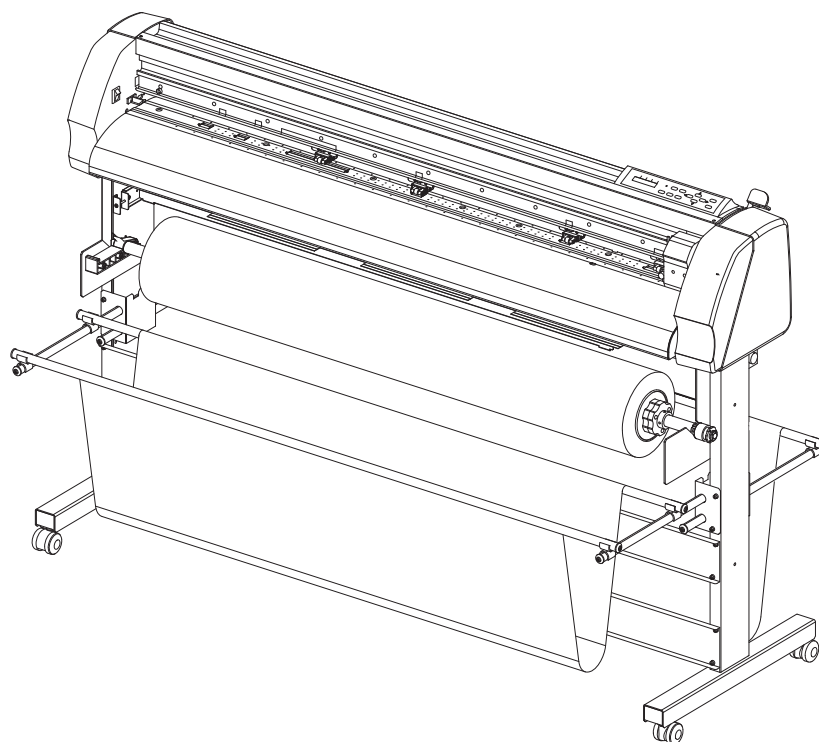


OPERATION MANUAL

APPAREL CUTTING PLOTTER

APC-130

OPERATION MANUAL



MIMAKI ENGINEERING CO., LTD.

URL: <http://mimaki.com/>

D202229-15

Original instructions

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CAUTION

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.

Requests

- This Operation manual has been carefully prepared for your easy understanding. However, please do not hesitate to contact a distributor in your district or our office if you have any inquiry.
- Description contained in this Operation manual are subject to change without notice for improvement.
- Generally, names and designations referred to in this Operation manual are trade marks or registered trade marks of the manufacturers or suppliers.

FCC Statement (USA)

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



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

Interference to televisions and radios

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

The product can interfere with radios and televisions if set up or commissioned under improper conditions.

The product is not guaranteed against any damage to specific-purpose radio and televisions.

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

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

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

Foreword

Congratulations on your purchase of an APPAREL CUTTING PLOTTER APC-130.

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

On This Operation manual












- This Operation manual describes the operation and maintenance of APPAREL CUTTING PLOTTER APC-130 (hereinafter referred to as the plotter).
- Please read and fully understand this Operation manual before putting the machine into service. It is also necessary to keep this Operation manual on hand.
- Make arrangements to deliver this Operation manual to the person in charge of the operation of this plotter.
- In the case where this Operation manual should be illegible due to destruction or lost by fire or breakage, purchase another copy of the Operation manual from our office.
- You can also download the latest operation manual from our website.

Safety Precautions







Pictorial signs

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








Example of pictorial signs

	Failure to observe the instructions given with this symbol can result in death or serious injuries to personnel. Be sure to read and observe the instructions for proper operation.
	Failure to observe the instructions given with this symbol can result in injuries to personnel or damage to property.
	This symbol indicates that the information is helpful in proper operation of the plotter.
	This symbol indicates that it is important to know of the information on proper operation of the plotter. Use this information for your operation.
	Indicates the reference page for related contents.
	The symbol “  ” indicates that the instructions must be observed as strictly as the CAUTION instructions (including DANGER and WARNING instructions). A sign representing a precaution (the sign shown at left warns of hazardous voltage) is shown in the triangle.
	The symbol “  ” indicates that the action shown is prohibited. A sign representing a prohibited action (the sign shown at left prohibits disassembly) is shown in or around the circle.
	The symbol “  ” indicates that the action shown must be taken without fail or the instructions must be observed without fail. A sign representing a particular instruction (the sign shown at left instructs to unplug the cable from the wall outlet) is shown in the circle.


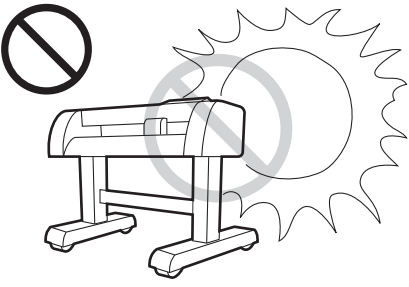
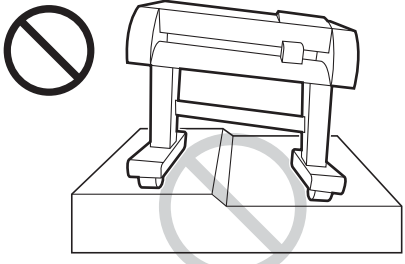
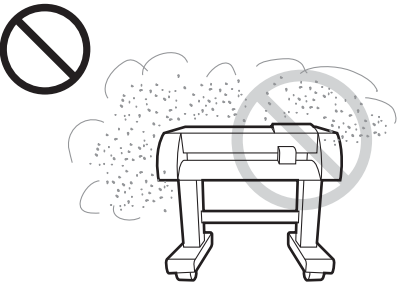
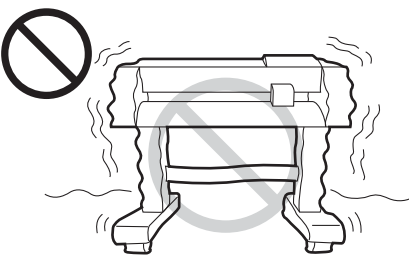
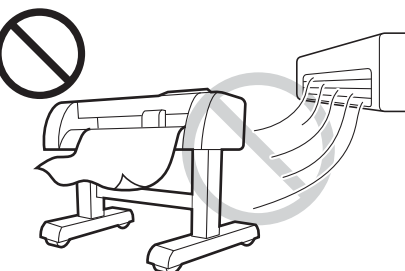
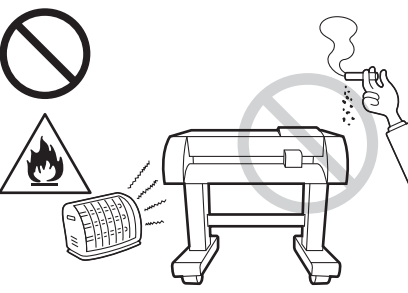


Warning for Use

 WARNING	
Do not disassemble or remodel the plotter	Avoid locating the plotter in a damp environment
 <ul style="list-style-type: none"> Never disassemble or remodel the plotter. Disassembly or remodeling can result in an electric shock or breakdown of the machine. 	 <ul style="list-style-type: none"> Do not use the plotter in a damp place. Do not splash water onto the machine. Use in such an environment can give rise to fire, electric shocks or breakdown of the plotter.
In case abnormal event occurs	Handling of the power cable
 <ul style="list-style-type: none"> Use of the plotter under an abnormal condition where the device produces smoke or strange smell can result in fire or electric shocks. If such an abnormality is found, be sure to turn off the power switch immediately and unplug the cable from the wall outlet. Check first that the plotter no longer produces smoke, and contact your distributor for repair. Never repair your plotter by yourself since it is very dangerous for you to do so. 	 <ul style="list-style-type: none"> Use the supplied power cable. Take care not to damage, break or work upon the power cable. If a heavy material is placed on the power cable, or if it is heated or pulled, the power cable can break, thus resulting in fire or electric shocks.
	 <ul style="list-style-type: none"> Plug the power cable plug into a grounded power outlet. Otherwise there is a risk of failure, electric shock, or fire. When installing electrical outlets, perform grounding work to prevent electric shock. All electrical work (Class C grounding work; formerly Type 3 grounding work) must be handled by a licensed electrician.

Precaution for Use

 CAUTION	
Be careful with the movable parts	Sheets
   <ul style="list-style-type: none"> Do not touch the rolling grit roller; otherwise, you may hurt your fingers or tear off your finger nails. Keep your head and hands away from any moving parts during cutting (plotting) operation; otherwise, you may get your hair caught in the machine or get injuries. Wear proper clothes. (Do not wear loose-fit clothes or accessories). Bind a long hair. 	 <ul style="list-style-type: none"> Use a strongly curled sheet after removing curl. Heavily curled sheet affects the cutting (plotting) result.
	Caution with cutters
	 <ul style="list-style-type: none"> Do not touch the cutter blade, which is very sharp. Do not shake or swing the cutter holder; otherwise, the blade may come off.
	Other usage precautions
	 <ul style="list-style-type: none"> Keep children away from this machine.

Cautions on Installation

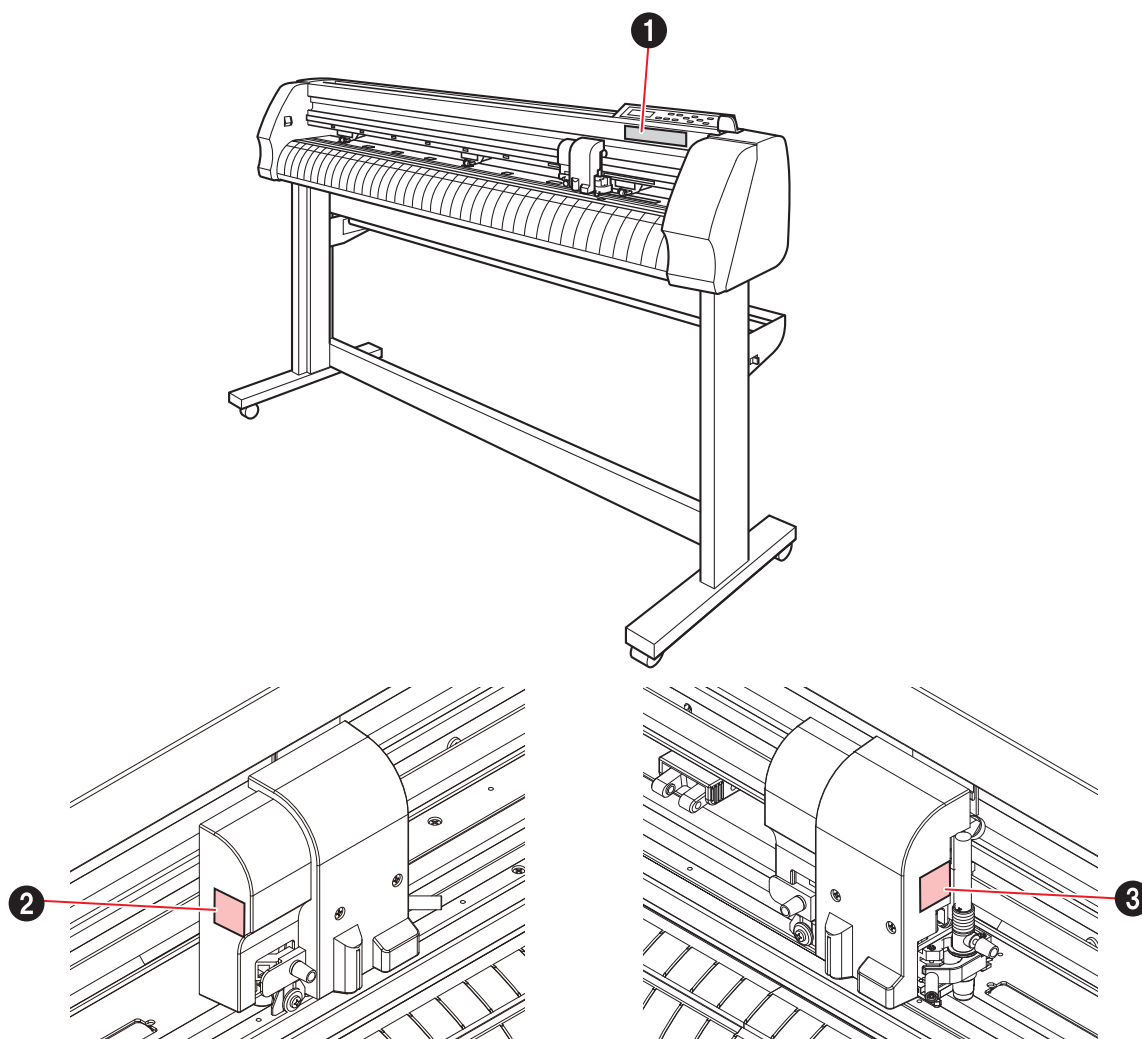
 CAUTION		
A place exposed to direct sunlight	On an inclined surface	A place gets dusty
		
A place that vibrates	A place exposed to direct air flow from an air conditioner or the like	Around a place where flame is used
		
A place where temperature or humidity varies significantly		
 <ul style="list-style-type: none"> • Use the plotter under the following environmental conditions: • Operating environment: 15 to 35 °C (Operable temperature) / 16 to 32 °C (Operable humidity) 35 to 75 % (Rh) (Accuracy assurance temperature) / 45 to 65 % (Rh) (Accuracy assurance humidity) 		
Other installation precautions		
 <ul style="list-style-type: none"> • Avoid installing this machine in locations accessible to children. 		

Warning Labels

A Warning label is stuck on the machine. The label informs the user of possible risks associated with the machine.

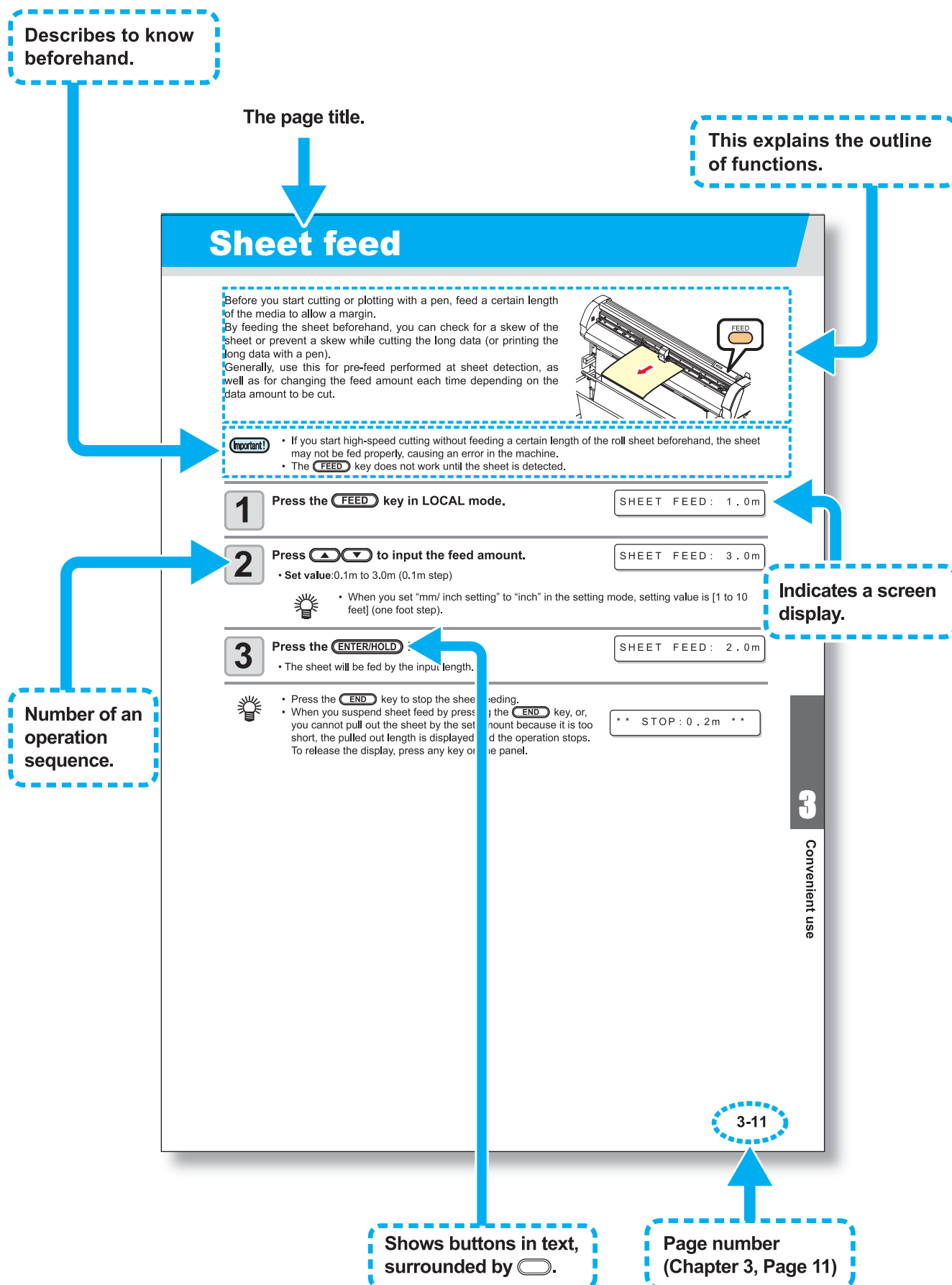
Be sure to understand the correct meaning of the Warning label to avoid danger.

If the Warning label is illegible due to stains or has come off, purchase a new one from your local distributor or our office. (Reorder: No. M904451)



No.	Order code	Label	Details
1	M904451		Be careful not to touch the cutter or grit rollers while this machine is operating. Failure to do so may result in injury.
2	M903405		Beware of the cutter.
3	M906144		Indicates hot parts.

How to Read This Operation Manual



Chapter 1

Before Use



This chapter

describes the items required to understand before use, such as the name of each part of the machine or the installation procedures.

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Installing this machine

Where to install this machine

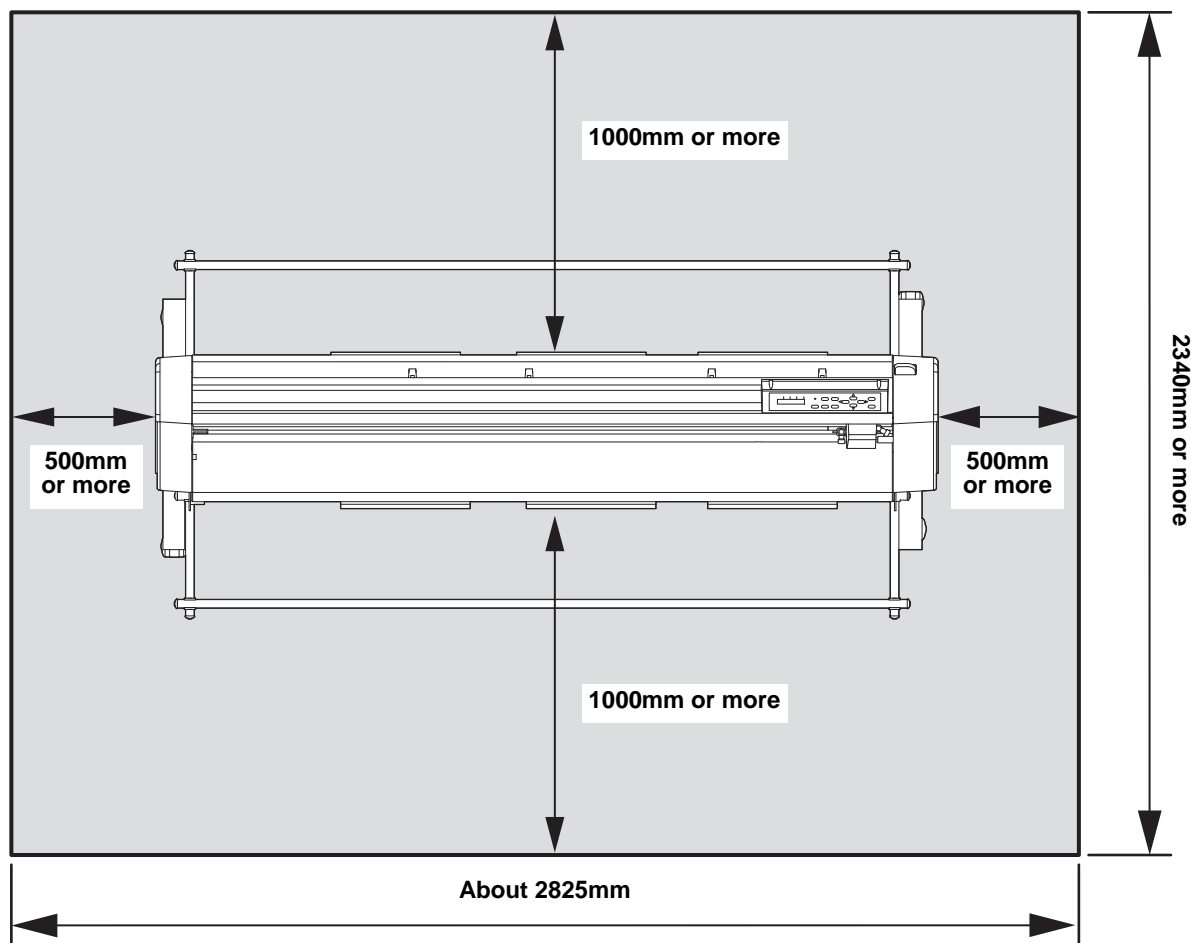
Secure a suitable installation space before assembling this machine.

The place of installation must have enough space for not only this machine itself but also for cutting operation.

Width	Depth	Height	Gross weight
1825 mm	700 to 1110 mm	1217mm	About 75 kg

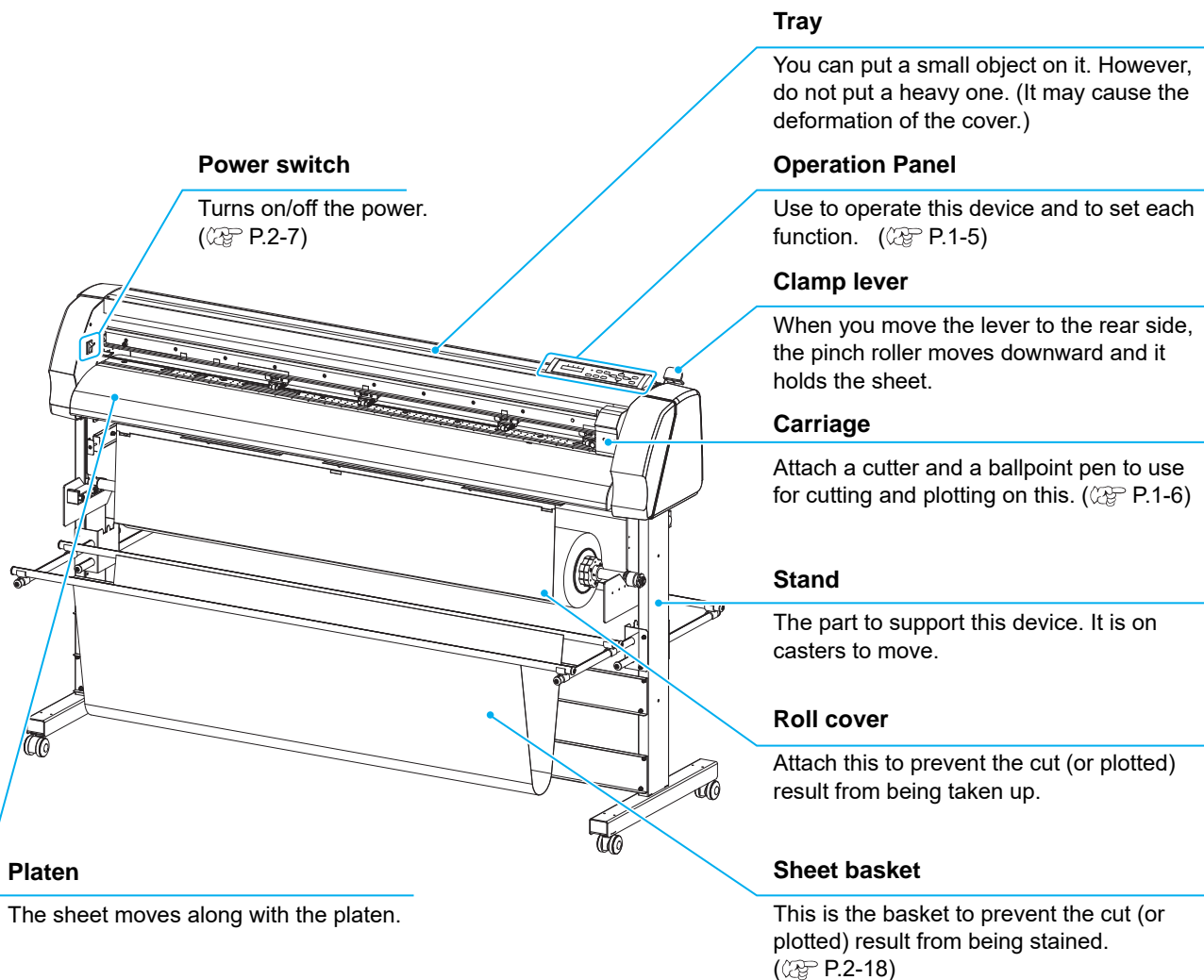


- For the installation place, also refer to “Cautions on Installation”. (P.x)



Configuration and function

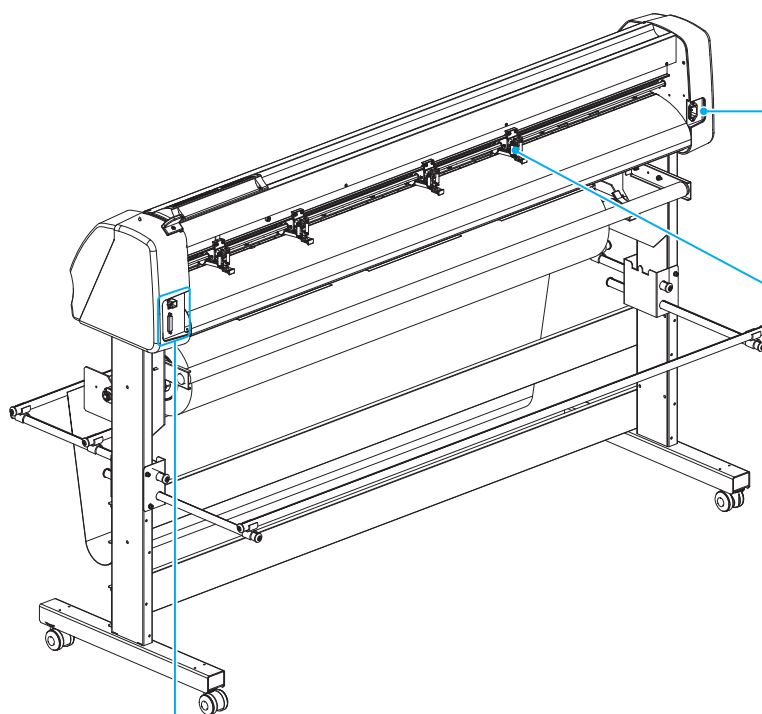
The Front



1

Before Use

The Rear



AC inlet

Connector for the plotter power cable.
(☞ P.1-11)

Clamp pressure lever

Switches the strength of the pressure to hold the sheet. (☞ P.1-7)



USB interface connector.

Connect the PC and this machine with the USB interface cable. (☞ P.1-10)



RS-232C interface connector.

Connect the PC and this machine with the RS-232C interface cable. (☞ P.1-10)

Operation Panel

The operation panel is used for each operation.

Display panel

Displays the tool conditions such as SPEED, PRESS and OFFSET, the tool coordinate, each function and the error message.

POWER lamp

When the power of this device is turned on,

DATA/CLEAR key

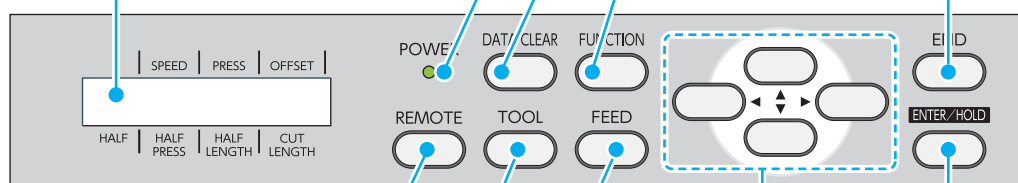
Deletes the received data. (☞ P.2-26)

FUNCTION key

Enters into each function setting menu.

END key

Use this when you cancel the value previously entered and return the setting menu to the previous layer.



REMOTE key

Switches the remote mode and the local mode. In addition, when you press this during the operation, the device stops temporarily, and if you press this again, the operation restarts. (☞ P.1-12)

TOOL key

Selects the tool and sets the tool condition.

FEED key

The machine performs its initial operation. (☞ P.3-15)

ENTER/HOLD key

Use this when you go down a layer (menu), and when you register the setting value. In addition, use when you adjust misalignment of the sheet during cutting (plotting).

Jog key

Moves the carriage and the sheet to the direction with arrow, and changes the setting value.

Jog keys

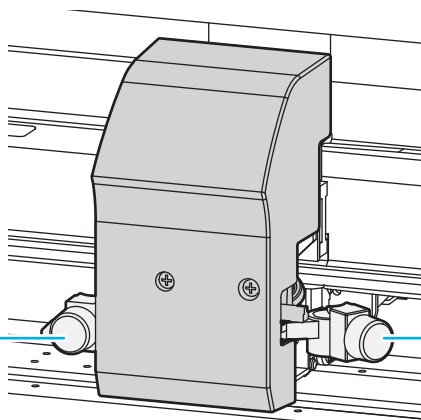
The arrow keys are used as described in the table below.

	After detection of a sheet	When selecting a function	When selecting a setting value
	Shifts the carriage to the left.		
	Shifts the carriage to the right.		
	Move the sheet toward the rear of the plotter.	Restores the previous function.	Selects the previous value.
	Move the sheet toward the front of the plotter.	Selects the next function.	Selects the next value.

Carriage

Pen holder

Fix a rollerball for plotting. (☞ P.2-5)



Tool holder

Fix a pen-type cutter for cutting. (☞ P.2-3)

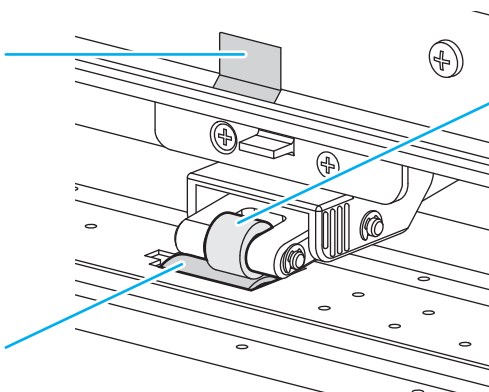
Pinch rollers and grit rollers

Align the pinch roller to the width of the sheet to be set, and move it to an appropriate position of the grit roller. Move the pinch roller guessing the “PINCH ROLLER SETTINGS” marks as the measure.

“PINCH ROLLER SETTING” mark

Grit roller

Pinch roller

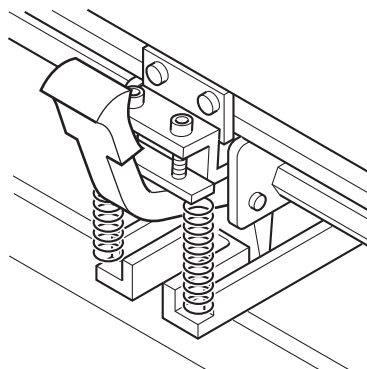


Clamp

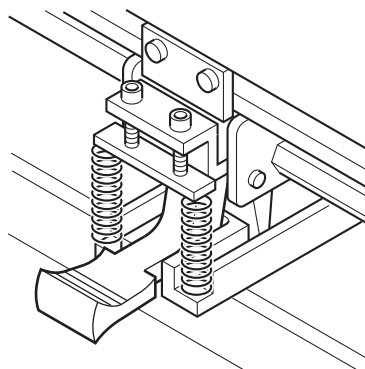
The clamp pressure can be changed in two levels using the clamp pressure lever. Select the higher or lower level of the clamp pressure that matches the sheet to be used.

Important!

- Use the clamp pressure of clamps at both sides in the same mode (refer to the table below). If you use the clamps at both sides in the different mode, it may cause misalignment of the sheet.
- It is recommended to use the mid clamp in the low mode.



High mode

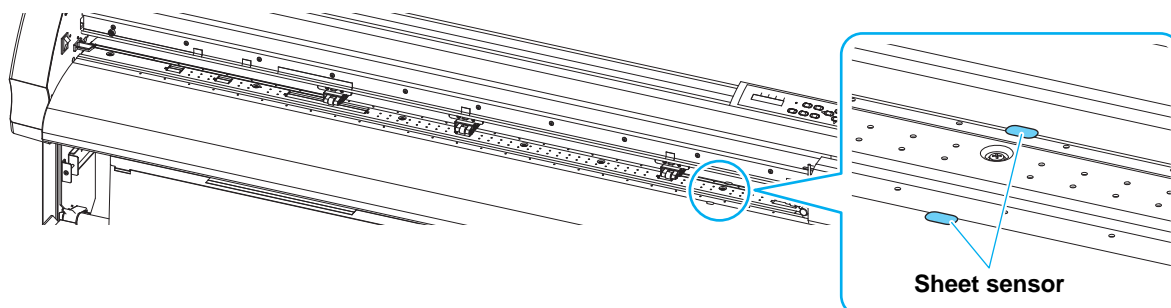


Low mode

Clamp pressure	Application
High mode	<ul style="list-style-type: none"> • When a heavy-weight sheet of media (80g/m² or more) is used.
Low mode	<ul style="list-style-type: none"> • When the impression of the pinch rollers on the sheet of media are to be minimized. <p>Important!</p> <ul style="list-style-type: none"> • The sheet may drift depending on the sheet type, feed length, or the sheet width.

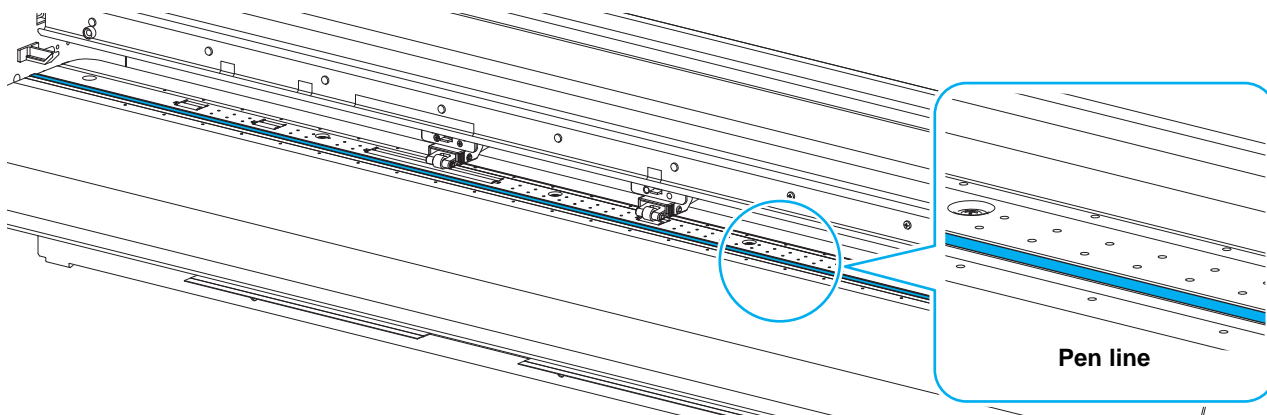
Sheet sensor

The sheet sensor detects whether there is a sheet or not and the sheet front edge. There are total of two, one is in the front and another is in the rear of the platen.



Pen line

Cutting and plotting are performed on the pen line.
The front side of the pen line is for plotting, and the rear side is for cutting.



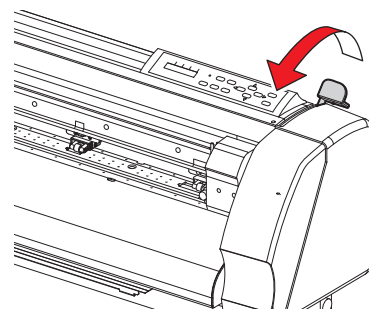
Replacing method of pen line

When you replace the pen line (Product No.: SPC-0725), follow the procedures below:

1

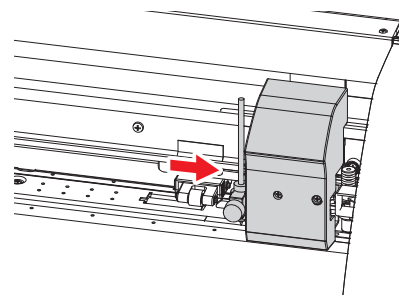
Turn the clamp lever to the front.

- The pinch roller moves upward and you can move the carriage manually.



2

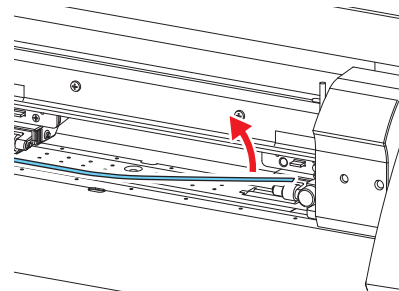
Move the carriage to the left edge (or right edge).



3

Remove the used pen line.

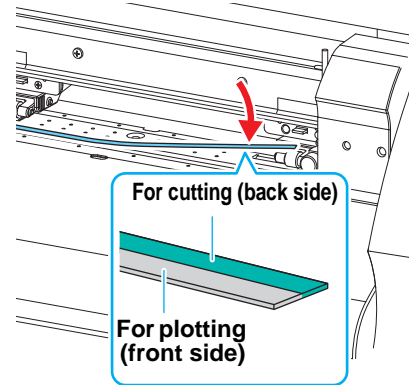
- With a flathead screwdriver etc., peel the pen line by holding it up.



4

Attach a new pen line.

- Attach a new pen line in the groove.
- The back side of the pen line is a magnet. Making the magnet side back, insert it into the groove.
- The pen line is both for cutting (green brush part) and for plotting. Be sure to make the part for cutting (green part) back side and attach it.

**Important!**

- Be sure to attach the pen line so that the green part may come to the back side of the device. If you attach in the reverse direction, cutting and plotting quality may be degraded.
- After attaching the pen line, check that there is no floating part. If the pen line floats, the carriage or the sheet may hit it, and it may cause the device breakdown or the sheet jam.

Connecting Cables

Connecting Interface Cable

Connect the computer and this machine with the interface cable.

You can select the connection method from USB and RS-232C. Select it according to your host computer.



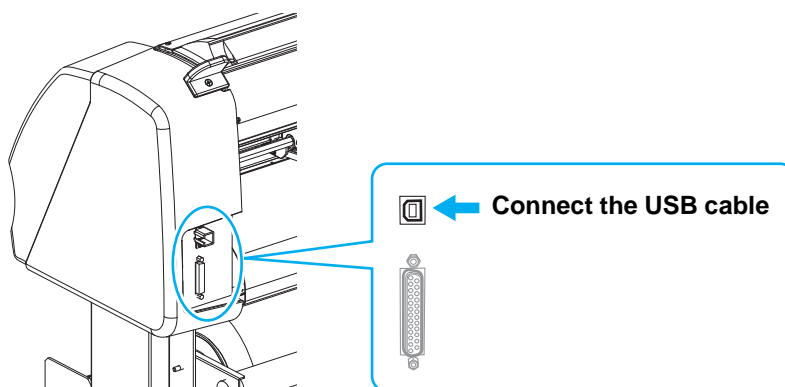
- It is required to set the communication condition according to the interface to be used.
- Connect or disconnect the connectors carefully. Applying undue force to a connector may damage the connector.

Connecting USB Interface Cable

When you connect with USB interface, it is necessary to install the “USB driver” and the “Mimaki Port Monitor” included in the attached manual CD.



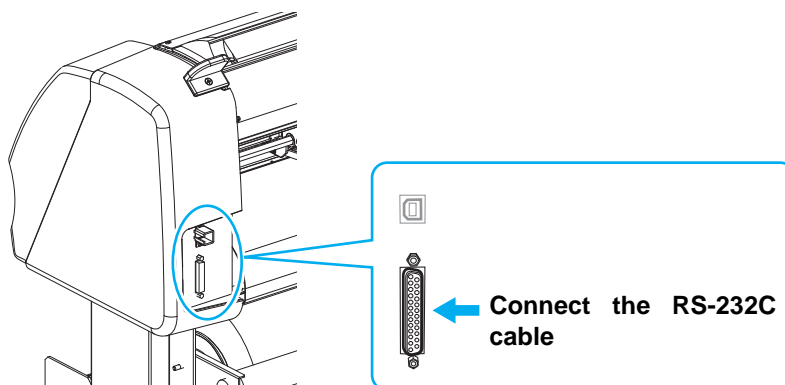
- For the “USB driver” and the “Mimaki Port Monitor”, insert the attached manual CD into the host computer, and then click “USB driver setup” and “Mimaki Port Monitor setup” to install them.



- Do not plug in or unplug any cable during data transferring.
- Follow the instructions on the LCD if the wizard is displayed when connecting the USB cable.

Connecting RS-232C Interface Cable

Connect the host computer and this machine with the RS-232C interface cable.



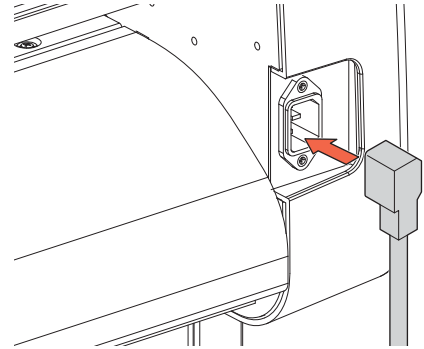
- When connecting the cables, turn off first the power to the device and that to the host computer which the power cable is to be connected.
- Do not plug in or unplug any cable during data transferring.

Connecting the power cable

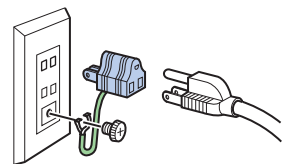
After connecting the interface cable, you must connect the power cable.

Connect the power cable with the plug outlet of the following power specifications.

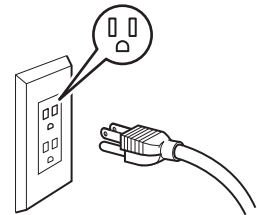
- Voltage AC100 to 240V \pm 10%
- Frequency 50/60Hz \pm 1%
- Capacity 100W or more (Equivalent of 2A)



- Regarding the use of two polar plug outlet, you must connect the auxiliary ground adapter to the plug of power cable. Earth the green wire (ground wire) of the ground adapter. If you cannot, consult with an electrician.



- Be sure to connect the ground wire. Using without the ground wire causes the damage of this device and electric shock that may be very dangerous.



Menu mode

This plotter is provided with the following four modes:

NOT-READY mode

The plotter is in this mode until the sheet is detected. The keys other than the **REMOTE** key are effective.

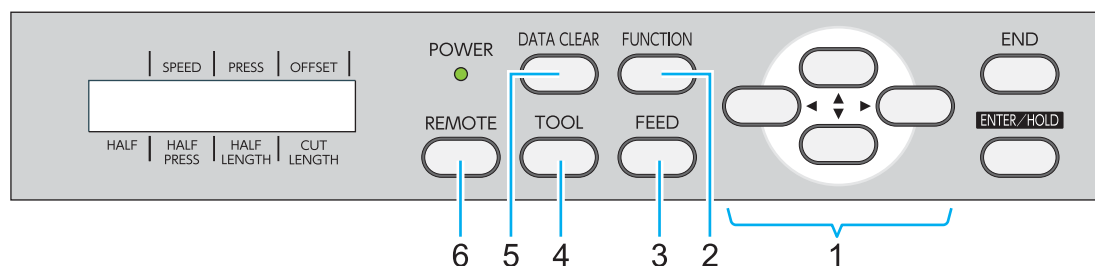
LOCAL mode

The plotter enters this mode after the sheet detection.

All the keys are effective.

The plotter can receive data from the computer. However, it will not perform cutting (plotting).

This mode permits the following operations:



- (1) Pressing the appropriate JOG keys to move the sheet or carriage little by little or set the origin.
- (2) Pressing the **FUNCTION** key to set functions.
- (3) Pressing the **FEED** key to feed the sheet by the length to be used.
- (4) Pressing the **TOOL** key to select a tool or set the tool conditions.
- (5) **DATA CLEAR** Erase the drawing data that this machine has received with the key.
- (6) Pressing the **REMOTE** key to make the plotter enter the REMOTE mode.

REMOTE mode

The plotter performs cutting (plotting) according to the received data.

Cutting can be interrupted by pressing the **REMOTE** key.

FUNCTION mode

To set the FUNCTION mode, press the **FUNCTION** key when the plotter is in the LOCAL mode.
Set various cutting (plotting) conditions in this mode.

Chapter 2

Basic Operations



This chapter

describes the procedures and settings ranging from tool installation to cutting (plotting) operation.

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Operation Flow

1

Installing a tool

See “Installing a tool” (👉 P.2-3).

2

Turning the power on

See “Turning the power on” (👉 P.2-7).

3

About Tool Conditions

See “About Tool Conditions” (👉 P.2-8).

4

Installing a Roll Sheet

See “Installing a Roll Sheet” (👉 P.2-12).

5

Test Cutting

See “Test Cutting” (👉 P.2-22).

6

Cutting (plotting)

See “Cutting (plotting)” (👉 P.2-23).

7

Turning the power off

See “Turning the power off” (👉 P.2-7).

Installing a tool

For this device, attach both of a cutter to cut patterns and a pen (a rollerball) to plot characters.

How to install a cutter



- **Do not touch the cutter blade, which is very sharp.**
The sharp blade edge of the cutter may cause you to get injured.
- **After you set the cutter, do not shake the cutter holder.**
Otherwise, the blade edge may pop out, causing you to get injured.
- **Store the cutter blade in a place that is out of the reach of children. In addition, dispose of used cutter blades according to regional laws and regulations.**

Mounting a Cutter Blade

Mount the cutter blade (SPB-0082) on the cutter holder.

1

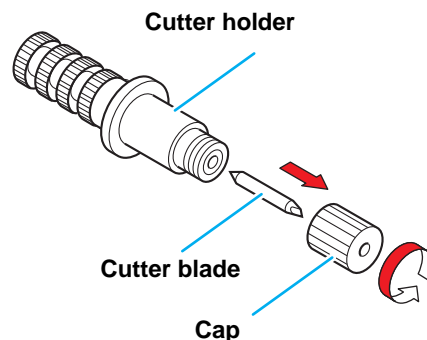
Loosen the cutter holder cap.

2

Hold the cutter with a pair of tweezers etc. and put it into the cutter holder.

3

Tighten the cap of the cutter holder.



Adjusting the protrusion of the cutter blade

Adjust the cutter blade according to the types of the cutters and the sheet for use.

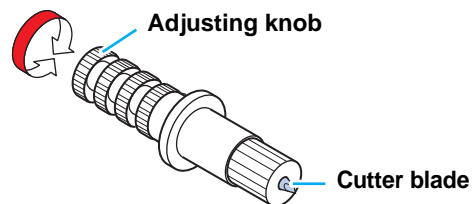
After adjusting the protrusion of the cutter blade, set the cutting conditions and conduct test cutting to check the cutting quality.

You can adjust the cutter blade protruding amount with the attached cutter holder on the pen carriage.

1

Turn the adjusting knob to adjust the protruding amount of the cutter blade.

- When you revolve the adjusting knob clockwise, the blade comes out. (0.5 mm per revolution)
- Adjust the protruding amount of the cutter blade by using sheet thickness + 0.3mm as reference.



2

Basic Operations

How to install the cutter holder

Attach the cutter holder on the tool holder of the carriage.

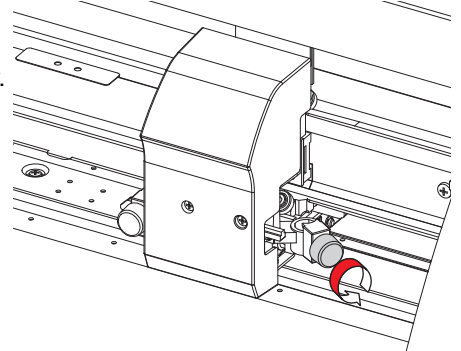
Important!

- Install the cutter holder to the tool holder of the carriage. Be sure to insert the cutter holder all the way in the tool holder.

1

Rotate the knob to loosen the holder presser.

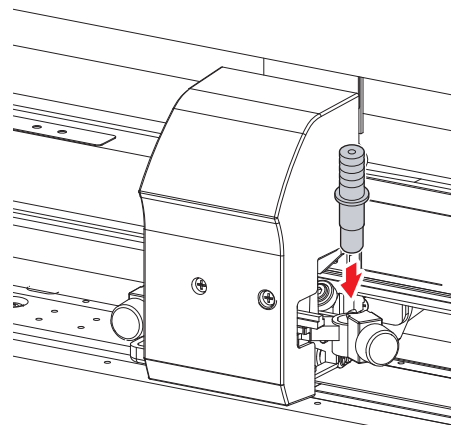
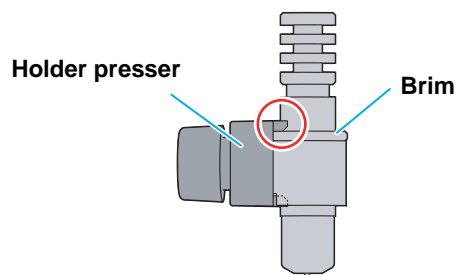
- Rotate the knob counterclockwise to loosen the holder presser.



2

Insert the cutter holder into the tool holder.

- Push the brim of the cutter holder against the tool holder.
- Press the brim of the cutter holder with the I holder presser.



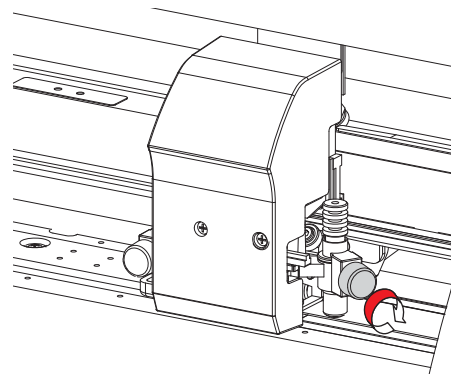
3

Fix the cutter holder.

- Turn the knob of the tool holder clockwise, and surely fix it.

Important!

- Fix the cutter holder firmly. If not, accurate and high-quality cutting (plotting) will not be achieved.



How to install a ballpoint pen

1

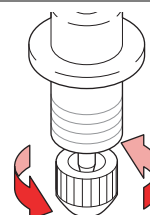
Insert a spring into the pen tip.



2

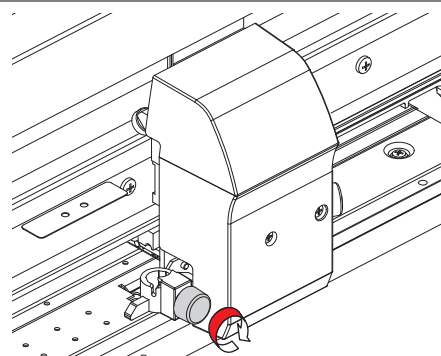
While pressing the cap onto the spring, attach it on the pen adapter.

- Rotate the cap to the direction indicated with an arrow and attach it on the pen adapter.



3

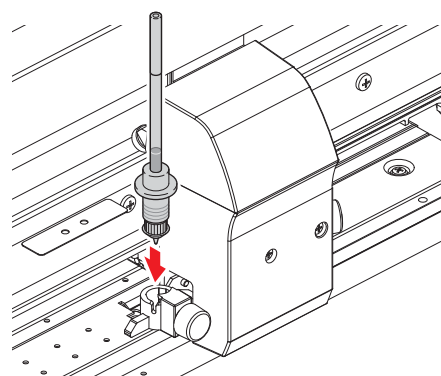
Rotate the knob to loosen the holder presser.



4

Insert the pen adapter with the pen into the tool holder.

- Make sure that the brim of the pen adapter is rested on the tool holder.
- Set the adapter in such a way that the fixing screw will not obstruct operation.
- Press the brim of the pen adapter with the holder presser.



5

Fix the tool.

- Rotate the knob clockwise to fix firmly.

2

Basic Operations



- When you replace the ballpoint pen (SPC-0726), contact a distributor in your district or our office to call for service
- Ballpoint pens are available in standard aqueous and optional pressurized models.

Product Name	Product No.	Characteristics
Refill for aqueous ballpoint pen	SPC-0726	<ul style="list-style-type: none"> • Optimal pen pressure: 60 to 80 g • Ink seeps to the tip of the pen after a certain time has passed, which causes ink to drip easily at the start of plotting. • Weak pen pressure readily results in blurring.
Holder for aqueous ballpoint pen	SPA-0183	
Refill for pressurized ballpoint pen	SPC-0815	<ul style="list-style-type: none"> • Optimal pen pressure: 100 to 120 g • High pen pressure makes it incompatible with thin paper. • Ink does not leak even if the pen is left for a long time, which prevents ink dripping. • High pen pressure allows the pen to draw darker lines.
Holder for pressurized ballpoint pen ^{*1}	SPA-0288	

*1. For adaptation, specifications, and a method of mounting Holder for pressurized ballpoint pen (SPA-0288), the instructions that are refer to the Holder for pressurized ballpoint pen.

Turning the Power ON/OFF

Turning the power on

Important!

- Before turning the power on, check that the pinch rollers have been raised.
- Be sure to turn on the host computer before turning on the plotter. If this order is not correctly followed, the plotter can malfunction.
- Once the power is turned off, wait at least five seconds before turning the power on again.

1

Press the “|” side of the power switch.

- When the plotter is turned on, it will enter the first operation mode, which are followed by the subsequent modes. Refer to P.1-12 for the operation modes.

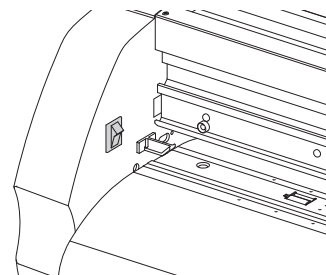
2

The POWER lamp is lit in green and the fan for sheet suction rotates.

3

Check the receiving buffer.

- Then, the conditions for the currently selected tool appears on the display.



Turning the power off

When plotting is completed, press the “O” side of the power switch to turn the power off. Before turning off the power, check that no data has been received.

1

Confirm that the plotter is not receiving any data.

- Make sure that the display is indicating REMOTE mode or LOCAL mode.

Display in local

CUT 1 20 050 0.30

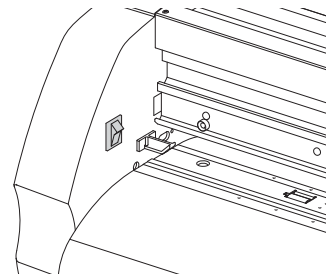
Display in remote

CUT 1 * REMOTE *

2

Press the “O” side of the power switch.

- The POWER lamp on the operation panel turns off.



Important!

- Turn on the power again after five sec. and more have passed when you turned it off once.
- While the setting value such as tool condition has been saved, the message on the right is displayed on the screen. Do not turn off the power while the message has been displayed. If the setting value such as tool condition has not been saved normally, the setting value returns to the factory default when turning on the power next time.

F - ROM WRITING

2


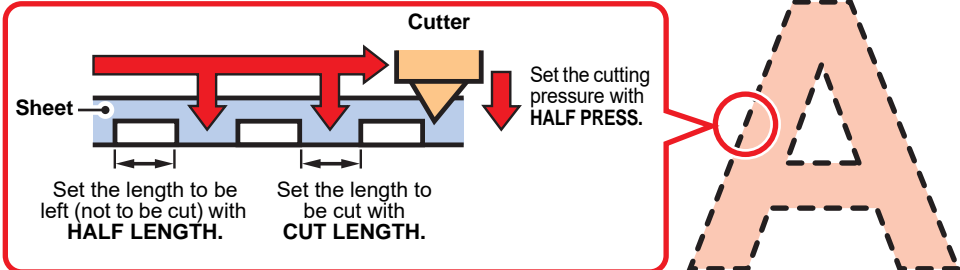
Basic Operations

About Tool Conditions

You can register the cutting speed and the pressure depending on the sheet or the tool type to be used. (Tool condition)

Kinds of the Tool Conditions

A tool condition consists of cutting conditions (CUT1 to CUT7), printing-with-a-pen condition (PEN).

Kinds	Description
Cutting Condition (CUT1 to 7)	<p>This is a tool condition when a cutter is used.</p> <div> <div> <div>When you press the  key, it moves to the half cut condition.</div> <div> <div> <div>CUT *</div> <div>SPEED 2 0</div> <div>PRESS 0 5 0</div> <div>OFFSET 0 . 3 0</div> </div> <div> <div>OFF</div> <div>HALF</div> </div> <div> <div>0 0</div> <div>HALF PRESS</div> </div> <div> <div>1 . 0</div> <div>HALF LENGTH</div> </div> <div> <div>1 0 0</div> <div>CUT LENGTH</div> </div> </div> <div> <div> <div>OFFSET</div> <div>The distance from the center of the cutter holder to the cutter blade. (mm)</div> </div> <div> <div>PRESS</div> <div>The pressure required for cutting. (g)</div> </div> <div> <div>SPEED</div> <div>The speed of cutting.</div> </div> <div> <div>CUT LENGTH</div> <div>Length to be cut. (mm)</div> </div> <div> <div>HALF LENGTH</div> <div>Length to be left (not to be cut). (mm)</div> </div> <div> <div>HALF PRESS</div> <div>Pressure of left part. (g)</div> </div> <div> <div>HALF</div> <div>Valid (ON) or invalid (OFF) of half cut.</div> </div> </div> <p>Cutting condition No.(1 to 7)</p> </div></div>
	<h3>About Half Cutting</h3> <p>You can cut on the dotted line, not to cut sheet out. (Half cut) When you set half cut to valid (ON), you can use the half cut function.</p> <div>  <p>Set the cutting pressure with HALF PRESS.</p> </div> <p>Important! • The illustration above is the image. The shape of cut surface differs depending on the cutting conditions.</p>
Plotting Condition (PEN)	<p>This is a tool condition when the pen is used.</p> <div> <div> <div>SPEED 4 0</div> <div>PRESS 0 6 0</div> <div>OFFSET</div> </div> <div> <div>PEN</div> </div> </div> <div> <div>PRESS</div> <div>The pressure required for plotting. (g)</div> </div> <div> <div>SPEED</div> <div>The speed of plotting.</div> </div>

Select the tool condition

Before cutting (plotting), select the tool condition depending on the sheet and the tool type to be used.

1

Press the **TOOL** key in LOCAL mode.

CUT 1 20 050 0.30

2

Press the **TOOL** key to select a tool condition to be used.

- Each time you press the **TOOL** key, the tool condition is switched as follows.

→ CUT 1 to 7 → PEN →

3

Cutting (plotting). (☞ P.2-23)

Set the Tool Conditions

Set the condition to cut or to plot with a pen.

Setting contents of cutting condition (CUT1 to 7) : Cut speed (SPEED)/ cut pressure (PRESS)/ OFFSET value/ Half cut

Setting contents of plotting condition (PEN) : Plotting speed (SPEED)/ pen pressure (PRESS)

1

Press the **TOOL** key in LOCAL mode.

CUT 1 20 050 0.30

2

Press **TOOL** the key to select a tool condition to be set.

CUT 2 20 050 0.30

3

Press **▲** **▼** to set the cutting (plotting) speed.

- Set the moving speed of the tool for cutting or pen plotting.
- Setting values** : 1 to 10cm/s (settable by 1cm/s step)
15 to 60cm/s (settable by 5cm/s step)

CUT 2 50 050 0.30

4

Press **▶** to move the cursor to cutting (plotting) pressure (PRESS).

CUT 2 50 050 0.30

5

Press **▲** **▼** to set the cutting (plotting) pressure.

- Set the pressure that the tool presses the sheet for cutting or pen plotting.
- Setting values** : 10 to 20g (settable by 2g step)
25 to 100g (settable by 5g step)
110 to 500g (settable by 10g step)

CUT 2 20 080 0.30



- When the cutting (plotting) pressure setting is completed, proceed to the setting of the OFFSET value. When you set the plotting condition (PEN), you cannot set the OFFSET value and half cut. Proceed to the Step 16.
- The maximum pressure at selecting PEN is 150g.

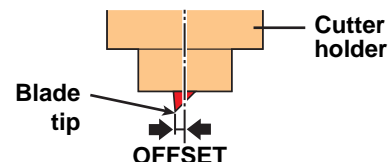
6

Press  to move the cursor to OFFSET.CUT2 20 080 0.3**0**

7

Press   to set the offset value .CUT2 20 080 0.3**5**

- When you set the cutting condition (CUT1 to 7), set the distance between the center of the cutter holder and the blade tip.
- **Setting values** : 0.00 to 2.50mm (settable by 0.05mm step)



8

Press  to move the cursor to half cut ON/OFF.**0**FF 00 1.0 100

9

Press   to set ON/OFF .**0**N 00 1.0 100

- When you perform half cut, select ON and proceed to the Step 10.
- When you do not want to set AUTO CUT, select "OFF" and proceed to Step 16.

10


Press  to move the cursor to pressure setting of left part (not to be cut).ON 0**0** 1.0 100

11



Press   to set pressure .ON 0**0** 1.0 100

- Set the pressure of the left part (not to be cut) when performing half cut.
- **Setting values** : 0g to 80g (settable by 5g step)

12


Press  key to move the cursor to the setting of length to be left.ON 00 1.**0** 100

13

Press   to move the cursor to the setting of length to be left.ON 00 2.**0** 100

- Set the length to be left not to be cut when performing half cut.
- **Setting values** : 1 to 5mm (settable by 0.5mm step)

14

Press  to move the cursor to the setting of cut length.ON 00 2.0 10**0**

15

Press   to set the cut length.ON 00 2.0 15**0**

- Set the length to be cut when performing half cut.
- **Setting values** : 10 to 150mm (settable by 5mm step)

16

Press the **ENTER/HOLD** key to register the set contents.

- Return to the local mode.

Important!

- The set value is retained even when the power is turned "OFF".

Reference for cutting condition

Depending on the sheet type to be used, it is required to change the setting value of the cutting condition. Below is the reference for the cutting condition.

Important!

- The setting value in the table is the "reference" for the cutting condition. After setting each setting value of the cutting condition, be sure to perform test cutting. (P.2-22)

		Thin paper	Standard paper	Thick paper
Cut condition	Sheet thickness (g/m ²)	64 to 80 g/m ²	80 to 120 g/m ²	120 to 180 g/m ²
	Cutter blade	SPB-0082		
	Cutter blade protruding amount	0.2 to 0.3 mm	0.3 to 0.4 mm	0.4 to 0.5 mm
	Cutting speed (SPEED)	20 cm/s		
	Cutting pressure (PRESS)	40 to 60 g	60 to 100 g	100 to 150 g
	OFFSET	0.3 mm		
	HALF PRESS	-10 g	-10 g	0 g
	HALF LENGTH	1.5 mm	1.5 mm	2.0 mm
	CUT LENGTH	30 mm		
PEN	Plotting speed (SPEED)	40 cm/s	50 cm/s	60 cm/s
	Plotting pressure (PRESS)	40 to 50 g	50 to 60 g	60 to 70 g
Other settings	Sheet type	Standard		
	Pinch roller	Low/Low/Low/Low	High/Low/Low/High	High/Low/Low/High
	Feed count	3	3	1
	Waiting time	300 sec.	180 sec.	60 sec.

2

Basic Operations

Installing a Roll Sheet

About Roll Sheet

Usable sheet sizes and notes for handling are described.

Usable Sizes of Sheet

Type of recommended sheet	Pattern for apparel product
Maximum width	1400mm
Minimum width	890mm
Maximum cut range	1240mm × 3000mm
Thickness	64 to 180g/m ²
Roll outside diameter	200mm or less
Roll weight	About 20kg
Roll inside diameter	3 inch
Cut (plot) side	Roll exterior surface

Caution in Handling of Sheet

Pay attention to the followings for handling of sheet.

Important!

- **Use a new roll sheet whose edge surface is even.**
If you use one whose edge surface is not even, sheet misalignment occurs in use or it may cause degradation of the cutting (plotting) quality.
- **Do not use a roll sheet with fold lines or scratches.**
It may cause sheet misalignment or sheet jam during cutting (plotting).
- **Pay attention to the expansion and contraction of the sheet.**
The sheet can be affected by the room temperature and humidity, and thus it may expand and contract. First, use the pre-feed function and acclimate the sheet to the work environment enough. Then, perform cutting (plotting).
- You cannot use a sheet which is left over (a piece of cut paper).
- When setting a roll sheet, work by two or more people. Otherwise, you may hurt your back by the weight of the roll sheet.

Set a roll sheet

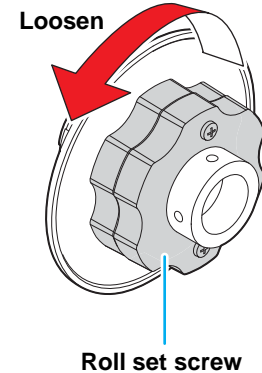
1

Insert the roll holder (one) into the roll bar.

(1) Loosen the roll set screw of the roll holder.

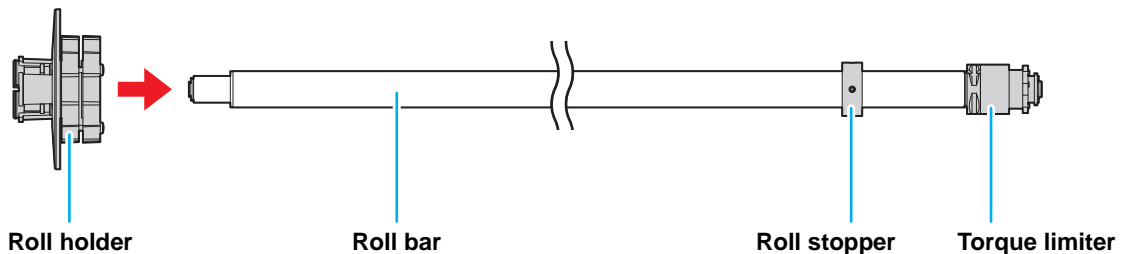
Important!

- Be careful not to loosen the roll set screw too much. If you loosen it too much, the roll holder may be broken down.



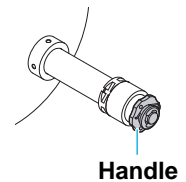
(2) Insert it into the roll bar as indicated.

- Insert the roll holder from the part without the torque limiter.
- Insert the roll holder until it hits the roll stopper.



Important!

- Do not rotate the handle attached on the torque limiter. The torque limiter is set to the best status at the factory. If you change the adjusting value by rotating the handle, it may cause sheet jam etc.

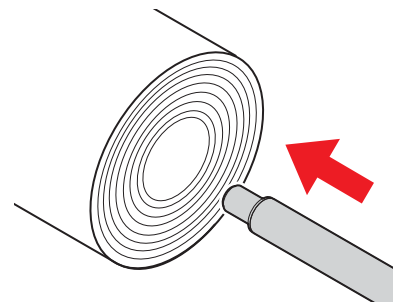
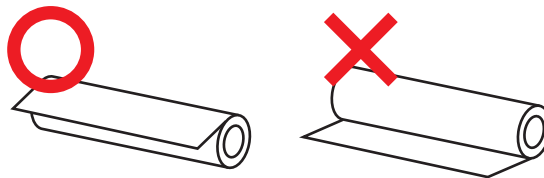


2

Insert the roll bar into the roll sheet.

Important!

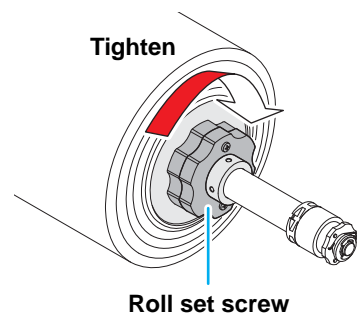
- Be sure to orient the roll sheet correctly.



3

Insert the roll holder into the paper core of the roll sheet and tighten the roll set screw.

- Insert it firmly so that the paper core may not move during cutting (plotting).



2

Basic Operations

4

Put another roll holder into the roll bar through, and fix the roll sheet.

(1) Loosen the roll set screw of another roll holder.

Important!

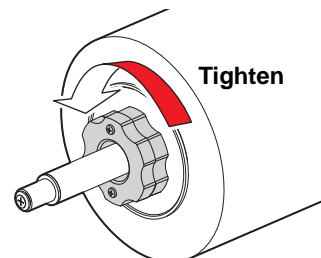
- Be careful not to loosen the roll set screw too much. If you loosen it too much, the roll holder may be broken down.

(2) Insert the roll holder into the paper core of the roll sheet and tighten the roll set screw.

- Insert it firmly so that the paper core may not move during cutting (plotting).

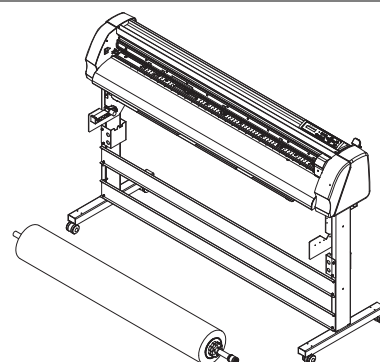
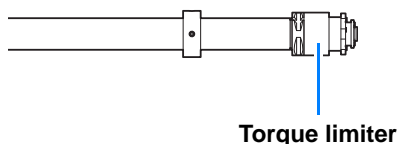
Important!

- Check that the roll sheet does not move.
- If the roll sheet goes around, use the attached roll handle and insert firmly.



5

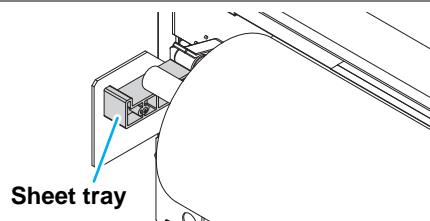
Making the torque limiter side of the roll bar with sheet to the right side, arrange it in the front side of this device.



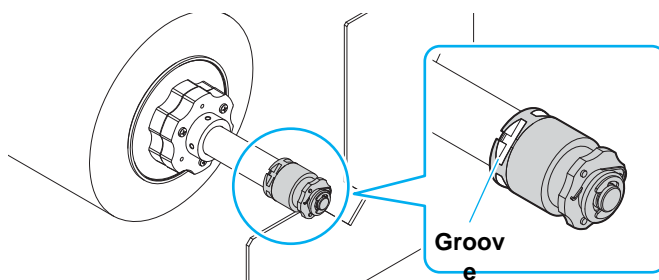
6

Attach the roll sheet on this device.

(1) Put the left side of the roll bar on the sheet tray.



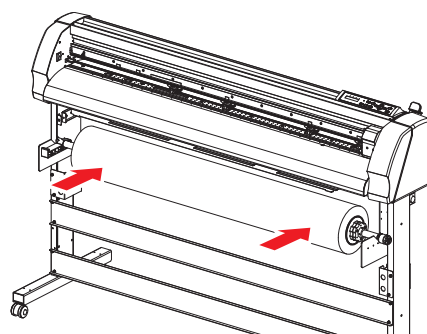
(2) Align the groove of torque limiter part on the right side of the roll bar with the sheet holder.



(3) Push the roll sheet to the rear slowly to set it.

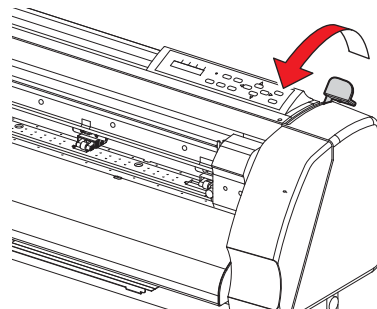
Important!

- If you push the roll sheet fast and furious, the roll sheet may fall off from the sheet tray and it may cause injury. Therefore, be sure to set it slowly.

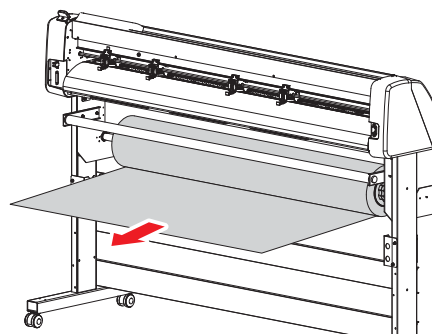


7

Move the clamp lever to the front to move the pinch roller upward.

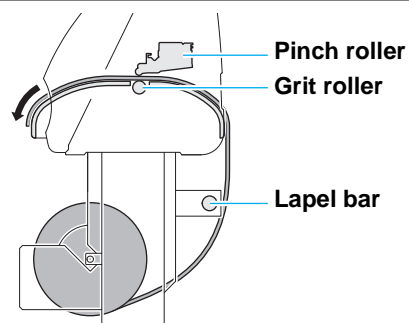
**8**

Go to the rear of this device and pull out the sheet.

**9**

Insert the sheet between the pinch roller and the grid roller as indicated to put it through to the front side of this device.

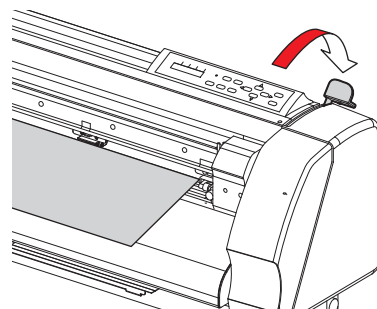
- Be sure to set the sheet by passing through under the lapel bar.

**2**

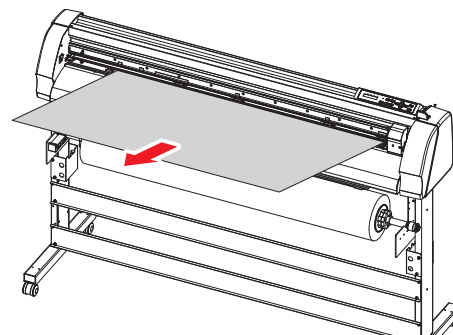
Basic Operations

10

Move the clamp lever to the rear side to fix the sheet temporarily.

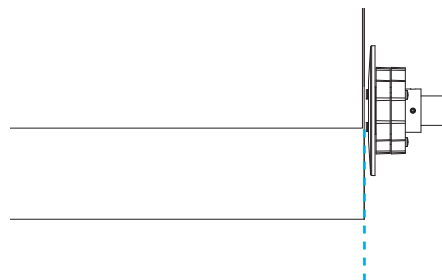
**11**

Go to the front of this device and move the clamp lever to the front. Then, pull out the sheet by 50 to 60cm.



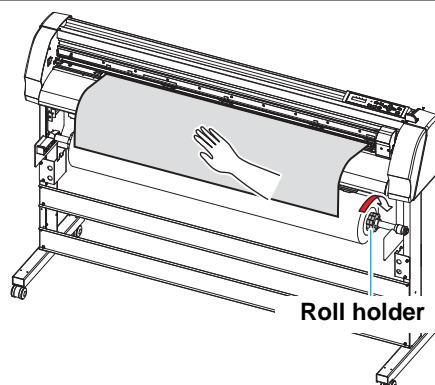
12

Align the right edge of the sheet set on the roll bar with the right edge of the sheet pulled out.



13

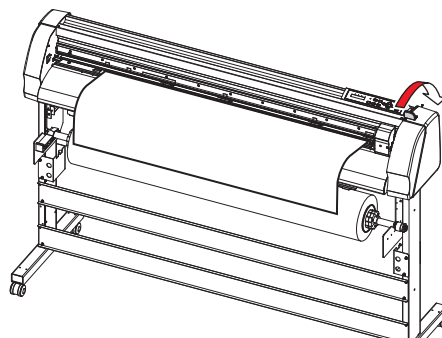
While holding the center part of the sheet, rotate the roll holder to the rear side and tighten the sheet.



14

Move the clamp lever to the rear side to fix the sheet.

- "PAPER SET <ENT>" is displayed on the screen.



15

Press the **ENTER/HOLD** key to detect the sheet.

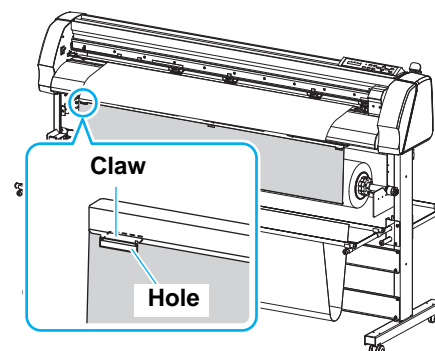
- Detect the sheet width and the length to the front edge of the sheet.
- When sheet detection is completed, the right screen appears (for about two second).
- For details of sheet detection, refer to P.2-17 "About sheet detection".

A = 3 0 0 0 B = 9 1 0

16

Set the roll cover.

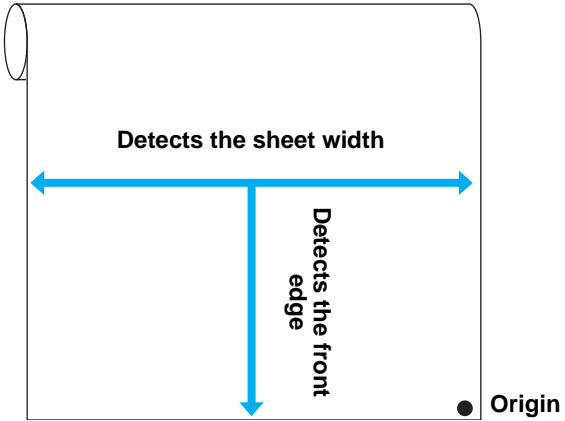
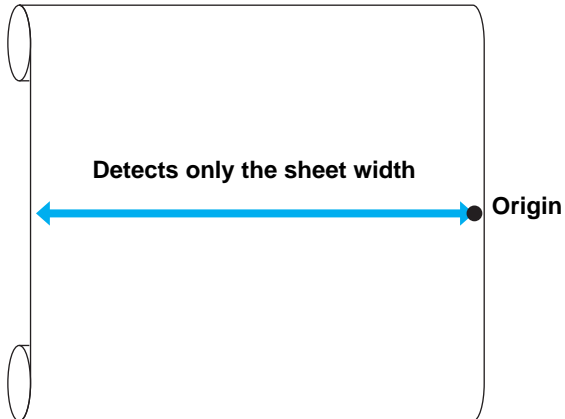
- Attach by hooking the hole of the roll cover on the claw of this device (two positions for right and left).



About sheet detection

When you move the clamp lever to the rear side with the power of this device ON, the device enters in the sheet detection mode.

There are two types of sheet detection.

Normal detection	Sheet width detection
<p>After the sheet width was detected, detects the sheet front edge. In the following cases, perform "normal detection".</p> <ul style="list-style-type: none"> • When you set a roll sheet • When you cut off the sheet and detect the sheet again  <ul style="list-style-type: none"> • For the sheet front edge detection, you can detect up to 3m. Sheet width detection 	<p>Only detects the sheet width. In the following case, perform "sheet width detection".</p> <ul style="list-style-type: none"> • When you cut (plot) continuously without cutting off the sheet 

● When you detect sheet with "normal detection"

When "PAPER SET" is displayed on the screen, press the **ENTER/HOLD** key to detect the sheet.

● When you detect sheet with "sheet width detection"

When "PAPER SET" is displayed on the screen, press the **END** key to detect the sheet.



The operation after sheet detection differs depending on the setting contents of the setting function.

- When you set "pre-feed setting" (For the recommended value, refer to P.2-11 "Reference for cutting condition".)
 - (1) The sheet is fed automatically by the feed length set in "pre-feed setting".
 - (2) Acclimate the sheet to the work environment until the waiting time set in "pre-feed setting" has passed.
 - (3) Take the sheet up by the set feed length.
- When you set "over feed" of "pre-feed setting" to ON
 - (1) The sheet is fed automatically by twice the feed length set in "pre-feed setting".
 - (2) Take the sheet by half of fed length (length set for feed length).
 - (3) Acclimate the sheet to the work environment until the waiting time set in "pre-feed setting" has passed.
 - (4) Take the sheet up by the set feed length.
- When you set "DUMMY CUT function"

When you select CUT 1 to 7 in the tool condition, after the sheet has been detected, the cut off operation is performed.



- If you operate the clamp lever without the sheet set, the right screen appears.

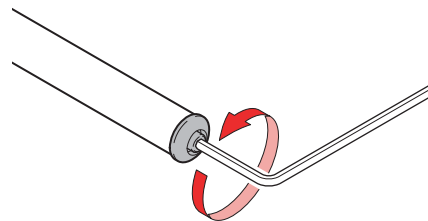
* NO SHEET *

Attach the sheet basket

Attach the sheet basket to prevent the cut (plotted) result from being stained.
Attach the sheet basket both on the front side and the rear side of this device.

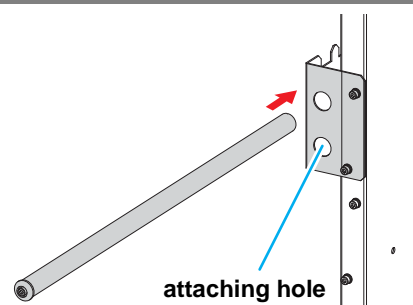
1 Remove the cap of the attached basket bars (x 4) (only one side).

- Remove the cap with the attached hexagon wrench.

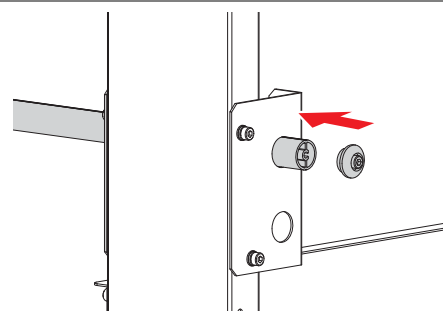


2 Insert the basket bar into the basket bar attaching hole on the leg of this device.

- Attach the basket bar as indicated.

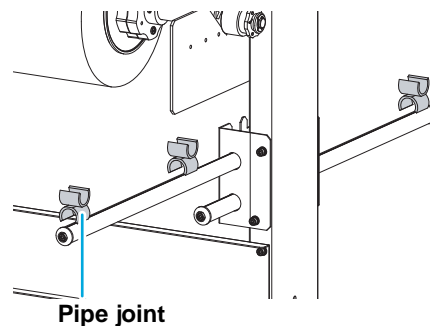


3 Attach the cap removed in the Step 1 on the basket bar.



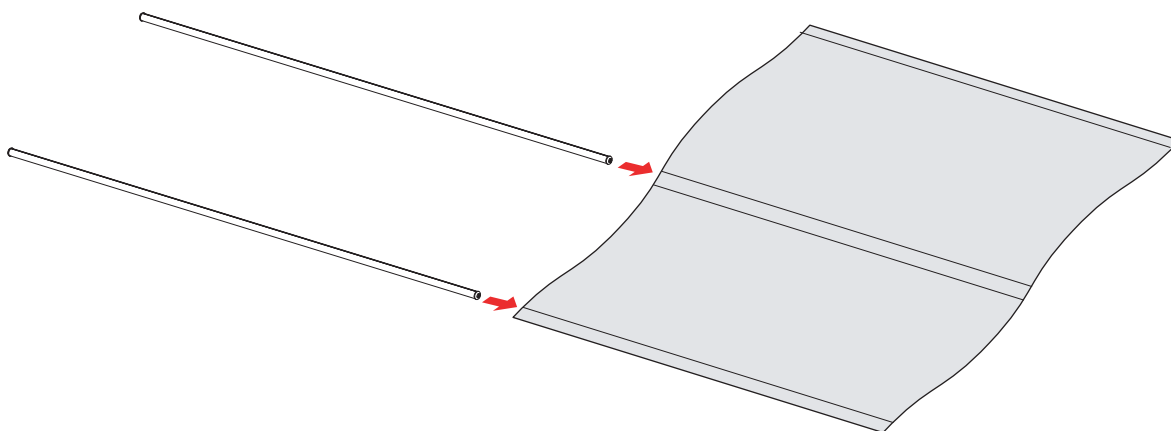
4 Attach the pipe joint on the basket bar.

- Use the upper basket bar on right and left for the sheet basket in front, and use the lower basket bar for the sheet basket in rear.
- Attach the pipe joint on two positions on the upper basket bar and one on the rear side basket bar (both for right and left).



5

Insert the pipes (x 2) into the pipe inserting parts of the attached fabric and prepare the sheet basket for front side.

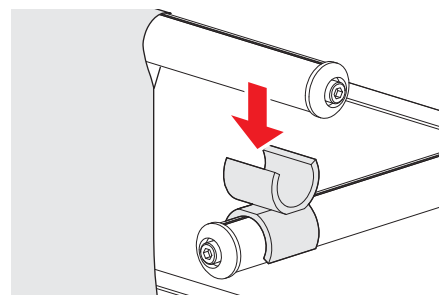
**Important!**

- There are three pipes to be used for the sheet basket. Here, insert the pipe to be used for the sheet basket in front side.
- The sheet basket has front side and rear side. The part with short intervals on the pipe inserting part is for front, and with long intervals is for rear.
- Here, insert only two pipes. If you insert all three pipes, the pipe may hit this device when attaching the rear side sheet basket in the Step 7 and it may cause the damage.

6

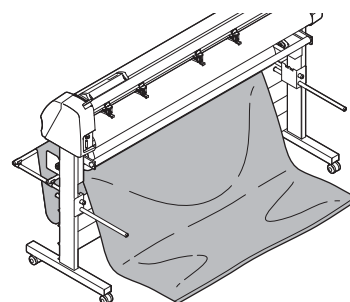
Attach the pole on the front side basket bar.

- Insert the pole put through the fabric in the Step 5 on the pipe joint attached on the basket bar.

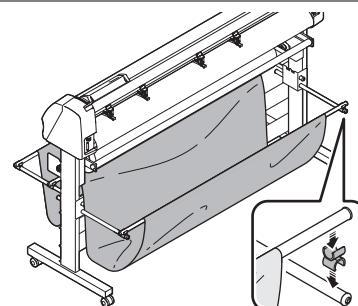
**7**

Put the fabric for rear side basket through to the rear side.

- Send the fabric for rear side basket to the rear side as indicated.

**8**

Insert the remaining pipe (x 1) into the pipe inserting part for rear side sheet basket and attach it on the rear side basket bar.

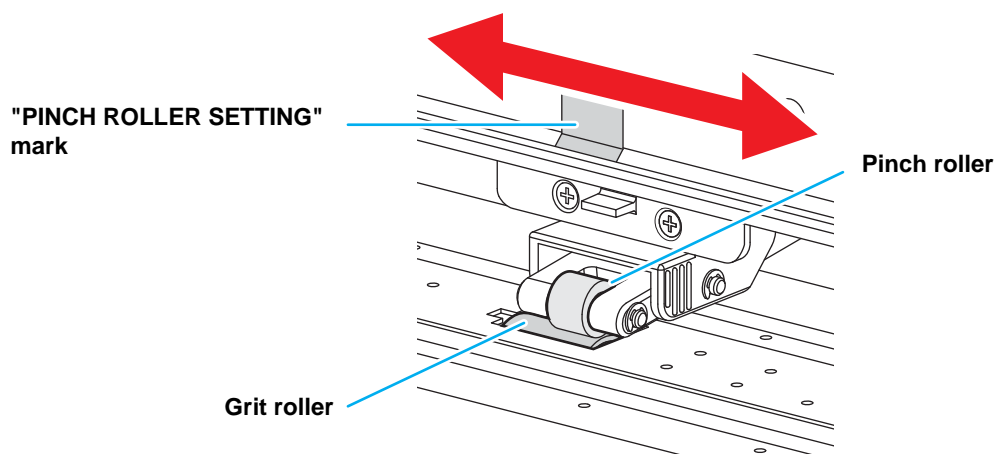
**2**

Basic Operations

Set the pinch roller

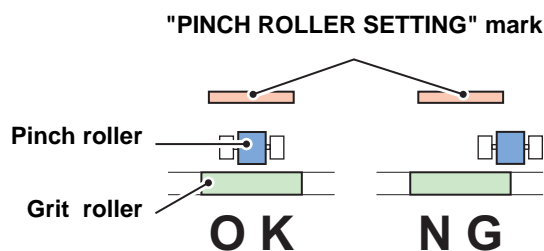
Adjust the setting position of the pinch rollers (1 to 4) depending on the sheet size to set.
If the pinch roller is not set properly, the sheet may be fed at a slant and it may cause sheet jam etc.

Slide the pinch roller to right and left to arrange it in the proper position.



Important!

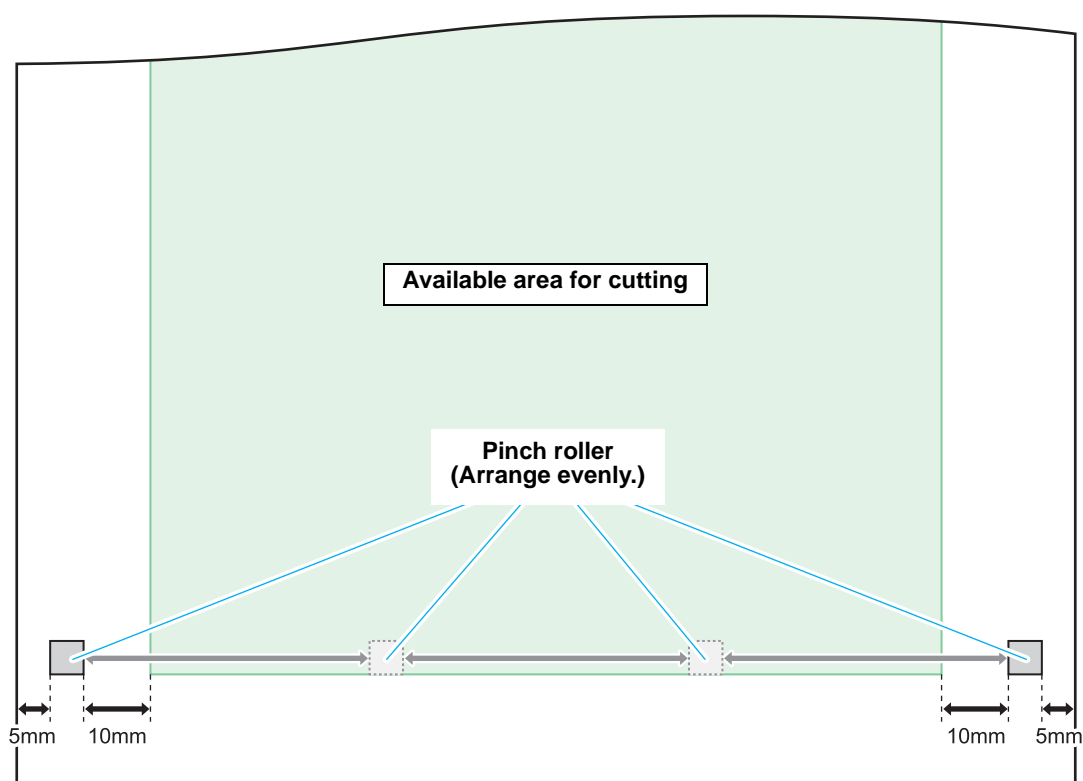
- Using all four pinch rollers, hold the sheet.
- Arrange four pinch rollers evenly as much as possible.
- Set the pinch roller on the position of 5mm and more inside from the right and left edges of the sheet.
- When you do not use this device, make the pinch roller be at the upper position.
- Do not touch the rolling grit roller. There is danger of skin being torn or getting injured by being sandwiched between the grit roller and the platen.
- Be sure to arrange the pinch roller on the grit roller. If it is off from the grit roller or you arrange it on the misaligned position, an error occurs and sheet detection cannot be performed correctly.



- Set the pinch roller inside more than for normal operation when performing continuous cutting. The pinch roller becomes hard to come off from the sheet.

About available area for cutting

You can cut (plot) in the following area.



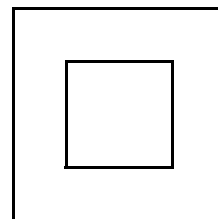
Test Cutting

Test cutting is performed to check whether the settings for tool conditions are appropriate.

In test cutting, two squares shown right are cut.



- To perform test plotting, it is required to set half cut of cutting condition to "ON". (☞ P.2-9)
- When the settings for tool conditions are appropriate, the result of the test cutting is as follows:
The corners of the squares are not round.
The corners of the squares are not turned up.



1

Check that it is in the local mode.

CUT1 20 050 0.30

2

Press the **FUNCTION key.**

SQUARE CUT <ENT>

3

Press the **ENTER/HOLD key.**

- Test cutting is performed. When it is completed, the device returns to the local mode.

According to the result of the test cutting, configure the settings for the cutting condition again.

Symptom	Cause	Solution
The corners of the square are round.	The OFFSET value is not appropriate.	Adjust the OFFSET value again.
The corners of the square are turned up.	The length of the blade edge drawn out is too long.	Adjust the length of the blade edge as required.
The left part (not to be cut) is cut.	The length of the blade edge drawn out is too long.	Adjust the length of the blade edge as required.
	The pressure of the left part (not to be cut) is too much.	Adjust the pressure of the left part (not to be cut).
The part to be cut is not cut.	The length of the blade edge drawn out is too short.	Adjust the length of the blade edge as required.
	The cutting pressure is low.	Adjust the pressure to cut.

Cutting (plotting)

When attaching the sheet/ the roll sheet and setting of tool condition are completed, perform cutting (plotting).



Before cutting (plotting), check the following setting:

- Origin setting (☞ P.2-23)
- Setting the ORIGIN SELECT (☞ P.3-21)
- Setting the COMMAND (☞ P.3-18)
- Setting the PRIORITY (☞ P.3-25)
- Setting the INTERFACE (☞ P.3-19)

Origin setting

The origin is the basic point of data to be cut (plotted). Before starting cutting (plotting) or performing continuous cutting without automatic cutting, be sure to set the origin.





Important!

- Set the origin position again before cutting next data. If you do not set the origin position again, cutting (plotting) is performed on the previous cutting (plotting) data.

1

Press     to move the carriage to the origin position.

CUT 1 20 050 0.30

-  : Moves the carriage to the right
-  : Moves the carriage to the left
-  : Moves the carriage to the rear side
-  : Moves the carriage to the front side

2

Press the  key to save the origin.

- The display will show the available cutting area and then return to tool condition.

* * ORIGIN * *



A = XXXX B = XXXX



CUT 1 20 050 0.30

2

Basic Operations



- **Pay attention to the expansion and contraction of the roll sheet.**

The sheet can be affected by the room temperature and humidity, and thus it may expand and contract. Before cutting (plotting), using the pre-feed function, acclimate the sheet to the work environment enough.

Starting a Cutting Operation

Cut the data sent from the host computer with the cutter mounted on the carriage.



- According to the sheet to be cut, register the cutting speed and the pressure in the cutting condition (CUT 1 to 7) in advance.

1

Press the **TOOL** key in **LOCAL** mode to select the cutting condition (CUT 1 to 7).

CUT1 20 050 0.30

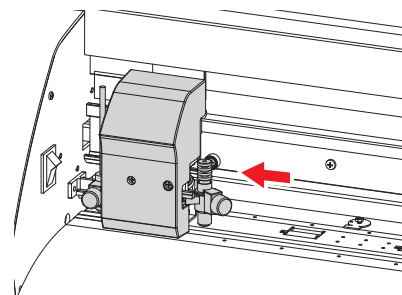


- The current tool condition (cutting condition or plotting condition) is displayed on the screen.
- When you cut with the displayed tool condition, you do not have to select the cutting condition. Refer to the item 3 and the following procedures of

2

Press the **END** key.

- The screen returns to LOCAL mode.
- When you switch the tool from the pen to the cutter, the device performs the tool switching operation. (The carriage moves to the right edge and returns to the original position.)



3

After setting the origin, press the **REMOTE** key.

- The display is changed to the remote mode.

CUT1 * REMOTE *

4

Download data from the host computer.

- When data is received, cutting operation is started.
- During cutting, data amount not to be processed yet, cutting condition and half cut condition are displayed in turns. (When half cut is OFF, the half cut condition is not displayed.)

CUT1 * 10KB *

CUT1 20 050 0.30

OFF 00 1.5 030



- When the sheet may clog up during cutting, perform the following procedures:
 (1) Move the clamp lever to front and downward to quit the operation.
 (2) Remove the clogged sheet and reset the roll sheet.
 (3) Send the data to be cut from the host computer.



• **Pay attention to the expansion and contraction of the roll sheet.**

The sheet can be affected by the room temperature and humidity, and thus it may expand and contract. Before cutting (plotting), using the pre-feed function, acclimate the sheet to the work environment enough.

Starting a Plotting Operation

Plot the data sent from the host computer with a rollerball attached on the carriage.

1

Press the **TOOL** key in LOCAL mode to select the printing-with-a-pen condition.

PEN 40 060

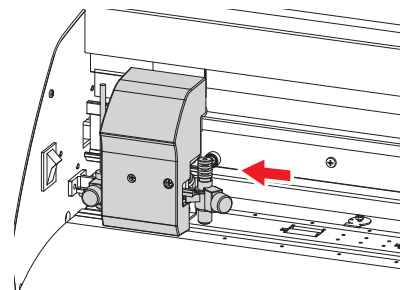


- The current tool condition (cutting condition or plotting condition) is displayed on the screen.
- When the plotting condition (PEN) is currently displayed, you do not have to select the plotting condition. Perform the operation from the Step 3.

2

Press the **END** key.

- The screen returns to LOCAL mode.
- The device performs the tool switching operation. (The carriage moves to the left edge and returns to the original position.)



3

After setting the origin, press the **REMOTE** key.

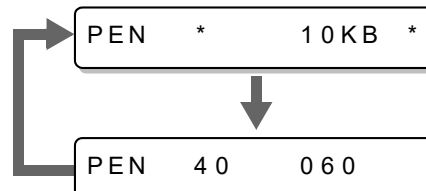
- The display is changed to the remote mode.

PEN * REMOTE *

4

Download data from the host computer.

- When data is received, plotting operation is started.



• When the sheet may clog up during plotting, perform the following procedures:

- (1) Move the clamp lever to front and downward to quit the operation.
- (2) Remove the clogged sheet and reset the roll sheet.
- (3) Send the data to be plot from the host computer.

Suspension of cutting (plotting)

When you suspend cutting (plotting), press the **REMOTE** key once. When you press once more, cutting (plotting) starts again.



- When you perform the function with the operation or the operation to affect the command coordinate during suspension, an error message is displayed.

ERR34 DAT REMAIN



- If an error message is displayed, press the **REMOTE** key to restart cutting (plotting), or, clear data (☞ P.2-26) to terminate cutting (plotting).
- If the sheet comes off during cutting (plotting), turn off the power immediately. If you continue cutting (plotting) with the sheet coming off, it may damage the main body.

Stopping a Cutting (plotting) Operation (Data Clear)

If you want to stop a cutting operation of the received data, clear the data.

If you do not clear data, received data will be cut when you return the device to the remote mode.

After clearing the data, switching to the remote mode and receiving another data, new data will be cut.

1

Press the **DATACLEAR** key during data cutting.

DATA CLEAR <ENT>

2

Press the **ENTER/HOLD** key.



- Do not perform the data clearance during the data transmitting.



- Even after performing the data clearance, the received data is stored in the reception buffer. You can cut (plot) continuously with the copy cut function.

Chapter 3

Extended Functions





This chapter

describes the setting procedures of each functions, and how to operate the plotter usefully.

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Investigate the causes of cutting		Setting the DUMMY CUT	3-30
abnormality	3-7	Setting the SHEET TYPE	3-31
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Function by jog mode

When you press the jog keys  in the local mode, the device enters into the jog mode. You can set each setting below in the jog mode.

Function Name	Meaning	Reference Page
Origin setting	Sets the position to start cutting (plotting).	P.2-23
Paper cut (Cutting off)	Cuts off the sheet on the current tool position.	P.3-2
Axial correction of two positions	When you set the sheet such as a graph paper with the vertical line and the horizontal line, aligns the vertical axis and the horizontal axis with these lines.	P.3-3
Setting cut area	Sets the cutting (plotting) area.	P.3-4
Moving up/down of pen	Moves the tool up and down. (Press the  key in the jog mode.)	-




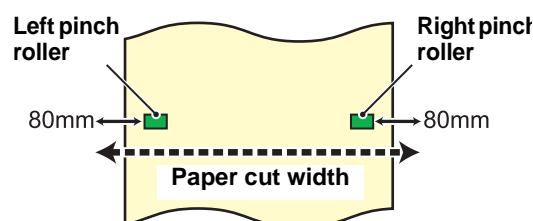
- Before setting the function by the jog mode, be sure to check that there is no data to cut (plot).
- When you set the position of origin etc. in the jog mode, the center of the tool becomes the specified position.

Paper cut

Cut off the sheet on the current tool position.
When you use the paper cut function, the device will cut up to 80mm from outside the pinch roller.




- When you cut off the sheet automatically each time cutting (plotting) is completed, set the automatic cut ( P.3-20) to "ON".



1

Press the  key to select LOCAL mode.

- Check that cutting (plotting) does not start even if you press the  key and the device enters into the remote mode in advance.

CUT1 20 050 0.30

2



Press  to enter into the jog mode.

- When you press any jog key, the device enters into the jog mode.

0.0 0.0

3

By pressing , feed the sheet to the position where you cut the sheet off.

-  : Moves the sheet to the rear side.
-  : Moves the sheet to the front side.

4

Press the  key.

PAPER CUT <ENT>

5

Press the  key.

- Cut the sheet off.
- When the cutting has been completed, the current mode returns to LOCAL mode.

** PAPER CUT **



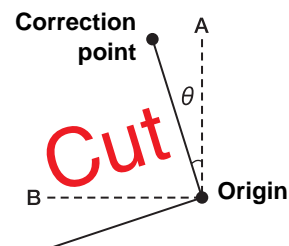
- When the pre-feed setting is valid, the pre-feed operation is performed and then the device returns to the local mode.



- When the pinch roller 1 and 4 are set to the max. width, the paper cut area is as below:
About 80mm to right from inside of the pinch roller 1
About 40mm to left from inside of the pinch roller 4

Axial correction of two positions

When you set the sheet such as a graph paper with the vertical line and the horizontal line, aligns the vertical axis and the horizontal axis with these lines. Correct the axis slope (θ) with the set origin and the correction point.



1 Press the **REMOTE** key to select LOCAL mode.

- Check that cutting (plotting) does not start even if you press the **REMOTE** key and the device enters into the remote mode in advance.

CUT 1 2 0 0 5 0 0 . 3 0

2 Press **▲ ▼ ◀ ▶** to enter into the jog mode.

- When you press any jog key, the device enters into the jog mode.

0 . 0 0 . 0

3 Press the **DATA CLEAR** key.

0 . 0 0 . 0 P

4 Press **▲ ▼ ◀ ▶** to move to the correction point.

- Set value (Angle) : $\theta = -45$ to 45°

5 Press the **ENTER/HOLD** key to determine the correction point.

- After the set value is displayed for a while, the device returns to the local mode.

* * COMP . A , B * *

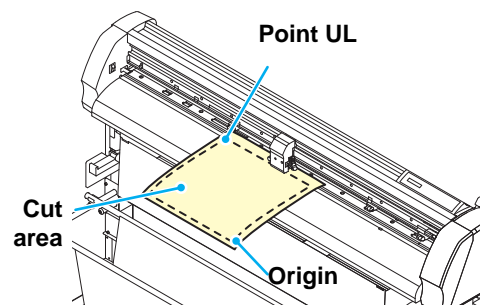


- When you clear the correction point, move the clamp lever to the front. And then, perform sheet detection (☞ P.2-17) again.

Setting cut area

The cut area can be set within the area from the origin to the Point UL (Upper Left), any point set on the diagonal. Here, set the Point UL position.

When you perform sheet detection again, cut area is cleared.



1

Press the **REMOTE** key to select **LOCAL** mode.

- Check that cutting (plotting) does not start even if you press the **REMOTE** key and the device enters into the remote mode in advance.

CUT1 20 050 0.30

2

Press **▲ ▼ ◀ ▶** to enter into the jog mode.

- When you press any jog key, the device enters into the jog mode.

0.0 0.0

3

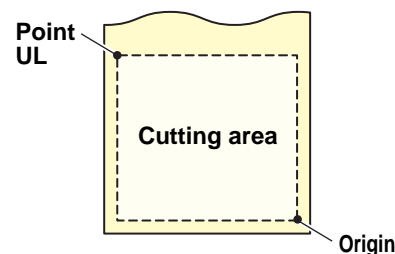
Press the **FEED** key.

0.0 600.0 ↗

4

Press **▲ ▼ ◀ ▶** to set the Point UL (Upper Left).

- By setting the Point UL (Upper Left) on the diagonal from the origin, the cut area is set.



5

Press the **ENTER/HOLD** key to determine the Point UL.

- The device returns to the local mode.

* * CUT AREA * *

Important!

- Set the Point UL in the plus direction from the origin.
- Set the origin in the cut area. If you set it outside the cut area, an operation error occurs.

Digitizing operation

The coordinate from the origin of the plotted shape is displayed on the host computer. When you receive the digitizing command (DP;) from the host computer, the digitizing operation becomes usable.

For digitizing, attach the sheet with design to specify the point.



- The digitizing operation is available only for the application software with the digitizing function. For the using method, refer to the user's manual of the application software.

1

Receive the digitizing command from the host computer in the remote mode.

- The screen is changed to the right one.

PEN * REMOTE *



** DIGITIZE **

2

Press     to move the tool edge to any point of the shape.

- The coordinate from the origin is displayed.
- If you make the step unit smaller in the jog step function, you can specify the more accurate point ( P.3-26).

100.0 250.5

3

Press the  key.

- Register the tool edge point.
- Receive the coordinate output command (OD;) from the host computer.

PEN * REMOTE *

Perform Multiple Cutting (plotting)

Already received data can be copied (plotted with a pen) to produce a multiple number of pieces of data. (Up to 999 pieces)



- Copying of data to produce a multiple number of pieces of data is performed with the data stored in the machine's reception buffer being specified.
- Only one piece of data can be stored in the reception buffer.
- When new data is received, it is overwritten on the data that has been stored in the buffer. (The previously received data cannot be specified for it to be copied to produce a multiple number of pieces of data.)

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Check the origin position. (☞ P.2-23)

- When you copy after cutting in the remote mode, cutting (plotting) are overlapped. Be sure to set the origin again.

COPY <ENT>

3

Press **▲** **▼** to select [COPY].

COPY <ENT>

4

Press the **ENTER/HOLD** key.

COPY : 1

5

Press **▲** **▼** to select the number of pieces of data (1 to 999) produced by copying data.

COPY : 10

6

Press the **ENTER/HOLD** key.

- Starts the cutting (plotting) by the set number.
- [The number of copies currently performed/ the set number] is displayed on the screen.
- When copy is completed, the device moves to the remote mode.

* 1 / 10 COPY *



CUT1 * REMOTE *




Important!

- The data sent from the computer during copying is ignored.
- While the axial correction of two positions has been set, if the origin updated in this device is not in the available cut area, the data is not cut.
- Depending on your cutting software, automatic cutting is not performed even if the automatic cutting is set in this device. If you use the copy function in such a case, as the origin is not updated automatically, cutting is performed on the same position.

Investigate the causes of cutting abnormality

In such a case as when data cannot be cut normally, a sample stored in this machine is cut to check the cause of the abnormality. (Sample Cut)

There are three samples that you can cut:

Sample type	Overview
Cut 	Use this when you cannot cut even if the machine has received data. When you can cut the sample data in this machine normally, it is thought to be due to a problem in the received data.
LOGO 	If you cannot cut the sample data normally, contact the dealer from which you purchased this machine or our office to call for service.
RECTANGLE 	Use this when you cannot perform dotted line cutting normally.



- When sample cutting has been performed, data stored in the reception buffer is deleted.

About the Result of Sample Cutting

When sample data can be cut normally, but other data cannot be cut normally

- It is possible that there is a problem in the data output from the host computer.

When both sample data and other data cannot be cut normally

- Check the tool condition and the cutter blade protruding amount. (☞ P.2-3, P.2-9)

Cut the sample data “Cut”

1	Press the FUNCTION key in LOCAL mode.	SQUARE CUT <ENT>
2	Press ▲ ▼ to select [SAMPLE CUT].	SAMPLE CUT <ENT>
3	Press the ENTER/HOLD key.	Cut <ent>
4	Press ▲ ▼ to select [Cut].	Cut <ent>
5	Press the ENTER/HOLD key to start cutting.	

3

Convenient use

Cut the sample data “LOGO”

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SAMPLE CUT].

SAMPLE CUT <ENT>

3

Press the **ENTER/HOLD** key.

Cut <ent>

4

Press **▲** **▼** to select [LOGO].

LOGO <ent>

5

Press the **ENTER/HOLD** key.

LOGO 100% <ent>

6

Select the magnification with **◀** and **▶**.

• Magnification : 1 to 999%

LOGO 200% <ent>

7

Press the **ENTER/HOLD** key to start cutting.

Cut the sample data “RECTANGLE”**1**Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2Press **▲** **▼** to select [SAMPLE CUT].

SAMPLE CUT <ENT>

3Press the **ENTER/HOLD** key.

Cut <ent>

4Press **▲** **▼** to select [RECTNGL CUT].

RECTNGL CUT<ent>

5Press the **ENTER/HOLD** key to start cutting.

Distance correction

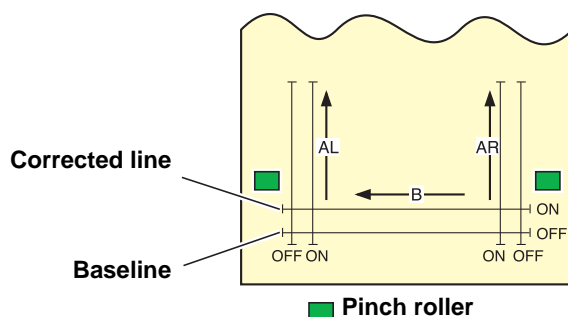
When you cut the long data, the cut length may have difference depending on the sheet thickness. In addition, depending on the difference of the grid roller diameter, the moving amount of right and left of the sheet may have difference. Correct these differences.

You can select the distance correction from eight types (No. 1 to No. 8).

Calculating method of correction value

Correction value = (Actual measured value of OFF line) - (Entered standard length)

- Ex)
- Actual measured value of OFF line : 999.0 mm
 - Entered standard length : 1000 mm
 - $999.0 - 1000 = -1.0$ m / (correction value)



Set value:

- Standard value
A direction: 500, 1000, 1500, 2000, 2500 (mm)
B direction: 200, 400, 600, 800, 1000, 1200 (mm)
- Correction value:
A direction: Standard length \pm 2% (0.1mm step)
B direction: Standard length \pm 2% (0.1mm step)
- Plotting offset: 0 to 300mm

Setting procedures

1

Mount the sheet. (👉 P.2-12)

- Set the sheet to plot the distance correction adjusting pattern.

2

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

3

Press **▲** **▼** to select [DIST.COMP.].

DIST.COMP. <ENT>

4

Press the **ENTER/HOLD** key.

No.1 AR=1.00000

- The correction value registered in AR (right side of front-back direction), AL (left side of front-back direction) and B (right-left direction) of No.1 are displayed.

5

Pressing  , select the distance correction number to register.

No. 3 AR = 1.00000

6

Press the  key.

- The standard length (mm) that was corrected previous time is displayed.
- If you do not perform distance correction at all, the minimum standard length is displayed.
- When you change the length unit (mm/inch) from you corrected previous time, the right screen appears.

A = 500 B = 200

A = - - - - B = - - - -

7

Press   to change the standard length of A direction (front-back direction).

- The standard length of A direction becomes standard length of AR (right side of front-back direction) and AL (left side of front-back direction).
- When you change the standard length, the distance correction value (AR, AL) corrected previous time is cleared.

A = 1000 B = 200

8

Press the  key to register the standard length of A direction.

- You can register it by the  key.
- Moves to the standard length setting of B direction.


A = 1000 B = 200

9

Press   to change the standard length of B direction (right-left direction).

- When you change the standard length, the distance correction value (B) corrected previous time is cleared.

10

Press the  key to register the standard length of B direction.

DRAW SHIFT = 0mm

11


Press   to specify the plotting position of the distance correction adjusting pattern.

- Offset all line segments (AR, AL, B) in the sheet.

DRAW SHIFT = 10mm

12

Press the  key.

- Plot the adjusting pattern.
- If a paper is not set, or, the paper size is too small and the standard length cannot be plotted, plotting is not performed. In such a case, when you press the  key, you can enter the correction value without plotting.

13

After plotting is completed, the current correction value is displayed.

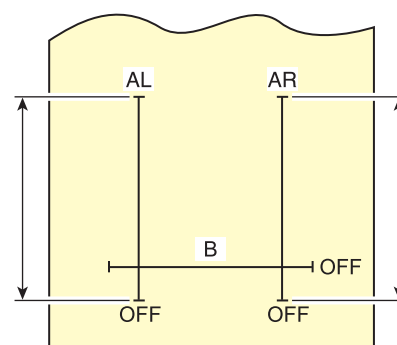
AR = 0.0 AL = 0.0

3

Convenient use

14**Actually measure OFF lines of AR, AL and B.**

- Move the clamp lever to the rear side, remove the sheet and measure.

**15****Perform the operations in Steps 2 to 13.**

- As the sheet is not set, the correction entry screen is displayed without performing plotting.

16**If the measured value is different from the standard value, change the correction value with .**

AR = 1 . 0 AL = 0 . 0

17**Press the key to register the correction value of AR direction.**AR = 1 . 0 **A**L = 0 . 0

- You can register it by the key.
- Moves to the standard length setting of AL direction.

18**In the same way as the Step 16, enter the correction value of AL with .**AR = 1 . 0 **A**L = 1 . 5**19****Press the key to register the correction value of AL direction.****B** = 0 . 0

- You can register it by the key.
- Moves to the standard length setting of B direction.

20**Change the correction value of B direction with .****B** = 0 . 5**21****Press the key to register the correction value of B direction.**

CUT1 20 050 0.30

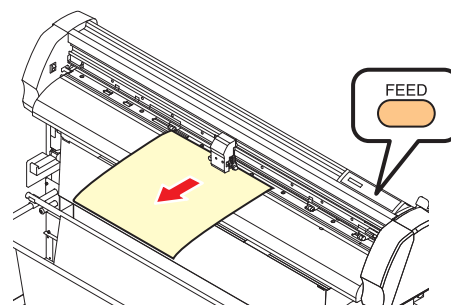
- When you press the key, the screen returns to LOCAL mode.

Sheet feed

Before you start cutting or plotting with a pen, feed a certain length of the media to allow a margin.

By feeding the sheet beforehand, you can check for a skew of the sheet or prevent a skew while cutting the long data (or printing the long data with a pen).

Generally, use this for pre-feed performed at sheet detection, as well as for changing the feed amount each time depending on the data amount to be cut.



Important!

- If you start high-speed cutting without feeding a certain length of the roll sheet beforehand, the sheet may not be fed properly, causing an error in the machine.
- The **FEED** key does not work until the sheet is detected.

1

Press the **FEED** key in LOCAL mode.

SHEET FEED : 1 . 0m

2

Press **▲** **▼** to input the feed amount.

SHEET FEED : 3 . 0m

- Set value: 0.1m to 51.0m (0.1m step)



- When you set "mm/ inch setting" to "inch" in the setting mode, setting value is [1 to 167 feet] (one foot step).

3

Press the **ENTER/HOLD** key.

SHEET FEED : 2 . 0m

- The sheet will be fed by the input length.



- Press the **END** key to stop the sheet feeding.
- When you suspend sheet feed by pressing the **END** key, or, you cannot pull out the sheet by the set amount because it is too short, the pulled out length is displayed and the operation stops. To release the display, press any key on the panel.

* * STOP : 0 . 2m * *

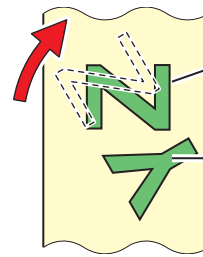
3

Convenient use

If the sheet becomes misaligned during cutting (plotting) long data, you can adjust it by suspending cutting (holding).

Important!

- When you adjust the sheet misalignment, do not move the position of the carriage and the pinch roller. If you move them, it may cause damage or an error.



Data after the correction of sheet displacement.

Cut before the sheet misalignment is fixed.

1

Press the **ENTER/HOLD** key during cutting.

- Press the **ENTER/HOLD** key on the space between patterns. If you perform holding in the middle of the continuous line segment, the cut lines do not match each other.

- - HOLD - -

2

Adjust the sheet misalignment.

- (1) Move the clamp lever to the front and raise the pinch roller.
- (2) Arrange the sheet misalignment.
- (3) Move the clamp lever to the rear and move the pinch roller downward.
- (4) Press the **END** key.

Important!

- Before adjusting the sheet misalignment, be sure to move the clamp lever to the front and raise the pinch roller. If you adjust the sheet misalignment with the pinch roller down, it may cause the breakdown.
- When the sheet misalignment can be adjusted, be sure to move the clamp lever to the rear and move the pinch roller downward. Then, press the **END** key. If you press the **END** key with the pinch roller up, the holding function cannot be terminated.

3

Press the **REMOTE** key to restart cutting.



- The **ENTER/HOLD** key becomes usable after the sheet detection is completed.
- When you perform holding in the local mode, press the **ENTER/HOLD** key for 1.5 sec. and more.

Setting function

To use this device more comfortably, you can change the setting depending on your usage.
In the setting function, you can set the following items:

Function Name	Overview	Reference Page
COMMAND	Depending on the command specification of the host computer side, switches the command.	P.3-16
INTERFACE	Sets the communication condition at RS-232C interface connection (connection condition, command coordinate resolution, data judgment time, data end recognition command).	P.3-17
DEVICE No.	Sets the device recognition number when two and more of this device are connected with one computer with USB.	P.3-18
ORIGIN SELECT	Sets the command origin position for MGL-IIC command. (For MGL-Ic1 command, the command origin is "lower right".)	P.3-19
AUTO CUT	Sets the condition to perform automatic cutting off after cutting is completed.	P.3-20
ROTATION	Switches the moving direction of cutting.	P.3-21
BUZZER	You can set so that nothing may sound when a key is pressed or the alarm may not sound when an error occurs.	P.3-22
PRIORITY	Sets which setting has priority when the setting in this device is different from that in the host computer for the same item (only for MGL-IIC).	P.3-23
SHEET SENSOR	Detects whether there is a sheet or not, and the sheet length.	P.3-24
UP SPEED	The movement speed of a sheet and a carriage when a tool is up is set. When you set the speed slower, you can reduce misalignment of the long sheet at feeding.	P.3-25
JOG STEP	Sets the amount to move the carriage and the sheet with the jog key.	P.3-26
MM/INCH	Selects the unit to display the length.	P.3-27
PRE FEED	Performs the setting for automatic feeding after sheet detection and automatic cutting.	P.3-28
FEED OFFSET	You can perform extra feeding when performing automatic feeding such as the sorting function and pre-feeding in advance.	P.3-29
DUMMY CUT	When this is set to "ON", cutting off is performed to make the blade tip faces a certain direction before starting cutting.	P.3-30
SHEET TYPE	Sets the type depending on the sheet to be used.	P.3-31
SORTING	Performs the setting to change the cutting orders.	P.3-32
OVER CUT	Sets that there is no left part (not to be cut) of the media.	P.3-35
START MODE	Sets the mode after sheet detection.	P.3-36
IPx Distance	Sets the default value of the scaling point length direction, the standard value of the coordinate process for the MGL-IIC command.	P.3-37
COMMAND CHG	You can replace the NR of the MGL-IIC command with the !PG. You can replace the SP0 command with the !PG in the same way.	P.3-38
PEN No. ASIGN	Sets the correspondence of tool number specified by the command and the plotter tool number.	P.3-39
Tool Change	Sets the operation condition when replacing pen with cutter.	P.3-40
BLANK	Sets the length of the blank space (dead space) at the leading edge of the sheet set after detecting the sheet.	P.3-42

Setting the COMMAND

Switches commands depending on the command specification of the host computer side.

Set Value	Overview
AUTO	Switches to MGL-Ic1 or MGL-Ilc automatically depending on the command of received data.
MGL-Ic1	Used when receiving the data of MGL-Ic1 command.
MGL-Ilc	Used when receiving the data of MGL-Ilc command.

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press the **ENTER/HOLD** key.

COMMAND : AUTO

5

Press **▲** **▼** to select a set value.

Set value:AUTO, MGL-Ic1,MGL-Ilc

COMMAND : MGL - I l c

6

Press the **ENTER/HOLD** key.

7

Press the **END** key several times to end the setting.

Important!

- Generally, [AUTO] is acceptable, however, if the data size is too big, the normal result cannot be gained in some cases. In such a case, change the setting value depending on the command of the host computer side.
- When it is set to [AUTO] and the device receives data from the computer, the command name recognized by this device is displayed on the display panel and starts cutting. If the command name is displayed continuously after receiving data, or, [ERR16 AUTO I/F] is displayed, it is indicated that the automatic recognition cannot be performed.
- In such a case, change it to MGL-Ic1 or MGL-Ilc, and set the command name to cut properly. The command automatically recognized with [AUTO] will have been valid until you perform data clear (☞ P.2-26), or you move the clamp lever to the front.

Setting the INTERFACE

Set the communication conditions for RS-232C interface connection (connection condition, command coordinate resolution, data judgment time and data end command).

Set Item		Set Value	
Connection condition	BAUD RATE	1200, 2400, 4800, 9600, 19200, 38400 (bps)	
	DATA BITS	7, 8 (bit)	
	PARITY	NON, EVEN, ODD	
	STOP BITS	1, 2 (bit)	
	HANDSHAKE	AUTO	HARD
		MGL-IIc	HARD, ENQACK, X-PRM, SOFT
		MGL-Ic1	HARD, XONOFF
Command coordinate resolution	STEP SIZE	AUTO(MGL-IIc)	0.025 (mm)
		AUTO(MGL-Ic1)	0.05 (mm)
		MGL-IIc	0.025, 0.01 (mm)
		MGL-Ic1	0.025, 0.05, 0.1 (mm)
Data judgment time	CLOSE TIME	3 ~ 60 (sec.)	
Data end command	EOF (End Of File) COMMAND	SP0	ON/OFF
		!PG	
		NR	
		ZT0	
		PG	

1 Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2 Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3 Press the **ENTER/HOLD** key.

COMMAND <ent>

4 Press **▲** **▼** to select [INTERFACE].

INTERFACE <ent>

5 Press the **ENTER/HOLD** key.
• "BAUD RATE" setting is displayed.

BAUD RATE : 9600

6 Press **▲** **▼** to select a set value.
• Setting value : 1200, 2400, 4800, 9600, 19200, 38400 (bps)

BAUD RATE : 19200

7 Press the **ENTER/HOLD** key.
• The next setting item is displayed.

DATA BITS : 8 BITS

8

Repeat the procedures of the Step 6 and 7 to set other setting items.

- Perform the same operations as in Steps 6 and 7 to set all items.

9

Press the **ENTER/HOLD** key.

10

Press the **END** key several times to end the setting.

Important!

- The set value is retained even when the power is turned "OFF".

Setting the Device No.

Sets the recognition number of the device when you connect two of this device with one computer via USB.

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [DEVICE No.] .

DEVICE No. <ent>

5

Press the **ENTER/HOLD** key.

DEVICE No. : 0

6

Press **▲** **▼** to select the recognition number of the device.

DEVICE No. : 10

- Setting value : 0 to 99

7

Press the **ENTER/HOLD** key.

8

Press the **END** key several times to end the setting.

Important!

- The set value is retained even when the power is turned "OFF".

Setting the ORIGIN SELECT

Sets the origin position with MGL-Ilc command.

Set Value	Overview
CENTER ORIGIN	Sets the origin at the center of the available cutting area.
LOWER RIGHT ORIGIN	Sets the origin at the lower right of the available cutting area (lower right of AB coordinate).

Important!

- This sets the origin position of MGL-Ilc only. The origin position of MGL-Ic1 command is "LOWER RIGHT ORIGIN".
- The set value is retained even when the power is turned "OFF".

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [ORIGIN SELECT].

ORGN SELECT<ent>

5

Press the **ENTER/HOLD** key.

CENTER ORIGIN

6

Press **▲** **▼** to select origin.

- Setting value : CENTER ORIGIN, LOWER RIGHT ORIGIN

LOWERRIGHTORIGIN

7

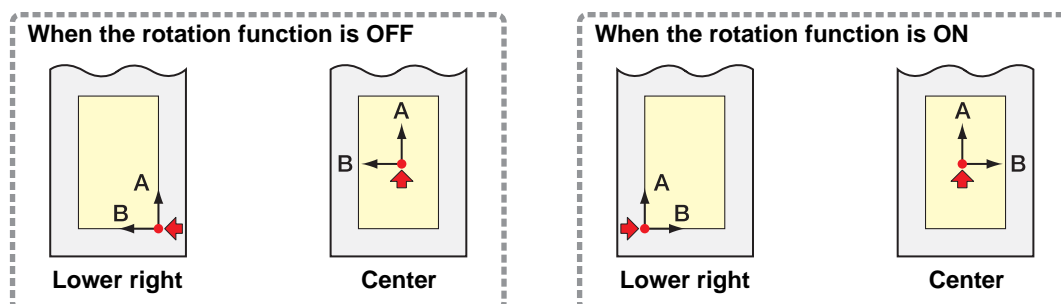
Press the **ENTER/HOLD** key.

8

Press the **END** key several times to end the setting.



- When the rotation function (☞ P.3-21) is ON, the origin position is as below:




● indicates the origin.

3

Convenient use

Setting the AUTO CUT

Performs the setting to cut off the sheet automatically after cutting is completed.
When the automatic cutting is set to "ON", you must set the cutting pressure and the cutting speed.

Set Item	Set Value	Overview
CUT PRESS +	0 to 400 g	Set the pressure for cutting off the sheet. Here, set the extra pressure added to the normal cutting pressure. <div>  <ul style="list-style-type: none"> By setting extra pressure added to the normal cutting pressure, even if you select any tool with different cutting pressure, you can perform stable cutting off in the same condition. </div>
SLANT CUT	5, 10, 15 mm	To reduce the paper jam due to it being got hung up on the gap of the cut line when the cut sheet is fed, set the amount of skewed cut edge.
CUT SPEED	5 to 60 cm/s	Set the speed to cut off the sheet.
AutoPressUp	ON/OFF	The cutter blade can wear out over time and its cutting performance will deteriorate. If front edges of paper are not detected after cutting operation, the machine judges that the cutter is worn and automatically increases the cutting pressure. (Increases the normal cutting pressure. Not the pressure for complete cutting) Set "AutoPressUp" to OFF to disable the automatic increase of cutting pressure. When the machine has been used with "AutoPressUp" enabled, and you replaced the cutter blade due to wear or damage, you need to set the cutting pressure.

Important!

- When the pinch roller 1 and 4 are set to the max. width, the automatic cutting area is as below:
 About 80mm to right from inside of the pinch roller 1
 About 40mm to left from inside of the pinch roller 4
- The set value is retained even when the power is turned "OFF".

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [AUTO. CUT].

AUTO. CUT <ent>

5

Press the **ENTER/HOLD** key.

AUTO. CUT : OFF

6

Press **▲** **▼** to select ON.

AUTO. CUT : ON

- When you do not want to set AUTO CUT, select "OFF" and press **END** to finish the setting.

7

Press the **ENTER/HOLD** key.

CUT PRESS + : 50 g

8

Press **▲** **▼** to set the extra pressure added to the normal cutting pressure.

CUT PRESS + : 80 g

• Setting value : 0 to 400g

9

Press the **ENTER/HOLD** key.

SLANT CUT : 5mm

10

Press **▲** **▼** to set the sheet feeding amount of slant cut.

SLANT CUT : 10mm

• Setting value : 5, 10, 15 mm

11

Press the **ENTER/HOLD** key.

CUT SPD : 40 cm / s

12

Press **▲** **▼** to set the cutting speed.

CUT SPD : 30 cm / s

• Setting value : 5 to 60 cm/s

13

Press the **ENTER/HOLD** key.

AutoPressUP : ON

14

Press **▲** **▼** to select whether to enable or disable the automatic increase of cutting pressure when complete cutting fails.

AutoPressUP : OFF

15

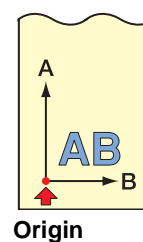
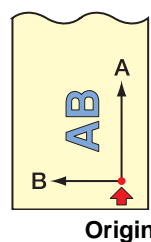
Press the **ENTER/HOLD** key.

AUTO.CUT <ent>

Setting the ROTATION

Set the origin position and the coordinate axis direction depending on your application software.

Set Value	Overview
ON	Rotates the coordinate axis and moves the origin at the same time.
OFF	Does not rotate.



1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press   to select [SET UP].

SET UP <ENT>

3

Press the  key.

COMMAND <ent>

4

Press   to select [ROTATION].

ROTATION <ent>

5

Press the  key.

ROTATION : ON

6

Press   to select ON/OFF.

ROTATION : OFF

7

Press the  key.

8

Press the  key several times to end the setting.**Important!**

- The set value is retained even when the power is turned "OFF".

Setting the BUZZER

Set the buzzer that sounds when an error occurs or you press a key.

Set Value	Overview
ON	The buzzer sounds.
OFF	The buzzer does not sound.

1

Press the  key in LOCAL.

SQUARE CUT <ENT>

2

Press   to select [SET UP].


SET UP <ENT>

3

Press the  key.

COMMAND <ent>

4

Press   to select [BUZZER].

BUZZER <ent>

5

Press the **ENTER/HOLD** key.

BUZZER : ON

6

Press **▲** **▼** to select ON/OFF.

BUZZER : OFF

7

Press the **ENTER/HOLD** key.

8

Press the **END** key several times to end the setting.

- The set value is retained even when the power is turned "OFF".

Setting the PRIORITY

Set which has priority, the set value of this device (panel) or the set value of the host computer (host).



- The priority setting is valid for MGL-Ilc command.

● Settable command

Command type	Overview	Command type	Overview
SP	Tool selection	AS	Acceleration setting
VS	Tool down moving speed setting	FS,ZF	Tool down pressure setting
ZA	Tool up moving speed setting	ZO	Blade tip correction amount setting

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [PRIORITY].

PRIORITY <ent>

5

Press the **ENTER/HOLD** key.

SP : HOST

- "SP" setting is displayed.

3

Convenient use

6 Press   to select a set value.

• Setting value : HOST, PANEL

SP : PANEL

7 Press the  key.

• The next setting item is displayed.

VS : HOST

8 Repeat the procedures in the Step 6 and 7 to set other commands.

• Perform the same operations as in Steps 6 and 7 to set other items.

9 Press the  key.

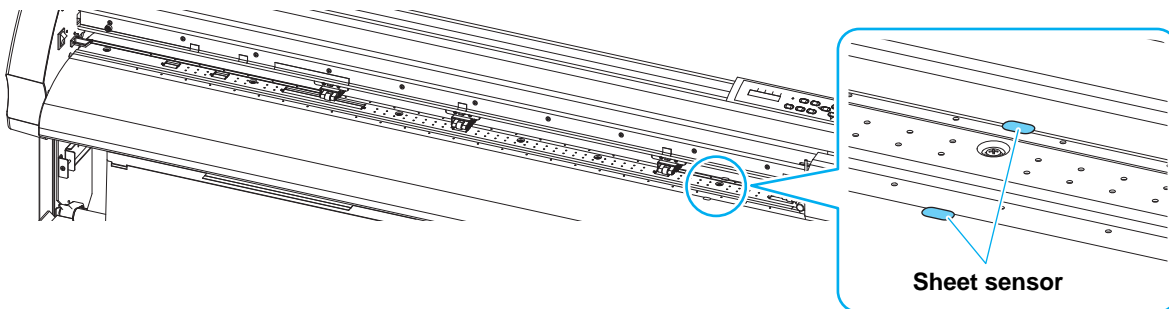
10 Press the  key several times to end the setting.

Important!

- The set value is retained even when the power is turned "OFF".
- When the half cut is set to ON, even if the ZF command is set in the host, it becomes invalid.

Setting the SHEET SENSOR

The sheet sensor detects whether there is a sheet or not, and the sheet length.
There are two sheet sensors on the platen.



● In the following cases, set the sheet sensor to "OFF".

- When a special sheet that cannot be detected by the sensor
- When the sensor may respond wrongly because there is a light just above this device
- Even if you set the sheet, [NO SHEET] is displayed on the screen

Important!

- When you set the sheet sensor to "OFF", be sure to set the cutting area. By setting this, you can prevent the device from cutting outside sheet or from cutting continuously even after the device reaches the sheet end.
- The set value is retained even when the power is turned "OFF".

1 Press the  key in LOCAL mode.

SQUARE CUT <ENT>

2 Press   to select [SET UP].

SET UP <ENT>

- 3 Press the **ENTER/HOLD** key. COMMAND <ent>
- 4 Press **▲** **▼** to select [SHEET sensor]. SHEET sensor <ent>
- 5 Press the **ENTER/HOLD** key. SHEET SENSOR: ON
- 6 Press **▲** **▼** to select ON/OFF. SHEET SENSOR: OFF
- 7 Press the **ENTER/HOLD** key.
- 8 Press the **END** key several times to end the setting.

Setting the UP SPEED

Set the speed for the sheet and the carriage to move when the tool is at the upper position.



- When you set the speed slower, you can reduce the misalignment of the long sheet at feeding.

- 1 Press the **FUNCTION** key in LOCAL mode. SQUARE CUT <ENT>
- 2 Press **▲** **▼** to select [SET UP]. SET UP <ENT>
- 3 Press the **ENTER/HOLD** key. COMMAND <ent>
- 4 Press **▲** **▼** to select [UP SPEED]. UP SPEED <ent>
- 5 Press the **ENTER/HOLD** key. UP SPEED : AUTO
- 6 Press **▲** **▼** to select a set value.
 • Setting value: 5, 10, 20, 30, 40, 50, 60, 70, 80, 90, 100, AUTO (cm/s) UP SPEED : 10

7 Press the **ENTER/HOLD** key.

8 Press the **END** key several times to end the setting.

Important!

- You can set the up speed during data cutting higher than the cutting speed. However, after any cutting operation is performed, for the stable sheet feeding, the speed is limited to the cutting speed.
- The set value is retained even when the power is turned "OFF".
- If [AUTO] is set, the setting becomes the SPEED value set in the tool condition. However, the min. speed is 10cm/s. In addition, when the sheet type is set to "Heavy", the max. speed is 20cm/s.

Setting the JOG STEP

Select the moving amount of the carriage and the sheet when the jog key is pressed.
In the following cases, you can determine the correct position.

- When performing axial correction of two positions (⚙ P.3-3)
- When setting the origin at the correct position
- When performing digitizing operation (⚙ P.3-5)

1 Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2 Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3 Press the **ENTER/HOLD** key.

COMMAND <ent>

4 Press **▲** **▼** to select [JOG STEP].

JOG STEP <ent>

5 Press the **ENTER/HOLD** key.

STEP [mm] : 1 . 0

6 Press **▲** **▼** to select a set value.

- Setting value : 1.0, 0.1 mm (when using mm setting)
1/16, 1/254 inch (when using inch setting)

STEP [mm] : 0 . 1

7 Press the **ENTER/HOLD** key.

8 Press the **END** key several times to end the setting.

Important!

- The set value is retained even when the power is turned "OFF".

Setting the MM/INCH

Switch the unit to display the length from mm to inch.



- The jog moving unit and the sheet size display are changed.

1 Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2 Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3 Press the **ENTER/HOLD** key.

COMMAND <ent>

4 Press **▲** **▼** to select [MM/INCH].

MM / INCH <ent>

5 Press the **ENTER/HOLD** key.

MM / INCH : MM

6 Press **▲** **▼** to select a set value.

- Setting value : mm, inch

MM / INCH : INCH

7 Press the **ENTER/HOLD** key.


8 Press the **END** key several times to end the setting.

Important!

- The set value is retained even when the power is turned "OFF".

Setting the PRE FEED

Perform next setting about automatic paper feeding after sheet detection or automatic cutting.

Set Item	Set Value ^{*1}	Overview
Feed length	0.1 to <u>51</u> m	Sets the feed length of the sheet. By feeding the sheet by the amount to be cut (plotted) in advance, as the sheet can adjust itself to the work environment, cutting (plotting) quality can be improved.
Feed count	0, 1, 2, <u>3</u> , 4, 5	Sets the number of feedings of the sheet back and forth. By feeding the sheet, cutting (plotting) quality can be improved.  • Use three times as a reference for the number of feedings. Change the number of feedings depending on the sheet to be used.
Wait time	0 to <u>180</u> to 900 sec	Sets the time until cutting (plotting) starts after the sheet is fed.
Over feed	ON/ <u>OFF</u>	When you cut (plot) two and more pages, by feeding second sheet in advance, the cutting (plotting) efficiency can be improved when the waiting time is set.

*1. The setting at the time of purchase is indicated with the underline.

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [PRE FEED].

PRE FEED <ent>

5

Press the **ENTER/HOLD** key.

• The feeding length setting is displayed.

PRE FEED : 3 . 0 m

6

Press **▲** **▼** to select a set value.

• Setting value : 0.1 to 51m (0.1m step)

PRE FEED : 1 . 0 m

7

Press the **ENTER/HOLD** key.

• The next setting item is displayed.

FEED COUNT : 1

8

Repeat the procedures in the Step 6 and 7 to set other items.

• Perform the same operations as in Steps 6 and 7 to set other items.

9 Press the **ENTER/HOLD** key.

10 Press the **END** key several times to end the setting.

Important!

- The set value is retained even when the power is turned "OFF".

Setting the FEED OFFSET

You can perform extra feeding when performing automatic feeding and pre-feeding of the sorting function. By performing extra feeding, you can ensure slack required for cutting (plotting).

Important!

- When the remaining amount of the roll sheet is less, sheet rewind may occur due to shaking during operation, and lack of sheet slack may occur. It may cause incorrect cutting (plotting). However, using this function, you can reduce this problem.
- The set value is retained even when the power is turned "OFF".
- When over feeding is set, the setting of feed offset becomes "invalid".

1 Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2 Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3 Press the **ENTER/HOLD** key.

COMMAND <ent>

4 Press **▲** **▼** to select [FEED OFFSET].

FEED OFFSET<ent>

5 Press the **ENTER/HOLD** key.

FEEDoffset : 0 cm

6 Press **▲** **▼** to select the offset value.

- Setting value : 0 to 100cm

FEEDoffset : 10 cm

7 Press the **ENTER/HOLD** key.

8 Press the **END** key several times to end the setting.

3

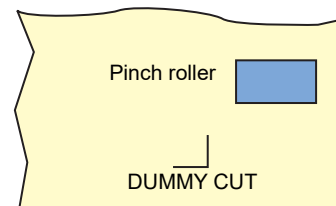
Convenient use

Setting the DUMMY CUT

The "DUMMY CUT" is performed to make the blade tip faces a certain direction before starting cutting.

When you perform the followings, the dummy cut operation is performed.

- When you selected the tool (CT1 to CT7)
- When the cutter was specified with the tool selection command



When you do not want to scratch the sheet, set this to OFF.

Important!

- The default of the dummy cutting function is ON. When you have set the dummy cutting function to OFF, perform test cutting (🔧 P.2-22) to adjust the cutter blade orientation before cutting.
- The set value is retained even when the power is turned "OFF".

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [DUMMY CUT].

DUMMY CUT <ent>

5

Press the **ENTER/HOLD** key.

DUMMY CUT : ON

6

Press **▲** **▼** to select ON/OFF.

DUMMY CUT : OFF

7

Press the **ENTER/HOLD** key.

8

Press the **END** key several times to end the setting.

Setting the SHEET TYPE

When using a heavy (thick) sheet or a wide sheet, change the sheet setting to prevent the sheet misalignment.

Important!

- When you set the [SHEET TYPE] to [THICK], the max. speed is limited to 20cm/s.
- When you cut (plot) a heavy (thick) sheet or a wide sheet, set the sheet setting to [THICK].
- If you cut (plot) a heavy (thick) sheet etc. in the high speed, the sheet may be misaligned, or [ERR41 MOTOP B] may occur.
- The set value is retained even when the power is turned "OFF".

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [SHEET TYPE].

SHEET TYPE <ent>

5

Press the **ENTER/HOLD** key.

SHEET : STANDARD

6

Press **▲** **▼** to select a set value.

SHEET : HEAVY

STANDARD : Standard roll paper (80 to 120 g/m²)

THICK : Thick roll paper (120 to 180 g/m², or hard paper and heavy paper of not being thick but being wide)

THIN : Thin roll paper (64 to 80 g/m², or extremely soft paper etc.)

7

Press the **ENTER/HOLD** key.

8

Press the **END** key several times to end the setting.

3

Convenient use

Setting the SORTING

By changing the order of pieces of data for cutting transmitted from the host computer, you can change the order of cutting them. (Sorting function)

When data to be cut with a single stroke cannot be cut with a single stroke because of the order of pieces of data transmitted from a software application, you can cut the data with a single stroke by changing the order of cutting them.



- When you adjust the data read by the scanner, the adjusted part will be cut afterward. Even in such a case, by using sorting, you can cut data without lifting your tool from the sheet.

When cutting data by sorting

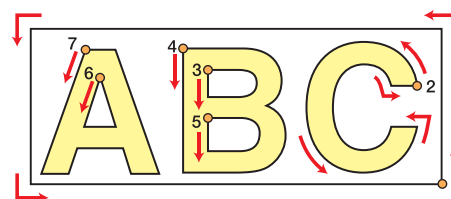
In sorting, data is cut as blocks. A block means movement from a down stroke with a pen to an up stroke with a pen. After one block has been cut, a block whose starting point is closest to the already cut block is cut.

The starting point and cutting direction of host data are not changed.

MARUJIRUSI: Starting point of data = Starting point of cutting

Arrow: Data direction = Cutting direction

Number: Order of block cutting



With the sorting function, you can do the following:

When you turn the sorting function "ON", the following functions are activated:

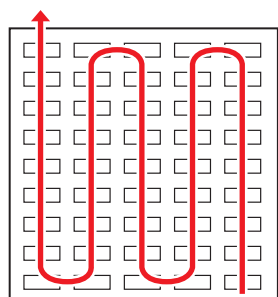
Auto-feeding function:

This function is used to detect the length of data to be cut and to draw out a sheet whose length is the same as that of the data beforehand.

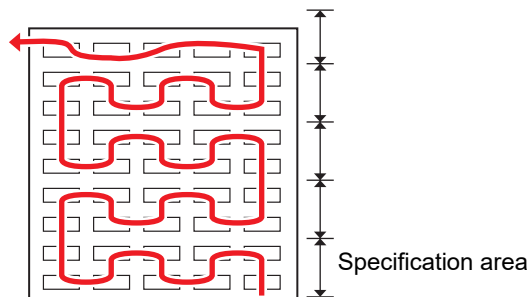
Area control function:

This function is used to specify an area beforehand and to preferentially cut blocks of data that fit into the area.

When there is no block of data that fits into the area, the area is enlarged so that the data is cut gradually in the sheet-feeding direction.



Without area specification



With area specification

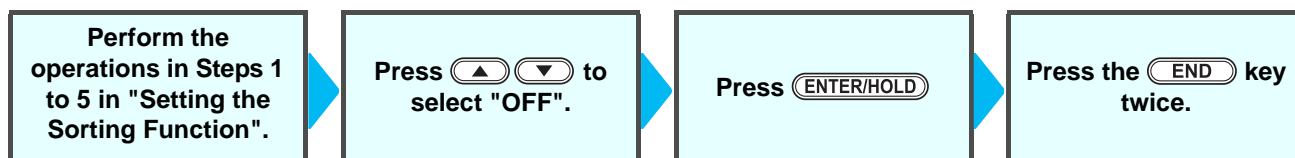
Setting the SORTING

1	Press the FUNCTION key in LOCAL mode.	SQUARE CUT <ENT>
2	Press ▲ ▼ to select [SET UP].	SET UP <ENT>
3	Press the ENTER/HOLD key.	COMMAND <ent>
4	Press ▲ ▼ to select [SORTING].	SORTING <ent>
5	Press the ENTER/HOLD key.	SORTING : OFF
6	Press ▲ ▼ to select "ON".	SORTING : ON
7	Press the ENTER/HOLD key.	AUTO FEED : OFF
8	Press ▲ ▼ to select [AUTO FEED]. • When performing AUTO FEED, select "ON".	AUTO FEED : ON
9	Press the ENTER/HOLD key.	AREA : OFF
10	Press ▲ ▼ to select a set value of [AREA]. Set Value :OFF, 10 ~ 5100cm (10cm step)	AREA : 10 cm
11	Press the ENTER/HOLD key.	
12	Press the END key several times to end the setting.	

Important!

- The set values are recorded even when the power has been turned OFF.
- When the set value has been changed, the data in the reception buffer is cleared.
- When the sorting function is set to ON, the reception buffer capacity decreases to about 20 MB.

Cancelling the Setting of the SORTING



Procedure for SORTING

1

Transmit data.

CUT1 * 2 KB *

- The size of the data that has not been processed yet in the reception buffer is displayed. Cutting (plotting with a pen) is not performed. The processed line segments are stored in the sorting buffer.

2

When data transmission has been complete, the waiting time until cutting starts is displayed.

* * PLOT * * 5 S

- The waiting time is displayed in units of seconds.
- When no data is received while waiting for the start of cutting, the counter counts down.



- When you change the waiting time, change "close time" in the communication condition (P.3-17)

3

Perform auto-feeding.

* SORTING * 1 %

- Before starting of the cutting operation, feed the sheet by the amount for the cutting.
- If the amount of the cutting of the sheet is not fed, [ERROR 15 AUTO FEED] is displayed. After changing the roll sheet, perform data sending or copy (P.3-6).

4

Starting a Cutting Operation

* SORTING * 10 %

- The already cut data is displayed in percentage.

5

When the cutting has been completed, the screen goes to the remote mode.

CUT1 * REMOTE *



- When sorting is [ON], until the close time has passed after all data to be cut has been received, cutting operation is not performed.
However, in the following situation, perform sorting and cutting without waiting.
When the sorting buffer is full of data (about 540,000 line segments)
When cutting conditions, such as Tool number, SPEED, PRESS, have been changed
When a feed command or origin change command has been executed

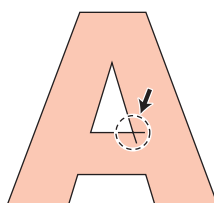
Setting the OVER CUT

Specify whether the over cutting function is enable or unable and the length of the over cutting.

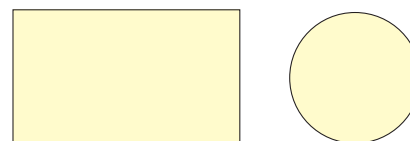
If the length of the over cutting is set, cutting is performed with extra cutting space at the front by the specified amount of length at the start of cutting and tool up is performed at the end going too far.

Important!

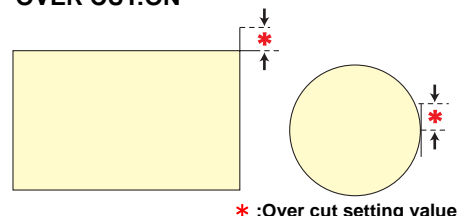
- With setting the over cutting properly, you can reduce the part remaining uncut at the start/end of the cutting, especially for the media easy to bend. However, too much amount of over cutting causes to scratches on the media.
- The set values are recorded even when the power has been turned OFF.



OVER CUT:OFF



OVER CUT:ON



1 Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2 Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3 Press the **ENTER/HOLD** key.

COMMAND <ent>

4 Press **▲** **▼** to select [OVER CUT].

OVER CUT <ent>

5 Press the **ENTER/HOLD** key.

OVER CUT : OFF

6 Press **▲** **▼** to select a set value.

• Setting Value : OFF, 0.1 to 1.0 mm (0.1mm step)

OVER CUT : 0.1mm

7 Press the **ENTER/HOLD** key.

8 Press the **END** key several times to end the setting.

3

Convenient use

Setting the START MODE

Set the mode after the sheet was detected.

Set Value	Overview
LOCAL	Enters in the waiting status in the local mode after the sheet was detected.
REMOTE	Enters in the remote mode automatically after the sheet was detected.

1 Press the **FUNCTION** key in LOCAL mode. SQUARE CUT <ENT>

2 Press **▲** **▼** to select [SET UP]. SET UP <ENT>

3 Press the **ENTER/HOLD** key. COMMAND <ent>

4 Press **▲** **▼** to select [START MODE]. START MODE <ent>

5 Press the **ENTER/HOLD** key. START MODE : LCL

6 Press **▲** **▼** to select a set value.
• Setting Value : LCL (LOCAL), REM (REMOTE) START MODE : REM

7 Press the **ENTER/HOLD** key.

8 Press the **END** key several times to end the setting.

Important! • The set values are recorded even when the power has been turned OFF.

Setting the IP x Distance

Set the scaling point (IP).



- When a dotted line becomes a solid line etc., perform this setting.
- The setting of roll paper IP x distance is valid for MGL-IIc command.

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [IPx Distance].

IPxDistance<ent>

5

Press the **ENTER/HOLD** key.

IP X Dist : FULL

6

Press **▲** **▼** to select a set value.

- Setting Value : FULL (51.0m), Y*1.4 (1.4 times as the sheet width), 0.5 to 50.5m (0.5m step)

IP X Dist : Y*1.4

7

Press the **ENTER/HOLD** key.

8

Press the **END** key several times to end the setting.



- The set values are recorded even when the power has been turned OFF.

Setting the COMMAND CHG

You can replace the NR of MGL-Ilc command with !PG.

When outputting CAD data, which uses the “NR” command at the end of data, the NR command causes the view mode to open. By setting “NR->!PG” to ON, you can avoid the interruption and output the CAD data continuously.

In the same manner, by setting “SP0->!PG” to ON, the origin of the CAD data, which uses the SP0 command at the end of data, is automatically updated.

- | | | |
|----------|---|---------------------|
| 1 | Select [SET UP] and press the ENTER/HOLD key. | SET UP <ENT> |
| 2 | Press FUNCTION to select [COMMAND CHD]. | COMMAND CHD<ent> |
| 3 | Press the ENTER/HOLD key. | NR - > ! PG : OFF |
| 4 | Press ▲ ▼ to select ON. | NR - > ! PG : ON |
| 5 | Press the ENTER/HOLD key. | SP 0 - > ! PG : OFF |
| 6 | Press ▲ ▼ to select ON. | SP 0 - > ! PG : ON |
| 7 | Press the ENTER/HOLD key.
• The screen returns to setting menu. | COMMAND CHD<ent> |

Setting the PEN No. ASSIGN

Allocate the cutter (pen) number (SP command) sent from the host computer when performing cutting (plotting) to the cutter (pen) number of this device.



- The pen No. assign setting is valid for MGL-llc command.

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [PEN No. ASSIGN].

PEN No. ASSIGNent>

5

Press the **ENTER/HOLD** key.

SP 1 : n = 1 2 3 4 5 6 7 8

6

Assign the SP1 command to the cutter (pen) number of this device.

SP 1 : n = **1** 2 3 4 5 6 7 8

- (1) Press **▲** **▼** to select the cutter (pen) number.
- (2) Finally, press the **ENTER/HOLD** key to register it.

About screen display

SP 1 : n = **1** 2 3 4 5 6 7 8

Cutter (pen) number specified in the host computer side

Cutter (pen) number of this device

1	CUT1 (Cutter 1)	5	CUT4 (Cutter 4)
2	PEN (Ball point pen)	6	CUT5 (Cutter 5)
3	CUT2 (Cutter 2)	7	CUT6 (Cutter 6)
4	CUT3 (Cutter 3)	8	CUT7 (Cutter 7)

7

Press **▶** to move to assign of SP2 and more.

SP 2 : n = 1 **2** 3 4 5 6 7 8

- When you press **▶**, to proceed the command setting of SP2 and more.
- Assign to SP2 and more in the same manner of the Step 6.

8

When all settings are complete, press the **ENTER/HOLD** key.

- Press the **END** key several times to end the setting.



- The set values are recorded even when the power has been turned OFF.

3

Convenient use

Setting the Tool Change

The carriage of this device has both tools of a cutter for cutting and a pen for plotting. Depending on your use, perform cutting (plotting) by switching a cutter to a pen.

Here, perform setting related to the switching operation of the cutter and the pen.

Set Item	Set Value	Overview
CHECK	ON/OFF	After switching tools, check that the switching was performed properly by moving tool downward. Important! • When you switch the tool to pen, by moving tool downward, the pen tip touches the pen line and ink blot the pen line. When you do not wish ink to blot the pen line, set this to "OFF".
RETRY	ON/OFF	When this is "ON", if the switching was judged as NG in the switching check, perform switching operation again.
SPEED	1 to 30 cm/s	Set the moving speed of the carriage from 1cm front of the tool switching position to the switching position.

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select "Tool Change".

ToolChange <ent>

5

Press the **ENTER/HOLD** key.

• The setting of switching check is displayed.

CHECK : ON

6

Press **▲** **▼** to select ON/OFF.

CHECK : OFF

7

Press the **ENTER/HOLD** key.

• The setting of retry is displayed.

RETRY : OFF

8

Press **▲** **▼** to select ON/OFF.

RETRY : ON



9

Press the **ENTER/HOLD** key.

• The setting of switching speed is displayed.

SPEED : 1

10

Press   to select a set value.

Set Value: 1 to 30 cm/s

SPEED : 30

11

Press the  key.

12

Press the  key several times to end the setting.

Important!

- The set values are recorded even when the power has been turned OFF.

Setting the BLANK

Sets the length of the blank space (dead space) at the leading edge of the sheet set after detecting the sheet.

1

Press the **FUNCTION** key in LOCAL mode.

S Q U A R E C U T < E N T >

2

Press **▲** **▼** to select [SET UP].

S E T U P < E N T >

3

Press the **ENTER/HOLD** key.

C O M M A N D < e n t >

4

Press **▲** **▼** to select [BLANK].

B L A N K < e n t >

5

Press the **ENTER/HOLD** key.

B L A N K : 2 0 mm

6

Press **▲** **▼** to select a set value.

Setting Value : 20 to 300 mm

B L A N K : 1 0 0 mm

7

Press the **ENTER/HOLD** key.

8

Press the **END** key several times to end the setting.



- The set values are recorded even when the power has been turned OFF.

Initializing the Settings

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [SET UP].

SET UP <ENT>

3

Press the **ENTER/HOLD** key.

COMMAND <ent>

4

Press **▲** **▼** to select [SETUP RESET].

SETUP RESET<ent>

5

Press the **ENTER/HOLD** key.

- The selected command type is displayed.

autoCOMMAND:ent

6

Press the **ENTER/HOLD** key.

- The selection screen to reset the setting is displayed.

NO < RESET > YES

7

Press **▶** to reset the setting contents.

- The set items and tool parameters are initialized.

8

Press the **END** key several times to end the setting.

Important!

- The value set in the command switching is not initialized.

Output the setting list

Keep the list as the record or to fax for inquiry on the maintenance.

1 Mount the sheet. (☞ P.2-12)

2 Press the **TOOL** key in the local mode to select the plotting condition (PEN).

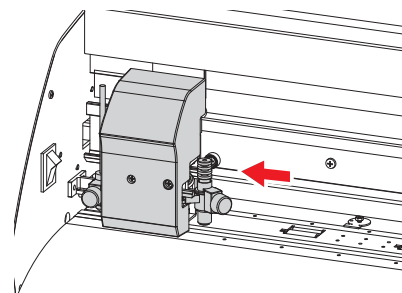
PEN 40 060



- The current tool condition (cutting condition or plotting condition) is displayed on the screen.
- When the plotting condition (PEN) is currently displayed, you do not have to select the plotting condition. Perform the operation from the Step 4.

3 Press the **END** key.

- The screen returns to LOCAL mode.
- The device performs the tool switching operation. (The carriage moves to the left edge and returns to the original position.)



4 Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

5 Press **▲** **▼** to select [LIST].

LIST <ENT>

6 Press the **ENTER/HOLD** key.

- Output the setting list.

Important!

- You cannot check the contents of the list in the computer directly.

Output the received data in the ASCII code

After the host computer sends data and the communication condition of the interface that receives data is plotted, plot data in the ASCII code (ASCII dump).
The ASCII dump can be performed in the interface with which the host computer is connected.

1 Mount the sheet. (☞ P.2-12)

2 Press the **TOOL** key in the local mode to select the plotting condition (PEN).

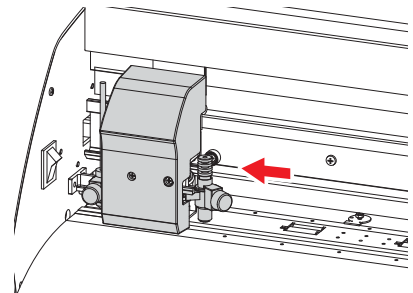
PEN 40 060



- The current tool condition (cutting condition or plotting condition) is displayed on the screen.
- When the plotting condition (PEN) is currently displayed, you do not have to select the plotting condition. Perform the operation from the Step 4.

3 Press the **END** key.

- The screen returns to LOCAL mode.
- The device performs the tool switching operation. (The carriage moves to the left edge and returns to the original position.)



4 Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

5 Press **▲** **▼** to select [ASCII DUMP].

ASCII DUMP <ENT>

6 Press the **ENTER/HOLD** key.

Important!

- You cannot check the contents of the dump in the computer directly.



- When you suspend dump, press the **REMOTE** key to change the mode to local, and then perform data clear (☞ P.2-26).

3

Convenient use

Adjust the pen landing when using the pen plotting function

If the pen plotting result is blurred, you can adjust the timing when the tip of the pen touches the paper.
(Pen landing adjustment)

Important!

- Pen landing adjustment is usable for the firmware version 1.40 and later.
- The pen landing setting is only enabled during pen plotting.
- If the pen itself that is installed has a problem (no ink, dried up or similar case), the blurriness does not improve even with setting the pen landing.

Setting the Pen Landing

1

Press the **FUNCTION** key in LOCAL mode.

SQUARE CUT <ENT>

2

Press **▲** **▼** to select [PEN LANDING].

PEN LANDING<ENT>

3

Press the **ENTER/HOLD** key.

CHECK PLOT:SEL.

4

Press **▲** **▼** to select the check pattern.

CHECK PLOT:CURT.

- Plot the pattern (SEL./CURT.) to check for any blurriness or similar problems.
- **SEL.** : The check pattern is plotted using the currently set pressure, and subsequently with one more or less setting value each time. (Use a setting value ± 5 to plot each pattern)
- **CURT.** : Plot the check pattern using the currently set pressure.

5

Press the **ENTER/HOLD** key.

- Plotting patterns starts.
- When you do not want to plot, press **▶** to proceed to Step 6.

6

Check the pattern plotted.

PRESSURE : 0

- If the pressure or wait time needs to be changed, start from step 7.
- If the pressure or wait time does not need to be changed, press the **END** key several times to return to LOCAL mode.

7

Press **▲** **▼** to adjust the pressure.

PRESSURE : 10

- Setting value : -20 to 20 (Default value = 0)
- Increase the value to increase the pressure and lower it to decrease the pressure.

8

Press the **ENTER/HOLD** key.

WAIT TIME : 0

9

Press **▲** **▼** to set the wait time from when the pen tip touches the paper to when the pen starts moving.

WAIT TIME : 20

- Setting value : 0 to 99 msec (Default value = 0)

10**Press the ENTER/HOLD key.**

- Press the ENTER/HOLD key and return to Step 4.
- Press the END key several times to end the setting.

Procedures for using check patterns to check plotting faults

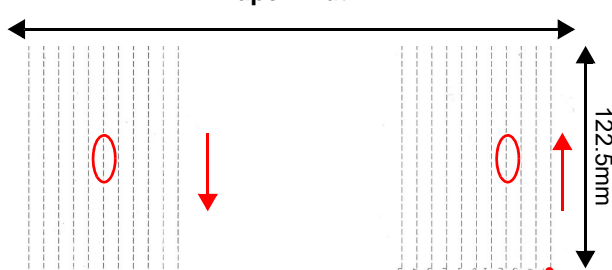
Plot a check pattern and check the plotting conditions by using the plotted dotted-line data.

Important!

- If changing the type of paper, plot CHECK PLOT: CURT to check if there is any blurriness or similar problems. Adjust the pen landing if there is blurriness or any other plotting fault.
- When plotting a check pattern, use a roll paper with a large width so that plotting can be performed across the full width of the plotter.

<Check pattern : SEL.>

Paper width







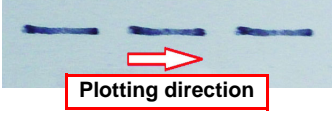
<Check pattern : CURT.>

Paper width



(The red arrow shows the printing direction.)

● Pen landing adjustment criteria

	Judgment	Condition	Adjustment Procedures
OK	Plotting is performed normally 	There are no parts that are excessively thin or thick to provide a roughly uniform line width.	
NG	"PRESSURE" is excessively low. 	Plotting pressure is applied before the pen has been completely lowered, causing high pressure to be applied to the starting point of writing dotted line, thereby resulting in clearly visible splotches.	Increase the "PRESSURE" setting value so that the line width is uniform from the start of writing until the end of the dotted line segment.
NG	"PRESSURE" is excessively high. 	The pen tip strongly touches the paper surface causing it to bounce back, thereby resulting in the pen bobbing up during plotting.	Decrease the "PRESSURE" setting value so that the dotted line segments remain unbroken from the start of writing until the end of the dotted line segment.
NG	The "WAIT TIME" is excessively short. 	The time from when the pen tip touches the paper surface until pressure is first applied to start plotting is excessively short, thereby resulting in unstable pressure due to paper vibration that causes uneven gradation (ink density) during plotting.	Increase the "WAIT TIME" setting value until uneven gradation does not occur.

Adjustment procedures for plotting faults

1

Check the plotting results of the pattern plotted by using “CHECK PLOT : SEL”.

- If you have first plotted by using “CHECK PLOT: CURT”, select “SEL” in Step 4 of “Setting the Pen Landing”, and perform plotting again.
 - Plot by using CHECK PLOT: SEL, and the numbers “-5 - 0 - 5” are printed on the dotted line patterns. Plot the line segment with the currently set pressure value “0”, and subsequently with one more or less setting value (± 5) each time on both the right and left of the first segment, thereby resulting in plotting a total of 11 line segments.
-

2

Check the dotted line patterns to select the pressure value that provides the best plotting conditions and adjust the pen landing settings accordingly.

- - If selecting line segment “3” of the plotting results, change the pressure value to “current pressure value +3”.
 - If there are no differences of the plotting results for multiple lines, select the setting value in the middle. (For example, select “1” if there are no differences in the line segments from -3 to 5.)
 - If there are no satisfactory line segments, change the pressure value by 5 or -5, whichever is the best quality line segment of the two, and perform from Step 1 again.
 - If lowering the pressure value results in vertical movement of the pen being considerably delayed, slightly increase the pressure value, and then adjust the “WAIT TIME” according to Step 9 of “Setting the Pen Landing”.
-

3

Adjust the “WAIT TIME” if you cannot achieve satisfactory plotting results by adjusting the pressure value.

- “PLOT “CHECK PLOT: curt” while gradually increasing the “WAIT TIME” value to find an appropriate wait time that provides satisfactory plotting results.

Important!

- Increasing the “WAIT TIME” setting value also increases the plotting time.
 - If the plotting time increases due to wait time adjustment, you can adjust the plotting time by slightly increase the pressure value. However, be sure that the adjustments are balanced because an excessively large pressure value will cause the pen to bounce.
-

Switch the language display on the screen

You can choose the language displayed on the screen from seven types. (Default is "English".)

Selectable language : Japanese, English, German, French, Spanish, Italian, Portuguese

1 Press the **FUNCTION** key in **LOCAL** mode.

S Q U A R E C U T < E N T >

2 Press **▲** **▼** to select **[DISPLAY]**.

D I S P L A Y < E N T >

3 Press the **ENTER/HOLD** key.

D I S P L A Y : J a p a n e s e

4 Press **▲** **▼** to select a language.

D I S P L A Y : G e r m a n

5 Press the **ENTER/HOLD** key.

6 Press the **END** key several times to end the setting.

Chapter 4

Troubleshooting



This chapter

describes the actions to be taken when the plotter develops any trouble or displays an error message.

Troubleshooting	4-2
Warning/Error Messages	4-4
Error Messages	4-4
Warning Messages	4-6

Troubleshooting

When you feel that the device is broken, first refer to the items below:

If the problem is still not solved after troubleshooting, contact your distributor or our service office.

Failure phenomenon	Cause	Solution
Power does not turn ON.	The power cable of the machine is not connected securely.	Securely connect the power cable of the machine to the outlet.
Cutting (plotting) cannot be performed.	The host computer setting (plotter name, etc.) is wrong.	Check the host computer setting.
	The interface cable is not connected securely.	Securely connect the interface cable in position.
	The USB driver or Port monitor is not installed.	Install the USB driver and the port monitor in the attached manual CD.
A communication error occurs before receiving data.	The order to turn on the power is wrong.	Before turning on the power of this device, turn on the host computer.
An error occurs in the machine when the host computer sends data to the machine.	The communication condition is wrong.	Check the communications conditions. (☞ P.3-20)
	The wrong operation was performed.	Operate this machine correctly.
The sheet cannot be detected. ([**NO SHEET**] is displayed on the screen.)	A black sheet is being used.	Set the sheet sensor function to OFF. (☞ P.3-27)
The cut part became a dotted line.	Screw for the tool holder is loose.	Tighten the knob of the tool holder further.
	The cutter blade protrudes excessively.	Adjust the blade protruding amount to the proper one.
	The blade is chipped or worn out.	Replace the blade with a new one.
	The rotation of the blade is dull.	Replace the holder with a new one.
Data length differs from the cut length.	Because the sheet feeding length differs depending on the sheet thickness.	Correct the difference by performing distance correction. (☞ P.3-11)
Misalignment occurs in cutting.	The pinch rollers and grit rollers fail to securely retain the sheet in position.	Check the position of the pinch rollers and grit roller and adjust them so that they securely retain the sheet in position.
	The selection of clamp pressure (strength mode) is not proper.	Select the clamp pressure properly. (☞ P.1-7)
	There is a slack in the roll sheet so the sheet fed meanders or skews.	When you set roll sheet, first remove a slack in the roll and make the right and left edges of the roll even. Then, perform sheet feeding.
	The sheet comes in contact with the floor surface. (The front end of the sheet is cut skewed.)	Decrease the cutting speed (SPEED) to reduce the load on the sheet when it comes in contact with the floor surface.
	The side margins of the media beside the pinch rollers are not enough.	Provide a side margin of 20 mm or more on each side of the media beside the pinch rollers.
	The sheet extended and shrunk due to the effect of work environment (temperature and humidity).	The size of the sheet changes due to the temperature and the humidity. First, use the pre-feed function and acclimate the sheet to the work environment enough. Then, perform cutting (plotting). (☞ P.3-31)

Failure phenomenon	Cause	Solution
The tool is dragged during operation. An unexpected cutter imprint remains on the sheet.	The sheet is warped.	Attach it so that the sheet is not warped.
	The tool does not move up/down successfully.	Turn the power OFF and try to lift/lower the tool holder by hand. If the tool holder does not move up but remains in the lower position, contact your distributor or our service office.
	The side margins of the media beside the pinch rollers are not enough.	Provide a side margin of 20 mm or more on each side of the media beside the pinch rollers.

Warning/Error Messages

Error Messages

The error message displays the error number.

Even if you perform the measure for the displayed error number, contact a distributor in your district or our office to call for service.






Messages	Cause	Solution
ERR02 MAIN RAM	An error occurred in the control RAM.	Buy one through the dealer in your region or at our service office.
ERR04 EEPROM	An error occurred in the system ROM.	
ERR06 BUFFER	An error occurred in the received buffer.	
ERR08 POWER	An error occurred in the motor.	
ERR10 COMMAND	Code other than command data has been received.	
ERR11 PARAMETER	Any parameter outside the range of acceptable numeric values was received.	
ERR12 DEVICE	Invalid device control command was received.	Check the device control command.
ERR13 PM OVER	The polygon buffer overflowed.	Divide the polygonal data and send the divided data.
ERR15 AUTO FEED	The machine failed to feed the sheet by the length specified by the ZX command.	After sending from the host computer is completed, reset the long sheet and perform copy.
	During split cutting, the second and later data could not be fed by the previous sheet length.	Set the long sheet and make it remote mode.
ERR16 AUTO I / F	The command automatic recognition could not be performed.	Set the command name. (☞ P.3-19)
ERR20 I / O	The communication condition differs.	Match the plotter conditions to the conditions in the PC. (☞ P.3-20)
ERR27 BUFFERover	An interface error occurred.	Make the communication condition same as the one in the host computer, or, check the interface cable. (☞ P.1-10)
ERR30 OPERATION	Improper operation was conducted on the operation panel.	Operate this machine correctly.
ERR31 NO DATA	Copy was specified without data in the received buffer.	When there is no data in the received buffer, you cannot specify copy.
ERR32 DATAtooBIG	Data in the received buffer is too big and cannot be copied.	Refer to the copy function. (☞ P.3-7)
ERR33 SHEET SIZE	The sheet feeding direction is too short.	Replace the roll sheet with a new one. (☞ P.2-12)

Messages	Cause	Solution
ERR34 DAT REMAIN	Improper operation was conducted while cutting is suspended by REMOTE.	Press the REMOTE key to cut data, or perform data clear. (P.2-26)
ERR40 MOTOR A	The motor to feed the sheet became overloaded.	Perform the following works. If the same error message appears again, contact your distributor or our service office. Turn off the power and then turn it on again. Set the sheet setting to "HEAVY". (P.3-34) Pull out the sheet by the required amount to allow leeway.
ERR41 MOTOR B	The motor to move the carriage became overloaded.	
ERR42 A CURRENT	An overcurrent error of sheet feeding direction motor was detected.	
ERR43 B CURRENT	An overcurrent error of sheet width direction motor was detected.	
ERR50 ORIGIN	A sheet size cannot be detected.	Perform the following works. If the same error message appears again, contact your distributor or our service office. Turn off the power and then turn it on again. Pull out the sheet by the required amount to allow leeway.
ERR51 PINCH POS *	The pinch roller is not on the grit roller.	Move the pinch roller on the grit roller.
ERR52 ToolChange	The tool switching operation was failed.	Check that the tool holder is attached properly. (P.2-3) If the tool holder is attached properly, contact a distributor in your district or our office to call for service.
ERR53 SHEET CUT	The cutting off of the sheet was failed.	Increase the "cut pressure" of the cutting condition. (P.2-9) Increase the cut pressure for cutting off. (P.3-23) Adjust the length of the blade edge as required. (P.2-3)
ERR60 PenEncoder	The pen height could not be detected.	Turn off the power and then turn it on again. If the same error message appears again, contact your distributor or our service office.
ERR61 Pen Stroke	The height of the pen or the cutter is not proper.	<ul style="list-style-type: none"> • Check that the pen line and the cut line are not extremely worn away, and there is neither float nor deformation. Replace them as required. • Check that there is no foreign object on the pen line and the cut line. Remove the adhering object. • Check that the sheet does not float. If it floats, by using the hold function (P.3-17), reset the sheet. • As the set sheet is too thick, the tool cannot move downward. Do not use too thick sheet. • If an error occurs even if there is no abnormality in the above mentioned items, contact a distributor in your district or our office to call for service.

Warning Messages

These are the message displayed in the remote mode.

As this does not indicate the device breakdown, take the proper measure as required.

Messages	Cause	Solution
CUT1 * REMOTE *	The remote mode is selected.	 When you press the key, the screen returns to LOCAL.
CUT1 * 128KB *	The received data capacity is displayed.	When you start cutting (plotting), it will decrease by 1KB step.
** OFFSCALE **	As the cut data exceeds the available cutting area, the device stops after cutting up to the sheet end.	Set a new sheet, or make data smaller.
** NO SHEET **	The clamp lever was operated without the sheet set.	After setting the sheet, operate the clamp lever.
** VIEW **	The not ready mode (NR;) from the host computer was received, and the device is in the local mode.	After performing the required operation such as the sheet detection and the origin detection, press the  key to enter into the remote mode.
** DIGITIZE **	The digitizing command (DP;) from the host computer was received, and the device is in the digitizing mode.	Move the pen tip as required and press the  key. To release the digitizing mode, press the  key to perform data clear. ( P.2-26)

Chapter 5

Appendix



This chapter

describes the replacement procedure for the cutter blade and the specifications of the plotter.

Specification	5-2
Maintenance	5-3
Cleaning the Exterior Surfaces	5-3
Cleaning the Platen	5-3
Function Flowchart	5-4
Function by the dedicated key	5-4
Function by the jog mode	5-5
Functions	5-6

Specification

Item		Specification
Settable sheet	Type of sheet	Roll paper (for apparel 64 to 180g/m ²)
	Sheet width	890 to 1400mm
	Roll inside diameter	200mm or less
	Weight	20kg or less
Available area for cutting		1240mm x 51000mm
Maximum speed		141cm/s (at plotting, pen moving upward 45 degree direction)
settable speed (cutting/ plotting) *1		Plot : Max.60cm/s Cut : Max.60cm/s 1 ~ 10cm/s (1cm/s step) 10 ~ 60cm/s (5cm/s step)
Mechanical resolution		5μm
Program step		25μm、10μm (MGL-IIc) 100μm、50μm、25μm (MGL-Ic1)
Repetition accuracy		± 0.2mm/3000mm (Excluding extension and shrink of sheet)
Accuracy range (repetition accuracy) *2		1240mm x 3000mm (Depending on the specified sheet and the cutting condition)
Maximum pressure		500g
Set pressure	Cutter	10 to 20g (2g step) 20 to 100g (5g step) 100 to 500g (10g step)
	Pen	10 to 20g (2g step) 20 to 100g (5g step) 100 to 500g (10g step)100 STEP
Usable tools		Cutter, Ballpoint pen (oil-based) *3
Safety Standar		VCCI-Class A, FCC-Class CE Marking (EMC,Low Voltage, RoHS Directive),CBReport, ICE 62368-1 ETL, EAC markd
Command		MGL-IIc、MGL-Ic1
Interface		RS-232C、USB
Reception buffer		30M-byte standard (when sorting is valid, 20M-byte)
Operating environment	Temperature	5 to 35°C
	Humidity	35 to 75% Rh (with no dew condensation)
Accuracy-ensuring environment	Temperature	16 to 32°C
	Humidity	45 to 65% Rh (with no dew condensation)
Dust		Equivalent to normal office level
Power capacity		AC 100V to 240V 1A ~ 0.6A 50/60Hz
Outside dimensions	Width	1825mm
	Depth	700 to 1110mm
	Height	1217mm
Weight		75kg
Noise	During standby	55dB
	When operating	70dB

*1. Limited depending on the sheet type.

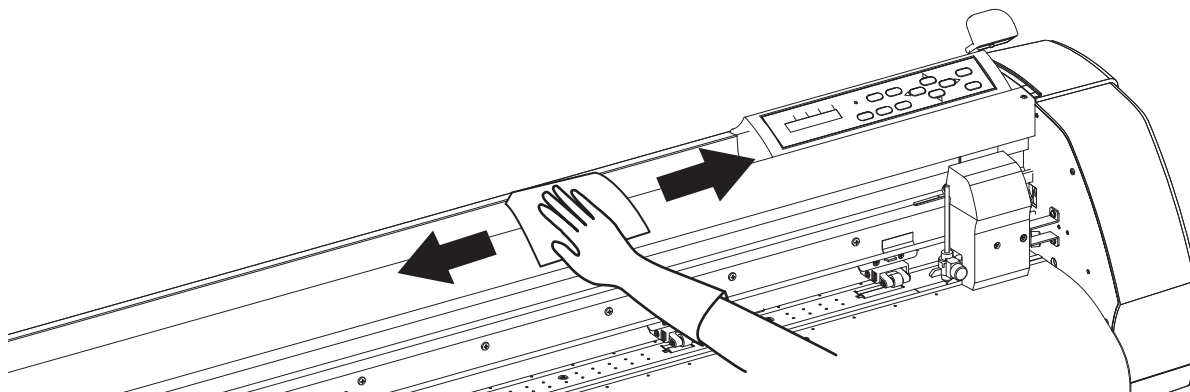
*2. Depending on the condition specified by our company.

- When you use the sheet confirmed by our company only.
- When you perform [Feed count] and [Waiting time] explained in P.2-11 "Reference for cutting condition".

*3. Use the specified extra lead and the dedicated holder.

Cleaning the Exterior Surfaces

When the exterior surfaces of the machine are stained, dampen a soft cloth with water or a neutral detergent diluted with water, squeeze it, and wipe the surfaces with the cloth.

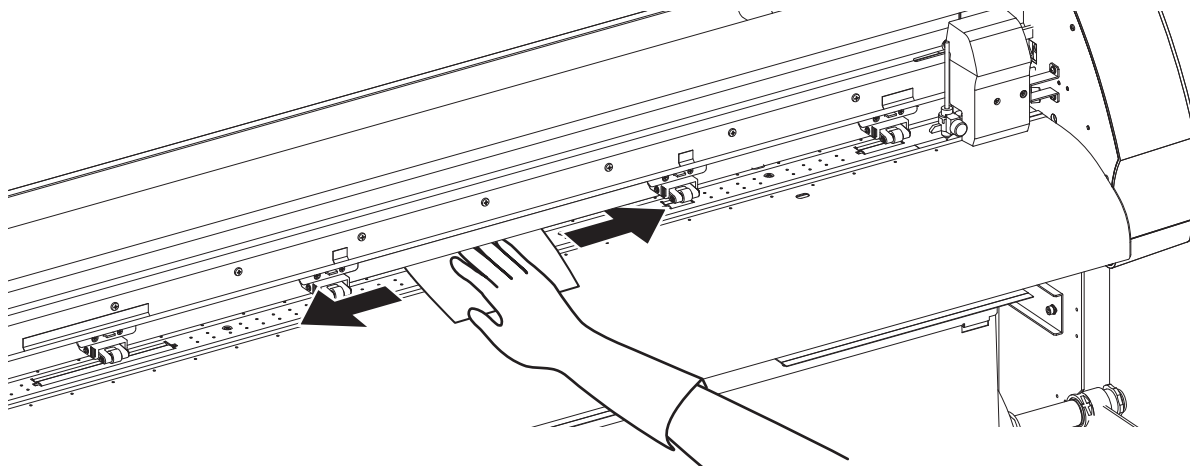


Cleaning the Platen

The platen easily gets dirty with paper dust, etc. generated when a sheet is cut. Wipe off conspicuous dusts with a dry cloth, a paper towel, etc.

Important!

- If ink of the ballpoint pen adheres to it, immerse a soft cloth in water or watered neutral detergent, fully wring it and wipe ink off with it.



Function Flowchart

Function by the dedicated key

REMOTE key

CUT1 20 050 0.30

LOCAL mode

REMOTE

CUT1 * REMOTE *

REMOTE mode

FEED key

CUT1 20 050 0.30

LOCAL mode

FEED

SHEET FEED: 1.0m

ENTER/HOLD key

CUT1 20 050 0.30

LOCAL mode

REMOTE

CUT1 * REMOTE *

ENT/HOLD

-- HOLD --

ENT/HOLD

-- HOLD --

TOOL key (tool condition setting)

CUT1 * REMOTE *

REMOTE mode



REMOTE

CUT1 20 050 0.30

LOCAL mode

TOOL

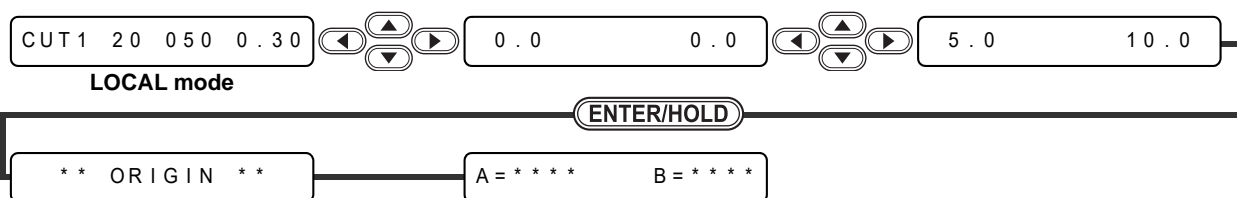
CUT1 20 050 0.30

Press the **TOOL** key to select the tool condition (CUT1 to 7, PEN).

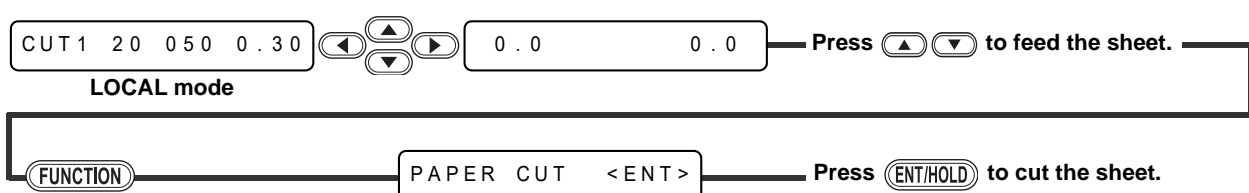
Press the jog key to select the setting items and the setting value.

Function by the jog mode

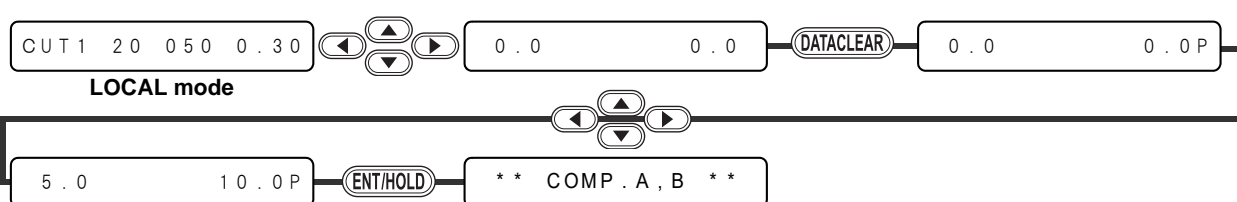
Origin setting method



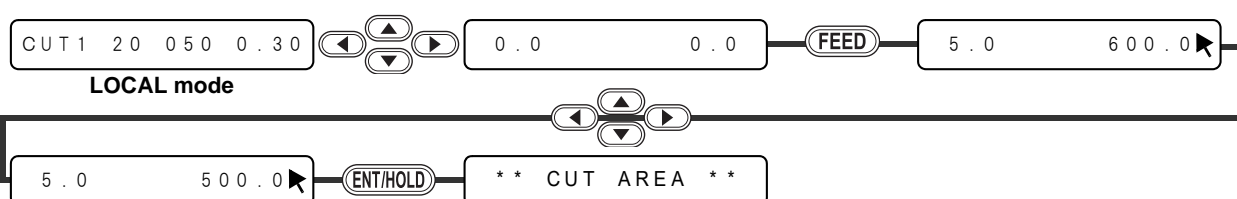
Paper cutting method



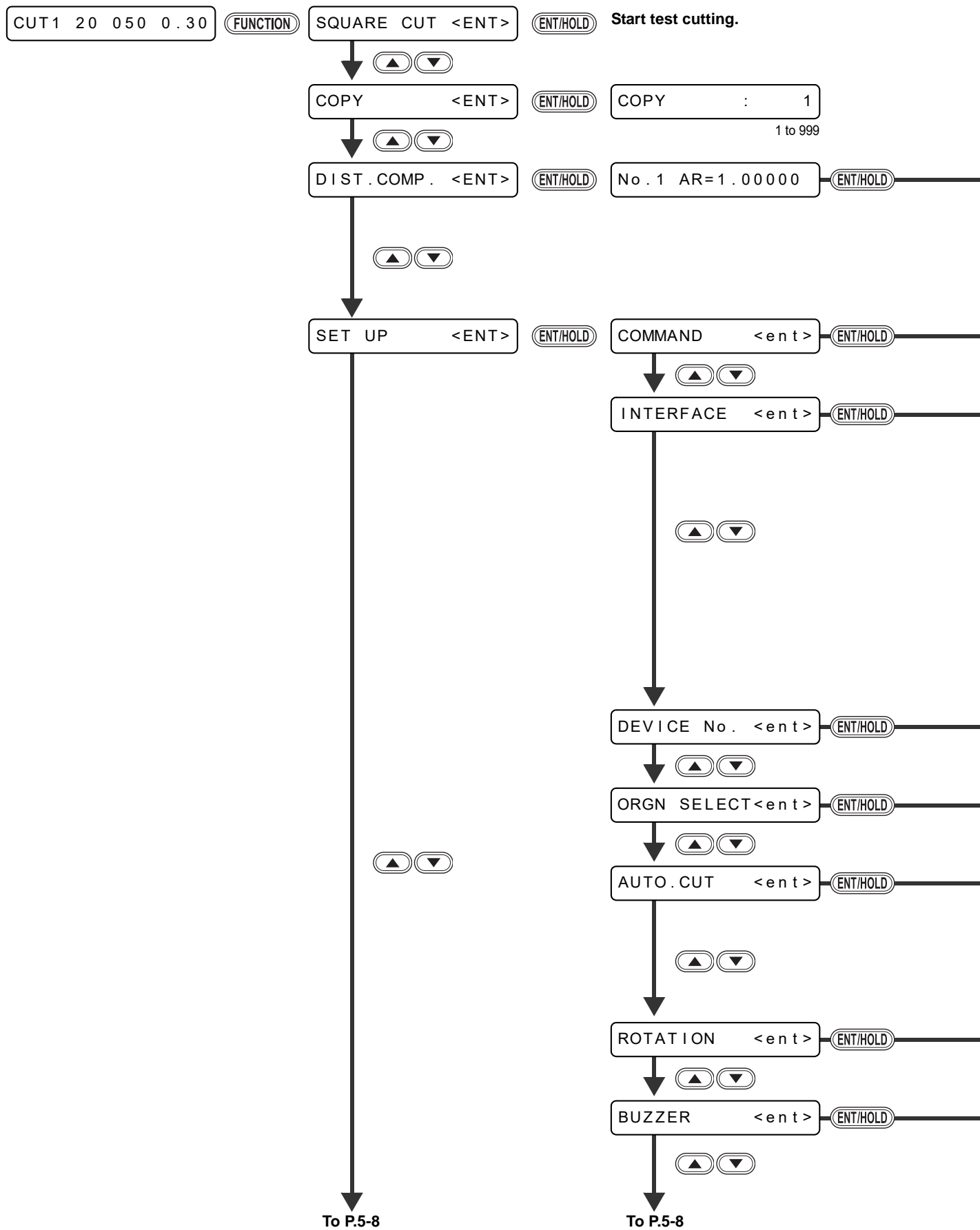
Axial correction of two positions setting method

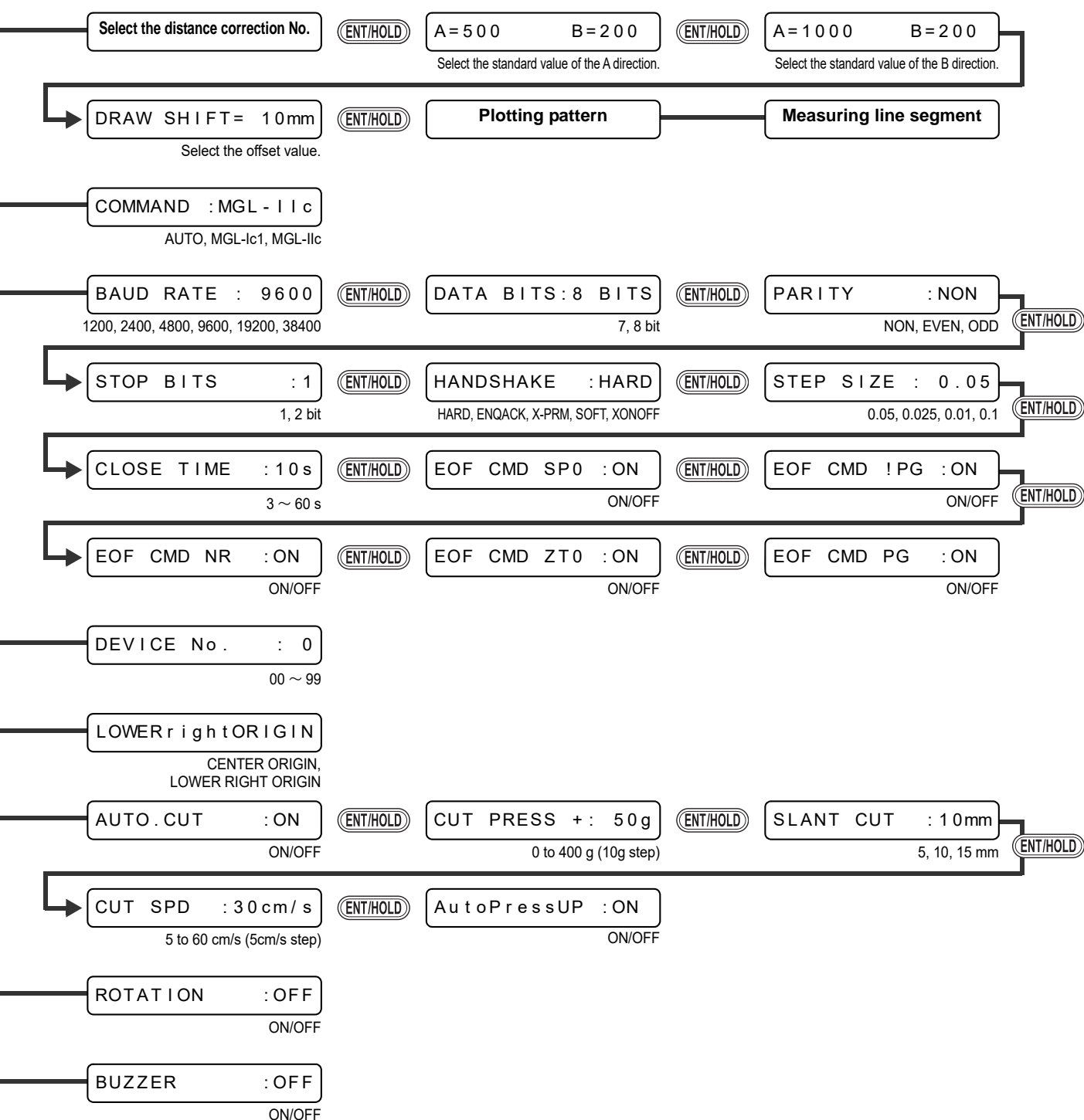


Cut area setting method



Functions





From P.5-6

To P.5-10

From P.5-6

PRIORITY <ent> ENT/HOLD



SHEETsensor<ent> ENT/HOLD



UP SPEED <ent> ENT/HOLD



JOG STEP <ent> ENT/HOLD



MM/ INCH <ent> ENT/HOLD



PRE FEED <ent> ENT/HOLD



FEED OFFSET<ent> ENT/HOLD



DUMMY CUT <ent> ENT/HOLD



SHEET TYPE <ent> ENT/HOLD



SORTING <ent> ENT/HOLD



OVER CUT <ent> ENT/HOLD



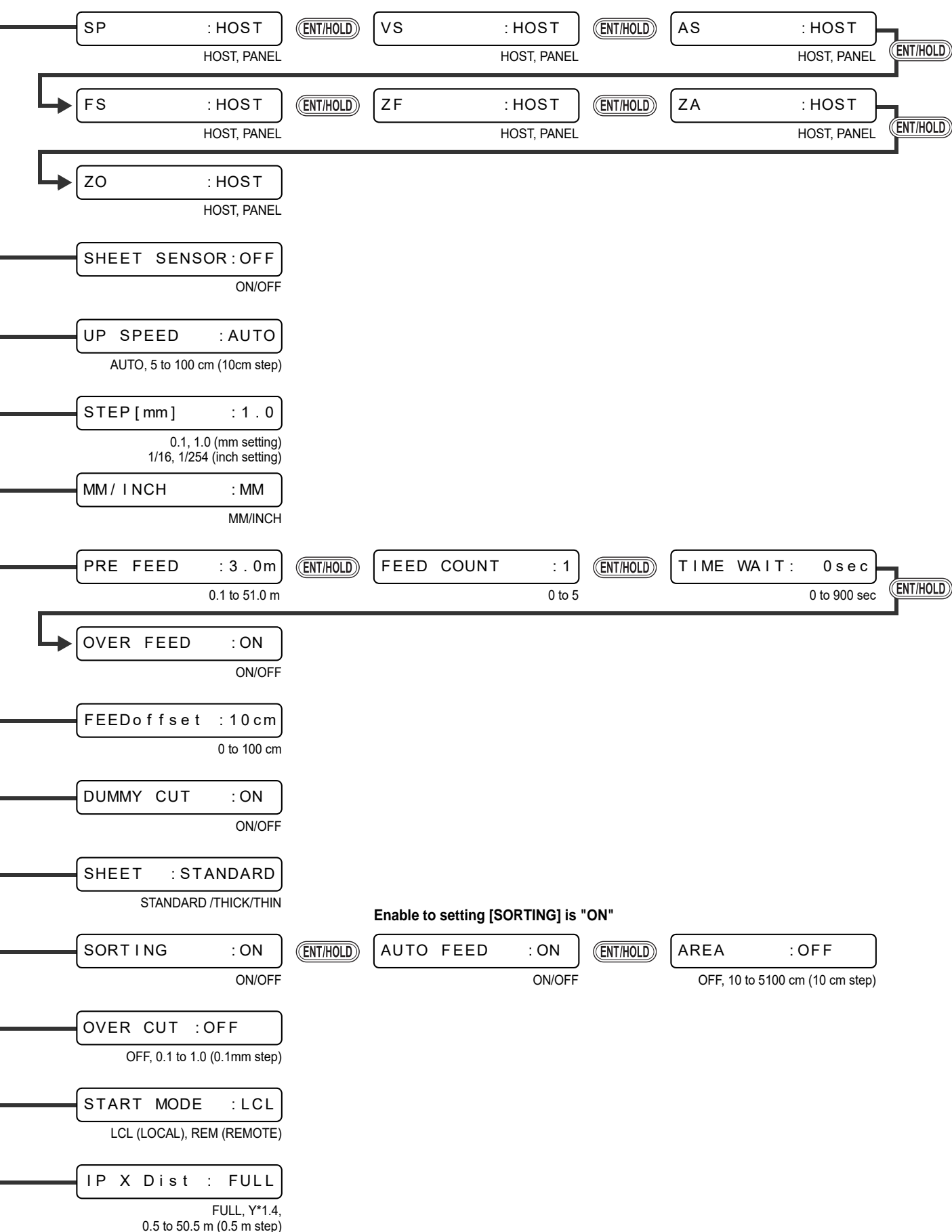
START MODE <ent> ENT/HOLD

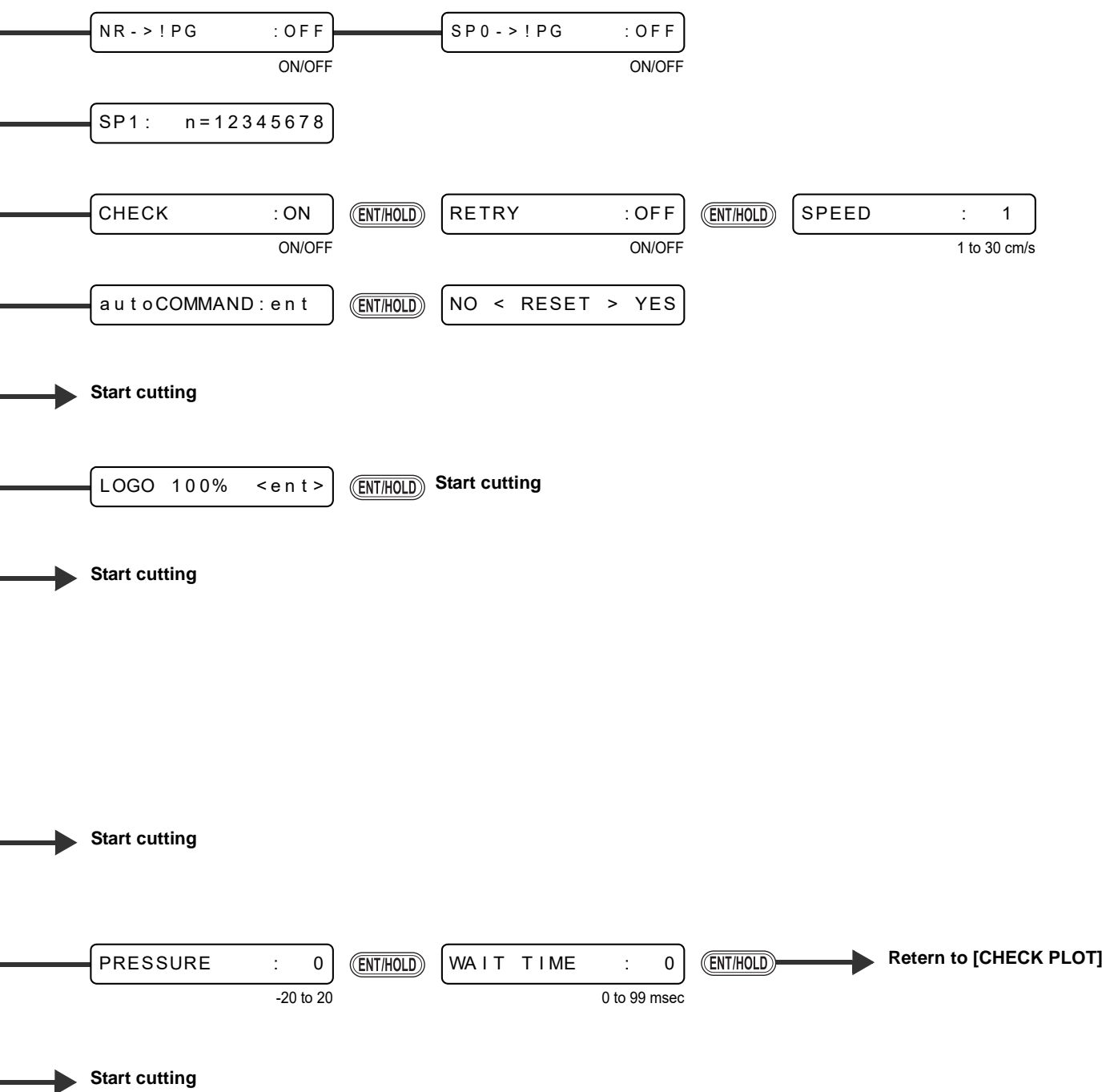


IPxDistance<ent> ENT/HOLD



To P.5-10





APC-130 Operation Manual

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