CE7000-130AP

CUTTING PLOTTER

USER'S MANUAL

MANUAL NO.CE70AP-UM-151

GRAPHTEC

Preface

Thank you for choosing a Graphtec CE7000-130AP Cutting Plotter.

The CE7000-130AP Cutting Plotters employ a digital servo drive system to achieve high-speed and high-precision cutting.

In addition to cutting with any perforation pattern, the CE7000-130AP 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 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.

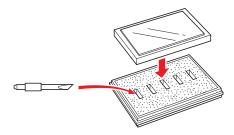# Special Precautions on Handling Blades

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.
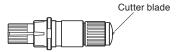
Blade tip

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.
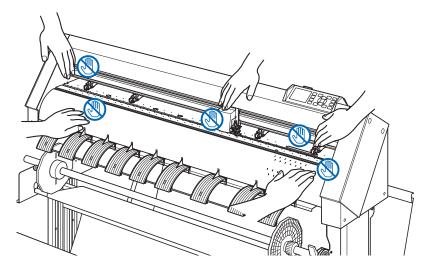
Cutter blade

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.

Notes on the Stand

Be sure to use only the stand designed for the CE7000-130AP with your CE7000-130AP 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 Paper Exposure Time and Number of Pre Feeds settings. (When setting AP mode)

  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 Paper 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.
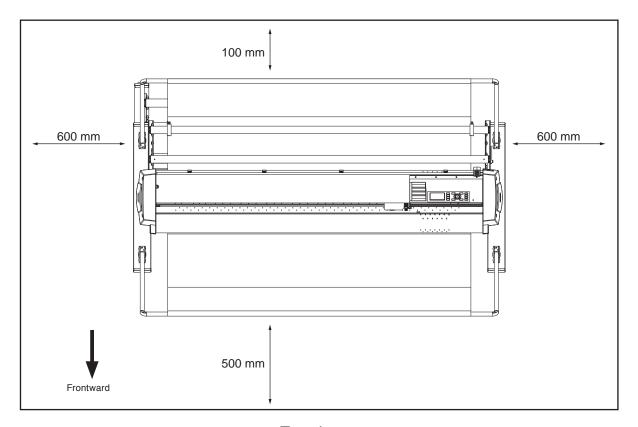
Installation space

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

> ⚠ **CAUTION**
>
> Frontward and backward the machine, please take enough space for operation.

100 mm

600 mm

600 mm

500 mm

Frontward

Top view

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 mm^2
	UK 250 V 5 A	200 V	BS1363 BS4491 BS6500	TYPE: H05VV-F 3 × 1.0 mm^2
	Australia 250 V 10 A	200 V	AS3112 AS3109 AS3191	TYPE: OD3CFC 3 × 1.0 mm^2
	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 mm^2
	China 250 V 6 A	200 V	GB15934 GB2099.1 GB1002 GB/T 5023.5	TYPE: H05VV-F 3 × 1.0 mm^2

CONTENTS

Chapter 3: Basic Operations

Chapter 4: Convenient Functions

Chapter 5: Manual Position Adjust

Chapter 6: Cut function settings

Chapter 7: Setting Regarding Cutting Quality

Chapter 8: Settings Regarding Cutting Time

Chapter 9: Setting Regarding Interface

Chapter 10: Settings Regarding Operation Environment

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.

**ДЕЛОВАЯ
ИНИЦИАТИВА**

www.delinit.by

1.1 Checking the Accessories

Accessories

Item	Q'ty	Item	Q'ty
Power cable	1 pc.	USB cable	1 pc.
CD • Various software • User's Manual (pdf)	1 pc.	SETUP MANUAL TO ENSURE SAFE AND CORRECT USE Cutter Blade Manual	1 of each
Cutter plunger (PHP33-CB09N-HS)	1 pc.	Cutter blades (CB09UB (1P))	1 pc.
Oil-based ballpoint pen plunger (PHP34-BALL)	1 set	Oil-based ballpoint pen (KB700-BK-1P)	1 pc.
Cutter blade adjustment magnifier (PM-CT-001)	1 sht.		
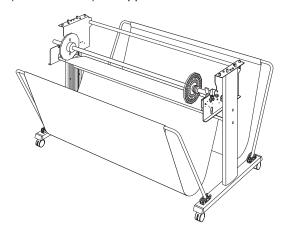
* In addition, various information may be attached.

* Accessories may vary depending on the sales area.

* For details, please contact the distributor where you purchased.
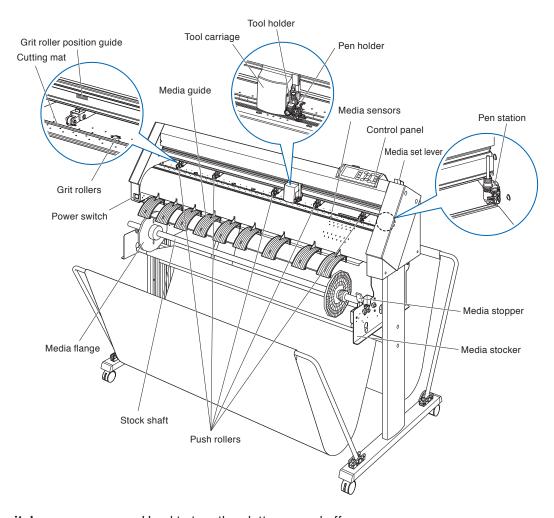
Dedicated accessories

A stand (with a basket) is supplied.

1.2 Nomenclature

Front view

Power switch	Used to turn the plotter on and off.	
Control panel	Used to access various plotter functions.	
Push rollers	Rollers that push the media against the grit rollers.	
Grit rollers	Feeds the media back and forth.	
Media sensors	The front sensor is used to sense the leading edge of the media. The rear sensor is used to sense the trailing edge of the 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.	
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.	
Cutting mat	The oil-base ballpoint moves above this and does the cutting/plotting.	
Media set lever	Used to raise or lower the Push rollers during the loading or unloading of media.	
Media stocker	The stock shaft is set.	

Media stopper ....This stops the stock shaft from spinning when setting in media. It is utilized when pulling roll media straight out.
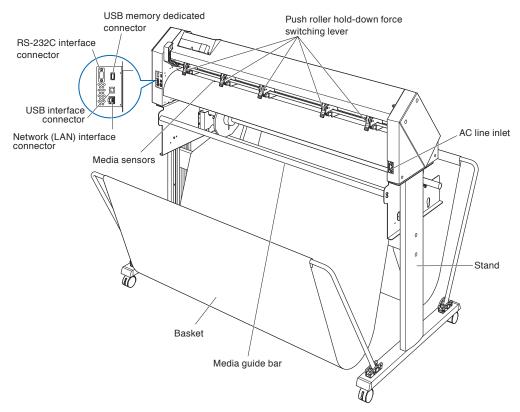
Pen station/Pen holder ....A second pen is set.

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

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

Push roller hold-down force switching lever

........................Switches the hold-down force of the push roller to 3 stages of strong, medium and weak.

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

RS-232C interface connector

........................Used to connect the plotter to the computer with a RS-232C interface cable. (It is available as an option depending on the region. For details, please contact your dealer.)

Network (LAN) Interface connector

........................Used to connect this plotter with a network (LAN) I/F.

USB memory dedicated connector

....USB memory dedicated connector.

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

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

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

1.3 *Assembling*

For assembly of the stand, refer to the stand (ST0121) assembly instructions supplied with the stand.

1.4   Connecting to the Computer

Connect the plotter to the computer using the interface cable. Use one of the USB ports, the network (LAN) interface or the RS-232C port to connect the plotter to the computer. Select the port depending on the specification of the software to be used and the availability of the interface port on the computer.
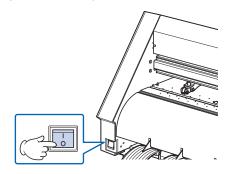
Please install driver software before connecting.

Depending on the port used, use one of the USB cable (standard accessories), the network (LAN) cable (commercially available product) or the RS-232C cable (commercially available product) to connect. Use the cables specified by Graphtec, matching the computer that is to be connected.
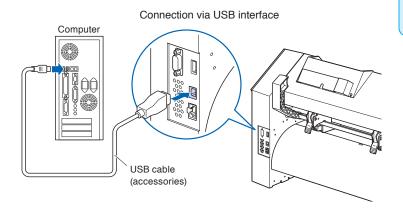
* RS-232C interface is available as an option depending on the region. For details, please contact your dealer.

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.

Connection via USB interface

Computer

USB cable
(accessories)
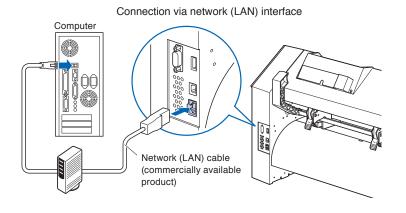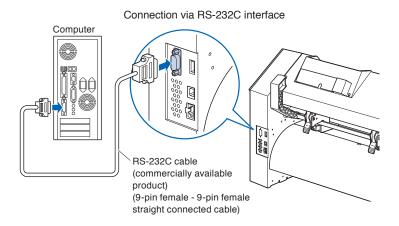
Supplement

See the "Setting Interface" for setting the interface.

Connection via network (LAN) interface

Computer

Network (LAN) cable
(commercially available
product)

Connection via RS-232C interface

Computer

RS-232C cable
(commercially available
product)
(9-pin female - 9-pin female
straight connected cable)

Chapter 2: Preparing to Cut

This chapter describes how to prepare to start the cutting.

PRODUCT SUMMARY

2.1 *Preparation of Cutter Plunger*

This chapter 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 φ0.9 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

Plunger-cap
(Blue: For φ0.9 mm-diameter blades)
(Red: For φ1.5 mm-diameter blades)

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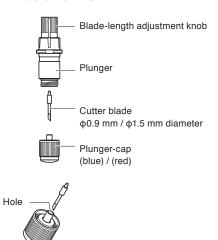
To avoid bodily injury, handle cutter blades with care.

Structure of cutter plunger

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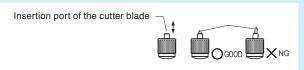
Blade-length adjustment knob

Plunger

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

Plunger-cap
(blue) / (red)

Hole

⚠ **CAUTION**

<PHP33-CB09N-HS/PHP33-CB15N-HS>

● 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.

Insertion port of the cutter blade

○ GOOD   ✕ NG

If not installed correctly, it may result in damage to the cutter blade or the plotter itself.

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. Make sure the blade length is set less than the thickness of the media.
>
>   After adjustment, please always perform "test cut".
>
> **Supplement**
>
> - See "Running Cutting Tests" for cutting tests.
>
> - If a thin media such as a film is used, use the supplied magnifier to adjust it.
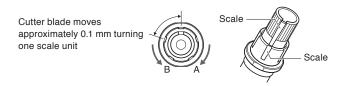
Adjust the blade length by turning the blade-length adjustment knob. Turn the knob in direction "A" to extend the blade, or in direction "B" to retract the blade. When the knob is turned by one scale unit, the blade moves approximately 0.1 mm. One full turn of the knob moves the blade approximately 0.5 mm.

PHP33-CB09N-HS/PHP33-CB15N-HS

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 medium to be cut.

Refer to the Cutter Blade Manual.

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

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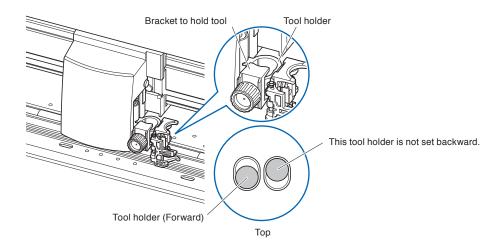
Attach a tool (cutter plunger, plotter pen) to the plotter.

Attaching a tool

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

● Push the tool all the way into the holder until its flange contacts the upper part of the holder and then tighten the screw firmly.

● To prevent injury, avoid absolutely touching the tool immediately after the cutting plotter is turned on or whenever the tool is moving.

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

Bracket to hold tool   Tool holder

This tool holder is not set backward.

Tool holder (Forward)

Top

⚠ **CAUTION**
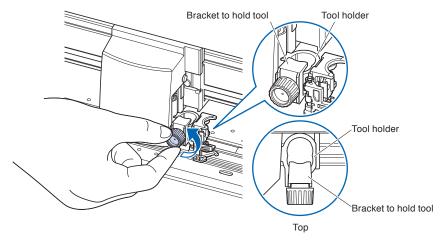
When pushing the tool holder with your fingers, the blade tip may be protruding. Take care not to cut your fingers.

Supplement

● SupplementPlease make certain to set the cutter plunger of the tool holder (forward).

Mounting
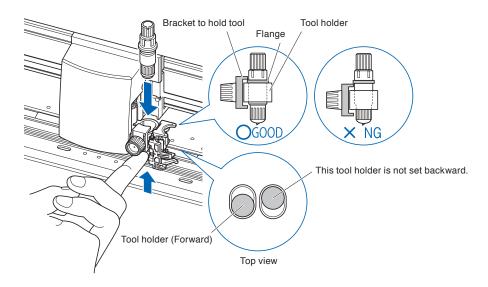
1   Loosen the tool holder screw.

Bracket to hold tool   Tool holder

Tool holder

Bracket to hold tool

Top
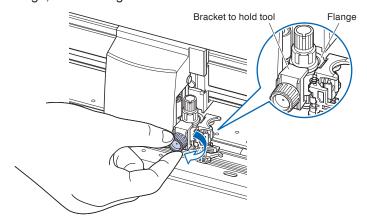
2　While pushing up the tool holder, push until its flange completely touches the upper part of the holder.

Supplement

Set the tool in the tool holder (forward).

Bracket to hold tool　Tool holder

Flange

GOOD　　× NG

This tool holder is not set backward.

Tool holder (Forward)

Top view

3　Make sure that the tool bracket is engaged on the tool's flange, and then tighten the screw.

Bracket to hold tool　Flange

Removing the tool

When removing the tool, turn it counterclockwise to remove the tool.
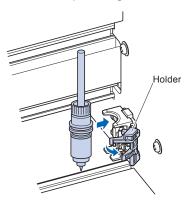
Attaching a pen

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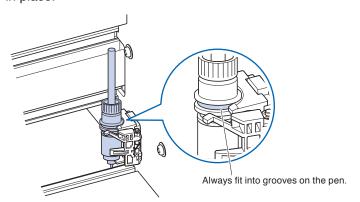
- ● Please make sure to attach the pen to the pen station when setting up a pen.
- ● To prevent injury, avoid touching the pen immediately after the cutting plotter is turned on or whenever the pen is moving.

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.

Supplement

Make sure to check that the top part of any tools mounted on the pen station is set in the grooves above the pen.

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 CE7000-130AP. 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
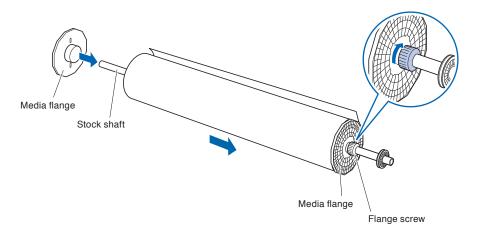
> ⚠ **CAUTION**
>
> Notes when using roll media
>
> - If the media is not put in the basket and there are problems in the media feed, reduce the media feed speed.
> - Take all cut/plotted paper out of the basket; paper left in the basket may cause deviations and affect performance for subsequent jobs.

Loading roll media

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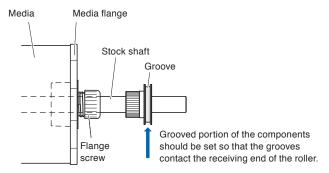
1 Set the media flange and paper to the stock shaft and insert in the direction of the paper.

Media flange
Stock shaft
Media flange
Flange screw

> **Supplement**
>
> When installing, place the paper roll as follows:
>
>
>
> ○ GOOD ✕ NG
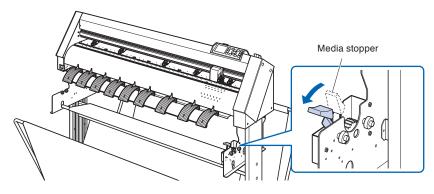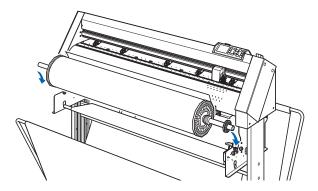
Flange screw, adjust the position of the grit roller, then re-tighten the flange screw.

Media   Media flange

Stock shaft

Groove

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.

Media stopper
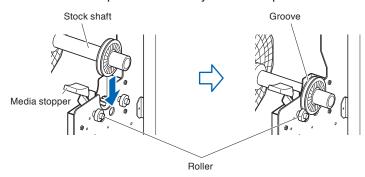
3　Set the stock shaft in from the front.
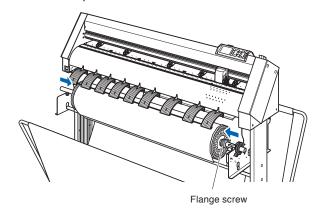
Align the receiving end of the media shaft with the grooves on the roller and push down firmly to set it in place.
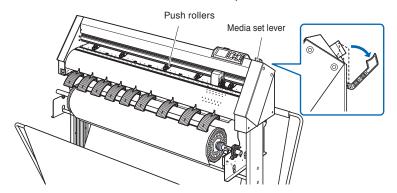
Stock shaft

Groove

Media stopper

Roller

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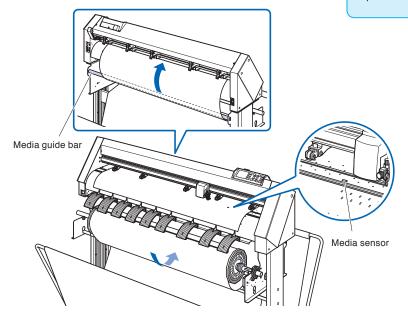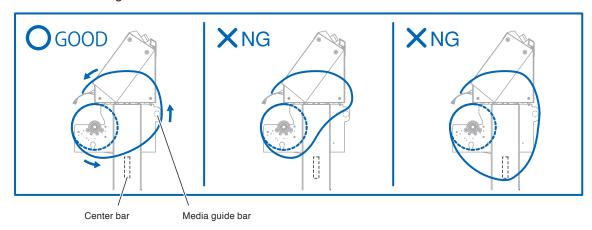
6 Put the roll media on the roll media tray and then push the tip of the roll media forward from the back of the machine. Make sure to pull it so that there is no slackening across the roll media's route.

Supplement

● The media must always be positioned over the media sensor.

● See "Aligning the Push Rollers" about the position of the push rollers.

Media guide bar

Media sensor

The paper roll media's route goes over the center bar and behind the media guide bar.

○ GOOD   ✕ NG   ✕ NG

Center bar   Media guide bar

7   Position the media and the push rollers to correspond with the width of the media.
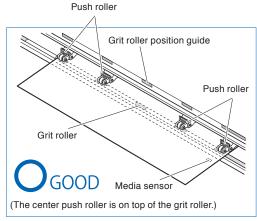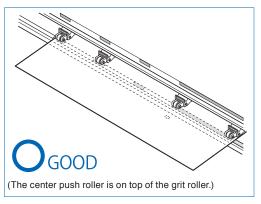
Use the 5 push rollers to push down the sides and center of the media. Use the grit roller position guide and make sure the push rollers are on top of the grit rollers.
Use the grit roller position guide to make sure the push rollers are set on top of the grit rollers.
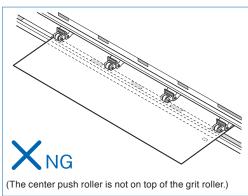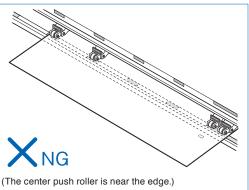
You can adjust the push roller's hold-down force.

Supplement

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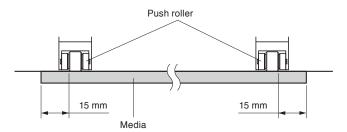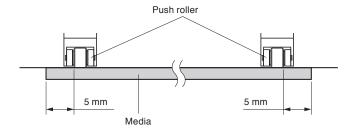
Push roller
Grit roller position guide
Push roller
Grit roller
Media sensor

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

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

✕ 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

15 mm

Media

15 mm

When feeding long media (2 meters or less)

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

Push roller

5 mm   5 mm
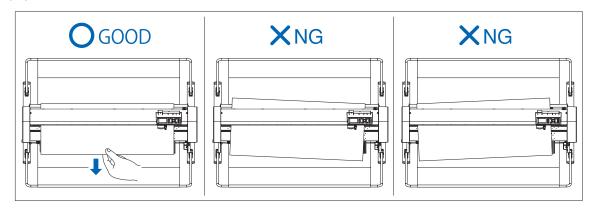
Media

8   Raise the media stopper to lock.

Media stopper
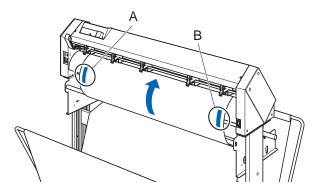
9   When removing the paper, please stand to the side of the main assembly and pull horizontally from the middle of the paper.

| ⭕ GOOD | ❌ NG | ❌ NG |

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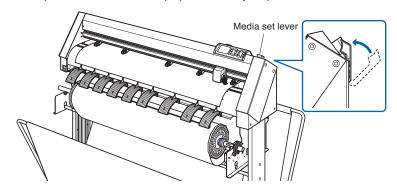
10   Pull from the front of the machine to even the tension of both A and B sides of the paper, as shown in the figure below.
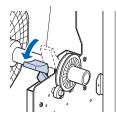
11   Raise the set lever after confirming that the route the roll paper passes through is taut and not slackening. The push roller position and the roll paper will stay in place

Media set lever

12   Lowering the media stopper releases the stopper lock.

Media stopper
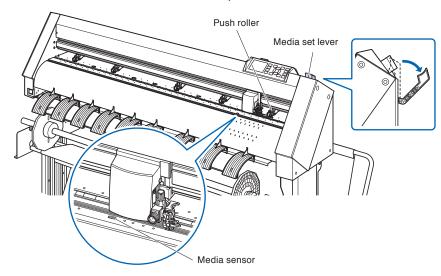
⚠ **CAUTION**

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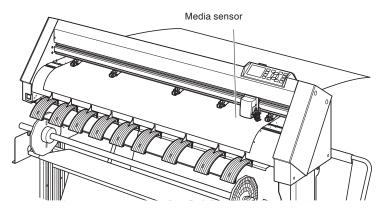
Loading sheet media

Operation

1   Lower the media set lever to raise the push rollers.

Push roller
Media set lever
Media sensor

2   Make sure that the sheet media completely covers the media sensor.

Media sensor

3 Position the media and the push rollers to correspond with the width of the media.
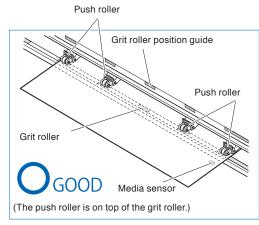
Use the 5 push rollers to push down the sides and center of the media.
Use the grit roller position guide and make sure the push rollers are on top of the grit rollers.

You can adjust the push roller's hold-down force.

Push roller
Grit roller position guide
Push roller
Grit roller
◯ GOOD   Media sensor
(The push roller is on top of the grit roller.)

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

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

✕ NG
(The center push roller is near the edge.)
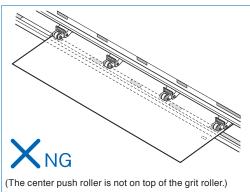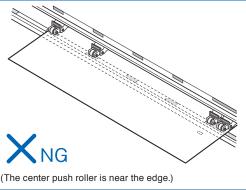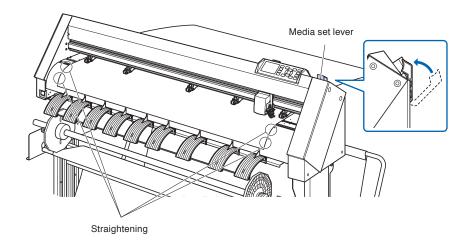
4   Straighten and align the end of the paper using the holes
above and below the media guide as a reference point.

Raise the set lever after confirming there is no slackening to
secure the sheet paper and push roller position.

Media set lever

Straightening
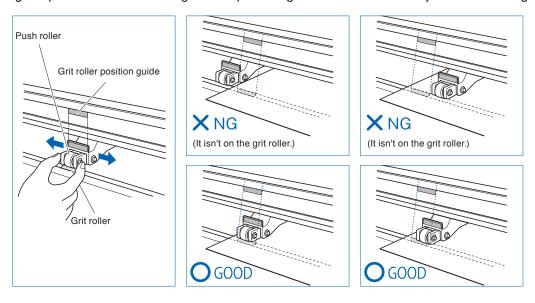
2.4   *Aligning the Push Rollers*

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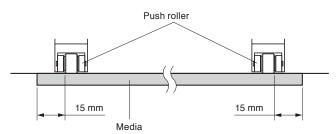
To move the push rollers, the media set lever must be in the lowered position.

Supplement

If a [confirming push roller point] 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.
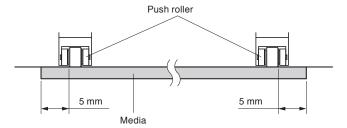
When feeding long media (2 meters or more)

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

Push roller

15 mm

15 mm

Media

When feeding long media (2 meters or less)

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

For minimum width media

The CE7000-130AP 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.
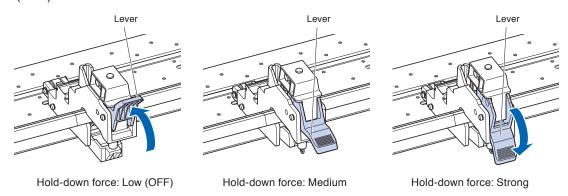
Changing the hold-down force

The CE7000-130AP 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) Raise the media set lever to lower the push rollers.

(2) Use the push roller hold-down force switching lever on the back of the push roller to adjust the center push roller's hold-down force. It can be set to Strong, Medium or Low (OFF).

(3) When the push roller hold-down force switching lever is lower, it is in Strong mode. When it is upper it's in Low (OFF) mode.

Lever	Lever	Lever

Hold-down force: Low (OFF)　　　Hold-down force: Medium　　　Hold-down force: Strong

---

⚠ **CAUTION**

● Please switch the hold-down force of the push rollers at both ends to Strong or Medium and keep the same hold-down force.

● If the hold-down force is changed with the media set lever lowered, the lever operation will be heavier. Always raise the media set lever and then change itch the hold-down force.
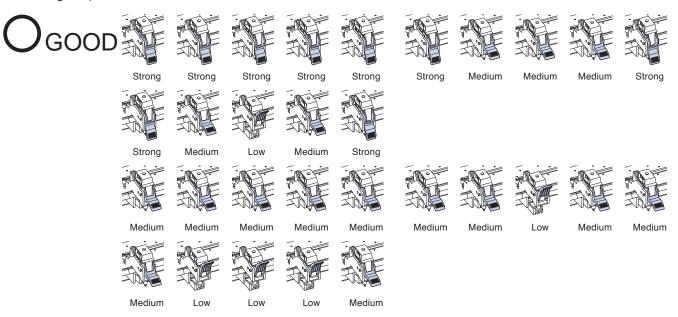
Supplement

● Low (OFF) of hold-down force is the standard setting for cutting thin film like car film.

● Switch the hold-down force as necessary for different types of media.

Assignment

The hold-down force of push rollers on both ends (left/right) should set to the same force in Strong or Medium. However, when using three or more push rollers, set the hold-down force of the push rollers inside both ends to lower than both ends.

When using five push rollers

⭕GOOD

Strong	Strong	Strong	Strong	Strong		Strong	Medium	Medium	Medium	Strong

Strong	Medium	Low	Medium	Strong

Medium	Medium	Medium	Medium	Medium		Medium	Medium	Low	Medium	Medium

Medium	Low	Low	Low	Medium

❌NG   All other than above

When three hold-down forces are different

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 and length unit.

Also, after setup, you can select the menu even from the READY status.

See "Display Language Setting (LANGUAGE SELECTION)" and "Display Length Unit Setting (LENGTH UNIT)" in Chapter 10".

Operation

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

▷ Here, LANGUAGE setting screen is displayed.

```
 PLEASE SELECT LANGUAGE

English  日本語   Deutsch
Francais Italiano Espanol
Portugues РУССКИЙ  中文
한글
                ◀▶▲▼ ENT
                        ER
```

2 Use the POSITION (▲▼◀▶) keys to select the language. (This manual assumes you chose the English language setting.)

3 Press the [ENTER] key.

▷ After the DISPLAY LANGUAGE is selected, the LENGTH UNIT screen will appear.

```
LENGTH UNIT

1 METRIC
2 INCH

                ENT
                 ER
```
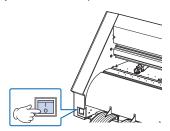
4 Press the [1] key (METRIC) or the [2] key (INCH) to select the length unit setting.

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

▷ Setting will be confirmed and it will return to default screen.

2.6 Connecting to the Power
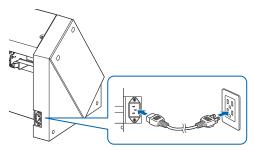
Turning on the power of the plotter.

Operation

1 Check that the power switch is turned off. (the "◯" side is pressed down)
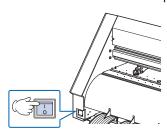
2 Connect one end of the provided power cord to the CE7000-130AP AC line inlet and the other end to an electrical socket of the rated supply voltage.

3 Turn on the CE7000-130AP by pressing the "I" 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.

```
1:Condition No. 1          HP
      PEN S30 F12 A2        GL
      LOAD MEDIA!
                           PRO
                           GRA
1 TOOL1 VIEW               Soft
2 HOME                     ON
EN CONDITION No.
ER
```
Media set lever raised
(The push roller is up)

```
SELECT
1 ROLL-1 FRONT EDGE
2 ROLL-2 CURRENT POSITION
3 SHEET  LOAD MEDIA!
```
Media set lever lowered
(The push roller is down)

> **Supplement**
>
> ● The Default Screen will appear after purchasing the machine. See "About the Default Screen" for more information.
> ● This screen is described as "default screen" in this document.
> ● Settings such as initial media feed speed and communication conditions can be performed.

2.7 How to Use Control Panel

This section explains the function of lamps and keys on the control panel.

Indicator lamp

PAUSE/MENU lamp

.... When in MENU mode, the lamp lights up.

Operation key

CROSS CUT .... In the READY status, detach the media on which cutting/plotting is completed.

PAUSE/MENU .... Switches to the MENU mode.

It will go into MENU mode if it is pressed once, and MENU mode will be turned off when it is pressed again.

Different functions are set in the MENU mode.

When the PAUSE/MENU key is pressed during the operation, the cutting/plotting operation stops.

ORIGIN .... It will set the current position as an origin point.

On the READY screen, pressing the [ENTER] and [ORIGIN] keys at the same time will allow you to reset the machine. (Only in Normal mode)

COPY .... Copy of data in the buffer memory is output.

ESC .... Cancels the setting change and then returns to the previous screen. Returns to the previous screen in the MENU screen.

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

On the READY screen, pressing the [ENTER] and [ORIGIN] keys at the same time will allow you to reset this machine.

COND/TEST .... Displays the screen to set the tool conditions.

Use this when checking tool conditions to activate a cutting test.

SLOW .... When pressing the POSITION key at the same time, the tool carriage moves slowly.

When the "SLOW" icon is displayed on the screen, it works as a menu key.

When the [SLOW] key is pressed in the READY screen, the current cutting/plotting area and the position of tool carriage are displayed.
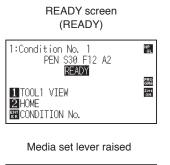
1, 2, 3, 4 .... Select the menu number displayed in the screen.

POSITION (▲,▼, ◀, ▶) key

.... Adjusts various settings, selects numerical value changes, moves the cursor, and changes the positions in the MENU screen.

Reading the screen (LCD)
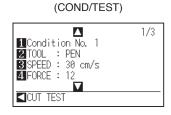
Information reflecting the status will be displayed in the screen of the control panel.

Name of the button and corresponding function are displayed on the screen when a function is allocated to the button on the control panel. Button name will be displayed in reverse when the button is enabled.

READY screen
(READY)

MENU screen
(PAUSE/MENU)

CONDITION setting screen
(COND/TEST)

```
1:Condition No. 1            HP
     PEN S30 F12 A2          GL
          READY
                            PRO
                            GRA
1 TOOL1 VIEW                 Sort
                            ON
2 HOME
ENT
ER CONDITION No.
```

```
1 TOOL 2 AXIS 3 AREA 4 MEDIA
▲ I/F  ▼ ADV. ◀ TEST ▶ MEM.
```

```
            ▲           1/3
1 Condition No. 1
2 TOOL  : PEN
3 SPEED : 30 cm/s
4 FORCE : 12
            ▼
◀ CUT TEST
```

Media set lever raised

Media set lever lowered

```
SELECT
1 ROLL-1 FRONT EDGE
2 ROLL-2 CURRENT POSITION
3 SHEET  LOAD MEDIA!
```

```
1:Condition No. 1           HP
     PEN S30 F12 A2          GL
        LOAD MEDIA!
                            PRO
                            GRA
1 TOOL1 VIEW                 Sort
                            ON
2 HOME
ENT
ER CONDITION No.
```
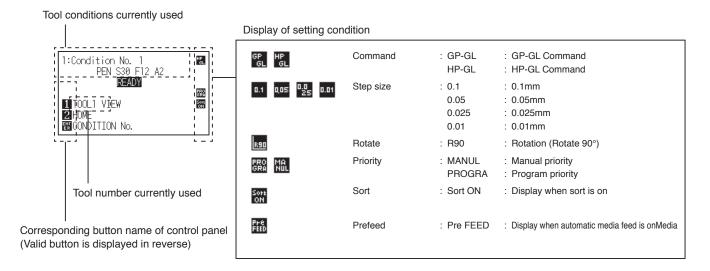
Set condition of media (READY status:
It will display "READY" when the media is loaded)

Tool conditions currently used

Display of setting condition

```
1:Condition No. 1           HP
     PEN S30 F12 A2          GL
          READY
                            PRO
                            GRA
1 TOOL1 VIEW                 Sort
                            ON
2 HOME
ENT
ER CONDITION No.
```

Tool number currently used

Corresponding button name of control panel
(Valid button is displayed in reverse)

GP GL	HP GL		Command	: GP-GL	: GP-GL Command
				HP-GL	: HP-GL Command
0.1	0.05	0.0 25	0.01	Step size	: 0.1	: 0.1mm
				0.05	: 0.05mm
				0.025	: 0.025mm
				0.01	: 0.01mm
R90			Rotate	: R90	: Rotation (Rotate 90°)
PRO GRA	MA NUL		Priority	: MANUL	: Manual priority
				PROGRA	: Program priority
Sort ON			Sort	: Sort ON	: Display when sort is on
Pre FEED			Prefeed	: Pre FEED	: Display when automatic media feed is onMedia

Default screen (Ready Screen): READY

```
1:Condition No. 1        HP
     PEN S30 F12 A2       GL
          READY
                         PRO
                         GRA
1 TOOL1 VIEW             Soft
2 HOME                   ON
ENT CONDITION No.
ER
```
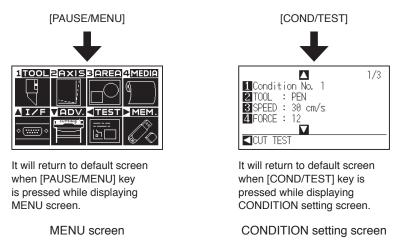
The condition number (Cut Condition) that has been set is displayed.

Supplement
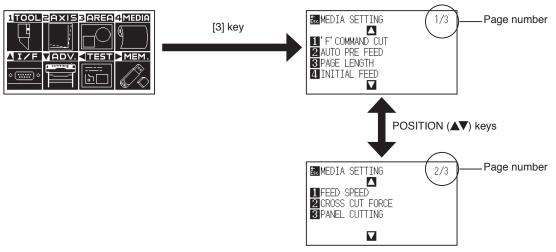
● In this manual, this screen is referred as READY screen or READY status.

● In this READY status, you can set the cutting and communication conditions by pressing [PAUSE/MENU] or [COND/TEST] key.

Screen to set the corresponding conditions is displayed when the [PAUSE/MENU] key or [COND/TEST] key are pressed.

[PAUSE/MENU]   [COND/TEST]

```
1 TOOL 2 AXIS 3 AREA 4 MEDIA
 I/F  ADV.  TEST  MEM.
```

```
          ▲            1/3
1 Condition No. 1
2 TOOL  : PEN
3 SPEED : 30 cm/s
4 FORCE : 12
          ▼
◄ CUT TEST
```

It will return to default screen when [PAUSE/MENU] key is pressed while displaying MENU screen.

It will return to default screen when [COND/TEST] key is pressed while displaying CONDITION setting screen.

MENU screen   CONDITION setting screen
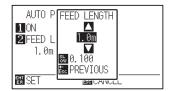
Page number is displayed in the upper right corner of the screen if there are too many settings or selection that will need multiple pages to display.

Press the POSITION (▲▼) keys to move to different page.

```
1 TOOL 2 AXIS 3 AREA 4 MEDIA
 I/F  ADV.  TEST  MEM.
```

[3] key →

```
Esc MEDIA SETTING       1/3  ── Page number
          ▲
1 'F' COMMAND CUT
2 AUTO PRE FEED
3 PAGE LENGTH
4 INITIAL FEED
          ▼
```

POSITION (▲▼) keys

```
Esc MEDIA SETTING       2/3  ── Page number
          ▲
1 FEED SPEED
2 CROSS CUT FORCE
3 PANEL CUTTING
          ▼
```
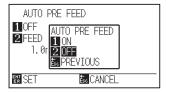
Example of moving page and operation button

Icon of the corresponding operation button is displayed in the screen to change the setting values.

```
AUTO P FEED LENGTH
1 ON         ▲
2 FEED L    1.0m
    1.0m     ▼
         SLOW 0.100
         Esc PREVIOUS
ENTER SET        Esc CANCEL
```

```
AUTO PRE FEED
1 OFF   AUTO PRE FEED
2 FEED   1 ON
    1.0r  2 OFF
         Esc PREVIOUS
ENTER SET      Esc CANCEL
```

Increase or decrease the setting
value using POSITION (▲▼)
keys.
Select the change unit by
[SLOW] key.

Select the setting by number
keys (1, 2, 3, 4) or POSITION (▲
▼◀▶) keys.

Example of screen to change the settings value

Contents of Operation from MENU Screen

MENU screen

Contents of the operation and settings that is displayed in MENU screen with [PAUSE/MENU] key are as following:

[1]	(TOOL)	: Set the setting for the operation of the tool.
[2]	(AXIS)	: Perform settings and operations related to alignment of tool and media.
[3]	(AREA)	: Set the settings for area, magnification, rotation, reverse, etc., of the cutting.
[4]	(MEDIA)	: Set the setting of the condition for the media.
[▲]	(IF)	: Set the settings of the condition for the interfacing with the computer.
[▼]	(ADV.)	: Set the conditions for the basic operation of the cutting plotter, such as display language, unit of the measurements and sensor.
[◀]	(TEST)	: Does the operation necessary for maintenance, such as self diagnostic test or printout of the condition settings list.
[▶]	(MEM.)	: Perform the operation necessary for output from USB memory.
[PAUSE/MENU]		: MENU screen will be closed and return to default screen.
[SLOW]		: Displays the position key screen. When media is set, the tool point can be moved
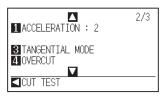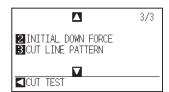
See the "Menu Tree" in the Appendix A.4 for list of the descriptions about each settings.

Operation from [COND/TEST] key

```
      ▲          1/3
1 Condition No. 1
2 TOOL  : PEN
3 SPEED : 30 cm/s
4 FORCE : 12
      ▼
◀ CUT TEST
```

```
      ▲          2/3
1 ACCELERATION : 2

3 TANGENTIAL MODE
4 OVERCUT
      ▼
◀ CUT TEST
```

```
      ▲          3/3

2 INITIAL DOWN FORCE
3 CUT LINE PATTERN

      ▼
◀ CUT TEST
```

CONDITION setting screen (1-3)

The [COND/TEST] key brings up the SETTING screens, where you can change the media type and tool conditions.

Up to 8 CONDITION settings can be saved with different settings in numbers 1 through 8.

[COND/TEST]   : This will clear the CONDITION setting screen and return to default screen.
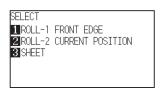
See "Selecting Tool Condition" for the detailed tool condition.

2.8 Setting Feeding Method
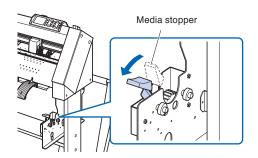
Feeding method for the loaded media is set.

Operation

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

```
SELECT
1 ROLL-1 FRONT EDGE
2 ROLL-2 CURRENT POSITION
3 SHEET
```

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

Media stopper

When selecting [ROLL-1 FRONT EDGE] pressing the [1] key

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.

When selecting [ROLL-2 CURRENT POSITION] pressing the [2] key

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.

When pressing the [3] key to select [SHEET]

Select this when a cut sheet has been loaded. The width, leading edge, and trailing edge of the sheet are detected.
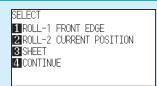
⚠ **CAUTION**

For roll media, before selecting the [MEDIA SET SELECTION], make sure to release the media lock.

Supplement

- The CONTINUE menu parameter appears when the media set lever is raised and then lowered again after media was previously loaded, making it possible to select the previous settings.

When pressing the [4] key to select "CONTINUE".

```
SELECT
1 ROLL-1 FRONT EDGE
2 ROLL-2 CURRENT POSITION
3 SHEET
4 CONTINUE
```

When using the same media without changing the position of the media, the CONTINUE function enables the continued use of the plotting area, pen position and origin position that were specified before the media set lever was lowered. If the current media is the same size as the last media that was loaded, the plotter does not detect the media's edges.

Supplement

When selecting [1] or [2] key

```
UNLOCK MEDIA
PRESS ENTER KEY!
```

Please confirm on the confirmation screen that the media stopper lock has been released, then press the [ENTER] key. This will be displayed on the above screen.

When selecting [3] key

```
CUT AREA
Length is greater
than 5m(16.4ft).
Continue ?
EN CONTINUE
```

The above screen will display when set-up for media more than 5 meters long. Please confirm and then press the [ENTER] key 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.

If the interface or command settings have not been made, make these settings before sending the data.

If the settings have been made, tool adjustment is performed.
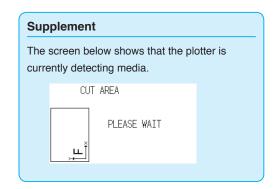
When the pen adjustments have been made, the plotter is ready to start cutting.

Send the cutting or plotting data from the application software.

▷ Default screen is displayed.

```
1:Condition No. 1            HP
      PEN S30 F12 A2          GL
           READY
                            PRO
                            GRM
1 TOOL1 VIEW                 Soft
2 HOME                       ON
ENT CONDITION No.
ER
```
Menu screen
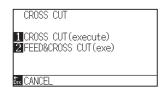
2.9 *Media auto prefeed and cross cut*

When setting to FEED&CROSS CUT(exe), the media is cross-cut after feeding one page. The length of one page is the value set in "PAGE LENGTH".

When setting to CROSS CUT(execute), the media is cross-cut at the current tool position.

Operation

1 Press the [CROSS CUT] key in READY status.

▷ Cross Cut screen is displayed.

```
 CROSS CUT

1 CROSS CUT(execute)
2 FEED&CROSS CUT(exe)


Esc CANCEL
```

2 Press [1] key (CROSS CUT(execute)) or [2] key (FEED&CROSS CUT(exe)) to begin operation.

"CROSS CUT(execute)" will start from the current tool position when you press [1] key.

With "FEED&CROSS CUT(exe)" cross-cutting will begin after 1 page has been transferred.
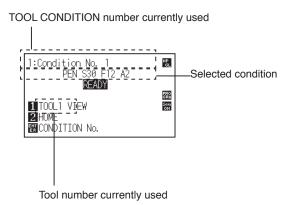
> ⚠ **CAUTION**
>
> Pressing [1] or [2] key activates the tool carriage. Take care to ensure that you do not cut your fingers on the cutter blade.

3 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

2.10 Selecting Tool Condition

Set the "TOOL CONDITION (CUT CONDITION) No.", "TOOL", "OFFSET", "SPEED", "FORCE", and "ACCEL (ACCELERATION)".

LCD Display

TOOL CONDITION number currently used

```
1:Condition No. 1          HP
        PEN S30 F12 A2      GL
         READY                      Selected condition
                           PRO
  1 TOOL1 VIEW             GRM
  2 HOME                   Soft
  ENTER CONDITION No.       ON
```

Tool number currently used
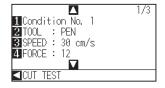
Selecting the TOOL CONDITION number (Condition No.)

Eight settings (1 to 8) as the TOOL CONDITION can be stored. Change the setting in accordance with the material (8 types) to be used by switching the setting.

Operation: Operation with the [COND/TEST] key

1 Press the [COND/TEST] key in the READY status.

▷ CONDITION setting screen (1/3) is displayed.

```
          ▲          1/3
  1 Condition No. 1
  2 TOOL  : PEN
  3 SPEED : 30 cm/s
  4 FORCE : 12
          ▼
  ◀ CUT TEST
```

2 Press the [1] key (Condition No.).

▷ CONDITION No. selection screen is displayed.

```
2:Condition No. 2
         ▲
1:Condition No. 1
       PEN S30 F12 A2
         ▼
8:Condition No. 8
ENTER SET      Esc CANCEL
```

3 Press the POSITION (▲▼) keys and select the setting (CONDITION No.).

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

▷ Setting will be confirmed and it will return to CONDITION setting screen (1/3)

5 Press the [COND/TEST] key.
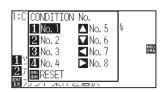
▷ It will return to default screen.

Operation: Operation with the [ENTER] key

1 Press the [ENTER] key in the READY status.

▷ CONDITION No. selection screen is displayed.

2 Press the [1] to [4] keys, or the POSITION (▲▼◀▶) keys, while simultaneously pressing the [ENTER] key.

3 Confirm the setting and release the [ENTER] key.

▷ It will return to the default 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 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 Part Nos., 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	60	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.

Setting Condition No.1 (Pen plunger specific)

Operation

1 Press the [COND/TEST] key in the default screen.

▷ CONDITION setting screen (1/3) is displayed.

```
                  ▲        1/3
1 Condition No. 1
2 TOOL  : PEN
3 SPEED : 30 cm/s
4 FORCE : 12
                  ▼
◀ CUT TEST
```

Supplement

Please select Condition No.1 under "Selecting the Tool Conditions" when setting up tool conditions for the pen plunger, and choose "Condition No.2" to "Condition No.8" when setting up the tool conditions for the cutter plunger. For more information, see "Selecting Tool Condition".

2 Press the [2] key (TOOL).

▷ TOOL setting screen is displayed.

```
  TOOL
1 1:Condition No. 1
2 TYPE

      PEN

EN SET          Esc CANCEL
```

Supplement

Press the [1] key to change the CONDITION No.

It will return to CONDITION setting screen without changing the settings when you press the [ESC] key (CANCEL).

3 Confirm that "PEN" is set and press the [ESC] key (CANCEL).

▷ It will return to TOOL setting screen.

Supplement

Please note that Condition No.1 is pen plunger specific, and does not alter other tool settings.

4 Press the [COND/TEST] key.

▷ It will return to default screen.

Setting for Condition No.2 to No.8 (For cutter plunger)

Operation

1 Press the [COND/TEST] key in the default screen.

▷ CONDITION setting screen (1/3) is displayed.

```
                 ▲          1/3
1 Condition No. 2
2 TOOL  : CB09U+0
3 SPEED : 30 cm/s
4 FORCE : 8
                 ▼
◀ CUT TEST
```

Supplement

Please select Condition No.1 under "Selecting the Tool Conditions" when setting up tool conditions for the pen plunger, and choose "Condition No.2" to "Condition No.8" when setting up the tool conditions for the cutter plunger. For more information, see "Selecting Tool Condition".

2 Press the [2] key (TOOL).

▷ TOOL setting screen is displayed.

```
  TOOL
1 2:Condition No. 2
2 TYPE        3 OFFSET
         ▲
       CB09U      +0
         ▼
ENTER SET      ESC CANCEL
```

Supplement

Press the [1] key to change the CONDITION No.

It will return to CONDITION setting screen without changing the settings when you press the [ESC] key (CANCEL).

3 Press the POSITION (▲▼) keys and set the tool.

```
  TOOL
1 1:Condition No. 1
2 TYPE        3 OFFSET
         ▲
       CB09U      +0
         ▼
ENTER SET      ESC CANCEL
```

4 Press the [3] key (OFFSET).

▷ OFFSET setting screen is displayed.

```
  TOOL
1 1:Condition No. 1
2 TYPE        3 OFFSET
                   ▲
       CB09U      +0
                   ▼
ENTER SET      ESC CANCEL
```

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 that 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

● You can set the range between -5 and +5. The other range is +1 to +45.

● To continue the settings of other tool condition number, return to step 3 by pressing the [1] key.

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to CONDITION setting screen (1/3).

7 Press the [COND/TEST] key.

▷ It will return to default screen
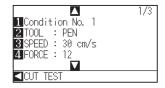
Setting the speed

Set the speed of the tool that is used in each of the condition numbers.

Setting range : 1 to10 (in 1 cm/s increment), 10 to 60 (in 5 cm/s increment)

Operation

1 Press the [COND/TEST] key in the default screen.

▷ CONDITION setting screen (1/3) is displayed.

```
                  ▲           1/3
 1 Condition No. 1
 2 TOOL  : PEN
 3 SPEED : 30 cm/s
 4 FORCE : 12
                  ▼
 ◀ CUT TEST
```

2 Press the [3] key (SPEED).

▷ SPEED setting screen is displayed.

```
              SPEED
 COND.   1  2  3  4  5  6  7  8
 CONFIG 30 30 30 20 20 30 30 30
 ◀▶ CONDITION No.
        ▲ UP
 CONFIG ▼ DOWN
 ENT
 ER SET        ESC CANCEL
```

* Display may vary depending on the selected tool condition number.

3 Press the POSITION (◀▶) keys and select the tool condition number (CONDITION No.).

4 Press the POSITION (▲▼) keys and increase or decrease the setting value.

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to CONDITION setting screen (1/3).

6 Press the [COND/TEST] key.

▷ It will return to default screen.

Supplement

It will return to CONDITION setting screen (1/3) without changing the settings when you press the [ESC] key (CANCEL).

Supplement

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

Setting the force
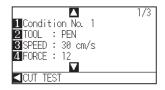
Set the cutting force that is used in each of the condition numbers.

Setting range : Condition No.1 : 1 to 31

Condition No.2 to No.8 :1 to 38

Operation

1 Press the [COND/TEST] key in the default screen.

▷ CONDITION setting screen (1/3) is displayed.

```
                    ▲           1/3
 1 Condition No. 1
 2 TOOL  : PEN
 3 SPEED : 30 cm/s
 4 FORCE : 12
                    ▼
 ◀ CUT TEST
```
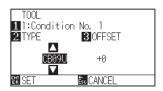
2 Press the [4] key (FORCE).

▷ FORCE setting screen is displayed.

```
             FORCE
 COND.   1  2  3  4  5  6  7  8
 CONFIG 12  8 14  6  8 16 12  8
 ◀ ▶ CONDITION No.
         ▲ UP
 CONFIG ▼ DOWN
 ENT
 ER SET        ESC CANCEL
```

* Display may vary depending on the selected condition number.

> **Supplement**
>
> It will return to CONDITION setting screen (1/3) without changing the settings when you press the [ESC] key (CANCEL).

3 Press the POSITION (◀ ▶) keys and select the condition number (CONDITION No.).

4 Press the POSITION (▲▼) keys and increase or decrease the setting value.

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

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to CONDITION setting screen (1/3).

6 Press the [COND/TEST] key.

▷ It will return to default screen.
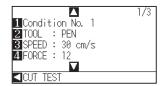
Setting the acceleration

Set the acceleration of the tool that is used in each of the tool condition numbers.
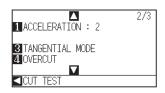
Setting range : 1 to 2

Operation

1 Press the [COND/TEST] key in the default screen.

▷ CONDITION setting screen (1/3) is displayed.

```
              ▲              1/3
❶Condition No. 1
❷TOOL  : PEN
❸SPEED : 30 cm/s
❹FORCE : 12
              ▼
◀CUT TEST
```

2 Press the POSITION (▲) key.

▷ CONDITION setting screen (2/3) is displayed.

```
              ▲              2/3
❶ACCELERATION : 2

❸TANGENTIAL MODE
❹OVERCUT
              ▼
◀CUT TEST
```

3 Press the [1] key (ACCELERATION).

▷ ACCELERATION setting screen is displayed.

```
          ACCELERATION
COND.    1 2 3 4 5 6 7 8
CONFIG   2 2 2 2 2 2 2 2
◀▶CONDITION No.
  CONFIG ▲UP
         ▼DOWN
ENTER SET        ESC CANCEL
```

* Display may vary depending on the selected tool condition number.

> **Supplement**
>
> It will return to CONDITION setting screen (2/3) without changing the settings when you press the [ESC] key (CANCEL).

4 Press the POSITION (◀ ▶) keys and select the tool condition number (CONDITION No.).

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

> **Supplement**
>
> You can set the range between 1 and 2.

6   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to CONDITION setting screen (2/3).

7   Press the [COND/TEST] key.

▷ It will return to default 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 in damaging the cutter blade if the blade is extended too much.
>
> **Supplement**
>
> ● See "Running Cutting Tests" for cutting tests.
>
> ● Use the supplied magnifier to adjust it.
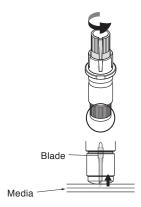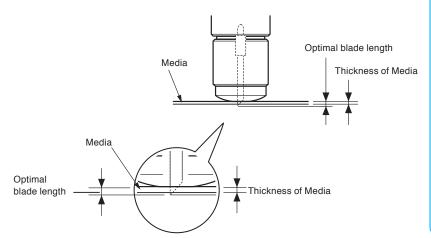
Operation

1   Align the blade tip to the tip of the cutter pen, and make it touch the surface of the media.

Blade
Media
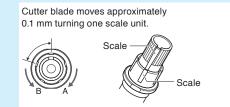
2   The blade will gradually extend to suit the thickness of the media being cut; the optimal length is slightly greater than the thickness of the media. A test cut will then be performed, and the blade length adjusted if there is any media left uncut.

Optimal blade length
Thickness of Media
Media
Optimal blade length
Thickness of Media

> **Supplement**
>
> ● 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 "Setting the 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, or do three tests with ±1 values added.

Operation

1 Load the media for test cutting in the plotter.

2 Press the [COND/TEST] key in the default screen.

▷ CONDITION setting screen (1/3) is displayed.

```
                    ▲        1/3
1 Condition No. 2
2 TOOL  : CB09U+0
3 SPEED : 30 cm/s
4 FORCE : 8
                    ▼
◀ CUT TEST
```

3 Press the POSITION (◀) key (CUT TEST).

```
          ▲↗        1/3
1 Co ▲▼◀▶ SL ENT
          OW ER
2 TO USE THE POSITION KEY
3 SP TO MOVE THE TOOL AND
4 FO THEN PRESS ENTER.
     ESC CANCEL
◀ CUT TEST
```

> **Supplement**
>
> It will return to CONDITION setting screen when you press the [ESC] key (CANCEL).

4 Press the POSITION (▲▼◀▶) keys to move the tool carriage to the location you wish to perform the test cutting.
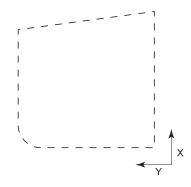
> **Supplement**
>
> Pressing the POSITION and [SLOW] keys at the same time will move the tool carriage slower.

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.
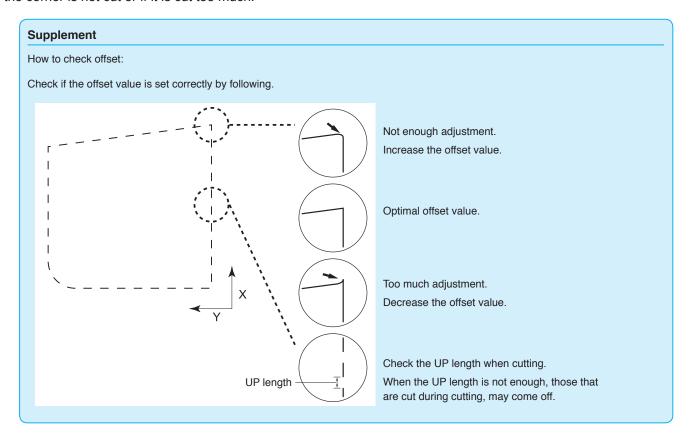
6 Press the [ENTER] key after completion.

▷ CONDITION setting screen is displayed.

7 Press the [COND/TEST] key.

▷ It will return to default 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 "Setting the 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.

Not enough adjustment.
Increase the offset value.

Optimal offset value.

Too much adjustment.
Decrease the offset value.

Check the UP length when cutting.
When the UP length is not enough, those that are cut during cutting, may come off.

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.

See "Adjusting the Blade Length" and "Setting the Force" and adjust the settings.

Adjustment when using plotting pen
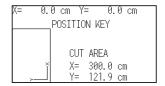
Adjust the FORCE so there will be no faint lines. To prolong the pen life, set the FORCE to the lowest setting without any faint lines. See"Setting the Force" or setting the FORCE.

2.12 Displaying Cutting Area

Check the width of cutting area.

Operation

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

▷ The cutting area is displayed.

```
X=    0.0 cm  Y=    0.0 cm
        POSITION KEY


        CUT AREA
    ×   X=  300.0 cm
    ⌐    Y=  121.9 cm
```

2 Release the [SLOW] key.

▷ I will be return to default screen.

Chapter 3: Basic Operations

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

All the operations described in this chapter is to start from the READY status (media is set) as a general condition.

Perform the operation described in this chapter after making the plotter in READY status referring to previous chapter.

3.1 *Raise or Lower the Tool*
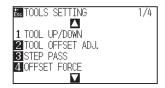
This is a function to raise or lower the tool (pen).

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOLS SETTING (1/4) screen is displayed.

3 Tool is raised or lowered every time the [1] key (TOOL UP/DOWN) is pressed.

4 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

3.2 Move the Tool Carriage and Media

Tool carriage and media can be moved manually using the POSITION key.

It also can move the tool carriage and media 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 "Setting of Step Movement Distance".

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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

```
1TOOL 2AXIS 3AREA 4MEDIA
        [icon] [icon] [icon] [icon]
I/F  ADV. TEST MEM.
[icon] [icon] [icon] [icon]
```

2 Press the POSITION (▼) key (ADV).

▷ ADVANCE screen (1/4) is displayed.

```
ESC ADVANCE          1/4
            ▲
1 MOVE STEP
2 LANGUAGE SELECTION
3 LENGTH UNIT
4 BEEP FOR KEY OPE.
            ▼
```

3 Press the [1] key (MOVE STEP).

▷ MOVE STEP screen is displayed.

```
  MOVE STEP

1 1.0mm
2 0.1mm


ENTER SET      ESC CANCEL
```

4 Press the [1] key (1.0mm) or the [2] key (0.1mm).

> **Supplement**
>
> Value chosen here will be the movement distance for the step movement.
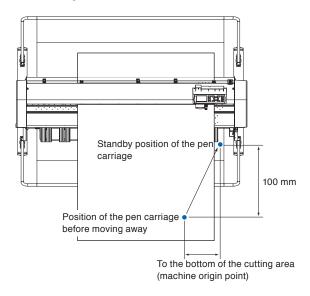
5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (1/4) screen (1/4).

> **Supplement**
>
> It will return to ADVANCE screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

6 Press the [PAUSE/MENU] key.

▷ It will return to default screen.
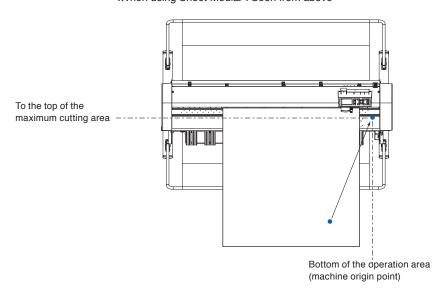
Move away the tool carriage

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

100 mm

Position of the pen carriage before moving away

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 [1] key (TOOL1 VIEW) in READY status.

▷ Tool carriage will move away.

> **Supplement**
>
> When it is set to the "Condition 1", press the "TOOL 1 VIEW", or when it is set to the "Condition 2 to 8", press the "TOOL 2 VIEW".

To move the tool carriage to the origin point, do following:

Operation

1   Press the [2] key (HOME) in READY status.

▷ Tool carriage will move to the origin point.

Change the cutting condition (Condition No.)

Go through the following steps to change the Cutting Condition (Condition No.):

Operation

1 Press the [ENTER] key in READY status.

▷ CONDITION No. selection screen is displayed.

2 Press the [1] key (No.1), the [2] key (No.2), the [3] key (No.3), the [4] key (No.4), the [▲] key (No.5), the [▼] key (No.6), the [◀] key (No.7), or the [▶] key (No.8), while simultaneously pressing the [ENTER] key.

> **Supplement**
>
> It will return to state when the power is turned on when the [ORIGIN] key (RESET) is pressed.
>
> Please refer to for Reset (Revert to the initial state when the power was turned on.).

▷ Setting will be confirmed and it will return to default screen.

Reset (Revert to the initial state when the power was turned on.)

To revert to the initial state when the power was turned on, do following:

Operation
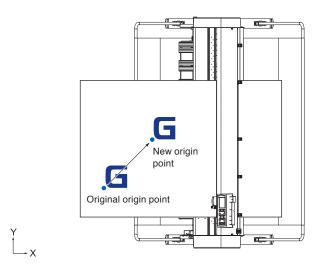
1 Press the [ENTER] key in READY status.

▷ CONDITION No. selection screen is displayed.

2 Press the [ORIGIN] key (RESET), while simultaneously pressing the [ENTER] key.

▷ Initialization is performed, and MEDIA SETTING screen is displayed.

3.3 Setting the Origin Point

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

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 [ORIGIN] key.

▷ New origin point is confirmed and "NEW ORIGIN POINT IS SET !" is displayed for few seconds in the screen.
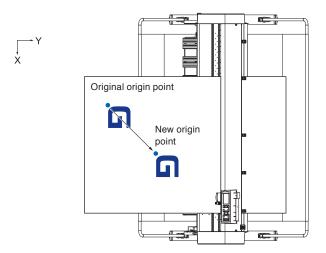
When coordinate axes rotation are set

If the origin point is moved while the coordinate axes are rotated, the origin point will move as shown below.
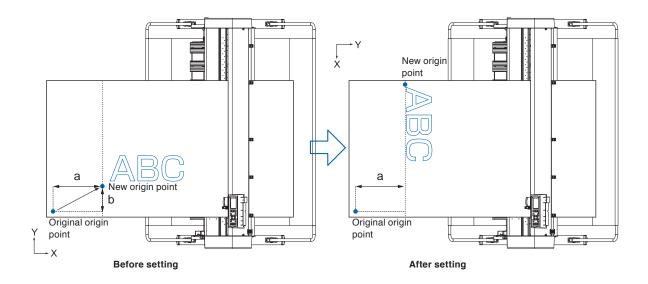
> **Supplement**
>
> See "Setting the Cutting Direction" about the rotation of the coordinate axes.

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 "Settings of Controls from Computer" for setting the COMMAND.
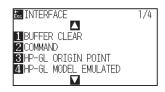
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

3 Press the [3] key (HP-GL ORIGIN POINT).

▷ HP-GL ORIGIN POINT setting screen is displayed.

4 Press the [1] key (LOWER LEFT) or the [2] key (CENTER).

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (1/4).

> **Supplement**
>
> It will return to INTERFACE screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

6 Press the [PAUSE/MENU] key.

▷ It will return to the default screen.
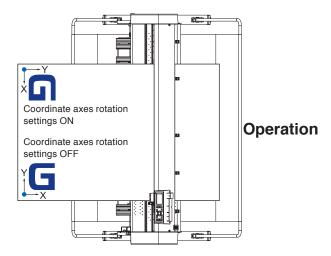
3.4 *Setting the Cutting Direction*

Rotate the coordinate axes to change the cutting direction.

> **Reference**
>
> 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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [3] key (AREA).

▷ AREA PARAMETERS screen (1/1) is displayed.

3 Press the [3] key (ROTATE).

▷ ROTATE screen is displayed.

4   Press the [1] key (ON) or the [2] key (OFF).

5   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to AREA PARAMETERS screen (1/1).

6   Press the [PAUSE/MENU] key.

The tool carriage moves to the coordinate position you set.

▷ It will return to default screen.

3.5 Stop Cutting

It will stop cutting when the [PAUSE/MENU] key is pressed while cutting. Operation selection 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.
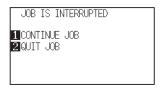
It is also possible to exchange or reset the media while it is stopped.

Pause and resume cutting

Operation

1 Press the [PAUSE/MENU] key.

▷ Cutting will stop and following screen is displayed.

```
 JOB IS INTERRUPTED

1 CONTINUE JOB
2 QUIT JOB
```

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 [1] key (CONTINUE JOB).

▷ Cutting will start and the screen will resume to operation.

```
1:Condition No. 1          HP
       PEN S30 F12 A2       GL
       PROCESSING          PRO
                           GRA
                           Soft
                           ON
CON CHANGE SETTING
DIT
PA  STOP(PAUSE)
USE
```

Supplement
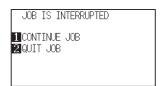
It will stop cutting by pressing [2] key (QUIT JOB).

See "Stop Cutting".

Stop cutting

Operation

1 Press the [PAUSE/MENU] key.

▷ Operation will stop and following screen is displayed.

```
 JOB IS INTERRUPTED

1 CONTINUE JOB
2 QUIT JOB
```

2 Press the [2] key (QUIT JOB).

▷ Following screen is displayed.

```
BUFFER CLEAR
 CONFIRM DATA FROM
  HOST STOPPED.


1 YES, CLEAR
Esc CANCEL
```

3 Confirm if the data transfer from the computer is stopped and press the [1] key (YES, CLEAR).

▷ Following screen is displayed, the buffer memory is cleared, and it will return to default screen.

```
   CLEARING BUFFER!
    PLEASE WAIT
```

Supplement

● It will return to operation stop screen without clearing buffer memory when [ESC] key (CANCEL) is pressed.

● In the case that the operation is interrupted and the buffer is cleared, make sure that the data transfer is stopped.

 If the data transfer continues, abnormal operations where data is processed from the middle may occur.

```
   BUFFER CLEAR
   COMPLETED!
```

```
1:Condition No. 1              HP
      PEN S30 F12 A2           GL
          READY
                               PRO
                               GRA
1 TOOL1 VIEW                   Soft
2 HOME                         ON
ENT
ER  CONDITION No.
```

Chapter 4: Convenient Functions

This chapter describes about the convenient functions of the plotter.

4.1 *Settings for Cutting*

The cutting area, cutting width and page length, 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.
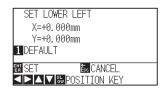
Supplement

- See "Setting the Origin Point" about the moving the origin point.
- See "Setting Origin Point When HP-GL is Set" for setting the origin point with HPGL command.

It will only cut within this range

Upper right set position

Origin point

G Image already cut

Operation

1 Press the [PAUSE/MENU] key in READY status.

▷ MENU screen is displayed.

2 Press the [3] key (AREA).

▷ AREA PARAMETERS screen (1/1) is displayed.

3 Press the [1] key (AREA).

▷ SET LOWER LEFT screen is displayed.

```
SET LOWER LEFT
   X=+0.000mm
   Y=+0.000mm
1 DEFAULT

ENT  SET      Esc CANCEL
ER
◀ ▶ ▲ ▼ SL POSITION KEY
         OW
```

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

5 Press the [ENTER] key (SET) once the tool carriage is in correct position.

▷ SET UPPER RIGHT screen is displayed.

```
SET UPPER RIGHT
   X=+3000.000mm
   Y=+1219.000mm
1 DEFAULT

ENT  SET      Esc CANCEL
ER
◀ ▶ ▲ ▼ SL POSITION KEY
         OW
```

6 Press the POSITION (▲▼◀ ▶) keys and move the tool carriage to the upper right position of the AREA.

7 Press the [ENTER] key (SET) once the tool carriage is in correct position.

▷ Setting will be confirmed and it will return to AREA PARAMETERS screen (1/1).

8 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Supplement

● Coordinate value displayed here is the distance to the tool carriage from the origin point.

● Press [1] key (DEFAULT) if the cutting are is not to change.

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.

```
SET UPPER RIGHT
   X=+2000.000mm
   Y= E05006 ERROR
1 DEF/ ILLEGAL PLOT AREA
       ENT CONFIRM
       ER
ENT  SET      Esc CANCEL
ER
◀ ▶ ▲ ▼ SL POSITION KEY
         OW
```

You will need to reset the settings for the upper right and lower left points.

Supplement

It will return to AREA PARAMETERS screen (1/1) without changing the settings when you press the [ESC] key (CANCEL).

Setting cutting width (EXPAND)

Set the cutting width. It is possible to set that it will cut to the area outside of the push rollers, or not to cut at the ends of the media.

Default setting is to the internal edge of the push rollers. It can be set up to 10 mm outside (positive value) or 10 mm inside (negative value) from the default position. The width will enlarge if the value is set to positive, and the width will decrease if the value is set to negative. Setting will affect both ends, resulting the total width change will be double the set value.

> ⚠ **CAUTION**
>
> Do not set the "INITIAL BLADE CONTROL POSITION" of the tool setting to "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 to positive, 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
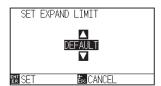
1   Press the [PAUSE/MENU] key in READY status.

▷ MENU screen is displayed.

2   Press the [3] key (AREA).

▷ AREA PARAMETERS screen (1/1) is displayed.

3   Press the [2] key (EXPAND).

▷ SET EXPAND LIMIT screen is displayed.

4 Press the POSITION (▲▼) keys and increase or decrease the setting value.

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to AREA PARAMETERS screen (1/1).

6 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Setting length of the page

Length of 1 page when using the roll media is set.

Only the part that will fit in to the set page length will be cut for the cutting data that is longer than the set page length, and the exceeding part will not be cut.

Reference
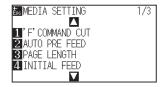
● Default page length is 3 m. When doing long cuts, check the setting of the page length.

  * Be sure to use the basket.

● For the CE7000-130AP, 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.

● Make sure to level the whole of the media to get rid of unevenness before cutting. (See "Setting the number of pre feeds"). Also, pre feeding can be done automatically when the data is received (see "Perform Automatic Pre Feed When Cut Data is Received"), or done automatically when the media is loaded (see "Perform Automatic Pre Feed When Media is Set (Initial Feed)").

  * 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.
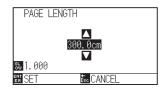
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the [3] key (PAGE LENGTH).

▷ PAGE LENGTH screen is displayed.

4 Press the POSITION (▲▼) keys and increase or decrease the setting value.

> **Supplement**
>
> ● Press the [SLOW] key to select the setting digits.
> ● You can set the range between 20.0 and 5000.0 cm.

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (1/3).

> **Supplement**
>
> It will return to MEDIA SETTING screen (1/3) without changing the settings when you press the [ESC] key (CANCEL).

6 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

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.
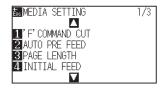
This function is available when the Initial Feed or if Partition Pastern is ON.

Operation
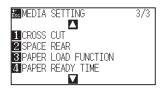
1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the POSITION (▼) key.
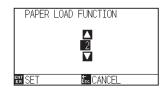
▷ MEDIA SETTING screen (3/3) is displayed.

4 Press [3] key (PAPER LOAD FUNCTION).

▷ PAPER LOAD FUNCTION setting screen is displayed.

5 Press the POSITION (▲▼) keys to change the current setting.

Supplement

- You can set 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 [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (1/3).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Setting paper Ready 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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the POSITION (▼) key.
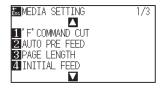
▷ MEDIA SETTING screen (3/3) is displayed.

4 Press the [4] key (PAPER READY TIME).

▷ PAPER REDY TIME setting screen is displayed.

```
PAPER READY TIME
        ▲
   180[sec]
        ▼
ENT           ← 
ER SET       Esc CANCEL
```

5 Press the POSITION (▲▼) keys to change the current setting.

Supplement

- Paper exposure time can be set to 0, 60, 120, 180, 300, 420, or 600 seconds.
- 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 [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (3/3).

Supplement

It will return to MEDIA SETTING screen (3/3) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Setting the space rear

This setting allows a cross cut to be made from the maximum value of the cut along the X axis based on the rear margin setting during time out or when making a cross cut across a separator.

Operation
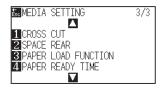
1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed

```
1TOOL 2AXIS 3AREA 4MEDIA
▲I/F  ▼ADV. ◄TEST ►MEM.
```

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

```
←
Esc MEDIA SETTING      1/3
              ▲
1 'F' COMMAND CUT
2 AUTO PRE FEED
3 PAGE LENGTH
4 INITIAL FEED
              ▼
```

3 Press the POSITION (▼) key.

▷ MEDIA SETTING screen (3/3) is displayed.

```
┌─────────────────────────────┐
│±|MEDIA SETTING        3/3   │
│Esc         ▲               │
│1 CROSS CUT                  │
│2 SPACE REAR                 │
│3 PAPER LOAD FUNCTION        │
│4 PAPER READY TIME           │
│            ▼               │
└─────────────────────────────┘
```
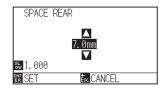
4 Press the [2] key (SPACE REAR).

▷ SPACE REAR setting screen is displayed.

```
┌─────────────────────────────┐
│  SPACE REAR                 │
│            ▲               │
│          7.0mm              │
│            ▼               │
│SL 1.000                     │
│OW                           │
│ENT SET        ± CANCEL      │
│ER            Esc            │
└─────────────────────────────┘
```

5 Press the POSITION (▲▼) keys to change the current setting.

Supplement

● Press the [SLOW] key to change the setting digits.

● The rear margin can be set between 7.0 mm to 30.0 mm.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (3/3).

Supplement

It will return to MEDIA SETTING screen (3/3) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

4.2 Copy (Duplicate Cutting)

The function to cut specified numbers of cutting data stored in the buffer memory is called COPY.
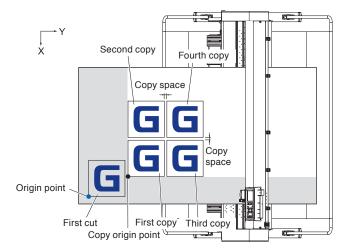
> **Supplement**
>
> ● Do not send new data to plotter while copying. Cutting data in the buffer memory will be cleared.
>
> ● Previous cutting data will be cleared and newly sent data will be stored as cutting data if you send new data with 10 seconds or more interval from the time it finished cutting.
>
> ● 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 "Sorting the Cutting Data" for data sort.
>
> ● Watch out that it does not fall out of media when cutting with copy function.
>
> ● 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.
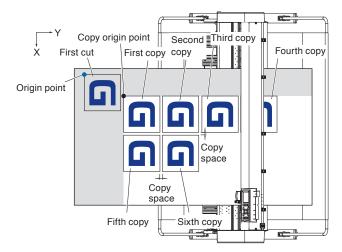
When media change mode is OFF

Copy is performed in following order.

It will copy in following order when COORDINATE AXES ROTATION is set.

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 [COPY] key

▷ COPY MODE screen is displayed.

```
 COPY MODE
1 MEDIA CHANGE MODE
                 :OFF
2 NUMBER OF COPIES :1
3 COPY SPACE     :1.0mm

ENTER SET     Esc CANCEL
```

4 Press the [1] key (MEDIA CHANGE MODE).

▷ MEDIA CHANGE MODE screen is displayed.

```
 COPY MODE
1 MED MEDIA CHANGE MODE
     1 OFF
2 NUM 2 ON
3 COP Esc PREVIOUS    m

ENTER SET     Esc CANCEL
```

5 Press the [1] key (OFF).

▷ Confirm the settings and it will return to the COPY MODE screen.

6 Press the [2] key (NUMBER OF COPIES).

▷ NUMBER OF COPIES screen is displayed.

```
 COPY MODE
1 ME NUMBER OF COPIES
          ▲
2 NU      1
3 CO      ▼
   Esc PREVIOUS
ENTER SET     Esc CANCEL
```

7 Press the POSITION (▲▼) keys and increase or decrease the setting value.

8 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ Number of copies will be selected, and it will return to COPY MODE screen.

9 Press the [3] key (COPY SPACE).

▷ COPY MODE SETTINGS screen is displayed.

```
COPY MODE
1 MEDI  COPY SPACE
             ▲           :
2 NUMB
3 COPY     1.0mm
             ▼         0mm
ENT    ESC PREVIOUS
ER SET      ESC CANCEL
```

10 Press the POSITION (▲▼) keys and increase or decrease the setting value.

11 Confirm the setting and press the [ENTER] key (SET).

▷ "COPY" is displayed on the screen, and it will copy as much as specified.

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 (cut).

Media switch copies can be made up to the set copy number (designated number).

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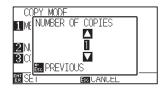
1 Plot (cut) the data you want to copy once.

▷ Cutting data is stored in the buffer memory.

2 Press the [COPY] key.

▷ COPY MODE screen is displayed.

```
  COPY MODE
1 MEDIA CHANGE MODE
                 :OFF
2 NUMBER OF COPIES  :1
3 COPY SPACE        :1.0mm

ENT SET         ← CANCEL
ER              ESC
```

3 Press the [1] key (MEDIA CHANGE MODE).

▷ MEDIA CHANGE MODE screen is displayed.

```
  COPY MODE
1 MED MEDIA CHANGE MODE
      1 OFF
2 NUM 2 ON
3 COP ESC PREVIOUS     m

ENT SET         ← CANCEL
ER              ESC
```

4 Press the [2] key (ON).

▷ Confirm the settings and it will return to the COPY MODE screen.

5 Press the [2] key (NUMBER OF COPIES).

▷ NUMBER OF COPIES setting screen is displayed.

```
  COPY MODE
1 ME NUMBER OF COPIES
        ▲
2 N     1
3 C     ▼

   ESC PREVIOUS
ENT SE          ESC CANCEL
ER
```

6 Press the POSITION (▲▼) keys and increase or decrease the setting value.

Supplement

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

```
1:Condition No. 1        HP
      PFN S30 F12 A2      GL
   COPY MODE
    CHANGE MEDIA!         PRO
   ESC QUIT COPY          GRA
                          Soft
CON CHANGE SETTING        ON
DIT
PA STOP(PAUSE)
USE
```

"If the [ESC] key (QUIT COPY) is pressed, copying will be suspended and it will return to the default 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, "There is no data for copying in the buffer" will be displayed. Please send cutting data.

● If too much data is sent from the buffer memory, "1 copy in the Copy mode buffer!" will be displayed.

Supplement

It will return to COPY MODE screen without changing the settings when you press the [ESC] key (PREVIOUS).
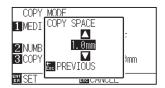

Supplement

The copy number can be set from 1 to 100.

7 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ NUMBER OF COPIES will be selected and it will return to COPY MODE screen.

8 Confirm the setting and press the [ENTER] key (SET).

▷ The plotter starts a copy immediately.

9 Replace the media. (When the number of copies is "2" or more)

▷ "COPY MODY CHANGE MEDIA!" will be displayed on the screen.

```
1:Condition No. 1          HP
        PEN S30 F12 A2      GL
       ┌COPY MODE────┐
       │  CHANGE MEDIA! │    PRO
       │              │    GRA
       │Esc QUIT COPY │    Soft
       └──────────────┘    ON
COND CHANGE SETTING
PA  STOP(PAUSE)
USE
```

10 The plotter starts a copy immediately after replacing the media.

This operation's specified number of copies will be repeated.

To suspend, press the [ESC] key (QUIT COPY).

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 set to ON, copy, initial feed, and cutting area cannot set.

- 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.

- When Panel Cutting is on, set the cutting/plotting speed to 30 cm/s.

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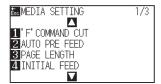
This setting will be saved even if the power is shut off.

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the POSITION (▲) key

▷ MEDIA SETTING screen (2/3) is displayed.

```
Esc MEDIA SETTING      2/3
            ▲
1 FEED SPEED
2 CROSS CUT FORCE
3 PANEL CUTTING

            ▼
```
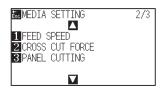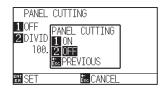
4 Press the [3] key (PANEL CUTTING).

▷ PANEL CUTTING screen is displayed.

```
  PANEL CUTTING
1 OFF
2 DIVIDE LENGTH
   100.0cm


ENTER SET        Esc CANCEL
```

5 Press the [1] key (OFF).

▷ PANEL CUTTING setting screen is displayed.

```
  PANEL CUTTING
1 OFF
2 DIVID PANEL CUTTING
   100. 1 ON
        2 OFF
        Esc PREVIOUS
ENTER SET        Esc CANCEL
```
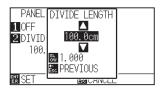
6 Press the [1] key (ON) or the [2] key (OFF).

▷ Setting will be confirmed and it will return to the PANEL CUTTING screen.

7 Press the [2] key (DIVIDE LENGHT).
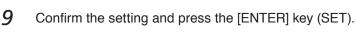
▷ DIVIDE LENGHT screen is displayed.

```
PANEL DIVIDE LENGTH
1 OFF        ▲
2 DIVID   100.0cm
   100.      ▼
        Slow 1.000
        Esc PREVIOUS
ENTER SET   Esc CANCEL
```

Supplement

● Press the [SLOW] key to select the setting digits.

● The partition length can be set from 1.0 to 2000.0 cm.

8 Press the POSITION (▲▼) keys and increase or decrease the setting value.

9 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to the MEDIA SETTING screen (2/3).

Supplement

It will return to MEDIA SETTING screen (2/3) without changing the settings when you press the [ESC] key (PREVIOUS).

10 Press the [PAUSE/MENU] key.

▷ It will return to default 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.

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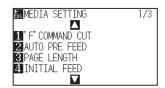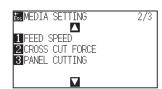
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

```
Esc MEDIA SETTING        1/3
             ▲
1 'F' COMMAND CUT
2 AUTO PRE FEED
3 PAGE LENGTH
4 INITIAL FEED
             ▼
```

3 Press the POSITION (▲) key.

▷ MEDIA SETTING screen (2/3) is displayed.

```
Esc MEDIA SETTING        2/3
             ▲
1 FEED SPEED
2 CROSS CUT FORCE
3 PANEL CUTTING
             ▼
```
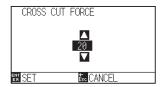
4 Press the [2] key (CROSS CUT FORCE).

▷ CROSS CUT FORCE screen is displayed.

```
  CROSS CUT FORCE

             ▲
             20
             ▼

ENTER SET       Esc CANCEL
```

5   Press the POSITION (▲▼) keys and increase or decrease the setting value.

6   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (2/3).

7   Press the [PAUSE/MENU] key.

▷ It will return to default 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.

The ARMS function cannot be used for accurately matching up points.

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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.
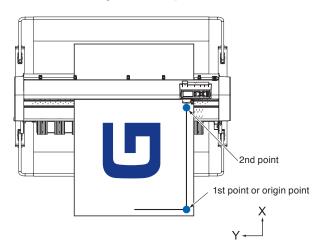
Move the tip of each tool to the appropriate point.

Use media that has the plots (grits or alignment marks) required to find the X and Y axis and the origin point.

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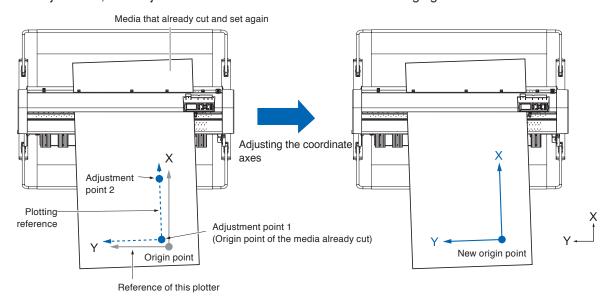
The number of alignment marks is 2 points. The position of each alignment mark is as shown in the following figure.

Alignment with 2 points

2nd point

1st point or origin point

X
Y

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

X

Adjustment
point 2

Plotting
reference

Y

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

Origin point

Reference of this plotter

Adjusting the coordinate axes

X

Y

X

X

New origin point

Y

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.

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.

Operation

1   Set the media with the plotted alignment mark.

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

3 Press the [PAUSE/MENU] key.
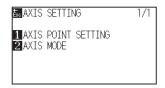
▷ MENU screen is displayed.

4 Press the [2] key (AXIS).

▷ AXIS SETTING screen (1/1) is displayed.

5 Press the [1] key (AXIS POINT SETTING).

▷ The following message is displayed.

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)

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.

Supplement

It will return to default screen without scanning when you press the [ESC] key (CANCEL).

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).

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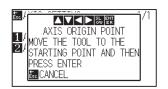
Pressing the POSITION and [SLOW] keys at the same time will move the tool carriage slower.

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).

```
ESC          ▲▼◀▶ SL  ENT    ▲/1
             OW  ER
 1    AXIS ORIGIN POINT
 2  MOVE THE TOOL TO THE
    STARTING POINT AND THEN
    PRESS ENTER
 ESC CANCEL
```

11 Confirm the setting and press the [ENTER] key (SET).

▷ The tilt angle of the X axis is calculated and the axis alignment is performed. On completing it, it will return to default screen.

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.

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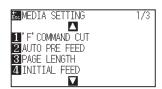
Operation

1   Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2   Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3   Press the [1] key ('F' COMMAND CUT).

▷ 'F' COMMAND CUT screen is displayed.

4   Press the [1] key (ON) or the [2] key (OFF).

5   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (1/3).

> **Supplement**
>
> It will return to MEDIA SETTING screen (1/3) without changing the settings when you press the [ESC] key (CANCEL).

6   Press the [PAUSE/MENU] key.

▷ It will return to default screen.

6.2 Setting a Time Out

Regarding the timeout settings, 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.

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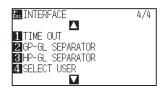
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

```
Esc INTERFACE          1/4
             ▲
 1 BUFFER CLEAR
 2 COMMAND
 3 HP-GL ORIGIN POINT
 4 HP-GL MODEL EMULATED
             ▼
```

3 Press the POSITION (▼) key.

▷ INTERFACE screen (4/4) is displayed.

```
Esc INTERFACE          4/4
             ▲
 1 TIME OUT
 2 GP-GL SEPARATOR
 3 HP-GL SEPARATOR
 4 SELECT USER
             ▼
```
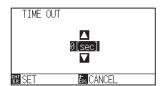
4 Press the [1] key (TIME OUT).

▷ TIME OUT screen is displayed.

```
   TIME OUT

             ▲
        0 [sec]
             ▼

ENTER SET        Esc CANCEL
```

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (4/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

6.3 Setting a Separator

Regarding the separator settings, 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.
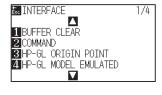
> **Reference**
>
> This setting will be saved even if the power is shut off.
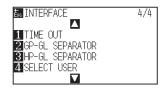
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

```
Esc INTERFACE        1/4
              ▲
1 BUFFER CLEAR
2 COMMAND
3 HP-GL ORIGIN POINT
4 HP-GL MODEL EMULATED
              ▼
```

3 Press the POSITION (▼) key.

▷ INTERFACE screen (4/4) is displayed.

```
Esc INTERFACE        4/4
              ▲
1 TIME OUT
2 GP-GL SEPARATOR
3 HP-GL SEPARATOR
4 SELECT USER
              ▼
```
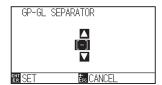
4 Press the [2] key (GP-GL SEPARATOR).

▷ GP-GL SEPARATOR screen is displayed.

```
   GP-GL SEPARATOR

              ▲
            [ ]
              ▼

ENTER SET      Esc CANCEL
```

5 Press the POSITION (▲▼) keys to change the setting.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (4/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

HP-GL separator

Set the separator at HP-GL.

Reference

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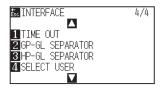
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

3 Press the POSITION (▼) key.
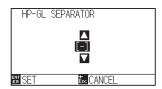
▷ INTERFACE screen (4/4) is displayed.

4   Press the [3] key (HP-GL SEPARATOR).

▷ HP-GL SEPARATOR screen is displayed.

```
HP-GL SEPARATOR
                ▲
               [-]
                ▼
ENT SET        ← CANCEL
ER             ESC
```

5   Press the POSITION (▲▼) keys to change the setting.

6   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (4/4).

7   Press the [PAUSE/MENU] key.

▷ It will return to default 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.
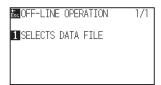
Supplement

- Only 1-byte alphanumeric characters (ASCII) are supported.

- Windows prohibited characters (¥, /, /, ;, *, ?, ", <, >, I, 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.

Operation

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

2 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.
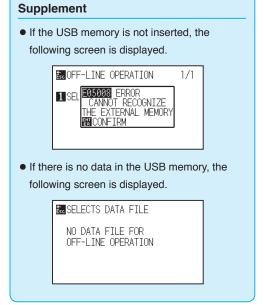
3 Press the POSITION (▶) key (MEM.).

▷ OFF-LINE OPERATION screen (1/1) is displayed.

4 Press the [1] key (SELECTS DATA FILE).

▷ SELECTS DATA FILE screen is displayed.

```
SELECTS DATA FILE
<1TEST DATA FOLDER>      ▶ ▲
<2TEST PATTERN FOLDER >
3TEST_PATTERN_ABCDEFGHIJK
4TEST_DATA.xpf            ▼
```

Supplement

● If the USB memory is not inserted, the following screen is displayed.

```
OFF-LINE OPERATION      1/1
 SEL E05008 ERROR
       CANNOT RECOGNIZE
     THE EXTERNAL MEMORY
     CONFIRM
```

● 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 Press the POSITION (▲▼) keys to select the file.

Supplement

Press the POSITION (◀▶) keys to change the file.

6 Press the [ENTER] (START).

▷ Cutting starts with the selected file.

7 When the cutting is finished, it will become READY status.

6.5 Cross Cut Settings

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

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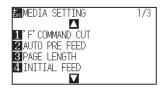
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the POSITION (▼) key.

▷ MEDIA SETTING screen (3/3) is displayed.

4 Press the [1] key (CROSS CUT).

▷ CROSS CUT screen is displayed.

5 Press the [1] key (ON) or the [2] the (OFF).
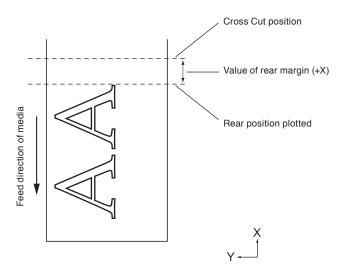
6   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MADIA screen (1/3).

7   Press the [PAUSE/MENU] key.

▷ It will return to default 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.
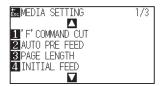
Cross Cut position

Value of rear margin (+X)

Rear position plotted

Feed direction of media

X

Y

Reference

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

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the POSITION (▼) key.

▷ MEDIA SETTING screen (3/3) is displayed.

```
⊞Esc MEDIA SETTING      3/3
              ▲
1 CROSS CUT
2 SPACE REAR
3 PAPER LOAD FUNCTION
4 PAPER READY TIME
              ▼
```
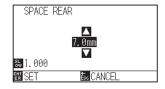
4 Press the [2] key (SPACE REAR).

▷ SPACE REAR screen is displayed.

```
  SPACE REAR

              ▲
          7.0mm
              ▼
SL
OW 1.000
ENT
ER SET        Esc CANCEL
```

5 Press the POSITION (▲▼) keys to change the setting.

Supplement

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

● Press the [SLOW] key to select the setting digits.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (3/3).

Supplement

It will return to MEDIA SETTING screen (3/3) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

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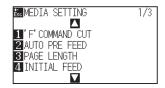
Set the number of pre feeds to prevent deviations from occurring when the roll media is pulled out. During the pre feed, the grit roller leaves traces on the paper. Pre feeds can be repeated after paper exposure time has elapsed. This function is available when the Initial Feed or if Panel Cutting is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

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the POSITION (▼) key.

▷ MEDIA SETTING screen (3/3) is displayed.

4 Press the [3] key (PAPER LOAD FUNCTION).

▷ PAPER LOAD FUNCTION screen is displayed.

5 Press the POSITION (▲▼) keys to change the setting.

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 [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MADIA screen (3/3).

7   Press the [PAUSE/MENU] key.

▷ It will return to default screen.

> **Supplement**
>
> It will return to MEDIA SETTING screen (3/3)
> without changing the settings when you press
> the [ESC] key (CANCEL).

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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

2　Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

```
Esc MEDIA SETTING        1/3
              ▲
 1 'F' COMMAND CUT
 2 AUTO PRE FEED
 3 PAGE LENGTH
 4 INITIAL FEED
              ▼
```

3　Press the POSITION (▼) key.

▷ MEDIA SETTING screen (3/3) is displayed.

```
Esc MEDIA SETTING        3/3
              ▲
 1 CROSS CUT
 2 SPACE REAR
 3 PAPER LOAD FUNCTION
 4 PAPER READY TIME
              ▼
```

4　Press the [4] key (PAPER READY TIME).

▷ PAPER READY TIME is displayed.

```
  PAPER READY TIME

             ▲
          0 [sec]
             ▼

ENTER SET      Esc CANCEL
```

5   Press the POSITION (▲▼) keys to change the setting.

6   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MADIA screen (3/3).

7   Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Chapter 7:
Setting 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.

PRODUCT SUMMARY
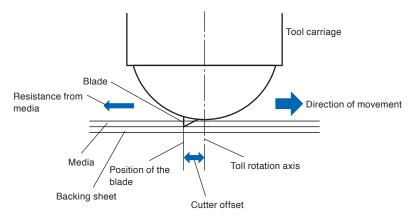
7.1 Cutting the Corner of Thick Media Sharp
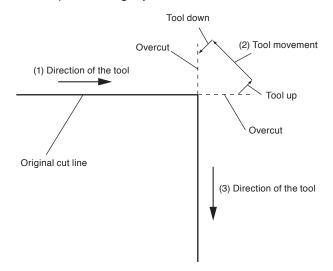
Outline of tangential mode

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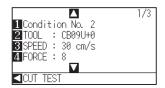
The length of the overcuts by tangential mode can be set individually for start of the line and for end of the line.

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. 1 to 8.

Operation

1 Press the [COND/TEST] key.

▷ CONDITION setting screen (1/3) is displayed.

```
              ▲              1/3
 ❶Condition No. 2
 ❷TOOL  : CB09U+0
 ❸SPEED : 30 cm/s
 ❹FORCE : 8
              ▼
 ◀CUT TEST
```

2 Press the POSITION (▲) key.

▷ CONDITION setting screen (2/3) is displayed.

```
              ▲              2/3
 ❶ACCELERATION : 2

 ❸TANGENTIAL MODE
 ❹OVERCUT
              ▼
 ◀CUT TEST
```
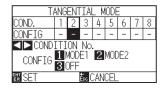
3 Press the [3] key (TANGENTIAL MODE).

▷ TANGENTIAL MODE screen is displayed.

```
       TANGENTIAL MODE
 COND.  1  2  3  4  5  6  7  8
 CONFIG -  ▬  -  -  -  -  -  -
 ◀▶CONDITION No.
   CONFIG ❶MODE1 ❷MODE2
          ❸OFF
 ⬛SET          ⬛CANCEL
 ENTER         ESC
```

4 Press the POSITION (◀▶) keys and select the tool condition number (CONDITION No.).

5 Press the [1] key (MODE1), the [2] key (MODE2), or the [3] key (OFF) to select the mode.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to CONDITION setting screen (2/3).

> **Supplement**
>
> It will return to CONDITION setting screen (2/3) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [COND/TEST] key.

▷ It will return to default screen.

Setting the length of overcut
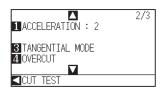
Set the length of overcut with tangential mode.

Operation

1 Press the [COND/TEST] key.

▷ CONDITION setting screen (1/3) is displayed.

```
              ▲            1/3
1 Condition No. 2
2 TOOL  : CB09U+0
3 SPEED : 30 cm/s
4 FORCE : 8
              ▼
◀ CUT TEST
```

2 Press the POSITION (▲) key.

▷ CONDITION setting screen (2/3) is displayed.

```
              ▲            2/3
1 ACCELERATION : 2

3 TANGENTIAL MODE
4 OVERCUT
              ▼
◀ CUT TEST
```
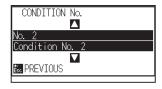
3 Press the [4] key (OVERCUT).

▷ OVERCUT screen is display
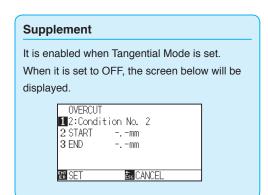
```
  OVERCUT
1 2:Condition No. 2
2 START    0.0mm
3 END      0.0mm

ENTER SET      ESC CANCEL
```

4 Press the [1] key (Condition No.)

▷ CONDITION No. screen is displayed.

```
  CONDITION No.
              ▲
No. 2
Condition No. 2
              ▼
ESC PREVIOUS
```

5 Press the POSITION (▲▼) keys and select the CONDITION No.

6 Confirm the setting, and press the [ESC] key (PREVIOUS).

▷ Condition No. will be selected and it will return to OVERCUT screen.

Supplement

It is enabled when Tangential Mode is set.
When it is set to OFF, the screen below will be displayed.

```
  OVERCUT
1 2:Condition No. 2
2 START    -.-mm
3 END      -.-mm

ENTER SET      ESC CANCEL
```
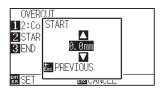
7 Press the [2] key (START).

▷ START screen is displayed.

```
OVERCUT
1 2:Co  START
2 STAR      ▲
3 END    0.0mm
            ▼
     Esc PREVIOUS
ENTER SET    ESC CANCEL
```

8 Press the POSITION (▲▼) keys and increase or decrease the setting value.

Supplement

You can set the range between 0.0 mm and 0.9 mm.

9 Confirm the setting and press the [ESC] key (PREVIOUS).
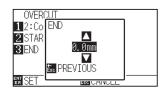
▷ Length for overcut START is selected and return to OVERCUT setting screen.

10 Press the [3] key (END).

▷ Overcut length for END setting screen is displayed.

```
OVERCUT
1 2:Co  END
2 STAR      ▲
3 END    0.0mm
            ▼
     Esc PREVIOUS
ENTER SET    ESC CANCEL
```

11 Press the POSITION (▲▼) keys and increase or decrease the setting value.

Supplement

You can set the range between 0.0 mm and 0.9 mm.

12 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ Length for overcut END will be selected and it will return to OVERCUT screen.

13 Repeat steps 3 to 12 as necessary to set multiple tool CONDITION No.

14 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to CONDITION setting screen (2/3).

Supplement

It will return to CONDITION setting screen (2/3) without changing the settings when you press the [ESC] key (CANCEL).

15 Press the [COND/TEST] key.

▷ It will return to default 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.
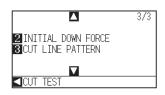
When the initial down force is specified, this force is used as the cutting force immediately after the lowering of the tool when tangential mode is selected, enabling the cutter blade to penetrate the media rapidly. (As an example, if the cutting force is 25 and the initial down force is 4, for example, 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 [COND/TEST] key.

▷ CONDITION setting screen (1/3) is displayed.

```
              ▲         1/3
1 Condition No. 2
2 TOOL  : CB09U+0
3 SPEED : 30 cm/s
4 FORCE : 8
              ▼
◀ CUT TEST
```

2 Press the POSITION (▼) key.

▷ CONDITION setting screen (3/3) is displayed.

```
              ▲         3/3

2 INITIAL DOWN FORCE
3 CUT LINE PATTERN
              ▼
◀ CUT TEST
```

3 Press the [2] key (INITIAL DOWN FORCE).

▷ INITIAL DOWN FORCE screen is displayed.

```
       INITIAL DOWN FORCE
COND.   1 2 3 4 5 6 7 8
CONFIG  - 0 - - - - - -
◀▶ CONDITION No.
        ▲ UP
  CONFIG ▼ DOWN
ENT SET        Esc CANCEL
ER
```

4 Press the POSITION (◀▶) keys and select the CONDITION No.

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

Supplement

You can set the range between 0 and 20.

6   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to CONDITION setting screen (3/3).

7   Press the [COND/TEST] key.

▷ It will return to default 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.
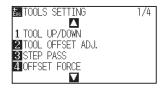
Operation
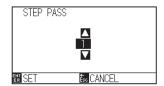
1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

3 Press the [3] key (STEP PASS).

▷ STEP PASS screen is displayed.

4 Press the POSITION (▲▼) keys and increase or decrease the setting value.

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

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOLS SETTING screen (1/4).

6 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

7.3 Setting the Offset Angle

The CE7000-130AP 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 reference angle, since it will only apply blade control when there are angles with large angle change, hence reducing the time to make the blade control.

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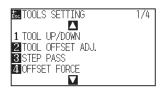
> **Supplement**
>
> The setting will be saved even if the power is shut off.

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

3 Press the POSITION (▲) key.

▷ TOOLS SETTING screen (2/4) is displayed.
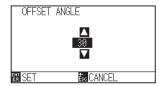
4 Press the [1] key (OFFSET ANGLE).

▷ OFFSET ANGLE screen is displayed.

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

Supplement

You can set the range between 0 and 60.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOLS SETTING screen (1/4).

Supplement

It will return to TOOLS SETTING screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default 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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [3] key (AREA).

▷ AREA PARAMETERS screen (1/1) is displayed.

3 Press the [4] key (DISTANCE ADJUST).

▷ DISTANCE ADJUST screen is displayed.

4 Press the [1] key (OFF).

▷ DISTANCE ADJUST screen is displayed.

5 Press the [2] key (ON).

▷ D. ADJ. screen is displayed.

```
 DISTANCE ADJUST
1 ON
2 X=+0.00%
3 Y=+0.00%


ENTER SET        ESC CANCEL
```

6 Press the [2] key (X).

▷ X DISTANCE ADJUST screen is displayed.

```
 DISTANCE ADJUST
1 ON┌DISTANCE ADJUST─┐
2 X= │      ▲        │
3 Y= │   X=+0.00%    │
     │      ▼        │
   SLOW 0.010
   ESC PREVIOUS
ENTER SET    ESC CANCEL
```

7 Press the POSITION (▲▼) keys and increase or decrease the setting value.

8 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ X DISTANCE ADJUST will be confirmed and it will return to D. ADJ. screen

9 Press the [3] key (Y).

▷ Y DISTANCE ADJUST screen is displayed.

```
 DISTANCE ADJUST
1 ON┌DISTANCE ADJUST─┐
2 X= │      ▲        │
3 Y= │   Y=+0.00%    │
     │      ▼        │
   SLOW 0.010
   ESC PREVIOUS
ENTER SET    ESC CANCEL
```

10 Press the POSITION (▲▼) keys and increase or decrease the setting value.

11 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ Y DISTANCE ADJUST will be confirmed and it will return to D. ADJ. screen.

Supplement

- You can set the range between -2.00% and +2.00%.
- Press the [SLOW] key to select the setting digits.

Supplement

- You can set the range between -2.00% and +2.00%.
- Press the [SLOW] key to select the setting digits.

12 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to AREA PARAMETERS screen (1/1).

13 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Supplement

It will return to AREA PARAMETERS screen (1/1) without changing the settings when you press the [ESC] key (CANCEL).

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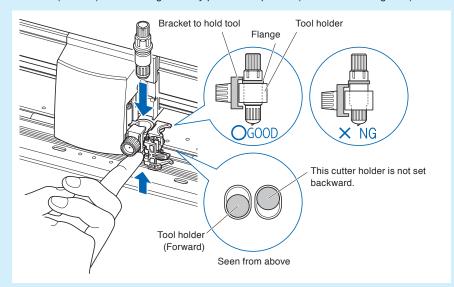
In addition to 8 patterns, "OFF" which cuts by the solid line without perforation patter and "USER" where user can specify a unique pattern are provided.

The processing in the part is not cut with perforation patter is adjusted in "UP MODE".

The perforation patter can be set for each condition number.

Supplement

● Use the Tool Holder (forward).

● Use Tool Holder (forward) when cutting with any perforation pattern (aside from turning it off).

Bracket to hold tool
Tool holder
Flange

○ GOOD   ✕ NG

This cutter holder is not set backward.

Tool holder (Forward)

Seen from above

● Replacing a damaged cutting mat will require a service fee.

● When using the FORCE setting command to control the perforation pattern, set to "OFF".
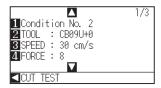
Guideline to perforation pattern

Thickness of material	Pattern number	Cutting length (L)	Up length (L)
Approx. 130g/m^2	3	30.00 mm	1.00 mm
Approx. 80g/m^2	5	30.00 mm	1.40 mm
Approx. 65g/m^2	1	15.00 mm	1.40 mm
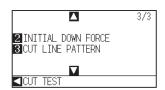
* The materials of 60g/m^2 or less are not suitable for cut with perforation pattern. We recommended that they are used for a pen plotting.

Operation

1 Press the [COND/TEST] key.

▷ CONDITION setting screen (1/3) is displayed.

```
            ▲          1/3
1 Condition No. 2
2 TOOL  : CB09U+0
3 SPEED : 30 cm/s
4 FORCE : 8
            ▼
◀ CUT TEST
```

2 Press the POSITION (▼) key.

▷ CONDITION setting screen (3/3) is displayed.

```
            ▲          3/3

2 INITIAL DOWN FORCE
3 CUT LINE PATTERN

            ▼
◀ CUT TEST
```

Supplement
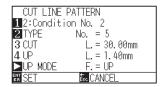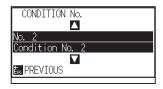
It will return to default screen without changing the settings when you press the [CONDITION] key.

3 Press the [3] key (CUT LINE PATTERN).

▷ CUT LINE PATTERN screen is displayed.

```
  CUT LINE PATTERN
1 2:Condition No. 2
2 TYPE      No. = 5
3 CUT       L. = 30.00mm
4 UP        L. = 1.40mm
▶ UP MODE   F. = UP
ENT SET    Esc CANCEL
ER
```

4 Press the [1] key (Condition No.).

▷ CONDITION No. screen is displayed.

```
  CONDITION No.
            ▲
No. 2
Condition No. 2
            ▼
Esc PREVIOUS
```
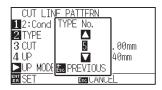
5 Press the POSITION (▲▼) key and select the CONDITION No.

6 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ CONDITION No. will be selected and it will return to CUT LINE PATTERN screen.
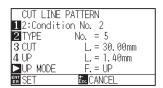
7 Press the [2] key (TYPE No.).

▷ TYPE No. screen is displayed.

```
  CUT LINE PATTERN
12:Cond TYPE No.
2TYPE      ▲
3 CUT      5    .00mm
4 UP       ▼    40mm
▶UP MODE ESC PREVIOUS
ENTER SET      ESC CANCEL
```

8 Press the POSITION (▲▼) keys and select the TYPE No.

9 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ TYPE No. will be selected and it will return to CUT LINE PATTERN screen.

```
  CUT LINE PATTERN
12:Condition No. 2
2TYPE     No. = 5
3 CUT     L. = 30.00mm
4 UP      L. = 1.40mm
▶UP MODE  F. = UP
ENTER SET      ESC CANCEL
```
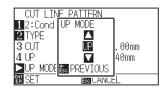
Supplement

● CUT L and UP L is displayed when the TYPE No. 0-7 is selected. Also, you will be able to set the UP MODE.

● Setting for all becomes enabled when USER is selected.

● Nothing will be displayed when "OFF" is selected.

● If the CUT LENGTH is too long or the UP LENGTH is too short, the media may get caught.

In that case, adjust BLADE LENGTH, CUT LENGTH and UP LENGTH.

10 Press the POSITION (▶) key (UP MODE).

▷ UP MODE screen is displayed.

```
  CUT LINE PATTERN
12:Cond UP MODE
2TYPE      ▲
3 CUT     UP    .00mm
4 UP       ▼    40mm
▶UP MODE ESC PREVIOUS
ENTER SET      ESC CANCEL
```

Supplement

You can set the range between 1 and 38, and "UP".

11 Press the POSITION (▲▼) keys and set the UP MODE.

Supplement

● 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.

12 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ It will return to UP MODE CUT LINE PATTERN screen.

13 If the "USER" is chosen in step 8, press the [3] key (CUT L.) and the [4] key (UP L.) to set the cut length and tool up length.

Follow steps 10 to 12 for this operation.

14 Confirm the setting and press the [ENTER] key (SET) in the CUT LINE PATTERN screen.

▷ Setting will be confirmed and it will return to CONDITION setting screen (3/3).

15 Press the [COND/TEST] key.

▷ It will return to the default screen.

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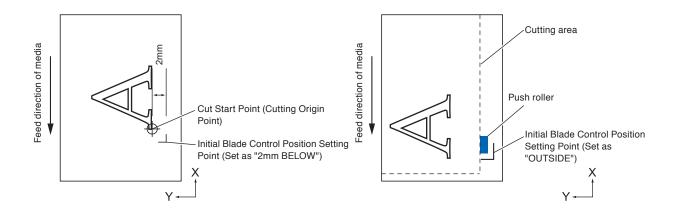
After turning on the power or changing pen condition settings, touch the blade to the media and adjust the blade direction. The Initial Blade Control Position will need to be set in order to make sure the area is not damaged and that the blade properly makes contact with the media.

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**
>
> Selecting [Y OUTSIDE] and then changing the expand setting to a positive digit (8 mm ABOVE) can damage the cutting mat.
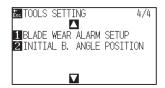
Operation

1. Press the [PAUSE/MENU] key.

   ▷ MENU screen is displayed.

2. Press the [1] key (TOOL).

   ▷ TOOLS SETTING screen (1/4) is displayed.

3 Press the POSITION (▼) key.

▷ TOOLS SETTING screen (4/4) is displayed.

```
ESC TOOLS SETTING        4/4
             ▲
1 BLADE WEAR ALARM SETUP
2 INITIAL B. ANGLE POSITION

             ▼
```

4 Press the [2] key (INITIAL B. ANGLE POSITION).

▷ INITIAL BLADE ANGLE POSITION setting screen is displayed.

```
  INITIAL BLADE
  ANGLE POSITION
1 2mm BELOW
2 Y OUTSIDE
3 SPECIFIED Y POSITION

ENTER SET        ESC CANCEL
```

5 Press the [1] key (2 mm BELOW), the [2] key (Y OUTSIDE) or the [3] key (SPECIFIED Y POSITION).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOLS SETTING screen (4/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

7.7 Setting the OFFSET 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 an OFFSET FORCE.

OFFSET 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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

3 Press the [4] key (OFFSET FORCE).

▷ OFFSET FORCE screen is displayed.

4 Press the POSITION (◀▶) keys to select the Condition No.

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

> **Supplement**
>
> You can set the range between 1 and 38.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOLS SETTING screen (1/4).

> **Supplement**
>
> It will return to TOOLS SETTING screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default 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 forward of 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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOL SETTING (1/4) screen is displayed.

3 Press the [2] key (TOOL OFFSET ADJ.).

▷ TOOL OFFSET ADJ. screen is displayed.

4 Press the [2] key (TEST PATTERN).

▷ The following message is displayed.

5 Press the POSITION (▲▼◄►) keys to move the tool carriage to the position where the test pattern is plotted.

Move it inside of a cutting area greater than 50 mm on both the X and Y axes.
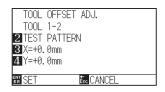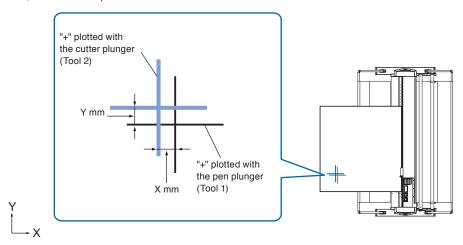
6 Confirm the tool position and press the [ENTER] key.

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

Next, using the cutter plunger (Tool 2), plot a "+" mark.
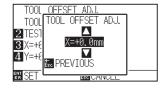
When plotting is completed, TOOL OFFSET ADJ. screen is displayed.

```
 TOOL OFFSET ADJ.
  TOOL 1-2
2 TEST PATTERN
3 X=+0.0mm
4 Y=+0.0mm

ENTER SET        ESC CANCEL
```

7 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

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

X mm
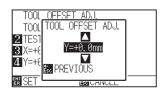
8 Press the [3] key (X=+0.0mm).

▷ Tool 1-2 Interval Adjustment (X) screen is displayed.

```
 TOOL OFFSET ADJ.
  TOOL TOOL OFFSET ADJ.
2 TEST        ▲
3 X=+0    X=+0.0mm
4 Y=+0        ▼
ESC PREVIOUS
ENTER SET        ESC CANCEL
```

9 Press the POSITION (▲▼) keys and increase or decrease the setting value.

10 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ Tool Interval Adjustment screen is displayed.

11 Press the [4] key (Y=+0.0mm).

▷ Tool 1-2 Interval Adjustment (Y) screen is displayed.

```
TOOL OFFSET ADJ.
TOOL┌TOOL OFFSET ADJ.────┐
2 TEST│      ▲          │
3 X=+0│  Y=+0.0mm        │
4 Y=+0│      ▼          │
      │Esc PREVIOUS      │
ENT SET        ESC CANCEL
ER
```

12 Press the POSITION (▲▼) keys and increase or decrease the setting value.

Supplement

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

13 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ TOOL OFFSET ADJ. screen is displayed.

14 Repeat steps 4 to 13 until the misalignment between the two tools is corrected.

15 Confirm the interval and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOL SETTING (1/4) screen.

Supplement

It will return to TOOLS SETTING screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

16 Press the [PAUSE/MENU] key.

▷ It will return to default 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.
>
>
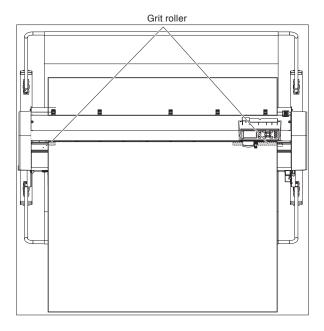
Supplement

- 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
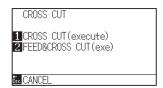
Cross-cut at the current tool carriage position.

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 "SPACE REAR" to the value set in the "PAGE LENGTH".

Operation

1   Press the [CROSS CUT] key in the default screen.

▷ CROSS CUT screen is displayed.

```
 CROSS CUT

1 CROSS CUT(execute)
2 FEED&CROSS CUT(exe)


Esc CANCEL
```

2   Press the [1] key (FEED&CROSS CUT(exe)), or the [2] key (FEED&CROSS CUT(exe)) to select the mode.

▷ Cross-cut the media.

Supplement

It will return to default screen without performing the Cross Cut when you press the [ESC] key (CANCEL).

Chapter 8:
Settings Regarding Cutting Time

Time necessary for cutting depends on the speed to move the tool and media, and efficiency of the operation.

It is best to cut slowly and carefully to cut precisely, but the speed is required to enhance the operational efficiency. The setting needs to be in good balance considering the characteristics of the media and tools, and the contents of the cutting data.

This chapter describes the settings affecting the cutting time.

In addition to this chapter, there are settings affecting the cutting times in following places.

PRODUCT SUMMARY

8.1 Sorting the Cutting Data

When sorting cutting 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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

3 Press the POSITION (▲) key.

▷ TOOLS SETTING screen (2/4) is displayed.

4 Press the [2] key (DATA SORTING).

▷ DATA SORTING screen is displayed.

5 Press the [1] key (ON) or the [2] key (OFF).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOLS SETTING screen (2/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default 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.

- ● "Pre Feed of Media (Paper or Marking Film)"
- ● "Perform Automatic Pre Feed When Media is Set (Initial Feed)"

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.
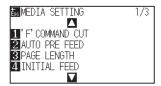
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.
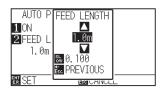
3 Press the [2] key (AUTO PRE FEED).

▷ AUTO PRE FEED screen is displayed.

4 Press the [1] key (OFF).

▷ AUTO PRE FEED setting screen is displayed.

```
 AUTO PRE FEED
1 OFF
2 FEED    AUTO PRE FEED
   1.0r  1 ON
         2 OFF
         Esc PREVIOUS

ENTER SET        Esc CANCEL
```

5 Press the [1] key (ON) or the [2] key (OFF).

▷ AUTO PRE FEED will be selected and it will return to AUTO PRE FEED screen.

6 Press the [2] key (FEED LENGTH).

▷ FEED LENGTH screen is displayed.

```
 AUTO P  FEED LENGTH
1 ON         ▲
2 FEED L    1.0m
   1.0m       ▼
         SLOW 0.100
         Esc PREVIOUS

ENTER SET        Esc CANCEL
```

7 Press the POSITION (▲▼) keys and increase or decrease the setting value.

8 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ FEED LENGTH is selected and return to AUTO PRE FEED screen.

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

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (1/3).

10 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

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

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.

- "Pre Feed of Media (Paper or Marking Film)"
- "Perform Automatic Pre Feed When Cut Data is Received"
- "Setting Feed Speed for Media Set"

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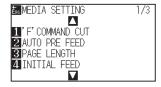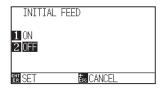
Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the [4] key (INITIAL FEED).

▷ INITIAL FEED screen is displayed.

4 Set the [1] key (ON) or the [2] key (OFF).

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA SETTING screen (1/2).

6 Press the [PAUSE/MENU] key.

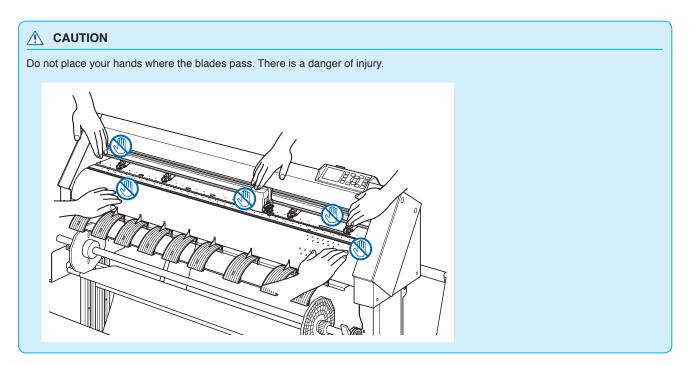▷ It will return to default screen.

> **Supplement**
>
> It will return to MEDIA SETTING screen (1/3) without changing the settings when you press the [ESC] key (CANCEL).

8.4 Setting Feed Speed for Pre Feed

Set the speed of media transfer during the feed (media carry) of auto media transfer of received cut data, leveling of the initial feed etc.

Set the feed speed to "SLOW" if the media shifts during the pre feed if the media is heavy or slippery. It is normally set to "NORMAL".

- ●"Pre Feed of Media (Paper or Marking Film)"
- ●"Perform Automatic Pre Feed When Media is Set (Initial Feed)"
- ●"Perform Automatic Pre Feed When Cut Data is Received"
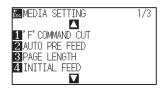
> **Supplement**
>
> This setting will be saved even if the power is shut off.

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [4] key (MEDIA).

▷ MEDIA SETTING screen (1/3) is displayed.

3 Press the POSITION (▲) key.
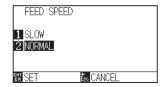
▷ MEDIA SETTING screen (2/3) is displayed.

4 Press the [1] key (FEED SPEED).

▷ FEED SPEED screen is displayed.

5   Press the [1] key (SLOW) or the [2] key (NORMAL).

6   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to MEDIA setting screen (2/3).

7   Press the [PAUSE/MENU] key.

▷ It will return to default 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 tool up 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).
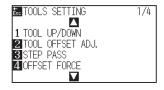
> **Supplement**
>
> This setting will be saved even if the power is shut off.

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

```
1TOOL 2AXIS 3AREA 4MEDIA

A I/F  V ADV.  ◀TEST ▶MEM.
```

2 Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

```
Esc TOOLS SETTING        1/4
                ▲
1 TOOL UP/DOWN
2 TOOL OFFSET ADJ.
3 STEP PASS
4 OFFSET FORCE
                ▼
```

3 Press the POSITION (▲) key twice.

▷ TOOLS SETTING screen (3/4) is displayed.

```
Esc TOOLS SETTING        3/4
                ▲
1 TOOL UP MOVE
2 MOVING SPEED
3 TOOL UP HEIGHT
                ▼
```
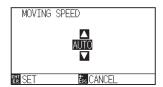
4 Press the [2] key (MOVING SPEED).

▷ MOVING SPEED screen is displayed.

```
MOVING SPEED
            ▲
          AUTO
            ▼

ENTER SET      Esc CANCEL
```

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOLS SETTING screen (3/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

8.6 Setting the Tool Up Move

"Tool up movement" is when you continuously receive tool up movement coordinate news from the computer connected to the CE7000-130AP and set whether to move to every coordinate in order or go directly to the last one.

There are following 2 settings for "TOOL UP MOVE".

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

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

Cutting time can be reduced if it is set to "DISABLED", 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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

3 Press the POSITION (▲) key twice.
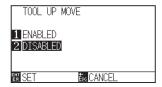
▷ TOOLS SETTING screen (3/4) is displayed.

4 Press the [1] key (TOOL UP MOVE).

▷ TOOL UP MOVE setting screen is displayed.

5 Press the [1] key (ENABLED) or the [2] key (DISABLED).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOLS SETTING screen (3/4).

Supplement

It will return to TOOLS SETTING screen (3/4) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default 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".
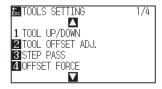
Supplement

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

Operation

1   Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2   Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

3   Press the POSITION (▲) key twice.
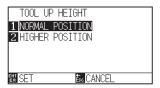
▷ TOOLS SETTING screen (3/4) is displayed.

4   Press the [3] key (TOOL UP HIGHT).

▷ TOOL UP HIGHT screen is displayed.

5   Press the [1] key (NORMAL POSITION) or the [2] key
      (HIGHER POSITION).

6   Confirm the setting and press the [ENTER] key (SET).

      ▷ Setting will be confirmed and it will return to TOOLS SETTING screen
        (3/4).

7   Press the [PAUSE/MENU] key.

      ▷ It will return to default screen.

Chapter 9:
Setting Regarding Interface

This chapter describes setting regarding interface.

**ДЕЛОВАЯ
ИНИЦИАТИВА**

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9.1 *Setting Interface*

This section describes how to set the interface.

The plotter has USB, network (LAN) and RS-232C* interfaces, and these interfaces are switched automatically.

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

* RS-232C interface is optional depending on region. For details, please contact the distributor where you purchased.

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.

For the plotter side, please perform command settings, step size settings (when using GP-GL commands), and origin point settings for HP-GL (when using HP-GL commands).

> ⚠ **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 a driver other than the one provided as a standard accessory is used.
>
> 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.
>
> ● Do not connect multiple plotters to a single computer using the USB interface.

Network (LAN) interface

To use the network (LAN) interface, the settings of the computer and the device such as a network hub have been completed and the environment that can connect the computer to the network must be established.

> ⚠ **CAUTION**
>
> ● To connect through a LAN, you need a network (LAN) cable and a network hub. Please purchase them separately.
>
> ● Configuration of network equipment and the presence or absence of the router function 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.

RS-232C interface

When using the RS-232C interface*, set the command settings, step size settings (when using GP-GL commands), origin point settings for HP-GL (when using HP-GL commands), and transfer conditions for the RS-232C interface. The transfer conditions for the RS-232C interface can be set from the operations panel. The transfer condition should be set to the same in the software used and in the CE7000-130AP. If there is a mistake in the settings an error may displayed in the plotter and lack of data can cause a malfunction. In such a case, please confirm the data transfer settings again.

* RS-232C interface is optional depending on region. For details, please contact the distributor where you purchased.

(See "Setting Origin Point When HPGL is Set")
(See "Setting the STEP SIZE")
(See "Setting the Command (COMMAND)")
(See "Connecting with RS-232C")

9.2 Clearing the Buffer Memory

This function allows you to clear all the output data in the plotter's buffer memory.

> ⚠ **CAUTION**
>
> Do not execute the BUFFER CLEAR function until the operation of the plotter is stopped.
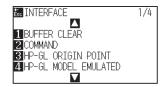
Operation

1 Press the [PAUSE/MENU] key.

> ▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

> ▷ INTERFACE screen (1/4) is displayed.

3 Press the [1] key (BUFFER CLEAR).

> ▷ BUFFER CLEAR screen is displayed.

4 Press the [1] key (YES, CLEAR).

> ▷ Buffer will be cleared and it will return to default screen.

> **Supplement**
>
> It will return to INTERFACE screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

9.3 I/F (LAN)

Set the network interface (LAN).

> **Supplement**
>
> When you change the settings of the network, the plotter is reset.
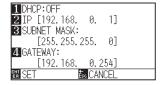
To connect through a network (LAN), it is necessary to set the following items.

- Set the DHCP
- Set the IP address
- Set the subnet mask
- Set the gateway
- Display the MAC address

Setting the DHCP

DHCP settings depend on the configuration of network equipment and the customer's environment. For details, please see the equipment manual, or consult the network administrator.

The default setting of DHCP is OFF.

```
1 DHCP:OFF
2 IP [192.168.  0.  1]
3 SUBNET MASK:
    [255.255.255.  0]
4 GATEWAY:
    [192.168.  0.254]
ENT
ER SET        Esc CANCEL
```

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

```
1 TOOL 2 AXIS 3 AREA 4 MEDIA

▲ I/F ▼ ADV. ◀ TEST ▶ MEM.
        CUTTING
```

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

```
Esc INTERFACE        1/4
        ▲
1 BUFFER CLEAR
2 COMMAND
3 HP-GL ORIGIN POINT
4 HP-GL MODEL EMULATED
        ▼
```

3 Press the POSITION (▲) key.

▷ INTERFACE screen (2/4) is displayed.

```
┌─────────────────────────┐
│ ⊞ INTERFACE        2/4  │
│ ESC      ▲              │
│ 1 GP-GL STEP SIZE       │
│ 2 RS-232C               │
│ 3 LAN                   │
│ 4 COMMAND ':',';'       │
│          ▼              │
└─────────────────────────┘
```

4 Press the [3] key (LAN).

▷ NETWORK (LAN) setting screen is displayed.

```
┌─────────────────────────┐
│ 1 DHCP:OFF              │
│ 2 IP [192.168.  0.  1]  │
│ 3 SUBNET MASK:          │
│    [255.255.255.  0]    │
│ 4 GATEWAY:              │
│    [192.168.  0.254]    │
│ ENTER SET    ESC CANCEL │
└─────────────────────────┘
```
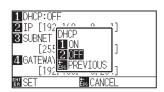
5 Press the [1] key (DHCP:OFF).

▷ DHCP screen is displayed.

```
┌─────────────────────────┐
│ 1 DHCP:OFF              │
│ 2 IP [192 ┌─────────┐1] │
│ 3 SUBNET  │ DHCP    │   │
│    [255   │ 1 ON    │   │
│ 4 GATEWAY │ 2 OFF   │   │
│    [192   │ESC PREVIOUS│ │
│ ENTER SET    ESC CANCEL │
└─────────────────────────┘
```

6 Press the [1] key (ON) or the [2] key (OFF).

7 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (2/4).

8 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Supplement

It will return to INTERFACE screen (2/4) without changing the settings when you press the [ESC] key (CANCEL).

Set IP address, subnet mask, gateway
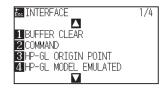
When [OFF] is selected in DHCP setting, set these items.

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 [PAUSE/MENU] key.

▷ MENU screen is displayed.

```
1TOOL 2AXIS 3AREA 4MEDIA
▲I/F ▼ADV. ◀TEST ▶MEM.
```

2　Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

```
Esc INTERFACE          1/4
            ▲
1 BUFFER CLEAR
2 COMMAND
3 HP-GL ORIGIN POINT
4 HP-GL MODEL EMULATED
            ▼
```

3　Press the POSITION (▲) key.

▷ INTERFACE screen (2/4) is displayed.

```
Esc INTERFACE          2/4
            ▲
1 GP-GL STEP SIZE
2 RS-232C
3 LAN
4 COMMAND ':',';'
            ▼
```

4　Press the [3] key (LAN).

▷ NETWORK (LAN) setting screen is displayed.

```
1 DHCP:OFF
2 IP [192.168.  0.  1]
3 SUBNET MASK:
     [255.255.255.  0]
4 GATEWAY:
     [192.168.  0.254]
ENTER SET      Esc CANCEL
```

5　Press the [2] key (IP).

▷ IP setting screen is displayed.

```
1 DH  IP:
2 IP         ▲
3 SU  ◀192.168.  0.  1▶
            ▼
4 GA  SLOW 1
      Esc PREVIOUS
ENTER SE      Esc CANCEL
```

6 Press the POSITION (▲▼◀▶) keys to set the IP address.

Supplement
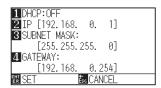
Press the [SLOW] key to select the setting digits.
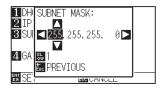
7 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ It will return to NETWORK (LAN) setting screen.

```
1 DHCP:OFF
2 IP [192.168.  0.  1]
3 SUBNET MASK:
    [255.255.255.  0]
4 GATEWAY:
    [192.168.  0.254]
ENTER SET        ESC CANCEL
```

8 Press the [3] key (SUBNET MASK).

▷ SUBNET MASK setting screen is displayed.

```
1 DH| SUBNET MASK:
2 IP      ▲
3 SU| ◀ 255.255.255.  0 ▶
        ▼
4 GA| SLOW 1
      ESC PREVIOUS
ENTER SE
```

9 Press the POSITION (▲▼◀▶) keys to set the subnet mask.

Supplement
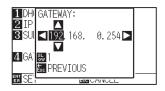
Press the [SLOW] key to select the setting digits.

10 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ It will return to NETWORK (LAN) setting screen.

```
1 DHCP:OFF
2 IP [192.168.  0.  1]
3 SUBNET MASK:
    [255.255.255.  0]
4 GATEWAY:
    [192.168.  0.254]
ENTER SET        ESC CANCEL
```

11 Press the [4] key (GATEWAY).

▷ GATEWAY setting screen is displayed.

```
1 DH| GATEWAY:
2 IP      ▲
3 SU| ◀ 192.168.  0.254 ▶
        ▼
4 GA| SLOW 1
      ESC PREVIOUS
ENTER SE
```

12 Press the POSITION (▲▼◀▶) keys to set the gateway.

Supplement

Press the [SLOW] key to select the setting digits.

13 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ It will return to NETWORK (LAN) setting screen.

```
1 DHCP:OFF
2 IP [192.168.  0.  1]
3 SUBNET MASK:
     [255.255.255.  0]
4 GATEWAY:
     [192.168.  0.254]
ENT
ER SET          ESC CANCEL
```

14 Confirm the setting and press the [ENTER] key (SET).

▷ When the setting is changed, the plotter will be reset and default screen will be displayed.

Supplement

It will return to INTERFACE screen (2/4) without changing the settings when you press the [ESC] key (CANCEL).

9.4 Connecting with RS-232C

For the RS-232C settings, you can recall any setting by storing the four different setting types of 1 to 4.

See "Switching the setting number you want to use" to recall the setting you want to use and See "Changing/ Storing the RS - 232C Setting" to change and store the settings.

* RS-232C interface is optional depending on region. For details, please contact the distributor where you purchased.

* When the RS-232C interface is not equipped, the menu will not be displayed.
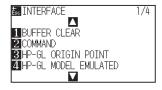
Switching the setting number you want to use

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

3 Press the POSITION (▲) key.

▷ INTERFACE screen (2/4) is displayed.

4 Press the [2] key (RS-232C).
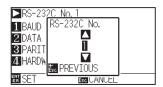
▷ RS-232C setting screen is displayed.

Supplement

It will return to INTERFACE screen (2/4) without changing the settings when you press the [ESC] key (CANCEL).

5 Press the POSITION (▶) key.

▷ RS-232C No. selecting screen will be displayed.

6 Press the POSITION (▲▼) keys to select the setting number.

Supplement

You can set from setting no. 1 to 4.

7 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ It will return to RS-232C setting screen.

8 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (2/4)

9 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Changing/storing the RS-232C setting

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

3 Press the POSITION (▲) key.

▷ INTERFACE screen (2/4) is displayed.

```
Esc INTERFACE        2/4
             ▲
1 GP-GL STEP SIZE
2 RS-232C
3 LAN
4 COMMAND ':',';'
             ▼
```

4 Press the [2] key (RS-232C).

▷ RS-232C setting screen is displayed.

```
▶ RS-232C No.1
1 BAUD RATE 9600
2 DATA 8 BIT
3 PARITY NONE
4 HARDWIRE HANDSHAKE

ENTER SET        Esc CANCEL
```
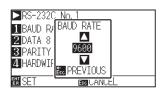
5 Press the [1] key (BAUD RATE).

▷ BAUD RATE screen is displayed.

```
▶ RS-232C No.1
1 BAUD R/ BAUD RATE
2 DATA 8       ▲
3 PARITY    9600
4 HARDWIF      ▼
         Esc PREVIOUS
ENTER SET       Esc CANCEL
```

6 Press the POSITION (▲▼) keys and increase or decrease the setting value.

7 Confirm the setting and press the [ESC] key (PREVIOUS).

▷ The baud rate is selected and it will return to RS-232C setting screen.

8 Press the [2] key (DATA BIT).

▷ DATA BIT screen is displayed.

```
▶ RS-232C No.1
1 BAUD R/ DATA BIT
2 DATA 8  1 8 BIT
3 PARITY  2 7 BIT
4 HARDWIF Esc PREVIOUS
ENTER SET       Esc CANCEL
```
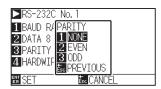
9 Press the [1] key (8 BIT) or the [2] key (7 BIT).

▷ The data bit will be selected and it will return to RS-232C setting screen.

10 Press the [3] key (PARITY).

▷ PARITY screen is displayed.

```
▶RS-232C No.1
1 BAUD R/ PARITY
2 DATA 8  1 NONE
3 PARITY  2 EVEN
4 HARDWIF 3 ODD
         Esc PREVIOUS
ENT
ER SET        Esc CANCEL
```

11 Press the [1] key (NONE), [2] key (EVEN) or the [3] key (ODD).

▷ The parity will be selected and it will return to RS-232C setting screen.

12 Press the [4] key (HANDSHAKE).

▷ HANDSHAKE screen is displayed.

```
▶RS-232C No.1
1 BAUD R HANDSHAKE
2 DATA 8  1 HARDWIRE
3 PARITY  2 Xon/off
4 HARDWI  3 Enq/Ack
         Esc PREVIOUS
ENT
ER SET        Esc CANCEL
```

13 Press the [1] key (HARDWIRE), the [2] key (Xon/off) or the [3] key (Enq/Ack).

▷ The handshake will be selected and it will return to RS-232C setting screen.

14 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to RS-232C setting screen.

15 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

9.5 User selection settings

Call up the user selection settings (CAD). "Command", "Origin point", "Step size", "Separator", "Timeout", "Page length", and "Transfer conditions for RS-232C" have been set.

Setting user selection

Call up the user selection settings (CAD). "Command", "Origin point", "Step size", "Separator", "Timeout", "Page length", and "Transfer conditions for RS-232C" have been set.

List of user selection settings

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
Transfer conditions	9600N81X	9600N81X	9600N81X	9600N81X	9600N81X	19200N81X	9600N81X	9600N81X
Step pass	–	–	–	–	–	0	–	–
Moving speed	–	–	–	–	–	60 cm/s	–	–
Cross cut	–	–	–	–	–	ON	–	–
Cut line pattern	–	–	–	–	–	OFF	–	–
Space rear	–	–	–	–	–	12 mm	–	–

–: 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
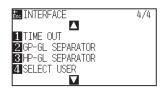
1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).
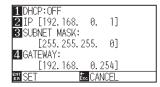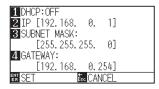
▷ INTERFACE screen (1/4) is displayed.

```
Esc INTERFACE          1/4
              ▲
1 BUFFER CLEAR
2 COMMAND
3 HP-GL ORIGIN POINT
4 HP-GL MODEL EMULATED
              ▼
```

3 Press the POSITION (▼) key.

▷ INTERFACE screen (4/4) is displayed.

```
Esc INTERFACE          4/4
              ▲
1 TIME OUT
2 GP-GL SEPARATOR
3 HP-GL SEPARATOR
4 SELECT USER
              ▼
```
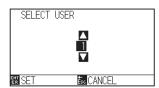
4 Press the [4] key (SELECT USER) .

▷ SELECT USER screen is displayed.

```
   SELECT USER

              ▲
              1
              ▼

ENTER SET        Esc CANCEL
```

5 Press the POSITION (▲▼) keys to select the setting number.

> **Supplement**
>
> You can set from setting no. 1 to 8.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be set, and the restart is activated.

> **Supplement**
>
> It will return to INTERFACE screen (4/4) without changing the settings when you press the [ESC] key (CANCEL).

Chapter 10: Settings Regarding Operation Environment

This chapter describes setting regarding the operation environment.

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
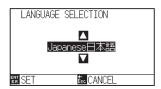
1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

3 Press the [2] key (LANGUAGE SELECTION)

▷ LANGUAGE SELECTION screen is displayed.

4 Press the POSITION (▲▼) keys and select the language.

(In these instructions it's explained for when it's set to English.)

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (1/4).

6 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

> **Supplement**
>
> It will return to ADVANCE screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

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
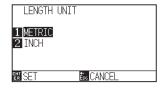
1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

3 Press the [3] key (LENGTH UNIT).

▷ LENGTH UNIT screen is displayed.

4 Press the [1] key (METRIC) or the [2] key (INCH).

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (1/4).

**6** Press the [PAUSE/MENU] key.

▷ It will return to default screen.

> **Supplement**
>
> It will return to ADVANCE screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

Related to sensor

Enabling/Disabling the media sensors (MEDIA SENSOR)

This function enables or disables the media sensors that detect the size of the medium in the feed direction.

> ⚠ **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".
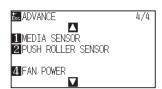
Operation

1   Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2   Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

```
Esc ADVANCE            1/4
              ▲
1 MOVE STEP
2 LANGUAGE SELECTION
3 LENGTH UNIT
4 BEEP FOR KEY OPE.
              ▼
```

3   Press the POSITION (▼) key.

▷ ADVANCE screen (4/4) is displayed.

```
Esc ADVANCE            4/4
              ▲
1 MEDIA SENSOR
2 PUSH ROLLER SENSOR

4 FAN POWER
              ▼
```


4   Press the [1] key (MEDIA SENSOR).

▷ MEDIA SENSOR screen is displayed.

```
   MEDIA SENSOR

1 ENABLED
2 DISABLED


ENTER SET        Esc CANCEL
```

5 Press the [1] key (ENABLED) or the [2] key (DISABLED).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (4/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

> **Supplement**
>
> It will return to ADVANCE screen (4/4) without changing the settings when you press the [ESC] key (CANCEL).

Enabling/Disabling the push roller sensors (PUSH ROLLER SENSOR)

This function enables or disables the push roller sensors that detect the width of the media.

> ⚠ **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".
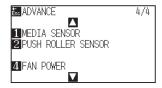
Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

```
1TOOL 2AXIS 3AREA 4MEDIA
▲I/F ▼ADV. ◄TEST ►MEM.
```

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

```
Esc ADVANCE          1/4
        ▲
1 MOVE STEP
2 LANGUAGE SELECTION
3 LENGTH UNIT
4 BEEP FOR KEY OPE.
        ▼
```

3 Press the POSITION (▼) key.

▷ ADVANCE screen (4/4) is displayed.

```
Esc ADVANCE          4/4
        ▲
1 MEDIA SENSOR
2 PUSH ROLLER SENSOR

4 FAN POWER
        ▼
```

4 Press the [2] key (PUSH ROLLER SENSOR).

▷ PUSH ROLLER SENSOR screen is displayed.

```
PUSH ROLLER SENSOR

1 ENABLED
2 INSIDE DISABLED
3 DISABLED

ENTER SET        ESC CANCEL
```

5 Press the [1] key (ENABLED), the [2] key (INSIDE DISABLED), or the [3] key (DISABLED).

Supplement

If "DISABLED" is selected, push roller detection is not performed.
It will not generate error even if the inner push rollers are not on the grit rollers when the "INSIDE DISABLED" is selected.

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (4/4).

Supplement

● When "DISABLE" has been set, the home sensor position is not detected, so depending on the data, a position error could occur.

● It will return to ADVANCE screen (4/4) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Related to plotter environment

Fan suction setting (FAN POWER)

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
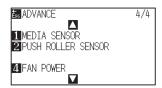
1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

3 Press the POSITION (▼) key.

▷ ADVANCE screen (4/4) is displayed.

4 Press the [4] key (FAN POWER).

▷ FAN POWER screen is displayed.

5 Press the [1] key (NORMAL) or the [2] key (WEAK).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (4/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Supplement

It will return to ADVANCE screen (4/4) without changing the settings when you press the [ESC] key (CANCEL).

Enabling/Disabling the beep setting (BEEP FOR KEY OPERATION)

This function selects whether to enable or disable the beep that is emitted whenever a control panel key is pressed.

Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

3 Press the [4] key (BEEP FOR KEY OPE.).

▷ BEEP FOR KEY OPE. setting screen is displayed.

4 Press the [1] key (ON) or the [2] key (OFF).

5 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (1/4).

6 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Supplement

It will return to ADVANCE screen (1/4) without changing the settings when you press the [ESC] key (CANCEL).

Low Movement Speed Setting by POSITION key (POSI. KEY SPEED + SLOW KEY)
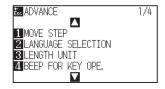
Press the POSITION (▲▼◀▶) key and the [SLOW] key simultaneously to set the movement speed when moving the tool carriage.

Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

3 Press the POSITION (▲) key.
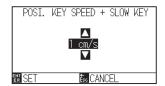
▷ ADVANCE screen (2/4) is displayed.

4 Press the [1] key (POSI. KEY SPEED + SLOW KEY).

▷ POSI. KEY screen is displayed.

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

Supplement

You can set the range between 1 and 15 (m/s).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (2/4).

Supplement

It will return to ADVANCE screen (2/4) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

High Movement Speed Setting by POSITION key (POSI. KEY SPEED)

Press the POSITION (▲▼◄ ►) key to set the movement speed when moving the tool carriage.

Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

```
1TOOL 2AXIS 3AREA 4MEDIA
▲I/F ▼ADV. ◄TEST ►MEM.
```

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

```
Esc ADVANCE          1/4
              ▲
1 MOVE STEP
2 LANGUAGE SELECTION
3 LENGTH UNIT
4 BEEP FOR KEY OPE.
              ▼
```

3 Press the POSITION (▲) key.

▷ ADVANCE screen (2/4) is displayed.

```
Esc ADVANCE          2/4
              ▲
1 POSI. KEY SPEED + SLOW KEY
2 POSI. KEY SPEED

              ▼
```

4 Press the [2] key (POSI. KEY SPEED).

▷ POSI. KEY screen is displayed.

```
   POSI. KEY SPEED
              ▲
         10 cm/s
              ▼
ENTER SET        Esc CANCEL
```

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

Supplement

You can set the range between 1 and 15 (m/s).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (2/4).

Supplement

It will return to ADVANCE screen (2/4) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Pause key select setting (Selecting PAUSE key)

Set the screen to be displayed when the [PAUSE / MENU] key is pressed during receiving data.

Operation

1   Press the [PAUSE/MENU] key in the default screen.

    ▷ MENU screen is displayed.

2   Press the POSITION (▼) key (ADV.).

    ▷ ADVANCE screen (1/4) is displayed.

3   Press the POSITION (▲) key twice.

    ▷ ADVANCE screen (3/4) is displayed.

4   Press the [1] key (PAUSE/MENU KEY SETTING).

    ▷ PAUSE/MENU KEY SETTING screen is displayed.

5   Press the [1] key (MENU) or the [2] key (PAUSE).

6   Confirm the setting and press the [ENTER] key (SET).

    ▷ Setting will be confirmed and it will return to ADVANCE screen (3/4).

7   Press the [PAUSE/MENU] key.

    ▷ It will return to default screen.

> **Supplement**
>
> It will return to ADVANCE screen (3/4) without changing the settings when you press the [ESC] key (CANCEL).

LCD contrast setting (LCD contrast)
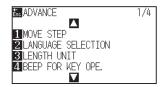
You can set the contrast of the LCD display on the control panel.

Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

3 Press the POSITION (▲) key twice.
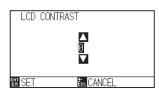
▷ ADVANCE screen (3/4) is displayed.

4 Press the [4] key (LCD CONTRAST).

▷ LCD CONTRAST screen is displayed.

5 Press the POSITION (▲▼) keys and increase or decrease the setting value.

> **Supplement**
>
> You can set the range between -30 and 30 (5-step).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to ADVANCE screen (3/4).

> **Supplement**
>
> It will return to ADVANCE screen (3/4) without changing the settings when you press the [ESC] key (CANCEL).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Chapter 11:
Settings of Controls from Computer

This chapter describes setting regarding the controls from the computer.

Related to command processing

Setting the command (COMMAND)
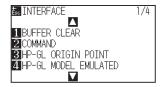
There are 2 types of commands, the GP-GL and the HP-GL, that the plotter can use.

Match the setting value to the used software.

Operation

1   Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2   Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

3   Press the [2] key (COMMAND).

▷ COMMAND screen is displayed.

4   Press the [1] key (GP-GL) or the [2] key (HP-GL).

5   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (1/4).

6   Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Priority of tool condition selection (CONDITION PRIORITY)

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 MANUAL 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 PROGRAM 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 [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

3 Press the POSITION (▲) key.

▷ TOOLS SETTING screen (2/4) is displayed.

4 Press the [3] key (CONDITION PRIORITY).

▷ CONDITION PRIORITY screen is displayed.

5 Press the [1] key (MANUAL) or the [2] key (PROGRAM).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to TOOLS SETTING screen (2/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Related to GP-GL command

This section is useful only when using the GP-GL command.
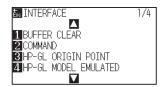
Setting the step size (GP-GL STEP SIZE)

The distance to travel with 1 step can be changed. Match the setting value of the application to be used.

Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

```
1TOOL 2AXIS 3AREA 4MEDIA
  ┌─┐    ┌──┐   ┌─○┐   ┌──┐
  └─┘    └──┘   └──┘   └──┘
▲I/F  ▼ADV. ◄TEST ►MEM.
┌────┐ ┌CUTTING┐ ┌──┐
│○▭○│ │  ▭  │ │  │
└────┘ └───┘ └──┘
```

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

```
±Esc INTERFACE          1/4
            ▲
1 BUFFER CLEAR
2 COMMAND
3 HP-GL ORIGIN POINT
4 HP-GL MODEL EMULATED
            ▼
```

3 Press the POSITION (▲) key.

▷ INTERFACE screen (2/4) is displayed.

```
±Esc INTERFACE          2/4
            ▲
1 GP-GL STEP SIZE
2 RS-232C
3 LAN
4 COMMAND ':',';'
            ▼
```

4 Press the [1] key (GP-GL STEP SIZE).

▷ GP-GL STEP SIZE screen is displayed.

```
  GP-GL STEP SIZE
1 0.100 mm
2 0.050 mm
3 0.025 mm
4 0.010 mm

ENTER SET      ±Esc CANCEL
```

5 Press the [1] key (0.100 mm), the [2] key (0.050 mm), the [3] key (0.025 mm), or the [4] key (0.010 mm).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (2/4) .

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Enabling/Disabling the ' : ' and ' ; ' commands (COMMAND ' : ', ' ; ')

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 [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).
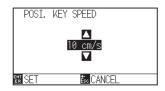
▷ INTERFACE screen (1/4) is displayed.

3 Press the POSITION (▲) key.
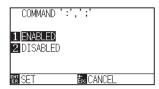
▷ INTERFACE screen (2/4) is displayed.

4 Press the [4] key (COMMAND ' : ', ' ; ').

▷ COMMAND ' : ', ' ; ' screen is displayed.

5 Press the [1] key (ENABLED) or the [2] key (DISABLED).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (2/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Moving the pen while raised or lowered in Response to the 'W' command (COMMAND 'W')

Here, you can change the settings for the 'W' command, which is a GP-GL arc cutting command.

This function set the operation upon receipt of the 'W' command for the drawing of arcs.

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.
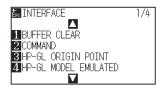
> **Supplement**
>
> This has an effect on the tool cutter only. For the pen setting, always the pen is raised (PEN UP).

Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

3 Press the POSITION (▲) key twice.
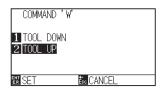
▷ INTERFACE screen (3/4) is displayed.

4 Press the [1] key (COMMAND 'W').

▷ COMMAND 'W' screen is displayed.

5 Press the [1] key (TOOL DOWN) or the [2] key (TOOL UP).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (3/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Related to HP-GL command

This section is useful only when using the HP-GL command

Model ID response (HP-GL MODEL EMULATED)

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 [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

```
1TOOL 2AXIS 3AREA 4MEDIA
   ▽      ▢      ▢○     ◖
 ▲I/F  ▼ADV. ◀TEST ▶MEM.
 ◇▭◇   ▭      ▭▭     ▭
```

2   Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/4) is displayed.

```
Esc INTERFACE           1/4
              ▲
 1 BUFFER CLEAR
 2 COMMAND
 3 HP-GL ORIGIN POINT
 4 HP-GL MODEL EMULATED
              ▼
```

3   Press the [4] key (HP-GL MODEL EMULATED).

▷ HP-GL MODEL EMULATED screen is displayed.

```
 HP-GL MODEL EMULATED
 1 7550
 2 7586


 ENTER SET       Esc CANCEL
```

4   Press the [1] key (7550) or the [2] key (7586).

5   Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (1/4).

6   Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Circle-command resolution setting (CIRCLE RESOLUTION)

This function set the sets the resolution upon receipt of the circle-command for the HP-GL pen plotter arc cutting command.

Select either "AUTO" or "DEFAULT", which is 5 degrees.
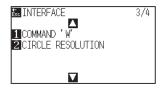
Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

2 Press the POSITION (▲) key (I/F).

▷ INTERFACE screen (1/3) is displayed.

3 Press the POSITION (▲) key twice.

▷ INTERFACE screen (3/4) is displayed.

4 Press the [2] key (CIRCLE RESOLUTION).

▷ CIRCLE RESOLUTION screen is displayed.

5 Press the [1] key (DEFAULT) or the [2] key (AUTO).

6 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to INTERFACE screen (3/4).

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Chapter 12: Maintenance

This chapter describes the settings for the maintenance.

PRODUCT SUMMARY

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 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) Clean the plotter's paper 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 temperatures.

(4) Please lower the set lever so the push roller is in a risen state.
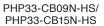
12.2 Replacing Cutter Blade
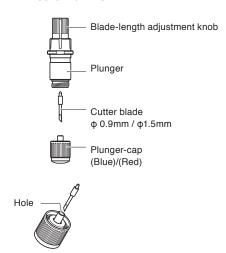
Replace the cutter blade by referring to the structure diagram of the cutter pen.

> ⚠ **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
(Blue)/(Red)

Hole
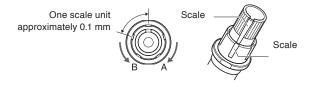
Operation

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**

<PHP33-CB09N-HS/PHP33-CB15N-HS>

● 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.

　Insertion port of the cutter blade ⎯⎯　　　　○ GOOD　　✕ NG

　If not installed correctly, it may result in damage to the cutter blade or the plotter itself.

12.3   *Cleaning the Cutter Pen*

Letting leftover media and paper dust build up on blades can dull them and cause them to deteriorate. Be sure to clean the cutter pen regularly and remove build up.

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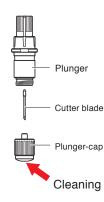
Cleaning

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
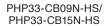
2   After completing cleaning, attach the plunger cap.
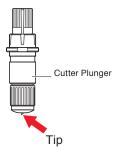
12.4 Cutter Plunger Exchange

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 Degree of Wear (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.

Operation

1 Press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

2 Press the [1] key (TOOL).

▷ TOOLS SETTING screen (1/4) is displayed.

3 Press the POSITION (▼) key.

▷ TOOLS SETTING screen (4/4) is displayed.

4 Press the [1] key (BLADE WEAR ALARM SETUP).

▷ BLADE WEAR ALARM SETUP screen is displayed.

5 Press the [1] key (BLADE WEAR DETECT.).

▷ BLADE WEAR DETECT. screen is displayed.

```
   BLADE WEAR DETECT.

1 ON
2 OFF


ENT SET          Esc CANCEL
ER               Esc
```

6 Press the [1] key (ON) or the [2] key (OFF).

7 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to BLADE WEAR DETECT.
screen.

```
Esc BLADE WEAR ALARM SETUP
1 BLADE WEAR DETECT.     ON
2 SET BLADE GROUP
3 ALARM DISTANCE
4 CLEAR B.WEAR VALUE
```

8 Press the [2] key (SET BLADE GROUP).

▷ SET BLADE GROUP screen is displayed.

```
        SET BLADE GROUP
COND.   1  2  3  4  5  6  7  8
CONFIG  1  2  2  2  2  2  2  2
◄ ► CONDITION No.
          ▲ UP
   CONFIG ▼ DOWN
ENT SET          Esc CANCEL
ER               Esc
```

9 Press the POSITION (◄ ►) key to select the Tool Condition
No. (CONDITION No.).

Supplement

You can set the range between 2 and 8.

10 Press the POSITION (▲▼) key and increase or decrease the
setting value.

Supplement

You can set the range between 0, 2 and 8.
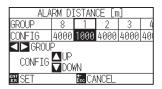
When set to 0, the alarm will not belong to any
group.

11 Confirm the setting and press the [ENTER] (SET).

▷ Setting will be confirmed and it will return to BLADE WEAR ALARM
SETUP screen

```
Esc BLADE WEAR ALARM SETUP
1 BLADE WEAR DETECT.     ON
2 SET BLADE GROUP
3 ALARM DISTANCE
4 CLEAR B.WEAR VALUE
```

12 Press [3] key (ALARM DISTANCE).

▷ ALARM DISTANCE screen is displayed.

```
        ALARM DISTANCE [m]
GROUP    8    1    2    3    4
CONFIG 4000 1000 4000 4000 40
◄ ► GROUP
CONFIG  ▲UP
        ▼DOWN
ENTER SET        ESC CANCEL
```

13 Press the POSITION (◄ ►) key to select the tool condition number (CONDITION No.).

14 Press the POSITION (▲▼) key and increase or decrease the setting value.

Supplement
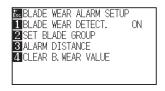
You can set the range between 500 m and 5000 m (100m-step).
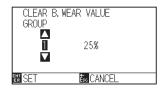
15 Confirm the setting and press the [ENTER] key (SET).

▷ Setting will be confirmed and it will return to BLADE WEAR ALARM SETUP screen

```
ESC BLADE WEAR ALARM SETUP
1 BLADE WEAR DETECT.    ON
2 SET BLADE GROUP
3 ALARM DISTANCE
4 CLEAR B.WEAR VALUE
```

16 Press the [4] key (CLEAR B. WEAR VALUE).

▷ CLEAR B. WEAR VALUE GROUP screen is displayed.

```
  CLEAR B.WEAR VALUE
  GROUP
       ▲
       1        25%
       ▼

ENTER SET      ESC CANCEL
```
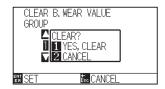
17 Press the POSITION (▲▼) key to select the GROUP No.

18 Confirm the setting and press the [ENTER] key (SET).

▷ CLEAR ? screen is displayed.

```
  CLEAR B.WEAR VALUE
  GROUP
       ▲ CLEAR?
       1 1 YES, CLEAR
       ▼ 2 CANCEL

ENTER SET      ESC CANCEL
```

Supplement
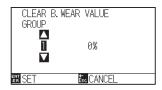
It will return to CLEAR B. WEAR VALUE GROUP screen without clearing it when you press the [ESC] key (CANCEL).

19 Press the [1] key (YES, CLEAR).

▷ CLEAR B. WEAR is cleared, it will return to CLEAR B. WEAR VALUE GROUP screen.

```
CLEAR B.WEAR VALUE
 GROUP
   ▲
   1        0%
   ▼

ENT SET      +- CANCEL
ER           ESC
```

20 Press the [ESC] key (CANCEL).

▷ Setting will be confirmed and it will return to CLEAR B. WEAR VALUE GROUP screen.

```
+- BLADE WEAR ALARM SETUP
ESC
1 BLADE WEAR DETECT.    ON
2 SET BLADE GROUP
3 ALARM DISTANCE
4 CLEAR B.WEAR VALUE
```

21 Press the [PAUSE/MENU] key.

▷ It will return to default 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.

PRODUCT SUMMARY

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 Graphtec customer center if the problem still exists.
• "Sum-Ck ROM RAM ERR!!" is displayed on the LCD panel.	The ROM or RAM is defective.	Contact your Graphtec customer center if the problem still exists.

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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 or the Graphtec call center. 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 or the Graphtec call center. Set the push roller sensor to DISABLED to use the plotter temporarily.	Enabling/Disabling the Push Roller Sensors (PUSH ROLLER SENSOR)
• 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 or the Graphtec call center.	
• 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 revert the expand limit to the default setting.	Setting Cutting Width
• Cannot change the tool condition.	Setting for the sorting is set to ON.	Normally, 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 PROGRAM.	Change the setting of the priority to MANUAL.	Priority of Tool Condition Selection (CONDITION PRIORITY)
	[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 cut area when this kind of media is used.	Enabling/Disabling the Media Sensors (MEDIA SENSOR) 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 or the Graphtec call center.	

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.	The parameter priority setting is set to PROGRAM.	Change the setting of the priority to MANUAL.
	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	E02001 GP-GL ERROR 1 COMMAND ERROR! CONFIRM	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	E02004 GP-GL ERROR 4 PARAMETER OVERFLOW! CONFIRM	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	E02005 GP-GL ERROR 5 I/O ERROR! CONFIRM	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	E02006 GP-GL ERROR 6 OFF SCALE ERROR! CONFIRM	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		An unrecognizable instruction was executed.	Execute a recognizable command.
E03002 Error 2		Wrong number of parameters was specified.	Execute the command with the correct number of parameters.
E03003 Error 3		An unusable parameter was executed.	Execute a recognizable parameter.
E03005 Error 5		An unusable character set was specified.	Specify usable character set.
E03006 Error 6		Coordinates of command specified out of cutting area.	Execute coordinates within the cutting area.
E03007 Error 7		The data being input exceeds the capacity of the plotter's downloadable character buffer, polygon buffer, etc.	Adjust the buffer size.
E03010 Error 10		Other output command was executed while executing an output command.	Check the program.
E03011 Error 11		An invalid byte was received after ESC code.	Check the program.
E03012 Error 12		Invalid byte was received within device control command.	Check the program.

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Error Displayed	LCD Display	Cause	Solution
E03013 Error 13	1:Condition No. 1 E03013 HP-GL ERROR 13 OUT OF RANGE I/O PARAMETER 1 TOOL 2 HOME CONFIRM CONDITION No.	A parameter outside of the permissible range was specified in the I/O related command.	Check the program.
E03014 Error 14	1:Condition No. 1 E03014 HP-GL ERROR 14 TOO MANY 1 TOOL1 I/O PARAMETERS 2 HOME CONFIRM CONDITION No.	Too many parameters in the I/O related command.	Check the program.
E03015 Error 15	1:Condition No. 1 E03015 HP-GL ERROR 15 ERROR IN 1 TOOL I/O TRANSMISSION 2 HOME CONFIRM CONDITION No.	Framing error, parity error, or overrun error has occurred.	Set the RS-232C transmission condition.
E03016 Error 16	1:Condition No. 1 PEN C20 E12 A2 E03016 HP-GL ERROR 16 I/O BUFFER OVERFLOW 1 TOO CONFIRM 2 HOME CONDITION No.	Interface buffer memory has overflowed.	Set the RS-232C transmission condition.

ARMS Error Messages

Error Displayed	LCD Display	Cause	Solution
E04001	1:Condition No. 1 PEN S30 F12 A2 E04001 ARMS AXIS SET ERROR! SET AGAIN 1 TOOL1 2 HOME ENTER CONDITION No.	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 or the Graphtec call center.
E01006	E01006 HARDWARE ADDRESS LOAD ERROR 00000000 H	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01007	E01007 HARDWARE ADDRESS STORE ERROR 00000000 H	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01008	E01008 HARDWARE ILLEGAL TRAPA 00000000 H	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01009	E01009 HARDWARE ILLEGAL CODE 00000000 H	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01010	E01010 HARDWARE PRIVILEGED INSTRUCTION 00000000 H	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01011	E01011 HARDWARE FLOATING POINT 00000000 H	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01012	E01012 HARDWARE RAM ERROR 00000000 H	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01013	E01013 HARDWARE BUFFER RAM ERROR 00000000 H	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01014	E01014 HARDWARE SPEED ALARM	The plotter is defective.	Contact your sales representative or the Graphtec call center.
E01015	E01015 HARDWARE OVER CURRENT	The plotter is defective.	Contact your sales representative or the Graphtec call center.

Error Displayed	LCD Display	Cause	Solution
E01017	E01017 HARDWARE X POSITION ALARM POWER OFF THEN ON	The plotter is defective. 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.
E01019	E01019 HARDWARE Y POSITION ALARM POWER OFF THEN ON	The plotter is defective. 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.
E01021	E01021 HARDWARE XY POSITION ALARM POWER OFF THEN ON	The plotter is defective. 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.
E01022	E01022 HARDWARE TOOL POSITION ALARM POWER OFF THEN ON	The plotter is defective. 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. If the error display continues to show, please contact the store where you bought the product or our Customer Center.
E05001	1:Condition No. 1 E05001 ERROR COPY MODE BUFFER FULL! CONFIRM TOOL1 HOME CONDITION No.	Data larger than the buffer size cannot be copied.	Perform normal cutting not using the copy mode.
E05002	1:Condition No. 1 E05002 ERROR NO DATA FOR COPY IN BUFFER! CONFIRM TOOL HOME CONDITION No.	There is no data to copy.	Perform normal cutting by sending the data, then use the copy mode.
E05003	1:Condition No. 1 E05003 ERROR CANNOT COPY CUT AREA TOO SMALL! CONFIRM TOO HOME CONDITION No.	Media valid area to copy is too small.	Use larger media. Confirm the copy start position.
E05004	1:Condition No. 1 PEN S30 F12 A2 E05004 ERROR REALIGN PUSH ROLLERS CONFIRM TO HOME CONDITION No.	The push roller is not on the grit roller.	Set the push roller on the grit roller.
E05006	1:Condition No. 1 PEN S30 F12 A2 E05006 ERROR ILLEGAL PLOT AREA CONFIRM TOOL HOME CONDITION No.	Distance between the bottom left and top right of the AREA setting is less than 10 mm.	Perform the AREA setting again.
E05007	1:Condition No. 1 PEN S30 F12 A2 E05007 ERROR ILLEGAL PLOT AREA CONFIRM TOOL HOME CONDITION No.	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:Condition No. 1 E05008 ERROR CANNOT RECOGNIZE THE EXTERNAL MEMORY CONFIRM TO HOME CONDITION No.	External memory (USB memory) cannot be recognized.	Insert external memory (USB memory).

Caution Message

Symptom	LCD Display	Description
W06009	1:Condition No. 1 PEN S30 F12 A2 W06009 WARNING PANEL CUTTING = ON 1 TOOL 2 HOME CONDITION No.	When panel cutting has been set to ON, the following functions are not available. • ARMS function • AREA function • COPY function • BARCODE CUT function • CONTINUOUS OPERATION function

13.2 Printing the Setting of the Plotter

Condition setting list can be printed when you need to check the current setting of the plotter.

> ⚠ **CAUTION**
>
> ● Do not place you hand around the moving areas. The tool carriage will start moving, so there is a chance of injury. Tool carriage will start to move immediately after selecting to print the CONDITION list.
>
> ● Once you start printing, pause/cancel cannot be performed in the middle.

Operation

1 Load a media larger than A3 size.

> **Supplement**
>
> See "Loading Media (Paper or Marking Film)" for loading the media.

2 Set the pen tool to the pen station and select the condition where the pen tool is set.

> **Supplement**
>
> ● See "Attaching a Tool" for setting the pen tool.
>
> ● For changing the tool conditions please refer to "Selecting Tool Condition", and for tool settings please refer to "Setting the Tool".

3 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

4 Press the POSITION (◀) key (TEST).

▷ TEST screen (1/2) is displayed.
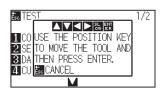
5 Press the [1] key (CONDITION LIST).

▷ CONDITION LIST PRINT screen is displayed.

6 Press the [1] key (DONE 1/2) or the [2] key (DONE 2/2).

▷ Message to confirm tool position is displayed.

```
Esc TEST                    1/2
    ▲▼◀▶ SL ENT
         OW ER
1 CO USE THE POSITION KEY
2 SE TO MOVE THE TOOL AND
3 DA THEN PRESS ENTER.
4 CU Esc CANCEL
         ▲
```

7 Move the tool carriage to print start position by pressing the POSITION (▲▼◀▶) keys.

8 Confirm that movable parts of the tool and media can safely operate and press the [ENTER] key.

▷ Selected page of the CONDITION LIST is printed.

```
1:Condition No. 1          HP
      PEN S30 F12 A2        GL
    PRINT CONDITIONS
                            PRO
                            GRA
1 TOOL1 VIEW                SOft
2 HOME                      ON
ENT CONDITION No.
ER
```

⚠ **CAUTION**

Do not place you hand around the moving areas. The tool carriage will start moving, so there is a chance of injury.

9 It will return to READY status when the printing is completed.

10 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Supplement

Load the media and repeat steps 6 to 8 to print different page at this point.

13.3 Creating Test Pattern

Create a self-test pattern to check the operation of the plotter.

> ⚠ **CAUTION**
>
> Do not place your hand around the moving areas. The tool carriage will start moving, so there is a chance of injury. Tool carriage will start to move immediately after selecting to plot the test pattern.

Operation

1 Load a media larger than A3 size.

> **Supplement**
>
> See "Loading Media (Paper or Marking Film)" for loading the media.

2 Set the pen tool to the pen station and select the condition where the pen tool is set.

> **Supplement**
>
> ● See "Attaching a Tool" for setting the pen tool.
> ● For changing the tool conditions please refer to "Selecting Tool Condition" , and for tool settings please refer to "Setting the Tool".

3 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

4 Press the POSITION (◄) key (TEST).

▷ TEST screen (1/2) is displayed.

5 Press the [2] key (SELF TEST).

▷ NOUNT THE PEN! screen is displayed.

6   Confirm that the pen tool is set.

7   Confirm that operation area of tool and media is safe.

8   Press the [1] key (DONE).

▷ Plotting of the test pattern starts.

```
1:Condition No. 1             HP
      PEN S30 F12 A2           GL
      SELF TEST
                              PRO
                              GRA
1 TOOL1 VIEW                  Soft
2 HOME                         ON
ENT
ER CONDITION No.
```

9   Turn the power off to stop the printing.

13.4 Creating CUTTING DEMO.

Create a cut demo pattern to check the operation of the plotter.

> ⚠ **CAUTION**
>
> Do not place your hand around the moving areas. The tool carriage will start moving, so there is a chance of injury. Tool carriage will start to move immediately after selecting to plot the test pattern.

Operation

1 Load a media larger than A1 size.

> **Supplement**
>
> See "Loading Media (Paper or Marking Film)" for loading the media.

2 Set the pen tool to the pen station and select the condition where the pen tool is set.

> **Supplement**
>
> ● See "Attaching a Tool" for setting the pen tool.
> ● For changing the tool conditions please refer to "Selecting Tool Condition", and for tool settings please refer to "Setting the Tool".

3 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

4 Press the POSITION (◀) key (TEST).

▷ TEST screen (1/2) is displayed.

5 Press the [4] key (CUTTING DEMO.).

▷ CUTTING DEMO. start screen is displayed.

6   Confirm that the pen tool is set.

7   Confirm that operation area of tool and media is safe.

8   Press the [1] key (START).

▷ Start the CUTTING DEMO.

```
Esc TEST              1/2
              ▲
1 CON CUTTING DEMO.
2 SELF 1 START
3 DAT Esc CANCEL
4 CUTTING DEMO.
              ▼
```

9   After the completion of print, the TEST screen (1/2) is displayed.

13.5 Confirm the Cutting 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.

> ⚠ **CAUTION**
>
> Do not place your hand around the moving areas. The tool carriage will start moving, so there is a chance of injury. Tool carriage will start to move immediately after selecting to print the dump list.

> **Supplement**
>
> There may be a difference in the RS-232C transmission condition or the command setting when the printed output and the display of transmission data does not match. Check the transmission condition and the command.

Operation

1 Load a media larger than A4 size.

> **Supplement**
>
> See "Loading Media (Paper or Marking Film)" for loading the media.

2 Set the pen tool to the pen station and select the condition where the pen tool is set.

> **Supplement**
>
> ● See "Attaching a Tool" for setting the pen tool.
> ● For changing the tool conditions please refer to "Selecting Tool Condition", and for tool settings please refer to "Setting the Tool".

3 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

4 Press the POSITION (◀) key (TEST).

▷ TEST screen (1/2) is displayed.
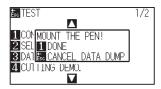
5 Press the [3] key (DATA DUMP).

▷ DATA DUMP start screen is displayed.

```
Esc TEST                1/2
            ▲
1 CON MOUNT THE PEN!
2 SEL 1 DONE
3 DAT Esc CANCEL DATA DUMP
4 CUTTING DEMO.
            ▼
```

6 Confirm that the pen tool is set.

7 Confirm that operation area of tool and media is safe.

8 Press the [1] key (DONE).

Supplement

It will return to TEST screen without printing by pressing the [ESC] key (CANCEL DATA DUMP).

9 Send the cutting data.

▷ The received cutting data (command) is output.

```
1:Condition No. 1          HP
     PEN S30 F12 A2        GL
  PRINT DATA DUMP
                           PRO
                           GRA
1 TOOL1 VIEW               Sort
2 HOME                     ON
ENT CONDITION No.
ER
```

10 Turn the power off to stop the printing.

Supplement

It will keep on printing until the power is turned off once the printing is started by pressing the [1] key (DONE).

13.6 *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 In the default screen, press the [PAUSE/MENU] key.

▷ MENU screen is displayed.

4 Press the POSITION (◄) key (TEST).

▷ TEST screen (1/2) is displayed.

5 Press the POSITION (▲) key.

▷ TEST screen (2/2) is displayed.
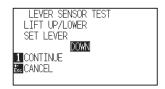
6   Press the [1] key (DIAGNOSTICS).

▷ DIAGNOSTICS start screen is displayed.

```
Esc TEST                2/2
          ▲
 1 DIAGN DIAGNOSTICS
          1 START
         Esc CANCEL
          ▼
```

7   Press the [1] key (START).

▷ Messages for testing are displayed on the screen.

```
  LEVER SENSOR TEST
 LIFT UP/LOWER
 SET LEVER
          DOWN
 1 CONTINUE
 Esc CANCEL
```

8   Operate the keys and the sensors following the instructions
on the screen.

▷ "OK" will be displayed if the operation is detected correctly, and next test
will start.

▷ It will return to TEST screen once all the test items are completed.

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	[1] key	10	[2] key	11	[3] key	12	[4] key
13	[CROSS CUT] key	14	[SLOW] key	15	POSITION [▲] key	16	POSITION [◀] key
17	POSITION [▼] key	18	POSITION [▶] key	19	[PAUSE/MENU] key	20	[COND/TEST] key
21	[ORIGIN] key	22	[COPY] key	23	[ESC] key	24	[ENTER] key

Reading the error message

Contents of most current 32 errors can be checked. Errors before that are not recorded.

Operation

1 Press the [PAUSE/MENU] key in the default screen.

▷ MENU screen is displayed.

```
1TOOL 2AXIS 3AREA 4MEDIA
 [cutter] [media] [O] [roll]
AI/F VADV. TEST MEM.
◇▭◇  [cutter] [☐]  [USB]
```

2 Press the POSITION (▼) key (ADV.).

▷ ADVANCE screen (1/4) is displayed.

```
Esc ADVANCE          1/4
         ▲
1 MOVE STEP
2 LANGUAGE SELECTION
3 LENGTH UNIT
4 BEEP FOR KEY OPE.
         ▼
```

3 Press the POSITION (▲) key twice.

▷ ADVANCE screen (3/4) is displayed.

```
Esc ADVANCE          3/4
         ▲
1 PAUSE/MENU KEY SETTING

3 ERROR MESSAGES
4 LCD CONTRAST
         ▼
```

4 Press the [3] key (ERROR MESSAGES).

▷ ERROR MESSAGES screen is displayed. Left column is time the error occurred, and right column is the type of the error. 4 error messages are displayed at once. If there are more error messages, next 4 messages will be displayed by pressing the POSITION (▲▼) key.

```
Esc ERROR MESSAGES   1/1

1 -0:00:05 E03016
2 -0:00:05 E03016
3 -0:00:05 E03016
4 -0:00:05 E03016
```

Supplement

● "NO ERROR" will be displayed if there is no error.

```
Esc ERROR MESSAGES   1/1

1 NO ERROR
```

● Up to 4 error messages will be displayed on the screen. Up to 32 error messages can be displayed by pressing the POSITION (▲▼) key.

● 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 [1] to [4] keys to see the contents of the error.

▷ Error message corresponding to the pressed key is displayed.

```
🔲ERROR MESSAGES       1/1
1-0:E03016 HP-GL
2-0:     ERROR 16
3-0:I/O BUFFER OVERFLOW
4-0:ENCONFIRM
   ER
```

6 Press the [ENTER] key (CONFIRM) when the error message is confirmed.

▷ It will return to ERROR MESSAGES screen.

Supplement

Press the POSITION (▲▼) key in the screen of step 4 as necessary and repeat steps 5 and 6 if there are multiple error messages you would like to see

7 Press the [PAUSE/MENU] key.

▷ It will return to default screen.

Appendix

This chapter describes the specification of the plotter.

ДЕЛОВАЯ
ИНИЦИАТИВА

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A.1 Main Specifications

	CE7000-130AP
CPU	32bit CPU
Configuration	Grit-rolling plotter
Drive	Digital servo
Max. Cut Area	1220 mm × 50 m
Guaranteed precision cutting area [1] [2]	1200 mm × 3 m
Mountable media width [3]	Min: 594 mm Max: 1321 mm
Available roll media diameter	Max. diameter: 200 mm, (3-inch paper core roll only)
The number of push rollers	5
Max. cutting speed	600 mm/s (Omnidirectional)
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 : 0.1/0.05/0.025/0.01 mm HP-GL[3] : 0.025 mm
Repeatable accuracy [1]	0.1 mm/in unit of 2 m (Designated Film and Cut Conditions)
Number of cutters/pens	2 pc.
Usable pen type	Water-based fiber-tip and oil-based ballpoint
Compatible media	Mono-vinyl chloride media, fluorescent media, and reflective media up to 0.25 mm thick (Excluding high-intensity reflective film)
Interface	USB2.0 (Full Speed) , Ethernet 10BASE-T/100BASE-TX, RS-232C [5]
Buffer memory	2 MB
Resident command sets	GP-GL/HP-GL [3] (Control panel switching)
LCD display	Graphic type (240 × 128 dot)
Power supply	AC100-120 V, AC200-240 V, 50/60 Hz
Power consumption	100 VA 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]	1704 mm × 1148 mm × 1215 mm
Weight (Approx.) [4]	59.4kg

*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: RS-232C interface is optional depending on region. For details, please contact the distributor where you purchased.

A.2   Supplies

Supplies
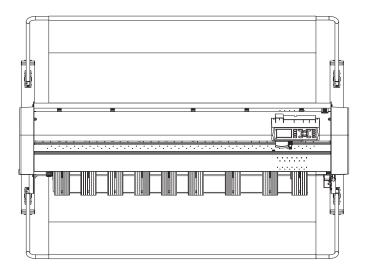
Item	Model	Contents
Cutter plunger	PHP33-CB09N-HS	Used with φ0.9 mm diameter cutter blades (for CB09)
	PHP33-CB15N-HS	Used with φ1.5 mm diameter cutter blades (for CB15)
Water-based fiber-tip pen plunger	PHP31-FIBER	Plunger for water-based fiber-tip pen (set of 1)
Oil-based ballpoint pen plunger	PHP34-BALL	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)
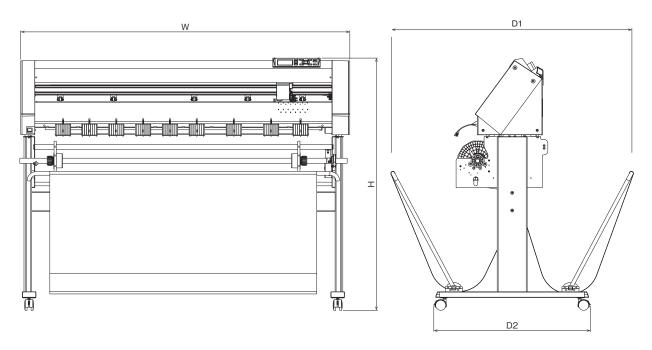
For detailed information about the cutter blade, refer to the Cutter Blade Manual.

Please check our company's home page for the latest information on supplies.

ДЕЛОВАЯ
ИНИЦИАТИВА

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A.3 **External Dimensions**

Unit: mm

Dimensional accuracy: ±5mm

	CE7000-130AP
External dimensions (approx.) (W x D1 (D2) x H)* Unit: mm	1704×1148 (811) ×1215

*: Stand and basket are included.

A.4 Menu Tree

Default screen

```
1:Condition No. 1
   PEN S30 F12 A2
        READY

1 TOOL1 VIEW
2 HOME
   CONDITION No.
```

[COND/TEST]

CONDITION
setting (1/3)

```
              1/3
1 Condition No. 1
2 TOOL  : PEN
3 SPEED : 30 cm/s
4 FORCE : 12
           ▼
◄ CUT TEST
```

[ENTER]

```
1:C CONDITION No.
    1 No. 1  ▲ No. 5
    2 No. 2  ▼ No. 6
    3 No. 3  ◄ No. 7
  1 4 No. 4  ► No. 8
  2   RESET
```

[COPY]

```
COPY MODE
1 MEDIA CHANGE MODE
                :OFF
2 NUMBER OF COPIES :1
3 COPY SPACE    :1.0mm

   SET      CANCEL
```

[1]

```
2:Condition No. 2
        ▲
1:Condition No. 1
   PEN S30 F12 A2
        ▼
8:Condition No. 8
   SET       CANCEL
```

[2]

```
       TOOL
1 1:Condition No. 1
2 TYPE

      PEN

   SET       CANCEL
```

[3]

```
         SPEED
COND.  1 2 3 4 5 6 7 8
CONFIG 30 30 30 20 20 30 30 30
◄ ► CONDITION No.
   CONFIG ▲ UP
          ▼ DOWN
   SET       CANCEL
```

[4]

```
         FORCE
COND.  1 2 3 4 5 6 7 8
CONFIG 12 8 14 6 8 16 12 8
◄ ► CONDITION No.
   CONFIG ▲ UP
          ▼ DOWN
   SET       CANCEL
```

CONDITION
setting (2/3)

```
       ▲       2/3
1 ACCELERATION : 2

3 TANGENTIAL MODE
4 OVERCUT
       ▼
◄ CUT TEST
```

[1]

```
       ACCELERATION
COND.  1 2 3 4 5 6 7 8
CONFIG 2 2 2 2 2 2 2 2
◄ ► CONDITION No.
   CONFIG ▲ UP
          ▼ DOWN
   SET       CANCEL
```

[3]

```
       TANGENTIAL MODE
COND.  1 2 3 4 5 6 7 8
CONFIG - - - - - - - -
◄ ► CONDITION No.
   CONFIG 1 MODE1 2 MODE2
          3 OFF
   SET       CANCEL
```

[4]

```
       OVERCUT
1 1:Condition No. 1
2 START      -.-mm
3 END        -.-mm

   SET       CANCEL
```

CONDITION
setting (3/3)

```
       ▲       3/3
2 INITIAL DOWN FORCE
3 CUT LINE PATTERN

       ▼
◄ CUT TEST
```

[2]

```
       INITIAL DOWN FORCE
COND.  1 2 3 4 5 6 7 8
CONFIG - 0 - - - - - -
◄ ► CONDITION No.
   CONFIG ▲ UP
          ▼ DOWN
   SET       CANCEL
```

[3]

```
       CUT LINE PATTERN
1 1:Condition No. 1
2 TYPE      No. = OFF


   SET       CANCEL
```

Continued

MENU screen

TOOLS SETTING (1/4)

[PAUSE/MENU]

| 1TOOL | 2AXIS | 3AREA | 4MEDIA |
| ▲I/F | ▼ADV | ◀TEST | ▶MEM |

[1]

TOOLS SETTING   1/4
▲
1 TOOL UP/DOWN
2 TOOL OFFSET ADJ.
3 STEP PASS
4 OFFSET FORCE
▼

[2]

TOOL OFFSET ADJ.
 TOOL 1-2
2 TEST PATTERN
3 X=+0.0mm
4 Y=+0.0mm

SET   CANCEL

[3]

STEP PASS
▲
1
▼

SET   CANCEL

[4]

OFFSET FORCE
COND. 1 2 3 4 5 6 7 8
CONFIG = 4 4 4 4 4 4 4
◀▶ CONDITION No.
CONFIG ▲UP
       ▼DOWN
SET   CANCEL

TOOLS SETTING (2/4)

TOOLS SETTING   2/4
▲
1 OFFSET ANGLE
2 DATA SORTING
3 CONDITION PRIORITY
▼

[1]

OFFSET ANGLE
▲
30
▼

SET   CANCEL

[2]

DATA SORTING
1 ON
2 OFF

SET   CANCEL

[3]

CONDITION PRIORITY
1 MANUAL
2 PROGRAM

SET   CANCEL

TOOLS SETTING (3/4)

TOOLS SETTING   3/4
▲
1 TOOL UP MOVE
2 MOVING SPEED
3 TOOL UP HEIGHT
▼

[1]

TOOL UP MOVE
1 ENABLED
2 DISABLED

SET   CANCEL

[2]

MOVING SPEED
▲
AUTO
▼

SET   CANCEL

[3]

TOOL UP HEIGHT
1 NORMAL POSITION
2 HIGHER POSITION

SET   CANCEL

TOOLS SETTING (4/4)

TOOLS SETTING   4/4
▲
1 BLADE WEAR ALARM SETUP
2 INITIAL B. ANGLE POSITION
▼

[1]

BLADE WEAR ALARM SETUP
1 BLADE WEAR DETECT.   OFF
2 SET BLADE GROUP
3 ALARM DISTANCE
4 CLEAR B.WEAR VALUE

[2]

INITIAL BLADE
ANGLE POSITION
1 2mm BELOW
2 Y OUTSIDE
3 SPECIFIED Y POSITION
SET   CANCEL

MENU screen

AXIS SETTING (1/1)

[PAUSE/MENU]

[2]

```
1TOOL 2AXIS 3AREA 4MEDIA
▲I/F  ▼ADV ◄TEST ►MEM
```

```
▤ AXIS SETTING          1/1

1 AXIS POINT SETTING
2 AXIS MODE
```

[1]

```
▲▼◄►
AXIS POINT 1
MOVE THE TOOL TO THE
STARTING POINT AND THEN
PRESS ENTER
CANCEL
```

[2]

```
AXIS MODE
1 AXIS MODE
  AXIS ALIGNMENT


SET          CANCEL
```

A-7

MENU screen   AREA PARAMETERS (1/1)

[PAUSE/MENU]   [3]   [1]

```
1TOOL 2 AXIS 3 AREA 4 MEDIA
▲ I/F ▼ ADV ◀ TEST ▶ MEM
```

```
■ AREA PARAMETERS    1/1
1 AREA
2 EXPAND
3 ROTATE
4 DISTANCE ADJUST
```

```
SET LOWER LEFT
  X=+0.000mm
  Y=+0.000mm
1 DEFAULT

■ SET    ■ CANCEL
◀▶▲▼■ POSITION KEY
```

[2]

```
SET EXPAND LIMIT
      ▲
   DEFAULT
      ▼

■ SET      ■ CANCEL
```

[3]

```
ROTATE
1 ON
2 OFF

■ SET      ■ CANCEL
```

[4]

```
DISTANCE ADJUST
1 OFF
2 X=+0.00%
3 Y=+0.00%

■ SET      ■ CANCEL
```

Default screen
(Continued)

MENU screen

MEDIA SETTING (1/3)

[PAUSE/MENU]

| 1 TOOL | 2 AXIS | 3 AREA | 4 MEDIA |
| A I/F | V ADV | < TEST | > MEM |

[4]

MEDIA SETTING   1/3
▲
1 'F' COMMAND CUT
2 AUTO PRE FEED
3 PAGE LENGTH
4 INITIAL FEED
▼

[1]

'F' COMMAND CUT
1 ON
2 OFF

SET   CANCEL

[2]

AUTO PRE FEED
1 OFF
2 FEED LENGTH
   1.0m

SET   CANCEL

[3]

PAGE LENGTH
▲
200.0cm
▼
1.000
SET   CANCEL

[4]

INITIAL FEED
1 ON
2 OFF

SET   CANCEL

MEDIA SETTING (2/3)

MEDIA SETTING   2/3
▲
1 FEED SPEED
2 CROSS CUT FORCE
3 PANEL CUTTING
▼

[1]

FEED SPEED
1 SLOW
2 NORMAL

SET   CANCEL

[2]

CROSS CUT FORCE
▲
20
▼

SET   CANCEL

[3]

PANEL CUTTING
1 OFF
2 DIVIDE LENGTH
   100.0cm

SET   CANCEL

MEDIA SETTING (3/3)

MEDIA SETTING   3/3
1 CROSS CUT
2 SPACE REAR
3 PAPER LOAD FUNCTION
4 PAPER READY TIME
▼

[1]

CROSS CUT
1 ON
2 OFF

SET   CANCEL

[2]

SPACE REAR
▲
7.0mm
▼
1.000
SET   CANCEL

[3]

PAPER LOAD FUNCTION
▲
2
▼

SET   CANCEL

[4]

PAPER READY TIME
▲
180 [sec]
▼

SET   CANCEL

Continued

Default screen
(Continued)

MENU screen

INTERFACE (1/4)

[PAUSE/MENU]

[▲]

	INTERFACE	1/4
	▲	
1	BUFFER CLEAR	
2	COMMAND	
3	HP-GL ORIGIN POINT	
4	HP-GL MODEL EMULATED	
	▼	

[1]
```
BUFFER CLEAR
CONFIRM DATA FROM
  HOST STOPPED.


1 YES, CLEAR
2 CANCEL
```

[2]
```
COMMAND
1 GP-GL
2 HP-GL


SET       CANCEL
```

[3]
```
HP-GL ORIGIN POINT
1 LOWER LEFT
2 CENTER


SET       CANCEL
```

[4]
```
HP-GL MODEL EMULATED
1 7550
2 7586


SET       CANCEL
```

INTERFACE (2/4)

```
    INTERFACE        2/4
         ▲
  1 GP-GL STEP SIZE
* 2 RS-232C
  3 LAN
  4 COMMAND ':',';'
```

* When the RS-232C interface is installed

[1]
```
GP-GL STEP SIZE
1 0.100 mm
2 0.050 mm
3 0.025 mm
4 0.010 mm
SET       CANCEL
```

[2]
```
  RS-232C No.1
1 BAUD RATE 9600
2 DATA 8 BIT
3 PARITY NONE
4 HARDWIRE HANDSHAKE
SET       CANCEL
```

[3]
```
1 DHCP:OFF
2 IP [192.168.  0.  1]
3 SUBNET MASK:
    [255.255.255.  0]
4 GATEWAY:
    [192.168.  0.254]
SET       CANCEL
```

[4]
```
COMMAND ':',';'
1 ENABLED
2 DISABLED


SET       CANCEL
```

INTERFACE (3/4)

```
    INTERFACE        3/4
         ▲
  1 COMMAND 'W'
  2 CIRCLE RESOLUTION


         ▼
```

[1]
```
COMMAND 'W'
1 TOOL DOWN
2 TOOL UP


SET       CANCEL
```

[2]
```
CIRCLE RESOLUTION
1 DEFAULT
2 AUTO


SET       CANCEL
```

INTERFACE (4/4)

```
    INTERFACE        4/4
  1 TIME OUT    ▲
  2 GP-GL SEPARATOR
  3 HP-GL SEPARATOR
  4 SELECT USER
         ▼
```

[1]
```
TIME OUT

      ▲
   0 [sec]
      ▼

SET       CANCEL
```

[2]
```
GP-GL SEPARATOR

      ▲
      []
      ▼

SET       CANCEL
```

[3]
```
HP-GL SEPARATOR

      ▲
      []
      ▼

SET       CANCEL
```

[4]
```
SELECT USER

      ▲
      1
      ▼

SET       CANCEL
```

Continued

A-10

MENU screen   ADVANCE (1/4)

[PAUSE/MENU]

```
┌─────────────────────┐
│1TOOL 2AXIS 3AREA 4MEDIA│
│                      │
│▲I/F ▼ADV ◄TEST ►MEM  │
│                      │
└─────────────────────┘
```

[▼]

```
┌──────────────────────────┐
│📄ADVANCE            1/4   │
│           ▲              │
│1MOVE STEP                │
│2LANGUAGE SELECTION       │
│3LENGTH UNIT              │
│4BEEP FOR KEY OPE.        │
│           ▼              │
└──────────────────────────┘
```

[1]
```
┌──────────────────────┐
│MOVE STEP             │
│1 1.0mm               │
│2 0.1mm               │
│                      │
│SET        CANCEL     │
└──────────────────────┘
```

[2]
```
┌──────────────────────┐
│LANGUAGE SELECTION    │
│         ▲            │
│Japanese 日本語        │
│         ▼            │
│SET        CANCEL     │
└──────────────────────┘
```

[3]
```
┌──────────────────────┐
│LENGTH UNIT           │
│1 METRIC              │
│2 INCH                │
│                      │
│SET        CANCEL     │
└──────────────────────┘
```

[4]
```
┌──────────────────────┐
│BEEP FOR KEY OPE.     │
│1 ON                  │
│2 OFF                 │
│                      │
│SET        CANCEL     │
└──────────────────────┘
```

ADVANCE (2/4)

```
┌──────────────────────────┐
│📄ADVANCE            2/4   │
│           ▲              │
│1POSI. KEY SPEED + SLOW KEY│
│2POSI. KEY SPEED          │
│                          │
│           ▼              │
└──────────────────────────┘
```

[1]
```
┌──────────────────────┐
│POSI. KEY SPEED + SLOW KEY│
│         ▲            │
│1 cm/s                │
│         ▼            │
│SET        CANCEL     │
└──────────────────────┘
```

[2]
```
┌──────────────────────┐
│POSI. KEY SPEED       │
│         ▲            │
│10 cm/s               │
│         ▼            │
│SET        CANCEL     │
└──────────────────────┘
```

ADVANCE (3/4)

```
┌──────────────────────────┐
│📄ADVANCE            3/4   │
│           ▲              │
│1PAUSE/MENU KEY SETTING   │
│                          │
│3ERROR MESSAGES           │
│4LCD CONTRAST             │
│           ▼              │
└──────────────────────────┘
```

[1]
```
┌──────────────────────┐
│PAUSE/MENU KEY SETTING│
│1 MENU                │
│2 PAUSE               │
│                      │
│SET        CANCEL     │
└──────────────────────┘
```

[4]
```
┌──────────────────────┐
│LCD CONTRAST          │
│         ▲            │
│0                     │
│         ▼            │
│SET        CANCEL     │
└──────────────────────┘
```

ADVANCE (4/4)

```
┌──────────────────────────┐
│📄ADVANCE            4/4   │
│           ▲              │
│1MEDIA SENSOR             │
│2PUSH ROLLER SENSOR       │
│                          │
│4FAN POWER                │
│           ▼              │
└──────────────────────────┘
```

[1]
```
┌──────────────────────┐
│MEDIA SENSOR          │
│1 ENABLED             │
│2 DISABLED            │
│                      │
│SET        CANCEL     │
└──────────────────────┘
```

[2]
```
┌──────────────────────┐
│PUSH ROLLER SENSOR    │
│1 ENABLED             │
│2 INSIDE DISABLED     │
│3 DISABLED            │
│SET        CANCEL     │
└──────────────────────┘
```

[4]
```
┌──────────────────────┐
│FAN POWER             │
│1 NORMAL              │
│2 WEAK                │
│                      │
│SET        CANCEL     │
└──────────────────────┘
```

Default screen (Continued)

MENU screen

[PAUSE/MENU]

```
1TOOL 2AXIS 3AREA 4MEDIA
A I/F  ▼ADV  ◄TEST  MEM
```

[◄]

TEST (1/2)

```
▦TEST              1/2
        ▲
1 CONDITION LIST
2 SELF TEST
3 DATA DUMP
4 CUTTING DEMO.
        ▼
```

[1]

```
▦TEST              1/2
1 CON ┌MOUNT THE PEN!──┐
2 SEL │1 DONE 1/2      │
3 DA  │2 DONE 2/2      │
4 CUT │☰ CANCEL CONDITION│
      └────────────────┘
        ▼
```

[2]

```
▦TEST              1/2
1 CON ┌MOUNT THE PEN!────┐
2 SEL │1 DONE            │
3 DA  │☰ CANCEL SELF TEST│
4 CUTTING PRO └──────────┘
        ▼
```

[3]

```
▦TEST              1/2
1 CON ┌MOUNT THE PEN!────┐
2 SEL │1 DONE            │
3 DA  │☰ CANCEL DATA DUMP│
4 CUTTING PRO └──────────┘
```

[4]

```
▦TEST              1/2
1 CON ┌CUTTING DEMO.┐
2 SEL │1 START      │
3 DATA│☰ CANCEL     │
4 CUTTING DEMO. └───┘
        ▼
```

TEST (2/2)

```
▦TEST              2/2
        ▲
1 DIAGNOSTICS

        ▼
```

[1]

```
▦TEST              2/2
1 DIAGN ┌DIAGNOSTICS┐
        │1 START    │
        │☰ CANCEL   │
        └───────────┘
        ▼
```

Continued

A-12

MENU screen

MEM. SETTING (1/1)

[PAUSE/MENU]

[▶]

```
█ OFF-LINE OPERATION    1/1
█ SELECTS DATA FILE
```

[1]

```
█ SELECTS DATA FILE

SERCH IS IN PROGRESS
PLEASE WAIT FOR A WHILE
█ CANCEL
```

A.5 Initial Setting

Menu items	Setting item	Initial value
TOOLS SETTING (TOOL)	TOOL OFFSET ADJ.	–
	STEP PASS	1
	OFFSET FORCE	–
	OFFSET ANGLE	30
	DATA SORTING	ON
	CONDITION PRIORITY	PROGRAM
	TOOL UP MOVE	DISABLED
	MOVING SPEED	AUTO
	TOOL UP HEIGHT	NORMAL POSITION
	BLADE WEAR ALARM SETUP	OFF
	INITIAL B. ANGLE POSITION	2mm BELOW
AXIS SETTING (AXIS)	AXIS SETTING	OFF
AREA PARAMETERS (AREA)	AREA SET LOWER LEFT	(DEFAULT)
	AREA SET UPPER RIGHT	(DEFAULT)
	EXPAND	(DEFAULT)
	ROTATE	OFF
MEDIA SETTING (MEDIA)	'F'COMMAND CUT	OFF
	AUTO PRE FEED	OFF
	AUTO PRE FEED FEED LENGTH	1m
	PAGE LENGTH	300.0cm
	INITIAL FEED	OFF
	FEED SPEED	NORMAL POSITION
	CROSS CUT FORCE	20
	PANEL CUTTING	OFF
	DIVIDE LENGTH	100.0cm
	CROSS CUT	ON
	SPACE REAR	70mm
	PAPER LOAD FUNCTION	2
	PAPER READY TIME	180sec
INTERFACE (I/F)	COMMAND	HP-GL
	HP-GL ORIGIN POINT	LOWER LEFT
	HP-GL MODEL EMULATED	7586
	GP-GL STEP SIZE	0.100mm
	RS-232C (SWITCHING SETTING NUMBERS)	No.1
	RS232C: FORWARDING CONDITION BAUD RATE/DATA BIT/ PARITY/HARDWIRE HANDSHAKE	RS-232C No.1 : 9600/8/NONE//HARD RS-232C No.2 : 9600/7/EVEN//HARD RS-232C No.3 : 9600/8/EVEN/XonXoff RS-232C No.4 : 9600/8/EVEN/XonXoff
	LAN DHCP	OFF
	LAN IP	192.168.0.1
	LAN SUBNET MASK	255.255.255.0
	LAN GATEWAY	192.168.0.254
	COMMAND ':',';'	ENABLED
	COMMAND 'W'	TOOL UP
	CIRCLE RESOLUTION	DEFAULT
ADVANCE (ADV.)	MOVE STEP	0.1mm
	LANGUAGE SELECTION	Select when initially turning on power
	LENGTH UNIT	Select when initially turning on power
	BEEP FOR KEY OPE.	ON
	POSI. KEY SPEED + SLOW KEY	1cm/s
	POSI. KEY SPEED	10cm/s
	PAUSE/MENU KEY SETTING	PAUSE
	LCD CONTRAST	0
	MEDIA SENSOR	ENABLED
	PUSH ROLLER SENSOR	ENABLED
	FAN POWER	NORMAL POSITION
TEST (TEST)	NO SETTINGS	–

Menu items		Setting item	Initial value
TOOL SETTING (Condition)	CONDITION 1	Condition No.	Condition No. 1
		TOOL	PEN
		SPEED	30
		FORCE	12
		ACCELERATION	2
		TANGENTIAL MODE	OFF
		OVERCUT (START)	0.000
		OVERCUT (END)	0.000
		DISTANCE ADJUST	OFF
		INITIAL DOWN FORCE	0
		CUT LINE PATTERN	OFF
	CONDITION 2	Condition No.	Condition No. 2
		TOOL	CB09U
		SPEED/FORCE/ACCELERATION	30/8/2
		Same as Condition No. 1 from TANGENTIAL MODE to INITIAL DOWN FORCE	Same as Condition No. 1
		CUT LINE PATTERN	5
	CONDITION 3	Condition No.	Condition No. 3
		TOOL	CB09U
		SPEED/FORCE/ACCELERATION	30/14/2
		Same as Condition No. 1 from TANGENTIAL MODE to INITIAL DOWN FORCE	Same as Condition No. 1
		CUT LINE PATTERN	3
	CONDITION 4	Condition No.	Condition No. 4
		TOOL	CB09U
		SPEED/FORCE/ACCELERATION	20/6/2
		Same as Condition No. 1 from TANGENTIAL MODE to INITIAL DOWN FORCE	Same as Condition No. 1
		CUT LINE PATTERN	1
	CONDITION 5	Condition No.	Condition No. 5
		TOOL	CB09U
		SPEED/FORCE/ACCELERATION	20/8/2
		Same as Condition No. 1 from TANGENTIAL MODE to INITIAL DOWN FORCE	Same as Condition No. 1
		CUT LINE PATTERN	4
	CONDITION 6	Condition No.	Condition No. 6
		TOOL	CB15U
		SPEED/FORCE/ACCELERATION	30/16/2
		Same as Condition No. 1 from TANGENTIAL MODE to INITIAL DOWN FORCE	Same as Condition No. 1
		CUT LINE PATTERN	3
	CONDITION 7	Condition No.	Condition No. 7
		TOOL	CB15U
		SPEED/FORCE/ACCELERATION	30/12/1
		Same as Condition No. 1 from TANGENTIAL MODE to INITIAL DOWN FORCE	Same as Condition No. 1
		CUT LINE PATTERN	3
	CONDITION 8	Condition No.	Condition No. 8
		TOOL	CB09U
		SPEED/FORCE/ACCELERATION	30/8/2
		Same as Condition No. 1 from TANGENTIAL MODE to INITIAL DOWN FORCE	Same as Condition No. 1
		CUT LINE PATTERN	USER

* Setting items and initial values may be changed.

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