CC100

Craft ROBO

User's Manual

MANUAL NO.CC100-UM-152



GRAPHTEC

PREFACE

Thank you for purchasing the Craft ROBO CC100. Developed based on cutting-plotter technology developed by Graphtec over many years, CC 100 provides outstanding flexibility in operation. It can be used to cut thick media and marking films as well as to plot. Please be sure to read this manual thoroughly prior to use and make proper use of the equipment.

Warning

Only computers or peripherals (computer input/output devices, terminals, printers, etc.) certified as complying with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules, may be attached to this product when this product is operated in a residential environment. Operation with on-certified peripherals is likely to result in interference to radio and TV.

Federal Communications Commission Radio Frequency Interference Statement

“This equipment has been tested and found to comply with the limits for a Class B digital device pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct interference by one or more of the following measures:

– Reorient or relocate the receiving antenna.

– Increase the separation between the equipment and receiver.

– Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

– Consult the dealer or an experienced radio/TV technician for help.”

CONTENTS

PREFACE ..... ***I***
Warning ..... *I*
Federal Communications Commission Radio Frequency Interference Statement ..... *I*
CONTENTS ..... ***II***

CHAPTER 1. PRIOR TO USE ***1***
1.1 Checking the Included Components ***1***
1.2 Name and Function of Each Part ***2***
Main unit (CC100) *2*

CHAPTER 2. CONNECTION AND PREPARATION ***1***
2.1 Connecting to a Computer ***1***
2.2 Connecting the Power Supply and Powering On ***1***
2.3 Setting Media in Place ***2***
Method for setting media in place *2*
When the media is 210 mm to 260 mm in width *3*
When the media is 1000 mm in length *3*
If an edge of the media is caught in the main unit *4*
Cutting range of media *5*
For a media size of A4 (JIS standard) *5*
For media 210 mm to 260 mm in width *5*
For media 1000 mm in length *6*
Method for setting media on the backing sheet *7*
Method for setting media smaller than 190 mm in width *7*
Method for setting media 191 mm to 210 mm in width (equivalent to JIS A4 size) *8*
Cutting range of the backing sheet *9*
2.4 Adjusting and Setting the Cutter Pen ***10***
Structure of the cutter pen *10*
Blade-edge adjustment caps and media selection *11*
Method for changing blade-edge adjustment caps *11*
Method for setting the cutter pen *12*
Ball-point pen setting conditions *13*
Method for setting a ball-point pen *14*

CHAPTER 3. CRAFT ROBO CONTROLLER ***1***
3.1 The Craft ROBO Controller ***1***
3.2 Operating Environment ***1***
3.3 Installing the Craft ROBO Controller ***2***
Starting up the Start window *2*
Installing the Controller *3*
3.4 Using the Craft ROBO Controller ***5***
Starting up the Craft ROBO Controller *5*
Frequently used operation procedures *8*
3.5 Setting Various Parameters ***11***
3.6 Messages ***24***

Appendix ***1***
Appendix A. Standard Specifications ***1***
INDEX ***1***

CHAPTER 1. PRIOR TO USE

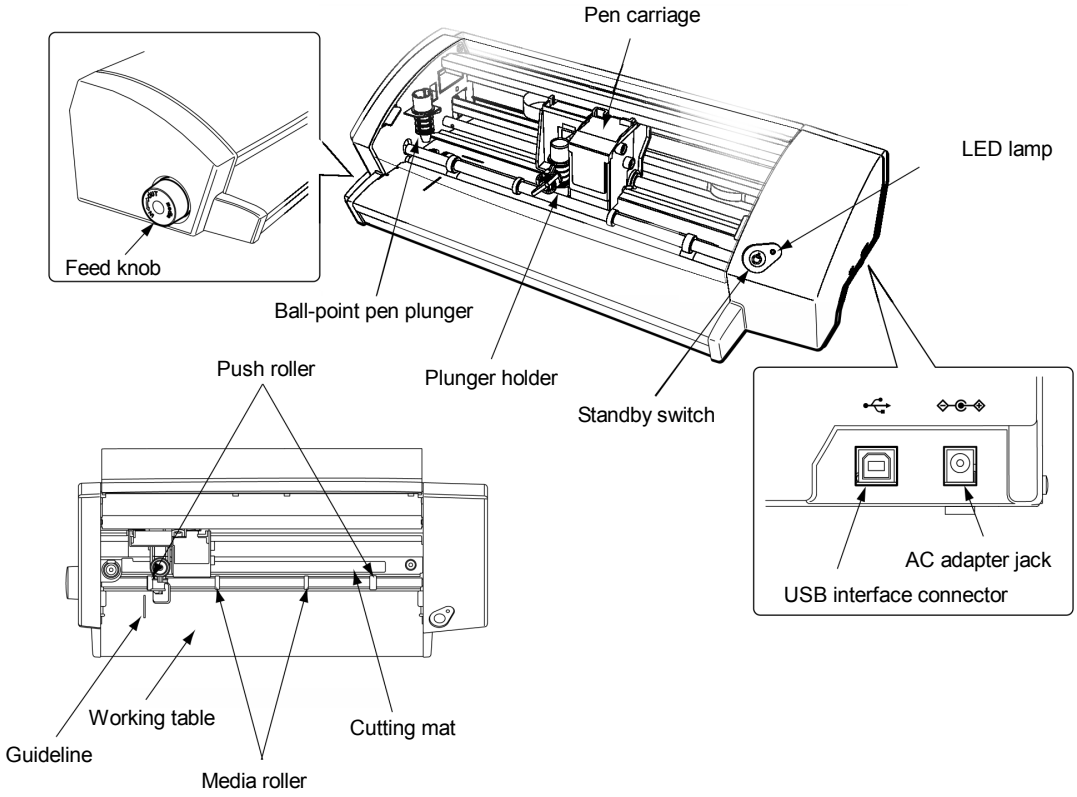
1.1 Checking the Included Components

Referring to the component list below, check to confirm that all components are included with your product. If any item is missing, please contact your sales representative or Graphtec office.

AC adapter, power cord ..... x 1
Cutter plunger ..... x 1
Blade-edge adjustment cap..... x 1
Ball-point pen plunger ..... x 1
Software CD..... x 1
USB cable ..... x 1
Trial kit ..... x 1
Quick Application Guide ..... x 1
Quick Start Instructions ..... x 1

1.2 Name and Function of Each Part

Main unit (CC100)

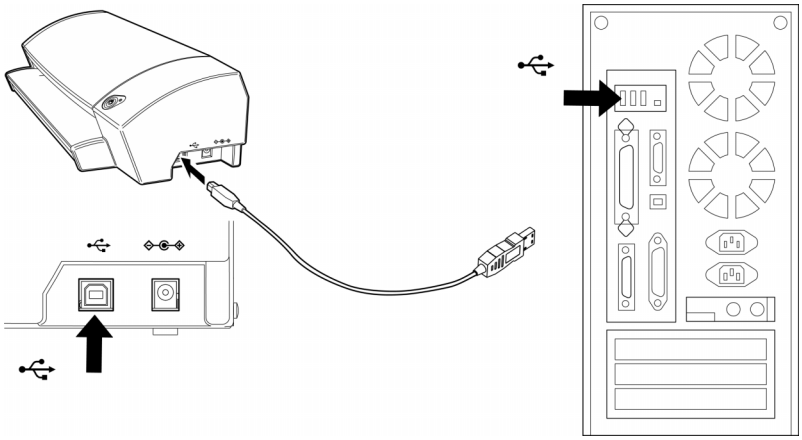


Pen carriage.....Drives the cutter pen to the left or right
Ball-point pen plunger.....Used to plot using a ball-point pen
Plunger holder.....Holds the cutter pen and drives it in the vertical direction
Standby switch.....Used to start or stop the main unit
Feed knob.....Drives media back and forth
USB interface connector...Used to connect the USB cable
AC adapter jack.....Used to connect the cable for the AC adapter
Cutting mat.....Cutting or plotting work is performed on it
Push roller.....Pushes down on the media to hold it in place
Media roller.....Carries media
Working table.....Work is performed on it
Guideline.....Used as a guide when media is set in place
LED lamp.....Lights up when the unit is ready to operate and flashes when data is received

CHAPTER 2. CONNECTION AND PREPARATION

2.1 Connecting to a Computer

Connect the main unit to a computer via the USB interface connector.
Use a USB cable for connection.



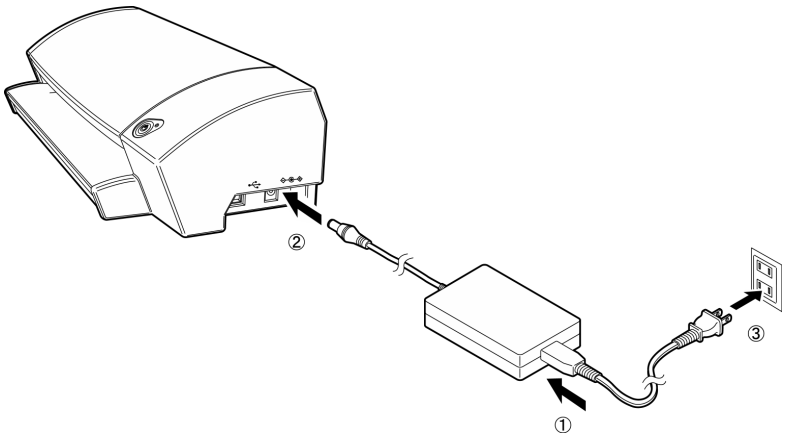
Use a USB cable to connect the main unit to a computer. The USB cable has different plug shapes on the computer side and the main-unit side. Always check which plug connects to which side.

Confirm **Do not connect two or more units of the Craft ROBO to one computer. Do not connect the Craft ROBO and a Graphtec plotter to a computer at the same time. Otherwise, the Craft ROBO may not operate properly.**

2.2 Connecting the Power Supply and Powering On

Connect the AC adapter jack of the main unit to the AC outlet of the rated voltage using the AC adapter included with the Craft ROBO and turn on the power.

Confirm **Always be sure to connect to the AC adapter jack before connecting to the AC outlet.**

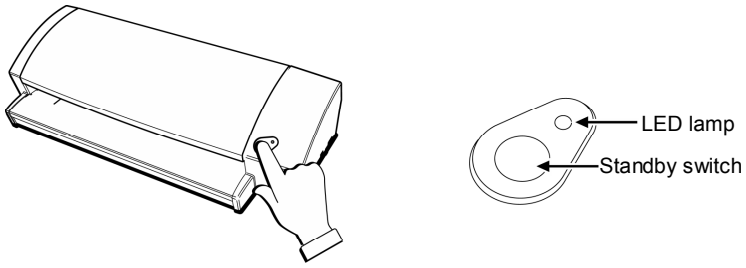


1. Connect the power cable (included with the AC adapter) to the AC adapter.
2. Plug the AC adapter cable into the AC adapter jack of the main unit.
3. Plug the other end of the power cable into the AC outlet.

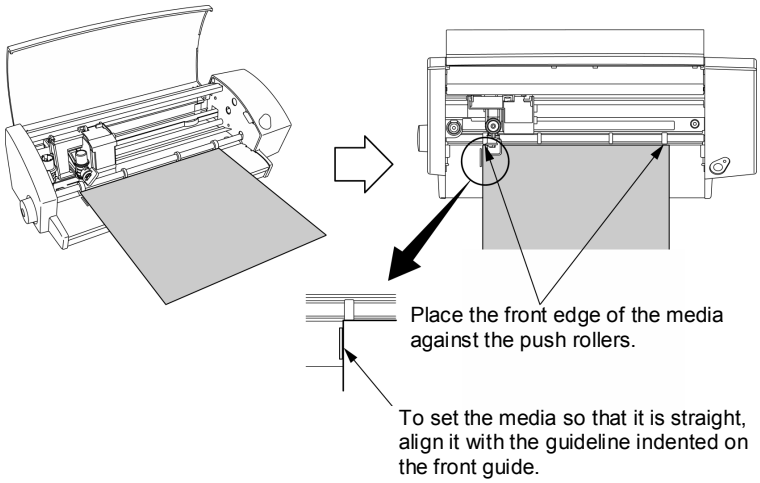
2.3 Setting Media in Place

Method for setting media in place

1. Check to confirm that the LED lamp of the Craft ROBO is lit.If it is not press the standby switch.



2. Set the media in the main unit.
   To set the media so that it is straight, align it with the guideline indented on the front guide, and place the front edge of media against the push rollers.

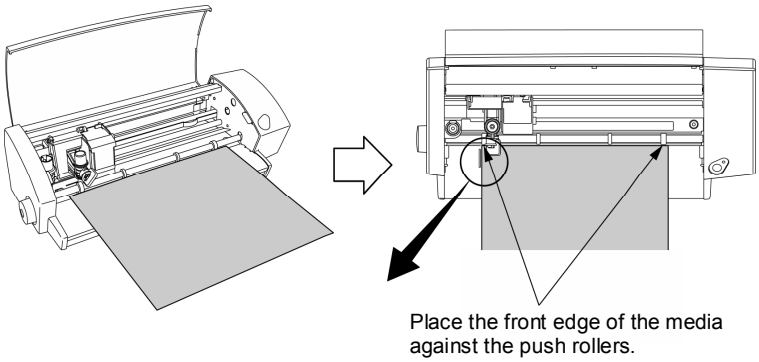


Confirm **If an edge of the media is caught in the main unit, align it with the guideline (indented) located at the rear of the unit. In that case, however, the available cutting range in the feed direction will be 5 mm shorter.**

When the media is 210 mm to 260 mm in width

Vinyl films or media with a backing sheet 210 mm to 260 mm in width can be set.

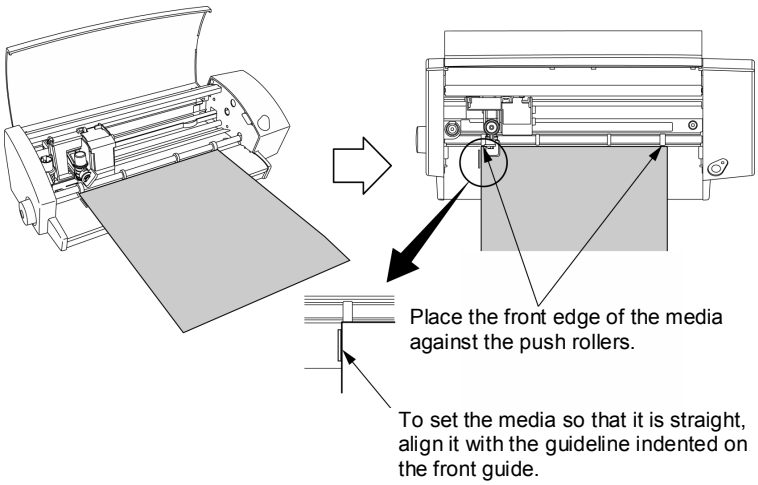
To set the media so that it is straight, place the front edge of the media against the push rollers.



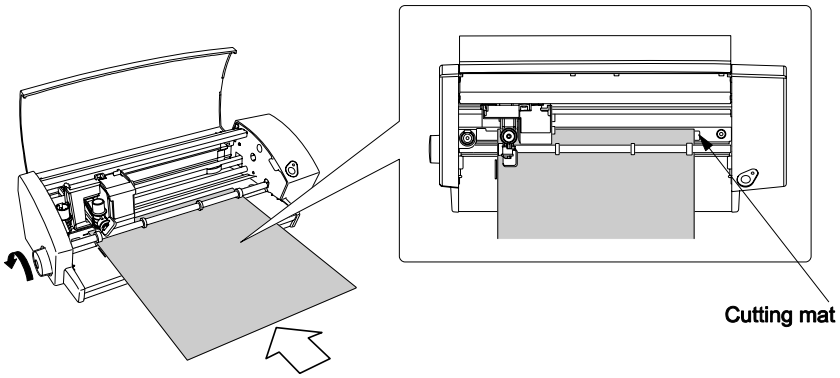
When the media is 1000 mm in length

Although guaranteed size is 210 mm x 297 mm, films of a length up to 1000 mm (0.1 mm or less in thickness, 0.3 mm or less in thickness including a backing sheet) can be set.

To set the media so that it is straight, align it with the guideline indented on the front guide, and place the front edge of the media against the push rollers.

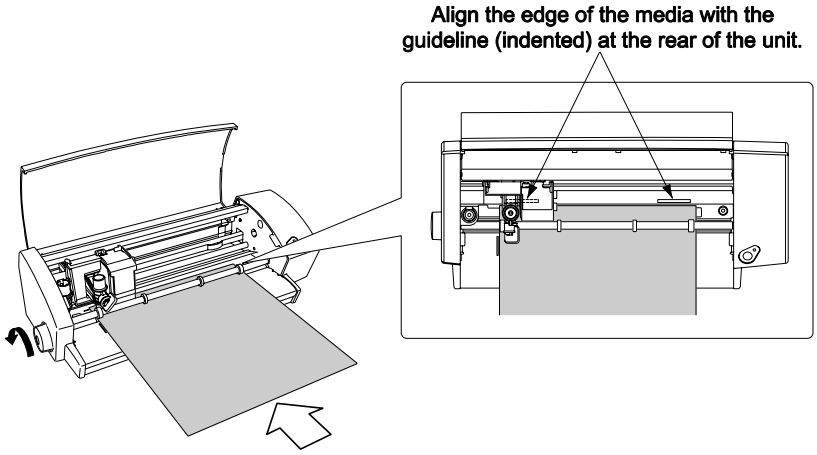


3. Turn the feed knob to feed the media until the tip of the media reaches the rear edge of the cutting mat.



If an edge of the media is caught in the main unit

If an edge of the media is caught in the main unit, align it with the guideline (indented) located at the rear of the unit. In that case, however, the possible cutting range in the feed direction will be 5 mm shorter.



Cutting range of media

The possible cutting range of the media is shown in the diagram below. Always make sure the media is set within the possible cutting range. In addition, make sure the media is set in such a way that its edges are parallel with the cutting guidelines.

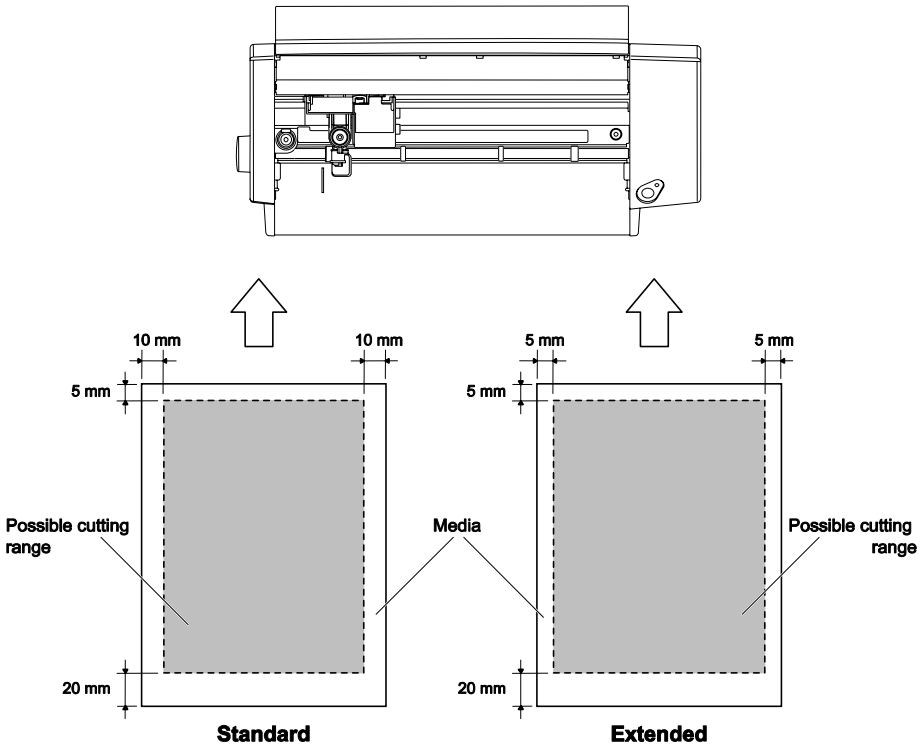
Confirm **If an edge of the media is caught in the main unit, align it with the guideline (indented) located at the rear of the unit. In that case, however, the cutting range in the feed direction will be 5 mm shorter. For the cutting range available when the backing sheet is used, refer to the description in the following section of this manual.**

For a media size of A4 (JIS standard)

With the standard specification, the possible cutting range is 190 mm in width.

With the extended specification, the possible cutting range is 200 mm in width.

Confirm **This applies to cases in which the media is set correctly along the guideline.**



For media 210 mm to 260 mm in width

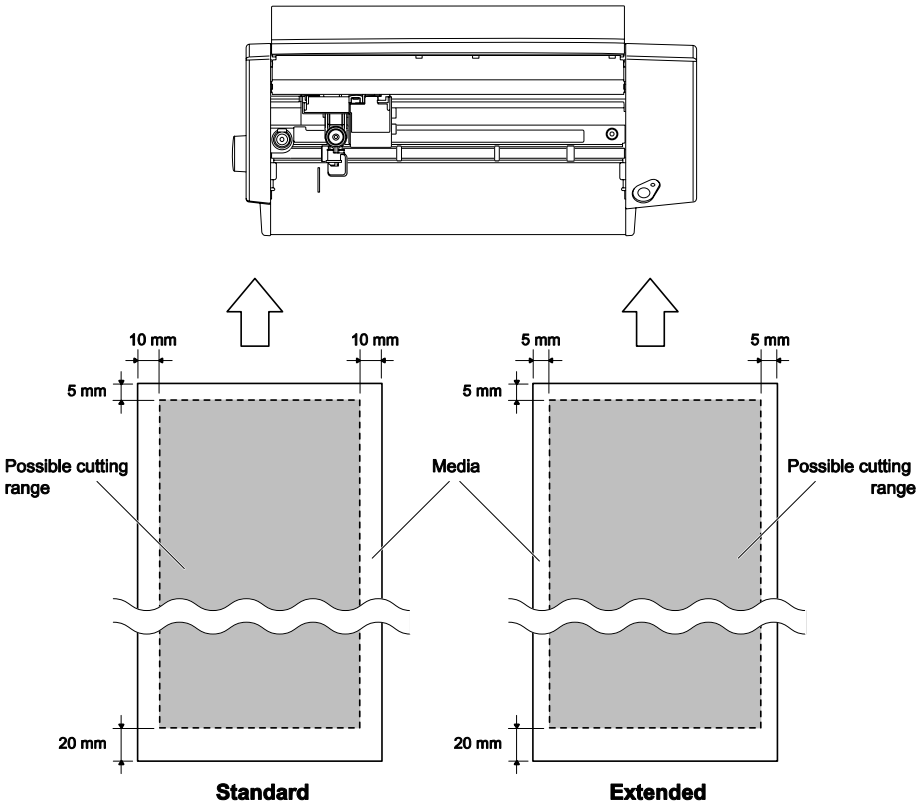
Although media larger than 210 mm in width can be set, the possible cutting range is 190 mm for the standard specification (or 200 mm for the extended specification), as in the case of A4 size.
With the standard specification, the possible cutting range is 190 mm in width.
With the extended specification, the possible cutting range is 200 mm in width.

Confirm **This applies to cases in which the media is set correctly.**

For media 1000 mm in length

With the standard specification, the possible cutting range is 190 mm in width.
With the extended specification, the possible cutting range is 200 mm in width.

This applies to cases in which the media is set correctly.



Method for setting media on the backing sheet

The backing sheet allows media smaller than A4 size to be set and cut out.

Confirm

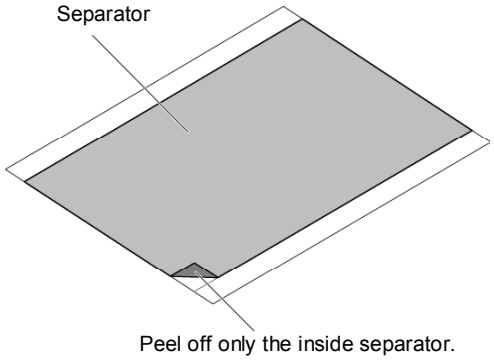
- **For cutting out the media, always be sure to use the backing sheet.**
- **The backing sheet is removable, so can be used repeatedly. When its adhesive power becomes weak, however, replace it with a new backing sheet.**
- **The backing sheet is a consumable. Replace it after the cutting of every approximately 10 sheets. Using a backing sheet for more than 10 sheets may cause misaligned cutting or other problems. Always be sure to replace the backing sheet with a new one when 10 sheets have been cut.**
- **Manually pulling out the backing sheet may result in shortening of the useful life, causing misaligned cutting. Always be sure to turn the feed knob to remove the media. (The media discharge function facilitates delivery of media.)**

Method for setting media smaller than 190 mm in width

Confirm

Do not use media smaller than postcards.

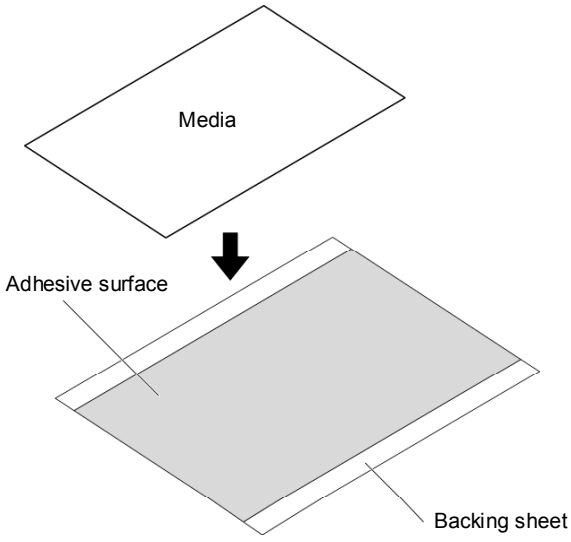
1. Peel off only the inside separator of the backing sheet, so that the adhesive surface is visible. (When using the backing sheet, do not peel off the separators on both sides.)



2. Press the media onto the adhesive surface of the backing sheet.

Confirm

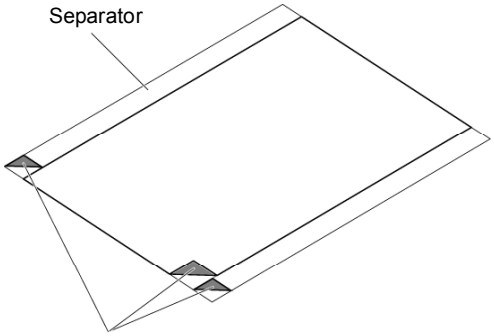
When pressing the media, be careful not to cause air bubbles or wrinkles in the media.



Method for setting media 191 mm to 210 mm in width (equivalent to JIS A4 size)

Confirm **Do not use media larger than 210 mm in width.**

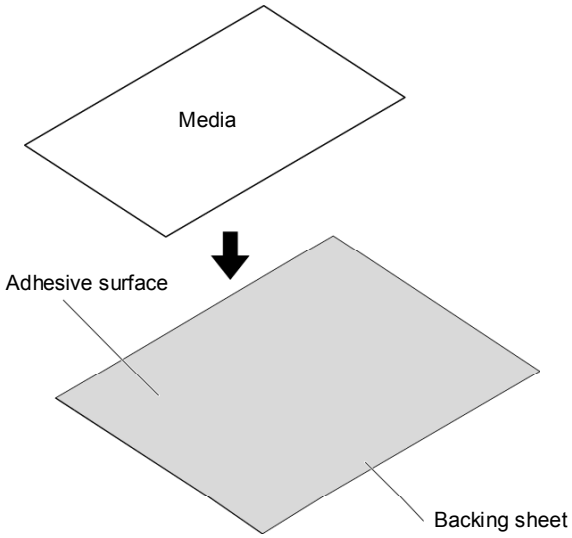
1. Peel off the separators inside and on both sides of the backing sheet, so that the adhesive surface is visible.



Peel off the separators inside and on both sides of the backing sheet.

2. Press the media onto the adhesive surface of the backing sheet, making sure that the edges of the media are aligned with the backing sheet.

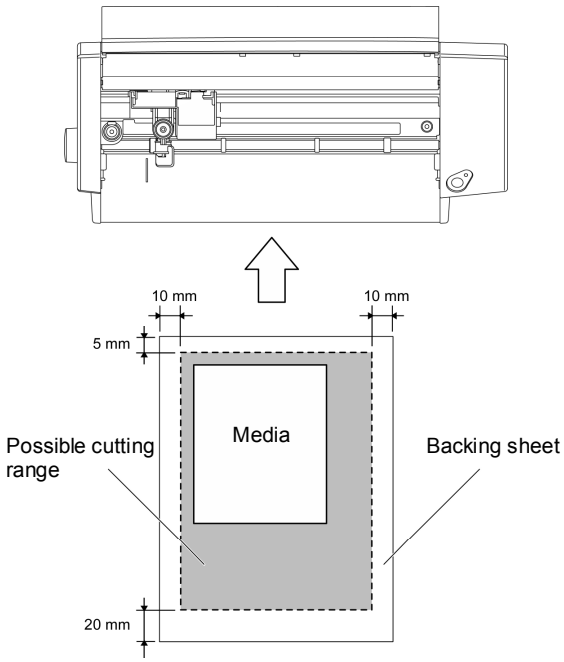
Confirm **When pressing the media, be careful not to cause air bubbles or wrinkles in the media.**



Cutting range of the backing sheet

The possible cutting range of the backing sheet is shown in the diagram below. When setting media smaller than A4 size, always be sure the media is within the possible cutting range. In addition, make sure the media is set parallel to both edges of the backing sheet.

Do not use media smaller than postcards.



2.4 Adjusting and Setting the Cutter Pen

To obtain better cutting results, select the blade-edge adjustment cap of the cutter pen according to the type of media to be cut.

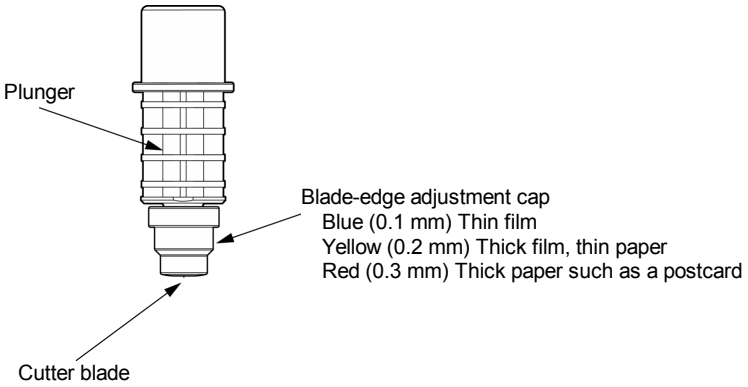
Caution **When handling the cutter blade, exercise care to prevent injuring your hand.**



Structure of the cutter pen

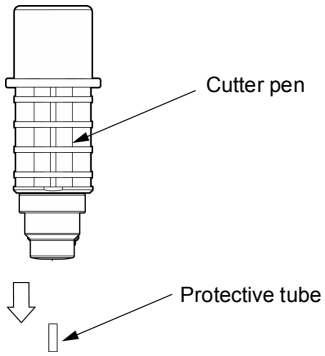
To use the main unit to cut media, insert the cutter blade into the cutter-pen plunger. The length of the blade protruding from the cap can be adjusted by selecting one of the available blade-edge adjustment caps.

Set the blade-edge adjustment cap best suited for the media in use.



The blade tip of the cutter pen comes attached with a protective tube. Before using the cutter pen, lightly pull the tip of the protective tube by hand to remove it.

When the cutter pen has been removed from the main unit, always attach the protective tube to it.



Blade-edge adjustment caps and media selection

Select and set the blade-edge adjustment cap best suited to the media in use. Be particularly careful that, if the length of the blade protruding from the cap is excessive for the thickness of the media, the cutting mat may be damaged.

Caution **When handling the cutter blade, exercise care to prevent injuring your hand.**

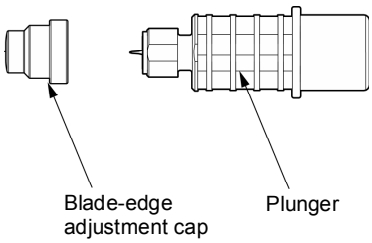
Selection guide for blade-edge adjustment caps

Cap	Protruding blade length	Media
Blue	0.1 mm	Thin film
Yellow	0.2 mm	Thick film, thin media
Red	0.3 mm	Thick media

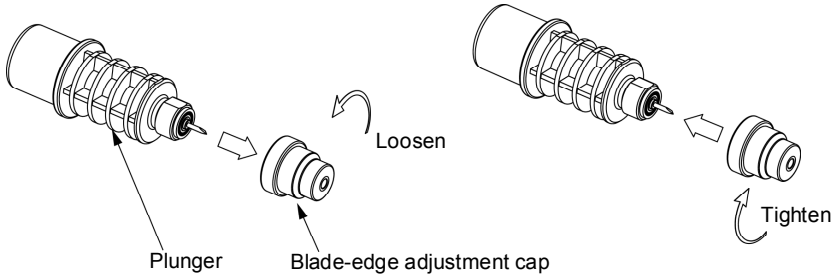
Method for changing blade-edge adjustment caps

Be particularly careful that, if the length of the blade protruding from the cap is excessive for the thickness of the media, the cutting mat may be damaged.

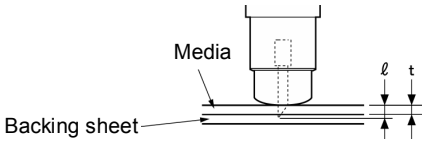
Caution **When handling the cutter blade, exercise care to prevent injuring your hand.**



Remove the blade-edge adjustment cap and replace it.



The approximate guide for the length of the blade protruding from the cap is $t \approx \ell$ and $t < \ell$ where t = the thickness of the media and ℓ = protruding blade length, as shown below. When changing the blade-edge adjustment caps, be careful to ensure that the length of the blade protruding from the cap will not be greater than the combined thickness of the media and the backing sheet. If the exact thickness of the media is unknown, try changing the blade-edge adjustment caps so as to gradually increase the length of the blade protruding from the cap, and cut the media each time until the length of the blade protruding from the cap is adjusted such that a slight mark is left on the backing sheet.

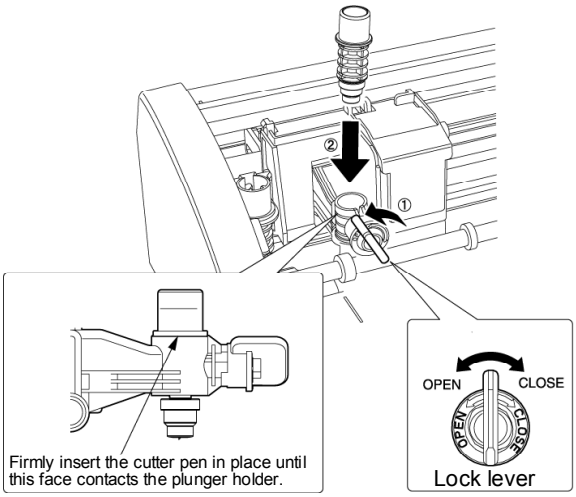


Method for setting the cutter pen

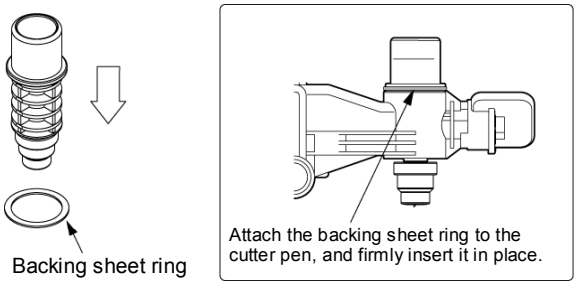
Insert the cutter pen that has had its protruding blade length adjusted into the main unit.

⚠ Caution	**When handling the cutter blade, exercise care to prevent injuring your hand.**
Confirm	**When using the backing sheet, always be sure to use the backing sheet ring included with the Craft ROBO.** **Hold the plunger holder tightly while attaching or removing the cutter pen.**

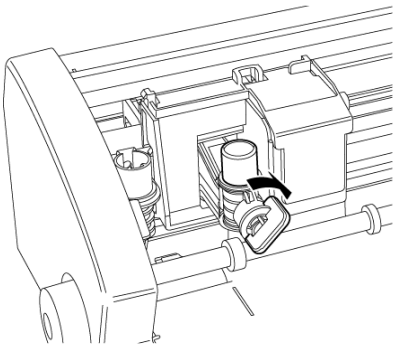
1. Turn the lock lever in the OPEN direction to set the cutter pen in place.



When using the backing sheet, always be sure to use the backing sheet ring included with the Craft ROBO.
Attach the backing sheet ring to the cutter pen before setting the cutter pen in place.



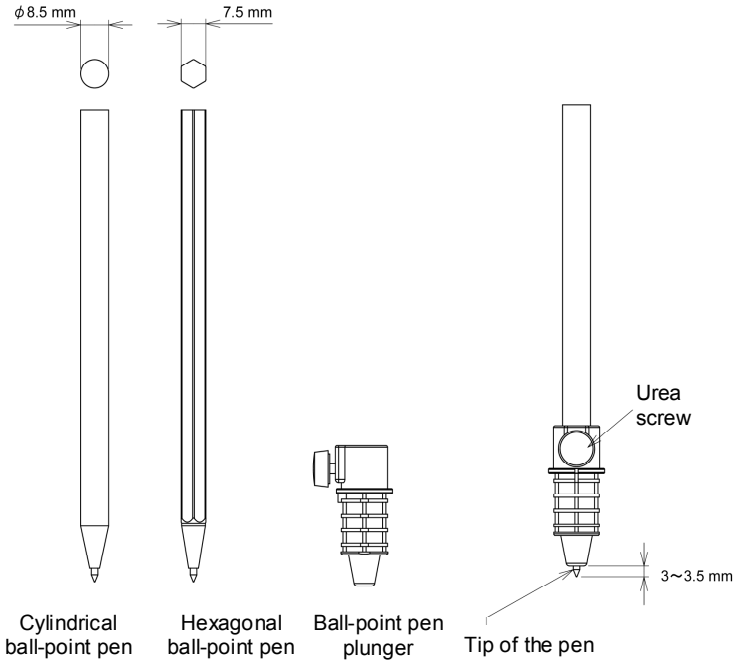
2. Upon completion of setting the cutter pen, turn the lock lever in the CLOSE direction to fix it in place.



Ball-point pen setting conditions

Shown below are the requirements for the ball-point pens that can be set into the ball-point pen plunger.

- If the ball-point pen is cylindrical in shape, those with a cylinder diameter of 8.5 mm or less
- If the ball-point pen is hexagonal in shape, those with a face-to-face hexagonal dimension of 7.5 mm or less
- Those having the tip of the pen protruding 3 to 3.5 mm from the ball-point pen plunger when fully set in place

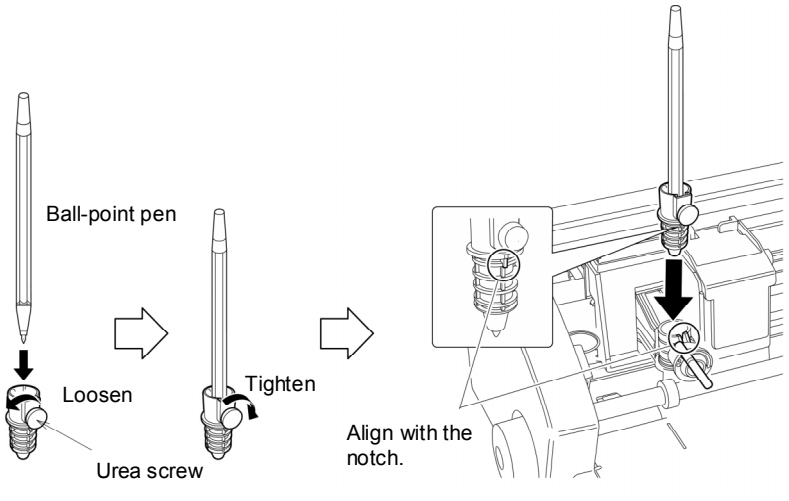


Method for setting a ball-point pen

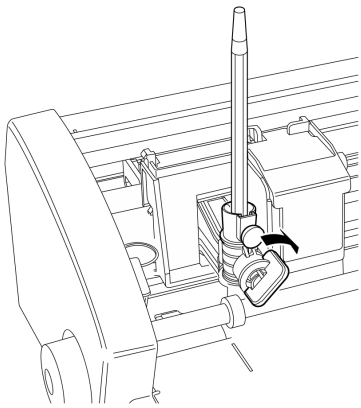
Set a ball-point pen into the ball-point pen plunger and then into the main unit.

Confirm **When attaching the ball-point pen plunger, always make sure it is aligned with the notched part of the plunger holder when it is set in place.**

1. Loosen the urea screw of the ball-point pen plunger, and insert a ball-point pen into the plunger. (Check to confirm that the tip of the ball-point pen protrudes from the plunger.)
   Tighten the urea screw to fix.
   Turn the lock lever in the OPEN direction, and set the ball-point pen plunger in place.
   Always make sure the ball-point pen plunger is aligned with the notched part of the plunger holder when it is set in place.



2. Upon completion of setting the ball-point pen plunger, turn the lock lever in the CLOSE direction to fix it in place.



CHAPTER 3. CRAFT ROBO CONTROLLER

3.1 The Craft ROBO Controller

Only the standby switch button is attached to the Craft ROBO. This software is for control of the Craft ROBO. Media selection and other settings, as well as test cut and other operations, are all controlled from this controller.



The term “media” as used in the body text of this manual refers to paper, film, and other materials to be cut or printed on.

3.2 Operating Environment

The following lists the minimum system requirements for the software to run.

OS: Windows 98 Second Edition, Windows Me, Windows 2000, or Windows XP

CPU: Pentium III 600 MHz or better

Memory: 128 MB minimum (256 MB recommended)

Monitor: Must be capable of 1024 x 768 High Color display (True Color recommended)

Mouse

CD-ROM drive

Note:

Please note that some of the images for the software used in this manual were prepared during the development stage. Therefore, the details displayed may differ from the actual ones.
The functions and the placement of the settings are the same as the actual ones.

3.3 Installing the Craft ROBO Controller

Do not connect the Craft ROBO to your computer yet.

Starting up the Start window

Insert the CD included with the Craft ROBO into your computer; the “Start” window shown below will appear.

If this window does not appear, open My Computer and double-click on CD Drive.

If the “Start” window still does not appear, execute “MultiSetup.exe” on the CD-ROM.



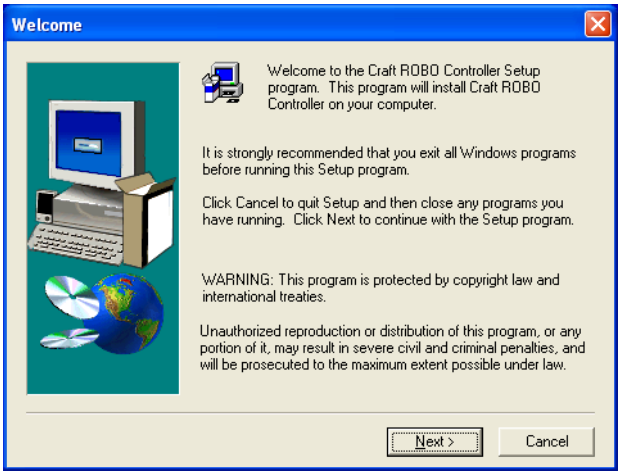
When the “Start” window is started up, click on “Setup Craft ROBO.”

First, the installer of ROBO Master, the software used for printing and cutting images, is started up. When the installer of ROBO Master is terminated or cancelled, the installer of the Craft ROBO Controller will be started up.

Installing the Controller

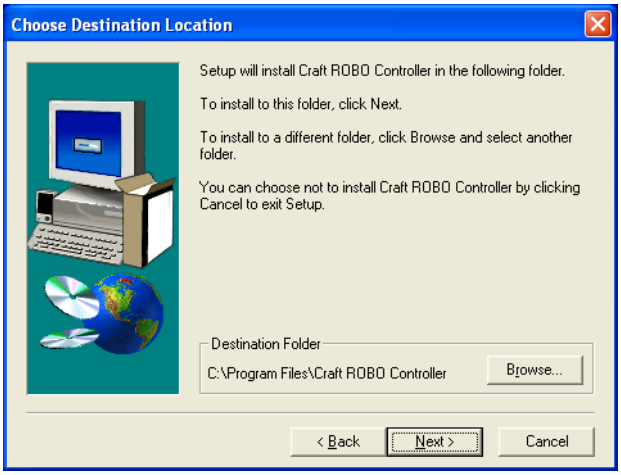
Installation procedure

(1) When the installer starts up, the screen shown below is displayed first.



Click [Next] to proceed.

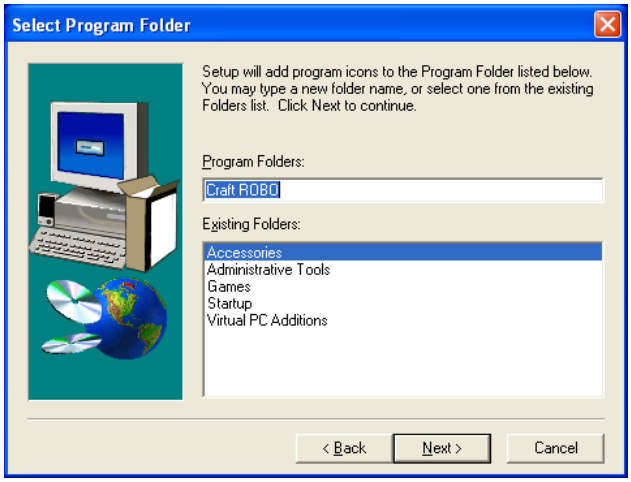
(2) Next, a “Choose Destination Location” screen will be displayed.



Select the folder in which the Controller is to be installed.

Unless the folder shown by default does not have sufficient free space, it is not normally necessary to change it. If you do not want to change the default folder, click [Next] to proceed.

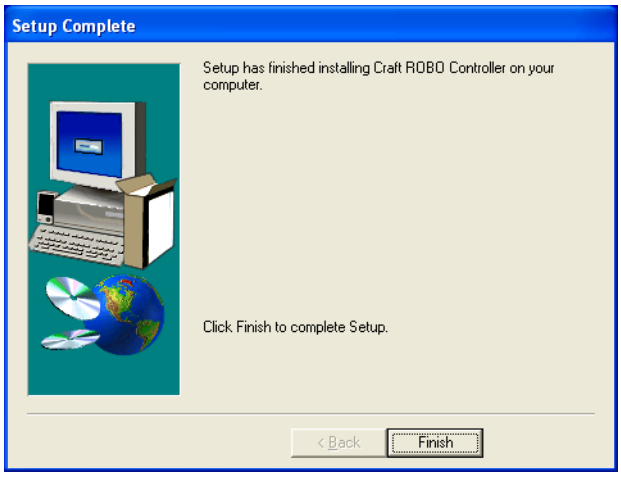
(3) Next, a “Select Program Folder” screen will be displayed.



Select the program folder in which the program icon is to be placed.

To place the program icon in a new folder, enter a new folder name in “Program Folders.” To add the program icon to an existing folder, select one from the list of “Existing Folders.” A new folder named “Craft ROBO Controller” is prepared by default; if this is unnecessary to change, click [Next]. File copying starts.

(4) When the system has finished copying files, a “Setup Complete” screen is displayed indicating that installation is complete.



Click [Finish] to complete the installation. If necessary, install the Craft ROBO driver.

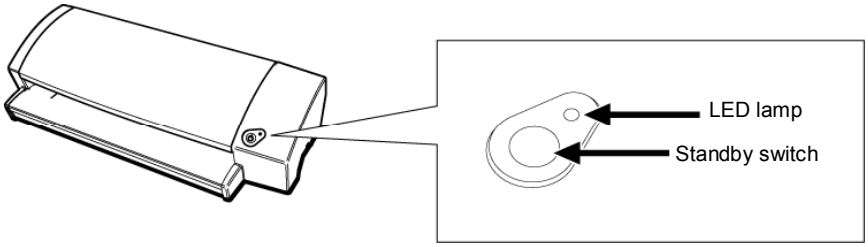
Follow the help displayed on the screen.

3.4 Using the Craft ROBO Controller

Starting up the Craft ROBO Controller

Check to confirm that the LED lamp of the Craft ROBO is lit. If it is not, press the standby switch.

Check to confirm that the Craft ROBO and your computer are connected by a USB cable.



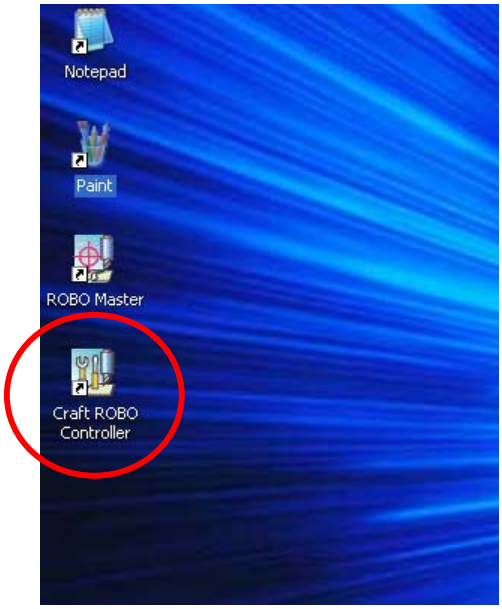
The Craft ROBO Controller can be started up in either of the following two ways:

(1) Starting up from the Windows Start menu or the shortcut

The Craft ROBO Controller can be started up from the Windows Start menu.

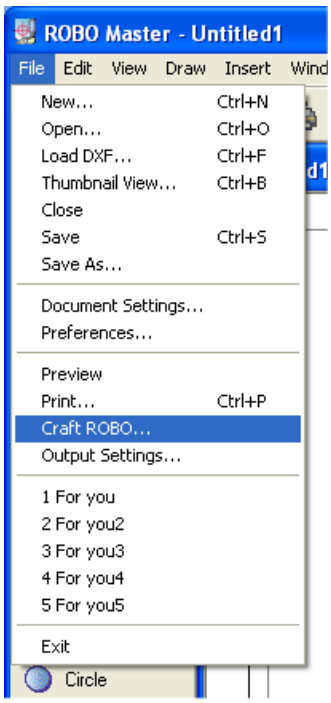
To start it up, select **"Start" → "(All) Programs" → "Craft ROBO" → "Craft ROBO Controller."**

The Craft ROBO Controller can be also started up from the shortcut that is placed on the desktop.

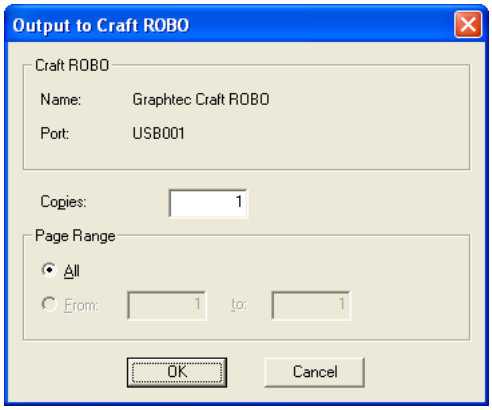


(2) Starting up from ROBO Master

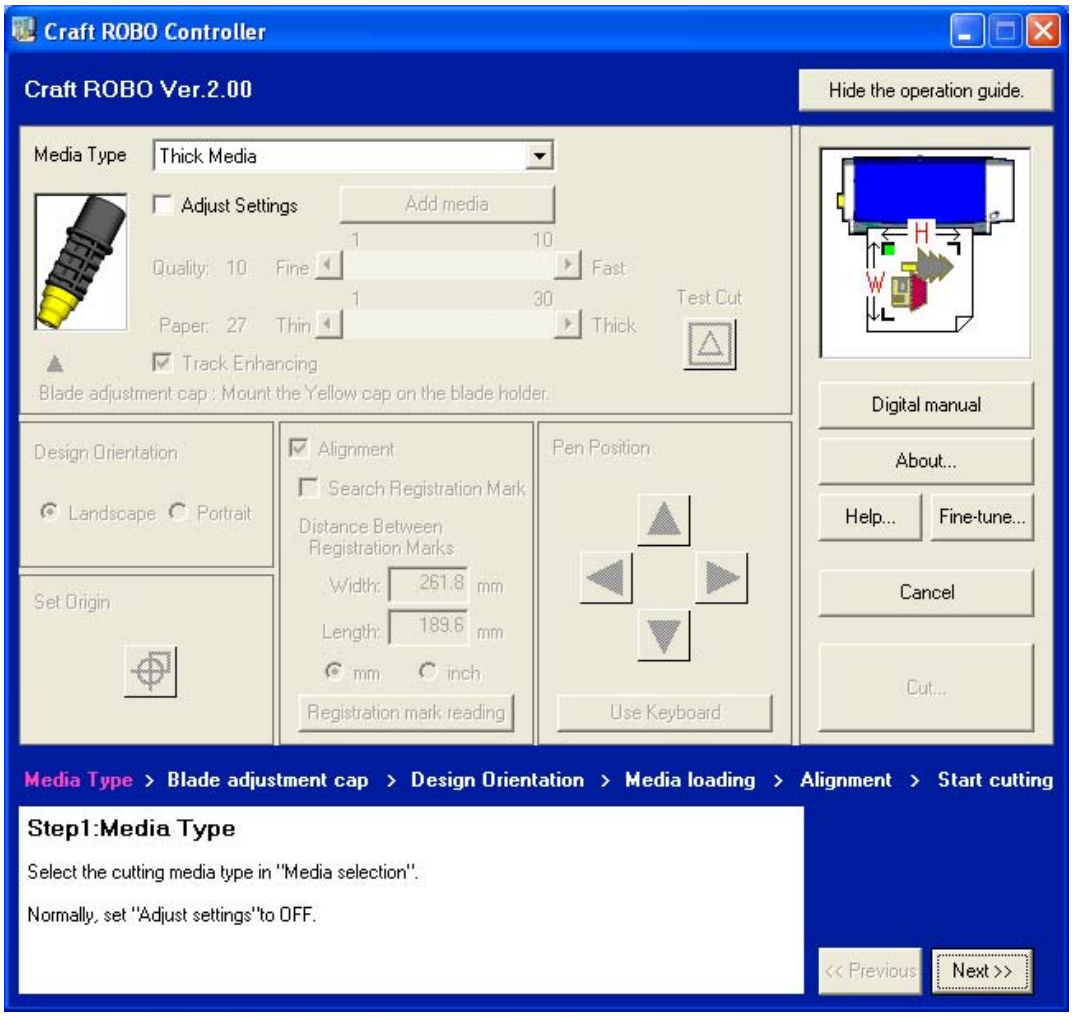
(a) Click [Craft ROBO…] in the File menu of ROBO Master.



(b) Click [OK] in the ensuing “Output to Craft ROBO” window to start up the Craft ROBO Controller. When the Craft ROBO Controller is started up in this way, the [Cut...] button is displayed, enabling output from the controller.



(c) When started up from the “Craft ROBO…,” a controller similar to that shown below is displayed.



Confirm **The [Cut...] and [Abort] buttons are displayed only when the controller was started up from the “Craft ROBO….”**

The controller can also be started up by clicking the Craft ROBO icon at the lower right corner of the ROBO Master main screen.



Confirm **When the controller is started up from here, output from the controllerf is not possible.**

Frequently used operation procedures

3.4.1 Cutting Media into Your Own Designs

To cut the media on the Craft ROBO, first create the design data, then set the cutline and cut the media. To create the design data and set the cut data, use the software ready for the Craft ROBO, such as ROBO Master.

When these steps are completed, cut the media as follows:

1. **Press the standby switch of the Craft ROBO to turn the LED lamp on.**
2. **Start up the Craft ROBO Controller from the Craft ROBO software, such as ROBO Master. (See 3.4 Starting up the Craft ROBO Controller (2).)**
3. **Select the media in "Media Type." (See 3.5.7 Media Type.)**
4. **Replace the cap of the cutting blade with the one of the specified color according to the indication on the blade-edge adjustment cap. (See 3.5.7-A Blade Adjustment Cap.)**
5. If cutting is not performed properly, adjust the cutting conditions.
   Select the check box "Adjust Settings." Conduct test cutting while changing the settings such as "Quality," "Paper/Film" and "Blade-edge adjustment caps" to find the optimal conditions. (See 3.5.7-A Blade adjustment cap, 3.5.7-B Adjust Settings, and 3.5.7-D Test Cut.)
6. Set the media direction by referring to the image on the plotter. (If the software is started up with ROBO Master, the media direction is set automatically.) (See 3.5.10 Design Orientation.)
7. **Place the media in the Craft ROBO.**
8. If necessary, use "Pen Position" and "Set Origin" to change the point of origin. (See 3.5.8 Pen Position and 3.5.9 Set Origin.)
9. **Press [Perform Cutting] to start cutting. (See 3.5.5 [Cut] Button.)**

3.4.2 Printing with a Printer and Cutting According to the Image Printed

To cut printed media with the Craft ROBO, follow the procedure below.
Set the registration marks → create the design data → set the cutline → print → cut.

Using the Craft ROBO software, perform the following steps: Set the registration marks → create the design data → set the cutline → print → cut.

When the steps above are completed, printed matter including both the registration marks and the design will have been prepared.

Cut the printed matter as follows:

1. **Press the Craft ROBO's standby switch to turn the LED lamp on.**
2. **Start up the Craft ROBO Controller from the Craft ROBO software, such as ROBO Master. (See 3.4 Starting up the Craft ROBO Controller (2).)**
3. **Select the media in "Media Type." (See 3.5.7 Media Type.)**
4. **Replace the cap of the cutting blade with the one of the specified color according to the indication on the blade-edge adjustment cap. (See 3.5.7-A Blade Adjustment Cap.)**
5. If cutting is not performed properly, adjust the cutting conditions.
   Select the check box "Adjust Settings." Conduct test cutting while changing the settings such as "Quality," "Paper/Film" and "Blade-edge adjustment caps" to find the optimal conditions. (See 3.5.7-A Blade adjustment cap, 3.5.7-B Adjust Settings, and 3.5.7-D Test Cut.)
6. Set the media direction by referring to the image on the plotter. (If the software is started up with ROBO Master, the media direction is set automatically.) (See 3.5.10 Design Orientation.)

7. Place the media in the Craft ROBO.

8. Check to confirm that “Search Registration Mark” is on. (See 3.5.11-A Search Registration Mark.)

9. Press [Perform Cutting]. The registration mark is searched for and read. When it is properly read, continue the cutting. (The procedure is complete if cutting is started.) (See 3.5.5 [Cut] Button.)

If the system is unable to retrieve the registration marks

To read the registration marks, perform the following two steps:

(1) Search for the first registration mark, which serves as the standard, and set it as the origin. (The first registration mark is placed at the bottom left during the design stage. It is shown in green in the figure on the Craft ROBO Controller.)

(2) Check the positions of the second and third registration marks using the first registration mark as the reference.

The registration marks can generally be designated manually, even if step (1) fails.

10. Turn off “Registration Mark Auto-Read” and move the pen to the first registration mark using the Pen Position function. (The first registration mark is placed at the bottom left during the design stage and is shown in green in the figure on the Craft ROBO Controller.) (See 3.5.11-C Registration Mark Reading.)

11. Press the [Registration Mark Reading] button. Reading of the registration marks then starts. (See 3.5.11-C Registration Mark Reading)

12. When a registration mark is found, press [Perform Cutting]. Cutting starts. If no registration mark is found, reset the media and return to Step 10.

3.4.3 Test Printing

To reduce the waste of media, it is recommended that you do a test print when using th cutting data for the first time or when changing the cutting data.

Performing a test print enables you to confirm that the created cutting data is properly output with full lines drawn with a pen (a ball-point pen).

1. Press the standby switch of the Craft ROBO to turn the LED lamp on.

2. Start up the Craft ROBO Controller using the Craft ROBO software, such as ROBO Master. (See 3.4 Starting up the Craft ROBO Controller (2).)

3. Select “Pen” for “Media Type.” (See 3.5.7 Media Type.)

4. Place a commercially available ball-point pen in the attached ball-point pen holder and place it in the Craft ROBO.

5. Set the media direction by referring to the image on the plotter. (If the software is started up with ROBO Master, the media direction is set automatically.) (See 3.5.10 Design Orientation.)

6. Place the media in the Craft ROBO.

7. If necessary by changing the origin by using “Pen Position” and “Set Origin.” (See 3.5.8 Pen Position and 3.5.9 Set Origin.)

8. Press “Perform Cutting.” The test print starts. (See 3.5.5 [Cut] Button.)

3.4.4 Performing a test cut and creating media settings

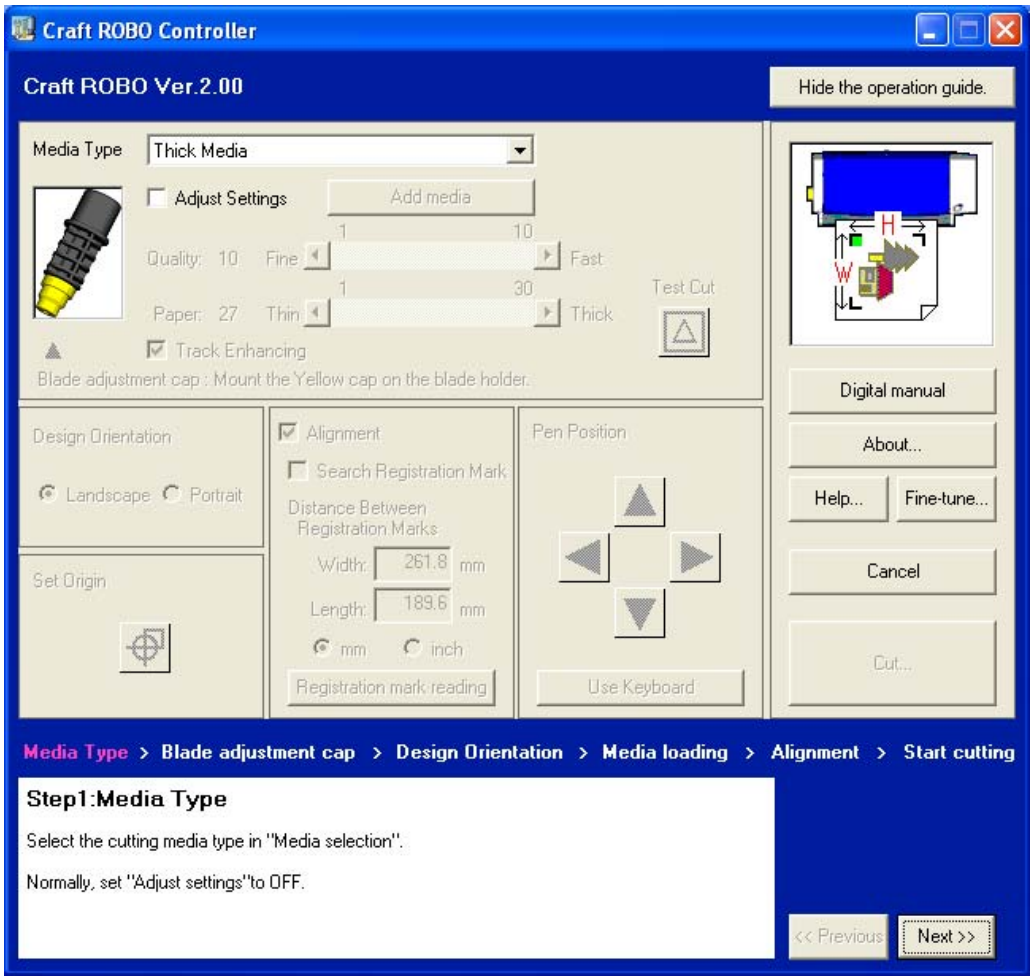
It is necessary to find appropriate cutting conditions by performing test cut to create the media settings.

1. Press the standby switch of the Craft ROBO to turn the LED lamp on.
2. Start up the Craft ROBO Controller from the Windows start menu. (See 3.4 Starting up the Craft ROBO Controller (1).)
3. In “Media Type,” select the media which seems to be the closest to the one to be used. (See 3.5.7 Media Type.)
4. **Use the “Pen Position” function to move the pen to the position on the media where test cut is performed. (See 3.5.8 Pen Position.)**
5. **Select the check box, “Adjust Settings.” Conduct test cutting repeatedly while changing “Quality,” “Paper/Film” and “Blade-edge adjustment caps” and other settings to identify the optimum conditions. (See 3.5.7-A Blade adjustment cap, 3.5.7-B Adjusting Settings, and 3.5.7-D Test Cut.)**
6. **Press the [Add Media] button, place the media and the color of the blade-edge adjustment cap and press [OK]. The next and subsequent operations create the settings on the list for “Add Media.” (See 3.5.7-E The [Add Media] button.)**

3.5 Setting Various Parameters

The functions of the Controller are explained according to each parameter.

When the Craft ROBO Controller is started up, the following screen appears.



3.5.1 Hide/Show the operation guide

When the Craft ROBO Controller is started up, the operation guide is displayed under the parameters for the Craft ROBO. The [Hide/Display the Operation Guide] button turns the operation guide function on/off.

To use the operation guide function for easy operation of the Craft ROBO, press the guide buttons sequentially to verify and set the valid parameters.

3.5.2 [Digital manual]Button

The digital movie which the operation of "Craft ROBO" and "Craft ROBO controller" is described in is indicated.

3.5.3 [Help]Button

Displays quick help

3.5.4 [About] Button

Displays the version information of the Craft ROBO Controller currently in use

3.5.5 [Cut] Button

Start cutting with the Craft ROBO. When the automatic reading of registration marks is specified, the registration marks are read first. When the registration marks have been read successfully, the Craft ROBO starts cutting.

3.5.6 [Cancel / Close] Button

Exits the Craft ROBO Controller.

3.5.7 Media Type



Media Type

Select the type of media to be cut. The setup items are listed below.

Thick Media	Select this item when Kent paper, etc. is used.
Thin Media	Select this item when plain paper is used.
Pen	Select this item when the Craft ROBO with a pen (ball-point pen) attached is used to draw a line. Use a pen (ball-point pen) primarily for trial writing before cutting.

3.5.7-A Blade adjustment cap

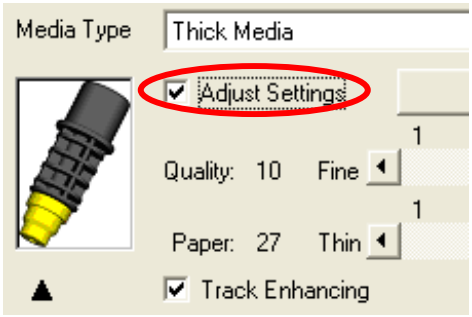


For each media selected from “Media Type,” this indicates the color of the blade-edge adjustment cap to be attached to the cutter when the media is cut.

Attach the blade-edge adjustment cap whose color is indicated for each media to the cutter before cutting or another operation is performed.

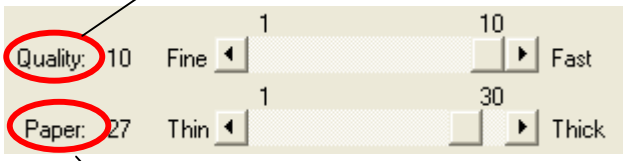
The blade-edge adjustment cap is used for changing the degree to which the edge of the cutter protrudes. (The length of the edge of the cutter can be varied by changing the color.) The color of the cap depends on the thickness of the media to be cut.

3.5.7-B Adjust Settings



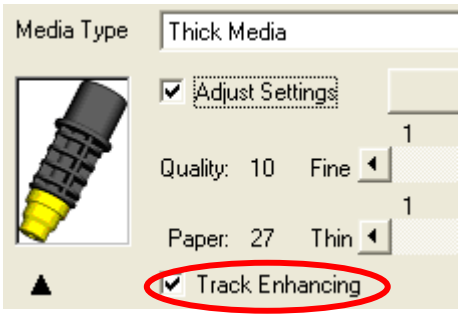
If the results of the test cutting indicate that the conditions need to be adjusted, select the check box, “Adjust Conditions.” As shown in the screen below, “Quality,” “Paper (Paper/Film),” “Test Cut” and “Add media” are displayed. They are not displayed when the boxes are not checked.

Quality : Adjust the cutting speed.
Selecting “Fast” increases the cutting speed, and selecting “Fine” reduces the speed.
The slower the cutting speed, the higher the cutting quality.
The quality can be adjusted in 10 steps.



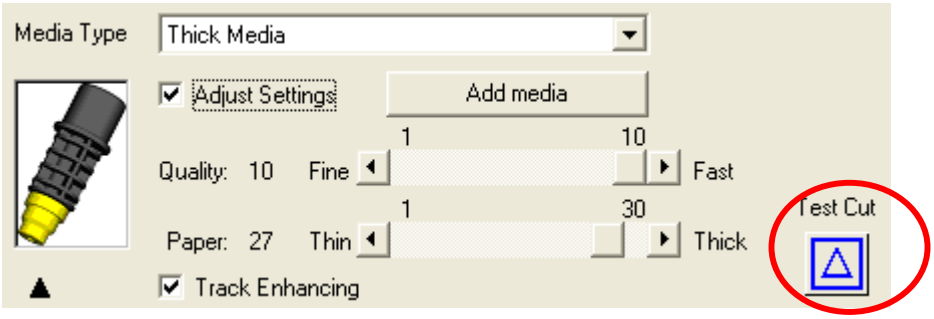
Media (two types, paper and film, displayed)
Specify the thickness of the media to be cut.

3.5.7-C Track Enhancing



Track enhancing refers to the action of moving the media back and forth several times before cutting is started to stabilize the quality of the cutting. It is performed automatically when the cutting pressure exceeds a fixed value. Keep this function on during normal use. This function may be turned off to reduce the cutting time provided you have verified that cutting is performed normally.

3.5.7-D Test Cut

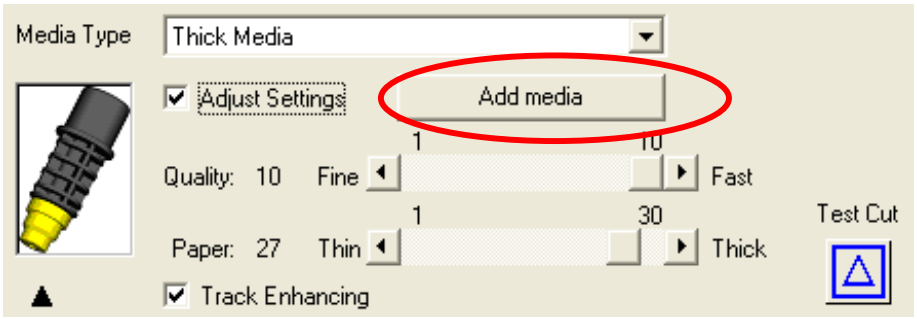


Use the [Pen Position] button to move the cutter to the position at which test cutting is to be performed, and click [Test Cut]. A 1 cm x 1 cm test pattern will be cut.

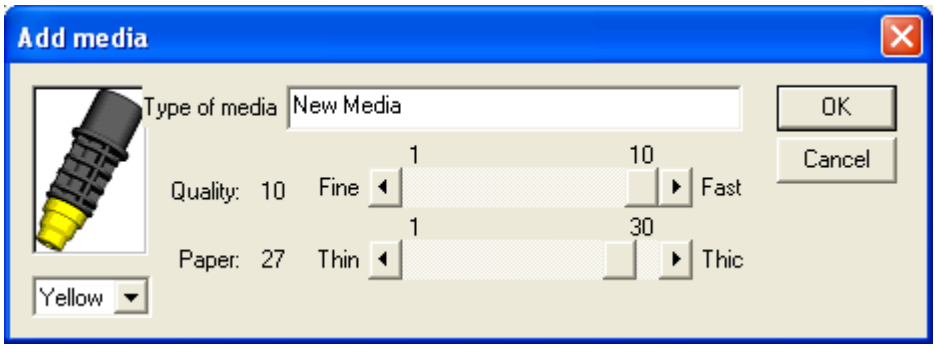
The cutting conditions are appropriate when the results of test cutting indicate that the media is cut with a slight trace of cutting on the board. If cutting is not properly done, such as when the board is cut or the media is not cut perfectly, adjust the degree to which the cutter blade protrudes. Alternatively, change the parameters in “Media Type” or change the settings in “Adjust Conditions.”

The quality of the cutting results varies depending on the media to be cut and other conditions. To cut media with which you are not experienced, always be sure to perform test cutting.

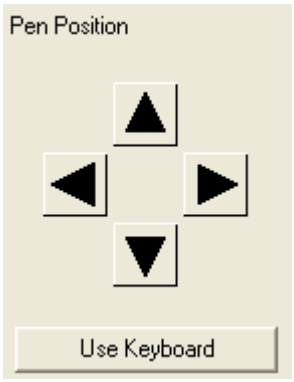
3.5.7-E [Add media]Button



The “Add media” window is displayed. When media is added, new settings are added to the list for “Add media.”

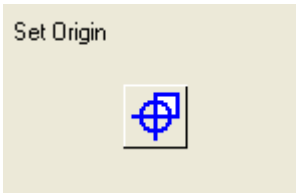


3.5.8 Pen Position



Moves the position of the pen (ball-point pen) or the cutter of the Craft ROBO. When the left-hand or right-hand button is pressed, the pen (ball-point pen) or the cutter is moved to the left or right. When the up or down button is pressed, the media is moved. Clicking the [Use Keyboard] button allows the arrow keys on the keyboard to be used in the same way as the [Pen Position] button.

3.5.9 Set Origin

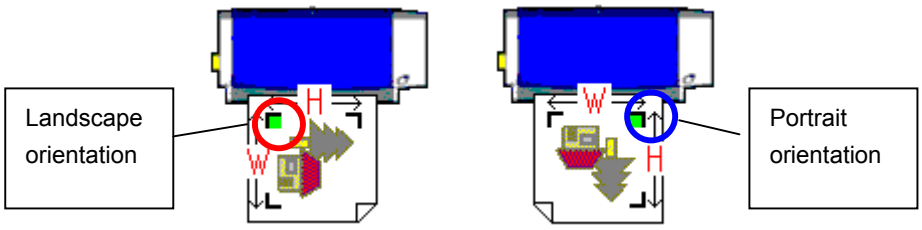


Use this button to specify the position at which to cut.

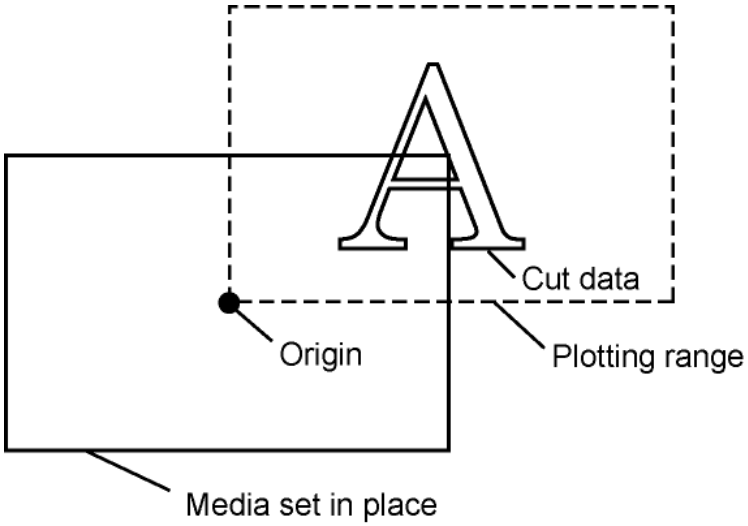
After moving the pen (ball-point pen) or cutter using the [Pen Position] button, click the [Set Origin] button at the position to be specified as the origin.

This button cannot be used for aligning the position with the registration marks. (Alignment it is not necessary.)

When plotting is performed with the media in the landscape orientation in an application, if the origin is not designated, it is set at a position near the red circle in the diagram below. If the media is in the portrait orientation and the origin is not designated, it is set at a position near the blue circle in the diagram below.



Confirm: Move the origin while considering of the size of the design to be cut. If the position of the origin is not set correctly, part of the cut data may be plotted off the media, as shown below.



Confirm: The Set Origin function cannot be used when the check box “Alignment” is selected.

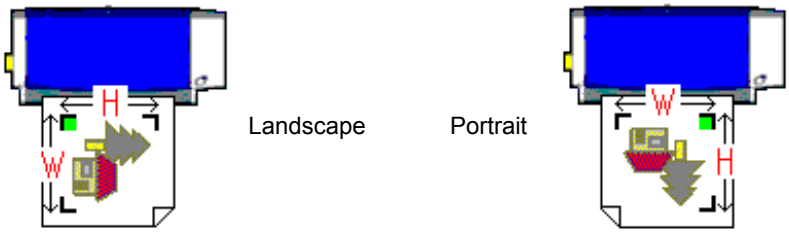
3.5.10 Design Orientation



Select “Landscape” for a design where the media is used horizontally and “Portrait” where the media is used vertically.

The direction is automatically set when output is performed from the ROBO Master.

When Landscape or Portrait is selected, the width or height of the illustration also changes.



3.5.11 Alignment

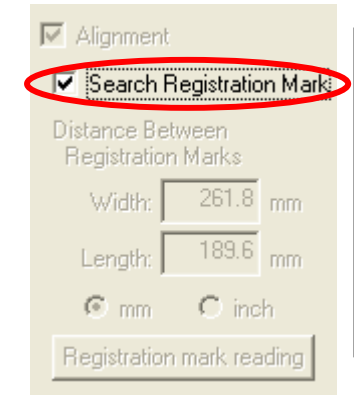


This setting is selected when cutting is performed by overlapping with a Master printed with a printer.

When it is called up from the ROBO Master, if registration marks are set for a document in the ROBO Master, this parameter is automatically turned on and cannot changed. This setting is used for cutting printed matter that has registration marks already printed.

When the check box, “Alignment,” is selected, the reading of registration marks is enabled.

3.5.11-A Search Registration Mark



Craft ROBO Version 2 has a function for automatically reading registration marks (*).

Keep this function on during normal use.

When the function for reading the registration marks is on, the registration marks are automatically searched for and read at the time of cutting. When the registration marks are read normally, cutting is performed.

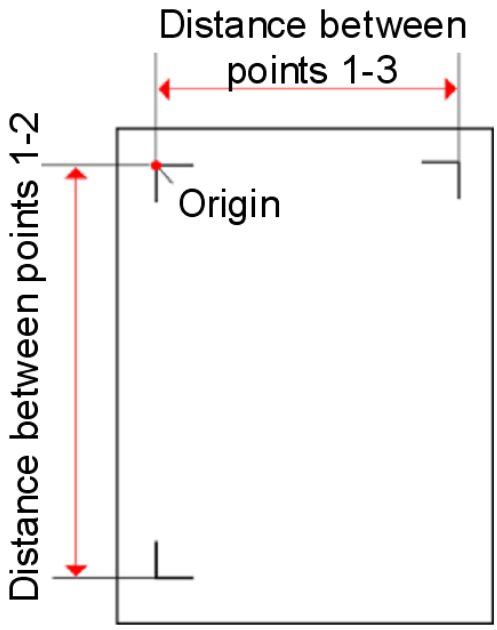
The function for automatically reading the registration marks automatically searches for the registration marks within a fixed range from the position of the pen at the completion of media setting to the center of the media. The registration marks may not be searched for correctly if the registration marks are not located in a place that is generally used. In this case, turn off the function for automatically reading the registration marks and read the registration marks.

(See 3.5.11-C Registration Mark Reading for the reading of registration marks.)

*Registration marks

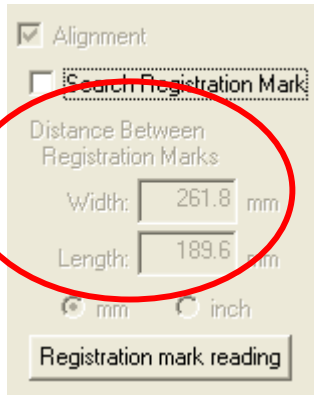
Registration marks are marks that align the position and are used to align the cutting position with a position in the image printed with a printer. To cut the media according to printed material, print the registration marks around the image to be printed in advance. The Craft ROBO will cut the media according to the position of the printing by reading the registration marks using a registration mark sensor.

The registration marks are shaped like the corner of rectangle and are located at three locations surrounding the image to be printed.



When registration marks are used, avoid placing them on or in the vicinity of the printed image as much as possible.
When registration marks are used, it is also recommended that an ink-jet printer be used. If a laser printer is used for output, the printed matter may be distorted by heat, resulting in a misaligned cutting.

3.5.11-B Distance between Registration Marks

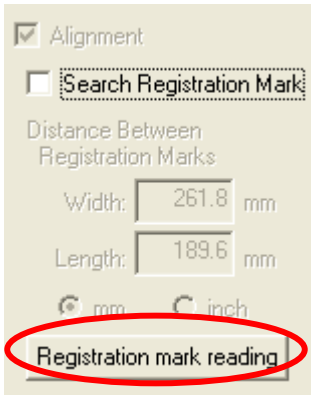


They are displayed when Search Registration Marks is turned off.

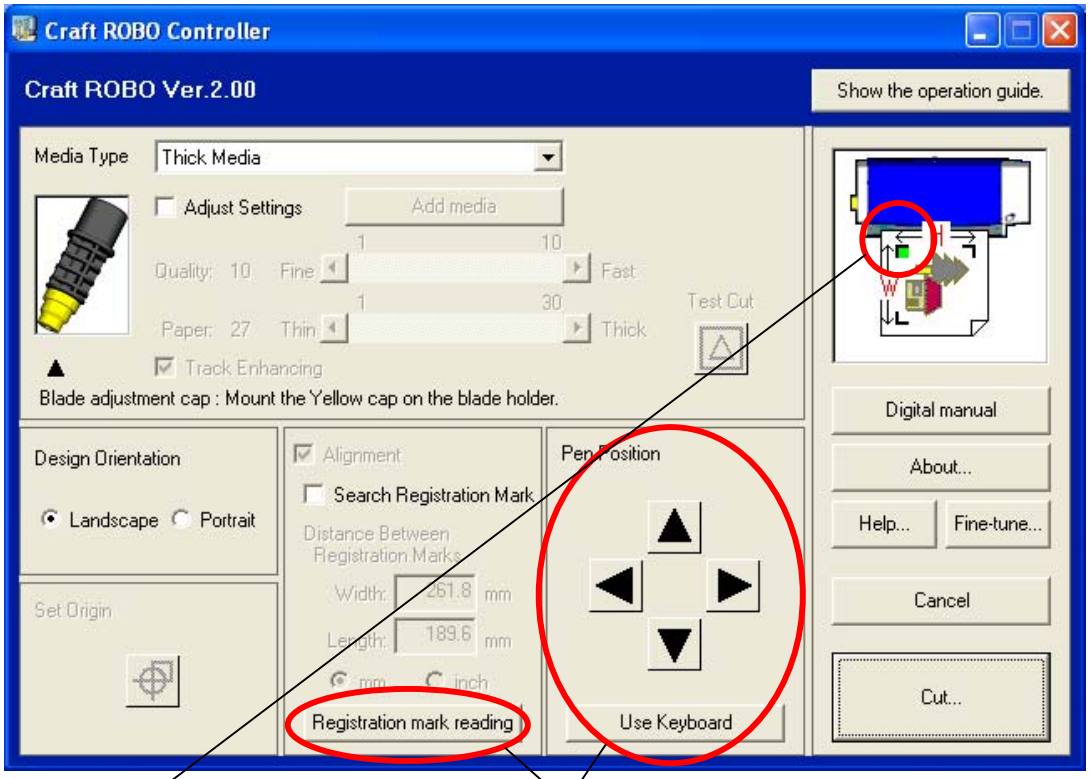
The distance between the registration marks is the distance from one corner of a registration mark to the corner of the other registration mark.

In most cases, this is automatically set from ROBO Master or an application that is able to perform this function.

3.5.11-C Registration mark readeing



This is displayed when Search Registration Marks is turned off.



(1) Use the [Pen Position] button to move the cutter to within the range of the registration mark.

The range of the registration mark is displayed as a green rectangle in the figure at the top right of the controller. The position may change according to the orientation of the design.

(2) After performing Step (1), click on the [Registration Mark Reading] button. Reading the registration marks then starts.

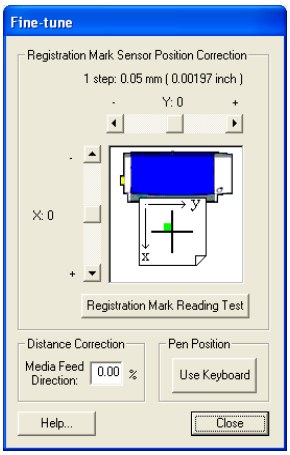
Confirm: When the registration marks have been read, it becomes impossible to operate the [Alignment] group box and [Design Orientation]. In addition, and the [Fine-tune] button is disabled.

To enable operation again, turn the standby switch of the Craft ROBO off then on again.

3.5.12 Fine-tune

Click [Adjust] to open the Fine-tune window.

If the “Read Registration Marks” function in the “Use Registration Marks” section of the controller menu has been used, [Fine-tune] cannot be used. In such a case, temporarily turn off the standby switch of the Craft ROBO and then turn it on again.



3.5.12A Registration Mark Sensor Position Correction

This function is for adjusting the cut position when the printed image and the cut position are misaligned.

Here, the registration marks that have been detected by the registration mark sensor can be adjusted to their correct positions.

It is normally not necessary to perform correction.

Follow the procedure described below to perform Registration Mark Sensor Position Correction.

To perform a Registration Mark Reading Test, select A4-size matt white paper and set the cutter in the Craft ROBO.

(1) Set the cutter in the Craft ROBO.

(2) For the “Registration Mark Reading Test,” use paper with a cross drawn on it. Follow the procedure described below to prepare a piece of paper with a cross drawn on it.

<If ROBO Master is installed in your computer>
Print “Test paper for the Registration Mark Reading” available with ROBO Master.

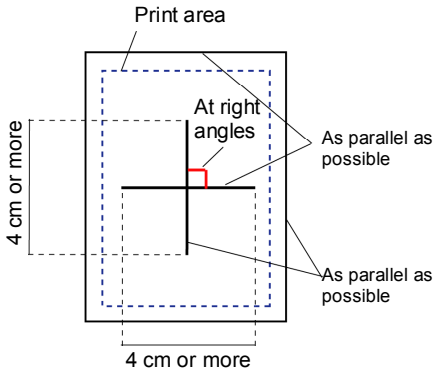
<If ROBO Master is not installed in your computer>
Create the media to be used for the Registration Mark Reading Test in accordance with the requirements described below.

Media.....Prepare A4-size matt white paper.

Media orientation .....Can be either portrait or landscape

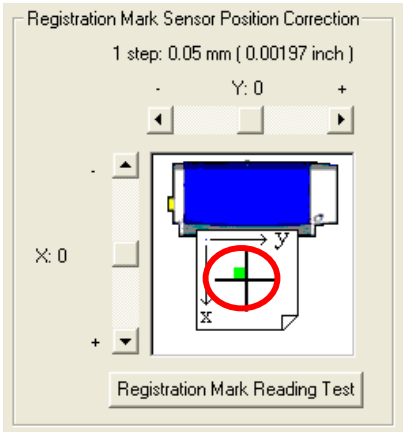
Drawing a cross

Draw a cross with black lines 0.5 mm to 1 mm in line thickness and at least 4 cm in length. The two lines must intersect each other at right angles within the print area of the media. At this time, make sure the vertical and horizontal lines are as parallel to the edges of the media as possible.



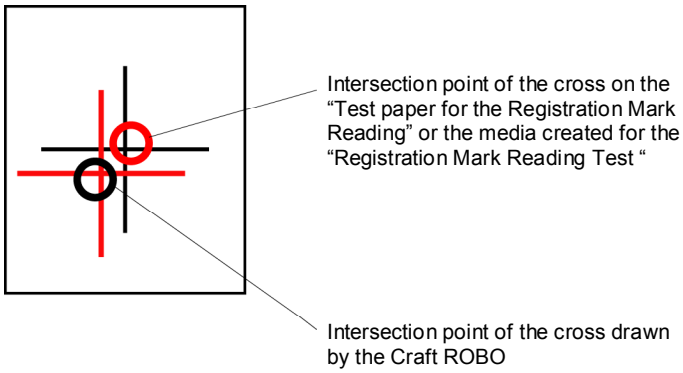
(3) From the “Media Type” screen of the Craft ROBO Controller, select the setup item corresponding to the media used in the “Registration Mark Reading Test.”

(4) When you have finished setting the “Test paper for the Registration Mark Reading” of ROBO Master or the media you have created for the “Registration Mark Reading Test” into the Craft ROBO, open the “Fine-tune” window and move the cutter to the green square part of the diagram.



Click [Use Keyboard] in the “Pen Position” section of the controller menu, and use the arrow keys on the keyboard to move the cutter.

(5) Click [Registration Mark Reading Test]. After reading the printed cross, the cutter will draw a cross.



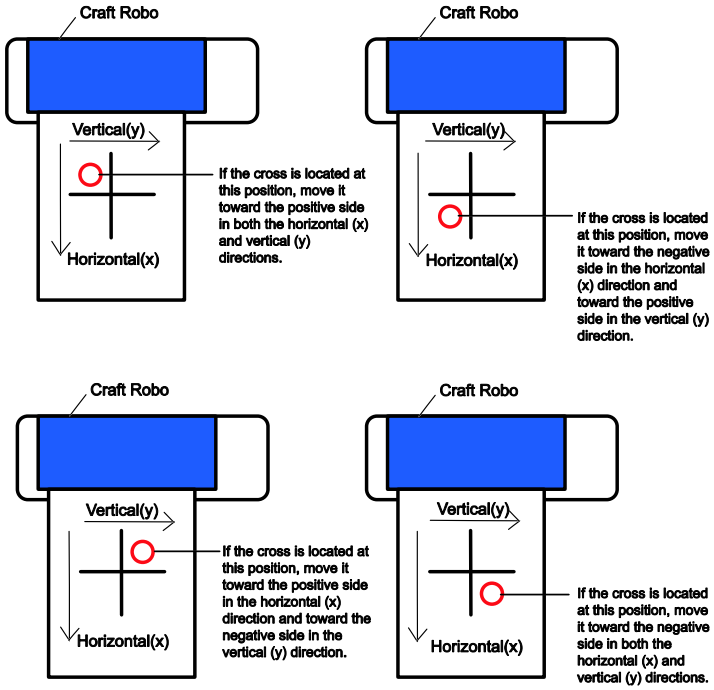
If the position of the intersection point recognized by the Craft ROBO is not aligned with that of the printed cross, correct it as specified below.

Use the vertical (y) or horizontal (x) scroll bar to set a correction value.

The correction value must be in the range of –40 to 40.

One step represents 0.05 mm (0.00197 inch). For example, if 20 is specified as the correction value, the line drawn by the pen (ball-point pen) moves 1 mm.

If the position of the intersection point recognized by the Craft ROBO is not aligned with that of the printed cross, set a correction value in accordance with the figures shown below. The red circle in the diagram denotes the position of the intersection point recognized by the Craft ROBO.



3.5.12B Distance Correction

When the Craft ROBO moves the media, the distance by which the media is fed may not always be exactly as expected, depending on its thickness or quality. Distance Correction is used to account for such an error. In the range of –2% to +2%, enter a negative value if the fed distance is greater than the expected distance, or a positive value if the fed distance is less than the expected distance.
The correction value may be calculated from the equation below.

$$1 - \frac{\text{actually moved distance}}{\text{distance to be moved}} \times 100 = \text{correction value}$$

Concrete example

If the media needs to be moved 50 cm and the distance actually moved by the Craft ROBO is 49.5 cm, then
$(1 - 49.5 \div 50) \times 100 = 1$
Therefore, enter the value 1 for correction.



It is not normally necessary to perform correction. When registration marks are used, correction is performed automatically.

<Using the "Pen Position" keyboard>
Clicking [Use Keyboard] allows the arrow keys on the keyboard to be used in the same way as in the case of the [Pen Position] button.

3.6 Messages

The USB port is currently in use. Please wait ten seconds, and then try again.

Cannot communicate with the Craft ROBO. Check that the USB cable is connected correctly, press the Craft ROBO's standby switch, and then confirm that the LED is lit.

Craft ROBO communication error. Press the standby switch twice.

→ Follow the instructions in the message.

GITKUSBP.DLL could not be found, and so the Craft ROBO Controller could not be started. Please reboot your computer or re-install the Craft ROBO Controller.

The GITKUSBP.DLL functions could not be found, and so the Craft ROBO Controller could not be started. Please reboot your computer or re-install the Craft ROBO Controller.

→ Follow the instructions in the message.
To install the software again, first uninstall the Craft ROBO Controller currently installed. If the problem is not solved, download the latest version of the Craft ROBO Controller from the Craft ROBO website and install it.

The value specified for the horizontal distance between the registration marks exceeds the specifiable range.

Please specify a distance in the range 0 to 970.0 mm.

→ Follow the instructions in the message.

Registration mark reading failure. Please reload the medium.

→ Registration mark reading failed.
Turn off the standby switch of the Craft ROBO, reset the media and turn the standby switch on again.

The Craft ROBO Controller is already active. Please shut the controller down and perform the operation once again.

→ This message is displayed when you duplicate starting up the Craft ROBO Controller.
Exit the currently operating Craft ROBO Controller and restart it to continue operation.

.

Appendix

Appendix A. Standard Specifications

Item	Specification
Shape	Grit-rolling
Drive method	Stepping motor
Cutting range	Maximum: 200 mm x 1000 mm (when extended) However, limited to film (media 0.1 mm or less in thickness, backing sheet-included thickness of 0.3 mm or less)
Usable sheet width	A4 size supported Loadable sheet width: maximum 260 mm, minimum 210 mm * However, this limitation does not apply if the backing sheet is used
Operating speed	10 to 100 mm/sec (10 speeds in 10-mm/sec steps)
Mechanical step size	0.05 mm
Program step size	0.05 mm
Loadable number of pens	1 pc.
Types of pens	Dedicated cutter plunger General-purpose ball-point pen (only when the ball-point pen plunger is used)
Media types that can be cut	Film (except for highly luminous reflection sheets) Media 0.1 mm or less in thickness, backing sheet-included thickness of 0.3 mm or less Kent paper (157 g/m^2) Drawing paper, postcard * Not all types of media can be cut.
Interface	USB 1.1
Rated power supply	Dedicated adapter, 24 V DC (1.875 A)
Power consumption	25 W (10 W or less during standby)
Working environment	5°C to 40°C, 35 to 80% R.H. (No condensation allowed, however)
Guaranteed operating environment	16°C to 32°C, 35 to 70% R.H. (No condensation allowed, however)
External dimensions (W x D x H) (mm)	Approx. 368 x 160 x 105 (not including protrusions)
Weight	Approx. 2.5 kg

INDEX

[A]
Abort 3-7
About Craft ROBO Controller 3-21
AC adapter 2-1
AC-adapter jack 1-2, 2-1
Adjust Settings 3-12

[B]
Backing sheet 2-7
  Cutting range 2-5, 2-9
Backing sheet ring 2-12
Ball-point pen plunger 1-2, 2-13
Ball-point pen, setting 2-13, 2-14
Blade-edge adjustment cap 2-11
Blade-edge adjustment cap, color of 3-12

[C]
Components 1-1
Computer, connecting to a 2-1
Craft ROBO Controller 3-1, 3-11
  Installation 3-2
  Setting Various Parameters 3-11
  Starting up and exiting 3-5
  Using Craft ROBO Controller 3-5
Craft ROBO driver 3-2
Craft ROBO icon 3-7
Cutter pen, setting 2-12
Cutter pen, structure of 2-10
Cutter-pen plunger 2-10
Cutting mat 1-2, 2-4

[D]
Distance Correction 3-26

[E]
Each part, name and function of 1-2
Error messages ..4-**エラー! ブックマークが定義されていません。**

[F]
Feed knob 1-2, 2-4
Film 3-13
Fine-tune 3-23

[G]
Guideline 1-2, 2-2, 2-4, 2-5

[H]
Help 3-21

[L]
LED lamp 1-2
Lock lever 2-12, 2-14

[M]
Media 3-13
Media, cutting range of 2-5
Media, setting 2-2
Media, selection 3-12
Media, Orientation 3-16
Media roller 1-2

[P]
Paper 3-13
Pen carriage 1-2
Pen Position 3-15, 3-24, 3-26
Plunger holder 1-2, 2-14
Power supply, connecting and powering on the 2-1
Protective tube 2-10
Protruding blade length 2-11
Push roller 1-2, 2-2

[Q]
Quality 3-13

[R]
Registration Marks, Distance between 3-19
Registration Marks Sensor Position Correction 3-23

[S]
Set Origin 3-155
Separator 2-7
Standard specification A-1
Standby switch 1-2, 2-2

[T]
Test Cut 3-14

[U]

Urea screw 2-14
USB interface connector 1-2
Use Keyboard 3-15, 3-24, 3-26

[W]

Working table 1-2

● The information contained herein is subject to change without notice.

CC100 User's Manual (CC100-UM-152)
Issued August 10, 2004
1st edition 000

Issued by Graphtec Corporation
503-10 Shinano-cho, Totsuka-ku, Yokohama