CE8000-130AP

CUTTING PLOTTER

USER'S MANUAL

GRAPHTEC

Preface

Thank you for choosing a Graphtec CE8000-130AP Cutting Plotter. The CE8000-130AP Cutting Plotters employ a digital servo drive system to achieve high-speed and high-precision cutting. In addition to cutting marking film and other media, an CE8000-130AP plotter can also be used as a pen plotter. To ensure high cutting quality and optimal productivity, be sure to read this User's Manual thoroughly prior to use.

Notes on this Manual

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About the operation method in the manual

- This manual explains operations using the touch panel.
  You can also operate using the operation keys.
  For details, see "2.7 How to Use Control Panel".

About the words and phrases in this text

- In this instruction manual, the word "plot" refers to operating the machine and using either the plotting pen or the cutter pen to cut.
- In this instruction manual, the word "media" refers to paper, roll media, sheet media, or marking film.

Prior to use

- Be sure to read the attached TO ENSURE SAFE AND CORRECT USE prior to use. Otherwise, it may cause an unexpected accident or fire.

Special Precautions on Handling Blades

Sharp cutter blades are used with this plotter. Handle the cutter blades and holders with care to prevent bodily injury.

Cutter Blades

Cutter blades are very sharp. While handling a cutter blade or cutter pen, be careful to avoid cutting your fingers or other parts of your body. Promptly return used blades to the cutter case provided.
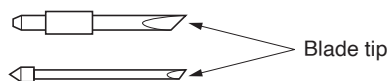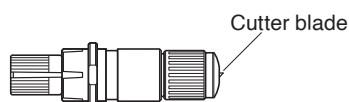

Blade tip

For the used blade, put it in the supplied cutter blade case and discard them in accordance with the local regulations.
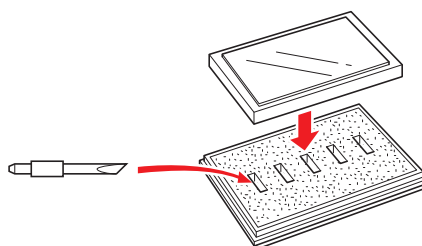
Cutter plungers

The tip consists of a sharp blade. Be sure not to extend it too far. Moreover, when you are not using the cutter plungers, make sure that the blade is fully retracted.


Cutter blade

After Mounting the Cutter Plungers

After the power has been turned on, and during operation, do not touch the pen tip. It is dangerous.

After Turning on the Plotter

During the course of turning on the plotter, be sure to observe the following precautions. The tool carriage and loaded media may suddenly move during the cutting operation, immediately afterward and when setting the plotter's functions. Keep hands, hair, clothing and other objects out of the vicinity of the tool carriage, grit rollers and loaded media. To prevent operator injury and poor cutting results, be careful not to allow hands, hair, clothing or other foreign objects to become entangled with the tool carriage or loaded media while the plotter is operating.
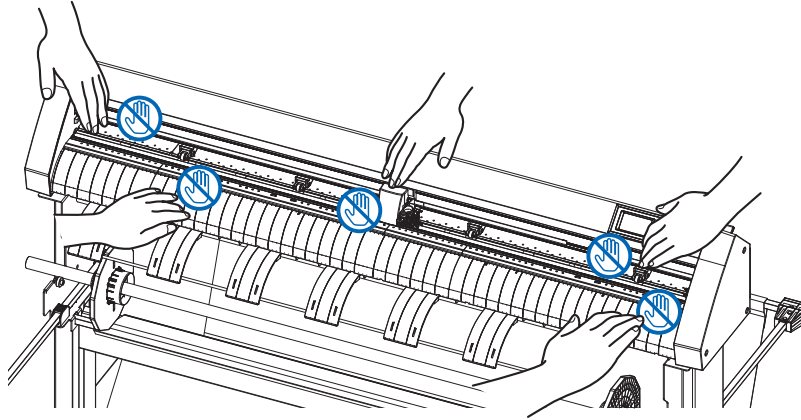
Machine Caution Label

The Caution Label is located on the machine. Be sure to observe all the cautions on the label.

⚠ WARNING
PN:625539090
During a cutting or plotting operation, do not touch the writingpanel or moving parts such as the gear. When you are installing media, be careful for gear,a roller, etc. not to pinch your finger.

⚠ AVERTISSEMENT
Lors d'une opération de découpe ou de traçage, ne touchez pas le panneau ou les pièces mobiles comme l'engrenage.Lorsque vous installez des médias, faites attention aux engrenages, aux rouleaux, etc.., et à ne pas coincer vos doigts.

⚠ 警告
カット／作図中はローラーやギア等の可動部に絶対さわらないでください。
メディアをセットする際はギア、ローラー等に指を挟まないように注意してください。

| ⚠ WARNUNG | ⚠ AVVERTENTZA | ⚠ ADVERTENCIA | |
| ⚠ AVISO | ⚠ ПРЕДУПРЕЖДЕНИЕ | ⚠ 경고 | ⚠ 警告 |

Notes on the Stand

Be sure to use only the stand designed for the CE8000-130AP with your CE8000-130AP plotter. The use of a different stand may cause a plotter malfunction or bodily injury.

Notes on the basket

If the supplied basket is not used, problems in cutting quality may occur. Be sure to use the basket.

Notes on the paper (media)

Please use the paper (media) in accordance with the following precautions.

- The paper is sensitive to temperature and humidity, and can start to stretch or contract immediately upon removal from the roll. Cutting/plotting the media immediately after taking it off causes it to stretch and may blur or cause deviations in the images.
- Please make sure to store the paper at the same environment (temperature/humidity) as this machine.
- Please always line up the edge of the paper.
  Misalignment may cause paper skewing and cutting deviations.
  Paper skewing can cause plotting deviation and cutoffs.
- About the end of the roll media and the paper roll:
  The cutting or plotting may differ depending on how the roll media ended or how the paper roll was stopped.
- About the paper roll:
  This machine uses rolls with an internal diameter of 3 inches, or 76.2 mm. Cutting or plotting deviations may occur if the paper roll is warped or has a larger internal diameter.
- Please make sure to use the Exposure Time and Number of Pre Feeds settings.
  The media can start to stretch or contract after it is taken off the roll.
  Changes in temperature and/or humidity affect the paper's contractile and saturation time, and may cause deviations of cutting or plotting.
  In order to reduce this effect, be sure to try this function on media to be used.
  To prevent this from occurring, this machine is preset for Exposure Time at 180 seconds, and Number of Pre Feeds at 2. For details on how to change these settings, see "Setting Paper Exposure Time" and "Setting the Number of Pre Feeds" in Section 4.
- About the use of thin media (70 g /m^2 or less)
  If the cutting speed is fast, there may be paper skewing. In that case, please lower the cutting speed.
  Especially when using in low humidity environment, please use lower cutting speed.

Precautions when using the curled media

- Especially upward curl will cause media jam even with weak curl.
- Please use uncurled media, or rework to make it curl weak downward to the extent that follows the plotter.

Operating environment

With regard to changes in the operating environment, we guarantee the precision of our products under the following conditions:

- The paper used is Graphtec brand for this machine.

- The Paper Ready Time and Number of Pre Feeds are the manufactures settings of 180 seconds and 2 times.
- There are no changes in the storage temperature and humidity levels.
- If there are changes, the repeatable accuracy is equivalent to 0.1 mm per degree Celsius or 0.3 mm per 10% Relative humidity.
- The paper is re-set after 5 consecutive page cuts.
- Each page is removed from the basket after cutting.
- Connection of a ground wire is required.

* When the ground wire is not connected, the machine may be affected by static electricity.
 When using the machine without connecting a ground wire, there may be adversely affected in the cutting results. Make sure that the machine is grounded.

WARNING

The United States Federal Communications Commission has specified that the following notice must be brought to the attention of users of this product.

FEDERAL COMMUNICATIONS COMMISSION RADIO FREQUENCY INTERFERENCE STATEMENT

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

USE SHIELDED CABLES

To comply with FCC Class A requirements, all external data interface cables and connectors must be properly shielded and grounded. Proper cables and connectors are available from GRAPHTEC's authorized dealers or manufacturers of computers or peripherals. GRAPHTEC is not responsible for any interference caused by using cables and connectors other than those recommended or by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

Installation space

Please secure a space for installation as according to the below illustration.

⚠️**CAUTION**

Frontward and backward the machine, please take enough space for operation.

500mm

600mm

600mm

500mm
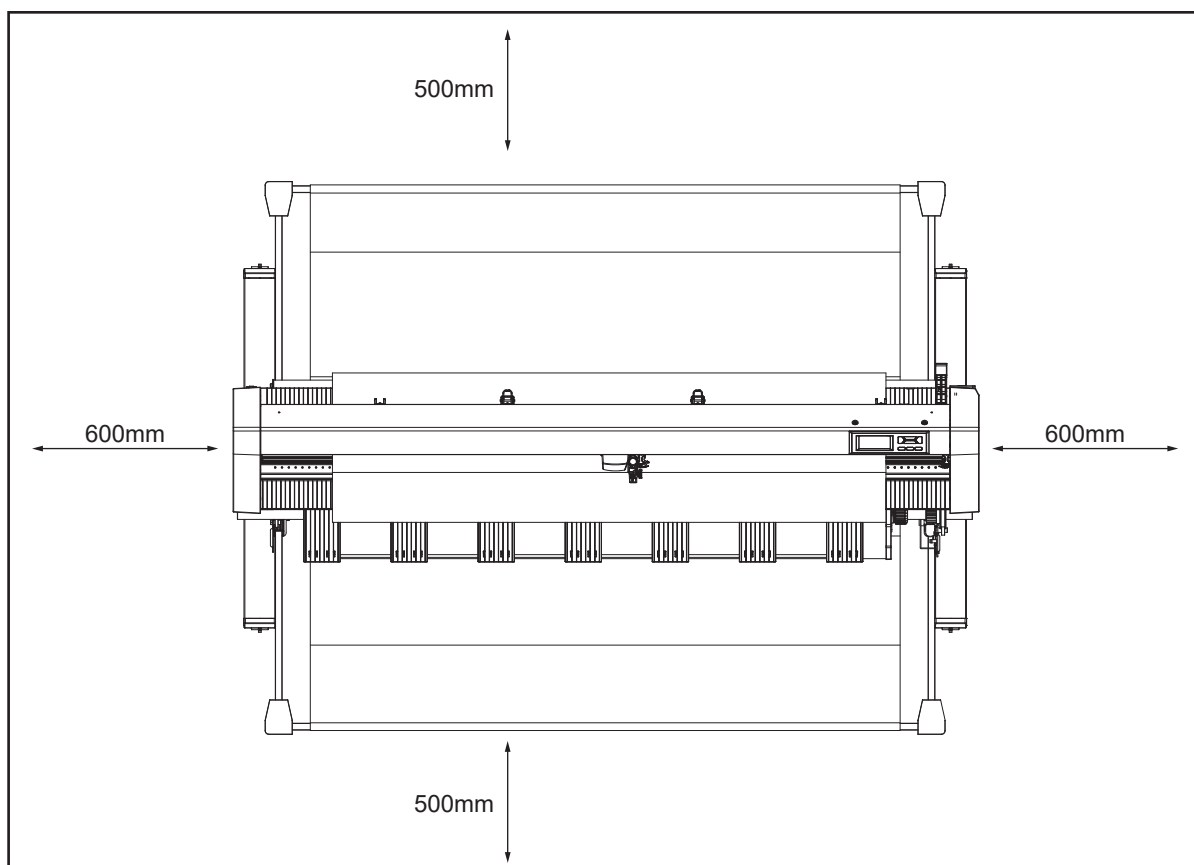
Selecting a power cable

Be sure to refer to the following tables if you wish to use a cable other than the one supplied as an accessory.

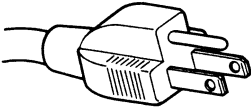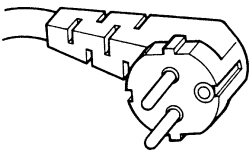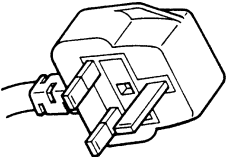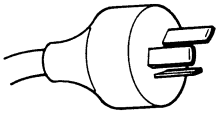Table 1. 100 V to 120 V Power Supply Voltage Range
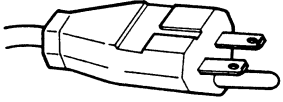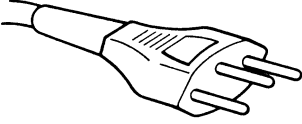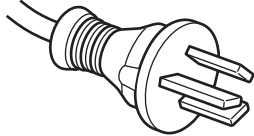
Plug Configuration	Plug Type	Supply Voltage Selector Settings	Reference Standards	Power Cable
	North America 125 V 10 A	100/120 V	ANSI C73.11 NEMA 5-15 UL498/817/62 CSA22.2 NO.42/21/49	UL Listed Type SJT No.18AWG×3 300 V, 10 A

Table 2. 200 V to 240 V Power Supply Voltage Range

Plug Configuration	Plug Type	Supply Voltage Selector Settings	Reference Standards	Power Cable
	Europe 250 V 10 A	200 V	CEE(7)VII IEC320 CEE13	TYPE: H05VV-F 3×1.0 mm²
	UK 250 V 5 A	200 V	BS1363 BS4491 BS6500	TYPE: H05VV-F 3×1.0 mm²
	Australia 250 V 10 A	200 V	AS3112 AS3109 AS3191	TYPE: OD3CFC 3×1.0 mm²
	North America 250 V 15 A	200 V	ANSI C73.20 NEMA 6-15 UL 198.6	UL Listed Type SJT No.18AWG×3 300 V, 10 A
	Switzerland 250 V 6 A	200 V	SEV1011 SEV1004 SEV1012	TYPE: H05VV-F 3 × 0.75 mm²
	China 250 V 6 A	200 V	GB15934 GB2099.1 GB1002 GB/T 5023.5	TYPE: H05VV-F 3×1.0 mm²

Contents

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Chapter 11: Settings of Controls from Computer

Chapter 12: Maintenance

Chapter 13: Troubleshooting

Appendix

Chapter 1: Product Summary

This chapter explains how to connect this machine to your computer.

1.1 Checking the Accessories

Accessories

Item	Q'ty	Item	Q'ty
Power cable	1 pc	SETUP MANUAL TO ENSURE SAFE AND CORRECT USE	1 of each
WEB download guide	1 sht.	Cutter plunger (PHP33-CB09N-HS)	1 pc
Cutter blade (CB09UB (1P))	1 pc	Oil-based ballpoint pen plunger (PHP34-BALL)	1 pc
Oil-based ballpoint pen (KB700-BK-1P)	1 pc	Wireless LAN module	1 pc
Wireless LAN module cover	1 pc	Screws for wireless LAN module	2 pcs
Accessory case	1 pc	Stand	1 set

* The accessory case has a magnet. Please attach it in a convenient location.

* In addition, various information may be attached.

* Accessories may vary depending on the sales area. For details, please contact the distributor where you purchased.

1.2 *Nomenclature*

Front view
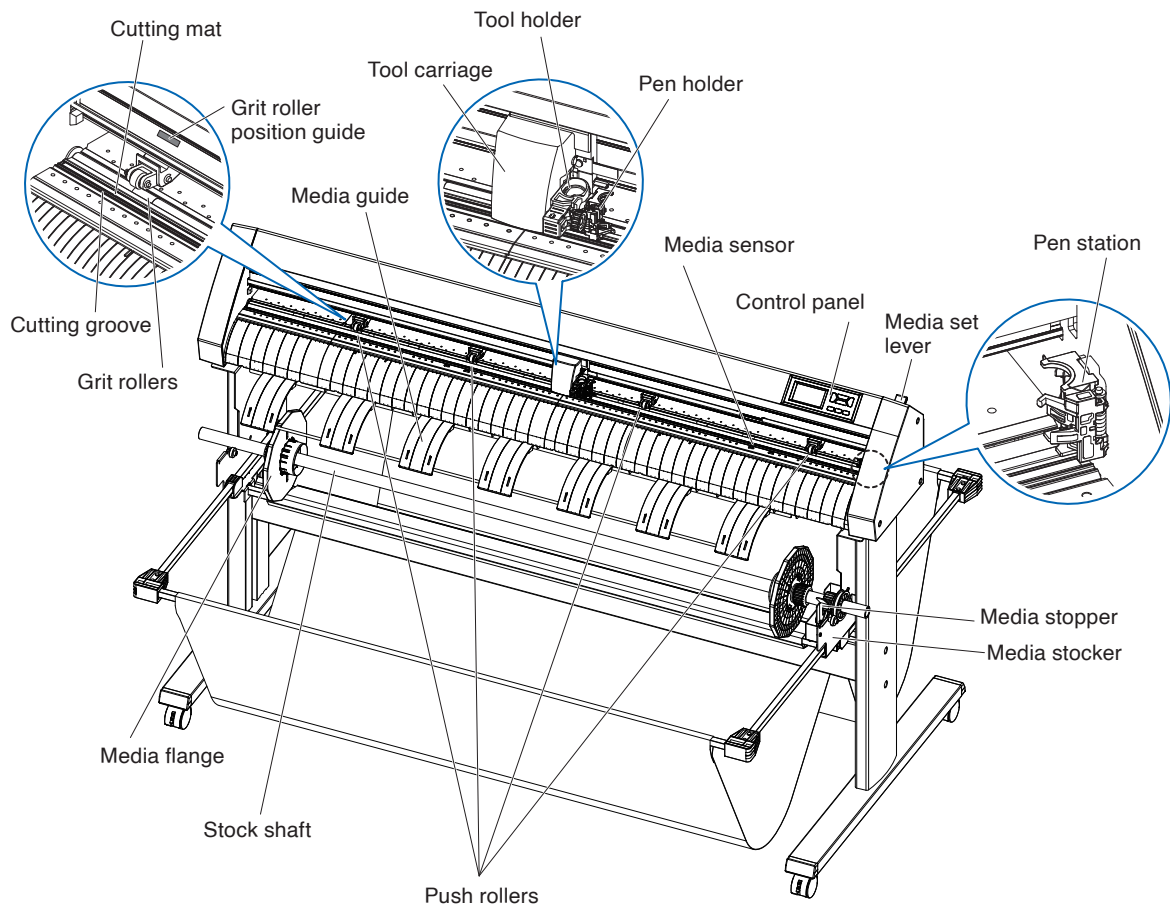
Control panel ....Used to access various plotter functions.

Media set lever ....Used to raise or lower the push rollers during the loading or unloading of media.

Tool carriage.............................Moves the cutter-pen or plotting pen across the media during cutting or plotting.

Tool holder................................Holds the cutter-pen or plotting pen and moves it up or down.

Media sensor............................The front sensor is used to sense the leading edge of the media.

Push rollers ....Rollers that push the media against the grit rollers.

Media stopper...........................This stops the stock shaft from spinning when setting in media. It is utilized when pulling roll media straight out.

Grit roller position guide ....A roller position guide is affixed to the front side of the rail, which shows the position of each grit roller. Use these alignment marks as an aid in locating the push rollers.

Grit rollers................................Feeds the media back and forth.

Cutting mat ....The pen moves on this cutting mat.

Cutting groove ....The cutter blade moves through the cutter groove to cut and cross cut.

Media stocker ....The stock shaft is set.

Pen station/Pen holder ....A second pen is set.

Media flange.............................Fixes the paper roll (media) in place as per settings.

Media guide..............................Guides the paper (media) during the plotting/cutting process.

Stock shaft................................A shaft that takes in roll media.

Rear view
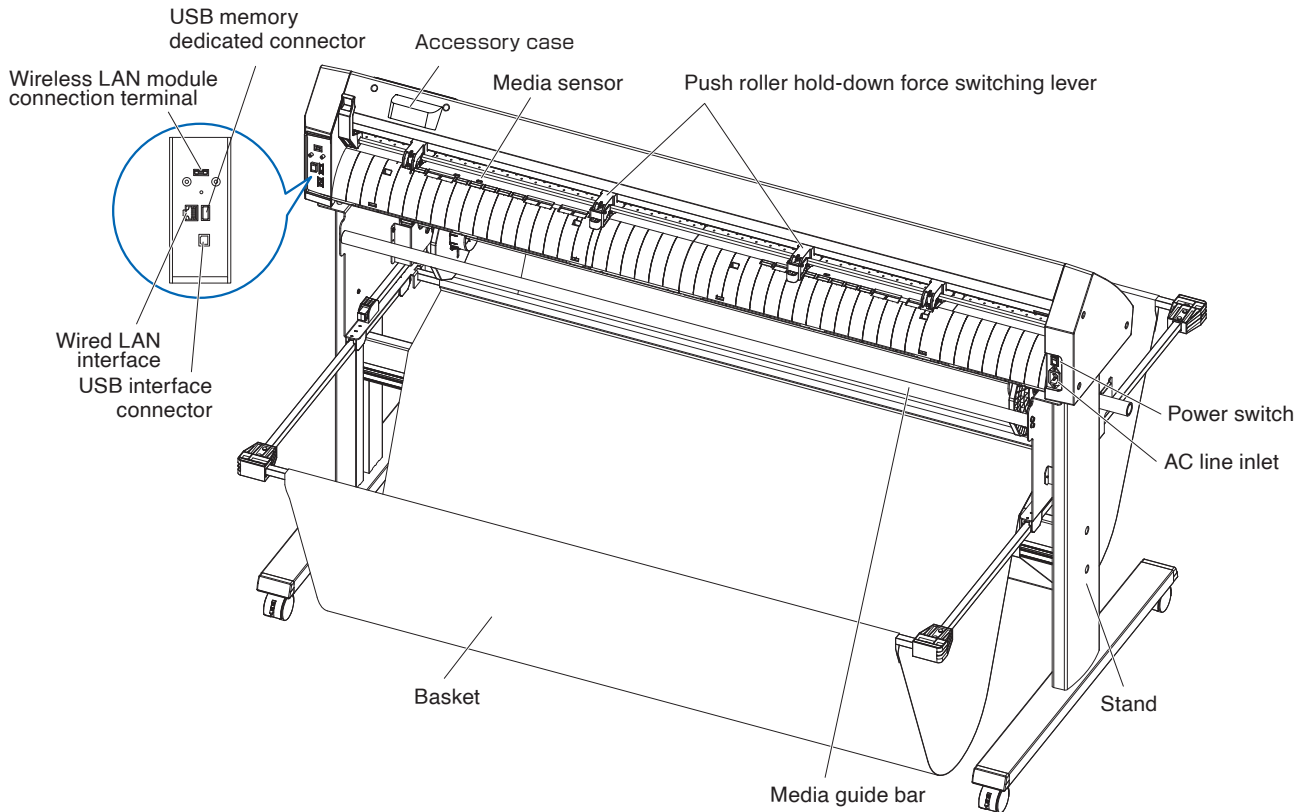
Power switch ....Used to turn the plotter on and off.

AC line inlet ....Inlet where the power cable is connected.

Push roller hold-down force switching lever

....Switch the pressure of the push roller to two levels: normal and low (OFF).

Stand.......................................A stand to put the machine on.

Media guide bar........................Shaft that used to set the roll media.

Basket......................................The container for receiving the media.

Accessory case ....Space for temporary storage of accessories such as cutter blades and cutter plungers.

　　　　　　　　　　　　　　　* The accessory case has a magnet. Please attach it in a convenient location.

Media sensor............................The rear sensor is used to sense the trailing edge of the media.

USB interface connector ....Used to connect the plotter to the computer with a USB interface cable.

Wireless LAN module connection terminal

....This is the terminal for connecting the wireless LAN module to the plotter.

　　　　　　　　　　　　　　　* A cover is attached to protect the terminals at the time of purchase.

Wired LAN interface ....This connector is used when connecting this plotter via network (wired LAN).

　　　　　　　　　　　　　　　* Wired LAN support varies depending on the sales area.

USB memory dedicated connector

....This is a dedicated connector for USB memory.

1.3 *Assembling*

For assembly of the stand, refer to the stand (ST0124) assembly instructions supplied with the stand.

1.4   *Connecting to the Computer*

This section describes how to connect the plotter and the computer.

Use either a USB port, wireless LAN or wired LAN* to connect the plotter to a computer.

The driver software must be installed before connection.

 * Wired LAN support varies depending on the sales area.

When using USB/Wired LAN

Connection

1.   Check that the power switch is turned off (the "○" side is pressed down).
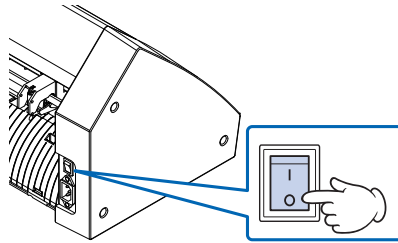
2.   Connect the plotter to the computer using the interface cable.

> **Supplement**
>
> See the "9.1 Setting Interface" for setting the interface.

Connection via USB interface

USB cable

Connection via network (LAN) interface

Network (LAN) cable
(commercially available product)
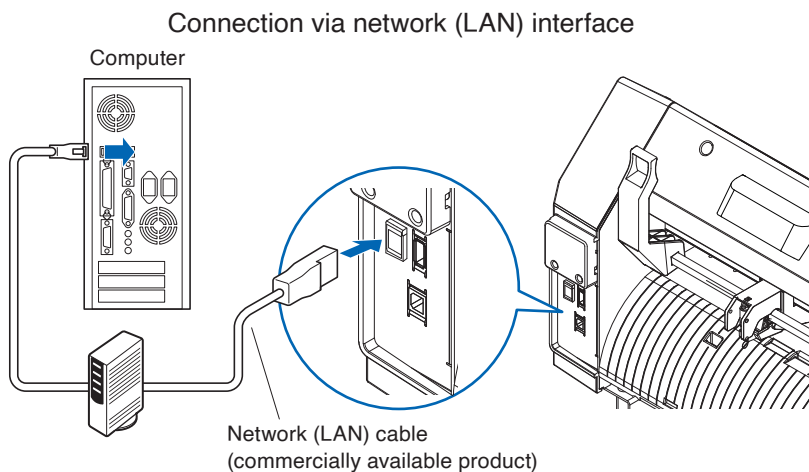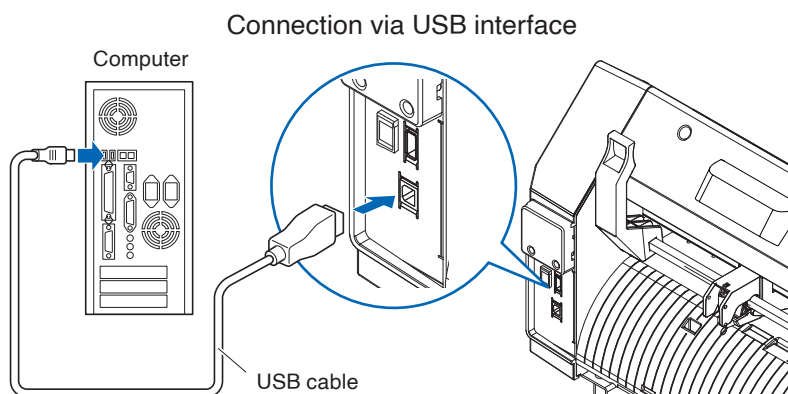
When using wireless LAN

Connection

1. Check that the power switch is turned off (the "○" side is pressed down).
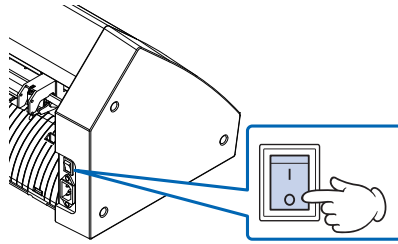
2. Remove the wireless LAN module cap.

Wireless LAN module cap
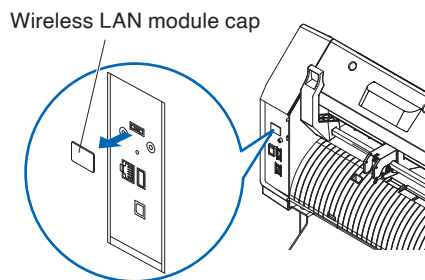
3. Install the wireless LAN module to the wireless LAN connection terminal.

Wireless LAN module

Hole
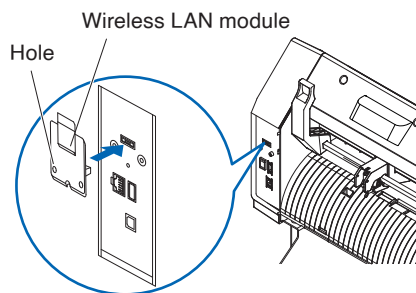
> **Supplement**
>
> Make sure that the wireless LAN module is firmly installed all the way.

4. Secure the wireless LAN module cover and the wireless LAN module with screws using a phillips screwdriver.

Wireless LAN module cover
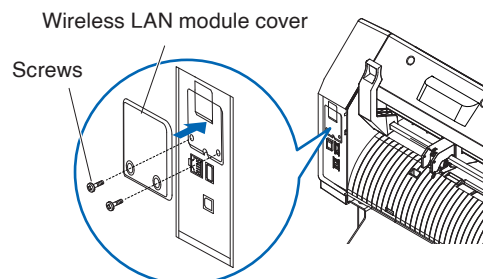
Screws

> **Supplement**
>
> • Please prepare your own phillips screwdriver.
> • For wireless LAN settings, see "9.2 Connecting via wireless LAN"

Chapter 2: Preparing to Cut

This chapter describes how to prepare to start the cutting.

2.1　Preparation of Cutter Plunger

This section describes the structures and types of the cutter plungers (cutter pens).

Cutter plunger nomenclature

The plotter cuts using a cutter blade mounted in a plunger. There are two different plungers to suit the diameter of the cutter blade to be mounted (the 0.9 mm cutter plunger is provided as a standard accessory). Be sure to mount the cutter blade in the corresponding cutter plunger.

PHP33-CB09N-HS/PHP33-CB15N-HS

Cutter blade　Plunger

Blade-length adjustment knob

Color ring
(Blue: For φ0.9 mm-diameter blades)
(Red: For φ1.5 mm-diameter blades)
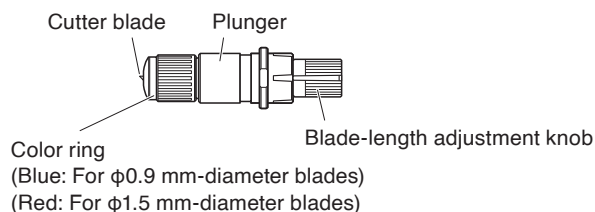
> ⚠CAUTION
> To avoid bodily injury, handle cutter blades with care.

Structure of cutter plunger

PHP33-CB09N-HS/PHP33-CB15N-HS
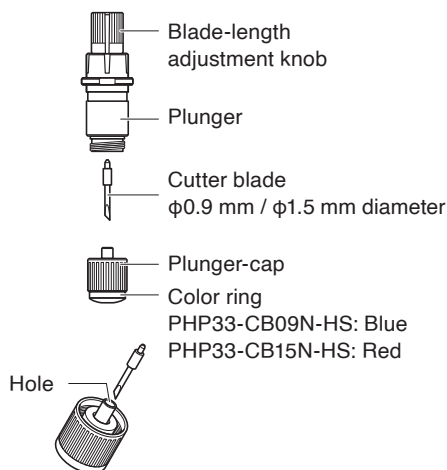
Blade-length
adjustment knob

Plunger

Cutter blade
φ0.9 mm / φ1.5 mm diameter

Plunger-cap
Color ring
PHP33-CB09N-HS: Blue
PHP33-CB15N-HS: Red

Hole

> ⚠CAUTION
> Please fully insert the cutter blade straight into the plunger cap.
> If the cutter blade cannot be inserted straight, please insert the cutter blade after pressing the insertion port of the cutter blade several times. If not installed correctly, it may result in damage to the cutter blade or the plotter itself.
>
> Insertion port of the cutter blade
>
> ○ OK　× NG
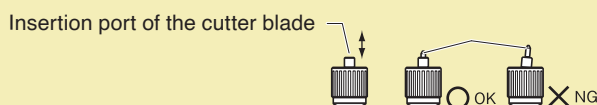
Adjusting the blade length

Blade length needs to be adjusted to perform optimal cut.
Perform few test cuts and set the optimal blade length.

> ⚠ **CAUTION**
> - To avoid bodily injury, handle cutter blades with care.
> - It may result in damaging the cutter blade or the cutting mat if the blade is extended too much.
>   After adjustment, please always perform "CUT TEST".

> **Supplement** 📝
>
> See "2.11 Running Cutting Tests" for cutting tests.

Adjust the blade length by turning the blade-length adjustment knob. Turn the knob in direction "A" to extend the blade, or in direction "B" to retract the blade. When the knob is turned by one scale unit, the blade moves approximately 0.1 mm. One full turn of the knob moves the blade approximately 0.5 mm.

<div align="center">PHP33-CB09N-HS/PHP33-CB15N-HS</div>

Cutter blade moves approximately 0.1 mm turning one scale unit.

Scale

Scale

B   A
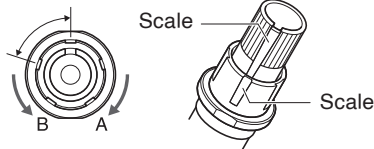
Blade application and features

Select the optimal cutter blade and media to be cut.
Refer to the Cutter Blade Manual.

> ⚠ **CAUTION**
> To avoid bodily injury, handle cutter blades with care.

2.2 *Attaching a Tool*

Attach a tool (cutter plunger, plotter pen) to the plotter.

Attaching a tool

When mounting the tool in the tool holder, please note the following.

> ⚠ **CAUTION**
> - Never touch the tool when the power is turned on or while it is in operation, as it is dangerous.
> - When handling the tool holder, be careful not to get injured by the cutter blade.

The tool holder is suitable only for use with the cutter plunger. Please refrain from attaching the plotting pen to it.

Mounting

1. Loosen the tool holder screw.

Tool clamper
Tool holder
Tool holder
Loosen the screw until this protrusion comes off.
Tool clamper
Top view
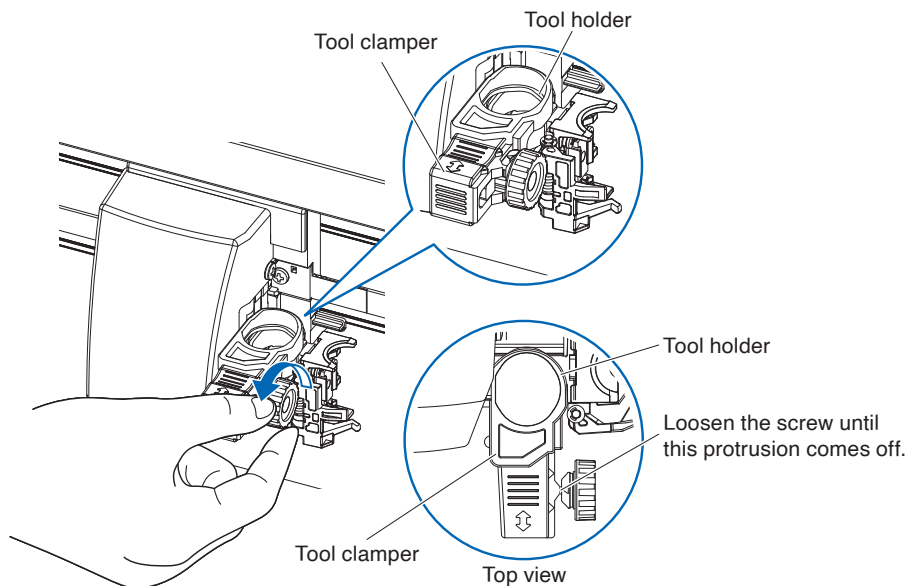
2. Move the tool clamper so that the hole in the tool clamper is aligned with the hole in the tool holder.

Tool holder
Tool clamper
Top view
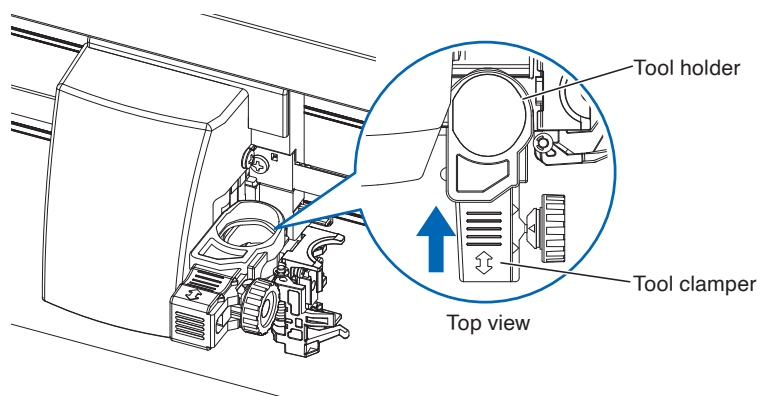
3. Keep the tool clamper and set the tool in the tool holder with pushing up the tool clamper.
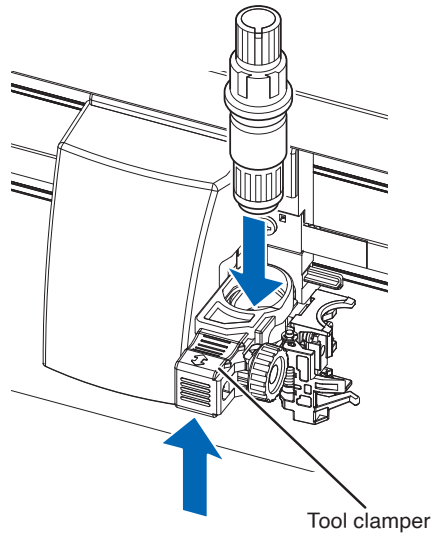
Tool clamper

Supplement

Make sure the tool is set straight into the tool holder.

4. Pull the tool clamper until the triangular mark on the screw side aligns with the triangular mark on the rear side of the clamper side.

Tool clamper

Move using the triangle mark in the back as a guide.
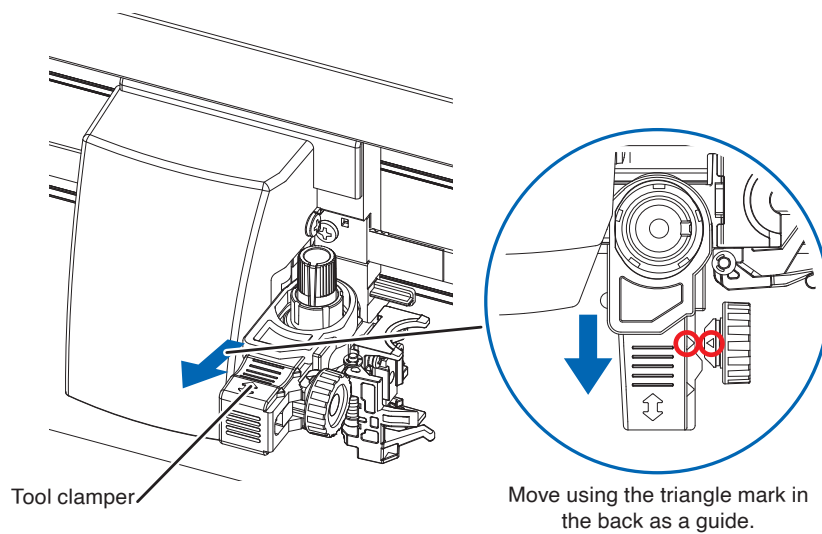
Supplement

Make sure the tool is set straight into the tool holder.

5. Tighten the tool holder screw.
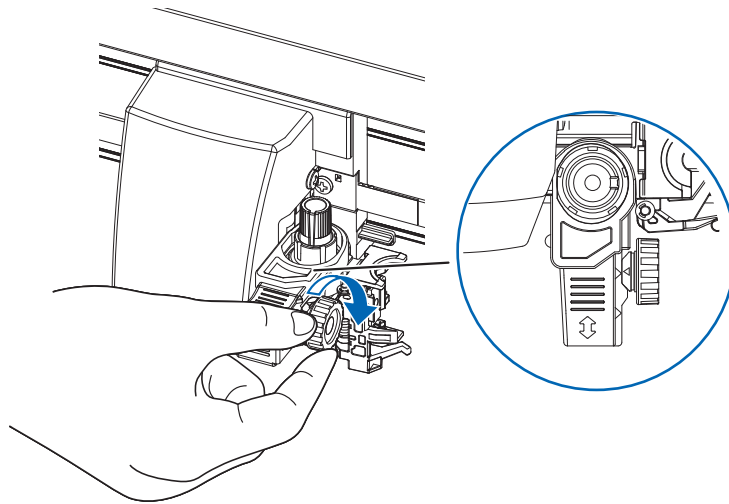
Removing the tool

To remove the tool, loosen the screw until this protrusion mentioned in step 1 of "Attaching a tool" comes off and then remove the tool.

Attaching a pen

Attach a pen to the pen station.

⚠**CAUTION**
- To prevent injury, avoid touching the pen immediately after the cutting plotter is turned on or whenever the pen is moving.
- Please make sure to attach the pen to the pen station when setting up a pen.

Operation

1. You can attach the pen by opening up the holder on the pen station with your finger.
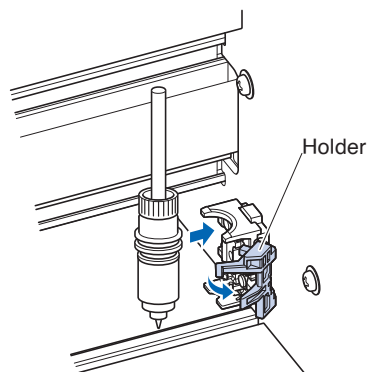
Holder

2. Once the pen is attached, releasing the holder fixes the pen in place.
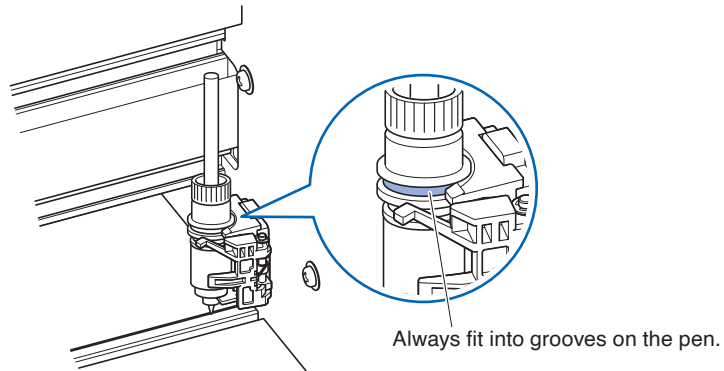
Always fit into grooves on the pen.

Removing a pen

You can remove the pen by lifting up the holder.

2.3   *Loading Media (Paper)*

Both roll media and sheet media can be used with the CE8000-130AP. Load the media according to the instructions given for each type.

Use the grit roller on the right side of the media (looking from the front) as a guide when setting it in the media sensor. Afterwards, adjust the push roller so that it's lined up with the side of the media.

- Loading Roll Media
- Loading Sheet Media

> ⚠️**CAUTION**
>
> Notes when using roll media
> • If the media is not put in the basket and there are problems in the media feed, reduce the media feed speed.
> • Take all cut/plotted paper out of the basket; paper left in the basket may cause deviations and affect performance for subsequent jobs.

Loading roll media

Operation

1. Set the media flange and paper to the stock shaft and insert in the direction of the paper.

Media flange
Stock shaft
Media flange
Flange screw
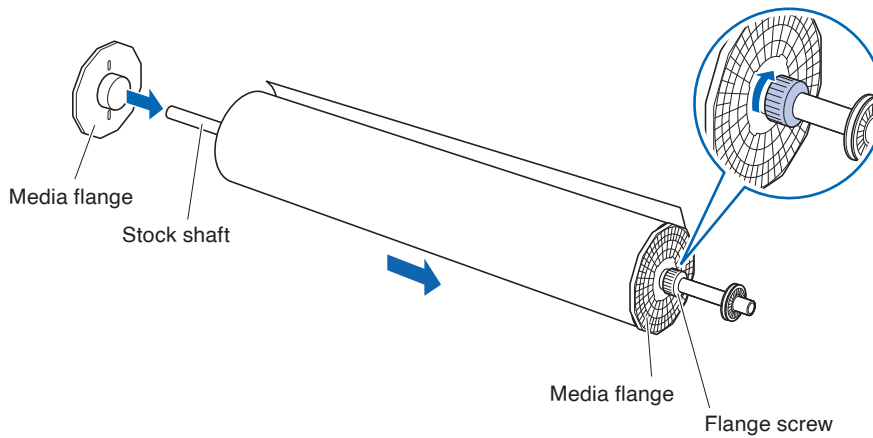
> **Supplement** 🖉
>
> When installing, place the paper roll as follows:
>
>
>
> ⭕ GOOD   ❌ NG
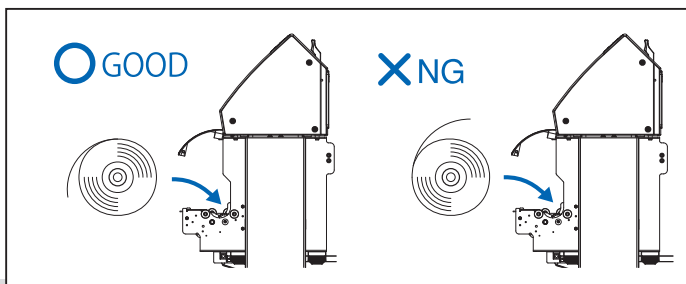
Flange screw, adjust the position of the grit roller, then re-tighten the flange screw.

Grooved portion of the components should be set so that the grooves contact the receiving end of the roller.
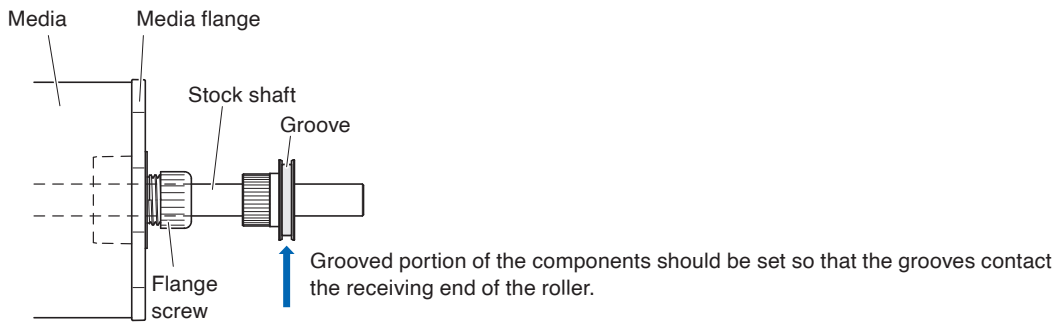
2. Lowering the media stopper releases the stopper lock.
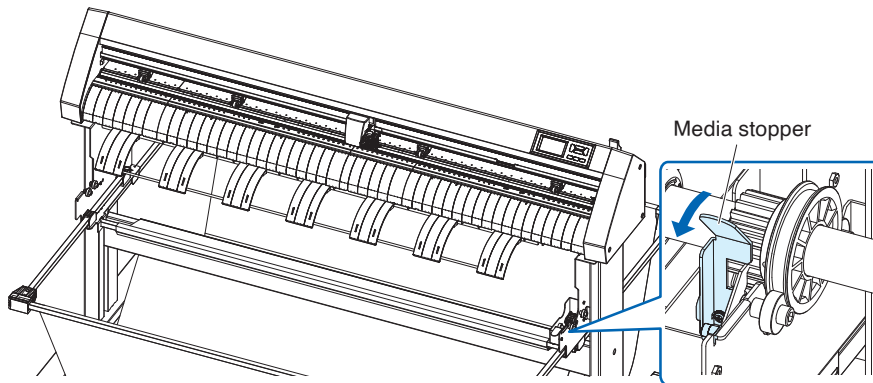
3. Set the stock shaft in from the front.
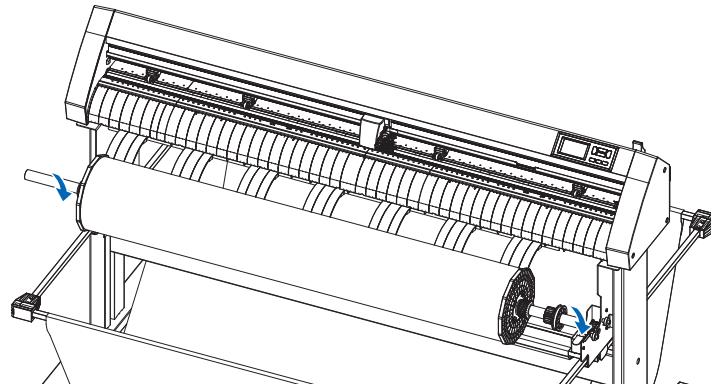
Align the receiving end of the media shaft with the grooves on the roller and push down firmly to set it in place.
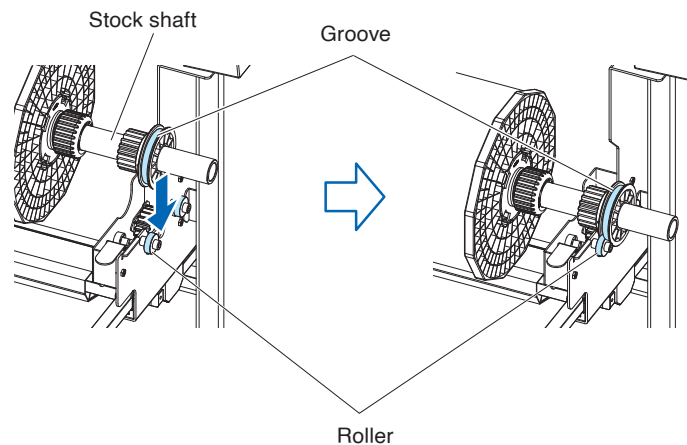
4. The left and right media flanges feed in the paper roll media. Please tighten the flange screw and fasten the paper roll into the desired position.
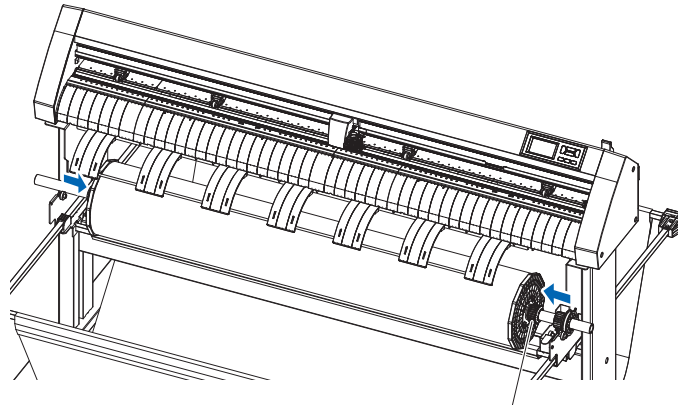
Flange screw

5. Lower the media set lever to raise the push rollers.
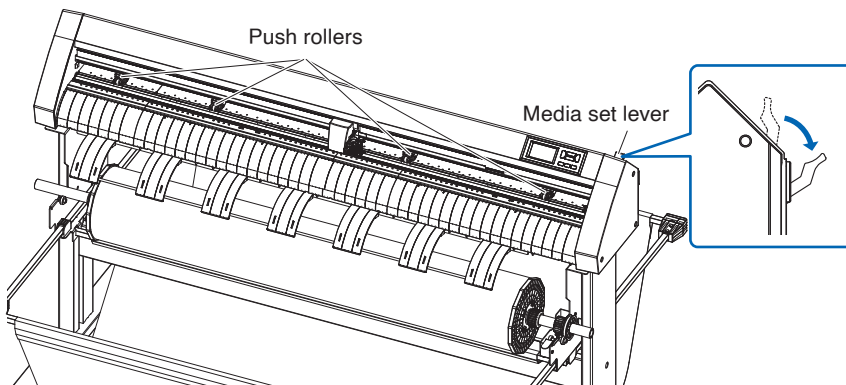
Push rollers

Media set lever

Supplement

- The media must always be positioned over the media sensor.
- See "2.4 Aligning the Push Rollers" about the position of the push rollers.

6. Put the roll media on the roll media tray and then push the tip of the roll media forward from the back of the machine. Make sure to pull it so that there is no slackening across the roll media's route.

Media guide bar

Media sensor
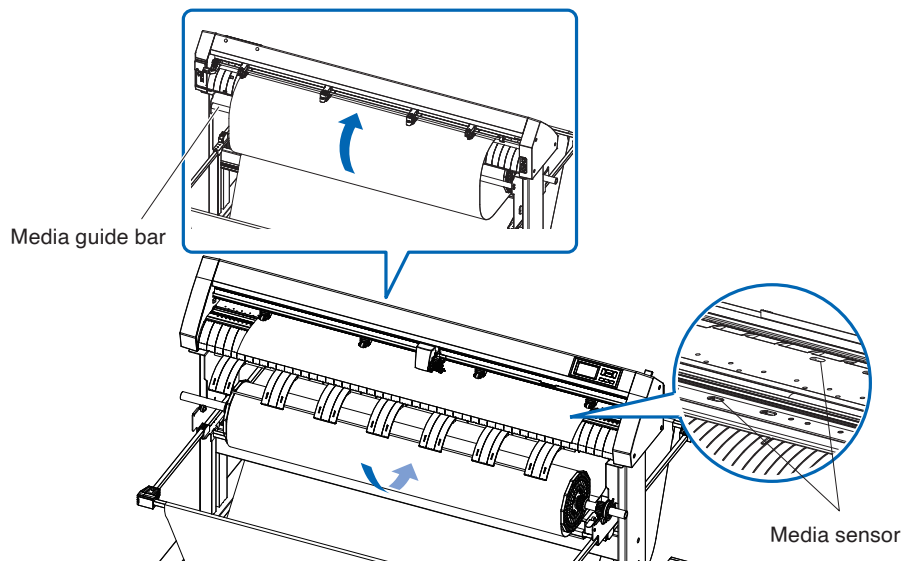
The paper roll media's route goes over the center bar, over the square pipe and behind the media guide bar.

Square pipe

Center bar

Media guide bar
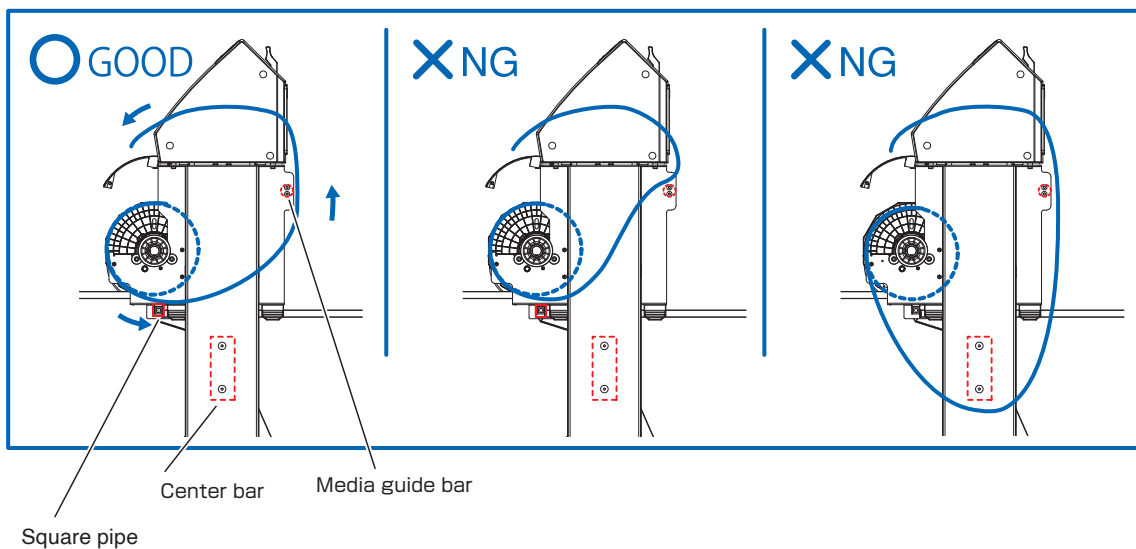
7. Position the media and the push rollers to correspond with the width of the media.
Use the 4 push rollers to push down the sides and center of the media. Use the grit roller position guide and make sure the push rollers are on top of the grit rollers.
Use the grit roller position guide to make sure the push rollers are set on top of the grit rollers.
You can adjust the inside push roller's hold-down force.

Supplement

- The media must always be positioned over the media sensor.
- See "2.4 Aligning the Push Rollers" for the position of the push rollers.
- See "2.4 Aligning the Push Rollers" for information about push roller hold-down force.
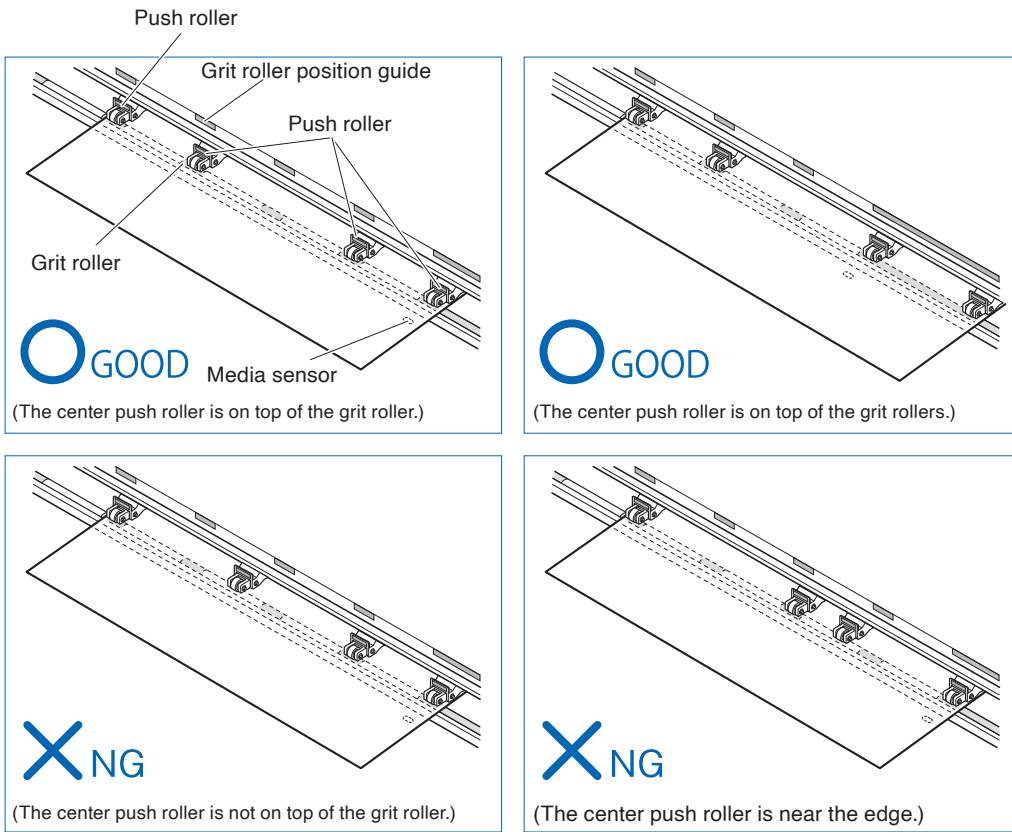
Push roller

Grit roller position guide

Push roller

Grit roller

⭕ GOOD   Media sensor

(The center push roller is on top of the grit roller.)

⭕ GOOD

(The center push roller is on top of the grit rollers.)

❌ NG

(The center push roller is not on top of the grit roller.)

❌ NG

(The center push roller is near the edge.)

When feeding long media (2 meters or more)

Position the push rollers at least 15 mm inside the edges of the media.

Push roller

15mm   15mm

Media

When feeding long media (2 meters or less)

Position the push rollers at least 5 mm inside the edges of the media.

Push roller

5mm   5mm
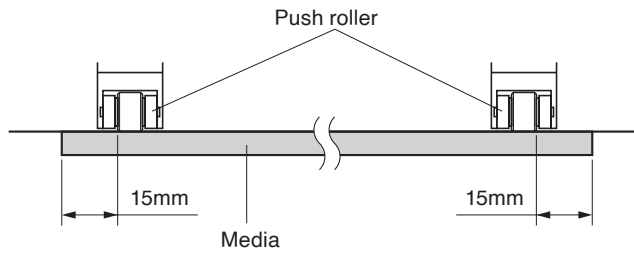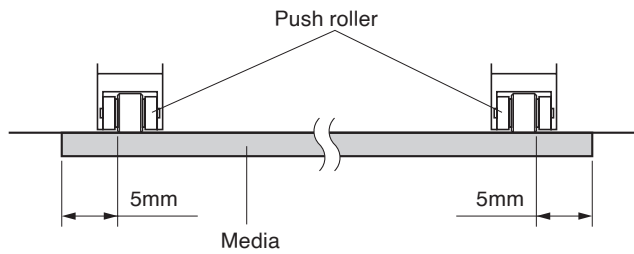
Media

8. Raise the media stopper to lock.
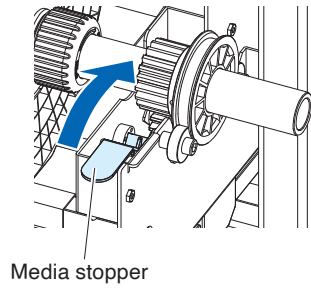
Media stopper

> ⚠ **CAUTION**
>
> During a plotting or cutting operation, be sure to keep your hands, hair, and so forth away from the media stocker, gears and rollers.

9. When pull out the paper, please stand to the front of the main assembly and pull horizontally of the paper.

◯ GOOD   ✕ NG   ✕ NG
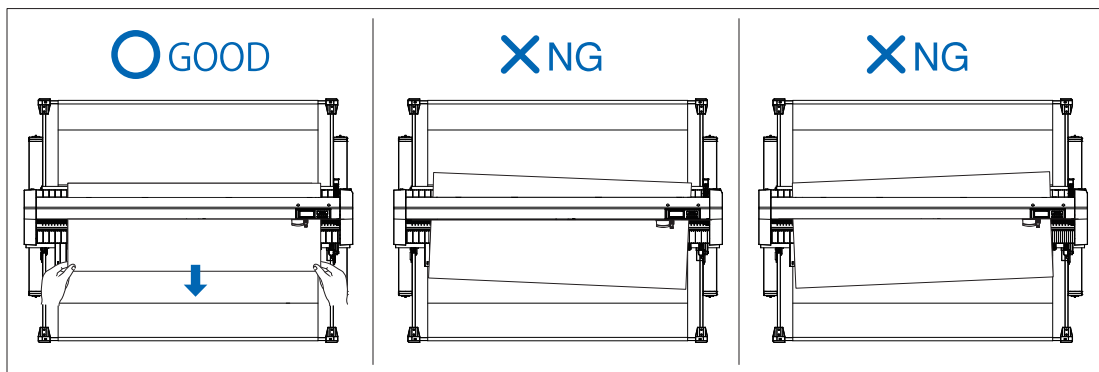
10. Pull from the front of the machine to even the tension of both A and B sides of the paper, as shown in the figure below.

A

B
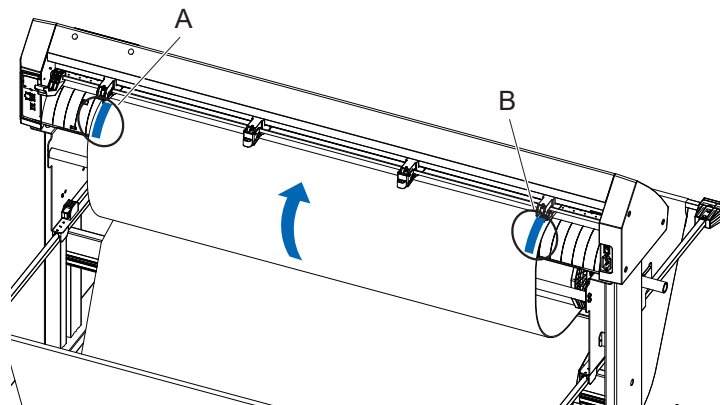
11. Raise the set lever after confirming that the route the roll paper passes through is taut and not slackening. The push roller position and the roll paper will stay in place.

Media set lever
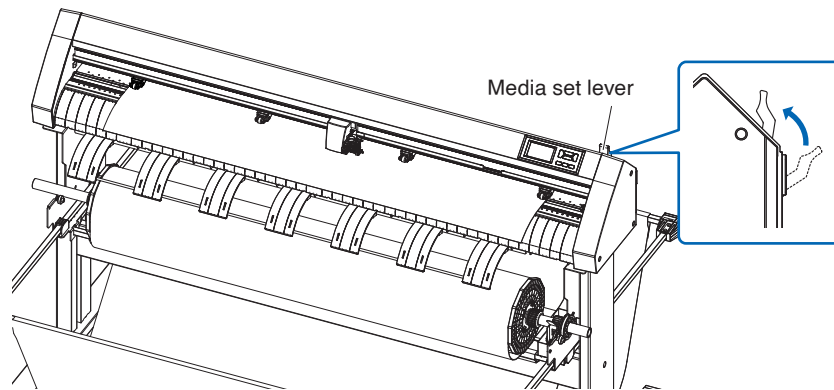
12. Lowering the media stopper releases the stopper lock.
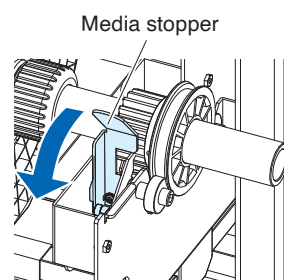
Media stopper

⚠ **CAUTION**

During a plotting or cutting operation, be sure to keep your hands, hair, and so forth away from the media stocker, gears and rollers.

Loading sheet media

Operation

1. Lower the media set lever to raise the push rollers.
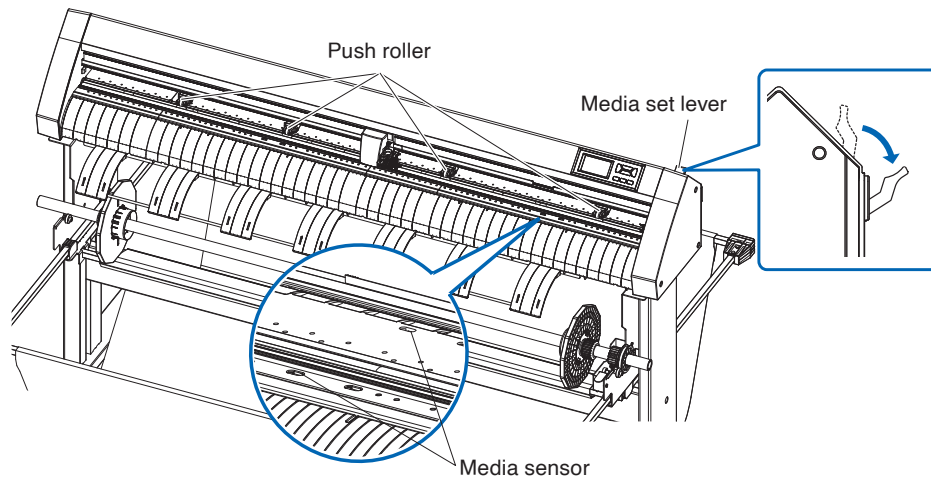
2. Load the sheet media so that the sheet media's right edge lines up with the guideline on the front side. Make sure that the sheet media completely covers the media sensor.
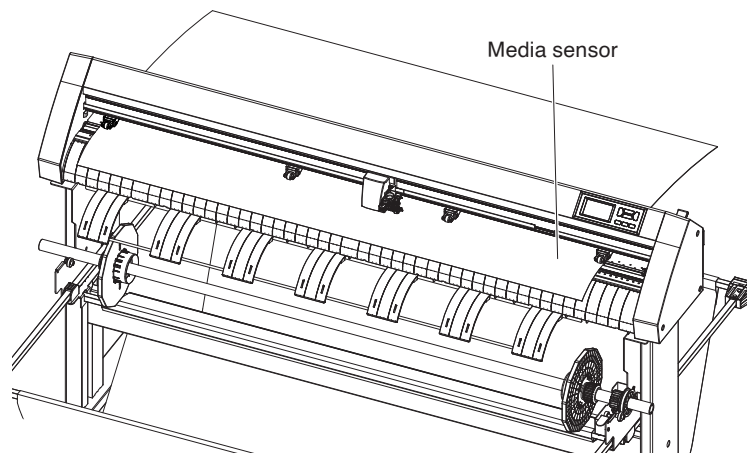
3. Position the media and the push rollers to correspond with the width of the media.

Use the 4 push rollers to push down the sides and center of the media. Use the grit roller position guide and make sure the push rollers are on top of the grit rollers.

> **Supplement** ✎
>
> - The media must always be positioned over the media sensor.
> - See "2.4 Aligning the Push Rollers" for the position of the push rollers and information about push roller hold-down force.
> - See "2.4 Aligning the Push Rollers" for information about push roller hold-down force.
> - When using the push roller with the hold-down force set to Low (OFF), set "Enabling/Disabling the push roller sensors (PUSH ROLLER SENSOR)" to [Inside disabled]. And then move the push roller to a position where there is no grit roller.

Push roller

Grit roller position guide

Push roller

Grit roller

◯ GOOD   Media sensor
(The center push roller is on top of the grit roller.)

◯ GOOD
(The center push roller is on top of the grit rollers.)

✕ NG
(The center push roller is not on top of the grit roller.)

✕ NG
(The center push roller is near the edge.)
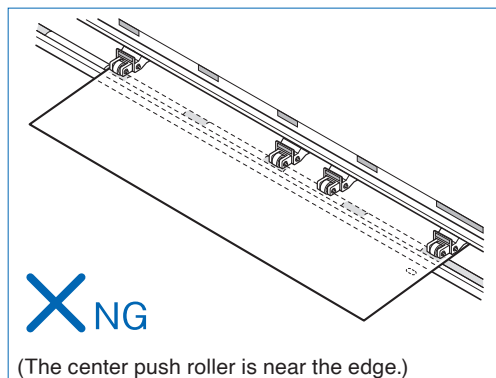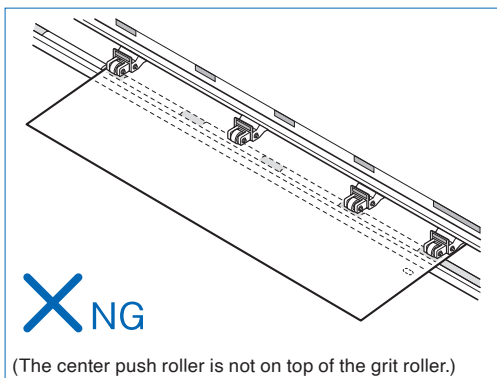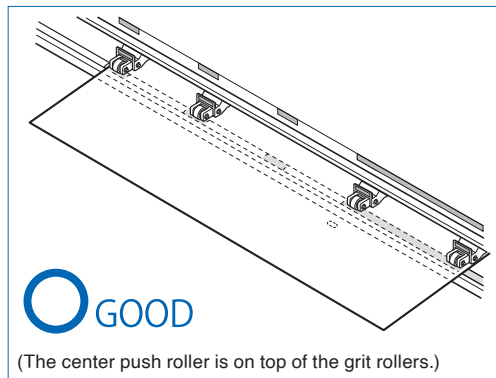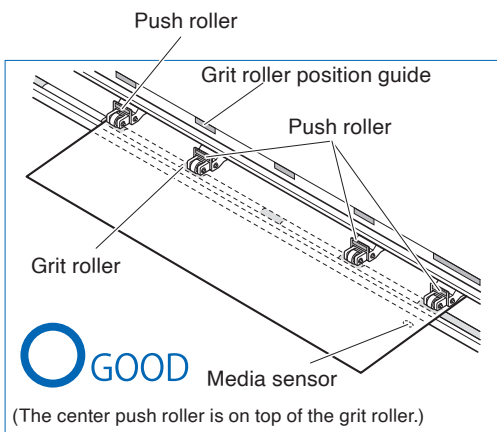
4. Load the sheet media so that the sheet media's right edge lines up with the guideline on the front side. Pull the roll media taut to make sure that there is no slack in the conveyance path, and then raise the set lever to fix the push roller position and the roll paper.

Media set lever

Line up

Guideline
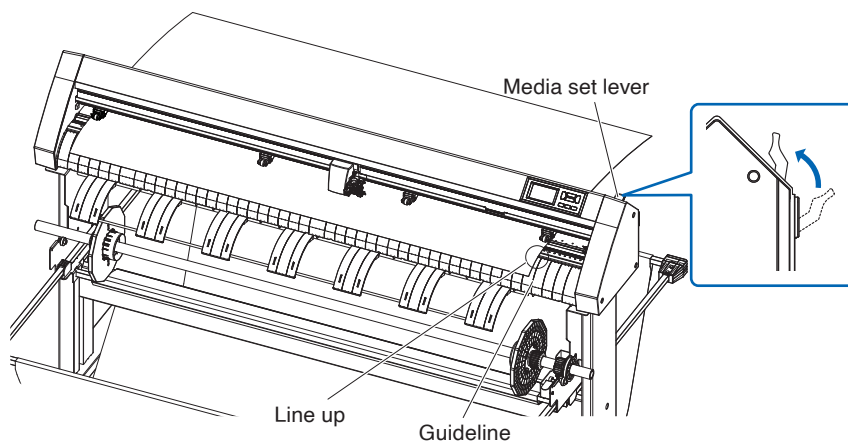
2.4 Aligning the Push Rollers

This section describes how to alignment of the push rollers.

Aligning the push roller

Position the left and right push rollers to correspond with the width of the media. Adjust the push rollers so that they are positioned above both the media and the grit rollers.

Positioning the push rollers within the grit roller position guides ensures that they are above the grit rollers.

Push roller

Grit roller position guide

Grit roller

✕ NG
(It isn't on the grit roller.)

✕ NG
(It isn't on the grit roller.)

○ GOOD

○ GOOD
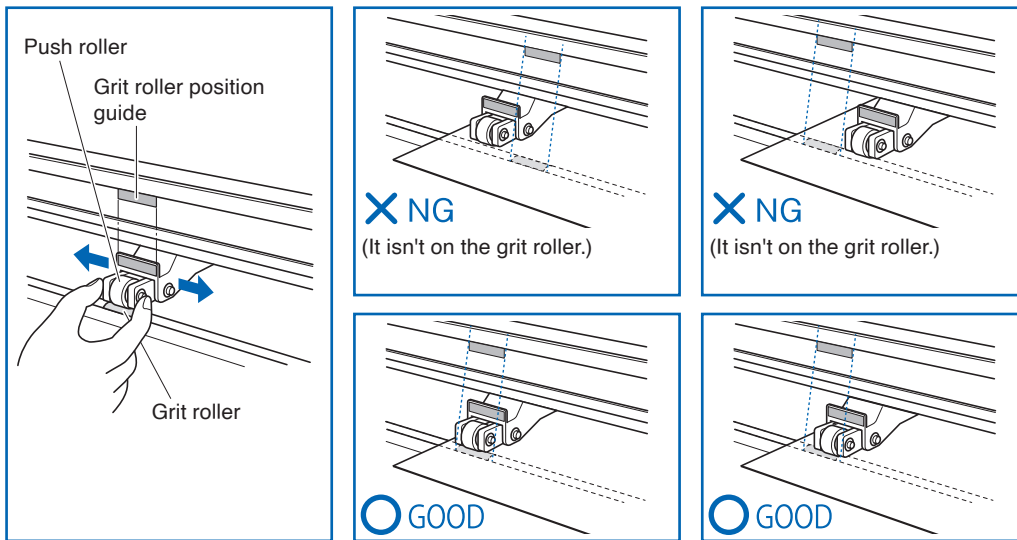
⚠ CAUTION

To move the push rollers, the media set lever must be in the lowered position.

Supplement 🖊

If a [REALIGN PUSH ROLLERS] message appears after setting the media and raising the media set lever, it means the right push roller is not on the right grit roller, or that the left or center push roller is not on the proper grit roller. Make sure everything is set correctly.

When feeding long media (2 meters or more)

Position the push rollers at least 15 mm inside the edges of the media.

Push roller

15mm

15mm

Media

When feeding long media (2 meters or less)

Position the push rollers at least 5 mm inside the edges of the media.

Push roller

5mm   5mm
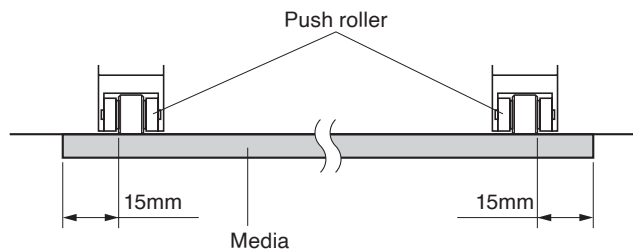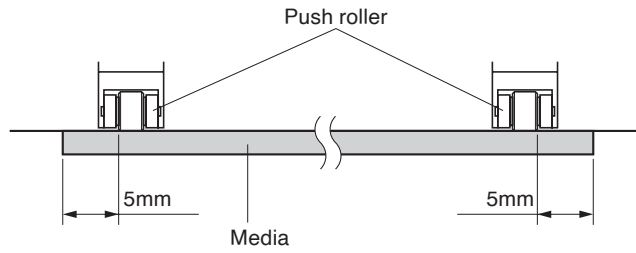
Media

For minimum width media

The CE8000-130AP can take media of 594 mm (A1 size) or more.

⚠ **CAUTION**

- The media must be at least 125 mm in length in media feed direction.
- The media must always be positioned over the media sensor.

Changing the hold-down force

The CE8000-130AP requires the push roller hold-down force to be set based on the media's width and material type in order to keep the media in place.

Switching

1. Lower the media set lever and raise the push roller.

2. Switch the hold-down force of the central push roller to Medium or Low (OFF) using the hold-down force switching lever at the rear of the push roller.

3. Raise the hold-down force switching lever to set it to the Medium state, and lower it to set it to Low (OFF).

Lever	Lever
Hold-down force: Medium	Hold-down force: Low (OFF)
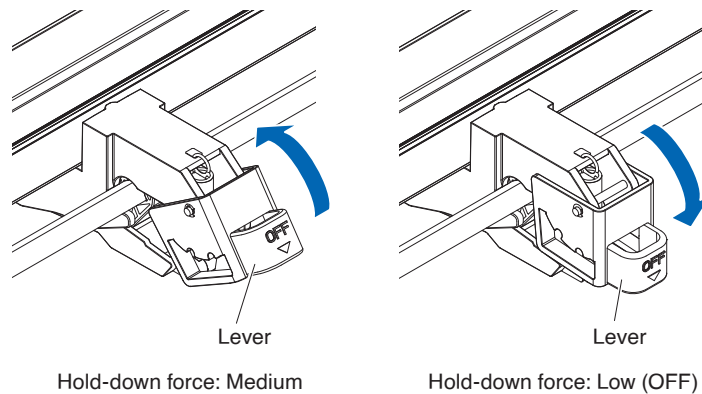
⚠️**CAUTION**
- The hold-down force of the push rollers at both ends cannot be changed.
- When switching the hold-down force, be sure to lower the set lever before switching.

Supplement
- Set the hold-down force to be Low (OFF) when cutting by pressing the center of ultra-thin media.
- Please change the hold-down force depending on the type of media.
- When using the push roller with the hold-down force set to Low (OFF), set "Enabling/Disabling the push roller sensors (Enabling/Disabling the push roller sensors)" to [INSIDE DISABLED]. And then move the push roller to a position where there is no grit roller.
  See "10.2 Related to sensor" for the sensor of the push rollers.

2.5 *About the Default Screen*

The Initial Setup Screen appears only when powering up the machine for the first time after purchase. Here, you can set the "Display language", "LENGTH UNIT" and "Wireless LAN".
Also, after setup, you can select the menu even from the READY status.
See "2.6 Connecting to the Power" for turning on the power.

Operation

1. Once the machine is powered on (with the " | " switch) a message will be displayed after the firmware version is displayed.

PLEASE SELECT LANGUAGE		
English	日本語	Deutsch
Francais	Italiano	Espanol
Portugues	РУССКИЙ	中文
한글		

2. Press the language you want to use.

PLEASE SELECT LANGUAGE		
English	日本語	Deutsch
Francais	Italiano	Espanol
Portugues	РУССКИЙ	中文
한글		

3. Press the unit you want to use.

‹	LENGTH UNIT

   PLEASE SELECT LENGTH UNIT

METRIC	INCH

4. Select whether to make the wireless LAN setting.
   Press [YES] to proceed to the access point setting.
   For information on how to set up wireless LAN, see "9.2 Connecting via wireless LAN".
   Press [NO] to go to the HOME screen.

   WIRELESS LAN AVAILABLE.
   WANT TO SET IT UP NOW?

YES	NO

   > **Supplement**
   >
   > This screen will not be displayed if wireless LAN module is not installed.

5. Once the settings are confirmed, the HOME screen will be displayed.

2.6 Connecting to the Power

Turning on the power of the plotter.

Operation

1. Check that the power switch is turned off. (the "○" side is pressed down)
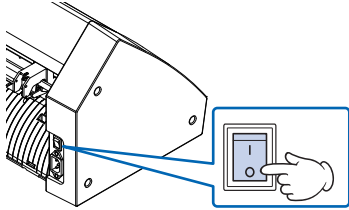
2. Connect one end of the provided power cord to the CE8000-130AP AC line inlet and the other end to an electrical socket of the rated supply voltage.
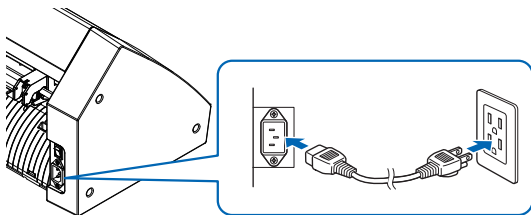
3. Turn on the CE8000-130AP by pressing the "|" side of the switch. LCD on the control panel is lit.
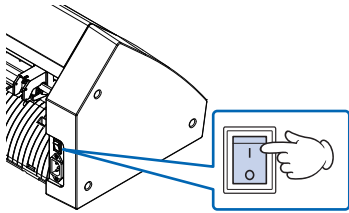
   Supplement

   When turning the power off, wait over 20 seconds before turning it on again, otherwise problems may occur with the display.

4. If media has not been loaded, the firmware version number is displayed, followed by a prompt to load media.

HL		
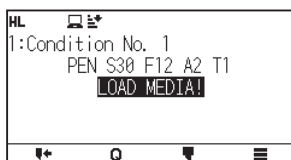
   ```
   HL            □ ⊵
   1:Condition No. 1
        PEN S30 F12 A2 T1
        LOAD MEDIA!
   
   ⬐        Q        ⬍        ≡
   ```
   Media set lever lowered
   (The push roller is up)
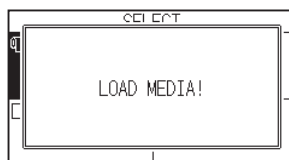
   ```
             SELECT
   
   
           LOAD MEDIA!
   
   
   ```
   Media set lever raised
   (The push roller is down)

   Supplement

   The Default Screen will appear after purchasing the machine. See "2.5 About the Default Screen" for more information.

2.7 How to Use Control Panel

This section explains the function on the control panel.

POSITION (▲ ▼ ◀ ▶) key

Screen (LCD touch panel) SLOW key ESCAPE key ENTER key
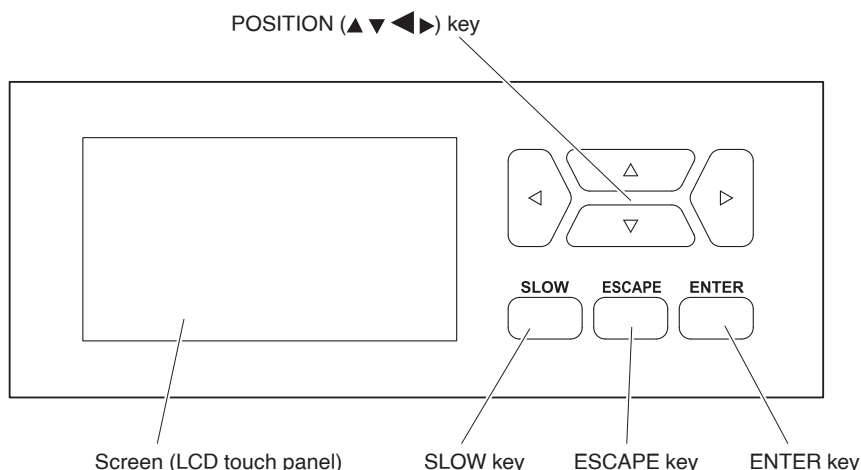
Operation key

POSITION (▲, ▼, ◀, ▶) key .....Adjusts various settings, selects numerical value changes, moves the cursor, and changes the positions in the MENU screen.

SLOW key..................................When pressing the POSITION key at the same time, the tool carriage moves slowly.
When the [SLOW] key is pressed in the READY screen, the current cutting/plotting area and the position of tool carriage are displayed.
If you want to change the cutting conditions while plotting/cutting, press the [SLOW] key while plotting/cutting.

ESCAPE key..............................Cancels the setting change and then returns to the previous screen. Returns to the previous screen in the MENU screen.
If you want to temporarily stop plotting/cutting, press the [ESCAPE] key during plotting/cutting.

ENTER key................................Saves the settings, and then returns to the setting screen in various function or CONDITION setting screen of the MENU screen.

Control panel screens

Information according to the current situation is displayed on the control panel screen.

HOME screen
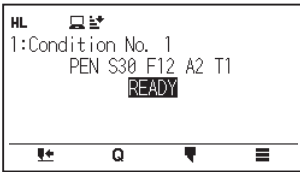
```
HL      ⊏⊐⊵
1:Condition No. 1
      PEN S30 F12 A2 T1
              READY


   ⬐    Q      ⬍    ≡
```

CROSS CUT screen	QUICK MENU screen	CUT CONDITION screen	MENU screen

```
<      CROSS CUT
CROSS CUT(execute)
FEED&CROSS CUT(exe)
```

```
<      QUICK MENU
    [COPY] [ORIGIN] [COND No.]
◀◀                        ▶▶
    [VIEW]  [HOME]
```

```
<     Condition No. 1
CONDITION No.      No. 1
EDIT CUT CONDITION     >
CUT TEST
```

```
[MEMORY] [TOOL] [AXIS] [AREA]
[MEDIA] [CONFIG] [INFO]
    ⌂              ⬍
```
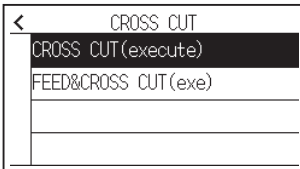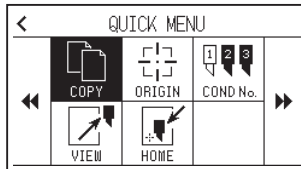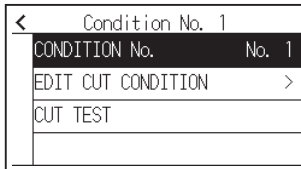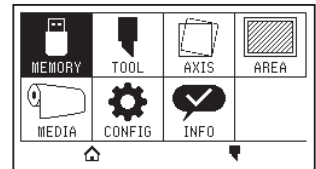
Media set lever lowered	Media set lever raised

```
HL      ⊏⊐⊵
1:Condition No. 1
      PEN S30 F12 A2 T1
              LOAD MEDIA!


   ⬐    Q      ⬍    ≡
```

```
       SELECT

       LOAD MEDIA!

```

Setting status display

```
HL      ⊏⊐⊵
1:Condition No. 1
      PEN S30 F12 A2 T1
              READY


   ⬐    Q      ⬍    ≡
```
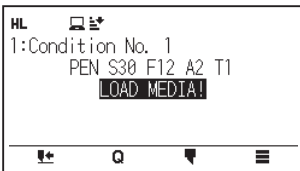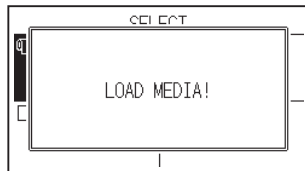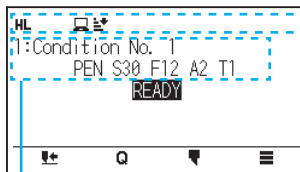
Tool conditions currently used

GLHL	Command	GL	: GP-GL Command
		HL	: HP-GL Command
.100 .050 .025 .010	Step size	.100	: 0.1mm
		.050	: 0.05mm
		.025	: 0.025mm
		.010	: 0.01mm
F	Rotate	F	: Rotation (Rotate 90°)
⊏⊐ ⊟	Priority	⊏⊐	: Command priority
		⊟	: Menu priority
⊵	Sort	⊵	: Display when sort is on
⊕	Auto pre feed	⊕	: Display when AUTO PRE FEED is on
📶 📶 ⚠	WIRELESS LAN	📶	: Wireless LAN connection signal strength (strong)
		📶	: Wireless LAN connection signal strength (weak)
		⚠	: Wireless LAN connection disconnected

How to operate the control panel screen

You can operate this plotter using either the touch panel or operation keys.

How to operate the HOME screen (READY state)

```
HL      ⌨
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY

  ⬗       Q       ⬗       ≡
```
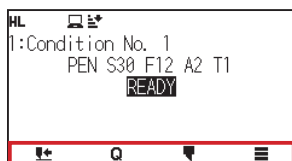
When using the touch panel

Use the [⬗], [Q], [⬗] and [≡] icons.

When using the operation keys

Hold down the [ENTER] key and press the POSITION (◀, ▶) keys to select the [⬗], [Q], [[⬗] or [≡] icon.
Release the [ENTER] key to move to each menu.

[⬗] icon	[Q] icon	[⬗] icon	[≡] icon

```
< CROSS CUT
CROSS CUT(execute)
FEED&CROSS CUT(exe)
```

```
< QUICK MENU
  COPY  ORIGIN  COND No.
◀◀              ▶▶
  VIEW  HOME
```

```
< Condition No. 1
CONDITION No.      No. 1
EDIT CUT CONDITION    >
CUT TEST
```

```
MEMORY  TOOL  AXIS  AREA
MEDIA  CONFIG  INFO
       ⌂          ⬗
```

CROSS
CUT screen

QUICK
MENU screen

CUT CONDITION
screen
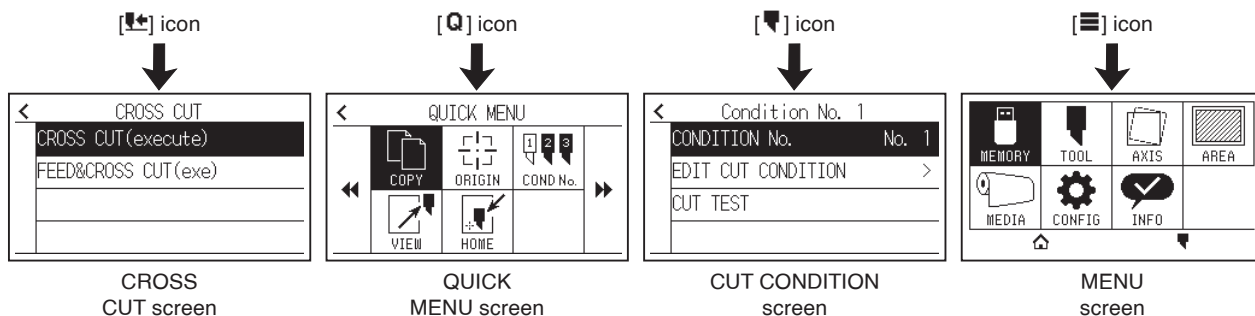
MENU
screen

Supplement

There are screens other than the Home screen that have the above icons.
Move to each menu by pressing the icon.

How to operate the MENU screen

```
MEMORY  TOOL  AXIS  AREA
MEDIA  CONFIG  INFO
       ⌂          ⬗
```
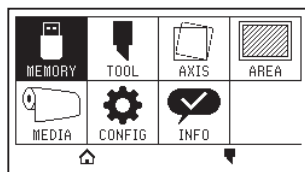
When using the touch panel

Press the icon.

When using operation keys

Select the icon using the POSITION (▲, ▼, ◀, ▶) keys. Press the [ENTER] key.

Contents to be operated from the [≡] icon - Menu screen

The contents that can be operated and set from the MENU screen are as follows.
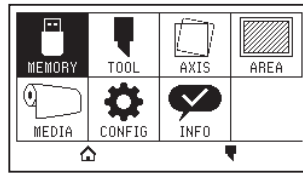
MEMORY .... Perform the operation necessary for output from USB memory.

TOOL................... Sets the conditions related to tool operation.

AXIS .... Perform settings and operations related to alignment of tool and media.

AREA................... Sets the cutting plotting area, scale, rotation and mirror, etc.

MEDIA .... Sets the conditions related to media.

CONFIG............... Sets the basic operating conditions of this plotter, such as the display language, length unit and sensor.
Sets the conditions related to the interface with the connected computer.

INFO .... Performs operations necessary for maintenance, such as diagnostic test and exporting condition setting lists.

[⌂] .... Used to close the menu screen and to return to the home screen.

[⬇] .... Used to close the menu screen and to move to the condition screen.

For a list of setting items, see "A.4 Menu Tree."

Contents to be operated from the [⬇] icon - CUT CONDITION screen

Set the tool conditions on the CUT CONDITION screen.
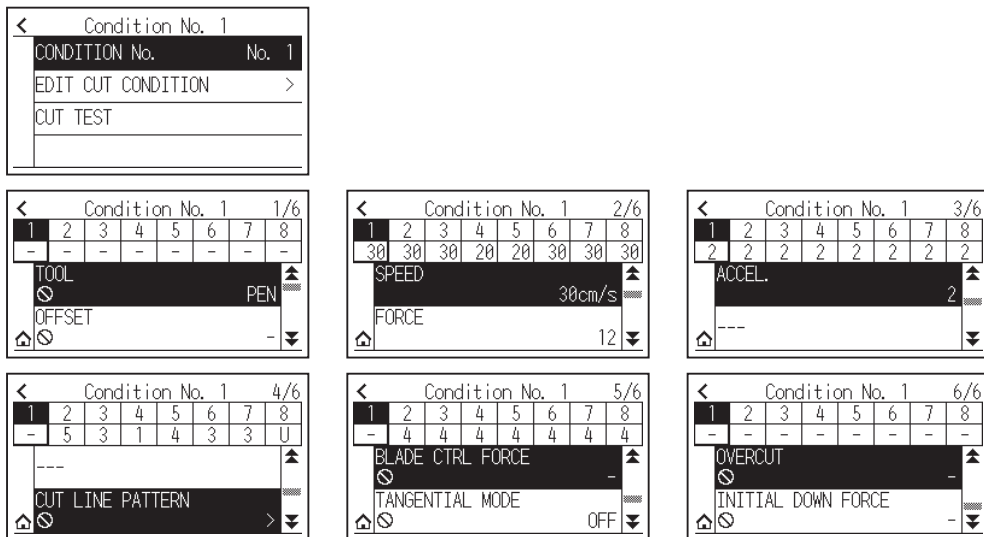
Tool conditions can be saved by assigning condition numbers 1 to 8 to each different setting.

[⌂] .... Used to close the condition screen and to return to the HOME screen.

[‹] .... Used to close the CUT CONDITION screen and to return to the previous screen.

For "Tool Conditions", see "2.10 Setting the Tool Condition".

Contents to be operated from the [Q] icon - QUICK MENU screen

The contents that can be operated and set from the QUICK MENU screen are as follows.
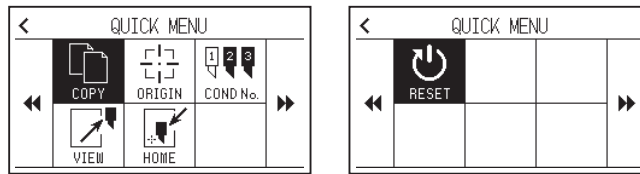
COPY .... Copies and outputs data in buffer memory.

ORIGIN .... Sets the current tool position as the origin point (cutting point).

COND No. .... Changes the cutting condition number.

VIEW .... The tool carriage is moved away.

HOME .... The tool carriage moves to the cutting origin position.

RESET .... Returns to the state immediately after power-on.

Contents to be operated from the [↲] icon - CROSS CUT screen

The CROSS CUT screen allows you to perform cross cuts.
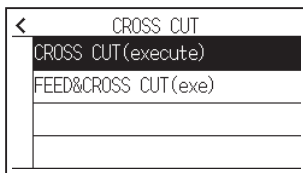
How to operate the setting screen

This section describes using the [TOOLS SETTING] screen as an example.
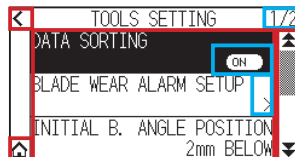
When using the touch panel

- Go back one level up: Press [<].
- Return to the HOME screen: Press [⌂].
- Return to previous page: Press [▲].
- Go to the next page: Press [▼].
- Select of setting items: Press each setting item.

When using operation keys

- Go back one level up: Press the [ESCAPE] key or POSITION (◀) key.
- Return to the HOME screen: Hold down the [ENTER] key and press the POSITION (◀) key, then select the [🏠] icon. Release the [ENTER] key to move to the HOME screen.
- Return to the previous page: Hold down the [SLOW] key and press the POSITION (▲) key.
- Go to the next page: Press the [SLOW] key.
- Selecting a setting item: Press the POSITION (▲, ▼) key to select the setting item, then press the [ENTER] key.

> **Supplement** 🖉
>
> - "1/2" at the top right of the screen is the page number.
> - Setting items that display [OFF] or [ON] will be toggled between [OFF] and [ON] each time you press the setting item (press the [ENTER] key).
> - Setting items with a [❯] icon have menus below them.

How to operate options

This section describes using the [TOOLS SETTING] - [INITIAL B. ANGLE POSITION] as an example.
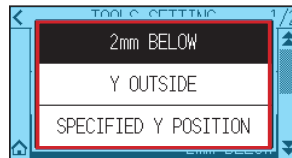
When using the touch panel

Press the setting item.

When using operation keys

Select the setting item using the POSITION (▲, ▼) keys. Press the [ENTER] key.

> **Supplement** 🖉
>
> You can cancel the settings by pressing outside the option popup screen or pressing the [ESCAPE] key.

How to operate numerical input

This section describes using the [MEDIA SETTING] - [PAGE LENGTH] as an example.
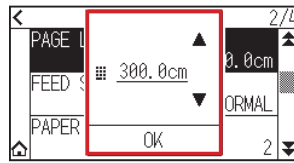
When using the touch panel

Press the [▲] [▼] icon or the [⊞] icon.

When you have finished entering the numerical values, press the [OK].

> **Supplement**
>
> • Press the [⊞] icon to display the numeric keypad.
>   Press the number you want to enter, then press the [OK].
>
>
>
> • You can cancel the settings by pressing the numeric keypad outside the pop-up screen.

When using operation keys

Press the POSITION (▲ ▼) keys or the [SLOW] key.

When you have finished entering the numbers, press the [ENTER] key.

> **Supplement**
>
> • Press the [SLOW] key to display the numeric keypad.
>   Select the number you want to enter using the POSITION (▲, ▼, ◀, ▶) keys and press the [ENTER] key.
>   When you have finished entering the numbers, select the [OK] using the POSITION (▲, ▼, ◀, ▶) keys and press the [ENTER] key.
>
>
>
> • Press the [ESCAPE] key to cancel the settings.

2.8 *Setting Feeding Method*

Feeding method for the loaded media is set.

Operation

1. If you have already loaded the media, the MEDIA TYPE menu appears. Select the media type to suit the loaded media.

```
             SELECT
⏚ROLL-1        ⏚ROLL-2
     FRONT EDGE
▢SHEET
```

For roll media, check that the media stopper is unlocked, and then select a media type on the MEDIA SELECT screen.

Media stopper
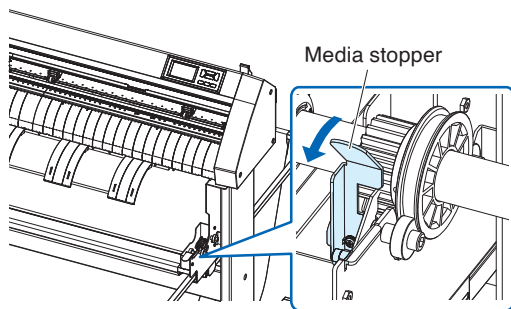
> ⚠ **CAUTION**
>
> Before doing the media set selection, make sure to release the media lock.

> **Supplement** 🖉
>
> If you raise or lower the media set lever again after loading the media, [Continue] will be added and you can select the previous setting.
> If you use the same media without changing its position, the cutting area, pen position and origin point before lowering the media set lever will continue. If you reload the media without changing the media width, you can omit the media width detection operation.
>
> ```
>              SELECT
> ⏚ROLL-1        ⏚ROLL-2
>      FRONT EDGE
> ▢SHEET         ↻CONTINUE
> ```

[ROLL-1 FRONT EDGE]

Select this when you have loaded a roll media and you wish to start cutting or plotting from the leading edge.
The width and leading edge of the roll media are detected.

[ROLL-2 CURRENT POSITION]

Select this when you have loaded a roll media and you wish to start cutting or plotting from a point beyond the leading edge.
Only the width of the roll media is detected.

[SHEET]

Select this when a sheet media has been loaded.

The width, leading edge, and trailing edge of the sheet media are detected.

> **Supplement**
>
> • When selecting [ROLL-1] or [ROll-2]
>
> ```
> UNLOCK MEDIA AND
> PRESS OK BUTTON
> OR ENTER KEY
>
>          OK
> ```
>
> Please confirm on the confirmation screen that the media stopper lock has been released, then press the [OK]. This will be displayed on the above screen.
>
> • When selecting [SHEET]
>
> ```
>         CUT AREA
>   Length is greater
>   than 5m(16.4ft).
>     Continue ?
>        CONTINUE
> ```
>
> The above screen will display when set-up for media more than 5 meters long. Please confirm and then press the [CONTINUE] to cancel, please lower the media set level and change the media.
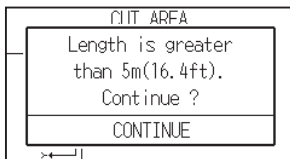
2. After the media is detected, the plotter is ready to receive data for cutting or plotting.

This status is called "READY status" of the default screen.

When setting is finished, the tool carriage's location will become the initial point.

```
HL      ⌨️ ↪
1:Condition No. 1
      PEN S30 F12 A2 T1
              READY

   ↲        Q       ▜       ≡
```

> **Supplement**
>
> • When loading the media, the fan suction operates to assist in loading the media.
>   If you want to turn off this function, please refer to "10.3 Related to Plotter Environment".
> • The following screen will be displayed while media is being detected.
>
> ```
>         CUT AREA
>
>       PLEASE WAIT
> ```
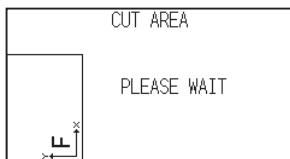
2.9 *Media auto prefeed and cross cut*

When setting to FEED & CROSS CUT(exe), the media is cross-cut after feeding one page.
One page is the value set in "PAGE LENGTH" plus 20 mm and the value set in "REAR SPACE".
When setting to CROSS CUT(execute), the media is cross-cut at the current tool position.

Operation

1. Press the [▼←] icon in READY status.

```
< ──────── CROSS CUT ────────
  CROSS CUT(execute)
  FEED&CROSS CUT(exe)

```
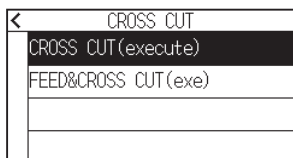
2. Press "CROSS CUT (execute)" or "FEED & CROSS CUT (exe)" to perform cross cutting.

⚠ **CAUTION**

Pressing "FEED & CROSS CUT(exe)" or "CROSS CUT(execute)" activates the tool carriage.
Take care to ensure that you do not cut your fingers on the cutter blade.

2.10 *Selecting Tool Condition*

Set the "TOOL CONDITION (CUT CONDITION) No.", "TOOL", "OFFSET", "SPEED", "FORCE", and "ACCEL (ACCELERATION)".
You can switch to the settings for each of the 8 preset media types.

Selecting the TOOL CONDITION number (Condition No.)

This section explains how to select the TOOL CONDITION number (Condition No.).

Operation: Operation with the [🔻] icon

1. Press the [🔻] icon.
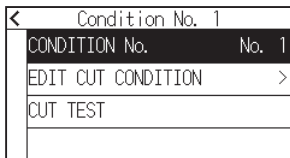
```
HL    🖥🔾
1:Condition No. 1
     PEN S30 F12 A2 T1
            READY

  🔾        Q        🔻        ≡
```

2. Press the [CONDITION No.].

```
<      Condition No. 1
CONDITION No.         No. 1
EDIT CUT CONDITION       >
CUT TEST
```

3. Use the [🔽] and [🔼] icons to display the tool condition number you want to use.

```
<         CONDITION No.
1: Condition No. 1            🔼
         PEN S30 F12 A2 T1
2: Condition No. 2
         CB09U+0 S30 F8 A2 T2
3: Condition No. 3
         CB09U+0 S30 F14 A2 T2  🔽
```
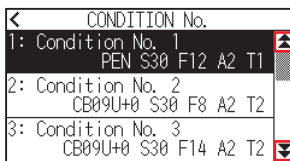
4. Press the tool condition number you want to use.

5. Press the [🡸] icon.

   ▷ It will return to HOME screen.

Operation: Operation with the [Q] icon

1. Press the [Q] icon.
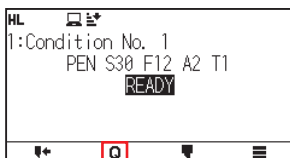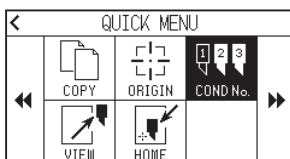
```
HL    🖥🔾
1:Condition No. 1
     PEN S30 F12 A2 T1
            READY

  🔾        Q        🔻        ≡
```

2. Press the [COND No.] icon.

```
<         QUICK MENU

   📄         ⌐⌐        🗚
  COPY      ORIGIN    COND No.

   ✎         ✎
◀◀ VIEW      HOME              ▶▶
```

3. Use the [▼] and [▲] icons to display the tool condition number you want to use.

```
┌─────────────────────────┐
│ <      CONDITION No.    │
│ 1: Condition No. 1    ▲ │
│         PEN S30 F12 A2 T1│
│ 2: Condition No. 2      │
│       CB09U+0 S30 F8 A2 T2│
│ 3: Condition No. 3      │
│       CB09U+0 S30 F14 A2 T2 ▼│
└─────────────────────────┘
```

4. Press the tool condition number you want to use.

▷ It will return to HOME screen.

Setting the tool condition

This section describes how to make the tool, speed, force and acceleration settings.
Before cutting media, the following four cutter-pen conditions must be specified.

- FORCE
- SPEED
- ACCELERATION
- OFFSET

> ⚠️ **CAUTION**
>
> It may result to damaging the cutter blade or the cutting mat if the blade is extended too much. Make sure the blade length is set less than the thickness of the media.

Tool Conditions (Cutter Blade) for Each Media Type

See the Cutter Blade Manual.

Blade Item Number, Displayed Blade Types, and CUTTER OFFSET Values

See the Cutter Blade Manual.

Reference Pen Conditions for Plotting Pen

Pen type	Part no.	Cut/Force	Speed (cm/s)	Acceleration
Water-based fiber-tip pen	KF700 series	10 to 12	30	2
Oil-based ballpoint pen	KB700-BK	12 to 31	30	2

To prolong the pen life, set the FORCE to the lowest setting, and set the SPEED after checking to confirm that there are no faint lines or other problems during plotting.

> **Supplement** 📝
>
> - Finish will become coarser, but the cut time is decreased when the settings for the speed and acceleration is set higher. Especially with the large media, good cut quality might not be achieved by rumbling media.
>   Decrease the values for the speed and acceleration settings in that case.
> - Finish will become good, but the cut time will increase when the settings for the speed and acceleration is set smaller.

Setting the tool

Set the type and offset value of the tool that is used in each of the tool condition numbers.

Condition No.1 applies specifically to use of the pen plunger for the either oil-based ballpoint pen or water based fiber-tip pen.

Condition No.2 to No.8 applies specifically to the use of the cutter plunger.

Operation

1. Press the [▼] icon.
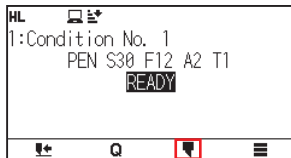
```
HL       ⬛⮡
1:Condition No. 1
     PEN S30 F12 A2 T1
            READY


  ⬱↩       Q        ▼       ≡
```

2. Press the [EDIT CUT CONDITION].

```
<       Condition No. 1
 CONDITION No.          No. 1
 EDIT CUT CONDITION          >
 CUT TEST
```

3. Press the tool condition number (1 to 8) you want to set.

```
<       Condition No. 1     1/6
 1  2  3  4  5  6  7  8
 -  -  -  -  -  -  -  -
 TOOL                       ⤒
 ⊘                    PEN
 OFFSET
⌂ ⊘                      -  ⤓
```

4. Press the [TOOL].

```
<       Condition No. 2     1/6
 1  2  3  4  5  6  7  8
 -  -  -  -  -  -  -  -
 TOOL                       ⤒
                    CB09U
 OFFSET
⌂                        +0 ⤓
```
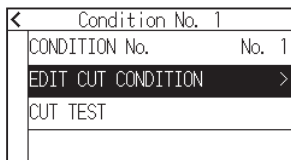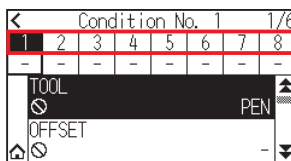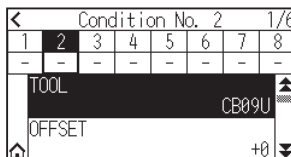
5. Press the tool you want to use.

```
<       Condition No. 2     1/6
 1         CB09U          8
 -                        -
           CB15U            ⤒
           OTHER
⌂                          ⤓
```
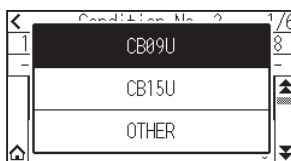
Supplement 🖉

- The tools that you can select for "Condition No.1" is "PEN".
- The tools that you can select for "Condition No.2" to "Condition No.8" are "CB09U", "CB15U" and "OTHER".

---

6. Press the [⌂] icon.
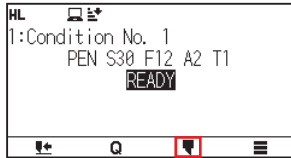
   ▷ It will return to HOME screen.

Tool offset setting
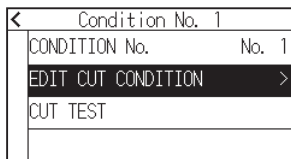
This section describes how to set the tool offset you want to use.

Operation

1. Press the [![icon]] icon.

```
HL       □ �🡕
1:Condition No. 1
      PEN S30 F12 A2 T1
         READY

   �    Q      ▼      ≡
```

2. Press the [EDIT CUT CONDITION].

```
<         Condition No. 1
CONDITION No.            No. 1
EDIT CUT CONDITION          >
CUT TEST
```

3. Press the tool condition number (2 to 8) you want to set.

```
<       Condition No. 2    1/6
 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8
 - | - | - | - | - | - | - | -
TOOL                        ☆
                  CB09U
OFFSET
⌂                     +0  ⤓
```
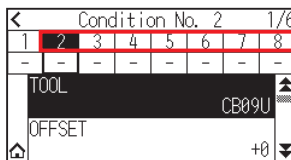
> **Supplement** 🖊
>
> "Condition No.1" cannot set tool offset.

4. Press the [OFFSET].

```
<       Condition No. 2    1/6
 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8
 - | 0 | 0 | 0 | 0 | 0 | 0 | 0
TOOL                        ☆
                  CB09U
OFFSET
⌂                     +0  ⤓
```

5. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
<      (                    1/6
 1 | 2 |        ▲       7 | 8
 - | 0 |  ▦   0        0 | 0
TOOL                ▼   CB09U  ☆
OFFSE        OK        +0  ⤓
⌂
```
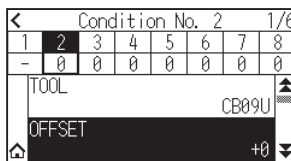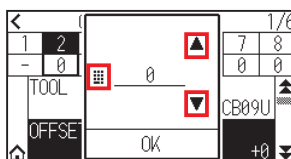
> **Supplement** 🖊
>
> • What is Offset
>   It will adjust the difference between the tip of the blade in the plunger and the center of the plunger. There are standard adjustment values for each cutter blades. Fine adjustment will be made to those standard values here. (Adjustment will be made with standard value as 0.)
>   It is not necessary to set the offset if "PEN", was selected in the tool settings. (not displayed)
> • Guideline to Set Offset
>   See the Cutter Blade Manual
> • The range that can be set with the tool other than [OTHER] is [-5] to [+5].
>   The range that can be set in [OTHER] is [+1] to [+45].

6. Confirm the setting and press the [OK].
7. Press the [⌂] icon.
   ▷ It will return to HOME screen.

Setting the speed

This section explains how to set the speed to be used.

Operation
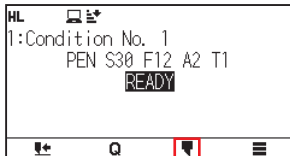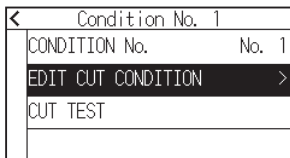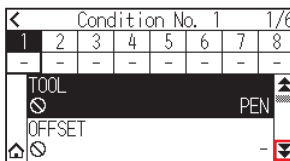
1. Press the [▼] icon.

   ```
   HL      ⌨↵
   1:Condition No. 1
        PEN S30 F12 A2 T1
              READY

     ↵      Q      ▼      ≡
   ```

2. Press the [EDIT CUT CONDITION].

   ```
   ‹      Condition No. 1
   CONDITION No.         No. 1
   EDIT CUT CONDITION          ›
   CUT TEST
   ```

3. Press the [⬇] icon.

   ```
   ‹      Condition No. 1      1/6
   1   2   3   4   5   6   7   8
   –   –   –   –   –   –   –   –
   TOOL                         ⬆
   ⊘                     PEN
   OFFSET
   ⌂⊘                      –   ⬇
   ```

4. Press the tool condition number (1 to 8) you want to set.

   ```
   ‹      Condition No. 1      2/6
   1   2   3   4   5   6   7   8
   30  30  30  20  20  30  30  30
   SPEED                        ⬆
                    30cm/s
   FORCE
   ⌂                      12   ⬇
   ```

5. Press the [SPEED].

   ```
   ‹      Condition No. 1      2/6
   1   2   3   4   5   6   7   8
   30  30  30  20  20  30  30  30
   SPEED                        ⬆
                    30cm/s
   FORCE
   ⌂                      12   ⬇
   ```

6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

   ```
   ‹      (            2/6
   1   2         ▲      7   8
   30  30  ▦   30      30  5
   SPEED              ⬆
              ▼    0cm/s
   FORCE
   ⌂       OK          14  ⬇
   ```
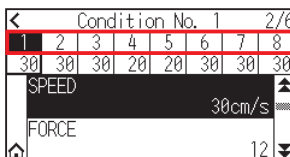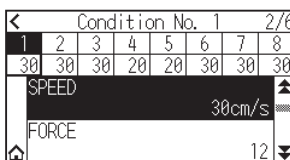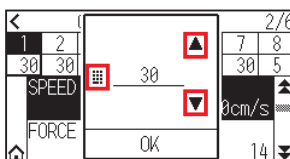
   Supplement 📝

   You can set the range between 1 and 10 (1 cm/s-step) or 10 and 60 (5 cm/s-step).

7. Confirm the setting and press the [OK].

8. Press the [⌂] icon.

   ▷ It will return to HOME screen.

Setting the force

This section explains how to set the force to be used.

Operation
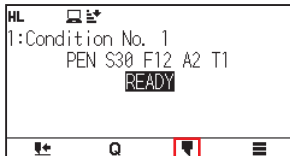
1. Press the [▼] icon.

2. Press the [EDIT CUT CONDITION].
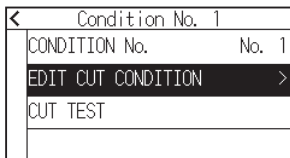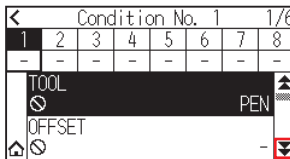
3. Press the [⯆] icon.

4. Press the tool condition number (1 to 8) you want to set.
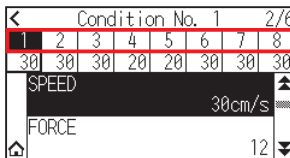
5. Press the [FORCE].
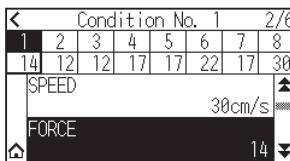
6. Specify the setting value using the [▲] [▼] icon or the [⊞] icon.
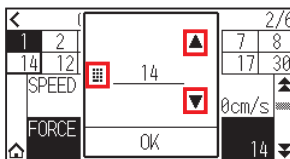
Supplement

You can set the range between Condition No.1 : 1 to 31 or Condition No.2 to No.8 :1 to 38.

2-37

7. Confirm the setting and press the [OK].

8. Press the [🏠] icon.

▷ It will return to HOME screen.

Setting the acceleration

This section explains how to set the acceleration to be used.

Operation
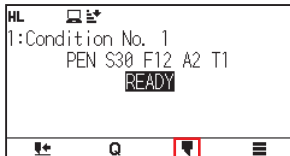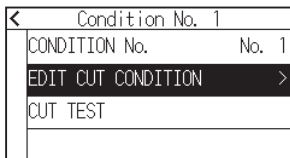
1. Press the [🔻] icon.

```
HL      □ ⊵⁺
1:Condition No. 1
       PEN S30 F12 A2 T1
              READY

  ▮↤      Q        ▮        ≡
```

2. Press the [EDIT CUT CONDITION].

```
<        Condition No. 1
CONDITION No.              No. 1
EDIT CUT CONDITION            >
CUT TEST

```

3. Press the [🔽] icon twice.

```
<        Condition No. 1      1/6
 1  2  3  4  5  6  7  8
 -  -  -  -  -  -  -  -
 TOOL                        ⯬
 ⊘                      PEN
 OFFSET
⌂⊘                       -   ⯯
```

4. Press the tool condition number (1 to 8) you want to set.

```
<        Condition No. 1      3/6
 1  2  3  4  5  6  7  8
 2  2  2  2  2  2  2  2
 ACCEL.                       ⯬
                         2
⌂ ---                         ⯯
```
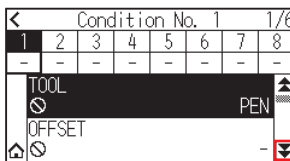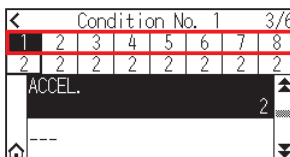
5. Press the [ACCEL. (Acceleration)].
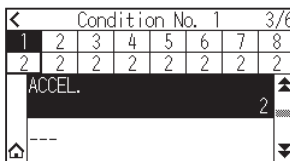
```
<        Condition No. 1      3/6
 1  2  3  4  5  6  7  8
 2  2  2  2  2  2  2  2
 ACCEL.                       ⯬
                         2
⌂ ---                         ⯯
```

6. Specify the setting value using the [▲] [▼] icon or the [⊞] icon.

```
<        (                    3/6
 1  2           ▲    7  8
 2  2               2  1
 ACCEL.  ⊞    2
                ▼          ⯬
                           2
 ASSIGN      OK       1    ⯯
```
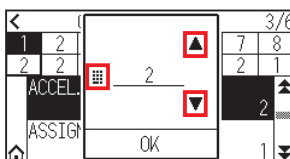
Supplement 🖊

You can set the range between 1 and 2.

2-38

7. Confirm the setting and press the [OK].

8. Press the [⌂] icon.

▷ It will return to HOME screen.

Adjust the blade length manually

Optimal cut is not achieved unless the blade length is adjusted in accordance to the used media and the cutter blade.

Perform further adjustment by performing cutting test after adjusting the blade length manually.

> ⚠ **CAUTION**
> - To avoid bodily injury, handle cutter blades with care.
> - It may result to damaging the cutter blade or the cutting mat if the blade is extended too much. Make sure the blade length is set less than the thickness of the media.

> **Supplement** 📎
>
> See "2.11 Running Cutting Tests" for cutting tests.

Operation

1. Align the blade tip to the tip of the cutter pen, and make it touch the surface of the media.
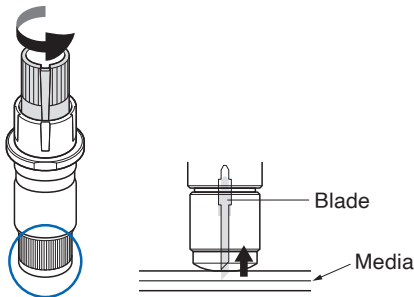
2. The blade will gradually extend to suit the thickness of the media being cut; the optimal length is slightly greater than the thickness of the media. A test cut will then be performed, and the blade length adjusted if there is any media left uncut.
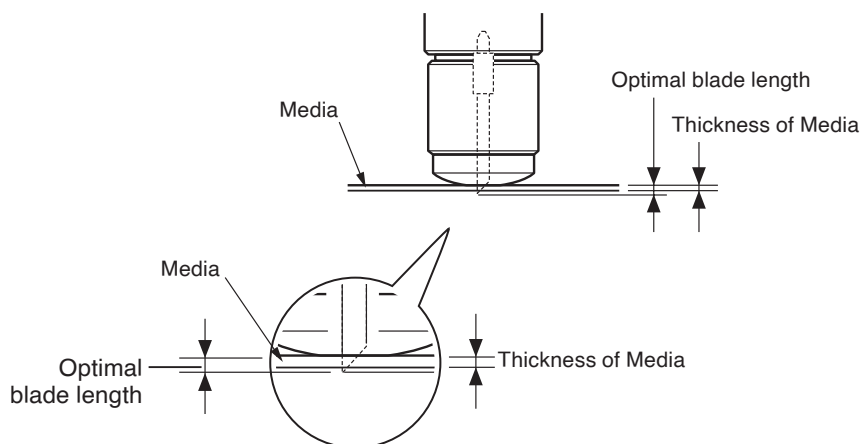
- Blade length can be changed by spinning the adjustor on the blade. Spinning it in the A direction pushes it out, while spinning it in the B direction pulls it in. One scale unit is equal to 0.1 mm.

Cutter blade moves approximately
0.1 mm turning one scale unit.

Scale

B   A

Scale
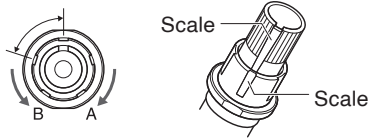
- Guideline to Set the Blade Length See "2.10 Selecting Tool Condition" for the thickness of the media.

2.11 *Running Cutting Tests*

Test cutting can be performed after making the tool, speed, force, and acceleration settings to ensure that the selected cutting conditions actually produce the desired cutting results. Check how far the blade cuts into the media and how the corners are being cut. If the cutting results are not satisfactory, adjust the various settings and repeat the test cutting until the optimal settings are achieved.

Cutting test

Here, you can either cut one test pattern based on the current values.

Operation

1. Load the actual media you want to cut.

2. Press the [▼] icon.

```
HL      🖳 ⯮
1:Condition No. 1
       PEN S30 F12 A2 T1
            READY


  📇      Q        ▼       ≡
```

3. Press the [CUT TEST].
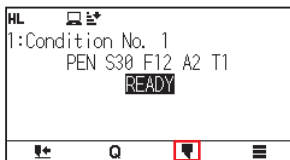
```
<       Condition No. 1
CONDITION No.            No. 1
EDIT CUT CONDITION         >
CUT TEST

```
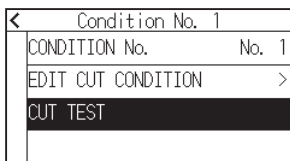
4. Press the POSITION (▲, ▼, ◄, ►) keys to move the tool carriage to the location you wish to perform the test
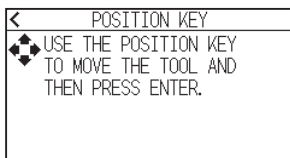
```
<       POSITION KEY
◆ USE THE POSITION KEY
   TO MOVE THE TOOL AND
   THEN PRESS ENTER.

```

> **Supplement** 🏷
>
> Pressing the POSITION and [SLOW] keys at the same time will move the tool carriage slower.

5. Press the [ENTER] key.

▷ 1 cut test pattern is cut.

> ⚠ **CAUTION**
>
> When the [ENTER] key is pressed, the tool carriage will start moving, so take care not to get injured by the cutter blade.

6. Check the test cut results.

7. Press the [OK] or [ENTER] key.

Condition No. 1		Condition No. 1	
PRESS OK BUTTON OR ENTER KEY	1 > >	PRESS OK BUTTON OR ENTER KEY	1 > >
OK		OK	
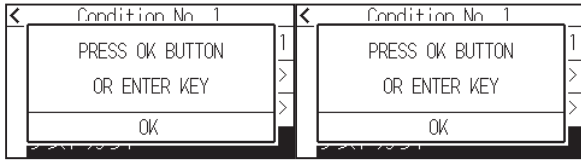
8. Press the [<] icon.

▷ It will return to HOME screen.

Confirm the results of the cutting test

Confirm the cutting test results, and adjust to optimal setting. Repeat cutting test and adjustment until optimal cut is achieved.

Adjustment of Offset

Check the corners of the triangles and rectangles. See "2.10 Selecting Tool Condition" and adjust the offset value if the corner is not cut or if it is cut too much.

Supplement

How to check offset:
Check if the offset value is set correctly by following.

The corners are rounded:
Not enough adjustment value.
Increase the offset value.

The corner is cut cleanly:
Optimal offset value.

The corner is sticking out like the mustache:
Too much adjustment value.
Decrease the offset value.

When the gap length is not enough, those the gap area is torn and may come off during cutting.

Gap length

Adjustment for Cutting Out

Adjust so the media is completely cut out.

If the media is not completely cut, either the FORCE setting is too low or the cutter blade tip is not sufficiently extended.

Adjustment when using plotting pen

Adjust the FORCE so there will be no faint lines.
To prolong the pen life, set the FORCE to the lowest setting without any faint lines.

2.12 Displaying Cutting Area

Check the cutting area.

Operation

1. Press the [SLOW] key in the HOME screen.

```
◆◆     TOOL POSITION
         X=    0.0 cm
         Y=    0.0 cm
       CUT AREA
         X=  200.0 cm
         Y=   37.5 cm
```
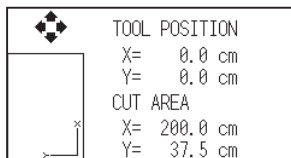
Supplement

The [TOOL POSITION] indicates the current tool position in the cutting area.

2. Release the [SLOW] key.

▷ It will return to HOME screen.

Chapter 3: Basic Operations

This chapter describes the basic methods to operate the plotter manually.

3.1　Raise or Lower the Tool

This is a function to raise or lower the tool.

Operation

1. Press the [≡] icon.
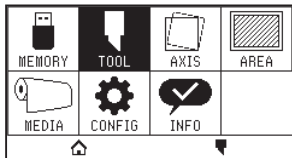
2. Press the [TOOL].
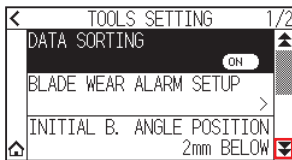
3. Press the [⤓] icon.

4. Press the [TOOL UP/DOWN]. Tool is raised or lowered every time the [TOOL UP/DOWN] is pressed.
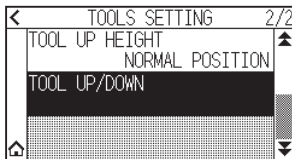
5. Press the [⌂] icon.

   ▷ It will return to HOME screen.

3.2 *Move the Tool Carriage*

Tool carriage can be moved manually using the POSITION key.
It can move the tool carriage to the origin, or move it certain distance to keep it away.

Move in steps manually

It can manually move in steps when the screen is displaying "READY", or when the POSITION (▲, ▼, ◀, ▶) key is displayed.

Operation

1. Press the POSITION (▲, ▼, ◀, ▶) key once to move in the desired direction.

   ▷ Tool carriage or the media will move toward the direction of the pressed POSITION key for 1 step.

   Supplement 🖉

   • It will move in steps every time POSITION (▲, ▼, ◀, ▶) key is pressed.
   • Distance of step movement can be changed. See "3.2 Move the Tool Carriage".

Continuously move manually

It can manually move continuously when the screen is displaying "READY", or when the POSITION (▲, ▼, ◀, ▶) keys are displayed.

Operation

1. Hold the POSITION (▲, ▼, ◀, ▶) key down to keep moving in the desired direction.
   ▷ Tool carriage or the media keeps on moving continuously in the direction of the pressed POSITION key.

   Supplement 🖉

   Pressing the POSITION and [SLOW] keys at the same time will move the tool carriage slower.

2. Release the POSITION (▲, ▼, ◀, ▶) key.
   ▷ Movement of the tool carriage or the media will stop.

Setting step movement distance

The parameters when setting the cutting direction are determined by the distance of the cutting direction.

Operation

1. Press the [▤] icon.

```
HL      ▱ ⯎
1:Condition No. 1
     PEN S30 F12 A2 T1
          READY

   ▮←      Q       ▼      ▤
```

2. Press the [CONFIG].

```
  [MEMORY]  [TOOL]  [AXIS]  [AREA]
  [MEDIA]  [CONFIG]  [INFO]
         ⌂           ▼
```

3. Press the [GENERAL].

```
<       CONFIGURATION     1/3
GENERAL                        ▲
                         >
COMMUNICATION
                         >
COMMAND
⌂                        >  ▼
```

4. Press the [▼] icon.

```
<         GENERAL          1/3
LANGUAGE SELECTION             ▲
                    English
LENGTH UNIT
                    METRIC
BEEP
⌂                    ON     ▼
```

5. Press the [MOVE STEP].

```
<         GENERAL          2/3
TOOL OFFSET ADJ.               ▲
                         >
MOVE STEP
                    0.1mm
LCD CONTRAST
⌂                    0    ▼
```
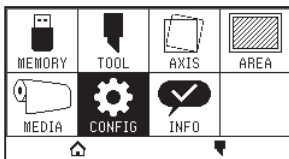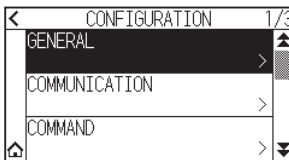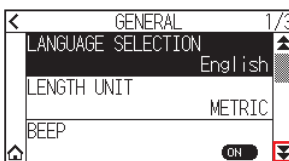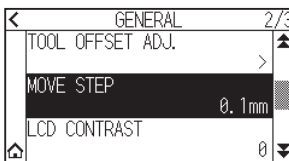
6. Press the move step you want to use.

```
<         GENERAL          2/3
                               ▲
       0.1mm

       1.0mm

⌂                    0    ▼
```
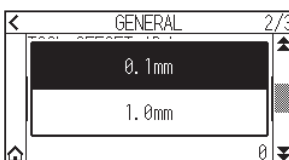
> **Supplement**
>
> Value chosen here will be the movement distance for the step movement.

7. Press the [⌂] icon.
   ▷ It will return to HOME screen.

Move away the tool carriage

It is possible to move the tool carriage toward upper right.
It makes it easier to confirm the cutting results if you perform this operation after the cutting is completed.

<When using Roll Media>: Seen from above

Standby position
of the pen carriage

Position of the pen carriage
before moving away

100mm

To the bottom of the cutting
area (machine origin point)

<When using Sheet Media>: Seen from above

To the top of the
maximum cutting area

Bottom of the operation
area (machine origin point)
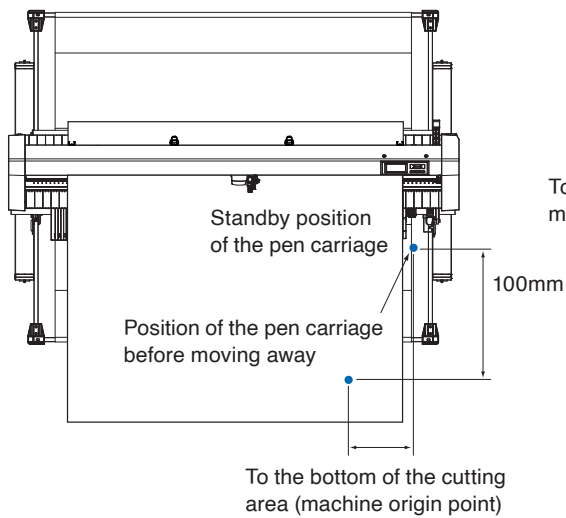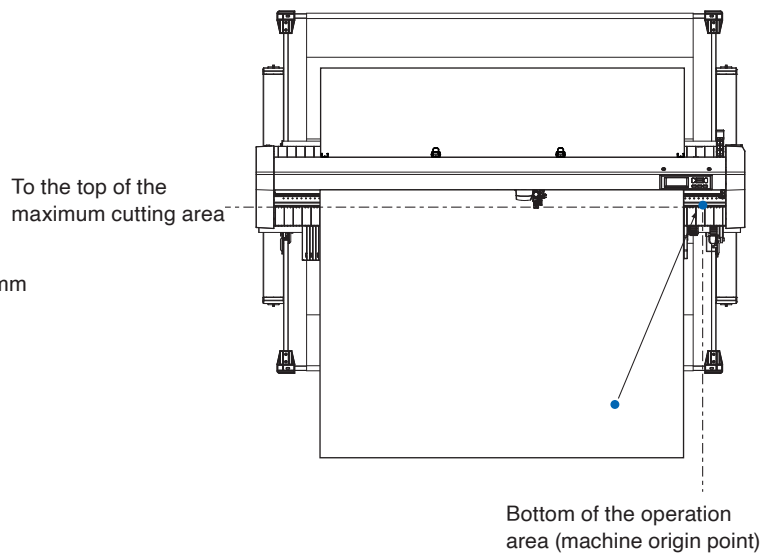
Operation
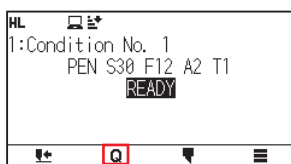
1. Press the [**Q**] icon.

2. Press the [VIEW].

▷ Tool carriage will move away.
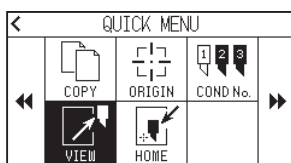
3. Press the [HOME].

▷ Tool carriage will move to the origin point.
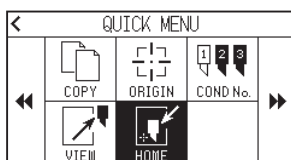
Reset (Revert to the initial state when the power was turned on.)

Revert to the state when the power was turned on.

Operation

1. Press the [**Q**] icon.

```
HL      🖵⯭
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY

  ⊮      Q      ⯯      ☰
```

2. Press the [▶▶] icon.

```
<        QUICK MENU
      ┌┐    ┌!┐    1 2 3
      └┘    └!┘    
⯇⯇  COPY  ORIGIN  COND No.  ▶▶
      ↗⯯    ⊞↙
      VIEW   HOME
```

3. Press the [RESET].

```
<        QUICK MENU
      ⏻
⯇⯇  RESET              ▶▶
```

4. Press the [YES].

```
<        QUICK MENU
    ┌─────────────────┐
    │  ARE YOU SURE   │
◄   │ YOU WANT TO RESTART? │  ►
    │  YES  │   NO    │
    └─────────────────┘
```
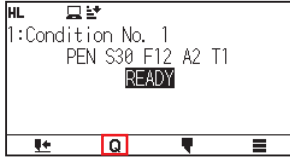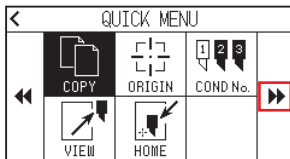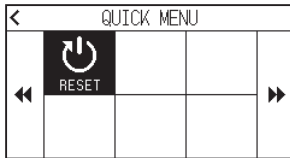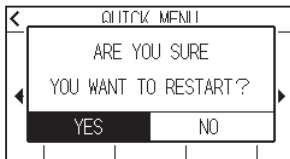
3.3 *Setting the Origin Point*

Point where the plotting starts is called origin point. The origin point can be set at any location.

New origin
point

Original origin point

Y
X
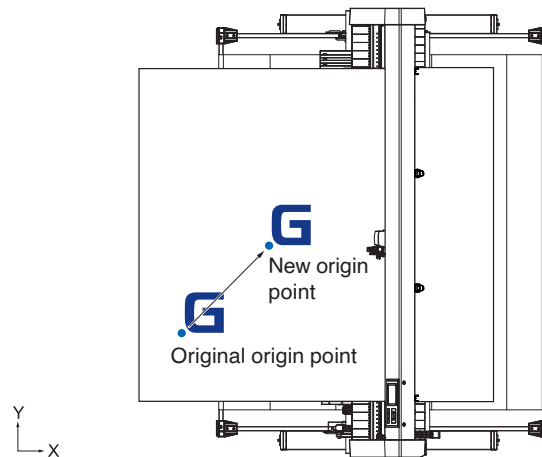
How to set the current position to the new origin point

1. Move the tool to the new origin point by pressing the POSITION (▲, ▼, ◀, ▶) keys when it is in READY status.

2. Press the [**Q**] icon.
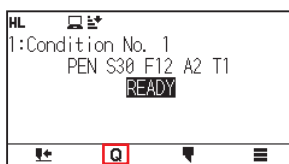
3. Press the [ORIGIN].
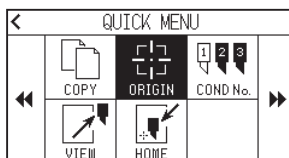
4. "NEW ORIGIN POINT IS SET!" is displayed for few seconds in the screen.

When coordinate axes rotation are set

If the origin point is moved while the coordinate axes are rotated, the origin point will move as shown below.

When coordinate axes are rotated after origin point is set

The origin point will be initialized as shown below if the coordinate is rotated after moving the origin point. Distance "a" will be maintained, but distance "b" will be initialized.

Before setting
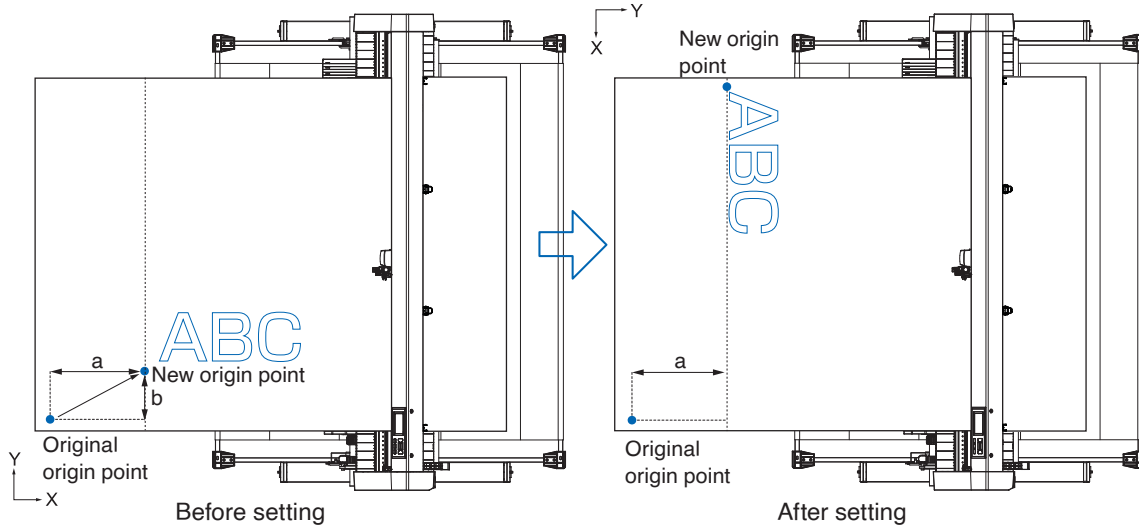
After setting

Supplement

- To use the origin point movement and coordinate axes rotation together, always rotate the coordinate axes first, and then move the origin point.
- Coordinate value displayed after setting new origin point is a distance from the new origin point.

Setting origin point when HP-GL is set

When using the HP-GL command, the origin point is set to either the lower left of the cutting area or the center.

Supplement 🖋

- When using the GP-GL command, this setting does not affect the operation.
- See "Chapter 11 Settings of Controls from Computer" for setting the COMMAND.

Operation

1. Press the [≡] icon.

```
HL      ⬛⇝
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY

    ⬕⇐      Q        ▼       ≡
```

2. Press the [CONFIG].

```
  MEMORY    TOOL    AXIS    AREA

  MEDIA    CONFIG   INFO

      ⌂              ▼
```

3. Press the [COMMAND].
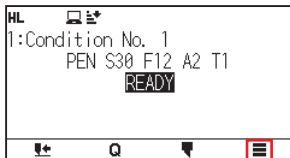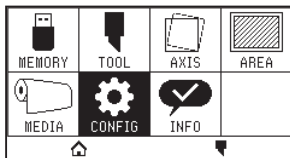
```
 <      CONFIGURATION    1/3
GENERAL                      ⯅
                       >
COMMUNICATION
                       >
COMMAND
⌂                      >  ⯆
```
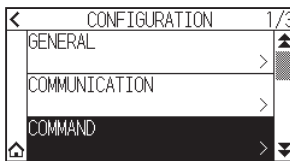
4. Press the [HP-GL ORIGIN POINT].

```
 <        COMMAND        1/3
COMMAND TYPE                 ⯅
                    HP-GL
GP-GL STEP SIZE
                   0.100mm
HP-GL ORIGIN POINT
⌂              LOWER LEFT  ⯆
```
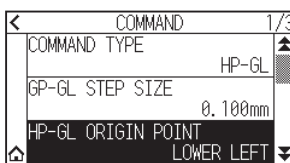
5. Press the origin position you want to use.

```
 <        COMMAND        1/3
                             ⯅
        CENTER

      LOWER LEFT

⌂              LOWER LEFT  ⯆
```
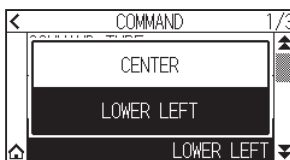
6. Press the [⌂] icon.
   ▷ It will return to HOME screen.

3.4 *Setting the Plotting Direction*

Rotate the coordinate axes to change the cutting direction.

> **Supplement** 🖊
>
> The rotation settings will be saved even if the power is shut off.

Coordinate axes
rotation settings ON

Coordinate axes
rotation settings OFF
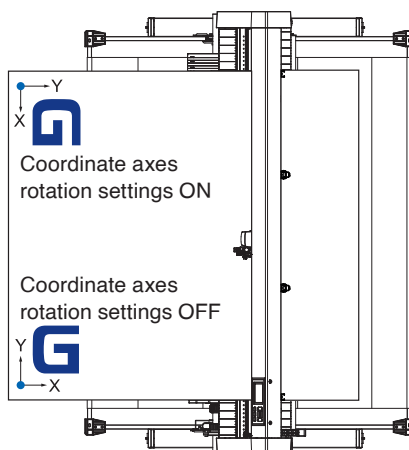
Operation
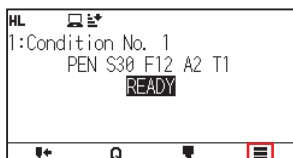
1. Press the [☰] icon.

2. Press the [AREA].
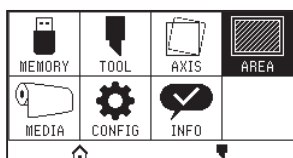
3. Press [ROTATE] to turn it to [ON].

   ▶ To cancel, set it to [OFF].
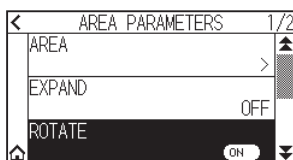
4. Check the setting and press the [🏠] icon.

5. The tool carriage moves to the set coordinate position.

3.5 *Stop Cutting*

It will stop cutting during operation.

The menu is displayed on the screen of the control panel while it is stopped. It is possible to choose either to continue or stop the operation.

It is also possible to exchange or reset the media while it is stopped.

Pause and resume cutting

Operation

1. Press the [STOP] or [ESCAPE] key.

```
HL      ⬚⮭
1:Condition No. 1
     PEN S30 F12 A2 T1
          PROCESSING

   CONDITION      STOP
```
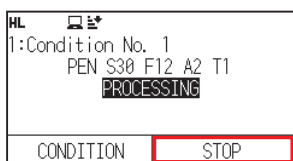
2. Perform necessary operation, such as exchanging the media.

> **Supplement** 🖉
>
> There is no effect on the selection of media type when the media set lever is moved up and down while pausing the cutting. It is also possible to exchange or reset the media.

3. Press the [RESUME JOB].

```
     JOB PAUSED
     RESUME JOB
     CANCEL JOB
     MOVE TOOLS
```
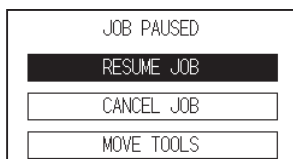
> **Supplement** 🖉
>
> Press the [CANCEL JOB] to cancel the cutting.

Stop cutting

Operation

1. Press the [STOP] or the [ESCAPE] key.

```
HL      ⌨ ↲
1:Condition No. 1
    PEN S30 F12 A2 T1
        PROCESSING

  CONDITION  |  STOP
```

2. Press the [CANCEL JOB].

```
       JOB PAUSED
     RESUME JOB
     CANCEL JOB
     MOVE TOOLS
```
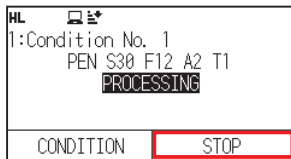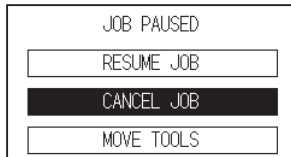
> **Supplement** 🏷
>
> It will resume cutting by pressing the [RESUME JOB].

3. Confirm if the data transfer from the computer is stopped and press the [YES, CLEAR].

```
        CAUTION
THE MEMORY WILL BE CLEARED
ENSURE NO DATA IS BEING SENT

DO YOU WANT TO CONTINUE?

  YES, CLEAR  |    NO
```
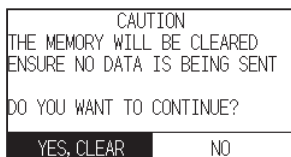
▷ The buffer memory will be cleared and it will return to HOME screen.

> **Supplement** 🏷
>
> • If you press the [NO], you will return to the work interruption screen without clearing the buffer memory.
> • When clearing the buffer memory, be sure to make sure that data transfer has stopped.
>   If you clear the buffer memory while data is being transferred, processing will start from the middle of the data, which may result in abnormal operation.

Chapter 4: Convenient Functions

This chapter describes about the convenient functions of the plotter.

4.1 *Setting for Cutting*

Settings such as area and width of cutting, page length, mirrored, enlarged, shrunk, etc., can be set.

Setting cutting area

Origin point will be set at lower left of the AREA once the AREA is set.
It is possible to set the origin point at the center when the HP-GL is selected.
Move the origin point to change the cutting position.

> **Supplement**
>
> See "3.3 Setting the Origin Point " for the moving the origin point, and origin point using the HP-GL command.

It will only cut within this range

Upper right set position

Origin point

G Image already cut

Y
X

Operation

1. Press the [≡] icon.


```
HL      🖥 ⫶⁺
1:Condition No. 1
     PEN S30 F12 A2 T1
          READY

 ▐⁺      Q        ▼        ≡
```

2. Press the [AREA].


```
MEMORY  TOOL   AXIS   AREA
MEDIA  CONFIG  INFO
```

3. Press the [AREA].


```
<      AREA PARAMETERS    1/2
AREA
                          >
EXPAND
                        OFF
ROTATE
                       (OFF)
```

4. Press the [TOOL MOVE].
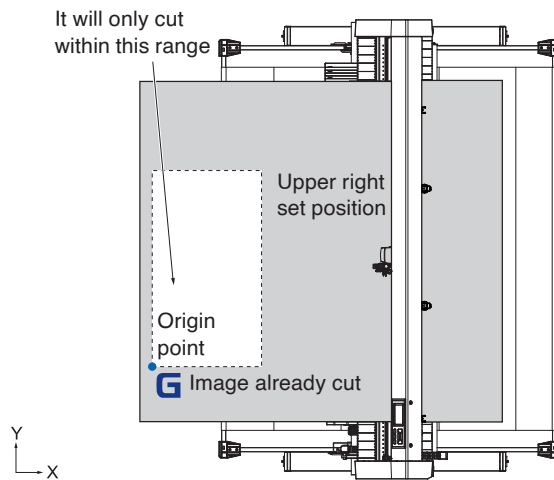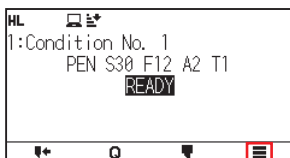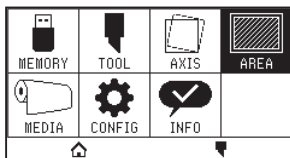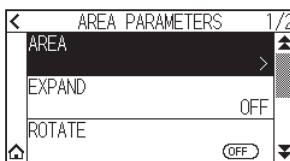
```
< ̄ ̄ ̄SET LOWER LEFT ̄ ̄ ̄
     SELECT HOW TO SET
     THE LOWER LEFT POINT

  X=+0.000mm      Y=+0.000mm
 DEFAULT │ SKIP │ TOOL MOVE
```
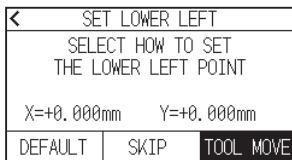
Supplement 🖉

- Coordinate value displayed here is the distance to the tool carriage from the origin point.
- Press [DEFAULT] if the cutting area is not to change.

5. Press the POSITION (▲, ▼, ◀, ▶) keys and move the tool carriage to the position to be the lower left of the cutting AREA.

```
< ̄ ̄ ̄SET LOWER LEFT ̄ ̄ ̄
✛ MOVE THE TOOL AND
  PRESS ENTER KEY.

      X=+0.000mm
      Y=+0.000mm
```
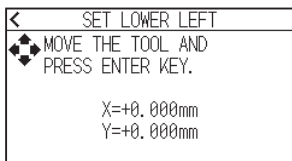
6. Press the [ENTER] key once the tool carriage is in correct position.

7. Press the [TOOL MOVE].

```
< ̄ ̄ ̄SET UPPER RIGHT ̄ ̄ ̄
     SELECT HOW TO SET
     THE UPPER RIGHT POINT

  X=+2000.000mm Y=+375.000mm
 DEFAULT │ SKIP │ TOOL MOVE
```
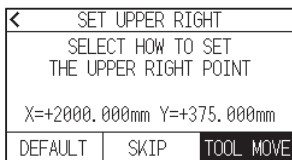
8. Press the POSITION (▲, ▼, ◀, ▶) keys and move the tool carriage to the upper right position of the cutting area.

```
< ̄ ̄ ̄SET UPPER RIGHT ̄ ̄ ̄
✛ MOVE THE TOOL AND
  PRESS ENTER KEY.

      X=+2000.000mm
      Y=+375.000mm
```
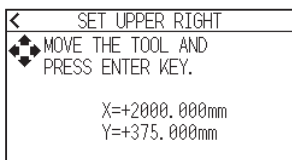
Supplement 🖉

Please set the X and Y cut range for the areas on the upper right and lower left points to at least 10 mm.
An error message will appear for areas that are too small.
You will need to reset the settings for the upper right and lower left points.

```
< ̄ ̄ ̄SET UPPER RIGHT ̄ ̄ ̄
✛ MOVE THE TOOL AND
  PR E05006 ERROR
   ILLEGAL PLOT AREA
        OK
      Y=+375.000mm
```

9. Press the [ENTER] key once the tool carriage is in correct position.

10. Press the [🏠] icon.

▷ It will return to HOME screen.

Setting cutting width (EXPAND)

Set the width of the cutting area.
Default setting is to the internal edge of the push rollers. It can be set up to 10 mm outside.
Setting will affect both ends, resulting the total width change will be double the set value.

⚠CAUTION

Do not set the "INITIAL B. ANGLE POSITION" of the tool setting to "Y OUTSIDE" when the setting value is set to more than 8 mm. The blade might be damaged by moving the carriage outside the media under this condition.

Supplement

- If the value is set, it is able to cut over where the push rollers are, but the push rollers passes where it is cut, creating a chance of bad feeding depending on the media.
- Set the width of cutting area, and then send the cutting data to the plotter.
  Cutting data in the buffer memory will be cleared when cutting area width is changed.

Operation

1. Press the [≡] icon.
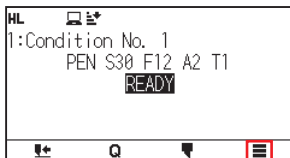
2. Press the [AREA] key.
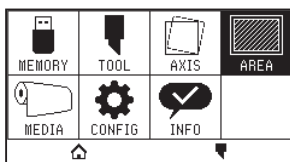
3. Press the [EXPAND].
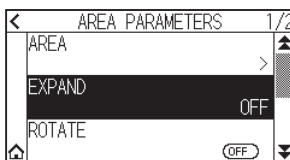
4. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
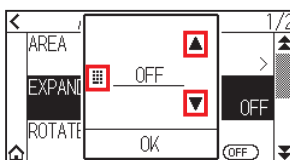
   ### Supplement

   - If the setting value is set to other than OFF (0.0 mm), transfer direction of the cutting area will also expand 5 mm forward.
   - You can set the range between 1.0 mm and 10.0 mm, or OFF (0.0 mm).

5. Confirm the setting and press the [OK].

6. Press the [⌂] icon.

   ▷ It will return to HOME screen.

Setting length of the page

Set the length of one page when using roll media.
If the cut data is longer than the set page length, only the part that fits within the set page length will be cut, and the part that exceeds it will not be cut.

> **Supplement** 🖊
>
> - Default page length is 3 m. When doing long cuts, check the setting of the page length.
>   * Be sure to use the basket.
> - For the CE8000-130AP, the page length up to 50 m can be set. We give quality assurance for page feeding up to 3 m. (Under the condition that the media described below is used.)
>   ・Use the basket.
>   ・Media: genuine Graphtec brand products.
>   ・Set the speed below 30 and the acceleration below 2.
>   ・Perform pre feed for the amount to be used before cutting.
>   ・Leave the media in environment to use for adequate time if the deviation of temperature and humidity is big.
>   ・Set the both push rollers at least 15mm inside the edge of media.
>   ・The paper needs to be reset after cutting 5 consecutive pages.
>   ・Each page should be removed from the basket after it has been cut.
> - When setting media for long-plotting, set the tension on the left and right of the width of the media to a uniform value. If it is not uniform, the media may be removed from the roller that presses it during plotting.
> - Pull out the amount to use before cutting when you are using the roll media.
> - To reduce the shifting of the media, perform the pre feed to the full length to be cut.
>   (see "8.3 Perform Automatic Pre Feed When Media is Set (Initial Feed) Received")
>   Also, pre feeding can be done automatically when the data is received.
>   (See "Perform Automatic Pre Feed When Cut Data is Received").
>   * Pre feeding will stabilize the feed by acclimating the media, taking out the slack.
> - This setting will be saved even if the power is shut off.

Operation
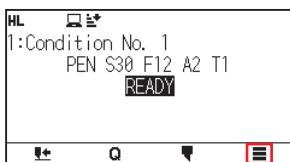
1. Press the [▤] icon.

2. Press the [MEDIA].
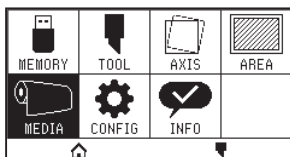
3. Press the [⬇] icon.

4. Press the [PAGE LENGTH].
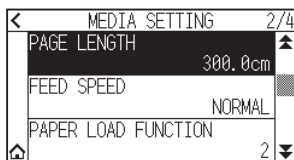
```
┌──────────────────────────┐
│ <     MEDIA SETTING   2/4 │
│ ┌──────────────────┐  ▲   │
│ │PAGE LENGTH        │      │
│ │           300.0cm │      │
│ │FEED SPEED         │      │
│ │            NORMAL │      │
│ │PAPER LOAD FUNCTION│      │
│ ⌂                 2   ▼   │
└──────────────────────────┘
```

5. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
┌──────────────────────────┐
│ <                     2/4 │
│ PAGE L  ┌────┐  ▲   ▲     │
│         │ ▲  │    0.0cm   │
│ ▦ 300.0cm│    │           │
│ FEED  │ ▼  │    ORMAL     │
│         └────┘            │
│ PAPER     OK          2 ▼ │
│ ⌂                         │
└──────────────────────────┘
```
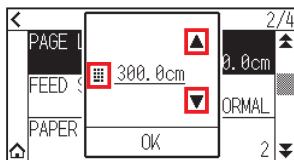
Supplement 🖉

You can set the range between 20.0 cm and 5000.0 cm.

---

6. Confirm the setting and press the [OK].

7. Press the [⌂] icon.

▷ It will return to HOME screen.

4.2 *Copy (Duplicate Cutting)*

Repeats cutting the specified number of times using the cutting data held in the buffer memory.

> **Supplement** ✍
>
> - Do not send new data to plotter while copying. Cutting data in the buffer memory will be cleared.
> - Previous cutting data will be cleared and newly sent data will be stored as cutting data if you send new data with 10 seconds or more interval from the time it finished cutting.
> - It can not copy if data is more than 1.6 MB because it cannot be stored in the buffer memory of the plotter.
> - Buffer memory that can be used for copy will decrease if you turn on the data sort.
>   Turn off the data sort when you need to copy cutting with large data.
>   See "8.1 Sorting the Plotting Data" for data sort.
> - If the original cutting data to be copied starts away from the origin point, copied cutting will also start away from the origin point.
>   To Avoid wasted space, create the cutting data close to the origin point.

When media change mode is OFF

Copy is performed in following order.
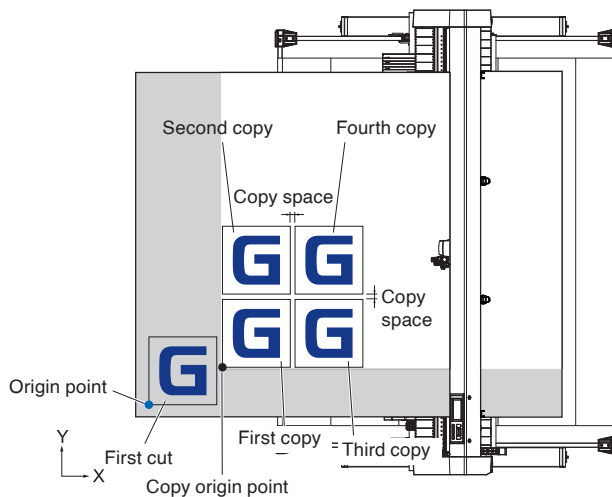
Copying when setting COORDINATE AXES ROTATION is performed in the following order.
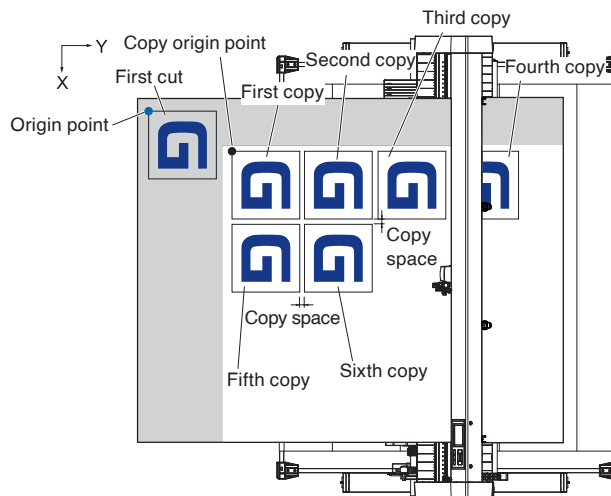
Operation

1. Plot (cut) the data you want to copy once.

▶ Cutting data is stored in the buffer memory.

2. Press the POSITION (▲, ▼, ◀, ▶) keys and move the tool carriage to the position to copy.

3. Press the [**Q**] icon.

```
HL      🖵💬
1:Condition No. 1
        PEN S30 F12 A2 T1
              READY

  ⬅       Q        ▼        ≡
```

4. Press the [COPY].

```
<        QUICK MENU
   ┌┐      ┌┐┌┐    1 2 3
   └┘      └┘└┘    🔲
◀◀ COPY   ORIGIN  COND No.  ▶▶
   ↗       ↙
   VIEW    HOME
```
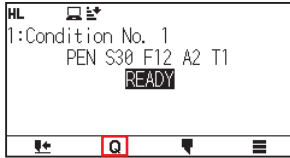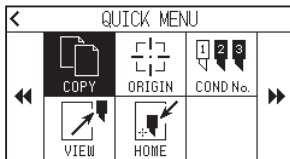
> **Supplement** 🖊
>
> • "NO DATA FOR COPY IN BUFFER!" is displayed if there is no data in the buffer memory.
> • If too much data is sent from the buffer memory, "COPY MODE BUFFER FULL!" will be displayed.
> • If the data to be copied is larger than the cutting area, "CANNOT COPY CUT AREA TOO SMALL!" will be displayed. Enlarge the cutting area or load a media that can secure a sufficient cutting area.

5. Press [MEDIA CHANGE MODE] to set to [OFF].
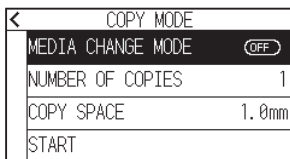
```
<        COPY MODE
MEDIA CHANGE MODE      (OFF)
NUMBER OF COPIES          1
COPY SPACE           1.0mm
START
```

6. Press the [NUMBER OF COPIES].

```
<        COPY MODE
MEDIA CHANGE MODE      (OFF)
NUMBER OF COPIES          1
COPY SPACE           1.0mm
START
```

7. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
<
MEDIA          ▲      (OFF)
NUMBER ▦    1          1
COPY S         ▼     1.0mm
START     OK
```
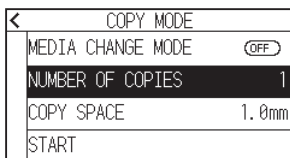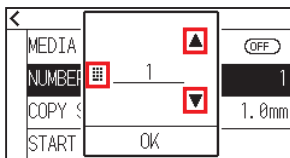
> **Supplement** 🖊
>
> • Number of copies can be set as much as it can fit in the media set on the printer.
> • The initial value for the number of copies is always 1.

8. Confirm the setting and press the [OK].

9. Press the [COPY SPACE]

```
┌───────────────────────┐
│ <      COPY MODE       │
│ MEDIA CHANGE MODE  (OFF)│
│ NUMBER OF COPIES      1 │
│ COPY SPACE       1.0mm  │
│ START                  │
└───────────────────────┘
```
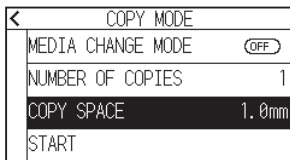
Supplement 🖊

Copy interval can be set when MEDIA CHANGE MODE is turned OFF.

10. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
┌───────────────────────┐
│ <                      │
│ MEDIA      ▲      (OFF) │
│ NUMBEF ▦ 1.0mm       1 │
│ COPY $    ▼     1.0mm   │
│ START    OK            │
└───────────────────────┘
```
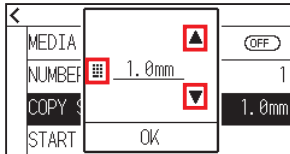
Supplement 🖊

- You can set the range between 1.0 mm and 10.0 mm.
- This setting is maintained even if the power is turned off.

11. Confirm the setting and press the [OK].

12. Press the [START].

```
┌───────────────────────┐
│ <      COPY MODE       │
│ MEDIA CHANGE MODE  (OFF)│
│ NUMBER OF COPIES      1 │
│ COPY SPACE       1.0mm  │
│ START                  │
└───────────────────────┘
```

13. Press the [YES].
▷ The copy will start.

```
┌───────────────────────┐
│ <      COPY MODE       │
│   DO YOU WANT TO     ) │
│   START COPYING?     1 │
│                      m │
│   YES        NO        │
└───────────────────────┘
```
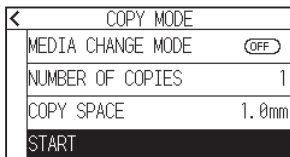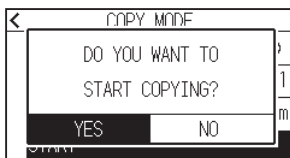
Supplement 🖊

- Cutting data is stored even if the media is exchanged.
- It can be copied as many times until the buffer memory is cleared.

When media change mode is ON

The Change Media message appears each time when ending a single cut in Media Change mode.
Choosing to change media will instantly detect the media and proceed to a copy area.

Operation

1. Plot the data you want to copy once.
▷ Cutting data is stored in the buffer memory.

2. Press the [**Q**] icon.

```
HL      ☐⯈
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY

  ⯇•      Q      ▼      ≡
```

3. Press the [COPY].

```
⯇         QUICK MENU
  ┌┐     ┌┐      ①②③
  ┗┛     └┘      COND No.
 ◀◀ COPY  ORIGIN         ▶▶
      ↗       ↓
     VIEW    HOME
```
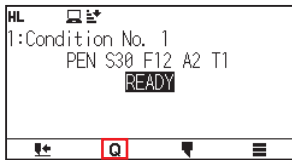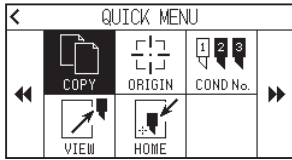
Supplement 🖉

• Turning MEDIA CHANGE MODE on will display the CHANGE MEDIA message each time after a single cut.

```
       ☐
1:
         COPY MODE
        CHANGE MEDIA!

         QUIT COPY
     CONDITION    STOP
```

"If the [QUIT COPY] is pressed, copying will be suspended and it will return to the HOME screen.

• When exchanging media, the media selection will be chosen from what was selected before copying.
• If there is no data in the buffer memory, "NO DATA FOR COPY IN BUFFER!" will be displayed. Please send cutting data.
• If too much data is sent from the buffer memory, "COPY MODE BUFFER FULL!" will be displayed.
• If the data to be copied is larger than the cutting area, the message "CANNOT COPY CUT AREA TOO SMALL!" will be displayed. Please widen the cutting area or load a media that can secure a sufficient printing area.

---

4. Press the [MEDIA CHANGE MODE] to turn it to [ON].

```
⯇         COPY MODE
MEDIA CHANGE MODE      ON
NUMBER OF COPIES         1
  ⊘ COPY SPACE          -
START
```

5. Press the [NUMBER OF COPIES].

```
⯇         COPY MODE
MEDIA CHANGE MODE      ON
NUMBER OF COPIES         1
  ⊘ COPY SPACE          -
START
```

6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
< 
MEDIA       ▲      ON
NUMBER ▦  1          1
  ⊘ C              -
START      OK
```

7. Confirm the setting and press the [OK].

8. Press the [START].

```
<        COPY MODE
MEDIA CHANGE MODE     ON
NUMBER OF COPIES       1
  ⊘ COPY SPACE         -
START
```

9. Press the [YES].
▷The copy will start.

```
<        COPY MODE
   DO YOU WANT TO
   START COPYING?       1
                        -
   YES       NO
```
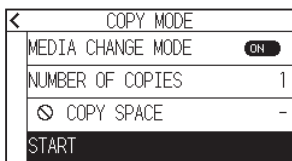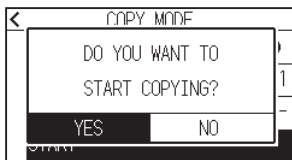
10. If the number of copies is 2 or more, replace the media after the first copy is completed.

```
        🖳
1:
        COPY MODE
       CHANGE MEDIA!
        QUIT COPY
```
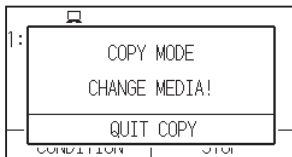
11. Press the [OK] or [ENTER] key after replacing the media.

```
<        COPY MODE
   PRESS OK BUTTON
   OR ENTER KEY         1
                        -
        OK
```
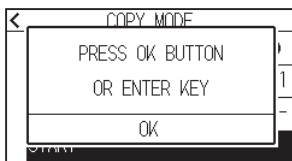
12. Start copying the second sheet.
Repeat this action the specified number of times.

4.3 Panel Cutting

To prevent skew of long media, utilize Panel Cutting when cutting.

Supplement 🖉

- When Panel Cutting is on, the machine will begin by dividing up partition length and continue cutting until one of the following data breaks appears.
  When the first partitioned area cut is finished, the machine will move to the next area, and repeat this until all areas have been cut.
- Data Breaks:
  (1) No data sent for a few second after finishing cutting. (Time Out)
  (2) A feed-related command is set. (GP-GL: F, FS commands, HP-GL: AF, AH, PG commands)
  (3) HP-GL: SP0, NR, GP-GL: J0, SO.
  (4) When commands from data breaks (2) and (3) appear, that command work will begin after the Panel Cutting is finished.
- Panel Cutting will continue for each piece of data when a data break is caused by a command, even if multiple pieces of data are sent in before the cutting finishes (even when numerous pieces of Panel Cutting data are in the plotter buffer).
- When Panel Cutting and auto media transfer are both turned on, the machine will ignore automatic media transfer length settings and continue working with priority of partition length plus something minutes ago (with footprints).
- When Panel Cutting is on, the copy, and cutting area cannot be changed.
- Panel Cutting cannot be done when one file of data makes the buffer full. Make sure to always send in data lower than the buffer size.
- This setting will be saved even if the power is shut off.

Operation
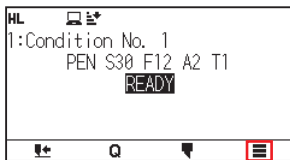
1. Press the [≡] icon.

2. Press the [MEDIA].
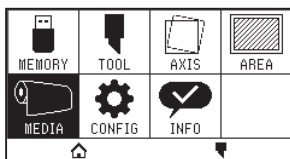
3. Press the [PANEL CUTTING].

4. Press [ENABLE FUNCTION] to turn it to [ON].

▷ To cancel, set it to [OFF].

```
❮        PANEL CUTTING
 ENABLE FUNCTION        ON
 DIVIDE LENGTH        100.0cm


```
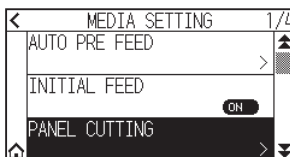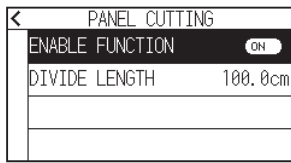
5. Press the [DIVIDE LENGTH].
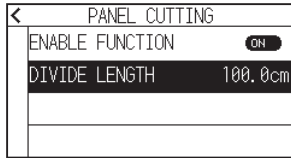
```
❮        PANEL CUTTING
 ENABLE FUNCTION        ON
 DIVIDE LENGTH        100.0cm


```

6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
❮
 ENABLE          ▲      ON
 DIVIDE ▦ 100.0cm     100.0cm
                 ▼
            OK
```
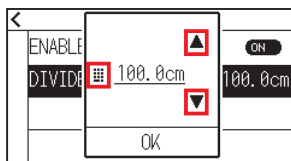
Supplement

You can set the range between 1.0 cm and 2000.0 cm.

7. Confirm the setting and press the [OK].

8. Press the [❮] icon.

9. Press the [⌂] icon.

▷ It will return to HOME screen.

4.4 Cross Cut Force

Adjust the blade force when cross cutting.

The setting range of Cross Cut force is 1 to 38. The force becomes strong when the set value is large.

If the medium is thin, set the setting value to a small value, if it is thick, set it large.

> **Supplement**
>
> This setting will be saved even if the power is shut off.

Operation

1. Press the [≡] icon.

   ```
   HL        ⌨ ⮕
   1:Condition No. 1
        PEN S30 F12 A2 T1
             READY

   ⬑    Q       ▼      ≡
   ```

2. Press the [MEDIA].

   ```
   MEMORY   TOOL   AXIS   AREA

   MEDIA   CONFIG  INFO
        ⌂           ▼
   ```

3. Press the [⬇] icon three times.

   ```
   <      MEDIA SETTING    1/4
   AUTO PRE FEED           ⮝
                        >
   INITIAL FEED
                   ON
   PANEL CUTTING
   ⌂                   >  ⬇
   ```
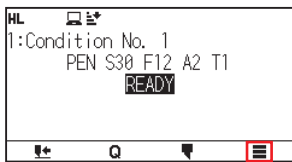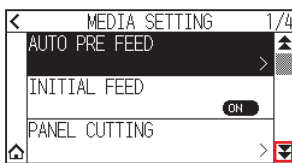
4. Press the [CROSS CUT FORCE].

   ```
   <      MEDIA SETTING    4/4
   CROSS CUT FORCE        ⮝
                      20



   ⌂                       ⬇
   ```

5. Specify the setting value using the [▲] [▼] icon or the [⊞] icon.

   ```
   <                       4/4
   CROSS        ▲         ⮝
          ⊞  20         20
             ▼
   ⌂        OK           ⬇
   ```
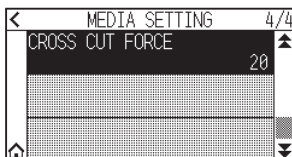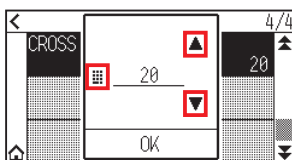
   > **Supplement**
   >
   > You can set the range between 1 and 38.

6. Confirm the setting and press the [OK].

7. Press the [⌂] icon.

   ▶ It will return to HOME screen.

Chapter 5: Manual Position Adjust

Here, we will explain how to match up points while manually confirming the media and tool (cutter pen or plotting pen) points.

5.1 Overview of Axis Adjustment

For axis adjustment, the inclination of the axis can be adjusted based on the coordination of 2 alignment marks (grit). In addition, the distance can be adjusted by entering the distance of each point.
Move the tip of each tool to the appropriate point.
Use media that has the plots (grits or alignment marks) required to find the X and Y axis and the origin point.

Alignment mark

The number of alignment marks is 2 points. The position of each alignment mark is as shown in the following figure.

Alignment with 2 points

2nd point

1st point or origin point
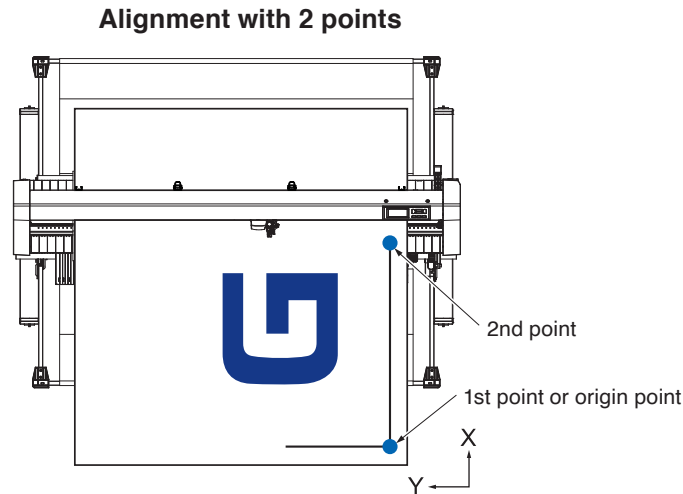
Example of axis adjustment

Before and after adjustment, axis adjustments are made as shown in the following figure.

Media that already cut and set again

Adjustment point 2

Plotting reference

Adjusting the coordinate axes

Adjustment point 1 (Origin point of the media already cut)

Origin point

Reference of this plotter
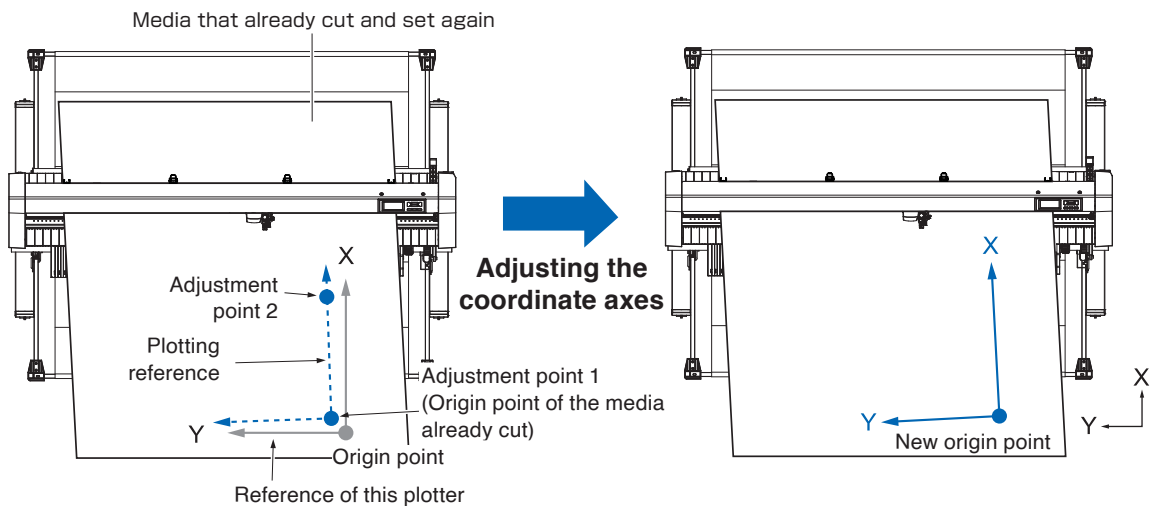
New origin point

There is a misalignment between the X-Y axis and origin point of the plotter and the media plotted.

The misalignment of the X-Y axis and origin point is adjusted and the misalignment is eliminated.

5.2 *Adjusting Coordinate Axes*

The following explain how to adjust to coordinated axes.

> **Supplement**
>
> - After aligning, the alignment will be canceled when the following occurs.
>   - · A new origin point is set.
>   - · The media again is set.
>   - · The Rotation is set. (Please set the Rotation before axis alignment.)
>   - The axis alignment point at this time moves according to the Rotation setting.
> - When the inclination of the axis is too large in the 1st and 2nd points "Axis Alignment Error: "Set axis adjustment again" message is displayed.
>   Please set the media again so that the inclination of the media becomes small, and then perform the adjustment operation.
> - If you set the 1st and 2nd points to the same point, the axis alignment will be cleared.

Starting point setting

Misalignment of the origin position and angle of X-Y axis is corrected.

By using this function, you can set again the paper plotted already.

Before aligning the coordinate axes, axis alignment can be performed easily by plotting the X axis line and origin position so that the origin position and coordinate axis can be known in advance.

Plot the X axis line and the origin position inside the cutting area so that it can be set even in a tilted state.

If the origin position and the X axis are plotted in the immediate vicinity of the cutting area, the set position becomes outside the cutting area and it will not be able to perform the alignment.

1. Set the media with the plotted alignment mark.

> **Supplement**
>
> Make sure that the push rollers are on the media in the area where the media moves. This alignment is a correction assuming that the media is set slightly diagonally. If the media misalignment is too large, the media may come off.

2. Attach the cutter plunger or pen to the tool holder.

3. Press the [▤] icon.

```
HL      ⌨
1:Condition No. 1
      PEN S30 F12 A2 T1
         READY

  ↡      Q      ▼      ▤
```

4. Press the [AXIS].

```
MEMORY  TOOL  AXIS  AREA
MEDIA  CONFIG  INFO
        ⌂          ▼
```
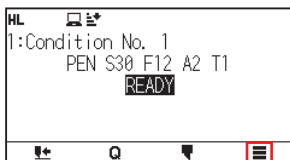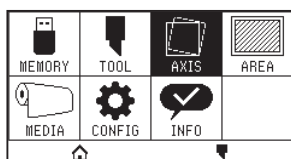
5. Press the [AXIS POINT SETTING].

```
┌─────────────────────────┐
│<    AXIS SETTING    1/1 ▲│
│▓AXIS POINT SETTING▓▓▓▓▓▓▓│
│▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓> ▓▓│
│AXIS MODE                 │
│         AXIS ALIGNMENT ▓▓│
│                         ▓│
│⌂▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▓▼│
└─────────────────────────┘
```
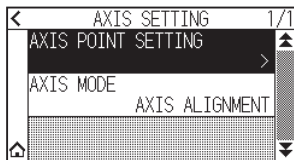
6. Press the POSITION (▲, ▼, ◄, ►) keys to move the tip of the tool to the alignment mark position.

▷ Move the tool to the position of alignment point 1 (Any point on the X axis already plotted).
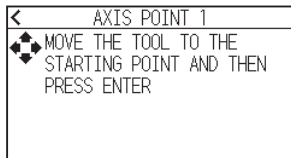
```
┌─────────────────────────┐
│<      AXIS POINT 1       │
│◆◆MOVE THE TOOL TO THE    │
│◆◆STARTING POINT AND THEN │
│   PRESS ENTER            │
│                          │
│                          │
│                          │
└─────────────────────────┘
```

Supplement 🖊

Pressing the POSITION and [SLOW] keys at the same time will move the tool carriage slower.

7. Confirm the tool position and press the [ENTER] key.

8. Press the POSITION (▲, ▼, ◄, ►) keys to move the tip of the tool to the alignment mark position.

▷ Move the tool to the position of alignment point 2 (Any point on the X axis already plotted).
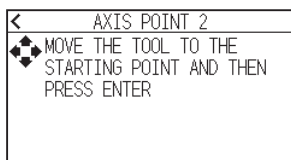
```
┌─────────────────────────┐
│<      AXIS POINT 2       │
│◆◆MOVE THE TOOL TO THE    │
│◆◆STARTING POINT AND THEN │
│   PRESS ENTER            │
│                          │
│                          │
│                          │
└─────────────────────────┘
```

Supplement 🖊

Pressing the POSITION and [SLOW] keys at the same time will move the tool carriage slower.

9. Confirm the tool position and press the [ENTER] key.

10. Press the POSITION (▲, ▼, ◄, ►) keys to move the tip of the tool to the alignment mark position.

▷ Move the tool to the new origin point (Point you want to be the origin point).
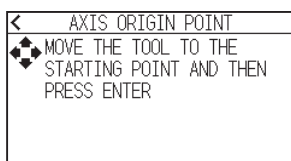
```
┌─────────────────────────┐
│<    AXIS ORIGIN POINT    │
│◆◆MOVE THE TOOL TO THE    │
│◆◆STARTING POINT AND THEN │
│   PRESS ENTER            │
│                          │
│                          │
│                          │
└─────────────────────────┘
```

Supplement 🖊

Pressing the POSITION and [SLOW] keys at the same time will move the tool carriage slower.

11. Confirm the setting and press the [ENTER] key.

Chapter 6: Cut function settings

This chapter provides the settings required when using the cutting plotter in combination with CAD for apparel.

6.1 *Set F Command of Cutting (F_CUT)*

With the feed command in the GP-GL command, set to Cross Cut (ON) / Not (OFF).
When this function is enabled, even if a parameter that does not cut the paper with the feed command is sent, Cross Cut is activated.

Supplement

> This setting will be saved even if the power is shut off.

Operation

1. Press the [≣] icon.

```
HL    ⌨⊱
1:Condition No. 1
      PEN S30 F12 A2 T1
          READY


  ⊩←     Q        ▼        ≣
```

2. Press the [MEDIA] icon.

```
MEMORY   TOOL    AXIS    AREA
MEDIA   CONFIG   INFO
          ⌂               ▼
```

3. Press the [▼] icon twice.

```
<      MEDIA SETTING    1/4
AUTO PRE FEED              ≩
                        >
INITIAL FEED
                  ON
PANEL CUTTING
⌂                      >  ▼
```
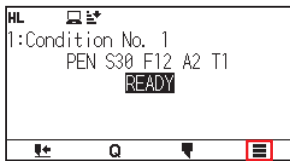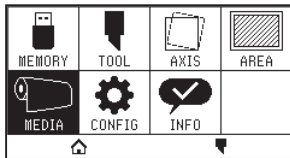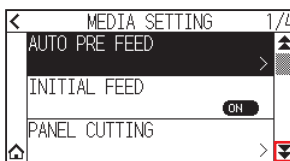
4. Press the ['F' COMMAND CUT].
   To cancel, set it to [OFF].

```
<      MEDIA SETTING    3/4
PAPER READY TIME          ≩
                  180sec
CROSS CUT
                  ON
'F' COMMAND CUT
                  OFF     ▼
⌂
```
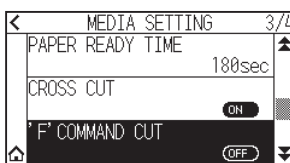
> **Supplement**
>
> > If ['F' COMMAND CUT] is set to [ON], the setting value of the [CROSS CUT] menu must also be set to [ON].

5. Check the setting and press the [⌂] icon.

   ▷ It will return to HOME screen.

6.2 Setting a Time Out

Regarding the timeout setting, when the data input time to the interface becomes equal to or longer than the specified time, that point in time is regarded as a data break.
All data up to the data break will be plotted, after it, cross cut will be performed.

Supplement

This setting will be saved even if the power is shut off.

Operation

1. Press the [≡] icon.

   ```
   HL      □▯
   1:Condition No. 1
         PEN S30 F12 A2 T1
               READY

   ▯◄      Q        ▮       ≡
   ```

2. Press the [CONFIG] icon.

   ```
   MEMORY   TOOL   AXIS   AREA

   MEDIA   CONFIG  INFO
           ⌂        ▮
   ```

3. Press the [▼] icon twice.

   ```
   <      CONFIGURATION    1/3
   GENERAL
                        >
   COMMUNICATION
                        >
   COMMAND
   ⌂                    > ▼
   ```
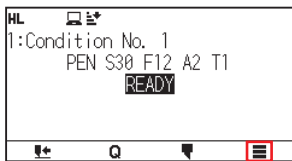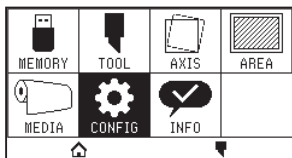
4. Press the [CROSS CUT].

   ```
   <      CONFIGURATION    3/3
   CROSS CUT
                        >


   ⌂                      ▼
   ```

5. Press the [TIME OUT].

   ```
   <       CROSS CUT       1/2
   REAR SPACE
                     7. 0mm
   TIME OUT
                       0sec
   GP-GL SEPARATOR
   ⌂                [ -- ] ▼
   ```
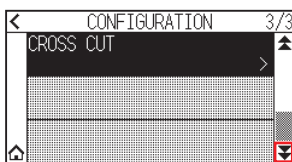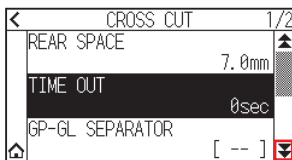
6. Use the [▼] and [▲] icons to display the time out you want to use.

   ```
   <       0sec         ▲ /2
                            ▲
           1sec
           2sec
   ⌂       3sec         ▼  ▼
   ```
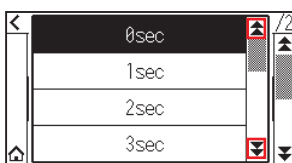
   Supplement

   • You can set the range 0, 1, 2, 3, 5, 10, 20, 30, 60 or 120 (sec.).
   • If 0 sec. is set, crosscut due to timeout is not performed.

7. Press the time out you want to use.

8. Press the [⌂] icon.

   ▷ It will return to HOME screen.

6.3 *Setting a Separator*

Regarding the separator setting, the command that is set as separator is judged as the data break when it is sent. All data up to the data break will be plotted, after it, cross cut will be performed.

GP-GL separator

Set the separator at GP-GL.

Supplement

This setting will be saved even if the power is shut off.

Operation

1. Press the [▤] icon.

```
HL      ☐≝
1:Condition No. 1
     PEN S30 F12 A2 T1
          READY


  ↧↤     Q        ↧        ▤
```

2. Press the [CONFIG] icon.

```
┌──────┬──────┬──────┬──────┐
│  🖴  │  📍  │  ◇  │ ▨▨▨ │
│MEMORY│ TOOL │ AXIS │ AREA │
├──────┼──────┼──────┼──────┤
│  📃  │  ⚙  │  ✅  │      │
│MEDIA │CONFIG│ INFO │      │
└──────┴──────┴──────┴──────┘
      ⌂              ↧
```

3. Press the [⤓] icon twice.

```
<     CONFIGURATION   1/3
 GENERAL                  ↥
                      >
 COMMUNICATION
                  >
 COMMAND
⌂                 >   ⤓
```
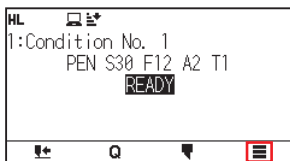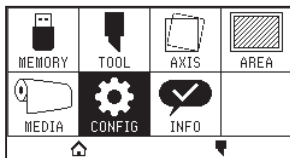
4. Press the [CROSS CUT].
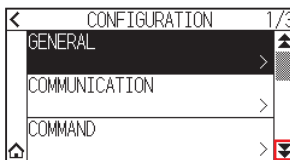
```
<     CONFIGURATION   3/3
 CROSS CUT                ↥
                   >

⌂                     ⤓
```

5. Press the [GP-GL SEPARATOR].

```
<       CROSS CUT     1/2
 REAR SPACE               ↥
              7.0mm
 TIME OUT
              0sec
 GP-GL SEPARATOR
              [ -- ]     ⤓
```
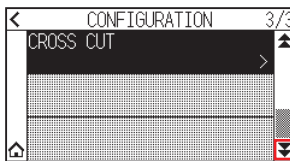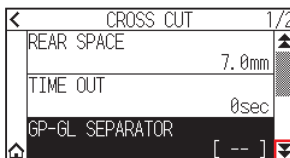
6. Use the [▼] and [▲] icons to display the GP-GL separator you want to use.

```
<    [ -- ]    ⊼ /2
     [ F ]     ▲
     [ J0 ]
     [ H ]     ⊻ ▼
```

> **Supplement** 📝
>
> You can set to "FS", "H", "J 0", "F" or "-".
> When set to "-", cross cut by separator is not performed.

7. Press the GP-GL separator you want to use.

8. Press the [⌂] icon.

▷ It will return to HOME screen.

HP-GL separator

Set the separator at HP-GL.

> **Supplement** 📝
>
> This setting will be saved even if the power is shut off.

Operation

1. Press the [≡] icon.

```
HL    ⏍▐⁺
1:Condition No. 1
      PEN S30 F12 A2 T1
           READY

  ▐⁺    Q       ▐      ≡
```

2. Press the [CONFIG] icon.

```
  🖴        ▼        ◇       ▨
MEMORY    TOOL     AXIS    AREA
  ◉        ⚙        ✅
MEDIA    CONFIG    INFO
           ⌂                ▼
```
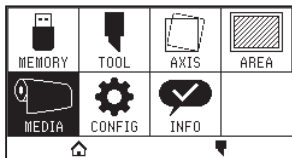
3. Press the [▼] icon twice.

```
<    CONFIGURATION   1/3
GENERAL              ▲
                >
COMMUNICATION
                >
COMMAND
⌂               >   ⊻
```
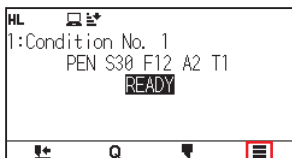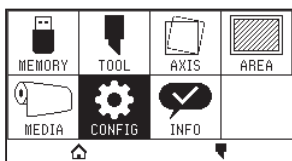
4. Press the [CROSS CUT].
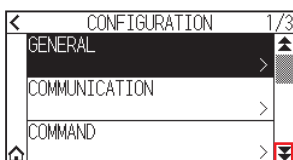
```
<    CONFIGURATION   3/3
CROSS CUT            ▲
                >

⌂                    ⊻
```

5. Press the [⬇] icon twice.

```
|<      CROSS CUT        1/2|
|REAR SPACE               ⏫|
|                    7.0mm  |
|TIME OUT                   |
|                    0sec   |
|GP-GL SEPARATOR            |
|⌂                [ -- ]  ⏬ |
```
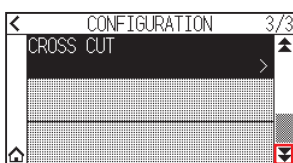
6. Press the [HP-GL SEPARATOR].
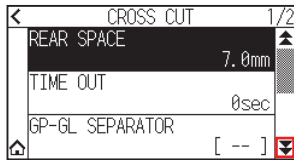
```
|<      CROSS CUT        2/2|
|HP-GL SEPARATOR          ⏫|
|              [ -- ]       |
|                           |
|                           |
|                           |
|⌂                        ⏬ |
```
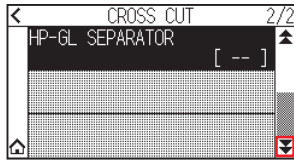
7. Use the [⬇] and [⬆] icons to display the HP-GL separator you want to use.

```
|<                    ⏫ /2 |
|         [ -- ]          ⏫ |
|         [ AF ]            |
|         [ AH ]            |
|         [ PG ]     ⏬   ⏬ |
|⌂                          |
```
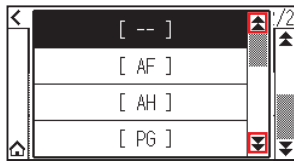
Supplement 🖊

You can set to "IN", "DF", "PS", "IW", "SC", "IP", "SP", "NR", "PG", "AH", "AF" or "-".
When set to "-", cross cut by separator is not performed.

---

8. Press the HP-GL separator you want to use.

9. Press the [⌂] icon.

▷ It will return to HOME screen.

6.4 *Offline Output from USB Memory*

Dedicated data that was created by the application software can be saved in the USB memory and output from the cutting plotter. Select the data from the menu of the plotter, and then output it in offline.

> **Supplement**
>
> - Only 1-byte alphanumeric characters (ASCII) are supported.
> - Windows prohibited characters (¥, /, \, :, *, ?, ", <, >, l, etc.) are not available.
> - Limit of the number of display characters is 25 characters. More characters than 25 can be displayed by scrolling.
> - Scroll is displayed after a few moments after selecting the item.
> - The extension is "xpf", "plt".• The folder is surrounded by '<' and '>'.
> - Name is sorted in ascending order.
> - Files and folders can be obtained up to 64.
> - Files in the second level folder is not available.
> - Only FAT32 is supported as the USB memory format. NTFS and exFAT are not supported.

Operation

1. Insert the USB memory that saved the dedicated data to the plotter.

2. Press the [≡] icon.

    HL
    1:Condition No. 1
          PEN S30 F12 A2 T1
                READY

3. Press the [MEMORY] icon.

    MEMORY TOOL AXIS AREA
    MEDIA CONFIG INFO
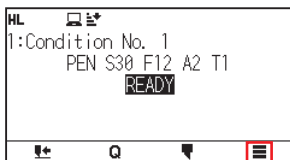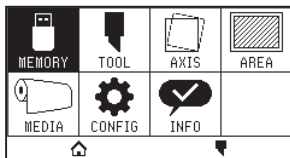
4. Press the [SELECTS DATA FILE].

    OFF-LINE OPERATION 1/1
    SELECTS DATA FILE
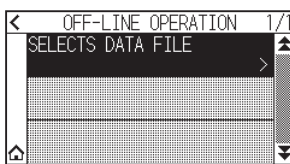
    > **Supplement**
    >
    > - If the USB memory is not inserted, the following is displayed.
    >
    >   OFF-LINE OPERATION 1/1
    >   E05008 ERROR
    >   CANNOT RECOGNIZE
    >   THE EXTERNAL MEMORY
    >   OK
    >
    > - If there is no data in the USB memory, the following screen is displayed.
    >
    >   SELECTS DATA FILE
    >
    >   NO DATA FILE FOR
    >   OFF-LINE OPERATION
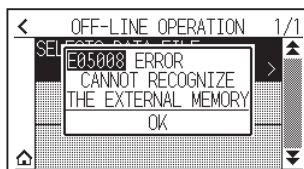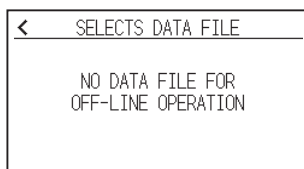
5. Use the [▼] and [▲] icons to display the file to be used.

```
┌─────────────────────────────┐
│ <   SELECTS DATA FILE       │
│<1TEST DATA FOLDER>        ▲ │
│                          ▒ │
│<2TEST PATTERN FOLDER KAI> ▒ │
│                          ▒ │
│3TEST_PATTERN_ABCDEFGHIJK.x  │
│        BARCODE: G0100ABCD ▼ │
└─────────────────────────────┘
```

6-9
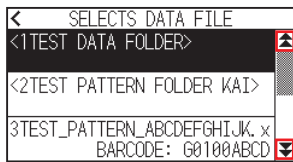
Supplement

The string in parentheses <> is the folder name.
Press the folder name to display the files in the folder.

6. Press the file you want to use.

▷ Start cutting with the selected file.

7. It will return to READY status when the cutting is completed.

6.5 Cross Cut Setting

Using the values set with the command and timeout specified in separator, set whether performing Cross Cut or not.

> **Supplement** 🖉
>
> This setting will be saved even if the power is shut off.

Operation

1. Press the [☰] icon.

```
HL      ⌨⇟
1:Condition No. 1
      PEN S30 F12 A2 T1
           READY


  ⬐       Q        ⬐      ☰
```

2. Press the [MEDIA] icon.

```
  [MEMORY]  [TOOL]  [AXIS]  [AREA]
  [MEDIA]  [CONFIG]  [INFO]
       ⌂              ⬐
```

3. Press the [⬇] icon twice.

```
<     MEDIA SETTING    1/4
AUTO PRE FEED                ⬆
                    >
INITIAL FEED
                   ON
PANEL CUTTING
⌂                   >       ⬇
```
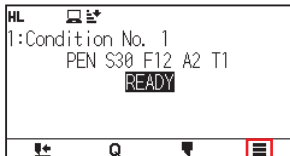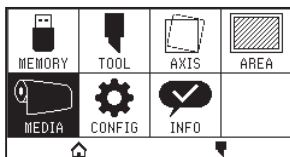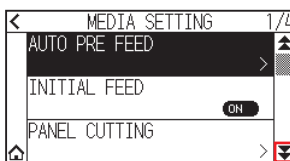
4. Press the [CROSS CUT].
    To cancel, set it to [OFF].

```
<     MEDIA SETTING    3/4
PAPER READY TIME             ⬆
                   180sec
CROSS CUT
                   ON
'F' COMMAND CUT
⌂                  OFF       ⬇
```
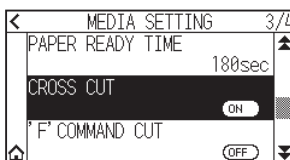
5. Check the setting and press the [⌂] icon.

▷ It will return to HOME screen.

6.6 Setting Rear Margin

During timeout or when making cross cut with separator setting, the media is cross-cut t at the position where the margin value set here is added to the maximum value of + X plotted.
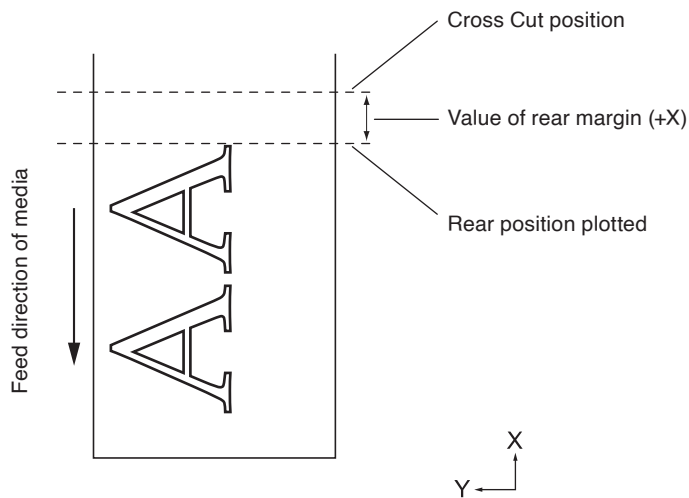
Cross Cut position

Value of rear margin (+X)

Rear position plotted

Feed direction of media

X

Y

Supplement

This setting will be saved even if the power is shut off.

Operation

1. Press the [≡] icon.

```
HL      □⇲
1:Condition No. 1
      PEN S30 F12 A2 T1
      READY

  ↳       Q          ⬛      ≡
```

2. Press the [CONFIG] icon.

```
  MEMORY   TOOL   AXIS   AREA

  MEDIA   CONFIG  INFO
         ⌂          ⬛
```

3. Press the [⬇] icon twice.

```
<      CONFIGURATION    1/3
GENERAL                 ⬆
                    >
COMMUNICATION
                    >
COMMAND
⌂                   >   ⬇
```
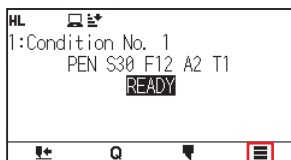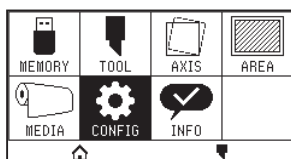
4. Press the [CROSS CUT].
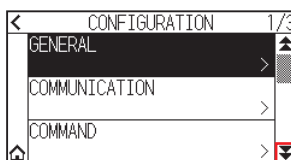
```
<      CONFIGURATION    3/3
CROSS CUT               ⬆
                    >



⌂                       ⬇
```

5. Press the [REAR SPACE].
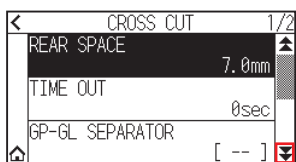
```
< ─────── CROSS CUT ────── 1/2  ⬆
REAR SPACE
                         7.0mm  ▨
TIME OUT
                          0sec
GP-GL SEPARATOR
⌂                        [ -- ]  ⬇
```

6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
< ──────────────────────  1/2  ⬆
REAR S ┌──────────┐ 7.0mm  ▨
       │    [▲]   │
       │⊞ 7.0mm   │
TIME ( │    [▼]   │ 0sec
       │          │
GP-GL  │    OK    │
⌂      └──────────┘  -- ]  ⬇
```
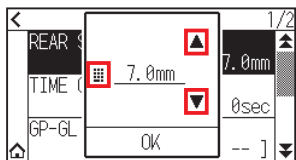
Supplement 🖋

You can set the range between 7.0 mm and +30.0 mm

7. Confirm the setting and press the [OK].

8. Press the [⌂] icon.

▶ It will return to HOME screen.

6.7 Setting the Number of Pre Feeds

Set the number of pre feeds to prevent deviations from occurring when the roll media is pulled out. During the pre feed, the grit roller leaves traces on the paper. Pre feeds can be repeated after paper exposure time has elapsed. This function is available when the Initial Feed or if Panel Cutting is ON.

Operation

1. Press the [☰] icon.

   ```
   HL      ☐ ⊵
   1:Condition No. 1
         PEN S30 F12 A2 T1
              READY

   ⤒+     Q        ▼        ☰
   ```

2. Press the [MEDIA] icon.

   ```
   MEMORY   TOOL   AXIS   AREA
   MEDIA   CONFIG  INFO
           ⌂        ▼
   ```

3. Press the [⤓] icon.

   ```
   <      MEDIA SETTING    2/4
   PAGE LENGTH            ▲
                  300.0cm
   FEED SPEED
                   NORMAL
   PAPER LOAD FUNCTION
   ⌂                    2 ⤓
   ```
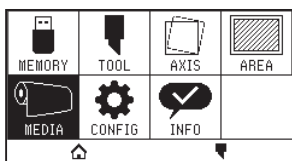
4. Press the [PAPER LOAD FUNCTION].
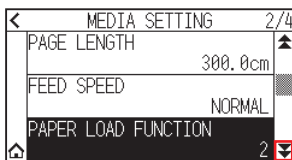
   ```
   <      MEDIA SETTING    2/4
   PAGE LENGTH            ▲
                  300.0cm
   FEED SPEED
                   NORMAL
   PAPER LOAD FUNCTION
   ⌂                    2 ⤓
   ```

5. Specify the setting value using the [▲] [▼] icon or the [⊞] icon.

   ```
   <                      2/4
   PAGE L        ▲       ▲
             ⊞   2     0.0cm
   FEED S        ▼      ORMAL
   PAPER      OK         2 ⤓
   ⌂
   ```
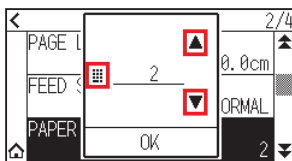
   > **Supplement**
   >
   > • You can set the range between 0 and 5.
   > • Cutting/plotting will begin immediately after the pre feed is complete and data sent during paper exposure time is received.

6. Confirm the setting and press the [OK].

7. Press the [⌂] icon.

   ▷ It will return to HOME screen.

6.8 Setting Paper Exposure Time

This function sets the time the paper/media is acclimated to the operating environment after being pulled off the paper roll to minimize media expansion or contraction, and prevent it from adversely effecting cutting or plotting. After the initial feed is complete, the paper will be fed backwards to half the preset feed length and exposed for the set amount of time.

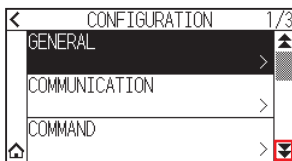This function is available when the Initial Feed or if Panel Cutting is ON.

Operation
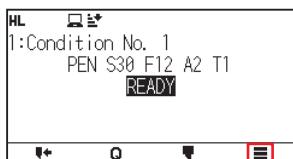
1. Press the [▤] icon.

2. Press the [MEDIA] icon.
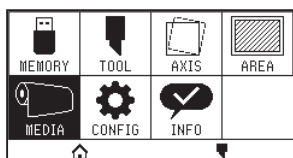
3. Press the [⤓] icon twice.
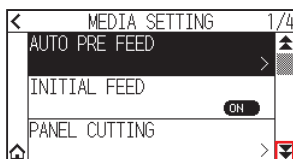
4. Press the [PAPER READY TIME].
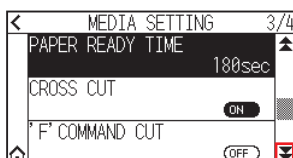
5. Use the [⤓] and [⤒] icons to display the paper ready time you want to use.

   Supplement

   You can set to 0 sec, 60 sec, 120 sec, 180 sec, 300 sec, 420 sec or 600 sec.

6. Press the paper ready time you want to use.

7. Press the [⌂] icon.

   ▷ It will return to HOME screen.

Chapter 7:
Settings Regarding Cutting Quality

There are times that ideal cutting may not be possible, such as the lines may shift, corners deform, or uncut sections occur, due to the characteristics of the media (thickness, how hard it is, etc.) or the shape of the blades, when the actual cutting is done. Adjust the moving speed and force of the tool, and the control method to prevent these problems.

This chapter describes the setting regarding the quality of the cutting.

SECTION IN THIS CHAPTER

7.1　Cutting the Corner of Thick Media Sharp

Outline of tangential mode

The blade needs to be facing toward the direction of cut when cutting the media. The tip of the blade is shaped as shown so the blade is facing the cutting direction even when it is cutting curved lines or corners. The tip of the blade is off from the rotation axis of the blade (CUTTER OFFSET). The blade will automatically turn and face the cutting direction when the tool carriage moves, because the blade is forced to move from the rotation center, and the blade tip gets resistance by the media.
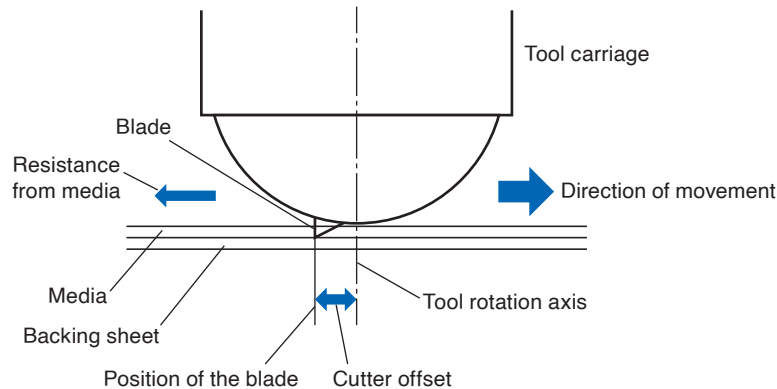
The blade tip gets sunk into the media with 0.3 mm or thicker, making the blade hard to rotate. Especially for the corners where two straight lines meet, cutting becomes very hard because it cannot rotate smoothly.

Tangential mode is a control method to precisely cut corners where two straight lines meet.

With the tangential mode, the blade is advanced so it will overcut at the corners before raising the tool. Then, it will be lowered at the position slightly before the next line, and start to cut with slight overcut.
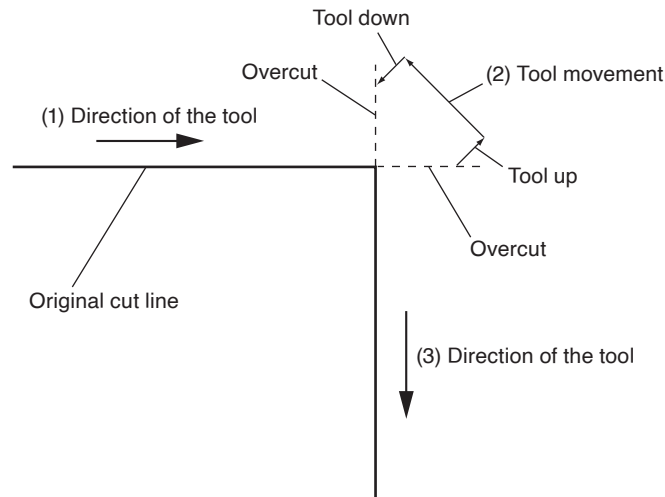
There are 2 modes for tangential mode.

Mode 1: Overcuts the start and end points and acute-angle corners to eliminate uncut sections. In addition, the cutter blade is moved on the surface of the medium during cutting when it is rotated significantly, ensuring sharp cutting unaffected by the hardness or thickness of the media.

Mode 2: Overcuts the start and end points only. In addition, the cutter blade is rotated on the medium surface for the start cutting position only. Mode 2 uses simpler cutter control than Mode 1, and provides a shorter cutting time.

The length of the overcuts by tangential mode can be set individually for start of the line and for end of the line.

Setting the tangential mode

Enabled (Mode 1 and Mode 2) and OFF of the tangential mode can be set individually for each of tool condition No.2 to 8.

Operation

1. Press the [🚩] icon.
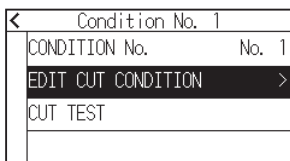
```
HL      □🗲
1:Condition No. 1
       PEN S30 F12 A2 T1
              READY

   ◀       Q      🚩     ≡
```

2. Press the [EDIT CUT CONDITION].

```
<        Condition No. 1
CONDITION No.          No. 1
EDIT CUT CONDITION       >
CUT TEST
```

3. Press the [⬇] icon four times.

```
<      Condition No. 2    1/6
  1  2  3  4  5  6  7  8
  -  -  -  -  -  -  -  -
 TOOL
                   CB09U  ▲
 OFFSET
 ⌂                  +0   ⬇
```

4. Press the tool condition number (2 to 8) you want to set.

```
<      Condition No. 2    5/6
  1  2  3  4  5  6  7  8
  -  4  4  4  4  4  4  4
 BLADE CTRL FORCE
                     4     ▲
 TANGENTIAL MODE
 ⌂                 OFF   ⬇
```

5. Press the [TANGENTIAL MODE].

```
<      Condition No. 2    5/6
  1  2  3  4  5  6  7  8
  -  -  -  -  -  -  -  -
 BLADE CTRL FORCE
                     4     ▲
 TANGENTIAL MODE
 ⌂                 OFF   ⬇
```
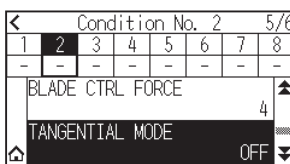
6. Press the mode you want to use.

```
<      Condition No. 2    5/6
  1              OFF            8
  -                             -
            MODE1           ▲
            MODE2
 ⌂                        ⬇
```

7. Press the [⌂] icon.
   ▷ It will return to HOME screen.

Setting the length of overcut

Set the length of overcut with tangential mode.

Operation

1. Press the [▼] icon.

```
HL      ⌨⇱
1:Condition No. 1
       PEN S30 F12 A2 T1
            READY

    ⬐      Q       ▼       ≡
```

2. Press the [EDIT CUT CONDITION].

```
<        Condition No. 1
 CONDITION No.           No. 1
 EDIT CUT CONDITION          >
 CUT TEST
```

3. Press the [▼] icon five times.

```
<        Condition No. 1    1/6
 1   2   3   4   5   6   7   8
 -   -   -   -   -   -   -   -
 TOOL                        ⬍
 ⊘                        PEN
 OFFSET
⌂⊘                        -  ⬍
```

4. Press the tool condition number (2 to 8) you want to set.

```
<        Condition No. 2    6/6
 1  [2]  3   4   5   6   7   8
 -   -   -   -   -   -   -   -
 OVERCUT                     ⬍
                          >
 INITIAL DOWN FORCE
⌂                          0  ⬍
```

5. Press the [OVERCUT].

```
<        Condition No. 2    6/6
 1   2   3   4   5   6   7   8
 -   -   -   -   -   -   -   -
 OVERCUT                     ⬍
                          >
 INITIAL DOWN FORCE
⌂                          0  ⬍
```
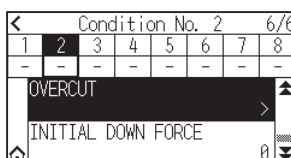
> **Supplement** 🖉
>
> It is enabled when Tangential Mode is set.

6. Press the [START].
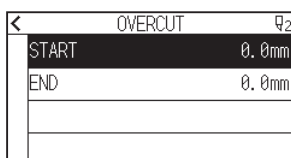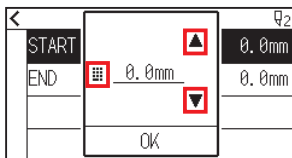
```
<          OVERCUT         ⬐2
 START              0.0mm
 END                0.0mm
```

7. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

8. Confirm the setting and press the [OK].

9. Press the [END].
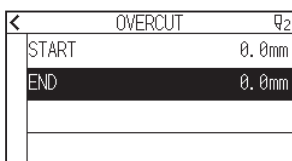
10. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
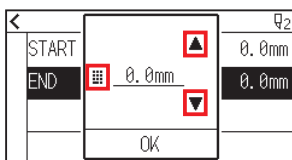
11. Confirm the setting and press the [OK].

12. Press the [‹] icon.

13. Press the [⌂] icon.

▷ It will return to HOME screen.

Setting of the Initial Down Force

The initial down-force setting is effective when tangential mode is selected.
Tangential mode is generally used for the cutting of thick media. With thick film, additional time is required for the cutter blade to penetrate the media fully, even when the necessary cutting force is applied.
The cutting operation starts before the cutter blade has fully penetrated the media, causing uncut sections to be left.
When the initial down force is specified, this force is used as the cutting force immediately after the lowering of the tool when tangential mode is selected, enabling the cutter blade to penetrate the media rapidly. (As an example, if the cutting force is 25 and the initial down force is 4, for example, the cutting force applied immediately after the pen is lowered will be 29.) The upper limit for added value is 38.

Operation
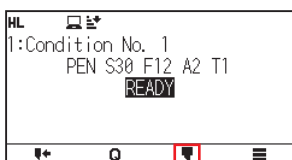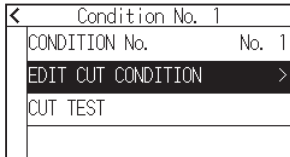
1. Press the [▼] icon.

2. Press the [EDIT CUT CONDITION].

```
<        Condition No.  1
CONDITION No.            No.  1
EDIT CUT CONDITION          >
CUT TEST
```

3. Press the [⬇] icon five times.

```
<      Condition No.  2     1/6
 1   2   3   4   5   6   7   8
 -   -   -   -   -   -   -   -
TOOL                        ⬆
                     CB09U
OFFSET
⌂                       +0  ⬇
```

4. Press the tool condition number (2 to 8) you want to set.

```
<      Condition No.  2     6/6
 1   2   3   4   5   6   7   8
 -   -   -   -   -   -   -   -
OVERCUT                     ⬆
                         >
INITIAL DOWN FORCE
⌂                        0  ⬇
```
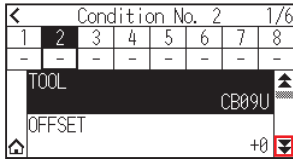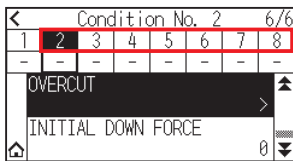
5. Press the [INITIAL DOWN FOECE].
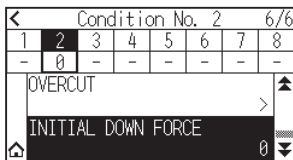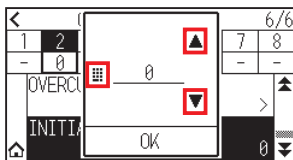
```
<      Condition No.  2     6/6
 1   2   3   4   5   6   7   8
 -   0   -   -   -   -   -   -
OVERCUT                     ⬆
                         >
INITIAL DOWN FORCE
⌂                        0  ⬇
```

6. Specify the setting value using the [▲] [▼] icon or the [⚏] icon.

```
<    (                      6/6
 1   2        ▲      7   8
 -   0   ⚏   0       -   -
OVERC                       ⬆
             ▼          >
INITI
⌂        OK          0  ⬇
```

> **Supplement**
>
> You can set the range between 0 and 20.

7. Confirm the setting and press the [OK].

8. Press the [⌂] icon.

▷ It will return to HOME screen.

7.2 Setting the Step Pass

It may not cut the curved line smoothly if there is very short lines in the curve.

It will cut in the units of the specified value when the STEP PASS is used, which allows to control the short lines with certain length, resulting to stable rotation of the blade for higher cut quality.

Setting range of STEP PASS is from 0 to 20.

Actual length of the STEP PASS is the value of the STEP PASS multiplied by the distance set in the "STEP SIZE".

Supplement

- This setting will be saved even if the power is shut off.
- The cut image may not be what you intended if the set value is too large.
  It is recommended to set to "1" for normal use.

Operation

1. Press the [▤] icon.
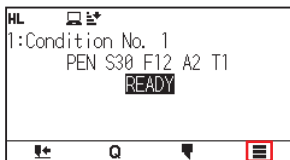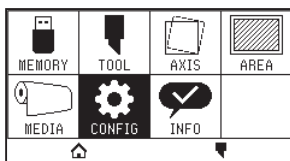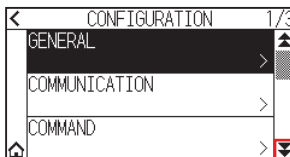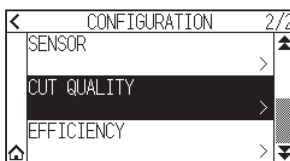
HL ⬚⬚
1:Condition No. 1
PEN S30 F12 A2 T1
READY
⬚   Q   ⬚   ▤

2. Press the [CONFIG].

| MEMORY | TOOL | AXIS | AREA |
| MEDIA | CONFIG | INFO | |

3. Press the [⬇] icon.

＜ CONFIGURATION 1/3
GENERAL ＞
COMMUNICATION ＞
COMMAND ＞

4. Press the [CUT QUALITY].

＜ CONFIGURATION 2/2
SENSOR ＞
CUT QUALITY ＞
EFFICIENCY ＞

5. Press the [STEP PASS].

＜ CUT QUALITY 1/1
STEP PASS 1
OFFSET ANGLE 30
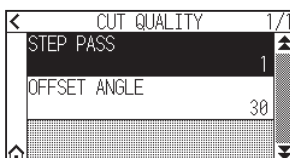
6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
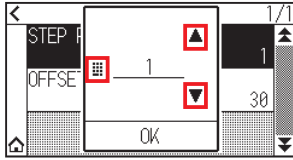
Supplement ✍

You can set the range between 0 and 20.

7. Confirm the setting and press the [OK].

8. Press the [⌂] icon.

▶ It will return to HOME screen.

7.3 Setting the Offset Angle

The CE8000-130AP analyzes the cutting data, and controls the angle of the cutter blade tip if the change in the angles of the corner is large.

Angle control is applied if there is larger angle change than the angle specified as reference angle.

The time to cut is shortened by setting large value for the OFFSET ANGLE, since it will only apply blade control when there are angles with large angle change, hence this saves time and reduces the overall cutting time.

But, if it is set too large, there will be not enough angle control of the blade, and the cut result may differ from what was expected. Set the reference angle in good balance.

Supplement

The setting will be saved even if the power is shut off.

Operation

1. Press the [≡] icon.

```
HL      ⌐⊵
1:Condition No. 1
      PEN S30 F12 A2 T1
           READY

   ⬐      Q       ⬆      ≡
```

2. Press the [CONFIG].

```
 MEMORY   TOOL   AXIS   AREA

 MEDIA   CONFIG  INFO

         ⌂        ⬆
```

3. Press the [▼] icon.

```
<      CONFIGURATION   1/3
GENERAL                 ⬆
                    >
COMMUNICATION
                    >
COMMAND
⌂                   >   ▼
```
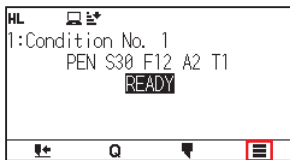
4. Press the [CUT QUALITY].
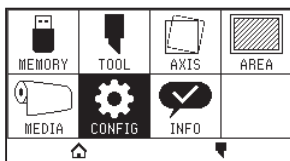
```
<      CONFIGURATION   2/2
SENSOR                  ⬆
                    >
CUT QUALITY
                    >
EFFICIENCY
⌂                   >   ▼
```

5. Press the [OFFSET ANGLE].
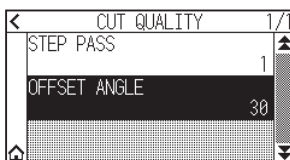
```
<      CUT QUALITY     1/1
STEP PASS               ⬆
                      1
OFFSET ANGLE
                     30
⌂                       ▼
```

6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
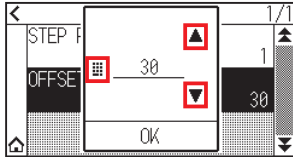
Supplement 🖉

You can set the range between 0 and 60.

7. Confirm the setting and press the [OK].

8. Press the [⌂] icon.

▷ It will return to HOME screen.

7.4　Setting the Distance Adjust

DISTANCE ADJUST value corrects any deviation in the length of cut or plotted line segments, which occurs depending on the media being used.

DISTANCE ADJUST value for the deviation is specified as a percentage of the total distance. For example, a setting of +0.05% adjusts a distance of 2 m (2,000 mm) by 2,000 x 0.05% = 1 mm, making 2,001 mm.

> **Supplement**
>
> This setting will be saved even if the power is shut off.

Operation
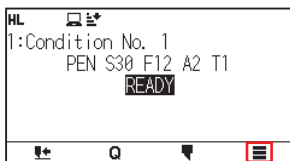
1. Press the [☰] icon.

2. Press the [AREA].
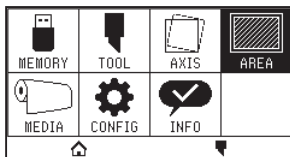
3. Press the [⤓] icon.
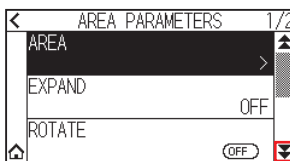
4. Press the [DISTANCE ADJUST].
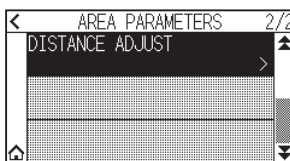
5. Press the [ENABLE FUMCTION].
   To cancel, set it to [OFF].
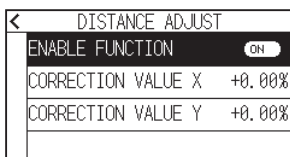
6. Press the [CORRECTION VALUE X].
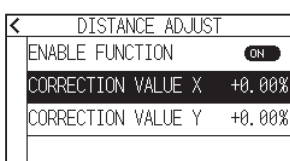
7. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
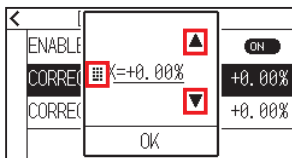
> **Supplement** 🖊
>
> You can set the range between -2.00% and +2.00%.

8. Confirm the setting and press the [OK].

9. Press the [CORRECTION VALUE Y].
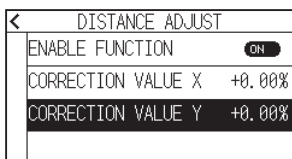

```
<        DISTANCE ADJUST
ENABLE FUNCTION        ON
CORRECTION VALUE X    +0.00%
CORRECTION VALUE Y    +0.00%
```

10. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
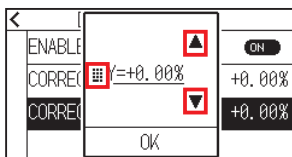
> **Supplement** 🖊
>
> You can set the range between -2.00% and +2.00%.

11. Confirm the setting and press the [OK].

12. Press the [❮] icon.

13. Press the [⌂] icon.

▷ It will return to HOME screen.

7.5 Setting Cut Line Pattern

Lines can be cut with perforated lines so the cut parts will not fall off. There are 8 different patterns of perforated lines set as 0 to 7, and the ratio of cut and uncut part differs in each (tool is raised or the force is decreased for following length every 8 mm of the cut). The uncut part becomes shorter with smaller value, making it easier to separate the cut parts.

In addition to 8 patterns, "OFF" which cuts by the solid line without perforation patter and "USER" where user can specify a unique pattern are provided.

The processing in the part is not cut with perforation patter is adjusted in "GAP ACTION".

The perforation patter can be set for each condition number.

> **Supplement**
>
> When using the FORCE setting command to control the perforation pattern, set to "OFF".

Guideline to perforation pattern

Thickness of material	Pattern number	Cutting length (L)	Up length (L)
Approx. 130g/m²	3	30.00mm	1.00mm
Approx. 80g/m²	5	30.00mm	1.40mm
Approx. 65g/m²	1	15.00mm	1.40mm

* The materials of 60g/m2 or less are not suitable for cut with perforation pattern. We recommended that they are used for a pen plotting.

Operation
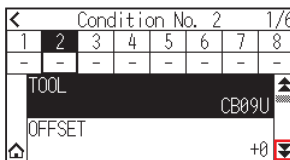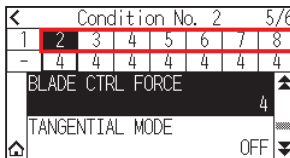
1. Press the [▼] icon.
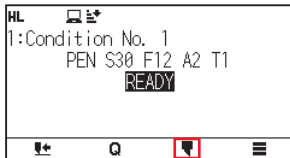
2. Press the [EDIT CUT CONDITION].
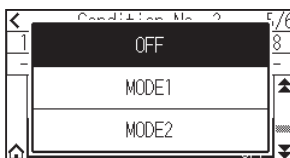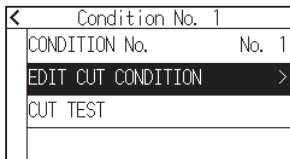

3. Press the [▼] icon three times.
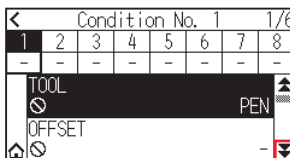
4. Press the tool condition number (2 to 8) you want to set.
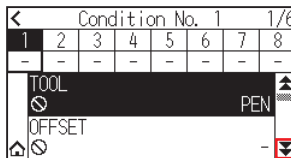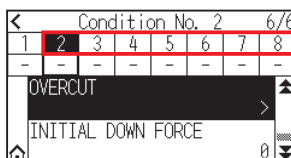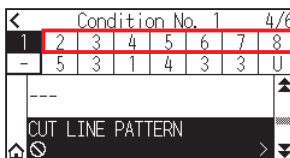
5. Press the [CUT LINE PATTERN].

```
<      Condition No. 2    4/6
1  2  3  4  5  6  7  8
-  5  3  1  4  3  3  U
                        ▲
---
CUT LINE PATTERN
⌂                    >  ▼
```

6. Press the [TYPE No.].

```
<     CUT LINE PATTERN    ⊡2
TYPE No.                  5
  ⊘ CUT LENGTH      30.00mm
  ⊘ GAP LENGTH       1.40mm
GAP ACTION               UP
```
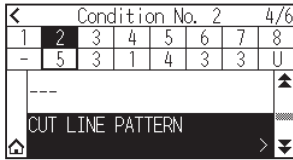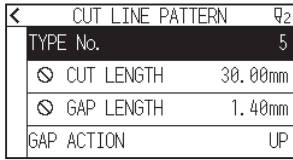
7. Display the TYPE No. you want to use using the [▼] and [▲] icons.

```
<        3          ▲  ⊡2
                       5
         4
                       mm
         5
                       mm
         6          ▼  JP
```
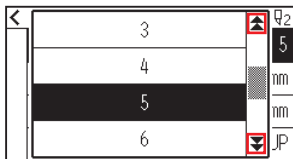
8. Press the Type No. you want to use.

9. Press the [GAP ACTION].
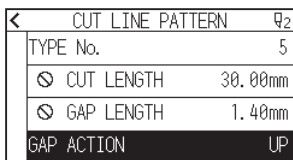
```
<     CUT LINE PATTERN    ⊡2
TYPE No.                  5
  ⊘ CUT LENGTH      30.00mm
  ⊘ GAP LENGTH       1.40mm
GAP ACTION               UP
```

10. Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
<   C              N  ⊡2
TYPE N          ▲     5
  ⊘ C  ▦  UP       30.00mm
  ⊘ G          ▼    1.40mm
GAP A(    OK         UP
```
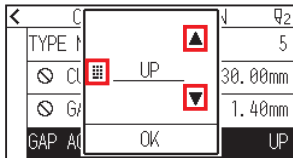
Supplement

- You can set the range between 1 and 38, or "UP".
- Value set here will be the cut force for the uncut part of the perforated lines.
  Tool will be raised when set to "UP".
- Normally, input the smaller value than the FORCE for cutting to make it half cutting.

11. Confirm the setting and press the [OK].

12. If the "USER" is chosen in step 7, set the [CUT LENGTH] and [GAP LENGTH].
Follow steps 10 to 11 for this operation.

```
<     CUT LINE PATTERN    ⊡2        <     CUT LINE PATTERN    ⊡2
TYPE No.              USER          TYPE No.              USER
CUT LENGTH        30.00mm           CUT LENGTH        30.00mm
GAP LENGTH         1.40mm           GAP LENGTH         1.40mm
GAP ACTION             UP           GAP ACTION             UP
```
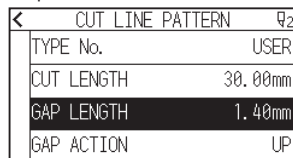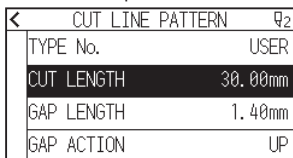
Supplement

- If the TYPE No. 0 to 7 is selected in step 7, CUT LENGTH and GAP LENGTH is only displayed, and not possible to change.
- Range possible to set for the CUT LENGTH is 0.01 mm to 100.0 mm.
- Range possible to set for the GAP LENGTH is 0.01 mm to 10.0 mm.

13. Press the [<] icon.

14. Press the [🏠] icon.

▷ It will return to HOME screen.

7.6　*Setting Initial Blade Control Position Adjust*

After turning on the power or changing pen condition settings, touch the blade to the media and adjust the blade direction. The Initial Blade Control Position will need to be set in order to make sure the area is not damaged and that the blade properly makes contact with the media.

Selecting "2mm BELOW" will change the Initial Blade Control Position to 2 mm below the cutting start point (2 mm from the edge of the point from which the media will be shifted.)

Selecting "Y OUTSIDE" will initialize Initial Blade Direction Setting outside the cutting area.

Selecting "SPECIFIED Y POSITION" will initialize Initial Blade Direction Setting at the Y direction fixed position that has been set.

 * When media narrower than the set Y position is set, it will be the Y maximum value.
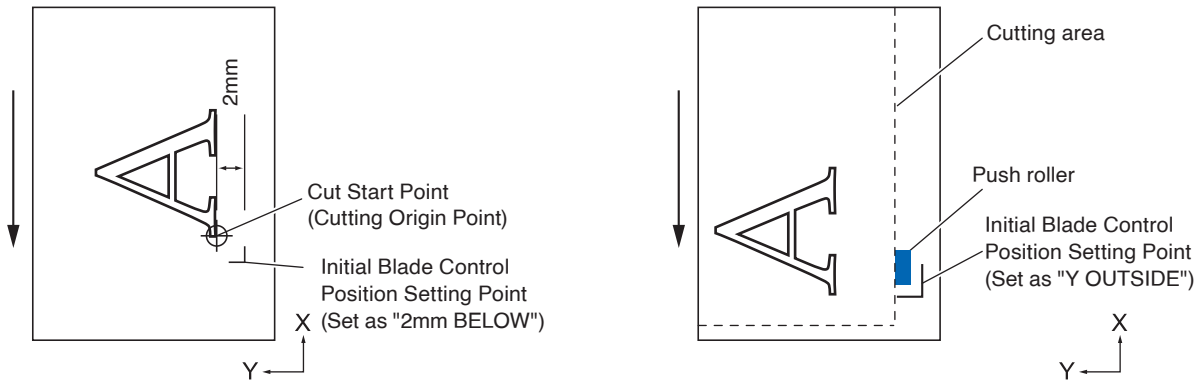
> ⚠**CAUTION**
>
> If the setting value is 8 mm or more, do not set the "INITIAL B. ANGLE POSITION" in the tool settings to "Y OUTSIDE". Under these settings, the carriage may move outside the media and damage the blade edge.

Operation

1. Press the [☰] icon.
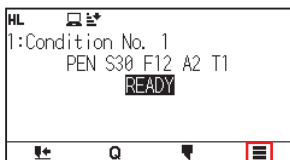
2. Press the [TOOL].
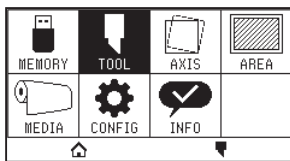
3. Press the [INITIAL B. ANGLE POSITION].
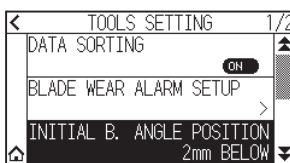
4. Press the blade initialization position you want to use.

```
┌─────────────────────────┐
│ ⟨    TOOLS SETTING   1/2 ▲│
│ ┌─────────────────────┐ │
│ │      2mm BELOW      │ │
│ ├─────────────────────┤ │
│ │      Y OUTSIDE      │ ▓│
│ ├─────────────────────┤ │
│ │ SPECIFIED Y POSITION│ ▼│
│ ⌂ └─────────────────────┘ ⏬│
└─────────────────────────┘
```

Supplement

- "SPECIFIED Y POSITION " is displayed when media is loaded.
- If you select [SPECIFIED Y POSITION] in the ready state, the following message will be displayed.
  Press the POSITION (▲, ▼, ◀, ▶) key to move the tool position, and press the [ENTER] key to set.

```
┌─────────────────────────┐
│ ⟨      POSITION KEY      │
│ ◆ USE THE POSITION KEY   │
│ ▼ TO MOVE THE TOOL AND   │
│   THEN PRESS ENTER.      │
│                          │
│                          │
└─────────────────────────┘
```
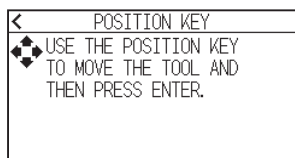
5. Press the [⌂] icon.

▷ It will return to HOME screen.

7.7 *Setting the blade control force*

Slight cut operation is performed before the actual cut operation to align the blade toward the cutting direction.
Lower FORCE is necessary compared with the normal cutting, so it is possible to set lower FORCE as a BLADE
CTRL FORCE.
BLADE CTRL FORCE is used to control the rotation of the blade with the tangential mode in addition to control the
blade direction at the beginning of the cut.

Operation

1. Press the [▼] icon.
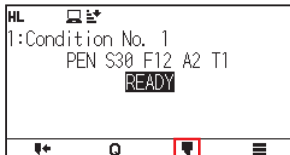
2. Press the [EDIT CUT CONDITION].
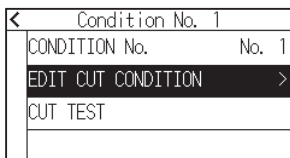
3. Press the [▼] icon four times.
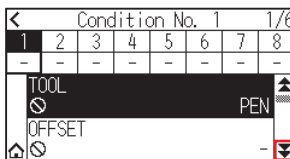
4. Press the tool condition number (2 to 8) you want to set.
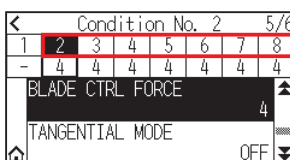
5. Press the [BLADE CTRL FORCE].
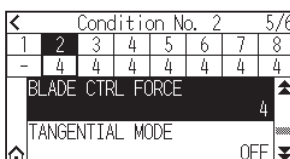
6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
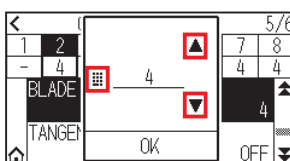
   Supplement

   You can set the range between 1 and 38.

7. Confirm the setting and press the [OK].

8. Press the [⌂] icon.

▷ It will return to HOME screen.

7.8 Setting Adjustment Between the Tools

If there is a misalignment between the tools, you can correct the misalignment by using this function.
If there is a misalignment in the cutting/plotting between Tool 2 (tool attached to the tool holder) and Tool 1 (tool attached to the pen station), you can correct it by entering the adjustment value.

Operation

1. Press the [☰] icon.

2. Press the [CONFIG].
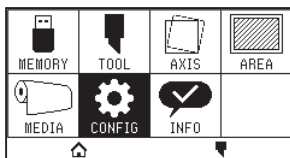
3. Press the [GENERAL].
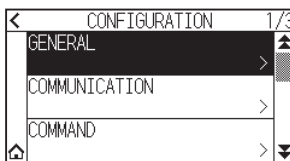
4. Press the [⬇] icon.
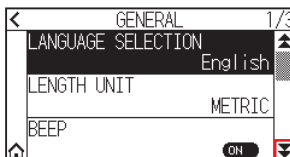
5. Press the [TOOL OFFSET ADJ.].
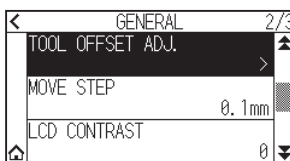
6. Press the [DRAW].
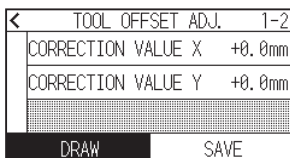
7. Press the POSITION (▲, ▼, ◀, ▶) keys to move the tool carriage and the media to the position where the test pattern is cut.

Move it inside of a cutting area greater than 50 mm on both the X and Y axes.

```
┌─────────────────────────┐
│<      POSITION KEY      │
│✦ USE THE POSITION KEY   │
│   TO MOVE THE TOOL AND  │
│   THEN PRESS ENTER.     │
│                         │
│                         │
└─────────────────────────┘
```
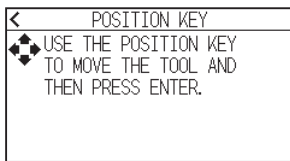
Supplement

Pressing the POSITION and [SLOW] keys at the same time moves the tool carriage slowly.

8. Confirm the tool position and press the [ENTER] key.

▷ Using the pen plunger (Tool 1), plot a "+" mark.

Next, using the cutter plunger (Tool 2), plot a "+" mark.

When plotting is completed, TOOL OFFSET ADJ. screen is displayed.

9. Using "+" plotted with the pen plunger (Tool 1) as a reference, measure how much the "+" cut by the cutter plunger (Tool 2) deviates. (For example, in the case shown in the figure, it is deviated in the -X direction / + Y direction, so enter X = + * mm, Y = - * mm.)
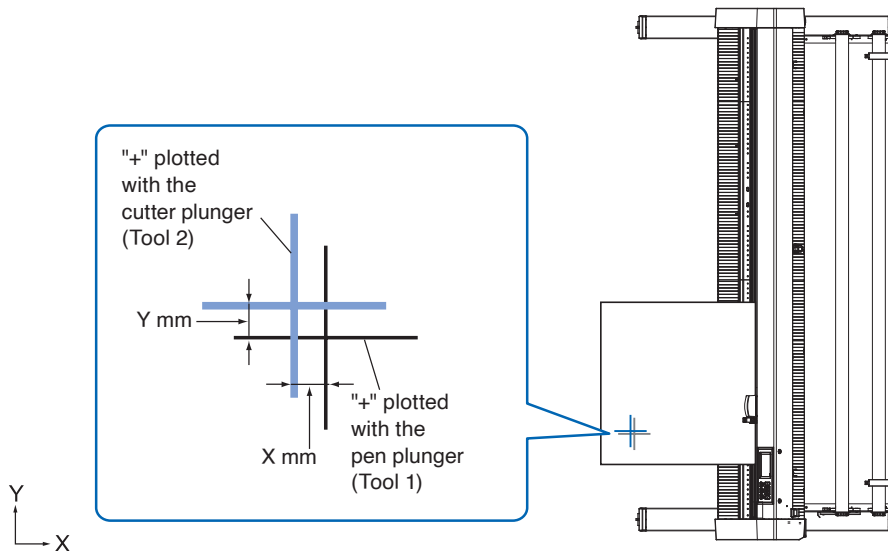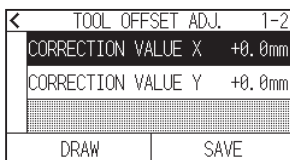
"+" plotted with the cutter plunger (Tool 2)

Y mm

X mm   "+" plotted with the pen plunger (Tool 1)

Y
└→ X

10. Press the [CORRECTION VALUE X].

```
┌─────────────────────────────┐
│<    TOOL OFFSET ADJ.   1-2  │
│ CORRECTION VALUE X   +0.0mm │
│ CORRECTION VALUE Y   +0.0mm │
│                             │
│      DRAW    │    SAVE      │
└─────────────────────────────┘
```

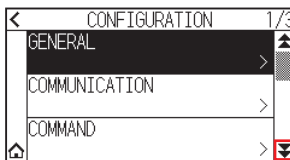**11.** Specify the setting value using the [▲] [▼] icon or the [▦] icon.

```
┌─────────────────────────────┐
│<   T                  1-2   │
│ CORREC      [▲]      +0.0mm │
│ CORREC [▦] X=+0.0mm  +0.0mm │
│             [▼]             │
│  DR │     OK      │ VE      │
└─────────────────────────────┘
```
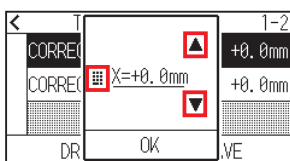
Supplement

You can set the range between -3.0 mm and +3.0 mm.

12. Confirm the setting and press the [OK].

13. Press the [CORRECTION VALUE Y].
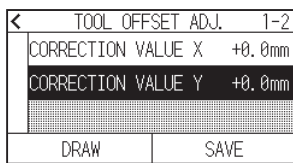
```
< ──── TOOL OFFSET ADJ.  1-2
│CORRECTION VALUE X   +0.0mm│
│CORRECTION VALUE Y   +0.0mm│
│                           │
│    DRAW      │    SAVE     │
```

14. Specify the setting value using the [▲] [▼] icon or the [⠿] icon.

```
< ── T ──────────────  1-2
│CORRE(     ▲      +0.0mm│
│CORRE( ⠿ Y=+0.0mm +0.0mm│
│           ▼             │
│   DR │    OK    │  VE    │
```
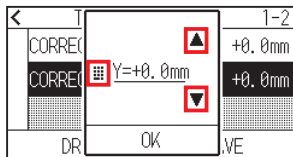
> **Supplement**
>
> You can set the range between -3.0 mm and +3.0 mm.

15. Confirm the setting and press the [OK].

16. Repeat steps 6 to 14 until the misalignment between the two tools is corrected.

17. Press the [SAVE].

```
< ──── TOOL OFFSET ADJ.  1-2
│CORRECTION VALUE X   +0.0mm│
│CORRECTION VALUE Y   +0.0mm│
│                           │
│    DRAW      │    SAVE     │
```
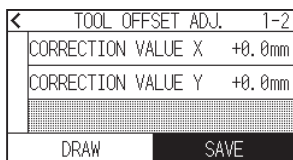
18. Press the [❮] icon.

19. Press the [⌂] icon.

▷ It will return to HOME screen.

7.9 Cross cut the roll paper

The operation to separate media is called "Cross Cut".

You can manually cross-cut at any position or cross-cut automatically at the end of cutting.

The blade force to cross-cut is called Cross Cut force and can be adjusted.

> ⚠ **CAUTION**
>
> Do not place your hands where the blades pass. There is a danger of injury.
>
>
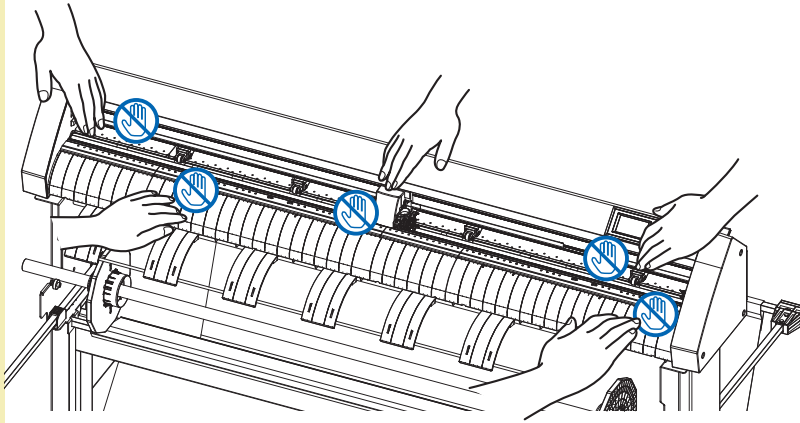
> **Supplement** 📎
>
> • Cross Cut is available only when using roll media. Sheet media cannot be cross-cut.
> • Clean the cutting groove regularly with a cotton bud or the like. If the dust or the like accumulates, the cutter cannot operate properly.
> • If cross-cut media is placed on the media sensor, remove the cross-cut media. If it is not removed, it is judged as a cut failure and Cross Cut operation is performed again.
> • Set "Push roller sensor setting" and "Media sensor setting" to Enabled. If it is set to Disabled, Cross Cut operation is not available.

Cut Width

The movement range of the blade in Cross Cut operation is from the outer edge of the leftmost grit roller to the outer edge of the rightmost grit roller. The media should be set within this range.

Grit roller
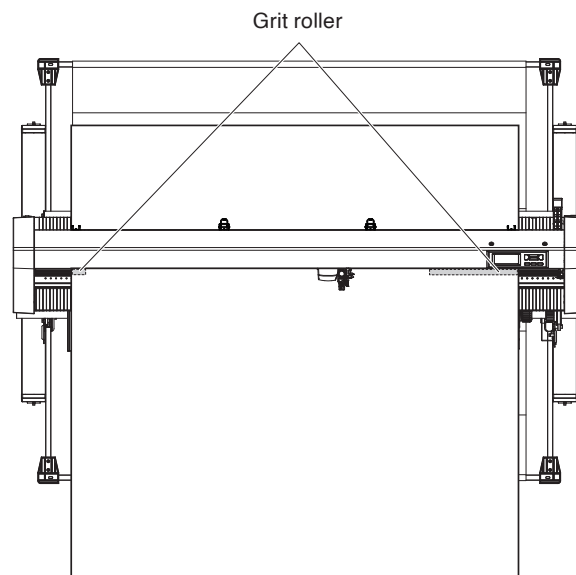
Manually cross-cut

Cross-cut at the current tool carriage position.

When the [CROSS CUT(execute)] is selected, you can separate the roll media at any position by cross-cutting it manually after feeding it with the POSITION (▲, ▼) key.

When the [FEED&CROSS CUT(exe)] is selected, the roll media is cross-cut after feeding 1 page. When specifying 1 page, set a value obtained by adding 20 mm and the value set in the "REAR SPACE" to the value set in the "PAGE LENGTH".

Operation

1. Press the [🔲] icon on the HOME screen.

   ▷ The crosscut screen is displayed.

   ```
   <        CROSS CUT
   CROSS CUT(execute)
   FEED&CROSS CUT(exe)


   ```
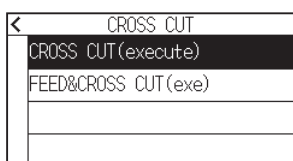
2. Press the CROSS CUT (execute), or the FEED&CROSS CUT (exe) to select the mode.

   ▷ Cross-cut the media.

Chapter 8:
Settings Regarding Cutting Time

This chapter describes the settings affecting the cutting time.

8.1 *Sorting the Plotting Data*

When sorting cutting/plotting data, cutting is performed collectively so that the amount of movement in the media feed direction and the tool replacement time are minimized, so cutting operation is improved efficiently.
The data of pen plunger (Condition No. 1) is plotted first, and then the data of cutter plunger (Condition No. 2 to No. 8) plotted (cut).

Supplement

- Sorting will start the process after all the data are stored in the buffer memory, so it takes time to start the cutting.
- Sorting might not be effective for the data that is created efficiently.
- Process may be faster to turn off the sorting on the plotter, if the data is already sorted using the software on the PC.

Operation

1. Press the [▤] icon.

```
HL      ⬚⇗
1:Condition No. 1
        PEN S30 F12 A2 T1
        READY

⬓      Q        ▼      ▤
```

2. Press the [TOOL].

```
MEMORY  TOOL   AXIS   AREA

MEDIA  CONFIG  INFO
       ⌂              ▼
```
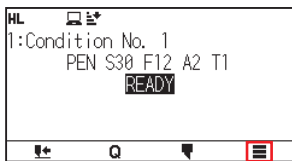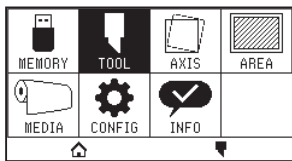
3. Press [DATA SORTING] to turn it to [ON].
To cancel, set it to [OFF].
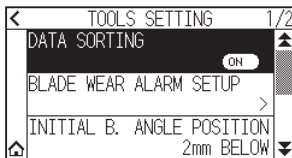
```
<      TOOLS SETTING    1/2
DATA SORTING
                   ON
BLADE WEAR ALARM SETUP
                    >
INITIAL B. ANGLE POSITION
⌂              2mm BELOW
```

4. Press the [⌂] icon.

▷ It will return to HOME screen.

Supplement

When the setting is turned ON, a [⇗] mark will be displayed at the top of the screen.

8.2 *Perform Automatic Pre Feed When Cut Data is Received*

It is possible to feed and reverse the media automatically for specified amount when the plotter receives the cutting data.

"Pre feeding" to prevent the shifting of media can be done automatically.

Also, the media will be unrolled from the roll before cutting when rolled media is to be used.

> **Supplement**
>
> - The setting for AUTO PRE FEED when cutting data is received is maintained even if the power is turned off.
> - Setting of the AUTO PRE FEED length is not linked to the setting of the page length. Change the setting for the page length if the cutting area is to be long.
> - If data is received and auto media transfer is performed once, even if (cut in the same area) data is received again, auto media transfer will not take place.

Operation

1. Press the [▤] icon.
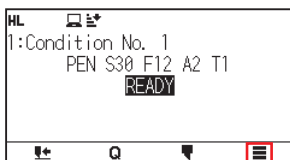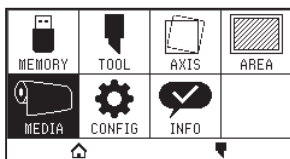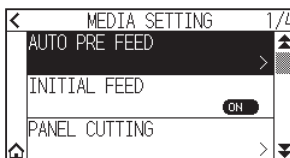
   ```
   HL      🖥️↲
   1:Condition No. 1
          PEN S30 F12 A2 T1
              READY

     ↵        Q        ▼        ▤
   ```

2. Press the [MEDIA].

   ```
   MEMORY  TOOL   AXIS   AREA
   MEDIA   CONFIG INFO
            ⌂            ▼
   ```

3. Press the [AUTO PRE FEED].

   ```
   <      MEDIA SETTING    1/4  ▲
   AUTO PRE FEED            >
   INITIAL FEED
                        ON
   PANEL CUTTING
   ⌂                       >   ▼
   ```

4. Press [ENABLE FUNCTION] to turn it to [ON].
   To cancel, set it to [OFF].

   ```
   <       AUTO PRE FEED
   ENABLE FUNCTION        ON
   FEED LENGTH           1.0m
   ```

5. Press the [FEED LENGTH].

   ```
   <       AUTO PRE FEED
   ENABLE FUNCTION        ON
   FEED LENGTH           1.0m
   ```
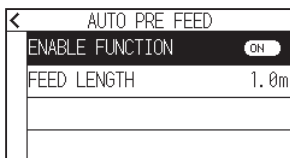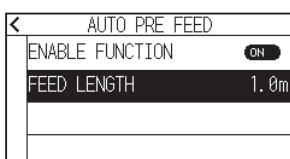
6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
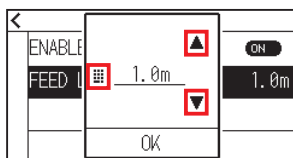
Supplement

- You can set the range between 0.5 m and 50.0 m.
- Feed length can be set in 0.1 m units.

7. Confirm the setting and press the [OK].

8. Press the [❮] icon.

9. Press the [⌂] icon.

▷ It will return to HOME screen.

Supplement

When the setting is turned ON, a [⬇] mark will be displayed at the top of the screen.

8.3 Perform Automatic Pre Feed When Media is Set (Initial Feed) Received

It can be set to automatically feed and return the length of the page when the media is loaded and the media set lever is raised.

This is equal to automatically perform the "Pre Feed" to prevent the shifting of the media.

Supplement 🖉

This setting will be saved even if the power is shut off.

Operation

1. Press the [≡] icon.

```
HL      ⬚↩
1:Condition No. 1
        PEN S30 F12 A2 T1
             READY


  ↙         Q         ▼         ≡
```

2. Press the [MEDIA].

```
   📷          ▼         ⬚         ▨
MEMORY     TOOL      AXIS      AREA

   📡         ⚙         ✅
MEDIA     CONFIG     INFO
          ⌂                    ▼
```
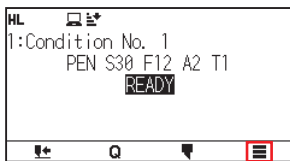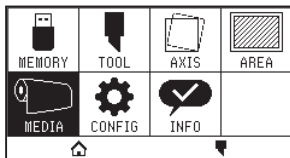
3. Press [INITIAL FEED] to turn it to [ON].
To cancel, set it to [OFF].

```
<     MEDIA SETTING    1/4
 AUTO PRE FEED              ⬆
                      >
 INITIAL FEED
                      ON
 PANEL CUTTING
⌂                     >    ⬇
```
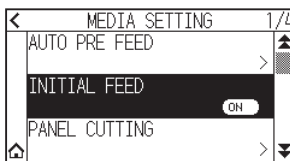
4. Press the [⌂] icon.

▷ It will return to HOME screen.

8.4 Setting Feed Speed for Pre Feed

Set the speed of media feed such as the feed (media carry) of auto media of received cut/plotting data.
Set the feed speed to "SLOW" if the media shifts during the Pre Feed when the heavy or slippery media is to be used. It is normally set to "NORMAL".

Supplement

This setting will be saved even if the power is shut off.

Operation

1. Press the [≡] icon.

   ```
   HL        ⬜⤴
   1:Condition No. 1
         PEN S30 F12 A2 T1
              READY

   ⬐     Q        ⬎        ≡
   ```

2. Press the [MEDIA].

   ```
   MEMORY   TOOL    AXIS    AREA
   MEDIA   CONFIG   INFO
        ⌂              ⬎
   ```

3. Press the [⬇] icon.

   ```
   <      MEDIA SETTING    1/4
   AUTO PRE FEED           >
   INITIAL FEED          ON
   PANEL CUTTING          >
   ⌂
   ```

4. Press the [FEED SPEED].

   ```
   <      MEDIA SETTING    2/4
   PAGE LENGTH
                    300.0cm
   FEED SPEED        NORMAL
   PAPER LOAD FUNCTION    2
   ⌂
   ```
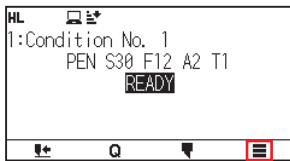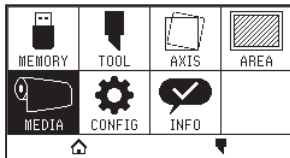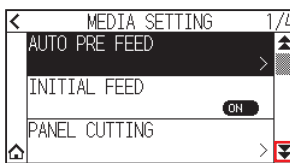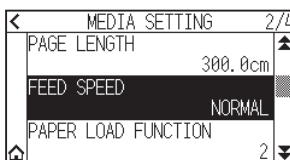
5. Press the feeding speed you want to use.

   ```
   <      MEDIA SETTING    2/4
            SLOW

           NORMAL

   ⌂                      2
   ```
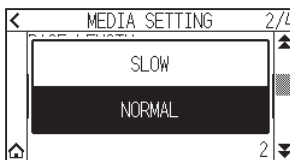
6. Press the [⌂] icon.

   ▷ It will return to HOME screen.

8.5 *Setting the Moving Speed*

Moving speed is the speed the tool moves when it is raised (tool up state).
The cutting time in total becomes short if you set the MOVING SPEED to fast speed even though the speed of the tool when it is cutting (lowered) is set to slow speed for the hard to cut media (hard or sticky).

> **Supplement**
>
> This setting will be saved even if the power is shut off.

Operation

1. Press the [≡] icon.

   ```
   HL      🖥️⎗
   1:Condition No. 1
           PEN S30 F12 A2 T1
                  READY

   ⬇️+     Q        ▼      ≡
   ```

2. Press the [CONFIG].

   ```
   MEMORY   TOOL   AXIS   AREA
   MEDIA   CONFIG  INFO
        ⌂           ▼
   ```

3. Press the [⬇] icon.

   ```
   <     CONFIGURATION    1/3
   GENERAL
                          >  ⬆
   COMMUNICATION
                          >
   COMMAND
   ⌂                      >  ⬇
   ```

4. Press the [EFFICIENCY].
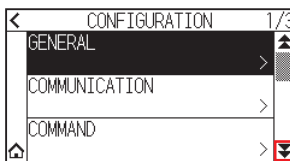
   ```
   <     CONFIGURATION    2/3
   SENSOR                    ⬆
                          >
   CUT QUALITY
                          >
   EFFICIENCY
   ⌂                      >  ⬇
   ```

5. Press the [MOVING SPEED].

   ```
   <      EFFICIENCY      1/1
   MOVING SPEED             ⬆
                     AUTO
   SHORTCUT MOVE
                     ON
   ⌂                        ⬇
   ```
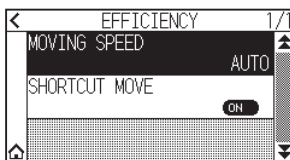
6. Use the [⬇] and [⬆] icons to display the [MOVING SPEED] to be used.

   ```
   <      AUTO         ⬆  /1
                          ⬆
          10cm/s
          20cm/s
   ⌂      30cm/s       ⬇  ⬇
   ```
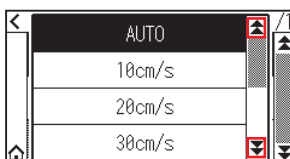
   > **Supplement**
   >
   > • You can set to AUTO, 10 cm/s, 20 cm/s, 30 cm/s, 40 cm/s, 50 cm/s or 60 cm/s.
   > • It will be same speed as tool is lowered when AUTO is selected.

7. Press the moving speed you want to use.

8. Press the [⌂] icon.

▷ It will return to HOME screen.

8.6 *Setting the Shortcut Move*

When the plotter received coordinate information for moving with the tool up is continuously from a computer connected, you can set whether to move to each coordinate in turn or move directly to the final coordinate using the "SHORTCUT MOVE".

There are following 2 settings for "SHORTCUT MOVE".

OFF: If several coordinates are received continuously, it will move to each in order it is received.

ON: If several coordinates are received continuously, it will directly move to the last coordinate received.

Cutting/plotting time can be reduced if it is set to "ON", if the time to move the tool in raised status is wasteful.

> **Supplement** 🖉
>
> This setting will be saved even if the power is shut off.

Operation
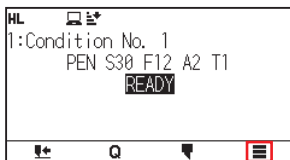
1. Press the [≡] icon.

2. Press the [CONFIG].
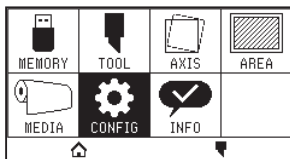
3. Press the [⥥] icon.
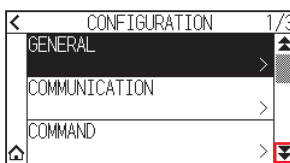
4. Press the [EFFICIENCY].
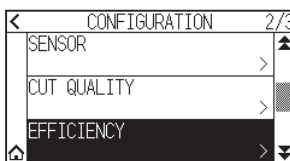
5. Press [SHORTCUT MOVE] to turn it to [ON].
   To cancel, set it to [OFF].
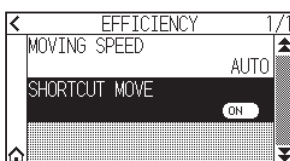
6. Press the [⌂] icon.

   ▷ It will return to HOME screen.

8.7 Setting the Tool Up Height

The TOOL UP HEIGHT is the height of the tool position when the tool is raised.
Set to "HIGHER POSITION" if the media is thick. Usually, set to the "NORMAL POSITION".

Supplement 🖊

This setting will be saved even if the power is shut off.

Operation
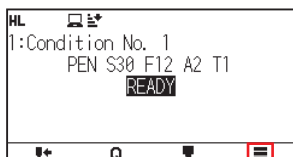
1. Press the [≡] icon.
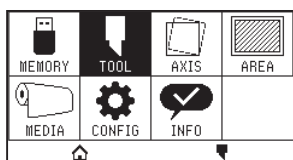
2. Press the [TOOL].
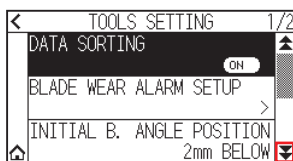
3. Press the [⯯] icon.

4. Press the [TOOL UP HEIGHT].
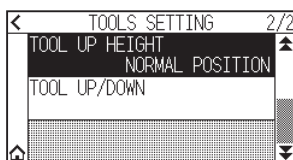
5. Press the tool up height you want to use.
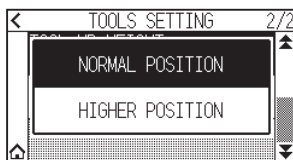
6. Press the [⌂] icon.

   ▷ It will return to HOME screen.

Chapter 9: Settings Regarding Interface

This chapter describes setting regarding interface.

9.1 *Setting Interface*

This section describes how to set the interface.

The plotter has USB, Wireless LAN and Wired LAN* interfaces, and these interfaces are switched automatically. If the cutting/plotting data is sent from multiple interfaces, the plotter will start cutting/plotting from the first data it receives.

To use the interfaces on this plotter, you need to install the driver software on the PC.

 * Wired LAN support varies depending on the sales area.

USB interface

To use the USB interface, the driver software must be installed in the computer. Please the SETUP MANUAL to install the driver software.

> ⚠**CAUTION**
>
> - Operation cannot be guaranteed in the following cases:
>   - When the plotter is connected to a USB hub or extension port.
>   - When the plotter is connected to a hand-built or modified computer.
>   - When using a driver other than the one specifically designed for CE8000-130AP.
> - Notes when using the USB 3.0 interface
>   - Because that some computer equipped with a USB 3.0 interface is not compatible with USB 2.0 or later interface, you need to check it.
> - Do not perform the followings:
>   - Do not connect or disconnect the USB cable while installing the USB driver on the computer.
>   - Do not connect or disconnect the USB cable when the computer or the plotter is performing an initialization routine. Do not disconnect the USB cable within a 5-second period of connecting it.
>   - Do not disconnect the cable during data transfer.
> - Please use a USB 2.0 (Hi-Speed) compatible USB cable with a length of less than 3 m.

Wireless LAN, Wired LAN interface

To use a wireless LAN or wired LAN interface, you need to set up your computer and have an environment that allows you to connect the computer to a network. Also, temporarily turn off the firewall function or change its settings.

If you turn off the firewall function, disconnect your network from the Internet.

> ⚠**CAUTION**
>
> - To connect through a LAN, you need a network cable and a network hub and a wireless LAN router. Please purchase them separately.
> - Network configuration depends on your environment. For details, please see the equipment manual, or consult the manufacturer or network administrator.
> - Ethernet is compliant with 10BASE-T/100BASE-TX. Please check your network environment.
> - Wireless LAN standard supports 802.11 b/g/n (2.4 GHz). It does not support 5GHz bands such as 802.11a.

9.2 Connecting via wireless LAN

Configure settings when connecting using wireless LAN.

* If the wireless LAN module is not installed, [⃠] will be displayed on the menu and you will not be able to open the setting items.

When connecting via wireless LAN, set the following items.

- Access point setting
- Entering the IP address
- Entering the subnet mask
- Gateway input
- DHCP setting

Access point setting

Access point setting depend on the network device configuration and your environment.
For details, please see your device's manual or consult your network administrator.

Operation

1. Press the [≡] icon.
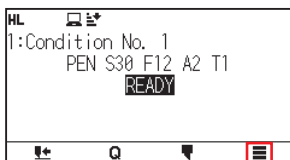
2. Press the [CONFIG].
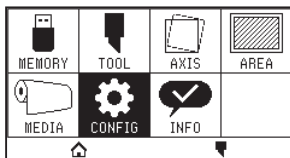
3. Press the [COMMUNICATION].
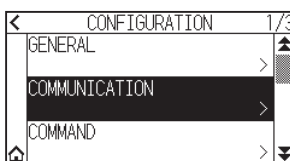
4. Press the [WIRELESS LAN] icon.
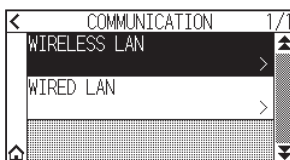
5. Press [WIRELESS LAN] to turn it to [ON].
   To cancel, set it to [OFF].

6. Press the [ACCESS POINT].

```
< ------- WIRELESS LAN ---- 1/2
 WIRELESS LAN
                        ON
 ACCESS POINT
                           >
 IP ADDRESS
⌂                          >
```
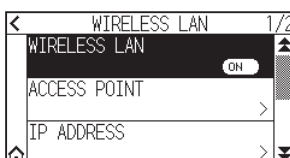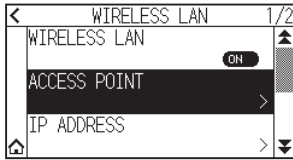
> **Supplement**
>
> If no connectable access point is found, the following screen will be displayed.
> Please check the status of your wireless LAN router.
>
> ```
> < ------- ACCESS POINT
>
>       NO CONNECTABLE
>     ACCESS POINT FOUND
> ```
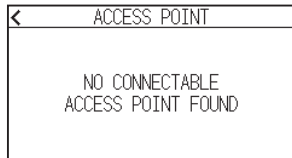
7. Use the [⬇] and [⬆] icons to display the access point to be used.

```
< ------- ACCESS POINT ---- 1/3
 AccessPoint1
                        ⬆
 AccessPoint2
                        ⬇
 AccessPoint3
```
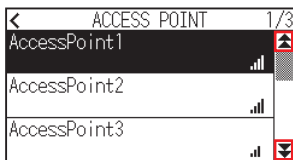
> **Supplement**
>
> If the access point you want to connect is not displayed, press [<] to return to the previous screen, then press
> [ACCESS POINT] again to update the access point.

8. Press the access point you want to use.

9. Enter the encryption key for the access point you want to use.

```
< ------- AccessPoint1
 _____ ◉
 q w e r t y u i o p
  a s d f g h j k l
 ↑  z x c v b n m ←
   123    SPACE   CONNECT
```
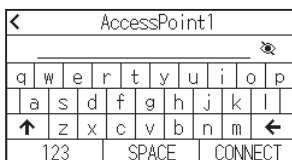
> **Supplement**
>
> • Press the [↑] button to switch between uppercase and lowercase letters.
> • By pressing the [123] button, you can switch the character type in the order of alphabets, numbers, symbols
>   and Hex.
> • If you enter one or more letters, numbers or symbols, you cannot switch to Hex.
> • If you enter one or more characters in Hex, you cannot switch to alphabets, numbers or symbols.
> • When entering in hex, the number of characters must be an even number.
> • Press the [◉] button to show or hide (*) the encryption key string.
> • Encryption key is saved for the last two access points you connected to.

10. Confirm the entered information and press the [CONNECT].
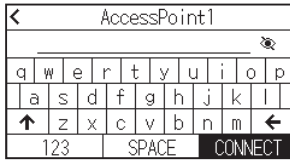
> **Supplement** 🖊
>
> If an error message is displayed, check the contents of the error message and reconfigure settings again.

11. Press the [YES].
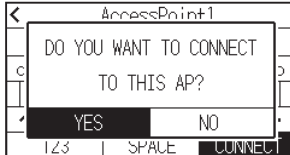
> **Supplement** 🖊
>
> When connected to an access point, a check mark will be displayed to the right of the access point name.
>
>
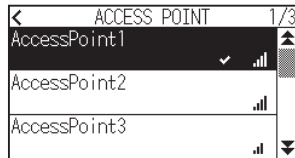
12. Press the [◀] icon.

13. Press the [🏠] icon.

▷ It will return to HOME screen.

Set IP address, subnet mask and gateway

When [OFF] is selected in DHCP setting, set these items.
When [ON] is selected in the DHCP setting, the IP address, subnet mask and gateway obtained from the DHCP server are displayed.

Operation
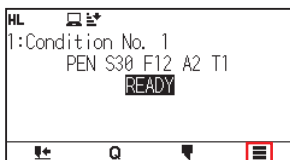
1. Press the [☰] icon.

2. Press the [CONFIG].

3. Press the [COMMUNICATION].

```
┌────────────────────────┐
│ <    CONFIGURATION  1/3 ☎│
│ GENERAL                  │
│                      >   │
│ COMMUNICATION            │
│                      >   │
│ COMMAND                  │
│ ⌂                    > ⊻ │
└────────────────────────┘
```

4. Press the [WIRELESS LAN]

```
┌────────────────────────┐
│ <    COMMUNICATION  1/1 ☎│
│ WIRELESS LAN             │
│                      >   │
│ WIRED LAN                │
│                      >   │
│                          │
│ ⌂                      ⊻ │
└────────────────────────┘
```
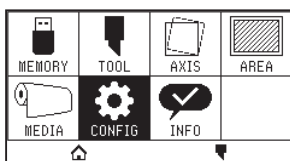
5. Press the [IP ADDRESS].
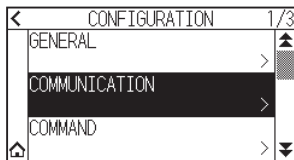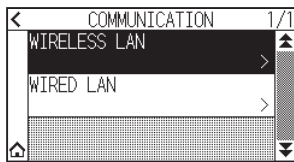
```
┌────────────────────────┐
│ <    WIRELESS LAN   1/2 ☎│
│ WIRELESS LAN             │
│                   ON     │
│ ACCESS POINT             │
│                      >   │
│ IP ADDRESS               │
│ ⌂                    > ⊻ │
└────────────────────────┘
```

6. Press the [IP ADDRESS].
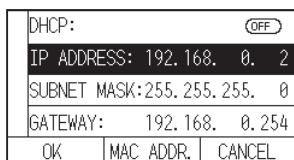
```
┌────────────────────────┐
│ DHCP:              OFF   │
│ IP ADDRESS: 192.168. 0. 2│
│ SUBNET MASK:255.255.255. 0│
│ GATEWAY:    192.168. 0.254│
│   OK  │ MAC ADDR.│ CANCEL │
└────────────────────────┘
```

7. Press the separated numbers you want to set.

```
┌────────────────────────┐
│ <      IP ADDRESS        │
│                          │
│                          │
│      192.168. 0. 2       │
│                          │
│           OK             │
└────────────────────────┘
```

8. Enter the numbers you want to set and press the [OK].

```
┌────────────────────────┐
│ <              192       │
│                          │
│       7  8  9  ←         │
│    !  4  5  6     .      │
│       1  2  3   OK       │
│          0               │
└────────────────────────┘
```
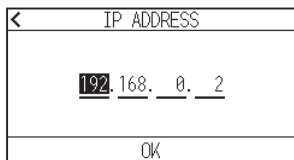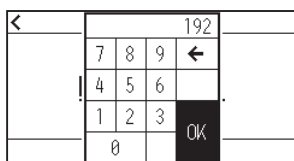
9. Confirm the numbers and press the [OK].

```
┌────────────────────────┐
│ <      IP ADDRESS        │
│                          │
│                          │
│      192.168. 0. 2       │
│                          │
│           OK             │
└────────────────────────┘
```
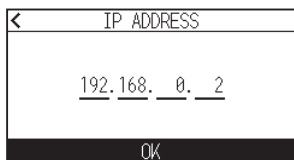
> **Supplement**
>
> • If you want to change the numbers for other separated numbers, repeat steps 7 and 8.
> • If the IP address is the same as the wired LAN IP address, an error screen will be displayed.
>   Enter a different IP address from the wired LAN.

10. Press the [SUBNET MASK].

```
DHCP:                    (OFF)
IP ADDRESS: 192.168.   0.   2
SUBNET MASK:255.255.255.   0
GATEWAY:       192.168.   0.254
  OK    | MAC ADDR. | CANCEL
```

11. Press the separated numbers you want to set.

```
<        SUBNET MASK

      255.255.255.  0

             OK
```

12. Enter the numbers you want to set and press the [OK].

```
<                255
     7  8  9  ←
  !  4  5  6        .
     1  2  3     OK
        0
```

13. Confirm the numbers and press the [OK].

```
<        SUBNET MASK

      255.255.255.  0

             OK
```

14. Press the [GATEWAY].

```
DHCP:                    (OFF)
IP ADDRESS: 192.168.   0.   2
SUBNET MASK:255.255.255.   0
GATEWAY:       192.168.   0.254
  OK    | MAC ADDR. | CANCEL
```

15. Press the separated numbers you want to set.

```
<         GATEWAY

      192.168.  0.254

             OK
```

16. Enter the numbers you want to set and press the [OK].

```
<                192
     7  8  9  ←
  !  4  5  6        .
     1  2  3     OK
        0
```

17. Confirm the numbers and press the [OK].
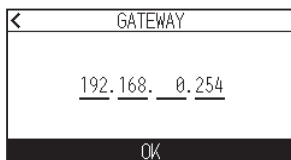
```
┌─────────────────────────┐
│ <      GATEWAY          │
│                         │
│     192.168.  0.254     │
│                         │
│          OK             │
└─────────────────────────┘
```

18. Press the [OK].

```
┌─────────────────────────────┐
│DHCP:               (OFF)     │
│IP ADDRESS: 192.168.  0.  2   │
│SUBNET MASK:255.255.255.  0   │
│GATEWAY:    192.168.  0.254   │
│ OK  │ MAC ADDR. │ CANCEL     │
└─────────────────────────────┘
```
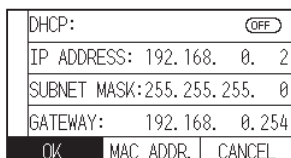
Supplement 🖉

- If you change the settings, the plotter will automatically restart and return to the HOME screen.
- If you didn't change any settings, proceed to step 19.
- Press the [MAC ADDR.] button to display the MAC address.

```
┌─────────────────────────────┐
│DHCP:               (OFF)     │
│IP ADDRESS· 192 168    0.  2  │
│   ┌─MAC ADDRESS──────┐ 5.  0 │
│SUB│00:03:76:1f:ff:ff │       │
│GATEWAY:    192.168.  0.254   │
│ OK  │ MAC ADDR. │ CANCEL     │
└─────────────────────────────┘
```

19. Press the [🏠] icon.

▷ It will return to HOME screen.

DHCP setting

DHCP setting depends on the network device configuration and your environment.
For details, see your device's manual or consult your network administrator.
The default value of DHCP is [OFF].

Supplement 🖉

Although the DHCP depends on the settings of the DHCP server, if the DHCP setting is turned on, the IP address of this plotter may change every time the power is turned on.
Changing the IP address may cause problems such as not being able to receive data from the computer.
In order to avoid such problems, we recommend that you turn off the DHCP settings.

Operation

1. Press the [≡] icon.

```
┌─────────────────────────────┐
│HL    ⬚⇟                      │
│1:Condition No. 1            │
│      PEN S30 F12 A2 T1       │
│            READY             │
│                             │
│ ⬚←     Q       ⬚       ≡     │
└─────────────────────────────┘
```

2. Press the [CONFIG].

MEMORY	TOOL	AXIS	AREA
MEDIA	CONFIG	INFO	

3. Press the [COMMUNICATION].

```
<       CONFIGURATION    1/3
GENERAL
                          >
COMMUNICATION
                          >
COMMAND
                          >
```

4. Press the [WIRELESS LAN].

```
<       COMMUNICATION     1/1
WIRELESS LAN
                          >
WIRED LAN
                          >
```

5. Press the [IP ADDRESS].

```
<        WIRELESS LAN     1/2
WIRELESS LAN
                     ON
ACCESS POINT
                          >
IP ADDRESS
                          >
```

6. Press [DHCP] to turn it to [ON].
   To cancel, set it to [OFF].

```
DHCP:                    ON
IP ADDRESS:   - . - . - . -
SUBNET MASK: - . - . - . -
GATEWAY:      - . - . - . -
   OK   | MAC ADDR. | CANCEL
```

7. Press the [OK].

```
DHCP:                    ON
IP ADDRESS:   - . - . - . -
SUBNET MASK: - . - . - . -
GATEWAY:      - . - . - . -
   OK   | MAC ADDR. | CANCEL
```

Supplement

• If you change the settings, the plotter will automatically restart and return to the HOME screen.
• If you do not change any settings, proceed to step 8.

8. Press the [⌂] icon.

▷ It will return to HOME screen.

Confirming the connection information

The SSID and encryption standard, etc. related to the connected access point are displayed.

Operation
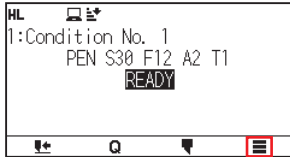
1. Press the [☰] icon.

   ```
   HL      □ ⇟
   1:Condition No. 1
         PEN S30 F12 A2 T1
              READY

   ⬐     Q        ⬏       ☰
   ```

2. Press the [CONFIG].

   ```
   MEMORY   TOOL    AXIS    AREA

   MEDIA   CONFIG   INFO
         ⌂            ⬏
   ```

3. Press the [COMMUNICATION].

   ```
   <      CONFIGURATION    1/3
   GENERAL
                            >
   COMMUNICATION
                            >
   COMMAND
   ⌂                        >
   ```

4. Press the [WIRELESS LAN].

   ```
   <      COMMUNICATION     1/1
   WIRELESS LAN
                            >
   WIRED LAN
                            >
   ⌂
   ```

5. Press the [⬇] icon.

   ```
   <       WIRELESS LAN     1/2
   WIRELESS LAN
                      ON
   ACCESS POINT
                            >
   IP ADDRESS
   ⌂                        >  ⬇
   ```
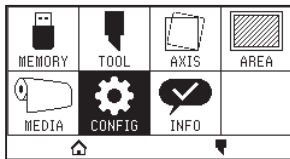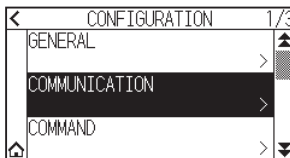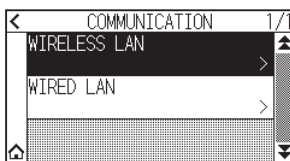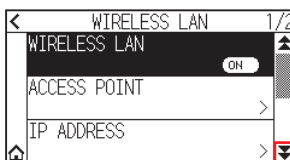
6. Press the [CONNECTION INFO].

   ```
   <       WIRELESS LAN     2/2
   CONNECTION INFO
                            >

   ⌂
   ```
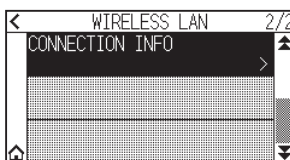
7. Information about the connection is displayed.

   ```
   <      CONNECTION INFO

   SSID:        AccessPoint1
   ENCRYPTION:  WPA2-PSK
   SIGNAL:      -30dBm
   CHANNEL:     1ch
   ```

8. Press the [<] icon.

9. Press the [⌂] icon.

   ▷ It will return to HOME screen.

9.3 Connecting via wired LAN

This section explains the setting when connecting via wired LAN.

 * Wired LAN support varies depending on the sales area.

 * If the wired LAN module is not installed, [---] will be displayed on the menu and you will not be able to open the setting items.

When connecting via wired LAN, set the following items.

- Entering the IP address
- Entering the subnet mask
- Entering the gateway
- DHCP setting

IP address, subnet mask and gateway settings

Set the IP address when selecting the [OFF] in the DHCP setting.
If you select the [ON] in the DHCP setting, the IP address, subnet mask and gateway obtained from the DHCP server will be displayed.

Operation
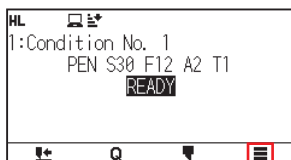
1. Press the [▤] icon.

   ```
   HL      ⌨↱
   1:Condition No. 1
        PEN S30 F12 A2 T1
             READY

   ⬐↩    Q        ▮      ▤
   ```

2. Press the [CONFIG].

   ```
   MEMORY  TOOL  AXIS  AREA
   MEDIA  CONFIG  INFO
        ⌂           ▮
   ```

3. Press the [COMMUNICATION].

   ```
   <       CONFIGURATION    1/3
   GENERAL
                             >
   COMMUNICATION
                             >
   COMMAND
   ⌂                       >  ⯯
   ```

4. Press the [WIRED LAN].

   ```
   <       COMMUNICATION     1/1
   WIRELESS LAN
                             >
   WIRED LAN
                             >

   ⌂                          ⯯
   ```

5. Press the [IP ADDRESS].

   ```
   DHCP:                   (OFF)
   IP ADDRESS: 192.168.  0.  1
   SUBNET MASK:255.255.255.  0
   GATEWAY:    192.168.  0.254
     OK    | MAC ADDR. | CANCEL
   ```
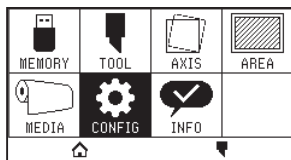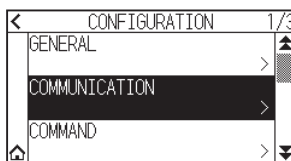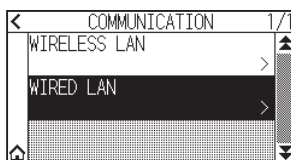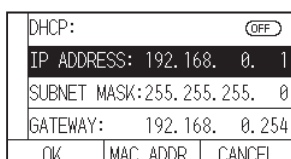
6. Press the separated numbers you want to set.

```
<        IP ADDRESS
    192.168.  0.  1

            OK
```

7. Enter the numbers you want to set and press the [OK].

```
<                192
        7  8  9  ←
   !    4  5  6
        1  2  3
                OK
           0
```

8. Confirm the numbers and press the [OK].

```
<        IP ADDRESS

    192.168.  0.  1

            OK
```

> **Supplement**
>
> • If you want to change the numbers for other separated numbers, repeat steps 6 and 7.
> • If the IP address is the same as the wireless LAN IP address, an error screen will be displayed.
>   Enter a different IP address from the wireless LAN.

9. Press the [SUBNET MASK].

```
DHCP:                    (OFF)
IP ADDRESS: 192.168.  0.  1
SUBNET MASK:255.255.255.  0
GATEWAY:     192.168.  0.254
  OK    | MAC ADDR. | CANCEL
```

10. Press the separated numbers you want to set.

```
<        SUBNET MASK

    255.255.255.  0

            OK
```

11. Enter the numbers you want to set and press the [OK].

```
<                255
        7  8  9  ←
   !    4  5  6
        1  2  3
                OK
           0
```

12. Confirm the numbers and press the [OK].

```
<        SUBNET MASK

    255.255.255.  0

            OK
```

> **Supplement**
>
> If you want to change the numbers for other separated numbers, repeat steps 10 and 11.

13. Press the [GATEWAY].

```
DHCP:                          (OFF)
IP ADDRESS: 192.168.  0.   1
SUBNET MASK:255.255.255.   0
GATEWAY:       192.168.  0.254
  OK    | MAC ADDR. | CANCEL
```

14. Press the separated numbers you want to set.

```
<          GATEWAY

       192.168.  0.254


              OK
```

15. Enter the numbers you want to set and press the [OK].

```
<                    192
       7  8  9  ←
     | 4  5  6
       1  2  3    OK
          0
```

16. Confirm the numbers and press the [OK].

```
<          GATEWAY

       192.168.  0.254


              OK
```

Supplement

> If you want to change the numbers for other separated numbers, repeat steps 14 and 15.

17. Press the [OK].

```
DHCP:                          (OFF)
IP ADDRESS: 192.168.  0.   1
SUBNET MASK:255.255.255.   0
GATEWAY:       192.168.  0.254
  OK    | MAC ADDR. | CANCEL
```

Supplement

> • If you change the settings, the plotter will automatically restart and return to the HOME screen.
> • If you do not change any settings, proceed to step 18.
> • Press the [MAC ADDR.] button to display the MAC address.
>
> ```
> DHCP:                          (OFF)
> IP ADDRESS: 192.168    0.   1
>     MAC ADDRESS
> SUB|00:03:76:1f:ff:ff|5.   0
> GATEWAY:       192.168.  0.254
>   OK    | MAC ADDR. | CANCEL
> ```

18. Press the [🏠] icon.

▷ It will return to HOME screen.

DHCP setting

DHCP setting depends on the network device configuration and your environment.
For details, see your device's manual or consult your network administrator.
The default value of DHCP is [OFF].

> **Supplement**
>
> Although the DHCP depends on the settings of the DHCP server, if the DHCP setting is turned on, the IP address of this plotter may change every time the power is turned on.
> Changing the IP address may cause problems such as not being able to receive data from the computer.
> In order to avoid such problems, we recommend that you turn off the DHCP settings.

Operation

1. Press the [☰] icon.

   ```
   HL        ⌨
   1:Condition No. 1
         PEN S30 F12 A2 T1
              READY

   ⊌        Q        ▼        ☰
   ```

2. Press the [CONFIG].

   ```
   MEMORY    TOOL    AXIS    AREA

   MEDIA    CONFIG   INFO
        ⌂              ▼
   ```

3. Press the [COMMUNICATION].

   ```
   ❮      CONFIGURATION    1/3
   GENERAL
                           >
   COMMUNICATION
                           >
   COMMAND
   ⌂                       >
   ```

4. Press the [WIRED LAN].

   ```
   ❮      COMMUNICATION    1/1
   WIRELESS LAN
                           >
   WIRED LAN
                           >
   ⌂
   ```

5. Press [DHCP] to turn it to [ON].
   To cancel, set it to [OFF].

   ```
   DHCP:                  ON
   IP ADDRESS:  - . - . - . -
   SUBNET MASK: - . - . - . -
   GATEWAY:     - . - . - . -
     OK    | MAC ADDR. | CANCEL
   ```

6. Press the [OK].

```
DHCP:                    ON
IP ADDRESS:   - . - . - . -
SUBNET MASK: - . - . - . -
GATEWAY:      - . - . - . -
OK      MAC ADDR.   CANCEL
```

Supplement

• If you change the settings, the plotter will automatically restart and return to the HOME screen.
• If you do not change any settings, proceed to step 7.

7. Press the [⌂] icon.

▷ It will return to HOME screen.

9.4　Clearing buffer memory

Erases output data in buffer memory.

Operation

1. Press the [≡] icon.
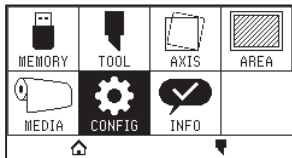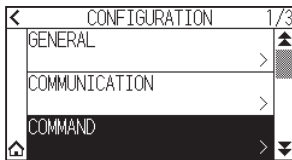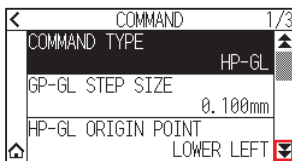
```
HL      ▭≝
1:Condition No. 1
    PEN S30 F12 A2 T1
        READY


  ▯⁺      Q        ▼      ≡
```

2. Press the [CONFIG].

```
  [MEMORY]  [TOOL]  [AXIS]  [AREA]

  [MEDIA]  [CONFIG]  [INFO]
        ⌂          ▼
```

3. Press the [COMMAND].

```
<      CONFIGURATION      1/3
GENERAL                        ⬆
                      >
COMMUNICATION
                      >
COMMAND
⌂                      >       ⬇
```

4. Press the [⬇] icon.

```
<        COMMAND          1/3
COMMAND TYPE                   ⬆
                    HP-GL
GP-GL STEP SIZE
                  0.100mm
HP-GL ORIGIN POINT
⌂              LOWER LEFT ⬇
```

5. Press the [BUFFER CLEAR].

```
<        COMMAND          2/3
HP-GL MODEL EMULATED           ⬆
                    7586
BUFFER CLEAR
                      >
COMMAND ':',';'
⌂              ENABLED ⬇
```

6. Press the [YES, CLEAR].

```
           CAUTION
THE MEMORY WILL BE CLEARED
ENSURE NO DATA IS BEING SENT

DO YOU WANT TO CONTINUE?

  YES,CLEAR        NO
```
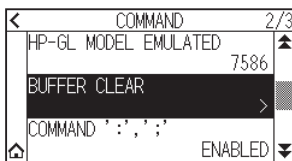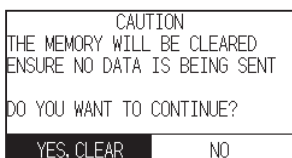
▷ The buffer memory will be cleared and it will return to HOME screen.

9.5 *User selection setting*

Call up the user selection setting (CAD).

"Command", "Origin point", "Step size", "Separator", "Timeout" and "Page length" have been set.

Setting user selection

User selection settings	1	2	3	4	5	6	7	8
Command	HP-GL	HP-GL	GP-GL	HP-GL	HP-GL	HP-GL	HP-GL	HP-GL
Step size	0.025	0.025	0.025	0.025	0.025	0.025	0.025	0.025
Origin point	LOWER LEFT	Center	LOWER LEFT	LOWER LEFT	LOWER LEFT	Center	Center	Center
Separator	PG	NR	J0	SP	PG	SP	None	None
Time out	0	0	120	120	1	10	0	0
Page length (mm)	1500	3000	1500	5000	3000	1500	5000	5000
Step pass	–	–	–	–	–	0	–	–
Moving speed	–	–	–	–	–	60cm/s	–	–
Cross cut	–	–	–	–	–	ON	–	–
Cut line pattern	–	–	–	–	–	OFF	–	–
Rear space	–	–	–	–	–	12mm	–	–

–: The current value is set.

User preference 6 is determined as per the following cutter pen conditions (all settings other than those listed revert to default).

The settings other than the table are set to default value.

Condition No.	Speed	Acceleration	Force	Pen type (Cutter blade)	Compensation value (Offset)
1	60	1	17	Pen	–
2	30	1	14	09U	0
3	30	1	14	09U	0
4	30	1	14	09U	0
5	30	1	14	09U	0
6	30	1	14	09U	0
7	30	1	14	09U	0
8	60	1	14	09U	0

Switching the user selection setting

Operation

1. Press the [▤] icon.

```
HL      ⌨▤
1:Condition No. 1
    PEN S30 F12 A2 T1
         READY


  ▮→    Q      ▮      ▤
```
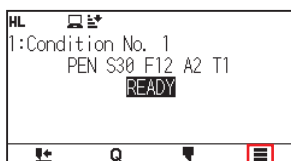
2. Press the [CONFIG].
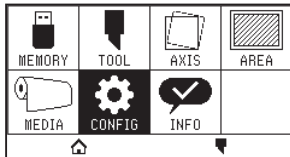
3. Press the [GENERAL].
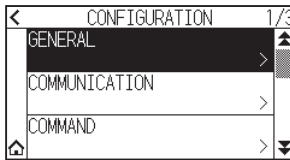
4. Press the [▼] icon twice.
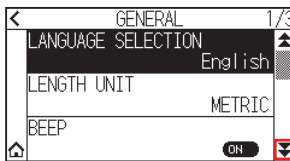
5. Press the [SELECT USER].
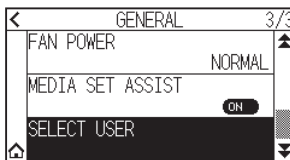
6. Use the [▼] and [▲] icons to display the user number to be used.
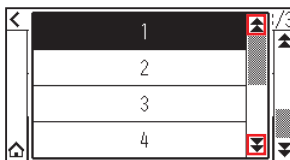
> **Supplement** 🖉
>
> You can set from setting no. 1 to 8.

7. Press the user number you want to use.

8. Press the [⌂] icon.

▷ Setting will be set, and the restart is activated.

Chapter 10:
Settings Regarding Operation Environment

This chapter describes settings regarding the operation environment.

10.1 *Related to Menu Display*

Make settings related to menu display.

Display language setting (LANGUAGE SELECTION)

This function sets the language used on the display.
One of ten languages can be selected: English, Japanese, German, French, Italian, Spanish, Portuguese, Russian, Korean, and Chinese.

Operation

1. Press the [▤] icon.

```
HL      ▯▤
1:Condition No. 1
     PEN S30 F12 A2 T1
          READY

  ▮◄      Q        ▮        ▤
```

2. Press the [CONFIG].

```
MEMORY   TOOL   AXIS   AREA

MEDIA   CONFIG  INFO
         ⌂              ▮
```

3. Press the [GENERAL].

```
<      CONFIGURATION    1/3
GENERAL
                        >
COMMUNICATION
                        >
COMMAND
⌂                       >  ▼
```
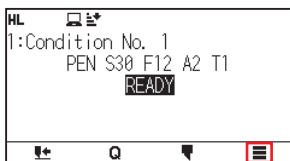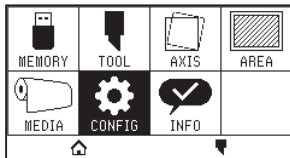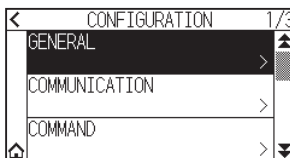
4. Press the [LANGUAGE SELECTION].

```
<       GENERAL        1/3
LANGUAGE SELECTION
                  English
LENGTH UNIT
                   METRIC
BEEP
⌂                 ON      ▼
```
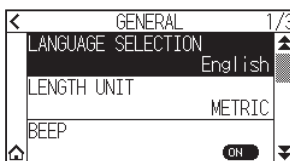
5. Use the [▼] and [▲] icons to display the language you want to use.

```
<        English       /3
     Japanese日本語
       Deutsch
⌂      Francais        ▼
```

6. Press the language you want to use.

7. Press the [⌂] icon.

   ▷ It will return to HOME screen.

Display Length Unit Setting (LENGTH UNIT)

The coordinate values that appear on the display and the other parameters for various settings can be changed to either meter or inch display.

Operation

1. Press the [≡] icon.

```
HL      ☐ ⤴
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY

 ⬐+      Q        ┇        ≡
```

2. Press the [CONFIG].

```
  [MEMORY]  [TOOL]  [AXIS]  [AREA]

  [MEDIA]  [CONFIG]  [INFO]
        ⌂              ┇
```

3. Press the [GENERAL].

```
<      CONFIGURATION    1/3
 GENERAL                      ⮝
                       >
 COMMUNICATION
                       >
 COMMAND
⌂                      >     ⮟
```

4. Press the [LENGTH UNIT].

```
<      GENERAL          1/3
 LANGUAGE SELECTION           ⮝
             English
 LENGTH UNIT
                METRIC
 BEEP
⌂                  ON       ⮟
```
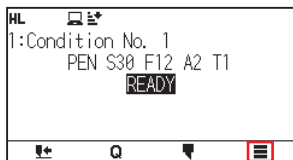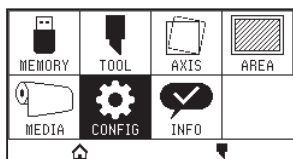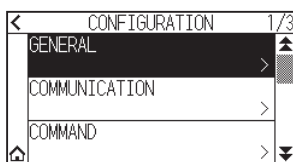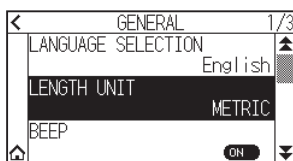
5. Press the length unit you want to use.

```
<      GENERAL          1/3
                              ⮝
      METRIC

      INCH

⌂                  ON       ⮟
```
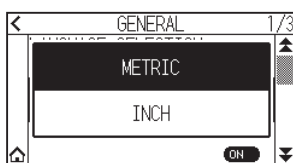
6. Press the [⌂] icon.

   ▷ It will return to HOME screen.

10.2 Related to sensor

This section describes how to make the sensor-related settings.

Enabling/Disabling the media sensors

You can disable the sensors that detect the presence or absence of media and the size of the medium in the feed direction.
If you want to enable it, set it back to "ENABLED" here.

> ⚠ **CAUTION**
>
> Normally, please use it while set to "ENABLED". Turn it DISABLED when setting undetectable media with high transmittance.
> When set to "DISABLED", the cutting mat may be damaged. Please be sure to configure the "area".

Operation

1. Press the [≡] icon.
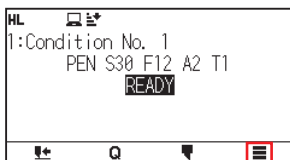
```
HL      ▯⏏
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY


 ⏏        Q         ▮        ≡
```

2. Press the [CONFIG].

```
MEMORY   TOOL    AXIS    AREA

MEDIA   CONFIG   INFO
        ⌂              ▮
```

3. Press the [⬇] icon.

```
<      CONFIGURATION    1/3
GENERAL                      ⌃
                         >
COMMUNICATION
                      >
COMMAND
                      >  ⬇
⌂
```

4. Press the [SENSOR].

```
<      CONFIGURATION    2/3
SENSOR                       ⌃
                         >
CUT QUALITY
                      >
EFFICIENCY
                      >  ⬇
⌂
```

5. Press the [MEDIA SENSOR].

```
<         SENSOR       1/1
MEDIA SENSOR                 ⌃
             ENABLED
PUSH ROLLER SENSOR
             ENABLED
⌂                        ⬇
```
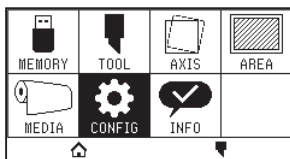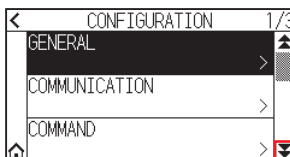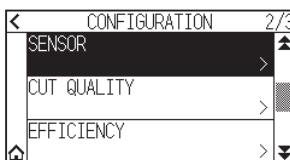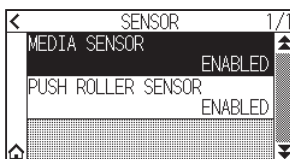
6. Press the [ENABLED] or the [DISABLED] for the sensor.
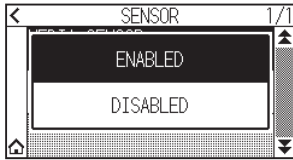
```
|<        SENSOR        1/1 |≙|
|  ┌───────────────────────┐|
|  │       ENABLED         │|
|  ├───────────────────────┤|
|  │       DISABLED        │|
|  └───────────────────────┘|
|⌂|                        |≽|
```

7. Press the [⌂] icon.
   ▶ It will return to HOME screen.

Enabling/Disabling the push roller sensors

Set the push roller sensors that detect the width of the media to "DISABLED".
If you want to enable it, set it to "ENABLED" here.

> ⚠ **CAUTION**
>
> Usually, please use it while set to "Enabled".
> When set to "Disabled", the cutting mat may be damaged. Please always set the "Cutting Area".

Operation

1. Press the [▤] icon.

```
|HL    ▯⇲                   |
|1:Condition No. 1          |
|      PEN S30 F12 A2 T1     |
|          READY            |
|                           |
| ▯⇤    Q       ▜      ▤     |
```

2. Press the [CONFIG].

```
| ┌────┐ ┌────┐ ┌────┐ ┌────┐ |
| │    │ │    │ │    │ │░░░░│ |
| MEMORY  TOOL   AXIS   AREA  |
| ┌────┐ ┌────┐ ┌────┐        |
| │    │ │ ⚙  │ │ ✔  │        |
| MEDIA  CONFIG  INFO         |
|       ⌂           ▜         |
```

3. Press the [▼] icon.

```
|<     CONFIGURATION    1/3 |≙|
| GENERAL                   |
|                         > |
| COMMUNICATION             |
|                         > |
| COMMAND                   |
|⌂                        > |▼|
```

4. Press the [SENSOR].

```
|<     CONFIGURATION    2/3 |≙|
| SENSOR                    |
|                         > |
| CUT QUALITY               |
|                         > |
| EFFICIENCY                |
|⌂                        > |▼|
```
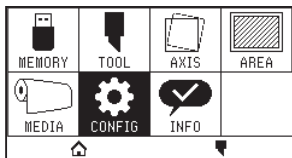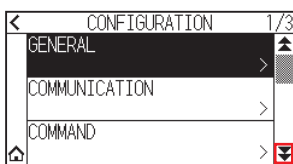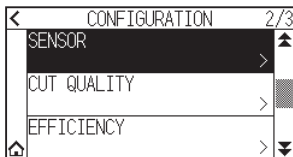
5. Press the [PUSH ROLLER SENSOR].

```
|<        SENSOR        1/1 |≙|
| MEDIA SENSOR              |
|                   ENABLED |
| PUSH ROLLER SENSOR        |
|                   ENABLED |
|⌂                          |▼|
```
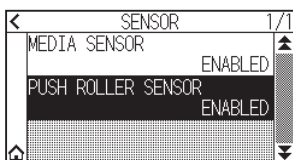
6. Press the [ENABLED], [INSIDE DISABLED] or [DISABLED] for the sensor.

```
┌─────────────────────────┐
│ <      SENSOR     1/1 ☒ │
│ ███████ENABLED████████  │
│   INSIDE DISABLED       │
│      DISABLED           │
│ ⌂                    ☒  │
└─────────────────────────┘
```
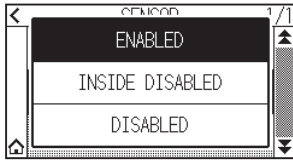
Supplement 🖊

- It will not generate error even if the inner push rollers are not on the grit rollers when the "INSIDE DISABLED" is selected.
- When "DISABLE" has been set, the home sensor position is not detected, so depending on the data, a position error could occur. Please always set the "CUT AREA".

7. Press the [⌂] icon.

▷ It will return to HOME screen.

10.3 *Plotter Environment-related Setting*

This section describes how to make the plotter environment-related settings.

Fan suction setting

This function sets the suction force used to affix media to the plotter.
It may not feed properly if the media is thin, so set to "WEAK".

Operation

1. Press the [▤] icon.
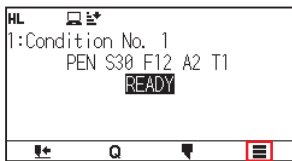
```
HL        ▯▙
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY


  ▯↤      Q        ▮      ▤
```

2. Press the [CONFIG].

```
  ┌─────┐  ┌─────┐  ┌─────┐  ┌─────┐
  │ ▭  │  │  ▮  │  │ ▱  │  │▨▨▨│
  └─────┘  └─────┘  └─────┘  └─────┘
  MEMORY    TOOL     AXIS     AREA
  ┌─────┐  ┌─────┐  ┌─────┐
  │ ◖  │  │ ✿  │  │ ✔  │
  └─────┘  └─────┘  └─────┘
  MEDIA    CONFIG    INFO
        ⌂                    ▮
```

3. Press the [GENERAL].

```
┌─────────────────────────┐
│<   CONFIGURATION    1/3 │▲
│GENERAL                  │
│                       > │▒
│COMMUNICATION            │
│                     >   │
│COMMAND                  │
│⌂                    > │▼
└─────────────────────────┘
```

4. Press the [▼] icon twice.

```
┌─────────────────────────┐
│<     GENERAL       1/3  │▲
│LANGUAGE SELECTION       │
│              English    │▒
│LENGTH UNIT              │
│              METRIC     │
│BEEP                     │
│⌂             ON    ▼ │
└─────────────────────────┘
```
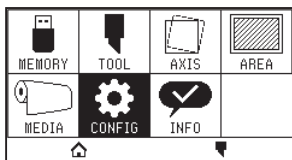
5. Press the [FAN POWER].

```
┌─────────────────────────┐
│<     GENERAL       3/3  │▲
│FAN POWER                │
│              NORMAL     │
│MEDIA SET ASSIST         │▒
│              ON         │
│SELECT USER              │
│⌂                    ▼ │
└─────────────────────────┘
```

6. Press the setting value you want to use.

```
┌─────────────────────────┐
│<     GENERAL       3/3  │▲
│   NORMAL                │
│                         │
│   WEAK                  │▒
│                         │
│⌂                    ▼ │
└─────────────────────────┘
```

7. Press the [⌂] icon.
   ▷ It will return to HOME screen.

Media set assist setting

Media set assist is an auxiliary function that operates a suction fan when loading media to make it easier to load the media.

> **Supplement** 🖉
> - Depending on the type of media, using Media Set Assist may make it difficult to set the media. In this case, please make the setting to [OFF].
> - The strength of suction is linked to the [FAN] setting.
> - Media set assist operates when the media sensor detects media while the HOME screen is displayed (only while the media set lever is down).

Operation

1. Press the [≡] icon.

```
HL      ⌨⬀
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY

  ⬐      Q        ⬒      ≡
```

2. Press the [CONFIG].

```
 ▣        ✏        ▱        ▨
MEMORY   TOOL     AXIS     AREA

 ◖        ⚙        ✔
MEDIA   CONFIG    INFO
        ⌂                  ⬒
```

3. Press the [GENERAL].

```
<        CONFIGURATION    1/3
GENERAL                    ⬆
                      >
COMMUNICATION
                      >
COMMAND
⌂                     >    ⬇
```

4. Press the [⬇] icon twice.

```
<          GENERAL        1/3
LANGUAGE SELECTION         ⬆
                  English
LENGTH UNIT
                   METRIC
BEEP
⌂                   ON    ⬇
```
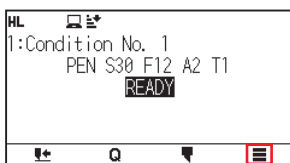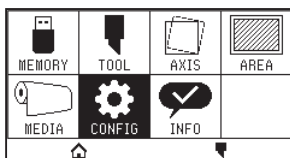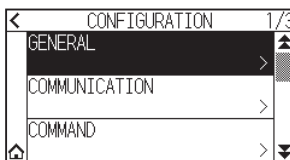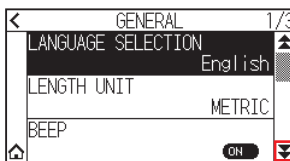
5. Press [MEDIA SET ASSIST] to turn it to [ON].
To cancel, set it to [OFF].

```
<          GENERAL        3/3
FAN POWER                  ⬆
                  NORMAL
MEDIA SET ASSIST
                   ON
SELECT USER
⌂                         ⬇
```
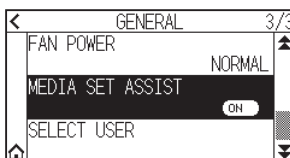
> **Supplement** 🖉
> The default value has been set to [ON].

6. Press the [⌂] icon.

▶ It will return to HOME screen.

Enabling/Disabling the beep setting

You can turn off the buzzer sound.
If you want to enable the buzzer sound again, set it here.

Operation

1. Press the [▤] icon.

```
HL      ▱ ⯬
1:Condition No. 1
        PEN S30 F12 A2 T1
            READY


   ▯←     Q        ▮      ▤
```

2. Press the [CONFIG].

```
   ▯       ▮       ◩       ▨
MEMORY   TOOL    AXIS    AREA
   ◒       ⚙       ✓
 MEDIA   CONFIG   INFO
          ⌂              ▮
```

3. Press the [GENERAL].

```
<      CONFIGURATION    1/3
GENERAL                     ⯅
                        >
COMMUNICATION
                        >
COMMAND
⌂                       >   ⯆
```
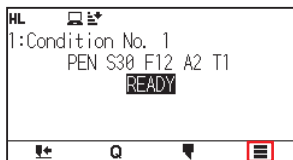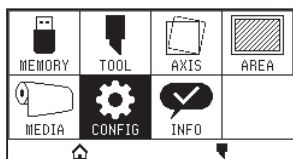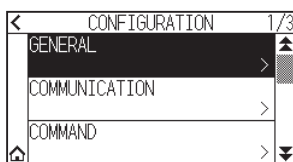
4. Press [BEEP] to turn it to [ON].
   To cancel, set it to [OFF].

```
<        GENERAL        1/3
LANGUAGE SELECTION          ⯅
              English
LENGTH UNIT
              METRIC
BEEP
                ON          ⯆
```
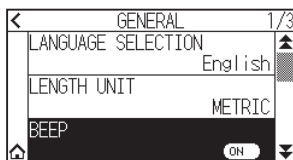
5. Press the [⌂] icon.

   ▷ It will return to HOME screen.

LCD contrast setting

You can set the contrast of the LCD display on the control panel.

Operation

1. Press the [▤] icon.

```
HL      ▱ ⯬
1:Condition No. 1
        PEN S30 F12 A2 T1
            READY


   ▯←     Q        ▮      ▤
```
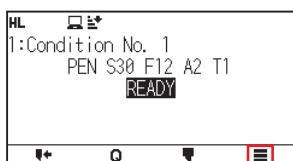
2. Press the [CONFIG].
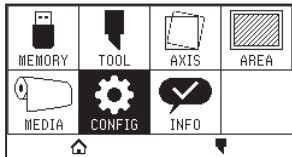
3. Press the [GENERAL].
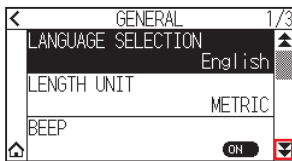
4. Press the [▼] icon.

5. Press the [LCD CONTRAST].
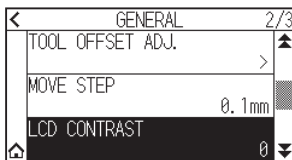
6. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
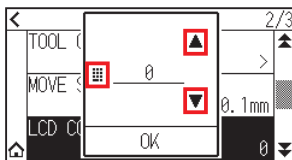
Supplement

You can set the range between -30 and 30 (5 steps).

7. Confirm the setting and press the [OK].

8. Press the [⌂] icon.

▷ It will return to HOME screen.

Chapter 11:
Settings of Controls from Computer

This chapter describes settings regarding the controls from the computer.

11.1 *Setting Related to Command Processing*

Make settings related to command processing.

Setting the command

There are 2 types of commands, the GP-GL and the HP-GL, that the plotter can use.
Match the setting to the used software, or set it to AUTO.

> **Supplement** ✏️
>
> - With the AUTO, automatic detection of the command may make mistake depending on the data. It will give error or malfunction when it has made mistake. In that case, set the command before using.
> - Always send the data when the plotter is in READY status when the AUTO is set.
> - When using data with the AUTO, it will be ready to automatically detect next command 10 seconds after completing the cutting. Send next data after 10 seconds has passed after previous cutting when sending data with different command.

Operation

1. Press the [≣] icon.

```
HL      □≟
1:Condition No. 1
        PEN S30 F12 A2 T1
              READY

  ↓←      Q        ↓        ≣
```

2. Press the [CONFIG].

```
  [MEMORY] [TOOL] [AXIS] [AREA]
  [MEDIA]  [CONFIG] [INFO]
        ⌂            ↓
```

3. Press the [COMMAND].
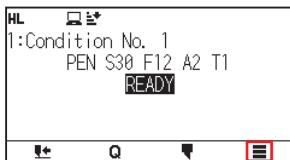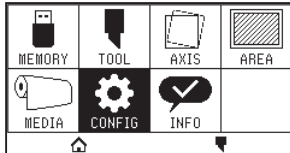
```
<      CONFIGURATION    1/3
GENERAL
                         >
COMMUNICATION
                         >
COMMAND
⌂                        >
```

4. Press the [COMMAND TYPE].

```
<        COMMAND        1/3
COMMAND TYPE
                    HP-GL
GP-GL STEP SIZE
                  0.100mm
HP-GL ORIGIN POINT
⌂              LOWER LEFT
```
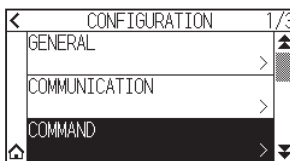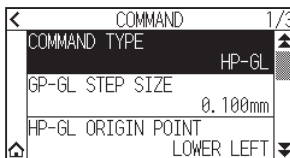
5. Press the command you want to use.

```
<        COMMAND        1/3

        GP-GL

        HP-GL

⌂              LOWER LEFT
```
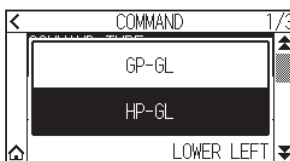
6. Press the [⌂] icon.

▷ It will return to HOME screen.

Priority of cut condition selection

Select the priority of the setting created by different method when the tool condition is set.
All the tool condition that is received from the computer will be ignored, and only the setting and change of the tool condition from the control panel is accepted when "MENU PRIORITY" is selected. This setting set here is maintained even if the power is turned off.
On the other hand, it will set the most current tool condition either from the control panel or from the software when "COMMAND PRIORITY" is selected. The values set from the control panel are maintained, and the values set from the software are erased when the power is turned off.

Operation

1. Press the [≡] icon.

    HL   🖥️↪
    1:Condition No. 1
        PEN S30 F12 A2 T1
            READY

    🔽   Q   🔻   ≡

2. Press the [CONFIG].

    MEMORY TOOL AXIS AREA
    MEDIA CONFIG INFO
        ⌂   🔻

3. Press the [COMMAND].

    ‹   CONFIGURATION   1/3
    GENERAL
                            ›
    COMMUNICATION
                            ›
    COMMAND
    ⌂   › 🔽

4. Press the [🔽] icon twice.

    ‹   COMMAND   1/3
    COMMAND TYPE
                        HP-GL
    GP-GL STEP SIZE
                    0.100mm
    HP-GL ORIGIN POINT
    ⌂   LOWER LEFT 🔽
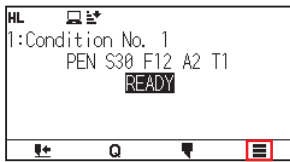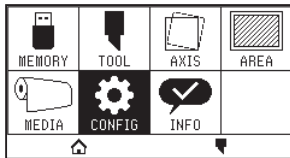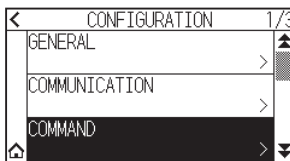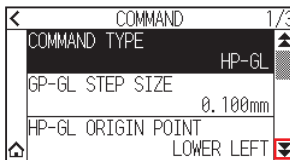
5. Press the [CUT CONDITION].
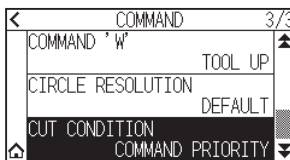
    ‹   COMMAND   3/3
    COMMAND 'W'
                    TOOL UP
    CIRCLE RESOLUTION
                    DEFAULT
    CUT CONDITION
    ⌂   COMMAND PRIORITY 🔽

6. Press the setting value you want to use.

    ‹   COMMAND   3/3

        COMMAND PRIORITY

        MENU PRIORITY

    ⌂   COMMAND PRIORITY 🔽
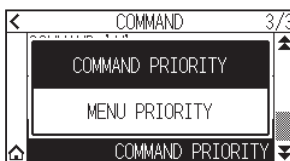
7. Press the [⌂] icon.

    ▷ It will return to HOME screen.

11.2 *Related to GP-GL command*

This section is useful only when using the GP-GL command.

Setting the GP-GL step size

The distance to travel with 1 step can be changed. Match the setting value of the application to be used.

Operation

1. Press the [☰] icon.

```
HL      ⬛ ⬆
1:Condition No. 1
     PEN S30 F12 A2 T1
            READY

   ⬆←      Q        ⬇        ☰
```

2. Press the [CONFIG].

```
  ⬛        ⬇       ⬜       ▨
MEMORY   TOOL     AXIS     AREA

  ◒        ⚙       ✓
MEDIA   CONFIG    INFO
         ⌂              ⬇
```

3. Press the [COMMAND].
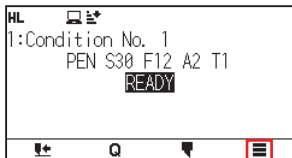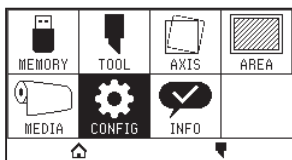
```
<       CONFIGURATION    1/3
GENERAL                      ⬘
                      >
COMMUNICATION
                      >
COMMAND
⌂                     >  ⬙
```
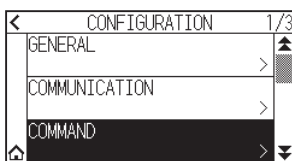
4. Press the [GP-GL STEP SIZE].
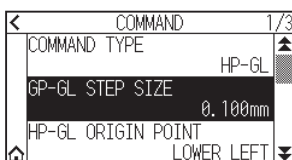
```
<        COMMAND         1/3
COMMAND TYPE                 ⬘
                    HP-GL
GP-GL STEP SIZE
                   0.100mm
HP-GL ORIGIN POINT
⌂               LOWER LEFT ⬙
```

5. Press the setting value you want to use.

```
<                        /3
      0.100mm              ⬘
      0.050mm
      0.025mm
⌂     0.010mm             ⬙
```
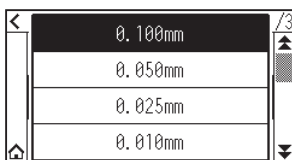
6. Press the [⌂] icon.

▷ It will return to HOME screen.

Enabling/Disabling the ' : ' and ' ; ' commands

If the first part of the data is lost when the GP-GL command is set, these commands may be having an adverse effect. In this case, set the ' : ' and ' ; ' commands to DISABLED.

Operation

1. Press the [▤] icon.
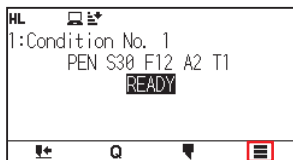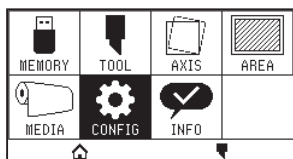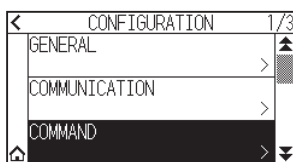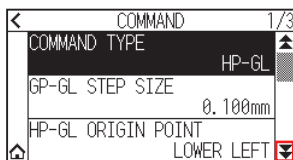
   ```
   HL        ▯▵
   1:Condition No. 1
         PEN S30 F12 A2 T1
              READY

     ⬐         Q          ▼         ▤
   ```

2. Press the [CONFIG].

   ```
   ▯      ▮      ▱      ▨
   MEMORY  TOOL   AXIS   AREA

   ◉      ⚙      ✓
   MEDIA  CONFIG  INFO
        ⌂              ▼
   ```

3. Press the [COMMAND].

   ```
   <     CONFIGURATION    1/3
   GENERAL
                          >
   COMMUNICATION
                          >
   COMMAND
   ⌂                      >  ▼
   ```

4. Press the [▼] icon.

   ```
   <        COMMAND        1/3
   COMMAND TYPE
                       HP-GL
   GP-GL STEP SIZE
                     0.100mm
   HP-GL ORIGIN POINT
   ⌂              LOWER LEFT  ▼
   ```

5. Press the [COMMAND ':';'].

   ```
   <        COMMAND        2/3
   HP-GL MODEL EMULATED
                       7586
   BUFFER CLEAR
                          >
   COMMAND ':',';'
   ⌂              ENABLED  ▼
   ```

6. Press the setting value you want to use.

   ```
   <        COMMAND        2/3

        DISABLED

        ENABLED

   ⌂              ENABLED  ▼
   ```
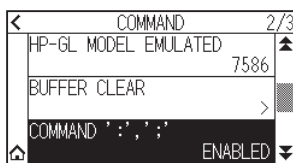
7. Press the [⌂] icon.

   ▶It will return to HOME screen.

Moving the pen while raised or lowered in Response to the 'W' command

Here, you can change the settings for the 'W' command, which is a GP-GL arc cutting command.
The pen will move to the specified starting position in the raised status when it is set to TOOL UP, regardless of the pen's conditions.
The pen will move without changing its condition, to the specified starting position in the lowered status when it is set to TOOL DOWN.

> **Supplement**
>
> This has an effect on the tool cutter only. For the pen setting, always the pen is raised (PEN UP).
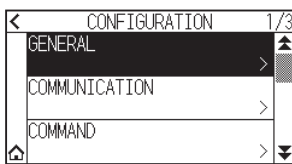
Operation

1. Press the [≡] icon.
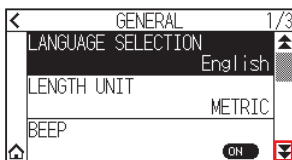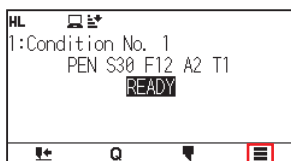

2. Press the [CONFIG].
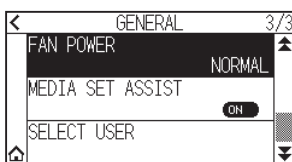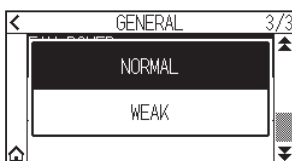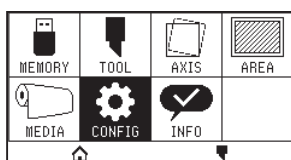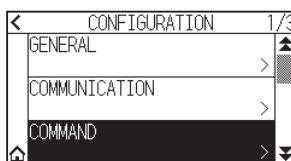

3. Press the [COMMAND].

4. Press the [▼] icon twice.
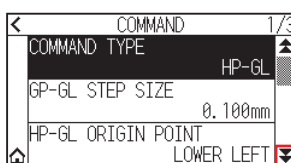
5. Press the [COMMAND 'W'].
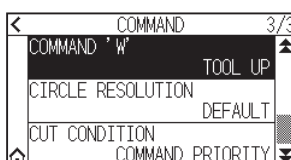
6. Press the setting value you want to use.

7. Press the [⌂] icon.

   ▷ It will return to HOME screen.

11.3 *Related to HP-GL command*

This section is useful only when using the HP-GL command

Model ID response

This function set the operation upon receipt of the "OI" command requesting for the model ID.
The reply will be 7550 when set to 7550, and 7586 when set to 7586.

Operation

1. Press the [≡] icon.

   ```
   HL      □⇙
   1:Condition No. 1
         PEN S30 F12 A2 T1
                READY

   ▮↤     Q        ▮        ≡
   ```

2. Press the [CONFIG].

   ```
   MEMORY   TOOL   AXIS   AREA

   MEDIA   CONFIG  INFO
           ⌂             ▮
   ```

3. Press the [COMMAND].

   ```
   <      CONFIGURATION    1/3
   GENERAL                     ⌃
                          >
   COMMUNICATION
                          >
   COMMAND
   ⌂                      >  ⌄
   ```

4. Press the [⤓] icon.

   ```
   <        COMMAND        1/3
   COMMAND TYPE                ⌃
                       HP-GL
   GP-GL STEP SIZE
                     0.100mm
   HP-GL ORIGIN POINT
   ⌂            LOWER LEFT  ⤓
   ```
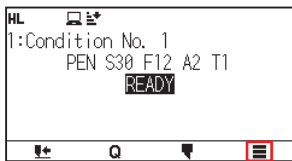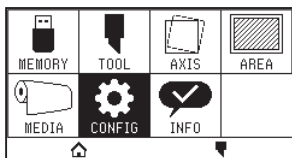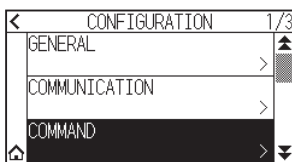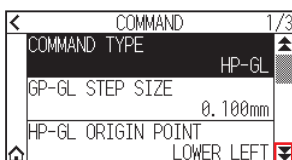
5. Press the [HP-GL MODEL EMULATED].

   ```
   <        COMMAND        2/3
   HP-GL MODEL EMULATED        ⌃
                       7586
   BUFFER CLEAR
                          >
   COMMAND ':',';'
   ⌂           ENABLED  ⌄
   ```

6. Press the setting value you want to use.

   ```
   <        COMMAND        2/3
                              ⌃
           7550

           7586

   ⌂           ENABLED  ⌄
   ```
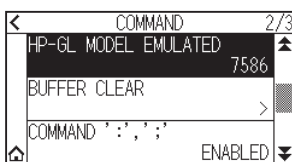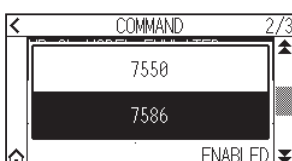
7. Press the [⌂] icon.
   ▷ It will return to HOME screen.

Circle command resolution

This is a function to set the resolution when receiving the HP-GL command arc cutting command for pen plotter. Select from "AUTO" or "DEFAULT" of 5 degrees.

Operation

1. Press the [≡] icon.

2. Press the [CONFIG].
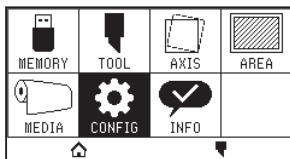
3. Press the [COMMAND].
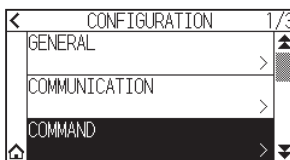
4. Press the [⬇] icon twice.
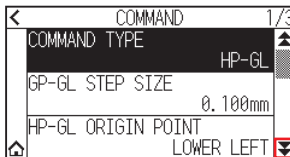
5. Press the [CIRCLE RESOLUTION].
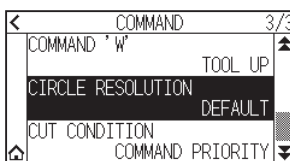
6. Press the setting value you want to use.
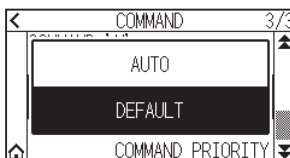
7. Press the [⌂] icon.

   ▷ It will return to HOME screen.

Chapter 12: Maintenance

This chapter describes the settings for the maintenance.

12.1 *Daily Maintenance*

Daily maintenance

During the course of daily plotter operation, be sure to observe the following precautions:

(1) Never lubricate the mechanisms of the plotter.

(2) Clean the plotter's casing using a dry cloth or a cloth that has been moistened in a neutral detergent diluted with water.
Never use thinner, benzene, alcohol, or similar solvents to clean the casings; they will damage the casing's finish.

(3) Clean the cutting mat using a dry cloth. In case of stubborn stains, use a cloth that has been moistened in alcohol or in a neutral detergent diluted with water.

(4) If dust or dirt gets on the sensor that detects the media, it may cause malfunction. Clean the plotter's media sensors using a cloth moistened in a neutral detergent diluted with water.

* Never use thinner, benzene, alcohol, or similar solvents to clean the sensors; cleaners such as these will damage the sensors.

(5) When the Y rail sliding surface gets dirty, gently wipe the dirt away with a clean, dry towel.

* The sliding surface has lubricant on it, so be sure not to wipe all the lubricant off as well.

Storing the plotter

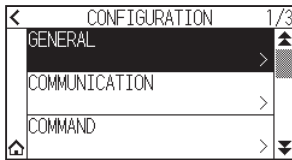When your plotter is not in use, be sure to observe the following points:

(1) Remove the tool attached to the tool holder.

(2) Cover the plotter with a cloth to protect it from dust and dirt.

(3) Do not store the plotter in direct sunlight or in high temperature and high humidity.

(4) Please lower the set lever so the push roller is in a risen state.

12.2 *Replacing Cutter Blade*

Replace the cutter blade by referring to the structure diagram of the cutter plunger.

> ⚠️ **CAUTION**
>
> To avoid bodily injury, handle cutter blades with care.

PHP33-CB09N-HS/PHP33-CB15N-HS

- Blade-length adjustment knob
- Plunger
- Cutter blade
  φ 0.9mm / φ1.5mm
- Plunger-cap
- Color ring
  PHP33-CB09N-HS: Blue
  PHP33-CB15N-HS: Red
- Hole
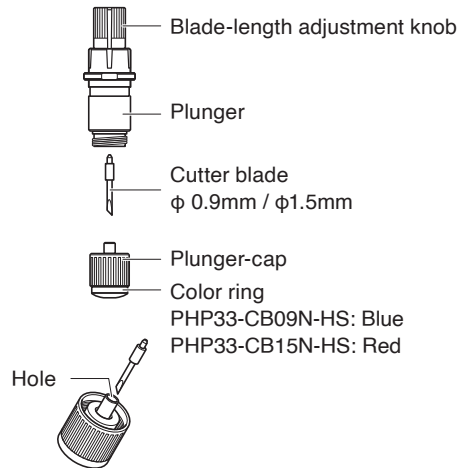
Operation

1. Turn the blade-length adjustment knob in the direction of the B arrow and pull the blade into the plunger.

PHP33-CB09N-HS/PHP33-CB15N-HS

One scale unit
approximately 0.1 mm

Scale

Scale

B   A
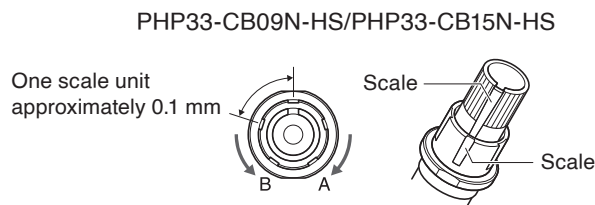
2. Turn the plunger cap in the counter-clockwise direction to remove it from the plunger.

3. Remove the blade from inside the plunger cap.

4. Take a new blade out of its pack. Insert the new blade into the hole provided in the plunger cap.

5. Insert the blade into the plunger cap and attach the plunger from above in that state.

6. Secure the plunger cap by turning it clockwise.

> ⚠️ **CAUTION**
>
> Please fully insert the cutter blade straight into the plunger cap.
> If the cutter blade cannot be inserted straight, please insert the cutter blade after pressing the insertion port of the cutter blade several times.
> If not installed correctly, it may result in damage to the cutter blade or the plotter itself.
>
> Insertion port of the cutter blade
>
> ◯ OK   ✕ NG

12.3 *Cleaning the Cutter Plunger*

Letting leftover media and paper dust build up on blades can dull them and cause them to deteriorate. Be sure to clean the cutter plunger regularly and remove build up.

> ⚠ **CAUTION**
> To avoid bodily injury, handle cutter blades with care.

Cleaning

1. Please clean off paper dust and media powder build up from the blade.
   After cleaning it, return it to its proper place.
   Spin the plunger cap, remove it, and then clean the blade entrance area.

   PHP33-CB09N-HS/PHP33-CB15N-HS

   Plunger
   Cutter blade
   Plunger-cap
   Cleaning
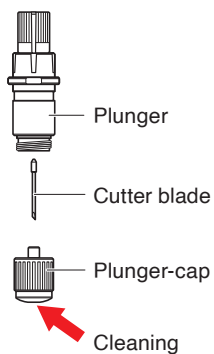
2. After completing cleaning, attach the plunger cap.

12.4 Cutter Plunger Exchange

The tip of the cutter plunger gets worn down due to friction with the media.

When the tip of the cutter plunger gets worn down, cut quality suffers.

When the tip of the plunger cap gets worn down, it is recommended that you exchange the cutter plunger.

PHP33-CB09N-HS/PHP33-CB15N-HS

Cutter Plunger

Tip
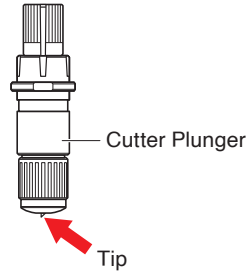
⚠ **CAUTION**

To avoid bodily injury, handle cutter blades with care.

12.5 *Setting the Alarm for Blade Wear Alarm*

This function allows to measure the cut distance of pen or cutter blade and use it as a guide to determine when the cutter blade should be replaced.
BLADE WEAR DETECT ON/OFF, SET BLADE GROUP, ALARM DISTANCE and BLADE WEAR DETECT settings are required.

Alarm function ON/OFF, group, alarm distance settings

Operation

1. Press the [▤] icon.

   ```
   HL      □ ☷
   1:Condition No. 1
        PEN S30 F12 A2 T1
             READY


     ↵        Q         ▼         ▤
   ```

2. Press the [TOOL].

   ```
   MEMORY   TOOL    AXIS    AREA

   MEDIA   CONFIG   INFO
        ⌂              ▼
   ```

3. Press the [BLADE WEAR ALARM SETUP].

   ```
   <      TOOLS SETTING     1/2
   DATA SORTING
                         (OFF)
   BLADE WEAR ALARM SETUP
                           >
   INITIAL B.  ANGLE POSITION
   ⌂                  2mm BELOW ⇟
   ```
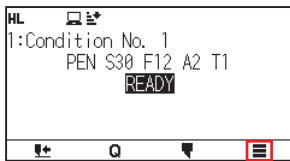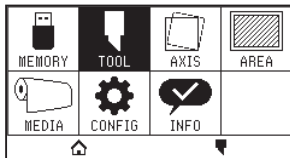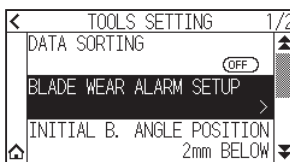
4. Press [BLADE WEAR DETECT.] to turn it to [ON].
   To cancel, set it to [OFF].

   ```
   <   BLADE WEAR ALARM SETUP 1/2
   ◀◀   1      2      3    ▶▶
        -      -      -
   BLADE WEAR DETECT.
                      (ON )
   SET BLADE GROUP
   ⌂                        1 ⇟
   ```
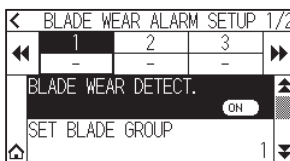
5. Press the [SET BLADE GROUP].

   ```
   <   BLADE WEAR ALARM SETUP 1/2
   ◀◀   1      2      3    ▶▶
        -      -      -
   BLADE WEAR DETECT.
                      (ON )
   SET BLADE GROUP
   ⌂                        1 ⇟
   ```
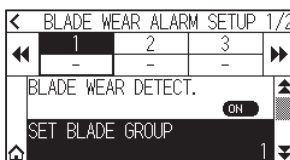
6. Press the group number you want to assign for each tool condition number (2 to 8).

Supplement

- The horizontal axis represents the tool condition number (1 to 8) to be set. The vertical axis represents the group number.
- [✔] will be displayed at the assigned location.

---

7. Press the [<] icon.

8. Press the [YES].

9. Press the [▼] icon.

10. Use the [◀◀] and [▶▶] icons to display the group for which you want to set the alarm distance.

11. Press the group you want to set.

12. Press the [ALARM DISTANCE].

13. Specify the setting value using the [▲] [▼] icon or the [▦] icon.
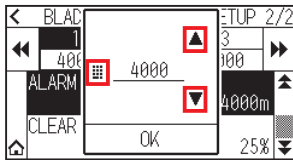
14. Confirm the setting and press the [OK].

15. Press the [🏠] icon.

▶ It will return to HOME screen.

Blade wear clear setting

Operation

1. Press the [▤] icon.

```
HL      ⬚⇗
1:Condition No. 1
        PEN S30 F12 A2 T1
             READY

  ⬚←      Q        ▼        ▤
```

2. Press the [TOOL].

```
   ⬚          ⬚          ⬚          ⬚
MEMORY     TOOL       AXIS       AREA

   ⬚          ⬚          ⬚
 MEDIA     CONFIG      INFO
           ⌂                   ▼
```

3. Press the [BLADE WEAR ALARM SETUP].

```
<        TOOLS SETTING      1/2
DATA SORTING
                        (OFF)
BLADE WEAR ALARM SETUP
                          >
INITIAL B.  ANGLE POSITION
                    2mm BELOW
⌂
```

4. Press the [⬇] icon.

```
<   BLADE WEAR ALARM SETUP 1/2
⏪      1        2        3
       –        –        –     ⏩
BLADE WEAR DETECT.
                     (ON)
SET BLADE GROUP
⌂                            1
```
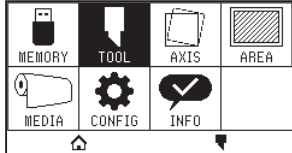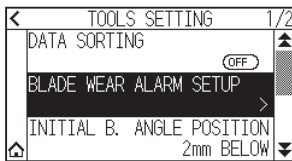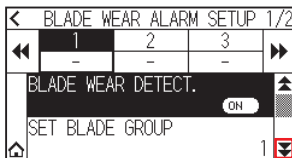
5. Use the [⏪] and [⏩] icons to display the group whose blade wear you want to clear.

```
<   BLADE WEAR ALARM SETUP 2/2
⏪      1        2        3
     4000     4000     4000    ⏩
ALARM DISTANCE
                        4000m
CLEAR B.WEAR VALUE
⌂                          25%
```

6. Press the group you want to set.

```
< BLADE WEAR ALARM SETUP 2/2
    1        2        3
◀◀ 4000     4000     4000   ▶▶
ALARM DISTANCE              ▲
                   4000m
CLEAR B.WEAR VALUE
⌂                    25%    ▼
```
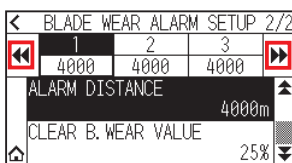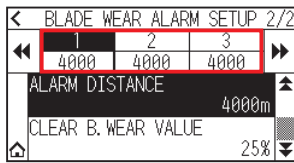
7. Press the [CLEAR B. WEAR VALUE].

```
< BLADE WEAR ALARM SETUP 2/2
    1        2        3
◀◀ 25%      60%      0%     ▶▶
ALARM DISTANCE              ▲
                   4000m
CLEAR B.WEAR VALUE
⌂                    25%    ▼
```

8. Press the [YES].

```
< BLADE WEAR ALARM SETUP 2/2
◀ DO YOU WANT TO CLEAR THE  ▶
     BLADE WEAR VALUE
       FOR GROUP 1?         ▲
    YES         NO
⌂                    25%    ▼
```
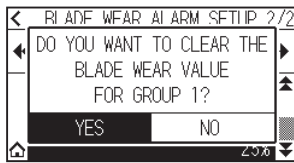
9. Press the [⌂] icon.

▷ It will return to HOME screen.

Chapter 13: Troubleshooting

Refer to this chapter if you feel something is wrong, or it does not work right.
It also describes the settings of the plotter, confirming the cutting data, and method to create test patterns.

13.1 Troubleshooting

When the plotter does not operate after turning the power on

Symptom	Possible Cause	Solution
• Nothing is displayed on the LCD panel.	There is no power supplied. Or, the plotter is defective.	Check that the power cord is securely connected to the plotter's AC line inlet and the electrical outlet. Check that the power is supplied to the electrical outlet. Contact your sales representative if the problem still exists.
• "Sum-Ck ROM RAM ERR!!" is displayed on the LCD panel.	The ROM or RAM is defective.	Contact your sales representative if the problem still exists.

When it does not work right

Symptom	Possible Cause	Solution	Reference
• Drops the media while detecting.	Bright light might be shining onto the media sensor.	Block the light if there is direct sunlight shining on the plotter that is placed near the window. Move away the fluorescent lamps if there is one close to the plotter.	
	Media sensor may be defective.	Contact your sales representative if the problem still exists. Set the media sensor to DISABLED to use the plotter temporarily.	Enabling/Disabling the Media Sensors (MEDIA SENSOR)
• Media wobbles.	Push rollers are not set correctly on the grit rollers.	Check the position of the push rollers.	Loading Media (Paper or Marking Film)
	Changing of the hold-down force of the push roller is not suitable for the media.	Please set a media suitable for changing the hold-down force.	Changing the Hold-down Force
• Tool carriage hits the left side of the plotter and "POSITION ALARM" is displayed after selecting the media type. Or, it hits the right side of the plotter and "POSITION ALARM" is displayed.	Push roller sensor may be defective if it hits the left side of the plotter. Home sensor may be defective if it hits the right side of the plotter.	Contact your sales representative if the problem still exists. Set the push roller sensor to DISABLED to use the plotter temporarily.	Enabling/Disabling the Push Roller Sensors
• The plotter stops with "POSITION ALARM" displayed during initialization or cutting.	CONDITION setting for the media is invalid.	Slow down the speed or lower the FORCE.	Setting the Tool Condition
	The pen carriage does not move by hitting something.	Move the object disturbing the operation, and turn on the plotter after turning it off once.	
	External force is applied to the pen carriage while cutting.	Move the object disturbing the operation, and turn on the plotter after turning it off once.	
	Movement is disturbed by the media chaff in the operation area.	Move the object disturbing the operation, and turn on the plotter after turning it off once.	
	The plotter is defective.	Contact your sales representative if the problem still exists.	
• It is cutting with origin point shifting to center of the media.	Data created with lower left origin point is received when the plotter is set with center origin point. (With HP-GL command)	Reset the origin point to center on the application software, or reset the origin point of the plotter to lower left.	Setting Origin Point When HPGL is Set
• Media jumps out to forward side.	Selected wrong type of the media.	Check the type of media, "SHEET", "ROLL-1 FRONT EDGE", or "ROLL-2 CURRENT POSITION".	Setting Feeding Method
• Displays command error.	Data sent to the plotter is not correct.	Check the data.	Error Message in GP-GL Command Mode Error Message in HP-GL Command Mode
• It cannot cut above certain length.	Length of the cut is exceeding the length of the page set on the plotter.	Press the [SLOW] key and check the cutting area. Match the setting for the page length.	Setting Length of the Page
• There are too many tool up and down.	Setting for the tangential mode is set to ON.	Turn OFF the setting for the tangential mode unless you are cutting thick media.	Setting the TANGENTIAL MODE
• It is cutting on the grit roller imprint.	Cutting width is widened.	Please turn OFF the expand setting.	Setting Cutting Width
• Cannot change the tool condition.	Setting for the sorting is set to ON.	Use the plotter with setting for the sorting OFF.	Sorting the Cutting Data

Symptom	Possible Cause	Solution	Reference
• Tool condition changes.	Setting of the priority is set to COMMAND PRIORITY.	Change the setting of the priority to MENU PRIORITY.	Priority of Cut Condition Selection.
	[ENTER] key is not pressed after changing the TOOL CONDITION.	Check the TOOL CONDITION again.	Setting the Tool Condition
• Media travels tilted.	Media is loaded tilted.	Reload the media.	Loading Media (Paper or Making Film)
	Media is slipping.	Perform pre feed once and make impression to make it harder to slip.	Pre Feed of Media (Paper or Marking Film)
	Changing of the hold-down force of the push roller is not suitable for the media.	Please set a media suitable for changing the hold-down force.	Changing the Hold-down Force
• It does not become specified length. (Slight distance error)	Media is slipping.	Make the speed slower. Reduce the moving speed. Perform feeding.	Setting the Tool Condition. Pre Feed of Media (Paper or Marking Film) Setting the Tool Up Speed
	Distance adjust value is not correct.	Perform distance adjust.	Setting the Distance Adjust
• "LOAD MEDIA!" is displayed even if the media is set and media set lever is moved up.	Media is close to transparent and media sensor makes false recognition. (This may happen depending on the media.)	Transparent media cannot be detected. DISABLE the media sensor and set the cutting area when this kind of media is used.	Enabling/Disabling the Media Sensors Setting Cutting Area
	Media sensor malfunctions with strong scattered reflection.	Move the position of the light source. Make is so no direct sunlight shines.	
	There may be defective in the operation of the media set lever sensor.	Contact your sales representative if the problem still exists.	
• Touch panel does not respond.	The touch panel installed on this plotter is a capacitive type. Insulated touch pens (pressure-sensitive) will not respond.	Use your finger or a capacitive touch pen.	
• Wireless LAN access point cannot be found.	The wireless LAN compatible standard of this plotter is 802.11b/g/n (2.4GHz). It does not support the 5GHz frequency.	Please use an access point that supports the wireless LAN compatible standard 802.11b/g/n (2.4GHz).	

When the Cutting Result is Not Good

Symptom	Possible Cause	Solution
• Corners are rounded. • Corners are too sharp.	Blade and OFFSET does not match.	Change the OFFSET. → It is rounded: Increase the OFFSET → It is too sharp: Decrease the OFFSET
• The cut line starts out crooked.	The blade inside the plunger doesn't turn smoothly.	Remove dirt from inside the plunger.
• The blade skips and does not completely cut lines that should be solid. • Straight cut lines seems to wobble.	The blade is extended too far.	Adjust the blade length.
	The cutting speed is too high.	Lower the speed setting.
• Coarse resolution of curved lines.	The software's resolution setting is too low.	Adjust the software's resolution setting.
	The blade offset angle is too low.	Increase the value for the blade offset angle.
• The blade falls out of the tool plunger.	The blade is too small for the tool plunger.	Use a blade that fits securely in the tool plunger.
• Abnormal noise generated from the tool carriage during cutting. • The media is discolored where the blade has passed.	Media is rubbed by the tip of the tool plunger.	Adjust the blade length and the cutting FORCE settings.
• The cutting results differ from the specified size.	The STEP SIZE has been set differently at the computer and the plotter.	Set the STEP SIZE to same value.
	Scaling has been specified on the computer.	Check whether scaling has been specified.
• Currently selected cutting conditions are disregarded or cannot be changed.	Setting of the priority is set to COMMAND PRIORITY.	Change the setting of the priority to MENU PRIORITY.
	The [ENTER] key was not pressed after changing the settings.	Check the operation.
• Characters or lines are deformed during pen plotting.	The plotter is in cutting mode.	Select PEN as the tool in the CONDITION setting.
• It does not become specified length. (Slight distance error)	Distance adjust value is not correct.	Perform distance adjust.
• Characters are deformed. • Complex drawings are deformed.	The STEP PASS setting is set too high.	Lower the STEP PASS setting.
• The starting and end points of cutting do not match.	Coordinate points are incorrectly specified.	Check the coordinate data by plotting it with a pen.
	Blade rotation is not smooth.	Check that there is no dirt in the blade.

Error Messages in GP-GL Command Mode

Error Displayed	LCD Display	Cause	Solution
E02001	HL 1:Cond[E02001] GP-GL ERROR 1 COMMAND ERROR! OK	The plotter received an unrecognizable command.	Press the [ENTER] key.
		Noise came in when the computer was turned on.	Configure to drive the plotter from the menu of the software.
		The software configuration regarding the output device has been changed.	Reset the interface settings of the software.
		The plotter's interface conditions have changed.	Reset the interface settings of the plotter.
E02004	HL 1:Con[E02004] GP-GL ERROR 4 PARAMETER OVERFLOW! OK	A command was received containing numeric parameters that exceed that command's permissible range.	Configure to drive the plotter from the menu of the software.
		The software configuration regarding the output device has been changed.	Reset the interface settings of the software.
		The plotter's interface conditions have changed.	Reset the interface settings of the plotter.
E02005	HL 1:Cond[E02005] GP-GL ERROR 5 I/O ERROR! OK	An error occurred in the receipt of data within the interface.	Configure to drive the plotter from the menu of the software.
		The software configuration regarding the output device has been changed.	Reset the interface settings of the software.
		The plotter's interface conditions have changed.	Reset the interface settings of the plotter.
E02006	HL 1:Cond[E02006] GP-GL ERROR 6 OFF SCALE ERROR! OK	The data out of cutting range has been received.	Check the data.
			Check the size of media and the cutting range.
			Check the magnification setting.
			Check the step size settings.

Error Messages in HP-GL Command Mode

If any of the following command errors occur, they are nearly always caused by following 2 reasons.

(1) The configuration regarding the output device in the application software has changed.

(2) The plotter's interface conditions have changed.

Perform following if these are the cause of the problem.

(1) Reconfigure the output device of the application software to the plotter.

(2) Reconfigure the plotter's interface conditions.

Error Displayed	LCD Display	Cause	Solution
E03001 Error 1	E03001 HP-GL ERROR 1 INSTRUCTION NOT RECOGNIZED OK	An unrecognizable instruction was executed.	Execute a recognizable command.
E03002 Error 2	E03002 HP-GL ERROR 2 WRONG NUMBER OF PARAMETERS OK	Wrong number of parameters were specified.	Execute the command with the correct number of parameters.
E03003 Error 3	E03003 HP-GL ERROR 3 OUT OF RANGE PARAMETERS OK	An unusable parameter was executed.	Execute a recognizable parameter.
E03005 Error 5	E03005 HP-GL ERROR 5 UNKNOWN CHARACTER SET OK	An unusable character set was specified.	Specify usable character set.
E03006 Error 6	E03006 HP-GL ERROR 6 POSITION OVERFLOW OK	Coordinates of command specified out of cutting area.	Execute coordinates within the cutting area.
E03007 Error 7	E05007 ERROR ILLEGAL PLOT AREA OK	The data being input exceeds the capacity of the plotter's downloadable character buffer, polygon buffer, etc.	Adjust the buffer size.
E03010 Error 10	E03010 HP-GL ERROR 10 INVALID I/O OUTPUT REQUEST OK	Other output command was executed while executing an output command.	Check the program.
E03011 Error 11	E03011 HP-GL ERROR 11 INVALID BYTE FOLLOWING ESC. OK	An invalid byte was received after ESC code.	Check the program.
E03012 Error 12	E03012 HP-GL ERROR 12 INVALID BYTE IN I/O CONTROL OK	Invalid byte was received within device control command.	Check the program.
E03013 Error 13	E03013 HP-GL ERROR 13 OUT OF RANGE I/O PARAMETER OK	A parameter outside of the permissible range was specified in the I/O related command.	Check the program.

Error Displayed	LCD Display	Cause	Solution
E03014 Error 14	HL 1:Condi E03014 HP-GL ERROR 14 TOO MANY I/O PARAMETERS OK	Too many parameters in the I/O related command.	Check the program.
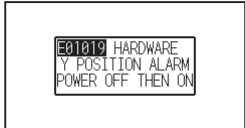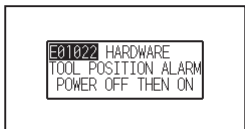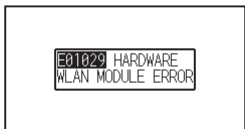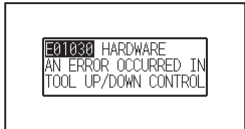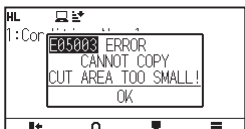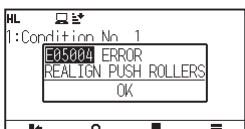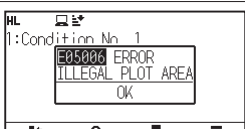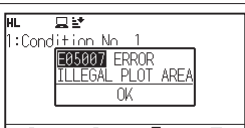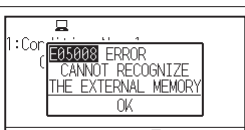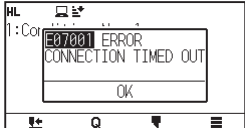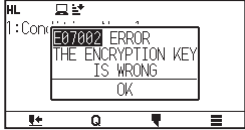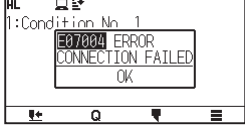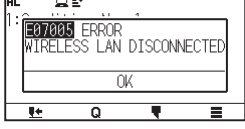
AXIS Error Messages

Error Displayed	LCD Display	Cause	Solution
E04001	1:Condition No. 1 E04001 ARMS AXIS SET ERROR! SET AGAIN	Tilt to adjust with AXIS ALIGNMENT is too large.	Reload the media.
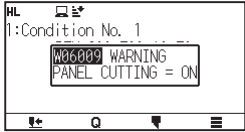
Other Error Messages

Error Displayed	LCD Display	Cause	Solution
E01001 to E01005	E01005 HARDWARE UNDEFINED 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01006	E01006 HARDWARE ADDRESS LOAD ERROR 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01007	E01007 HARDWARE ADDRESS STORE ERROR 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01008	E01008 HARDWARE ILLEGAL TRAPA 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01009	E01009 HARDWARE ILLEGAL CODE 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01010	E01010 HARDWARE PRIVILEGED INSTRUCTION 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01011	E01011 HARDWARE FLOATING POINT 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01012	E01012 HARDWARE RAM ERROR 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01013	E01013 HARDWARE BUFFER RAM ERROR 00000000 H	The plotter is defective.	Contact your sales representative if the problem still exists.
E01014	E01014 HARDWARE SPEED ALARM	The plotter is defective.	Contact your sales representative if the problem still exists.
E01015	E01015 HARDWARE OVER CURRENT	The plotter is defective.	Contact your sales representative if the problem still exists.
E01017	E01017 HARDWARE X POSITION ALARM POWER OFF THEN ON	Load on the motor was too large.	Move the object disturbing the operation, and turn on the plotter after turning it off once. Do not use heavy media. Contact your sales representative if the error still appears.

Error Displayed	LCD Display	Cause	Solution
E01019	E01019 HARDWARE Y POSITION ALARM POWER OFF THEN ON	Load on the motor was too large.	Move the object disturbing the operation, and turn on the plotter after turning it off once. Do not use heavy media. Contact your sales representative if the error still appears.
E01021	E01021 HARDWARE XY POSITION ALARM POWER OFF THEN ON	Load on the motor was too large.	Move the object disturbing the operation, and turn on the plotter after turning it off once. Do not use heavy media. Contact your sales representative if the error still appears.
E01022	E01022 HARDWARE TOOL POSITION ALARM POWER OFF THEN ON	There was a heavy load on the up and down function of the tool carriage.	Please clear any obstruction in the up and down function of the tool carriage and turn the power back on. Contact your sales representative if the error still appears.
E01029	E01029 HARDWARE WLAN MODULE ERROR	An error has occurred in the wireless LAN module.	Turn the power off and then on again. Contact your sales representative if the error still appears.
E01030	E01030 HARDWARE AN ERROR OCCURRED IN TOOL UP/DOWN CONTROL	There was a heavy load on the up and down function of the tool carriage.	Please clear any obstruction in the up and down function of the tool carriage and turn the power back on. Contact your sales representative if the error still appears.
E05001	HL 1:Con... E05001 ERROR COPY MODE INSUFFICIENT MEMORY OK	Data larger than the buffer size cannot be copied.	Perform normal cutting not using the copy mode.
E05002	HL 1:Cond... E05002 ERROR NO DATA FOR COPY IN BUFFER! OK	There is no data to copy.	Perform normal cutting by sending the data, then use the copy mode.
E05003	HL 1:Con... E05003 ERROR CANNOT COPY CUT AREA TOO SMALL! OK	Media valid area to copy is too small.	Use larger media. Confirm the copy start position.
E05004	HL 1:Condition No. 1 E05004 ERROR REALIGN PUSH ROLLERS OK	The push roller is not on the grit roller.	Set the push roller on the grit roller.
E05006	HL 1:Condition No. 1 E05006 ERROR ILLEGAL PLOT AREA OK	Distance between the bottom left and top right of the AREA setting is less than 10 mm.	Perform the AREA setting again.
E05007	HL 1:Condition No. 1 E05007 ERROR ILLEGAL PLOT AREA OK	Test pattern for the TOOL OFFSET ADJ. cannot start plotting because the start position is at the edge of the media.	Set the start position inside the media.
E05008	1:Con... E05008 ERROR CANNOT RECOGNIZE THE EXTERNAL MEMORY OK	External memory (USB memory) cannot be recognized.	Insert external memory (USB memory).

Error Displayed	LCD Display	Cause	Solution
E07001	E07001 ERROR CONNECTION TIMED OUT OK	Communication with the access point is no longer possible.	Please check the communication status with the access point.
E07002	E07002 ERROR THE ENCRYPTION KEY IS WRONG OK	The encryption key of access point is incorrect.	Please enter the correct encryption key of access point.
E07003	E07003 ERROR THE ACCESS POINT CANNOT BE FOUND OK	No access point was found to connect to.	Make sure there is an access point nearby and that the access point is turned on.
E07004	1:Condition No. 1 E07004 ERROR CONNECTION FAILED OK	Access point connection failed.	Check the operating status of the access point.
E07005	E07005 ERROR WIRELESS LAN DISCONNECTED OK	Communication with the access point has been disconnected.	Check the operating status of the access point.

Caution Message

Symptom	LCD Display	Description
W06009	HL 1:Condition No. 1 W06009 WARNING PANEL CUTTING = ON	When panel cutting has been set to ON, the following functions are not available. • AREA function • COPY function

13.2 *Check plotter information*

Displays information such as the firmware version and serial number of the plotter.

Operation

1. Press the [☰] icon.

```
HL      ⬚⇲
1:Condition No. 1
     PEN S30 F12 A2 T1
          READY


   ⬚←    Q      ⬚      ☰
```

2. Press the [INFO].

```
  🖴       ⬚      ⬚      ▨
MEMORY   TOOL   AXIS   AREA
  🗇       ⚙      ✓
MEDIA   CONFIG   INFO
      ⌂              ⬚
```
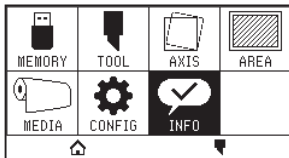
3. Press the [MACHINE INFORMATION].

```
❮     INFORMATION    1/3
MACHINE INFORMATION      ⯅
                 ❯
CONDITION LIST
                 ❯
DIAGNOSTICS
⌂🚫               —  ⯆
```
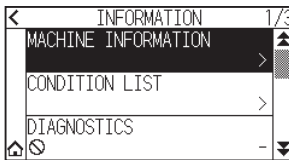
4. Information about the machine is displayed.

```
❮   MACHINE INFORMATION
  MODEL: CE8000-130AP
  BOOT:  V1.00
  MAIN:  V1.00
  WLAN:  V3.0.5
  S/N:   A123456789
```
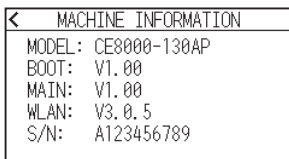
5. Press the [❮] icon.

6. Press the [⌂] icon.

▷ It will return to HOME screen.

13.3 Printing the Setting of the Plotter

Condition setting list can be printed when you need to check the current setting of the plotter.

Operation

1. Load a media larger than A1 size.

2. Set the pen tool to the pen station and select the condition where the pen tool is set.

3. Press the [≡] icon.

   ```
   HL      □ �➚
   1:Condition No. 1
        PEN S30 F12 A2 T1
              READY

   ▮←    Q      ▮     ≡
   ```

4. Press the [INFO].

   ```
   [MEMORY] [TOOL] [AXIS] [AREA]
   [MEDIA]  [CONFIG] [INFO]
           ⌂          ▮
   ```

5. Press the [CONDITION LIST].

   ```
   <      INFORMATION    1/3
   MACHINE INFORMATION
                          >
   CONDITION LIST
                          >
   DIAGNOSTICS
   ⌂⊘                  -
   ```
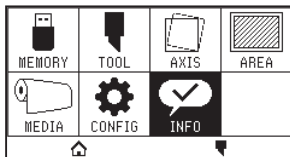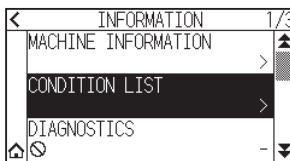
6. Press the [1/2 PAGE] or [2/2 PAGE].

   ```
   <      CONDITION LIST

     PRINT THE CONDITION LIST.
          MOUNT THE PEN!


     1/2 PAGE      2/2 PAGE
   ```
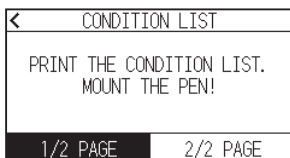
7. Press the POSITION (▲, ▼, ◀, ▶) key to move the tool to the print start position.

   ```
   <       POSITION KEY
   ✦ USE THE POSITION KEY
      TO MOVE THE TOOL AND
      THEN PRESS ENTER.
   ```
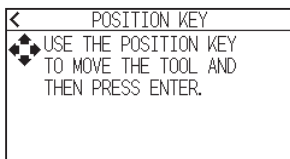
8. Press the [ENTER] key.

   > ⚠ **CAUTION**
   >
   > Do not place you hand around the moving areas. The tool carriage will start moving, so there is a chance of injury.

9. Printing of the condition list will start.

   ```
   HL      □ ⬈
   1:Condition No. 1
        PEN S30 F12 A2 T1
        PRINT CONDITIONS

   ▮←    Q      ▮      ≡
   ```
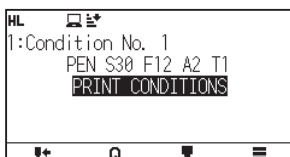
10. It will return to READY status when the printing is completed.

Supplement ✎

Once printing starts, it cannot be paused or canceled midway.

Supplement ✎

13.4 *Creating Test Pattern*

Create a self-test pattern to check the operation of the plotter.

Operation

1. Load a media larger than A1 size.

2. Set the pen tool to the pen station and select the condition where the pen tool is set.

3. Press the [▤] icon.

   ```
   HL      ⌨ ⇥
   1:Condition No. 1
        PEN S30 F12 A2 T1
              READY


      ⬱      Q      ⬇      ▤
   ```

4. Press the [INFO].

   ```
   [MEMORY] [TOOL] [AXIS] [AREA]
   [MEDIA] [CONFIG] [INFO]
        ⌂           ⬇
   ```

5. Press the [⬇] icon.

   ```
   <      INFORMATION     1/3
   MACHINE INFORMATION
                        >
   CONDITION LIST
                        >
   DIAGNOSTICS
   ⌂⊘                 -   ⬇
   ```

6. Press the [SELF TEST].

   ```
   <      INFORMATION     2/3
   ERROR MESSAGES
                        >
   DATA DUMP
                        >
   SELF TEST
   ⌂                    > ⬇
   ```

7. Press the [START].

   ```
   <      INFORMATION     2/3
      PERFORM SELF-TEST.
        MOUNT THE PEN!

       START     CANCEL
   ⌂                    > ⬇
   ```
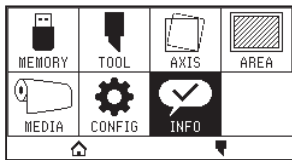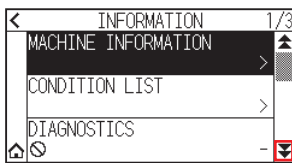
   > ⚠ **CAUTION**
   >
   > Do not place you hand around the moving areas. The tool carriage will start moving, so there is a chance of injury.

8. The self-test will start.

   ```
   HL      ⌨ ⇥
   1:Condition No. 1
        PEN S30 F12 A2 T1
              SELF TEST


      ⬱      Q      ⬇      ▤
   ```
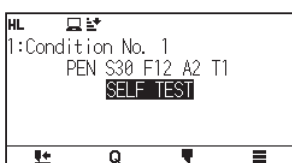
9. To exit, turn off the power.

Supplement

Once the self-test starts, it will continue to run until you turn off the power.

Supplement

13-18

13.5 *Creating Cutting Demo*

Create a cut demo pattern to check the operation of the plotter.

Operation

1. Load a media larger than A1 size.

2. Set the pen tool to the pen station and select the condition where the pen tool is set.

3. Press the [≡] icon.

```
HL       ☐ ⊵
1:Condition No. 1
     PEN S30 F12 A2 T1
          READY


 ⬐       Q        ▼        ≡
```

4. Press the [INFO].

```
 [USB]    [TOOL]    [AXIS]   [AREA]
MEMORY    TOOL      AXIS     AREA

 [MEDIA]  [CONFIG]  [INFO]
MEDIA     CONFIG    INFO
         ⌂              ▼
```

5. Press the [▼] icon twice.

```
<        INFORMATION    1/3
MACHINE INFORMATION
                       >    ⬆
CONDITION LIST
                       >
DIAGNOSTICS
⌂ ⊘                    -    ⬇
```
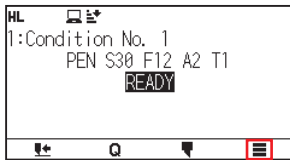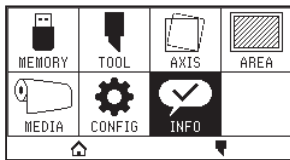
6. Press the [CUTTING DEMO].
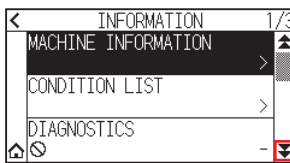
```
<        INFORMATION    3/3
CUTTING DEMO.
                       >    ⬆


⌂                           ⬇
```

7. Press the [START].
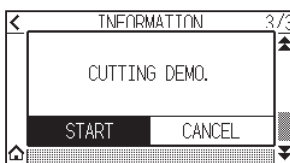
```
<        INFORMATION    3/3
      CUTTING DEMO.          ⬆


   START        CANCEL
⌂                           ⬇
```

> ⚠ **CAUTION**
>
> Do not place you hand around the moving areas. The tool carriage will start moving, so there is a chance of injury.

8. Start the Cutting demo.

9. It will return to READY status when the cutting is completed.

13.6 *Confirm the Plotting Data*

Output of the dump list of the cutting data received by the plotter is possible. It is used to check if the transmission of cutting data is performed correctly.

Operation

1. Load a media larger than A1 size.

2. Set the pen tool to the pen station and select the condition where the pen tool is set.

3. Press the [≡] icon.

   ```
   HL      ⬚⊵
   1:Condition No. 1
          PEN S30 F12 A2 T1
              READY

   ⬙        Q        ⬙        ≡
   ```

4. Press the [INFO].

   ```
   MEMORY   TOOL    AXIS    AREA
   MEDIA   CONFIG   INFO
            ⌂              ⬙
   ```

5. Press the [⬇] icon.

   ```
   <        INFORMATION    1/3
   MACHINE INFORMATION           ⬆
                          >
   CONDITION LIST
                          >
   DIAGNOSTICS
   ⌂⊘                    -  ⬇
   ```

6. Press the [DATA DUMP].

   ```
   <        INFORMATION    2/3
   ERROR MESSAGES                ⬆
                          >
   DATA DUMP
                          >
   SELF TEST
   ⌂                     >  ⬇
   ```

7. Press the [START].

   ```
   <        INFORMATION    2/3
                                 ⬆
       PERFORM DATA DUMP.
         MOUNT THE PEN!

        START    CANCEL
   ⌂                        ⬇
   ```
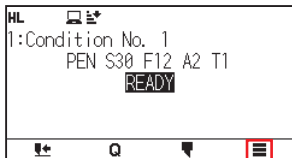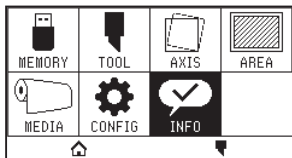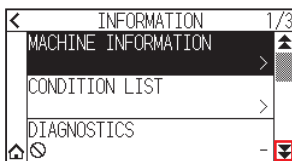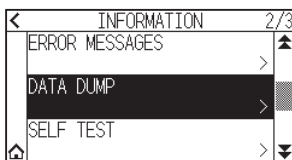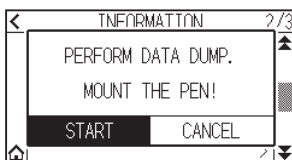
8. Send the cutting data.

   ⚠️ **CAUTION**

   Do not place you hand around the moving areas. The tool carriage will start moving, so there is a chance of injury.

9. Outputs the received cutting data as a command.

```
HL        ▢↯
1:Condition No. 1
      PEN S30 F12 A2 T1
      PRINT DATA DUMP


   ↲          Q          ▼          ≡
```
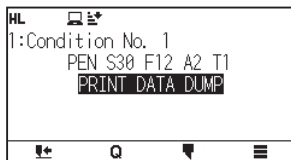
10. To exit, turn off the power.

13.7 *Self Diagnostic Test*

Operation status can be tested by self-diagnostic test by operating the sensors and switches following the instruction on the screen.

Supplement

> Diagnostic test can be performed only right after the power is turned on. DIAGNOSTICS cannot be selected from the menu once any operation, such as loading media, is performed.

Operation

1. Confirm that the power is turned off.

2. Turn the power on without loading the media.

3. Press the [≡] icon.

```
HL      □↳
1:Condition No. 1
     PEN S30 F12 A2 T1
         LOAD MEDIA!

   ↳      Q       ↑      ≡
```

4. Press the [INFO].
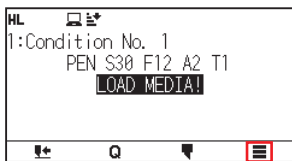
```
┌──────┬──────┬──────┬──────┐
│      │      │      │░░░░░░│
│MEMORY│ TOOL │ AXIS │ AREA │
├──────┼──────┼──────┤
│      │  ⚙   │  ✓   │
│MEDIA │CONFIG│ INFO │
└──────┴──┬───┴──────┘
       ⌂      ↑
```

5. Press the [DIAGNOSTICS].

```
< INFORMATION      1/3
MACHINE INFORMATION
                >
CONDITION LIST
⊘               −
DIAGNOSTICS
⌂               >
```

6. Press the [START].

```
< INFORMATION      1/3

  PERFORM DIAGNOSTICS.

   START      CANCEL
⌂
```
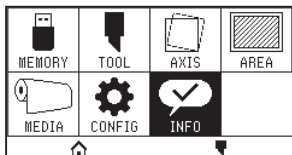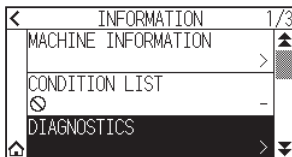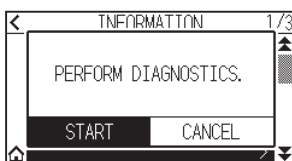
7. Operate the keys and the sensors following the instructions on the screen.

▷ "OK" will be displayed if the correct operation is detected as a result of the operation, and next test will start.

▷ It will return to the screen shown in step 4 once all the test items are completed.

```
    LEVER SENSOR TEST
LIFT UP/LOWER
SET LEVER
         DOWN

   NEXT       CANCEL
```
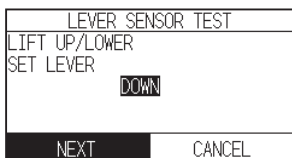
Test items are as following. (It may be changed.)

1	Set lever sensor	2	Home sensor	3	Push roller sensor	4	-X media sensor
5	+X media sensor	6	X motor signal	7	Y motor signal	8	Tool height signal
9	[SLOW] key	10	POSITION [▲] key	11	POSITION [◀] key	12	POSITION [▼] key
13	POSITION [▶] key	14	[ESCAPE] key	15	[ENTER] key		

8. Press the [⌂] icon.

▷ It will return to HOME screen.

13.8 Reading the error message

Contents of most current 32 errors can be checked.

Operation

1. Press the [≡] icon.

```
HL      ☐➚
1:Condition No. 1
      PEN S30 F12 A2 T1
            READY


  ▮◄    Q       ▮      ≡
```

2. Press the [INFO].

```
  🗄        ✎        ⬜        ▨
MEMORY   TOOL    AXIS    AREA

  📄        ⚙        ✓
MEDIA   CONFIG    INFO

      ⌂              ▮
```

3. Press the [⬇] icon.

```
<      INFORMATION      1/3
MACHINE INFORMATION
                      >    ▲
CONDITION LIST
                      >
DIAGNOSTICS
⌂ ⊘                   -    ⬇
```
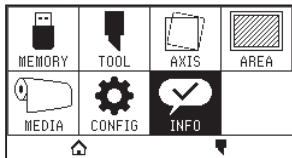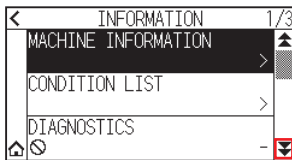
4. Press the [ERROR MESSAGES].

▶ ERROR MESSAGES screen is displayed. Left column is time the error occurred, and right column is the type of the error. 3 error messages are displayed at once. If there are more error messages, next 3 messages will be displayed by pressing the [⬇] icon.

```
<      INFORMATION      2/3
ERROR MESSAGES
                      >    ▲
DATA DUMP
                      >
SELF TEST
                      >    ⬇
```
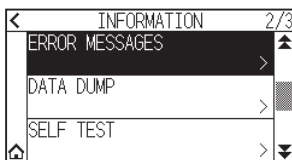
Supplement 🖊

- "NO ERROR" will be displayed if there is no error.

```
<      ERROR MESSAGES



         NO ERROR


```

- Up to 32 error messages can be displayed.
- When displayed, while the power is on it indicates how long ago an error occurred.
  The lower the value, the more recently the error occurred.

5. Press the error item for which you want to check the error details.

```
<     ERROR MESSAGES    1/1
-0:00:00 E03016
                           ▲
-0:00:00 E03016

-0:00:00 E03016
                           ⬇
```
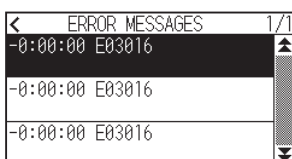
6. Check the error message and press the [OK].

```
┌────────────────────────────┐
│ ❮    ERROR MESSAGES   1/1  │ ⬍
│─0:0┌──────────────────┐─────│ ▲
│    │E03016 HP-GL      │     │ ▓
│─0:0│     ERROR 16     │     │ ▓
│    │I/O BUFFER OVERFLOW│    │ ▓
│─0:0│       OK         │     │
│    └──────────────────┘     │ ⬍
└────────────────────────────┘
```
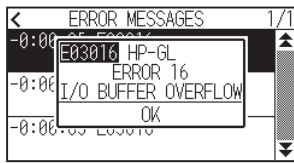
7. Press the [❮] icon.

8. Press the [⌂] icon.

▷ It will return to HOME screen.

13-25

Appendix

This chapter describes the specification of the plotter.

A.1 Main Specifications

	CE8000-130AP
CPU	32bit CPU
Configuration	Grit-rolling plotter
Drive	Digital servo
Max. Cutting Area	1220 mm×50 m
Guaranteed precision cutting area *1 *2	1200 mm×3 m
Available media width	Min: 594 mm Max: 1321mm
Available roll media diameter	Max. diameter: 200 mm, (3-inch paper core roll only)
The number of push rollers	4
Max. cutting speed	60 cm/s (All directions)
Specifiable speeds (cm/s)	1 to 10, 15, 20, 25, 30, 35, 40, 45, 50, 55, 60
Max. cutting force	Tool holder : 4. 41N (450gf) Pen holder : 2.94N (300gf)
Min. character size	5 mm (0.197 in.) alphanumeric Helvetica med. Font *1
Mechanical resolution	0.005mm
Programmable resolution	GP-GL: 0.1 / 0.05/0.025/0.01mm HP-GL *3: 0.025mm
Repeatable accuracy *1	0.1 mm or less / in unit of 2 m (Designated Film and Cut Conditions)
Number of cutters/pens	2 pcs. (cutter 1 pc. / pen 1 pc.)
Usable pen type	Water-based fiber-tip and oil-based ballpoint
Compatible media	High quality paper for apparel (60 to 130g/m^2)
Interface	USB 2.0 (Full Speed), Wireless LAN IEEE 802.11b/g/n, Ethernet 10 BASE-T/100 BASE-TX *5
Buffer memory	2 MB
Resident command sets	GP-GL/HP-GL *3 (Control panel switching)
LCD display	Touch panel (240-dot x 128-dot)
Power supply	AC100-120V / AC200V-240V 50/60Hz
Power consumption	140W or less
Operating environment	10 to 30°C, 35 to 75% R.H. (non-condensing)
Guaranteed accuracy environment	18 to 28°C, 40 to 65% R.H. (non-condensing)
External dimensions (Approx.) (W × D × H) *4	1644 × 1219 × 1076 mm
Weight (Approx.) *4	45.5 kg

*1: Varies depending on the type of Graphtec-authorized film and the cutting conditions.

*2: When using basket.

*3: HP-GL is a registered trademark of the US Hewlett Packard Company.

*4: Stand and basket are included.

*5: Wired LAN support varies depending on the sales area.

A.2 Supplies

Supplies

Item	Model	Contents
Cutter plunger	PHP33-CB09N-HS	Used with φ0.9 mm diameter cutter blades (for CB09)
	PHP33-CB15N-HS	Used with φ1.5 mm diameter cutter blades (for CB15)
Water-based fiber-tip pen plunger	PHP31-FIBER	Plunger for water-based fiber-tip pen (set of 1)
Oil-based ballpoint pen plunger	PHP34-BALL	Plunger for oil-based fiber-tip pen (set of 1)
Water-based fiber-tip pen	KF700-BK	1 set (10 pcs. Black)
	KF700-RD	1 set (10 pcs. Red)
Oil-based ballpoint pen	KB700-BK	1 set (10 pcs. Black)
Loupe for adjusting blade length for cutter blade	PM-CT-001	1 pc.
Cutting mat for CE8000-130	PM-CR-015	1 set
USB cable	PM-ET-001	1 pc. (cable length: 2.9 m)

For detailed information about the cutter blade, refer to the Cutter Blade Manual.

The Cutter Blade Manual is available at:
http://www.graphteccorp.com/support/index.html

Please check our company's home page for the latest information on supplies.

A.3 External Dimensions
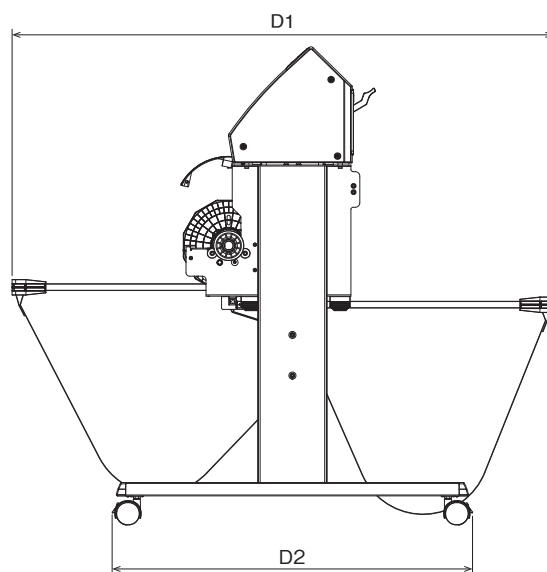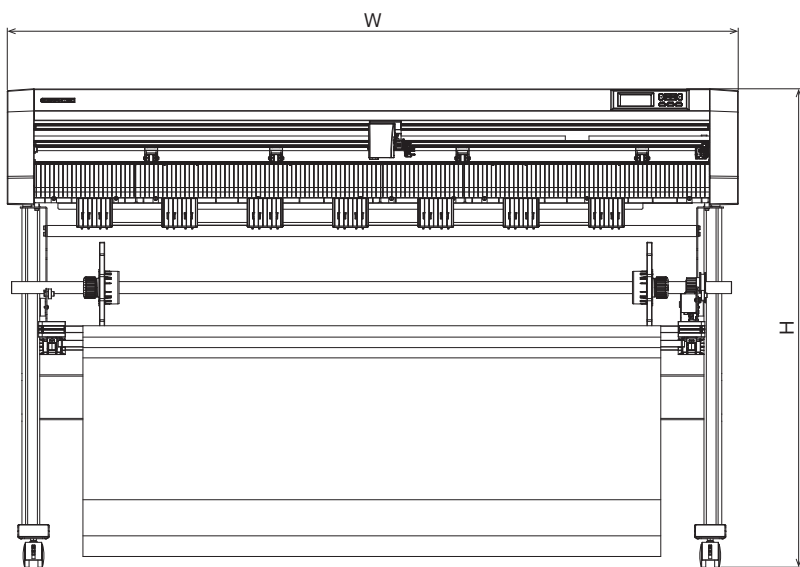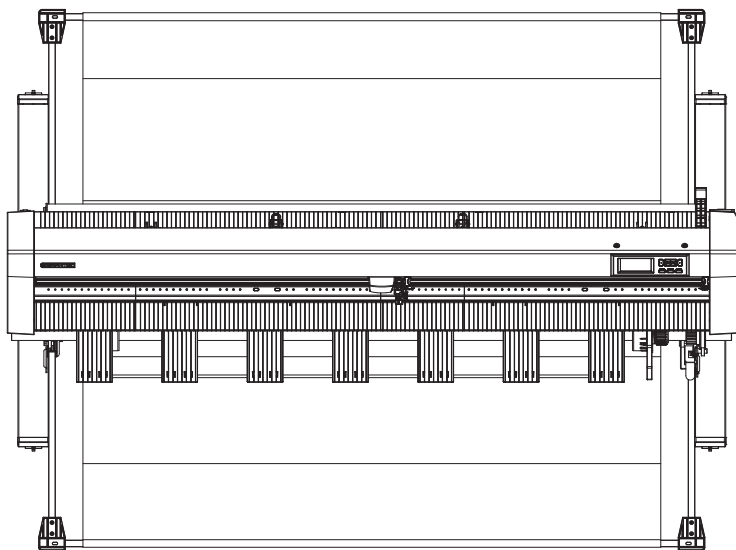
Unit: mm
Dimensional accuracy: ±5mm

	CE8000-130AP
External dimensions (approx.) (W × D1(D2) × H)*	1644 × 1219(811) × 1076 mm

*: Stand and basket are included.

A.4 Menu Tree

```
MEMORY ────────── [1/1] SELECTS DATA FILE
TOOL ──────────── [1/2] DATA SORTING
                        BLADE WEAR ALARM SETUP ──── [1/2] BLADE WEAR DEECT.
                                                          SET BLADE GROUP
                                                   [2/2] ALARM DISTANCE
                                                          CLEAR B.WEAR VALUE
                        INITIAL B. ANGLE POSITION
                  [2/2] TOOL UP HEIGHT
                        TOOL UP/DOWN
AXIS ──────────── [1/1] AXIS POINT SETTING
                        AXIS MODE
AREA ──────────── [1/2] AREA
                        EXPAND
                        ROTATE
                  [2/2] DISTANCE ADJUST
MEDIA ─────────── [1/4] AUTO PRE FEED
                        INITIAL FEED
                        PANEL CUTTING
                  [2/4] PAGE LENGTH
                        FEED SPEED
                        PAPER LOAD FUNCTION
                  [3/4] PAPER READY TIME
                        CROSS CUT
                        'F' COMMAND CUT
                  [4/4] CROSS CUT FORCE
CONFIG ────────── [1/3] GENERAL ──── [1/3] LANGUAGE SELECTION
                                           LENGTH UNIT
                                           BEEP
                                    [2/3] TOOL OFFSET ADJ.
                                           MOVE STEP
                                           LCD CONTRAST
                                    [3/3] FAN POWER
                                           MEDIA SET ASSIST
                                           SELECT USER

                  Continued
```

```
CONFIG ─── [1/3] ─── COMMUNICATION ─────── WIRELESS LAN ─── [1/2] ─── WIRELESS LAN
                                           * When connected to wireless      ACCESS POINT
                                             LAN module
                                                                             IP ADDRESS
                                                                    [2/2]
                                                                             CONNECTION INFO

                                           WIRED LAN
                                           * When connected to wired
                                             LAN unit

           ─── COMMAND ─── [1/3] ─── COMMAND TYPE
                                     GP-GL STEP SIZE
                                     HP-GL ORIGIN POINT
                           [2/3]     HP-GL MODEL EMULATED
                                     BUFFER CLEAR
                                     COMMAND ':' , ';'
                           [3/3]     COMMAND 'W'
                                     CIRCLE RESOLUTION
                                     CUT CONDITION

           [2/3]
           ─── SENSOR ─────── MEDIA SENSOR
                              PUSH ROLLER SENSOR

           ─── CUT QUALITY ─────── STEP PASS
                                   OFFSET ANGLE

           ─── EFFICIENCY ─────── MOVING SPEED
                                  SHORTCUT MOVE

           [3/3]
           ─── CROSS CUT ─── [1/2] ─── REAR SPACE
                                       TIME OUT
                                       GP-GL SEPARATOR
                             [2/2]     HP-GL SEPARATOR
```

```
              ┌──────────────┐
              │  Continued   │
              └──────────────┘
                     │
                     │
   ┌────────┐  [1/3] ┌──────────────────────┐
   │  INFO  │────────│ MACHINE INFORMATION  │
   └────────┘        └──────────────────────┘
        │            ┌──────────────────────┐
        │            │ CONDITION LIST       │
        │            └──────────────────────┘
        │            ┌──────────────────────┐
        │            │ DIAGNOSTICS          │
        │            └──────────────────────┘
        │      [2/3] ┌──────────────────────┐
        │            │ ERROR MESSAGES       │
        │            └──────────────────────┘
        │            ┌──────────────────────┐
        │            │ DATA DUMP            │
        │            └──────────────────────┘
        │            ┌──────────────────────┐
        │            │ SELF TEST            │
        │            └──────────────────────┘
        │      [3/3] ┌──────────────────────┐
        │            │ CUTTING DEMO.        │
        │            └──────────────────────┘
        │
   ┌───────────┐     ┌──────────────────────┐
   │ CONDITION │─────│ CONTITION No.        │
   └───────────┘     └──────────────────────┘
        │            ┌──────────────────────┐    [1/6] ┌────────────────────┐
        │            │ EDIT CUT CONDITION   │──────────│ TOOL               │
        │            └──────────────────────┘          └────────────────────┘
        │                                              ┌────────────────────┐
        │                                              │ OFFSET             │
        │                                              └────────────────────┘
        │                                        [2/6] ┌────────────────────┐
        │                                              │ SPEED              │
        │                                              └────────────────────┘
        │                                              ┌────────────────────┐
        │                                              │ FORCE              │
        │                                              └────────────────────┘
        │                                        [3/6] ┌────────────────────┐
        │                                              │ ACCEL.             │
        │                                              └────────────────────┘
        │                                        [4/6] ┌────────────────────┐
        │                                              │ CUT LINE PATTERN   │
        │                                              └────────────────────┘
        │                                        [5/6] ┌────────────────────┐
        │                                              │ BLADE CTRL FORCE   │
        │                                              └────────────────────┘
        │                                              ┌────────────────────┐
        │                                              │ TANGENTIAL MODE    │
        │                                              └────────────────────┘
        │                                        [6/6] ┌────────────────────┐
        │                                              │ OVERCUT            │
        │                                              └────────────────────┘
        │                                              ┌────────────────────┐
        │            ┌──────────────────────┐          │ INITIAL DOWN FORCE │
        │            │ CUT TEST             │          └────────────────────┘
        │            └──────────────────────┘
   ┌────────────┐    ┌──────────────────────┐
   │ QUICK MENU │────│ COPY                 │
   └────────────┘    └──────────────────────┘
                     ┌──────────────────────┐
                     │ ORIGIN               │
                     └──────────────────────┘
                     ┌──────────────────────┐
                     │ COND No.             │
                     └──────────────────────┘
                     ┌──────────────────────┐
                     │ VIEW                 │
                     └──────────────────────┘
                     ┌──────────────────────┐
                     │ HOME                 │
                     └──────────────────────┘
                     ┌──────────────────────┐
                     │ RESET                │
                     └──────────────────────┘
```

A.5 *Initial Setting*

Menu items		Setting item		Initial value
TOOLS SETTING (TOOL)		DATA SORTING		ON
		BLADE WEAR ALARM SETUP		OFF
		INITIAL B. ANGLE POSITION		2mm BELOW
		TOOL UP HEIGHT		NORMAL POSITION
AXIS SETTING (AXIS)		AXIS MODE		AXIS ALIGNMENT
AREA PARAMETERS (AREA)		CUT AREA LOWER LEFT		(Default)
		CUT AREA UPPER RIGHT		(Default)
		EXPAND		OFF
		ROTATE		OFF
		DISTANCE ADJUST		OFF
MEDIA SETTING （MEDIA）		AUTO PRE FEED		OFF
		FEED LENGTH		1m
		INITIAL FEED		ON
		PANEL CUTTING		OFF
		DIVIDE LENGTH		100.0cm
		PAGE LENGTH		300.0cm
		FEED SPEED		NORMAL
		PAPER LORD FUNCTION		2
		PAPER READY TIME		180sec
		CROSS CUT		ON
		'F' COMMAND CUT		OFF
		CROSS CUT FORCE		20
CONFIGURATION （CONFIG）	GENERAL	LANGUAGE SELECTION		(Selected at initial power-on)
		LENGTH UNIT		(Selected at initial power-on)
		BEEP		ON
		TOOL OFFSET ADJUST	CORRECTION VALUE X	0.0mm
			CORRECTION VALUE Y	0.0mm
		MOVE STEP		0.1mm
		LCD CONTRAST		0
		FAN POWER		NORMAL
		MEDIA SET ADJUST		ON
		SELECT USER		1
	COMMUNICATION	WIRELESS LAN	WIRELESS LAN	OFF
			IP ADDRESS — DHCP	OFF
			IP ADDRESS	192.168.0.2
			SUBNET MASK	255.255.255.0
			GATEWAY	192.168.0.254
		WIRED LAN	DHCP	OFF
			IP ADDRESS	192.168.0.1
			SUBNET MASK	255.255.255.0
			GATEWAY	192.168.0.254
	COMMAND	COMMAND TYPE		HP-GL
		GP-GL STEP SIZE		0.100mm
		HP-GL ORIGIN POINT		LOWER LEFT
		HP-GL MODEL EMULATED		7586
		COMMAND ":", ";"		ENABLED
		COMMAND "W"		TOOL UP
		CIRCLE RESOLUTION		DEFAULT
		CUT CONDITION		COMMAND PRIORITY
	SENSOR	MEDIA SENSOR		ENABLED
		PUSH ROLLER SENSOR		ENABLED
	CUT QUALITY	STEP PASS		1
		OFFSET ANGLE		30
	EFFICIENCY	MOVING SPEED		AUTO
		SHORTCUT MOVE		ON

Menu items		Setting item		Initial value
EDIT CUT CONDITION	No.1	MEDIA NAME		Condition No. 1
		TOOL		PEN
		SPEED		30
		FORCE		12
		ACCELERATION		2
	No.2	MEDIA NAME		Condition No. 2
		TOOL		CB09U
		SPEED/FORCE/ACCELERATION		30/8/2
		CUT LINE PATTERN		5
		TANGENTIAL MODE		OFF
		OVERCUT	START	0.0
			END	0.0
		INITIAL DOWN FORCE		0
	No.3	MEDIA NAME		Condition No. 3
		TOOL		CB09U
		SPEED/FORCE/ACCELERATION		30/14/2
		CUT LINE PATTERN		3
		TANGENTIAL MODE to INITIAL DOWN FORCE		Same as Condition No. 2
	No.4	MEDIA NAME		Condition No. 4
		TOOL		CB09U
		SPEED/FORCE/ACCELERATION		20/6/2
		CUT LINE PATTERN		1
		TANGENTIAL MODE to INITIAL DOWN FORCE		Same as Condition No. 2
	No.5	MEDIA NAME		Condition No. 5
		TOOL		CB09U
		SPEED/FORCE/ACCELERATION		20/8/2
		CUT LINE PATTERN		4
		TANGENTIAL MODE to INITIAL DOWN FORCE		Same as Condition No. 2
	No.6	MEDIA NAME		Condition No. 6
		TOOL		CB15U
		SPEED/FORCE/ACCELERATION		30/16/2
		CUT LINE PATTERN		3
		TANGENTIAL MODE to INITIAL DOWN FORCE		Same as Condition No. 2
	No.7	MEDIA NAME		Condition No. 7
		TOOL		CB15U
		SPEED/FORCE/ACCELERATION		30/12/2
		CUT LINE PATTERN		3
		TANGENTIAL MODE to INITIAL DOWN FORCE		Same as Condition No. 2
	No.8	MEDIA NAME		Condition No. 8
		TOOL		CB09U
		SPEED/FORCE/ACCELERATION		30/8/2
		CUT LINE PATTERN		USER
		TANGENTIAL MODE to INITIAL DOWN FORCE		Same as Condition No. 2

* Setting items and initial values may be changed.

GRAPHTEC