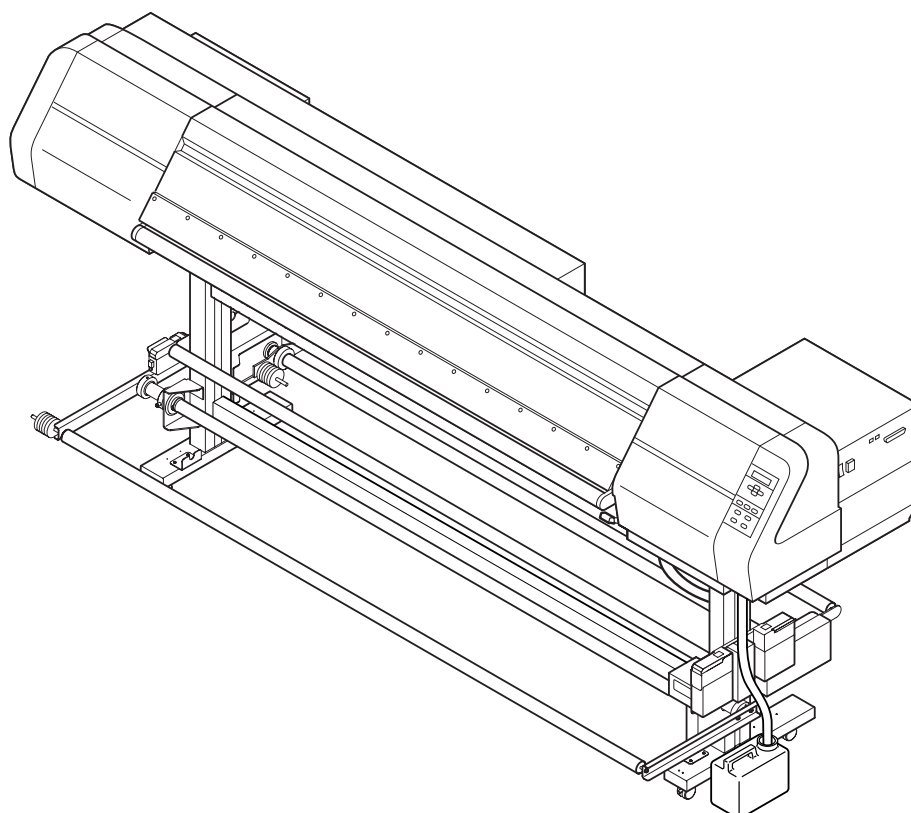


Color Inkjet Plotter**DS-1600****DS-1800**

OPERATION MANUAL

This illustration indicates AMF model.

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D201421

Foreword

Thank you for purchasing MIMAKI DS-1600/1800 color inkjet plotter.

Model DS-1600/1800 is a color inkjet plotter for printing on fabric.

This operation manual describes the operation and maintenance of model DS-1600/1800 Color InkJet Plotter (hereinafter referred to as the plotter).

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

DISCLAIMER OF WARRANTY

THIS LIMITED WARRANTY OF MIMAKI SHALL BE THE SOLE AND EXCLUSIVE WARRANTY AND IS IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING , BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS, AND MIMAKI NEITHER ASSUMES NOR AUTHORIZES DEALER TO ASSUME FOR IT ANY OTHER OBLIGATION OR LIABILITY OR MAKE ANY OTHER WARRANTY OR MAKE ANY OTHER WARRANTY IN CONNECTION WITH ANY PRODUCT WITHOUT MIMAKI'S PRIOR WRITTEN CONSENT. IN NO EVENT SHALL MIMAKI BE LIABLE FOR SPECIAL, INCIDENTAL OR CONSEQUENTIAL DAMAGES OR FOR LOSS OF PROFITS OF DEALER OR CUSTOMERS OF ANY PRODUCT.

On this Operation Manual

- The plotter is equipped with a high speed print head and other high performance part that may be dangerous.
Please be sure to read this manual carefully before starting this plotter operation in order to prevent the injuries or damages.
- Please read and fully understand this Operation Manual before putting the plotter into service. It is also necessary to keep this Operation Manual on hand.
- This Operation Manual has been carefully prepared for your easy understanding, however, please do not hesitate to contact a distributor in your district 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 distributor.
- Generally, names and designations referred to in this Operation Manual are trade marks or registered trade marks of the manufacturers or suppliers.

Reproduction of this manual is strictly prohibited.

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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 instruction manual, may cause harmful interference to radio communications.

Operation of this equipment in a residential area is likely to cause harmful interference in which cause 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 plotter, limits provided by FCC rules can be exceeded. To prevent this, use of MIMAKI-recommended cable is essential for the connection of this plotter.

Interference to televisions and radios

The product covered by this Operation Manual produces low radio waves while it is in operation. 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 direction of the receiving antenna or the feeder of your radio/television.
- Change the installing direction of the product.
- Move the receiver away from the product.
- Use a power line for the receiver that is not shared with the product.

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Features

The features and methods of operation are explained in this manual for you to understand how to use the plotter properly.

Setting for 2-way multi printing

Alternatively, using two sets of three heads in 2-way printing mode, each with different inks, gives you the functionality of two 8-color plotters in a single unit.

2 types of textile printing ink can be used

MIMAKI genuine ink is shown below.

Sublimation dye ink : Suitable for polyester, acrylic, etc. This ink is used for direct printing.

- When using, be sure to perform the pre-treatment and post-treatment recommended by MIMAKI for the fabric used.

Textile pigment ink : Suitable for cotton. The pre-processing is not necessary.

Applicability of fabrics up to 7mm in thickness

Even thick fabric can be used.

The plotter accepts fabric whose thickness is in the range of 0.1mm to 7.0mm.

Applicable to wide fabrics

On DS-1600, fabrics with up to 1650mm width can be set and printing for up to 1620mm width is possible.

On DS-1800, fabrics with up to 1900mm width can be set and printing for up to 1850mm width is possible.

Indication of the amount of remaining ink

Rough indication of ink remaining amount is shown.

Easy-to-see display

The LCD panel displays the plotter setting menu in two lines making it is easy 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 is capable of displaying six different languages, including English and Spanish.

Display of information for confirmation

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

High-speed interface

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

- Instead of using IEEE1394 interface, USB2.0 is available by connecting the "USB2.0 interface Option Board (OPT-J0107)"

Fabric retainer

If the edge of the fabric is curled or it is raised, the fabric retainer can be used to avoid contact of the fabric and ink head.

The fabric retainer can be adjusted thickness of up to 4 mm and 3-7 mm.

Ditch for penetrated ink

Even with printing to a coarse-textured fabric, the backing fabric is not stained by penetrated ink. Removable platen boards are prepared for fabrics without ink penetration.

Slip sheet can be used

One set of slip sheet bar and its hanger is equipped as standard.

It can be used for slip sheet between fabric with take-up unit to prevent ink penetration.

Function of feed-correction

Feed correction can be performed during plotting operation.

How to read this Operation Manual

The following documents have been attached to DS-1600/1800:

<p>Setup Guide (separate volume)</p> <p>“Setup Guide” explains how to install DS-1600/1800.</p>
<p>Operation Manual (this document)</p> <p>“Operation Manual” explains how to operate DS-1600/1800.</p>

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 plotter are explained, together with the operation procedure.

(See page 2.2)

Operate the plotter 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 plotter 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], [Sub], [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]. (See page 2.2.)

How to read this Operation Manual

The title in each chapter are provided.

Notes to sentences, caution on plotter operation, and hints for effective use of the plotter are given.

This manual describes the procedure of operation of the plotter.

Setting the type of ink to be used [INK TYPE]

This function selects the type of ink that is to be used. This plotter permits up to two types of ink to be loaded. When starting an actual printing operation, however, select only one type of ink to be used according to the printing data and the fabric used. This function can be used when different types of ink are loaded in the plotter. As the ink that can be specified, select from the types of ink that have been set in the ink stations.

Sub : Sublimation dye ink
TPig : Textile pigment ink

(NOTE) • If the same type of ink is set in the ink stations on both sides, the type of ink cannot be set since [INK TYPE] is not displayed on the LCD.

STEPS:

1. **Select a type.** (See page 3.4)
Here, select [Type.1].
2. **Press the [ENTER] key.**
3. **Press the JOG keys [▲] and [▼] to select [INKTYPE].**
4. **Press the [ENTER] key.**
5. **Press the JOG keys [▲] and [▼] to set a type of ink to be used.**
Here, select [Disp].
6. **Press the [ENTER] key.**
7. **Press the [END] key twice.**
The menu returns to the LOCAL mode.

SETUP
SELECT : TYPE . 1

ENTER

TYPE 1
MEDIA COMP. <ent>

▲

TYPE 1
INK TYPE <ent>

▼

TYPE 1
INK TYPE :Sub

ENTER

TYPE 1
INK TYPE :TPig

▲

TYPE 1
INK TYPE <ent>

ENTER

<< LOCAL >>
width : 127.2mm

END

The item to select from the setting menu before each plotter operation is explained.

The information that is displayed on the LCD during plotter operation is explained.




The operation key

The pages of each chapter are given serial numbers starting from 1.

Safety symbols used in this Manual

Safety signal words

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

 WARNING	• WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.
 CAUTION	• CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.
CAUTION	• CAUTION used without the safety alert symbol indicates a potentially hazardous situation which, if not avoided, may result in property damage.
NOTE!	• NOTE indicates notice which is not applied above three symbols.
	• The symbol "💡" indicates helpful information that will facilitate the use of the unit.

Structure of this Manual

Foreword

This foreword describes the notice before operation and how to read this Operation Manual.

Chapter 1 Setup

This chapter describes the procedures for unpacking and assembling the plotter, and for setting up the plotter such as setting inks and fabric.

Chapter 2 How to use the basic functions

This chapter describes the basic operations of the plotter, from the beginning to the end of printing.

In order to use the application functions, it is indispensable to understand the basic functions of the plotter explained in this chapter.

Chapter 3 How to use the application functions

This chapter describes the application functions of the plotter, such as the function menu for setting printing conditions.

Chapter 4 Maintenance functions

This chapter describes functions intended to correct adverse influences on picture quality and to check abnormal conditions as well as the procedure to be taken to replace a used ink tank, wiper and so on.

Chapter 5 When abnormal conditions are encountered

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

Chapter 6 Ink guidance

This chapter describes how to use ink and the method of pre-treatment and post-treatment.

Appendix

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

For safe operation

Pictorial signs

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




- WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.




- CAUTION indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury.

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.

Warnings in use



WARNING

- Be sure to use the plotter with the power supply specifications indicated. Be sure to connect the plug of the power cable to a grounded receptacle. If not, fire or electric shocks can result.
- 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.
- Avoid damp environments when putting the plotter into service. Do not splash water onto the plotter. High-humidity or water will give rise to fire, electric shocks or breakdown of the plotter.
- If the plotter is used under an abnormal condition where the plotter 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 plotter no longer produces smoke, and contact a distributor in your district for repair.
Never repair your plotter by yourself since it is very dangerous for you to do so.
- 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 plotter.
- Store ink cartridges and waste ink tank in a place that is out of the reach of children.

Precautions in use



CAUTION

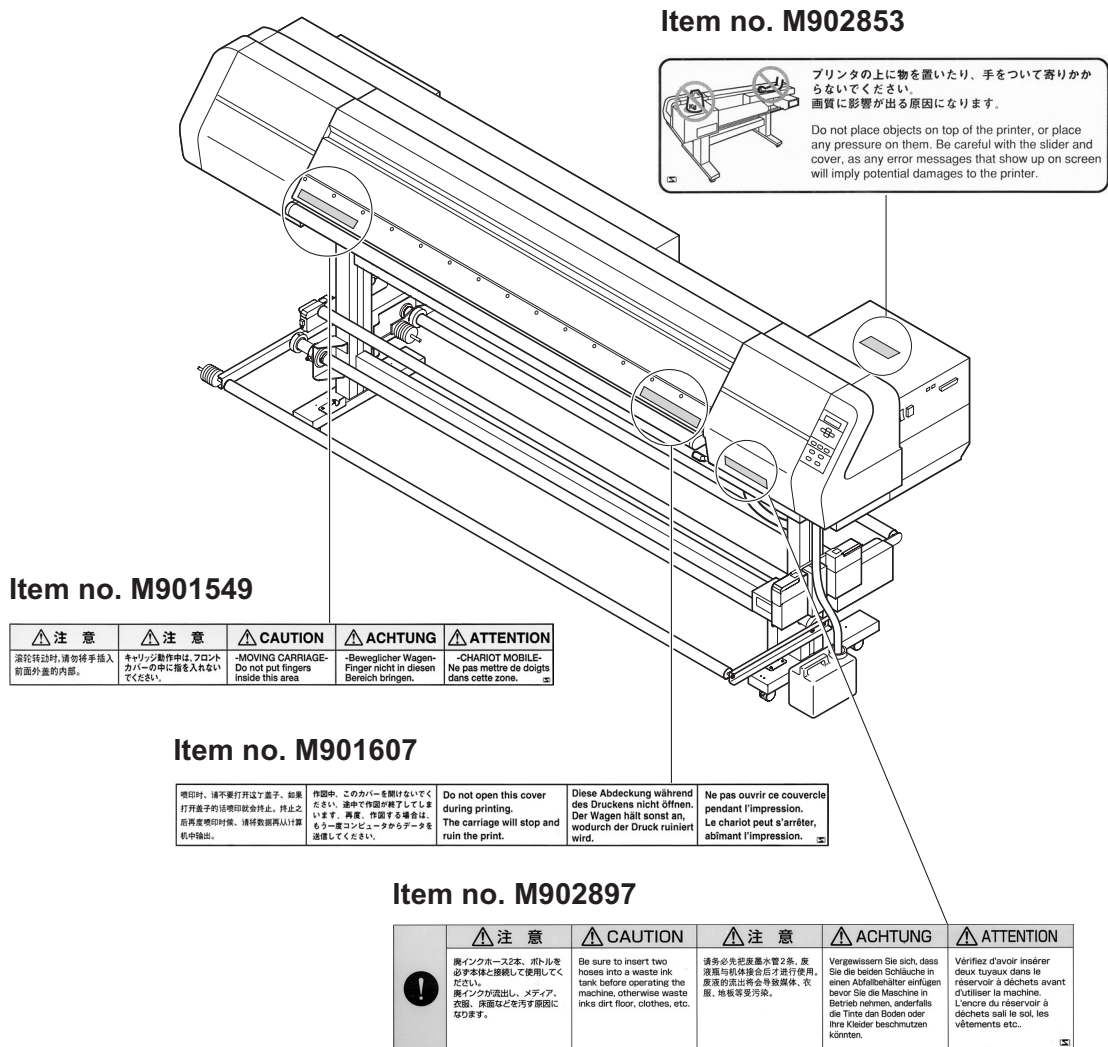
- Roll fabric is heavy. Be careful not to drop it. If you drop it on your foot, or any other part of your body, personal injury can result.
- The ink is not toxic, however, avoid direct contact with the ink. If ink settles on the skin or fabrics, immediately wash it off with detergent or water. In the event that ink gets in eyes, immediately rinse it off with water and consult a medical doctor.

Position of the warning label

This plotter is adhered with a warning label at four locations. 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.

Label position



This illustration indicates AMF model.

Chapter 1

Setup

This chapter describes the procedures for unpacking and assembling the plotter, and for setting up plotter such as setting inks and fabric.

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Setting the fabric to the plotter	1.35
Specifying the scope of printing on the fabric used (Effective printing area) ...	1.47
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Installation of the plotter

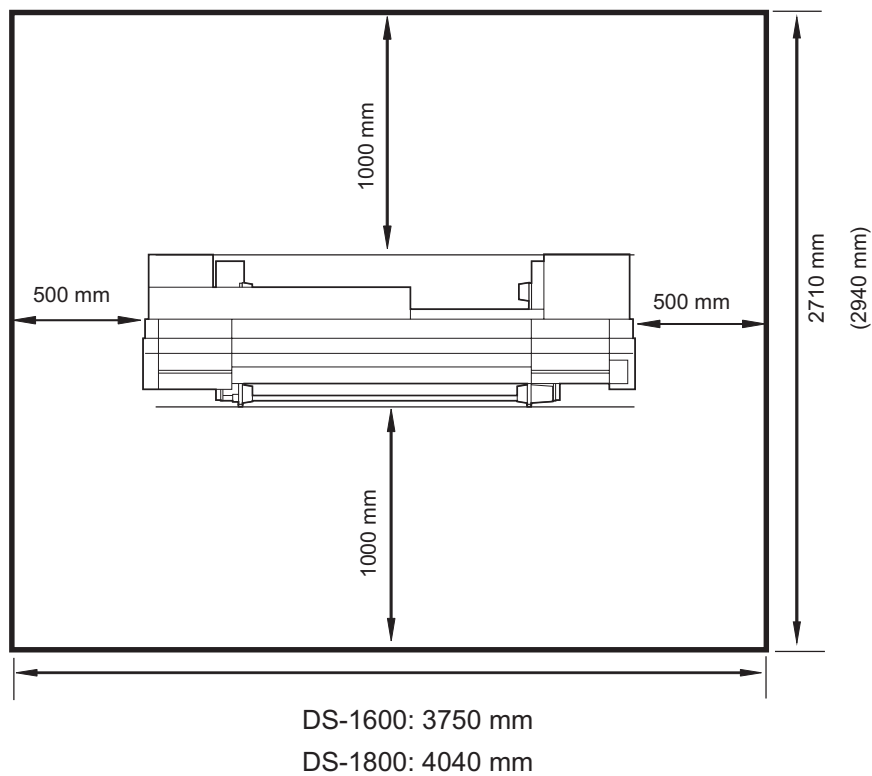
Where to install the plotter

Secure a suitable space before using the plotter.

The space is required not only for the plotter itself but also for printing operation.

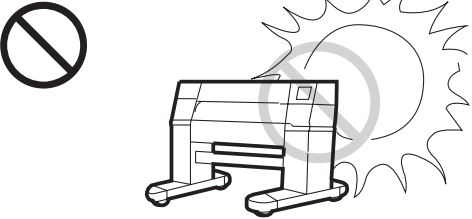
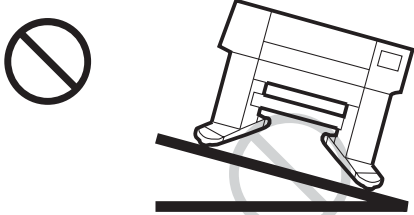
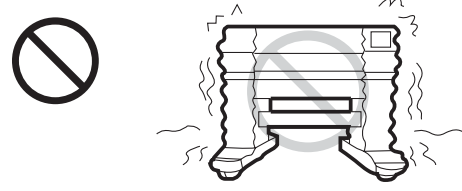
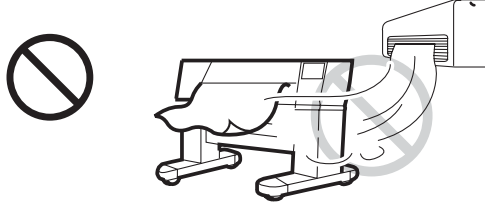
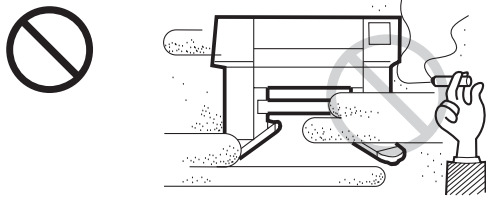
	Length	Width	Height	Gross weight
DS-1600	2750 mm	710 mm (940 mm)	1350 mm	About 230 kg
DS-1800	3040 mm	710 mm (940 mm)	1350 mm	About 250 kg

* () indicates AMF model.



Precautions in installation

Do not install the plotter under the following environment:

A place exposed to direct sunlight	A plate that is not horizontal
	
A place in which temperature and humidity vary by a great margin	A place that vibrates
<p>Use the plotter under the following environment.</p> <p>Operating environment: 15 to 30°C 35 to 65% (Rh)*¹</p> <p>*¹ 40 to 65% (Rh) to use a TPink.</p>	
A place exposed to direct air blow from air conditioner, etc.	A place filled with dirt, dust or tobacco smoke
	

Moving the plotter

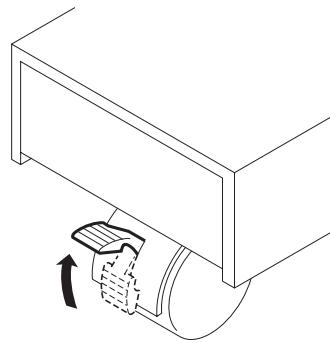
The method of moving the plotter to the place of installation is explained below.

When moving the plotter, unlock the caster stoppers.

- (NOTE!)**
- When moving the plotter take care not to apply excessive shock to it and it must be held up by at least two persons.
 - After moving the plotter, be sure to lock the caster stoppers.

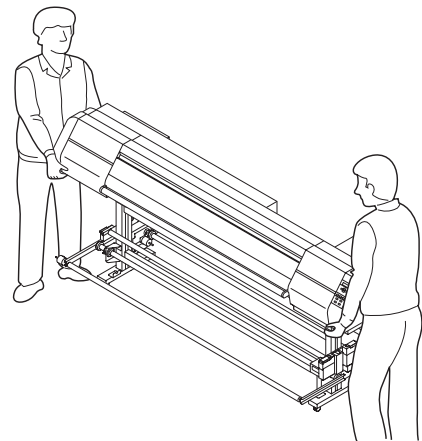
STEPS:

1. **Unlock each of the casters by raising up the caster stopper.**



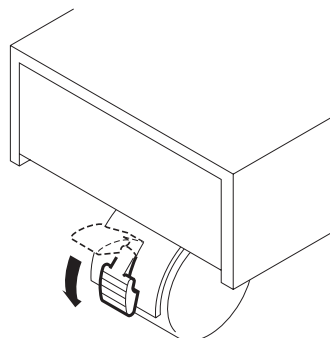
2. **Hold up by at least two persons as illustrated at right.**

- (NOTE!)**
- Do not press the front cover hard, it may be broken.



This illustration indicates AMF model.

3. **Lock each of the casters by moving down the caster stopper.**

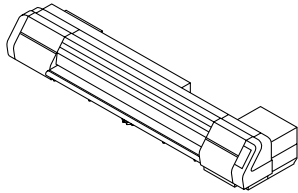


Checking the accessories

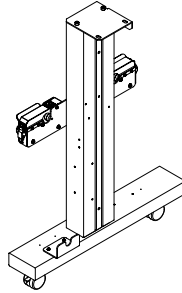
Open the packing box and check the components in it.

If you find any missing accessory or damaged one, please contact your local dealer.

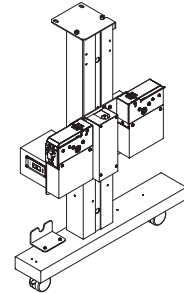
(NOTE!) • It varies according to your order for Ink Cartridge and the additional accessories.



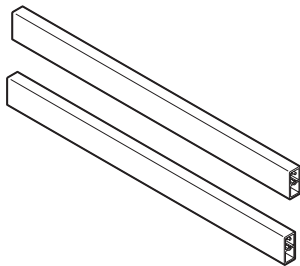
Main unit



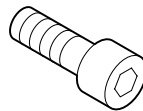
Left stand
(With taking-up/feeding unit
on AMFmodel)



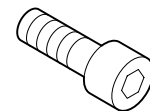
Right stand
(With taking-up/feeding unit
on AMFmodel)



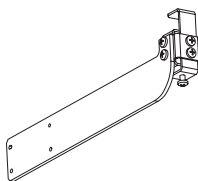
Stand stay



M8 cap bolt
for fitting the main unit
Use the bolt for packing.



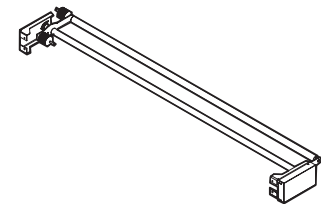
M8x60 cap bolt
for fitting the stand stay (8 pcs)



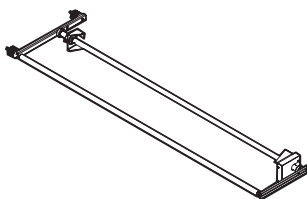
C base reinforcing arm ASSY



M5 Screw
for fitting the C base reinforcing arm ASSY (8 pcs)
for fitting the Feeding/Taking-up tension bar unit (8 pcs)
(AMF unit model)



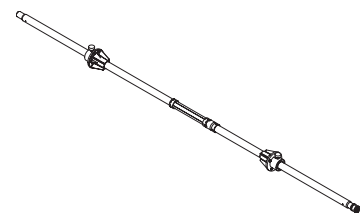
Feeding tension bar unit
(AMF unit model)



Taking-up tension bar unit
(AMF unit model)

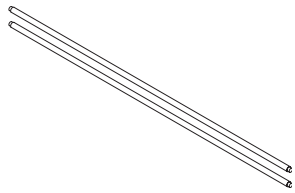


Counter weight (30 pcs)
(AMF unit model)

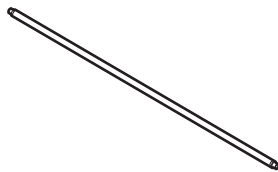


Roll shaft ASSY (2 pcs)
(AMF unit model)

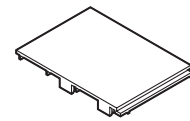
* Fabric core support is option item



Lapel bar (2 pcs)



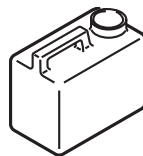
Slip sheet bar



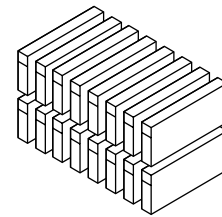
Platen board
(DS-1600: 15 pcs)
(DS-1600: 17 pcs)



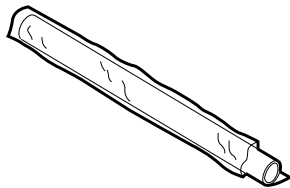
Waste ink hose



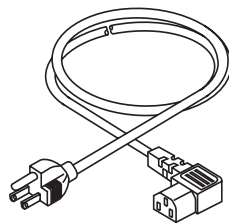
Waste ink tank



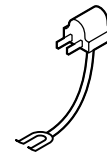
Ink Cartridge (Option)



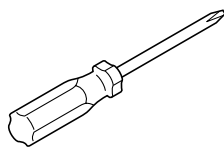
Printing film
(for adjustment of the plotter)
Empty fabric core



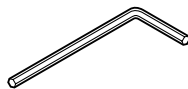
Power cable



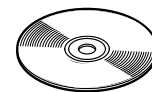
Grounding adapter



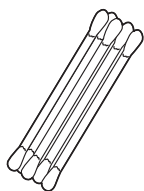
Phillips screwdriver



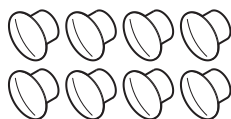
Hexagonal wrench
6mm



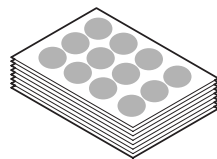
IEEE1394 Device Driver



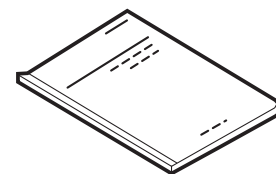
Swab



Hole plug 8pcs



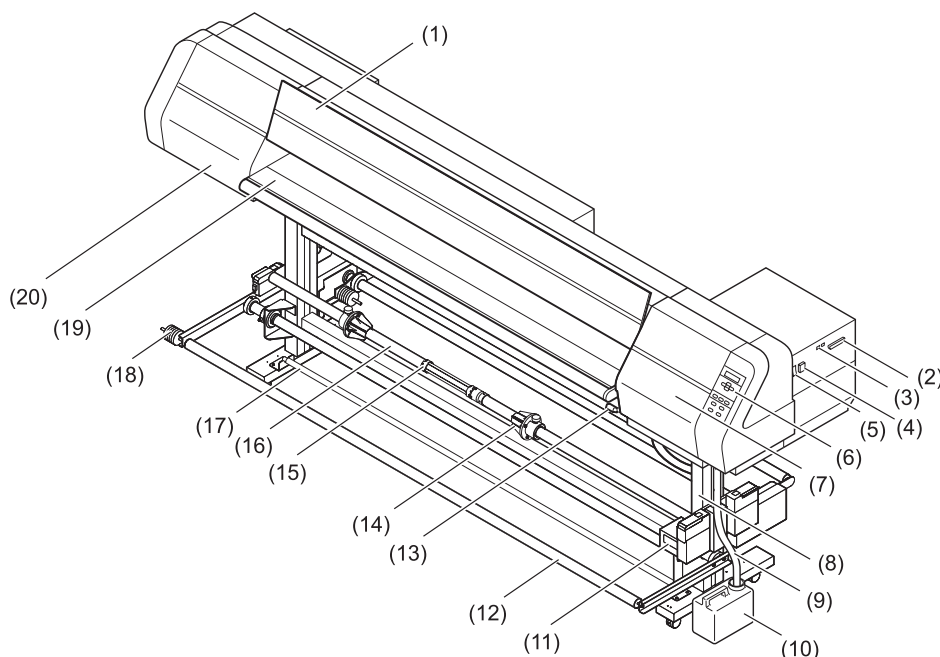
Tuck Title
1pack



Operation Manual
Setup Guide (this document)

Configuration and function

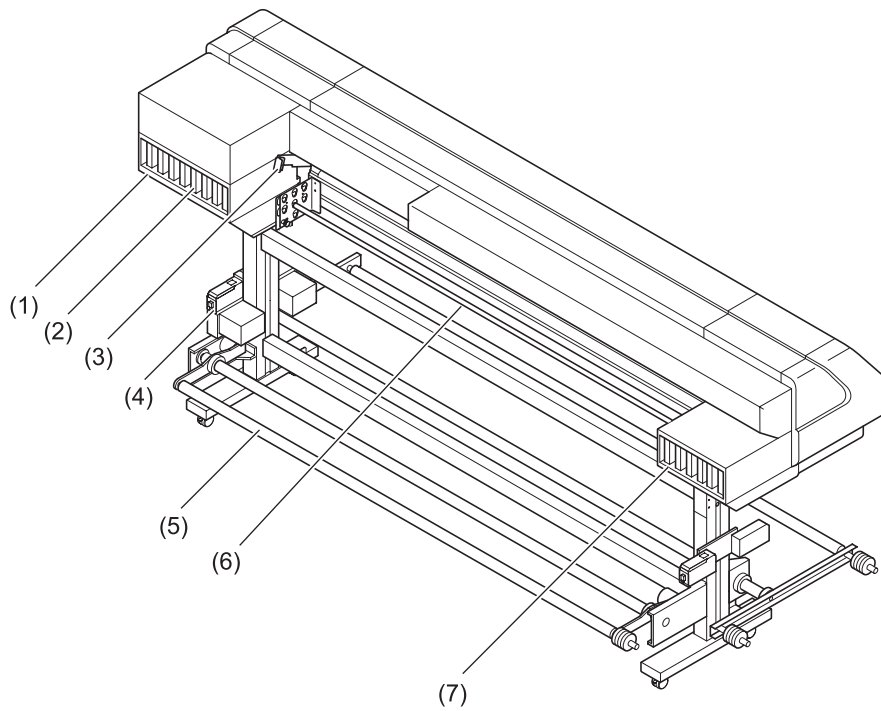
Front face



This illustration indicates AMF model.

	Name	Function
(1)	Front cover	It is opened when setting fabric or taking a corrective measure against a fabric jam.
(2)	Parallel connector	Bi-directional parallel interface connector (complies with IEEE1284)
(3)	IEEE1394 connector (USB2.0 connector: Option)	400Mbps interface connector compatible with IEEE1394. (USB2.0 is available as option)
(4)	AC inlet	The power cable is connected to the AC inlet.
(5)	Power switch	It turns on/off the power to the plotter.
(6)	Operation panel	This panel has the operation keys required for operating the plotter and the LCD for displaying set items, etc.
(7)	Maintenance cover	This is the station cover. During maintenance of the station, open it by loosening the screws.
(8)	Stand	It supports the main unit. It is provided with casters that are used to move the plotter.
(9)	Waste ink hose	It is the hose to discharge the waste ink.
(10)	Waste ink tank	It is the tank to store the waste ink.
(11)	Take-up unit	It supports to wind up the roll fabric printed.
(12)	Take-up tension bar	It supports to adjust the tension to wind up roll fabric.
(13)	Clamp lever	It is made to go up-down the pinch roller for holding fabric.
(14)	Roll holder	Inserted into both ends of the fabric core to retain the roll fabric.
(15)	Fabric core support	It supports to hold the roll core. (Option)
(16)	Roll shaft	It is set to the feeding/take-up unit with roll fabric.
(17)	Slip sheet bar	It is used when setting the slip sheet.
(18)	Counter weight	It adjust the flection of the tension bar.
(19)	Platen	It puts out the fabric as it is plotted on.
(20)	Left maintenance cover	It is the station cover at the left side. During maintenance of the station, open it by loosening the screws.

Rear face



This illustration indicates AMF model.

	Name	Function
(1)	F-row ink station	This station houses up to eight ink cartridges.
(2)	Ink cartridge	Each cartridge contains ink of a specific color.
(3)	Clamp lever	It is made to go up-down the pinch roller for holding fabric.
(4)	Feeding unit	It supports to feed the fabric.
(5)	Feeding tension bar	It supports to adjust the tension to feed the roll fabric.
(6)	Lapel bar	The lapel bar is used to stabilize the medium tension of the run-out side.
(7)	R-row ink station	This station houses up to eight ink cartridges.

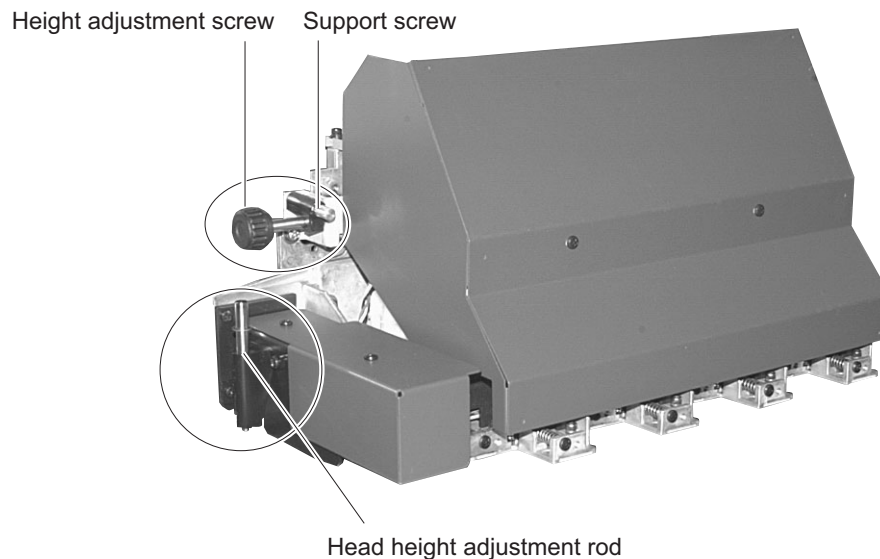
Names and function of the parts under the front cover

Under the front cover, there are the carriage, capping station, etc. necessary for printing operation. The mechanisms provided under the front cover are explained below.

Carriage

The carriage is provided with print heads for plotting, etc. It is also provided with a head height adjustment screw for adjusting the head height according to the thickness of the fabric used. The carriage moves during plotting, and fabric detection.

When cleaning the capping station, execute the STATION MAINTENANCE function to move the carriage. (See page 4.8 “Moving the carriage for cleaning the station interior [Carriage Out].”)



- CAUTION** • Starting the plotting operation without adjusting the carriage height can cause damage not only to the fabric but also to the plotter itself.
- NOTE!** • When setting a fabric in position for plotting, be sure to adjust the head height.(See page 1.30)

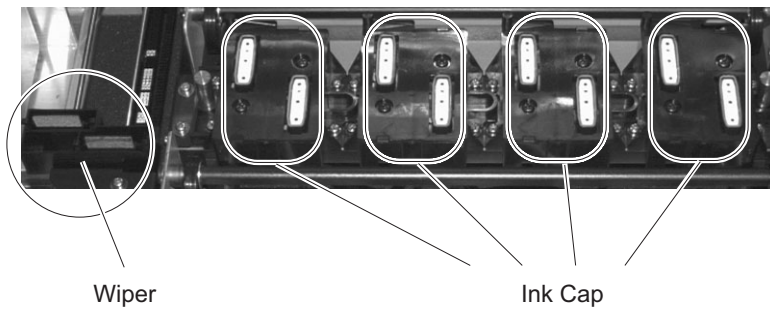
Capping station

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

Ink Cap : It covers the nozzles of print head to prevent from drying up.

Wiper : It is used to clean the head nozzles.

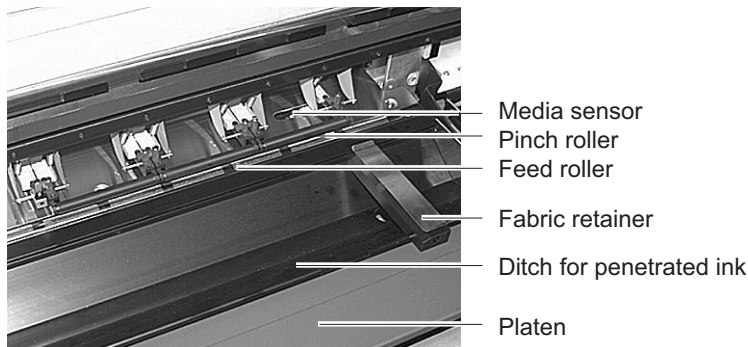
- (NOTE!)** • Clean the capping station frequently to keep the capping station clean.
If the wiper fluffs, replace it immediately.



The pinch roller and feed roller

This plotter retains a fabric with the pinch roller and the feed roller.

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



- (NOTE!)** • While the plotter is not being used, keep the pinch roller in the raised position. If the pinch roller is left lowered for an extended period of time, it can deform and fail to securely retain the fabric.

The media sensor

The media sensors detects the presence of the fabric and the end of fabric.

There is one media sensors on the platen.

Set up fabric to cover media sensor at the back side of platen absolutely.

If the part of fabric is not on fabric, the fabric can not be detected.

- (NOTE!)** • If a transparent fabric or a fabric whose reverse side is colored in black, the sheet sensors may fail to detect the sheet. In this case LCD gives the following message.

ERROR 50
MEDIA SENSE

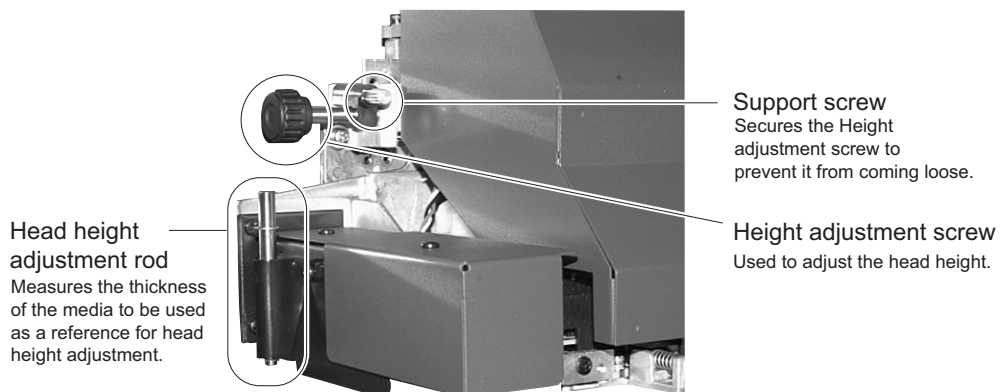
Head high adjustment rod and adjustment screw

When a fabric is set for the first time or replacing a fabric in different thickness, it is necessary to adjust the height of the head.

- (CAUTION)** • If the plotter is operated without adjusting the head height, the head may get caught on the fabric, causing damage to the heads.



- For the method of head height adjustment, see Adjusting the Head Height [HEAD HEIGHT] (page 1.30) in this chapter.



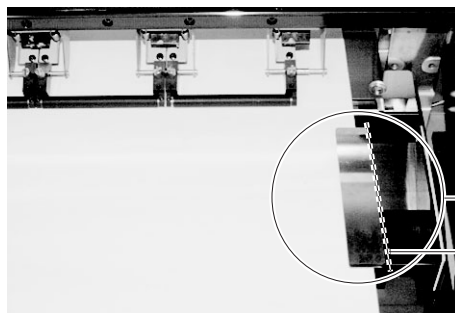
Fabric retainer

If the edge of the fabric is curled or it is raised, it may be caught by the head or inferior ink discharge may occur.

To avoid this trouble, use the fabric retainer.



- The fabric retainer also act as a detection board which detects the printing width. Printing with the full width (DS-1600: up to 1620mm width, DS-1800: up to 1850 mm width) is possible by setting the fabric retainer to a position apart from the edge.



Fabric retainer

Detection line of Fabric width



- If a fabric retainer is stained by ink, it can be removed for washing. Remove it from the end of notch in both side.



NOTE!

- When using fabric retainer, be sure to adjust the head height to 3mm or more.

When raising height of the fabric retainer, be sure to adjust the head height according to the height of it.

Using them with a low head height may cause failure.

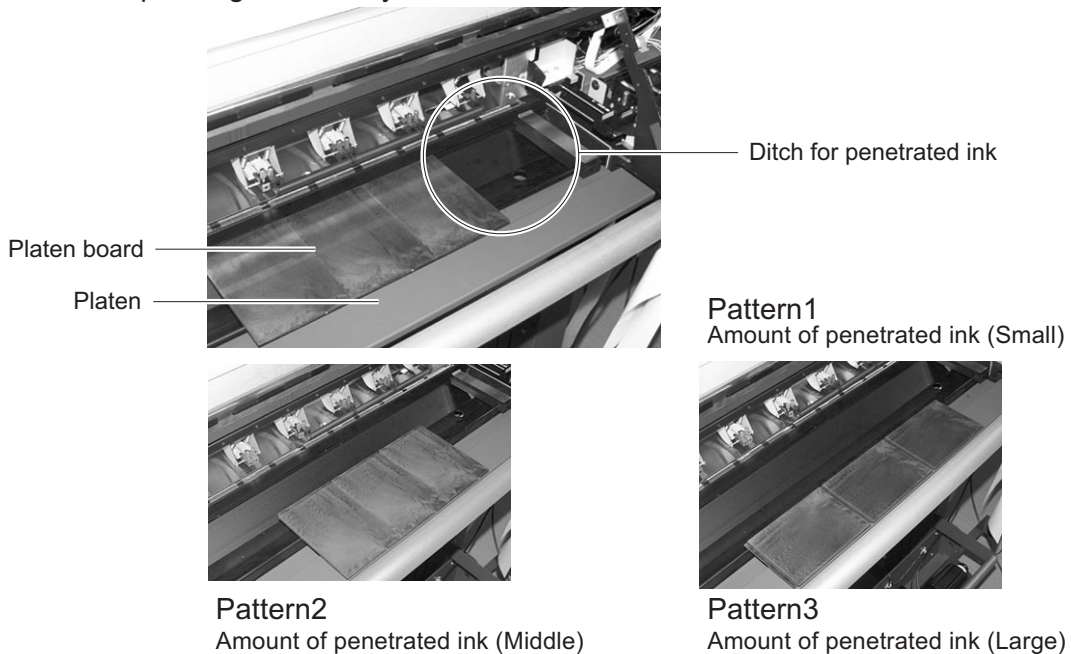
Ditch for penetrated ink and platen boards

Printing on a coarse-textured fabric may cause ink to penetrate the fabric. If the fabric runs out in this condition, it may be stained by the ink on the platen. The ditch for penetrated ink is provided to avoid this trouble.

- (NOTE!)** • For printing to a fabric without ink penetration, attach the platen boards so that the ditch for penetrated ink be covered by them.



- Set the projection on the back of the platen board to the projection at the edge of the ditch for penetrated ink.
- The width of the ditch for penetrated ink can be changed in three steps depending on the way of attachment.



- For attachment of the platen boards, refer to page 1.16.

- (NOTE!)** • If the platen board is not used, remove all the platen boards from the platen. If you place a platen board outside the fabric retainer, not the position of the fabric retainer but the position of the platen board is detected at the time of fabric detection.

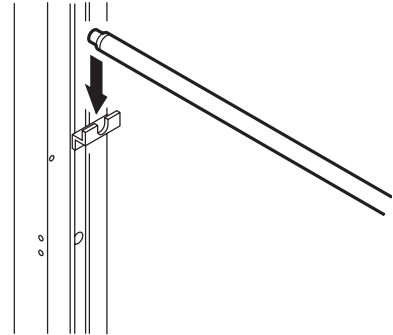
About other setup

Attaching slip sheet bar

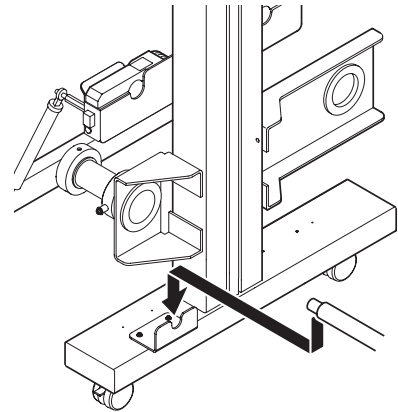
STEPS:

1. Put the slip sheet bar on the hanger on the inner side of the stand.

In case of DS-1600/1800 model:



In case of DS-1600/1800AMF model:

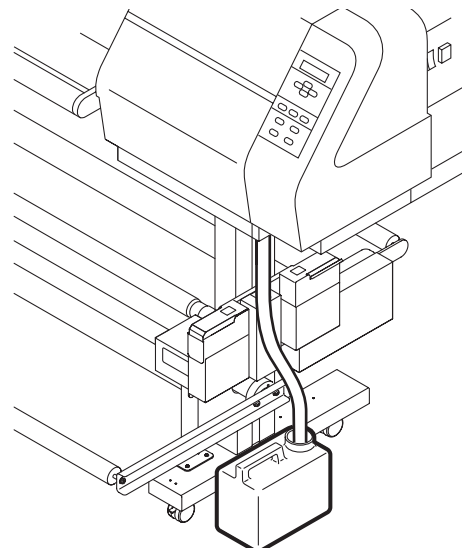


Attaching the waste ink tank

STEPS:

1. Insert the end of the two waste ink hoses attached in the above step to the waste ink tank.

NOTE! • Set them so that there is no ink leakage.



Attaching lapel bar

The lapel bar is used to stabilize the media tension of the run-out side.

If the media tension of the roll-out side becomes unstable, plotting is adversely affected (vertical black or white lines occurs).

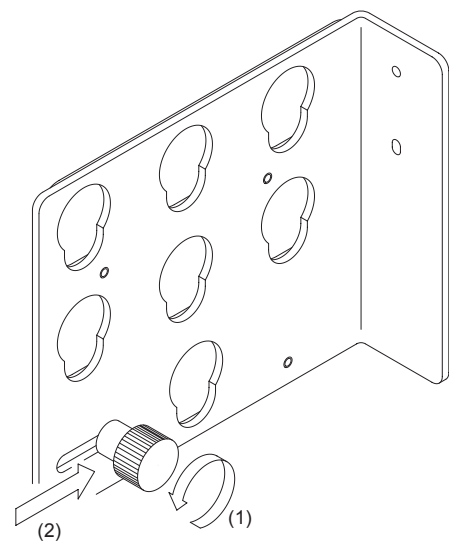
If the tension is too high, the media becomes susceptible to vertical wrinkles which may cause black or white lines. If the tension is too low, wrinkles occurring at the rear portion of the pinch roller and passing it make the gap between the media and head uneven, adversely affecting printing.

Therefore, it is necessary to change the mount position of the lapel bar and perform printing at an appropriate lapel position. Even with the same cloth type, media characteristics change depending on the pre-treatment and the presence or absence of the gumming processing at both ends of the cloth. Be sure to perform test printing to measure an appropriate lapel position.

- (NOTE!)**
- Be sure to perform test printing, check the printing result, then determine whether the lapel bar can be used or not.
 - The characteristics of material of medium may be changed by pre-treatment. If the pre-treatment is changed, be sure to perform test printing.
 - Please reset the lapel bar properly if it's shaky up and down.
 - Please adjust the attachment of the side plate assembly if the lapel bar does not rotates smoothly.

STEPS:

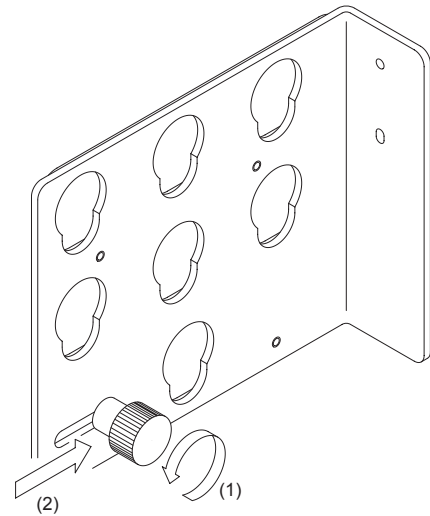
1. **Loosen the thumb-screw inside the left and right plates.**
2. **Hold the loosened thumb-screw. Push and move the slide plate toward the plotter unit it hit the stopper.**



3. Insert the lapel bar into the hole of the side plate and then allow it to slip in the lower slot.

4. Make sure that the bearing is put into the side plate and that the lapel bar is set to the position where it rotates easily.

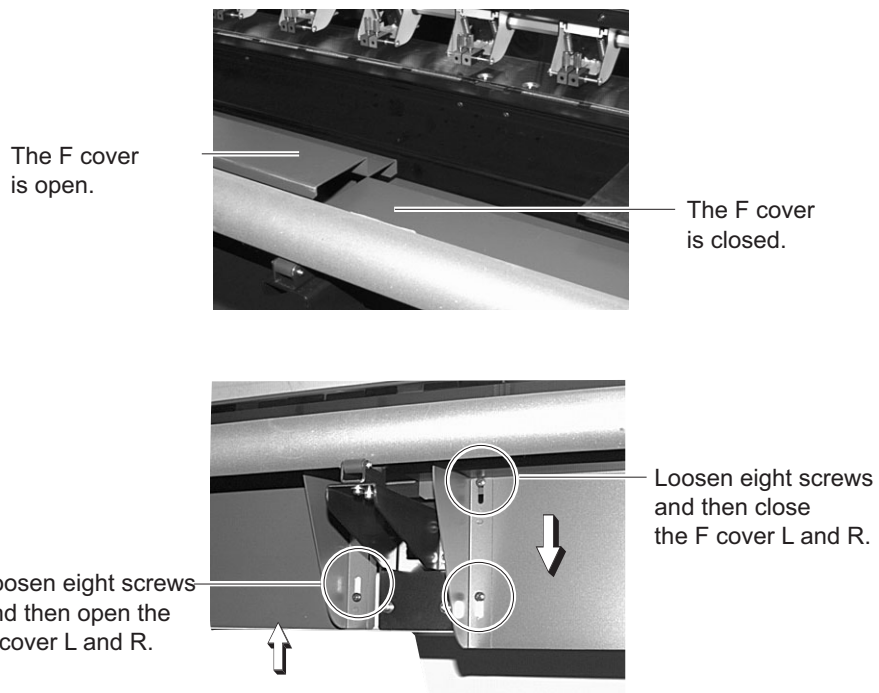
5. Holding the left and right thumb-screws, pull out the slide plate toward the rear side of the plotter and then turn the thumb-screws to secure them.



Attaching the platen boards

Attach the platen boards when using a fabric without ink penetration.

Set the attachment position and orientation of the platen boards in three steps according to the degree of ink penetration. (See page 1.13)



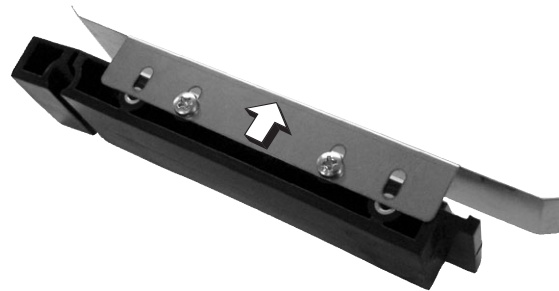
Changing gap for fabric retainers



- When the thickness of the fabric used is 0 to 4mm, use it with the stainless plate adjusted by moving the outside long hole hole and then secured with a screw.



- When the thickness of the fabric used is 3 to 7mm, use it with the stainless plate adjusted by moving the inside long hole hole and then secured with a screw.



NOTE!

- When raising the stainless plate, be sure to adjust the head height. Failure to do so may cause damage to the head.

Installing IEEE1394 output driver

When connecting the plotter using the host computer and IEEE1394 interface, it may be necessary to install the IEEE1394 output driver and RasterLink Pro (RIP).

Installing USB output driver

When connecting the plotter using a USB interface, it is necessary to install the USB2.0 output driver and RasterLink Pro (RIP).

NOTE!

- For the installation procedure, refer to the contents of the CD-ROM supplied with the plotter.
- RasterLink Pro is optional accessory.
- USB2.0 interface board is available as option. Installation is a service engineer work. Be sure to call a service engineer.

Connecting the cables

Connecting the interface cable

Connect the plotter to the computer with the appropriate interface cable.

Three types of interface cables (IEEE1284/IEEE1394/USB2.0) are available. Select the interface cable appropriate to the computer and output software.

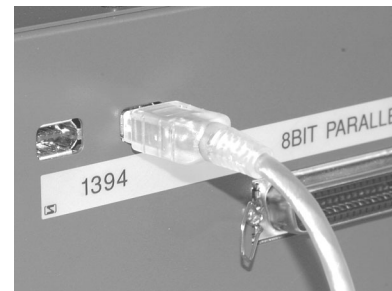
- (NOTE!)**
- Turn off the power switch of the plotter (the switch has to be tilted toward the “O” side) in prior to the connection of the interface cable and the power cable.
 - Instead of using IEEE1394 interface, USB2.0 is available by connecting the “USB2.0 interface Option Board (OPT-J0107)”

For Windows 2000, XP (IEEE1394 or USB2.0)

When the computer is operated in Windows 2000 or XP with IEEE1394(or USB2.0)interface, use an IEEE1394(or USB2.0) interface cable to connect the computer and the plotter together.

It is possible to use an IEEE1284 interface cable for connection between the computer and the plotter. In this case, however, the data transmission speed decreases.

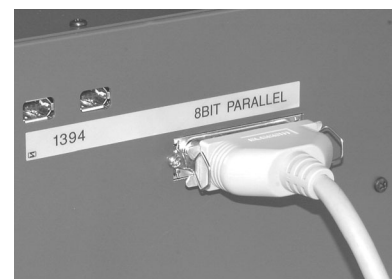
- (NOTE!)**
- The application used must be applicable to IEEE 1394(or USB2.0).
 - Either of the two IEEE1394 connectors can be used.
 - IEEE1394 and USB2.0 interface cannot be used simultaneously.



For other operating system (IEEE1284)

When operating system is other than Windows 2000 or XP, use an IEEE1284 interface cable to connect the computer and the plotter.

Configuration of connector (IEEE1284)



- (NOTE!)**
- If the customer uses Windows 2000 or XP and the computer is not provided with an IEEE1394 board, contact your nearest RIP provider or MIMAKI sales office.

Connecting the power cable

Connect the power cable to the receptacle of the following specifications.

- **Voltage** : AC 100 - 240 V \pm 10%
- **Frequency** : 50/60 Hz \pm 1%
- **Capacity** : 5 A or more (500 W or more)

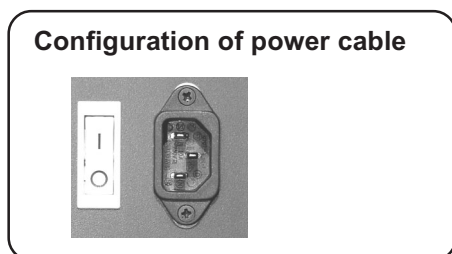
NOTE!



- Be sure to turn off the power switch of the plotter in prior to the connection of the power cable.
- Be sure to insert the power cable into an appropriately-grounded receptacle. If not, there is a fear of arising electric shock hazards and damage to the plotter.
- Use a outlet which power breaker applicable to the 50A, and 0.01 seconds or above.

STEPS:

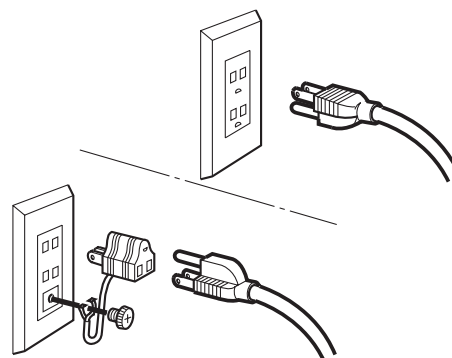
1. Connect the power cable to the AC inlet.



2. Connect the power cable to the 3-pole receptacle.



For a 2-pole receptacle, connect the grounding adapter supplied with the plotter to the power cable plug. Properly ground the green wire (ground lead) of the grounding adapter.



Switching ON/OFF the power supply

After setting up the plotter, switch on and off the power as described below.

Turning the power on

STEPS:

1. Turn on the power to the computer, etc. that are connected to the device.
2. Turn on the power to the plotter.

Tilt the power switch toward the "I" side, and the power to the plotter is turned on.

- NOTE!** • At this time, the front cover must be closed. With the front cover kept open, the carriage does not move even when the power is switched on.

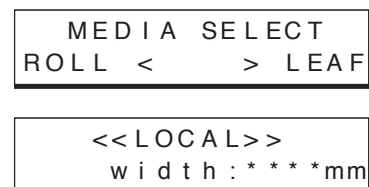
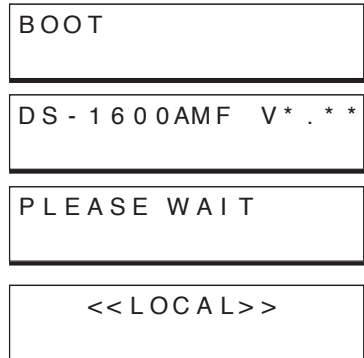
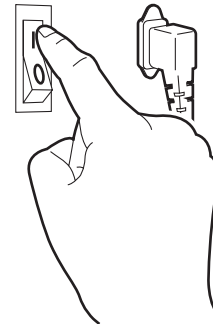
When the power is switched on, the LCD first displays [BOOT] and then displays the firmware version number.

The message "PLEASE WAIT" appears flashing on the LCD.

The menu enters the LOCAL mode.



- If a fabric has been set on the plotter, the prompt [MEDIA SELECT] is displayed on the LCD when the power is switched on. After selecting media, the plotter detects the media and returns to the LOCAL mode.



Turning 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.

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



- If using the textile pigment ink (TPig), keep turning on the power of the plotter is recommended because the textile pigment ink is easy to dry up. (When turning off the power of the plotter, the function to prevent nozzle clogging is not performed.)

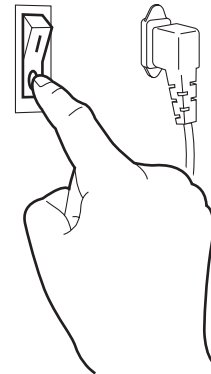


- If the power is turned off while the plotter is engaged in printing, the head may fail to be retracted in the capping station. If the head is left without capped for an extended period of time, the nozzle will be clogged with dust. If the power to the plotter is turned off without the head capped,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

STEPS:

1. Turn off the power to the computer, etc. that are connected to the plotter.
2. Turn off the power to the plotter.

Tilt the power switch to the "O" side.



Front cover and maintenance cover

Opening/closing the cover

Do not open the front cover and the maintenance cover while the plotter is in operation.

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

Keep the front cover and maintenance cover closed regardless during plotting operation or not. Otherwise it cause the dust attach to the head nozzle.

Do not open the maintenance cover except when it is necessary to clean the station interior.

When opening the cover during plotting

If you open the front cover or the maintenance cover during plotting, operate the following steps:

STEPS:

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

C l o s e T h e C o v e r

2. **After the completion of data transmission from the computer, close the cover, then press the [ENTER] key.**



P R E S S < E N T > K E Y



- If the data transmission from the computer cannot be stopped, first switch off the power supply of the computer then switch it on to restart the computer.

The carriage will start to move.

The carriage will carry out as same as after turning on the power of plotter.

Ink cartridges

Types of ink

2 types of ink are available for this plotter at the moment. The characteristics of each ink type are described below.

Sublimation dye ink [Sub] : Suitable for polyester, acrylic, etc.

(SPC-0466) Available ink colors include black, cyan, magenta, yellow, light cyan, light magenta.

Textile pigment ink [TPig] : Suitable for cotton.

(SPC-0350) Available ink colors include black, cyan, magenta, yellow.

Precautions in handling the ink cartridge

CAUTION

- Use Mimaki-recommended ink. Using third-party ink or ink cartridges may cause a trouble.

The user shall be charged for a repair to correct any damage resulting from these inks or ink cartridges even if under warranty period.

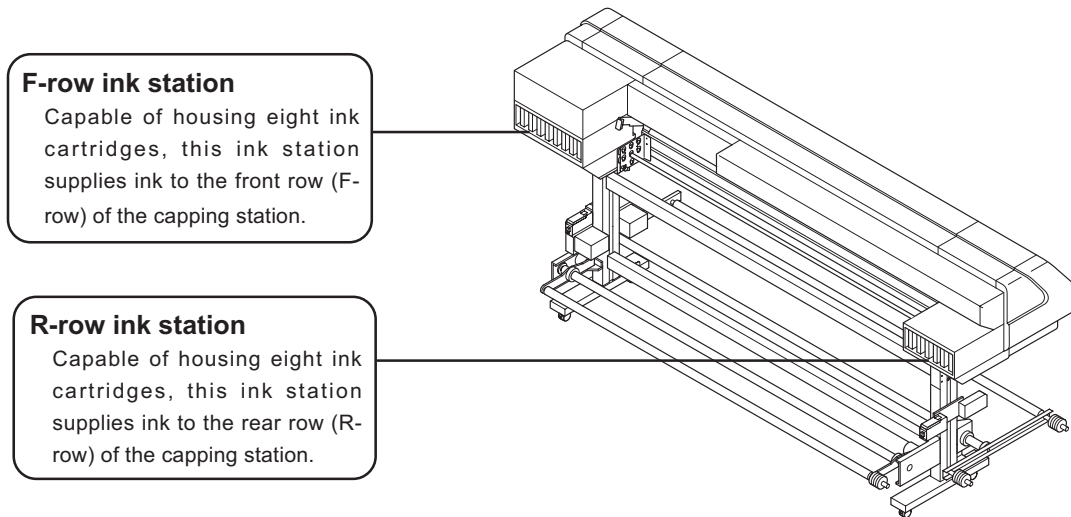
- Never refill the ink cartridge with ink. This might cause a trouble. Mimaki assumes no responsibility for any damage caused by using replenished ink cartridges.
- Do not touch or stain the contact of the cartridge PCB, as this may cause failure of the PCB.

NOTE!

- The ink is not toxic. However, avoid direct contact with the ink. If ink contacts the skin or fabric, immediately wash it off with detergent or water. In the event that ink gets in eyes, immediately rinse it off with a plenty of running water and consult a medical doctor.
- Be sure to store the ink cartridges in a cold and dark place. Do not store the cartridge in too high/low temperature or high humidity condition. 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.
- Open the ink cartridge just before installing it in the plotter. If it is opened and left for an extended period of time, normal plotting performance may not be ensured.
- Make sure to thoroughly consume the ink in the ink cartridge, once it is opened, within six months. If an extended period of time has passed after opening the cartridge tank, printing quality would be poor.
- Dispose empty ink cartridges and waste ink in accordance with national and local ordinances effective in your area.
- Do not use expired ink cartridges. The expiration date is printed on the ink cartridge.
- Do not shake the ink cartridge violently. Shaking or turning it roughly can cause leakage of ink.
- When using the textile pigment ink under low humidity condition, the nozzle drop out and deflection are easy to occur because the ink is easy to dry up. Setting ON of "AUTO CLEAN" (see page 3.20) and then setting the length of "AUTO CLEAN 2" (see page 3.21) to 3m or less is recommended.

Ink stations

As viewed from the front of the plotter, the ink station on the right side is called the “F-row ink station” and the ink station on the left side is called the “R-row ink station.”



* The figure shows the unit when viewed from rear side.

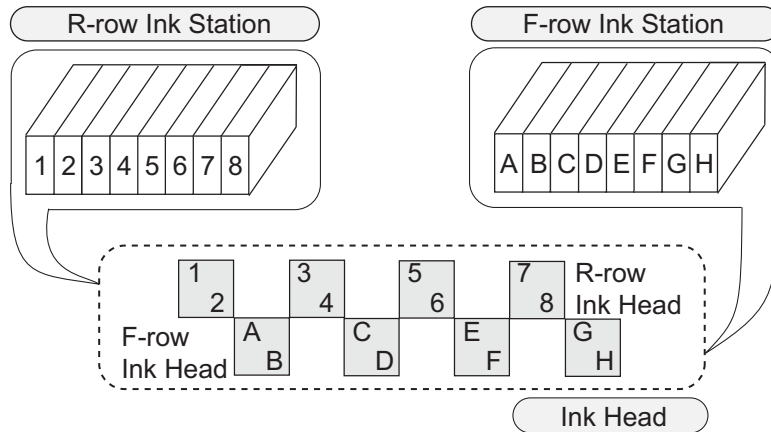
- NOTE!**
- In each ink station, set eight ink cartridges containing ink of the same type. The setting position of each color ink cartridge differs according to the ink type. Before setting a new ink cartridge of different ink type or color, be sure to wash the ink line and print head. (See to page 4-26)

Relationships between ink station and head row

The right ink station supplies ink to the front row (F-row) of heads.

The left ink station supplies ink to the rear row (R-row) of heads.

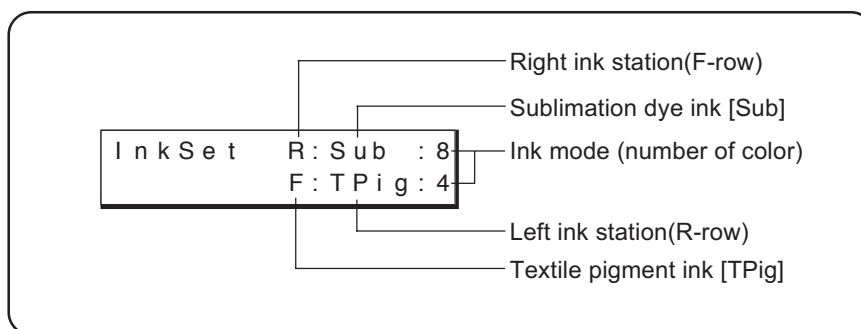
Remember these relationships when checking the heads for clogged nozzles and replenishing inks.



Display of ink type

Ink type is displayed when an ink cartridge is newly set, an ink cartridge of different type is set, or a type of ink is selected from the ones that have already been set.

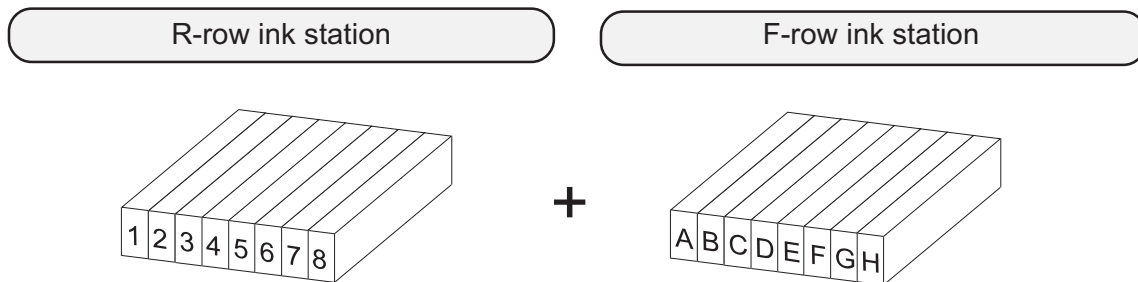
The information displayed on the LCD consists of the row of ink station (R or F row) and the type of ink.



Setting ink cartridges

Setting for 1-way high-speed printing

New piezo electric heads, the staggered-layout print head provides more attractive, faster printing, and allows ultra high-precisions 8-head 1-way printing. Set the left and right ink cartridge cases with ink cartridges of the same types and same colors.



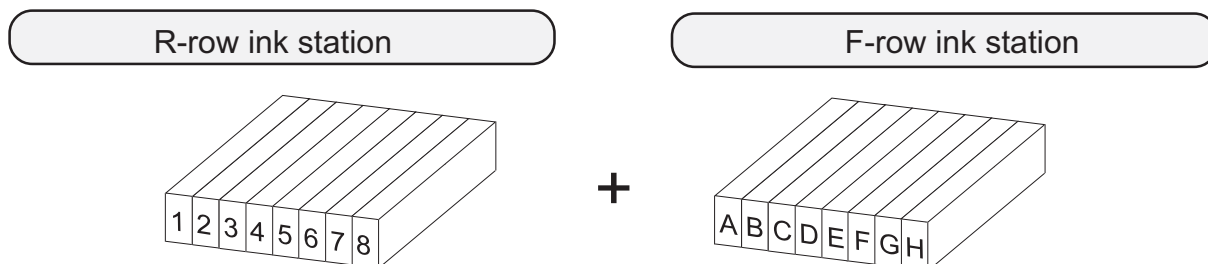
- NOTE!**
- Set ink cartridges of the same type and same color to 1 and A, 2 and B, 3 and C, 4 and D, 5 and E, 6 and F, 7 and G, and 8 and H, respectively.
 - When using sublimation dye ink, install any color of sublimation dye ink as the dummy ink into the ink station No. 1, 8, A and H because the sublimation dye ink is 6 color composition. Any color of sublimation dye ink can be used as the dummy ink, but BLACK is recommended to install into the ink station No. 1 and A because it is easier to check the dot position when operating print adjustment.
 - Do not use the washing cartridges as the dummy ink. It may cause the head trouble.



- When two sets of ink of the same type are set in the two ink stations, it is possible to use the function which, if the ink in the ink station currently used runs out during printing, switches from that ink station to the other ink station to permit the printing operation to be continued without interruption (See page 3.23).
- Paste the tuck titles on the ink station cover to indicate the installed ink cartridge color.

Setting for 2-way multi printing

Alternatively, using two sets of three heads in 2-way printing mode, each with different inks, gives you the functionality of two 8-color plotters in a single unit. Set the left and right ink cartridge cases with ink cartridges of different types and colors. Set ink cartridges of different types and colors to 1 through 8 and A through H.



(NOTE!)

- When setting the textile pigment ink and the sublimation dye ink as 2-way multi printing, set the textile pigment ink to the R-row ink station and the sublimation dye ink to the F-row ink station. If setting ink cartridges at different position mentioned above, the success rate of cleaning function may be lowered.
- When using sublimation dye ink, install any color of sublimation dye ink as the dummy ink into the ink station No. 1, 8, A and H because the sublimation dye ink is 6 color composition. Any color of sublimation dye ink can be used as the dummy ink, but BLACK is recommended to install into the ink station No. 1 and A because it is easier to check the dot position when operating print adjustment.
- Do not use the washing cartridges as the dummy ink. It may cause the head trouble.

Set the ink cartridge referencing the following table.

No.	Sublimation dye ink SPC-0370/SPC-0466 (For direct print and transfer)		Textile pigment ink
	6 color	4 color	4 color
1	Any color is available (SPC- ●●●● **)	BLACK (SPC- ●●●● K)	BLACK (SPC-0350K)
2	BLACK (SPC- ●●●● K)	BLACK (SPC- ●●●● K)	BLACK (SPC-0350K)
3	CYAN(SPC- ●●●● C)	CYAN(SPC- ●●●● C)	CYAN (SPC-0350C)
4	LIGHT CYAN (SPC- ●●●● LC)	CYAN(SPC- ●●●● C)	CYAN (SPC-0350C)
5	MAGENTA (SPC- ●●●● M)	MAGENTA (SPC- ●●●● M)	MAGENTA (SPC-0350M)
6	LIGHT MAGENTA (SPC- ●●●● LM)	MAGENTA (SPC- ●●●● M)	MAGENTA (SPC-0350M)
7	YELLOW (SPC- ●●●● Y)	YELLOW (SPC- ●●●● Y)	YELLOW (SPC-0435Y)
8	Any color is available (SPC- ●●●● **)	YELLOW (SPC- ●●●● Y)	YELLOW (SPC-0435Y)
A	Any color is available (SPC- ●●●● **)	BLACK (SPC- ●●●● K)	BLACK (SPC-0350K)
B	BLACK (SPC- ●●●● K)	BLACK (SPC- ●●●● K)	BLACK (SPC-0350K)
C	CYAN (SPC- ●●●● C)	CYAN(SPC- ●●●● C)	CYAN(SPC-0350C)
D	LIGHT CYAN (SPC- ●●●● LC)	CYAN(SPC- ●●●● C)	CYAN (SPC-0350C)
E	MAGENTA (SPC- ●●●● M)	MAGENTA (SPC- ●●●● M)	MAGENTA (SPC-0350M)
F	LIGHT MAGENTA (SPC- ●●●● LM)	MAGENTA (SPC- ●●●● M)	MAGENTA (SPC-0350M)
G	YELLOW (SPC- ●●●● Y)	YELLOW (SPC- ●●●● Y)	YELLOW (SPC-0435Y)
H	Any color is available (SPC- ●●●● **)	YELLOW (SPC- ●●●● Y)	YELLOW (SPC-0435Y)

Fabric for printing

This section describes the types of fabric that can be used with the plotter and the method of setting the media used.

Types of fabric that can be used

The types of fabric that can be used with this plotter “Roll” and “Leaf” fabric are cut sheet media. However, because leaf fabric is handled in the same manner as roll fabric, be careful about the setting position of leaf fabric.

Sizes of fabric that can be used

fabric		DS-1600 (AMF)	DS-1800 (AMF)
	Maximum	1650 mm	1900 mm
	Minimum	200 mm	
	Printing width	1620 mm	1850 mm
	Thickness	7.0 mm or less*	
	Roll outside diameter	Ø 180 mm or less*	
	Roll weight	15 kg or less*	
	Roll inside diameter	1.5 to 3 inches*	
	Printing surface	Regardless of faces out and in*	
	Taking up direction	Enables of faces out and in*	
	Roll end treatment	Light-adhesive tape is used to allow the paper to be removed from the core with ease.	

*In case of DS-1600/1800AMF.

Precautions in handling the fabric

Carefully observe the following when handling the fabric.

CAUTION

- Use pre-processed fabrics recommended by MIMAKI.

NOTE!

- When setting the fabric used, be sure to adjust the head height. Otherwise, the fabric and/or the head can be damaged.
- Store fabric in a bag. Wiping off dust, waste paper and flocks accumulated on a fabric will adversely affect the fabric due to static electricity.
- Do not use ink-adhered fabric with high elasticity.
Use of such a fabrics may cause contact with the print head nozzle, displaced printing, or other trouble.
- Do not use fabric with curled edges.
Use of such a fabric may cause contact with the print head nozzle, resulting in inferior ink discharge. If fabric that is likely tightly curl, flatten first the fabric before using it for plotting. Heavily-curved fabric affect the plotted picture quality.
- Do not use fabrics with extremely coarse fixture.
The plotter may not detect the fabric properly.

Limited media

With the following media, correction from the plotter is difficult.

When using any of the following media, perform test printing to determine whether it can be used or not.

NOTE!

- When using a media other than the following, be sure to perform test printing to confirm the plot result and then determine whether it can be used or not.
 - Hight stretch fabric (Stretch materials, vertically extendable knit,etc.)
 - Materials which become largely extendable when getting wet by printing.
 - Materials with large width variations.
 - Materials which present partial wrinkles of slacks when being spread on a flat surface or materials which are totally curved.
 - Materials with large take-up shift at the ends of media when rolled.
 - Roll media with a paper tube whose strength is insufficient and which bends when attached to a feeding unit.

Before setting the fabric on the plotter

Adjusting the head height according to the fabric [HEAD HEIGHT]

It is necessary to adjust the head height according to the thickness of the fabric.

If the height of the head is inappropriate to the thickness of the fabric, the plotter cannot work properly.

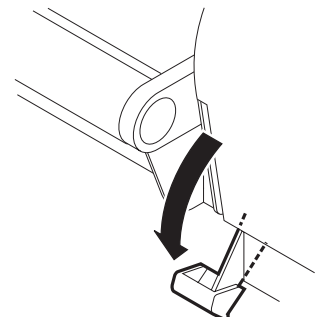
More important, operating without adjusting the head height is very dangerous: it can damage the fabric and the plotter.

When a new fabric different in thickness from the current fabric is to be used, be sure to make proper adjustment of the head height. [HEAD HEIGHT] is a function to set the distance between the fabric surface and head to 3mm.

- (NOTE!)**
- Adjust the head height before setting the fabric on the plotter.
If an attempt is made to adjust the head height with the fabric kept set on the platen, the fabric gets caught on the carriage during “carriage out” operation, causing damage to the head.
 - If you set the head height to 1.2mm (minimum value) from the platen surface, note the following points:
 - Remove the fabric pressers. If they are used, the head knocks up against the fabric retainers, which may cause damage to the plotter.
 - Use fabrics without wrinkle or uneven surface. If a fabric with wrinkle or uneven surface is used, the head may rub or catch the fabric to push it to a position resulting in fabric jam.
 - Except for cases when using film or other flat thin fabric, set the head height to 3mm.
 - Before performing [CARRIAGEout], be sure to move down the clamp lever on the front side of this plotter.
Performing [CARRIAGEout] with the clamp lever moved up may cause the head to hit the pinch roller damaging them.

STEPS:

1. Move down the clamp lever on the front face on the plotter.



Media
No Media

2. Press the [FUNCTION] key.



3. Press the JOG keys[▲] and [▼] to select [MAINTENANCE].



4. Press the [ENTER] key.



5. Press the JOG keys[▲] and [▼] to select [HEAD HEIGHT].



6. Press the [ENTER] key.



• If the fabric is loaded, "REMOVE MEDIA" will be displayed. In this case, remove the fabric.



7. Press the [ENTER] key.

The carriage will come out of the capping station.



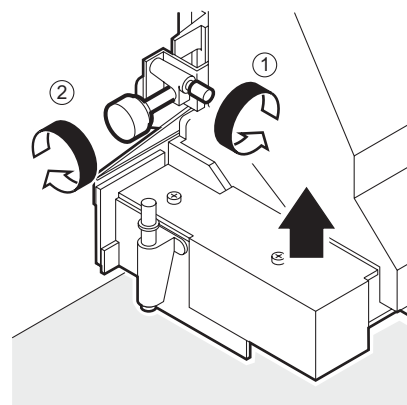
8. Open the front cover and then set the fabric to be used on the platen.

9. Move the carriage to a position where adjustment is easy.

The carriage can be moved manually.

10. Adjust the head height.

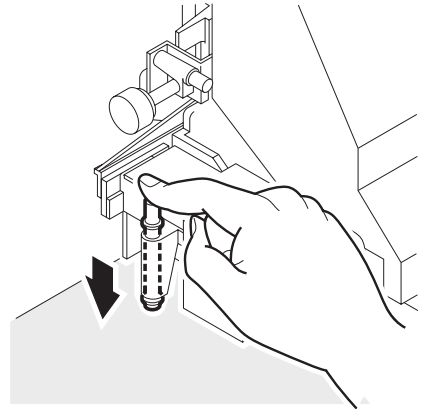
1. Loosen the support screw (1), turn the height adjustment screw (2) in the direction shown, and move the head upward.



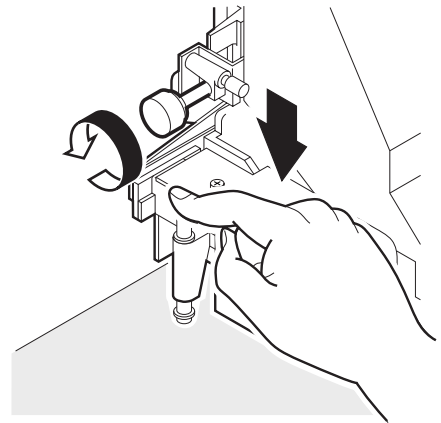
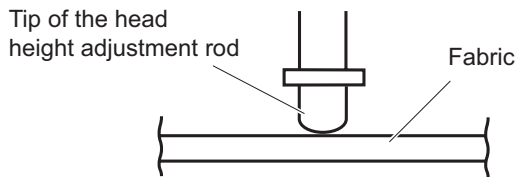
2. Push down the head height adjustment rod by the right hand.
Push down the head height adjustment rod till it stops moving anymore.



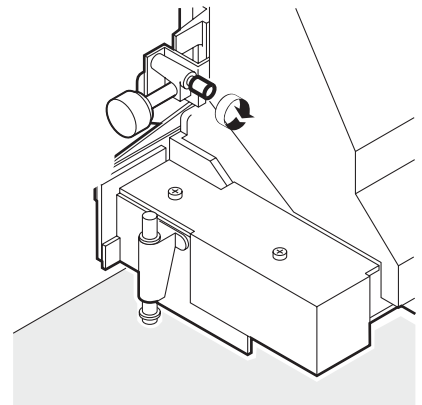
- If the tip of the head height adjustment rod makes contact with the surface of the fabric, repeat step 8.-1 shown on the preceding page to raise the head.



3. Turn the head height adjustment screw in the direction shown and move the head downward.
With the head height adjustment rod kept pushed, lower the head till the tip of the rod makes contact with the surface of the fabric.



4. Retighten the support screw after completing the head height adjustment.



11. Close the front cover.

HEAD HEIGHT COMPLETED : e n t

10. Press the [ENTER] key.

The carriage will come back to the capping station.

The LCD shown on the right is displayed.



INITIALIZING
PLEASE WAIT

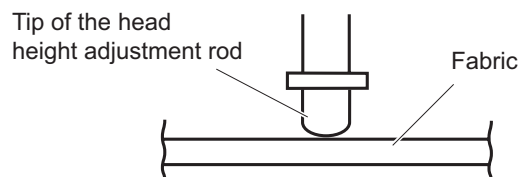
Media
No Media

Points in head height adjustment



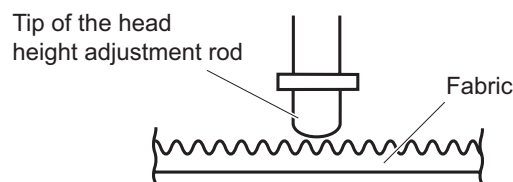
- When the head height is so adjusted that the tip of the head height adjustment rod just makes contact with the surface of the fabric, the distance between the head and the printing surface of the fabric becomes optimum.
- As long as the head height is so adjusted that the tip of the head height adjustment rod just makes contact with the surface of the fabric, the distance between the head and the printing surface of the fabric remains unchanged even when the head is raised.
- To avoid fluffing of the fabric surface, warp of the fabric edge, or waving of the fabric during printing, the distance between the head and the printing surface of the fabric can be increased.
- When the distance between the head and the printing surface of the fabric is increased, the print quality deteriorates.

Optimum distance



Distance increased

When a fabric having fluffy surface, warp, or irregular surface is used



(NOTE!)

- When the head height is adjusted, the printing points shift in position. After head height adjustment, be sure to correct the dot positions. (See page 4.6)

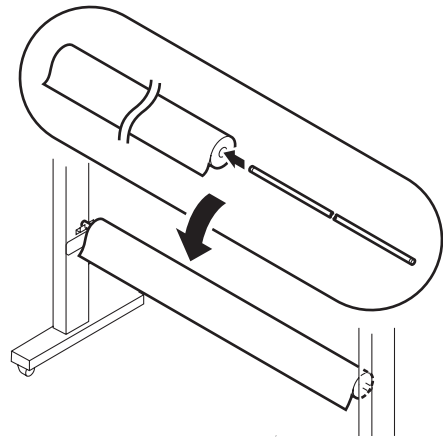
Setting the slip sheet

The slip sheet is used to prevent ink penetration of the fabric which is not dried after plotting.

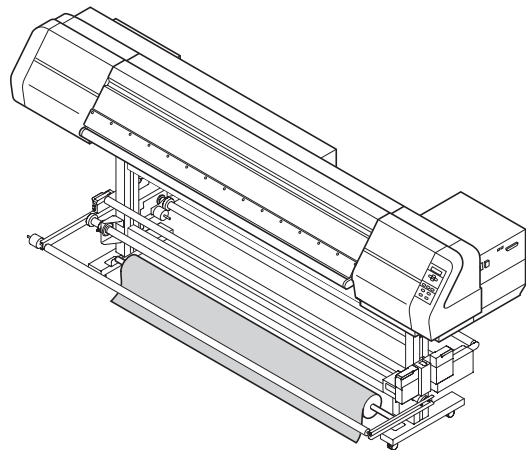
STEPS:

1. Set the fabric core of the slip sheet to the slip sheet bar hanger.

In case of DS-1600/1800 model:



In case of DS-1600/1800AMF model:



Setting the fabric to the plotter

The fabric that can be used are roll and leaf fabric.

Leaf fabric is handled in the same manner as roll fabric for printing.

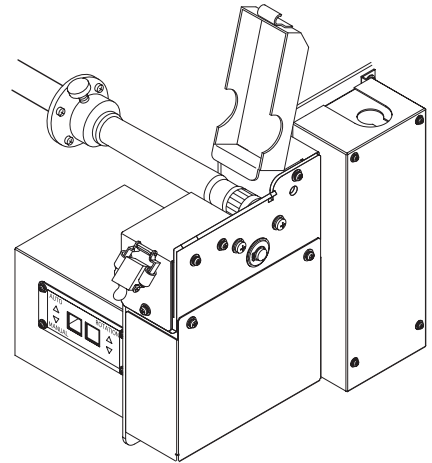
When using leaf paper for setup list printing, for example, be careful about the setting position.

This operation should be performed by 2 or more person because the roll is heavy in weight.

Setting a roll fabric (In case of DS-1600/1800AMF model)

STEPS:

1. **Open the roll shaft cover of the taking-up unit and take the roll shaft out.**

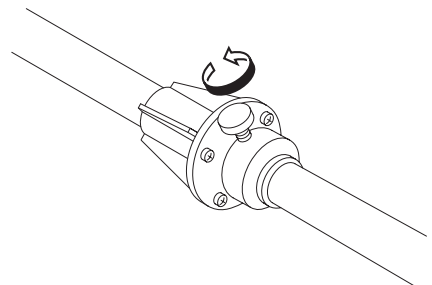


2. **Remove the roll holder attached to the roll shaft.**

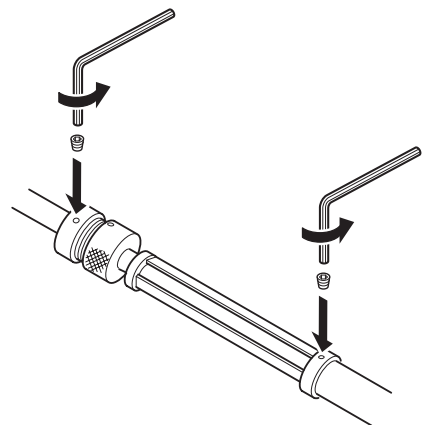
Remove one of the two roll holder.



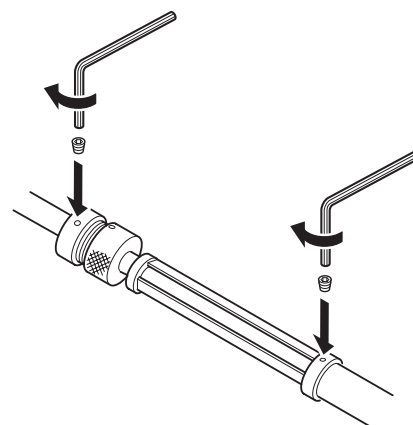
- When the fabric core support (option) is attached to the roll shaft, go to step 3.
When the fabric core support is not attached to the roll shaft, go to step 7.



3. **Loosen the screws fixed to the fabric core support on the roll shaft using supplied hexagonal wrench and then slide the fabric core support to the center of the using roll width.**



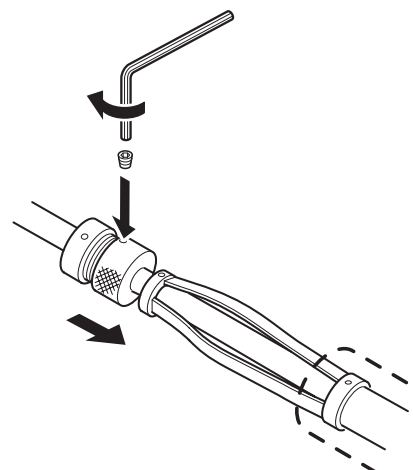
4. Fix the fabric core support screws shown on the right.



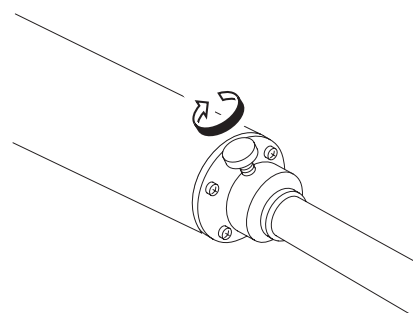
5. Insert supplied paper core to the roll shaft.

6. When the paper core is $\frac{2}{3}$ of the fabric core support, slide the fabric core support to bend the plate in an arc to touch on the inner wall of the paper core and then fix the fabric core support with the hexagonal wrench.

Fine adjustment can be performed by rotating the adjusting screw of the fabric core support.

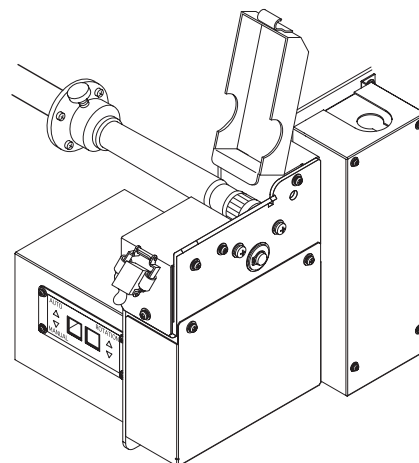


7. Put the paper core to the roll holder to prevent the paper core from moving and then fix the paper core with inserting roll holder.



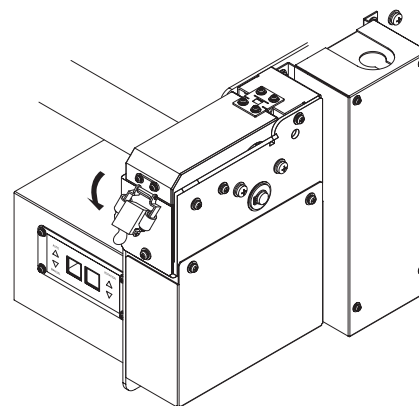
8. Put the roll shaft with paper core onto the taking-up unit.

Place the gear of the roll shaft to the right stand.



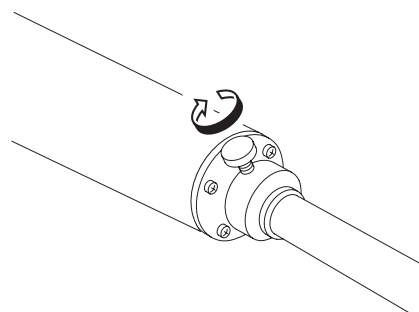
9. Make sure the gear interlocks with the unit and then close the roll shaft cover.

(NOTE!) • Be sure to lock the roll shaft cover to avoid the roll shaft falls down.



10. Adjust the paper core position and fix it if required.

Slide the paper core to the proper position to take up the fabric.

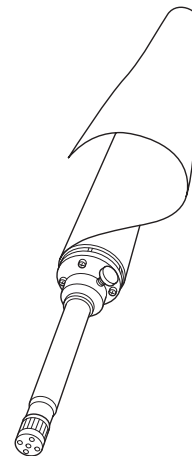


11. Install the roll shaft with roll to the feeding unit.

Install the roll with referring STEPS 1 to 10.

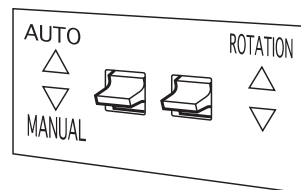
(NOTE !) • Installing direction is different according to the print surface.

(NOTE !) • Set the roll so that the edge of the roll is placed between the media set position.



12. On the feeding unit, set the “ROTATION” to the feeding position and set the “MANUAL” to feed the fabric approximately 3 meters.

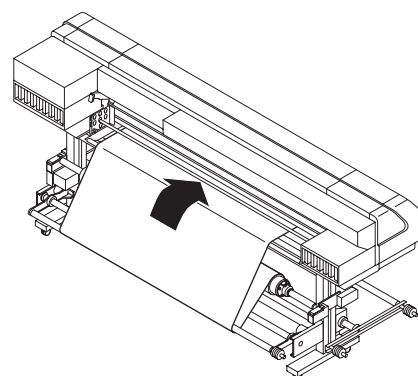
To stop feeding, set the “AUTO.”



13. Pull out the fabric under the feeding tension bar and then insert the leading edge of the fabric between the driver roller and pinch roller.

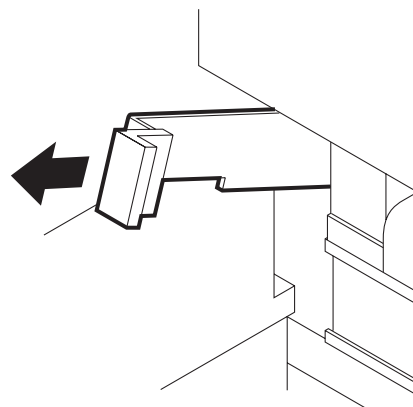


• When using the lapel bar, see page3.5.

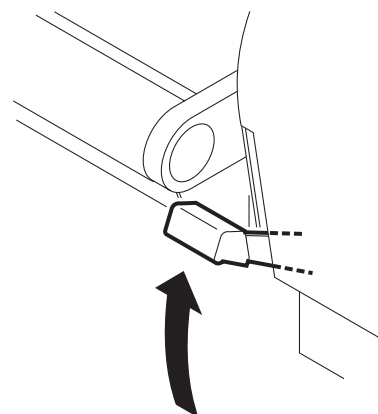


14. Pull up the clamp lever on the rear side.

The leading edge of the fabric will be clamped.



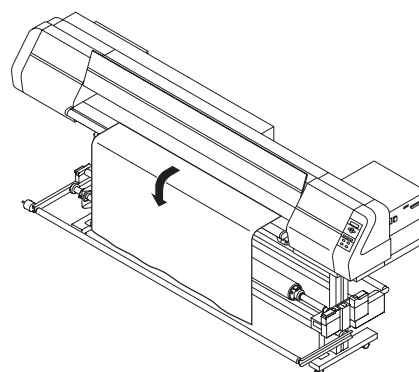
15. Open the front cover and the pull up the clamp lever with holding the leading edge of the fabric.



16. Pull out the fabric and set the fabric straight.

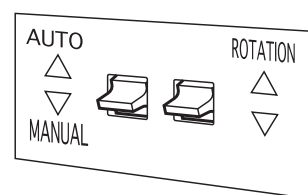


- If the edge of the fabric is curled, warped, or raised, the fabric retainer can be used to avoid damage to the ink head.

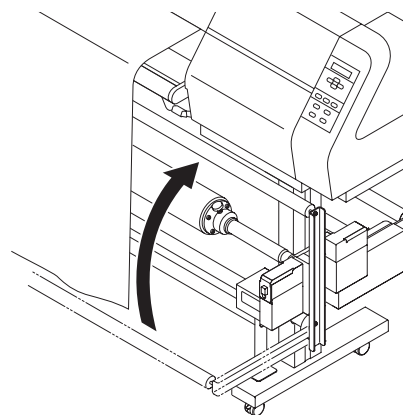


- 17. Set the “ROTATION” of the feeding unit to the feeding position and then set “MANUAL” to reverse the fabric so that the edge of the fabric is located in the same position of the take-up paper core.**

When settin “AUTO”, the rotation will be stopped.

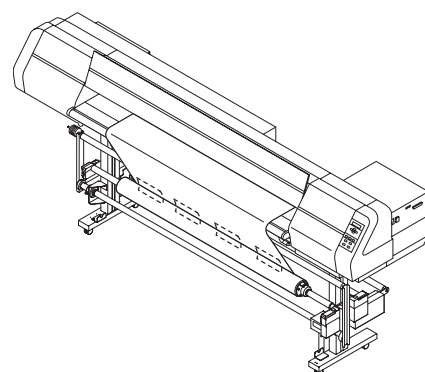


- 18. Move up the taking-up tension bar to the upper position of the paper core.**



- 19. Fix the edge of fabric to the paper core with an adhesive tape.**

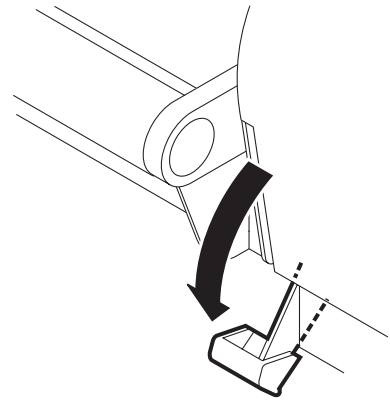
Fix the fabric straight.



- 20. Close the front cover.**

21. Move down the clamp lever on the front face of the plotter.

Secure the roll fabric pulled out to the front face, using the pinch roller.



22. Detect the fabric width.

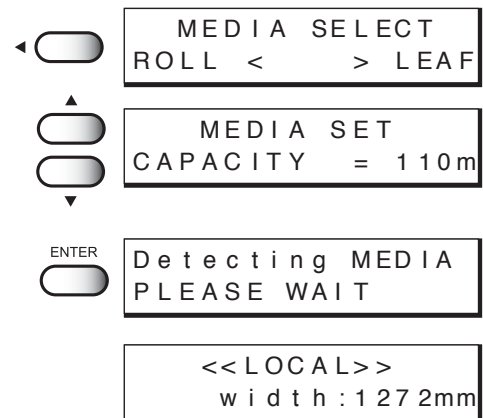


- The fabric can be feed by pressing the JOG key [▲] and [▼].

In case of Roll fabric:

- Press the JOG key [◀] on the operation panel.
- Specify the remaining length of the fabric.
- Press the [ENTER] key.

The fabric width is detected automatically and then the mode enters the LOCAL mode.

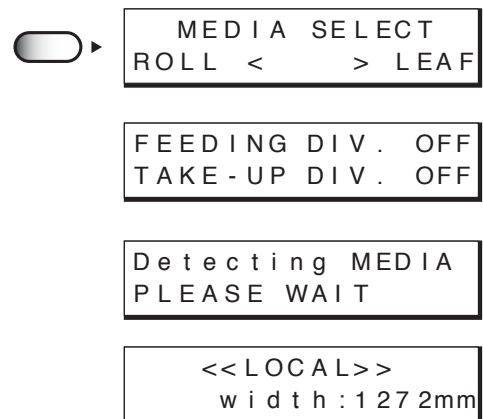


In case of Leaf fabric:

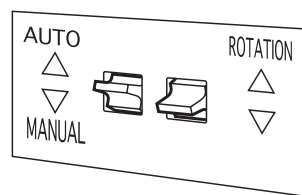
- Press the JOG key [▶] on the operation panel.

The status of the feeding unit and the take-up unit is displayed.

The fabric width is detected automatically and then the mode enters the LOCAL mode.



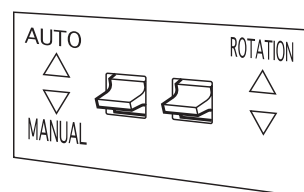
23. Make sure the “ROTATION” of the feeding unit is set to the feeding position and “AUTO” is set.



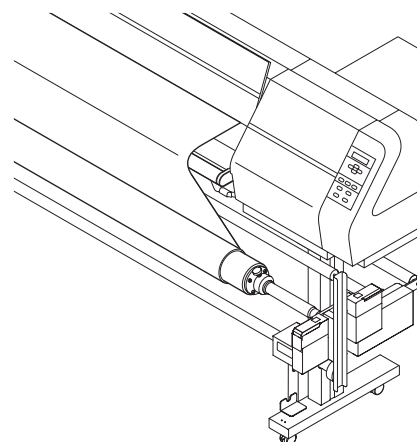
24. Press the JOG key [▼] to feed the fabric approximately 1 meter.



25. On the taking-up unit, set the “ROTATION” to the taking-up position and set the “MANUAL” to take up the fabric approximately once around the paper core.

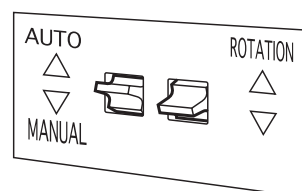


- When set “MANUAL,” rotation will be stopped in a few seconds. Repeat switching “MANUAL” and “AUTO” to take up the fabric.
- If setting the slip sheet, take up the slip sheet with fabric.

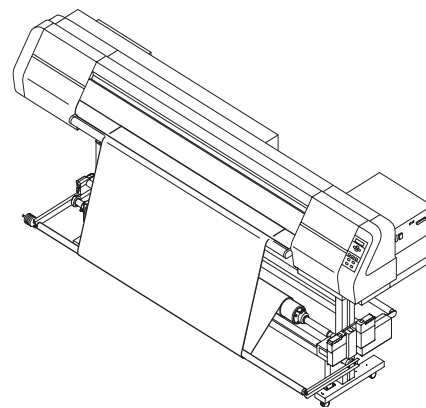


26. Make sure the switch of both feeding unit and taking-up unit.

Make sure the rotating direction is the same and the “AUTO” is set.



27. Move down the taking-up tension bar.



28. Press the JOG key [▼] to feed the fabric so that the taking-up tension bar is lowered.



29. Press the [ENTER] key.

The origin is set and then the mode enters the LOCAL mode.



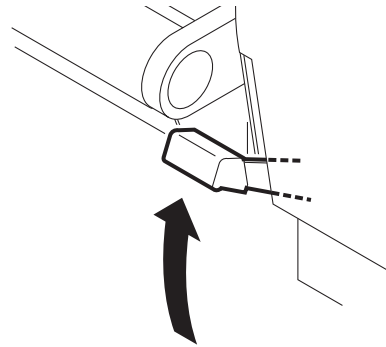
Removing pinch roller and preventing wrinkle of fabric

If either edge of the fabric stretches longer than the center or if an edge of the fabric is thickened because of gumming processing to prevent fray, slack may occur easily. In this case, remove the pinch rollers at both ends of the fabric.

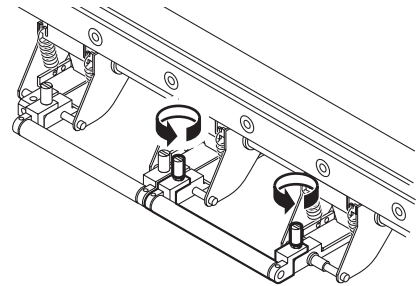
STEPS:

1. Move up the clamp lever on the front face.

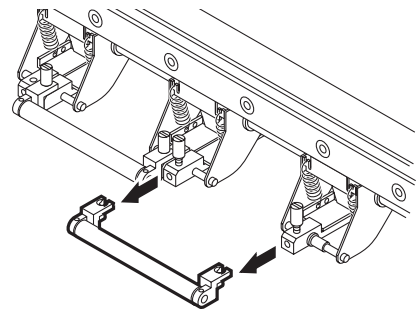
The pinch roller comes up.



2. Loosen the hand screws on both sides of the pinch roller to be removed.

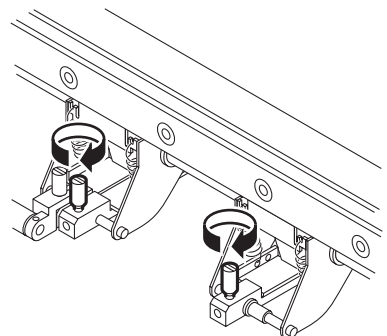


3. Pull out the pinch roller.



4. To prevent fall-off or loss of the hand screws, lightly fasten them.

- (NOTE!)** • If the lengths of the fabrics at the left and right pinch rollers removed are different remarkably, reset the fabric. (Perform the operation of "SETTING THE ROLL", from step5. on page 1.35 to page 1.43 again.)



Adjusting friction of the tension bar

The proper tension is different depending on the kind of fabric, pre-processing, fabric width and so on.

Adjust the weight of the tension bar with using counter weight according to the fabric.

The weight can be adjusted from approximately 750 g to 3000g.

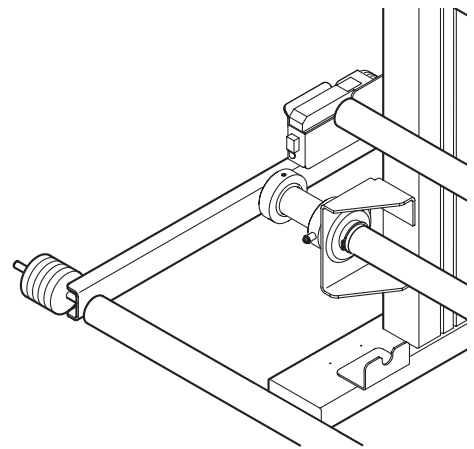
After adjusting the weight, operate "TEST DRAW (see page 2.11)" to get the proper print quality before starting print.

STEPS:

1. Install the counter weight to the weight shaft of each feeding tension bar and taking-up tension bar.



- The weight of each tension bar is approximately 1500g and one counter weight is approximately 100g. Install the quantity of the counter weight you need.
- When using burred texture or stretchy material, lighten the tension bar. When using fine texture or hard material, make the tension bar heavier.

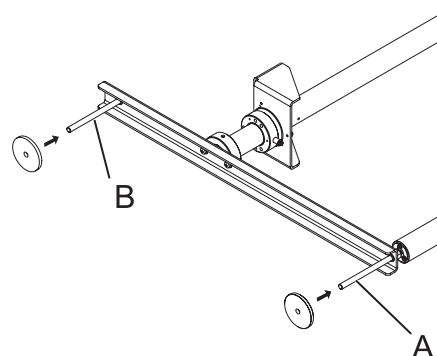
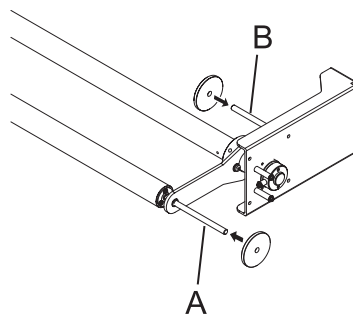


In case of making the tension bar heavier to 1500g or more:

Install the counter weight requirement at "A" position shown below. (Maximum 15 pcs.)

In case of making the tension bar lighter to 1500g or less:

Install **twice of the counter weight requirement** at "B" position shown below. (Maximum 15 pcs.)



<Example>

- Install 6 counter weights to “A” position:

$$1500\text{g (Tension bar itself)} + 100\text{g (1 counter weight)} \times 6 = 2100\text{g}$$

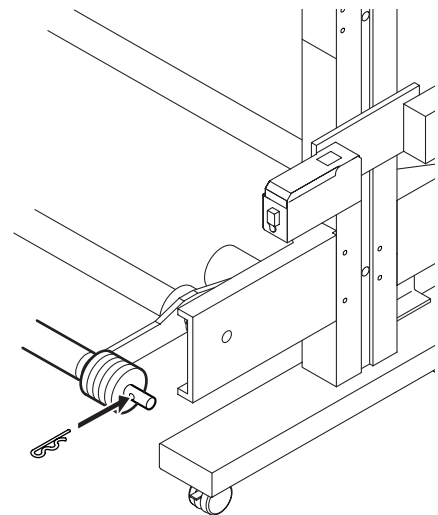
- Install 8 counter weights to “B” position:

$$1500\text{g (Tension bar itself)} - 100\text{g (1 counter weight)} \times 8 / 2^* = 1100\text{g}$$

*Half weight is applied to the tension bar.

2. Attach the clip to the weight shaft.

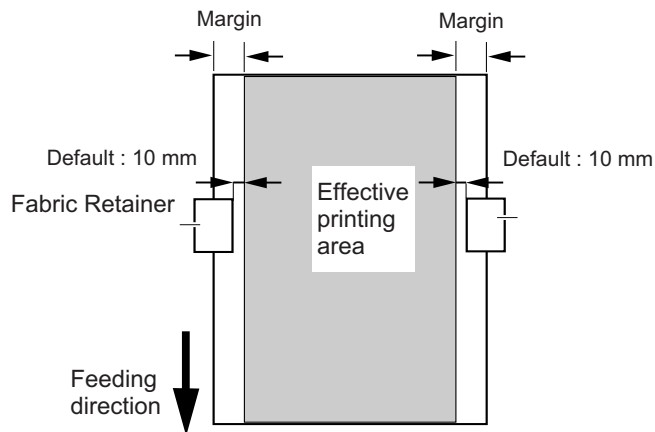
Attach the clip to prevent the counter weight from falling down.



Specifying the scope of printing on the fabric used (Effective printing area)

The plotter has an area which cannot perform printing, due to mechanical reasons. This area is called “margin.”

The effective printing area is obtained by excluding the margin from the printing fabric.



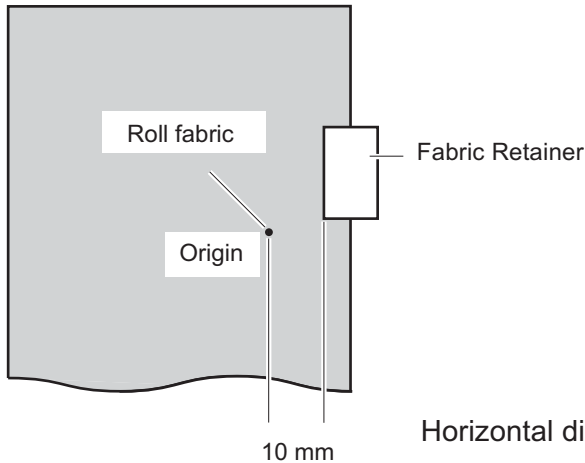
Roll Fabric



- The margin at the front and rear edges of the fabric can be reduced using a guiding fabric.
- The margin may be changed as required.
The effective printing area can be changed by changing the margin.
For the method of setting a margin, see page 3.15.

Origin setting

Establish an origin in terms of data on fabric loaded on the plotter. Place the fabric and cause the plotter to detect the fabric, the origin is automatically established at the location shown in the illustration given below.



Horizontal direction : Position 10mm apart from the left edge of the fabric retainer

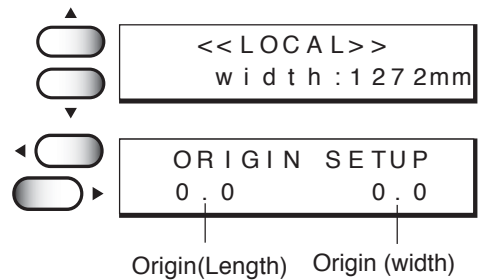
Setting of an origin

If you want to perform printing at another location of a roll fabric that provides a wider printing area, it is necessary to re-establish another origin. (See page 3.15)

STEPS:

1. After the fabric detection is completed, press the JOG keys [▲], [▼], [◀], and [▶] to move the carriage to the position at which to set an origin.

As the carriage is moved, the origin shifts in position. The origin that changes with the movement of the carriage is displayed on the LCD.



2. After deciding the origin, press the [ENTER] key. The origin has been changed.



Chapter 2

How to use the basic functions

This chapter describes the basic operations of the plotter, from the beginning to the end of printing.

Before using the application functions, understand how to use the basic functions of the keys on the operation panel and the modes in which the menus are displayed on the LCD.

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Operation	2.2
Setting the display language	2.6
Printing an image from source data	2.7
Checking nozzle in ink firing condition	2.11
If there are nozzle clogging in ink firing condition	2.12
Routine maintenance	2.13
To replenish ink, set a new ink cartridge in the ink station	2.16

Operation

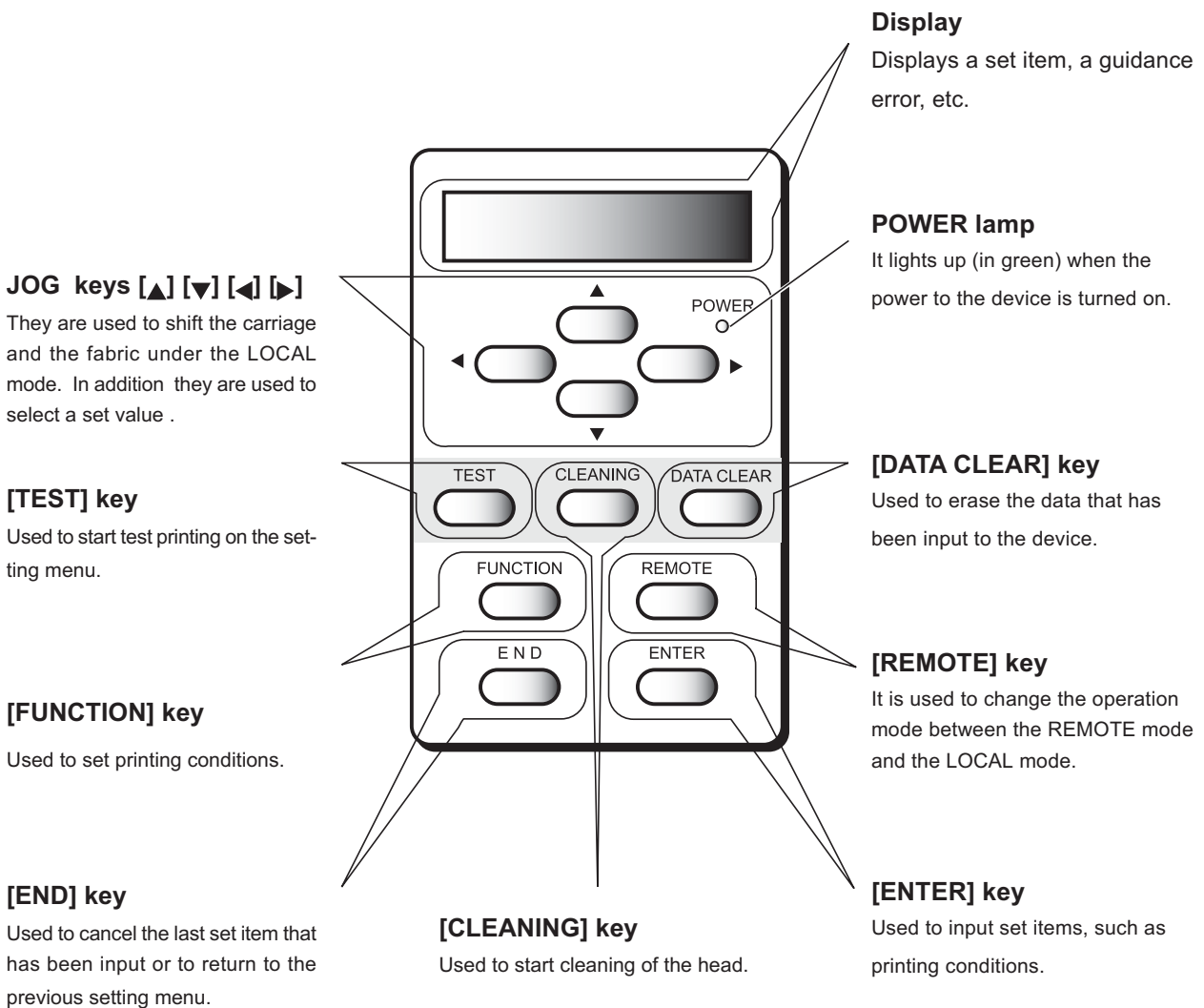
This section describes the operation panel that is used to operate the device and the menus from which to choose the desired item.

Operation panel

The operation panel that is used to operate the device and a method of maintenance of the device after operation, etc.

The operation panel must be used when operating the device.





Therefore, it is indispensable to understand how to use the operation panel.



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
	Selects the roll media.	Shifts the carriage to the left.		
	Selects the leaf media.	Shifts the carriage to the right.		
	Shifts the fabric away from you.	Shifts the fabric away from you.	Restores the last previous function.	Selects the next value.
	Moves the fabric toward you.	Moves the fabric toward you.	Moves to the next function.	Selects the last previous value.

(NOTE!) • Do not use reverse feed. (Move the fabric forward.)

The cloth may be caught by the platen and stained by set-off ink. Slack may occur at the run-out device and necessary tension may not be obtained when starting next printing. If you need to perform reverse feed, keep the above points in mind.

MENU mode

A list of setting items displayed on the LCD is called a menu.

A specific operation specified on the operation panel is displayed on the LCD in one of the following three modes.

Each of the three modes is explained below.

<<LOCAL>> mode

This is the mode in which the preparations for printing operation are made.

When the power is switched on and the detection of a fabric is completed, the plotter enters the LOCAL mode. In this mode, it is possible to perform the following operations. (See page 1.20)

1. Pressing the appropriate [JOG] keys to detect a fabric and set up an origin.
2. Pressing the [TEST] key to start test printing.
3. Pressing the [CLEANING] key to clean the head.
4. Pressing the [DATA CLEAR] key to erase the printing data the plotter has received.
5. Pressing the [FUNCTION] key to set printing conditions.
6. Pressing the [ENTER] key to display the guidance.

(NOTE!) • In the LOCAL mode, the plotter cannot plot data received from the computer. To put the plotter into operation, change the mode to the REMOTE mode by pressing the [REMOTE] key.

<< REMOTE >> mode

This is the mode in which the device plots an image from data it receives from the computer. If the mode is in the LOCAL mode, press the [REMOTE] key to put the mode into the REMOTE mode.

<<FUNCTION >> mode

This is the mode which printing conditions can be set.

To set printing conditions, press the [FUNCTION] key while the mode is in the LOCAL mode and switch to the FUNCTION mode (printing function setting mode).

Menu tree

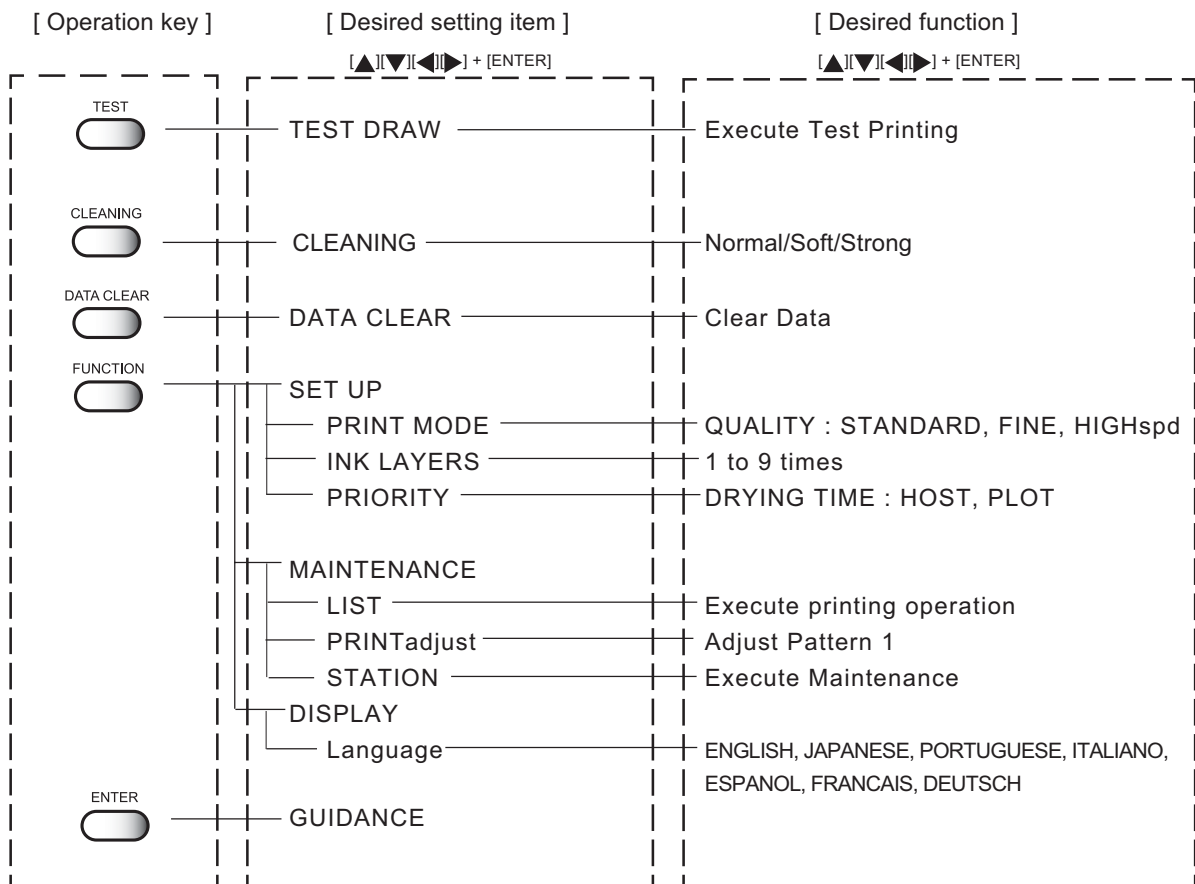
The operation of plotter and printing conditions are set by pressing the appropriate operation keys, selecting the desired setting item and setting detailed conditions.

In order to operate the plotter properly, it is necessary to understand the structure of the menu tree (See page Appendix.5). The menu tree shown below makes plain the relationships between the operation keys on the operation panel and the functions that can be set by using them.

(NOTE!) • To set any of the functions, the plotter must be in the LOCAL mode.

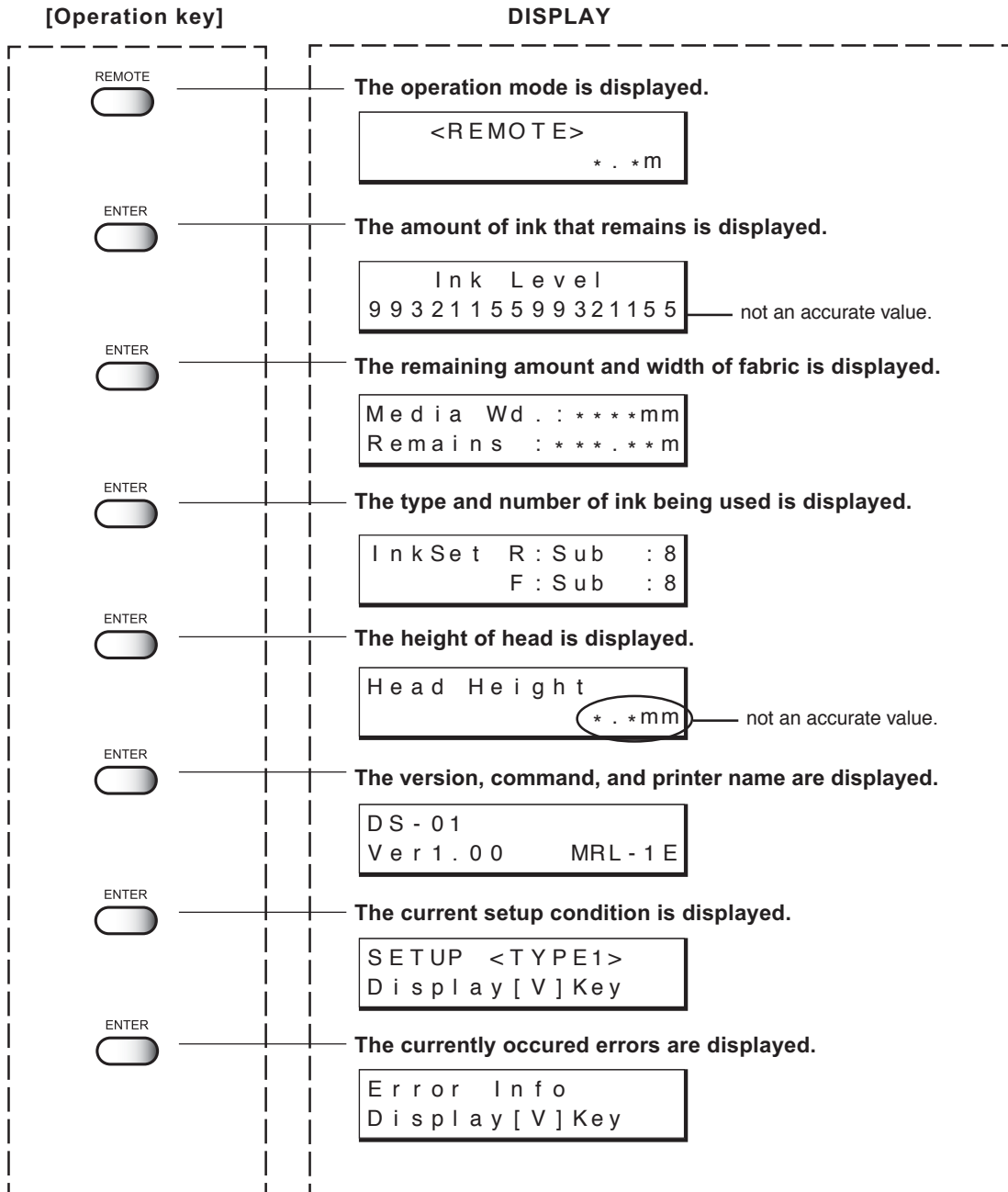
STEPS:

- (1) Turning the power on.(See page 1.20)
- (2) Invoke the local mode on the LCD.
- (3) To set up a specific function from the operation panel, follow the procedure shown below.
 1. Press the appropriate operation key on the operation panel.
 2. Select the desired setting item.
 3. Set up the desired function.



• The above shows menu trees in part. For details, refer to page Appendix.5.

Some menus simply list items which do not require the operator to set any of them. In this case, the operator is required to select the content to be displayed on the LCD.



Setting the display language

Set the language in which to display characters on the LCD. "English" has been set as the initial display language of the plotter. Try to change the display language to "Japanese" here.

STEPS:

1. Make sure the mode is LOCAL mode.

Press the [REMOTE] key and put the menu back into the LOCAL mode.



2. Press the [FUNCTION] key.



3. Press the JOG key [▼] twice.



4. Press the [ENTER] key.



5. Press the JOG key [▲] and [▼] to select the language to be used for the indication on the display.

There are seven different languages from which you can select one as the display language.

[ENGLISH], [JAPANESE], [PORTUGUESE],
[ITALIANO], [ESPANOL], [FRANCAIS], [DEUTSCH]



6. After you have selected the display language, press the [ENTER] key.



7. Press the [END] key.

The mode enters the LOCAL mode.



Printing an image from source data

Starting the plotter operation

This section describes the basic operation of the plotter.

Printing conditions can be set on the plotter side. In this section, however, the method of printing an image from data that has been set on the computer side and transmitted to the plotter is explained.

For the method of setting printing conditions on the plotter side, see Chapter 3 "How to Use the Application Functions."

STEPS:

1. Turn the power on.

(See page 1.20)

2. Set the fabric in position.

(See page 1.35)

After detecting the media, the menu enters the LOCAL mode.

```
<< LOCAL >>
width : 1272mm
```

3. Press the [REMOTE] key.



```
< REMOTE >
TYPE 1           0.0m
```

4. The plotter receives the data from the computer.

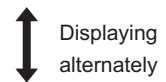
The printing conditions that have been set for the data are displayed.

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

5. Start the printing.

During the printing operation, the length of the fabric plotted on is displayed.

```
< REMOTE > V360x360
A / ST / 4 P / U / * * . * m
```



Displaying
alternately

```
< REMOTE > V360x360
TYPE 1           * * . * m
```



- If the data transmission breaks up for 30 seconds or more, the indication on the right will appear.

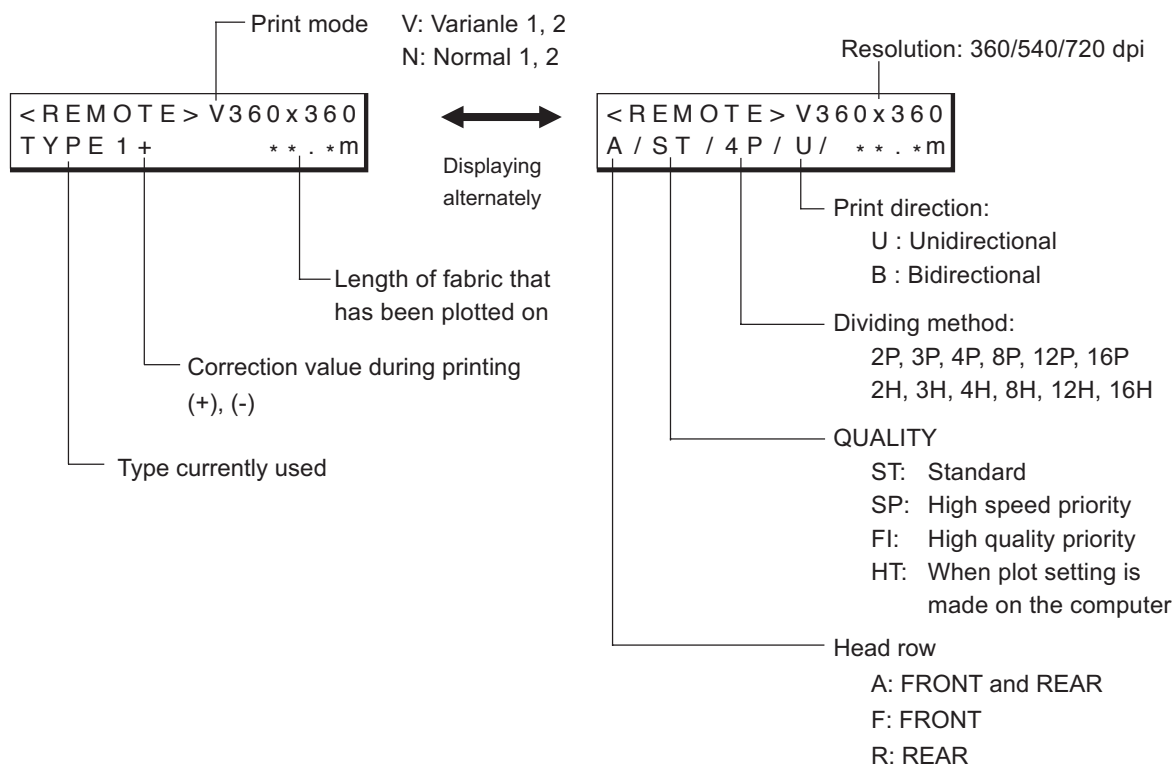
```
< REMOTE >
Data Waiting
```

6. After the printing operation is completed, press the [REMOTE] key to put the mode back into the LOCAL mode.



```
<< LOCAL >>
width : 1272mm
```

Information on printing data



Key operation on REMOTE mode

[REMOTE] key : In case pressing [REMOTE] key when the printing data has not received, the mode is entered LOCAL mode.

In case pressing [REMOTE] key when the printing data has received and printing has been performed, complete scan performance and the mode is entered LOCAL mode. Printing is suspended. And then press [REMOTE] key again, the mode is entered REMOTE mode and printing is started again.

[ENTER] key : When pressing [ENTER] key during REMOTE mode, the guidance is displayed.

[FUNCTION] key : When pressing [FUNCTION] key during REMOTE mode, the "Feed Comp." function is displayed.



- During the plotting performance is suspended, some function could not be operated and the error will be displayed as follows:

```

ERROR 34
DATA REMAIN
    
```

In this case, complete plotting operation or execute "DATA CLEAR" operation.

Correcting the media feed rate during printing [Feed Comp.]

Even for fabric of the same type, if the thread size or texture is slightly different, the proper value of the feeding amount changes.

In this case, correct the feeding amount of the fabric while checking the printing condition.

- (NOTE!)**
- To change the fabric type or print data, be sure to perform [Feed Comp.].
 - During [Feed Comp.] printing, does not print correction patterns. Perform only correction value input operation while checking print data.

STEPS:

1. Press the [FUNCTION] key on REMOTE mode.

The current setting value can be confirmed.

Press the [END] key when an appropriate value is set or to abort the operation.

< R E M O T E >
T Y P E 1 0 . 0 m

REMOTE



F E E D C O M P . - 2 0 0
A D J U S T : e n t

2. Press the [ENTER] key.

Available to alter the fabric feed rate.

ENTER



F E E D C O M P . - 2 0 0
A D J U S T = 1 0 0

3. Press the JOG key [▲] or [▼] as needed to set the amount of correction.

Setting value is available from -500 to +500. Press [END] key to return to the REMOTE display. The altered value ceases to be in effect, and returns to the previous value.



F E E D C O M P . - 2 0 0
A D J U S T = 1 0 0



- A new value takes effect in real time. The best effect can be obtained while checking the result.
- Make judgment from the result obtained after 4 scans (for 4-pass printing) or 8 scans (for 8-pass printing).
- The unit of the correction value is the same as in “Media Comp.” in the LOCAL mode.
- Setting value is to be Reset as follow,
 - *Perform the “MEDIA COMP.” .
 - *Perform the “SETUP RESET”

4. Press the [ENTER] key.

Confirm the fabric feed rate before saving it.

ENTER



F E E D C O M P . - 1 0 0
S A V E : e n t

5. Press the [ENTER] key to return to the REMOTE display.

The changed setting value is saved. The value is to be in effect performing till the turning off.

Press the [END] key to return to the REMOTE display. The changed setting value is to be in effect performing till the turning off.



- In case the setting value has changed before, the indicate gives [+] mark beside of the TYPE. In the same way, the indicate gives [-] mark beside of the TYPE when the setting value has changed.



Interrupting the printing operation

To interrupt the printing operation that has been started, stop the carriage and erase (the receive data) from the plotter.

STEPS:

1. Press the [REMOTE] key to stop the printing operation.



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

3. Press [DATA CLEAR] key.

The data that has been received is erased.



4. Press [ENTER] key.

The mode enters the LOCAL mode.



Checking nozzle in ink firing condition

Executing the test draw [TEST DRAW]

In prior to the actual printing or after the execution of the cleaning function, a test pattern is plotted to check whether the finished test pattern has blurred and missing lines on test pattern)

- (NOTE!)** • If the finished test pattern shows any sign of abnormal conditions, carry out the cleaning function. (See page 2.12)

STEPS:

1. Make sure the mode is LOCAL mode.

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



2. Press the [TEST] key.



3. Press the [ENTER] key.

After printing the test patten the device enters the LOCAL mode.



- This function can be executed even during host data printing. In this case, however, some host data will be missing. The amount of missing data depends on the medium width, number of paths, resolution, and data transfer rate of the host.



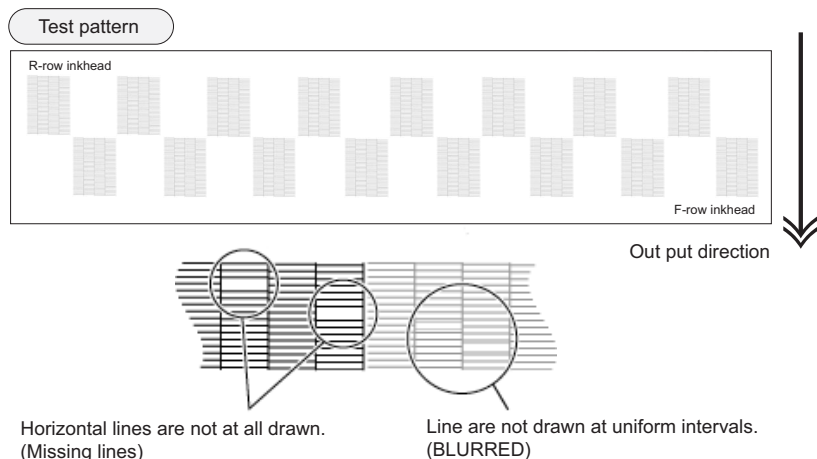
4. When test printing is performed during host data printing, press the [REMOTE] key.

The plotter enters the REMOTE mode



Checking the test patterns

The plotter plots a test pattern for each of the ink head. Check the test pattern to determine whether or not the ink head need cleaning.



If there are nozzle clogging in ink firing condition

Cleaning ink heads

If a test pattern plotted is defective, execute the cleaning function to clean the associated ink head. After cleaning the ink head, make the device plot a test pattern again. If the test pattern is defective too, re-clean the ink head. Continue executing the cleaning function till a normal test pattern is obtained.



- If a normal test pattern cannot be obtained even after the cleaning function is executed many times, clean the ink station interior (See page 4.8).

- soft:** Select this if there is any missing line. Cleaning is carried out for a short period of time.
- normal:** Select this if any line is bent. Cleaning is carried out for a long period of time and a large amount of ink is consumed.
- strong:** Select this if there are many missing portions.

STEPS:

1. Make sure the mode is LOCAL mode.

(See page 1.20)

```
<< LOCAL >>
width : 127 2mm
```

2. Press the [CLEANING] key.

```
CLEANING
CLEANING : 12345678
SELECT : ABCDEFGH
```

3. Press the JOG keys [▲] [▼] [◀] and [▶] to select the ink head to be cleaned.

Each time a JOG key is pressed, the row of heads to be cleaned changes from R to F (or F to R). The upper eight of test printing indicates the R row of heads, and the lower eight indicates the F row of heads.

4 types of head row can be selected: [1234], [5678], [ABCD], and [EFGH].

```
▲
CLEANING : - - - - 5678
SELECT : ABCDEFGH
▼
```

```
CLEANING : - - - - 5678
SELECT : ABCDEFGH
```

4. Press the [ENTER] key.

```
ENTER
CLEANING
TYPE : normal
```

5. Press the JOG keys [▲] and [▼] to select the type of cleaning.

```
▲
CLEANING
TYPE : soft
▼
```

6. Press the [ENTER] key.

Cleaning starts.

The remaining time to cleaning is displayed on the second line of LCD.

```
ENTER
CLEANING
00 : * : * :
```

```
CLEANING
PLEASE WAIT
```

After completing the cleaning performance, the mode enters the LOCAL mode.

```
<< LOCAL >>
width : 127 2mm
```

Routine maintenance

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

When the device is left unused for a long period of time



- When using textile pigment ink (TPig)
The function to prevent the nozzle from clogging would not perform when turning off the power.
We recommend to keep turning on the power when you use the textile pigment ink because the textile pigment ink is easier to dry up.



- Remove the fabric that has been set on the plotter.
- Keep the clamp lever move up.

Notes on cleaning



- Never disassemble the plotter. Disassembling the plotter can result in electric shock hazards and breakage of the plotter.
- Prevent moisture from entering inside the plotter. If the inner part of the plotter becomes wet, electric shock hazards and breakage of the plotter can result.



- 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 plotter. Such materials can cause the plotter mechanism to fail.

Cleaning ink at the bottom of the slider

When the plotter have been used for a long period of time, glued ink may accumulate at the bottom of the slider. Leaving this condition allows ink drops to grow and may cause contamination of the fabric. Clean the bottom of the slider periodically to remove ink drops using the supplied swab dampened with water.

In this case, be careful not to brush the head nozzle. (See page 4.23, STEP 5.)

Cleaning wiper

The wiper is stained by dirt and ink while you use it. If you clean the head when the wiper is dirty, you may get the head dirty.

Clean the wiper periodically.

For the procedure for cleaning the wiper, refer to page 4.10.

Cleaning the wiper shaft

The dirty wiper shaft may cause the wiper malfunction and resulting an error display.

Cleaning penetrated ink

When printing is made on a thin cloth, the ditch for penetrated ink may be stained by penetrated ink.

In this case, wipe off the ink in the ditch with waste cloth.

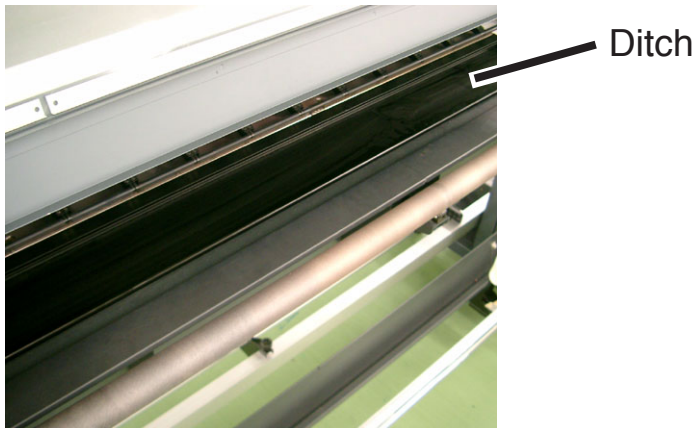
Cleaning penetrated ink

When printing on a thin cloth, the print through ink will be collected in the ditch.

Make sure to wipe up the ink frequently using waste cloth.

If left, the ink will spill out of the ditch and spatter the floor or the internal parts of the printer.

Place to wipe:



Frequency of wipe:

- At the end of daily operation or when replacing the media.
- If printing continuously or using a loose weave fabric, the ink is collected faster. In this case, make sure to wipe up the ink when it gathered into liquid form.



- Spread out waste cloth in the ditch to make cleaning easier.
Replace the waste cloth when it has absorbed certain amount of ink.

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.

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

Setting a new ink cartridge is required when the ink is to be replenished or when the device becomes the following condition.

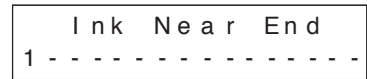
If the ink cartridge is not replaced, the carriage stops during the printing operation when the ink runs out.

When the message [Ink Near End] is displayed on the LCD, install a new ink cartridge without delay.

- **When the amount of ink becomes small during printing.**

The amount of ink of the cartridge number indicated is running out.

Load a new ink cartridge into Slot 1 of the left ink station.



- **When the amount of ink completely runs out during printing.**

The amount of ink of the cartridge number indicated has completely run out.

Install a new ink cartridge into Slot C of the right ink station.



STEPS:

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

The printing operation is not interrupted even when [Ink Near End] is displayed. Proceed to Step 2 at the end of the printing operation.

If [Ink End] is displayed, the carriage stops during the printing operation. In this case, the printing operation is interrupted.

2. **Install a new ink cartridge.**

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



- To set a new ink cartridge of an ink type different from the one being used, see Chapter 4 "Maintenance Functions" (See page 4.25).

Chapter 3

How to use the application functions

After you have mastered the operations described in Chapter 2 “How to use the basic functions,” you should learn how to use the application functions whereby you can set printing conditions on the plotter side and put the plotter into operation.

By using the application functions, you can set printing conditions appropriate to data that is provided for the printing operation.

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Application functions

The application functions make it possible to modify the printing conditions that have been set for source data received from the computer. The [FUNCTION] key is used to set up the application functions.

Function menu

Of the menus that are provided for setting printing conditions for the plotter, the menu for setting up the plotter functions is called the function menu. In order to set printing conditions properly, it is necessary to understand the structure and operation of the function menu.

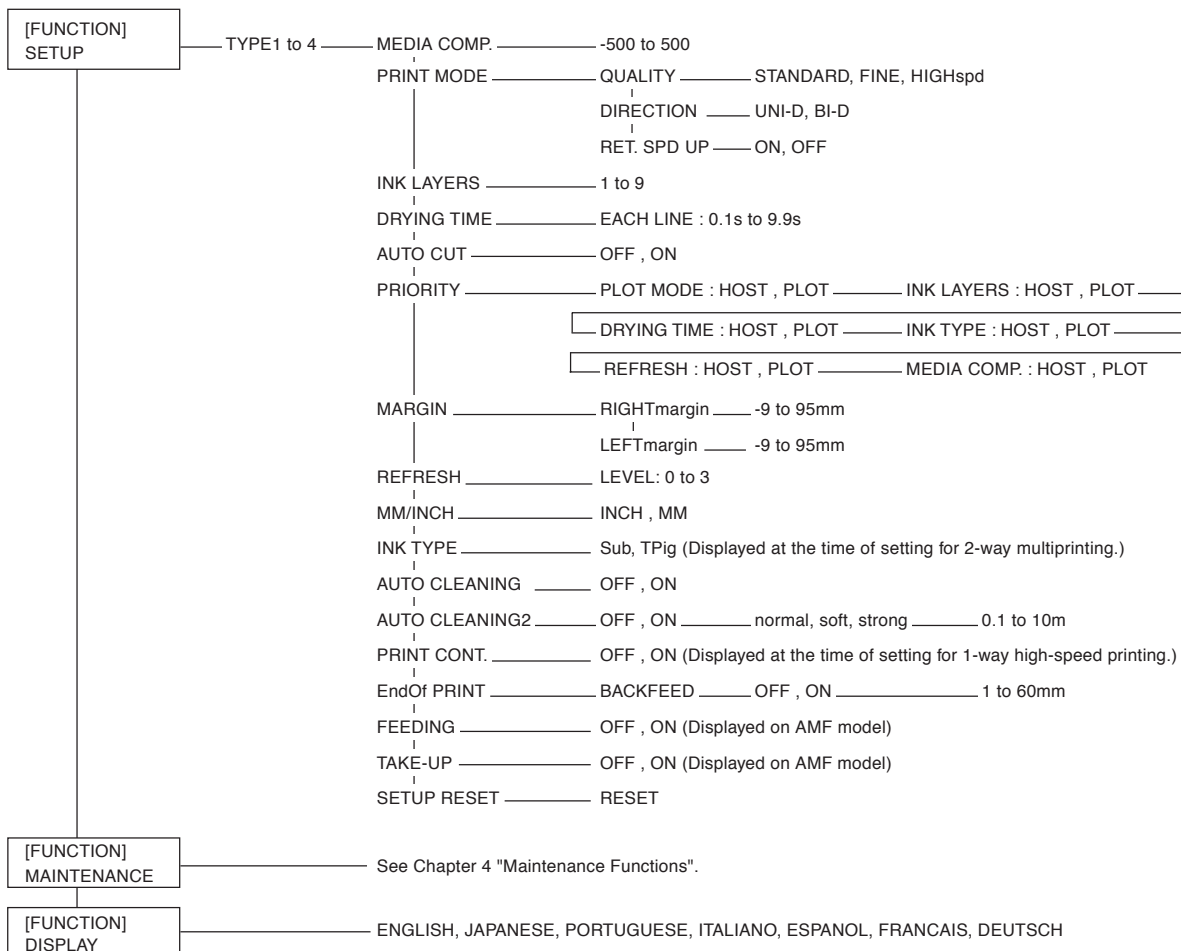
The function menu consists of three major items: [SETUP], [MAINTENANCE], and [DISPLAY]. In this chapter, [SETUP] and [DISPLAY] of the function menu are explained. (For "Maintenance" of the function menu, see Chapter 4 "Maintenance functions.")

[SETUP]/[DISPLAY]

The table, below, shows the tree structure of the function menu.

In order to use the application functions of the plotter, it is necessary to understand the proper sequence of key operations.

In setup of the function menu, allocate printing methods to be set to types 1 to 4 before detailed setting of the individual printing conditions so that you can use the printing conditions registered by type.



Before setting printing conditions in the function menu

The basic operation of the function menu for setting individual printing conditions is explained below. Set the individual printing conditions in the function menu after performing the following three operations.

1. Check that the menu mode is the LOCAL mode.
2. Check that the language in which to display characters on the LCD has been selected.
3. Select a Type to register the sequence of set printing conditions.

Before setting the printing conditions in the function menu, confirm the basic operations and then set the individual printing conditions described on the pages that follow.

Checking the menu mode

Check the menu mode before setting the printing conditions.

The menu mode must be either the LOCAL mode or the FUNCTION mode.

Check also that the mode displayed on the LCD is either <<LOCAL>> or <<FUNCTION>>.

(See page 2.3)

Registering Two or More Printing Conditions at a Time (Selecting a Type)

Register a sequence of printing conditions set in the FUNCTION mode in the memory of the plotter. By allocating the the sequence of printing conditions to any of Types 1 through 4, it is possible to reuse the same printing conditions registered by type. It is, therefore, convenient to allocate different printing conditions to different types according to the fabric and printing method used.

The procedure for allocating a specific sequence of printing conditions to a type is described below. Here, the method of registration by allocating printing conditions to a particular type is explained.

STEPS:

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

(See Page 4.3)



<<LOCAL>>
width: 1272mm

2. **Press the [FUNCTION] key.**



FUNCTION
FUNCTION
SETUP <ENT>

3. **Press the [ENTER] key.**





ENTER
SETUP
SELECT : TYPE . 1

4. **Press the JOG keys [▲] and [▼] to select any of Types 1 through 4.**

There are four types which you can select.

[Type.1], [Type.2], [Type.3], [Type.4]



SETUP
SELECT : TYPE . 1

5. **Press the [ENTER] key.**

Setting Printing Conditions.

(See page 3.8 through 3.23)



ENTER
TYPE 1
MEDIA COMP. <ent>

Changing the type

Note that the current type cannot be changed while the device is in operation.

To change the type during plotter operation, first stop the device (See page 2.7) and then select the desired type in the LOCAL mode.



- Only the setting of the following items can be changed during printing.

[MM/INCH], [MEDIA COMP.], [TAKE-UP]

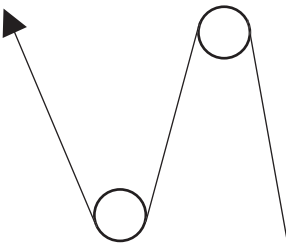
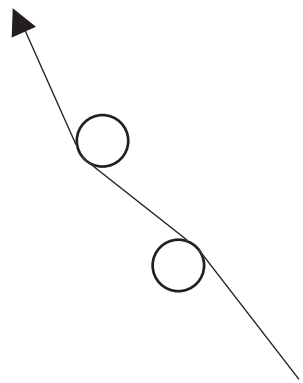
If you attempt to change the setting of other items during printing, the following error message appears.

ERROR 34 DATA REMAIN

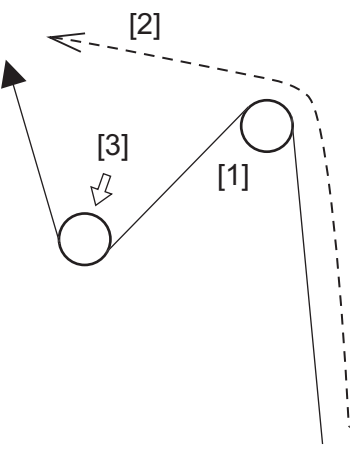
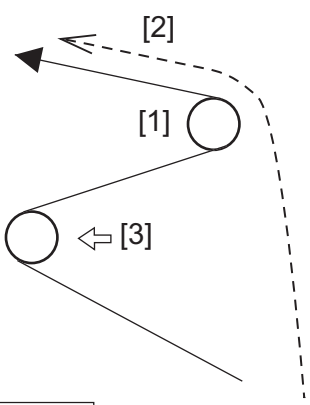
Adjusting the lapal bar

Diverse types of media are used for inkjet printers: different raw materials including natural materials, synthesized materials, etc. and materials with different manufacturing processes including textile fabric, knit fabric, etc. In addition, even for the same media, the elasticity characteristic changes according to the difference in pre-treatment, etc. To perform printing on diverse types of media with appropriate tension which best suits each media, it is necessary to adjust the mount position of the lapal bar and the number of bars mounted.

Changing the winding angle of the lapal bar

High-tension media setting	Low-tension media setting
 <p data-bbox="363 1120 694 1182">Larger contact angle increases the tension accordingly.</p>	 <p data-bbox="949 1120 1316 1182">Smaller contact angle decreases the tension accordingly.</p>

Changing the winding direction of the lapal bar

Media set 1	Media set 2
 <p data-bbox="406 1937 606 2027">[1]Set a lapel bar. [2]Set the media. [3]Set a lapel bar.</p>	 <p data-bbox="853 1825 1093 1892">Effective to increase the contact angle.</p> <p data-bbox="1037 1937 1236 2027">[1]Set a lapel bar. [2]Set the media. [3]Set a lapel bar.</p>

Troubleshooting

The following describes general troubleshooting. With some corrective measures, problems may not be solved depending on the media used. If a problem cannot be solved after performing test printing several times, stop using the plotter.

No.	Problems	Corrective measures	Remarks
1	Black lines occur.	<ol style="list-style-type: none"> 1. Increase the media correction value. 2. Reduce the resistance of lapel bar. <ul style="list-style-type: none"> • Reduce the number of lapel bars. • Change the mount position of the lapel bar so that the contact angle of the medium be decreased. (Refer to the previous page.) 3. Lighten the weight of the feeding tension bar. 4. Adding the weight of the taking-up tension bar. 	This problem occurs with media which shrink when plotted.
2	White lines occur.	<ol style="list-style-type: none"> 1. Reduce the media correction value. 2. Increase the resistance of the lapel bar. <ul style="list-style-type: none"> • Increase the number of lapel bars. • Change the mount position of the lapel bar so that the contact angle of the medium be increased. (Refer to the previous page.) 3. Adding the weight of the feeding tension bar. 4. Lighten the weight of the taking-up tension bar. 	This problem occurs with media which stretch when plotted.
3	Wrinkles occur on the medium near the pinch roller.	<ol style="list-style-type: none"> 1. Reduce the resistance of the lapel bar. <ul style="list-style-type: none"> • Reduce the number of lapel bars. • Change the mount position of the lapel bar so that the contact angle of the medium be decreased. (Refer to the previous page.) 2. Lighten the weight of the feeding tension bar. 	This problem occurs mainly with curved media and media with local slacks.
4	Black and white lines occur at random.	<ol style="list-style-type: none"> 1. Check whether a thin weak paper tube or curved one is used. <ul style="list-style-type: none"> : Replace the paper core. 2. Change the mount position of the lapel bar. Refer to the corrective measures of No.1 (black lines) and No.2 (white lines). 3. Check whether the fabric is skewing. <ul style="list-style-type: none"> :Reset the roll. 4. Check whether the edge of roll is aligned. <ul style="list-style-type: none"> : Rewind and reset the roll. 	This problem occurs mainly with the media pre-treatment has not done evenly, or the media easy to stretch when pulled.

After setting the fabric to be plotted

Correcting error of amount of feed depending on fabric [MEDIA COMP.]

The plotter plots an image on the fabric while feeding it forward little by little.

When the thickness of the fabric changes, the optimum feed rate changes accordingly. If this occurs, the plotter may not plot a clear image (e.g., unwanted stripes may appear on the image). To correct the fabric feed rate according to the fabric thickness, execute this function and make a printing test.

STEPS:

1. Select a type.

(See page 3.3). Here, select [Type.1].

```
SETUP
SELECT : TYPE . 1
```

2. Press the [ENTER] key.

```
ENTER
TYPE 1
MEDIA COMP. <ent>
```

3. Press the [ENTER] key.

```
ENTER
TYPE 1
PRINT START : ent
```

4. Press the [ENTER] key.

Test printing for correction of the fabric feed rate starts.
Seven types of fabric correction patterns are plotted.

```
ENTER
PRINTING
PLEASE WAIT
```

5. Enter a correction value from the output pattern.

Press the JOG keys [\blacktriangle] and [\blacktriangledown] to enter the correction value.
If the printed pattern has a gap between lines: Select the minus value.

If lines of the printed pattern overlap: Select the plus value.

```
▲
TYPE 1
ADJUST = 0
▼
```

Optimum pattern

Gap between lines

Overlap

6. Press the [ENTER] key.

```
ENTER
TYPE 1
PRINT START : ent
```

7. Press the [END] key twice.

The menu returns to the LOCAL mode.

```
END
<< LOCAL >>
width : 1272mm
```

Setting printing conditions

Changing printing conditions on the plotter side

Set up the printing method that determines the quality of image.

For the printing method, there are three setting items - “quality of image”, “direction of printing” and “Returning speed of the head.”

Relationship between image quality and printing speed [QUALITY]

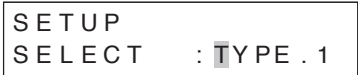
For the quality of image, there are three setting items - [STD], [FINE], and [HIGHspd].

- [STD] (Standard) : Standard image quality
[FINE] : High image quality and low printing speed
[HIGHspd] (High speed) : High printing speed and slightly inferior image quality

STEPS:



1. Select a type. (see page 3.3).

Here, select Type 1.



```
SETUP
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



```
TYPE 1
MEDIA COMP. <ent >
```

3. Press the JOG keys [▲] and [▼] to select [PRINT MODE].



```
TYPE 1
PRINT MODE <ent >
```

4. Press the [ENTER] key.



```
TYPE 1 MODE
QUALITY <ent >
```

5. Press the [ENTER] key.



```
TYPE 1 MODE
QUALITY : STD
```



6. Press the JOG keys [▲] and [▼] to select the quality.

There are three quality types from which you can select one.
[STD], [FINE], [HIGHspd].



```
TYPE 1 MODE
QUALITY : FINE
```

7. Press the [ENTER] key.



```
TYPE . 1 MODE
QUALITY <ent >
```

8. Press the [END] key three times.

The menu returns to the LOCAL mode.



```
<< LOCAL >>
width : 127 2mm
```

Printing direction [DIRECTION]

This function sets the direction of printing.

The plotter prints an image while moving the carriage right and left. By setting the direction of printing, it is possible to adjust the image quality and the printing speed: "Uni-directional" and "Bi-directional."

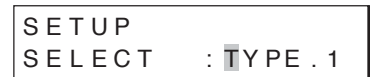
UNI-D : The image is printed only in one direction during movement of the carriage.
Image quality is better than when BI-D is specified.

BI-D : The image is printed in both directions during movement of the carriage.
Image quality slightly deteriorates since emphasis is placed on printing carriage.

STEPS:



1. Select a type. (see page 3.)

Here, select [Type.1].



```
SETUP
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



```
TYPE 1
MEDIA COMP. <ent >
```

3. Press the JOG keys [▲] and [▼] to select [PRINT MODE].



```
TYPE 1
PRINT MODE <ent >
```

4. Press the [ENTER] key.



```
TYPE 1 MODE
QUALITY <ent >
```

5. Press the JOG keys [▲] and [▼] to set a printing direction [DIRECTION] .



```
TYPE 1 MODE
DIRECTION <ent >
```

6. Press the [ENTER] key.



```
TYPE 1 MODE
DIRECTION : UNI - D
```

7. Press the JOG keys [▲] and [▼] to set a printing direction [UNI-D] or [BI-D].

Here, select [UNI-D].



```
TYPE 1 MODE
DIRECTION : UNI - D
```

8. Press the [ENTER] key.



```
TYPE 1 MODE
DIRECTION <ent >
```

9. Press the [END] key three times.

The menu returns to the LOCAL mode.



```
<<LOCAL>>
width : 1272mm
```

Returning speed up [RET. SPD UP]

In case the printing width is 1000mm or less when uni-directional printing, the nozzle drop out may occur. Using this function to slow down the returning head speed may solve the trouble.

- ON** : The head returns with normal speed.
- OFF** : The head returns with slow speed.

STEPS:

1. Select a type. (see page 3.3)

Here, select [Type.1].

```

SETUP
SELECT : TYPE . 1
    
```

2. Press the [ENTER] key.

```

ENTER
TYPE 1
MEDIA COMP. <ent>
    
```

3. Press the JOG keys [▲] and [▼] to select [PRINT MODE].

```

▲
TYPE 1
▼
PRINT MODE <ent>
    
```

4. Press the [ENTER] key.

```

ENTER
TYPE 1          MODE
QUALITY        <ent>
    
```

5. Press the JOG keys [▲] and [▼] to select [RET.SPD UP] .

```

▲
TYPE 1          MODE
RET . SPD UP   <ent>
▼
    
```

6. Press the [ENTER] key.

```

ENTER
TYPE 1          MODE
RET . SPD UP   :ON
    
```

7. Press the JOG keys [▲] and [▼] to set a returning speed [ON] or [OFF].

Here, select [OFF].

```

▲
TYPE 1          MODE
RET . SPD UP   :OFF
▼
    
```

8. Press the [ENTER] key.

```

ENTER
TYPE 1          MODE
RET . SPD UP   <ent>
    
```

9. Press the [END] key three times.

The menu returns to the LOCAL mode.

```

END
<< LOCAL >>
width : 1272mm
    
```

Improving the density of ink color [INK LAYERS]

This function plots the data in two or more layers (wet-on-wet coating) to improve the density of ink color.

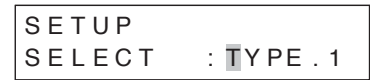
If a coarse-surfaced fabric (e.g., canvas) is used, the color of ink might be weak. In this case, execute this function (wet-on-wet coating).

- (NOTE!)**
- When using a cloths with high moisture-elasticity, do not use the function [INK LAYERS]. The printing quality may be reduced because of expansion and contraction of the cloth, or the head may catch the cloth to press it to a position resulting in cloth jam.

STEPS:

1. Select a type. (see page 3.3)

Here, select [Type.1].



```
SETUP  
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



```
ENTER  
TYPE 1  
MEDIA COMP. <ent >
```

3. Press the JOG keys [▲] and [▼] to select [INK LAYERS].



```
▲  
TYPE 1  
INK LAYERS <ent >  
▼
```

4. Press the [ENTER] key.



```
ENTER  
TYPE 1  
INK LAYERS = 1
```

5. Press the JOG keys [▲] and [▼] to select the number of ink layers.

A number 1 to 9 can be selected as the number of times of reprinting.

Here, select [3] times.



```
▲  
TYPE 1  
INK LAYERS = 3  
▼
```

6. Press the [ENTER] key.



```
ENTER  
TYPE 1  
INK LAYERS <ent >
```

7. Press the [END] key twice.

The menu returns to the LOCAL mode.



```
END  
<< LOCAL >>  
width : 1272mm
```

Setting the ink drying time [DRYING TIME]

This function sets an ink drying time.

The drying time is the wait time by scanning and the time interval between the instant at which the printing operation is completed.

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

STEPS:

1. Select a type. (see page 3.3)

Here, select [Type.1].

```
SETUP
SELECT : TYPE . 1
```

2. Press the [ENTER] key.

```
ENTER
TYPE 1
MEDIA COMP. <ent>
```

3. Press the JOG keys [▲] and [▼] to select [DRYING TIME].

```
▲
TYPE 1
▼
DRYING TIME <ent>
```

4. Press the [ENTER] key.

```
ENTER
TYPE 1
EACH LINE = 0.0 s
```

5. Press the JOG keys [▲] and [▼] to set a drying time after the scanning.

This is the drying time from the instant at which the carriage returns to the capping station till the instant at which the carriage starts moving again for printing. The drying time that can be set is 0.0 second to 9.9 seconds.

Here, select 1.0.

```
▲
TYPE 1
▼
EACH LINE = 1.0 s
```

6. Press the [ENTER] key.

```
ENTER
TYPE 1
DRYING TIME <ent>
```

7. Press the [END] key twice.

The menu returns to the LOCAL mode.

```
END
<< LOCAL >>
width : 1272mm
```

Deciding the priority of settings by the computer or the plotter [PRIORITY]

This function gives priority to either the printing conditions set on the computer or the printing conditions set on the plotter.

Printing conditions can be set on data of the plotter and on data received from the computer using the output software. If these printing conditions differ, priority is given to either of them at the time when the printing operation is started.

HOST : The printing operation is performed with priority given to the printing conditions set on the computer.

PLOT : The printing operation is performed with priority given to the printing conditions set on the plotter.

Priority needs to be specified for each of the following items:

- PRINT MODE
- INK LAYERS
- DRYING TIME
- INK TYPE
- REFRESH
- MEDIA COMP.

STEPS:

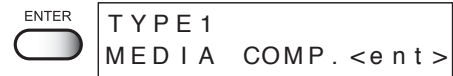
1. Select a type. (See page 3.3)

Here, select [Type.1].



```
SETUP  
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



```
ENTER  
TYPE 1  
MEDIA COMP. <ent >
```

3. Press the JOG keys [▲] and [▼] to select [PRIORITY].



```
▲  
TYPE 1  
PRIORITY <ent >  
▼
```

4. Press the [ENTER] key.



```
ENTER  
TYPE 1  
PRINT MODE : HOST
```

5. Press the JOG keys [▲] and [▼] to select the priority [HOST] or [PLOT] of the print mode.

Here, select [PLOT].



```
▲  
TYPE 1  
PRINT MODE : PLOT  
▼
```

6. Press the [ENTER] key.



```
ENTER  
TYPE 1  
INK LAYERS : HOST
```

7. Press the JOG keys [▲] and [▼] to select the priority [HOST] or [PLOT] of the ink layers.

Here, select [PLOT].



```
▲  
TYPE 1  
INK LAYERS : PLOT  
▼
```

8. Press the [ENTER] key.



```
ENTER  
TYPE 1  
DRYING TIME : HOST
```

9. Press the JOG keys [▲] and [▼] to select the priority [HOST] or [PLOT] of the drying time.

Here, select [PLOT].



10. Press the [ENTER] key.



11. Press the JOG keys [▲] and [▼] to select the priority [HOST] or [PLOT] of the ink type.

Here, select [PLOT].



12. Press the [ENTER] key.



13. Press the JOG keys [▲] and [▼] to select the priority [HOST] or [PLOT] of the refresh.

Here, select [PLOT].



14. Press the [ENTER] key.



15. Press the JOG keys [▲] and [▼] to select the priority [HOST] or [PLOT] of the media comp.

Here, select [PLOT].



16. Press the [ENTER] key.



17. Press the [END] key twice.

The menu returns to the LOCAL mode.



Increasing (decreasing) the right and left margins of the fabric [RIGHTmargin]/[LEFTmargin]

This function sets an effective printing area to increase/decrease the right and left margins of the fabric. The blank portion of the fabric is called margin. (See page 1.47)

The function is used to increase the margin for binding.

You can set a margin for each of the right and left margins of the fabric.

Setting [RIGHTmargin]

STEPS:

1. **Select a type. (See page 3.3)**

Here, select [Type.1].

```
SETUP
SELECT : TYPE . 1
```

2. **Press the [ENTER] key.**

```
ENTER
TYPE 1
MEDIA COMP. <ent >
```

3. **Press the JOG keys [▲] and [▼] to select [MARGIN].**

```
▲
TYPE 1
▼ MARGIN <ent >
```

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

```
ENTER
TYPE 1
RIGHTmargin <ent >
```

5. **Press the [ENTER] key.**

```
ENTER
TYPE 1
RIGHTmargin = 0mm
```

6. **Press the JOG keys [▲] and [▼] to set a margin.**
You can set a margin in the range -9 mm to 95 mm in mm unit.
Here, set [10 mm].

```
▲
TYPE 1
▼ RIGHTmargin = 10mm
```

7. **Press the [ENTER] key.**

```
ENTER
TYPE 1
RIGHTmargin <ent >
```

8. **Select the following operation.**

To set LEFTmargin, press the [ENTER] key (after setting RIGHTmargin) and select Dead Space (LEFTmargin) by pressing the JOG keys [▲] and [▼].

```
▲
TYPE 1
▼ LEFTmargin <ent >
```

9. **Press the [END] key three times.**

The menu returns to the LOCAL mode.

```
END
<< LOCAL >>
width : 1272mm
```

Setting [LEFTmargin]

STEPS:

1. Select a type.(See page 3.3)

Here, select Type 1.

```

SETUP
SELECT : TYPE . 1
    
```

2. Press the [ENTER] key.



```

TYPE 1
MEDIA COMP.<ent>
    
```

3. Press the JOG keys [▲] and [▼] to select [MARGIN].



```

TYPE 1
MARGIN <ent>
    
```

4. Press the [ENTER] key.



```

TYPE 1
RIGHTmargin <ent>
    
```

5. Press the JOG keys [▲] and [▼] to select [LEFTmargin].



```

TYPE 1
LEFTmargin <ent>
    
```

6. Press the [ENTER] key.



```

TYPE 1
LEFTmargin = 0mm
    
```

7. Press the JOG keys [▲] and [▼] to set a margin.

You can set a margin in the range -9 mm to 95 mm in mm unit.
Here, set [10 mm].



```

TYPE 1
LEFTmargin =10mm
    
```

8. Press the [ENTER] key.



```

TYPE 1
LEFTmargin <ent>
    
```

9. Press the [END] key three times.

The menu returns to the LOCAL mode.



```

<<LOCAL>>
width : 127.2mm
    
```



- This plotter sets the width of the printing area by detecting the position of the fabric retainer. The left and right margins can be changed by changing the position of the fabric retainer. Printing with the full width is possible by setting the fabric retainer apart from the edge of the fabric.

When using the plotter in an extremely dusty or dry place [REFRESH]

Solidification of ink can be prevented by refreshing the head during printing.

If the plotter is used in a dusty place or dry place, ink in the head will be likely to solidify. Execute the REFRESH function to enable the ink to be ejected properly from the ink head. Concerning the frequency of refreshing of the ink nozzle, there are four levels—Levels 0 to 3.

LEVEL 0 : Frequency of refreshing is low.

LEVEL 1 : Frequency of refreshing is normal.

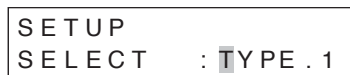
LEVEL 2 : Frequency of refreshing is slightly high.

LEVEL 3 : Frequency of refreshing is high.

STEPS:



1. **Select a type. (See page 3.3)**

Here, select [Type.1].



```
SETUP
SELECT : TYPE . 1
```

2. **Press the [ENTER] key.**



```
TYPE 1
MEDIA COMP. <ent >
```

3. **Press the JOG keys [▲] and [▼] to select [REFRESH].**



```
TYPE 1
REFRESH <ent >
```

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



```
TYPE 1
REFRESH : LEVEL 1
```

5. **Press the JOG keys [▲] and [▼] to set a refresh level.**

There are four refresh levels from which you can select.
[LEVEL0], [LEVEL1], [LEVEL2], [LEVEL3]
Here, select [LEVEL2].



```
TYPE 1
REFRESH : LEVEL 2
```

6. **Press the [ENTER] key.**



```
TYPE 1
REFRESH <ent >
```

7. **Press the [END] key twice.**

The menu returns to the LOCAL mode.



```
<<LOCAL>>
width : 1272mm
```

Setting a unit of length displayed on the LCD [MM/INCH]

This function sets a unit of set values displayed on the LCD.

Use this function when displaying “width” and “length” of the fabric after setting of the origin or detection of the fabric. When the plotter is shipped from the factory, the unit of display is set to MM (millimeter).

MM : Numerics are expressed in millimeters.

INCH : Numerics are expressed in inches.

STEPS:

1. Select a type. (See page 3.3)

Here, select [Type.1].



SETUP
SELECT : TYPE . 1

2. Press the [ENTER] key.



TYPE 1
MEDIA COMP. <ent>

3. Press the JOG keys [▲] and [▼] to select [MM/INCH].



TYPE 1
MM / INCH <ent>

4. Press the [ENTER] key.



TYPE 1
MM / INCH : MM

5. Press the JOG keys [▲] and [▼] to set a unit of length displayed on the LCD.

Here, select [MM].



TYPE 1
MM / INCH : MM

6. Press the [ENTER] key.



TYPE 1
MM / INCH <ent>

7. Press the [END] key twice.

The menu returns to the LOCAL mode.



<<LOCAL>>
width : 1272mm

Setting the type of ink to be used [INK TYPE]

This function selects the type of ink that is to be used.

This plotter permits up to two types of ink to be loaded. When starting an actual printing operation, however, select only one type of ink to be used according to the printing data and the fabric used. This function can be used when different types of ink are loaded in the plotter. As the ink that can be specified, select from the types of ink that have been set in the ink stations.

Sub : Sublimation dye ink

TPig : Textile pigment ink

- (NOTE!)** • If the same type of ink is set in the ink stations on both sides, the type of ink cannot be set since [INK TYPE] is not displayed on the LCD.

STEPS:



1. Select a type. (See page 3.3)

Here, select [Type.1].



```
SETUP
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



```
TYPE 1
MEDIA COMP. <ent >
```

3. Press the JOG keys [▲] and [▼] to select [INK TYPE].



```
TYPE 1
INK TYPE <ent >
```

4. Press the [ENTER] key.



```
TYPE 1
INK TYPE : Sub
```

5. Press the JOG keys [▲] and [▼] to set a type of ink to be used.

Here, select [TPig].



```
TYPE 1
INK TYPE : TPig
```

6. Press the [ENTER] key.



```
TYPE 1
INK TYPE <ent >
```

7. Press the [END] key twice.

The menu returns to the LOCAL mode.



```
<< LOCAL >>
width : 127.2mm
```

Setting up auto-cleaning function [AUTO CLEAN]

Setup the auto-cleaning function. Printing failures may be remarkable on dusty locations or locations with low temperature. Perform cleaning for each plot to prevent printing failures.

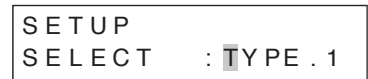
- ON** : The head is cleaned automatically.
OFF : The head is not cleaned automatically.

- (NOTE!)** • When setting "AUTO CLEAN" ON, before starting print, remove the ink adhered around the head . (See page 4.23)
If executing cleaning without removing the ink around the head, it may cause the nozzle condition worse.

STEPS:

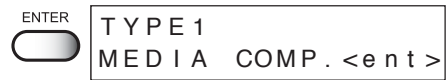
1. Select a type. (See page 3.3)

Here, select [Type.1].



```
SETUP
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



```
ENTER
TYPE 1
MEDIA COMP. <ent>
```

3. Press the JOG keys [▲] and [▼] to select [AUTO CLEAN].



```
▲
TYPE 1
▼
AUTO CLEAN <ent>
```

4. Press the [ENTER] key.



```
ENTER
TYPE 1
AUTO CLEAN : OFF
```

5. Press the JOG keys [▲] and [▼] to select [ON] or [OFF] of the [AUTO CLEAN].

Here, select [ON].



```
▲
TYPE 1
▼
AUTO CLEAN : ON
```

6. Press the [ENTER] key.



```
ENTER
TYPE 1
AUTO CLEAN <ent>
```

7. Press the [END] key twice.

The menu returns to the LOCAL mode.



```
END
<< LOCAL >>
width : 1272mm
```

Setting up auto-cleaning function [AUTO CLEAN2]

Perform cleaning after when plotting specified length and prevent printing failures.

ON : The head is cleaned automatically after when plotting specified length.

OFF : The head is not cleaned automatically during plotting.

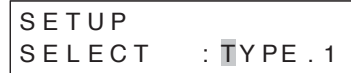
(NOTE!)

- When setting "AUTO CLEAN" ON, before starting print, remove the ink adhered around the head . (See page 4.23)
If executing cleaning without removing the ink around the head, it may cause the nozzle condition worse.
- The fabric that stretch with exposure to water may stretch while cleaning and color vary due to the misalignment when resume the printing.
In this case, change the setting to OFF, or change the cleaning type to [Soft]

STEPS:


1. Select a type. (See page 3.3)

Here, select [Type.1].



SETUP
SELECT : TYPE . 1

2. Press the [ENTER] key.



TYPE 1
MEDIA COMP. <ent>

3. Press the JOG keys [▲] and [▼] to select [AUTO CLEAN2].



TYPE 1
AUTO CLEAN2 <ent>

4. Press the [ENTER] key.



TYPE 1
AUTO CLEAN2 : OFF

5. Press the JOG keys [▲] and [▼] to select [ON] or [OFF] of the [AUTO CLEAN2].

Here, select [ON].



TYPE 1
AUTO CLEAN2 : ON

6. Press the [ENTER] key.

If selecting [ON] on step 5, the cleaning type selection screen displays on LCD.



TYPE 1
CLEANING : normal

If selecting [OFF] on step 5, go to step 11.

7. Press the JOG keys [▲] and [▼] to select the cleaning type.

3 types of cleaning can be selected: soft, normal, strong.
Here, select [soft].



TYPE 1
CLEANING : soft

8. Press the [ENTER] key.

The screen to specify interval of cleaning displays on LCD.



9. Press the JOG keys [▲] and [▼] to select the length to execute the cleaning performance.

(0.1 to 10.0m in 0.1m unit)



10. Press the [ENTER] key.



11. Press the [END] key twice.

The menu returns to the LOCAL mode.



Continuing printing after [Ink Near End] [PRINT CONT.]

If the remaining amount of ink decreases during printing and [Ink Near End] appears, you can replace ink for each ink station and then continue printing for the next file.

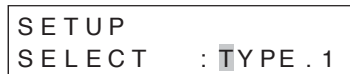
- ON** : Even if [INKnearEND] appears, you can use only one ink station to continue printing for the next file.
- OFF** : When printing for the file with [Ink Near End] occurrence is completed, you need to replace ink.

- (NOTE!)**
- If different types of ink are set in the two ink stations, this function cannot be used since [PRINT CONT.] is not displayed on the LCD.
 - If [Ink End] occurs during printing, printing is stopped.

STEPS:

1. Select a type. (See page 3.3)

Here, select [Type.1].



SETUP
SELECT : TYPE . 1

2. Press the [ENTER] key.



TYPE 1
MEDIA COMP. <ent>

3. Press the JOG keys [▲] and [▼] to select [PRINT CONT.].



TYPE 1
PRINT CONT. <ent>

4. Press the [ENTER] key.



TYPE 1
PRINT CONT. :OFF

5. Press the JOG keys [▲] and [▼] to select [ON] or [OFF] of the [PRINT CONT.].

Here, select [ON].



TYPE 1
PRINT CONT. :ON

6. Press the [ENTER] key.



TYPE 1
PRINT CONT. <ent>

7. Press the [END] key twice.

The menu returns to the LOCAL mode.



<<LOCAL>>
width : 127.2mm

Setting the print end operation. [EndOf PRINT]

STEPS:

1. **Select a type. (See page 3.3)**

Here, select [Type.1].

```

SETUP
SELECT : TYPE . 1
    
```

2. **Press the [ENTER] key.**

```

ENTER
TYPE 1
MEDIA COMP. <ent>
    
```

3. **Press the JOG keys [▲] and [▼] to select [EndOf PRINT].**

```

▲
TYPE 1
▼
EndOf PRINT <ent>
    
```

4. **Press the [ENTER] key twice.**

```

ENTER
TYPE 1 End Of Prn
BACKFEED : OFF
    
```

5. **Press the JOG keys [▲] and [▼] to select [ON] or [OFF] of the [BACKFEED].**

Here, select [ON].

```

▲
TYPE 1 End Of Prn
▼
BACKFEED : ON
    
```

6. **Press the [ENTER] key.**

```

ENTER
TYPE 1 End Of Prn
BACKFEED = 1mm
    
```

7. **Press the JOG keys [▲] and [▼] to set a back feed length.**

```

▲
TYPE 1 End Of Prn
▼
BACKFEED = 60mm
    
```

8. **Press the [ENTER] key.**

```

ENTER
TYPE 1 End Of Prn
BACKFEED <ent>
    
```

9. **Press the [END] key twice.**

The menu returns to the LOCAL mode.

```

END
<< LOCAL >>
width : 127 2mm
    
```

Enabling the feeding unit [FEEDING]

This function enables the feeding unit.

ON : Feeds the fabric automatically.

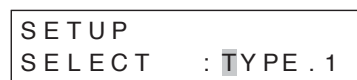
OFF : Does not feed the fabric.

- (NOTE!)**
- Operates according to slack and limit sensor.
 - In case Leaf is selected for the fabric used, the feeding unit is not enabled.

STEPS:

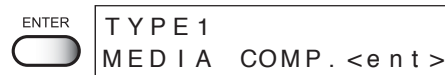
1. Select a type. (See page 3.3)

Here, select [Type.1].



```
SETUP
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



```
ENTER
TYPE 1
MEDIA COMP. <ent>
```

3. Press the JOG keys [▲] and [▼] to select [FEEDING].



```
▲
TYPE 1
FEEDING <ent>
▼
```

4. Press the [ENTER] key.



```
ENTER
TYPE 1
FEEDING : OFF
```

5. Press the JOG keys [▲] and [▼] to select [ON] or [OFF] of the [FEEDING].

Here, select [ON].



```
▲
TYPE 1
FEEDING : ON
▼
```

6. Press the [ENTER] key.



```
ENTER
TYPE 1
FEEDING <ent>
```

7. Press the [END] key twice.

The menu returns to the LOCAL mode.



```
END
<<LOCAL>>
width : 1272mm
```

Enabling the take-up unit [TAKE-UP]

This function enables the take-up unit.

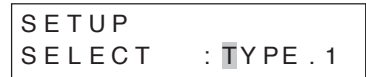
- ON** : Enables the take-up unit automatically.
OFF : Does not enable the take-up unit.

- (NOTE!)**
- Operates according to slack and limit sensor.
 - In case Leaf is selected for the fabric used, the take-up unit is not enabled.

STEPS:

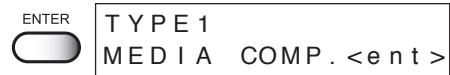
1. Select a type. (See page 3.3)

Here, select [Type.1].



```
SETUP
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



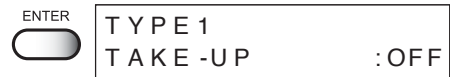
```
ENTER
TYPE 1
MEDIA COMP. <ent>
```

3. Press the JOG keys [▲] and [▼] to select [TAKE-UP].



```
▲
▼
TYPE 1
TAKE-UP <ent>
```

4. Press the [ENTER] key.



```
ENTER
TYPE 1
TAKE-UP : OFF
```

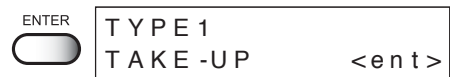
5. Press the JOG keys [▲] and [▼] to select [ON] or [OFF] of the [TAKE-UP].

Here, select [ON].



```
▲
▼
TYPE 1
TAKE-UP : ON
```

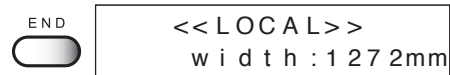
6. Press the [ENTER] key.



```
ENTER
TYPE 1
TAKE-UP <ent>
```

7. Press the [END] key twice.

The menu returns to the LOCAL mode.



```
END
<< LOCAL >>
width : 1272mm
```

Resetting printing conditions by type [SETUP RESET]

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

STEPS:

1. Select a type. (See page 3.3)

Here, select [Type.1].

```
SETUP  
SELECT : TYPE . 1
```

2. Press the [ENTER] key.



```
TYPE 1  
MEDIA COMP. <ent>
```

3. Press the JOG keys [▲] and [▼] to select [SETUP RESET].



```
TYPE 1  
SETUP RESET <ent>
```

4. Press the [ENTER] key.



```
TYPE 1  
RESET :ent
```

5. Press the [ENTER] key.

The current printing conditions are reset to the factory-set printing conditions.



```
TYPE 1  
SETUP RESET <ent>
```

6. Press the [END] key twice.

The menu returns to the LOCAL mode.



```
<< LOCAL >>  
width : 1272mm
```


Chapter 4

Maintenance functions

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

This chapter describes the functions that help solve the problem of deterioration in image quality and replace a waste ink tank.

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

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Maintenance of the plotter

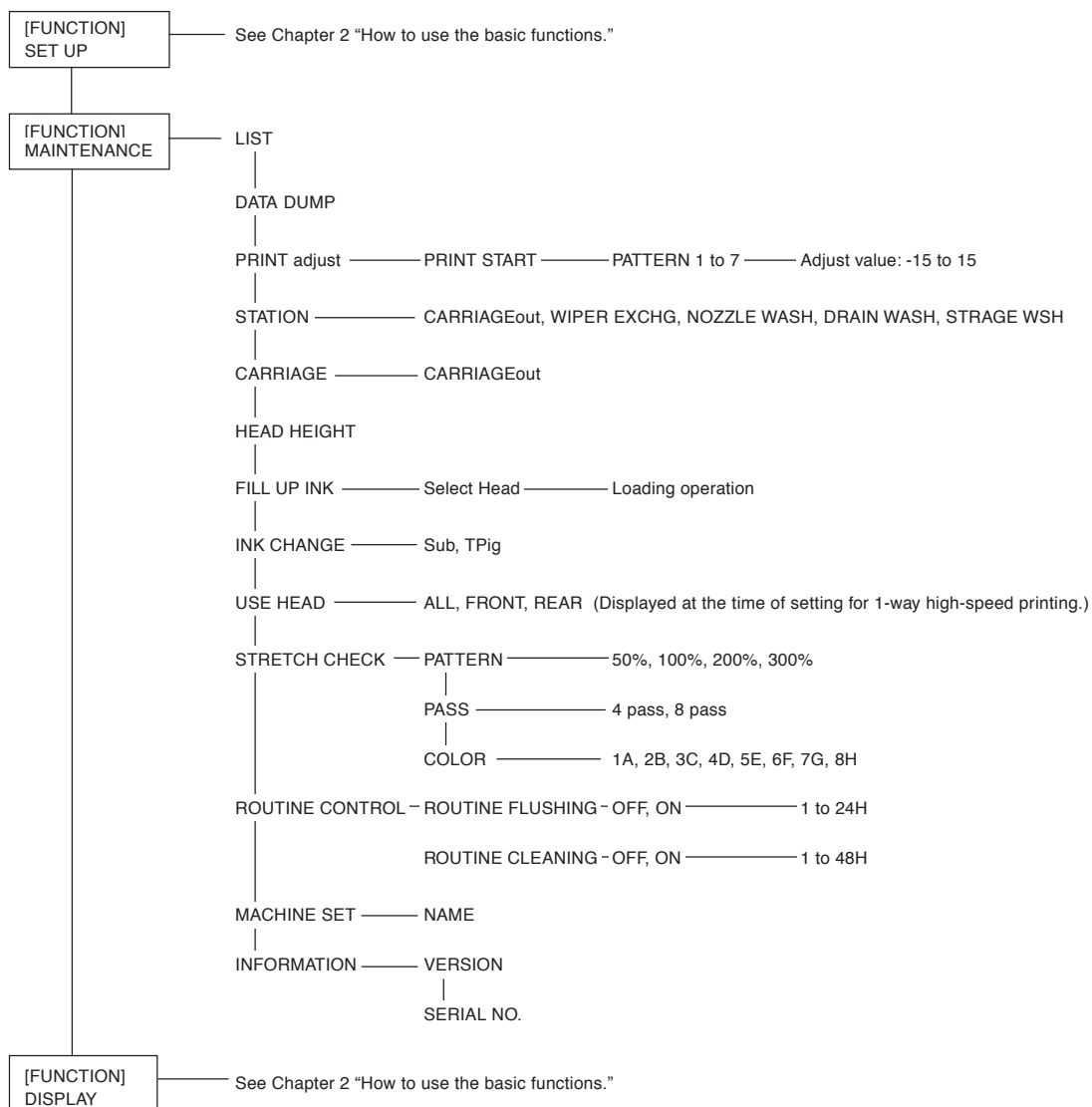
The term “maintenance” as used herein refers to the operation that has to be performed to keep the plotter in good operating condition.

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

Function menu [MAINTENANCE]

The table, below, shows the tree structure of the function menu [MAINTENANCE].

In order to use the application functions of the plotter, it is necessary to understand the proper sequence of key operations.



Before starting maintenance

Checking the menu mode

Before executing any of the maintenance functions, check the menu mode.

The menu mode must be the LOCAL mode or the FUNCTION mode before maintenance can be started.

Make sure that either <<LOCAL>> or <<FUNCTION>> is displayed on the LCD.

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.

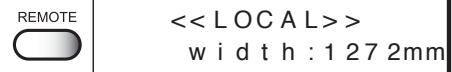
You have to understand how to invoke the desired maintenance function to carry out maintenance.

STEPS:

1. Make sure the mode is LOCAL mode.

Press the [REMOTE] key and put the menu back into the LOCAL mode.

When the menu mode is the FUNCTION mode, simply proceed to Step 2.



2. Press the [FUNCTION] key.



3. Press the JOG keys [▲] and [▼] to select [MAINTENANCE].



4. Press the [ENTER] key.



5. Select the next operation.

Set up the desired maintenance function to carry out maintenance. (See page 4.4 through 4.22)

Maintenance functions

Press the [FUNCTION] key and set up the desired maintenance function.

Drawing setup conditions [LIST]

This function outputs the current settings of the plotter.

They are useful in carrying out maintenance of the plotter.

Explanation of the list

- 1. SETUP** : 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.

STEPS:

- 1. Select [LIST] from [MAINTENANCE].**

(See page 4.3)

```

MAINTENANCE
LIST          <ent>
    
```

- 2. Press the [ENTER] key.**

Printing the LIST is started.

```

ENTER
PRINTING
PLEASE WAIT
    
```

The menu enters the LOCAL mode.

```

<<LOCAL>>
width:1272mm
    
```

LIST

```

LIST (System Ver0.10) (1/F Ver1.60)
(1) SETUP < TYPE1 > TYPE2 TYPE3 TYPE4
MEDIA COMP. 0 :HOST 0 :HOST 0 :HOST 0 :HOST
PRINT MODE HIGHspd :HOST STD :HOST STD :HOST STD :HOST
DIRECTION :UNI-D :UNI-D :UNI-D :UNI-D
RET.SPD UP ON ON ON ON
INK LAYERS 1 :HOST 1 :HOST 1 :HOST 1 :HOST
DRYING TIME 0.0s :HOST 0.0s :HOST 0.0s :HOST 0.0s :HOST
RIGHTmargin 0mm 0mm 0mm 0mm
LEFTmargin 0mm 0mm 0mm 0mm
REFRESH LEVEL0 :HOST LEVEL3 :HOST LEVEL3 :HOST LEVEL3 :HOST
MM/INCH MM MM MM MM
INK TYPE Sub Sub Sub Sub
AUTO CLEAN OFF OFF OFF OFF
AUTO CLEAN2 OFF OFF OFF OFF
(2) DISPLAY ENGLISH
(3) PRINTadjust PATTERN1 PATTERN2 PATTERN3 PATTERN4
0.0 0.0 0.0 0.0
PATTERNS5 PATTERNS6 PATTERNS7
0.0 0.0 0.0
(4) REPLACE CNT
Ink Level 1: 17% 2: 51% 3: 40% 4: 8% 5: 16% 6: 14% 7: 16% 8: 12%
9: 50% 10:50% 11:14% 12:17% 13:30% 14:21% 15:15% 16:19%

INK TYPE F:TPig R:Sub
SCAN COUNTResv:81 Dye :1 TPig:0 Resv:0 (x1000)
WIPING CNT W:0 R:0
    
```


Correcting the dot positions after adjusting the head height [PRINTadjust]

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 (See page 1.30). This function corrects the dot positions to ensure that the accurate printing result is obtained.

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

STEPS:

1. Select [PRINTadjust] from [MAINTENANCE].

(See page 4.3)

```
MAINTENANCE
PRINTadjust<ent>
```

2. Press the [ENTER] key.

```
ENTER PRINTadjust
PRINT START :ent
```

3. Press the [ENTER] key.

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

```
ENTER PRINTING
PLEASE WAIT
```

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

The seven test patterns that are output are sequentially named [Pattern 1], [Pattern 2], [Pattern 3], and [Pattern 4].

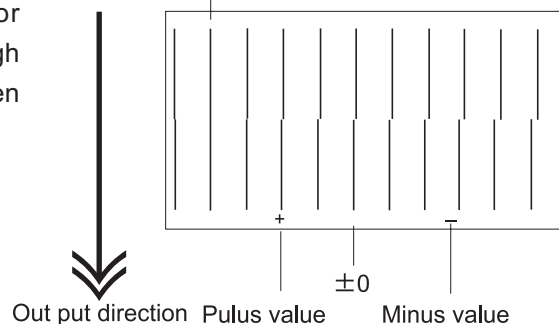
Select the correct dot positions on Pattern 1 using the JOG keys [▲] and [▼].

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

```
▲ PRINTadjust
▼ PATTRN1 = 0.0
```

(NOTE!) • If the pattern correction value for straight lines is not within -15 through +15, 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 the two plotting direction



5. Press the [ENTER] key.

```
ENTER PRINTadjust
PATTRN2 = 0.0
```

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

Select the correct dot positions on each of the patterns.

```
PRINTadjust
PATRN2      = 0.0
```

```
PRINTadjust
PATRN3      = 0.0
```

```
PRINTadjust
PATRN4      = 0.0
```

```
PRINTadjust
PATRN5      = 0.0
```

```
PRINTadjust
PATRN6      = 0.0
```


```
PRINTadjust
PATRN7      = 0.0
```

When pressing the [ENTER] key after setting the correction on pattern 7, the right indication is shown.

```
MAINTENANCE
PRINTadjust<ent>
```

7. Press the [END] key twice.

The menu returns to the LOCAL mode.

END  <<LOCAL>>
width:1272mm

Moving the carriage to clean the station interior [CARRIAGEout]

This function moves the carriage for maintenance of the ink station.

The interior of the station needs maintenance when a blurred test pattern is not corrected even after the cleaning function (page 2.12) is executed or when a consumable part is to be replaced. Frequently wipe the capping station clean to eliminate dust and paper chips. Wiping with a fluffy wiper only rubs dust over the capping station. Replace the fluffy wiper immediately with a new one.

- NOTE!**
- Do not move the carriage out of the capping station by hand. Use the appropriate operation key to move the carriage.
 - Before performing [STATION], be sure to move down the clamp lever on the front side of this plotter.

STEPS:

1. Move down the clamp lever on the front face of the plotter.

2. Select [STATION] from [MAINTENANCE].

(See page 4.3)

3. Press the [ENTER] key.

4. Press the [ENTER] key.

The carriage is moved from the maintenance station.

5. Open the maintenance cover, then perform the following maintenance works for the station interior.

The following maintenance should be executed:

1. **Cleaning the ink cap (See page 4.9)**

Clean the surfaces around the ink caps in the station.

2. **Cleaning or replacing the wiper (See page 4.11-13)**

Clean or replace the wiper.



- When the message "Replace Wiper" is displayed on the LCD, replace the wiper.

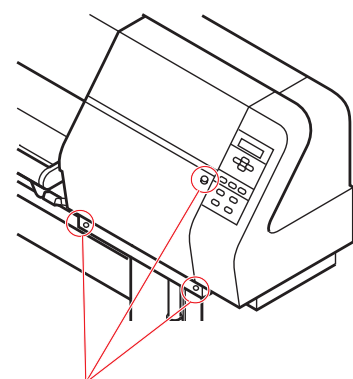
```
MAINTENANCE
STATION      <ent>
```

ENTER

```
STATION MAINT
MAINT : CARRIAGE out
```

ENTER

```
CARRIAGE out
COMPLETED   : ent
```



Remove these screws

6. **Close the maintenance cover, then press the [ENTER] key.**

The menu enters the LOCAL mode.



INITIALIZING
PLEASE WAIT

<<LOCAL>>
width : 1272mm

If a defective printing is not corrected even after the cleaning function is executed

Cleaning the ink caps

Clean the ink caps if a defective printing is not corrected or nozzles are clogged even after the cleaning function is executed or when the plotter is left unused for a long period of time.

STEPS:

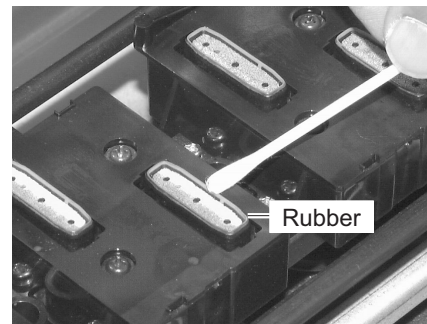
1. **Execute the station maintenance [CARRIAGEout] to move the carriage.**

(See the steps 1 to 4 on page 4.8)

STATION MAINT
MAINT : CARRIAGE out

2. **Open the maintenance cover.**

3. **Remove stains with a swab from the rubber mounted around the cap.**



4. **Close the maintenance cover, then press the [ENTER] key.**

The menu enters the LOCAL mode.



INITIALIZING
PLEASE WAIT

<<LOCAL>>
width : 1272mm

Periodical cleaning of the wiper

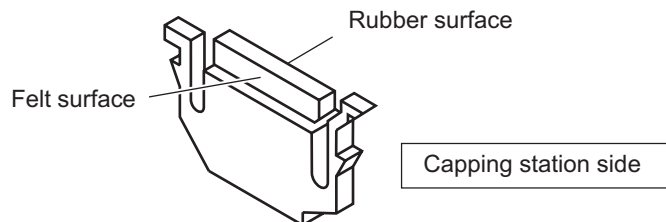
Cleaning the wiper

The wipers are provided for cleaning the heads. As the plotter is used to plot images, the wipers gradually become stained with ink and dust. Clean stained wipers.

The wiper is separately available from your local distributor or our office.

Notes on handling the wipers

- NOTE!**
- Avoid contacting the rubber portion of the new wiper. Contacting it will result in clogged nozzle.
 - Clean the two wipers at a time.
 - The front side of each wiper is made of felt, and the rear side is made of rubber. Do not rub the felt side with a swab. Instead, press the swab against the felt side surface to remove dirt. Rubbing the felt side surface will make it fluffy and result in clogged nozzle. Wipe ink off the rubber side surface with a swab.
 - When executing this function, the carriage will come out of the capping station. If the carriage is left in the aforementioned state for an extended period of time, the nozzles can be clogged. Once the replacement of the wiper and the cleaning of the caps have been completed, immediately press the [ENTER] key to allow the carriage to return to the capping station.



STEPS:

1. **Execute the station maintenance [CARRIAGEout] to move the carriage.**

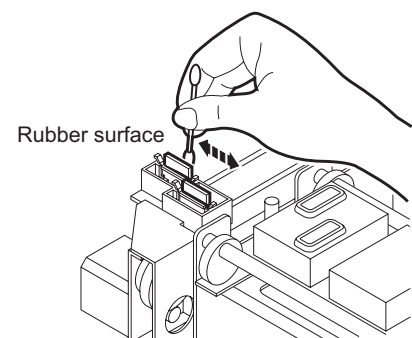
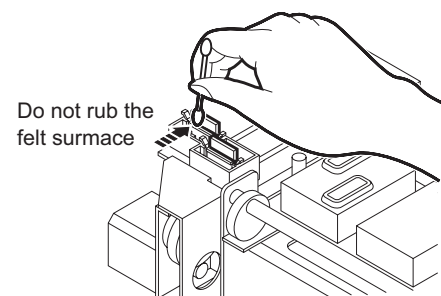
(See the steps 1 to 4 on page 4.8)

2. **Open the maintenance cover.**

3. **Clean up the wiper as described below.**

4. **Close the maintenance cover, then press the [ENTER] key.**

The menu enters the LOCAL mode.



When the message [Replace Wiper] is displayed [WIPER EXCHG]

The wipers are consumable parts. As the wiper continues cleaning the head, it gets stained with ink and dust. The plotter counts the number of times the wipers are cleaned and tells when to replace them. When the message [Replace Wiper] is displayed, replace the wiper with a new one without delay. When replacing the wiper, remove ink adhered at the bottom surface of the slider.

The message [Replace Wiper] is displayed while the plotter is in operation or when the plotter power is switched on. When the message is displayed, replace the wipers with new ones.

Wiper
Replace Wiper



- The wiper is separately available from your local distributor or our office.

NOTE!

- Do not press the [ENTER] key other than the case of replacing wipers. The number of wiper operations that is counted in the plotter will be reset. Do not select [Replace Wiper] unless the wiper is to be really changed.

STEPS:

1. Select [STATION] from [MAINTENANCE].

(See page 4.3)

MAINTENANCE
STATION <ent>

2. Press the [ENTER] key.



STATION MAINT
MAINT : CARRIAGE out

3. Press the JOG keys [▲] and [▼] to select [WIPER EXCHG].



STATION MAINT
MAINT : WIPER EXCHG

4. Press the [ENTER] key.

The carriage will come out of the capping station.

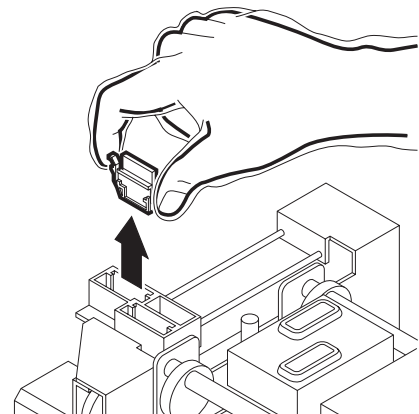


WIPER EXCHANGE
COMPLETED : ent

5. Open the maintenance cover to change the wiper.

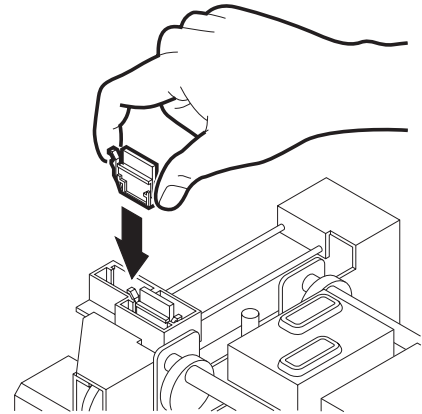
6. Holding the projections at both ends, draw out the wiper.

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



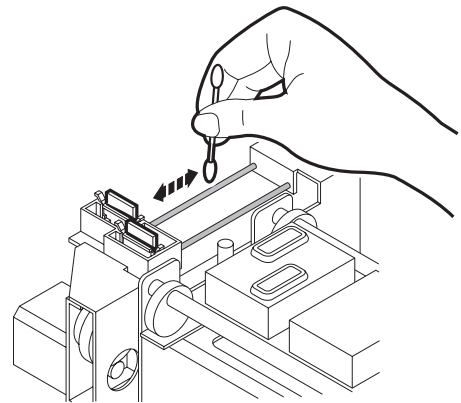
7. Holding the projections at both ends, insert a new wiper into place.

- NOTE!**
- Do not touch the rubber portion of a new wiper. It can cause the nozzle to be clogged.
 - Insert the wiper so that its felt side surface is placed on the left as viewed from your position.



8. Clean the wiper guide shaft using a swab or cloth.
(If dirt is hard to remove, use a swab of cloth dampened with water.)

- NOTE!**
- Extremely dirty wiper guide shaft may cause operation failure of the wiper, resulting in error display.



9. Close the maintenance cover, then press the [ENTER] key.

The menu enters the LOCAL mode.



When the message [Clean Wiper Shaft] is displayed

The message shown on the right is displayed after several numbers of wiping.

Please clean the wiper shaft at once if this message is displayed.

Extremely dirty wiper shaft may cause wiper malfunction and resulting an error display. The wiper is functioning only during the head cleaning, and the number of wiping vary according to the cleaning type.

```

Wiper
Clean Wiper Shaft
    
```

(NOTE!) • When exchanging the wiper, please clean the wiper shaft too.

STEPS:

1. **Select [STATION] from [MAINTENANCE].**

(See page 4.3)

```

MAINTENANCE
STATION      <ent>
    
```

2. **Press the [ENTER] key.**

```

ENTER
STATION MAINT
MAINT : CARRIAGE out
    
```

3. **Press the [ENTER] key.**

The carriage will come out of the capping station.

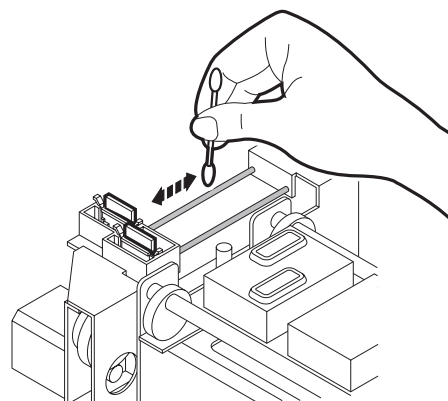
```

ENTER
CARRIAGE out
COMPLETED  : ent
    
```

4. **Open the maintenance cover.**

5. **Clean the wiper guide shaft using a swab or cloth.**

(If dirt is hard to remove, use a swab of cloth damepened with cleaning liquid.)



6. **Close the maintenance cover, then press the [ENTER] key.**

The menu enters the LOCAL mode.

```

ENTER
INITIALIZING
PLEASE WAIT
    
```

```

<< LOCAL >>
width : 127.2mm
    
```

Cleaning the nozzle [NOZZLE CLN]

Clean up the nozzle as for nozzle clogging.

If nozzle clogging cannot be resolved even after cleaning several times, execute the [FILL UP INK] function. (Page 4.25)

If this error cannot be resolved with these functions, contact the dealer.

- (NOTE!)**
- Two colors (two cartridges) per head are used. If the remaining amount of one ink is extremely greater than another ink's amount, it may flow into the cartridge which has lesser ink to make their ink-head even. Execute the [FILL UP INK] function (Page 4.25) if the inks are mixed.
 - Operate it in the head only with the nozzle clogging.

Cleaning Tools :

- Cleaning liquid bottle kit A29 (SPC-0137 : Option)
- Syringe

STEPS:

1. Select [STATION] from [MAINTENANCE].

(See page 4.3)

```

MAINTENANCE
STATION      <ent>
    
```

2. Press the [ENTER] key.

```

ENTER
STATION MAINT
MAINT : CARRIAGE out
    
```

3. Press the JOG keys [▲] and [▼] to select [NOZZLE CLN].

```

▲
STATION MAINT
MAINT : NOZZLE CLN
▼
    
```

4. Press the [ENTER] key.

Attention about the ink mixing is displayed.

```

ENTER
Color May Mix Up
Continue OK?   : ent
    
```

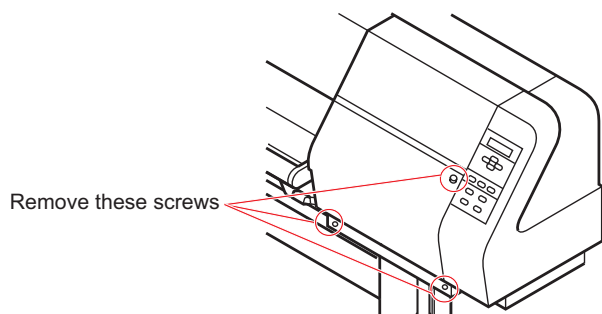
5. Press the [ENTER] key.

The carriage will come out of the capping station.

```

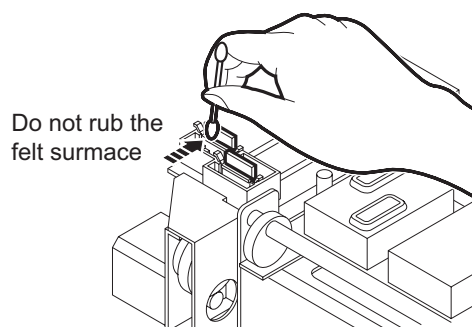
ENTER
WIPER CLEANING
COMPLETED    : ent
    
```

6. Open the maintenance cover.

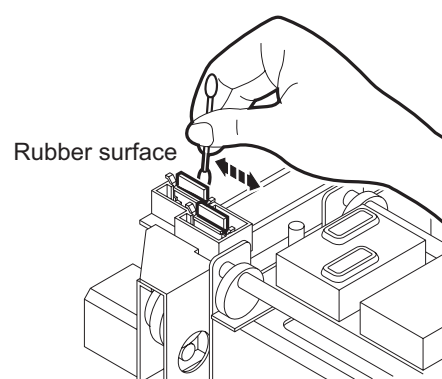


7. Clean the wiper.

Use and push a swab contained cleaning liquid to take off some dust on the felt surface.



Use a swab contained cleaning liquid to take off some inks on the rubber surface.

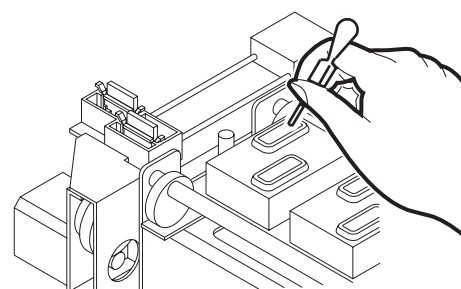


8. Clean the wiper and press the [ENTER] key.



FILL UP WASHINGS
COMPLETED : ent

9. Fill the cap with the cleaning liquid using a syringe.



10. Close the maintenance cover.

11. press the [ENTER] key.



12. Press the JOG keys [▲] and [▼] to select the time to leave. (1-99 minutes: 1 min unit)

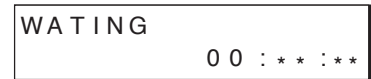


13. Press the [ENTER] key.

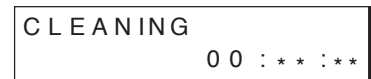
The initial operation is performed.



Remaining time is displayed.



After remaining time is over, execute cleaning.
It displays the remaining cleaning time.



Cleaning is completed, the menu returns the LOCAL mode.



Ink discharge way cleaning [DRAIN WASH]

The ink discharge way may become clogged by coagulated ink. It must be cleaned at regular intervals to avoid clogging.

Ink discharge way: Tubing between the cap and the waste ink tank

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

Cleaning Tools :

- Cleaning liquid bottle kit A29 (SPC-0137 : Option)
- Syringe

STEPS:

1. Select [STATION] from [MAINTENANCE].

(See page 4.3)

MAINTENANCE STATION <ent>

2. Press the [ENTER] key.

ENTER	STATION MAINT MAINT : CARRIAGE out
-------	---------------------------------------

3. Press the JOG keys [▲] and [▼] to select [DRAIN WASH].

▲	STATION MAINT MAINT : DRAIN WASH
▼	

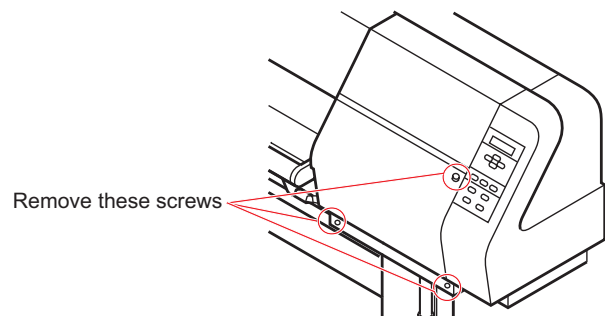
4. Press the [ENTER] key.

The table moves backward, the Y-bar moves to the top, the wiper moves forward, and the carriage moves on the table.

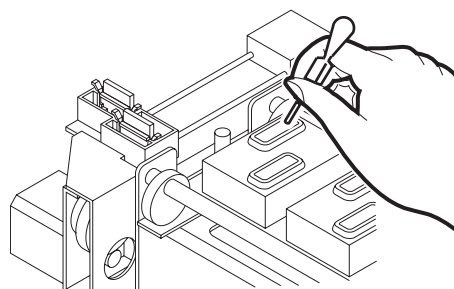
Dry suction starts in cycles consisting of 10 seconds of suction followed by 10 seconds of pause.

ENTER	DRAIN WASH COMPLETED : ent
-------	-------------------------------

5. Open the maintenance cover.



6. Remove the cleaning liquid with a syringe. During the suction pause period, drop the cleaning liquid until just before it overflows from the cap.



7. Close the maintenance cover.

8. Press the [ENTER] key.

Dry suction continues for 30 seconds and the initial operation is performed..

The menu return to the LOCAL mode.



When not in use the machine over the long term [STORAGE WSH]

When not in use the machine over a week, perform [STORAGE WSH] function to clean the head nozzle and ink discharge way.

After performing the function, store the machine.

- (NOTE!)**
- Two colors (two cartridges) per head are used. If the remaining amount of one ink is extremely greater than another ink's amount, it may flow into the cartridge which has lesser ink to make their ink-head even. Execute the [FILL UP INK] function (page 4.25) if the inks are mixed.

Cleaning Tools :

- Cleaning liquid bottle kit (SPC-0137 : Option)
- Syringe

STEPS:

1. Select [STATION] from [MAINTENANCE].

(See page 4.3)

```

MAINTENANCE
STATION      <ent>
    
```

2. Press the [ENTER] key.

```

ENTER
STATION MAINT
MAINT : CARRIAGE out
    
```

3. Press the JOG keys [▲] and [▼] to select [STORAGE WSH].

```

▲
STATION MAINT
MAINT : STORAGE WSH
▼
    
```

4. Press the [ENTER] key.

Attention about the ink mixing is displayed.

```

ENTER
Color May Mix Up
Continue OK?   : ent
    
```

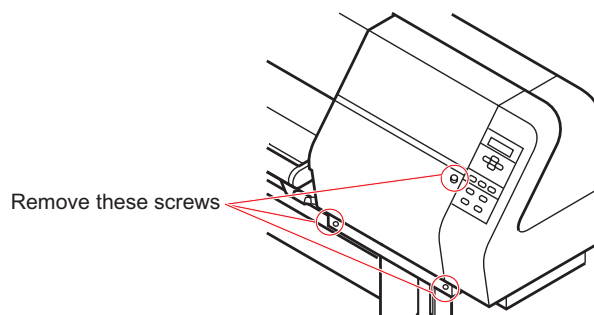
5. Press the [ENTER] key.

The carriage will come out of the capping station.

```

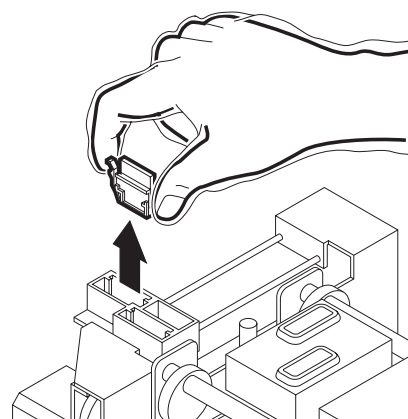
ENTER
WIPER CLEANING
COMPLETED   : ent
    
```

6. Open the maintenance cover.



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

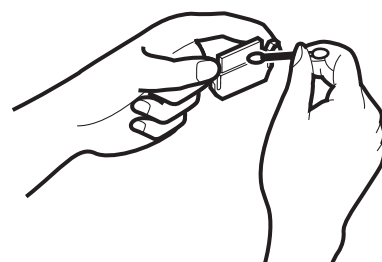
Use the gloves that are supplied with the separately-available cleaning wiper to protect your hands from stains.



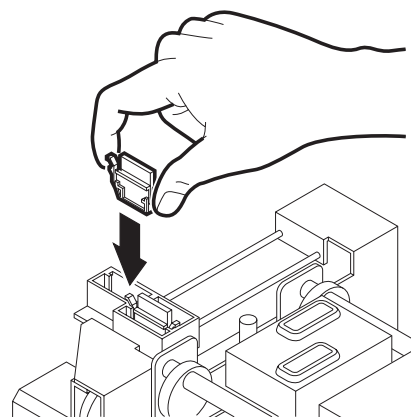
8. Use a swab soaked with the cleaning liquid to clean off ink blots on wiper and bracket.



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



9. Holding the projections at both ends, insert a clean wiper into place.

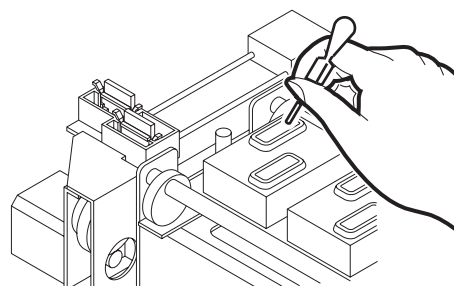


10. Press the [ENTER] key.



FILL UP WASHINGS
COMPLETED : ent

11. Fill the cap with the cleaning liquid using a syringe.



12. Close the maintenance cover.

13. Press the [ENTER] key.



14. Press the JOG keys [▲] and [▼] to select the time to leave. (1-99 minutes: 1 min unit)

Normally set 1 min.



15. Press the [ENTER] key.

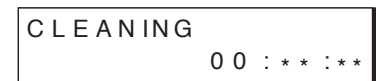
The initial operation is performed.

Remaining time is displayed.

After remaining time is over, execute cleaning.

Remaining cleaning time is displayed.

After cleaning the nozzles, the Y-bar moves to the top. The wiper moves toward you and the carriage moves away from the station.

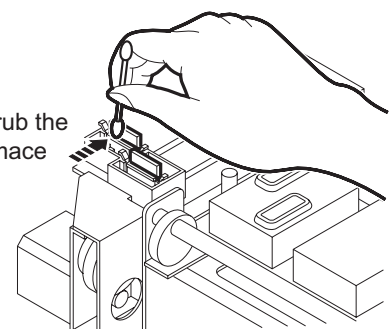


16. Open the maintenance cover.

17. Clean the wiper.

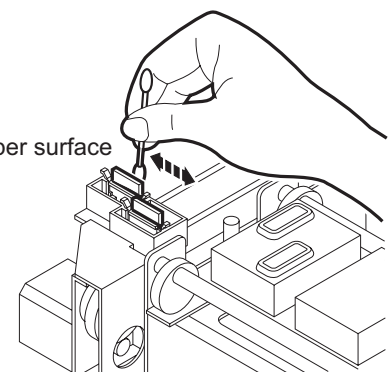
Use and push a swab contained cleaning liquid to take off some dust on the felt surface.

Do not rub the felt surface



Use a swab contained cleaning liquid to take off some inks on the rubber surface.

Rubber surface



18. Clean the wiper and press the [ENTER] key.

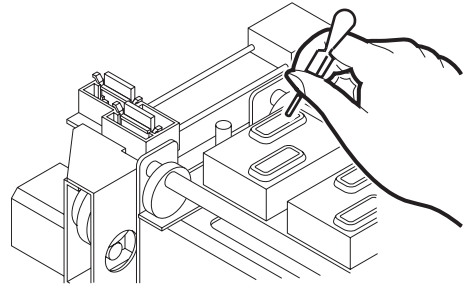


19. Fill the cap with the cleaning liquid using a syringe.

Dry suction starts in cycles consisting of 10 seconds of suction followed by 10 seconds of pause.

Repeat the performance of the air aspiration several times to clean up the ink discharge way.

Perform the operation for the each cap.



21. Close the station cover, and press the [ENTER] key.

Carriage returns the station to the initial operation performed.

The menu return to the LOCAL mode.



Move the carriage to the left maintenance station [CARRIAGE]

This function move the carriage to the left maintenance station to check the head, to clean the nozzle surface and to do maintenance of carriage.

STEPS:

1. Select [CARRIAGE] from [MAINTENANCE].

(See page 4.3)

MAINTENANCE CARRIAGE <ent>

2. Press the [ENTER] key.

ENTER	CARRIAGE MAINT CARRIAGEout<ent>
-------	------------------------------------

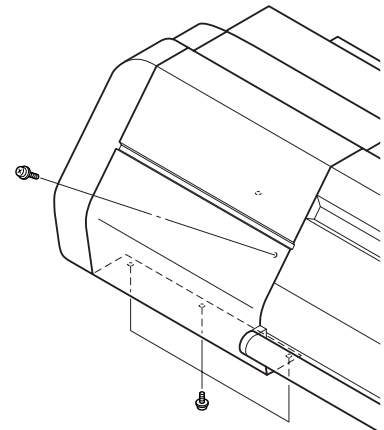
3. Press the [ENTER] key.

The carriage is moved to the left maintenance station.

ENTER	CARRIAGE MAINT COMPLETED :ent
-------	----------------------------------

4. Remove the left maintenance cover.

Loosen the 3 screws attached at the bottom of the main unit and remove 1 screw on the left maintenance cover and then remove the left maintenance cover.



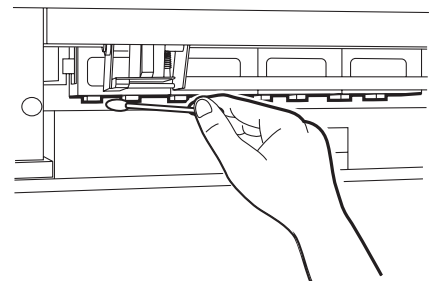
5. Do the maintenance of the carriage.

Using the supplied swab with cleaning liquid, remove ink around the head.

NOTE! • Never rub the surface of the nozzle, as this may cause discharge failure.



• Use the cleaning liquid (SPC-0137:optional item).



6. Close the left maintenance cover, then press the [ENTER] key.



- In the case where a fabric is loaded on the plotter, the fabric detection display will appear on the LCD after the initialization.

The menu enters the LOCAL mode.



Adjusting the head height when the fabric used is changed [HEAD HEIGHT]

See page 1-30.

- NOTE!**
- Before adjusting the head height, be sure to remove the fabric from the platen. If an attempt is made to adjust the head height with the fabric kept set on the platen, the fabric gets caught on the carriage during “carriage out” operation, causing damage to the head.

Menu displayed after the ink cartridge is installed [FILL UP INK]

When the ink cartridge is replaced with a new one or a new ink cartridge is installed, the plotter charges ink automatically. Therefore, a menu for charging ink is included in the maintenance functions. Normally, however, this function is not used.

STEPS:

1. Select [FILL UP INK] from [MAINTENANCE].

(See page 4.3)

```
MAINTENANCE
FILL UP INK<ent>
```

2. Press the [ENTER] key.

```
ENTER
FILL UP : 12345678
SELECT : ABCDEFGH
```

3. Press the JOG keys [▲] [▼] [◀] [▶] to select the head to be filled up.

Each time a JOG key is pressed, the row of heads to be cleaned changes from R to F (or F to R). The upper eight of test printing indicates the R row of heads, and the lower eight indicates the F row of heads.

4 types of head row can be selected: [1234], [5678], [ABCD], and [EFGH].

```
▲
FILL UP : - - - - 5678
SELECT : ABCDEFGH
▼
◀ CLEANING : - - - - 5678
SELECT : A B C D E F G H
▶
```

4. Press the [ENTER] key.

Ink filling up is started.

Remaining time for ink filling up is displayed on the second line of LCD.

```
ENTER
FILL UP
00 : * * : * *
```

```
FILL UP
PLEASE WAIT
```

After completing the performance, the LCD shown on the right is displayed.

```
MAINTENANCE
FILL UP INK<ent>
```

5. Press the [END] key twice.

The mode enters the LOCAL mode.

```
END
<< LOCAL >>
width : 1272mm
```

When charging ink different from the one in use [INK CHANGE]

The INK CHANGE function charges ink different from the one currently in use. When the same type of ink as is set in the ink station is to be used, it is unnecessary to execute this function.

- (NOTE!)**
- Be sure to use the inks and ink cartridges specified by MIMAKI. Please be noted that MIMAKI ENGINEERING CO., LTD. shall have no liability for any trouble that arises when using any ink cartridge or ink other than the genuine MIMAKI brand ones.
 - An additional head cleaning cartridge is required for ink replacement.

STEPS:

1. Select [INK CHANGE] from [MAINTENANCE].

(See page 4.3)

```

MAINTENANCE
INK CHANGE <ent>
    
```

2. Press the [ENTER] key.

The ink type currently filled in the ink station is shown.

ENTER

```

InkSet R:Sub :8
          F:Sub :8
    
```

3. Press the JOG keys [▲] and [▼] to set the type of ink to be filled in the R-row ink station.

[Sub]: Sublimation dye ink

[TPig]: Textile pigment ink

▲

▼

```

InkSet R:TPig :4
          F:Sub :8
    
```

5. Press the JOG key [▶] to move the cursor.

▶

```

InkSet R:TPig :4
          F:Sub :8
    
```

6. Press the JOG keys [▲] and [▼] to set the number of ink to be filled in the R-row ink station.

▲

▼

```

InkSet R:TPig :4
          F:Sub :8
    
```



- In case selecting "TPig" on the step 3, the number of ink color can be selected "4" only.

7. Press the JOG key [▶] to move the cursor.

▶

```

InkSet R:TPig :4
          F:Sub :8
    
```

8. Press the JOG keys [▲] and [▼] to set the type of ink to be filled in the F-row ink station.

▲

▼

```

InkSet R:TPig :4
          F:Sub :8
    
```


9. Press the JOG key [▶] to move the cursor.



10. Press the JOG keys [▲] and [▼] to set the number of ink to be filled in the F-row ink station.



11. Press the [ENTER] key.



12. Press the [ENTER] key.



13. Take out the changing ink cartridge from the ink station.

When removing the ink cartridge, "-" is displayed on LCD.



When all the ink cartridges are taken out, the discharge of ink is started automatically.



14. When the LCD shown on the right appears, install the washing liquid cartridge.

When all the washing liquid cartridges are installed, washing is started automatically.



15. When the LCD shown on the right appears, take out the washing liquid cartridge from the ink station.

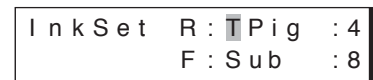
When all the washing liquid cartridges are taken out, discharge of the washing liquid is started.



16. Repeat steps 14 and 15.

17. Check the type and number of ink set.

In case changing the type or number, see the STEPS 2-10.



17. Press the [ENTER] key.



18. Insert the ink cartridges to the ink stations.

Align two projecting portion of the ink cartridge with rails on the ink stations. Once the ink cartridge is inseted to reach the normal position, the number of the ink station is displayed on the LCD.



The LCD shown on the right will be displayed when all the cartridges are inserted normally.

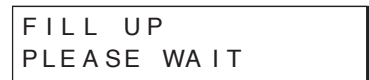


19. Press the [ENTER] key.

Filling of ink is started automatically.



When filling of ink is completed, the display shown on the right is indicated.



20. Press the [END] key twice.

The menu returns to the LOCAL mode.



Selecting ink head [USE HEAD]

If nozzle trouble is not recovered, you can change the ink head together with the whole ink station to continue printing.

ALL : Uses both the Front and Rear rows.

REAR : Uses only the Rear row.

FRONT : Uses only the Front row.



- If different ink types are set in the two ink stations, [USE HEAD] is not displayed and you cannot make setting.

STEPS:

1. Select [USE HEAD] from [MAINTENANCE].

(See page 4.3)

```
MAINTENANCE
USE HEAD <ent>
```

2. Press the [ENTER] key.



```
USE HEAD
HEAD LINE : ALL
```

3. Press the JOG keys [▲] and [▼] to select the ink head used.

[ALL], [REAR], [FRONT]



```
USE HEAD
HEAD LINE : REAR
```

4. Press the [ENTER] key.



```
MAINTENANCE
USE HEAD <ent>
```

5. Press the [END] key twice.

The menu returns to the LOCAL mode.



```
<<LOCAL>>
width : 1272mm
```

Check the stretch and shrink of fabric after the printing [STRETCH CHK]

Check whether the cloth is stretching or shrinking after the printing.

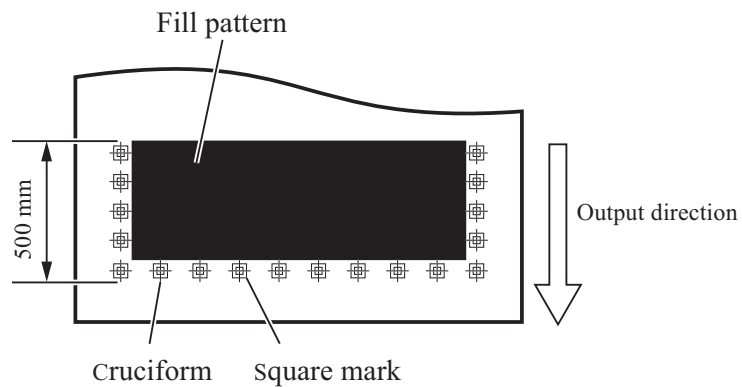
The check pattern will be printed at resolution 360 dpi.

Stretch check method

The printing goes as the following order;

cruciform ---> fill pattern ---> square mark

The stretch condition of the cloth can be verified by the gap between the cruciform and the square mark.



When the cloth is stretched

The square mark will approach the fill pattern.



When the cloth is shrunk

The square mark will move to the outside.



STEPS:

1. Select [STRECTH CHK] from [MAINTENANCE].

(See page 4.3)

```

MAINTENANCE
STRECTH CHK<ent>
    
```

2. Press the [ENTER] key.

```

ENTER
STRETCH CHECK
PATTERN      : 100%
    
```

3. Press the JOG keys [▲] and [▼] to select the density.

[50%], [100%], [200%], [300%]



- 200 % of density is recommended for checking the stretch and shrink on printing at resolution 720 dpi.

```

▲
STRETCH CHECK
PATTERN      : 200%
▼
    
```

4. Press the [ENTER] key.

```

ENTER
STRETCH CHECK
PASS         : 4
    
```

5. Press the JOG keys [▲] and [▼] to select the pass.

[4], [8]

```

▲
STRETCH CHECK
PASS         : 8
▼
    
```

6. Press the [ENTER] key.

```

ENTER
STRETCH CHECK
COLOR        : 1A
    
```

7. Press the JOG keys [▲] and [▼] to select the color.

[1A], [2B], [3C], [4D], [5E], [6F], [7G], [8H]

```

▲
STRETCH CHECK
COLOR        : 2B
▼
    
```

8. Press the [ENTER] key.

Start printing the check pattern.

```

ENTER
PRINTING
PLEASE WAIT
    
```

Screen will return to the color selection screen at the end of printing.

```

STRETCH CHECK
COLOR        : 2B
    
```

9. Press the [END] key four times.

The menu returns to the LOCAL mode.

```

END
<< LOCAL >>
width : 1272mm
    
```

Execute the flushing and cleaning regularly [ROUTINE CTR]

This function allows for the pigment ink for textile (TPig).

Set time limits on the flushing and cleaning functions at regular time intervals to avoid nozzle clogging and clean off dust on the nozzle surface.

Routine Flushing

The routine flushing function is executed with the power on.

Time set by the hour is available for 1 to 24 hrs with this function turns on.

STEPS:

1. Select [ROUTINE CTR] from [MAINTENANCE].

(See page 4.3)



```
MAINTENANCE
ROUTINE CTR<ent>
```

2. Press the [ENTER] key.



```
ENTER
ROUTINE CONTROL
SELECT : FLUSHING
```

3. Press the [ENTER] key.



```
ENTER
ROUTINE CONTROL
FLUSHING : OFF
```

4. Press the JOG key [▲] and [▼] to select [ON] or [OFF] of the [ROUTINE FLUSHING].

Here, select [ON].



```
▲
ROUTINE FLUSHING
▼
FLUSHING : ON
```

5. Press the [ENTER] key.



```
ENTER
ROUTINE FLUSHING
INTERVAL = 1h
```

6. Press the JOG keys [▲] and [▼] to select time interval.



```
▲
ROUTINE FLUSHING
▼
INTERVAL = 2h
```

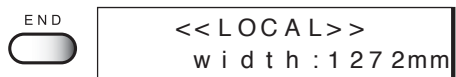
7. Press the [ENTER] key.



```
ENTER
ROUTINE CONTROL
SELECT : FLUSHING
```

8. Press the [END] key three times.

The menu returns to the LOCAL mode.



```
END
<< LOCAL >>
width : 127 2mm
```

Routine Cleaning

The routine cleaning function is executed with the power on.

Time set by the hour is available for 1 to 48 hrs with this function turns on.

STEPS:

1. Select [STATION] from [Routine Ctrl].

(See page 4.3)

```

MAINTENANCE
ROUTINE CTR<ent>
    
```

2. Press the [ENTER] key.



```

ROUTINE CONTROL
SELECT :FLUSHING
    
```

3. Press the JOG keys [▲] and [▼] to select the [Cleaning].



```

ROUTINE CONTROL
SELECT :CLEANING
    
```

4. Press the [ENTER] key.



```

ROUTINE CLEANING
CLEANING :OFF
    
```

5. Press the JOG keys [▲] and [▼] to select [ON] or [OFF] of the [ROUTINE CLEANING].

Here, select [ON].



```

ROUTINE CLEANING
CLEANING :ON
    
```

6. Press the [ENTER] key.



```

ROUTINE CLEANING
INTERVAL = 8h
    
```

7. Press the JOG keys [▲] and [▼] to select time interval.



```

ROUTINE CLEANING
INTERVAL = 9h
    
```

8. Press the [ENTER] key.



```

ROUTINE CONTROL
SELECT :CLEANING
    
```

9. Press the [END] key three times.

The menu returns to the LOCAL mode.



```

<<LOCAL>>
width:1272mm
    
```

Setting the machine name [MACHINE NAME]

When connecting multiple printers with USB2.0 interface to the computer, machine name can be set for the printer identification.

Register the machine name as "DS-XX" (XX is machine No.) Set the machine No. between 01 to 99.

STEPS:

1. Select the [MACHINE SET] from the [MAINTENANCE].

(See page 4.3)



```
MAINTENANCE
MACHINE SET<ent>
```

2. Press the [ENTER] key.



```
MACHINE SETUP
SEL: NAME
```

3. Press the [ENTER] key again.

Current machine name is displayed.



```
MACHINE NAME
DS-01
```

4. Press the JOG keys [▲] and [▼] to select the machine number (01 to 99).



```
MACHINE NAME
DS-02
```

5. Press the [ENTER] key.

Return to the previous menu.



```
MACHINE SETUP
SEL: NAME
```

6. Press the [END] key three times.

The menu returns to the LOCAL mode.



```
<< LOCAL >>
width: 127.2mm
```


Displaying the plotter information [INFORMATION]

Displays the firmware version of this plotter.

If trouble occurs, please inform the dealer or MIMAKI sales office of the contents of the trouble as well as this information.

STEPS:

1. Select the [INFORMATION] from the [MAINTENANCE].

(See page 4.3)

```
MAINTENANCE
INFORMATION<ent>
```

2. Press the [ENTER] key.



```
INFORMATION
VIEW : VERSION
```

3. Press the [ENTER] key again.

The firmware version is displayed.



```
MAIN      Ver 1.00
I / F     Ver * . * *
```

4. Press the [END] key.

The menu returns to the [Version].



```
INFORMATION
VIEW : VERSION
```

5. Press the JOG keys [▲] and [▼] to select the [Serial No.].



```
INFORMATION
VIEW : SERIAL NO.
```

6. Press the [ENTER] key.



```
SERIAL NO .
S / N      * * * * * * * *
```

7. Press the [END] key four times.

The menu returns to the LOCAL mode.



```
<< LOCAL >>
width : 1272mm
```


Chapter 5

When abnormal conditions are encountered

Chapter 5 describes corrective measures to be taken in the case where an abnormal phenomenon arises on the plotter and where an error message is given on the display.

Table of contents

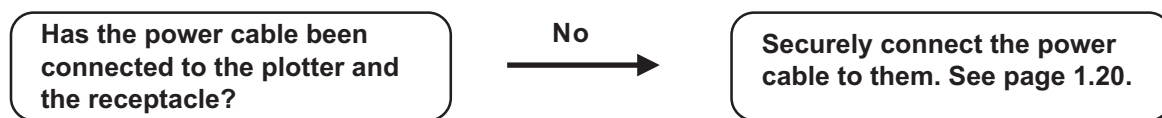
Before taking a phenomenon as a sign of failure	5.2
If image quality declines	5.4
Troubles for which error message are given on the LCD	5.5

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 plotter to the normal state, contact your local MIMAKI distributor or MIMAKI office to call for service.

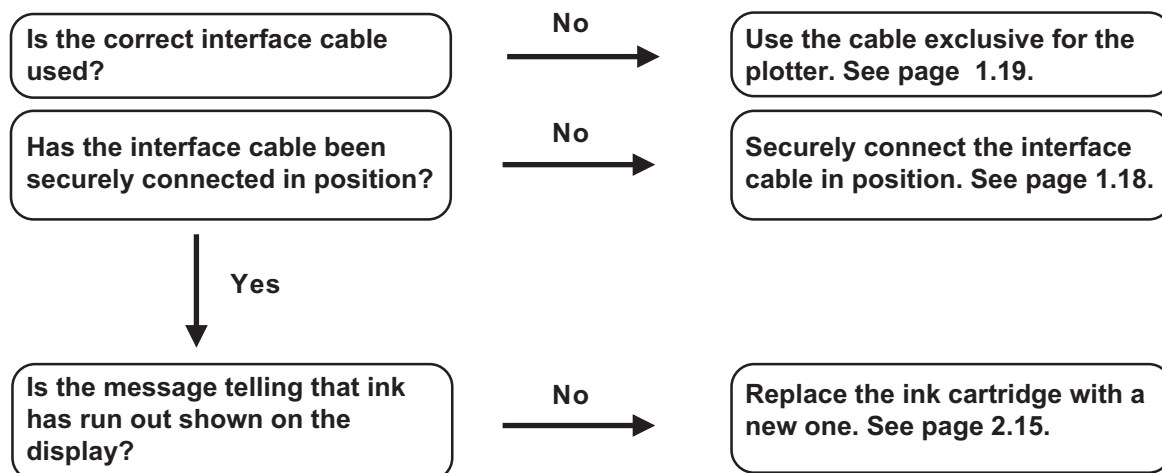
The plotter cannot be energized

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.



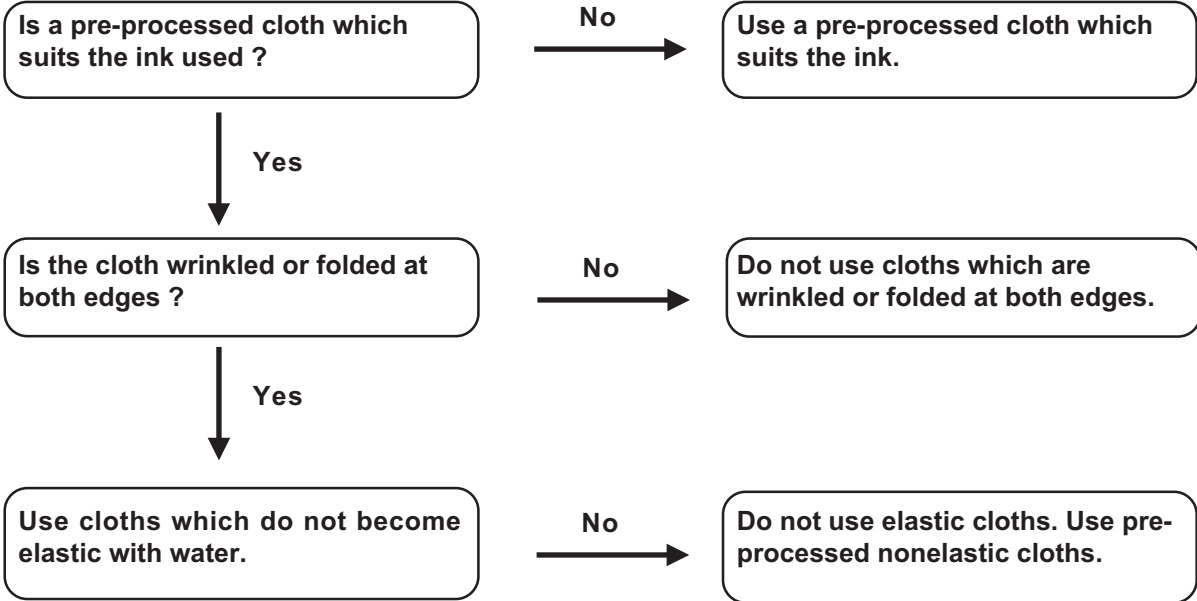
The plotter cannot perform printing

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



Paper jamming arises/fabric is soiled

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



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 plotter to the normal state, contact your local MIMAKI distributor or MIMAKI office call for service.

White lines/thin spots are obvious (In the direction of travel of the head)

Corrective measure : Execute the head cleaning. See page 2.12.

Corrective measure : Clean the interior of the station. See page 4.8.

Corrective measure : Execute the MEDIA COMP. See page 3.7.

Displacement is observed between outward and inward printing

Corrective measure : Adjust “Y (outward and inward)” in [PRINTadjust] function. See page 4.6.

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

Corrective measure : Execute the [PRINTadjust] function. See page 4.6.

Troubles for which error message are given on the LCD

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

Take an appropriate corrective measure in accordance with the message.

Warning message

Warning message	Cause	Corrective measure
Ink Cartridge 1 2 3 4 5 6 7 8 A B C D E F G H	Ink cartridge is not loaded on the ink station.	Attach the ink cartridge(s) corresponding with the number(s) shown on the display.
Ink End 1 2 3 4 5 6 7 8 A B C D E F G H	The ink cartridge has run out of ink.	
Ink Near End 1 2 3 4 5 6 7 8 A B C D E F G H	The amount of ink remaining in the ink cartridge is insufficient.	
Wiper Replace Wiper	Time to replace the wiper in the capping station with a new one has come.	Printing can be continued in file-by-file basis by pressing the [REMOTE] key. However, it is recommended to replace the wiper as soon as possible.
Wiper Clean Wiper Shaft	Time to remove ink adhered to the bottom surface of the slider. Cleaning period of the ink on the wiper shaft of the capping station.	Perform the carriage-out function of the station maintenance (pages 4.8) to clean the wiper shaft of the capping station.
Head Head ID UnRegist.	Head ID has not been registered.	Turn off the power to the plotter 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.
REPLACE BATTERY	Time to replace the battery	Contact your local distributor to call for service.

Warning message	Cause	Corrective measure
Media No Media	Clamp lever set down without media. For roll, it means the media is over.	Printing will be enabled by pressing the [REMOTE] key.
Close The Cover	The front cover or the maintenance cover is opened.	Close the front cover or the maintenance cover.
Below Operable Temperature	Temperature is below operable condition.	Adjust environmental temperature.
Temperature Env. Temp is Low	Temperature is below guaranteed.	
Temperature Env. Temp is High	Temperature is over guaranteed.	
Clamp Lever Lower The Lever	The clamp lever is at high position. Plotting and JOG operation cannot be executed.	Lower the clamp lever.
Take-Up Cover Close The Cover	The take-up motor cover is opened.	Close the take-up motor cover.
Feeding Cover Close The Cover	The feeding motor cover is opened.	Close the feeding motor cover.

Warning message	Cause	Corrective measure
<div data-bbox="253 338 612 421" style="border: 1px solid black; padding: 2px; margin-bottom: 5px;"> Take - Up Take - Up Limit </div> <div data-bbox="253 450 612 533" style="border: 1px solid black; padding: 2px;"> Take - Up Take - Up Error </div>	The take-up tension bar is located at the top position for a certain period of time or more.	Check the fabric and lower the take-up tension bar. Check the rotation of the take-up unit.
<div data-bbox="253 573 612 656" style="border: 1px solid black; padding: 2px;"> Take - Up Check Tension </div>	The fabric cannot be taken-up normally.	Check the fabric, rotation of the take-up unit and condition of the tension bar.
<div data-bbox="253 696 612 779" style="border: 1px solid black; padding: 2px;"> Feeding Feeding Limit </div>	Feeding tension bar is located at the highest position for a certain period of time or more.	Lower the feeding tension bar. Check the fabric and the rotation of the feeding unit.

Error messages

Error messages indicates error numbers.

If any error message is given on the LCD, turn off the power to the plotter 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.

Error message	Cause	Corrective measure
ERROR 01 MAIN ROM	Control ROM is defective.	Turn off the power to the plotter 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	Control RAM is defective.	
ERROR 03 POWER +35V	Power voltage becomes abnormal.	
ERROR 04 F - ROM	Control ROM is defective.	
ERROR 07 TEMP (0000)	Abnormal temperature is detected.	
ERROR 08 LINEAR ENCODER	Trouble with detection of linear encoder.	
ERROR 09 FPGA	Control circuit board is defective. (FPGA Error)	
ERROR 09 FDC	Control circuit board is defective. (HDC Error)	
ERROR 10 COMMAND	The plotter has received data other than command data.	
ERROR 11 PARAMETER	A parameter outside the range of acceptable numeric values is received.	Check the output setting of the host computer.
ERROR 12 MAINTE COMMAND	Maintenance command is abnormal.	Turn off the power to the plotter 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 13 RIP LINK	Irregular in receiving data.	
ERROR 14 COLOR COMMAND	Color command is abnormal.	

Error message	Cause	Corrective measure
ERROR 20 I / F BOARD	An error occurs in communication between I/F board and main board.	Turn off the power to the plotter 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 21 I / F NONE	I/F board has not been installed.	Install the I/F board.
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 plotter 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	Improper operation has been conducted on the operation panel.	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 plotter 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 OVER CURRENT	Overcurrent error on the Xmotor has been detected.	
ERROR 43 Y OVER CURRENT	Overcurrent error on the Ymotor has been detected.	
ERROR 45 CAPPING	Incorrect height of the capping station has been detected.	
ERROR 46 WIPING	The wiping device is defective.	

Error message	Cause	Corrective measure
<div style="border: 1px solid black; padding: 5px; text-align: center;"> ERROR 50 MEDIA SENSE </div>	<p>The plotter has failed to detect the fabric.</p>	<p>Both edges of the set cloth are not positioned properly. If an error is displayed after setting it properly, contact your dealer or MIMAKI sales office.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> ERROR 51 Y ORIGIN </div>	<p>The plotter has failed to detect the origin.</p>	<p>Turn off the power to the plotter 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. Check the connection.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> ERROR 60 TAKE - UP UNIT 01 </div>	<p>The take-up unit error has been occurred because of sensor error. 01: Motor NONE 02: Sensor NONE 03: Sensor ERROR</p>	<p>Turn off the power to the plotter and check the connection of the cable of the take-up unit. When the same error message appears again on the LCD even if the cable is connected properly, contact your local distributor to call for service.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> ERROR 61 FEEDING UNIT 01 </div>	<p>The feeding unit error has been occurred because of sensor error. 01: Motor NONE 02: Sensor NONE 03: Sensor ERROR</p>	<p>Turn off the power to the plotter and check the connection of the cable of the feeding unit. When the same error message appears again on the LCD even if the cable is connected properly, contact your local distributor to call for service.</p>
<div style="border: 1px solid black; padding: 5px; text-align: center;"> ERROR 61 TRANSPORT BOARD </div>	<p>The transport unit board error has been occurred. The transport unit has not been connected properly.</p>	<p>Turn off the power to the plotter and check the connection of the cable of the take-up/feeding unit. When the same error message appears again on the LCD even if the cable is connected properly, contact your local distributor to call for service.</p>

Chapter 6

Ink guidance

Chapter 6 describes procedures for printing process by ink types and so on.

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Emergency measures	6.2
Printing procedures	6.3
Sublimation dye ink recipe	6.4
Textile pigment ink recipe	6.6

Emergency measures

If you get the ink on your skin or in your eyes during operation, take a emergency measures as follows and then consults a doctor as soon as possible.

Skin (In case that ink is exposed on ink)

Remove ink from skin with a soft cloth.

Wash affected skin and flush remaining ink finely with soap etc.

Eyes (In case that ink is exposed on skin)

Flush eyes immediately with plenty of water longer than 10 minutes, occasionally lifting the upper and lower.

Consult with a doctor for a medical advice.

Ingestion (In case that ink is swallowed)

Rinse out with water.

Drink a lot of water.

Consult with a doctor for a medical advice.

Inhalation

The person, whose the tracheal and windpipe is sensitive should be more careful about use of dye ink.

When you feel sick at using ink, stop use of dye ink immediately and consult with a medical doctor.

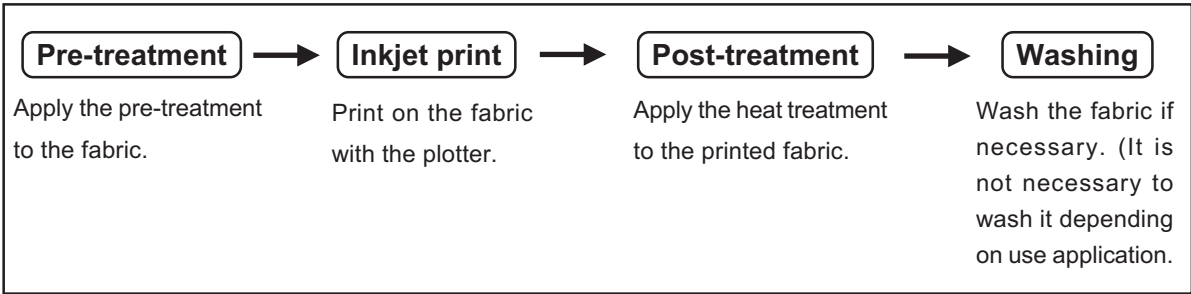
For more information or special treatment on emergency measures, consult with a doctor.

Printing procedures

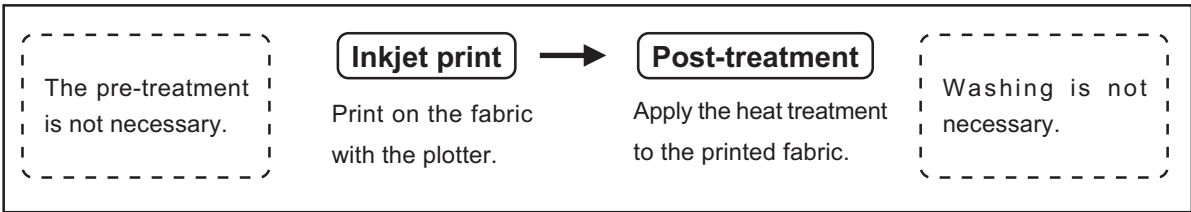
If using the sublimation dye ink, pre-treatment and post- treatment to the fabric are required to keep the high quality printing for a long time.

Printing procedures by ink type

In case of sublimation dye ink



In case of textile pigment ink



Sublimation dye ink recipe

Ink No. SPC-0370xxseries / SPC-0466xx series

Printable fabric: Polyester

- (NOTE!)** • This operation is for expert of pre-treatment process. If the unmastered operator should follow the instruction of the expert to operate pre-treatment.

Pre-treatment

Make the pre-treatment agent

Composition of pre-treatment agent

TR(N) (Dairiki Company)	600-400 g
Water	400-600 g
Total	1000 g

STEPS:

1. Mix the TR(N) with almost the same amount of water.

Apply the pre-treatment agent to the fabric

STEPS:

1. Sork the fabric in the pre-treatment agent and then dehydrate the fabric uniformly at approximately 70% pickup rate with roller.

2. Dry up the fabric at 100-130°C.

- (NOTE!)**
- This procedures is one such example. Depending on the facilities you use, or material and thickness of the fabric, adjust the ratio of material mixture.
 - When using the pre-treatment agent, be sure to wear the chemical proof gloves. Before use gloves, make sure that the gloves has registance for the chemical which you use. If not wear the gloves, it may cause damages on your skin by chemical.
 - Tentering when drying up should be operated at the basic width. In case of strong tentering, the fabric may shrink during printing and in case of weak tentering, the fabric may strech during printing.
 - Put the treated fabric in the bag to prevent moisture absorption and store in dark cold place. If the fabric color changes into yellow, print with avoiding the yellow part.

Inkjet print

Print on the pre-treated fabric with the plotter.

Post-treatment

STEPS:

- 1. Sublime the printed dye to the fabric by heat.**

In case of heat setting machine:

200°C 500 mm/minute

220°C 1000 mm/minute

In case of heater press:

180-200°C 200 mm/minute

(NOTE!)

- Depending on the facilities you use, adjust the processing temperature and processing time.

*** In case the fabric is used for textile, remove the dye and agent by washing.**

STEPS:

- 1. Sorping processing**

Put the detergent 3g into 1 liter of the hot water (80-100°C) and mix it.

(Detergent: Super Soap (Dairiki Company))

Wash the fabric for 10 minutes.

- 2. Rinse processing**

Rinse the fabric in water which is room temperature.

- 3. Drying processing**

Dry the rinsed fabric.

Textile pigment ink recipe

Ink item no. SPC-0350(K,C,M),SPC-0435Y

Printable fabric: Cotton

Pre-treatment

Pre-treatment is not necessary.

Inkjet print

Print on the pre-treated fabric with the plotter.

Post-treatment

Fix the printed pigment to the fabric by heat. Depending on the material of fabric, processing is different.

Cotton (for T-shirt):

Heater press at 160°C for 60 seconds.

Cotton broadcloth:

Heater press at 190°C for 40 seconds.

Depending on the fabric, fabric color may be changed by heat.

Test the fabric to check before using the heater press.

*** Washing processing is not necessary.**

Appendix

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

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Optional extras	A.4
Function flow chart.....	A.5

Basic specifications

Item		DS-1600	DS-1800
Printing head	Method	Piezo-electric drop on demand	
	Specification	Eight-heads (4 x 2 lines, Stagger arrangement)	
	Nozzle	Multi ink set plotting: 360 nozzles for each color	
	Printing speed	High speed plotting: 720 nozzles for each color	
Resolution		360 , 540, 720 dpi	
Drawing mode	Multi ink setting	360 x 360 dpi : 2 / 4 / 8 passes, Unidirection / bidirection 360 x 540 dpi : 3 / 6 / 12 passes, Unidirection / bidirection 360 x 720 dpi : 4 / 8 / 16 passes, Unidirection / bidirection 720 x 720 dpi : 4 / 8 / 16 passes, Unidirection / bidirection	
	High speed setting	360 x 360 dpi : 1 / 2 / 4 passes, Unidirection / bidirection 360 x 540 dpi : 3 / 6 / 12 passes, Unidirection / bidirection 360 x 720 dpi : 2 / 4 / 8 passes, Unidirection / bidirection 720 x 720 dpi : 2 / 4 / 8 passes, Unidirection / bidirection	
Ink type	Sublimation dye ink	Color (Black, Cyan, Magenta, Yellow, Light Cyan, Light Magenta)	
	Textile Pigment ink	Color (Black, Cyan, Magenta, Yellow)	
Ink set	Multi ink setting	1 cartridge per 1 color	
	High speed setting	2 cartridges per 1 color	
Delivery system of ink		Tube supplying from the ink cartridge. Displaying the remaining amount of ink is provided. INK END detection function is provided. Ink cartridge replacement method	
Capacity of ink cartridge		220 cc \pm 10 cc per cartridge (x1 or x2) About 200cc can be used for each cartridge.	
Fabric type		The following cloths are excluded. <ul style="list-style-type: none"> • Cloths which become elastic with water • Cloths with high elasticity • Curled or folded cloths 	
Max. Printing width		1620 mm	1850 mm
Fabric size (Roll fabric)*	Thickness	7.0 mm or less	
	Outside diameter	ϕ 250 mm or less	
	Roll weight	30 kg or less	
	Roll inside diameter	1.5 to 3 inch	
	Plotting surface	Plotting can be made on either side.	
	Roll end treatment	Light-adhesive tape is used to allow the paper to be removed from the core with ease.	
Margin (Roll fabric)	Left end	10 mm \pm 0.5 mm	
	Right end	10 mm \pm 0.5 mm	
Distance accuracy	Absolute accuracy	Whichever the larger one of \pm 0.5 mm or \pm 0.3 % of the designated	
	Reoroducibility	Whichever the larger one of \pm 0.5 mm or \pm 0.3% of the designated	
Perpendecularity		\pm 0.5 mm / 1000 mm	
Fabric skew		5 mm or less / 10 m (In case the fabric is aligned.)	
Head height adjustment		1.2 mm to 10 mm variable from the platen surface	
Cutting of fabric		Cutter function not provided.	
Waste ink tank		10 liter	

Item		DS-1600	DS-1800
Interface		IEEE1394, IEEE1284, USB 2.0 *1	
Command		MRL-1E (ESC/PV.1 base) Mimaki original command	
Noise during standby		Less than 56 dB (FAST-A, back and forth and around.)	
Noise during continuous printing		Less than 66 dB	
Noise during discontinuous printing		Less than 70 dB	
Power		AC 100 - 240 V $\pm 10\%$ (Auto voltage) 50/60 Hz ± 1 Hz	
Power consumption		500 W or less	
Recomended Enviroment	Temperature	15 - 30 °C	
	Humidity	35 - 65 % Rh (No condensation)	
	Accuracy-guaranteed temperature	18 - 25 °C	
	Temperature change	± 10 °C / h or less	
	Dust	Equivalent to normal office level	
Weight *2		230 kg	250 kg
Outside dimensions	Width	2750 mm	3040 mm
	Depth	710 mm (940 mm*2)	
	Height	1350 mm	

*1 : USB2.0 interface board is available as service engineer option. (Installation is done by a service engineer)

This optional board is required to purchase (OPT-J0107).

*2 : for AMF model.

Speification for ink

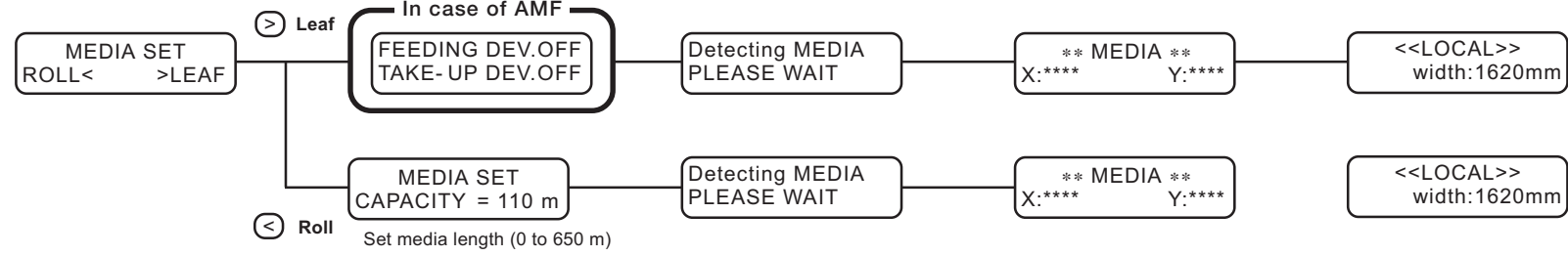
Item	Specifications (Color)
Form	Ink cartridge exclusive to the plotter.
Sublimation dye ink 220 cc per cartridge	Black ink cartridge (SPC-0370K/SPC-0466K)
	Cyan ink cartridge (SPC-0370C/SPC-0466C)
	Magenta ink cartridge (SPC-0370M/SPC-0466M)
	Yellow ink cartridge (SPC-0370Y/SPC-0466Y)
	Lightd cyan ink cartridge (SPC-0370LC/SPC-0466LC)
	Light magenta ink cartridge (SPC-0370LM/SPC-0466LM)
Textile Pigment ink 210 cc per cartridge	Black ink cartridge (SPC-0350K)
	Cyan ink cartridge (SPC-0350C)
	Magenta ink cartridge (SPC-0350M)
	Yellow ink cartridge (SPC-0435Y)
Shelf life	Two years from the data of manufacture (at room temperature) Described on the cartridge.
	Within six months after opening the package
	Within the expiration period described on the cartridge.
Storage temperature During storage:	0 to 40 °C (Storage at temperature of 40°C is permitted within a month.)
Storage temperature During shipment:	0 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.)

Optional extras

Item	Item no.	Qty.	Remarks
Ink cartridge	See the list above.		
Bemcot	BEMCOT M-3	100 pcs.	
Swab	Swab 6 wooden shaft S	10 pcs.	
Wiper	SPA-0105	4 pcs.	
Washing liquid bottle kit	SPC-0137	1 set	For routine maintenance.
Washing liquid cartridge	SPC-0188S	220 cc	Cartridge
RIP software	A101644	1 set	RasterLink Pro II
Computer installed RIP	A101645	1 set	Computer installed RasterLink Pro II
USB2.0 interface board	OPT-J0107	1 set	USB2.0 interface board 1394/USB2.0 device driver CD

Function flow chart

Setting fabric;



Origin setting;



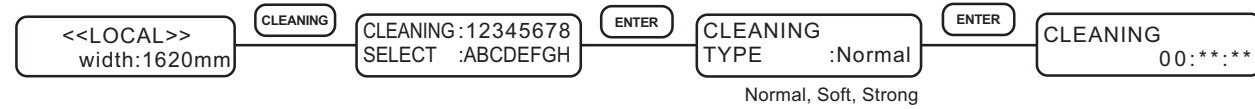
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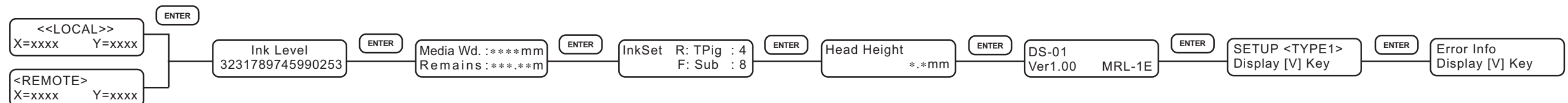
DATA CLEAR key; DATA CLEAR



CLEANING key; CLEANING

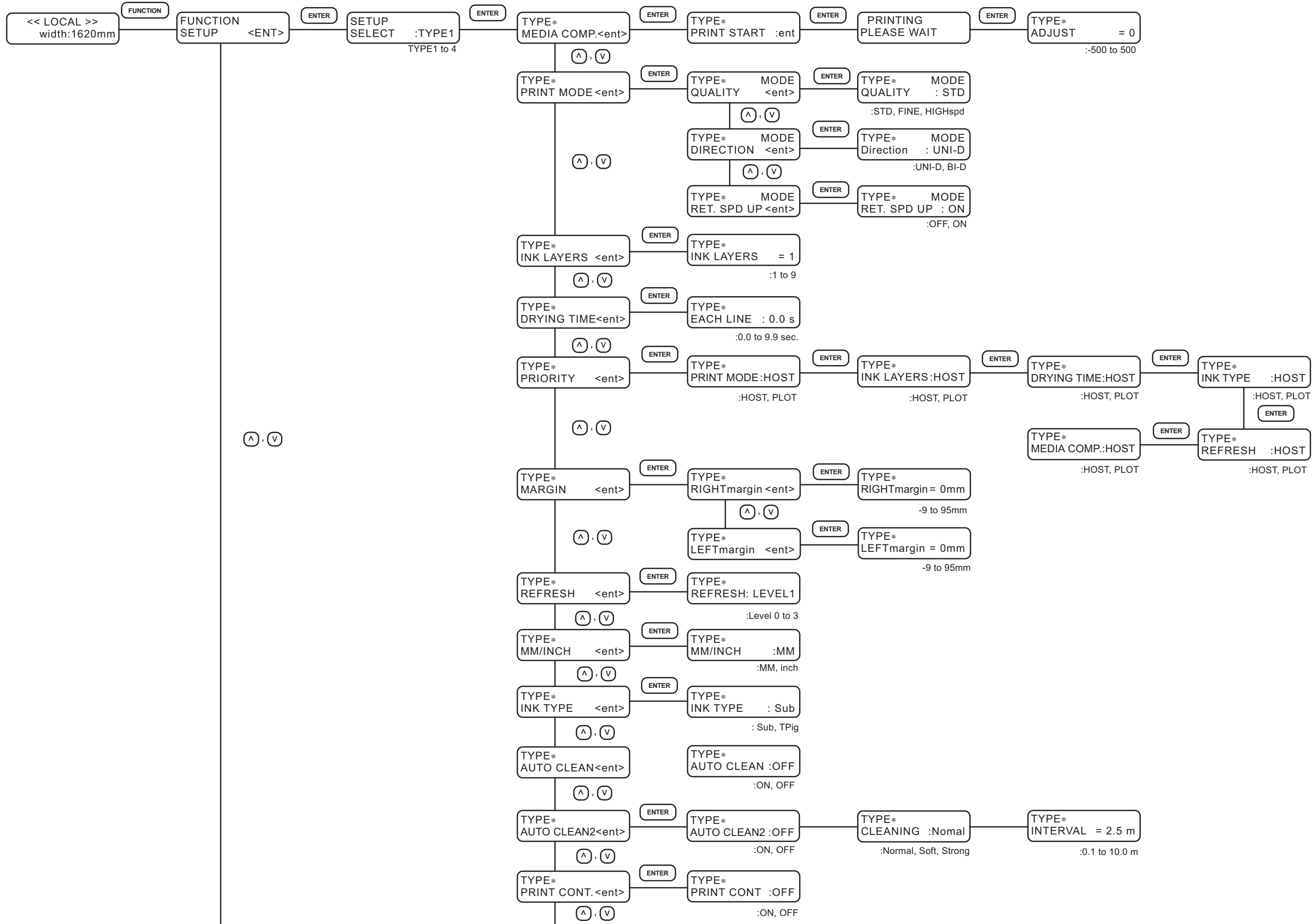


Guidance;



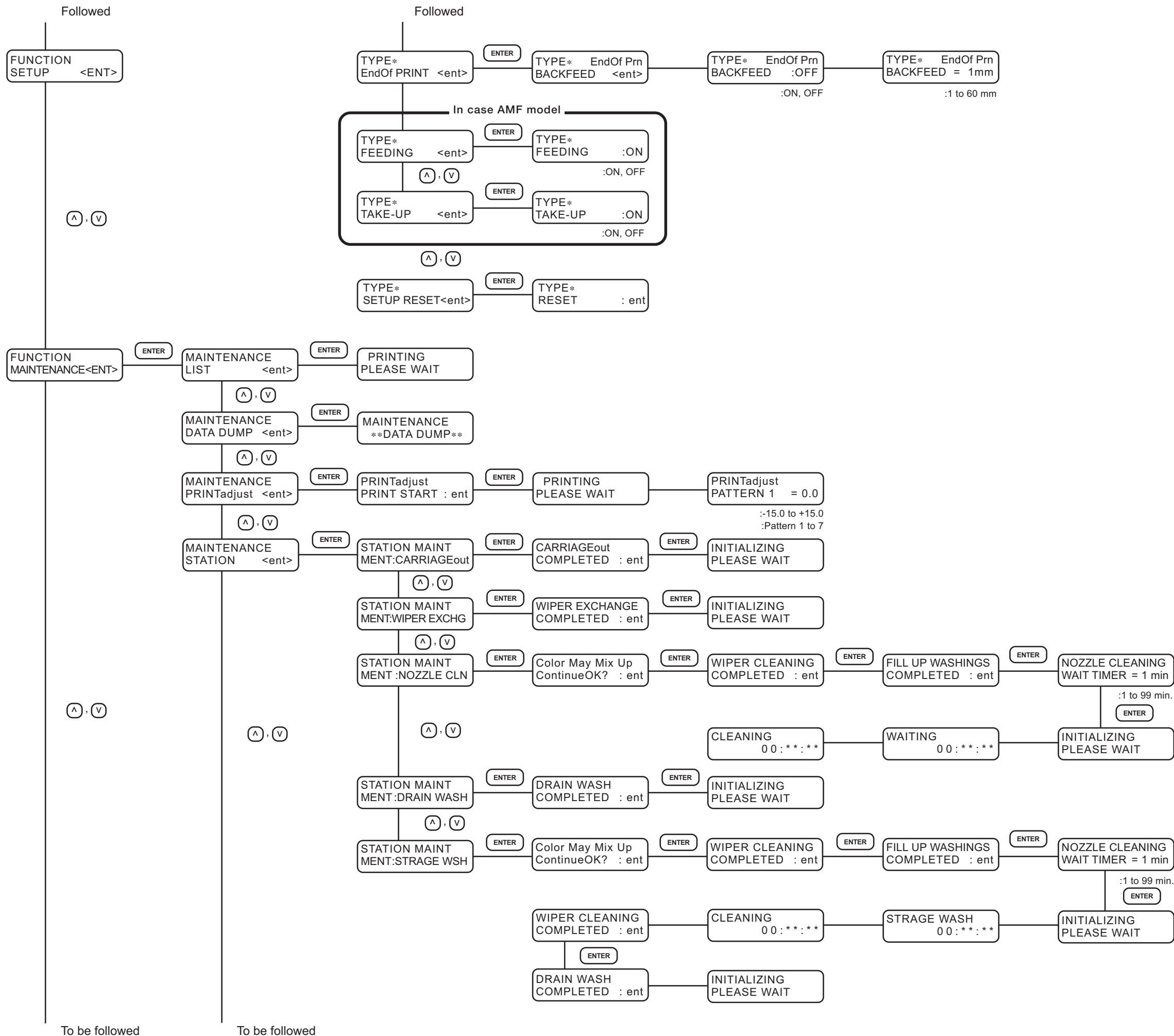
FUNCTION key;

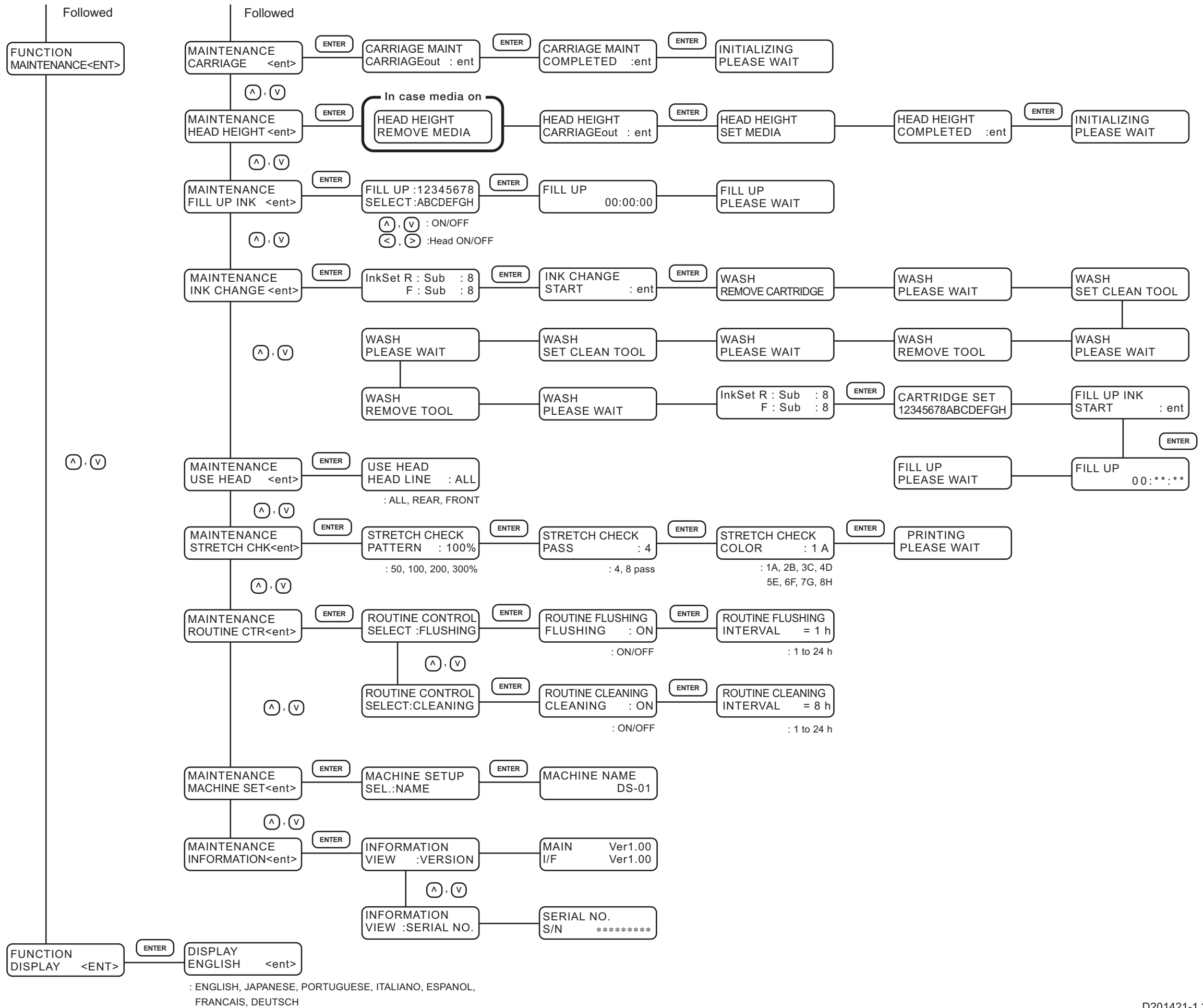
FUNCTION



To be followed

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: ENGLISH, JAPANESE, PORTUGUESE, ITALIANO, ESPANOL, FRANCAIS, DEUTSCH



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