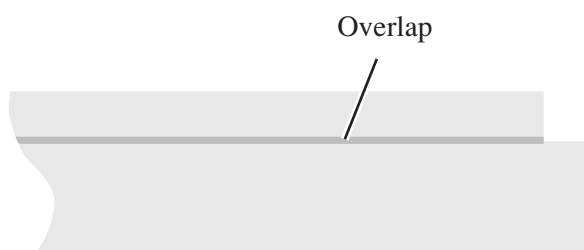
Setting value : -255 - 255



Correction value is too large



Correction value is too small



STEP

1. Put the device into the LOCAL mode.

< LOCAL >
width : 1272 mm

2. Push the [FUNCTION] key.




FUNCTION
SET UP < ENT >

3. Push the [ENTER] key.



SET UP
SELECT : TYPE. 1

4. Push the [▲] and [▼] key to select a type.

 page 4.4



SET UP
SELECT : TYPE. 1

5. Push the [ENTER] key.



TYPE. 1
MEDIA COMP. < ent >

6. Push the [ENTER] key.



TYPE. 1
PRINT START : ent

7. Enter a correction value from the output pattern.

Enter the correction value by pushing the JOG keys [▲] and [▼].



- When [ADJUST] is changed to 30, the pattern moves by about 0.1 mm. Determine the correction value referencing this amount of movement.

TYPE. 1
ADJUST = 20

8. Push the [ENTER] key.

Register the correction value.

Repeat steps 6 to 8 until normal plotting result is obtained.



TYPE. 1
PRINT START : ent

9. Push the [END] key three times, and the menu returns to the LOCAL mode.



< LOCAL >
width : 1272 mm

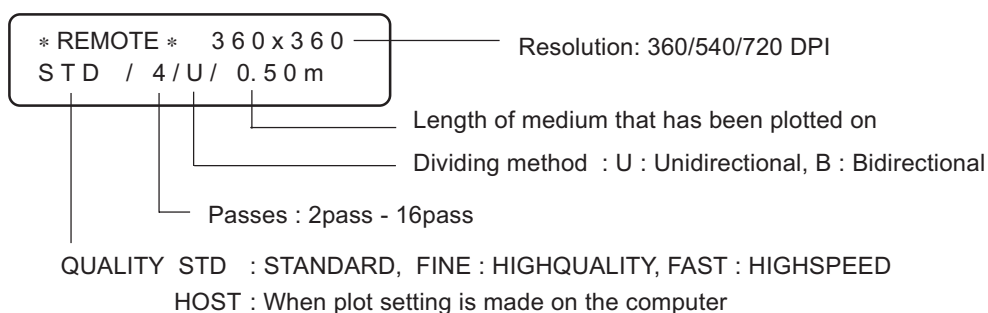
Plotting an Image from source data

Starting the plotting operation

The following describes the mode selection for data reception from the computer and LCD display during plotting.


For various function settings necessary for plotting, refer to “CHP4 Setting Function”.

When plotting is started, the LCD displays the following information.




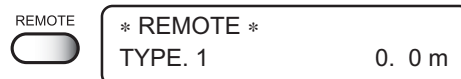
STEP

1. Check the heater temperature.

Make sure that the CONSTANT indicator on the heater panel rights.  page .2.18

2. Push the [REMOTE] key.

The type of the currently selected plotting condition can be confirmed.  page 1.7



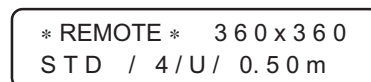
3. Transmit data from the computer.

The plotting conditions that have been set for the data are displayed.

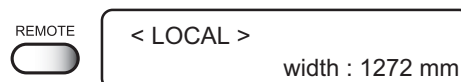
For the method of data transmission, see the manual for the output software.

4. During the plotting.

During the plotting operation, the length of the medium plotted on is displayed.



5. After the plotting operation is completed, push the [REMOTE] key to put the device back into the LOCAL mode.



Interrupting the plotting operation

To interrupt the plotting operation, stop the carriage and erase (the receive data) from the device.

STEP

1. Push the [REMOTE] key to stop the plotting operation.



< LOCAL >
width : 1272 mm

2. If data is being transmitted from the computer to the device, stop the data transmission.

3. Push the [DATA CLEAR] key.
The data that has been received is erased.



DATA CLEAR
< ENT >

4. Push the [ENTER] key.
The device enters the LOCAL mode.




< LOCAL >
width : 1272 mm

After completing the plotting operation

Cutting off the medium at the end of the plotting operation is explained below.



- Do not turn off the main power switch on the rear face. If the main power switch is turned off, the nozzle will be clogged.
- When Auto Cut has not been specified ( page 4.7), cut off the medium using the following procedure.

STEP

1. Put the device back into the LOCAL mode.
Push the [REMOTE] key and put the device back into the LOCAL mode.

< LOCAL >
width: 1272 mm

2. Push the [JOG] key until the LCD gives the indication [ORIGIN SET UP].
Any of the JOG keys can be used.

ORIGIN SET UP
0. 0 -----

3. Push the [FUNCTION] key.



MEDIA CUT
< ENT >

4. Push the [ENTER] key.
Cut off the medium that has been plotted on.



MEDIA CUTTING
PLEASE WAIT

5. The device enters the LOCAL mode.
The device returns to its initial condition.

< LOCAL >
width : 1272 mm

To replenish ink, set a new ink cartridge in the ink station

If ink in the cartridge comes to an empty, the corresponding message appears.
Plotting can be continued but ink may run out during plotting.
Immediately put a new ink cartridge.



- In case [NEAR END] is indicated on the LCD, replace a ink cartridge in good time. When carrying out continuous output, after checking the ink level, start printing. In case ink finish, printing stops, or replacing the ink may result in color change during printing.

< When the amount of ink becomes small during plotting >

Indicate the ink color which has run out.
The display at right indicates that black ink comes to an end.

< LOCAL >	
NEAR END	K - - - -

< When the amount of ink completely runs out during plotting >

Indicate the ink color which has completely run out.
The display at right indicates that cyan ink runs out.

< LOCAL >	
INK END	- - C - - -

STEP

1. Either of the messages shown above is displayed on the LCD during plotting.

When [INKnearEND] appears, the local mode is resumed and the operation stopped each time plotting of a single data is completed. Proceed with Step 2 at the end of the plotting operation. Proceed to Step 2 at the end of the plotting operation. When [INKEND] appears, plotting cannot be continued.

2. Install a new ink cartridge.

Pull out the ink cartridge of the indicated color and then set a new ink cartridge.

3. The device enters the LOCAL mode.

Continuous plotting is possible.

Display ink information

This information allows you to check the remaining amount of ink.


1. Press the [ENTER] key in the local mode.

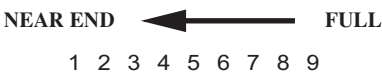
The remaining amount of ink is displayed with a number from 1 to 9.
1 indicates near end and 9 full.

< LOCAL >	K	M	C	Y	m	c
REMAIN	9	8	7	5	8	8

2. Press the [ENTER] key again to return to the local mode.

If the ink cartridge is defective, the error details are displayed.

 P.6.5, 6.6



Turning the power off

When plotting is completed, press the power switch on the front face to turn the power off.

To turn the power off, check first whether or not there is data received and there remains data that has not yet been output in the device.

Also make sure that the head rests at the capping station.



- Do not turn off the main power switch on the rear face. The power is turned on periodically and the nozzle clogging preventive function is activated. If the main power switch is turned off, the nozzle will be clogged. Repair by service personal is required.



- Leave the front cover closed. If it is open, the nozzle clogging preventive function is not activated.



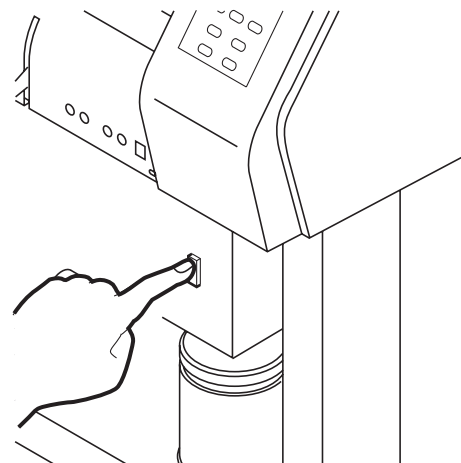
- If the power switch is turned off, the exhaust fan of the device stops. For ventilation, do not turn off the power switch immediately after plotting.



- If the power is turned off while the device is engaged in plotting, the head may fail to be retracted in the capping station. If the head is left without capped for an extended period of time, the nozzle will be clogged with dust. If the power to the device is turned off without the head capped, return on the power to the device.

1. Turn off the power to the device.

The POWER indicator on the operation panel goes off.



CHAPTER 3

Daily cleaning

This chapter describes daily cleaning.

Table of contents

Routine Maintenance	3.2
Notes on cleaning	3.2
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Cleaning the media sensor	3.3
Maintenance for frame components	3.3
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Cleaning the nozzle [NOZZLE WASH]	3.7
When the waste ink tank becomes full	3.8

Routine Maintenance

Be sure to conduct maintenance works for the device when necessary or periodically so as to use the device for a long time while keeping its plotting accuracy.

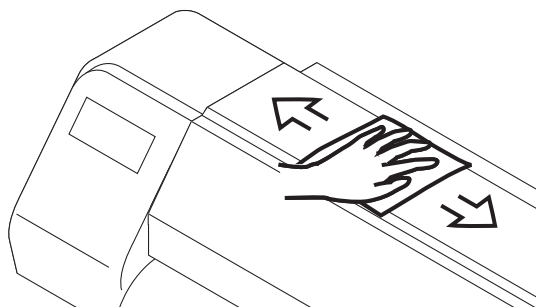
Notes on cleaning



- When using the maintenance cleaning fluid RS, be sure to wear the protective glasses.
- Never disassemble the device. Disassembling the device can result in electric shock hazards and breakage of the device.
- Prevent moisture from entering inside the device. If the inner part of the device becomes wet, electric shock hazards and breakage of the device can result.
- Conduct maintenance works after turning off the power switch and detaching the power cable. If not, unexpected troubles can arise.
- Do not wipe the nozzles, wiper, or cap of the head with water or alcohol as doing so may cause nozzle clogging or damage to nozzles.
- Do not use benzine, thinner and chemical agents containing abrasives. Such materials can deteriorate or deform the surface of the cover.
- Do not apply lubricating oil or the like inside the device. Such materials can cause the plotter mechanism to fail.
- Be careful not to allow the maintenance cleaning fluid RS or ink to adhere to the cover as this may cause deterioration or discoloring of the surface of the cover.

Maintenance for frame components

If the frame components of the device have stained, dampen a piece of soft cloth with water or neutral detergent diluted with water, squeeze it and wipe the frame components clean.



Cleaning the platen

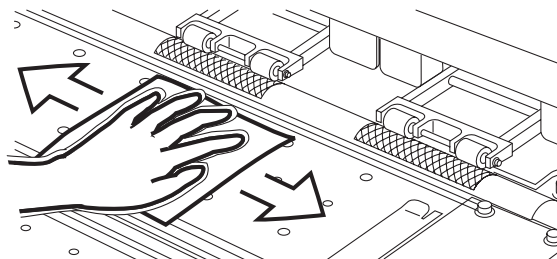


- Clean the platen after the platen cools down.

The platen may be stained by lint or dust since the medium is cut on it.

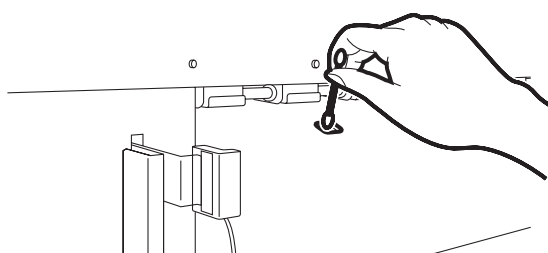
Wipe out dirt using the supplied paper towel.

If it is stained by ink, drop the cleaning fluid using a dropper and then wipe out dirt using a paper towel.



Cleaning the media sensor

Using the cotton buds, wipe out dust or dirt on the surface of the sensor.



Cleaning the wiper and ink caps

The ink cap prevents clogging of the head nozzle caused by dried nozzle.

The wiper wipes out ink adhered to the head nozzle.

As the device is used to plot images, the wipers and ink caps gradually become stained with ink and dust.

Use the cotton buds to clean the ink and wiper.

Clean the wiper and the ink cap periodically so as to keep the plotter in good operation condition.



- When cleaning the ink station and head, be sure to wear the supplied goggle and gloves since you may get ink in your eyes.



- Do not move the carriage out of the capping station by hand. Use the appropriate operation key to move the carriage.

STEP

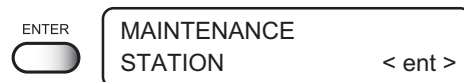
1. Push the [FUNCTION] key.



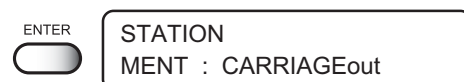
2. Push the [▲] and [▼] key until the display gives the indication [MAINTENANCE].



3. Push the [ENTER] key.
[STATION] is displayed.



4. Push the [ENTER] key.
[CARRIAGE out] is displayed.

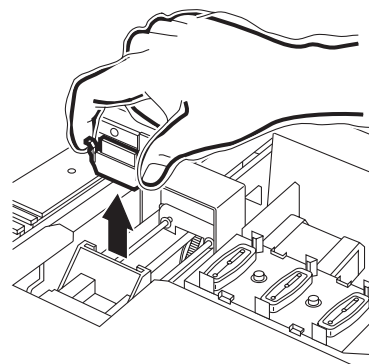


5. Push the [ENTER] key.
Move the carriage on the platen.




6. Open the front cover.

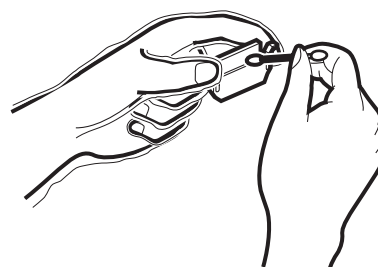
7. Holding the projections at both ends, draw out the wiper.



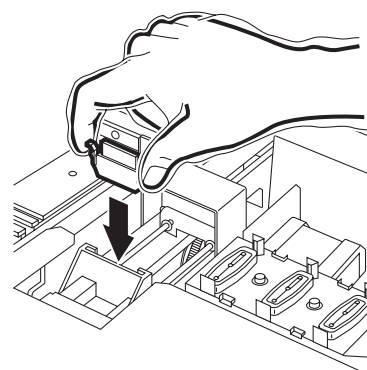
8. Remove the ink at the wiper and the bracket using a cotton bud dampened with cleaning fluid RS.



- If dirt of curl is serious, replace the wiper with a new one. At the time of replacement, be sure to terminate the plotter operation and follow the wiper replacement procedure.  page 5.5



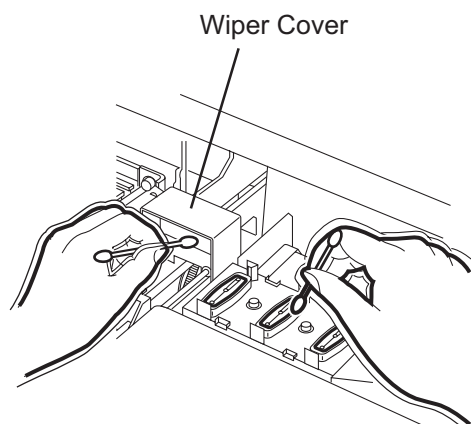
9. Holding the projections at both ends, insert the wiper which has cleaned into place.



10. Wipe off ink or dirt adhered to the rubber of the cap and the ceiling of the wiper cover using cotton buds.



- Be careful not to leave lint of the cotton bud. Lint may cause plotting failure.



11. Push the [ENTER] key.

The carriage return to the capping station, and the initial operation is performed.



INITIALIZING
PLEASE WAIT

< LOCAL >

Use the cleaning kit

In case the internal section is dirty or if nozzle missing cannot be resolved even after cleaning (see page 2.21, 4.9), use the cleaning kit.

The cleaning kit contains the following items. Do not use alcohol or water.

When using the supplied maintenance cleaning fluid, be sure to wear the supplied protective glasses.

- Cleaning fluid RS for maintenance (SPC-0336)
- Dropper
- Cotton bud
- Glove

Cleaning the station interior

STEP

1. Push the [FUNCTION] key.

FUNCTION
SET UP < ENT >

2. Push the [▲] and [▼] key until the display gives the indication [MAINTENANCE].

FUNCTION
MAINTENANCE < ENT >

3. Push the [ENTER] key.

[STATION] is displayed.

MAINTENANCE
STATION < ent >

4. Push the [ENTER] key.

[CARRIAGE out] is displayed.

STATION
MENT : CARRIAGEout

5. Push the [ENTER] key.

Move the carriage on the platen.

STATION
COMPLETED : ent

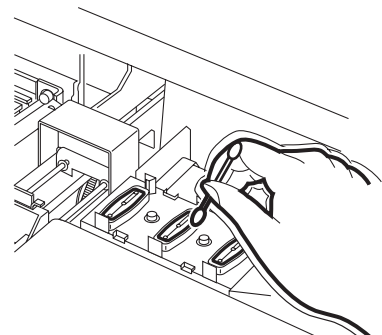
6. Open the front cover.

7. Dampen a cotton bud with cleaning fluid.

8. Using the cotton bud dampened with cleaning fluid, wipe out dirt on the wiper and around the cap.



- Be careful not to leave lint of the cotton bud. Lint may cause plotting failure.



9. Close the front cover, and push the [ENTER] key.

The carriage return to the capping station, and the initial operation is performed.

< LOCAL >

Cleaning the nozzle [NOZZLE WASH]



- If nozzle clogging cannot be resolved even after cleaning several times, execute the [FILL UP INK] and [WASH] functions (☞ page 5.9) .
If this error cannot be resolved with these functions, contact the dealer.

STEP

1. Push the [FUNCTION] key.

FUNCTION
SET UP < ENT >

2. Push the key until the display gives the indication [MAINTENANCE].

FUNCTION
MAINTENANCE < ENT >

3. Push the [ENTER] key.
[STATION] is displayed.

MAINTENANCE
STATION < ent >

4. Push the [ENTER] key.
[NOZZLE WASH] is displayed.

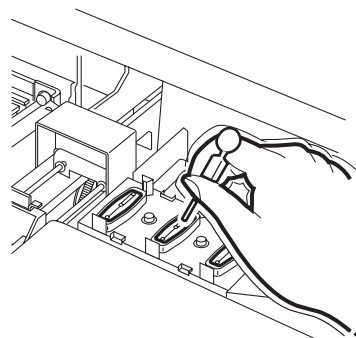
STATION
MENT : NOZZLE WASH

5. Push the [ENTER] key.
Move the carriage on the platen.

STATION
COMPLETED : ent

6. Open the front cover.

7. Fill the cap with the cleaning fluid using a dropper.



8. Close the front cover, and push the [ENTER] key.

9. Press the [▲] and [▼] key, select the time to leave. (1-99 mins: 1 min unit)
Normally set 1 min.

STATION
TIME : 1 min

10. Push the [ENTER] key.
The indication at the right display continues during selected time to leave for sucking the cleaning solution and cleaning.

INITIALIZING
PLEASE WAIT

11. Return to the LOCAL mode.

< LOCAL >

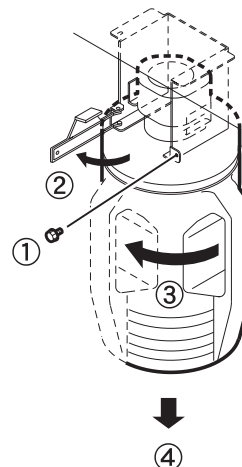
When the waste ink tank becomes full

Waste ink used for cleaning the heads will gather in the waste ink tank.

When the waste ink has gathered to exceed the marker line on the tank, immediately replace the tank with a new waste ink tank.

STEP

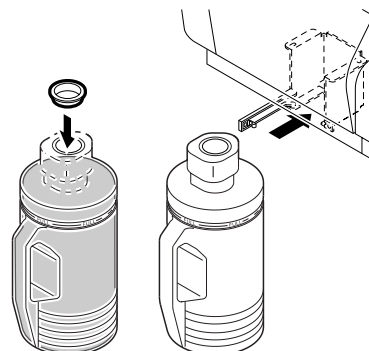
1. Remove screws from the waste tank guard.
2. Open the waste tank guard.
3. Holding the handle, raise the waste ink tank.
4. With the tank raised, turn the tank by 90 degrees and let it down.
5. Pull out the tank toward you.



6. Replace the waste ink tank with a new one.

Hold the handle, then insert the tank into the direction shown by the arrow.

Put a cap over the tank that is full of waste ink and dispose of the tank.



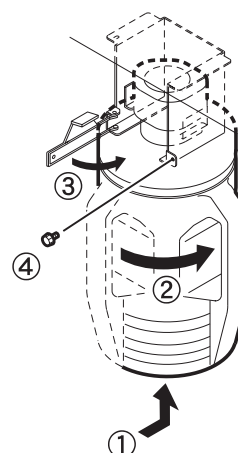
- When pulling out the waste ink tank, hold the opening of the waste ink tank with paper and then slowly pull it out to prevent waste ink from spattering.
- Before replacing ink, put paper on the floor to prevent it from being stained with ink.

7. Raise the inserted waste ink tank, then turn it by 90 degrees.

8. Close the waste tank guard and secure with the screws.



- Request an industrial waste processor for processing of empty cartridges.



CHAPTER 4

Setting Function

This chapter describes operations and setting necessary for plotting.

Table of contents

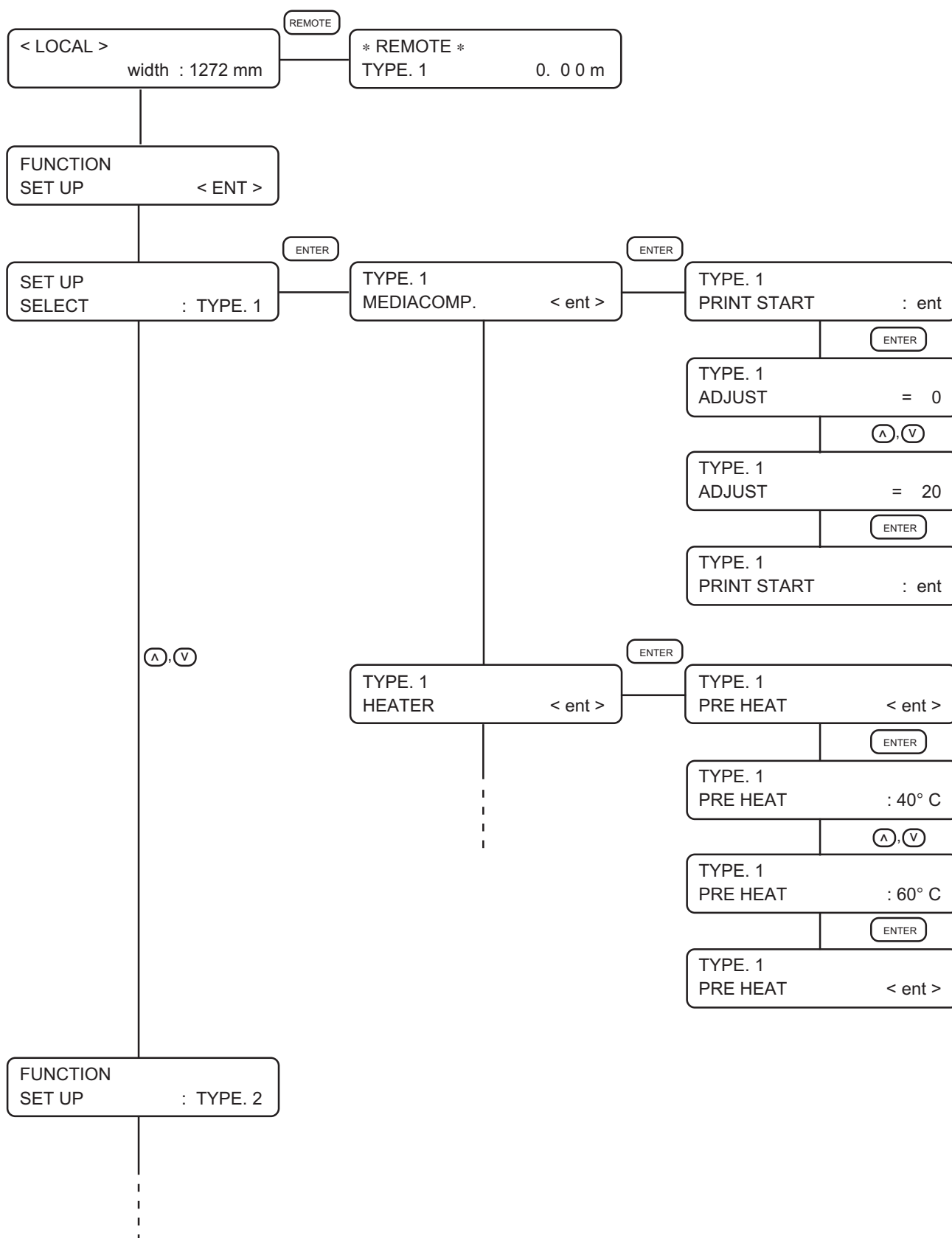
Basic operations of menus	4.2
Function mode	4.4
Registering a type	4.4
Changing the type	4.4
Setup functions.....	4.5
Setting suitable heater temperature	4.10
Setting exhaust fan	4.11
Effective Plotting Area	4.12
Establishing An Origin	4.13

Basic operations of menus

This section describes how to change over the operation modes and how to operate the menus.

The following gives the key operation flow to invoke menus.

For detailed menu configuration, refer to Appendix.



1. Select the LOCAL mode.

Ascertain first that the device does not perform printing under the REMOTE mode, then press the [REMOTE] key to enter the LOCAL mode.

2. Select the FUNCTION mode.

Press the [FUNCTION] key, and the device will enter the FUNCTION mode.

The FUNCTION mode is divided into two: the setup function and maintenance function. Select either function.

3. Select a type.

There are four types. The FUNCTION mode can be set for each type depending on the medium type used.

4. Select the Function.

Select the function pushing the JOG keys [▲] and [▼].

5. Enter the Function selected.

Press the [ENTER] key.

6. Select a parameter.

Press the JOG keys [▲] and [▼] to select a parameter.

7. Enter the specified value.

Press the [ENTER] key.

8. Restore the LOCAL mode.

Press the [END] key several time to restore the LOCAL mode.

Function mode

The FUNCTION mode consists of 16 items.

The 16 items can be registered for each of the following four types.

If the type has been registered for each medium type, it becomes easy to change plotting conditions when the medium type is changed.

Example) Type1 : For Tarpaulin 1
 Type2 : For Tarpaulin 2
 Type3 : FF
 Type4 : PVC

Registering a type

- 1. Make sure that the mode is LOCAL mode.**

< LOCAL > Width : 1272 mm

- 2. Push the [FUNCTION] key.**

FUNCTION
SET UP < ENT >

- 3. Push the [ENTER] key.**

```
SET UP
SELECT      : TYPE . 1
```

4. Select any of Types 1 through 4 by pushing the JOG keys [▲] and [▼].

```
SET UP
SELECT      : TYPE . 2
```

- 5. Push the [ENTER] key.**

Setting Plotting Conditions.

 page 4.5 through 4-9

TYPE . 1	
MEDIA COMP.	< ent >

Changing the type

If plotting conditions for types 1 through 4 have already been registered, settings can be selected according to the plotting simply by selecting the type.

- 1. Perform steps 1 through 5 above.**

Select a type.

TYPE . 1
MEDIA COMP. < ent >

- 2. Push the [END] key.**

Plotting with the plotting condition registered for the selected type is possible.

Setup functions

The following describes the overview of and settings for each function.

MEDIACOMP. P.2-20

When the medium type or heater temperature is changed, be sure to correct the amount of feed according to the medium thickness.

(-255-255)

HEATER (Temperature setting during plotting P.2-18)

Sets the printer heater and preheater built in the platen.

PRE HEAT :

Sets the temperature of the preheater.

(OFF, 20- 60 °C / 68- 140 °F)

PRINT HEAT :

Sets the temperature of the printhead.

(OFF, 20- 60 °C / 68- 140 °F)

°C / °F :

Selects the unit of temperature.

(°C / °F)

STANDBY :

Sets the time interval since when plotting is completed till when the heater temperature begins to drop to the preheat temperature. The preheat temperature is preset and cannot be changed. When plotting is started when the temperature has dropped, it rises up to the set temperature automatically.

When [NONE] is selected, the temperature does not drop to the preheat temperature.

(NONE, 10- 90 min /10min step)

OFF TIME :

The heater is turned off in the following cases:

- If the device does not plot for the setup time or longer in the standby mode.
- With STANDBY-[NONE] selected, when plotting is started with the heater off if the device does not plot for the setup time or longer after the end of plotting, the temperature rises up to the set temperature automatically.

With [NONE] selected, the heater is not turned off.

(NONE, 30, 60, 90 min.)

PRINT MODE

Sets the plot quality, plot direction, and logical seek.

QUALITY :

Select the quality image from three items.
(STANDARD, FINE, FAST)

DIRECTION :

Specifies the head movement direction along which plotting is made.

[UNI-D] specifies that plotting is made while the head is moving to the left.

[BI-D] specifies that plotting is made while the head is moving to the left and right.

This mode allows higher plotting speed with a lower plot quality than UNI-D.

(UNI-D, BI-D)

LOGICALseek :

Normally, the head moves all the way to both ends of the medium to make plotting.

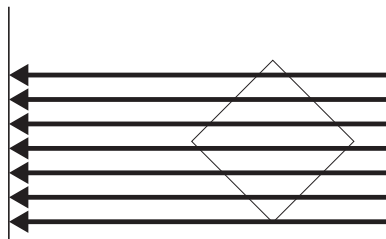
With LOGICAL seek, the head moves to the left and right according to the width of the plot image to make plotting.

This can reduce the plotting time.

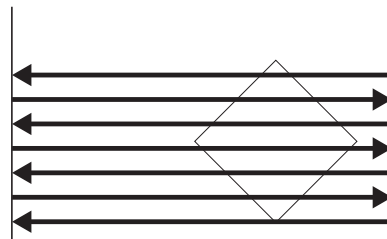
This mode is effective not for raster data over the entire square area such as photographs but for illustrations.

The head movements are shown below.

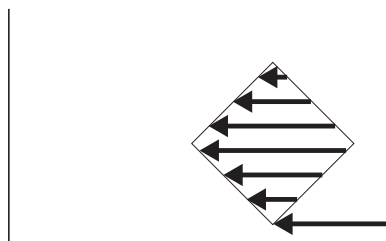
OFF (UNI-DIRECTIONAL)



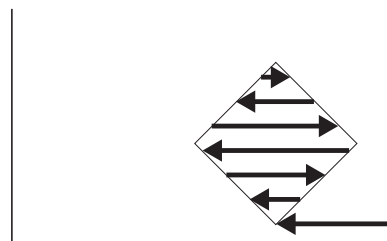
OFF (BI-DIRECTIONAL)



ON (UNI-DIRECTIONAL)



ON (BI-DIRECTIONAL)



INK LAYERS

Sets the number of overwriting if ink coloring is poor.

(1-9 times)

DRYING TIME

This function sets an ink drying time. It sets the function for drying ink.

The drying time is the wait time by scanning and the time interval between the instant at which the plotting operation is completed and the instant at which the medium plotted is cut off.

Specify the time to be established in accordance with the printing resolution on a drawing and the type of medium to be used.

SCAN :

Sets the time of temporary stop at the capping station during the reciprocating motion of the head.

(0.0-9.9 sec)

AUTO CUT :

Sets the time between the end of plotting and medium cutting.

However, the AUTO CUT function needs to be enabled.

(0-999 sec)

AUTO CUT

This function cuts off the medium automatically at the end of plotting.

If AUTO CUT is not specified, the device plots the next plotting data after plotting the current data, without cutting off the medium.

(ON, OFF)

Even if AUTO CUT is not specified, you can cut off the medium by hand.

 page 2.25

PRIORITY

Specifies whether the values set on the device (panel) are given priority or the values set on the computer (host) are enabled as for the following seven functions.

(HOST, PLOT)

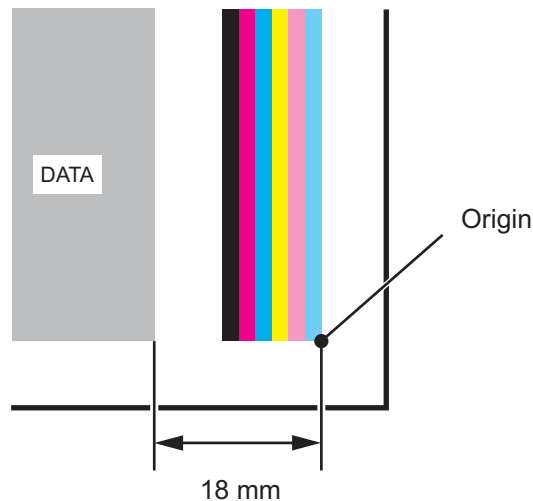
- MEDIA COMP.
- HEATER
- PRINT MODE
- INK LAYERS
- DRYING TIME
- AUTO CUT
- REFRESH

MARGIN

This function sets a dead space to increase/decrease the right and left margins of the medium.
The function is used to increase the margin for binding.
You can set a dead space for each of the right and left margins of the medium.
(-10-85 mm)

COLOR PATTERN

Plots a color pattern at the right end of the medium. Nozzle clogging can be checked during plotting.
The color pattern is plotted in the 18 mm area from the origin. The plotting area becomes smaller. Therefore, when plotting is made all the way to both ends of the medium, turn this function off.



REFRESH

Solidification of ink can be prevented by refreshing the head during plotting.
If this function is executed in a dusty place or dry place, ink in the head will be likely to solidify.
A larger level results in more number of refreshes.
(LEVEL0-3)

MEDIA SET

This function sets the method of medium detection.

SELECT :

During the initial operation, the device displays a menu for selection of “roll medium” or “cut sheet medium”.

When “roll medium” is selected, only the width of the medium is detected. When “cut sheet medium” is selected, both the width and length of the medium are detected.

WIDTH :

Select this method when a roll medium is used.

Only the width of a medium will be detected.

When the medium is set and the clam lever is pushed up, the device detects only the medium width automatically.

VACCUM

Sets the absorbability of the medium. If the medium tends to stick to the platen, select LOW.
(STANDARD, LOW, OFF)

MM / INCH

Set a unit of set values displayed.
(MM, INCH)

STAMP

Prints the date of output and plotting condition at end of plotting.

MODE STAMP :

Print the plotting condition.
(ON, OFF)

TIME STAMP :

Print the date of output.
(ON, OFF)

AUTO CLEANING

The head is cleaned automatically. Perform cleaning for each plot to prevent plotting failures.
(ON, OFF)

SETUP RESET

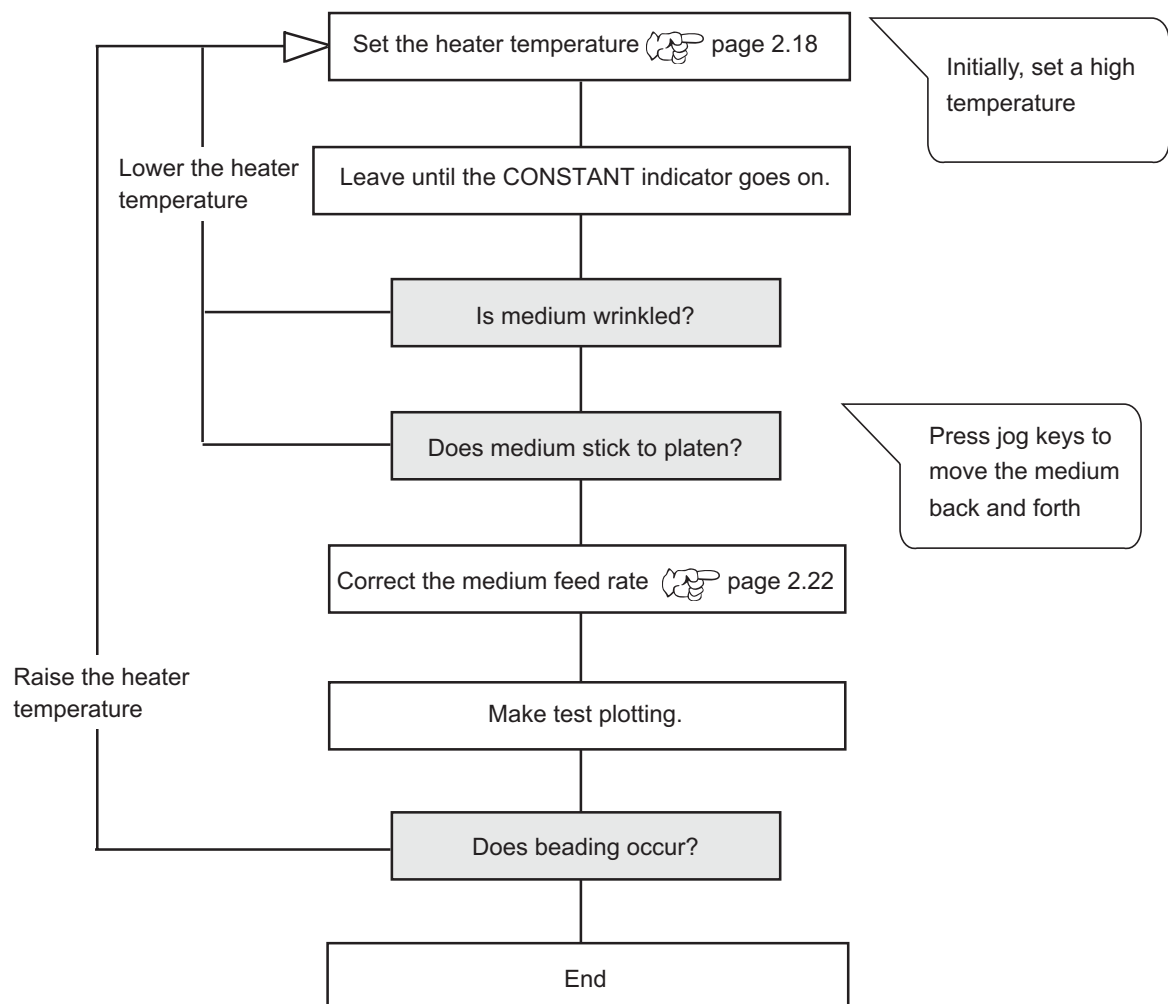
This function resets the current plotting conditions to the factory-set plotting conditions.
Execute this function for each of the types of set plotting conditions.

Setting suitable heater temperature

The following describes the procedure for setting the suitable heater temperature at the time of heater temperature depends on the medium type and ambient temperature. (☞ page 2.18,4.5)

Set a temperature which is suitable for each medium. Non-coated media and media with a long ink drying time improve the ink fixing and drying characteristics.

Set a suitable heater temperature with the following procedure.



Setting exhaust fan

The following sets up the rotational operation of the exhaust fan which lets out the order of ink.

STOP TIME

Stops rotation of the exhaust fan at the specified period of time interval after plotting.

CONT. :

Rotates the fan at a HIGH speed.

0- 240 min

Set up the period of time after plotting when the fan is to be stopped. When the plotter starts operation, the fan starts rotation accordingly. (During plotting, the fan is rotating at a high speed.)

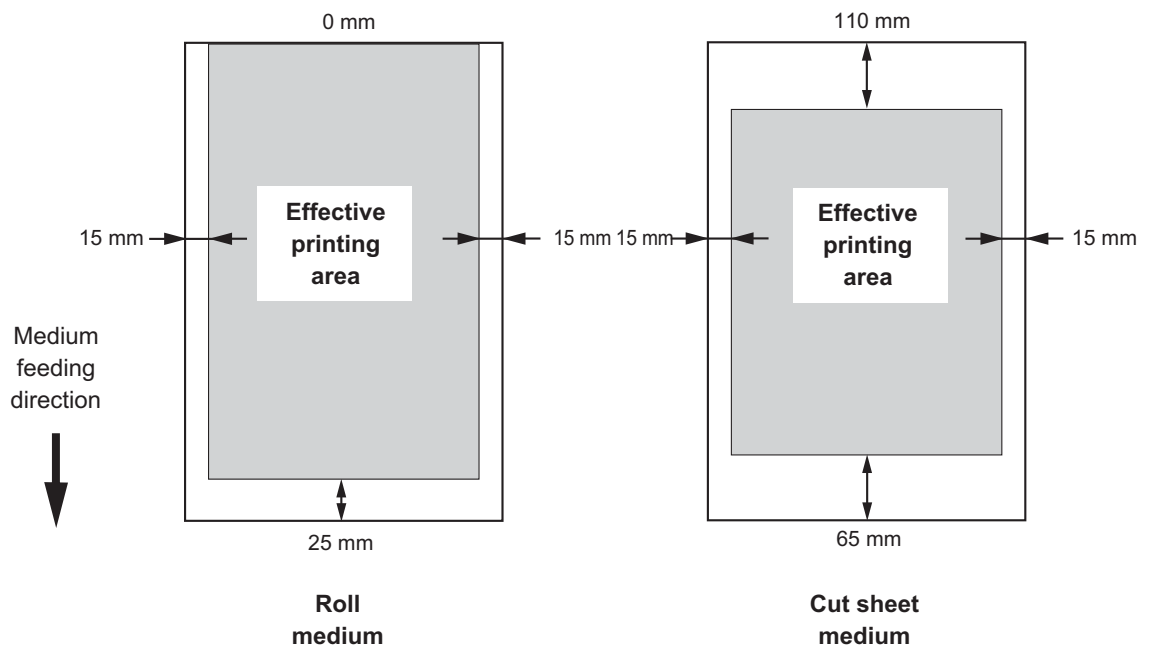
RENEW

Selects the current status of the exhaust fan.

(HIGH, LOW, OFF)

Effective Plotting Area

The device has an area which cannot perform printing, due to mechanical reasons.
This area is called “dead space”.



Changing the effective printing area...

Initial value of dead space for right and left of medium is 15 m each.

The effective plotting area can be changed by changing the dead space.

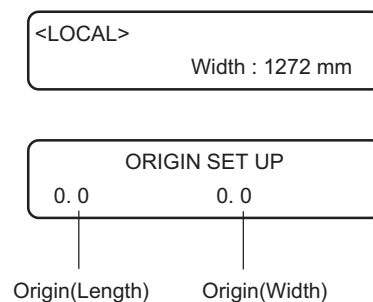
Dead space is set with [Margin] in FUNCTION mode.

Establishing An Origin

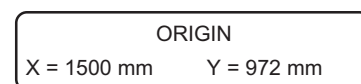
Establish an origin in terms of data on medium loaded on the device.
In the case of printing with the unspecified origin, set the origin again.

STEP

1. After the medium detection is completed, move the carriage to the position at which to establish an origin by pushing the JOG keys [▲], [▼], [◀] and [▶].



2. After deciding the origin, push the [ENTER] key.



The effective plotting area is displayed on the LCD, and the device enters the LOCAL mode.

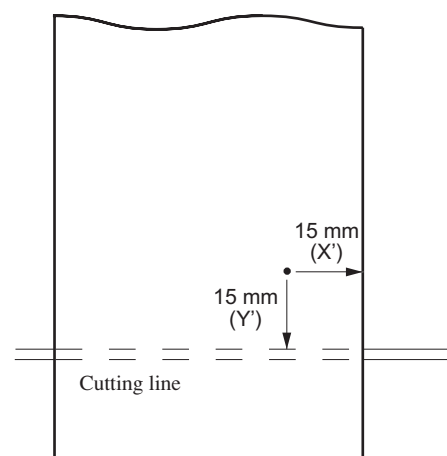
(When a roll medium is used, X is not detected.)

When the device starts plotting the next time, it uses the origin that has been established unless the origin is changed.

Standard of printing origin

The printing origin in set like right chart when shipping.

The value of scanning direction (X') can be changed with [Margin] in FUNCTION mode.



CHAPTER 5

Maintenance

In order to keep the plotter in good operating condition, it is necessary to carry out maintenance of the device periodically.

This chapter describes the functions that help solve the problem of deterioration in image quality and replace a worn cutter blade.

The device needs maintenance when it is left out of operation for a long period of time.

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Maintenance of the device

The term “maintenance” as used herein refers to the operation that has to be performed to keep the device in good operating condition.

To carry out maintenance of the device, select [MAINTENANCE] from the function menu and make the necessary settings.

Invoking a maintenance function

In order to execute any of the maintenance functions, it is necessary to perform the following operation on the operation panel.

You have to understand how to invoke the desired maintenance function to carry out maintenance.

STEP

1. Make sure that the mode is **LOCAL** mode.

< LOCAL >
width : 1272 mm

2. Push the [FUNCTION] key.



FUNCTION
SET UP < ENT >

3. Push the [▲] and [▼] key until the display gives the indication [MAINTENANCE].


FUNCTION
MAINTENANCE < ENT >

4. Push the [ENTER] key.




MAINTENANCE
STATION < ent >

5. Select the next operation.

Set up the desired maintenance function to carry out maintenance.  page 5.3

Setup functions

The following describes the overview of and settings for each function.

Name	function	
STATION	Clean the inside of the station and replace the wiper. (WIPER EXCHANG, CARRIAGEout)	page 5.4 through 5.6
PRINT ADJUST	Correcting the dot positions after adjusting the head height.	page 5.7
FILL UP INK	Perform this function if nozzle clogging is resolved after head cleaning.	page 5.9
WASH	Perform this function if nozzle clogging is resolved after head cleaning.	page 5.9
LIST	Plotting the set condition of the device.	page 5.11
DATA DUMP	Plotting data commands received from the computer, in HEX code.	page 5.12
WIPE LEVEL	Makes setting to move up the wiper replacement warning depending on the operating environment.	page 5.13
TIME SET	Sets the date and time of the built-in calender of the device.	page 5.14
INFORMATION	Displays the firmware version, serial number, and dealer number of the device.	page 5.15

Cleaning the station interior [STATION]-[CARRIAGEout]


Move the carriage when cleaning the station interior and replacing the consumable parts.



- Do not move the carriage out of the capping station by hand.
Use the appropriate operation key to move the carriage.

For the [STATION] function, there are two following items.

CARRIAGEout : Move the carriage for maintenance of the station interior.

WIPER EXCHANGE : When the message [REPLACE WIPER] is displayed, replace the wiper.  page 5.5.

NOZZLE WASH : Clean the nozzle using the cleaning kit.  page 3.7


STEP

1. **Select [CARRIAGEout], and then carriage moves out.**


STATION MENT	: CARRIAGEout
-----------------	---------------

2. **Open the front cover, then perform the following maintenance works for the station interior.**

1. **Cleaning the ink caps**

Remove ink with a cotton swab from the rubber mounted around the cap.  page 3.4.

-
2. **Cleaning the wiper**


Take out the wiper and then wipe out ink with cotton buds.  page 3.4.

-
3. **Cleaning the wiper cover**

Wipe off ink to the ceiling of the wiper cover using cotton buds.  page 3.4.

-
3. **Replacing the cutter blade**

The cutter blade is a consumable part. When the cutter blade has become blunt, replace it with a new one.

 page 5.16

When the message [REPLACE WIPER] is displayed [STATION]-[WIPER EXCHANGE]

The wipers are consumable parts. When the following message is displayed, replace the wipers with new ones.

< LOCAL >
REPLACE WIPER

At the same time, clean the ink at the bottom of the slider.



- The wiper is optional supply which does not come with the machine.



- Do not push the [ENTER] key other than the case of replacing wipers.
The number of wiper operations that is counted in the Device will be reset.
Do not select [REPLACE WIPER] unless the wiper is to be really changed.

STEP

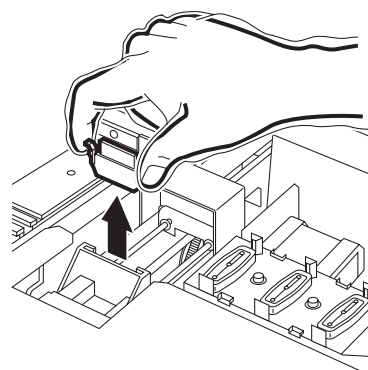
- 1 **Select the [WIPER EXCHG], and then the carriage will come out of the capping station.**

STATION
MENT : WIPER EXCHG

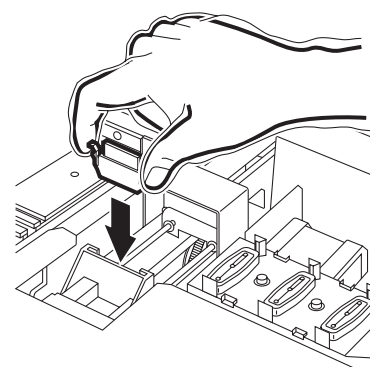
- 2 **Open the front cover, then change the wiper.**

- 3 **Holding the projections at both ends, draw out the wiper.**

Use the gloves that are supplied with the separately-available cleaning wiper to protect your hands from stains.

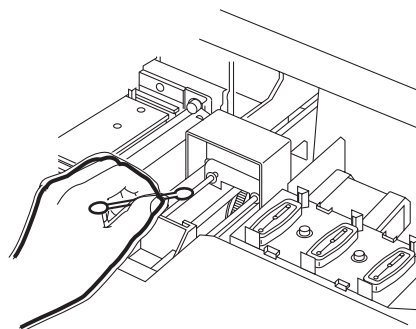


- 4 **Holding the projections at both ends, insert a new wiper into place.**



5. Clean the wiper guide shaft using a cotton bud or cloth.

If dirt is hard to remove, use a cotton bud or cloth dampened with water.



6. Close the front cover, then push the [ENTER] key.



INITIALIZING
PLEASE WAIT


7. The device enters the LOCAL mode.

< LOCAL >

width : 1272 mm

When medium thickness is changed [PRINT ADJUST]

When the head height is adjusted, be sure to correct the dot positions.

Since the adjustment of head height is done by hand, the head will slightly deviate from the correct position ( page 1.36). This function corrects the dot positions to ensure that the accurate plotting result is obtained.

The dot positions are corrected by comparing the ink dropping positions on each of the seven test patterns between the two plotting directions.

STEP

1. Select the [PRINT ADJUST].

MAINTENANCE
PRINTadjust < ent >

2. Push the [ENTER] key.

Plotting of the test patterns for the correction of dot position starts. There are seven types of test patterns that are plotted.



MAINTENANCE
PRINT START : ent

3. Push the JOG keys [▲] and [▼] to correct the dot position of pattern 1.

The seven test patterns that are output are sequentially named [PATTERN 1] to [PATTERN 7].

Select the correct dot positions on [PATTERN 1] using the JOG keys [▲] and [▼].

Select the dot positions that make a straight line on the test pattern in the two plotting directions.



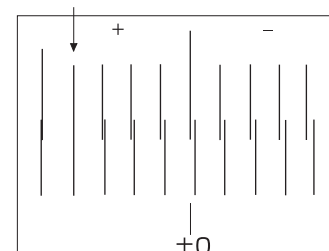
MAINTENANCE
PATTERN 1 = 0.0



- If the pattern correction value for straight lines is not within -40 through +40, adjust the head height and then correct it again with [PRINTADJUST].

Select the dot positions 4.0 that make a straight line on the test pattern in two plotting direction.

Out put direction



4. Push the [ENTER] key.

5. Repeat Steps 3 and 4 to correct the dot positions on Patterns 2 to 7.

Select the correct dot positions on each of the patterns.
Enter the dot position correction value on Patterns 1 to 7 and then terminate dot position correction.

ENTER

MAINTENANCE
PATTERN 2 = 0.0

MAINTENANCE
PATTERN 3 = 0.0

MAINTENANCE
PATTERN 4 = 0.0

MAINTENANCE
PATTERN 5 = 0.0

MAINTENANCE
PATTERN 6 = 0.0

MAINTENANCE
PATTERN 7 = 0.0

6. Push the [END] key twice, and the menu returns to the LOCAL mode.

< LOCAL >
width : 1272 mm

If nozzles are clogged even after the cleaning function is executed

If nozzle clogging is resolved after HEAD CLEANING (👉 page 2.21) and NOZZLE WASH (👉 page 3.7) perform the following functions.

1. [FILL UP INK] : The device is charges ink.
2. [WASH] : Cleans the head, tube, and damper with the dedicated cleaning fluid (option).

[FILL UP INK]

1. Select the [FILL UP INK].

2. Push the [ENTER] key.

Filling of ink is started automatically.

3. When filling of ink is completed, the menu returns.

4. Push the [END] key twice, and the menu returns to the LOCAL mode.



MAINTENANCE
FILL UP INK < ent >

FILL UP
***** -----

MAINTENANCE
FILL UP INK < ent >

< LOCAL >
width : 1272 mm

[WASH]



- The washing liquid (SPC-0335) is separately available from your local distributor.

1. Select the [WASH].

MAINTENANCE
WASH < ent >

2. Push the [ENTER] key.

3. Take out the ink cartridge.

Discharge of the filled ink is started.

WASH
REMOVE CARTRIDGE

4. **When the display shown at right appears, set the cleaning cartridge.**

Cleaning fluid is suctioned up.

WASH
SET CLEAN TOOL

5. **When the display shown at right appears, remove the cleaning cartridge.**

Suck in air.

WASH
REMOVE TOOL

6. **When the display shown at right appears, set the cleaning cartridge.**

Cleaning fluid is suctioned up.

WASH
SET CLEAN TOOL

7. **When the display shown at right appears, remove the cleaning cartridge.**

Cleaning fluid is suctioned up.

WASH
REMOVE TOOL

8. **When all steps have been completed, the display shown at right.**

MAINTENANCE
WASH < ent >

9. **Push the [END] key twice, and the initial operation of the device is performed.**

< LOCAL >
width : 1272 mm

Drawing setup conditions [LIST]

This function outputs the current settings of the device.

They are useful in carrying out maintenance of the device.

1. **SET UP** : Indicates a value that is specified with the FUNCTION.
2. **PRINTadjust** : Indicates a correction value for dot position.
3. **REPLACE COUNTER** : Indicates the number of times the ink cartridges are replaced.
4. **VERSION** : Indicates the version of the firmware and memory capacity of the device.
5. **PARAMETER** : Used for service persons for maintenance.

LIST (System Ver1.00) (L/F Ver1.40) S/N : 00000000															
(1) SET UP				TYPE1 < TYPE2 >				TYPE3				TYPE4			
MEDIA COMP.	0	:HOST		100	:HOST			0	:HOST			0	:HOST		
HEATER PRE	OFF	:HOST		200	:HOST			OFF	:HOST			OFF	:HOST		
PRINT	OFF	:HOST		20	:HOST			OFF	:HOST			OFF	:HOST		
*C/*F	*C			*C				*C				*C			
STANDBY	0min			10min				0min				0min			
OFF	0min			30min				0min				0min			
PRINT MODE	STD	:PLOT		FAST	:PLOT			STD	:HOST			STD	:HOST		
DIRECTION	UNI-D			UNI-D				UNI-D				UNI-D			
LOGICALseek	ON			ON				ON				ON			
INK LAYERS	1	:HOST		1	:HOST			1	:HOST			1	:HOST		
DRYING TIME	0.0s	0s:HOST		0.0s	0s:HOST			0.0s	0s:HOST			0.0s	0s:HOST		
AUTO CUT	OFF	:HOST		OFF	:HOST			OFF	:HOST			OFF	:HOST		
MARGIN RIG	0mm			0mm				0mm				0mm			
LEFT	0mm			0mm				0mm				0mm			
COLOR PTN.	OFF			ON				OFF				OFF			
REFRESH	LEVEL3	:HOST		LEVEL3	:HOST			LEVEL3	:HOST			LEVEL3	:HOST		
MEDIA SET	SELECT			SELECT				SELECT				SELECT			
VACUUM	STANDARD			STANDARD				STANDARD				STANDARD			
MM/INCH	MM			MM				MM				MM			
STAMP MODE	OFF			ON				OFF				OFF			
TIME	OFF			ON				OFF				OFF			
AUTO CLEAN	OFF			OFF				OFF				OFF			
(2) WIPE LEVEL	1/1														
(3) deodorizFAN	OFF														
(4) DISPLAY	English														
(5) PRINTadjust	PATTERN1			PATTERN2				PATTERN3				PATTERN4			
	0.0			0.0				0.0				0.0			
	PATTERN5			PATTERN6				PATTERN7							
	0.0			0.0				0.0							
(6) REPLACE CNT															
CARTRIDGE	1: 87	2: 53		3: 42	4: 65			5: 58	6: 29						
REMAIN	1: 66%	2: 67%		3: 83%	4: 100%			5: 65%	6: 65%						
SHOT COUN	1: 1896			2: 1276				3: 1430							
	4: 1355			5: 1913				6: 1810							
SCAN COUNT	1			(x1000)											
DRAW AREA	5m²	53sq.ft.													
USE TIME	31h														
SLEEP REF.	0	0h9m													
Date : 02.10.04 23:43															

Plotting HEX CODE [DATA DUMP]

This function plots data commands received from the computer, in HEX code.

The HEX code is an alphanumeric representation of plotting commands.

By using this code, it is possible to check if there are any abnormal data commands.



- When this function is used to output data commands on a sheet of paper, use A4 or larger size with the long side set horizontally.



- DATA DUMP automatically feeds line according to the size of paper used.

[illegible]

Wiper Life warning [WIPE LEVEL]


The wipers are consumable parts. The head becomes dirty easily on dusty locations.

The head cannot be cleaned adequately with a curled or worn wiper.

This setting moves up the wiper replacement warning depending on the operating environment.

- 1/1 : Displays the wiper replacement warning when the standard number of wiping is reached (initial value).
- 1/2 : Displays the wiper replacement warning when a half of the standard number of wiping is reached.
- 1/3 : Displays the wiper replacement warning when one third of the standard number of wiping is reached.
- 1/4 : Displays the wiper replacement warning when a quarter of the standard number of wiping is reached.

Setting time [TIME SET]

The device incorporates a calendar. [TIME STAMP] function of the FUNCTION mode displays the date and time depending on this setting.  page 4.9

STEP

1. Select the [TIME SET].

MAINTENANCE
TIME SET < ent >

2. Push the [ENTER] key.



MAINTENANCE
DATE = 2 0 0 2 . 1 0 . 0 2

3. Set the date.

Press the [◀] and [▶] jog keys to select the digit.

Press the [▲] and [▼] jog keys to change the value.

4. Push the [▲] and [▼] key to select the [TIME].



MAINTENANCE
TIME = 1 6 : 2 0 : 0 7

5. Set the time.

Press the [◀] and [▶] jog keys to select the digit.

Press the [▲] and [▼] jog keys to change the value.

6. Push the [ENTER] key.



MAINTENANCE
DATE = 2 0 0 2 . 1 0 . 0 2

7. Displays the set date.

Press the [▲] and [▼] jog keys to display the time setting.

8. Push the [END] key twice, the device returns to the LOCAL mode.

< LOCAL >
width : 1272 mm

Displaying device information [INFORMATION]

Displays the firmware version, serial number, and dealer number of the device.

If trouble occurs, please inform the dealer or MIMAKI sales office of the contents of the trouble as well as this information. This can make solution quicker.

STEP

1. Select the [INFORMATION].

MAINTENANCE
INFORMATION < ent >

2. Push the [ENTER] key.



MAINTENANCE
VERSION < ent >

3. Push the [ENTER] key to display the firmware version.



MAIN Ver 1.00
I / F Ver 1.00

4. Push the [▲] and [▼] key to select the [SERIAL No.].



MAINTENANCE
SERIAL No. < ent >

5. Push the [ENTER] key to display the serial number.



MAINTENANCE
S / N * * * * * *

6. Push the [▲] and [▼] key to select the [DEALER No.].



MAINTENANCE
DEALER No. < ent >

7. Push the [ENTER] key to display the dealer number.



MAINTENANCE
D / N * * * * * *

8. Push the [END] key twice, the device returns to the LOCAL mode.

< LOCAL >
width : 1272 mm

Replace the cutter blade for cutting

Cutter blades are consumables. When the cutter blade has become blunt, replace the cutter blade with a new one. (SPA-0107)




- The blade tip is sharp. Take care to prevent possible personal injury.
- Store the cutter blades in a place that is out of the reach of children.
Be sure to dispose of the worn-out cutter blades according to the relevant national and local ordinances in which the device is used.



- It is recommended to place a sheet of paper under the cutter blade.
This will help find the cutter blade even if it drops.

STEP

1. Execute [CARRIAGE out].

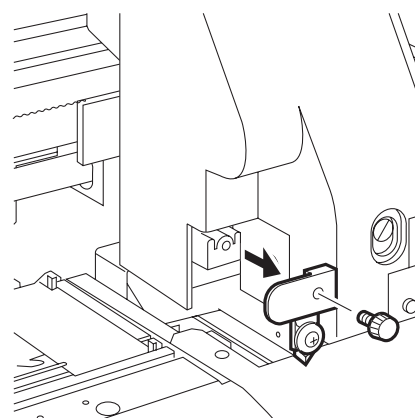
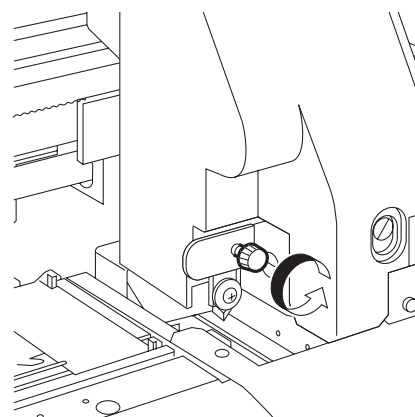
 page 5.4

STATION
MENT : CARRIAGE out

2. Open the front cover.

3. Replace the cutter unit that is located alongside the carriage.

1. Loosen the screws that fix the cutter unit.
2. Remove the cutter unit.
3. Put a new cutter unit in place.
4. Tighten the screws to fix the new cutter unit.



4. Close the front cover, and push [ENTER] key.

5. The device enters the LOCAL mode.

CHAPTER 6

When abnormal conditions are encountered

Chapter 6 describes corrective measures to be taken in the case where an abnormal phenomenon arises on the device and where an error message is given on the display.

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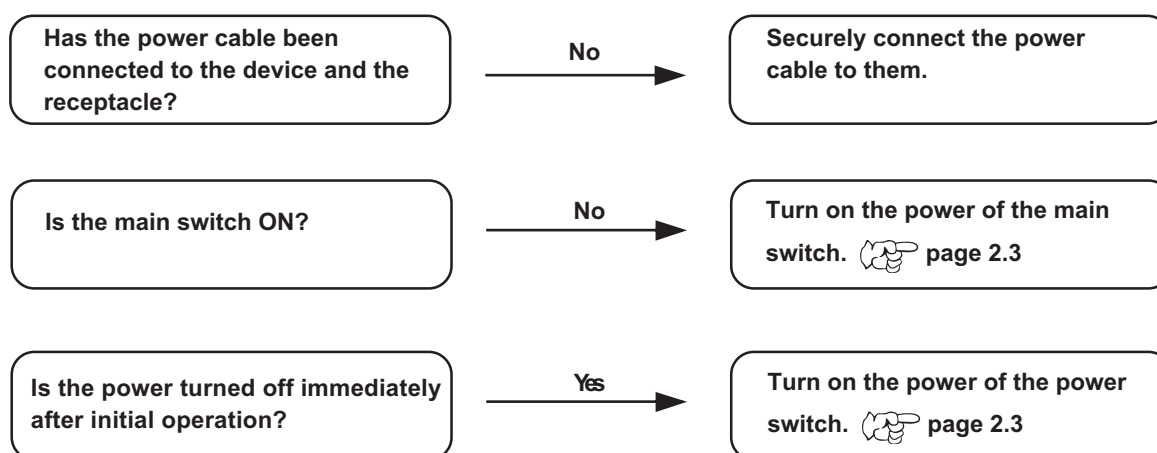
Before taking a phenomenon as a sign of failure	6.2
The device cannot be energized	6.2
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Paper jamming arises/medium is soiled	6.3
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Before taking a phenomenon as a sign of failure

Corrective measures against troubles in the case where no error message is given on the LCD are described in this section. Be sure to take the following measures before taking the trouble as a sign of failure. If the measures fail restore the device to the normal state, contact your local MIMAKI distributor or MIMAKI office to call for service.

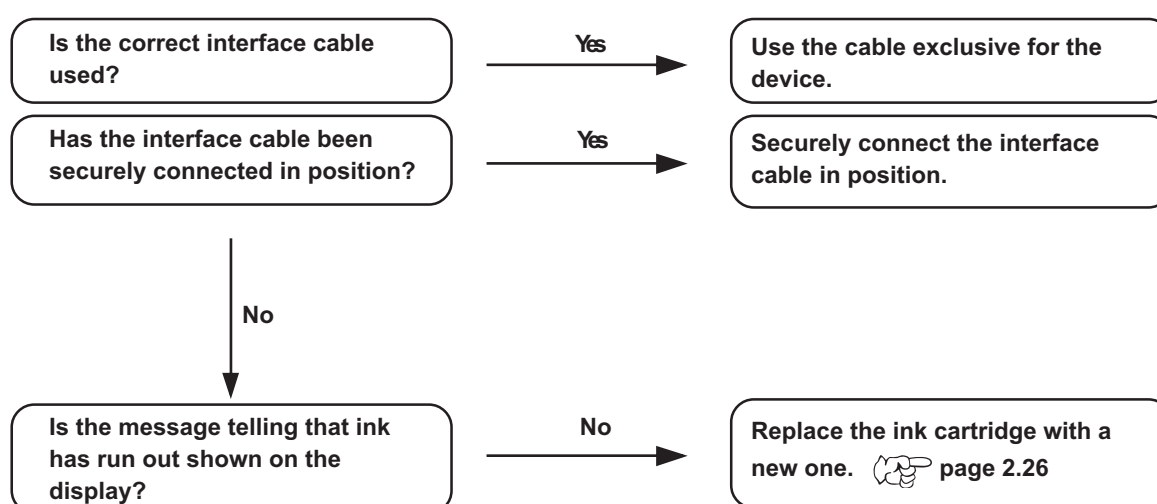
The device cannot be energized

More often than not, this is due to improper connection of the power cable. Check that the power cable has been properly connected to the power outlet and the computer.



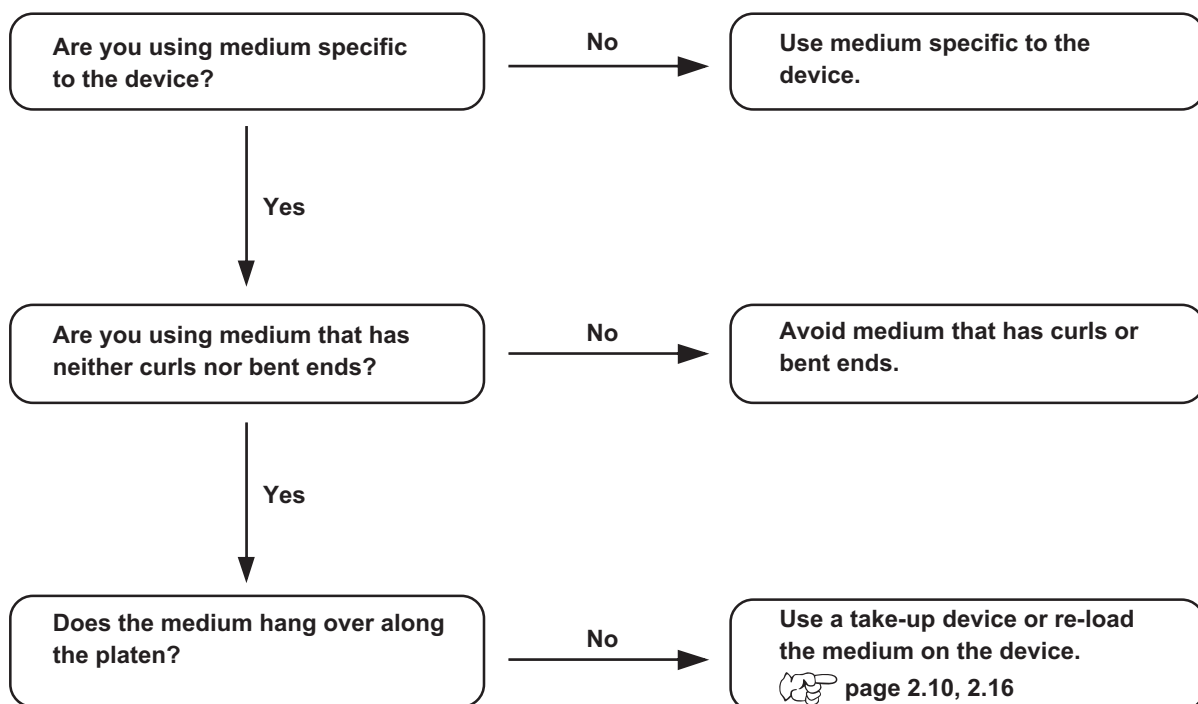
The device cannot perform printing

This occurs when the data is not being transmitted to the device properly. It can also occur when any of the device functions fails or the medium has been set improperly.



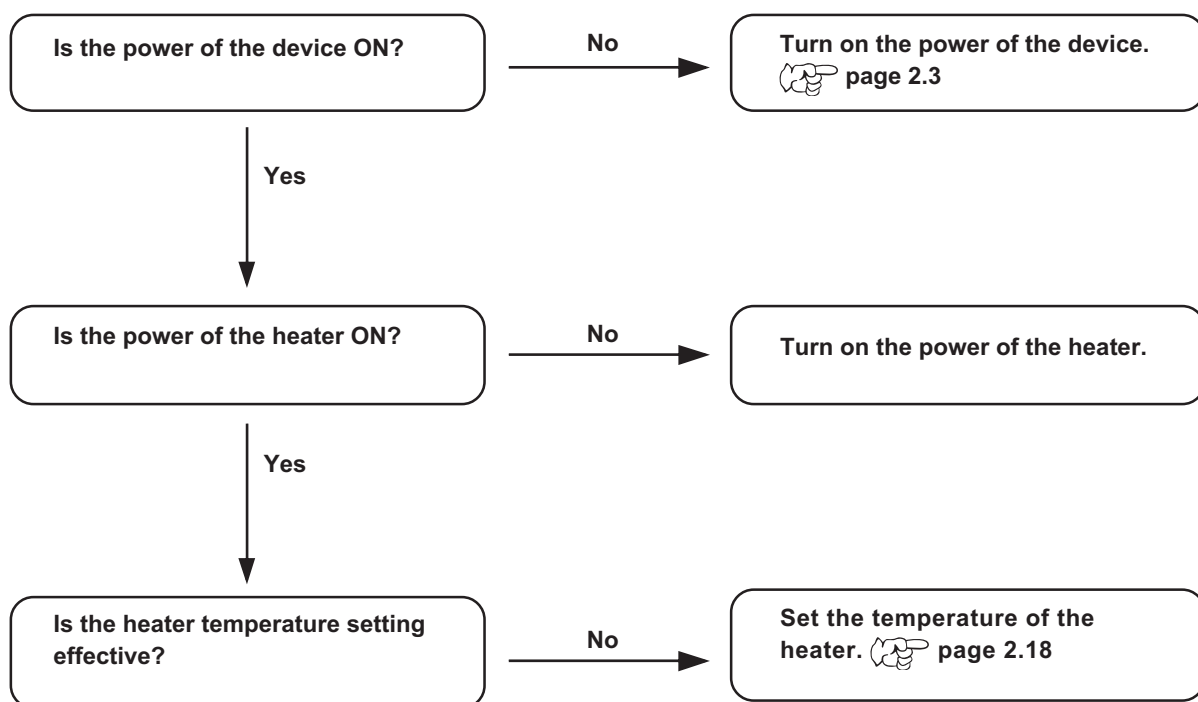
Paper jamming arises/medium is soiled

A jam of the medium or a stained medium is considered to occur when an unsuitable medium is used or the medium is set improperly.



The [HEAT] or [CONSTANT] indicator does not go on

Check the basic operation.






If image quality declines

Corrective measures against troubles in the case where satisfactory image quality is not provided are described in this station.

Take measures in accordance with actual state of the picture.

If the measures fail restore the device to the normal state, contact your local MIMAKI distributor or MIMAKI office call for service.


While lines/thin spots are obvious or dark stripes occur (In the direction of travel of the head)

- | | |
|----------------------|---|
| Corrective measure : | Execute the head cleaning.  page 2.21 |
| Corrective measure : | Clean the interior of the station.
 page 3.4 through 3.7, 5.9 |
| Corrective measure : | Conduct the [MEDIA COMP.] function.  page 2.22 |
| Corrective measure : | If slip of paper is present in the head path, for example, above the media plate, remove it. |

Characters fluctuate doubly or triply into paper feed

- | | |
|----------------------|---|
| Corrective measure : | Conduct the [MEDIA COMP.] function.  page 2.22 |
|----------------------|---|




Displacement is observed between outward and inward printing

- | | |
|----------------------|--|
| Corrective measure : | Adjust “Y (outward and inward)” in [PRINT ADJUST] function.  page 5.7 |
|----------------------|--|

The respective color ink injected by the respective color heads do not properly overlap

- | | |
|----------------------|---|
| Corrective measure : | Conduct the [PRINT ADJUST] function.  page 5.7 |
|----------------------|---|

Large ink drop on medium

- | | |
|----------------------|---|
| Corrective measure : | <ol style="list-style-type: none">1. Execute the wiper cleaning.  page 3.42. Execute the ink caps cleaning.  page 3.43. Execute the head cleaning [normal].  page 2.21 |
|----------------------|---|

Troubles for which error messages are given on the LCD



If something is wrong with the device, the buzzer sounds and a corresponding error message is given on the LCD.

Take an appropriate corrective measure in accordance with the message.

Errors accompanied by warnings

These errors arise on the ink-related components.

Warning message	Cause	Corrective measure
< LOCAL > CARTRIDGE KMCYmc	The mounted ink cartridge is defective.	Press the [ENTER] key to display the details of the error. Check the error.
< LOCAL > NEAR END KMCYmc	The amount of ink remaining in the ink cartridge is insufficient.	Printing can be continued in file-by-file basis by pushing the [REMOTE] key. However, it is recommended to replace the ink cartridge of which number is shown on the LCD with a new one.
< LOCAL > INK END KMCYmc	The ink cartridge has run out of ink.	Replace the ink cartridge of which color is shown on the LCD with a new one.
< LOCAL > timeLIMIT KMCYmc	The ink cartridge will expire soon or has expired.	Printing can be continued in file-by-file basis by pushing the [REMOTE] key. However, it is recommended to replace the ink cartridge of which number is shown on the LCD with a new one.
< LOCAL > REPLACE WIPER	Time to replace the wiper in the capping station with a new one has come.	Printing will be enabled by pushing the [REMOTE]. Then, the error message will not appear until the power is returned on. It is recommended, however, to replace the wiper with a new one as soon as possible.

Warning message	Cause	Corrective measure
< LOCAL > DO TEST DRAW	The nozzle recovery cannot be expected because the device is left for a prolonged period of time.	Make test plotting. If nozzle missing is serious, execute [STATION] - [WASH] for maintenance.
NON-ORIGINAL INK KMCYmc	The loaded ink cartridge is not MIMAKI genuine.	Use the ink specified by MIMAKI.
WRONG INK IC KMCYmc	The IC chip of the ink cartridge cannot be read normally.	Attach the ink cartridge(s) corresponding with the color shown on the display. If the same error message appears again on the LCD, contact your local distributor to call for service.
KIND OF INK KMCYmc	The type of the loaded ink cartridge is different from the previous one.	Check the type of the loaded ink cartridge.
INK COLOR KMCYmc	The color of the loaded ink cartridge is different from the previous one.	Check the color of the loaded ink cartridge.
WRONG CARTRIDGE KMCYmc	The loaded ink cartridge is defective.	Check the loaded ink cartridge.
NO CARTRIDGE KMCYmc	The ink cartridge is not attached to the ink station.	Attach the ink cartridge(s) corresponding with the color shown on the display.
<LOCAL>  HEATER width: xxxxx mm * REMOTE *  HEATER TYPE. 1 0.0 0 m	The preheater or print heater has failed.	Press the [HEATER] key to display the details of the error. Check the error.
Heater Power OFF	The power of the heater is off.	Turn on the power of the heater. If the same error message appears again on the LCD, contact your local distributor to call for service.
Pre 40° ► 45° C Print BREAKAGE	The print heater is disconnected.	Contact your local distributor to call for service.
Pre BREAKAGE Print 43° C (4 7)	The preheater is disconnected.	

Warning message	Cause	Corrective measure
<div> <div>Pre</div> <div>THERMISTOR</div> <div>Print</div> <div>50 ► 40 °C</div> </div>	The thermistor of the preheater is defective.	Contact your local distributor to call for service.
<div> <div>Pre</div> <div>55 °C (40)</div> <div>Print</div> <div>THERMISTOR</div> </div>	The thermistor of the print heater is defective.	


Error messages

Error messages indicates error numbers.

If any error message is given on the LCD, turn off the power to the device and turn it on after a while.

If the same error message appears again on the LCD, contact your local MIMAKI distributor or MIMAKI office to call for service.

Warning message	Cause	Corrective measure
ERROR 01 MAIN ROM	Control circuit board is defective.	Turn off the power to the device an turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.
ERROR 02 MAIN RAM		
ERROR 03 POWER +5V	Control circuit board is defective. POWER+5V POWER+35V	
ERROR 04 FRASH ROM	Control circuit board is defective.	
ERROR 06 D-RAM		
ERROR 07 HEAD -- * --	Head connection failure is detected.	
ERROR 08 ENCODER n	Trouble with detection of linear encoder.	
ERROR 09 HDC	Control circuit board is defective. FPGA Error HDC Error	
ERROR 10 COMMAND	The device has received data other than command data. The interface cable used is not in conformance with this plotter.	Securely connect the interface cable in position. Use an interface cable in conformance with the standard.
ERROR 11 PARAMETER	A parameter outside the range of acceptable numeric values is received.	Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.
ERROR 20 I / F BOARD	Improper operation has been conducted on the operation panel.	
ERROR 21 I / F NONE	No I/F board is attached to the control board.	

Warning message	Cause	Corrective measure
ERROR 23 HOST I / F	HOST I/F Timeout error has arisen during communication between the host computer and interface board.	Check to be sure that the cable is securely connected to the host computer and interface board. Also, check to ascertain that no error has arisen on the host computer side.
ERROR 24 I / F INITIAL	Initial operation failure of the I/F board and control board.	Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.
ERROR 30 OPERATION	An error occurs on the interface between the I/F board and the control board.	Perform a proper operation.
ERROR 34 DATA REMAIN	Settings for functions have been tried to be changed though there remains received data that has not yet been printed.	Print all pieces of received data or execute the data clear function. Then, change the settings.
ERROR 40 MOTOR X	The Xmotor has been overload.	Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.
ERROR 41 MOTOR Y	The Ymotor has been overload.	
ERROR 42 X CURRENT	Overcurrent error on the Xmotor has been detected.	
ERROR 43 Y CURRENT	Overcurrent error on the Ymotor has been detected.	
ERROR 46 WIPER	The wiper position is not correct.	Refer to “Setting the media”.  page 2.16. If this error cannot be resolved even after setting it correctly, contact the dealer.
ERROR 50 MEDIA SENSE	Paper could not be detected. The medium set position or medium itself is not correct.	
ERROR 51 Y ORIGIN	Origin could not be detected.	Turn off the power to the device and turn it on after a while. If the same error message appears again on the LCD, contact your local distributor to call for service.

APPENDIX

This appendix describes the specifications and components the device, function menu structure.

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Position of the warning label	A.5

Basic specifications

Item		JV3-160S
Printing head	Method	Piezo-electric drop-on demand
	Specification	3-heads Inlines
	Nozzle	180 nozzles for each color
	Resolution	360, 540, 720 dpi
Drawing mode		360 x 360 dpi : 2 / 4 / 8 passes, Unidirection / bidirection 360 x 540 dpi : 3 / 6 / 12 passes, Unidirection / bidirection 720 x 720 dpi : 4 / 8 / 16 passes, Unidirection / bidirection
Delivery system of ink		Supplies ink through a tube from ink cartridge Remaining ink display function (IC mounted) Ink end detecting function Ink cartridge replacement system
Capacity of ink cartridge		220 cc \pm 5 cc per cartridge About 200 cc for each cartridge variable
Medium type		Tarpaulin, FF, PVC
Max. printing width	Normal Scan	1610 mm
	High-speed Scan	1570 mm
Roll Medium size	Maximum	1620 mm
	Minimum	210 mm
	Thickness	1.0 mm or less
	Roll outside diameter	Ø 180 mm or less
	Roll weight	25 Kg or less
	Roll inside diameter	2 Inch, 3 Inch
	Plotting surface	Faces OUT
	Roll end treatment	Light-adhesive tape is used to allow the paper to be removed from the core with ease.
Leaf medium size	Maximum	1620 mm
	Minimum	210 mm
Margin	Leaf medium	Left end and right end : 15 mm
		Front : 65 mm
		Rear : 110 mm
Margin	Roll medium	Left end and right end : 15 mm
		Front : 25 mm
		Rear : 0 mm
Distance accuracy	Absolute accuracy	Whichever the larger one of ± 0.3 mm or ± 0.3 % of the designated
	Reoroducibility	Whichever the larger one of ± 0.2 mm or ± 0.1 % of the designated
Perpendicularity		± 0.5 mm / 1000 mm
Medium skew		5 mm or less / 10 m variable
Head height adjustment		2.0 mm / 3 mm variable from the platen surface
Cutting of medium		Cutting of Y direction by the head cutter, Cutting accuracy(steps) : 0.5mm or less.
Medium delivery		Take-up device as standard (inside winding / outside winding selectable)
Waste ink tank		Bottle type (2,000 cc [1pcs.]) Replacement timing is judged visually.

Item		JV3-160S
Interface		IEEE1394 compliant, IEEE1284 compliant
Command		MRL-II (ESC/PV.2 base, MIMAKI original command)
Noise		during standby : Less than 58 dB (FAST-A, Front & Rear & Left & Right 1 m) during continuous printing : Less than 65 dB during discontinuous printing : Less than 70 dB
Safety Standard		UL, VCCI-classA, FCC-classA, CEmarking, CBreport, CCC
Power		AC 100 — 120 V± 10%, AC 220 — 240 V± 10%, 50/60 Hz ± 1 Hz
Power consumption		1 KVA or less
Recomended Environment	Available temp.	20 °C to 35 °C
	Humidity	35 to 65 % Rh (No condensation)
	Guaranteed temp.	20 °C to 25 °C
	Temperature change	± 10 °C / h or less
	Dust	Equivalent to normal office level
Weight	Main unit	140 Kg
	Packing box	Less than 155 kg
Outside dimensions	Width	2470 mm
	Depth	850 mm or less (Without front exhaust unit : 640 mm or less)
	Height	1210 mm or less

Specification for ink

Item	Specifications
Color	Black ink cartridge (SPC-0334K)
	Cyan ink cartridge (SPC-0334C)
	Magenta ink cartridge (SPC-0334M)
	Yellow ink cartridge (SPC-0334Y)
	Light cyan ink cartridge (SPC-0334LC)
	Light magenta ink cartridge (SPC-0334LM)
Contents of ink	220 cc per cartridge
Shelf life	One year from the data of manufacture (at room temperature) Within three months after opening the package
Storage temperature	During storage : -30 to 40°C (Storage at temperature of 40°C is permitted within a month.) During : -30 to 60°C (Storage at temperature of 60°C is only permitted within 120 hours, and at temperature of 40°C is permitted within a month.)



- The ink will freeze when it is left for a long time. Should it freeze, leave the ink cartridge at room temperature (at 25°C) for three hours or more to allow the ink to melt.
- Disassembling the ink cartridge or refilling the ink shall be avoided.

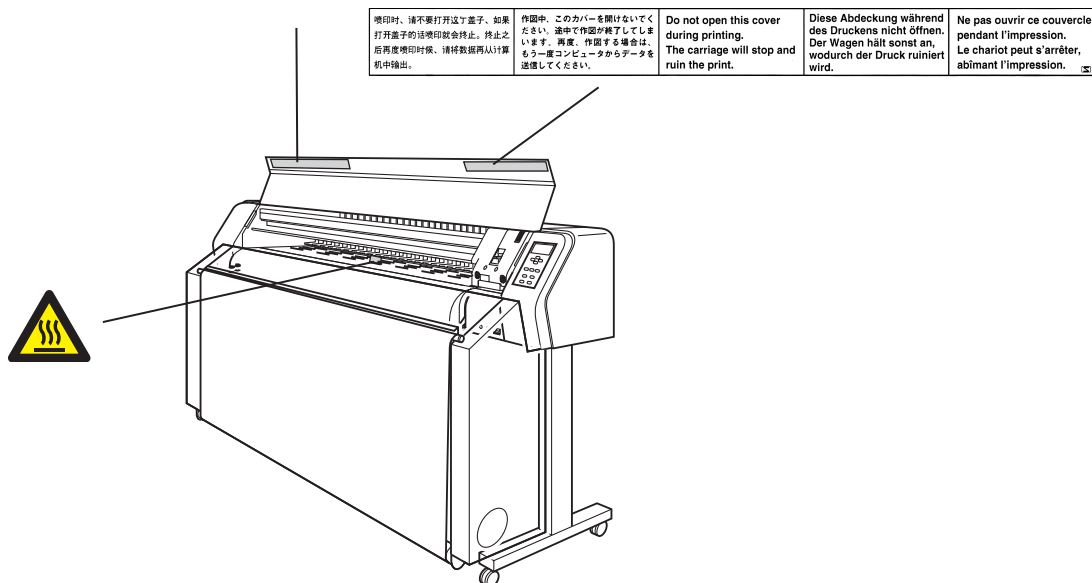
Position of the warning label

This device is adhered with the warning label. Be sure to fully understand the warning given on the labels.

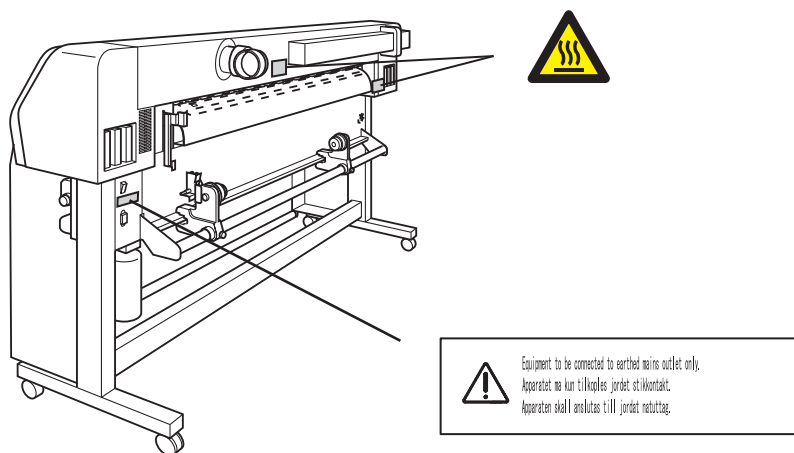
In the case where any of the warning label has become so soiled that the warning message is illegible or has come off, purchase a new one from your local distributor or our office.

The Front

⚠ 注意	⚠ 注意	⚠ CAUTION	⚠ ACHTUNG	⚠ ATTENTION
滾転時、請勿將手插入前面外蓋の内部。	キャリッジ動作中は、フロントカバーの中に指を入れないでください。	-MOVING CARRIAGE- Do not put fingers inside this area	-Beweglicher Wagen- Finger nicht in diesen Bereich bringen.	-CHARIOT MOBILE- Ne pas mettre de doigts dans cette zone.



The Rear





PrintedinJapan

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