

# CE6000-120AP

## CUTTING PLOTTER

# SETUP MANUAL

MANUAL NO.CE60AP-UM-8M2

### Preface

Thank you for choosing this product. Carefully keep this manual in a handy location for quick reference as necessary prior to use to ensure safe and correct use and also to thoroughly understand the functions and operate them effectively.

### 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.

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### Roles of each manual

- Setup Manual (this manual) ..... Read it to understand Displaying method for CE6000-120AP User's Manual, Method for connecting this Cutting Plotter with the PC, Installing method for driver software, and to prepare for the operation.
- User's Manual (PDF data) ..... Read it to thoroughly understand the functions of CE6000-120AP.
  - \*  P.000 describes the reference pages of User's Manual.
  - \*  P.00 indicates the reference page in this Setup Manual.

## Before starting the Setup

### Make the following preparations before starting Setup.

- Check that all of the items included in the package. (Please see [P.1-2](#) in the CE6000-120AP User's Manual (PDF).) For the Parts Names, please see [P.1-3](#) in the CE6000-120AP User's Manual (PDF).
- Assemble the CE6000-120AP, and set up it. For the assembling procedures, see either Manual attached to the Stand or CE6000-120AP User's Manual (PDF). [P.1-5](#)
- When there are virus detection program or system resident program, terminate them beforehand.
- Upon installation, be sure to log on Windows using an account with administrator privileges on your computer.

## Flow of setup

### Setting up the Plotter main unit

1. Attaching a Tool	The cutter blade can be replaced depending on the material or thickness of the media.	P.03
2. Loading Media (Paper)	Fix the media to the Plotter.	P.05
3. Aligning the Push Rollers	Adjust the position of the push roller.	P.09
4. About the Initial Setup screen	Select "Display Language" and "Length Unit".	P.10
5. Set the media type into the Plotter	Set the media type to the Cutting Plotter, depending on the set media.	P.11
6. Tool adjustment and test cutting	Adjust the protruded cutter edge length and the cutting force depending on the material and thickness of the media. Make test cutting for the set media to adjust the best condition.	P.11

### Installing the Software

Launching the Start menu	For each software of CE6000-120AP install them using the Installer housed in the attached CD-ROM.	P.14
A. Install CE6000-120AP Software		
Installing the CE6000-120AP Driver (Graphtec Plotter Driver)	The CE6000-120AP Driver controls the Plotter and makes plotting according to the data created by the PC.	P.15
The procedures vary depending on the Interface.		
• Connecting the USB cable	Turn on the power source of Plotter in the middle of installing, and connect the USB cable.	P.16
• Connect the RS-232C	Connect the RS-232C cable after installing is finished.	P.15
B. Install the User's Manual	Installs the CE6000-120AP User's Manual.	P.17

# Setting up the Plotter main unit

## 1. 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.

For details, see “Attaching a Tool” on [P.2-4](#) in CE6000-120AP User's Manual.

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

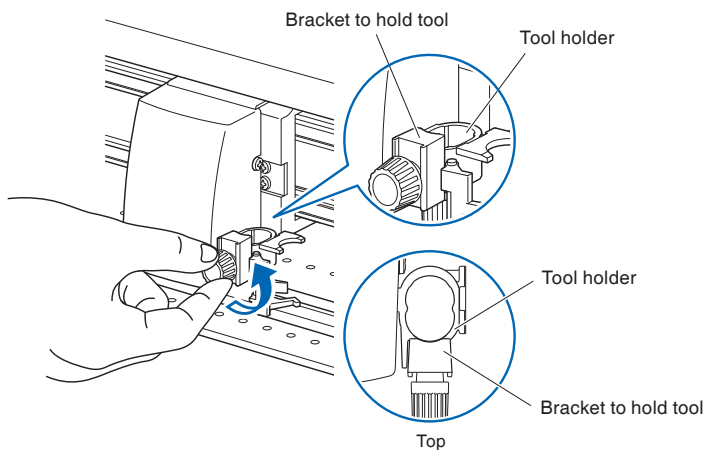
#### CAUTION

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

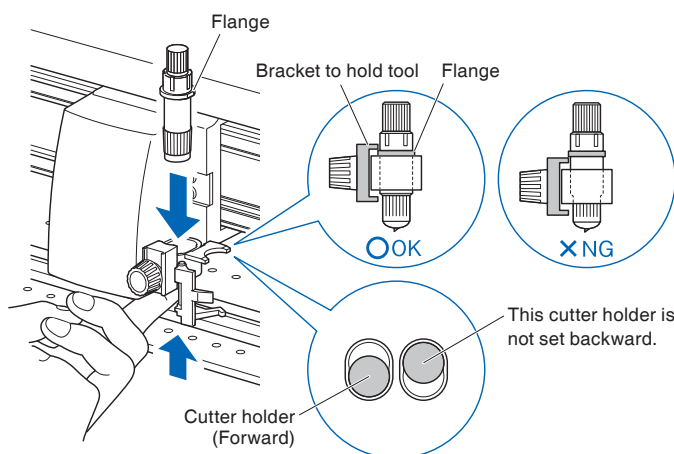
#### Supplement

Please make certain to set the cutter plunger of the cutter holder (forward).

### 1 Loosen the tool holder screw.



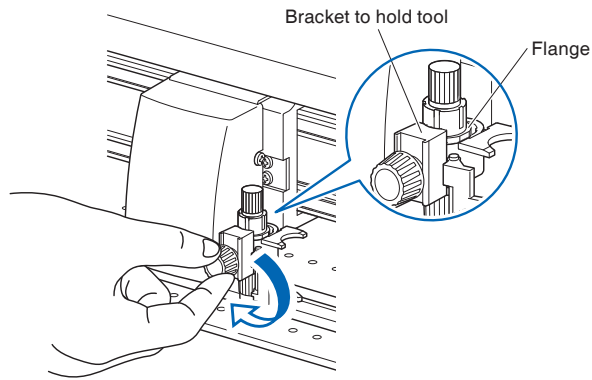
### 2 While pushing up the tool holder, push until its flange completely touches the upper part of the holder.



#### Supplement

Set the tool in the cutter holder (forward).

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



### Removing the tool

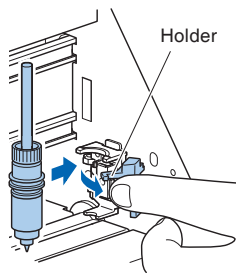
When removing the tool, turn it counterclockwise to remove the tool.

### Attaching a pen

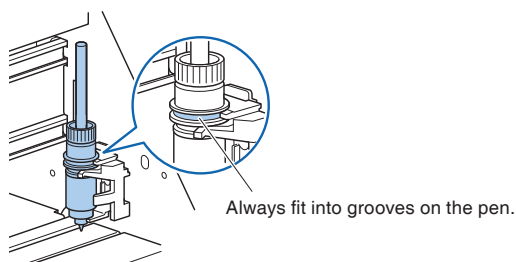
Attach a pen to the pen station.

- 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.

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



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.

### Removing a pen

You can remove the pen by lifting up the holder.

## 2. Loading Media (Paper)

Both roll media and sheet media can be used with the CE6000-120AP. (For more information about loading a sheet media, please see the User's Manual (PDF). 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. For details, see CE6000-120AP User's Manual (PDF).

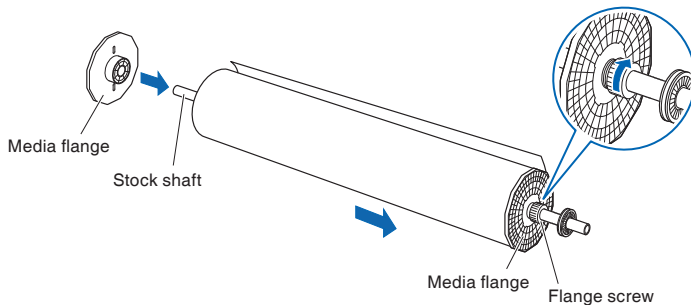
### ⚠ CAUTION

Notes when using roll media

- Make sure to reduce the maximum feed rate if there is any trouble with paper feed not using the basket.
- Take all cut/plotted paper out of the basket; paper left in the basket may cause deviations and affect performance for subsequent jobs.

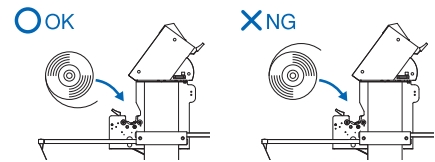
## Loading Roll Media

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



### Supplement

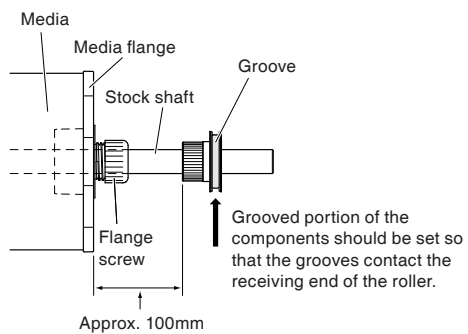
The following figure shows the direction of the roll media when loading it.



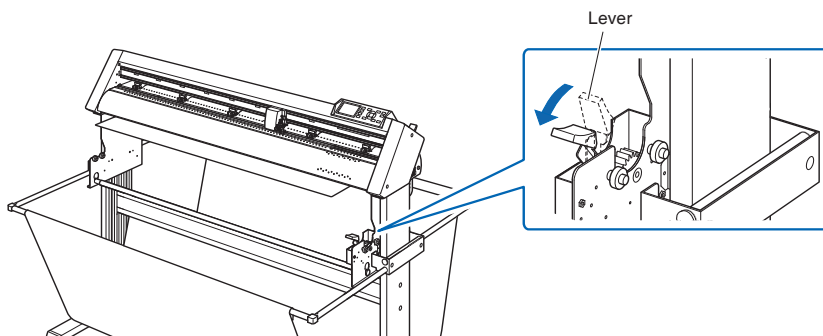
Determine the desired position, and then tighten the flange screw.

Set the position measurement for the media flange as per the following guidelines in when using paper with a width of 1200 mm.

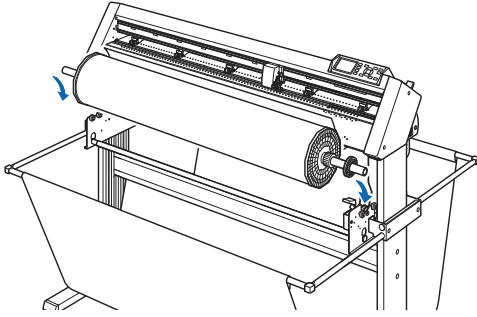
If using paper of a different width loosens the flange screw, adjust the position of the grit roller, then re-tighten the flange screw.



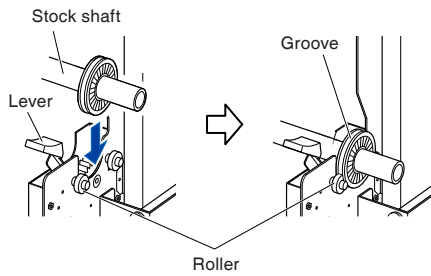
- 2 Lowering the lever releases the stopper lock.



3 Set the stock shaft in from the front.



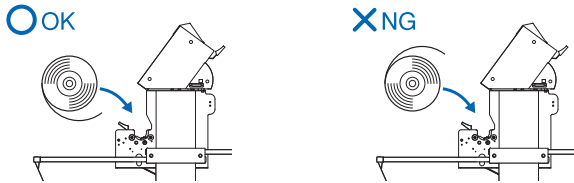
Align the receiving end of the media shaft with the grooves on the roller and push down firmly to set it in place.



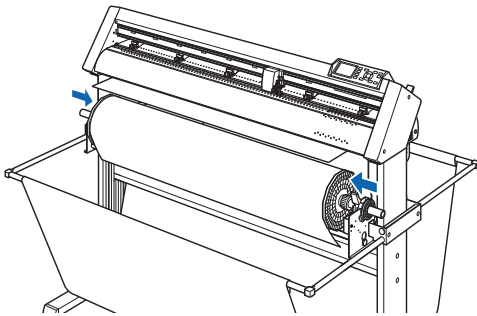
**CAUTION**

- During a plotting or cutting operation, be sure to keep your hands, hair, and so forth away from the media stocker, gears and rollers.
- When you are installing media, be careful for gear, a roller, etc. not pinch your finger.
- Deviations and errors may result if the stock shaft is misaligned when plotting begins.

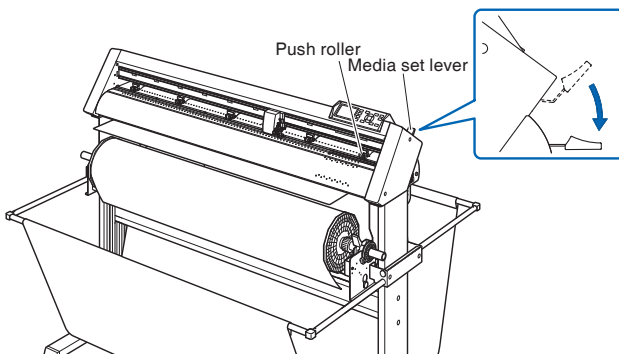
Please make sure to set in the direction of the paper.



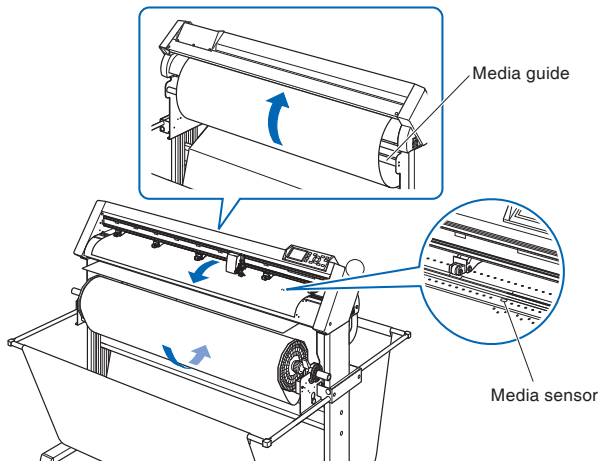
4 The left and right media flanges feed in the paper roll media. Please tighten the flange screw and fasten the paper roll into the desired position.



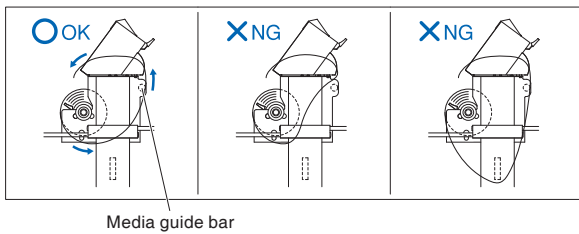
5 Lower the media set lever to raise the push rollers.



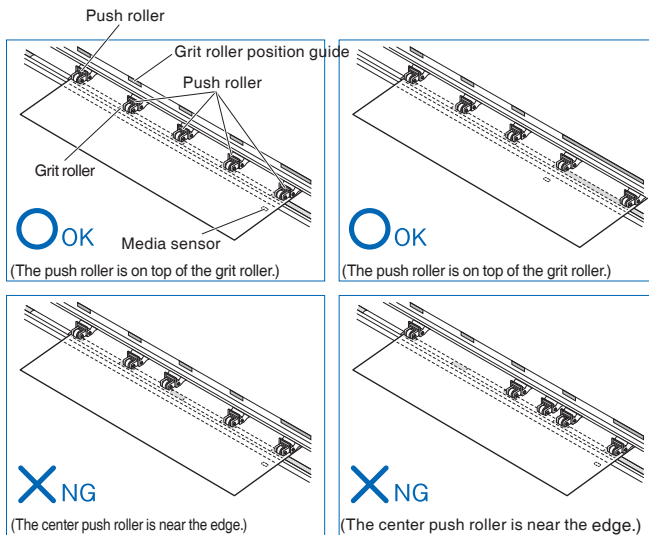
- 6 Put the roll media on the roll media tray and then push the tip of the roll media forward from the back of the machine. Make sure to pull it so that there is no slackening across the roll media's route.



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

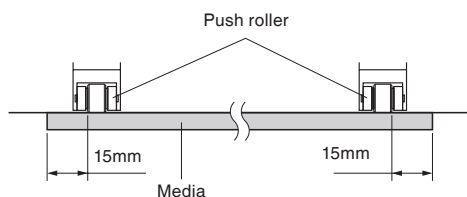


- 7 Position the media and the push rollers to correspond with the width of the media. Use the 5 push rollers to push down the sides and center of the media. Use the grit roller position guide and make sure the push rollers are on top of the grit rollers. You can adjust the center push roller's hold-down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



### ***When Feeding Long-axis Media (at exceeds 2 meters)***

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



#### **Supplement**

- The media must always be positioned over the media sensor.
- See "Aligning the Push Rollers" →P.09 about the position of the push rollers.

#### **Supplement**

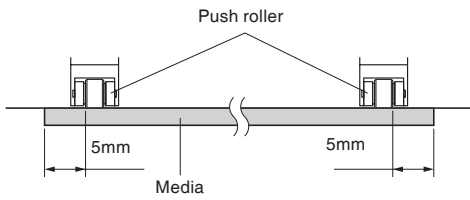
- The media must always be positioned over the media sensor.
- See "Aligning the Push Rollers" →P.09 about the position of the push rollers.
- See "Aligning the Push Rollers" →P.09 for information about center 3 push roller hold-down force.

#### **CAUTION**

When setting on inside more than 30 mm, cut cross is not available.

**When Feeding Long-axis Media (at least 2 meters)**

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



**CAUTION**

When setting on inside more than 30 mm, cut cross is not available.

**To use a paper wider than 1,119 mm**

Carefully set the position of the left edge of the push roller.

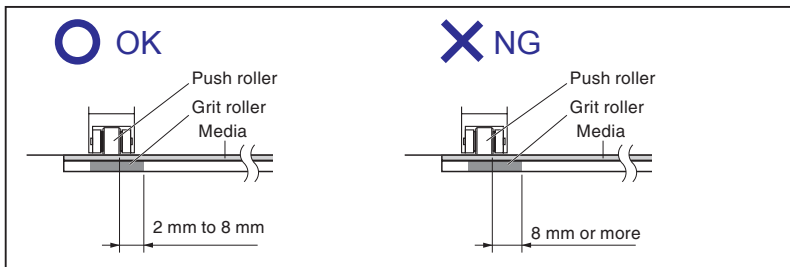
Set the right edge of the grit roller between 2 mm and 8 mm.

It's not possible to set the right edge of the grit roller to a size greater than 8 mm. (There is a stopper.)

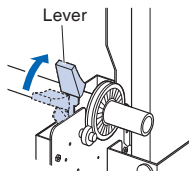
**CAUTION**

Notes on the left grit roller

- The left grit roller is not available in all locations.
- It's not possible to set the right edge of the grit roller to a size greater than 8 mm. (There is a stopper.)
- Please set the push roller to the position between 2 mm and 8 mm from the right edge of the grit roller.



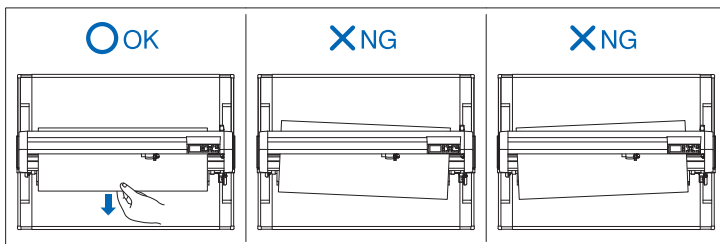
8 Raise the lever to lock.



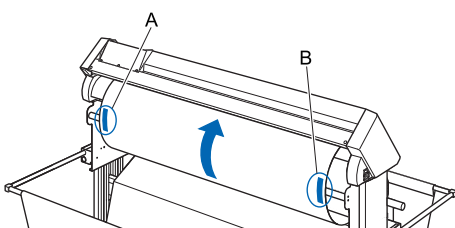
**CAUTION**

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

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

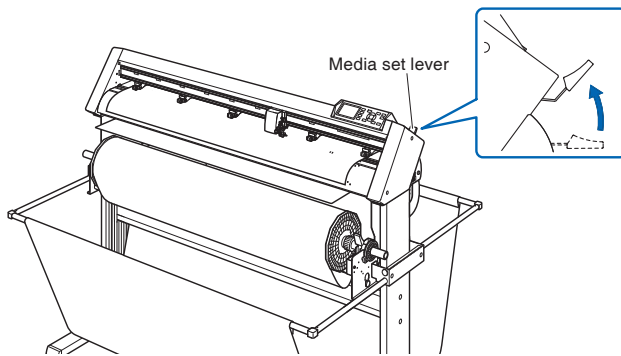


10 Pull from the front of the machine to even the tension of both A and B sides of the paper, as shown in the figure below.

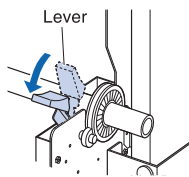




- 11 Raise the set lever after confirming that the route the roll paper passes through is taut and not slackening. The push roller position and the roll paper will stay in place.



- 12 Lowering the lever releases the stopper lock.



**CAUTION**

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

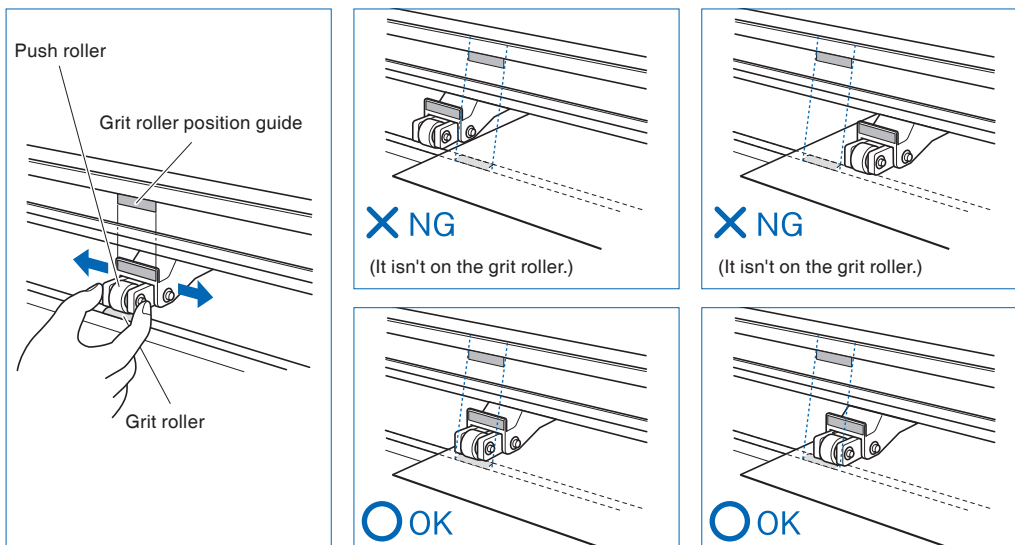
### 3. Aligning the Push Rollers

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.

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



**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 3 push rollers are not on the proper grit roller. Make sure everything is set correctly.

### For minimum width media

The CE6000-120AP can take media of 594 mm (A1 size) or more.

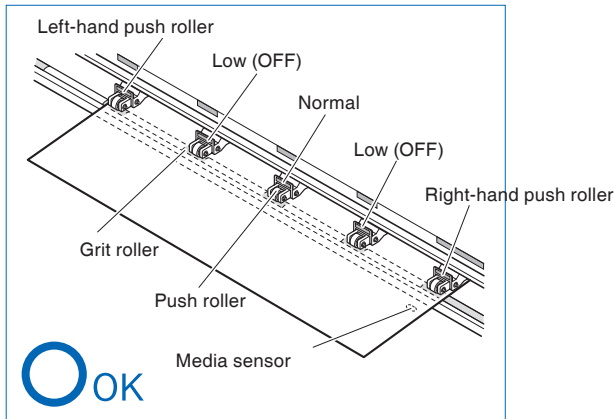
#### CAUTION

- 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

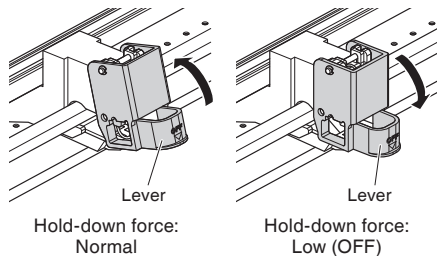
The down force applied by the middle 3 push rollers can be changed depending on the width and type of media used.

When using the genuine Graphtec paper, please set the force of the middle push roller to "Normal" and the remaining 2 rollers to "Low" (OFF).



### Switching

- (1) Lower the media set lever to raise 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 Normal or Low (OFF).
- (3) When the push roller hold-down force switching lever is up, it is in Normal menu. When it is down, it's Low (OFF).



#### CAUTION

Hold-down force can not be switched for side push rollers.

#### Supplement

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

## 4. About the Initial Setup screen

The Initial Setup screen appears only when powering up the Cutting Plotter for the first time after purchase. Here, you can set "Display Language" and "Length Unit".

After the initial setup is completed, you can also select the menu from the READY status.

See "2.6 Connecting to the Power" [P.2-20](#) for turning on the power.

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

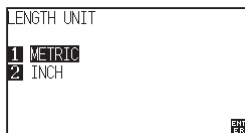
▶DISPLAY LANGUAGE setting screen is displayed.



- 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.



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 (SET).

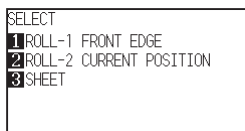
▶ Setting will be set, and the default screen is displayed.

## 5. Set the media type into the Plotter.

Set the media type into the Plotter depending on the preset media.

1 If you have already loaded the media, the MEDIA TYPE menu appears.

Select the media type to suit the loaded media.

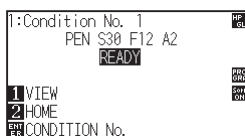


Roll media	Plot starting with the edge of media.	[1] ROLL-1 FRONT EDGE
	Plot starting with the preset position.	[2] ROLL-2 CURRENT POSITION
Sheet media	Set a sheet media.	[3] SHEET
CONTINUE	When similar media is reset	[4] CONTINUE

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.

▶ Default screen is displayed.



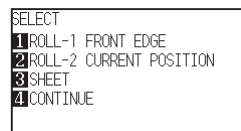
\* The default value for the command setting is HP-GL, and the origin position is lower left.

### CAUTION

Release the stopper 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.



### Simple menu/Normal menu

You can use the [SIMPLE] key on the default screen to switch between Simple menu and Normal menu.

In Simple menu you can change easy settings from the menu screen.

In Normal menu, you will be able to change more detailed settings.

For details, see "About Simple menu"

[P.2-43](#)

## 6. Tool adjustment and test cutting

### Adjust the Blade Length

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

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

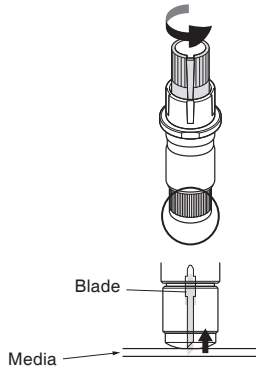
### CAUTION

- To avoid bodily injury, handle cutter blades with care.
- It may result to damaging the cutter blade or the cutting groove if the blade is extended too much.

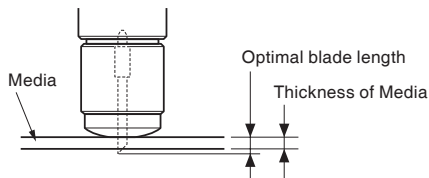
#### Supplement

See "Running Cutting Tests" [P.12](#) or cutting tests.

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



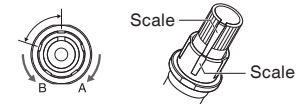
- 2 The blade will gradually extend to suit the thickness of the media being cut; the optimal length is slightly greater than the thickness of the media. A test cut will then be performed, and the blade length adjusted if there is any media left uncut.



### Supplement

- Blade length can be changed by spinning the adjuster 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.



- Guideline to Set the Blade Length

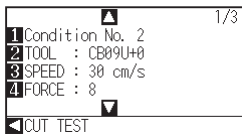
See "Setting the Tool Condition" [P.2-30](#) for the thickness of the media.

## Running Cutting Tests

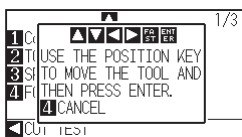
Test cutting can be performed after making the TOOL, SPEED, FORCE, ACCELERATION, and CUTLINE PATTERN settings to ensure that the selected cutting conditions actually produce the desired cutting results. Check how far the blade cuts into the media and how the corners are being cut. If the cutting results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

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

- 1 Load the media for test cutting in the plotter.
- 2 Press the [COND/TEST] key in the default screen.
  - ▶ In Normal menu, CONDITION screen (1/3) is displayed.



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



- 4 Press the POSITION (▲▼◀▶) key the tool carriage to the location you wish to perform the test cutting.



### Supplement

Please choose from Condition No.2 to Condition No.8 under "Selecting the Tool Condition".

For more information, see "2.10 Selecting Tool Condition" [P.2-29](#).

### Supplement

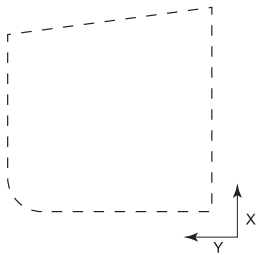
It will return to CONDITION screen by pressing the [4] key (CANCEL).

### Supplement

Pushing the [POSITION] and [FAST] keys simultaneously will move the tool carriage faster.

5 Press the [ENTER] key.

▶ 1 cut test pattern is cut.



6 Press the [ENTER] key after completion.

▶ CONDITION screen is displayed.

7 Press the [COND/TEST] key.

▶ It will return to default screen.

**CAUTION**

When the [ENTER] key is pressed, the tool carriage will start moving, so take care not to cut your fingers.

### 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.

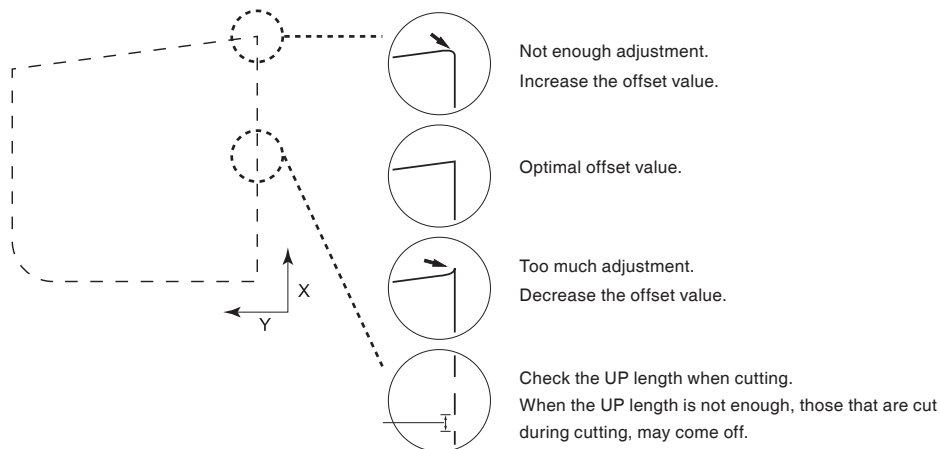
#### Adjustment of Offset

Check the corners of the triangles and rectangles. See "Setting the Tool Condition" [P.2-30](#) 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.



#### Adjustment for Cutting Out

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" [P.11](#) and "Setting the Force" [P.2-35](#) 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" [P.2-35](#) or setting the FORCE.

# Installing the Software

Install the software housed in the attached CD-ROM into the PC that is used. This section explains how to install the software when using a Windows 7 (32 bit) operating environment.

## Note

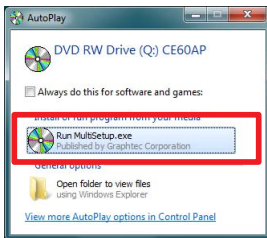
- Upon installation, be sure to log on Windows using an account with administrator privileges on your computer. If you have logged on using a standard user account, an [User Account Control] screen asking you to enter the administrator account password may appear.
- Supported OS  
This software supports the following OS environments:  
Windows 8 (32 bit/64 bit), Windows 7 (32 bit/64 bit), Windows Vista (32 bit/64 bit), Windows XP SP3 (32bit/64bit)  
\* For the latest OS, please access our web site

## 1. Launching the Start Menu

After starting up Windows, insert the [USER GUIDE & SOFTWARE CD] provided with the CE6000-120AP into your computer's CD drive.

The below screen will appear before the Start Menu launches. Continue with installation in accordance with the following procedures.

- 1 The Windows [AutoPlay] screen will appear.  
Select [Run MultiSetup.exe] from the Windows [AutoPlay] screen.



\* If the [AutoPlay] screen does not appear, open [Explorer] and select the CD drive containing the software to be installed. Open the CD and double-click on [MultiSetup.exe].

- 2 Click [Yes] if you have logged on using an administrator account.



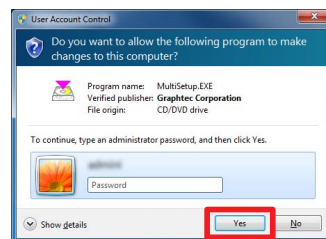
- 3 The [Start] will appear.  
"Use this menu to install the software you require to use the CE6000-120AP. First-time users should proceed with installation by clicking on [Install CE6000-120AP Software]."  
Proceed with installation according to your operating environment.



- A. Install CE6000-120AP Software:  
Install the [CE6000-120AP Driver].
- B. Install User's Manual:  
Installs the CE6000-120AP User's Manual.

## Supplement

If you have logged on using a standard user account, an [User Account Control] screen asking you to enter the administrator account password may appear. Enter the password, and then click [Yes].



## A. Install CE6000-120AP Software

If you are using the CE6000-120AP for the first time, click on [Install CE6000-120AP Software] to install the device. This operation will install the [CE6000-120AP Driver].

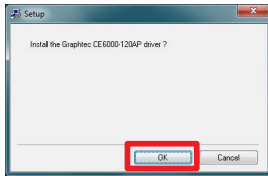


### Note

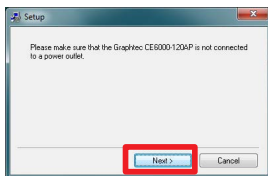
Do not connect the accompanying USB cable yet. Doing so may prevent the [Driver software] from being installed properly. Refer to the procedures in this User's Manual when connecting the USB cable.

### Installing the [CE6000-120AP Driver]

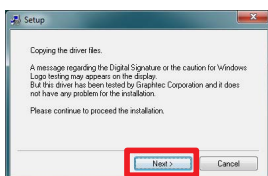
- 1 The [Setup] screen for the [Graphtec CE6000-120AP Driver] will appear. When it does, click on [OK].



- 2 Next, check to make sure the [CE6000-120AP] is not connected to your computer, then click on [Next].



- 3 Click on [Next] again.



- 4 A window for selecting the [Port Name] to be used appears. Select [USB].

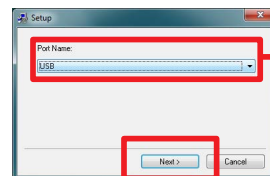
Clicking on [Next] will begin the driver software installation process.

#### Available Port Names

USB : Selected when a USB cable is used for connection.

COM1 : Selected when an RS-232C (serial) cable is used for connection.

FILE : Selected to save outputted data (plot data) to a file.



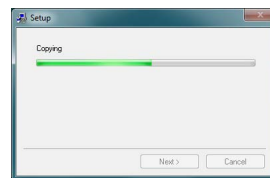
Select "USB"

#### Supplement (When selecting the COM1)

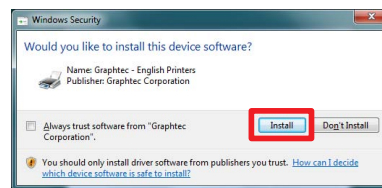
To select "COM1" in "Selecting Port Name", do the installation according to the message.

After the installation is completed, connect the RS-232C cable. (P.12) For more information about connecting the RS-232C cable, see "1.4: Connecting to the Computer" on page 1-6 in CE6000-120AP User's Manual.)

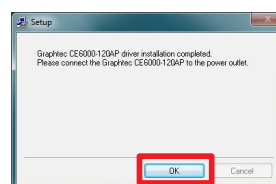
- 5 Continue with the installation process while following the on-screen instructions.



- 6 The [Windows Security] screen will appear momentarily. Click on [Install] to install the [Plotter Driver].



- 7 Next, the [Update for the Graphtec CE6000-120AP driver was completed] screen will appear. Click on [OK] to reboot your computer.



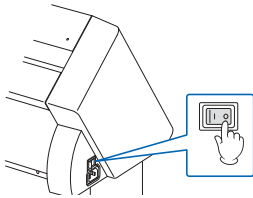
This concludes the installation of the [CE6000-120AP Driver].

After rebooting your computer, follow the below procedures to connect the USB cable.

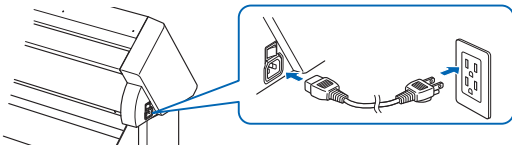
## Connecting the USB Cable

- 8 First, make sure that Windows 7 has been launched successfully.  
Next, connect the USB cable accompanying the CE6000-120AP to your computer. Ensure that the CE6000-120AP is turned off when you do.

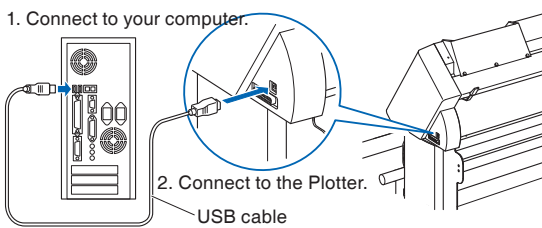
- (1) Ensure that the Plotter's power is turned off ("O" position).



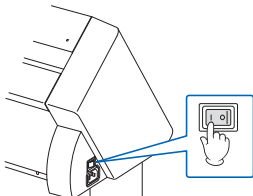
- (2) Connect the power cable.



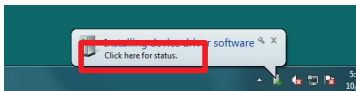
- (3) Connect the USB cable.



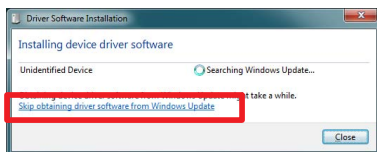
- 9 Turn on the CE6000-120AP unit.



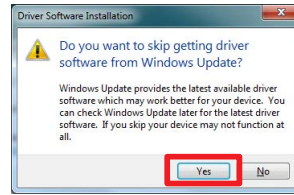
- 10 A message will appear momentarily on the bottom-right of your Windows screen.  
Click on this message.



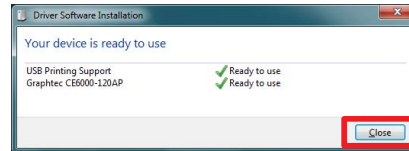
- 11 The [Driver Software Installation] screen will appear.  
Click on [Skip obtaining driver software from Windows Update].



- 12 Click on [Yes] on the next screen.



- 13 The [Your Device is ready to use] screen will appear momentarily.  
Click on [Close].



This concludes the installation of the driver software.



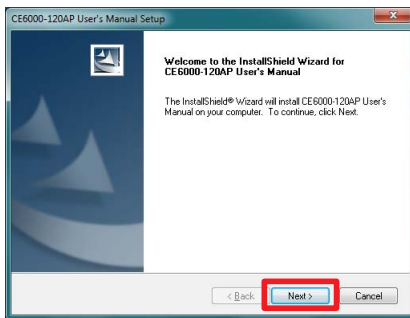
## B. Install User's Manual

Follow the below procedures to install the CE6000-120AP User's Manual (PDF format).  
Adobe Reader must be installed on your computer in order to read the manual.

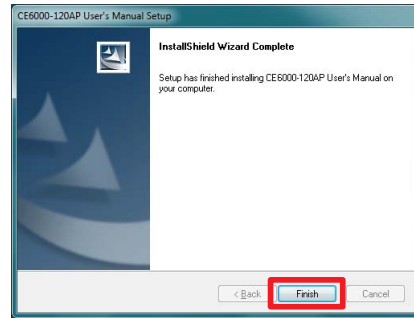


### Installing "User's Manual"

- 1 Click on [Install User's Manual].  
The [CE6000-120AP User's Manual Setup] screen will appear momentarily.  
Click on [Next].

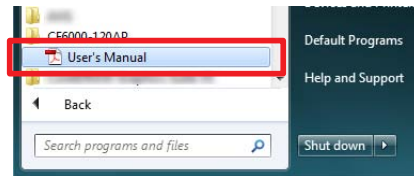


- 2 When this screen appears, click on [Finish].



This concludes the installation of the [User's Manual].

The newly-installed [User's Manual] will be registered under your Windows Start Menu.



**GRAPHTEC**