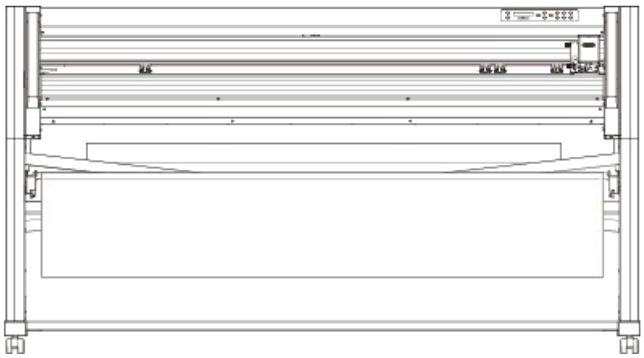
GR-640 / 540 / 420
CAMM-1

User's Manual



Select the manual that you want to read.

Use this manual if you are just starting to use the machine.	Basic Edition
If you have already mastered the basic operation, use this manual for an introduction to more advanced operations.	Application Edition Windows version Macintosh version

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Roland

Basic Edition

Cover

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Getting Started
What Is the GR-640/540/420?
Simple! Basic Cutting
Improving the Finish
Maintenance/Replacement

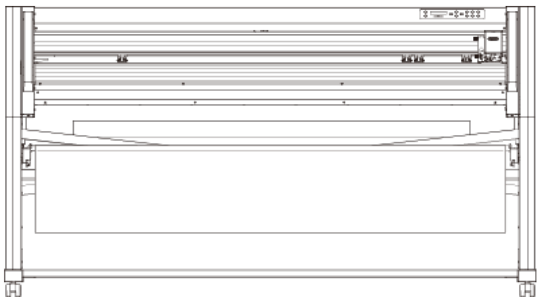
Troubleshooting

Error Message List
Menu Flow Chart
Specifications

GR-640/540/420
CAMM-1

User's Manual

Basic Edition



Simple! Basic Cutting

Maintenance/Replacement

Troubleshooting

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About the User's Manuals

The following manuals are included with the machine.

Setup Guide (Paper Manual)

This manual provides instructions for machine setup and software installation.

User's Manual, Basic Edition (Electronic-format Manual)

This manual provides instructions for basic machine operation and maintenance.

User's Manual, Application Edition—Windows Version (Electronic-format Manual)

This manual provides instructions and tips for using the GR-640/GR-540/GR-420 and its included software to create various products.
The Windows version of the application edition provides procedures that use a computer on which Windows is installed.

User's Manual, Application Edition—Macintosh Version (Electronic-format Manual)

This manual provides instructions and tips for using the GR-640/GR-540/GR-420 and its included software to create various products.
The Macintosh version of the application edition provides procedures that use a Macintosh computer made by Apple.

CutStudio Help (Electronic-format Manual)

This documentation explains details for functions of the included CutStudio software.
To open the Help files, from the Help menu in CutStudio, click Contents.

Getting Started

Thank you very much for purchasing this product.

Important Notes on Handling and Use

This machine is a precision device, so handle this machine carefully and never subject it to impacts or excessive force.
There are additional precautions related to this product's handling and installation site. For details, see the setup guide of this machine.

Storing Important Data

Roland DG Corp. assumes no liability for any loss or damage of data resulting from computer malfunction or damage.
Always back up important data.

Support

Support information made available via the Roland DG Corp. website is updated regularly to provide a useful reference in the event of a problem.
Before contacting us, refer to the information on the website together with "Troubleshooting."
http://www.rolanddg.com/

Trademark Notice

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Memo Note that URLs contained in this manual are subject to change without notice.

What Is the GR-640/GR-540/GR-420?

- What the GR-640/GR-540/GR-420 Can Be Used For
- Loadable Materials/Cuttable Area
- Part Names
- Carriage LED Lamp

What the GR-640/GR-540/GR-420 Can Be Used For

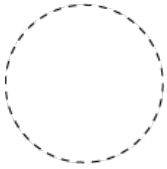
Cutting Characters and Shapes Cleanly

- Simple! Basic Cutting
- Sending Data from Illustrator/CorelDRAW

Making Stickers by Connecting to a Printer

- Printing and Cutting
- Preparations for Printing and Cutting (When Using CutStudio)
- Preparations for Printing and Cutting (When Using Illustrator)
- Preparations for Printing and Cutting (When Using CorelDRAW)

Cutting Perforated Lines on a Variety of Materials



- Cutting Perforated Lines
- Outputting Perforated Line Data from Illustrator
- Outputting Perforated Line Data from CorelDRAW

Handling Large Output Smoothly

- Tiled Output

Loadable Materials/Cuttable Area

Loadable Material Sizes

Model name	Width	Length
GR-640	156 to 1,802 mm (6 to 70 inches)	Roll material: no restriction Flat material: 200 mm or more
GR-540	156 to 1,548 mm (6 to 60 inches)	
GR-420	156 to 1,224 mm (6 to 48 inches)	

CAUTION

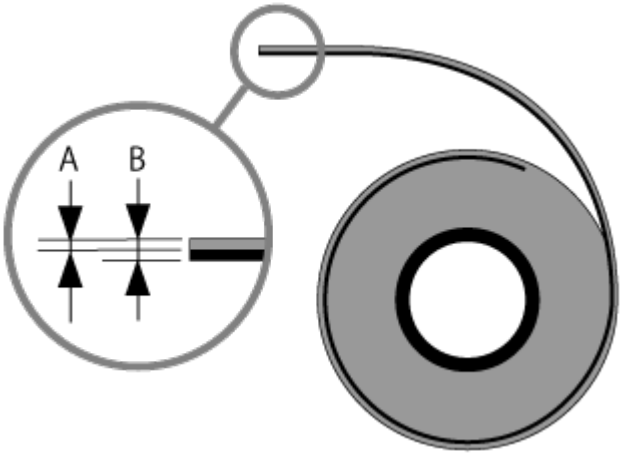
Never load media that weighs over 40 kg (88.19 lb.).
The machine may fail to withstand the weight, causing the machine to tip over or the material to fall.

A) Cuttable material thickness

Material thickness of 1 mm or less*

B) Material thickness (including carrier paper)

2 mm or less*



*** Conditions differ according to the type of blade.**

Refer to "General Guide Regarding Cutting Conditions."

Cuttable Area

Model name	Maximum cutting area
GR-640	Width: 1,651 mm (65 inches)(*)
	Length: 24,998 mm
GR-540	Width: 1,397 mm (55 inches)(*)
	Length: 24,998 mm
GR-420	Width: 1,075 mm (42.3 inches)(*)
	Length: 24,998 mm

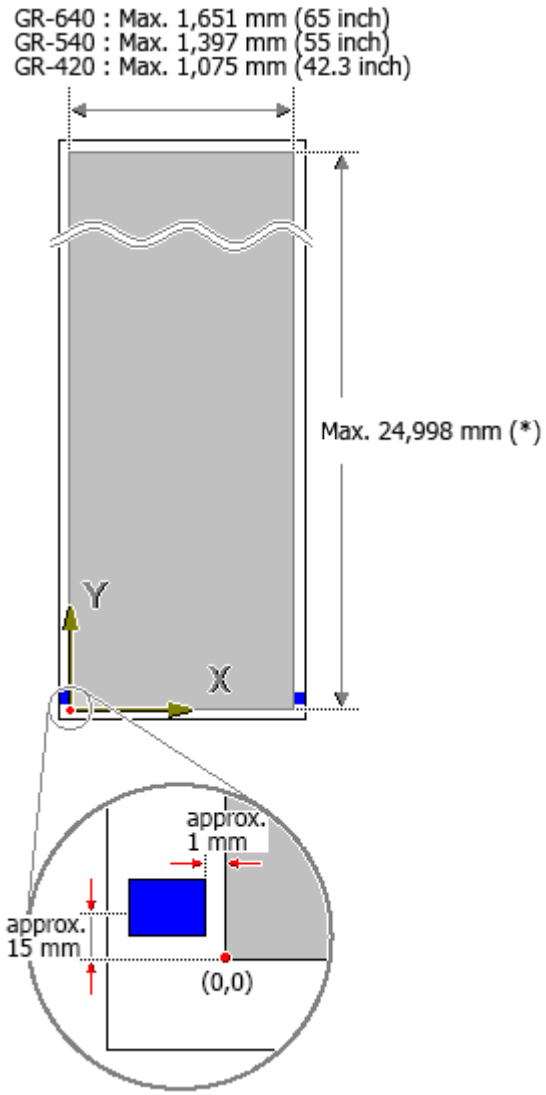
* The maximum width can be extended by up to 20 mm depending on settings. However, this may cause the pinch roller to leave marks on the products. Exercise caution. For instructions on how to extend the cutting area, refer to "Extending the Cutting Area <EXTEND>."

Explanation of Cutting Area

The cutting area along the material's horizontal plane (the direction in which the cutting carriage moves) is determined by the position of the pinch rollers. The cutting area spans the length between the two rollers, minus approximately 1 mm on each side.

Type of specified material	Cutting area
[ROLL] or [EDGE]	<Width>: Distance between the two pinch rollers minus approximately 1 mm on each side <Length>: 24,998 mm
[PIECE]	<Width>: Distance between the two pinch rollers minus approximately 1 mm on each side <Length>: Detected length(*)

*: If the detected length is 1,600 mm or more, the machine determines the material to be [ROLL], and the length of the cutting area is set to 24,998 mm.
However, the display does not show the length.



*: For the range for assured accuracy, refer to the specifications.

: Cutting area

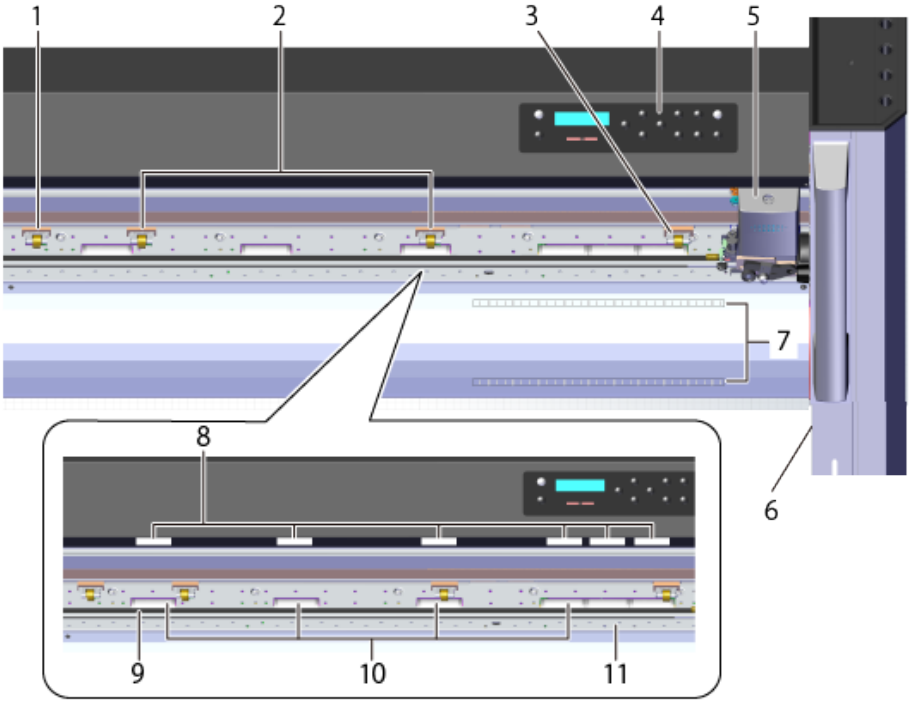
: Pinch roller

Using Various Types of Materials

Part Names

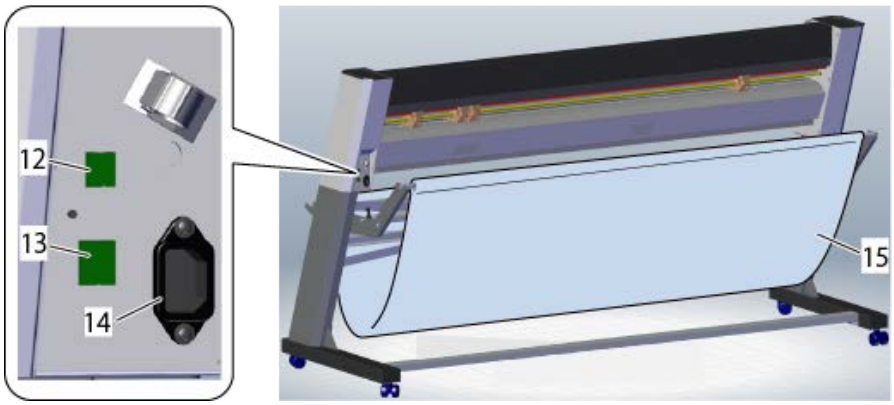
Main Unit

Front



Number	Name	Description
1	Left pinch roller	To raise or lower this part, press ［PINCH］. This part lowers to pinch the material. Set this at the left edge of the material.
2	Middle pinch rollers (the number of which varies depending on the size of the machine)	To raise or lower these parts, press ［PINCH］. These parts lower to pinch the material. Set these in the middle of the material.
3	Right pinch roller	To raise or lower this part, press ［PINCH］. This part lowers to pinch the material. Set this at the right edge of the material.
4	Operation panel	Use the display and the keys to operate and set this machine.
5	Cutting carriage	Install the blade holder. This part moves to the left and right to cut the material.
6	Power switch	Turns the machine's power on and off.
7	Ruler	Set the material in place so that its right edge is aligned with the front and back rulers.
8	Grit pattern	These indicate the locations of the grit rollers. When loading the material, be sure to place the pinch rollers within the area indicated by each of these patterns.
9	Blade protector	This protects the tip of the blade during cutting.
10	Grit rollers	These rollers feed the material to the front and rear.
11	Platen	This is the path over which the material passes. A suction fan that keeps the material from coming loose is built in.

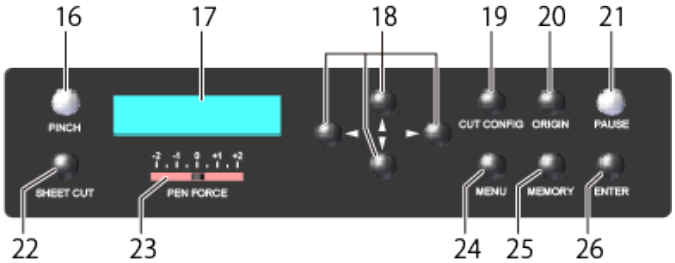
Back



Number	Name	Description
12	USB connector	This is for connecting a USB cable.
13	Ethernet connector	This is for connecting an Ethernet cable.
14	Power-cord connector	This is for connecting a power cord.
15	Material basket	This receives and stores the material that is cut from the roll.

Operation Panel

Use this to set and operate the machine.



Number	Name	Description	Notation used in this document
16	PINCH key	Use this to raise and lower the pinch rollers. Use this when inserting or removing the material. When the pinch rollers are lowered, this key lights.	[PINCH]
17	Display	This displays various setting menus and other information.	- - -
18	Cursor keys	You use these to select settings for menu items, to move the material, and for other such operations.	[◀] [▼] [▲] [▶]
19	CUT CONFIG key	Use this to set cutting conditions such as the blade force and the cutting speed. Perform a cutting test to check the conditions you have set.	[CUT CONFIG]
20	ORIGIN key	Use this to set the origin to the current blade position. Hold down this key for one second or longer.	[ORIGIN]
21	PAUSE key	This pauses printing operation. Press it again to restart operation. This lights when operation is paused.	[PAUSE]
22	SHEET CUT key	Use this to cut the material from the roll. Hold down this	[SHEET CUT]

		key for one second or longer.	
23	PEN FORCE slider	Use this to fine-tune the blade force. You can even perform this adjustment while cutting is in progress.	- - -
24	MENU key	The message on the display changes each time that you press this key. The display switches in the following order: currently set cutting conditions → menu mode → width display screen.	[MENU]
25	MEMORY key	Use this key to apply recorded cutting conditions to the settings of the machine and to record the current setting values to the machine.	[MEMORY]
26	ENTER key	You use this for such tasks as enabling setting values.	[ENTER]

Carriage LED Lamp

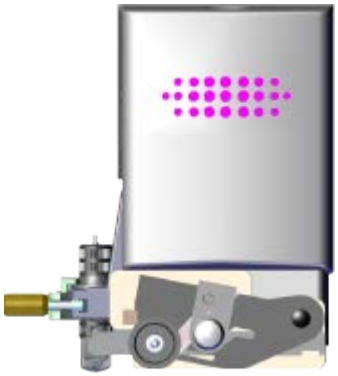
Carriage LED Lamp

Normal

The blue lamp is steadily lit or flashes.

Error

The red lamp flashes and an error message is displayed.
Refer to "Error Message List" and clear the error.

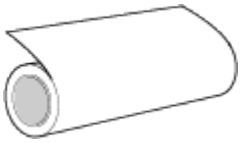


Simple! Basic Cutting

Performing Cutting

Let's learn basic cutting operations. When you follow the procedure, you can create a sticker like the one shown in the figure below.

Items Required Other Than the Machine

	
A computer with CutStudio installed	Roll material

CutStudio

Be sure to install this program.

- http://startup.rolanddg.com/

Material

- Loadable Materials/Cuttable Area

Procedure

- Loading Roll Material
- Installing the Cutting Tool
- Performing a Cutting Test
- Setting the Origin
- Creating Cutting Data (1)
- Creating Cutting Data (2)
- Entering Characters and Shapes
- Saving Cutting Data
- Performing Cutting
- Removing the Material

Loading Roll Material

CAUTION **Load roll media correctly.**
Otherwise the media may fall and cause injury.

CAUTION **Roll media weighs about 40 kg (88.19 lb.). To avoid injury, handle it with care.**

CAUTION **Never load media that weighs over 40 kg (88.19 lb.).**
The machine may fail to withstand the weight, causing the machine to tip over or the material to fall.

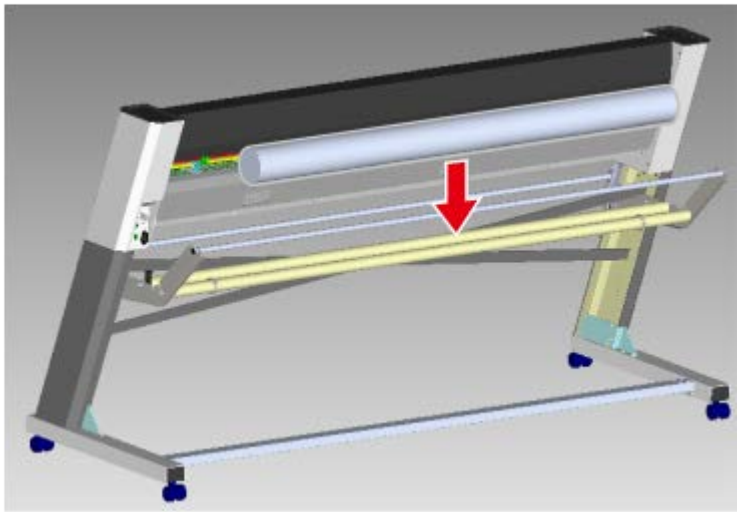
Memo
If using flat material or similar material, refer to "Using Various Types of Materials" and load the material.

Procedure

1. Switch on the power.

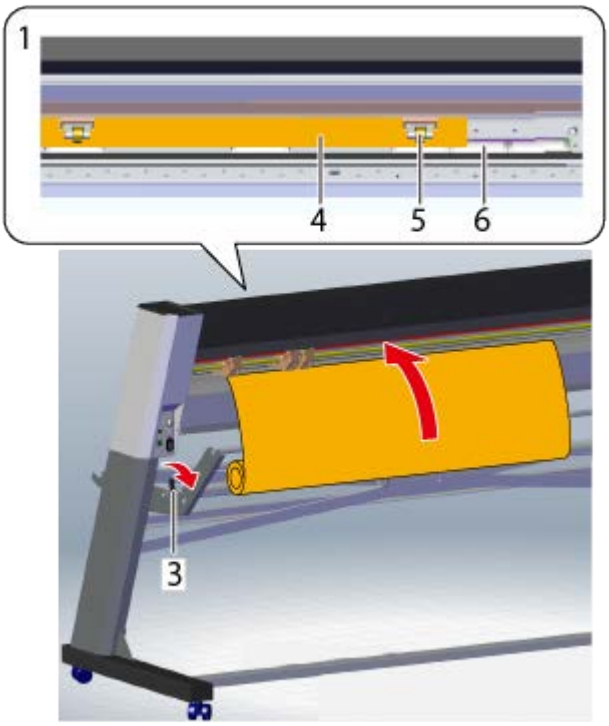
The power turns on and the cutting carriage moves to the right edge.
Exercise caution to avoid touching the cutting carriage.

2. Place the roll material on the shaft at the back of the machine.

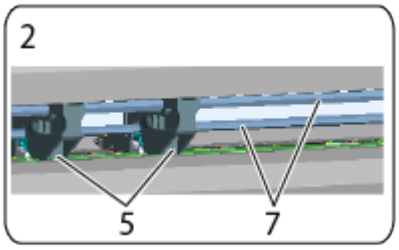


3. Pull the roll material out to the front of the machine.

Release the brake, and then pass the leading edge of the roll material between the pinch rollers and the grit rollers.



Exercise caution to prevent the material from touching the shaft of the pinch rollers.
The shaft is coated in grease, so grease may be transferred from the shaft surface to the material if they come in contact with each other.

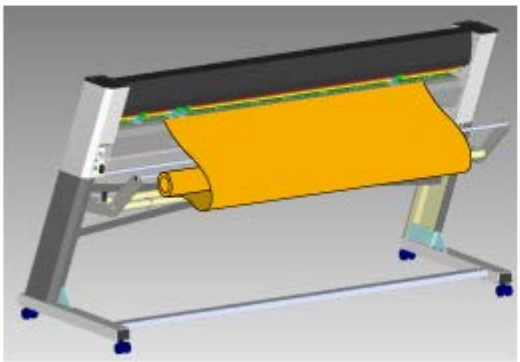


1: Machine front
2: Machine back
3: Brake
4: Roll material
5: Pinch rollers
6: Grit rollers
7: Pinch roller shaft

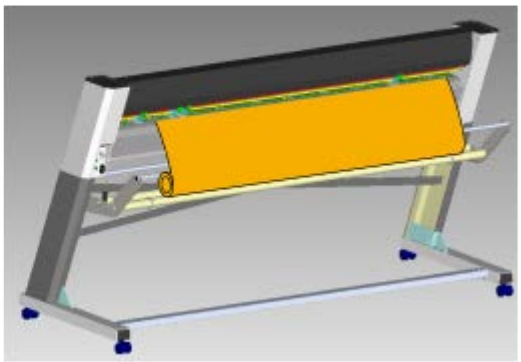
Pull out a length of material that is slightly long, leaving some slack.

If you load the material without creating some slack, the material cannot be fed correctly.

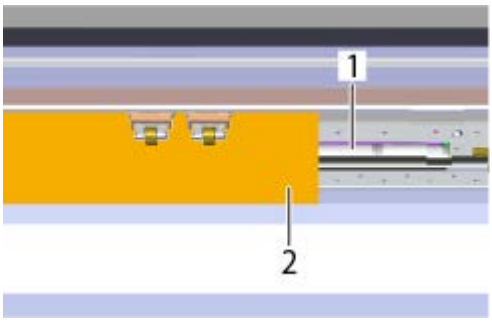
OK



Not OK



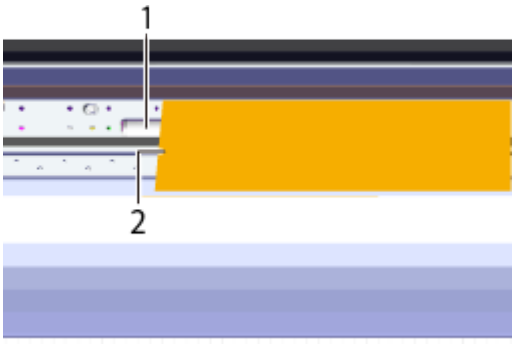
4. Place the right edge of the roll material over the grit roller (on the right edge).



1: Grit roller
2: Right edge of the roll material

5. Slide the roll material to place its left edge over the grit roller.

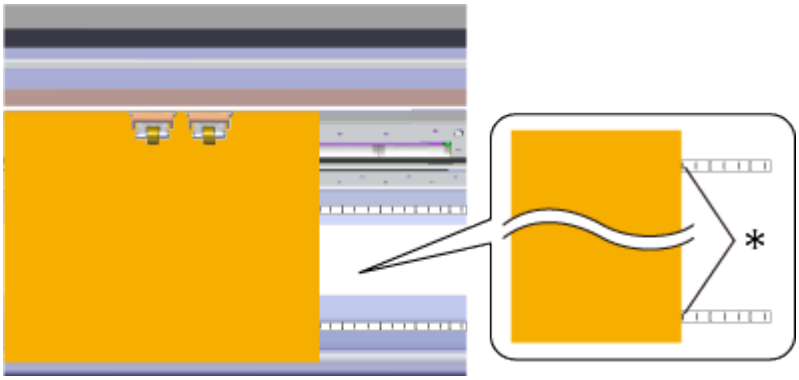
At this point, check that the right edge of the roll material remains over the grit roller on the right edge.



1: Grit roller
2: Left edge of the roll material

6. Straighten the roll material.

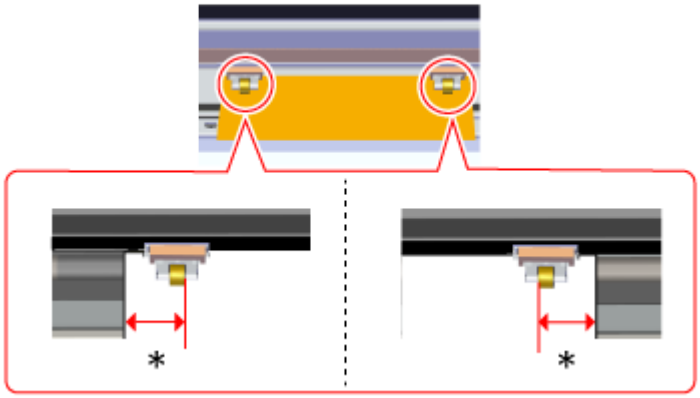
Align the right edge of the roll material so that it is parallel to the gradations of the rulers (in two locations: one on the top and one on the bottom).



*: Ruler gradation

7. Place the left and right pinch rollers over the grit rollers on both edges of the roll material and the middle pinch rollers over their corresponding grit rollers.

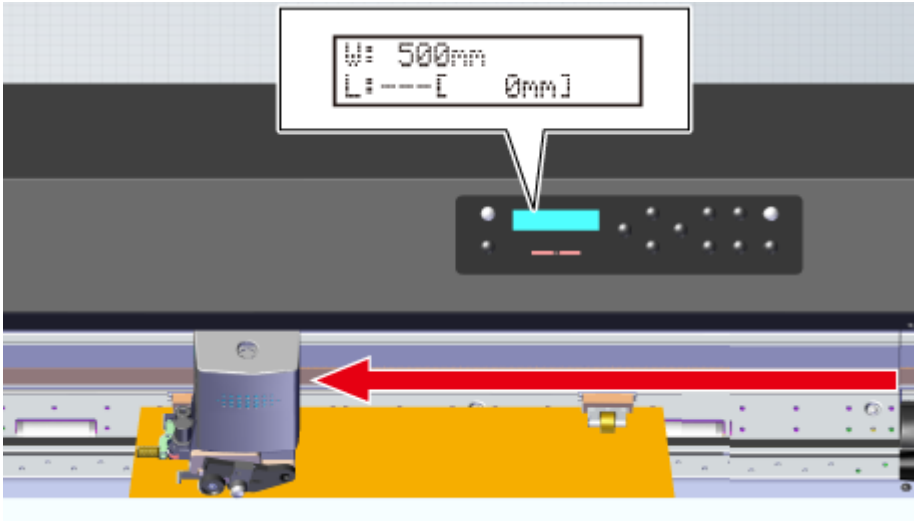
Position the pinch rollers on the edges so that each one is 25 mm or more inside of the respective left or right edge of the roll material.



*: 25 mm or more

8. Press [ENTER].

The pinch rollers lower to secure the roll material in place.
Also, the cutting carriage moves to the origin and the width of the roll material is shown on the display.



Handling Error Messages

If the following error message appears on the display, one of the pinch rollers is not in the correct position.

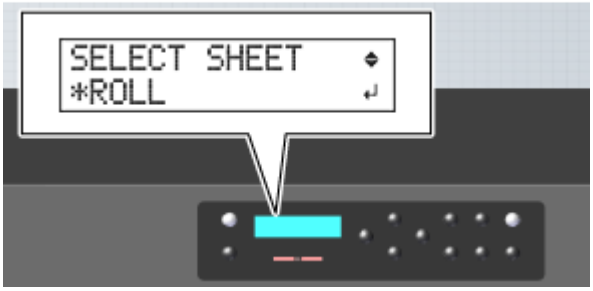
```
BAD POSITION
```

Follow the procedure shown below to place the pinch rollers in the correct positions.

Procedure

1. Press [ENTER].

The cutting carriage moves to the right edge, and the following screen is shown on the display.



2. Press [PINCH].

The pinch rollers rise up.

3. Place the pinch rollers in the correct positions.

Place them so that each is positioned over a grit roller.
Position the pinch rollers on the edges so that each one is 25 mm or more inside of the respective left or right edge of the roll material.

4. Press [ENTER].

When the pinch rollers are all placed in the correct positions and the loading of the roll material is complete, the following screen appears.

```
W:  500mm
L:---[    0mm]
```

Accurately Feeding Roll Material

Be sure to perform material feed if it is required. If you start cutting without checking the material feed, correct cutting results may not be obtained if the material is not fed correctly. In the worst case, this problem may cause an error or malfunction or damage to the material.

Materials That Require Feeding

Roll material and long, flat material that is longer than 1.6 m (63 in.)

If the Material Comes Loose

Procedure

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press the [▶] key, and then the [▲] key.

The screen shown in the figure below is displayed.

```
AREA    1.0m
```

4. Press [▶].

5. Press [▲] or [▼] to set the value for the required length of the material to cut.

It is a good idea to set a value that is about 0.2 m (7.9 in.) longer than the required material length.

```
AREA   1.0m      ◀◆
    0.5m         ↵▶
```

6. Press [ENTER].

The set length of the material moves out to the front, then is immediately pulled back and taken up again.

Press the [MENU] key to return to the screen shown in the figure.

```
W:  500mm
L:---[    0mm]
```

If the Material Comes Loose

If the material comes loose from the pinch rollers, press the [PAUSE] key to stop operation. Then reload the material, starting over from the beginning.

Installing the Cutting Tool

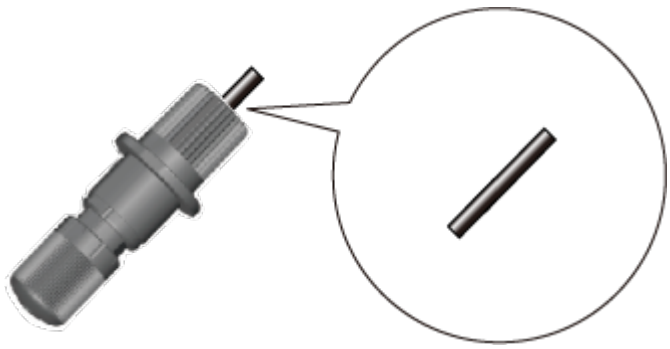
Installing the Cutting Tool

CAUTION **Never touch the tip of the blade.**
Doing so may result in injury.

Notice : Use the blade which suit material

There is a risk of damage to blade when you cut unspecified sheet because of compatibility between blade and sheet. Use the optimal blade for cutting to sheet material.

Items Required (Included Items)

	
Blade holder/pin	Blade

Adjusting the Amount of Blade Extension

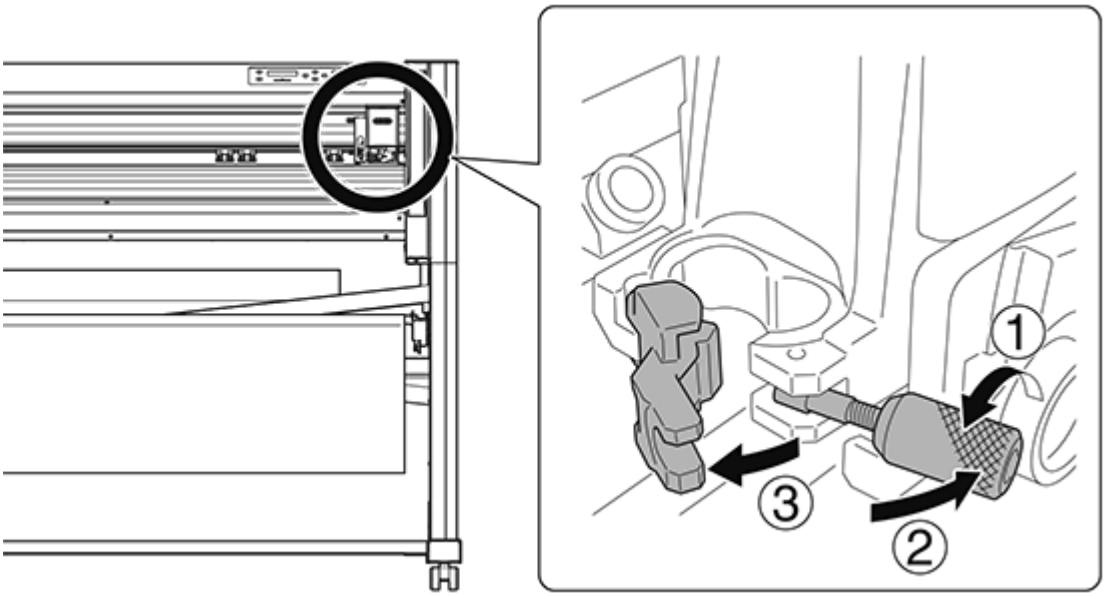
Adjust the amount of blade extension according to the material.
You may not have to make this adjustment. Adjust the amount of blade extension as required.
The amount of blade extension can be adjusted by 0.5 mm for a full turn of the cap.

Adjusting the Cutting-in Amount

Installing the Cutting Tool

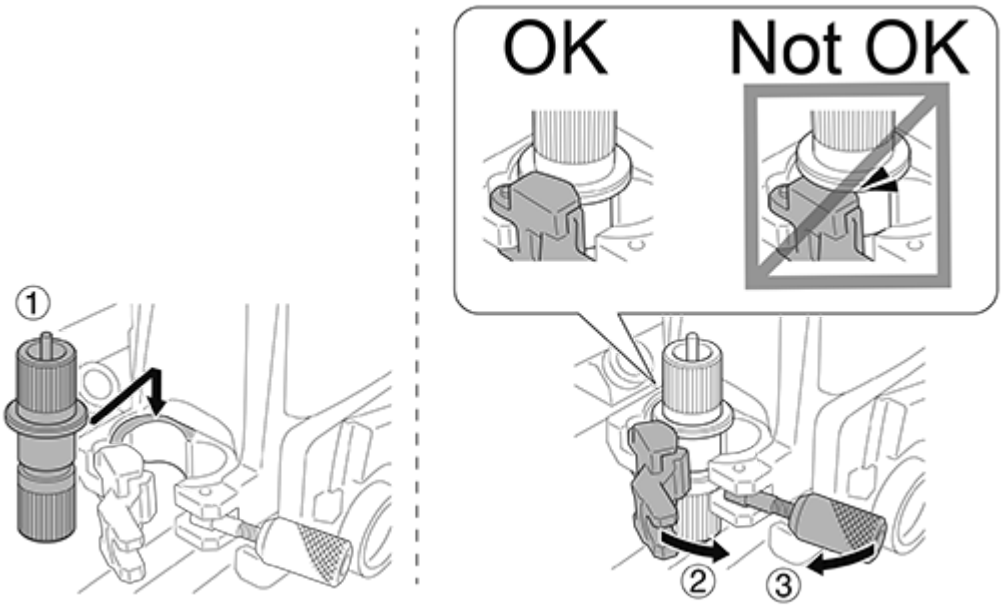
Procedure

1. Loosen the cutting carriage screw.

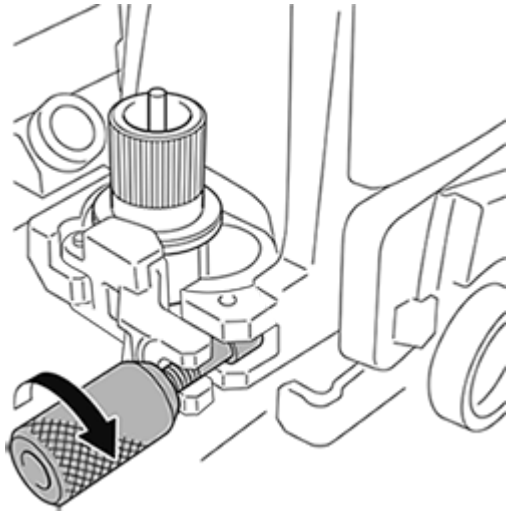


2. Install the cutting tool in the cutting carriage.

Normally, install it in the position shown in the figure (in the rear).
Install it in the front position when cutting perforated lines.



3. Tighten the cutting carriage screw.



Material Types and Blade Adjustment

It may be necessary to adjust the amount of blade extension for some types of material, such as material with thin carrier paper. If you are not able to obtain stable cutting results, changing the amount of blade extension can yield better results. For more information, refer to the pages indicated below.

- General Guide Regarding Cutting Conditions
- Changing the Blade Force
- Changing the Cutting Speed
- Adjusting the Cutting-in Amount

Performing a Cutting Test

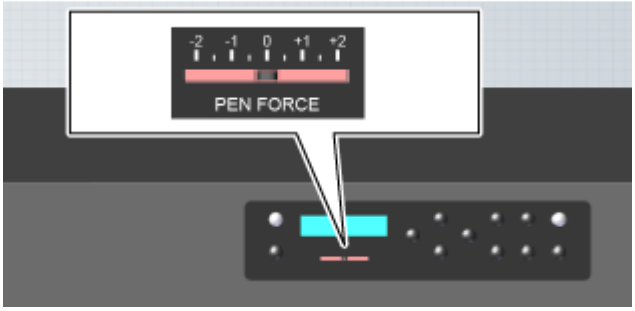
Performing a Cutting Test

To obtain high-quality cutting results, carry out a cutting test to check the cutting quality for the material before you perform the actual cutting.

Procedure

Setting the Number of Cutting Tests to Perform

1. Check that the PEN FORCE slider is at the center position (at "0" on the scale).



2. Press ［CUT CONFIG］ to display the following screen.

```
TEST CUT
 40 * 50  60
```

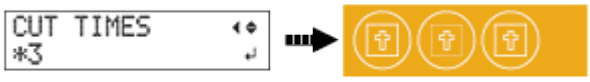
3. Press ［▶］ to display the following screen.

```
CUT TIMES
*3
```

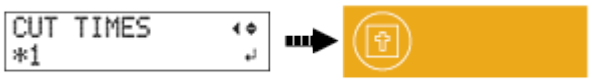
4. ▲ ▼

Press [ ] or [ ] to set the number of cutting tests to perform.

Cutting tests in three locations: Status of the finished product



Cutting test in one location: Status of the finished product



5. Press [ENTER] to select the setting.

You are returned to the following screen (in this example, three cutting tests will be performed).

6. Press [ENTER].

The test pattern is cut.

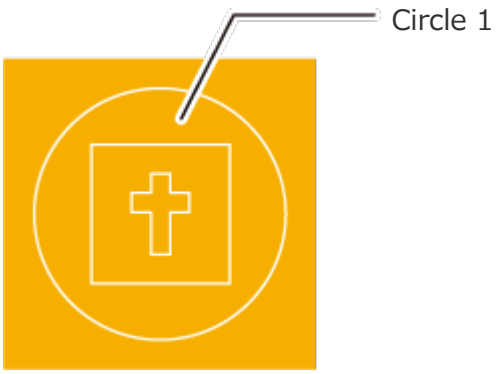
Memo

The position of the blade at the time the button is pressed is the cutting test start position.
You can use the cursor keys to set the position as desired.

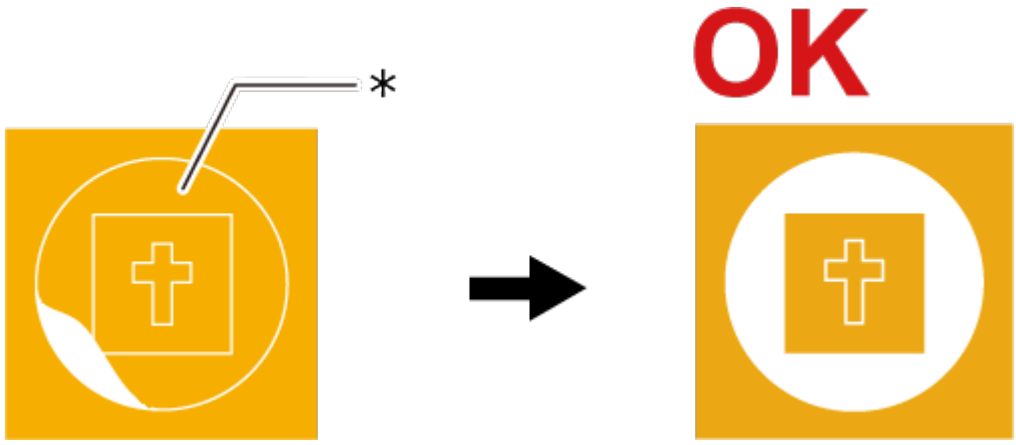
Memo When the cutting test finishes, the material is automatically fed to the front.

7. Peel off circle 1.

Use the tweezers or a similar tool to peel off the cut shape, and then check the cutting quality.



If Circle 1 Peels Off Alone → Step 8



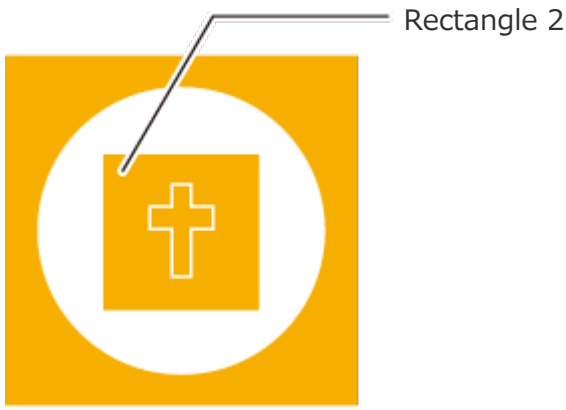
*: Circle 1

If Other Shapes Also Peel Off/The Machine Cuts the Carrier Paper → "Changing the Blade Force"

---

8. Peel off rectangle 2.

Use the tweezers or a similar tool to peel off the cut shape, and then check the cutting quality.



If the Blade Leaves Faint Traces on the Material's Carrier Paper → Setting the Origin

Faint lines remain here.

If the Traces Left by the Blade Are Indistinct/Too Deep → "Changing the Blade Force"

Setting the Origin

Setting the Origin

The origin is set in order to determine the cutting position.
Move the cutting carriage to a place where it does not overlap the location where you made the cutting test.

Procedure

1. Press ［MENU］ to display the following screen.

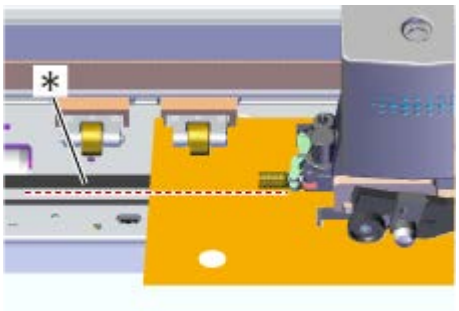
```
W:  500mm
L:---[    0mm]
```

Moving the Cutting Carriage at High Speed

2. Press [▲], [▼], [◀], and [▶] to move the cutting carriage to the location you want to set as the origin.

3. Press [▲] to move the material backward, and ensure that the cutting test traces are in front of the blade protector.

The blade moves over the blade protector.
When the origin is set, the side behind the red line is set as the cutting range.



*: Blade protector

4. Hold down [ORIGIN] for one second or longer.

The screen flashes.

```
ORIGIN SET
```

This completes all preparations for cutting.

Creating Cutting Data (1)

Creating Cutting Data (1)

(1) Start CutStudio

Use CutStudio cutting software to create cutting data.

- If CutStudio is not installed, click here.
- If you are using a Macintosh, click here.

Procedure

1. Start CutStudio.

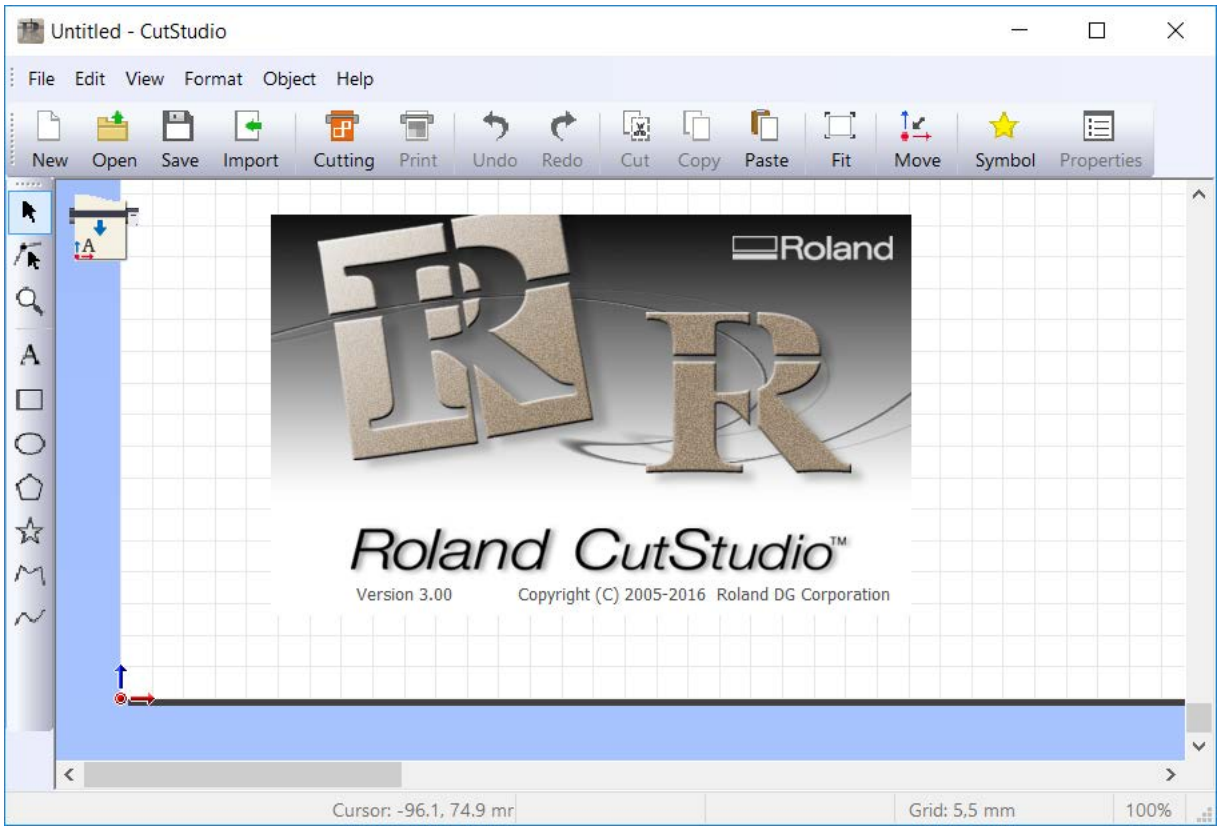
Windows 10 and Windows 7

On the Start menu, click All Programs (or Programs), click Roland CutStudio, and then click CutStudio.

Windows 8.1

At the lower left of the Start screen, click to display the Apps screen. Click .

CutStudio starts.

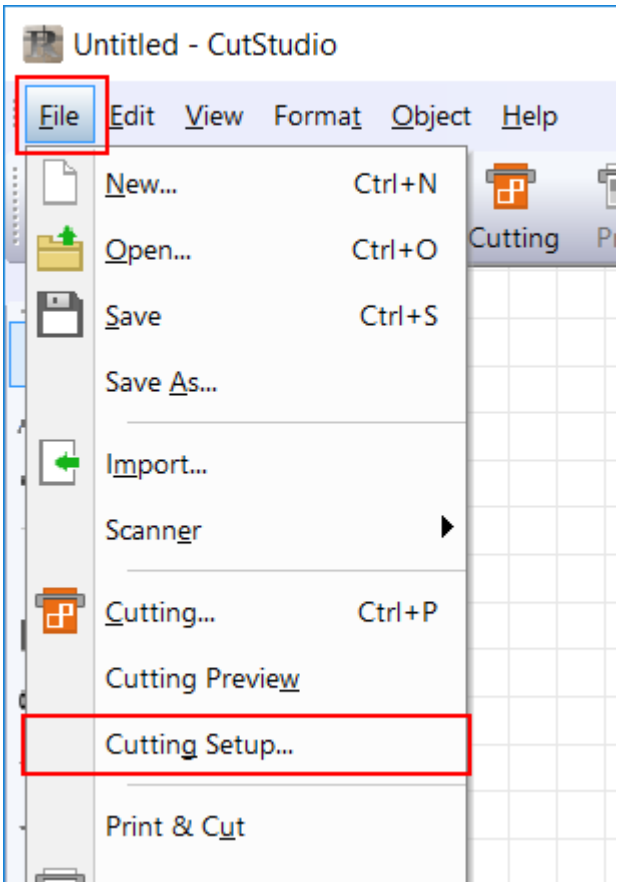


(2) Set the Model

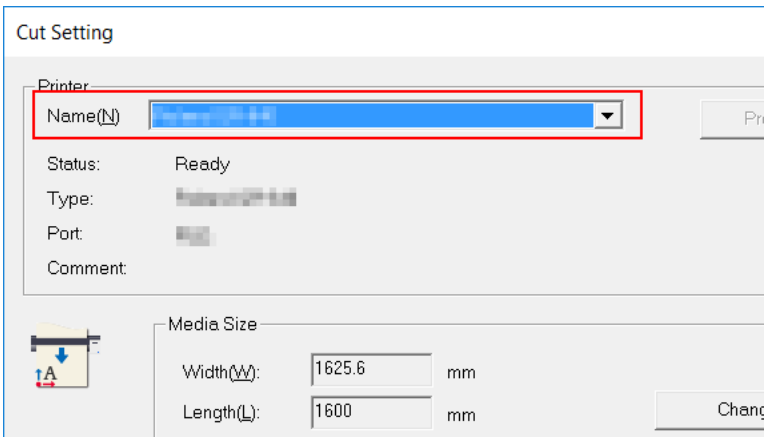
Procedure

1. **From the File menu, click Cutting Setup.**

   The Cut Setting window appears.



2. Use Name under Printer to select the model name of the cutting machine to use.



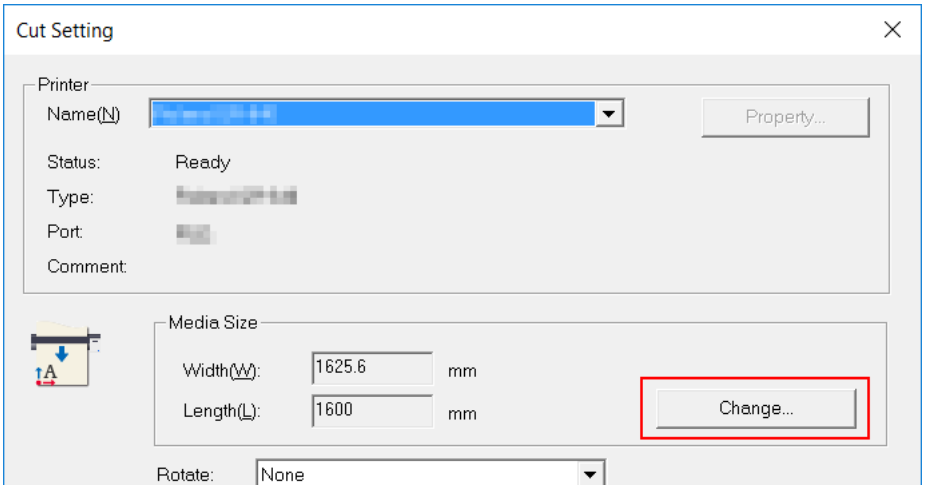
Creating Cutting Data (2)

Creating Cutting Data (2)

Set Material Size

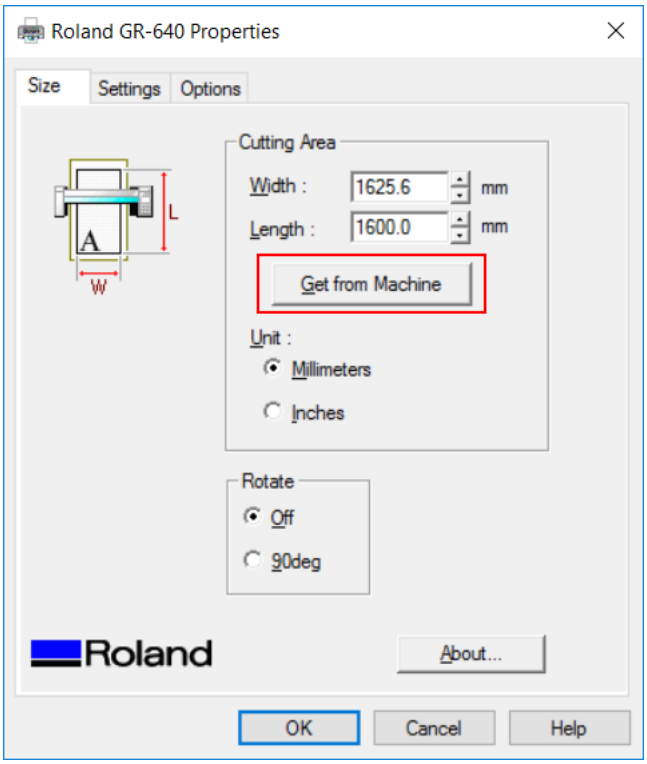
Procedure

1. Click Change under Media Size.



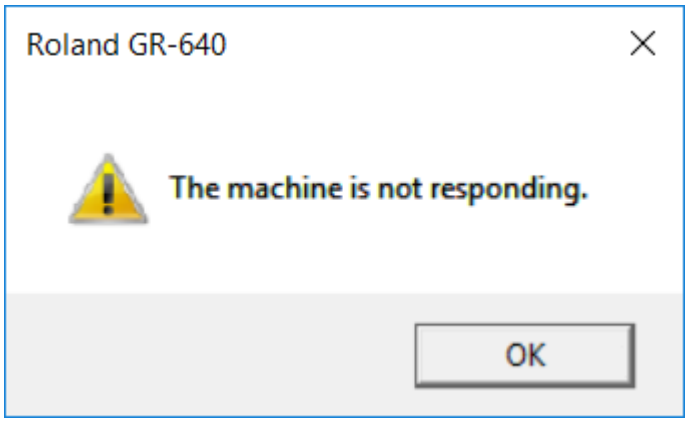
2. Click Get from Machine.

The cuttable area is displayed.

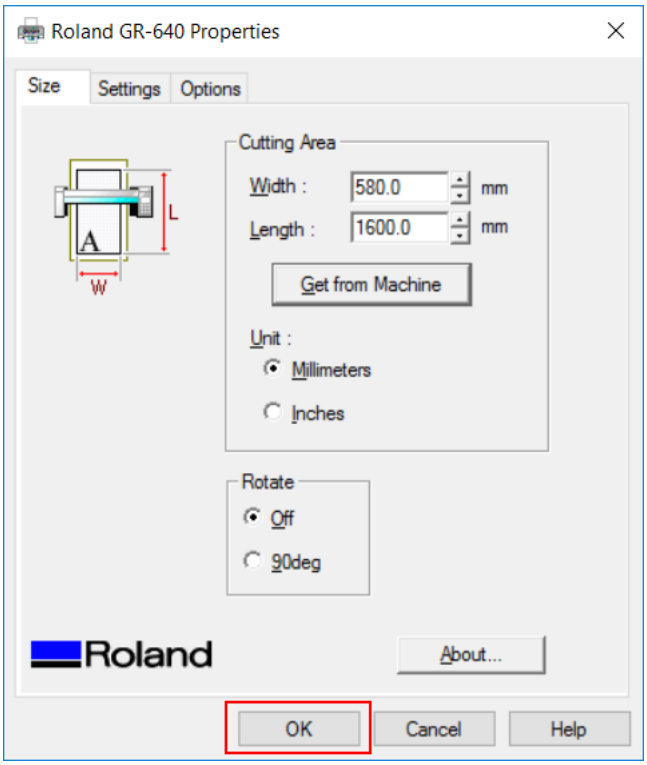


If a Message Saying "The machine is not responding." Is Displayed

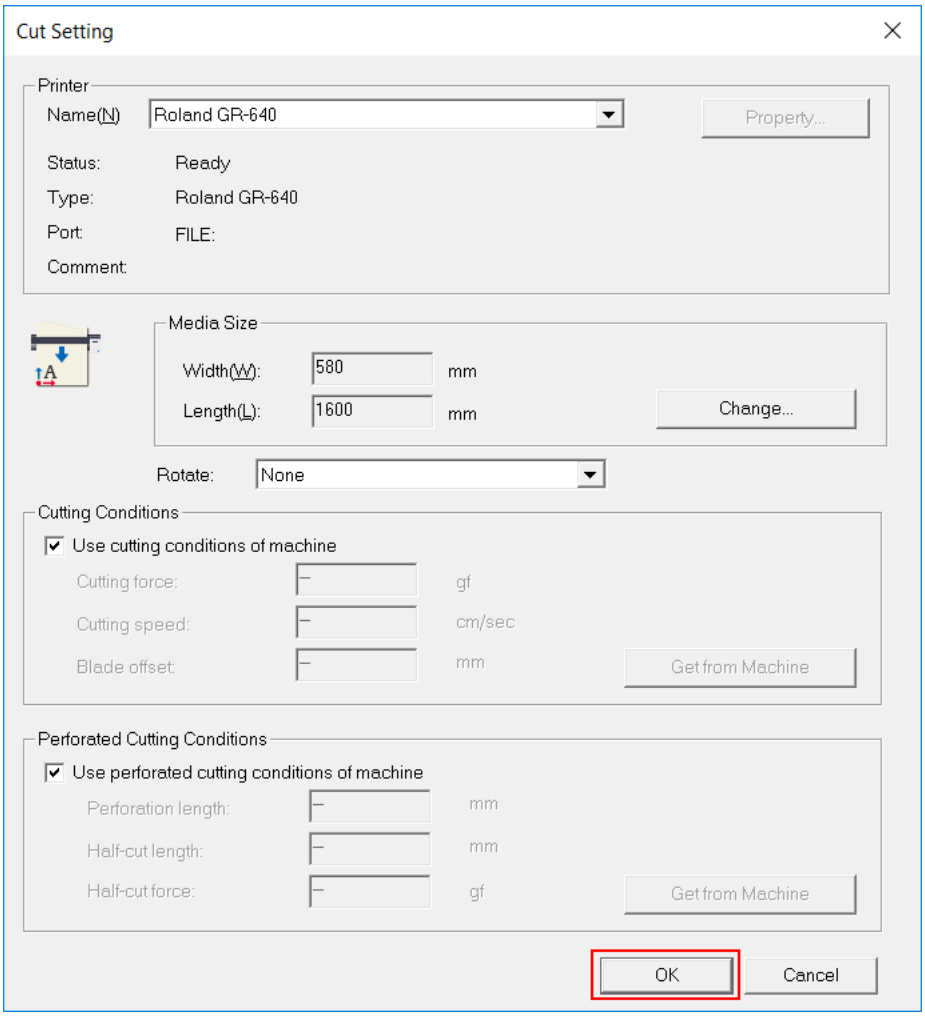
Refer to "The Machine Doesn't Run," and check the machine and computer settings.



3. Click OK.



4. Click OK in the Cut Setting window.

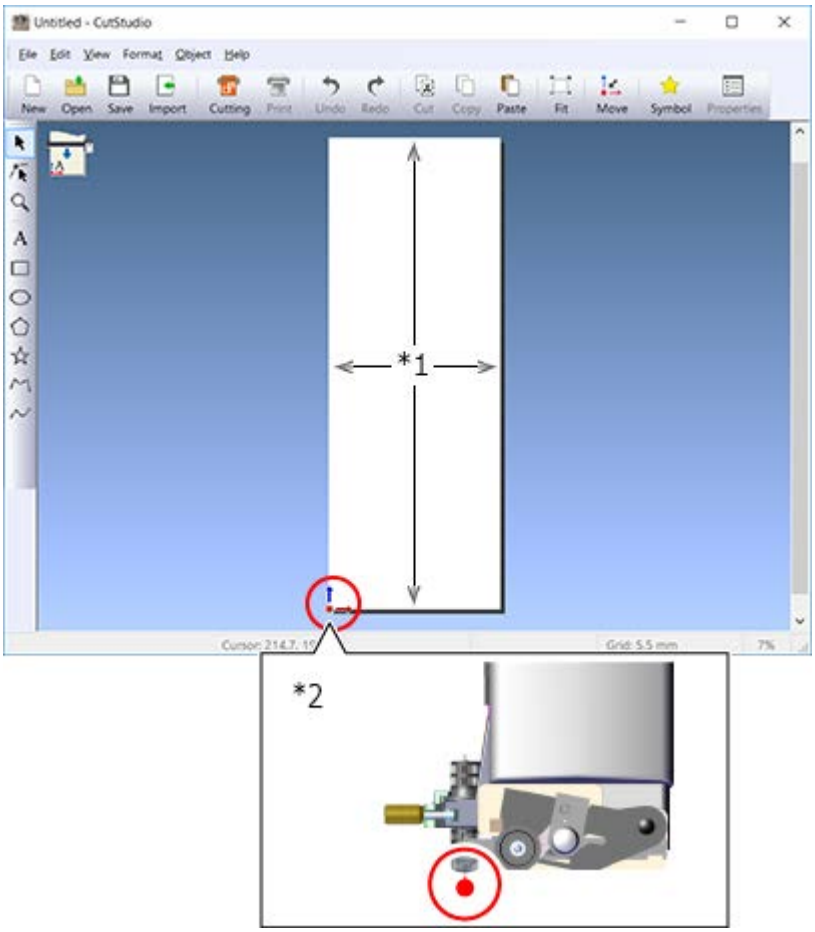


The cutting area is set.

Memo

The white area is the cutting area. Characters and shapes outside this area will not be cut.

*1: Cutting area



*2: The origin set in "Setting the Origin" (the cutting start position) corresponds to the lower-left corner of the screen in CutStudio.

Entering Characters and Shapes

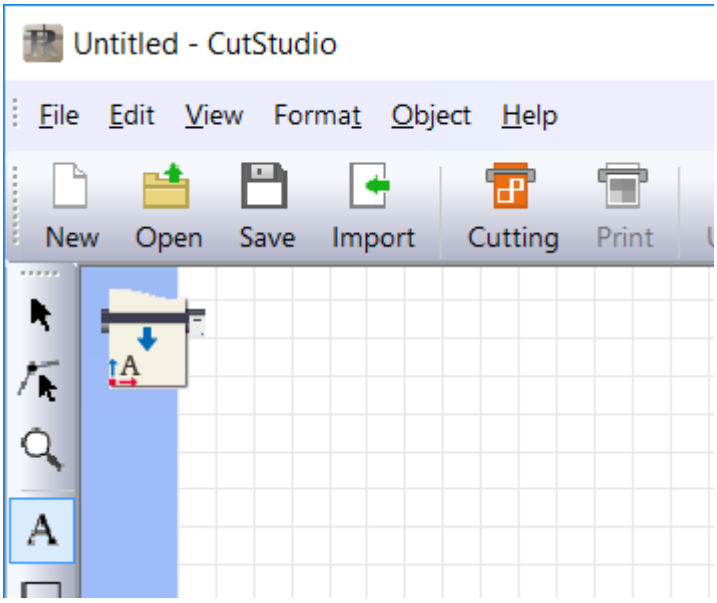
Entering Characters and Shapes

Enter Characters and Shapes

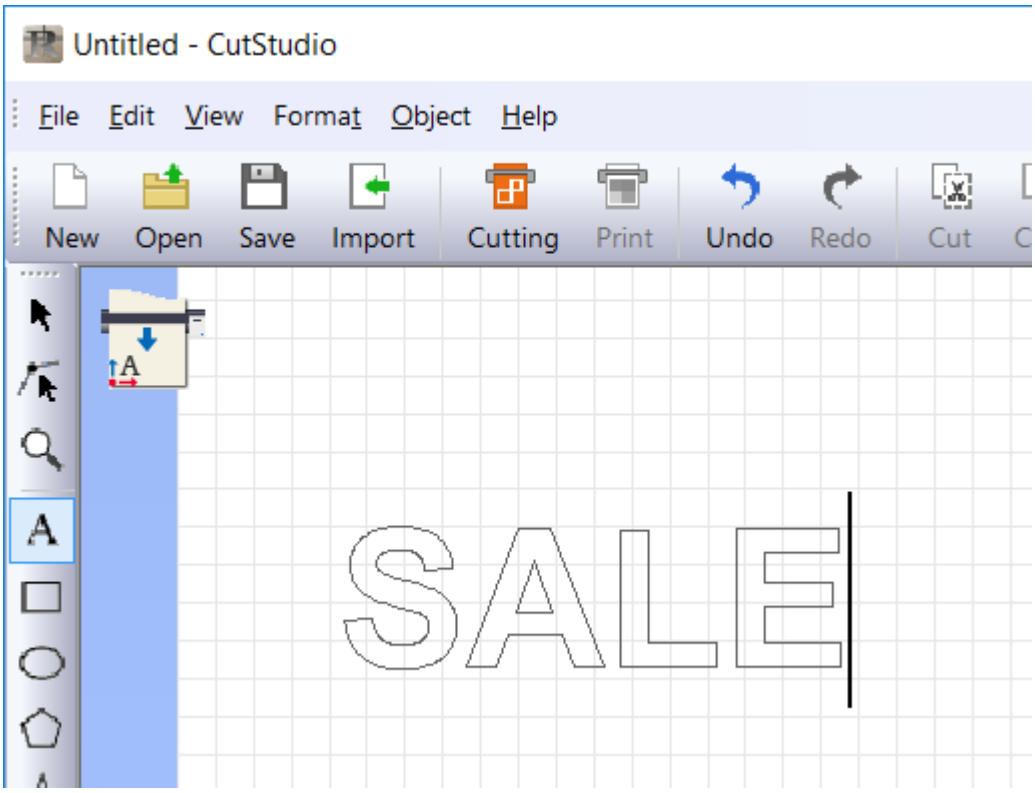
This example explains the procedure for entering the word "SALE" and creating a frame to make it easy to peel off afterward.

Procedure

1. Click A.

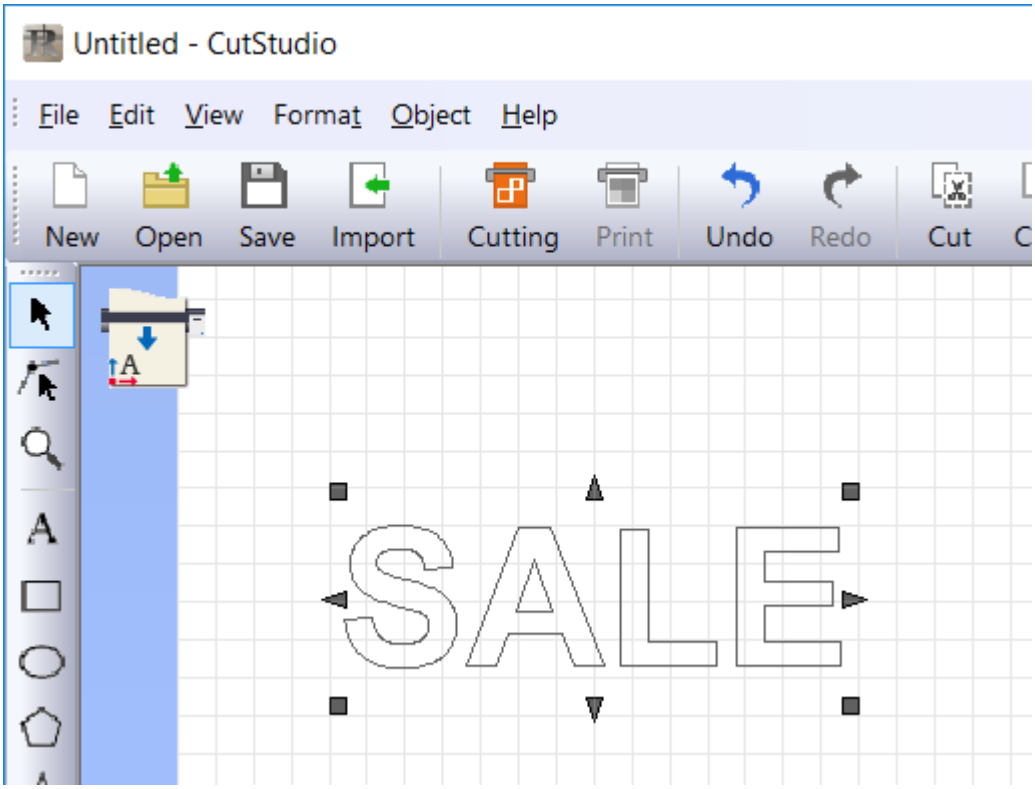


2. Click anywhere in the white area, and then type "SALE."



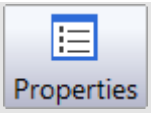
3. Click , and then change the size of the characters.

■ and ▼ appear around the characters. Drag the ■ and ▼ symbols around the text box to change the size of the characters.



Memo Select the object, and then click in the menu bar. You can

Memo

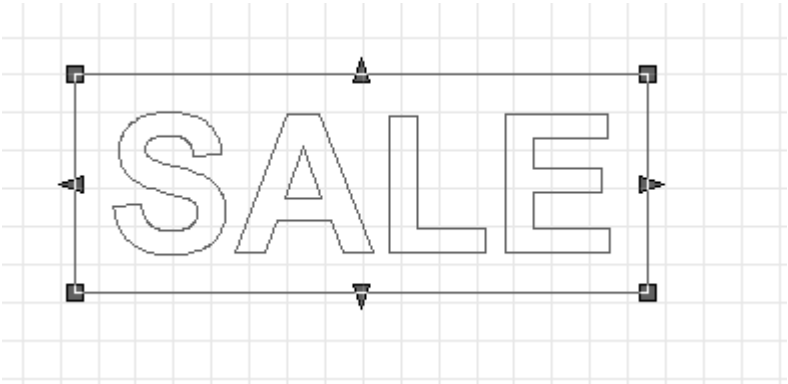


configure advanced settings in the Properties palette.

4. From the Object menu, click Weed.

The Weed dialog box appears.

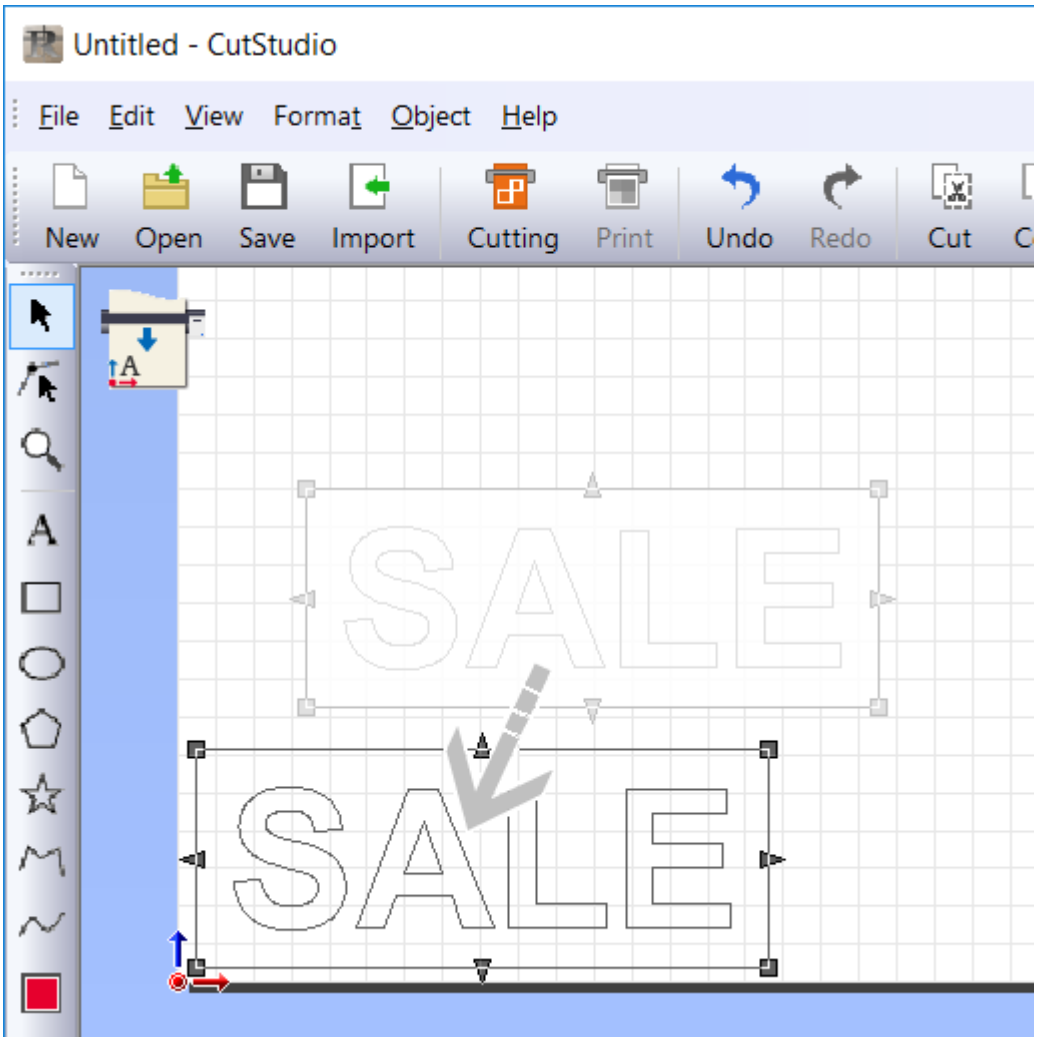
5. Select the Weed Border check box, and then click OK.



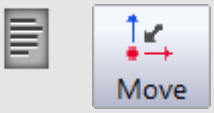
A waste removal line is added around the characters.
The character or shape to which the waste removal line has been added is grouped together with the waste removal line.
For details on waste removal lines, see the CutStudio help.

6. Click , and then move the characters with the waste removal frame added.

Move the object to the bottom of the screen close to the origin.



Memo



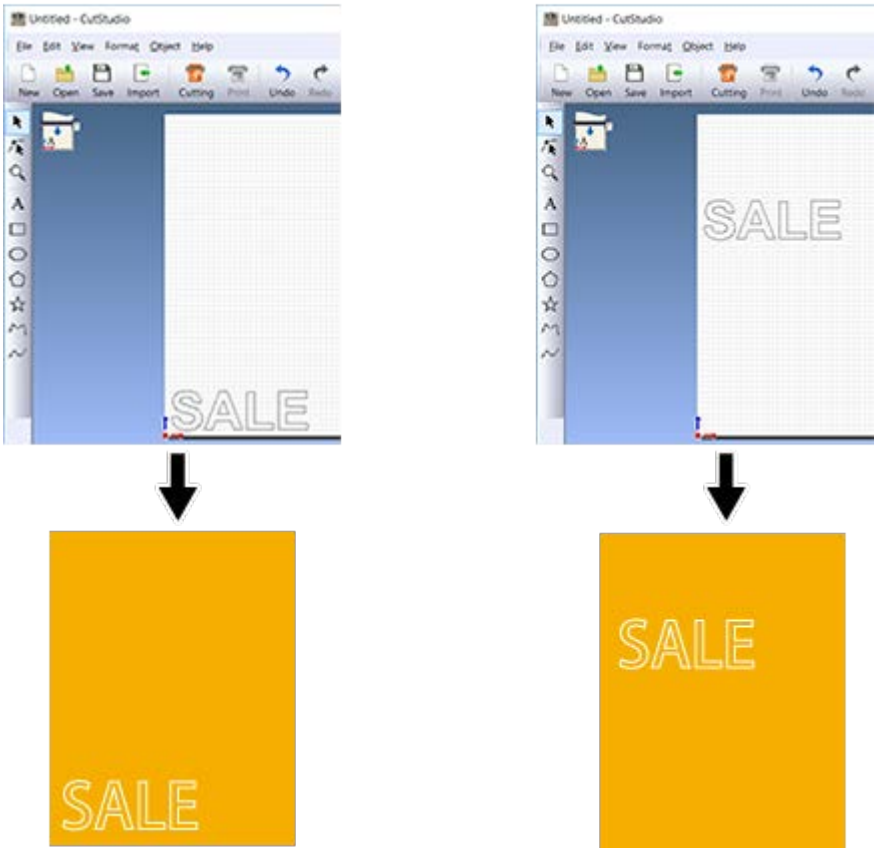
Select the object that you want to move to the origin, and then click in the menu bar to move this object to the origin.

Position Characters and Shapes at the Bottom of the Screen

When positioning characters and shapes in CutStudio, it is better to position them starting from the bottom of the screen. This makes it possible to prevent feeding more of the material than needed.
The leading edge of the loaded material is the bottom edge of the cutting area in the CutStudio screen. Therefore, positioning characters at the bottom of the CutStudio screen means the characters will be cut close to the leading edge of the material.

CutStudio screen

Actual cutting position



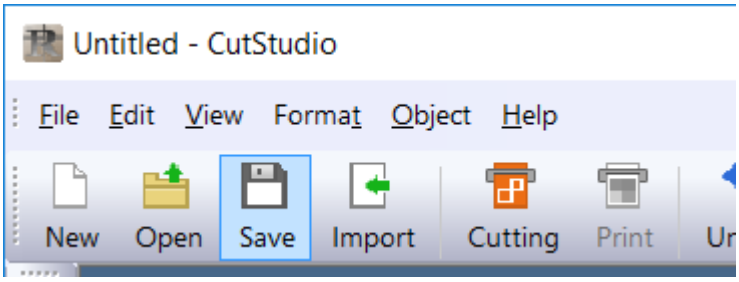
[Saving Cutting Data]

Saving Cutting Data

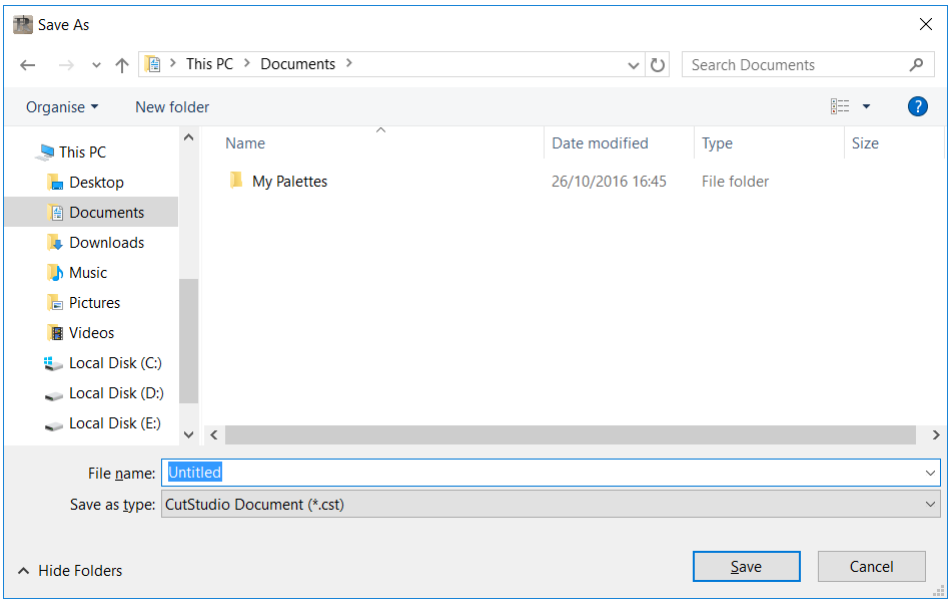
Save Data

Procedure

1. Click .



The screen shown in the following figure is displayed.



2. Select a folder where you want to save the data.

Enter a file name, and then click Save. The data you have created is saved.

Important: The cutting area is not saved.

The cutting area you set in this procedure is not saved. The next time data is

loaded, the cutting area must be set again from the Cut Setting menu.

Performing Cutting

Performing Cutting

CAUTION

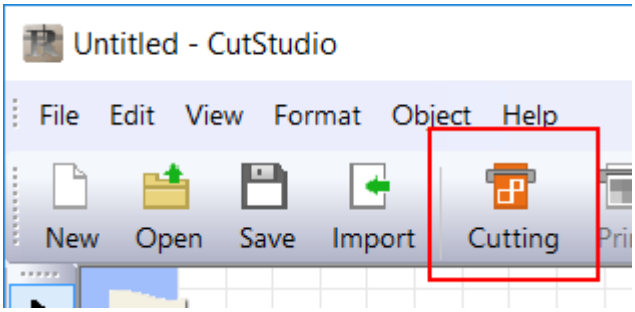
Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Once the data has been prepared you are ready to start cutting.

If you are using a Macintosh, click here.

Procedure

1. Click .

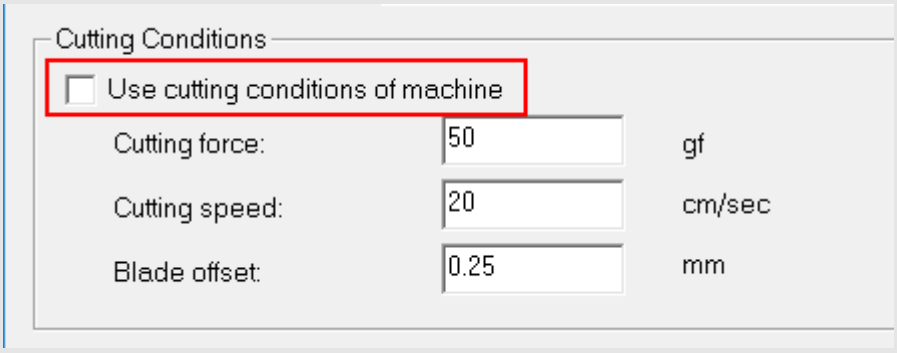


2. Click OK.

Cutting data is sent from the computer, and then cutting starts.

Memo

If you want to change the cutting conditions, click Change, clear the Use cutting conditions of machine check box, and then enter the values.



This completes the cutting procedure for the characters "SALE" and the rectangle.

Removing the Material

To Cancel Cutting

Procedure

1. Press [PAUSE]

2. Hold down [ENTER] for one second or longer.

The data is canceled.

Removing the Material

Creating Cutting Data

for Macintosh User

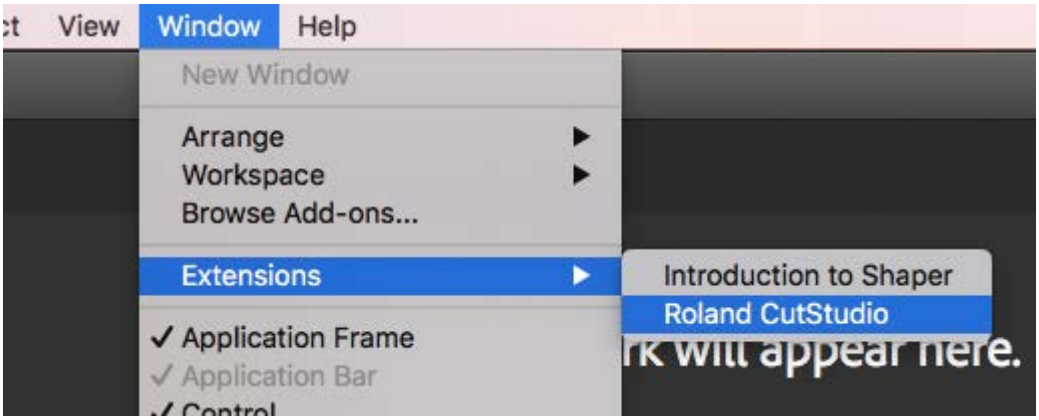
*** You must install Plug-in for Illustrator before proceeding.**

Installing Plug-in for Illustrator

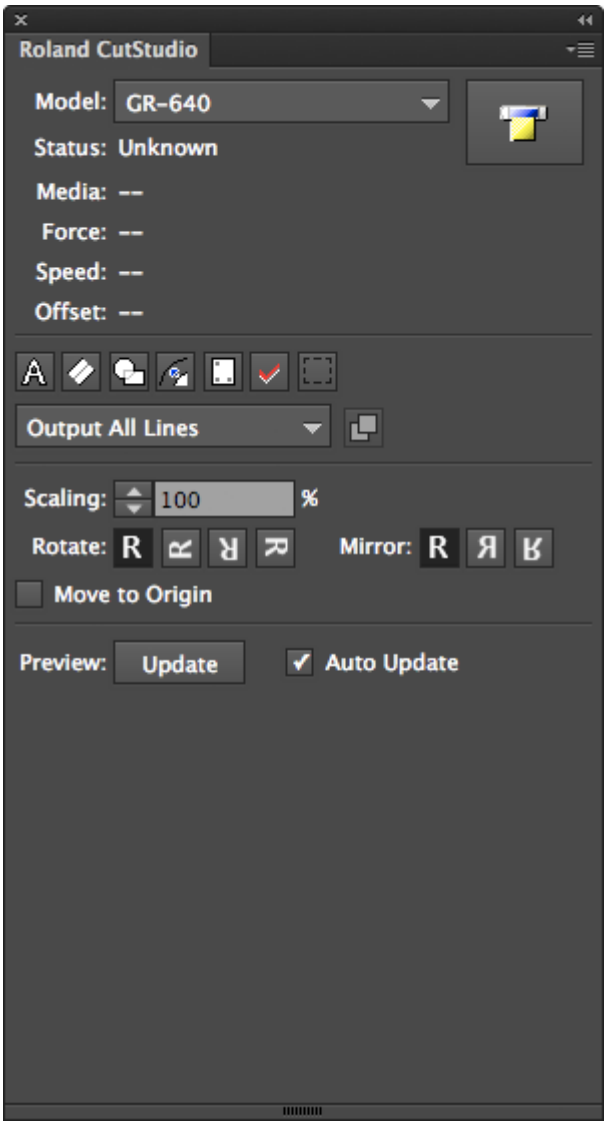
Procedure

1. Start Illustrator.

2. In Illustrator, click Extensions > Roland CutStudio from the Window menu.



The "Roland CutStudio" palette appears.

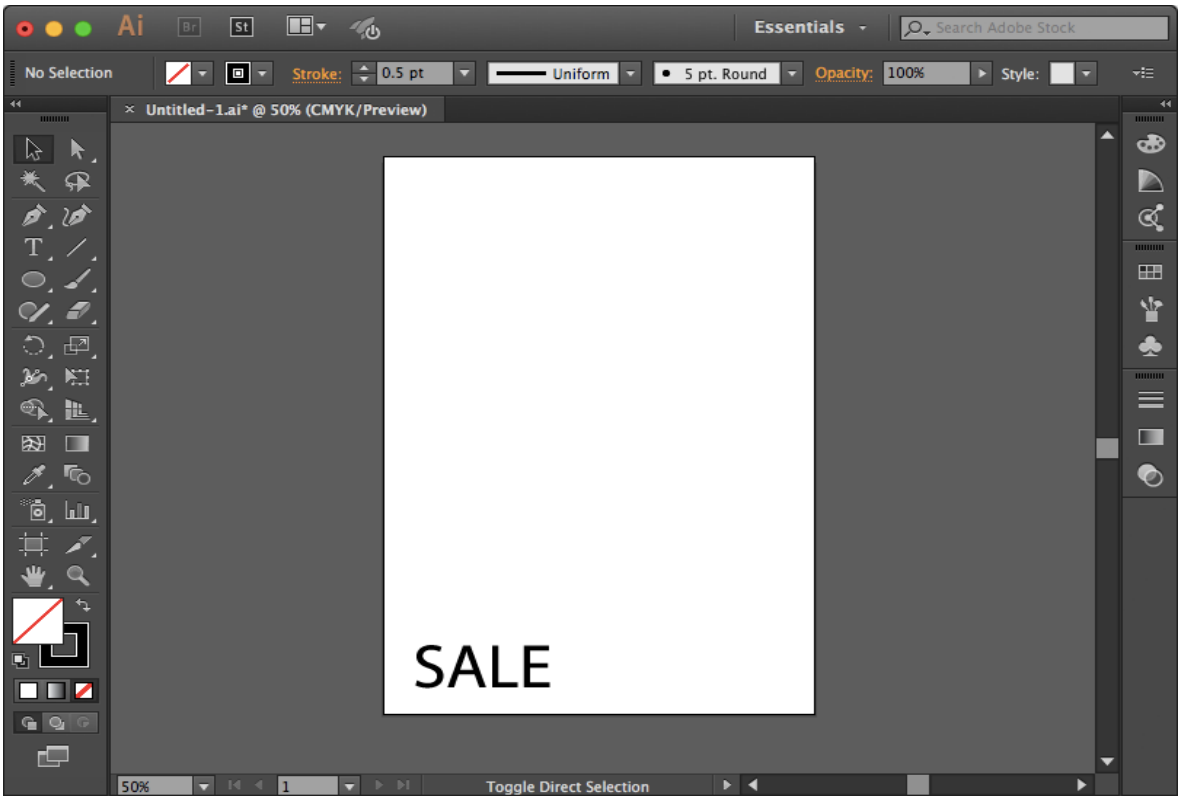


3. Open a new document, and then set the artboard.

Set the document size to be the same as the cutting width displayed on the machine.
Set a length that is longer than the product that you want to create.

4. Enter "SALE."

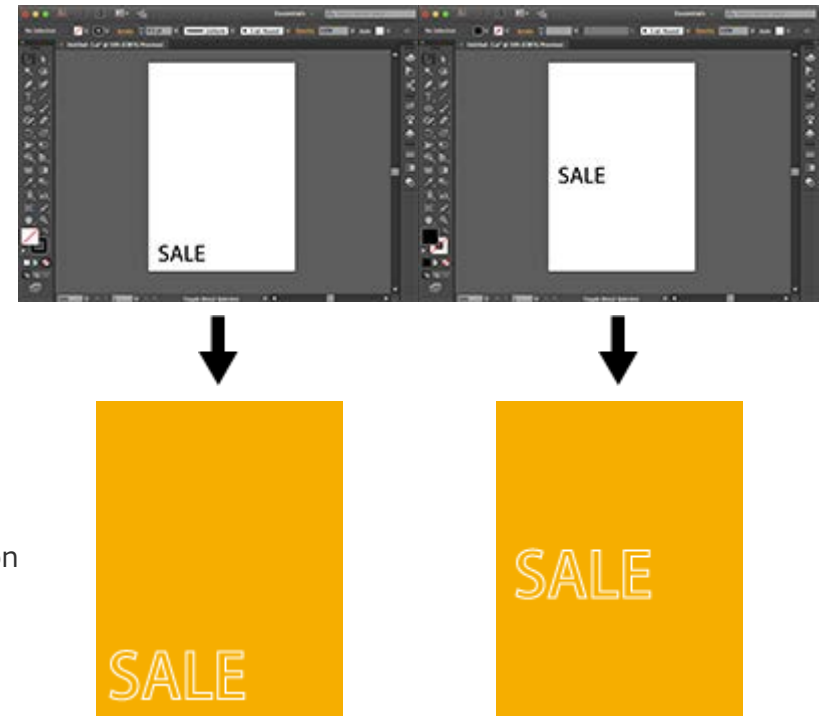
After you enter the text, change the size of the characters, and then drag the text to the bottom of the document.



Position characters and shapes in the lower-left corner of the document.

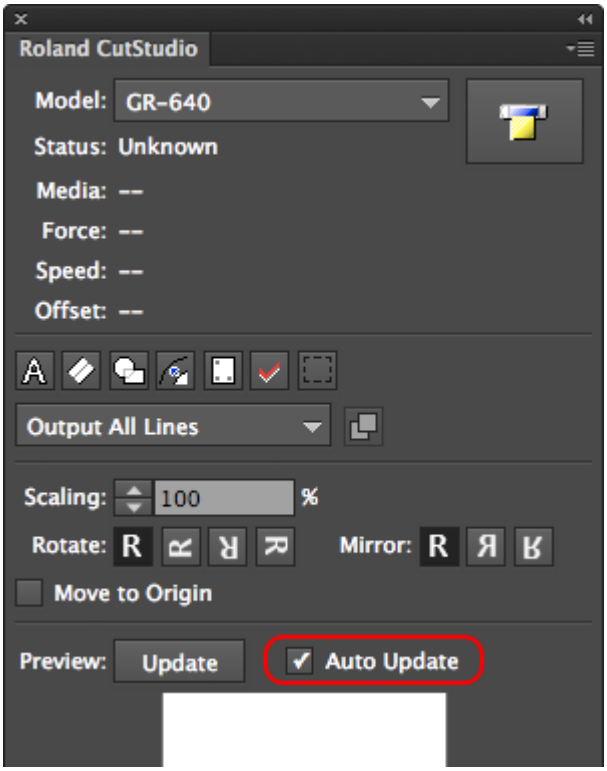
It is better to position characters and shapes starting from the bottom of the document.
This makes it possible to prevent feeding more of the material than needed.

Illustrator screen



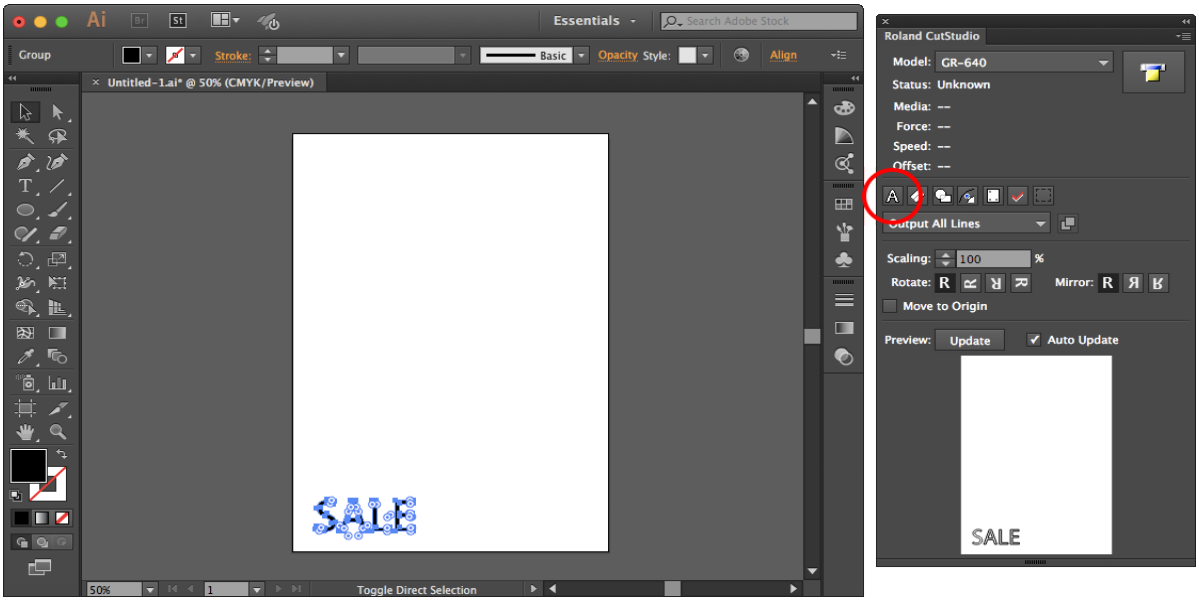
Actual cutting position

5. Select the Auto Update check box in the palette.

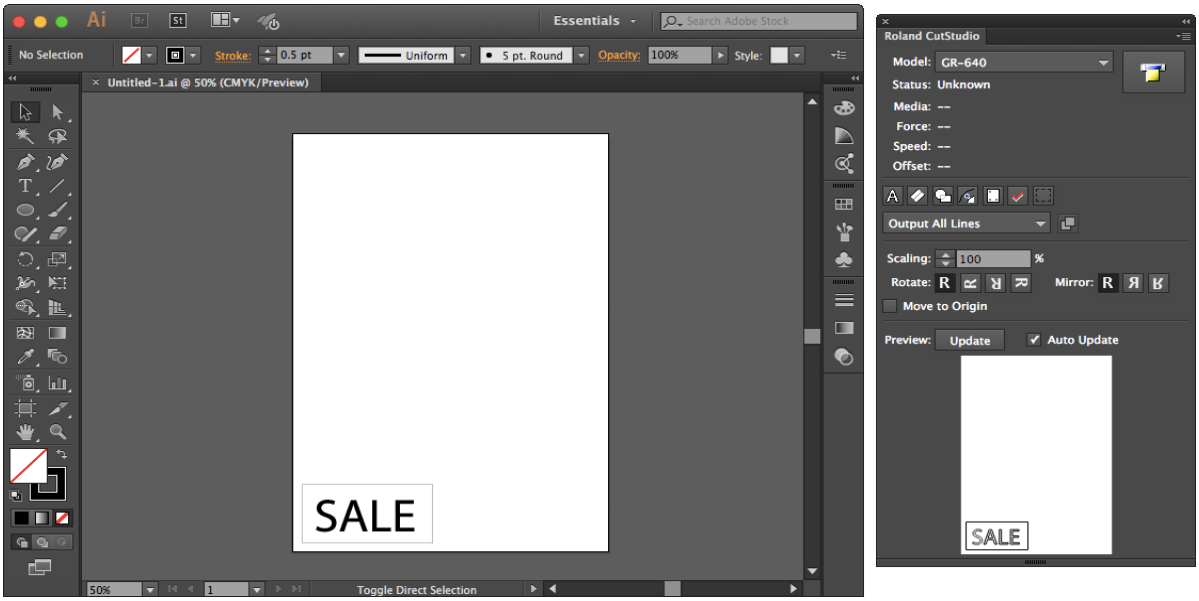


6. With "SALE" selected, click A.

An outline is created.



7. Use Illustrator's rectangle tool to draw a frame around "SALE."



8. Save the data.

[Performing Cutting]

Performing Cutting

for Macintosh User

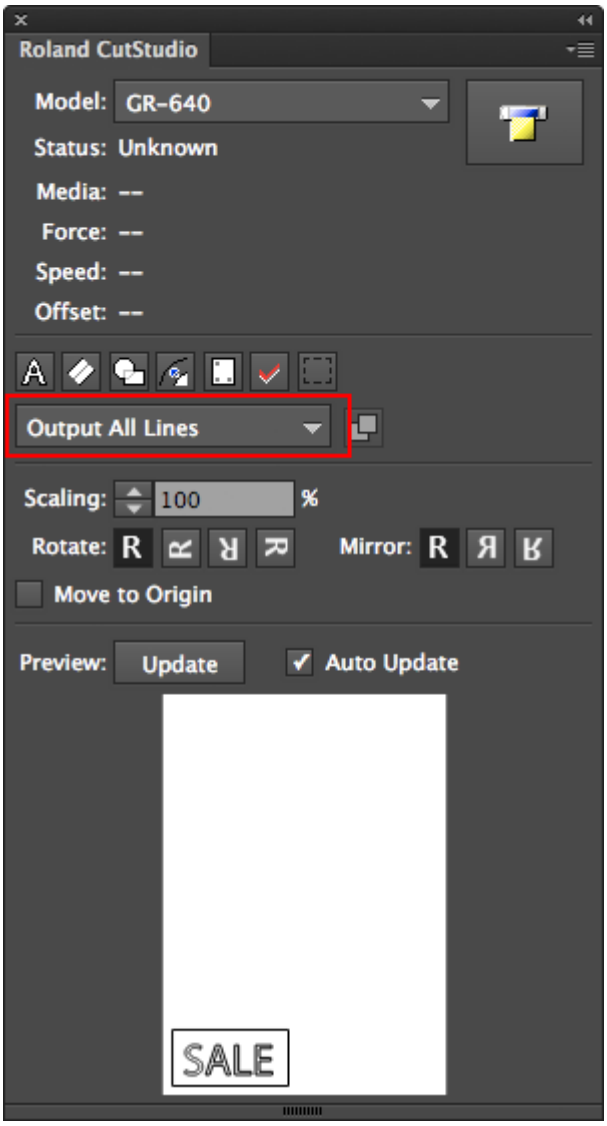
Once the data has been prepared you are ready to start cutting.

Changing and Checking the Cut Settings

Procedure

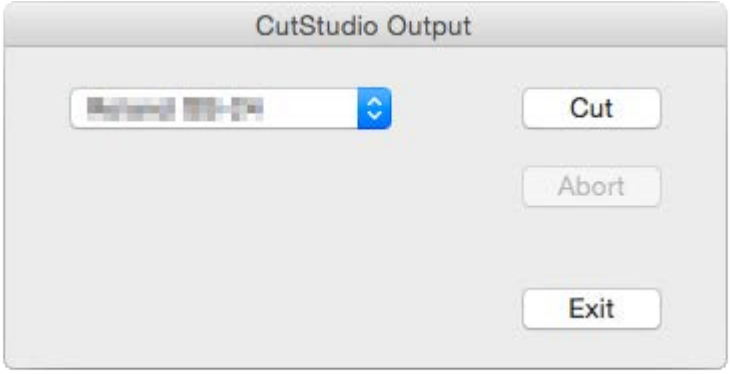
1. On the palette, select Output All Lines, and then click Update.

Check that all the contour lines that you wish to cut are shown on the palette's preview screen.



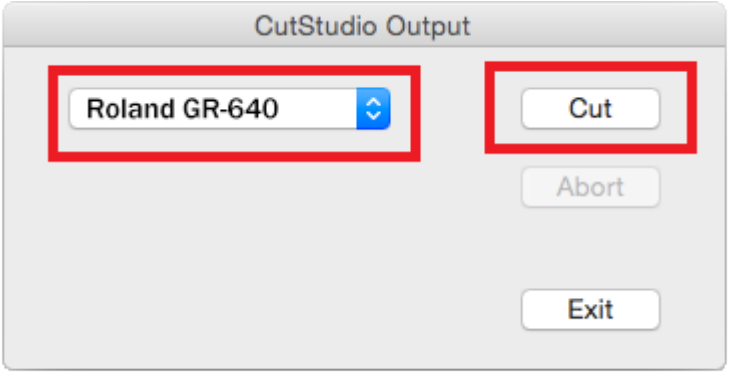
2. On the palette, click .

The screen shown in the following figure is displayed.



3. Select the model name of the machine on hand, and then click Cut.

Cutting starts.



If the model name is not displayed, see "The Machine Doesn't Run."

4. When cutting is finished, click Exit to close the window.

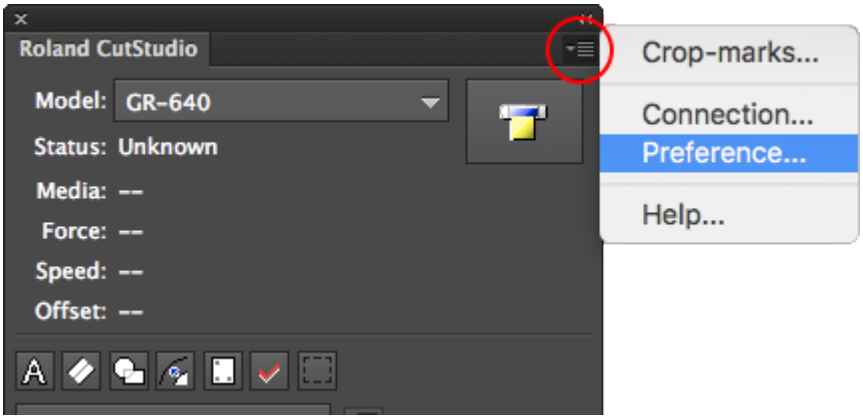
To Cancel Cutting

Removing the Material

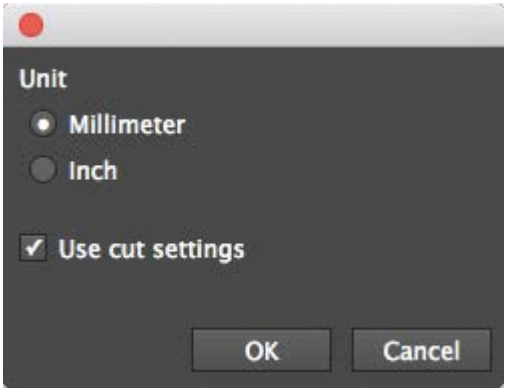
Configuring Cut Settings from a Computer

Procedure

1. Click on the palette, and then click Preferences.

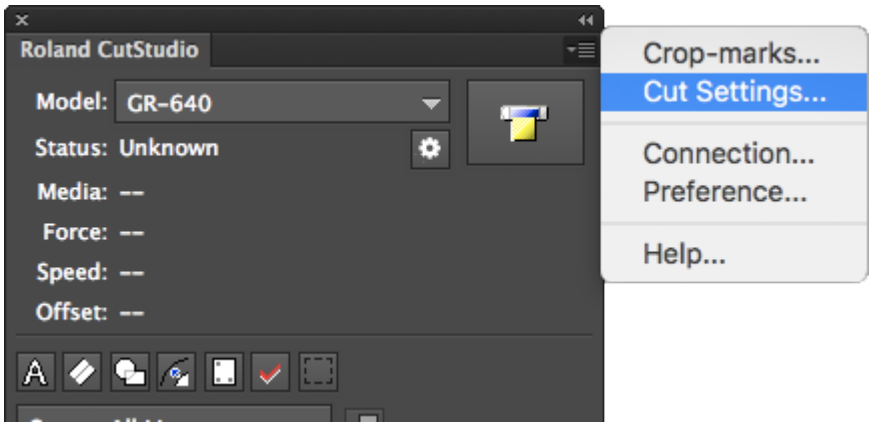


2. Select the Use cut settings check box, and then click OK.



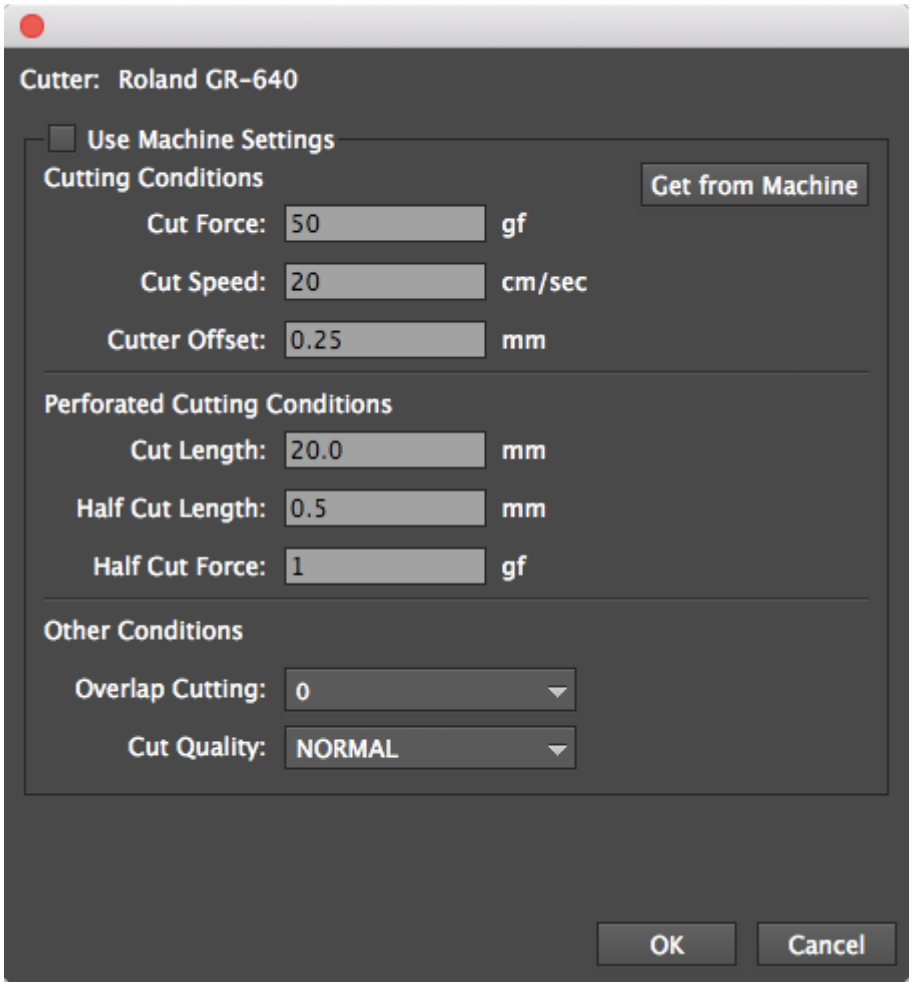
3. Click on the palette, and then click Cut Settings.

Cutting Setup will not be displayed if you do not perform steps 1 and 2.



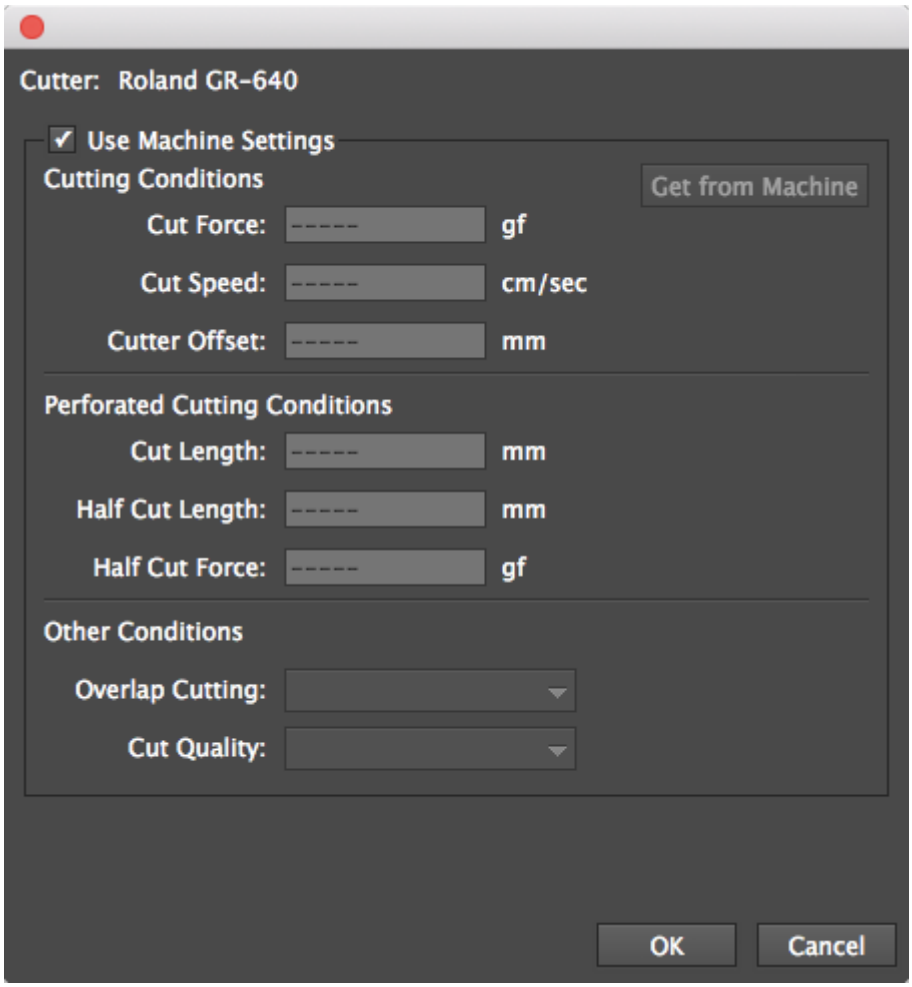
When You Do Not Select the Use Machine Settings Check Box

Cutting is performed with the settings shown in the following figure (the Cut Setup screen).



When You Select the Use Machine Settings Check Box

Cutting is performed with the machine settings.



4. Click OK.

To Cancel Cutting

Procedure

1. Press [PAUSE]

2. Hold down [ENTER] for one second or longer.

The data is canceled.

Removing the Material

Removing the Material

When cutting has finished, remove the material.

Procedure

1. Press [MENU] several times to display the screen shown below.

```
UNSETUP
```

2. Press [ENTER].

The cutting carriage returns to the home position.

3. Press [PINCH].

The pinch rollers rise up to release the material.

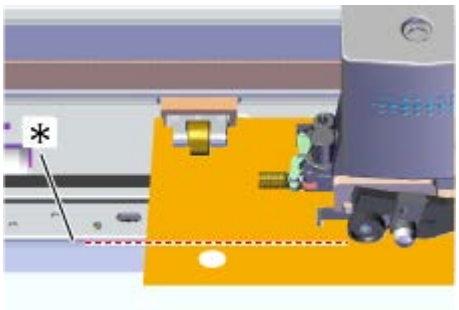
4. Remove the material by moving it through the rear of the machine.

To Remove Only the Cut Area

Procedure

1. Press [▲] and [▼] to feed the material to the location that you want to cut.

The material is cut off at the position shown in the figure.

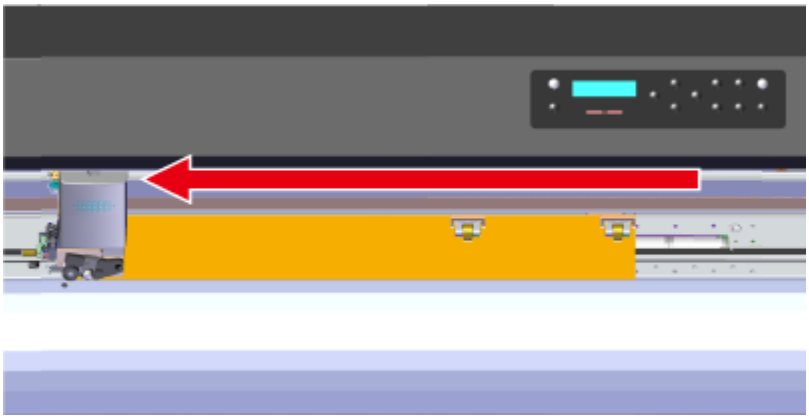


*: Groove along which the separating knife passes

2. Hold down [SHEET CUT] for one second or longer.

The cutting carriage moves to the left edge and then to the right edge in order to cut the material.

After the material is cut, the cutting carriage returns to the new origin.



Improving the Finish

Optimizing the Cutting Quality for the Material

- Performing a Cutting Test
- Changing the Blade Force
- Changing the Cutting Speed
- Adjusting the Cutting-in Amount

Cutting Conditions

- General Guide Regarding Cutting Conditions

Using a Variety of Materials

- Using Various Types of Materials
- Loading Flat Material
- Using Various Material Widths (Loading Position of Material)

Minimizing Wasted Material

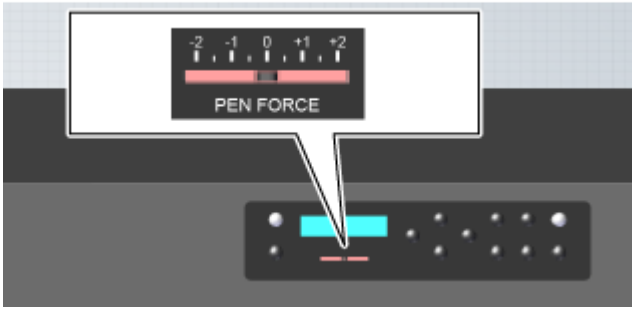
- Using the Material with Minimal Waste

Changing the Blade Force

If the material was not cut correctly (for example, if the result of the cutting test was that two shapes peeled off together), change the blade force.

Procedure

1. Check that the PEN FORCE slider is at the center position (at "0" on the scale).



2. Press ［CUT CONFIG］ to display the following screen.

```
TEST CUT
 40 * 50  60
```

3. Press [▼] to display the following screen.

```
FORCE  50gf
```

4. Press [▶] to display the following screen.

```
FORCE   50gf
* 50gf
```

5. Press [▲] and [▼] to change the blade force.

```
FORCE   50gf
  60gf
```

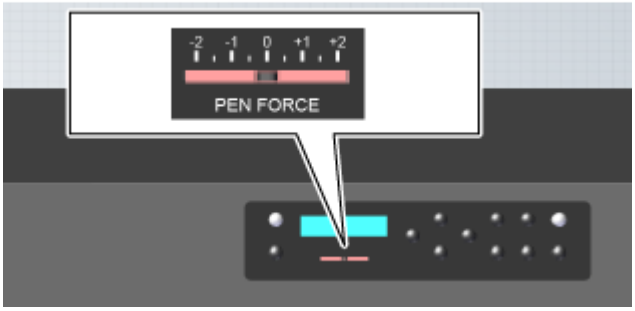
6. Press [ENTER] to select the setting.

7. Press [MENU] to return to the original screen.

```
W:  500mm
L:---[    0mm]
```

Fine-tuning the Blade Force

After you set the blade force using the FORCE menu, you can further fine-tune the blade force using the PEN FORCE slider. Use this operation when you want to make the blade force slightly larger or smaller than the setting made using the menu.



Adjustable range: ±Approximately 30 gf

* This value is intended only as a rough guide. The accuracy of this value is not guaranteed.

Improving the Finish

Changing the Cutting Speed

If the material was not cut correctly (for example, if the result of the cutting test was that two shapes peeled off together), reduce the cutting speed.
When the cutting speed is fast and the material moves up and down during cutting, an excessive load will be applied to the material. In this situation as well, reduce the cutting speed.

Procedure

1. Press ［CUT CONFIG］ to display the following screen.

```
TEST CUT
 40 * 50  60
```

2. Press ［▼］ several times to display the following screen.

```
SPEED 30cm/s
```

3. Press ［▶］ to display the following screen.

```
SPEED 30cm/s
*30cm/s
```

4. Press [▲] and [▼] to change the cutting speed.

```
SPEED 30cm/s   ◀◆
 50cm/s         ↵
```

5. Press [ENTER] to select the setting.

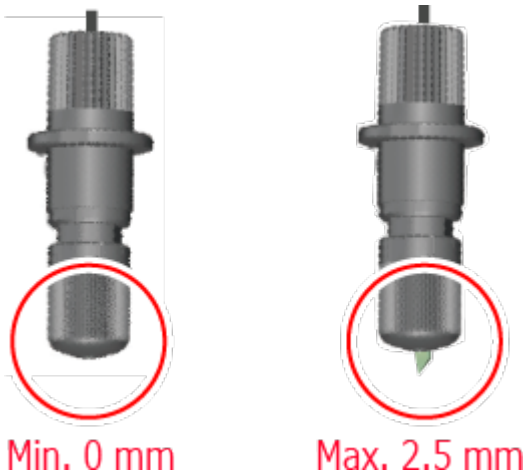
6. Press [MENU] to return to the original screen.

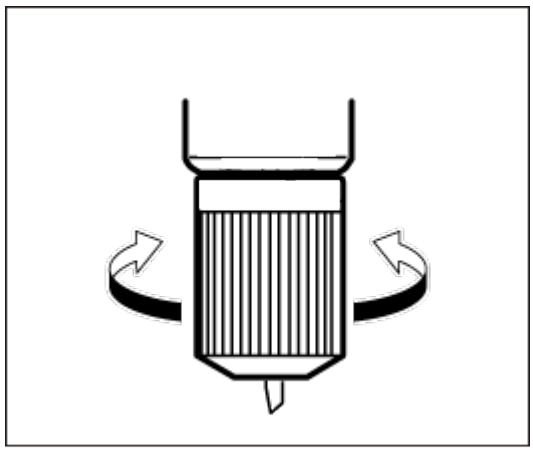
```
W:  500mm
L:---[    0mm]
```

Improving the Finish

Adjusting the Cutting-in Amount

When you want to perform accurate adjustment of the cutting-in amount, such as when cutting material with thin carrier paper, you can obtain good results by adjusting the amount of blade extension.
Turn the cap portion of the blade holder to adjust the amount of blade extension.



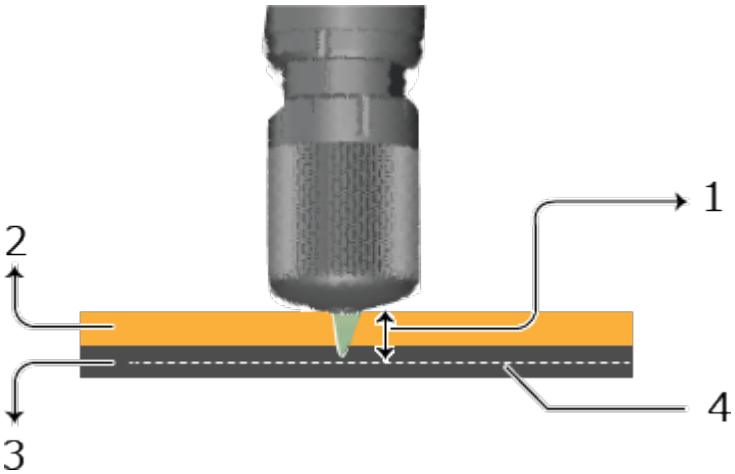


An adjustment of 0.5 millimeters can be made by rotating the cap one full turn.

General Guide for Amount of Blade Extension

Use the following formula as a rough guide for setting the amount of blade extension.

Amount of blade extension = thickness of material + (thickness of carrier paper/2)



1: Amount of blade extension (which approximately equals the cutting-in amount)
2: Material portion
3: Carrier paper portion
4: 1/2 of the carrier paper

Improving the Finish

General Guide Regarding Cutting Conditions

A general guide for cutting conditions and the service life of the blade for different combinations of materials and blades is given below.
Note that optimal cutting is not necessarily obtained simply by conforming to the conditions below. Perform a cutting test in advance to adjust the conditions.
(For instructions on performing a cutting test, refer to "Performing a Cutting Test.")

Notice : Use the blade which suit material

There is a risk of damage to blade when you cut unspecified sheet because of compatibility between blade and sheet. Use the optimal blade for cutting to sheet material.

Blade	Material	Cutting force (gf)	Cutting speed (cm/sec)	Amount of blade offset (mm)	Pinching force
ZEC-U5032	General signage vinyl	30 to 100	30 or less	0.25	2 to 6
	General inkjet vinyl	50 to 100			3 to 6
	Iron-on print vinyl	50 to 100			2 to 6
ZEC-U5025	General signage vinyl	40 to 100	30 or less	0.25	2 to 6
	Fluorescent vinyl	120 to 200	10 or less		4 to 8
ZEC-U5010	Glass (car) film	80 to 120	30 or less	0.50	1 to 6
ZEC-U1715	Sandblast	100 to 150	5 or less	0.25	7 to 10
ZEC-U3050	Coated board (thin)	200 to 350	5 or less	0.50	6 to 8
	Reflective vinyl	350 to 450			6 to 10
ZEC-U3075	Coated board (thick)	250 to 400	5 or less	0.75	7 to 10
	Reflective vinyl	350 to 450			

* The faster the cutting speed, the worse the image quality, so you have to adjust the speed to match the required image quality.

If uncut areas remain even when the blade force is increased by more than 50 to 60 gf, the blade has most likely reached the end of its service life.

Replace it with a new blade.

Consumable Items

If the desired cutting results are not obtained (for example, if uncut areas remain) even after the blade is replaced, refer to "Uncut Areas Remain or Cut Edges Are Not Clean."

Improving the Finish

Using Various Types of Materials

Using Roll Material

CAUTION

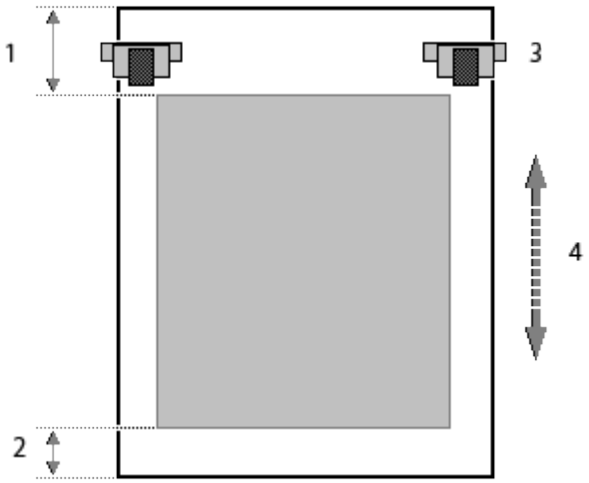
Never load media that weighs over 40 kg (88.19 lb.).
The machine may fail to withstand the weight, causing the machine to tip over or the material to fall.

Loading Roll Material

Using Flat Material

If flat material is used, it must be at least 60 mm longer than the vertical size of the cutting data. This is the length required for the pinch rollers to feed out the material to the front and rear.

Refer to the figure below and ensure that there are sufficient margins at the front and rear of the material.

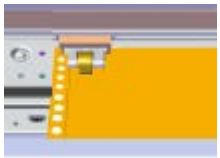


1: 30 mm or more
2: 30 mm or more
3: Pinch roller
4: Material-feed direction

Loading Flat Material

Using Material with Perforations for Sprocket Feed

Sprocket-fed material has perforations along each edge. If the pinch rollers are positioned over the perforations, the material cannot be fed correctly.
Load the material as shown in the figure.



Improving the Finish

Loading Flat Material

This example uses flat, A4-size material to explain how to load the material.

Memo

If using roll material or other material, refer to "Loading Roll Material" and load the material.

Procedure

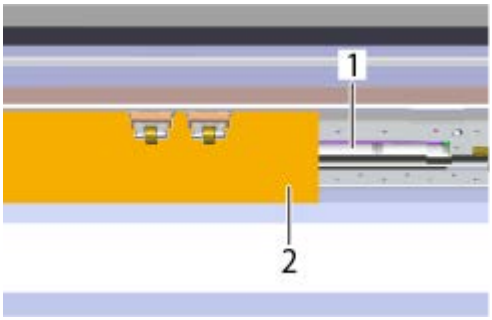
1. If the pinch rollers have lowered, press [PINCH].

Check that the pinch rollers have risen.

2. Place the right edge of the material over the grit roller (on the right edge).

For A4-size material, do not use the middle pinch rollers.

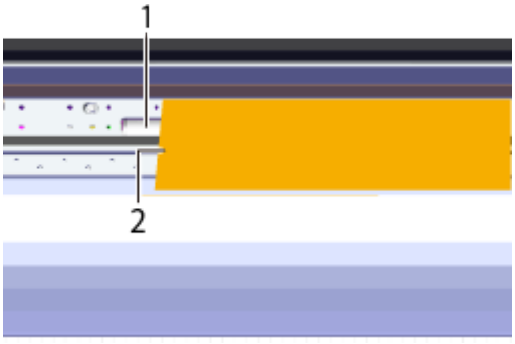
Using Narrow Material/Preventing Marking Made by the Middle Pinch Rollers



1: Grit roller
2: Right edge of the material

3. Slide the material to place its left edge over the grit roller.

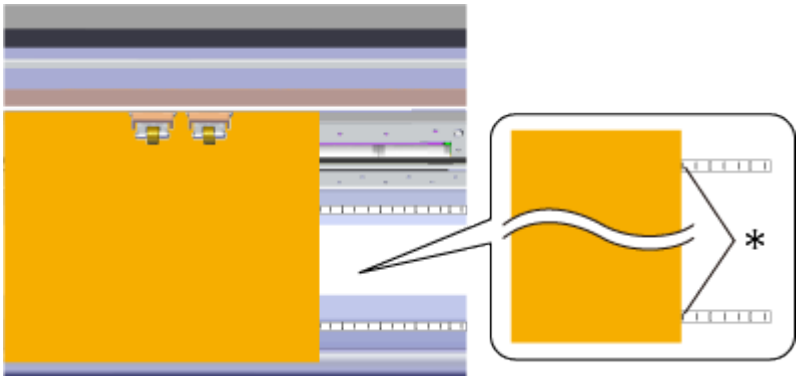
At this point, check that the right edge of the material remains over the grit roller on the right edge.



1: Grit roller
2: Left edge of the material

4. Straighten the material.

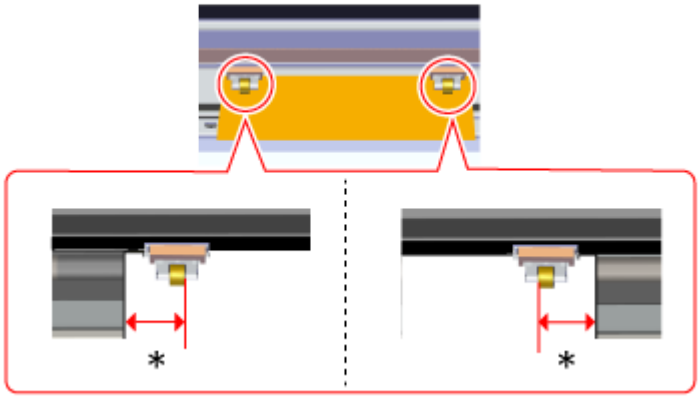
Align the right edge of the material so that it is parallel to the gradations of the rulers (in two locations: one on the top and one on the bottom).



*: Ruler gradation

5. Place the left and right pinch rollers over the grit rollers on both edges of the material.

Position the pinch rollers on the edges so that each one is 25 mm or more inside of the respective left or right edge of the material.



*: 25 mm or more

The middle pinch rollers are not used with A4-size material. However, when you are using these rollers to load material, place them over their corresponding grit rollers.

6. Select [PIECE] for the material type.

```
SELECT SHEET    ◆
 PIECE          ↵
```

Using Various Types of Materials

7. Press [ENTER].

The pinch rolls lower and the carriage and material move.
When the movement is finished, the cuttable width and length are displayed.

```
W:  183mm
L:  258mm
```

If the condition of the material is as described below, stretch or flatten it before use.

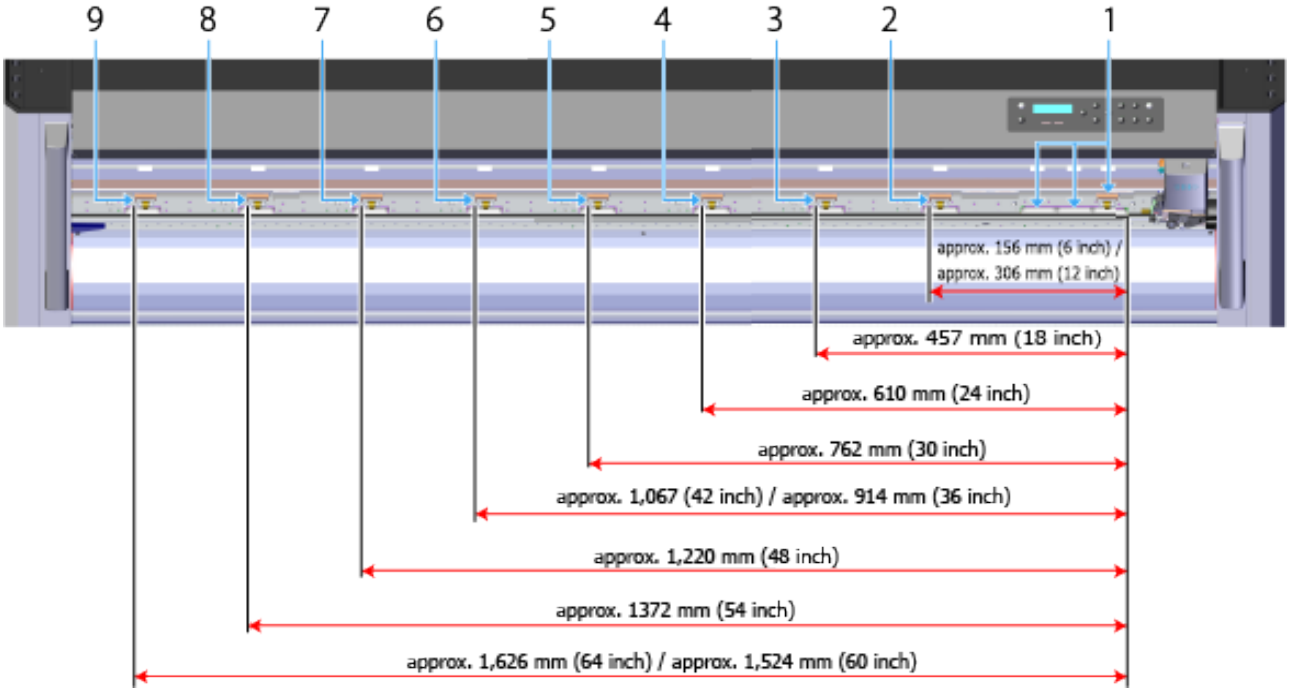
The material is curled upward.
The leading edge of the material is bent or creased.

Improving the Finish

Using Various Material Widths (Loading Position of Material)

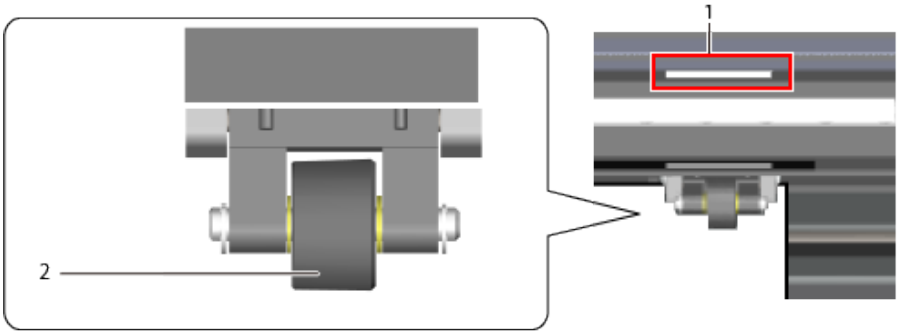
Loading Position of Material

Set the pinch rollers so they are inside the grit patterns.



Number	Description
1	Use the right pinch roller within this range. When the left edge of the material is placed on one of the grit rollers from 2 to 9, load the material so that its right edge is within the range of this wide grit roller. Load the material in this manner, and then slide the right pinch roller to a position approximately 10 mm inside the right edge of the material. For details on how to load the material, see "Loading Roll Material" or "Loading Flat Material."
2	The position of the left pinch roller for material having widths of 156 mm and 306 mm.
3	The position of the left pinch roller for material having a width of 457 mm.
4	The position of the left pinch roller for material having a width of 610 mm.
5	The position of the left pinch roller for material having a width of 762 mm.
6	The position of the left pinch roller for material having widths of 914 mm and 1,067 mm.
7	The position of the left pinch roller for material having a width of 1,220 mm.
8	The position of the left pinch roller for material having a width of 1,372 mm.
9	The position of the left pinch roller for material having widths of 1,524 mm and 1,626 mm.

Pinch Roller/Grit Pattern



1: Grit pattern
2: Pinch roller

Improving the Finish

Using the Material with Minimal Waste

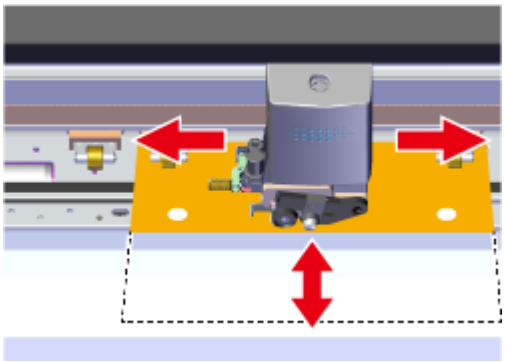
Setting the Origin

You can use [ORIGIN] to freely set the position of the origin. You can use the material with minimal waste by setting the origin to an uncut position on the material.

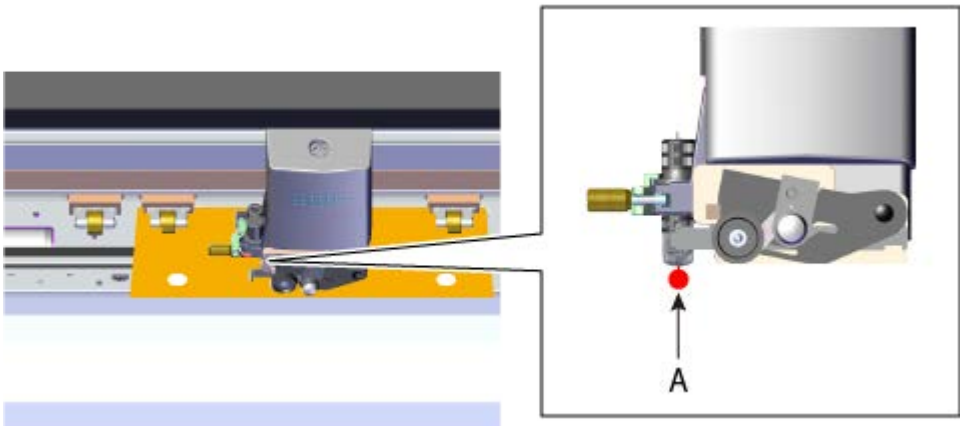
Procedure

1. **Load the material in the machine, and make it ready for cutting (setup condition).**

2. **Press [▲], [▼], [◀], and [▶] to move the cutting carriage to the position you want to cut.**



3. **Align the center of the blade with the position you wish to make the origin.**



4. Hold down [ORIGIN] for one second or longer.

[ORIGIN SET] flashes on the display.

```
ORIGIN SET
```

When the setting is complete, the following screen appears.

```
W:  183mm
L:  258mm
```

5. Send the cutting data from the computer.

Cutting is performed using the specified origin.

Improving the Finish

Maintenance/Replacement

Cleaning

Cleaning

Replacing the Blade and the Separating Knife

Replacing the Blade and the Separating Knife

Consumable Items

Consumable Items

Cleaning

Cleaning is important in order to ensure clean cutting. Clean the machine periodically.

Cleaning the Blade Holder Cap

CAUTION

Be sure to perform operations as specified by the instructions, and never touch any area not specified in the instructions.
Sudden movement of the machine may cause injury or burns.

CAUTION

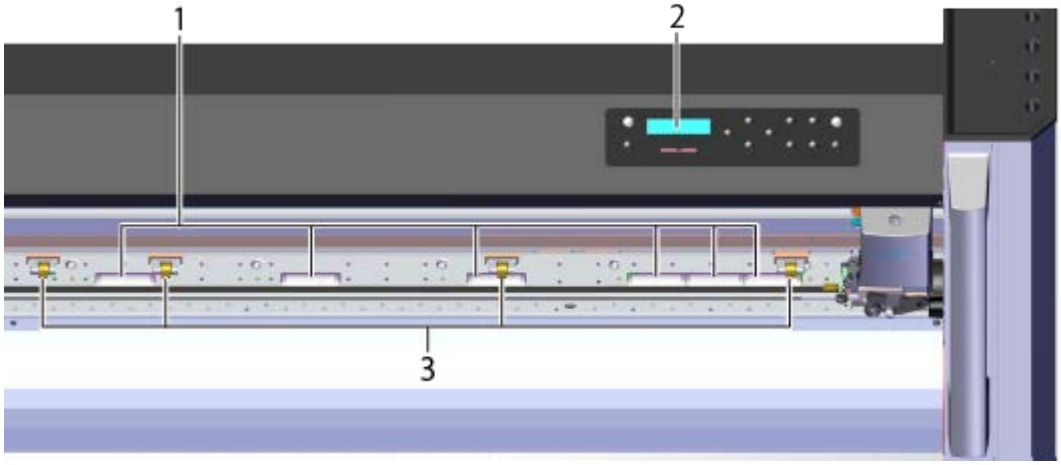
Never use a solvent such as gasoline, alcohol, or thinner to perform cleaning.
Doing so may cause fire.

Cleaning the Machine

Items Required

Cloth soaked in water and thoroughly wrung out

Switch off the power before cleaning the machine.



1: Grit rollers
Periodically wipe away any grime.
2: Display:
Wipe the display clean with a dry cloth.
3: Pinch rollers
Remove any buildup of media and other material using a brush. Never use a metal brush.

Cleaning the Blade Holder Cap

If there is a buildup of pieces of material or dust inside the cap, loosen the cap, remove it, and then remove any foreign matter. If pieces of material or dust build up inside the blade holder cap, the blade will stop turning smoothly and will no longer cut cleanly.

1: Cap
2: Loosen

Consumable Items

Replacing the Blade and the Separating Knife

If the blade becomes dull, replace it with a replacement blade.

Consumable Items

CAUTION

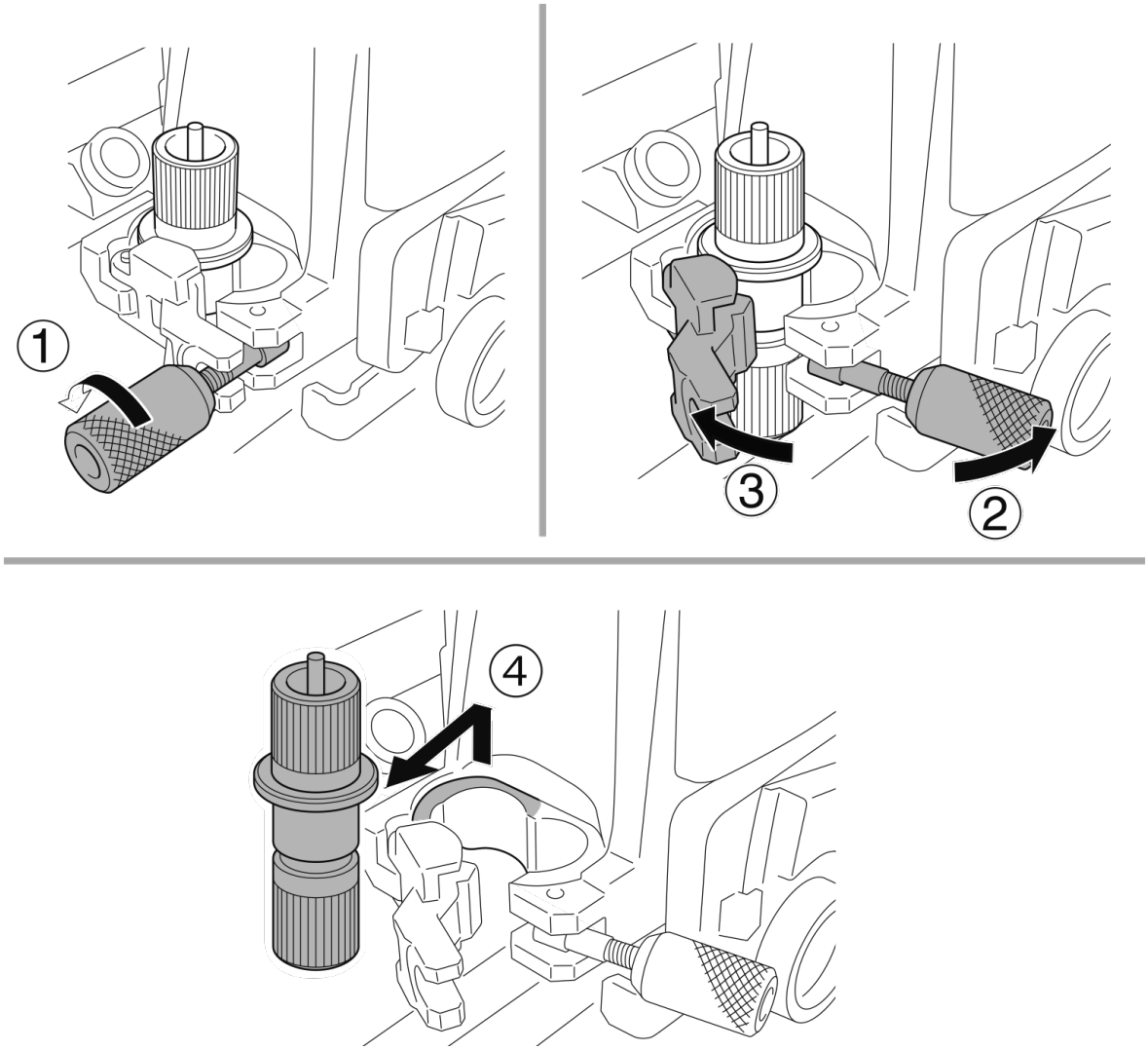
Be sure to perform operations as specified by the instructions, and never touch any area not specified in the instructions.
Sudden movement of the machine may cause injury or burns.

Remove the material before performing the replacement.

Replacing the Blade

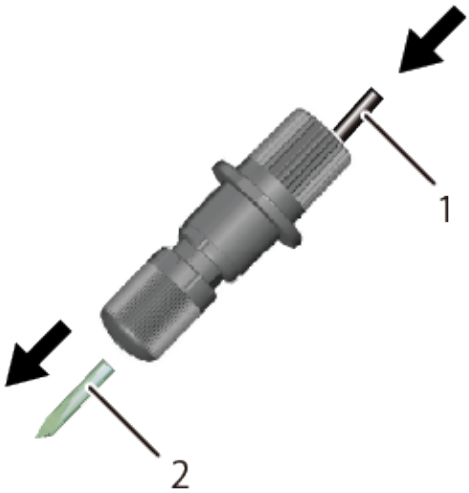
Procedure

1. **Loosen the cutting carriage screw, and then remove the cutting tool from the carriage.**



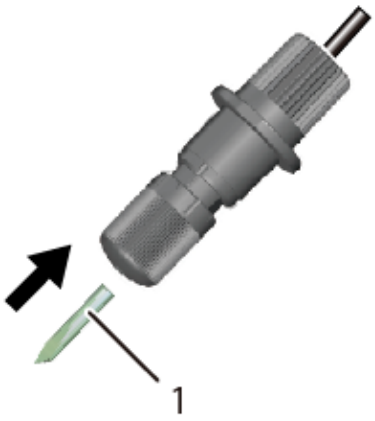
CAUTION **Never touch the tip of the blade.**
Doing so may result in injury.

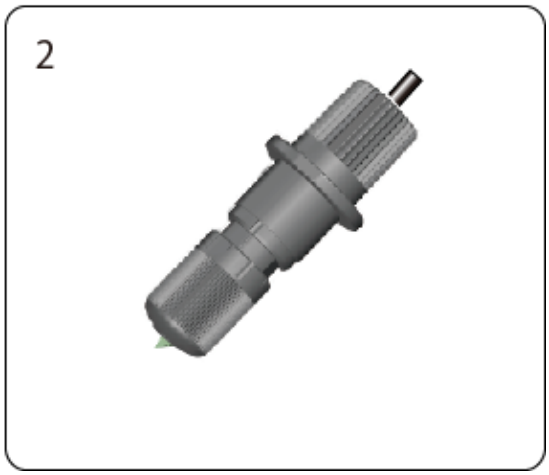
2. Remove the old blade.



1: Press this pin.
2: Old blade

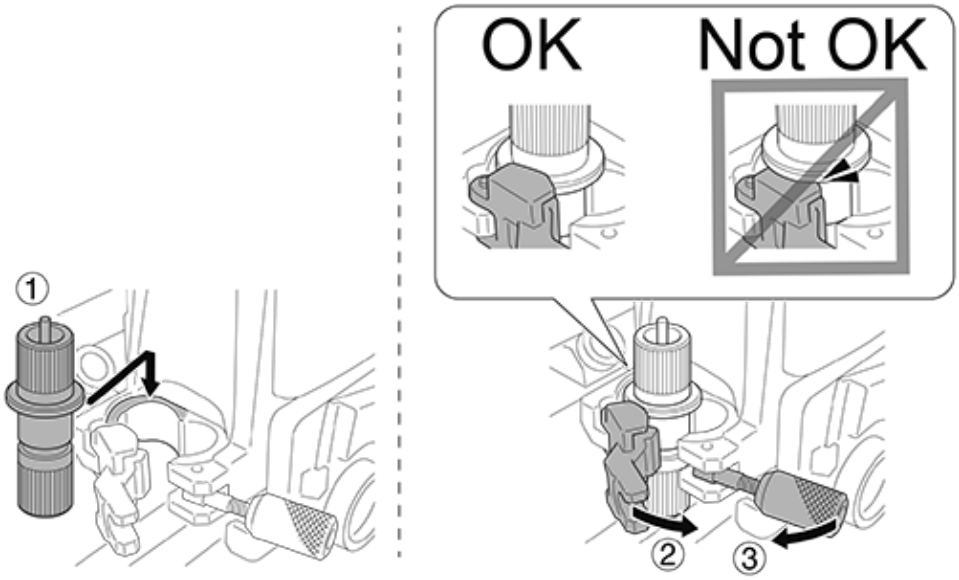
3. Install a new blade.





1: New blade
2: Cutting tool with the new blade installed.

4. Install the cutting tool.



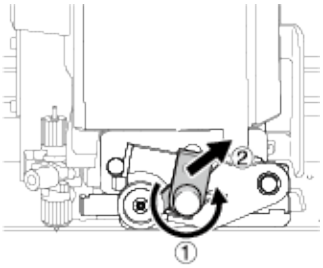
Installing the Cutting Tool

Replacing the Separating Knife

Procedure

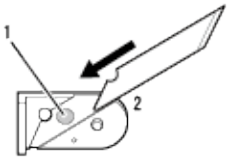
1. Remove the separating knife.
(1) Loosen the screw until it slips out.
(2) Grasp the screw portion, and then slowly pull it out in the direction of the arrow.

When doing this, do not pull it back toward you.



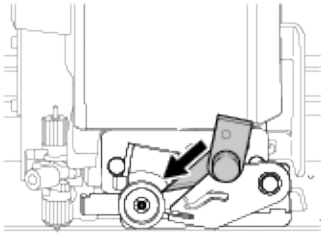
2. Install a new knife.

The knife is secured in place by the magnet.



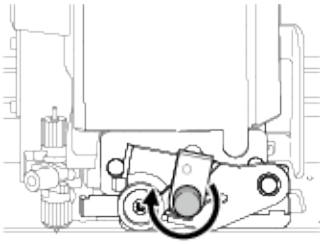
1: Magnet
2: Positioning groove

3. Slowly insert the knife into the groove.



4. Tighten the screw.

Take care to ensure that the knife does not slip out of position at this time.



Consumable Items

Purchasing Consumable Items

To purchase consumable items, visit the Roland DG Corp. website (http://www.rolanddg.com/) or contact your authorized Roland DG Corp. dealer.

Blade

Blade

In the cases below, the blade has reached the end of its service life. Replace it with a new item.
The tip of the blade is broken.
Uncut areas remain even though the blade force has been increased by 50 to 60 gf.
Cuts are not as clean as they used to be.
The material starts to curl up from the carrier paper when cutting detailed areas or corners.

The tip of a blade that has been used for a long time or has been used to cut hard material may wear away. A blade that has worn in this manner will no longer cut cleanly, so replace it with a new one.

Replacing the Blade and the Separating Knife

Blade Holder

Blade holder

After the tip of the blade has been adjusted, the cap of the blade holder rubs against the material when cutting, causing the end of the cap to gradually wear away. As the cap becomes increasingly worn it becomes impossible to adjust the tip of the blade correctly, and clean cutting is no longer possible. When this happens, replace the blade holder with a new one.
When a blade holder has been used for a long time, the bearing that supports the blade deteriorates, making it more difficult for the blade to turn. If you continue to use a blade holder that has deteriorated in this fashion, the machine will not cut cleanly because the tip of the blade will not turn smoothly. If corners or curved sections are not cut cleanly or cuts start looking like perforated lines, or if similar problems occur, refer to "Cleaning the Blade Holder Cap" and clean the blade holder cap. If this fails to resolve the problem, replace the blade holder with a new one.

Blade Protector

If cutting is performed when the amount of blade extension or the blade force is not adjusted appropriately, the tip of the blade may pierce the material's carrier paper and scratch the blade protector. If cutting is performed when the blade protector is scratched, it will not be possible to cut cleanly.
If the surface of the blade protector is deformed due to scratching or similar damage, the blade protector must be replaced. Contact your authorized Roland DG Corp. dealer.

Troubleshooting

The Machine Doesn't Run

- The Machine Doesn't Run

The Material Is Jammed

- Jammed Material Cannot Be Removed

Flat Material Cannot Be Set Up Using "PIECE" (Length Is Not Displayed)

- Flat Material Cannot Be Set Up Using "PIECE" (Length Is Not Displayed)

Creating or Importing Data

- Changing the Darkness of an Aligned Image
- Illustrator Data Cannot Be Imported
- Sample Data Cannot Be Found

The Material Slips Away from the Pinch Rollers during Cutting

- The Material Slips Away from the Pinch Rollers during Cutting

Crop Marks Cannot Be Read

- Crop Marks Cannot Be Read

Cutting Results Are Not Clean

- The Results of Cutting Are Displaced When Using the Printing and Cutting Function
- Uncut Areas Remain or Cut Edges Are Not Clean
- The Machine Cuts the Carrier Paper
- The Machine Cuts the Same Area Twice

Installing and Uninstalling Software

- The Driver Cannot Be Installed (Windows 10)
- The Driver Cannot Be Installed (Windows 8.1)
- The Driver Cannot Be Installed (Windows 7)
- Uninstalling the Driver (Windows 10)
- Uninstalling the Driver (Windows 8.1)
- Uninstalling the Driver (Windows 7)
- Connecting Two or More Instances of This Machine to a Single Computer (Connecting Multiple Units with a USB Cable)
- The Driver Is Displayed as "Unspecified" after Installation

Frequently Asked Questions

- Moving a Saved Symbol to a New Computer
- Consumable Items
- Supported Versions of Illustrator
- Supported Versions of CorelDRAW
- Error Message List

The Machine Doesn't Run

Are cables connected?

Check that the power cord and the USB cable/network cable to the computer are connected correctly.

Is the power switched off?

Turn on the machine power.

Is the machine ready to receive cutting data?

If the display shows the following screen, cutting cannot be performed even when data is sent.
Select the loaded material, press the [ENTER] key, and then set the machine so it is ready to receive cutting data.

```
SELECT SHEET    ◆
*ROLL           ↵
```

Are the software application settings incorrect?

Select the appropriate driver for the machine.
For the selection procedure, refer to the manual for the application software.

If the Machine Does Not Run Even after You Have Checked the Above Points

Perform a self test. If the self test cannot be executed, the machine may have malfunctioned.
Contact your authorized Roland DG Corp. dealer.

Checking the Machine Status (Self Test)

Flat Material Cannot Be Set Up Using "PIECE" (Length Is Not Displayed)

Is the material 1.6 m or longer?

If flat material 1.6 m or longer is set up using "PIECE," the machine recognizes it as a roll.

Using Various Types of Materials

Changing the Darkness of an Aligned Image

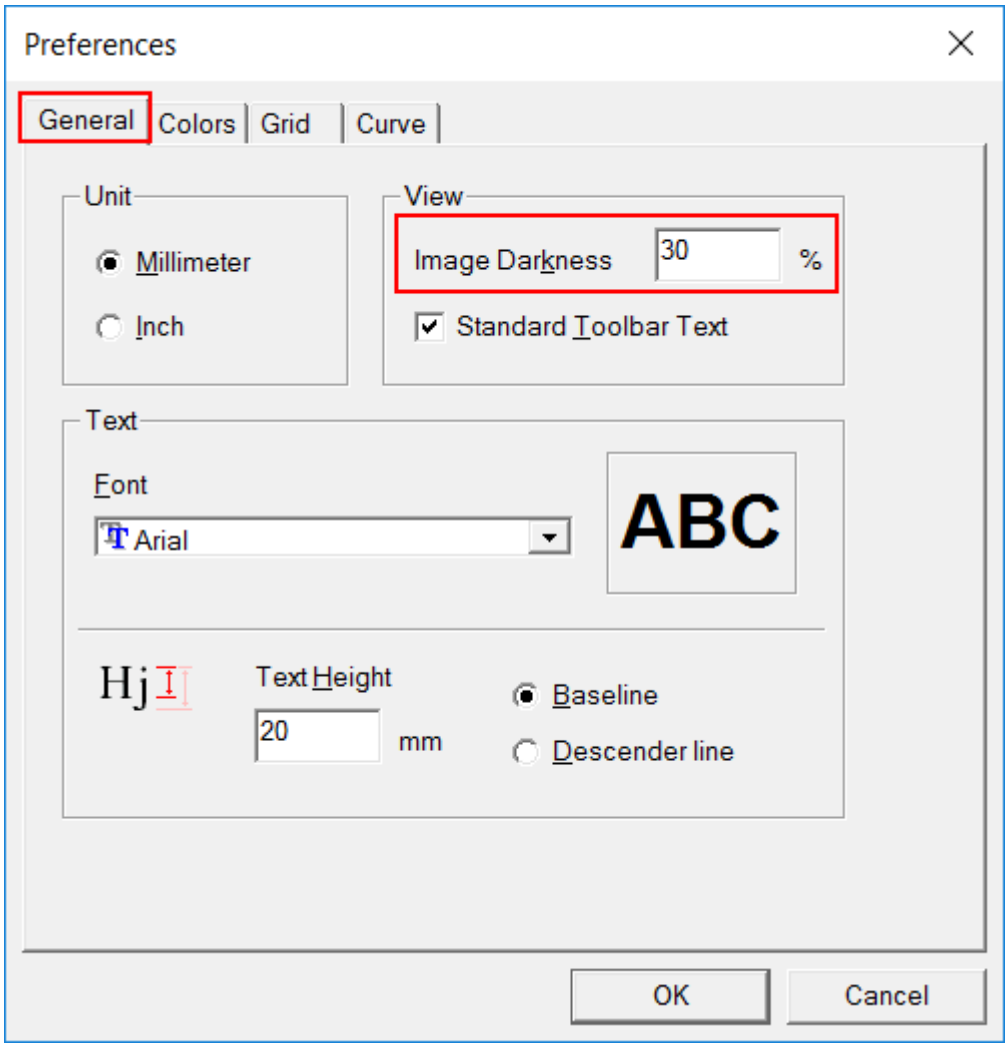
It is possible to change the darkness of an image imported into CutStudio.

Procedure

1. From the File menu, click Preferences.

2. On the General tab, enter a value in the Image Darkness box.

Setting range: 1 to 100%



3. Click OK.

Illustrator Data Cannot Be Imported

Is the data saved in Illustrator 8.0 or EPS 8.0 format?

Illustrator 8.0 and EPS 8.0 are the Illustrator file formats that can be imported into CutStudio. If using a higher version, save files as a lower version before importing.

File Formats That Can Be Imported into CutStudio

Sample Data Cannot Be Found

Location of Sample Data Folder

Open the Sample.bmp file found in the CutStudio installation folder (usually located in the CutStudio folder under Program Files on the C drive).

Is the computer not set to show hidden folders?

Sample data may not be displayed in some cases depending on the computer settings. If sample data is not displayed, follow the procedure shown below and recheck the location of the sample data folder.

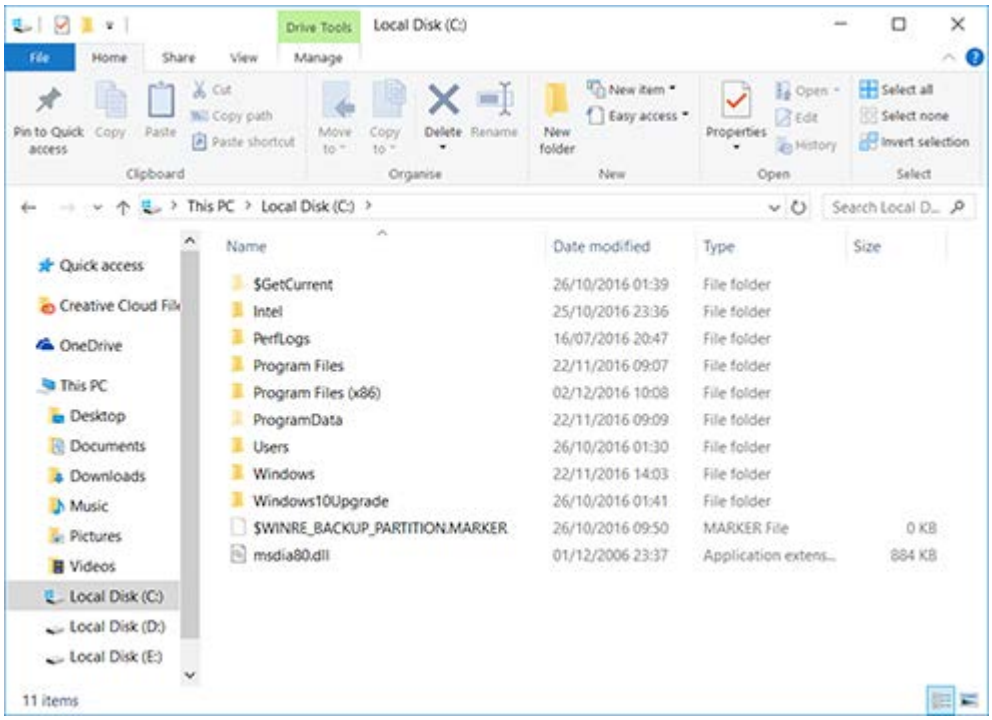
Windows 10 and Windows 8.1

Procedure

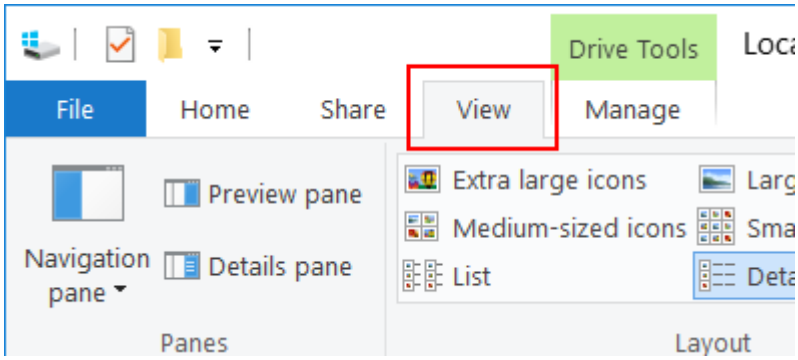
1. Click Explorer.

Click the folder in the lower-left corner of the desktop.

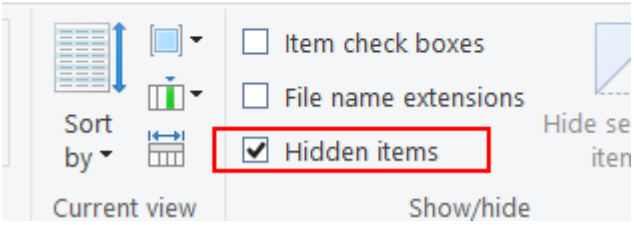
The screen shown in the following figure is displayed.



2. Click the View tab.



3. Select the Hidden items check box.

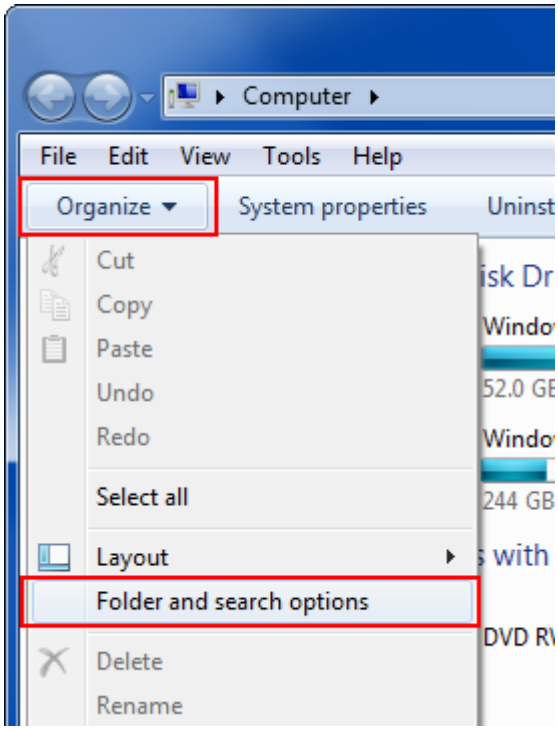


Windows 7

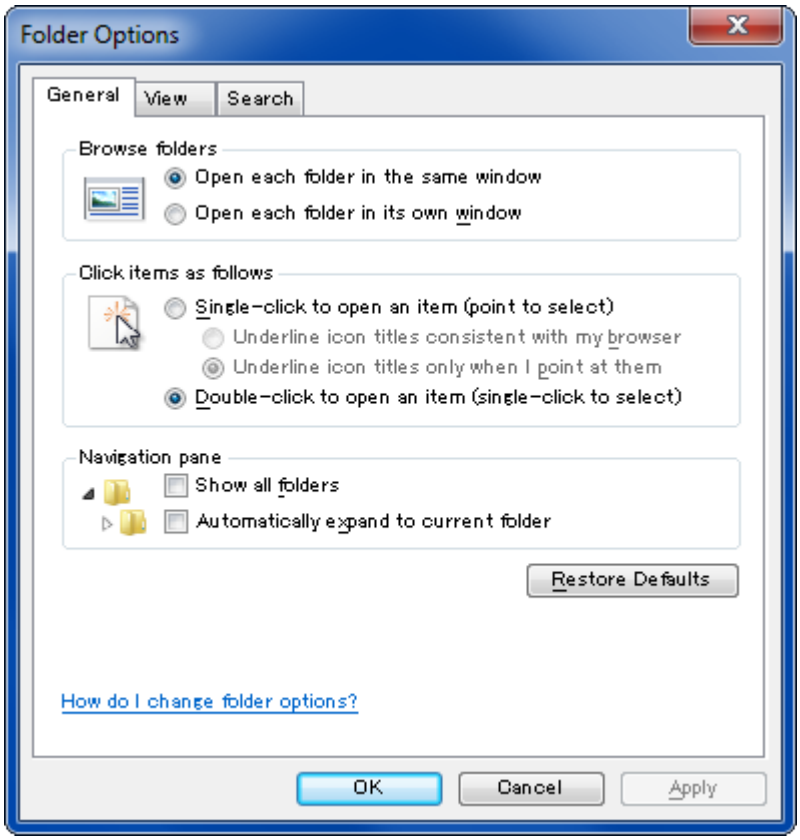
Procedure

1. From the Start menu, click Computer.

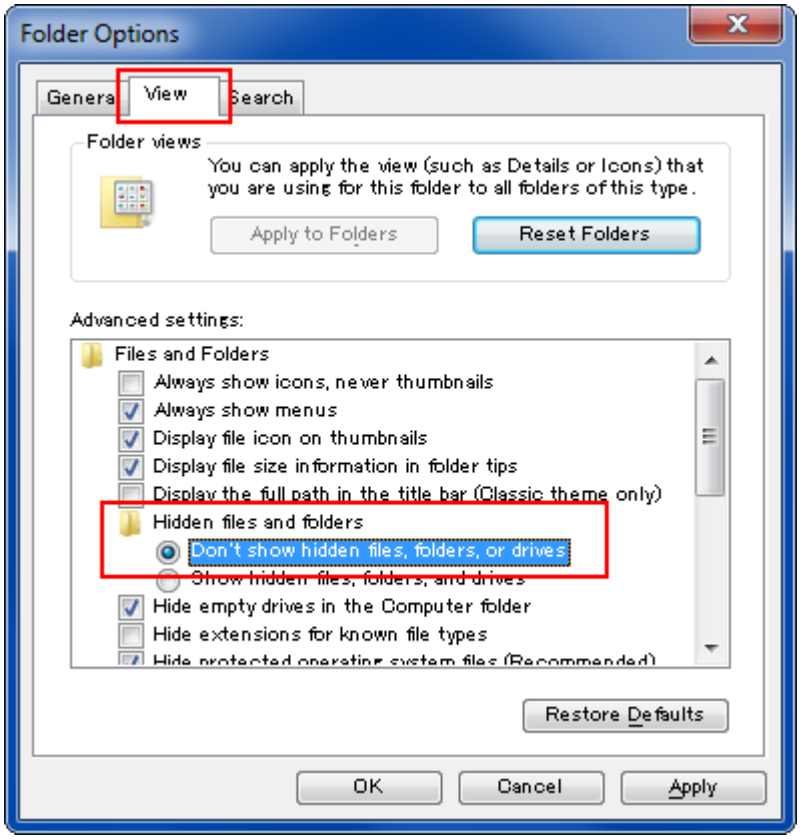
2. In the Organize menu, click Folder and search options.



The screen shown in the following figure is displayed.



3. Click the View tab, and then select the Show hidden files, folders, and drives option.



4. Click OK.

The Material Slips Away from the Pinch Rollers during Cutting

Is the material loaded in parallel with the gradations of the ruler?

If the front edge of the material is cut at an angle, trim off an excess portion so that the front edge is parallel with the gradations of the ruler, and then load the material.

Using Various Material Widths

Is the material making contact with some obstacle during cutting?

Make sure that the left and right edges of the material do not make contact with the inner surfaces of the machine during cutting.
Such contact not only damages the material but also hinders normal material feed and causes the material to slip out of position.

Was the material feed checked before cutting (for roll material)?

If you start cutting without checking the material feed, correct cutting results may not be obtained if the material is not fed correctly. In the worst case, this problem may cause an error or malfunction or damage to the material.

Loading Roll Material

Is the machine exposed to direct sunlight or strong indoor lighting?

Move the machine to a location where it is not exposed to direct sunlight or indoor lighting.

Crop Marks Cannot Be Read

When the machine cannot read crop marks, it displays an error message and pauses operation.
If this happens, press any key on the operation panel. Remove the material, check the following items, and then reload the material.

"CROPMARK ERR" or "SET TO <TOOL MODE>" Is Displayed

Is the material loaded correctly?

Refer to "Using Various Types of Materials" and load the material in the correct position.

Are you using material that is not white or is glossy?

Crop marks cannot be detected if decorations or colors are on the material.
Crop marks also may not be detected on glossy material even if it is white.

Materials That Can Be Used for Printing and Cutting

Does the material have creases or wrinkles?

Crop marks may not be read if the material has creases or wrinkles. Stretch the creases or wrinkles out and load the material again.
If the crop marks still fail to be read, prepare new material without creases or wrinkles and redo the operation from printing the data.

Are the crop marks blurred or are they in a color other than black?

Set the color of crop marks to black, specify 100% density, and then print the data again.

Crop Marks

Are the size and shape of crop marks correct?

Make the crop marks perfect circles 10 mm (0.39 in.) in diameter.
The machine can only detect crop marks in the prescribed shape.

Crop Marks

Are the crop marks at the correct positions?

Refer to "Setting the Margins and the Distance between Crop Marks" and place the crop marks at the correct positions.

Is the [ROTATE] menu set to [90deg]?

Be sure to set the [ROTATE] menu to [0deg] when using crop marks.
Crop marks cannot be read if this is set to [90deg].

Setting the Direction of the Coordinate Axis for Cutting <ROTATE>

Is the machine exposed to direct sunlight or strong indoor lighting?

If the cutting carriage sensor is exposed to direct sunlight or indoor lighting, crop marks may not be detected. Move the machine to a location where it is not exposed to direct sunlight or indoor lighting.

If the Issue Is Not Resolved Even after Taking the Above Steps

Perform alignment in Tool Mode.

Cutting in Tool Mode (1)

"LENGTH NG," "WIDTH NG," or "ANGLE TOO BIG" Is Displayed

Is the material loaded at an angle? Are the printing results crooked?

Crop marks cannot be detected in the following cases:

The left and right crop marks are slanted by 5 degrees or more with respect to the moving direction of the carriage.
The left and right crop marks are offset by 20 mm or more in the material-feed direction.

Do the distances between crop marks specified by the software match those specified on the machine? (Manual mode)

On the machine, correctly set the distance specified by the software.

Are the crop marks at the correct positions?

If the angle formed by the two lines connecting the centers of the crop marks is not 90 degrees, the crop marks cannot be read. Crop marks cannot be read if the distance between crop marks in the material-feed direction is 500 mm (19.69 in.) or more.

Is the printing expanded or reduced?

If the size is expanded or reduced during printing, the crop marks cannot be read during cutting. Print the data by specifying 100% for the magnification.

The Results of Cutting Are Displaced When Using the Printing and Cutting Function

Is a thick material being used?

When using thick material, set [Cutting Quality] to [HEAVY].

Setting Cutting Quality <QUALITY>

When using roll material, was the amount of material to be cut pulled out before performing cutting?

If cutting is performed without pulling out the material, the material may slip or a motor error may stop the operation

Loading Roll Material

Fine-tuning the Printing Position

Adjusting the Printing Position

Fine-tuning the Cutting Position

Adjusting the Cutting Position

Uncut Areas Remain or Cut Edges Are Not Clean

Are the blade and blade holder securely installed?

Make sure the screws are tightened securely so that they do not come loose during cutting.

Installing the Cutting Tool

Is the tip of the blade broken?

If it is, replace the blade with a new one.

Consumable Items (Blade)

Is there any buildup of dust or material adhesive on the tip of the blade?

Remove and clean the blade.

Is there any buildup of pieces of material or dust inside the blade holder?

Take off the tip of the blade holder and remove any pieces of material or dust inside.

Cleaning the Blade Holder Cap

Is a thick material being used?

When using thick material, set [Cutting Quality] to [HEAVY].

Setting Cutting Quality <QUALITY>

Is the blade force appropriate?

Carry out cutting tests and adjust the blade force until cutting can be performed adequately.

Performing a Cutting Test

Is the amount of blade offset appropriate?

If the setting for the amount of blade offset is not correct for the blade, corners may be rounded or have horns.

Setting the Amount of Offset for the Tip of the Blade <OFFSET>

Are the blade force and cutting speed appropriate?

Carry out cutting tests and adjust the settings until cutting can be performed adequately.

Performing a Cutting Test

When using roll material, was the amount of material to be cut pulled out before performing cutting?

If cutting is performed without pulling out the material, the material may slip or a motor error may stop the operation

Loading Roll Material

Is the smoothing function turned off?

Cutting Detailed Characters and Complex Shapes

Is the blade protector damaged or deformed?

If the blade protector is damaged, the material may not be cut correctly even if the machine's settings and the installation of the blade and blade holder are all correct. If this happens, contact your authorized Roland DG Corp. dealer.

Consumable Items (Blade Protector)

The Machine Cuts the Carrier Paper

Are the blade tip adjustment and blade force appropriate for the material being cut?

Perform a cutting test and adjust the blade tip and blade force appropriately.

- Performing a Cutting Test
- General Guide Regarding Cutting Conditions
- Adjusting the Cutting-in Amount

The Machine Cuts the Same Area Twice

Is Overlap Cutting set to 0 in CutStudio?

If Overlap Cutting is set to any number other than 0 on the Cut screen, the number is added to the number of cuts.

Is the machine's [OVERLAP] setting a number from 1 to 10?

Set the machine's [OVERLAP] setting to [OFF].

Cutting in the Same Position Repetitively <OVERLAP>

Are there overlapping lines?

The same data may have been copied, resulting in overlapping lines. Check the data.

The Driver Cannot Be Installed (Windows 10)

If you have canceled installation or if the installation wizard does not appear when the USB cable is connected, follow the procedure shown below.

Procedure

1. Connect the machine to the computer with the USB cable and turn on the machine.

2. If a message saying "Found new hardware" appears, click Close.

Disconnect the USB cable from every printer except the machine.

3. On the Start menu, click Settings.

4. Click Devices, and then click Printers & scanners on the following screen.

5. Click Device Manager. If a User Account Control window appears, click Allow.

Device Manager appears.

6. From the View menu, click Show hidden devices.

7. Search the list for Printers or Other devices, and then double-click it.

The name of your machine or Unknown device appears below the selected item. Click the name to select it.

8. From the Action menu, click Uninstall.

9. On the Confirm Device Uninstall window, click OK. Close Device Manager.

10. Disconnect the USB cable from the computer, and then restart Windows.

11. Follow the procedure in "Uninstalling the Driver (Windows 10)" and uninstall the driver.

12. Follow the procedure in "Installing the Driver for Windows" and reinstall the driver from the beginning.

http://startup.rolanddg.com/

The Driver Cannot Be Installed (Windows 8.1)

If you have canceled installation or if the installation wizard does not appear when the USB cable is connected, follow the procedure shown below.

Procedure

1. **Connect the machine to the computer with the USB cable and turn on the machine.**

2. **If a message saying "Found new hardware" appears, click Close.**

   Disconnect the USB cable from every printer except the machine.

3. **Click Desktop.**

4. **Move the mouse pointer to the lower-right corner of the screen to display the Charms bar, and then click Settings.**

5. **Click PC info.**

6.

6. Click Device Manager. If a User Account Control window appears, click Allow.

Device Manager appears.

7. From the View menu, click Show hidden devices.

8. Search the list for Printers or Other devices, and then double-click it.

The name of your machine or Unknown device appears below the selected item. Click the name to select it.

9. From the Action menu, click Uninstall.

10. On the Confirm Device Uninstall window, click OK. Close Device Manager.

11. Disconnect the USB cable from the computer, and then restart Windows.

12. Follow the procedure in "Uninstalling the Driver (Windows 8.1)" and uninstall the driver.

13. Follow the procedure in "Installing the Driver for Windows" and reinstall the driver from the beginning.

http://startup.rolanddg.com/

The Driver Cannot Be Installed (Windows 7)

If you have canceled installation or if the installation wizard does not appear when the USB cable is connected, follow the procedure shown below.

Procedure

1. Connect the machine to the computer with the USB cable and turn on the machine.

2. If a message saying "Found new hardware" appears, click Close.

Disconnect the USB cable from every printer except the machine.

3. Click the Start menu, and then right-click Computer. Click Properties.

4. Click Device Manager. If a User Account Control window appears, click Allow.

Device Manager appears.

5. From the View menu, click Show hidden devices.

6. Search the list for Printers or Other devices, and

then double-click it. The name of your machine or Unknown device appears below the selected item. Click the name to select it.

7. From the Action menu, click Uninstall.

8. On the Confirm Device Uninstall window, select the Delete the driver software for this device check box, and then click OK. Close Device Manager.

The name of your machine or Unknown device appears below the selected item. Click the name to select it.

9. Disconnect the USB cable from the computer, and then restart Windows.

10. Follow the procedure in "Uninstalling the Driver (Windows 7)" and uninstall the driver.

11. Follow the procedure in "Installing the Driver for Windows" and reinstall the driver from the beginning.

http://startup.rolanddg.com/

Uninstalling the Driver (Windows 10)

To uninstall the driver, follow the procedure below.

Procedure

1. **Switch off the machine, and then disconnect the connector cable between the computer and the machine.**

2. **Log on to Windows as the computer's administrator.**

3. **Right-click the Start menu, click Control Panel, and then click Uninstall a program.**

4. **Select the driver of the machine you want to delete by clicking it, and then click Uninstall.**

5. **A deletion confirmation message appears. Click Yes.**

6.

6. Click Start to display the Start menu.

7. Open File Explorer, and then open the drive and folder containing the driver.*

8. Double-click SETUP64.EXE (64-bit version) or SETUP.EXE (32-bit version).

9. If a User Account Control window appears, click Yes.

The setup program for the driver starts.

10. Click Uninstall. Select the machine you want to delete, and then click Start.

11. If a window prompting you to restart the computer appears, click Yes.

The uninstall procedure is complete when the computer finishes restarting.

* Download the driver for the machine you want to delete from the Roland DG Corp. website (http://www.rolanddg.com/), and then select a folder to extract the files into.

Installation Procedure

Uninstalling the Driver (Windows 8.1)

To uninstall the driver, follow the procedure below.

Procedure

1. **Switch off the machine, and then disconnect the connector cable between the computer and the machine.**

2. **Start Windows.**

3. **Click Desktop.**

4. **Move the mouse pointer to the lower-right corner of the screen to display the Charms bar, and then click Settings.**

5. **Click Control Panel, and then click Uninstall a program.**

6. **Select the driver of the machine you want to delete**

by clicking it, and then click Uninstall.

7. A deletion confirmation message appears. Click Yes.

8. From the Start menu, click Desktop.

9. Open File Explorer, and then open the drive and folder containing the driver.*

10. Double-click SETUP64.EXE (64-bit version) or SETUP.EXE (32-bit version).

11. If a User Account Control window appears, click Allow.

The setup program for the driver starts.

12. Click Uninstall. Select the machine you want to delete, and then click Start.

13. If you need to restart the computer, a window

prompting you to do so is displayed. Click Yes.

---

14. After the computer has restarted, open Control Panel and click View devices and printers.

---

15. If you can see the icon of the machine to delete, right-click it, and then click Remove device.

---

* Download the driver for the machine you want to delete from the Roland DG Corp. website (http://www.rolanddg.com/), and then select a folder to extract the files into.

Installation Procedure

Uninstalling the Driver (Windows 7)

To uninstall the driver, follow the procedure below.

Procedure

1. **Switch off the machine, and then disconnect the connector cable between the computer and the machine.**

2. **Log on to Windows as the computer's administrator.**

3. **From the Start menu, click Control Panel, and then click Uninstall a program.**

4. **Select the driver of the machine you want to delete by clicking it, and then click Uninstall.**

5. **A deletion confirmation message appears. Click Yes.**

6. **From the Start menu, click All Programs,**

Accessories, Run, and then click Browse.

7. Select the name of the drive or folder where the driver is stored.*

8. Double-click SETUP64.EXE (64-bit version) or SETUP.EXE (32-bit version).

9. If a User Account Control window appears, click Allow.

The setup program for the driver starts.

10. Click Uninstall. Select the machine you want to delete, and then click Start.

11. If a window prompting you to restart the computer appears, click Yes.

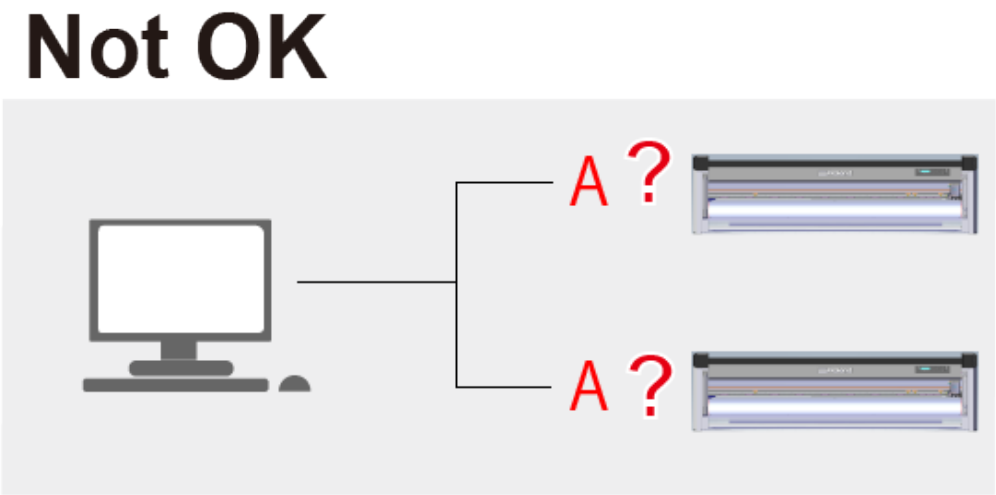
The uninstall procedure is complete when the computer finishes restarting.

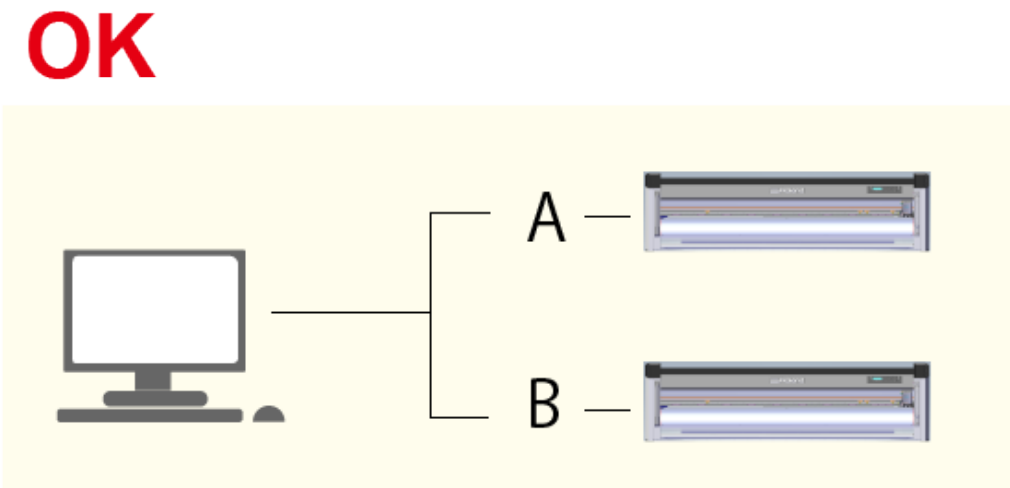
* Download the driver for the machine you want to delete from the Roland DG Corp. website (http://www.rolanddg.com/), and then select a folder to extract the files into.

Installation Procedure

Connecting Two or More Instances of This Machine to a Single Computer (Connecting Multiple Units with a USB Cable)

When connecting multiple instances of this machine to a single computer with a USB cable, you must change the USB number of each machine so that the computer can distinguish between output destinations. The machine's default setting is "A." When connecting two or more machines, the second machine and every machine thereafter must be configured with a setting other than "A" so that the machine can distinguish the output destination of the data.





(1) Change the Name of the Second Cutting Machine

Follow the procedure below to connect a second machine. The same procedure can be used to

connect a third unit and any subsequent units.

Procedure

*** Do not connect the USB cable at this stage.**

1. Turn off the power of the machine.

2. While holding down [PINCH], switch on the power switch.

The screen shown in the following figure is displayed.

```
USB Str. [A]
*A
```

3. Press [▲] and [▼] to select a setting other than "A."

It is possible to select a value from "B" to "E." In this example, "B" is selected.

```
USB Str. [A]
 B
```

4. Press [ENTER].

The screen shown in the following figure is displayed.

```
Please
PowerON Again.
```

5. Turn the power off and then on again.

The screen shown in the following figure is displayed. Check that the letter you set in step 3 is displayed.

```
Roland GR-640
[B] Main:V1.00
```

(2) Connect and Change the Computer's Printer Settings

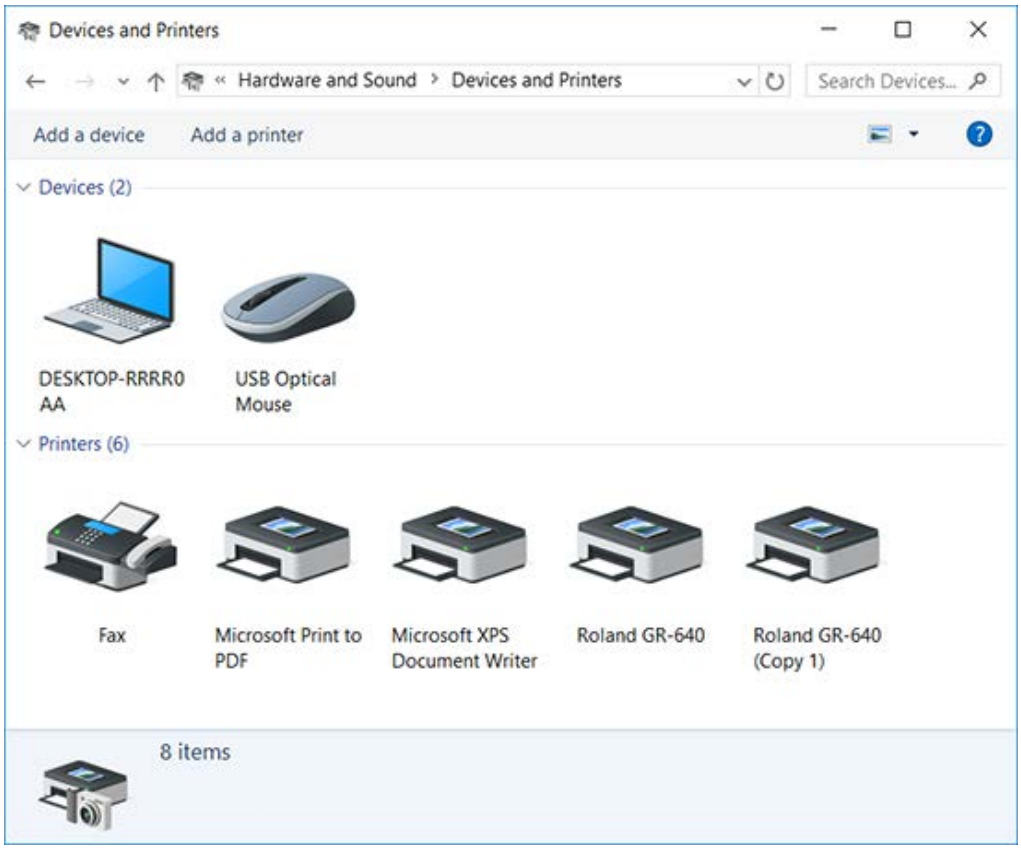
Procedure

1. Connect the machine to the computer using the USB cable.

The driver is installed.

2. Open Devices and Printers.

Roland GR-640 (Copy 1) (or 1 Copy) is created.
(Hereinafter, this is referred to as "Copy 1.")



Windows 10

Right-click the Start menu, click Control Panel, click Hardware and Sound, and then click Devices and Printers.

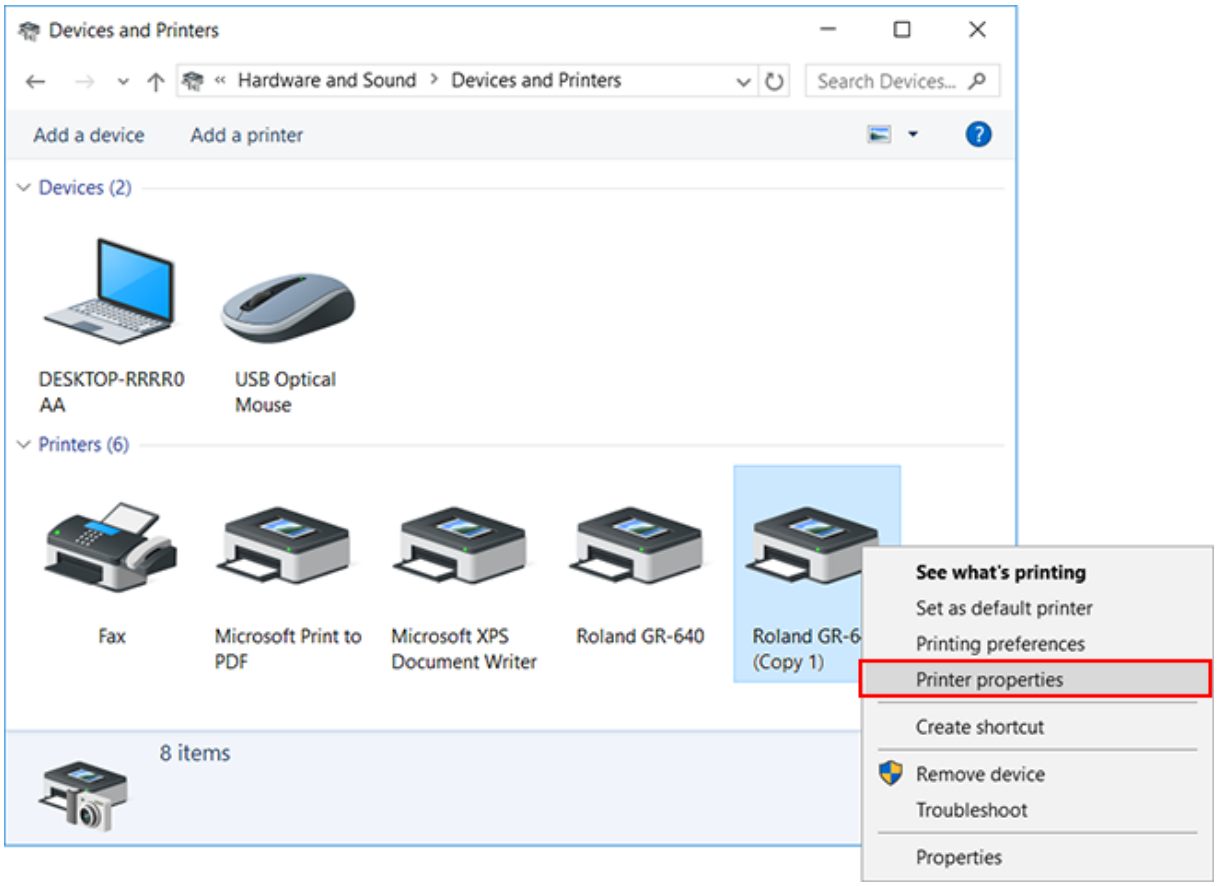
Windows 8.1

From the Start screen, click Apps, and then click Control Panel. Click Hardware and Sound, and then click Devices and Printers.

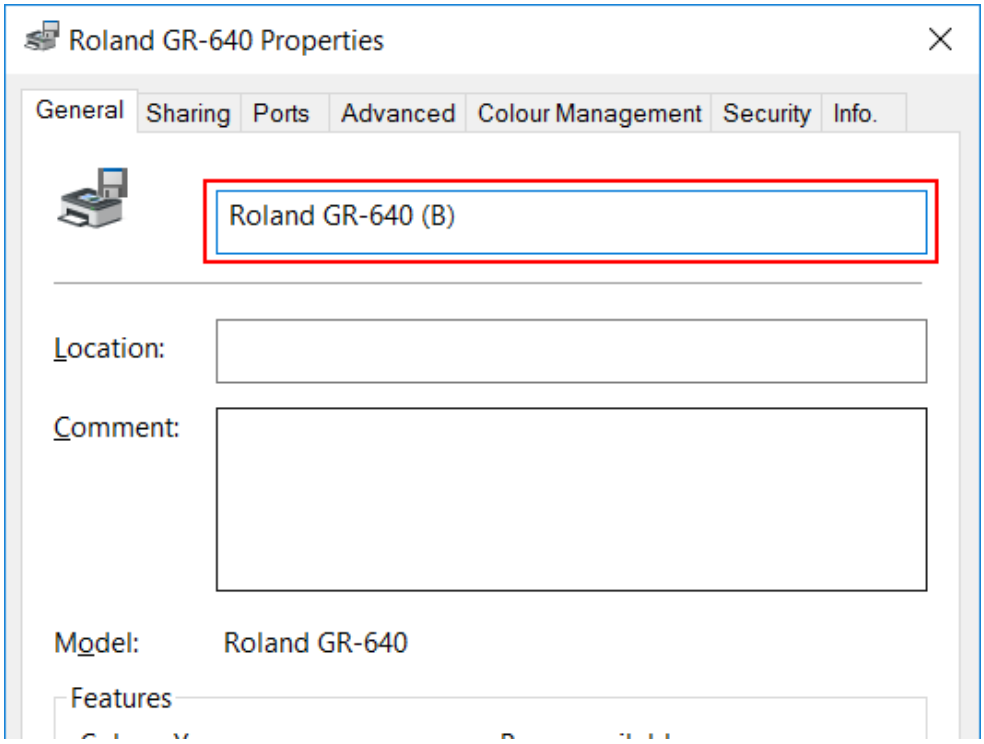
Windows 7

From the Start menu, select Devices and Printers.

3. Right-click Roland GR-640 (Copy 1), and then select Printer properties.



4. Change Roland GR-640 (Copy 1) to Roland GR-640 (B).



5. Click OK.

(3) Check That the Second Cutting Machine Has Been Installed

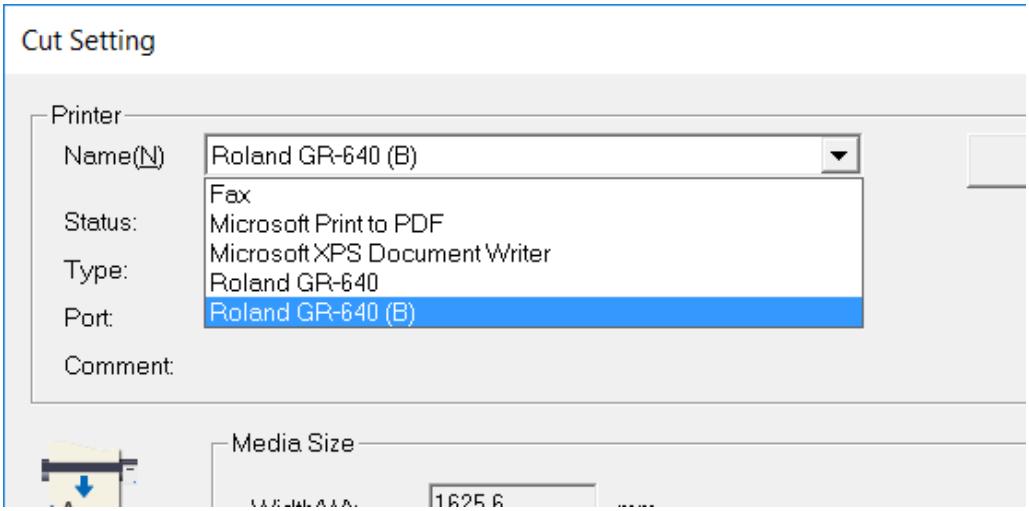
Procedure

1. Start CutStudio.

2. From the File menu, click Cutting Setup.

3. Click the Printer Name.

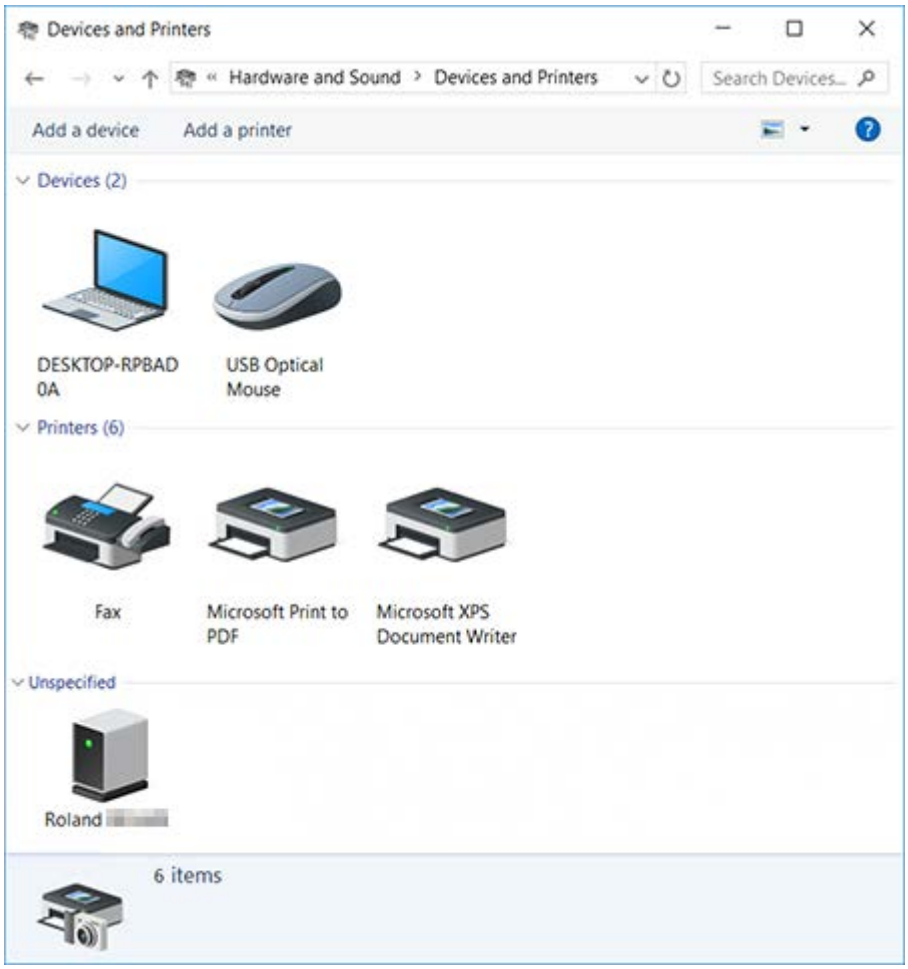
Check that GS-640 (B) is displayed.
If the screen looks similar to the one displayed in the figure below, the second machine is connected correctly.


Cut Setting
Printer
Name(N)
Roland GR-640 (B)
Fax
Microsoft Print to PDF
Microsoft XPS Document Writer
Roland GR-640
Roland GR-640 (B)
Status:
Type:
Port:
Comment:
Media Size

The Driver Is Displayed as "Unspecified" after Installation

If the driver was not installed correctly, it may be displayed as "Unspecified" in some cases. Try the installation method described at the link below.

[The Driver is Displayed as "Unspecified"]



Memo URLs contained in this manual are subject to change without notice. If a link appears to be broken, contact your authorized Roland DG Corp. dealer.

Moving a Saved Symbol to a New Computer

Memo For instructions on how to save symbols, check the CutStudio Help.

Procedure

1. Copy the Symbol folder from the path below.

Store the folder in a desired location or move it.

C:¥ProgramData¥Roland DG Corporation¥CutStudio¥Symbol

If the Folder Is Not Displayed

In "Sample Data Cannot Be Found," configure the settings for displaying hidden folders.

2. Copy the Symbol folder to a new computer.

Copy the folder to the same location on the new computer.
If the folder is not displayed on the new computer, adjust the settings to display hidden folders.

Installing Plug-in for Illustrator

Installation Procedure

Install from the following link.
http://startup.rolanddg.com/

Supported Versions

For information regarding the latest supported versions, visit the Roland DG Corp. website (http://www.rolanddg.com/).

Installing Plug-in for CorelDRAW

Installation Procedure

Install from the following link.
http://startup.rolanddg.com/

Supported Versions

For information regarding the latest supported versions, visit the Roland DG Corp. website (http://www.rolanddg.com/).

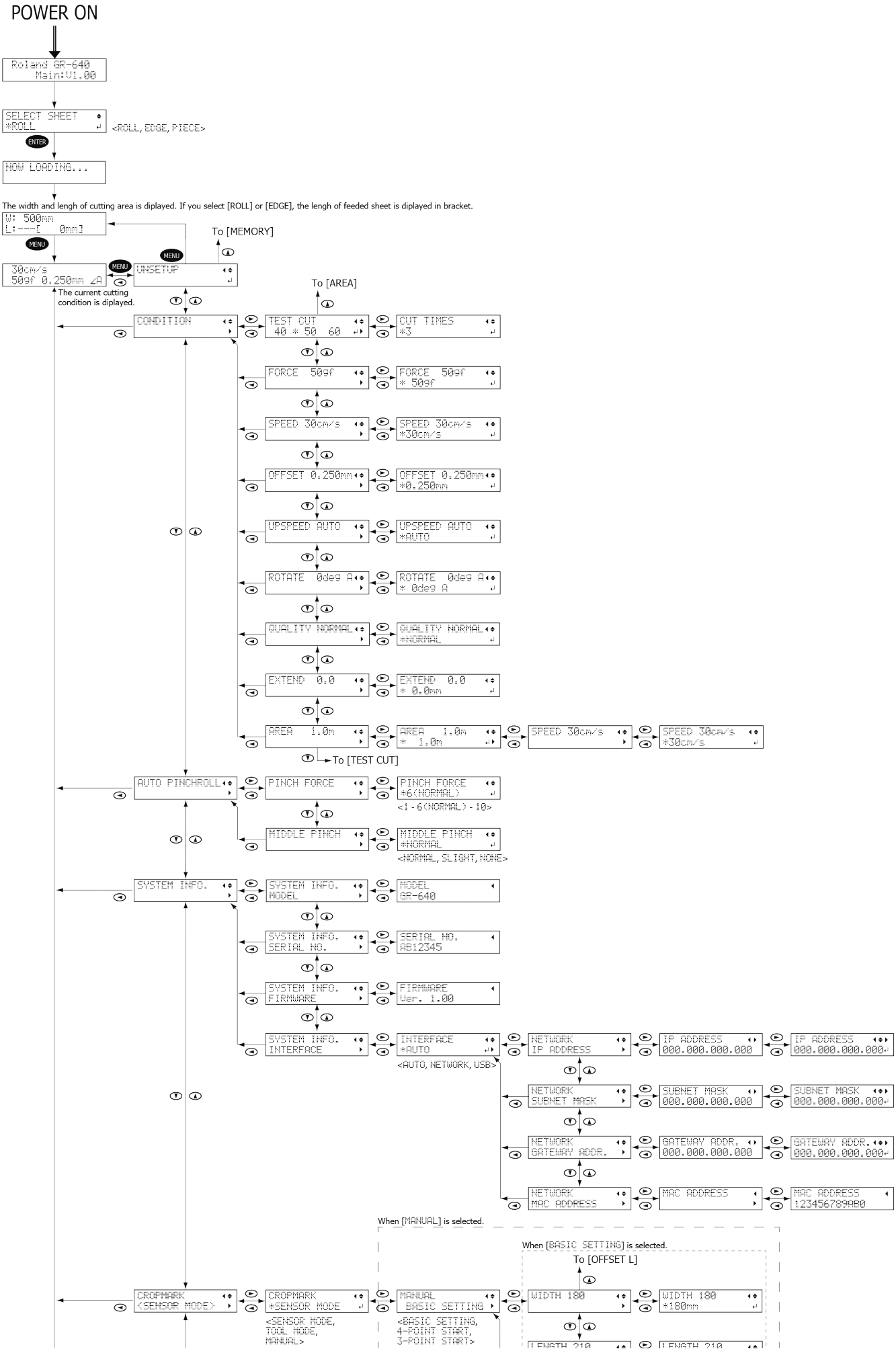
Error Message List

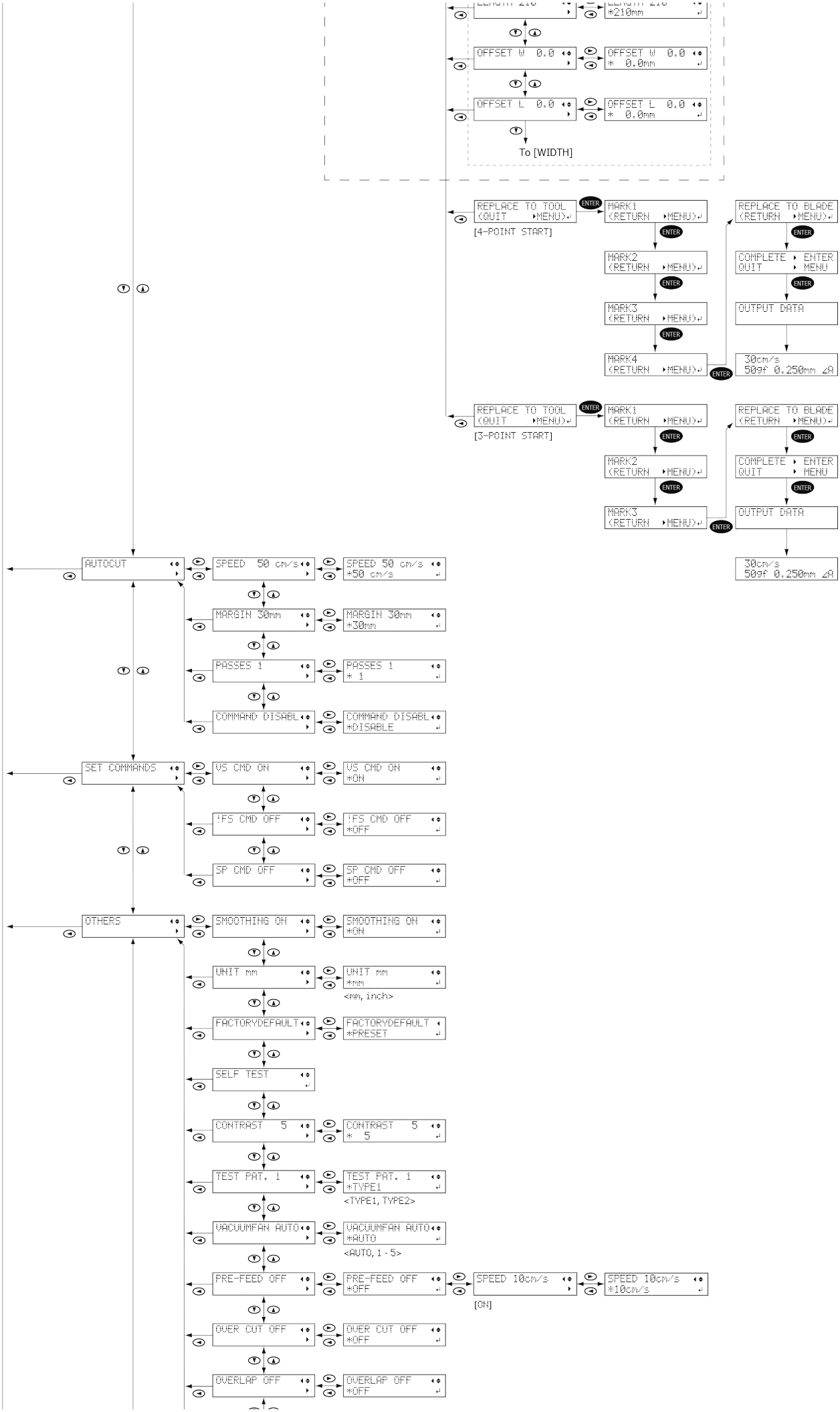
Index	Solution	Cause
BAD POSITION	Press any key to cancel setup and clear the error message. Move the pinch rollers to the correct positions and reload the material. * Note: If the message appears even if the pinch rollers are moved to the correct positions, the machine may be exposed to direct sunlight or intense indoor lighting. Turn off the power, and then move the machine to a location where it is not exposed to direct sunlight or intense lighting. After moving the machine, turn on the power.	Pinch rollers are at positions where the material cannot be pinched.
CARRIAGE ERROR	Turn off the power, and then remove any dust and other foreign materials from the area around the cutting carriage. After performing this operation, turn on the power.	It is not possible to adjust the height of the cutting carriage.
CROPMARK ERR ANGLE TOO BIG	Press any key to clear the error message. Reload the material.	Crop mark 2 or 3 is slanted by 5 degrees or more.
CROPMARK ERR LENGTH NG	Press any key to clear the error message. Reload the material.	Crop mark 3 is offset by 20 mm or more in the material movement direction.
CROPMARK ERR WIDTH NG	Press any key to clear the error message. Reload the material or change the position of crop mark 2.	Crop mark 2 is offset by 20 mm or more in the carriage direction.
DATA OVERFLOW	First, delete the data stored in the machine. Prepare the Data for Recutting Next, decrease the size of the data sent from the computer and resend it. Then carry out a REPLOT. Cutting the Same Object Repetitively	The amount of data stored in the machine is too large and REPLOT cannot be executed.
ERROR1: WRONG COMMAND	Press any key to clear the error message. Review the data sent from the computer, and then send the correct data.	Data that the machine is not able to interpret was sent.
ERROR2: WRONG NO.S		The number of parameters differs from the permissible number.
ERROR3: OUT OF RANGE		The value of the specified parameter was outside the permissible range.
		A heavy load was placed on the motor, and the operation stopped.

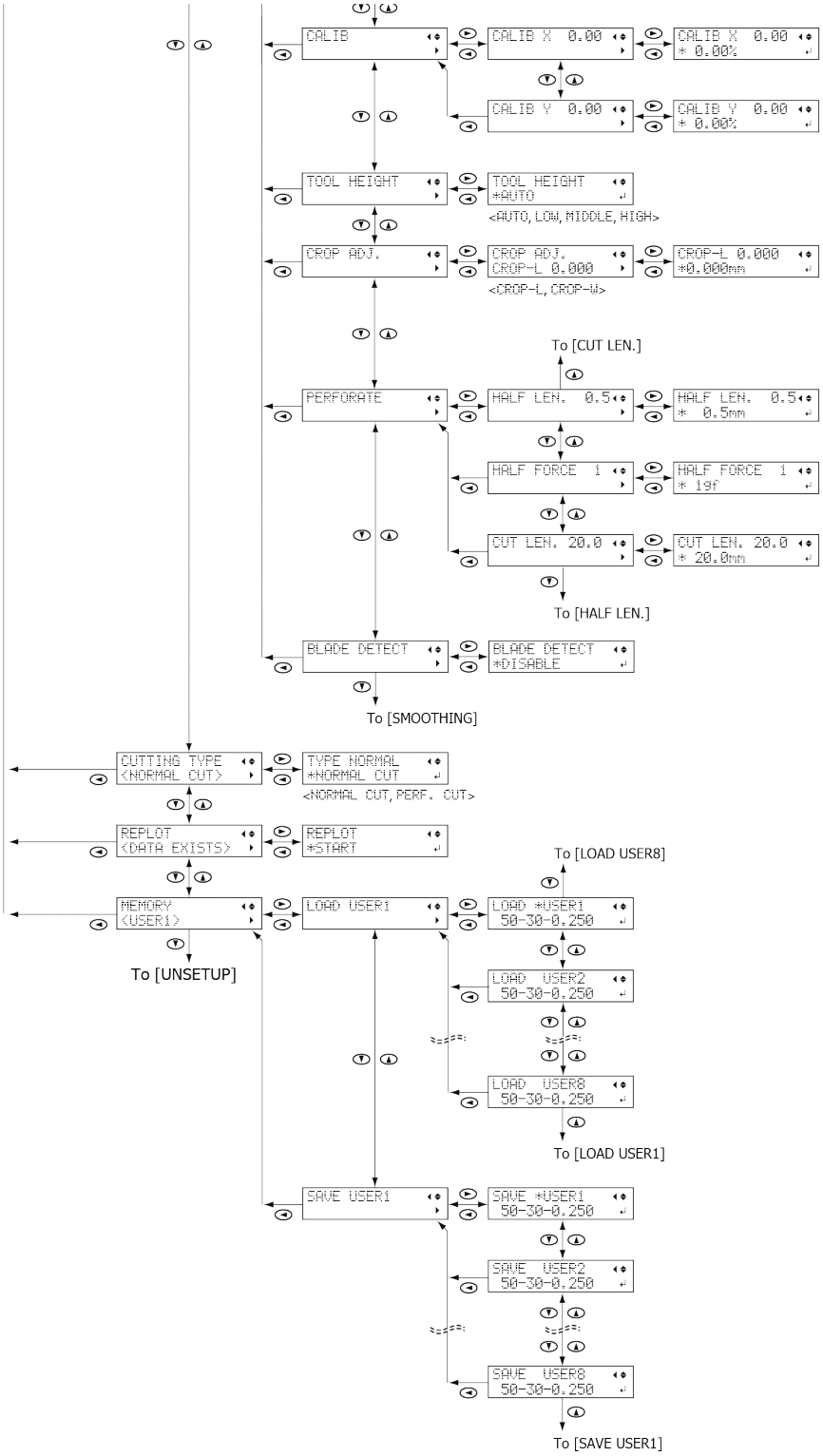
MOTOR ERROR S[01] F[00]	Turn off the power, turn on the power, and then load the material again. If jammed material is caught and impedes the initial operation when you turn the power on, perform the following operations. 1. Turn the power off. 2. Move the cutting carriage to the right edge of the machine by hand. 3. Turn the power on (the pinch rollers automatically rise). 4. Remove the jammed material.	• Cutting was performed when thick material was loaded. • The material was pulled off suddenly from the roll without feeding out the material before cutting. • An overload was placed on the machine due to a material jam or similar cause. When cutting roll material, pull out the length of material to be cut from the roll. Perform a test feed before cutting. When doing so, set the [AREA] value in the display menu so that it is around 20 cm longer than the length of the cutting data. Loading Roll Material • When cutting thick material, set the quality setting to [HEAVY]. Setting Cutting Quality <QUALITY>
ORIGIN ERROR	Turn off the power, and then move the machine to a location where it is not exposed to direct sunlight or intense indoor lighting. Then, turn on the power.	The machine is exposed to direct sunlight or strong indoor lighting and was not able to detect the origin immediately after the power was switched on.
SET TO <TOOL MODE>	Press any key to clear the error message. Change the machine's settings to Tool Mode, and then resend the data. When doing so, use four crop marks. When the machine is in Tool Mode, it is not possible to cut using three crop marks. If you want to use three crop marks, leave the machine in Sensor Mode and change the shape and color of the crop marks or the color and glossiness of the material. Crop Marks/Tool Marks Crop Marks Cannot Be Read Cutting in Tool Mode (1)	Crop marks could not be read in Sensor Mode.
SHEET UNLOADED	Press any key to cancel setup and clear the error message. Load the material correctly, and then make it ready for cutting (setup condition). Loading Position of Material	An attempt was made to ready the machine without loading material. The material was removed when the machine was ready to perform cutting. The material came loose during cutting.
SOLENOID ERROR	Switch off the power and contact your authorized Roland DG Corp. dealer.	
TOOL POSITION ERROR	Install the cutting tool again.	The cutting tool was installed in the position for cutting perforated lines.

	Installing the Cutting Tool	

Menu Flow Chart




*210mm
OFFSET W 0.0
OFFSET W 0.0
* 0.0mm
OFFSET L 0.0
OFFSET L 0.0
* 0.0mm
To [WIDTH]
REPLACE TO TOOL
(QUIT ▸MENU)
[4-POINT START]
ENTER
MARK1
(RETURN ▸MENU)
MARK2
(RETURN ▸MENU)
MARK3
(RETURN ▸MENU)
MARK4
(RETURN ▸MENU)
REPLACE TO BLADE
(RETURN ▸MENU)
COMPLETE ▸ ENTER
QUIT ▸ MENU
OUTPUT DATA
30cm/s
50gf 0.250mm ∠A
REPLACE TO TOOL
(QUIT ▸MENU)
[3-POINT START]
MARK1
(RETURN ▸MENU)
MARK2
(RETURN ▸MENU)
MARK3
(RETURN ▸MENU)
REPLACE TO BLADE
(RETURN ▸MENU)
COMPLETE ▸ ENTER
QUIT ▸ MENU
OUTPUT DATA
30cm/s
50gf 0.250mm ∠A
AUTOCUT
SPEED 50 cm/s
SPEED 50 cm/s
*50 cm/s
MARGIN 30mm
MARGIN 30mm
*30mm
PASSES 1
PASSES 1
* 1
COMMAND DISABL
COMMAND DISABL
*DISABLE
SET COMMANDS
VS CMD ON
VS CMD ON
*ON
!FS CMD OFF
!FS CMD OFF
*OFF
SP CMD OFF
SP CMD OFF
*OFF
OTHERS
SMOOTHING ON
SMOOTHING ON
*ON
UNIT mm
UNIT mm
*mm
<mm, inch>
FACTORYDEFAULT
FACTORYDEFAULT
*PRESET
SELF TEST
CONTRAST 5
CONTRAST 5
* 5
TEST PAT. 1
TEST PAT. 1
*TYPE1
<TYPE1, TYPE2>
VACUUMFAN AUTO
VACUUMFAN AUTO
*AUTO
<AUTO, 1 - 5>
PRE-FEED OFF
PRE-FEED OFF
*OFF
SPEED 10cm/s
SPEED 10cm/s
*10cm/s
[ON]
OVER CUT OFF
OVER CUT OFF
*OFF
OVERLAP OFF
OVERLAP OFF
*OFF


CALIB
CALIB X 0.00
CALIB X 0.00
* 0.00%
CALIB Y 0.00
CALIB Y 0.00
* 0.00%
TOOL HEIGHT
TOOL HEIGHT
*AUTO
<AUTO, LOW, MIDDLE, HIGH>
CROP ADJ.
CROP ADJ.
CROP-L 0.000
CROP-L 0.000
*0.000mm
<CROP-L, CROP-W>
To [CUT LEN.]
PERFORATE
HALF LEN. 0.5
HALF LEN. 0.5
* 0.5mm
HALF FORCE 1
HALF FORCE 1
* 19f
CUT LEN. 20.0
CUT LEN. 20.0
* 20.0mm
To [HALF LEN.]
BLADE DETECT
BLADE DETECT
*DISABLE
To [SMOOTHING]
CUTTING TYPE
<NORMAL CUT>
TYPE NORMAL
*NORMAL CUT
<NORMAL CUT, PERF. CUT>
REPLOT
<DATA EXISTS>
REPLOT
*START
To [LOAD USER8]
MEMORY
<USER1>
LOAD USER1
LOAD *USER1
50-30-0.250
LOAD USER2
50-30-0.250
LOAD USER8
50-30-0.250
To [UNSETUP]
To [LOAD USER1]
SAVE USER1
SAVE *USER1
50-30-0.250
SAVE USER2
50-30-0.250
SAVE USER8
50-30-0.250
To [SAVE USER1]

Specifications

Locations of the Power Rating and Serial Number Labels

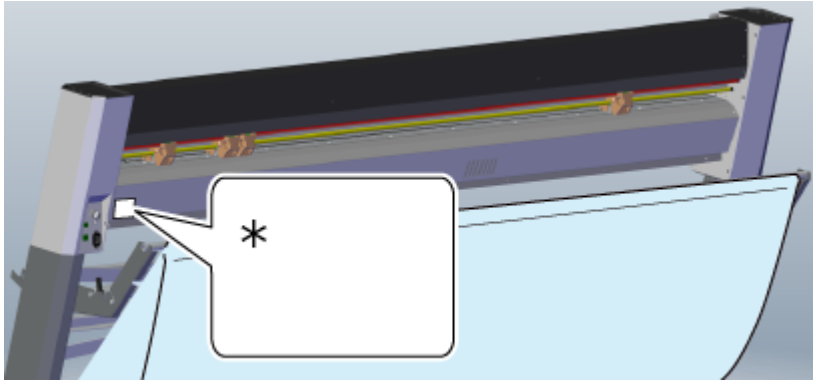
Product name		GR-640	GR-540	GR-420
Drive system		Digital control servo motor		
Cutting mechanism		Media-moving method		
Acceptable material widths		156 to 1,802 mm	156 to 1,548 mm	156 to 1,224 mm
Separatable material width		0 to 1,750 mm	0 to 1,496 mm	0 to 1,172 mm
Usable tools		Roland CAMM-1 series blade (including blades for flatbed use)		
Maximum cutting speed		During cutting: 1,050 mm/sec. (all directions) With blade raised: 1,485 mm/sec. (45° direction)		
Cutting speed		10 to 1,050 mm/sec. (settable in steps of 10 mm/sec.)		
Blade force		20 to 600 gf		
Mechanical resolution		0.005 mm/step		
Software resolution		0.025 mm/step		
Distance accuracy (*1)		Error of less than ±0.2% of distance traveled or 0.1 mm, whichever is greater		
Repetition accuracy (*1)(*2)(*3)		0.1 mm or less		
Interface		Ethernet (automatic switching between 10BASE-T and 100BASE-TX), USB 2.0 (FULL SPEED compliant)		
Replot memory		2 MB (buffer size: 8 MB)		
Command system		CAMM-GLⅢ		
Power supply		AC 100 to 240 V ±10%, 50/60 Hz, 0.7 A		
Power consumption		Approx. 70 W		
Operating noise	During operation	67 dB (A) or less		
	During standby	43 dB (A) or less		
External dimensions		2,165 mm (width) × 740 mm (depth) × 1,190 mm (height)	1,910 mm (width) × 740 mm (depth) × 1,190 mm (height)	1,650 mm (width) × 740 mm (depth) × 1,190 mm (height)
Weight		93.5 kg (206.1 lb.)	87 kg (191.8 lb.)	78 kg (172.0 lb.)
		2,300 mm (width) ×	2,050 mm (width) ×	1,740 mm (width) ×

Packed dimensions	565 mm (depth) × 770 mm (height)	565 mm (depth) × 770 mm (height)	565 mm (depth) × 770 mm (height)
Packed weight	128 kg (282.2 lb.)	118 kg (260.2 lb.)	108 kg (238.1 lb.)
Environmental	Temperature: 5 to 40°C, humidity: 35%RH to 80%RH (no condensation)		
Included items	Power cord, power cord adapter, USB cable, cable clamp, blade holder/blade/pin, alignment tool, separating knife replacement blade, exclusive stand (for details, see the setup guide), setup guide		

*1: According to material and cutting conditions as specified by Roland DG Corporation
*2: Excluding expansion/contraction of the material
*3: [Range for assured repetition accuracy]
For material with a width exceeding 610 mm: Length 4,000 mm
For material with a width of 610 mm or less: Length 8,000 mm

Locations of the Power Rating and Serial Number Labels

The serial number is required for maintenance, servicing, and support. Never peel off the label.
Also, use a power supply that meets the requirements for voltage, frequency, and amperage given on the label.



*: Serial number and power rating label

Cover

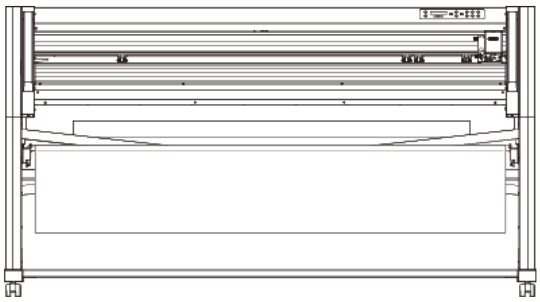
Sending Data from Illustrator/CorelDRAW
Printing and Cutting
Cutting Perforated Lines
Tiled Output
Other Things That You Can Do

Troubleshooting

GR-640 / 540 / 420
CAMM-1

User's Manual

Application Edition
Windows Version



Sending Data from Illustrator/CorelDRAW

Printing and Cutting

Cutting Perforated Lines

Tiled Output

Other Things That You Can Do

Troubleshooting

http://www.rolanddg.com/
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Sending Data from Illustrator/CorelDRAW

You can output cutting line data drawn with Adobe Illustrator or CorelDRAW to CutStudio.
To output data it is necessary to install a plug-in.

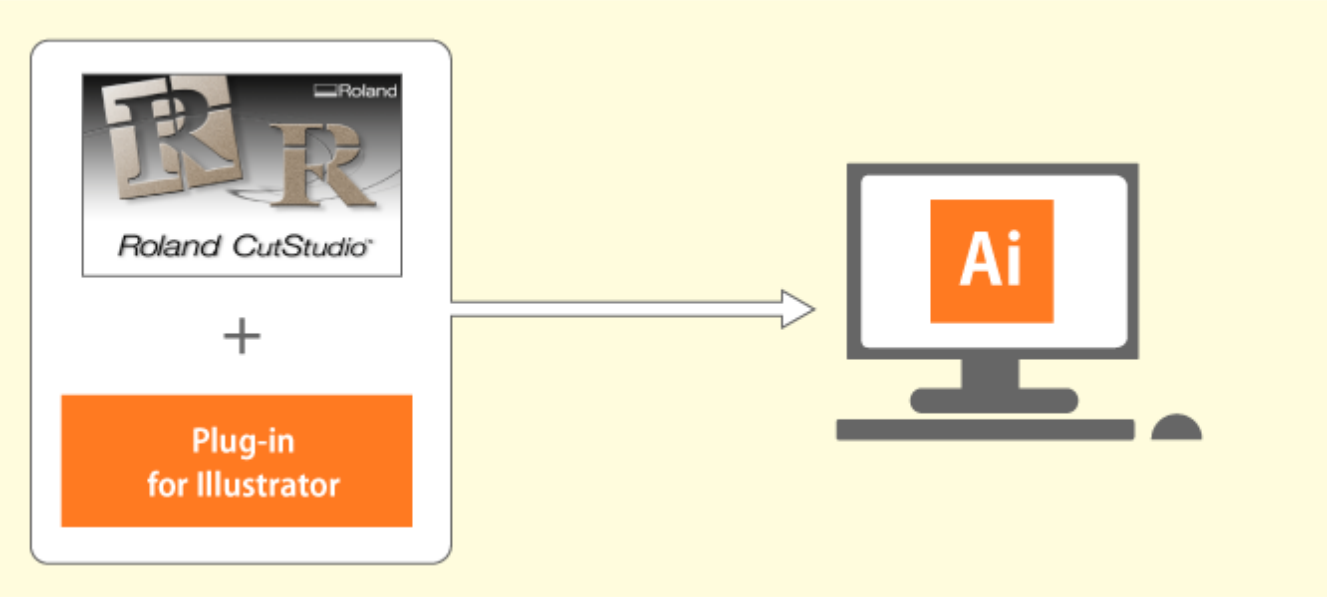
When Using Illustrator

Required Items

CutStudio
Plug-in for Illustrator

Installing Plug-in for Illustrator

Install CutStudio and Plug-in for Illustrator on the computer on which Illustrator is installed.



Sending Data from Illustrator

Outputting Data Created in Illustrator

Viewing Help

Viewing Help (Illustrator)

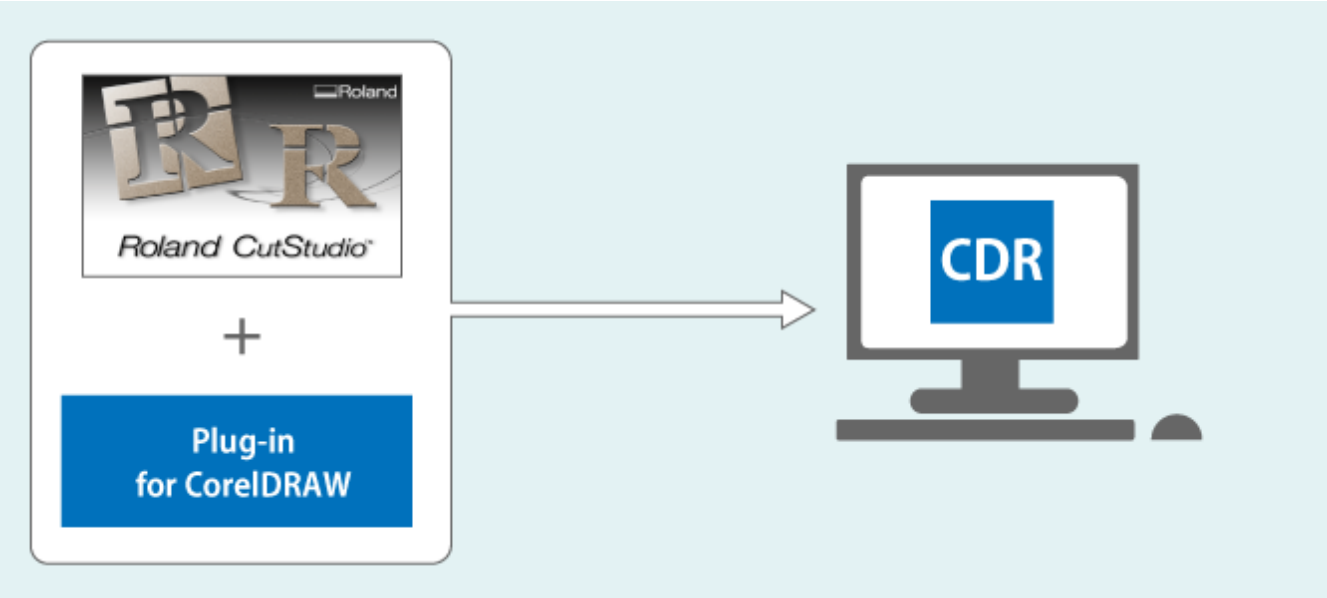
When Using CorelDRAW

Required Items

CutStudio
Plug-in for CorelDRAW

Installing Plug-in for CorelDRAW

Install CutStudio and Plug-in for CorelDRAW on the computer on which CorelDRAW is installed.



Sending Data from CorelDRAW

Outputting Data Created in CorelDRAW

Viewing Help

Viewing Help (CorelDRAW)

Outputting Data Created in Illustrator

* The screenshots show an example of Illustrator CC 2015, but the operation procedure is the same for other versions.

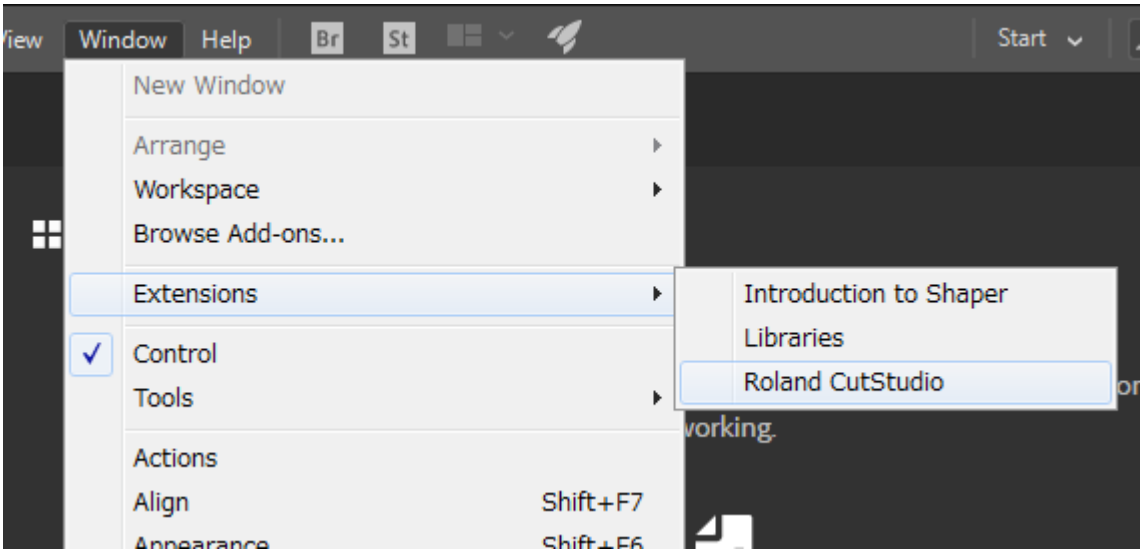
You must install Plug-in for Illustrator before proceeding.

Installing Plug-in for Illustrator

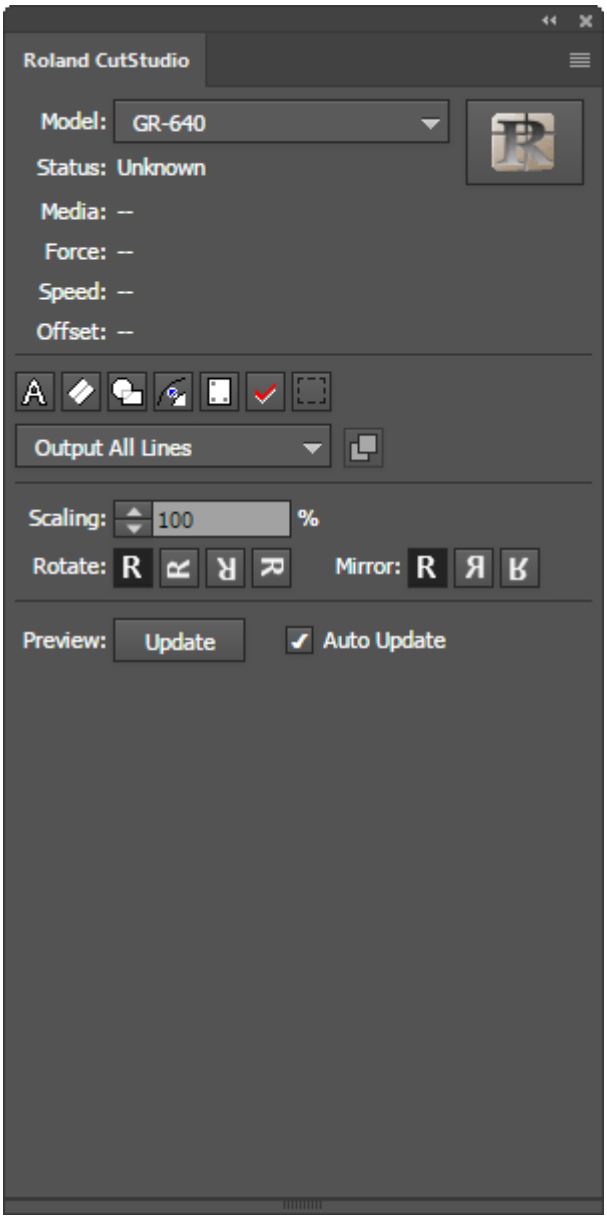
Procedure

1. Start Illustrator.

2. In Illustrator, click Extensions > Roland CutStudio from the Window menu.

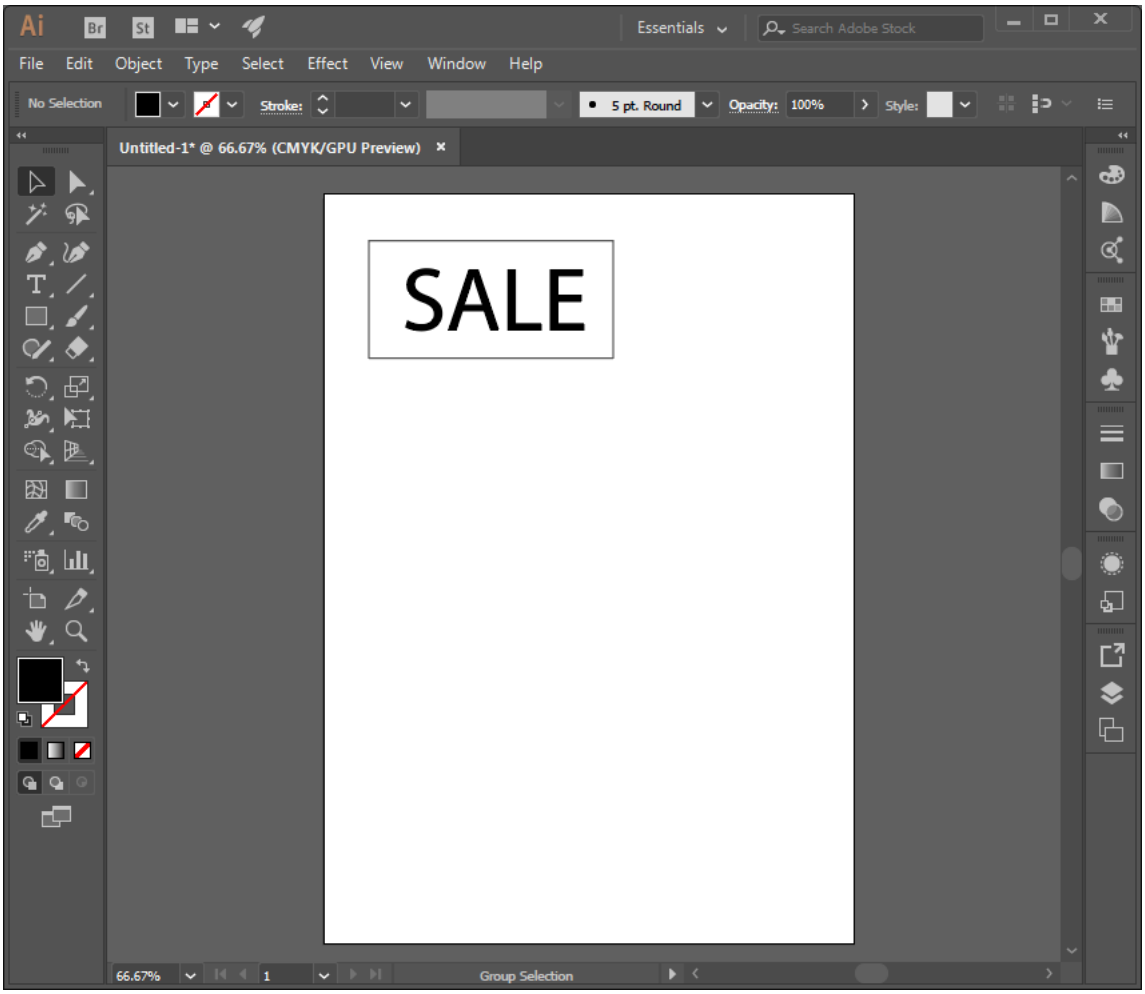


The "Roland CutStudio" palette appears.



3. Create a new file and create a new design or open an existing file.

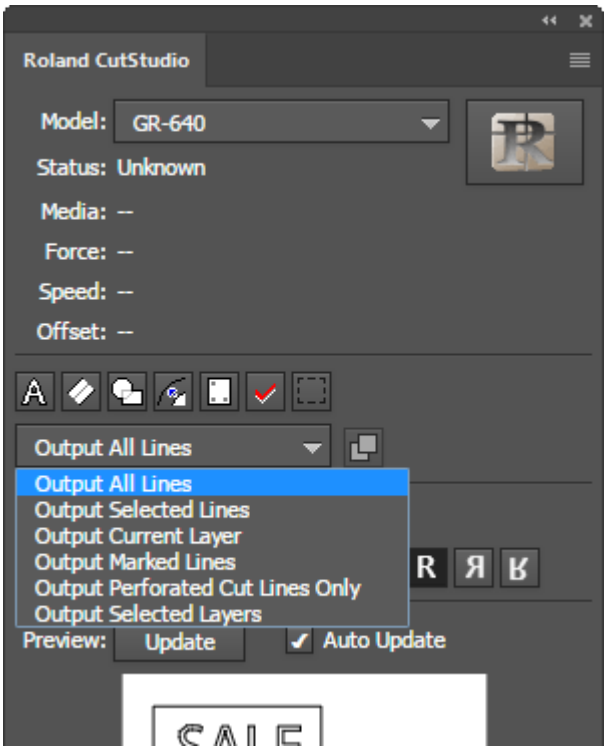
In this example, you will create the design shown in the figure below. Change the characters to outline data.



Memo

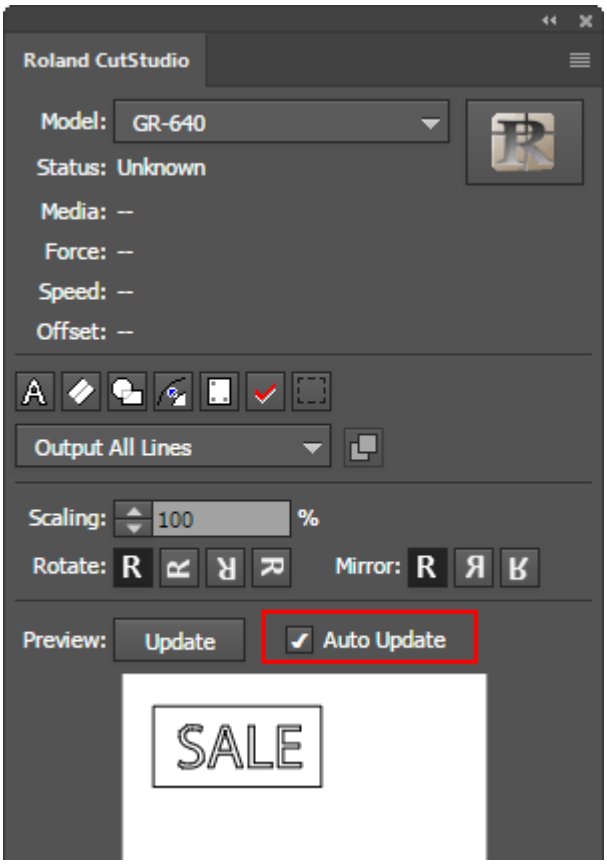
When you select characters and click A on the palette, the characters change to outline data.

4. Select Output All Lines.



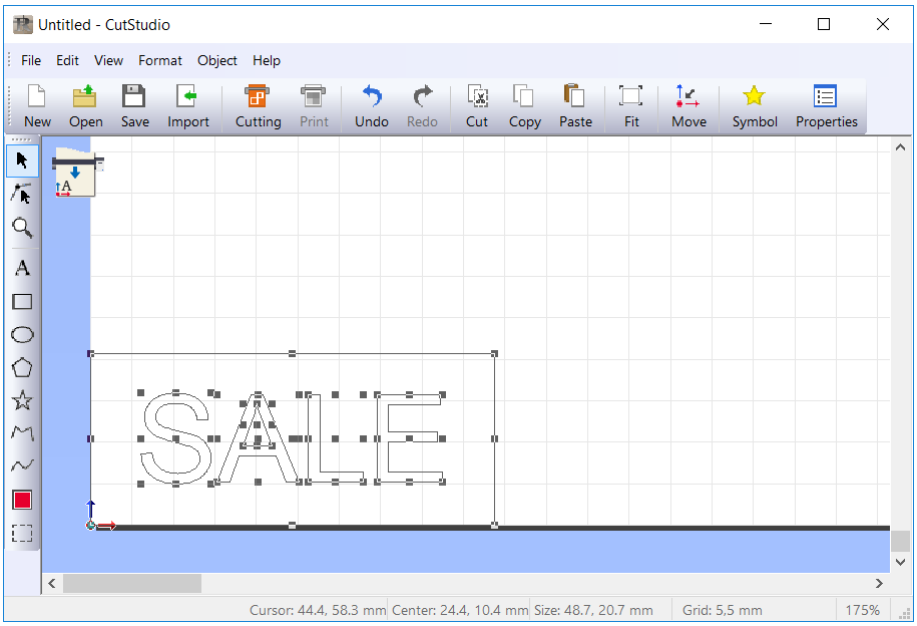
5. On the Roland CutStudio palette, select the Auto Update check box.

Check that the cutting line that you wish to output is shown on the preview screen.



6. Click .

CutStudio starts, and the cutting line data is sent to CutStudio.
The output data is always aligned at the origin of CutStudio regardless of the position in Illustrator. (This does not apply to data with crop marks.)



7. Perform cutting.

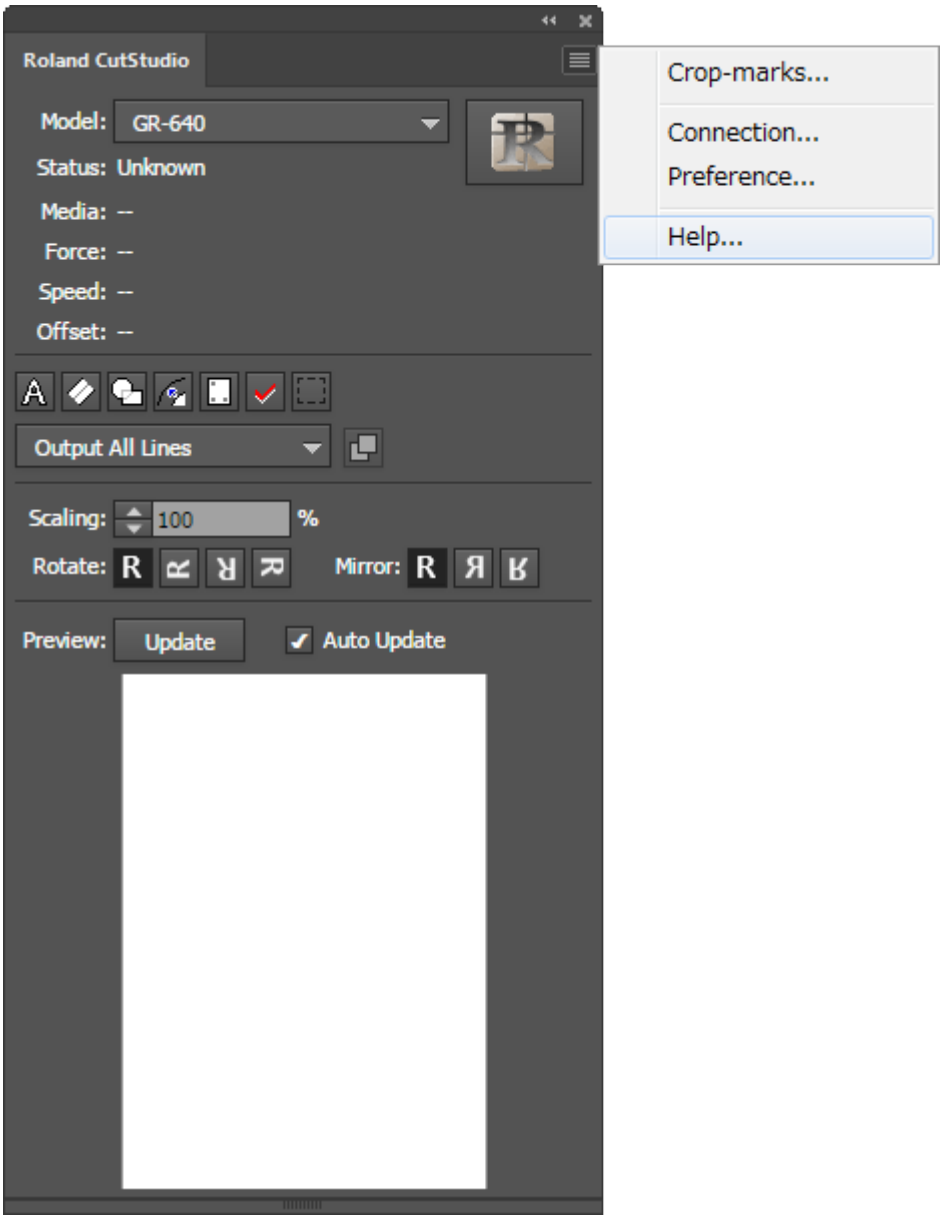
Performing Cutting

When perform cutting from CutStudio, refer to the procedure of "Simple! Basic Cutting."

Viewing Help (Illustrator)

Procedure

1. On the Roland CutStudio palette, click ▤, and then click Help.



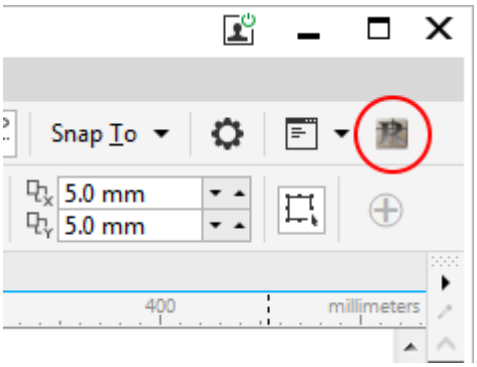
Outputting Data Created in CorelDRAW

You must install Plug-in for CorelDRAW before proceeding.

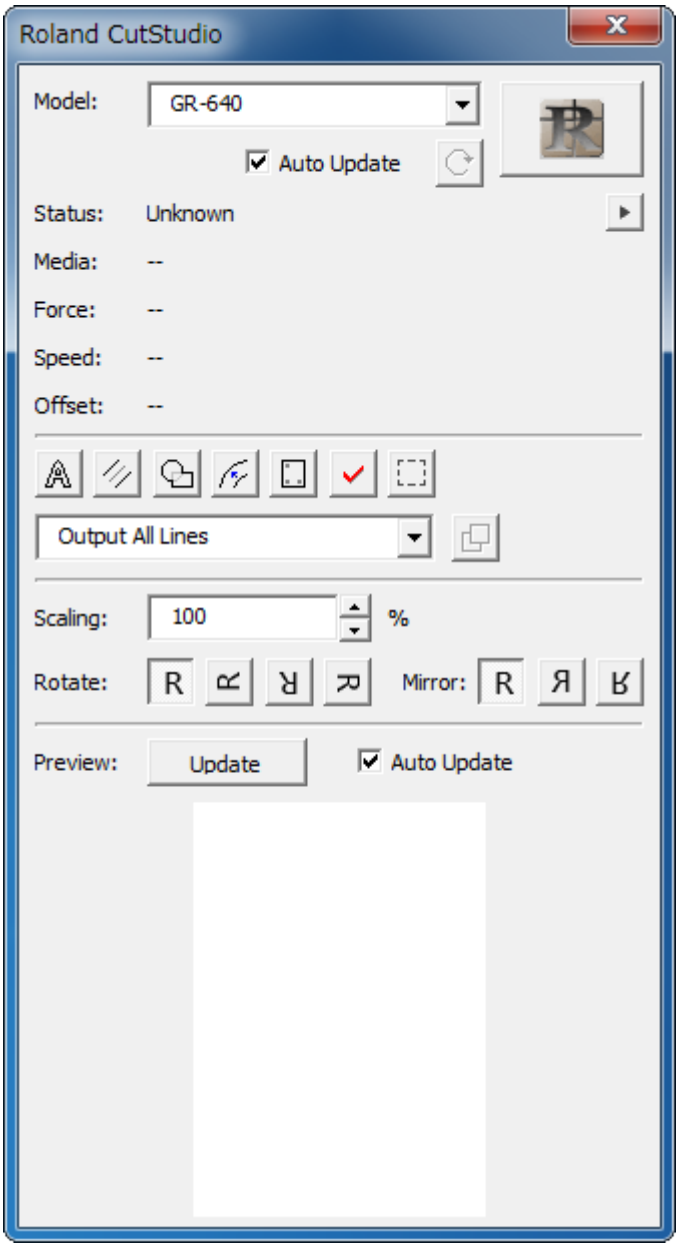
Procedure

1. Start CorelDRAW.

2. On the toolbar, click .

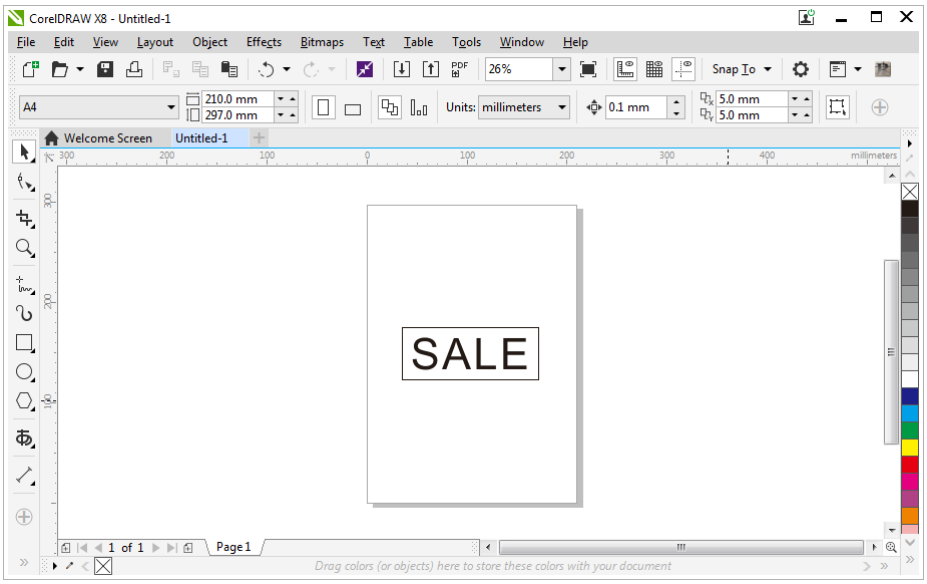


The "Roland CutStudio" palette appears.



3. Create a new document and create a new design or open an existing file.

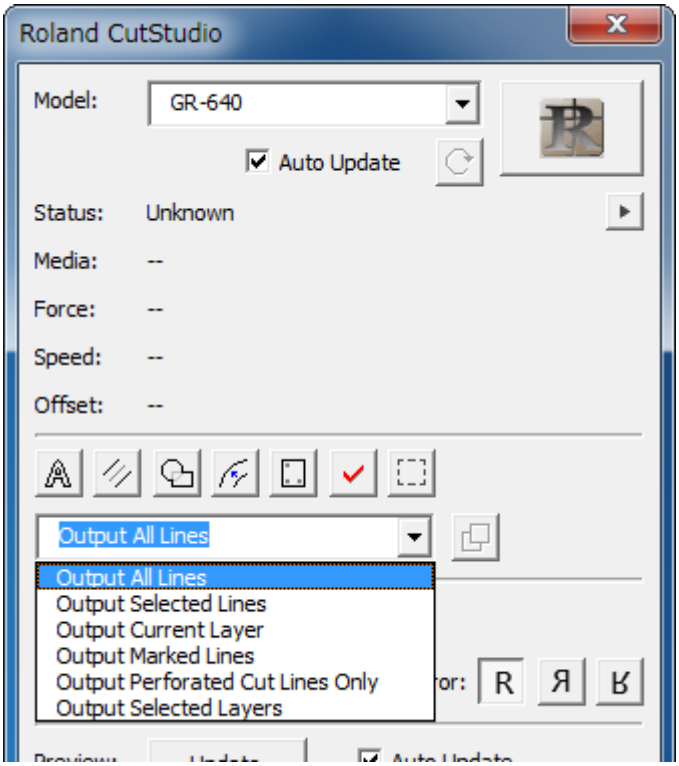
In this example, you will create the design shown in the figure below.
Convert the characters to curved lines.



Memo

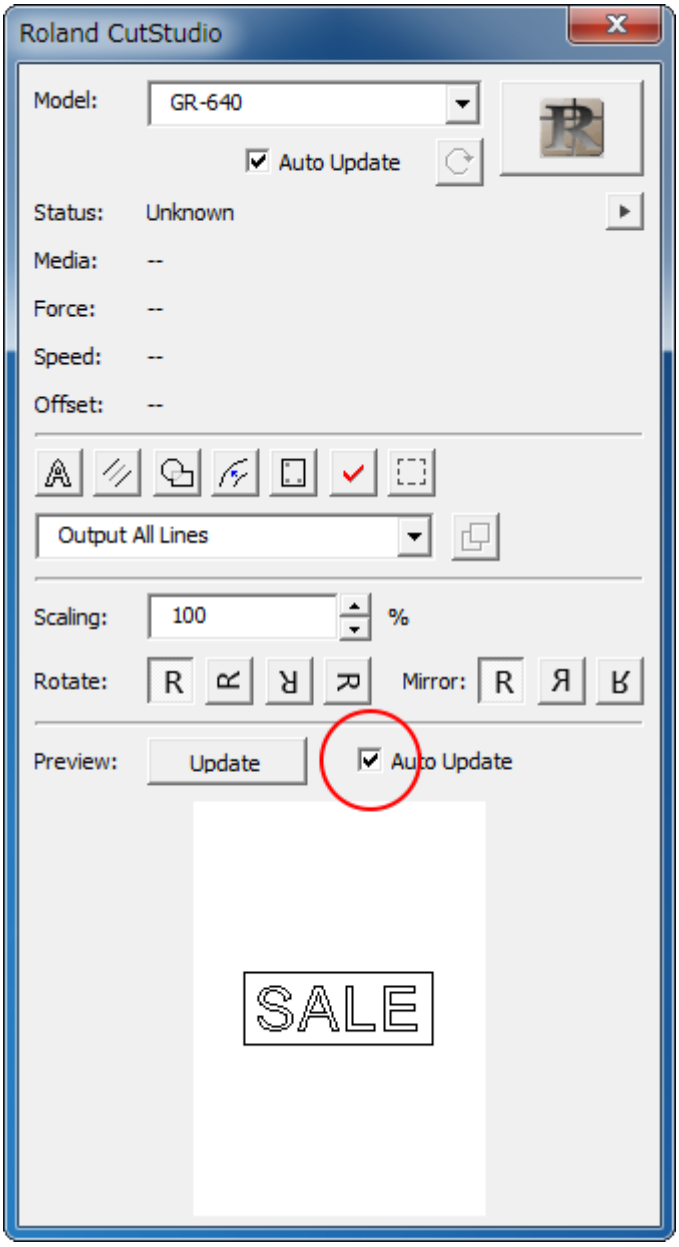
When you select characters and click on the palette, the characters change to outline data.

4. Select Output All Lines.



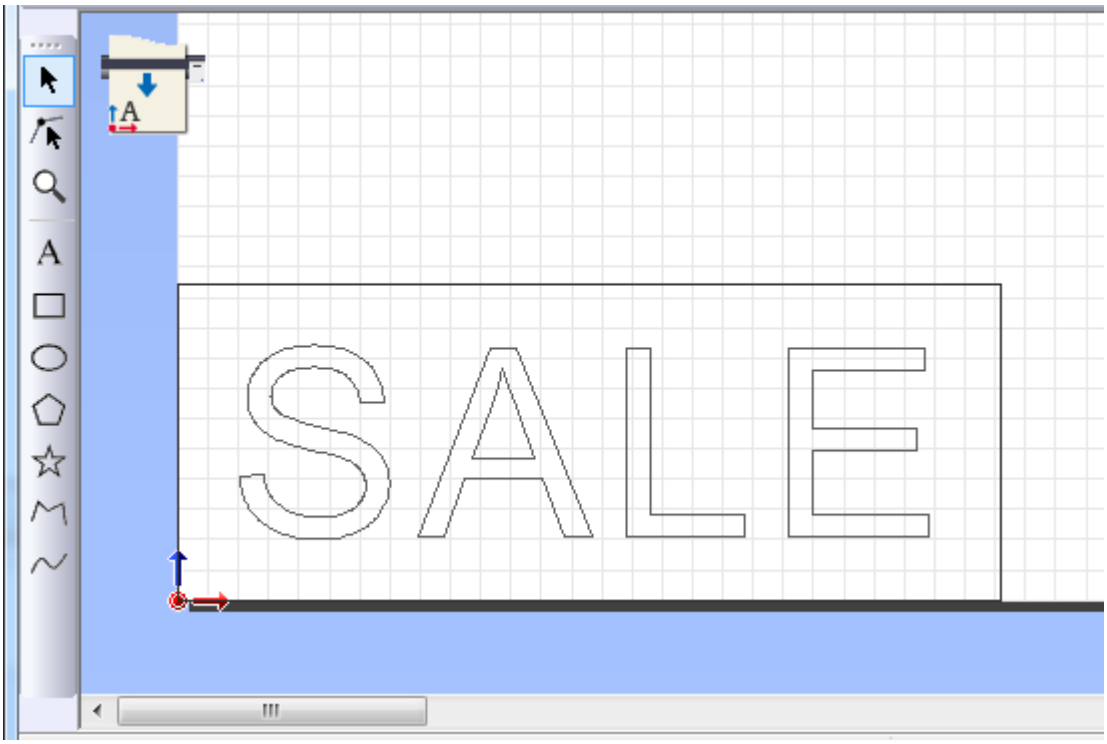
5. Select the Auto Update check box.

Check that the cutting line that you wish to output is shown on the preview screen.



6. Click .

CutStudio starts, and the cutting line data is sent to CutStudio.
The output data is always aligned at the origin of CutStudio regardless of the position in CorelDRAW.



The data created in CorelDRAW is output to CutStudio according to the following conditions.

All graphics that are drawn are output to CutStudio.
Character strings are not output to CutStudio. Convert character strings to curved lines prior to outputting the data.
Line width, fill, and arrows are ignored.
Lines without width are not output.
Images are not output.

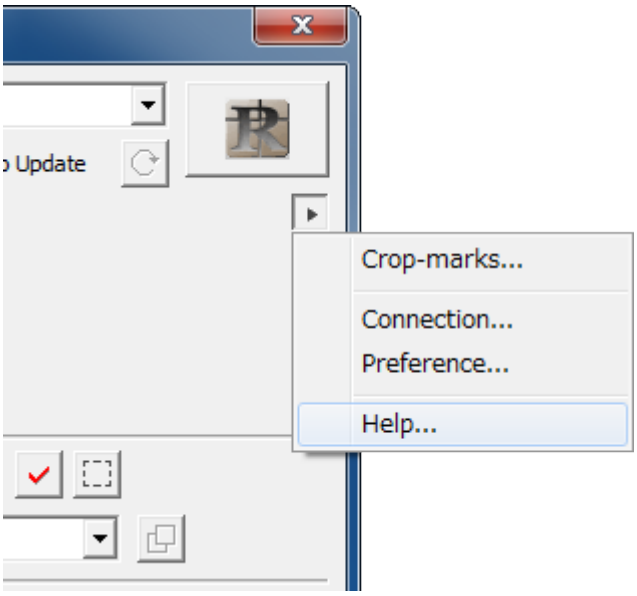
7. Perform cutting.

When perform cutting from CutStudio, refer to the procedure of "Simple! Basic Cutting."

Viewing Help (CorelDRAW)

Procedure

1. **On the Roland CutStudio palette, click ▸, and then click Help.**



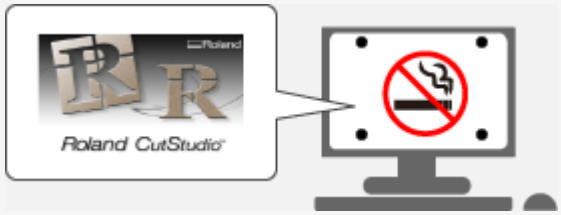
Printing and Cutting

Printing and Cutting Overview

Your favorite picture can be printed and cut. This makes it easy to create your own original stickers.

Flow Diagram

Create the data in CutStudio.
(You can also use Illustrator/CorelDRAW.)



Print the data with the printer.
(Use the printer that you have on hand.)

Cut the printed material.

Your original sticker is complete!

Materials That Can Be Used for Printing and Cutting

- Materials That Can Be Used for Printing and Cutting

Printing and Cutting with CutStudio

- Preparations for Printing and Cutting (When Using CutStudio)
- Printing and Cutting Procedure (CutStudio)

Printing and Cutting with Plug-ins

Printing and Cutting with Illustrator

- Preparations for Printing and Cutting (When Using Illustrator)
- Printing and Cutting Procedure (Illustrator)

Printing and Cutting with CorelDRAW

- Preparations for Printing and Cutting (When Using CorelDRAW)
- Printing and Cutting Procedure (CorelDRAW)

Printing and Cutting with a Roland DG Corp. Printer

Use Roland VersaWorks Dual to perform printing and cutting.
For the method to use, see the Roland VersaWorks Dual help.

Printing and Cutting without Using the Included Software

- Preparations for Printing and Cutting (Manual Mode)
- Printing and Cutting Procedure (Manual Mode)

Materials That Can Be Used for Printing and Cutting

Use material with carrier paper that can be printed on a laser or inkjet printer.

Material portion type	
Laser printer	Fine paper, coated paper, art paper, and PET (Polyethylene Terephthalate)
Inkjet printer	Vinyl chloride material, fine paper, and coated paper
Color	White

*** Automatic detection may not be possible for some materials, such as laminated or glossy materials.**

If automatic detection is not possible, align the crop marks using the alignment tool.

Cutting in Tool Mode (1)

Preparations for Printing and Cutting (When Using CutStudio)

Printing and Cutting Sample Data

We recommend that you get comfortable with the printing and cutting procedure by using the sample data first.
In this procedure, you will create the sticker shown below.

Printing and Cutting Procedure (CutStudio)

Items Required Other than the Machine

Printer	A computer with CutStudio installed
Material (210 x 298 mm)	Sample data

Printer Requirements

You must use a laser or inkjet printer with a resolution of 720 dpi or greater.

If the printed filled sections are blurred, crop marks will not be read correctly.

CutStudio

Be sure to install this program. Only CutStudio can be used to perform printing and cutting operations.

http://startup.rolanddg.com/

Materials That Can Be Used for Printing and Cutting

This example uses A4-size material.

Materials That Can Be Used for Printing and Cutting

Sample Data

Open the Sample.bmp file found in the CutStudio installation folder (usually located in the CutStudio folder under Program Files on the C drive).

Sample Data Cannot Be Found

Printing and Cutting Procedure (CutStudio)

Printing and Cutting Procedure (CutStudio)

Procedure

- Step 1: Set the Printing and Cutting Areas
- Step 2: Import the Sample Data
- Step 3: Draw the Cutting Lines
- Step 4: Perform Printing
- Step 5: Load the Printed Material
- Step 6: Set the Alignment Method (Sensor Mode)
- Step 7: Perform Cutting (Sensor Mode)

Step 1: Set the Printing and Cutting Areas

Procedure

1. Start CutStudio.

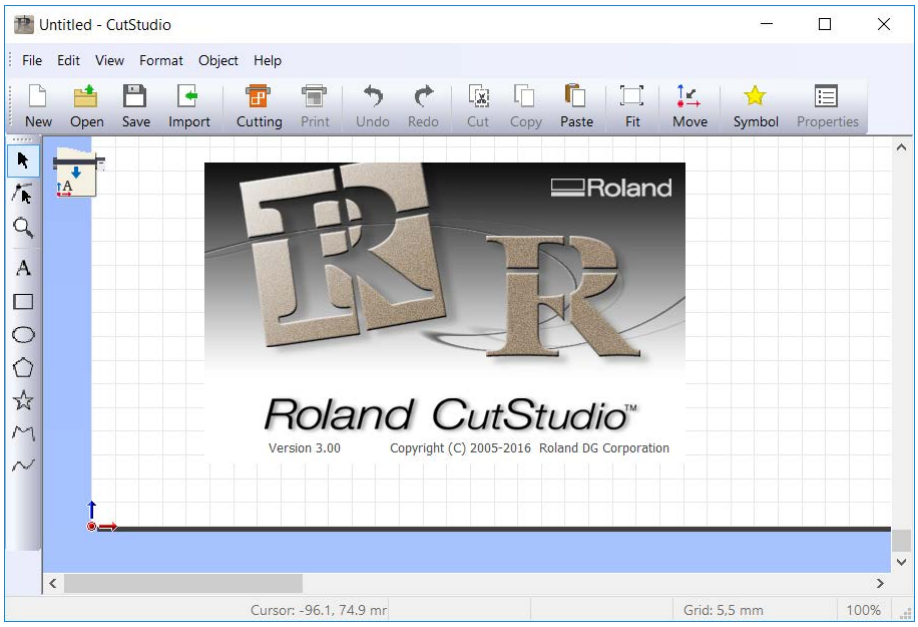
Windows 10 and Windows 7

On the Start menu, click All Programs (or Programs), click Roland CutStudio, and then click CutStudio.

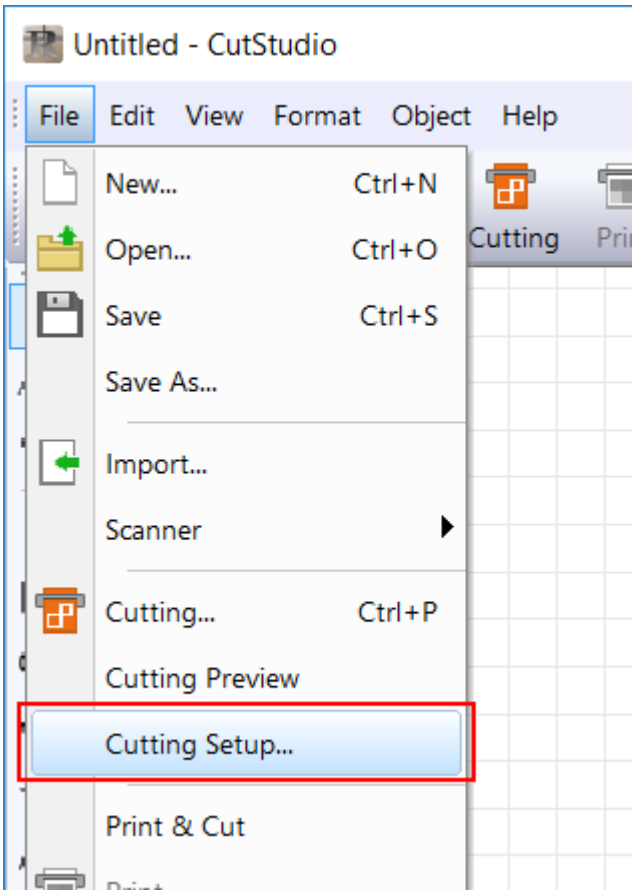
Windows 8.1

At the lower left of the Start screen, click to display the Apps screen. Click .

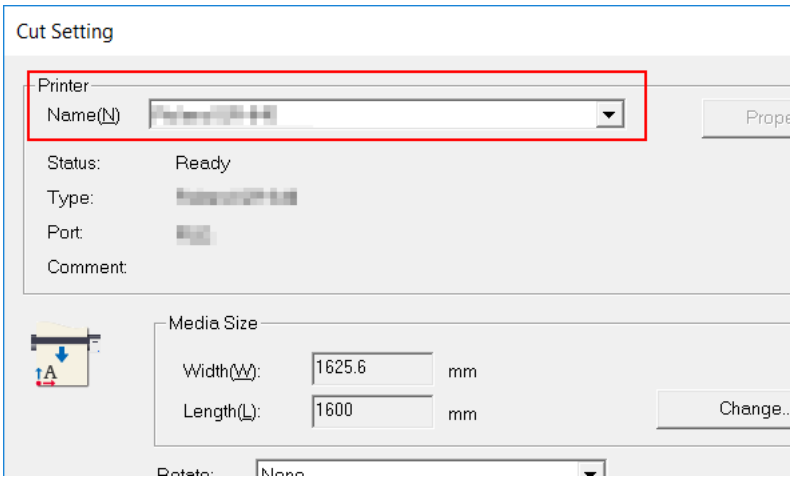
The screen shown below appears.



2. From the File menu, click Cutting Setup.

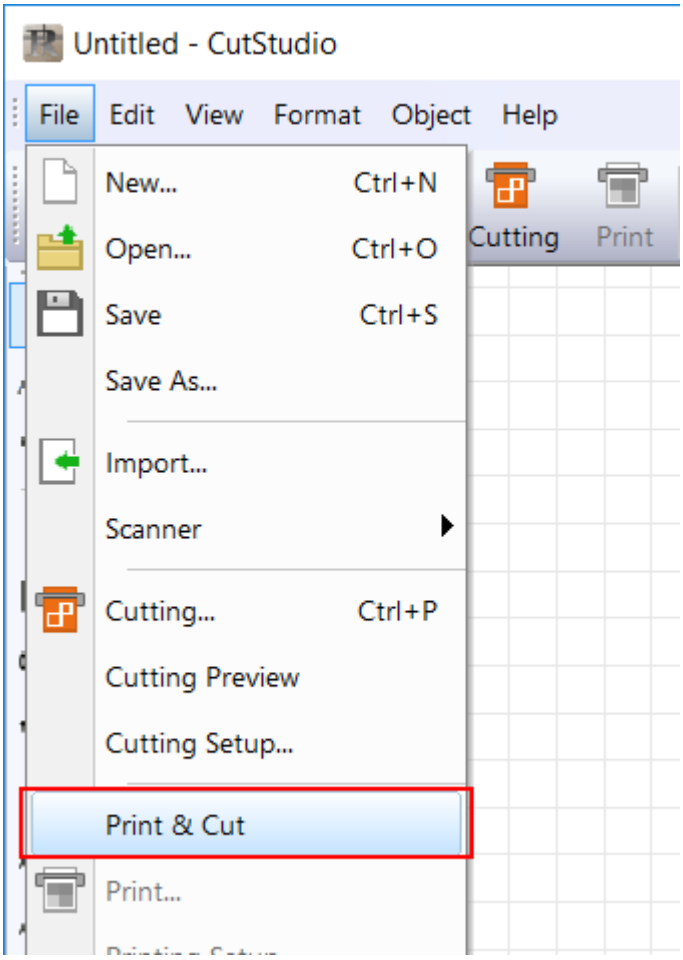


3. Use Name under Printer to select the model name of the machine on hand.

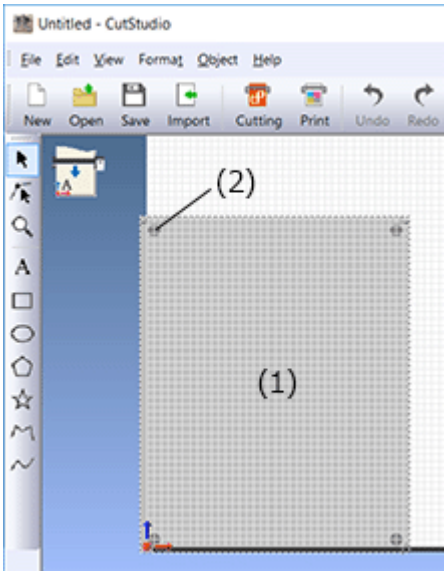


4. Click OK.

5. From the File menu, click Print & Cut.

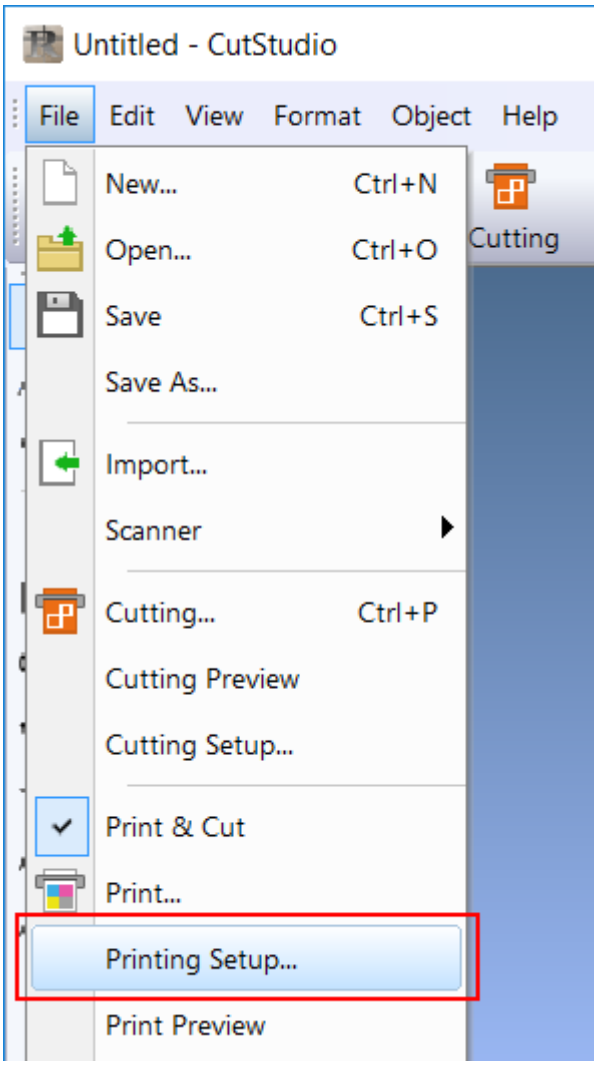


The printing area and crop marks are displayed on the screen. The printing area is displayed with dotted lines. This area corresponds to the paper size specified in Set up the printer excluding the margins specified in Printing Setup.

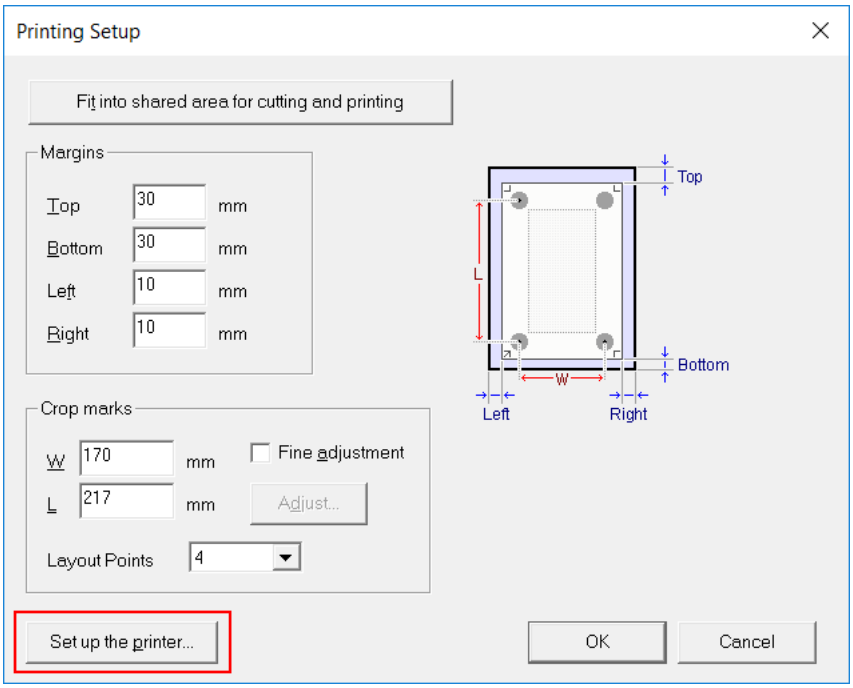


(1) Printing area
(2) Crop mark

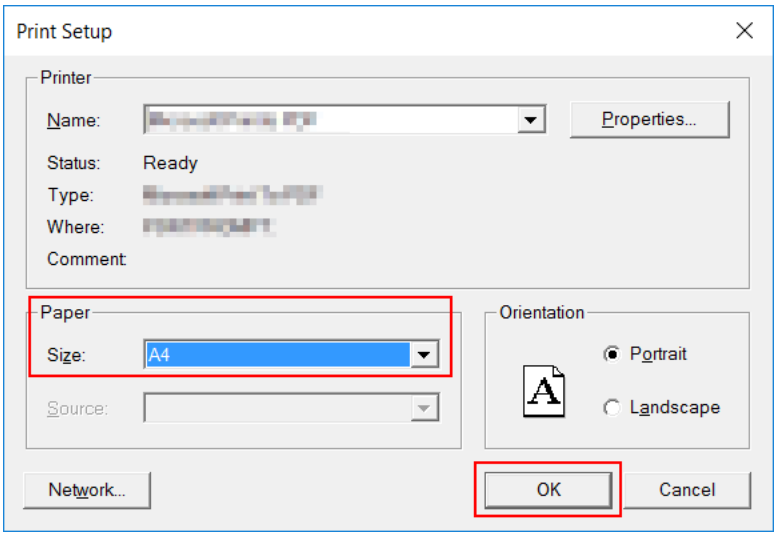
6. From the File menu, click Printing Setup.



7. Click Printer Setup.

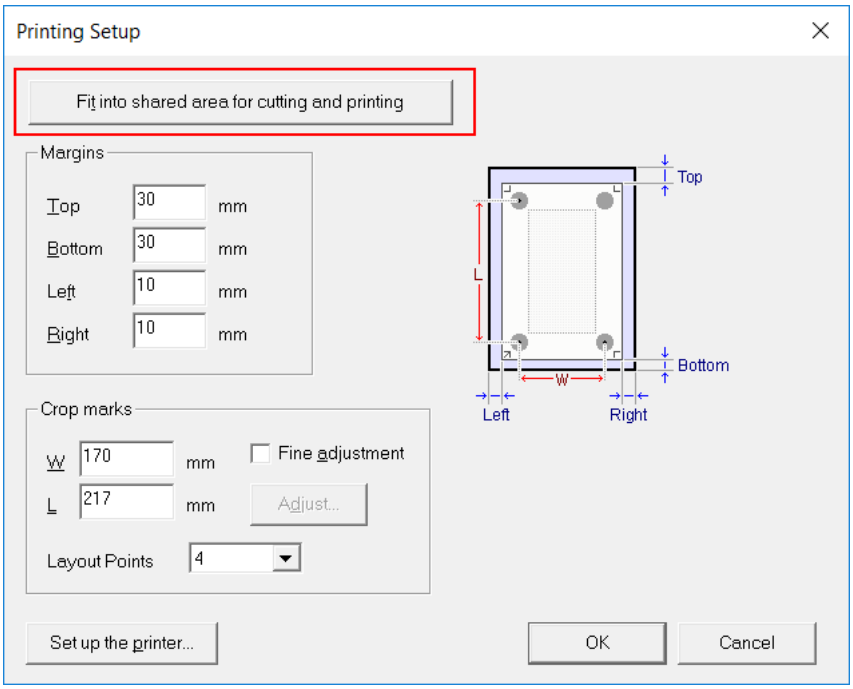


8. Set the document size, and then click OK.



9. Click Fit into shared area for cutting and printing.

The crop mark location is set automatically.



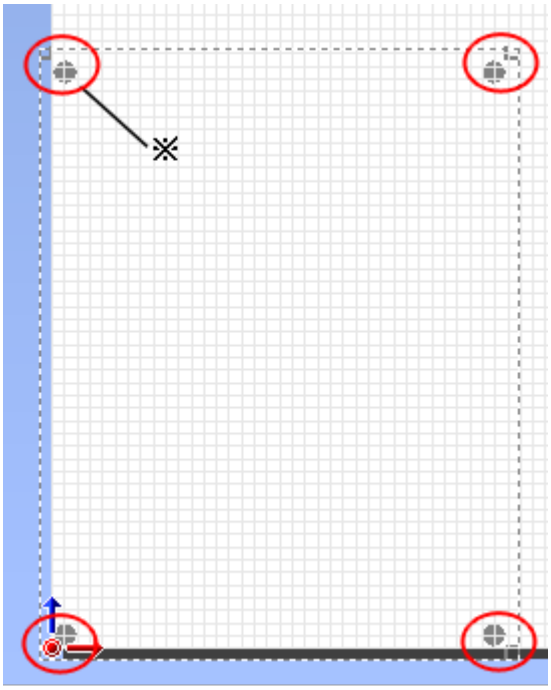
Memo

For guidelines when setting the margins and crop marks, see "Setting the Margins and the Distance between Crop Marks."

10.

10. Click OK.

After setting the values, check that the crop marks are within the printing area.



* Ensure that the crop marks do not project outside of the dotted lines.

Step 2: Import the Sample Data

Step 2: Import the Sample Data

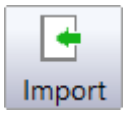
File Formats That Can Be Imported into CutStudio

JPEG format
* JPEG files saved in CMYK format cannot be imported.

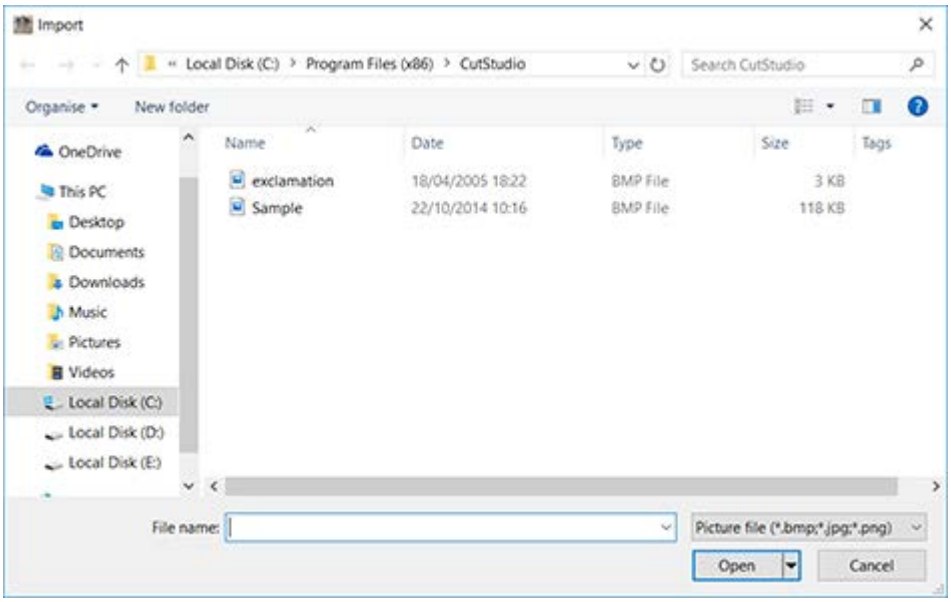
BMP format

AI, EPS format (Illustrator 8.0 version)
* Illustrator 8.0 and EPS 8.0 are the importable file formats. If using a higher version, save files as a lower version before importing.

Procedure

1. Click  to import image data.

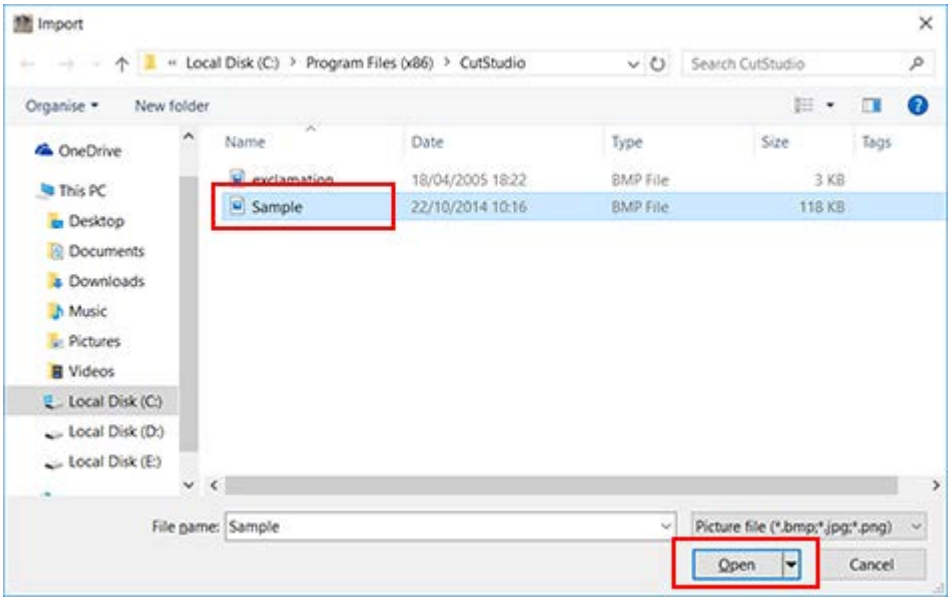
Here, open the Sample.bmp file found in the CutStudio installation folder (usually located in the CutStudio folder under Program Files on the C drive). The screen below is displayed.



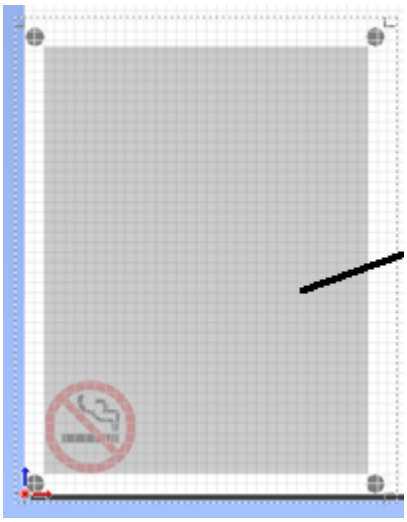
Sample Data Cannot Be Found

Illustrator Data Cannot Be Imported

2. Select the image data, and then click Open.



3. Position the image data in the area within the crop marks.



Memo You can change the darkness of the imported image.

For more details, refer to "Changing the Darkness of an Aligned Image."

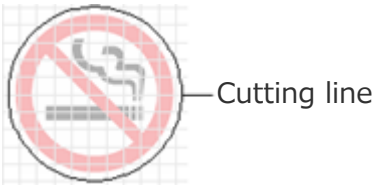
Step 3: Draw the Cutting Lines

Step 3: Draw the Cutting Lines

Procedure

1. Click , and then draw the cutting lines.

If using the sample data, draw the line as shown below.



2. Click Save.

Save the data.

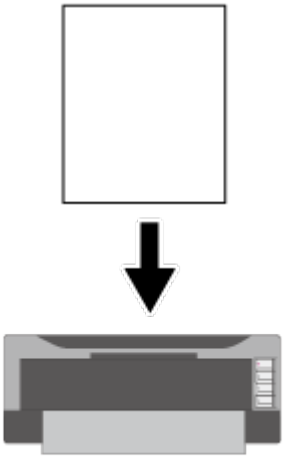
Step 4: Perform Printing

Step 4: Perform Printing

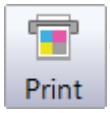
Procedure

1. Load the material in the printer.

For details on how to load the material, see the instruction manual for your printer.

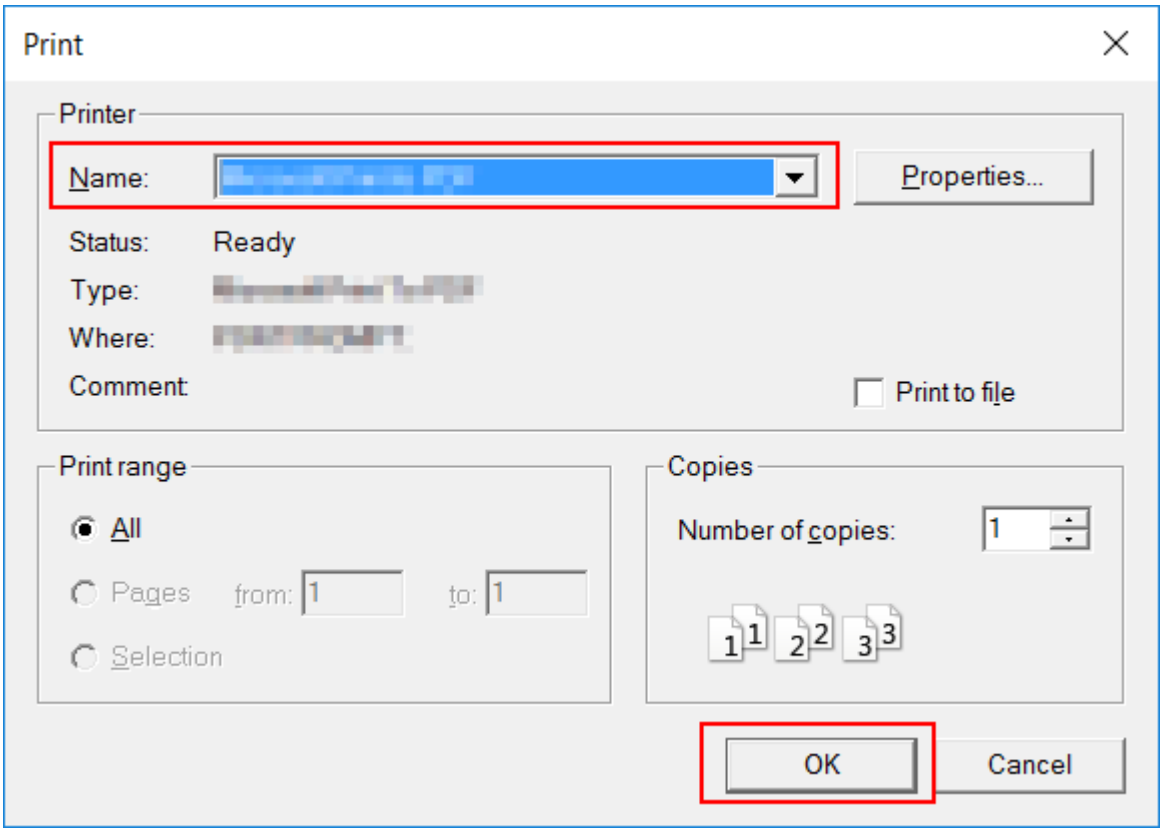


* When expanded/reduced printing is enabled, disable it. Print at 100% scale.

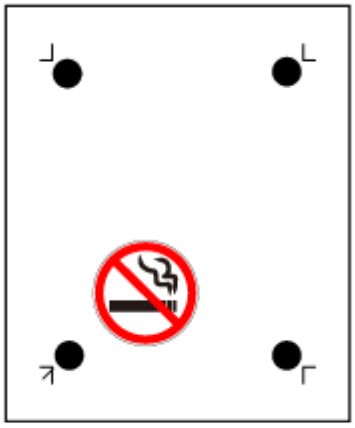
2. Click 

.

3. Select the printer you want to use, and then click OK.



The image is printed as shown in the figure below.
* Cutting lines are not printed.

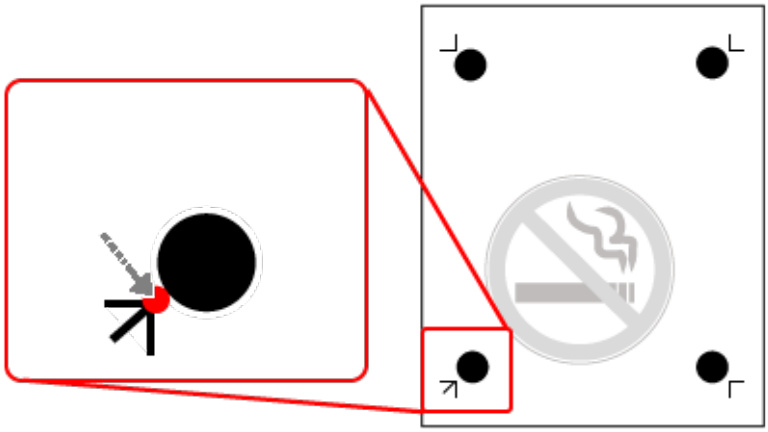


Step 5: Load the Printed Material

Step 5: Load the Printed Material

Procedure

1. Check the origin for cutting of the printed material.

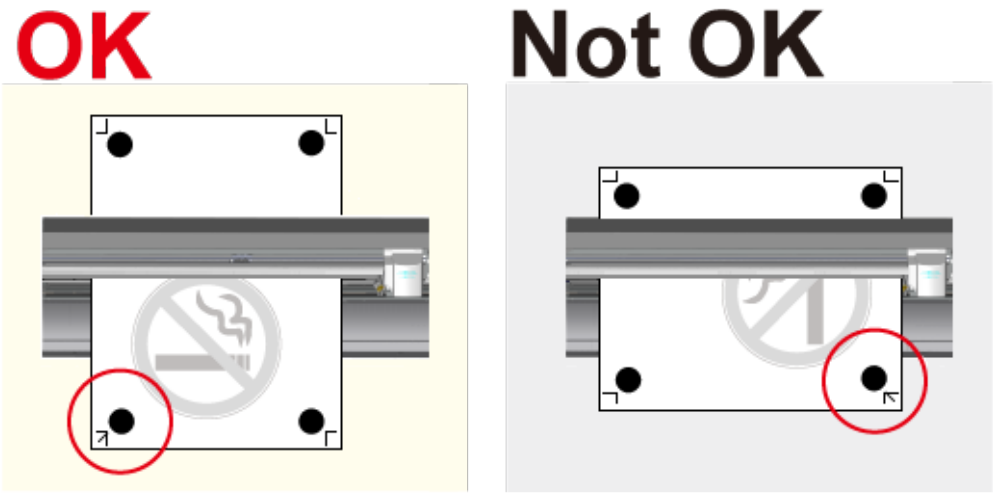


2. Turn on the cutting machine.

Wait for the initial operation to finish.

3. Set the origin for cutting to the lower-left corner of the material, and then load the material in the machine.

If the material is loaded in the wrong direction, the machine will not be able to read the crop marks.

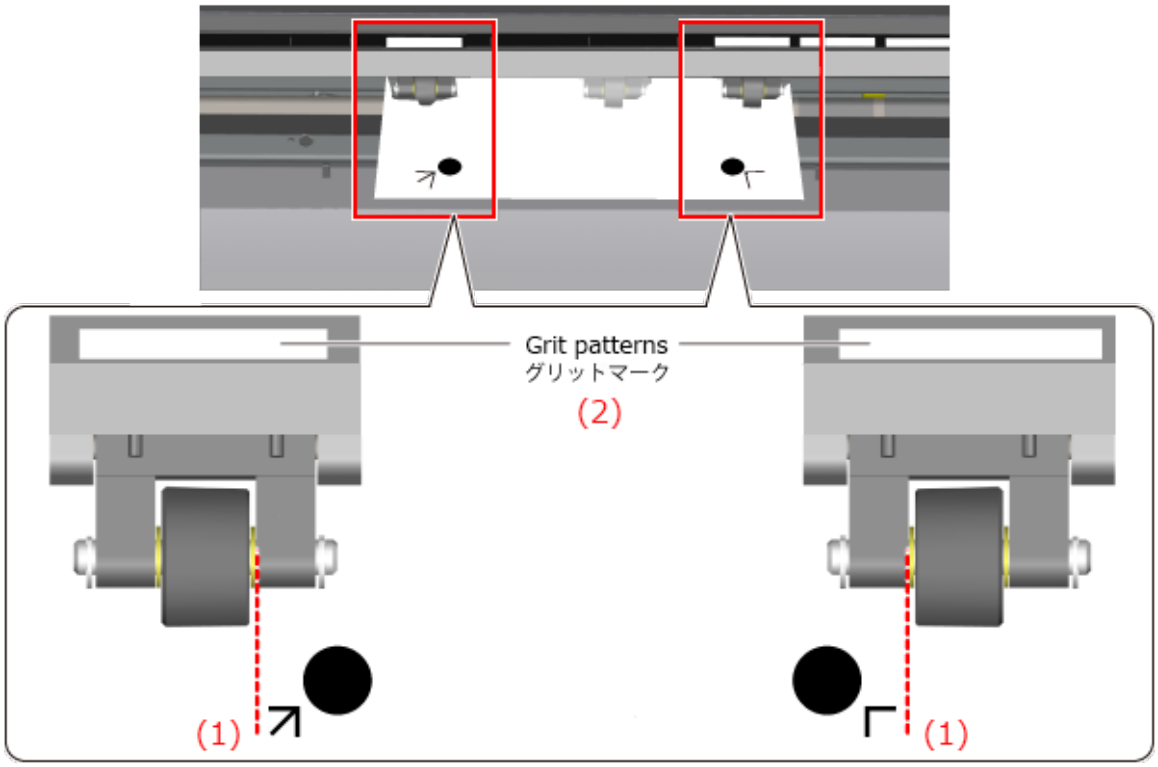


4. Position the left and right pinch rollers as shown in the figure.

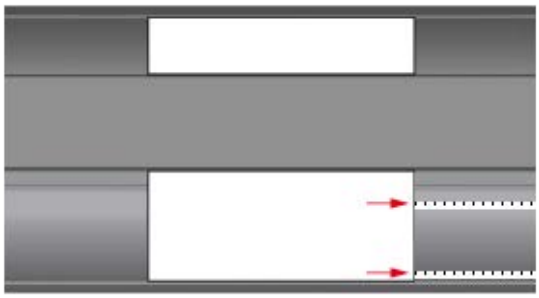
For A4-size material, do not use the middle pinch rollers.

Using Narrow Material/Preventing Marking Made by the Middle Pinch Rollers

(1) Position the pinch rollers outside the tool marks.
(2) Be sure that both edges of the material and the pinch rollers are inside the grit patterns.



5. Align the right edge of the material with the front and back gradations of the platen.



6. Select the type of material.

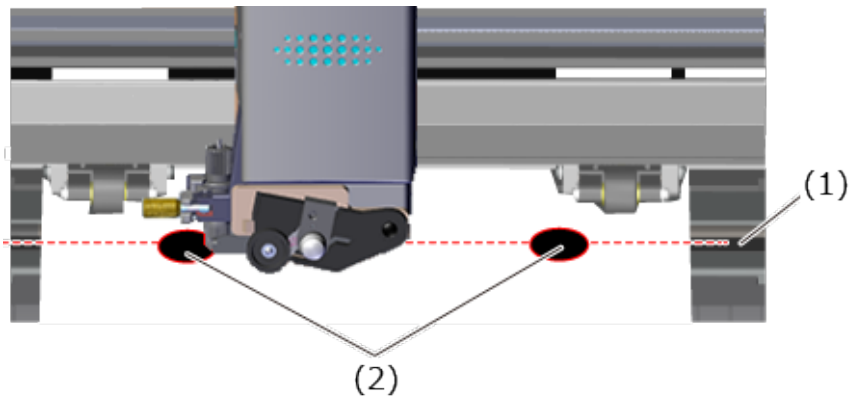
```
SELECT SHEET    ◆
 PIECE          ↵
```

7. Press [ENTER].

The pinch rollers lower and the carriage and material move.
When the movement is finished, the cuttable width and length are displayed.

```
W:  183mm
L:  258mm
```

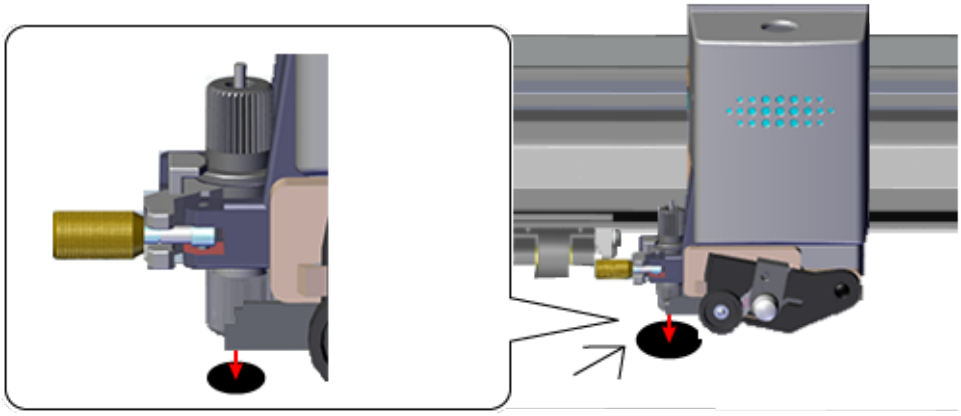
8. Press [▲] and [▼] to move the material and position the crop marks above the blade protector.



(1) Blade protector
(2) Crop marks

9.

9. Press [◀] and [▶] to position the tip of the blade over the center of the lower-left crop mark.

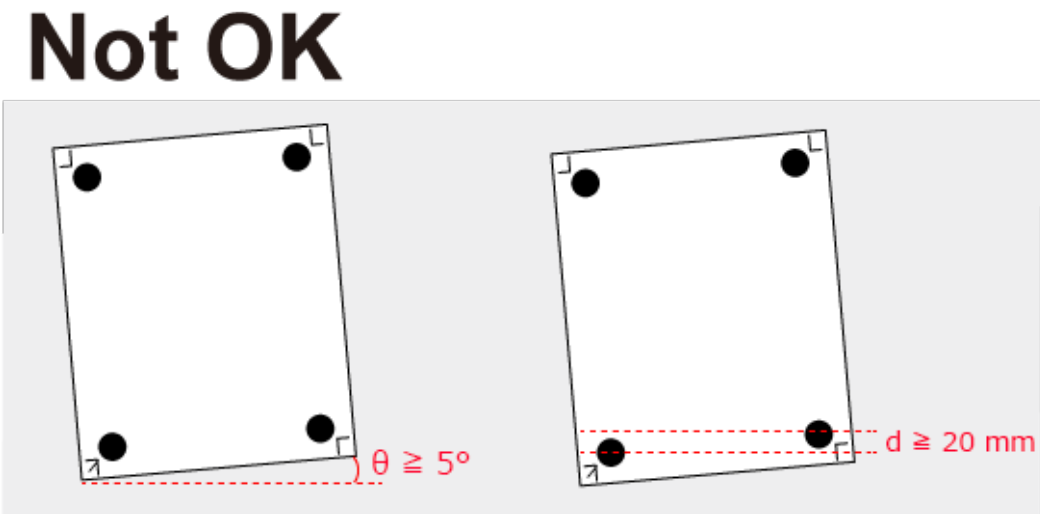


Do not set the origin.

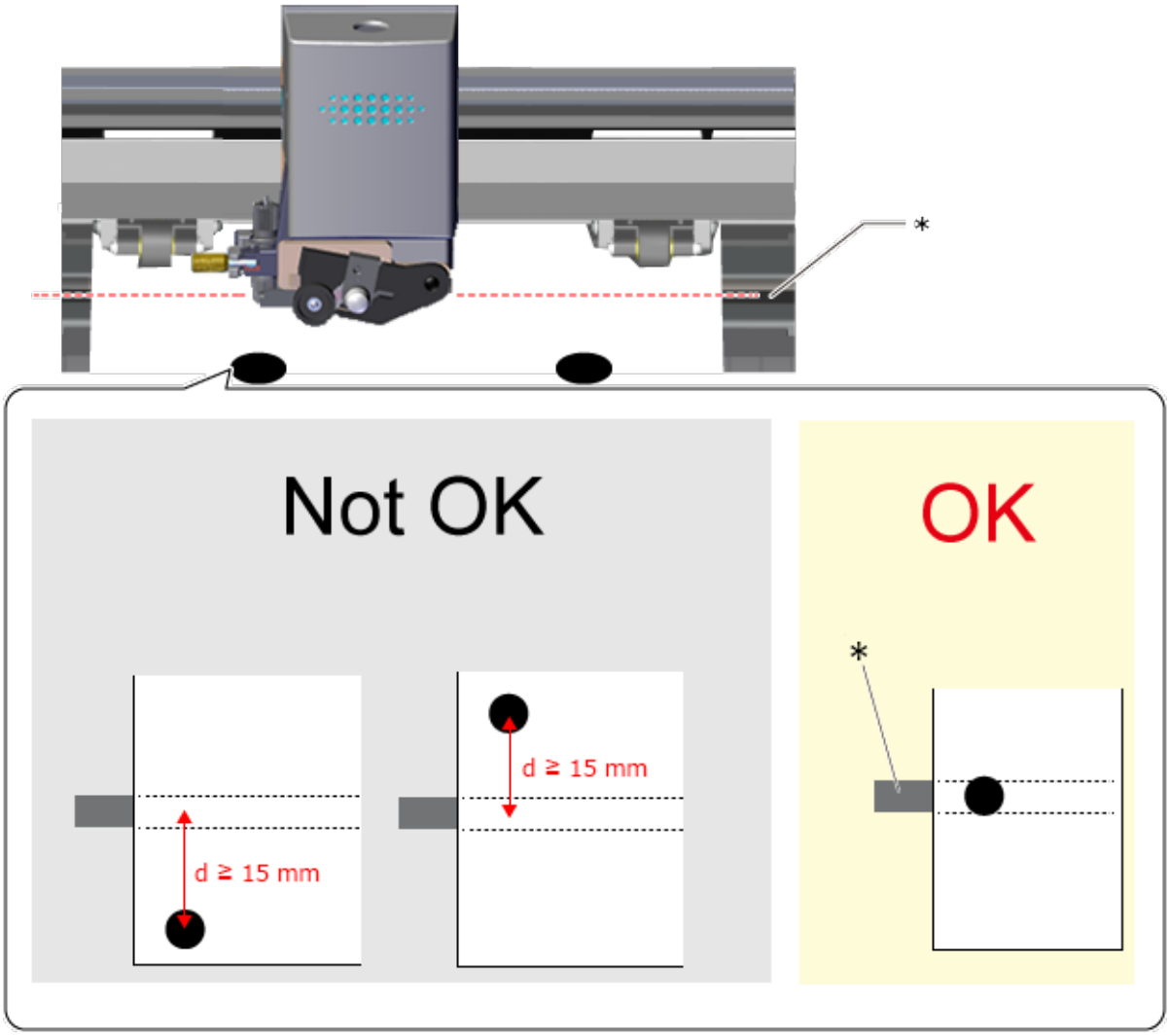
Crop marks cannot be read in the situations indicated below.

If any of the following situations occur, remove the material, and then reload it.

The left and right crop marks are slanted by 5 degrees or more with respect to the moving direction of the cutting carriage.
The left and right crop marks are offset by 20 mm or more in the material-feed direction.

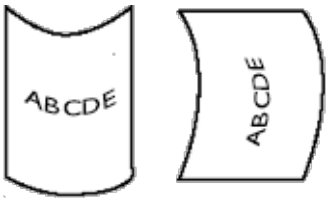


The crop marks are separated from the blade protector by a distance of 15 mm or more.



*: Blade protector

The material sometimes curls when it is printed on the printer.
Do not use material that is curled as shown in the figure. The crop marks may not be read. If this happens, straighten out the material before loading it on the cutting machine.



Step 6: Set the Alignment Method (Sensor Mode)

Step 6: Set the Alignment Method (Sensor Mode)

Position the crop marks automatically using the machine's integrated sensor.

Procedure

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
CROPMARK
<SENSOR MODE>
```

3. Press [▶] and select SENSOR MODE.

```
CROPMARK
*SENSOR MODE
```

4. Press [ENTER] to select the setting.

Press [MENU] to return to the screen shown in the figure.

```
W: 183mm
L: 258mm
```

Step 7: Perform Cutting (Sensor Mode)

Step 7: Perform Cutting (Sensor Mode)

CAUTION

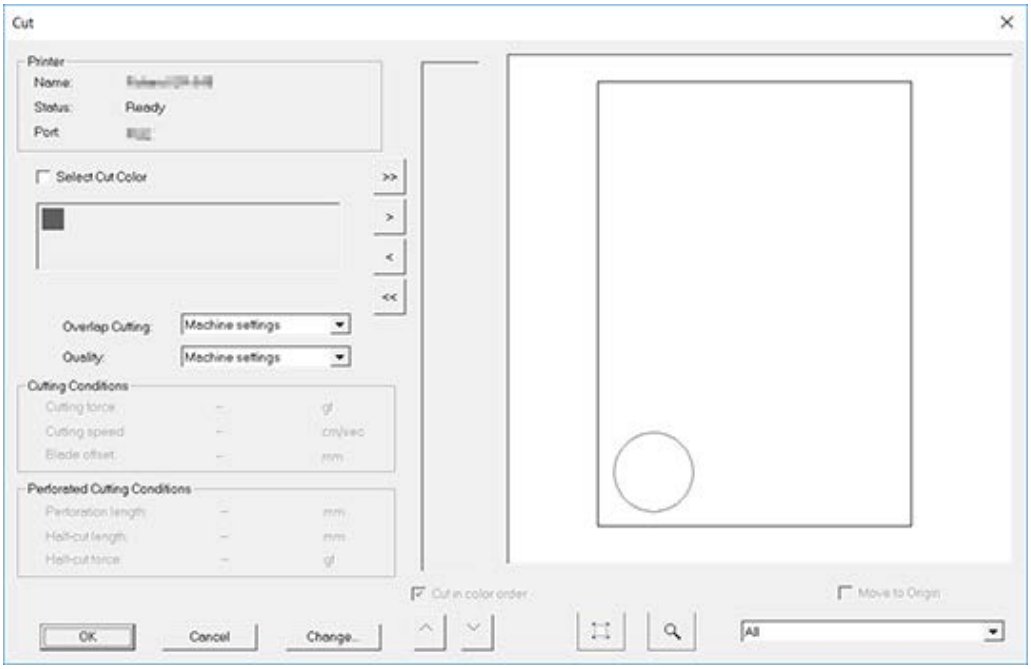
Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Procedure

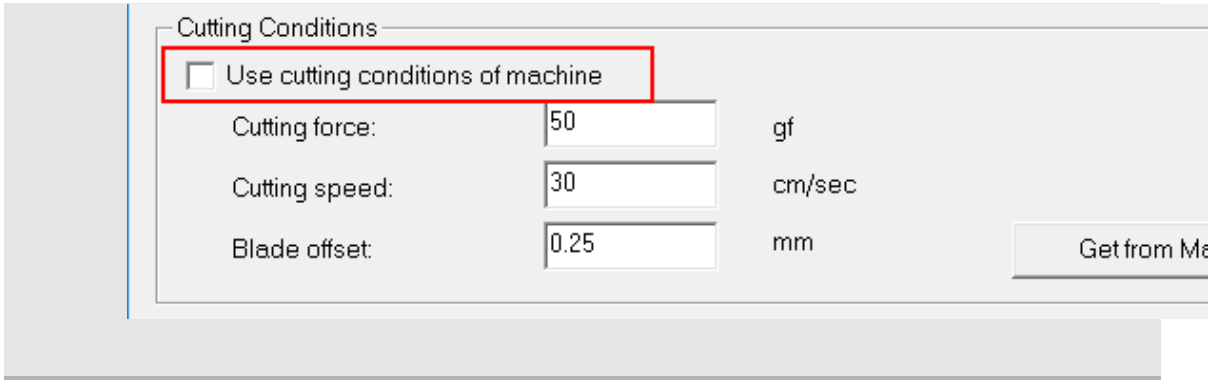
1. Set the material size.

Creating Cutting Data (2)

2. Click Cutting.



Memo
If you want to change the cutting conditions, click Change, clear the Use cutting conditions of machine check box, and then enter the values.



3. Click OK.

The cutting data is sent to the machine. When the machine receives the data, it automatically reads the crop marks using a sensor, and then starts cutting.

If the sensor fails to read the crop marks

If the sensor fails to read the crop marks, the screen in the figure appears. If this screen appears, see "Crop Marks Cannot be Read." If this does not resolve the issue, refer to "Cutting in Tool Mode (1)," and then perform positioning in tool mode.

```
SET TO
<TOOL MODE>
```

4. Remove the cut material.

Removing the Material

This completes the cutting procedure.

Preparations for Printing and Cutting (When Using Illustrator)

Printing and Cutting Sample Data

We recommend that you get comfortable with the printing and cutting procedure by using the sample data first.
In this procedure, you will create the sticker shown below.

Printing and Cutting Procedure (Illustrator)

Items Required Other than the Machine

Printer	Material (210 x 298 mm)	Sample data
A computer on which CutStudio, Illustrator, and Plug-In for Illustrator are installed		

Printer Requirements

You must use a laser or inkjet printer with a resolution of 720 dpi or greater.

If the printed filled sections are blurred, crop marks will not be read correctly.

Cut Studio/Plug-In for Illustrator

Be sure to install these programs.

http://startup.rolanddg.com/

Material

This example uses A4-size material.

Materials That Can Be Used for Printing and Cutting

Sample Data

Open the Sample.bmp file found in the CutStudio installation folder (usually located in the CutStudio folder under Program Files on the C drive).

Sample Data Cannot Be Found

Printing and Cutting Procedure (Illustrator)

Printing and Cutting Procedure (Illustrator)

Procedure

- Step 1: Set the Printing and Cutting Areas
- Step 2: Position the Sample Data
- Step 3: Draw the Cutting Lines
- Step 4: Perform Printing
- Step 5: Load the Printed Material
- Step 6: Set the Alignment Method (Sensor Mode)
- Step 7: Perform Cutting (Sensor Mode)

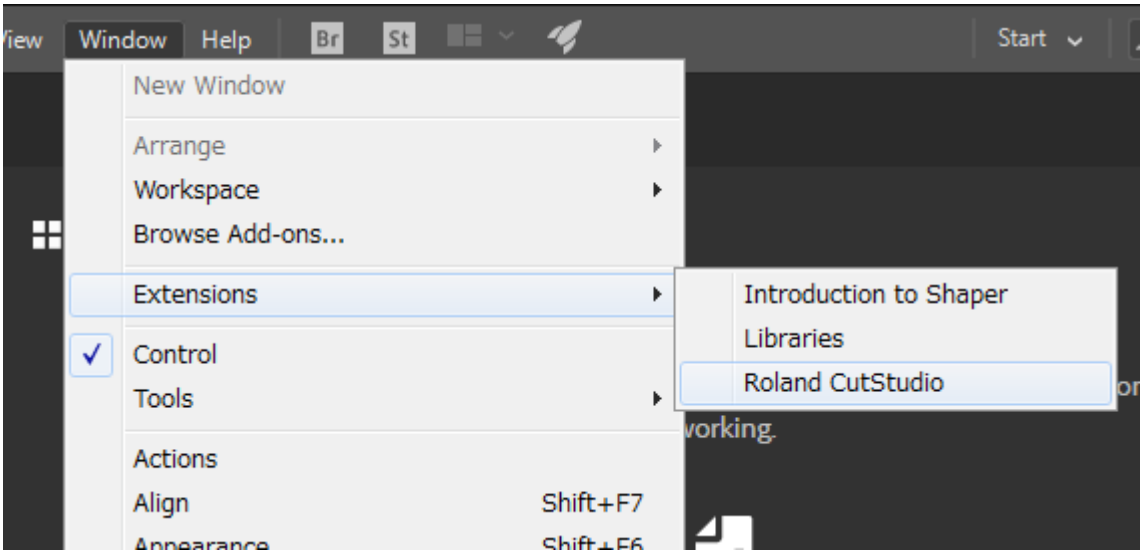
Step 1: Set the Printing and Cutting Areas

Procedure

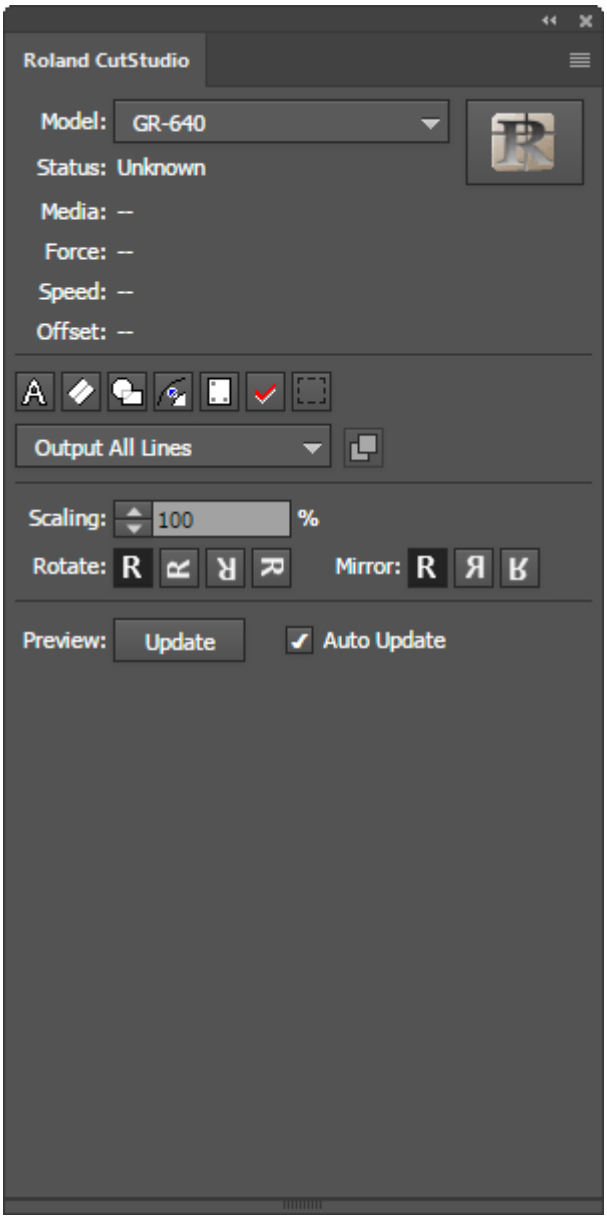
1. Start Illustrator and open a new document.

Set the artboard.

2. From the Window menu, click Extensions, and then click Roland CutStudio.

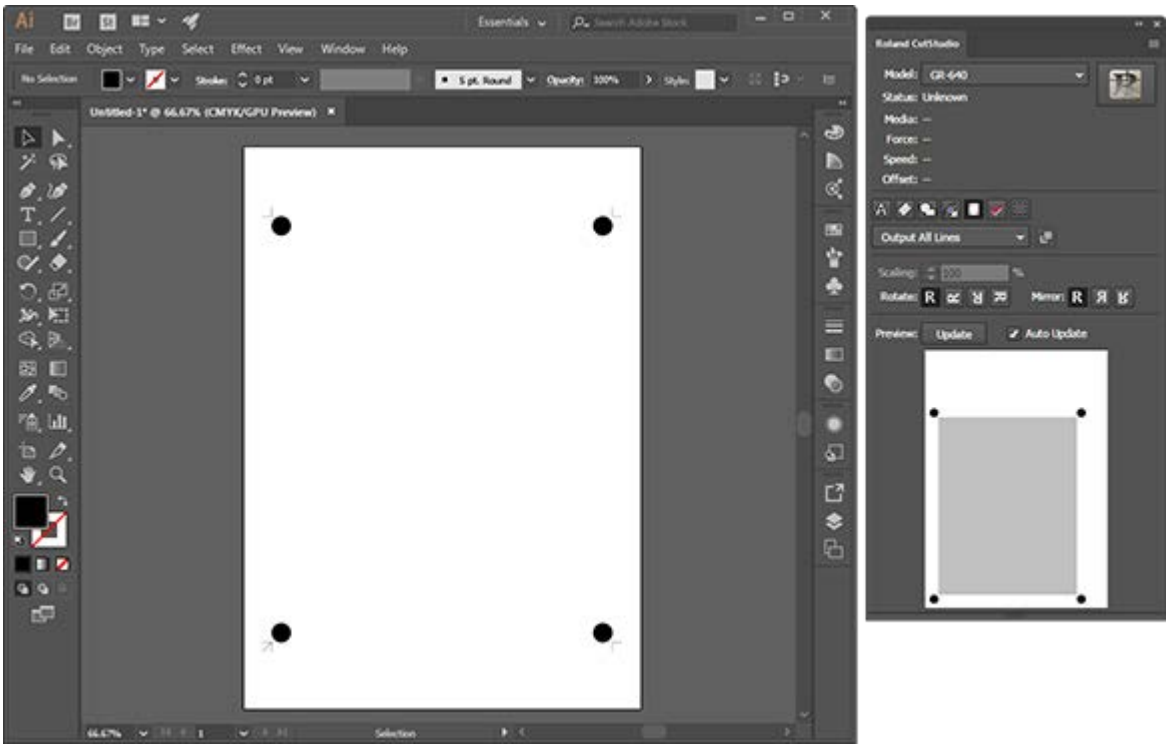


The Roland CutStudio palette appears.

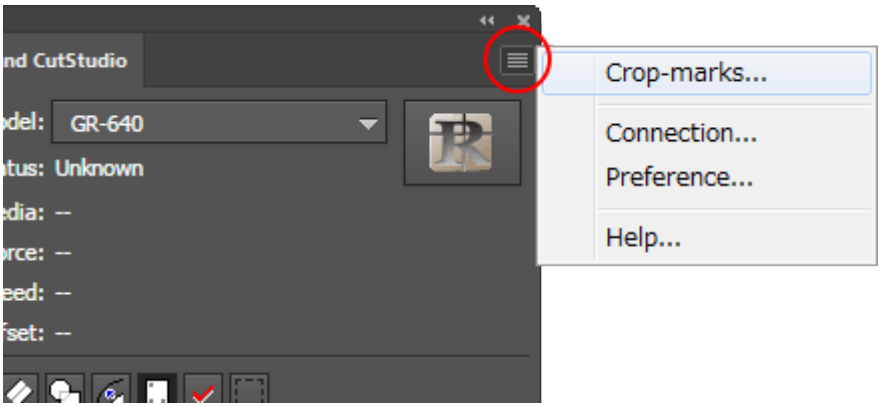


3. On the palette, click .

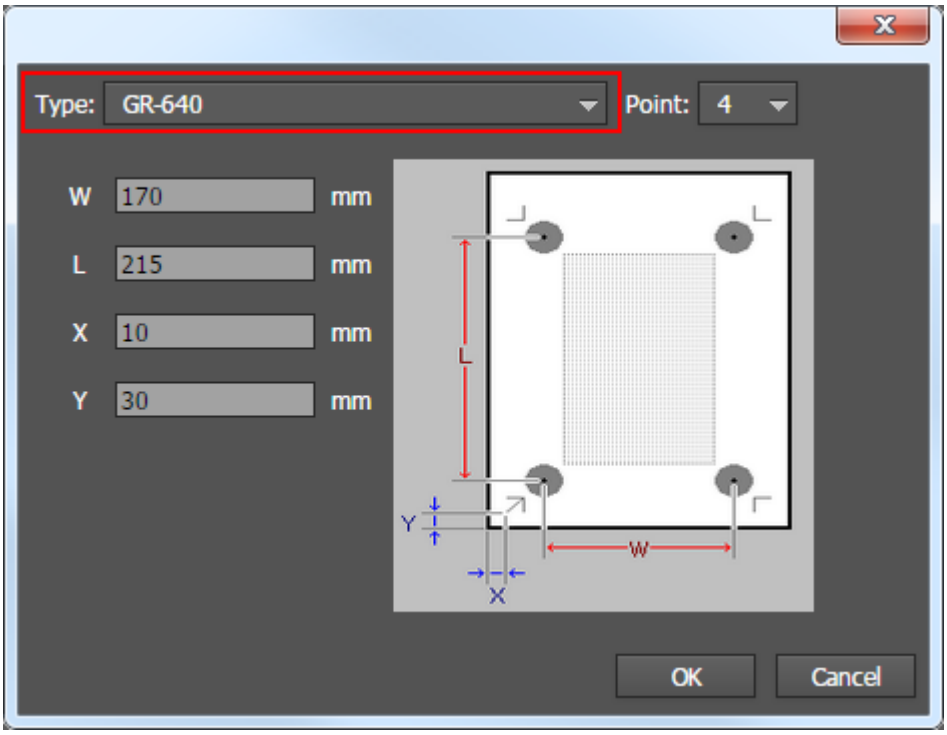
Crop marks are inserted in the artboard.



4. Click , and then click Crop marks.



5. Select the model name from the Type list, and then select 4 from the Point list.



Point: Set the number of crop marks.

6. Set the margins, and then click OK.

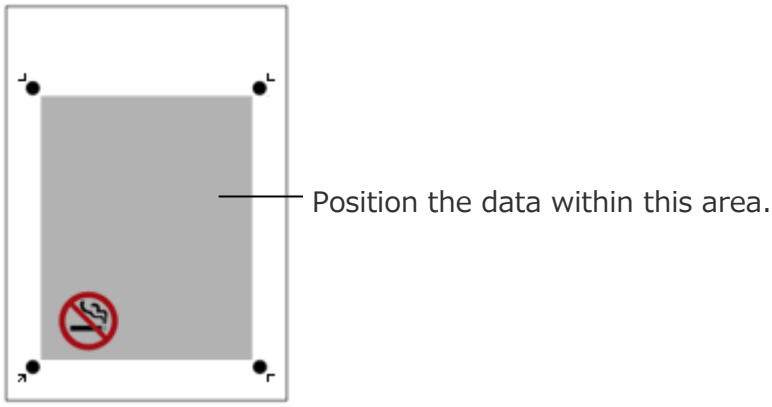
Setting the Margins and the Distance between Crop Marks

Step 2: Position the Sample Data

Step 2: Position the Sample Data

Procedure

1. **Position the image data in the area within the crop marks.**



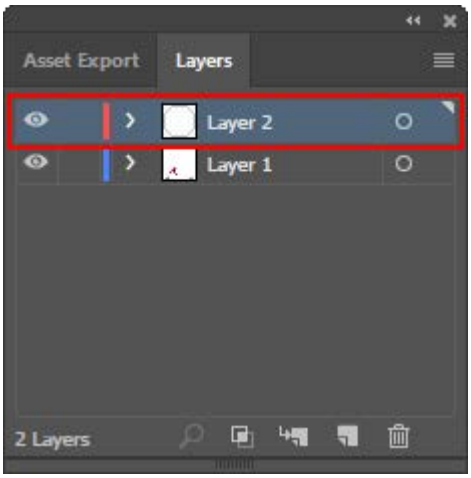
Step 3: Draw the Cutting Lines

Step 3: Draw the Cutting Lines

Procedure

1. Draw the cutting lines.

Create a new layer for the cutting lines and draw the cutting lines there.



Newly created layer

Cutting line

2. Save the data.

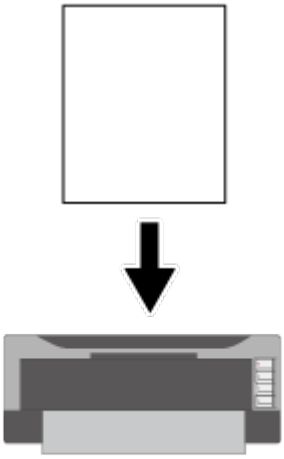
Step 4: Perform Printing

Step 4: Perform Printing

Procedure

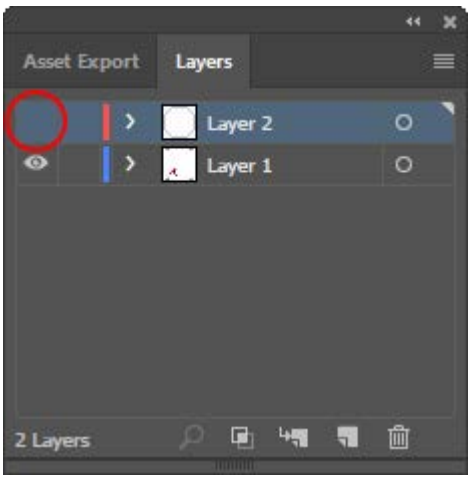
1. Load the material in the printer.

For details on how to load the material, see the instruction manual for your printer.



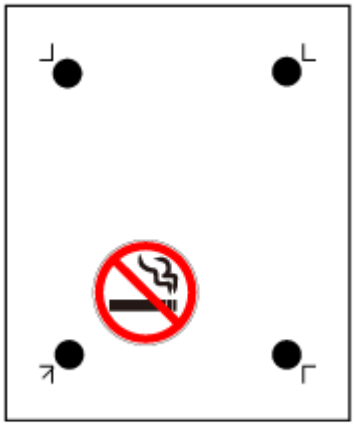
*** When expanded/reduced printing is enabled, disable it.**
Print at 100% scale.

2. Hide the layer containing the cutting lines.



3. From the File menu, click Print.

The image is printed as shown in the figure below.

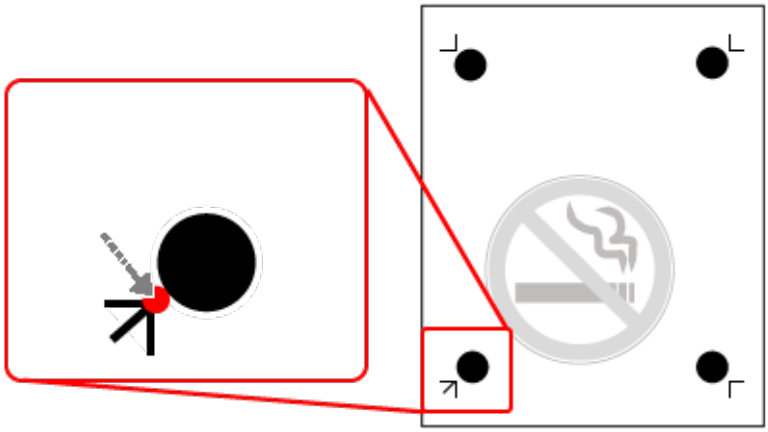


Step 5: Load the Printed Material

Step 5: Load the Printed Material

Procedure

1. Check the origin for cutting of the printed material.

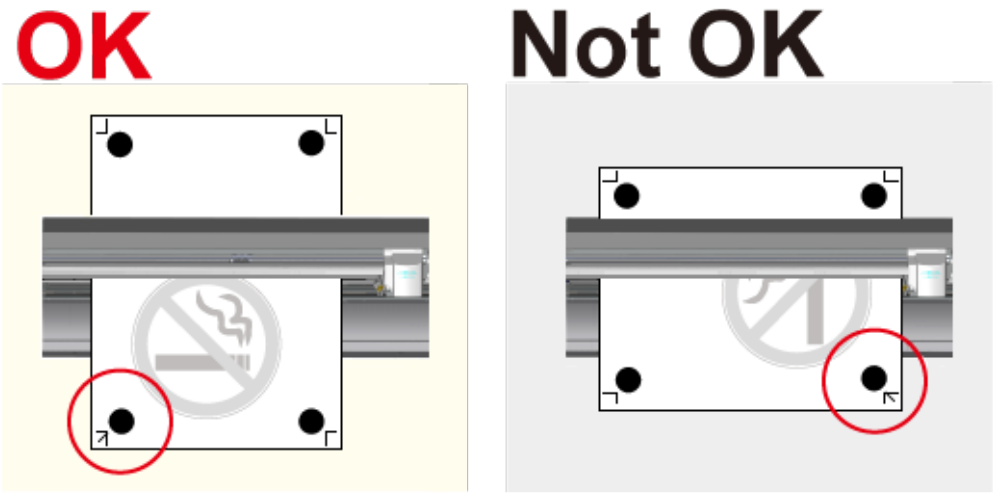


2. Turn on the cutting machine.

Wait for the initial operation to finish.

3. Set the origin for cutting to the lower-left corner of the material, and then load the material in the machine.

If the material is loaded in the wrong direction, the machine will not be able to read the crop marks.

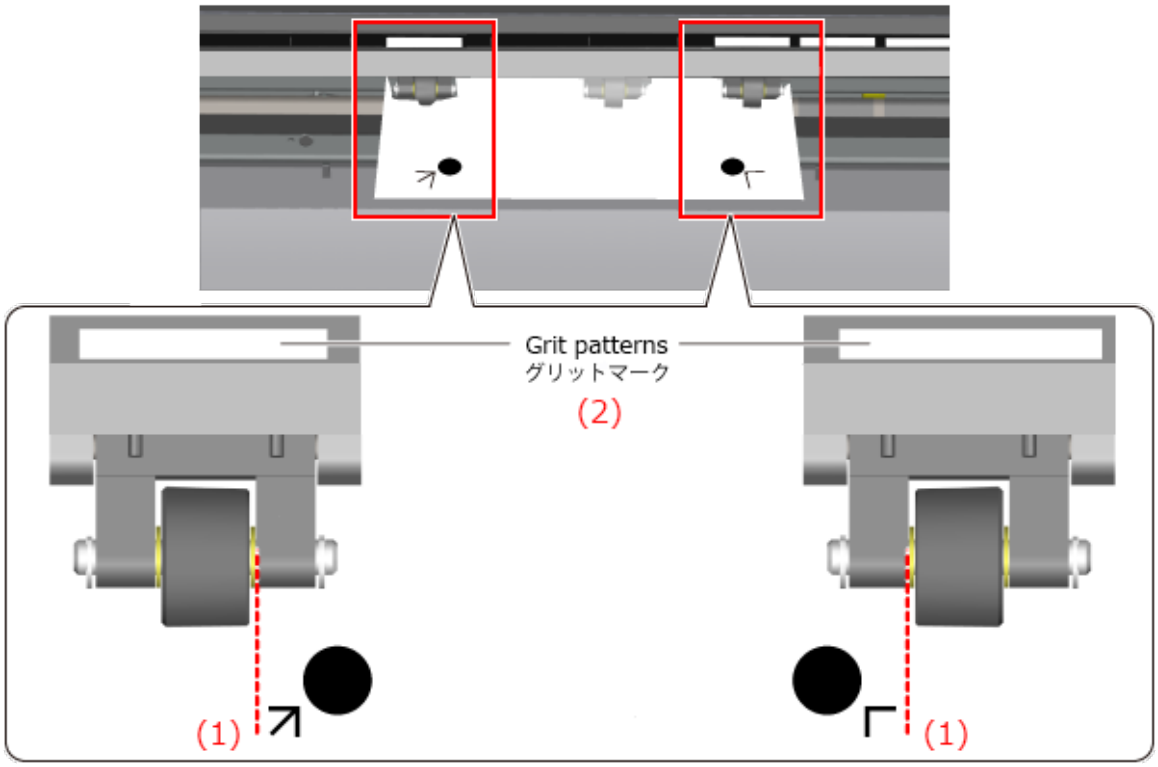


4. Position the left and right pinch rollers as shown in the figure.

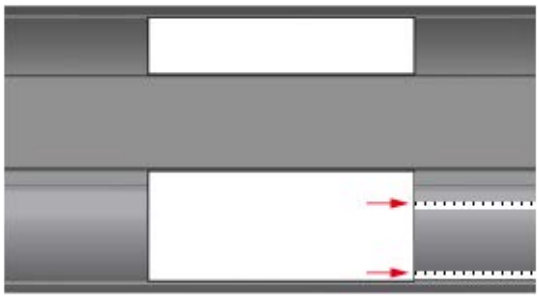
For A4-size material, do not use the middle pinch rollers.

Using Narrow Material/Preventing Marking Made by the Middle Pinch Rollers

(1) Position the pinch rollers outside the tool marks.
(2) Be sure that both edges of the material and the pinch rollers are inside the grit patterns.



5. Align the right edge of the material with the front and back gradations of the platen.



6. Select the type of material.

```
SELECT SHEET    ◆
 PIECE          ↵
```

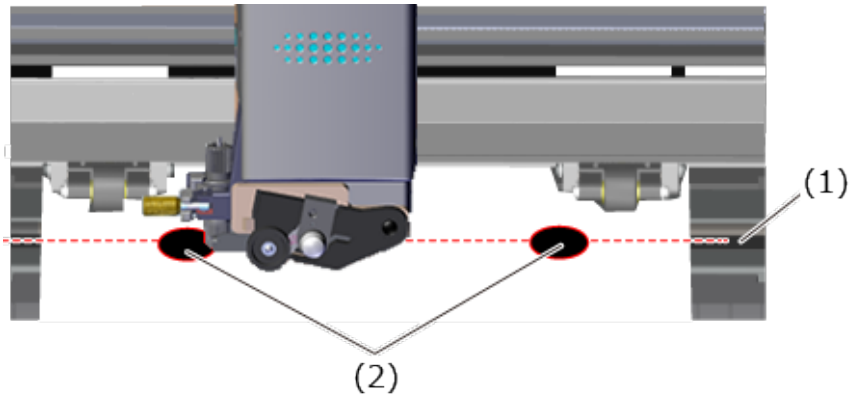
Using Various Types of Materials

7. Press [ENTER].

The pinch rolls lower and the carriage and material move.
When the movement is finished, the cuttable width and length are displayed.

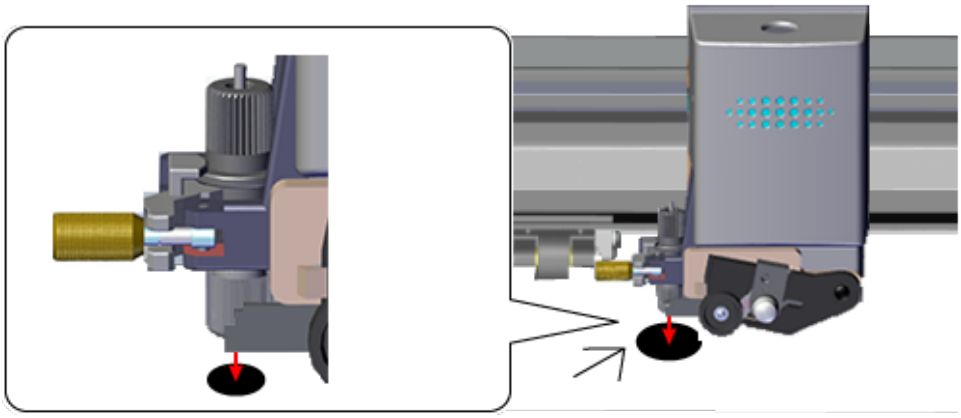
```
W:  183mm
L:  258mm
```

8. Use [▲] and [▼] to move the material and position the crop marks above the blade protector.



(1) Blade protector
(2) Crop marks

9. Press [◀] and [▶] to position the tip of the blade over the center of the lower-left crop mark.

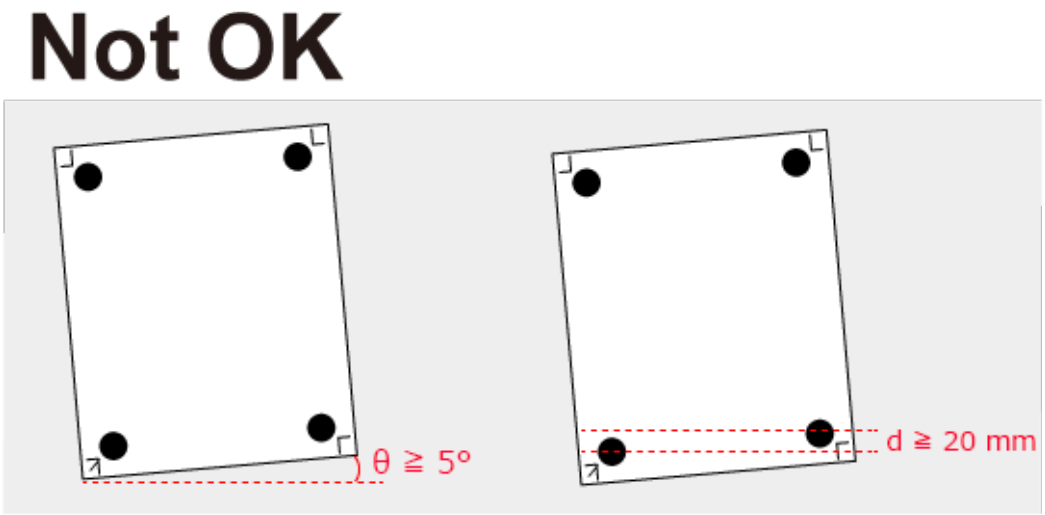


Do not set the origin.

Crop marks cannot be read in the situations indicated below.

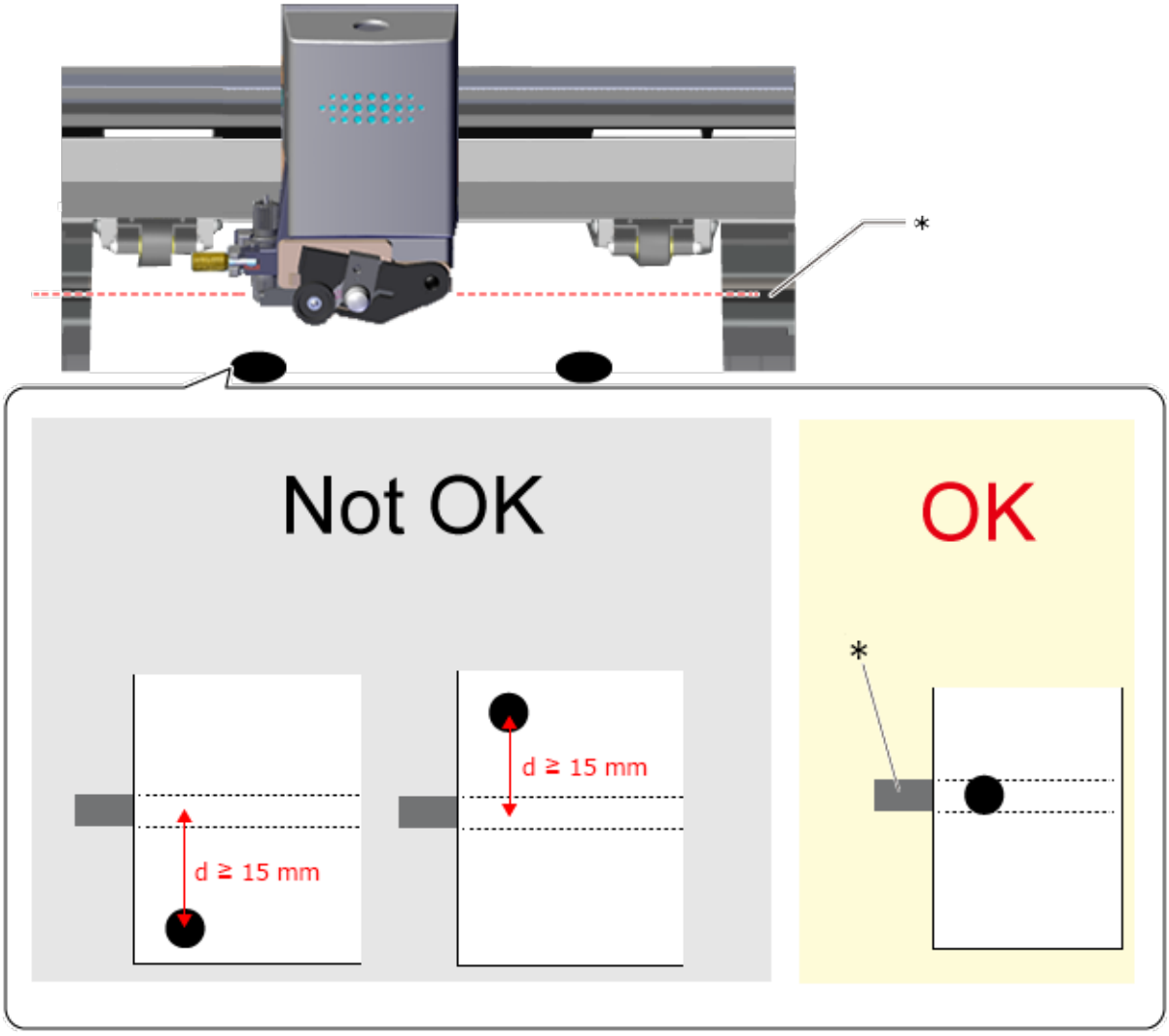
If any of the following situations occur, remove the material, and then reload it.

The left and right crop marks are slanted by 5 degrees or more with respect to the moving direction of the cutting carriage.
The left and right crop marks are offset by 20 mm or more in the material-feed direction.



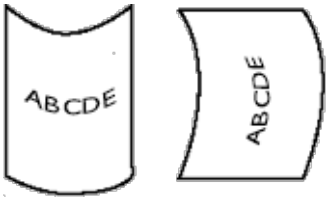
The crop marks are separated from the blade protector by a distance of 15 mm

or more.



*: Blade protector

The material sometimes curls when it is printed on the printer.
Do not use material that is curled as shown in the figure. The crop marks may not be read. If this happens, straighten out the material before loading it on the cutting machine.



Step 6: Set the Alignment Method

Step 6: Set the Alignment Method (Sensor Mode)

Position the crop marks automatically using the machine's integrated sensor.

Procedure

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
CROPMARK
<SENSOR MODE>
```

3. Press [▶], [▲], and then press [▼] to select SENSOR MODE.

```
CROPMARK
*SENSOR MODE
```

4. Press [ENTER] to select the setting.

Press [MENU] to return to the screen shown in the figure.

```
W: 183mm
L: 258mm
```

Step 7: Perform Cutting (Sensor Mode)

Step 7: Perform Cutting (Sensor Mode)

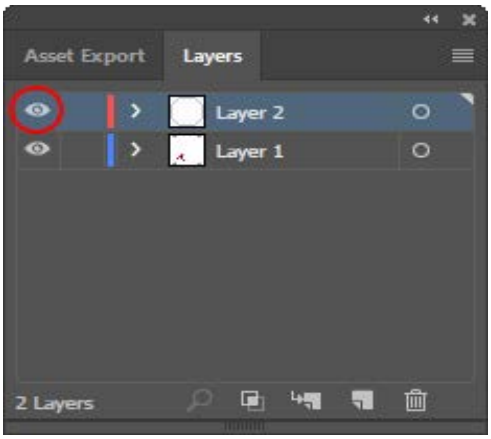
CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Procedure

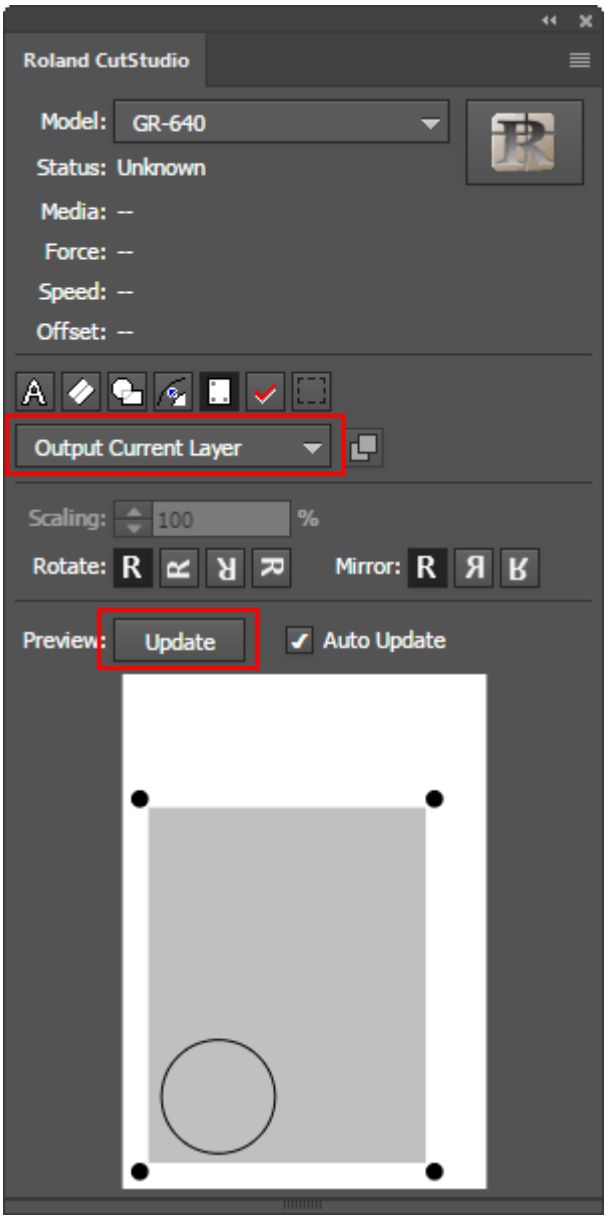
1. Show the layer containing the cutting lines and select it.

Check that all the cutting lines that you wish to cut are shown on the palette's preview screen.



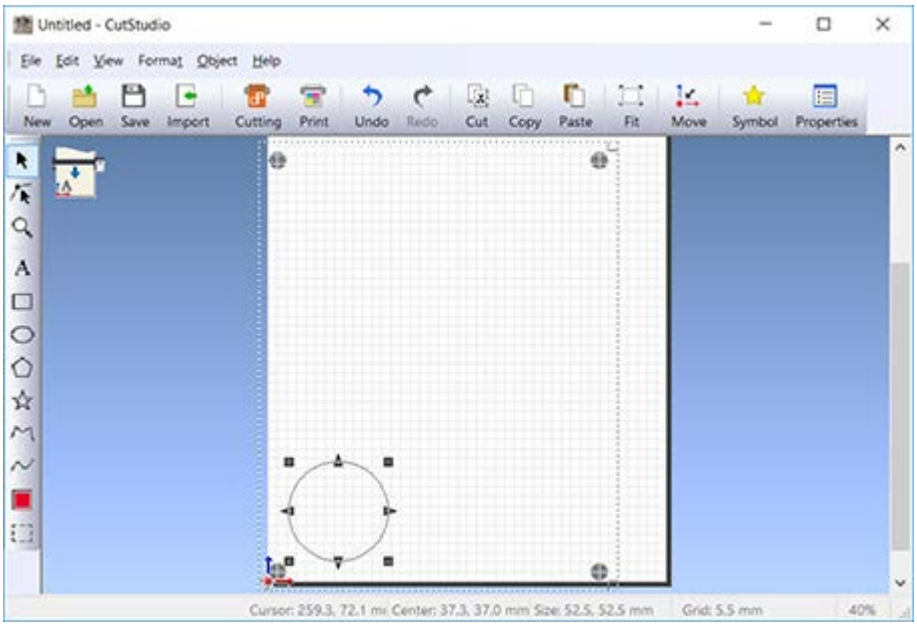
2. On the Roland CutStudio palette, select Output Current Layer, and then click Update.

Check that all the cutting lines that you wish to cut are shown on the palette's preview screen.



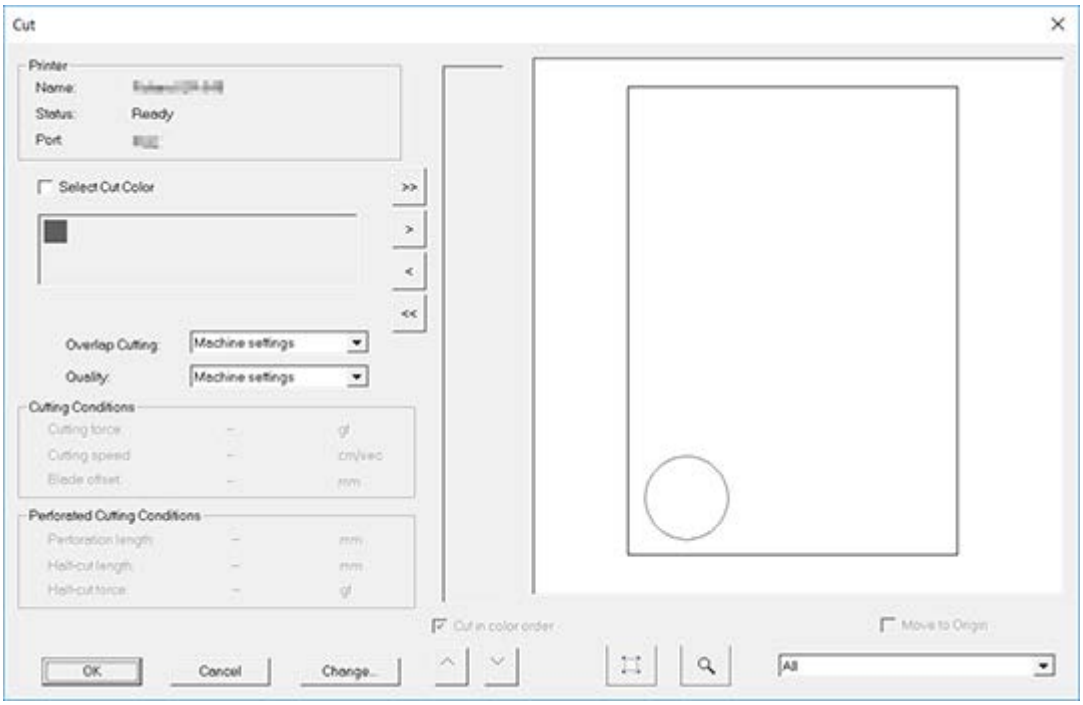
3. Click .

CutStudio starts, and the cutting data is sent to CutStudio.



4. In CutStudio, click .

The screen shown in the following figure is displayed.



5. Click OK.

The cutting data is sent to the machine. When the machine receives the data, it automatically reads the crop marks using a sensor, and then starts cutting.

Crop Marks Cannot Be Read

If the Sensor Fails to Read the Crop Marks

If the sensor fails to read the crop marks, the screen in the figure appears. If this screen appears, proceed to "Crop Marks Cannot Be Read." If this does not resolve the issue, refer to "Cutting in Tool Mode (1)," and then perform positioning in tool mode.

```
SET TO
<TOOL MODE>
```

6. Remove the cut material.

Remove the material to complete the cutting procedure.

Removing the Material

Preparations for Printing and Cutting (When Using CorelDRAW)

Printing and Cutting Sample Data

We recommend that you get comfortable with the printing and cutting procedure by using the sample data first.
In this procedure, you will create the sticker shown below.

Printing and Cutting Procedure (CorelDRAW)

Items Required Other than the Machine

Printer	Material (210 x 298 mm)	Sample data
A computer on which CutStudio, CorelDRAW, and Plug-in for CorelDRAW are installed		

Printer Requirements

You must use a laser or inkjet printer with a resolution of 720 dpi or greater.

If the printed filled sections are blurred, crop marks will not be read correctly.

CutStudio/Plug-In for CorelDRAW

Be sure to install these programs.

http://startup.rolanddg.com/

Material

This example uses A4-size material.

Materials That Can Be Used for Printing and Cutting

Sample Data

Open the Sample.bmp file found in the CutStudio installation folder (usually located in the CutStudio folder under Program Files on the C drive).

Sample Data Cannot Be Found

Printing and Cutting Procedure (CorelDRAW)

Printing and Cutting Procedure (CorelDRAW)

Procedure

- Step 1: Set the Printing and Cutting Areas
- Step 2: Position the Sample Data
- Step 3: Draw the Cutting Lines
- Step 4: Perform Printing
- Step 5: Load the Printed Material
- Step 6: Set the Alignment Method (Sensor Mode)
- Step 7: Perform Cutting (Sensor Mode)

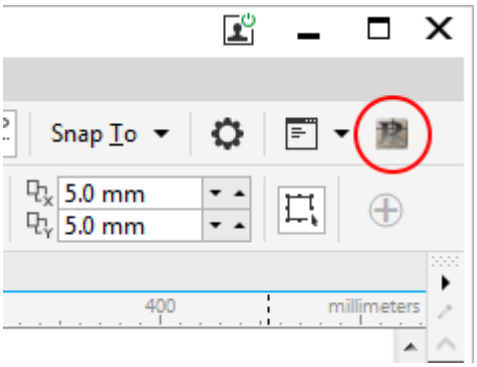
Step 1: Set the Printing and Cutting Areas

Procedure

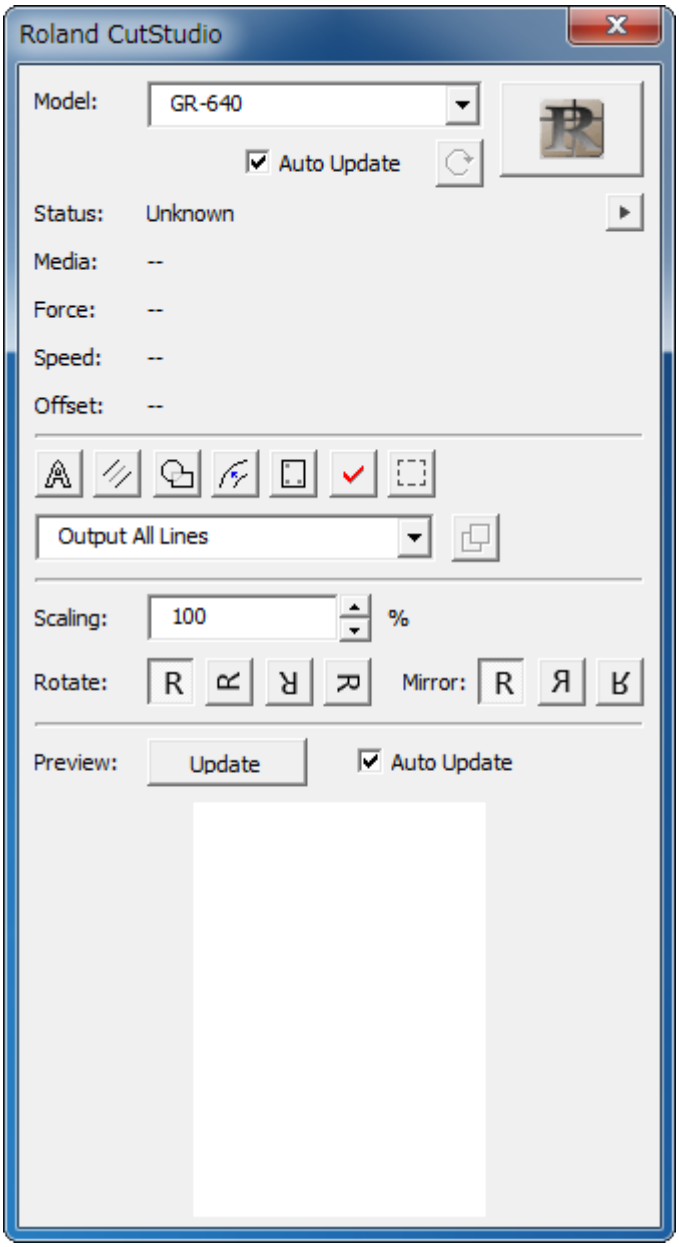
1. Start CorelDRAW, and then open a new document.

Set the document size.

2. Click the plug-in's start button on the toolbar.

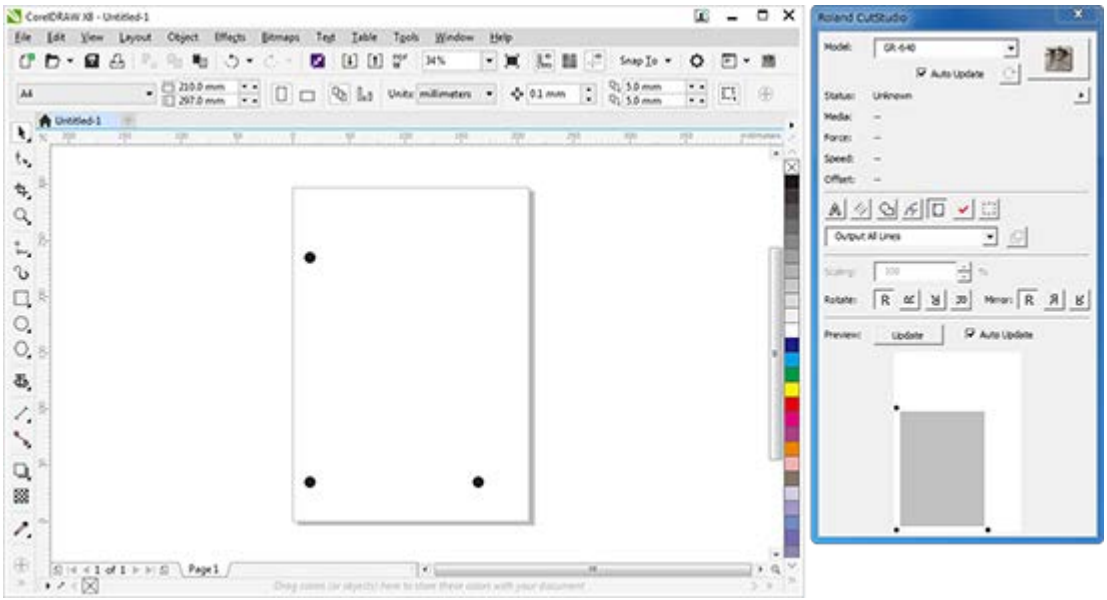


The Roland CutStudio palette appears.

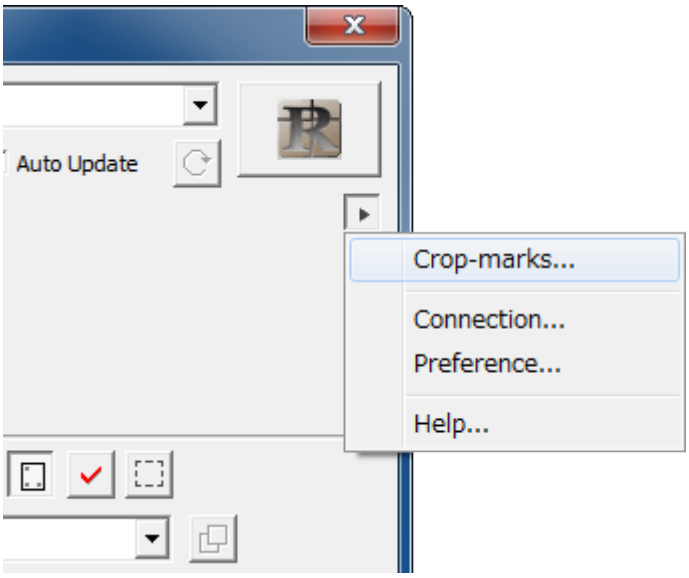


3. On the palette, click .

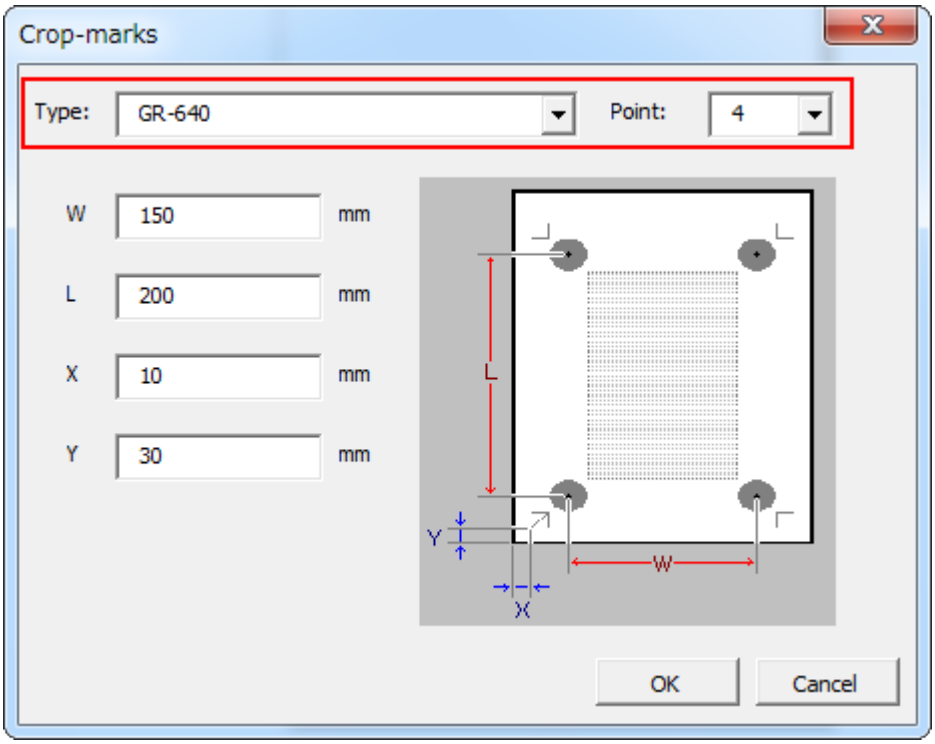
Crop marks are inserted in the document.



4. Click ▸, and then click Crop marks.



5. In the Type list, select GR-640/540/420. In the Point list, select 4.



Point: Set the number of crop marks.

6. Set the margins, and then click OK.

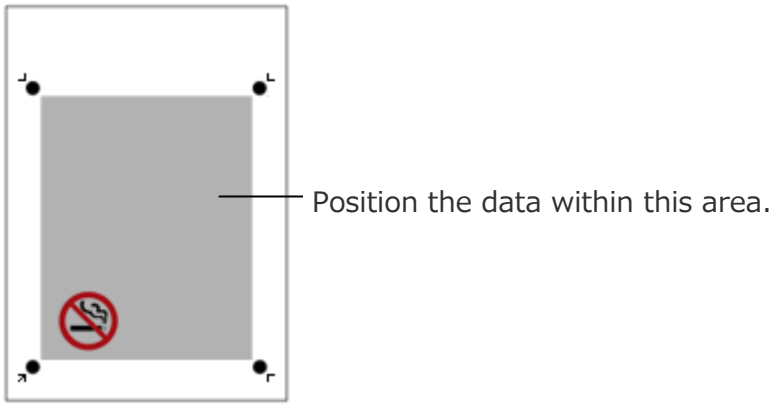
[Setting the Margins and the Distance between Crop Marks]

[Step 2: Position the Sample Data]

Step 2: Position the Sample Data

Procedure

1. **Position the image data in the area within the crop marks.**



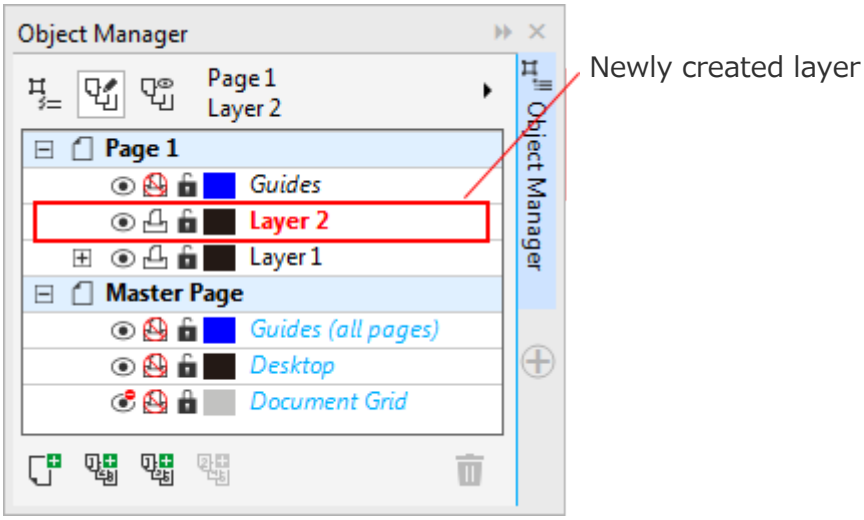
Step 3: Draw the Cutting Lines

Step 3: Draw the Cutting Lines

Procedure

1. Draw the cutting lines.

Create a new layer for the cutting lines and draw the cutting lines there.



2. Save the data.

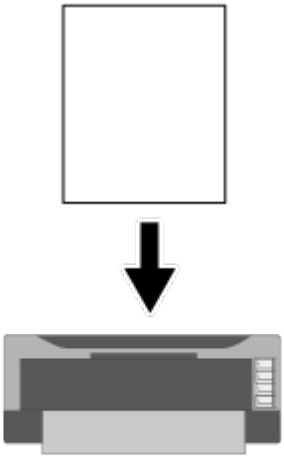
Step 4: Perform Printing

Step 4: Perform Printing

Procedure

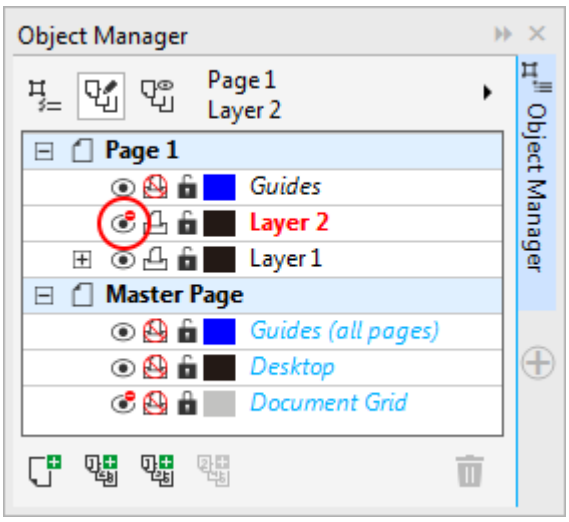
1. Load the material in the printer.

For details on how to load the material, see the instruction manual for your printer.



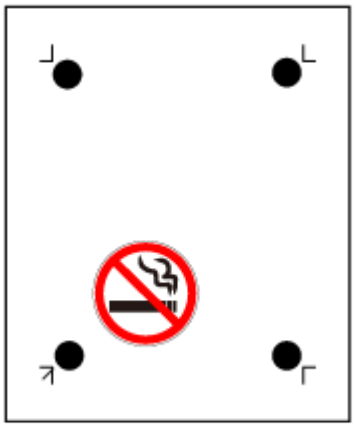
*** When expanded/reduced printing is enabled, disable it. Print at 100% scale.**

2. Hide the layer containing the cutting lines.



3. From the File menu, click Print.

The image is printed as shown in the figure below.

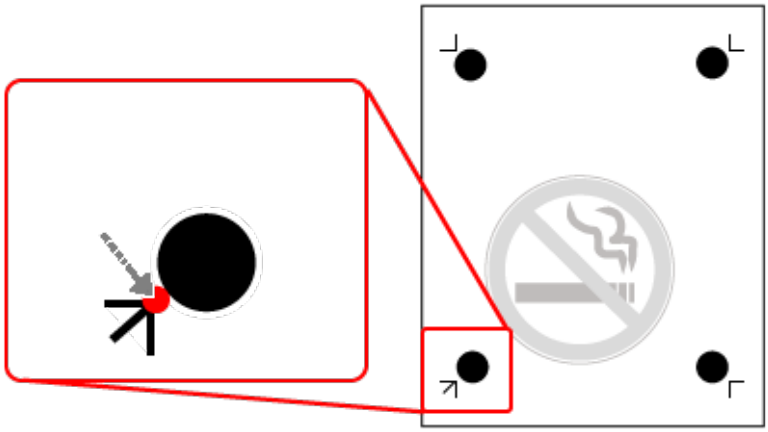


Step 5: Load the Printed Material

Step 5: Load the Printed Material

Procedure

1. Check the origin for cutting of the printed material.

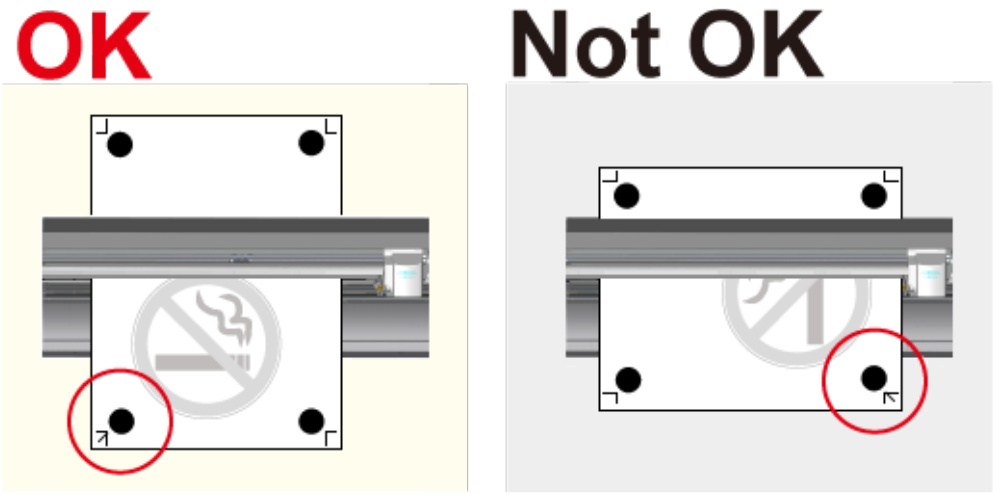


2. Turn on the cutting machine.

Wait for the initial operation to finish.

3. Set the origin for cutting to the lower-left corner of the material, and then load the material in the machine.

If the material is loaded in the wrong direction, the machine will not be able to read the crop marks!

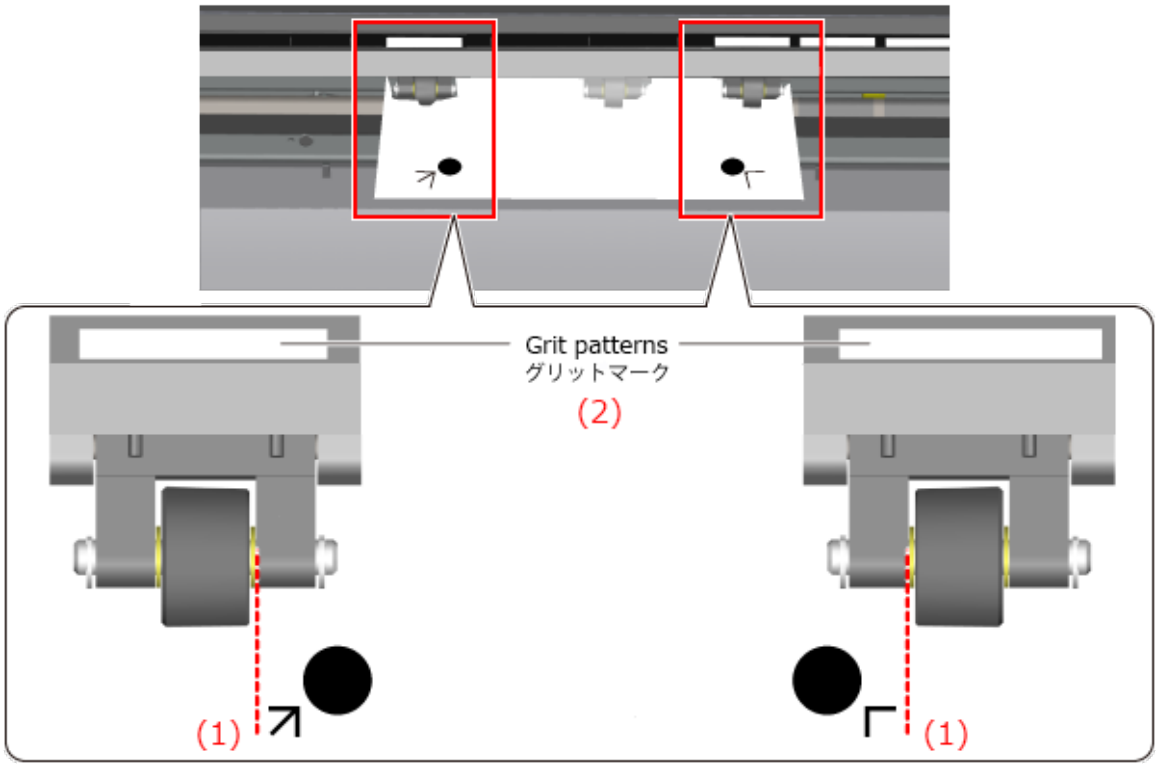


4. Position the left and right pinch rollers as shown in the figure.

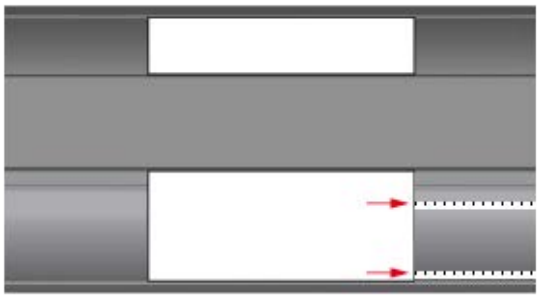
For A4-size material, do not use the middle pinch rollers.

Using Narrow Material/Preventing Marking Made by the Middle Pinch Rollers

(1) Position the pinch rollers outside the tool marks.
(2) Be sure that both edges of the material and the pinch rollers are inside the grit patterns.



5. Align the right edge of the material with the front and back gradations of the platen.



6. Select the type of material.

```
SELECT SHEET    ◆
 PIECE          ↵
```

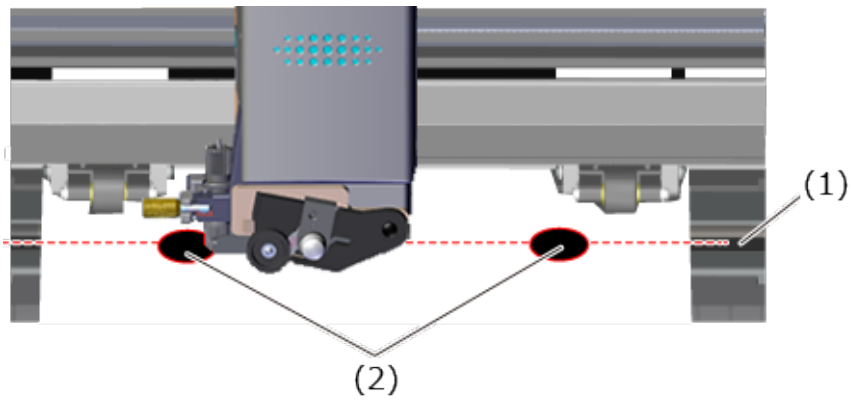
Using Various Types of Materials

7. Press [ENTER].

The pinch rolls lower and the carriage and material move.
When the movement is finished, the cuttable width and length are displayed.

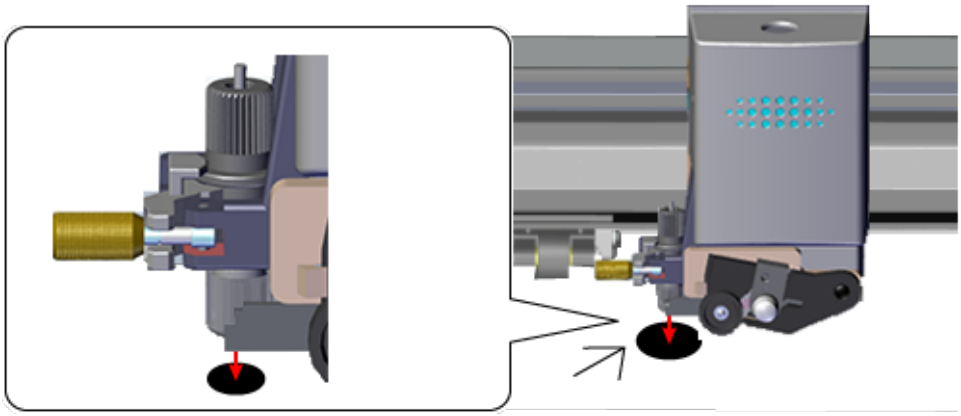
```
W:  183mm
L:  258mm
```

8. Use [▲] and [▼] to move the material and position the crop marks above the blade protector.



(1) Blade protector
(2) Crop marks

9. Press [◀] and [▶] to position the tip of the blade over the center of the lower-left crop mark.

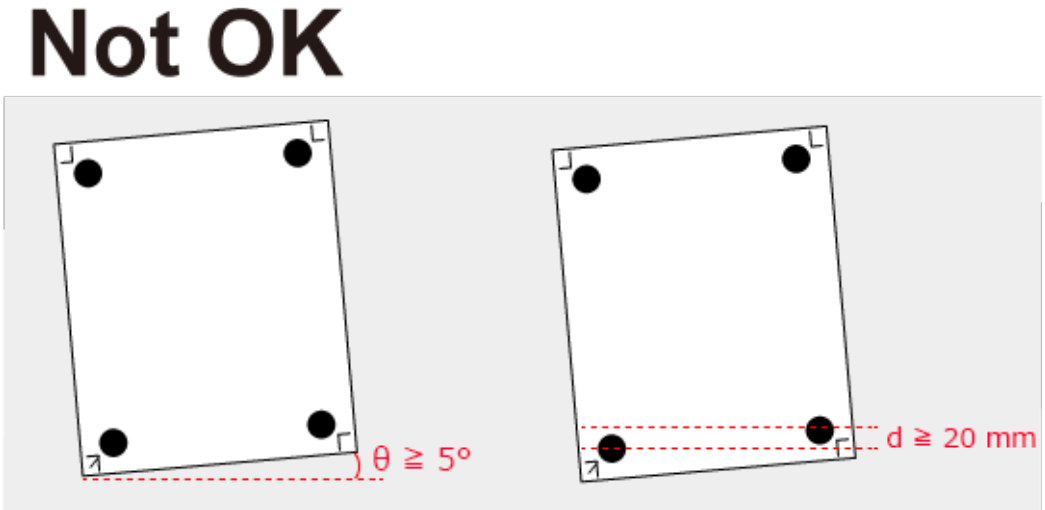


Do not set the origin.

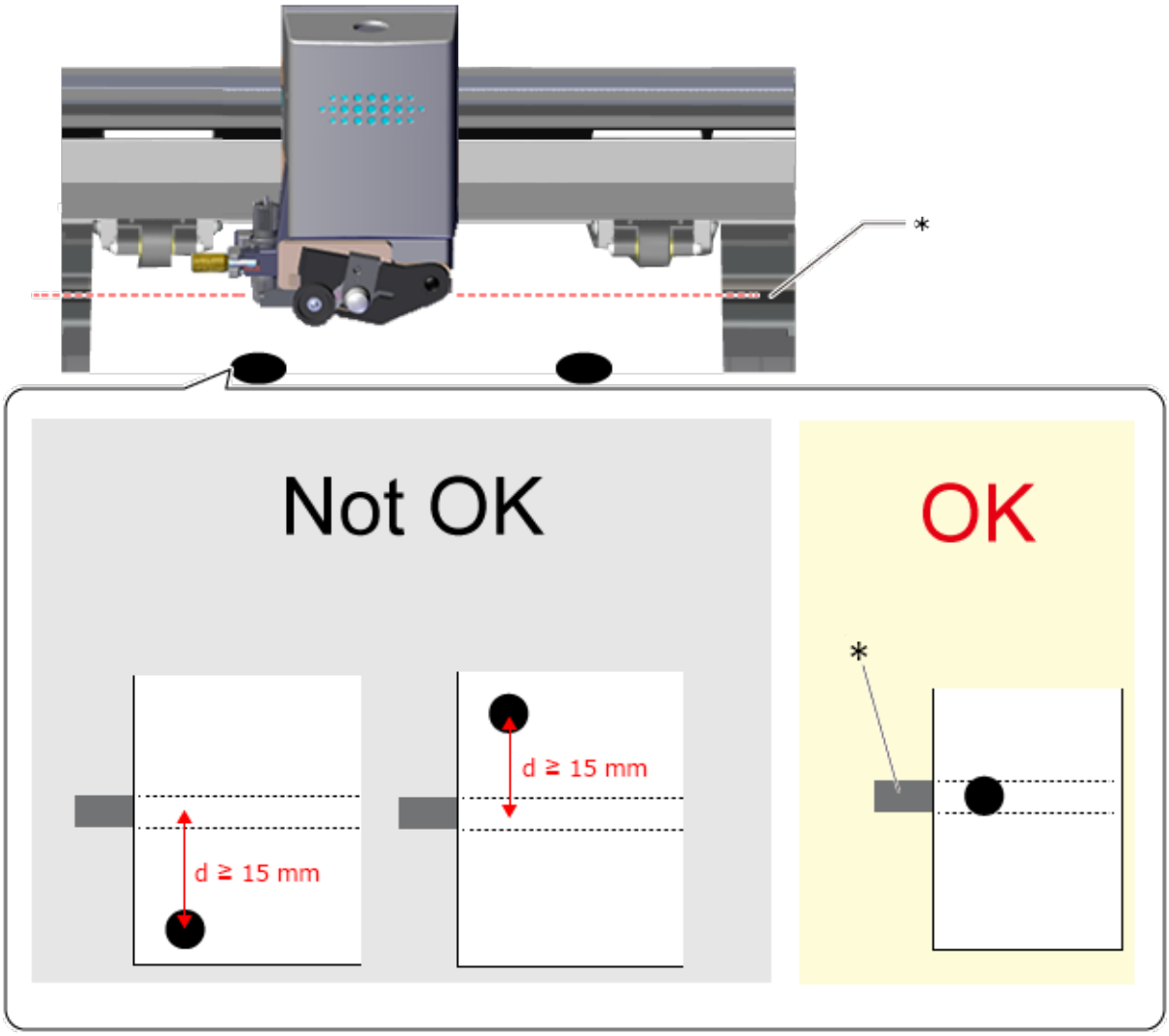
Crop marks cannot be read in the situations indicated below.

If any of the following situations occur, remove the material, and then reload it.

The left and right crop marks are slanted by 5 degrees or more with respect to the moving direction of the cutting carriage.
The left and right crop marks are offset by 20 mm or more in the material-feed direction.

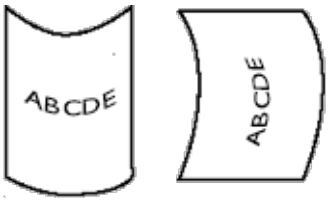


The crop marks are separated from the blade protector by a distance of 15 mm or more.



*: Blade protector

The material sometimes curls when it is printed on the printer.
Do not use material that is curled as shown in the figure. The crop marks may not be read. If this happens, straighten out the material before loading it on the cutting machine.



Step 6: Set the Alignment Method

Step 6: Set the Alignment Method (Sensor Mode)

Position the crop marks automatically using the machine's integrated sensor.

Procedure

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
CROPMARK
<SENSOR MODE>
```

3. Press [▶], [▲], and then press [▼] to select SENSOR MODE.

```
CROPMARK
*SENSOR MODE
```

4. Press [ENTER] to select the setting.

Press [MENU] to return to the screen shown in the figure.

```
W: 183mm
L: 258mm
```

Step 7: Perform Cutting (Sensor Mode)

Step 7: Perform Cutting (Sensor Mode)

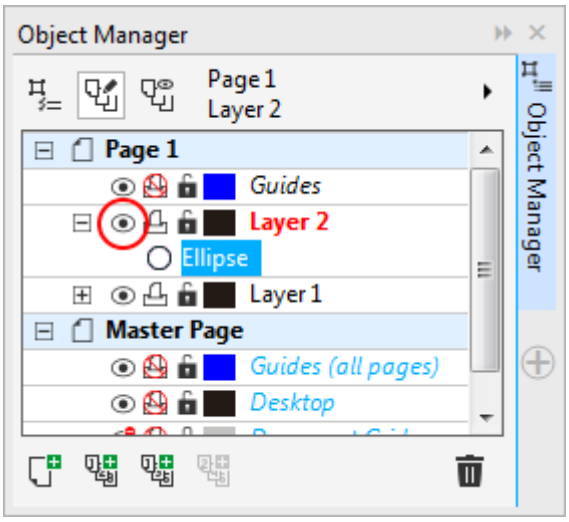
CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Procedure

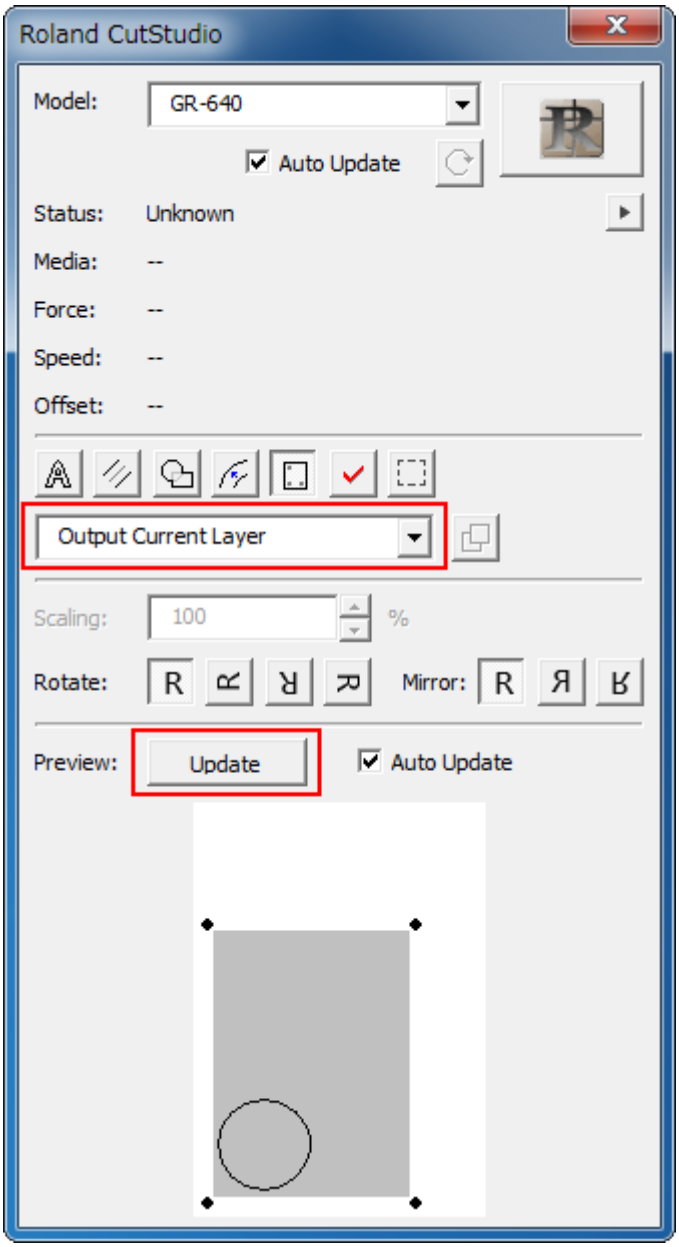
1. Show the layer containing the cutting lines and select it.

Check that all the cutting lines that you wish to cut are shown on the palette's preview screen.



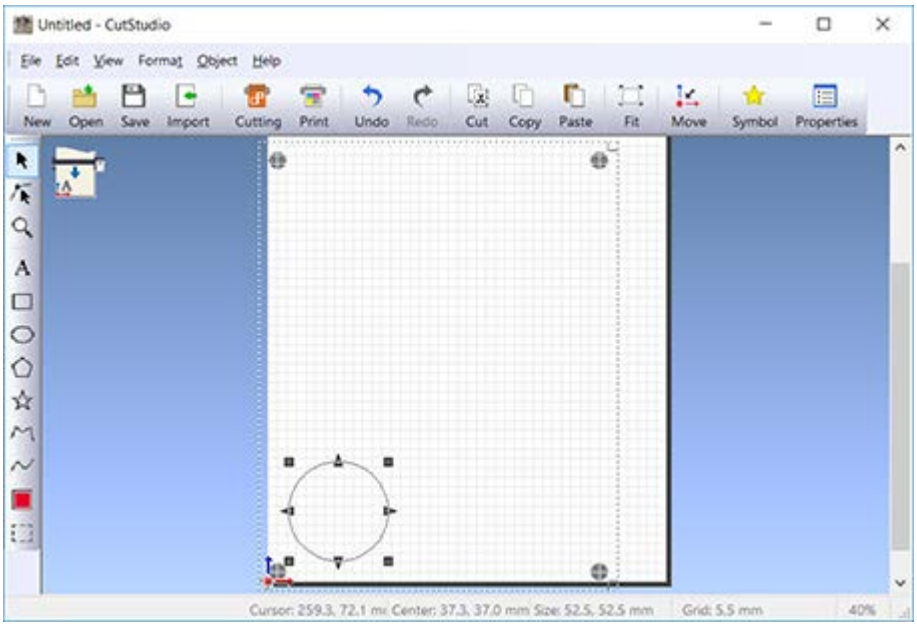
2. On the Roland CutStudio palette, select Output Current Layer, and then click Update.

Check that all the cutting lines that you wish to cut are shown on the palette's preview screen.



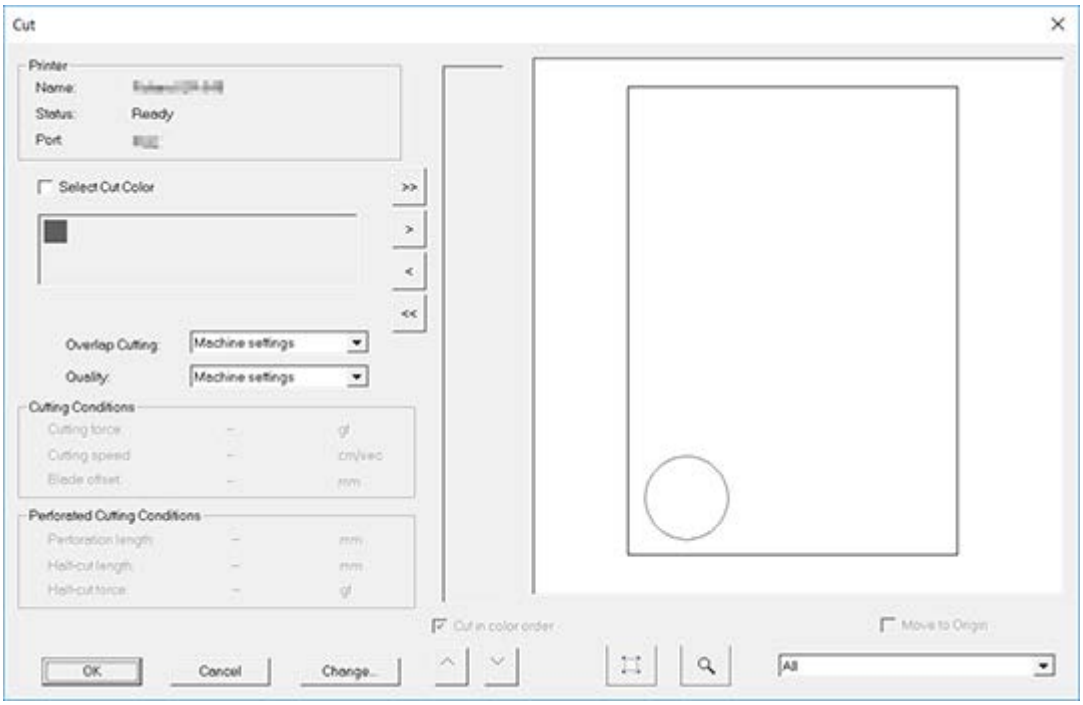
3. Click .

CutStudio starts, and the cutting data is sent to CutStudio.



4. In CutStudio, click .

The screen shown in the following figure is displayed.



5. Click OK.

The cutting data is sent to the machine. When the machine receives the data, it automatically reads the crop marks using a sensor, and then starts cutting.

Crop Marks Cannot Be Read

If the Sensor Fails to Read the Crop Marks

If the sensor fails to read the crop marks, the screen in the figure appears. If this screen appears, proceed to "Crop Marks Cannot Be Read." If this does not resolve the issue, refer to "Cutting in Tool Mode (1)," and then perform positioning in tool mode.

```
SET TO
<TOOL MODE>
```

6. Remove the cut material.

Remove the material to complete the cutting procedure.

Removing the Material

Preparations for Printing and Cutting (Manual Mode)

Printing and Cutting Sample Data

If you use the manual mode, you can perform printing and cutting without using CutStudio and Illustrator. We recommend that you get comfortable with the printing and cutting procedure by using the sample data first. In this procedure, you will create the sticker shown below.

Items Required Other than the Machine

Printer	Material (210 x 298 mm)	Sample data

Printer Requirements

You must use a laser or inkjet printer with a resolution of 720 dpi or greater.

Materials That Can Be Used

Materials That Can Be Used for Printing and Cutting

Sample Data

Open the Sample.bmp file found in the CutStudio installation folder (usually located in the CutStudio folder under Program Files on the C drive).

Sample Data Cannot Be Found

Printing and Cutting Procedure (Manual Mode)

Printing and Cutting Procedure (Manual Mode)

Procedure

- Step 1: Create Crop Mark Data Manually
- Step 2: Perform Printing
- Step 3: Load the Printed Material
- Step 4: Set the Alignment Method (Manual Mode)
- Step 5: Perform Cutting (Manual Mode)

Step 1: Create Crop Mark Data Manually

Create Crop Mark Data in Software Other than CutStudio, Illustrator, or CorelDRAW

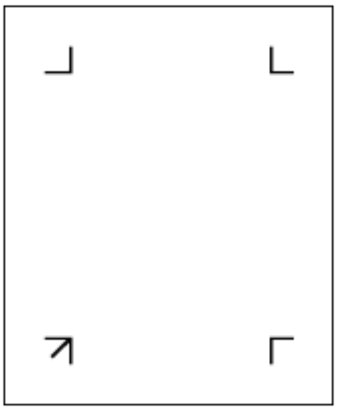
When drawing crop marks to add to an illustration in application software, take into account the margin necessary for cutting the material when setting the crop mark position.

Crop Marks/Tool Marks

Procedure

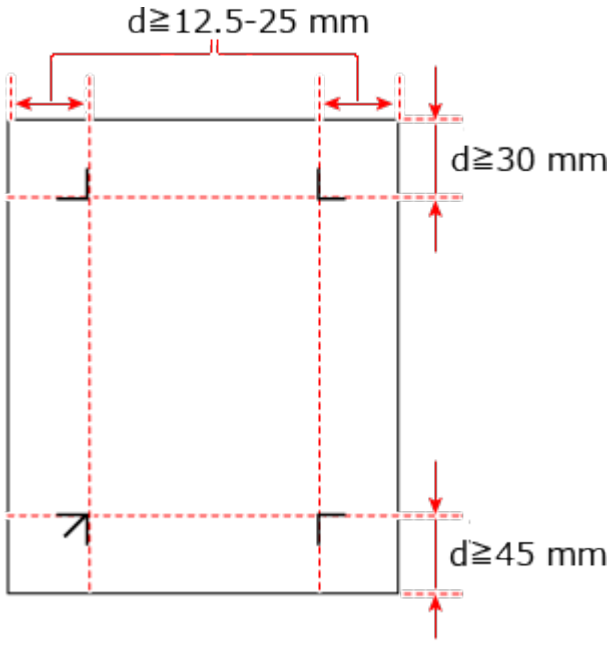
1. Draw crop marks.

There is no particular design that should be used for crop marks, but using shapes with corners as shown in the figure below facilitates alignment.



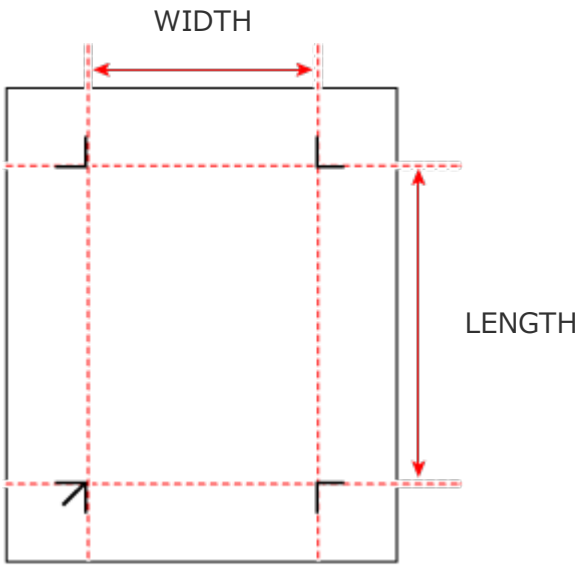
2. Set the margins.

When using material with a large amount of feed (long material), we recommend that you set the left and right margins to approximately 25 mm.



3. Make a note of the distance between the crop marks (WIDTH and LENGTH).

You will enter these values into the machine later.

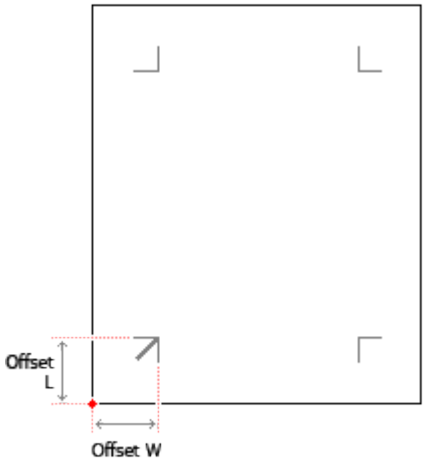


4. Make a note of the offset values.

Check the origin (the point where both X and Y are 0) of the software that you are using.
Make a note of the distance between this origin and the lower-left crop mark.

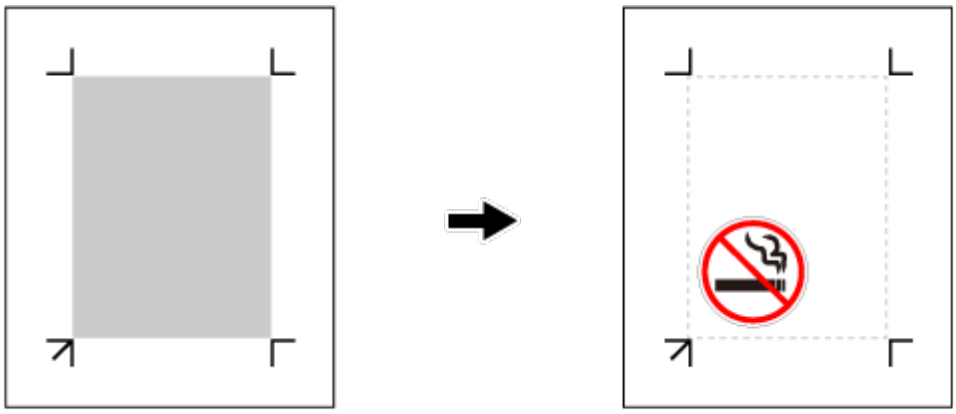
Here, the lower-left corner of the paper surface is the origin in the software.
Later explanations assume that the distance from the origin to the lower-left

crop mark has the positional relationship shown in the following figure.



Offset L: 45 mm
Offset W: 25 mm

5. Draw the illustration in the cutting area within the crop marks.



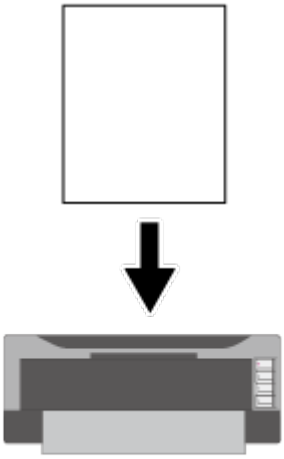
Step 2: Perform Printing

Step 2: Perform Printing

Procedure

1. Load the material in the printer.

For details on how to load the material, see the instruction manual for your printer.



*** When expanded/reduced printing is enabled, disable it. Print at 100% scale.**

Step 3: Load the Printed Material

Step 3: Load the Printed Material

Procedure

1. Load the material.

Refer to "Step 5: Load the Printed Material" and ready the machine.

Step 4: Set the Alignment Method (Manual Mode)

Step 4: Set the Alignment Method (Manual Mode)

Memo

Referring to the Menu Flow Chart as you proceed will help the setting procedure go smoothly.

(1) Select Manual Mode

Procedure

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
CROPMARK
<SENSOR MODE>
```

3. Press [▶].

```
CROPMARK
*SENSOR MODE
```

4. Press [▲] to select MANUAL.

```
CROPMARK
 MAUAL
```

5. Press [ENTER].

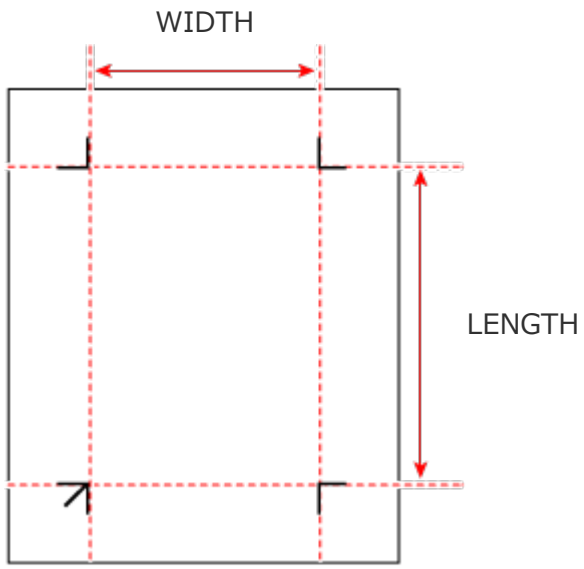
```
CROPMARK
<MANUAL>
```

6. Press [▶] twice.

```
CROPMARK
 BASIC SETTING
```

(2) Enter the Distance between the Crop Marks

Enter the values that you made a note of in Step 1, No. 3.



Procedure

1. Press the [▶] key, and then press the [▶] key to

display the screen shown in the figure.

```
WIDTH 160
*160mm
```

2. Use [▲] and [▼] to enter the horizontal distance (WIDTH) between the crop marks.

```
WIDTH 160
 180mm
```

3. Use [ENTER] to select the setting.

```
WIDTH 180
```

4. Press the [▼] key, and then press the [▶] key.

```
LENGTH 200
*200mm
```

5. Use [▲] and [▼] to enter the vertical distance (LENGTH) between the crop marks.

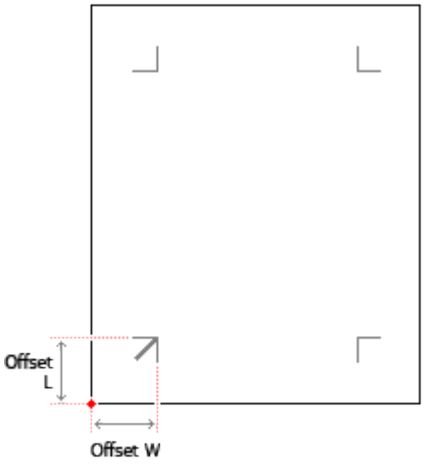
```
LENGTH 200
*210
```

6. Use [ENTER] to select the setting.

```
LENGTH 210
```

(3) Enter the Offset Values

Enter the values that you made a note of in Step 1, No. 4.



If you want to further reduce the misalignment after seeing the result of printing and cutting, measure the amount of cutting line misalignment, and then add this measured value to or subtract this measured value from the offset values.
Set the values as required.

Procedure

1. Press the [▼] key, and then press the [▶] key.

```
OFFSET W   0.5
*   0.5mm
```

2. Use [▲] and [▼] to enter the amount of cutting line misalignment (in the width direction).

```
OFFSET W   0.5 ◀◆
  25.0          ↵
```

3. Use [ENTER] to select the setting.

```
OFFSET W   25.0◀◆
                ▶
```

4. Press the [▼] key, and then press the [▶] key.

```
OFFSET L   0.5 ◀◆
*  0.5mm       ↵
```

5. Use [▲] and [▼] to enter the amount of cutting line misalignment (in the length direction).

```
OFFSET L   0.5 ◀◆
  45.0mm       ↵
```

6. Use [ENTER] to select the setting.

```
OFFSET L   45.0◀◆
                ▶
```

Step 5: Perform Cutting (Manual Mode)

Step 5: Perform Cutting (Manual Mode)

CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Memo

Referring to the Menu Flow Chart as you proceed will help the setting procedure go smoothly.

Procedure

1. Press the [◀] key, and then press the [▼] key to select 4-POINT START.

If using 3 crop marks, select 3-POINT START. The screen shown in the following figure is displayed.

```
MANUAL          ◀◆
 4-POINT START  ↵
```

2. Press [ENTER].

The screen shown in the following figure is displayed.

```
REPLACE TO TOOL
<QUIT     ▶MENU>↵
```

3.

3. Perform steps 3 to 13 in "Cutting in Tool Mode (2)."

Even if you perform all the steps up to step 13 in Cutting in Tool Mode (2), cutting will not start.

To start cutting, perform step 4 shown below.

4. When the screen shown in the figure below is displayed, send data from the computer.

When the machine receives the data, it starts cutting.

```
OUTPUT DATA
```

5. Remove the cut material.

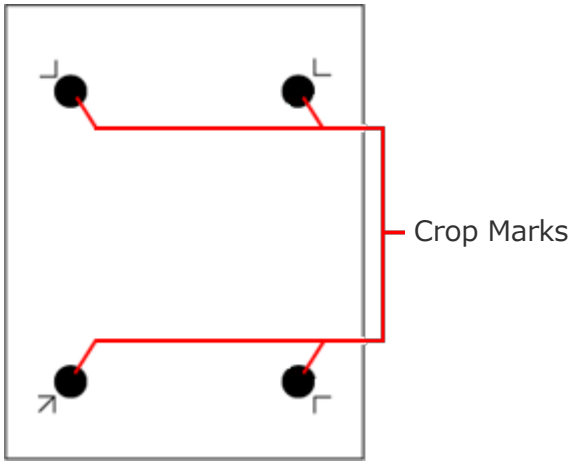
Remove the material to complete the cutting procedure.

Removing the Material

Crop Marks/Tool Marks

Crop Marks

Crop marks are used for alignment when cutting printed material on the cutting machine. Having the machine remember the positions of the crop marks printed together with the image makes it possible to correct cutting positions.



When to Use 4 Crop Marks vs 3 Crop Marks

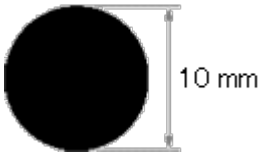
In most cases you should use 4 crop marks. If you use 3 crop marks, it is not possible to use Tool Mode.

Switching between 3 and 4 Crop Marks

Readable Crop Marks

The sensor of the machine is only able to read crop marks like the circle shown below.

Diameter: 10 mm
Color: Black



* The machine may not be able to read the printed crop marks correctly depending on the printer ink.

Setting the Margins and the Distance between Crop Marks

Take into account the margin necessary for cutting the material and set the crop mark position.

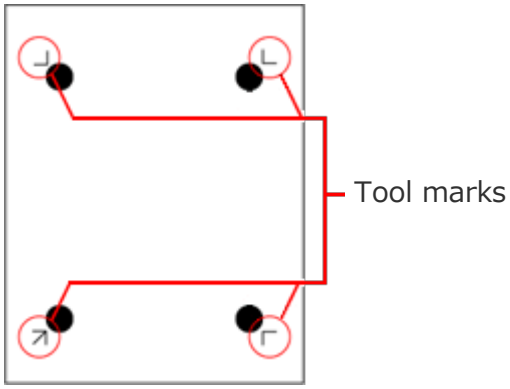
When Using CutStudio

When Using Illustrator/CorelDRAW

Tool Marks

Tool marks are used for manual alignment when it is not possible to perform automatic alignment using crop marks. Tool marks are printed around the crop marks when using the included CutStudio and plug-in software.

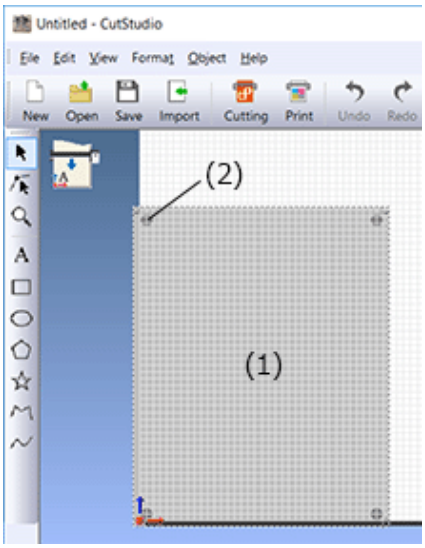
```
SET TO
<TOOL MODE>
```



Cutting in Tool Mode (1)

Switching between 3 and 4 Crop Marks

In most cases you should use 4 crop marks.



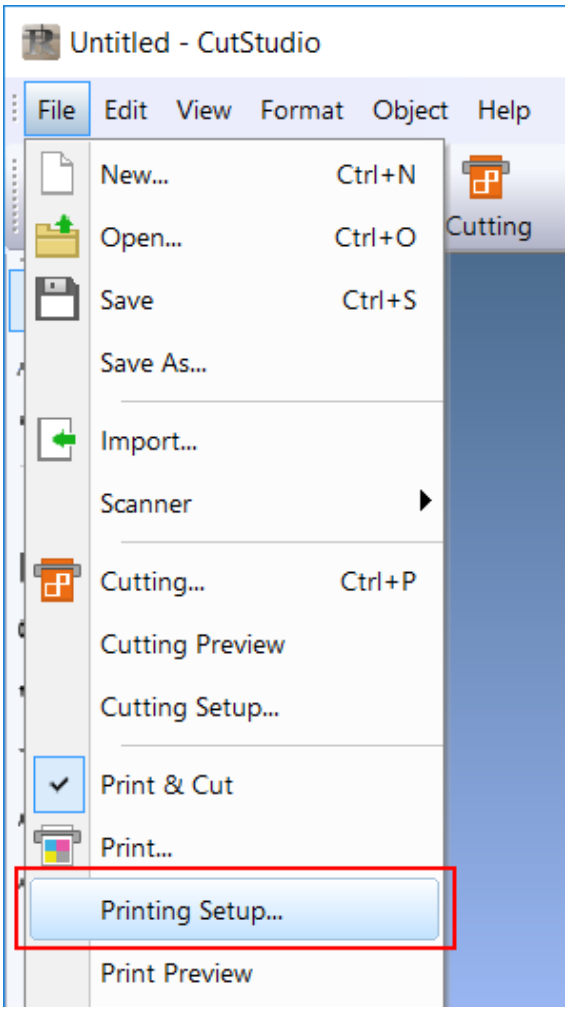
(1) Printing area
(2) Crop mark

Switching to 3 Crop Marks

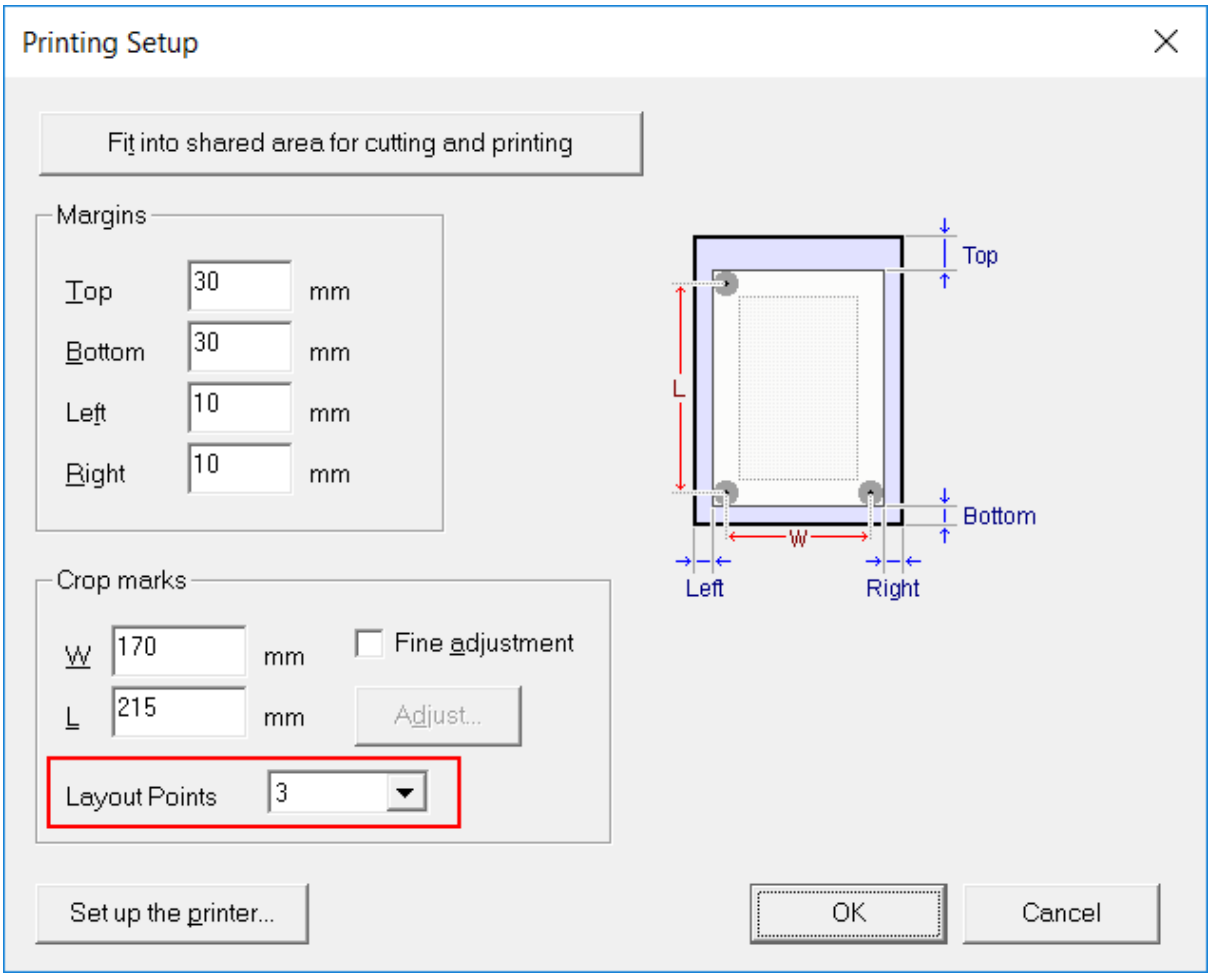
CutStudio

Procedure

1. **From the File menu, click Printing Setup.**

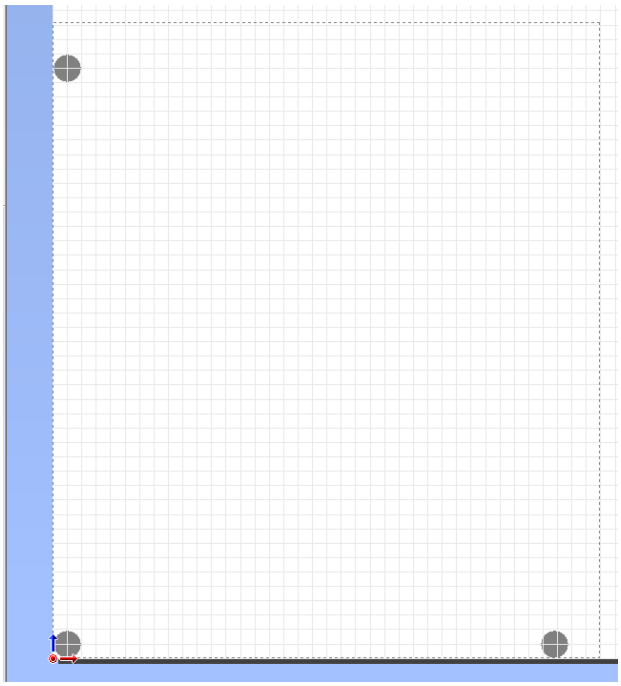


2. From the Layout Points list, select 3.



3. Click OK.

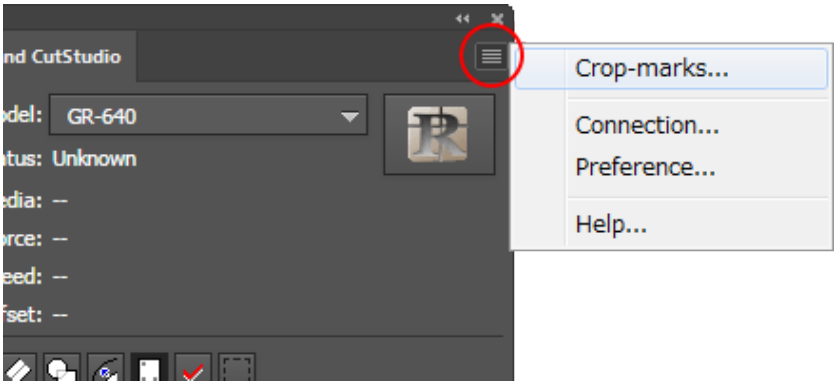
After setting the values, check that the crop marks are within the printing area.



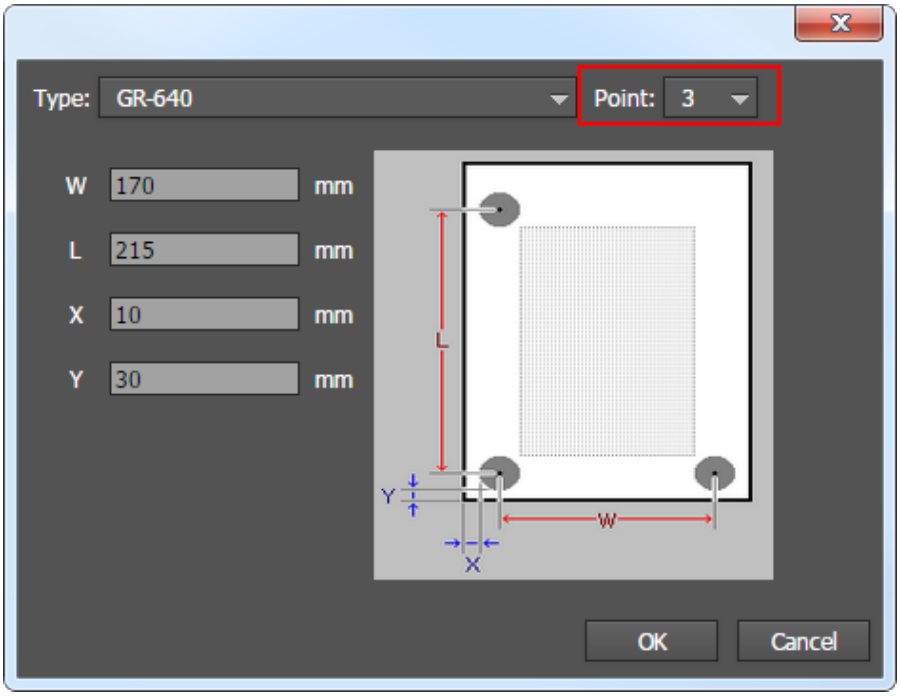
Illustrator

Procedure

1. Click , and then click Crop marks.



2. From the Point list, select 3.

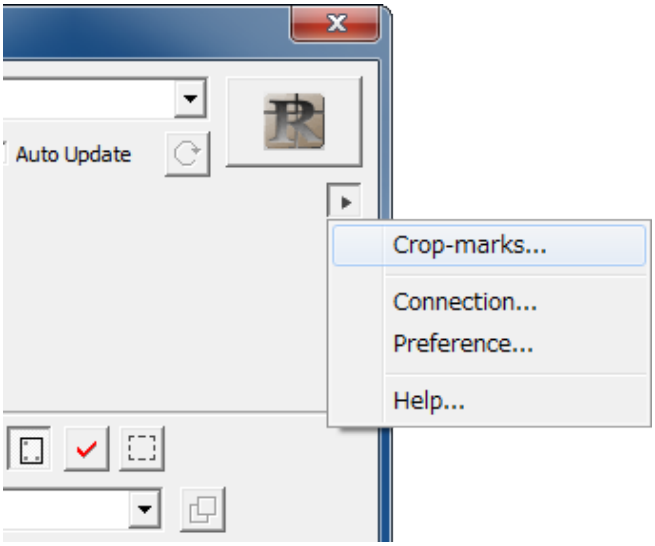


3. Click OK.

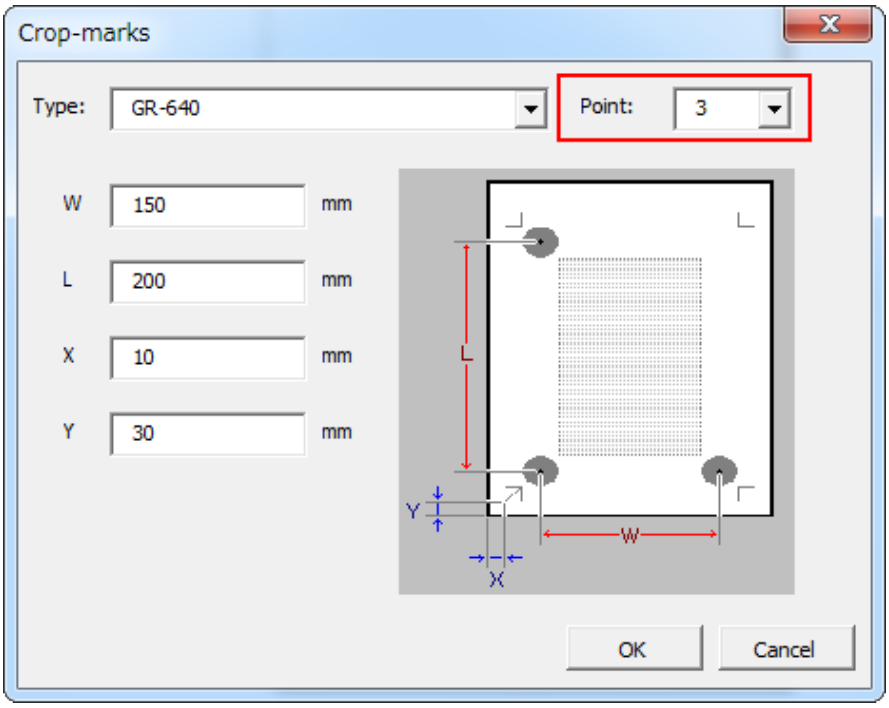
CorelDRAW

Procedure

1. Click ▸, and then click Crop marks.



2. From the Point list, select 3.



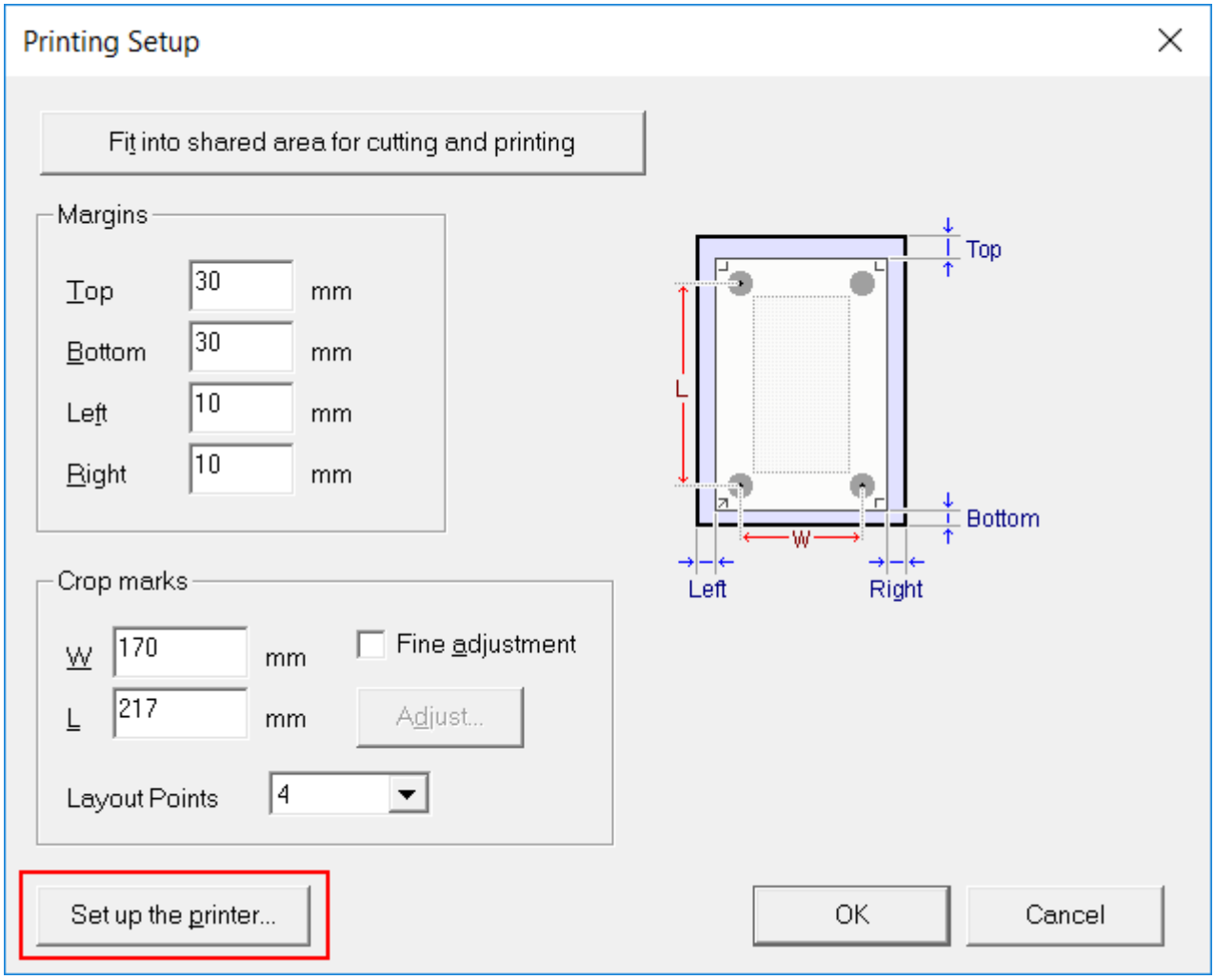
3. Click OK.

Setting the Margins and the Distance between Crop Marks

Setting the Margins and the Distance between Crop Marks

Set the margins and the distance between crop marks.
Take into account the margin necessary for cutting the material and set the crop mark position.

When Using CutStudio



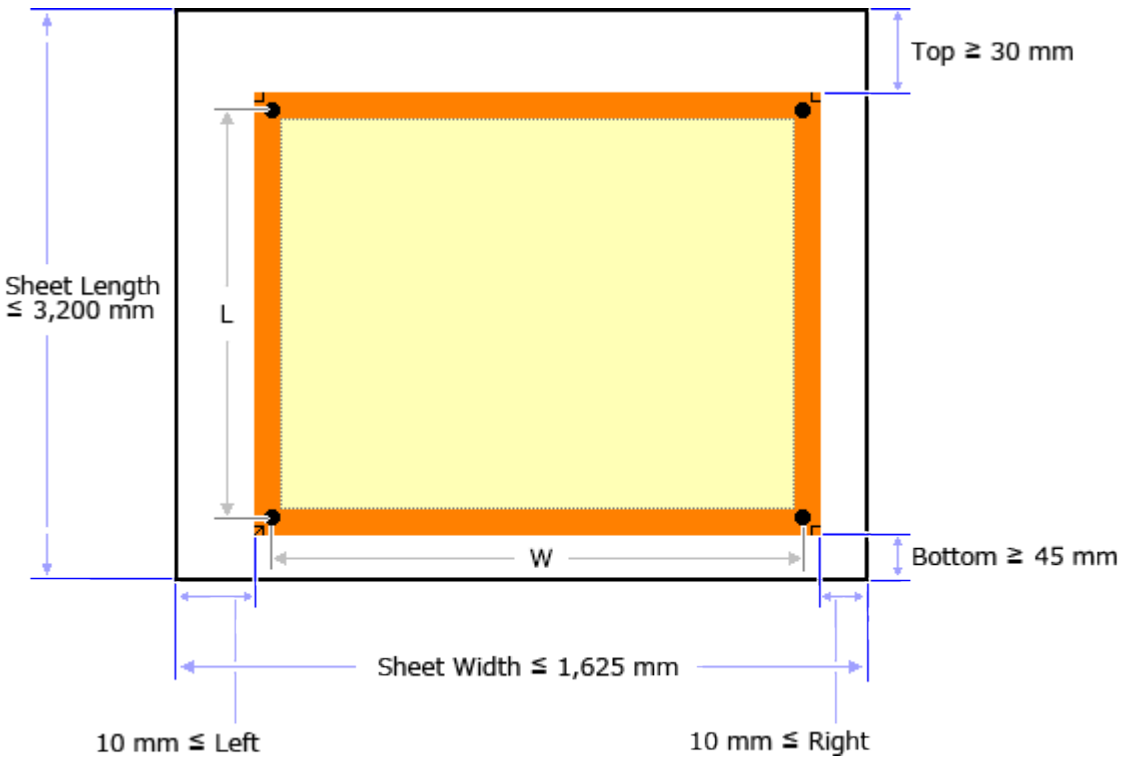
<crop marks: 3 points>, <crop marks: 4 points>

Size	Margin and crop mark settings
A4 portrait	Top: 30 mm, bottom: 45 mm, left: 10 mm, right: 10 mm W: 170 mm, L: 202 mm
A4 landscape	Top: 30 mm, bottom: 45 mm, left: 10 mm, right: 10 mm W: 257 mm, L: 115 mm
A3 portrait	Top: 30 mm, bottom: 45 mm, left: 10 mm, right: 10 mm W: 257 mm, L: 325 mm
A3 landscape	Top: 30 mm, bottom: 45 mm, left: 10 mm, right: 10 mm W: 380 mm, L: 202 mm

B4 portrait	Top: 30 mm, bottom: 45 mm, left: 10 mm, right: 10 mm W: 217 mm, L: 269 mm
B4 landscape	Top: 30 mm, bottom: 45 mm, left: 10 mm, right: 10 mm W: 324 mm, L: 162 mm

* When using material with a large amount of feed (long material), we recommend that you set the left and right margins to approximately 25 mm.

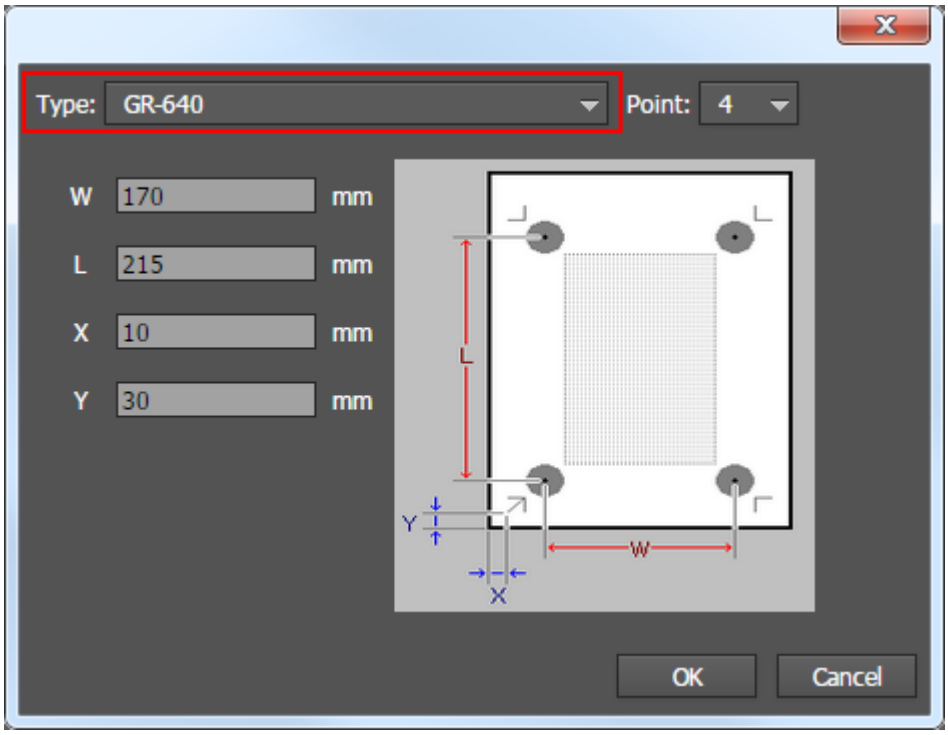
*** If you are using material that is larger than the sizes listed above, set the values by referring to the figure below.**



: Printable area

: Ensure that only crop marks are present within this area and that it is free of any other illustrations and dirt.

When Using Illustrator/CorelDRAW

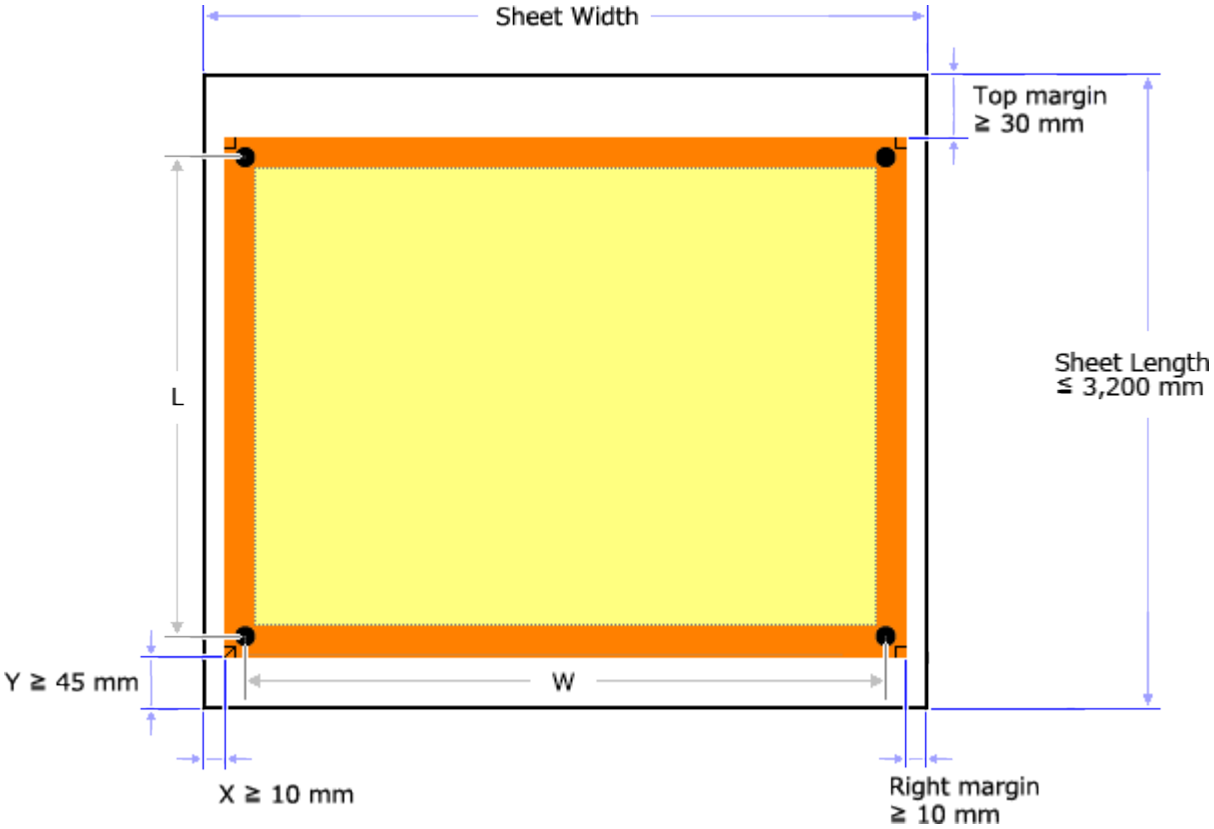


* When using material with a large amount of feed (long material), we recommend that you set the left and right margins to approximately 25 mm.

<crop marks: 3 points>, <crop marks: 4 points>

Size	Crop mark positions
A4 portrait	X: 10 mm, Y: 45 mm W: 170 mm, L: 202 mm
A4 landscape	X: 10 mm, Y: 45 mm W: 257 mm, L: 115 mm
A3 portrait	X: 10 mm, Y: 45 mm W: 257 mm, L: 325 mm
A3 landscape	X: 10 mm, Y: 45 mm W: 380 mm, L: 202 mm
B4 portrait	X: 10 mm, Y: 45 mm W: 217 mm, L: 269 mm
B4 landscape	X: 10 mm, Y: 45 mm W: 324 mm, L: 162 mm

*** If you are using material that is larger than the sizes listed above, set the values by referring to the figure below.**



: Cuttable area

: Ensure that only crop marks are present within this area and that it is free of any other illustrations and dirt.

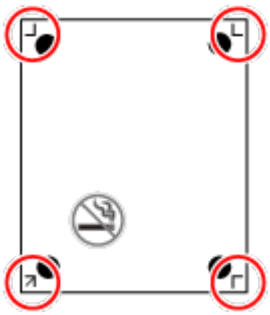
Cutting in Tool Mode (1)

When to Use Tool Mode

- When it is not possible to perform alignment in Sensor Mode
- When printing and cutting without selecting the type of material

It is not possible to use Tool Mode when using only 3 crop marks.

Required Items

	
Alignment tool	Material on which tool marks have been printed

(1) Load the Material

Procedure

1. Perform preparations for cutting.

Perform the procedure at the following link.

Loading Flat Material

(2) Set Tool Mode

Procedure

1. **Press [MENU] several times to display the screen shown in the figure.**

```
UNSETUP
```

2. **Press [▼] several times to display the screen shown in the figure.**

```
CROPMARK
<SENSOR MODE>
```

3. **Press [▶].**

```
CROPMARK
*SENSOR MODE
```

4. **Press [▼] to select TOOL MODE.**

```
CROPMARK
 TOOL MODE
```

5. **Press [ENTER].**

```
CROPMARK
<TOOL MODE>
```

Cutting in Tool Mode (2)

Cutting in Tool Mode (2)

Send Cutting Data and Perform Alignment

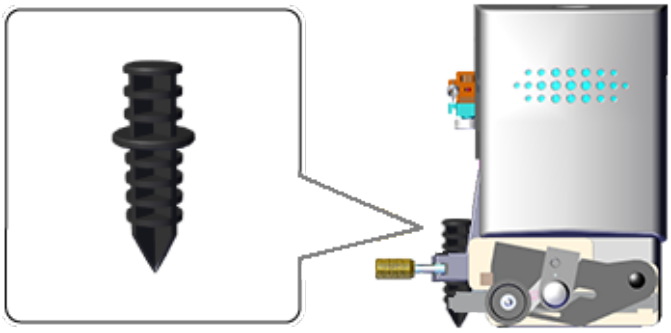
1. Send the cutting data.

2. The screen shown in the figure appears.

```
REPLACE TO TOOL
<QUIT      ▸MENU>↵
```

3. Install the alignment tool.

The installation method is the same as that of the cutting tool.



Installing the Cutting Tool

4. When installation is complete, press [ENTER].

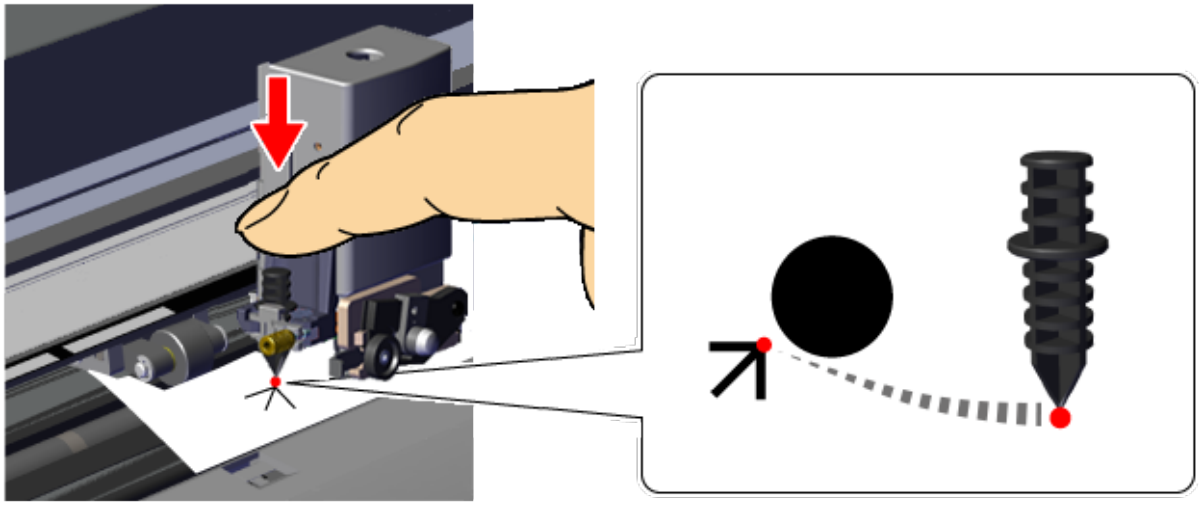
The tool moves to a position near the lower-left crop mark and stops, and the screen shown in the figure appears.

```
MARK1
<RETURN    ▸MENU>↵
```

5

5. Use the [▲], [▼], [▶], and [◀] buttons to align the tip of the alignment tool with tool mark 1.

Hold down the alignment tool gently from above with your finger and check that the tip of the alignment tool overlaps the tool mark.



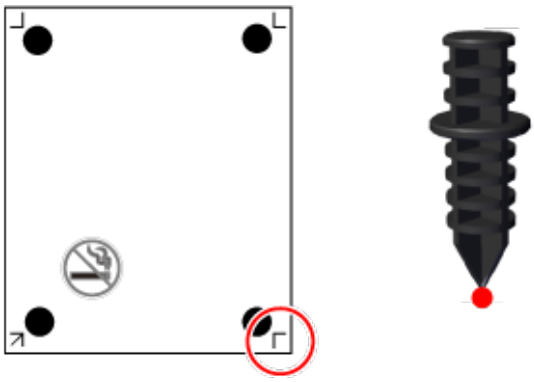
6. Press [ENTER].

The tool moves to a position near the lower-right crop mark, and the screen shown in the figure appears.

```
MARK2
<RETURN   ▸MENU>↵
```

To Redo Alignment

7. Align the tip of the alignment tool with tool mark 2.



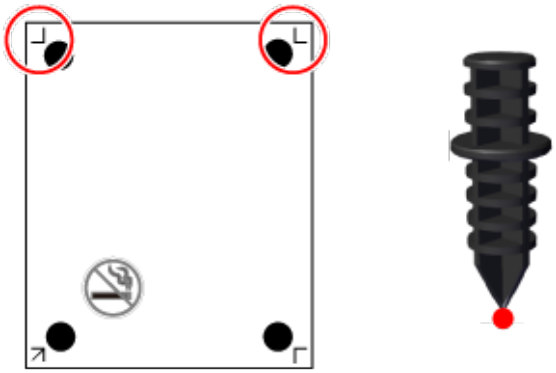
8.

8. Press [ENTER].

The tool moves to a position near the upper-left crop mark, and the screen shown in the figure appears.

```
MARK3
<RETURN   ▸MENU>↵
```

9. Align the upper-left and upper-right tool marks in the same way.

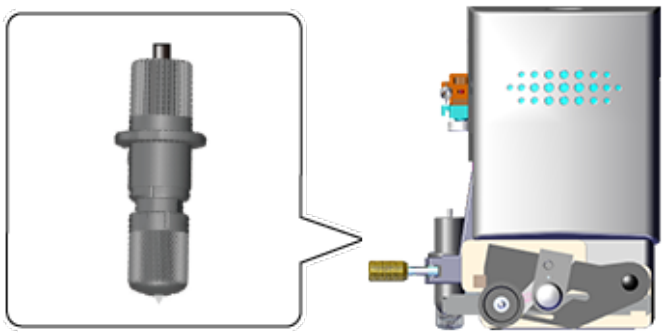


10. After aligning mark 4, press [ENTER].

The screen shown in the figure appears.

```
REPLACE TO BLADE
<RETURN   ▸MENU>↵
```

11. Remove the alignment tool and install the cutting tool.



12. Press [ENTER].

```
COMPLETE ▸ ENTER
QUIT     ▸ MENU
```

13. Press [ENTER].

Cutting starts.

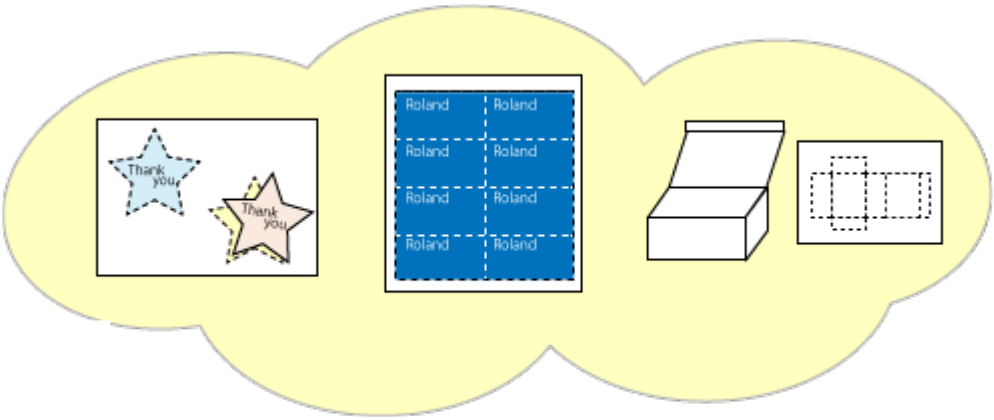
To Redo Alignment

You can press [MENU] during alignment to return to the previous screen and redo the alignment procedure.

Cutting Perforated Lines

Overview of Cutting Perforated Lines

The machine can also cut material without carrier paper, such as coated paper.
This function makes it easy to create point-of-purchase advertisements, cards, and other materials.



Cutting Perforated Lines with CutStudio

- Step 1: Perform Preparations for Cutting
- Step 2: Create Perforated Line Data
- Step 3: Set Perforated Cutting Conditions
- Step 4: Cut Perforated Lines

Cutting Perforated Lines with Illustrator

- Outputting Perforated Line Data from Illustrator

Cutting Perforated Lines with CorelDRAW

- Outputting Perforated Line Data from CorelDraw

Step 1: Perform Preparations for Cutting

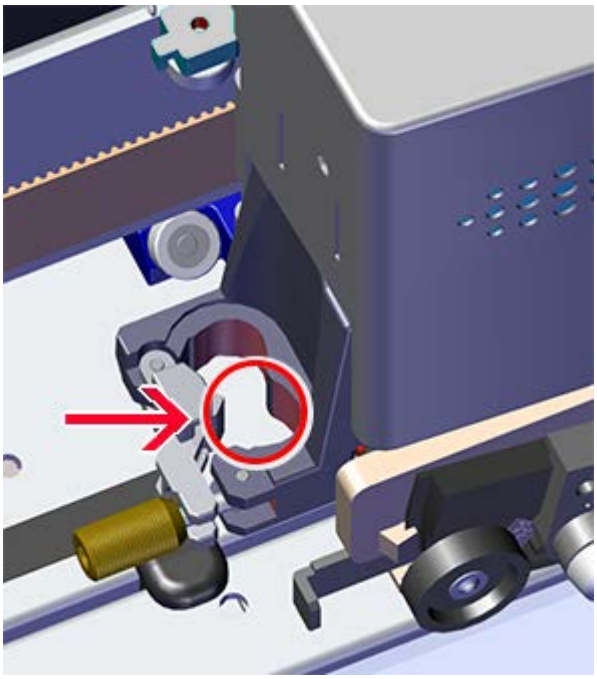
Procedure

1. Perform preparations for cutting.

Click the link below and perform the procedures from "Loading Roll Material" to "Creating Cutting Data (2)." Exercise caution regarding the position in which the cutting tool is installed.

Loading Roll Material

When cutting perforated lines, install the cutting tool in the position shown in the figure.
Note that this is the position in front of the normal installation position.



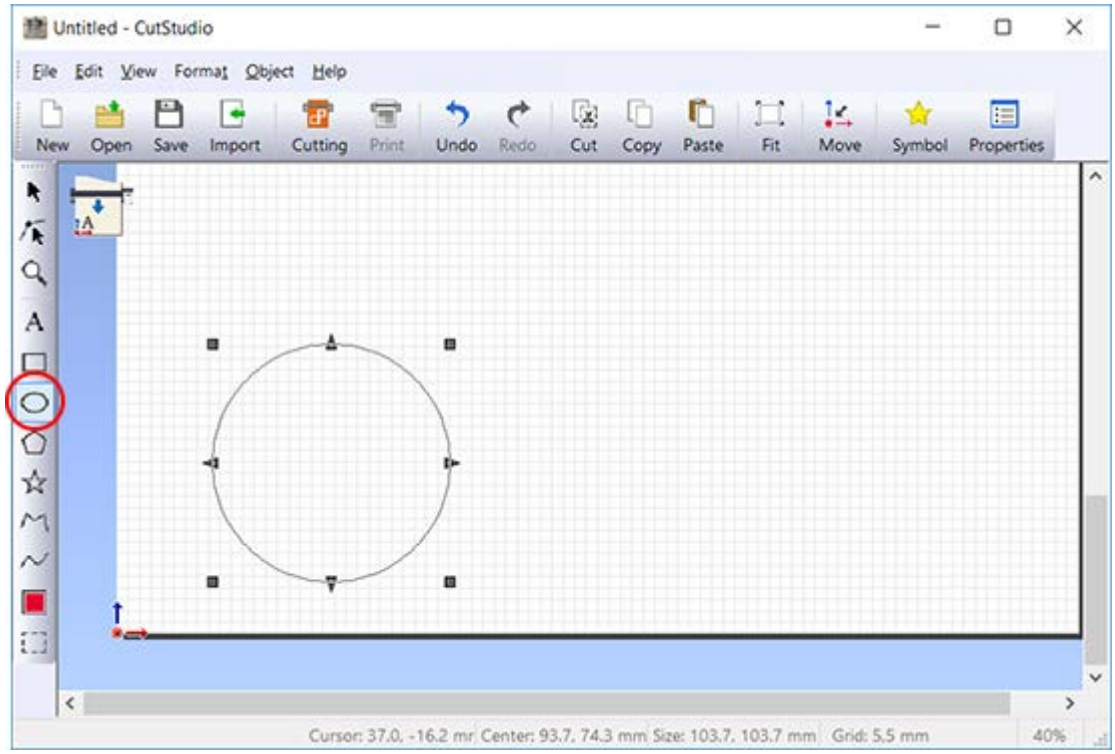
Step 2: Create Perforated Line Data

Step 2: Create Perforated Line Data

Procedure

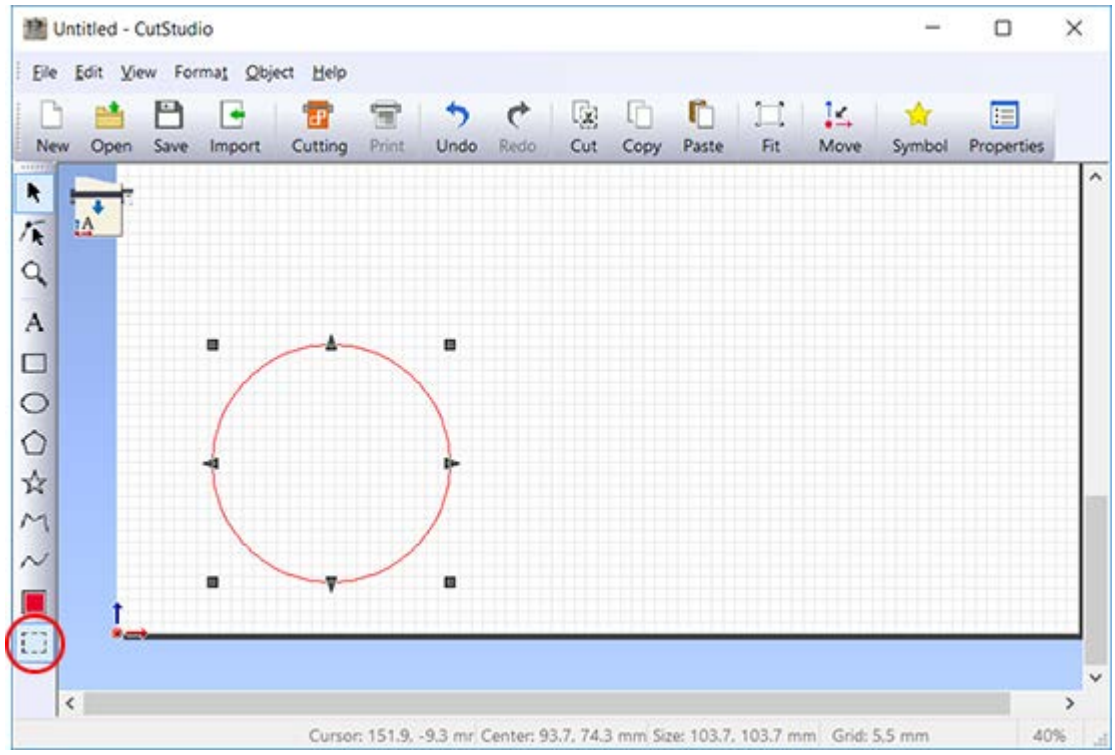
1. Create a shape or similar object.

In this example, you will create a circle like that shown in the figure below.



2. Click ⬚.

Objects set with perforated lines are displayed in red.



Memo

From the File menu, click Preferences to display the Preferences dialog box. This lets you set the color and display of perforated lines.

Step 3: Set Perforated Cutting Conditions

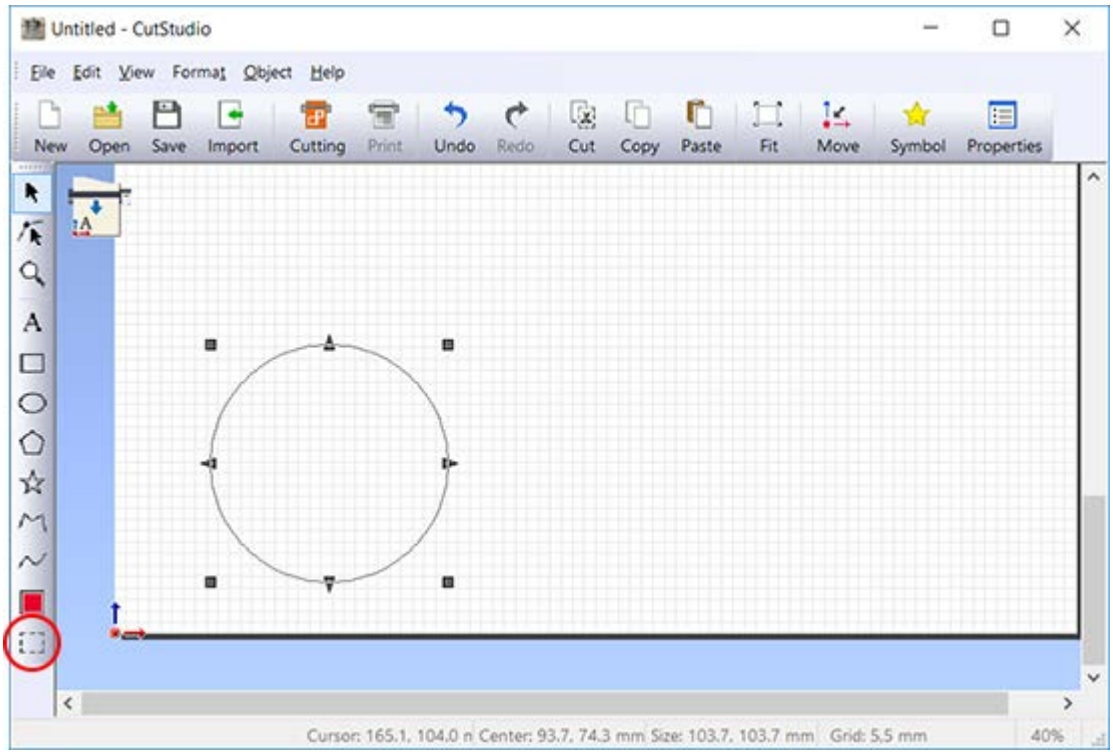
Canceling Perforated Line Settings

Procedure

1. Use the tool to select the shape for which you want to cancel perforated line settings.

2. Click .

The cutting lines turn black.

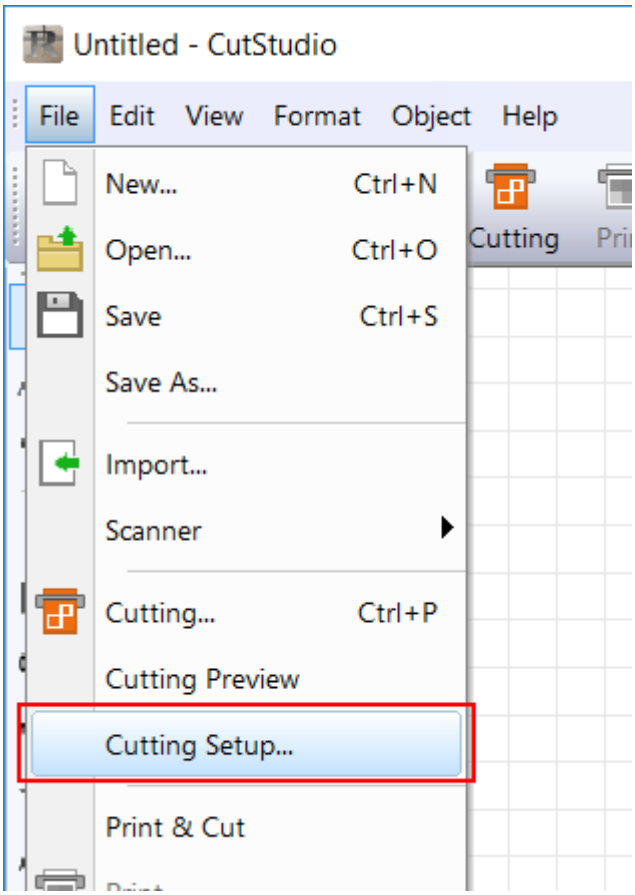


Step 3: Set Perforated Cutting Conditions

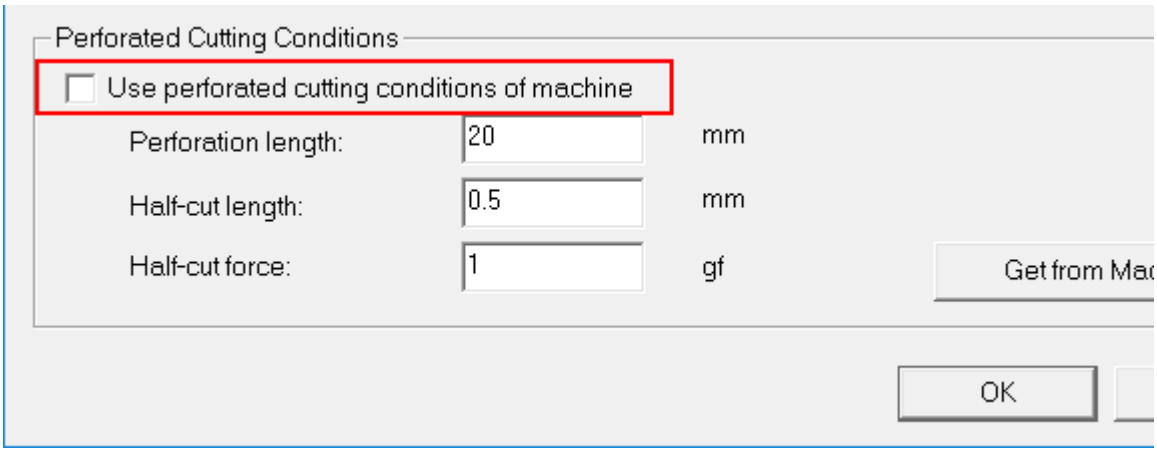
Step 3: Set Perforated Cutting Conditions

Procedure

1. **From the File menu, click Cutting Setup.**



2. **Clear the Use perforated cutting conditions of machine check box.**

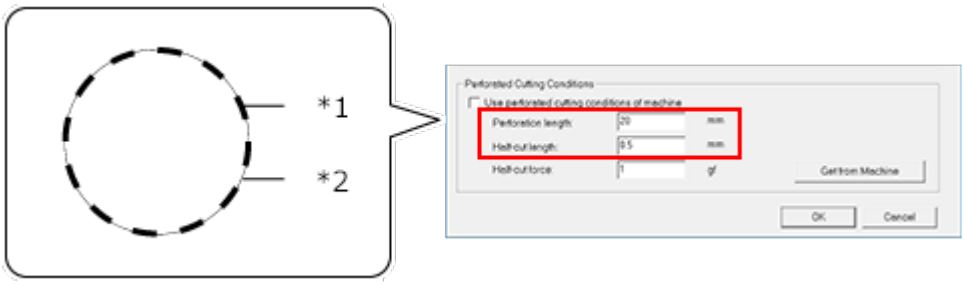


You can now enter the values.

3. Enter the Perforated Cutting Conditions.

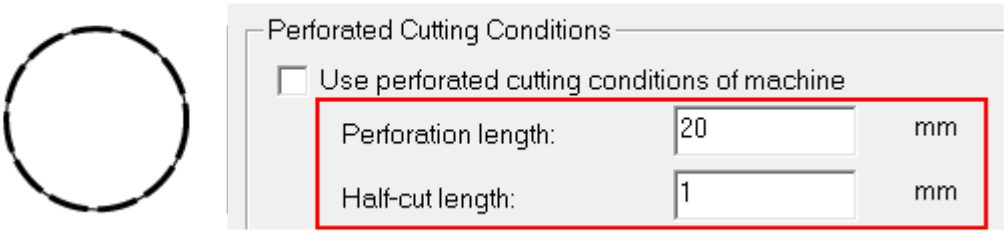
Set the length of each perforation to make in the material (the perforation length) and the length of the part that is not perforated because the blade force is reduced (the half-cut length).
Adjust the half-cut force to suit the type of material or paper used.

About the Perforation length/Half-cut length

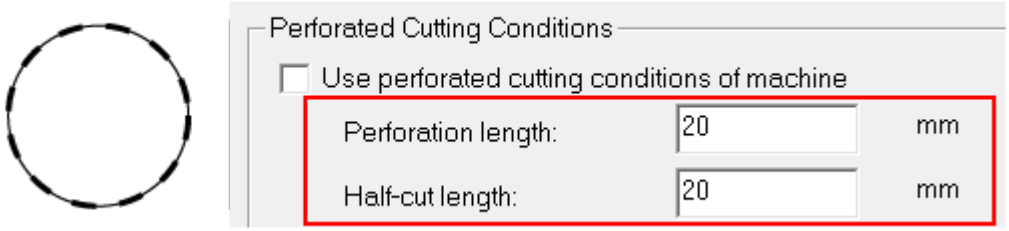


*1: Perforation length
*2: Half-cut length

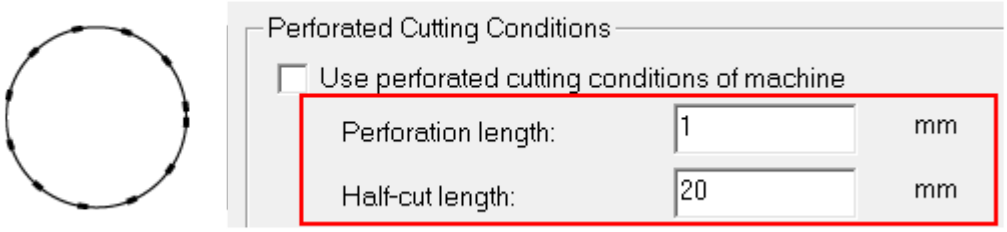
Perforation length > Half-cut length



Perforation length = Half-cut length



Perforation length < Half-cut length



4. Click OK.

Step 4: Cut Perforated Lines

Step 4: Cut Perforated Lines

CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

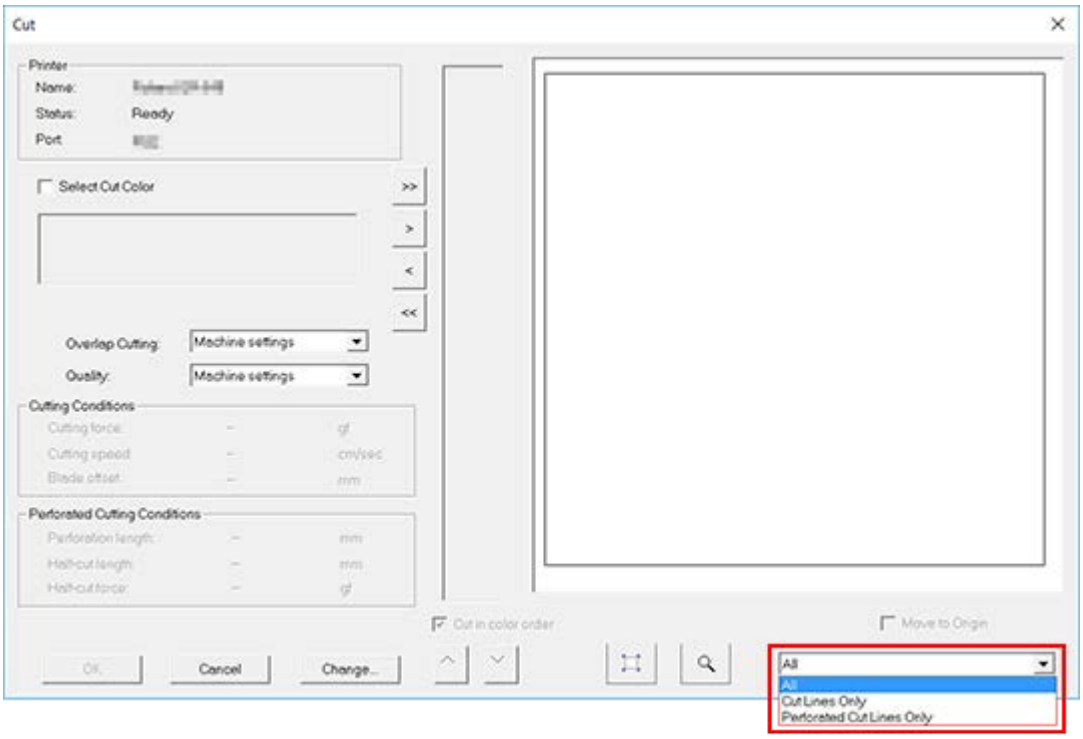
Procedure

1. Click

.

The screen shown in the following figure is displayed. Select the type of cutting lines you want to use from the list.

[All]: The cutting lines and the perforated cutting lines will be output.
[Cut Lines Only]: Only the cutting lines will be output.
[Perforated Cut Lines Only]: Only the perforated cutting lines will be output.



Checking the Installed Position of the Cutting Tool Each Time before Cutting

Frequently Using Perforated Cutting

2. Click OK.

Cutting starts.

Adjusting Perforated Cutting Conditions

Select optimum cutting conditions on the basis of the cutting results.

Optimizing the Cutting Quality for the Material

Outputting Perforated Line Data from Illustrator

* The screenshots show an example of Illustrator CC 2015, but the operation procedure is the same for other versions.

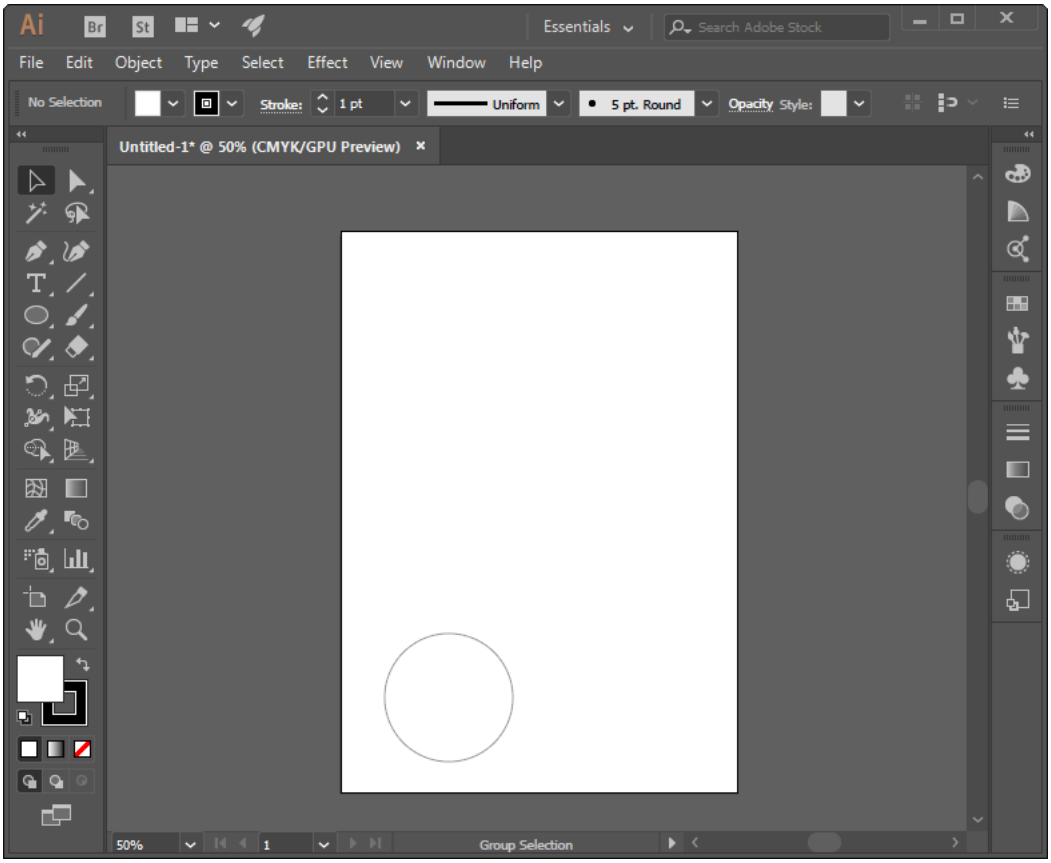
*** You must install Plug-in for Illustrator before proceeding.**

Installing Plug-in for Illustrator

Procedure

1. Create a new file and create a new design or open an existing file.

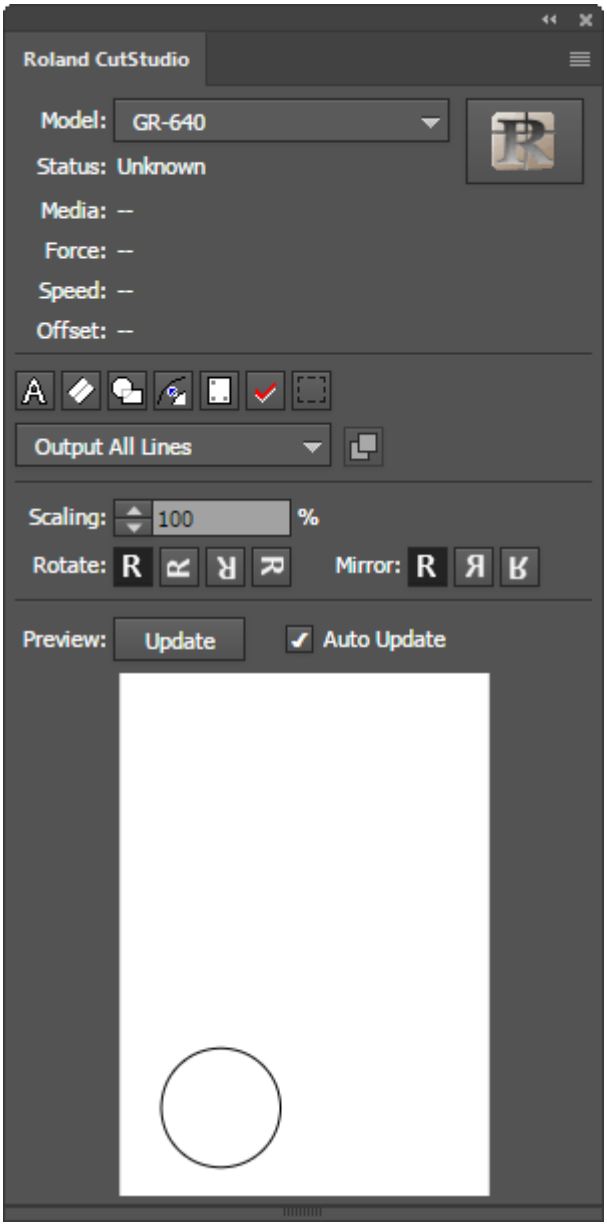
In this example, you will create the design shown in the figure below.



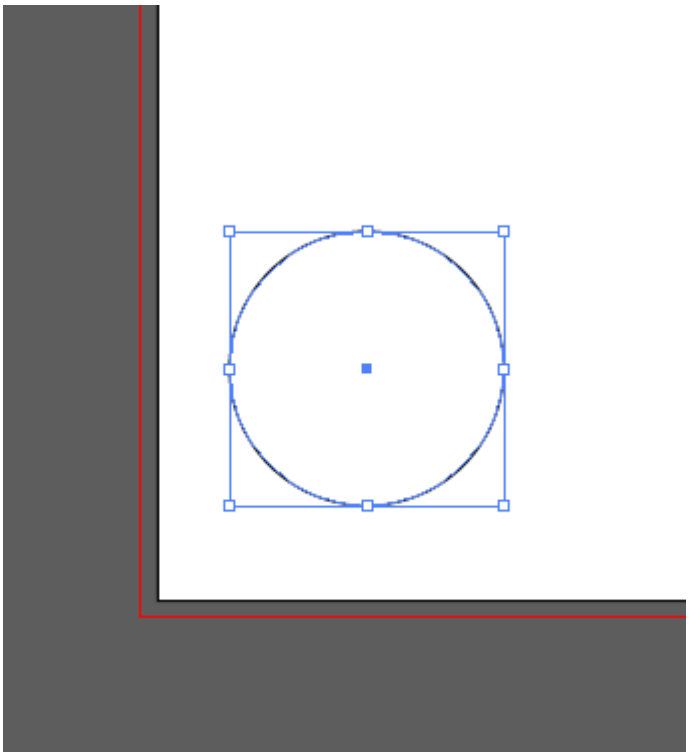
2

2. From the Window menu, click Extensions, and then click Roland CutStudio.

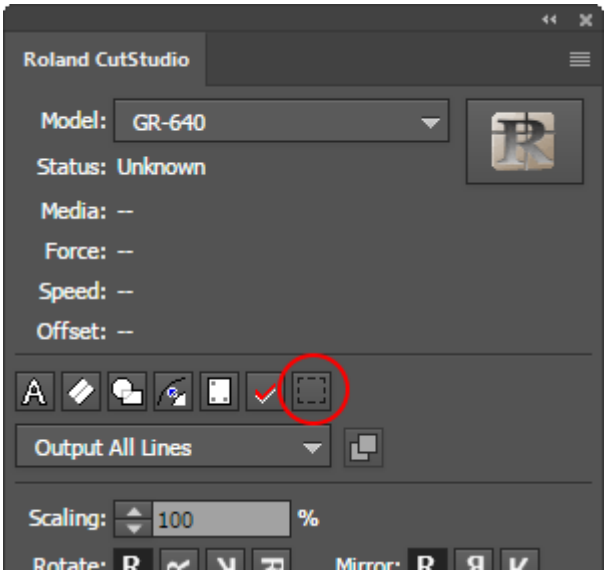
The Roland CutStudio palette appears.



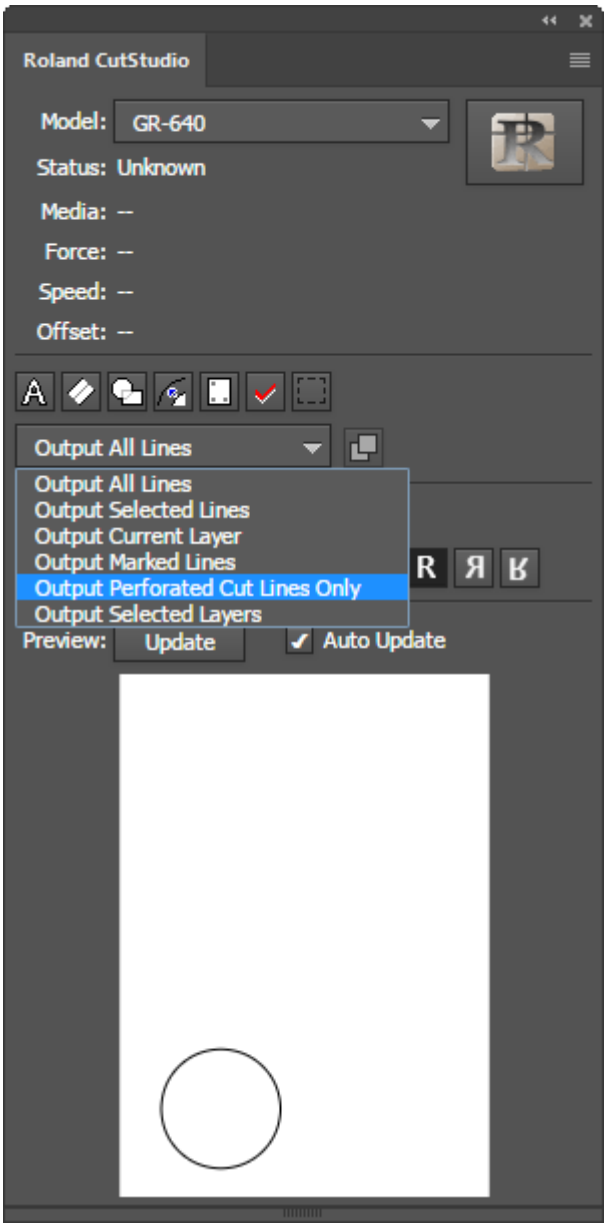
3. Select the object that you want to apply perforated lines to.



4. Click ⬚.



5. Select Output Perforated Cut Lines.

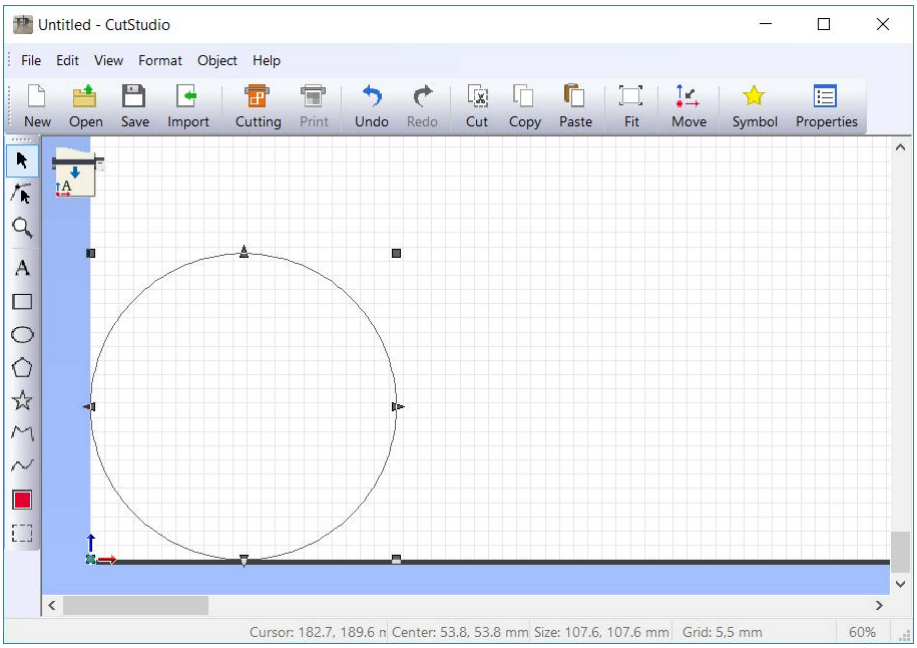


6. On the Roland CutStudio palette, click Update.

Check that the cutting line that you wish to output is shown on the preview screen.

7. Click .

CutStudio starts, and the cutting line data is sent to CutStudio.
The output data is always aligned at the origin of CutStudio regardless of the position in Illustrator. (This does not apply to data with crop marks.)



8. Perform cutting.

[Performing Cutting]

Outputting Perforated Line Data from CorelDraw

* The screenshots show an example of CorelDRAW X8, but the operation procedure is the same for other versions.

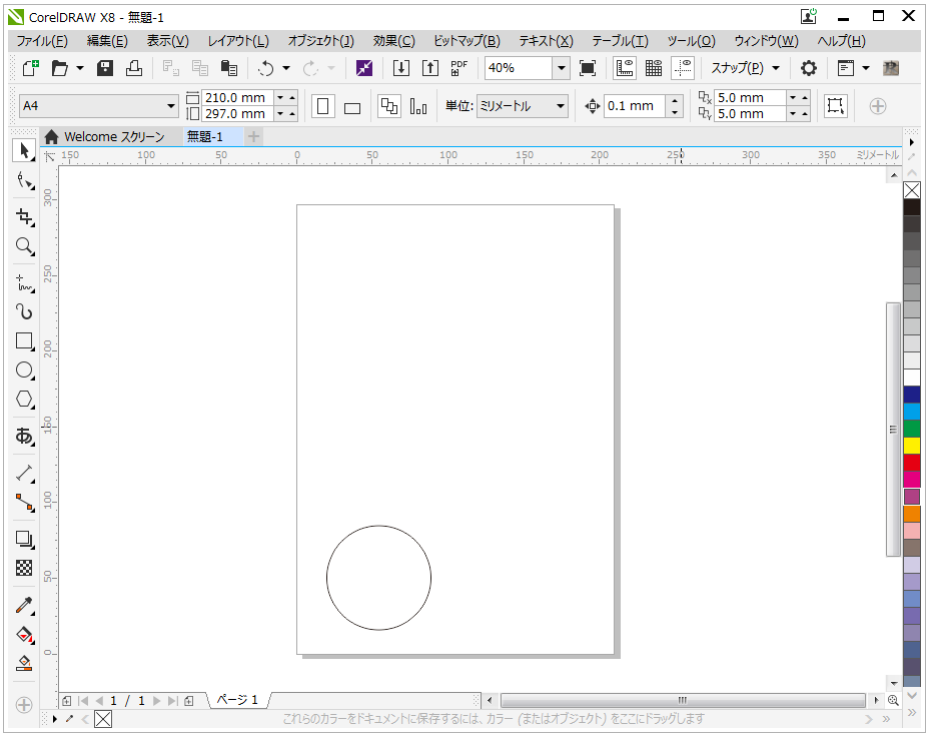
*** You must install Plug-in for CorelDRAW before proceeding.**

Installing Plug-in for CorelDRAW

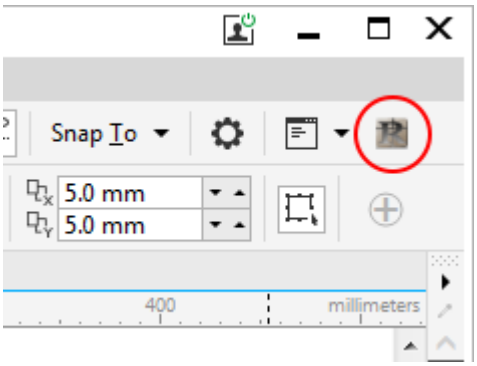
Procedure

1. Create a new document and create a new design or open an existing file.

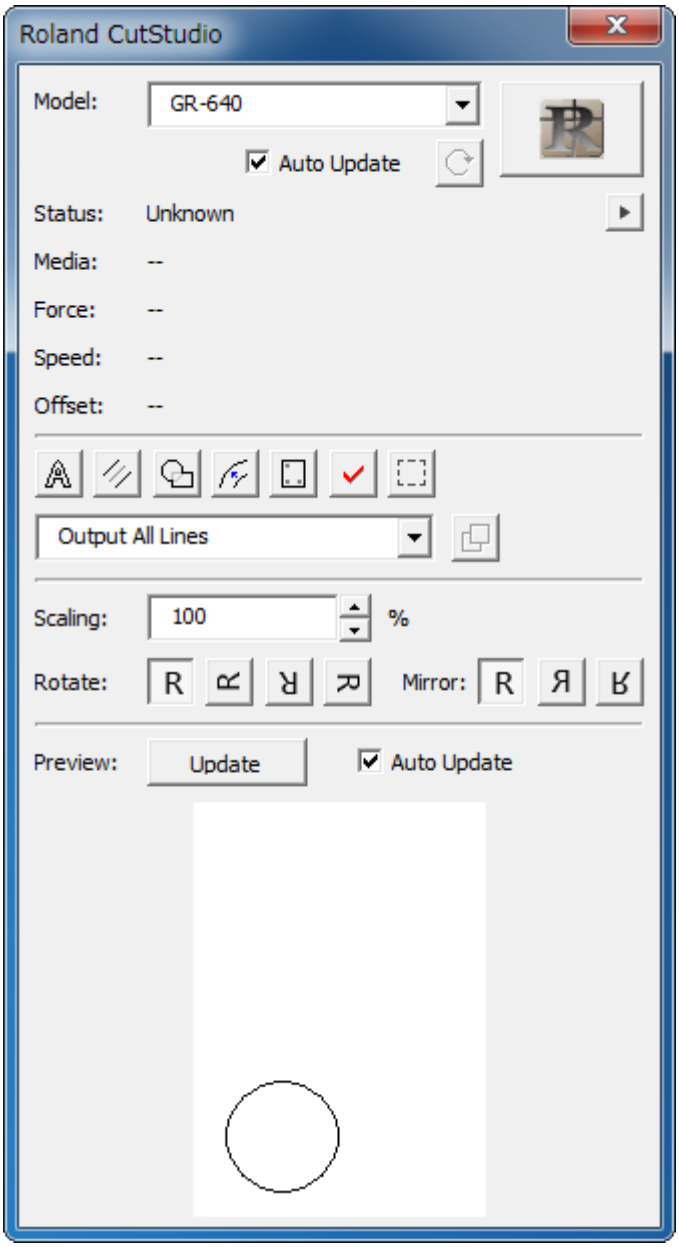
In this example, you will create the design shown in the figure below.



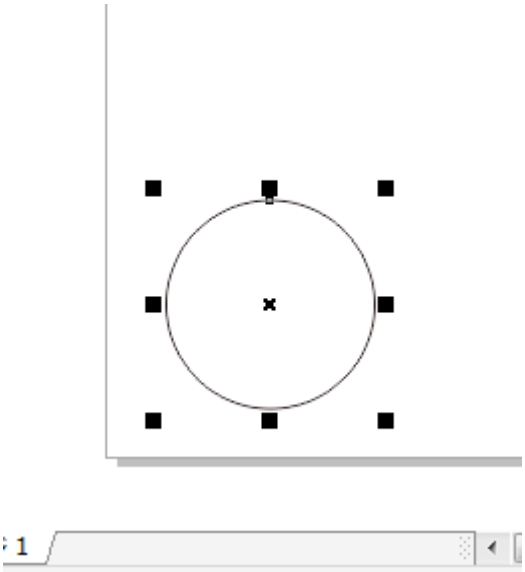
2. Click the plug-in's start button on the toolbar.



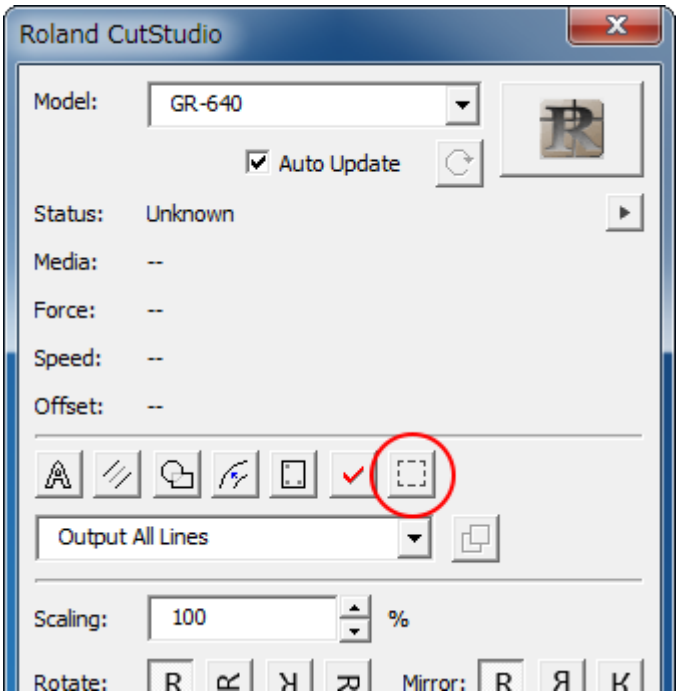
The Roland CutStudio palette appears.



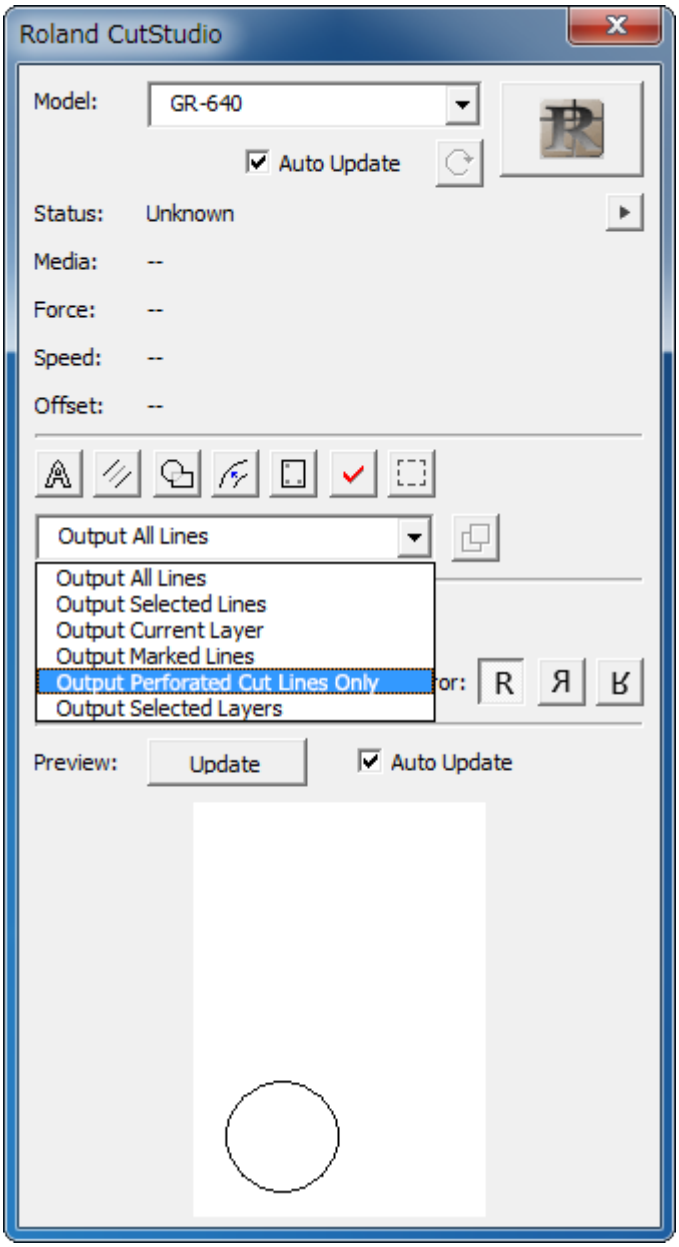
3. Select the object that you want to apply perforated lines to.



4. Click ⬚.



5. Select Output Perforated Cut Lines.

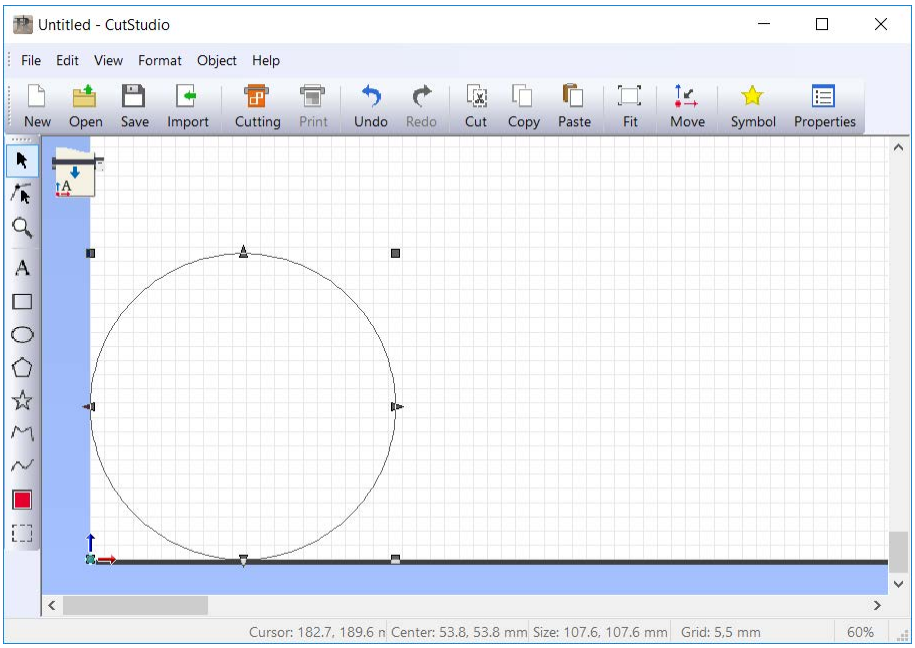


6. On the Roland CutStudio palette, click Update.

Check that the cutting line that you wish to output is shown on the preview screen.

7. Click .

CutStudio starts, and the cutting line data is sent to CutStudio.
The output data is always aligned at the origin of CutStudio regardless of the position in CorelDRAW. (This does not apply to data with crop marks.)



8. Perform cutting.

[Performing Cutting]

Tiled Output

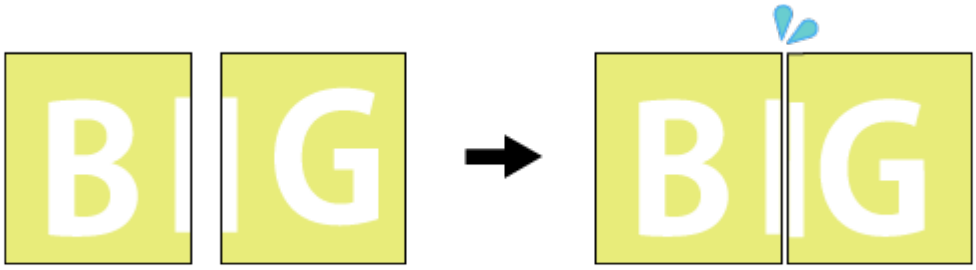
Overview of Tiled Output

Tiled output lets you split up data that is larger than the cutting area over multiple sheets.

*** Tiled output does not support the printing and cutting operation.**

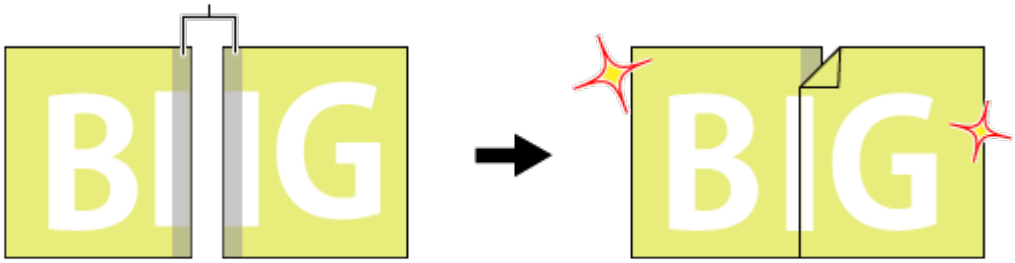
Inner Margin Function

■ Without inner margin: Gap between edges



■ With inner margin: No gap between edges

Inner margin



Procedure

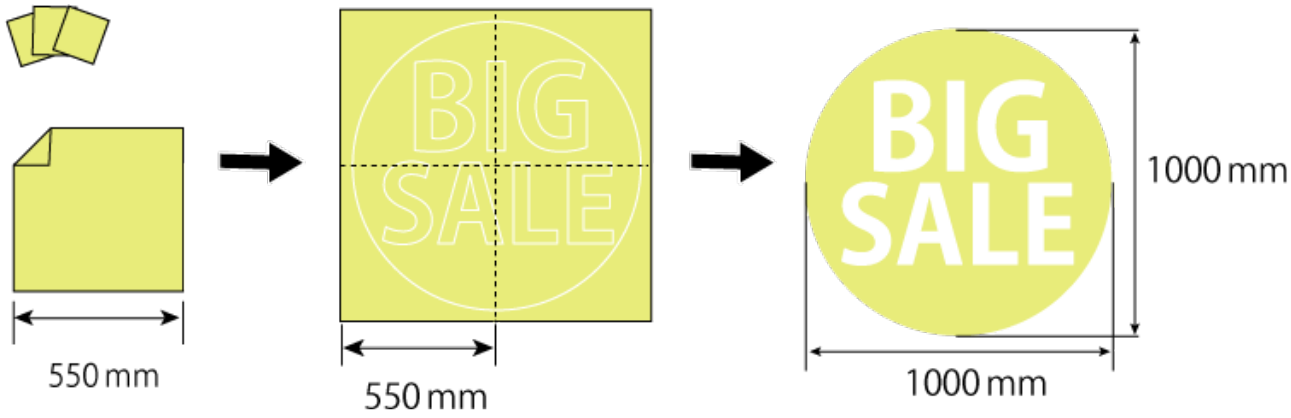
- Step 1: Determine Output Size
- Step 2: Load the Material
- Step 3: Set Tiled Output Conditions
- Step 4: Enter Text and Shapes
- Step 5: Check Preview
- Step 6: Perform Cutting

Step 1: Determine Output Size

Remember the basic procedure for tiled output while creating a large sticker like the one shown below. Follow the procedure below.

Overview

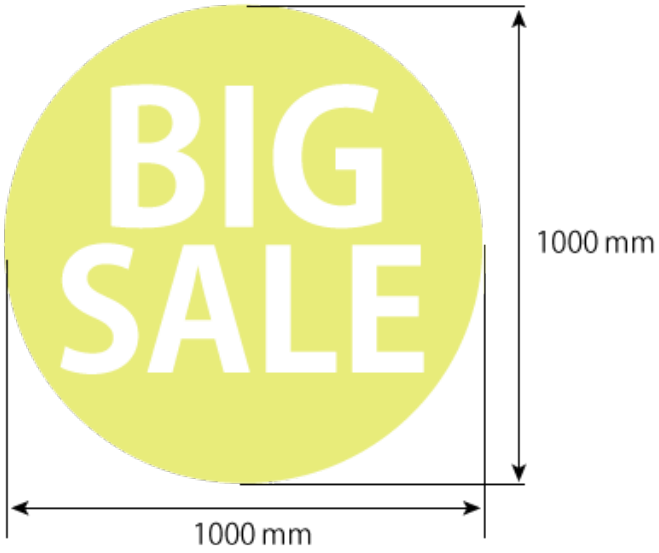
In this example, you will create an image with the dimensions indicated below.



Memo Keeping the completed size in mind when working will help the setting procedure go smoothly.

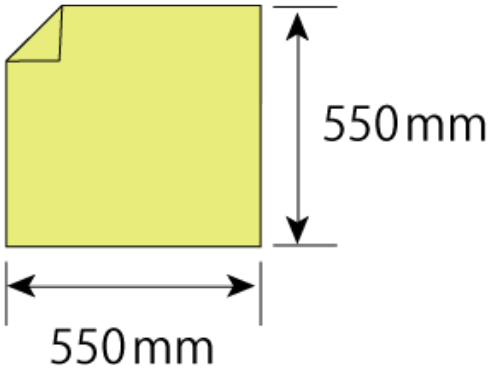
Procedure

1. Determine the output size.



2

2. Check the size of the material to be used.



Step 2: Load the Material

Step 2: Load the Material

Procedure

1. **Perform steps 1 to 8 in the procedure under "Loading Roll Material."**

   Loading Roll Material

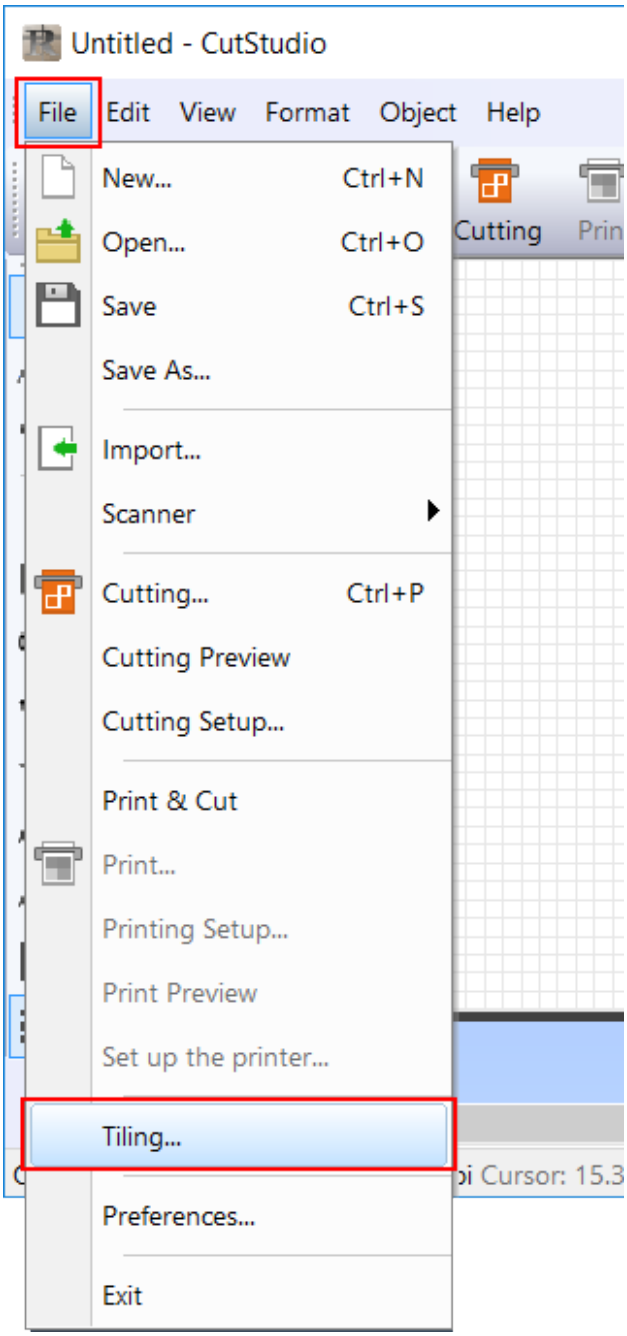
Step 3: Set Tiled Output Conditions

Step 3: Set Tiled Output Conditions

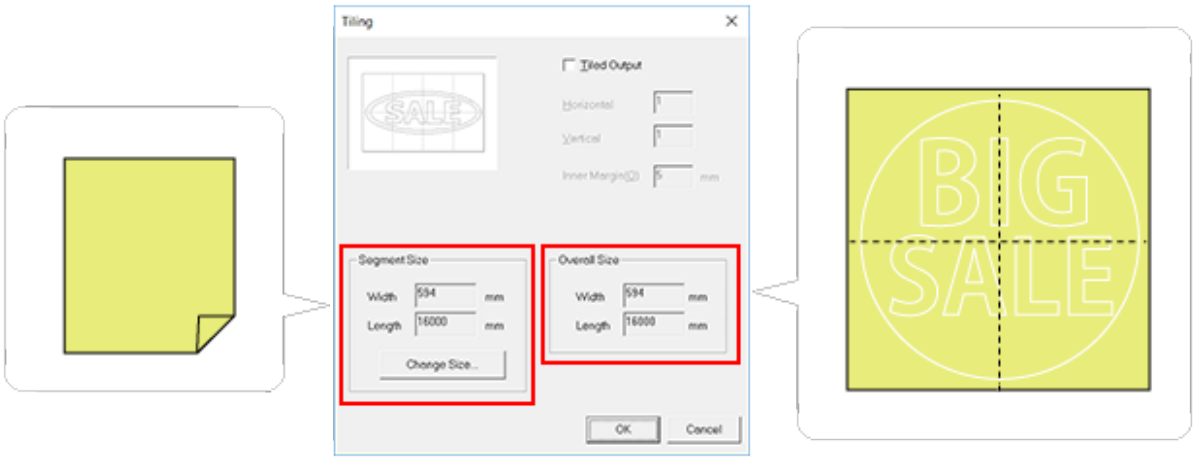
Procedure

1. Start CutStudio.

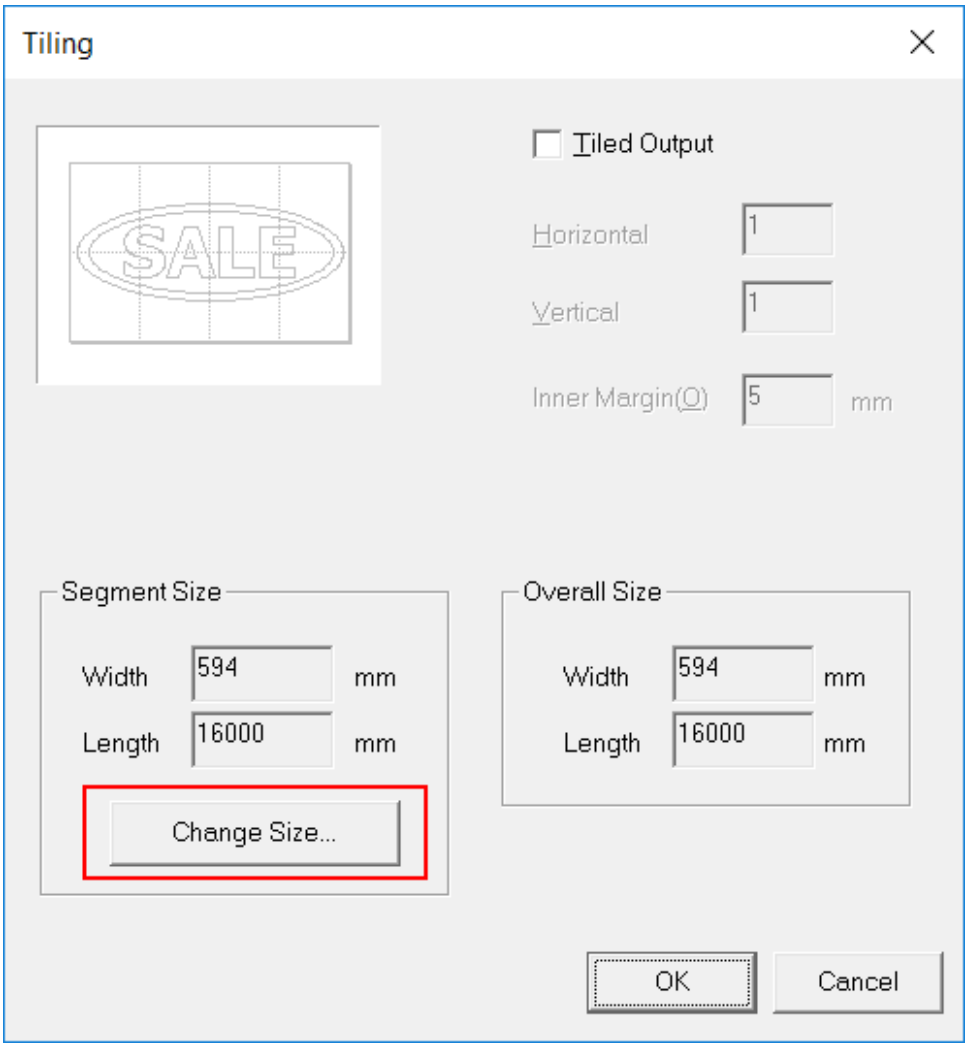
2. From the File menu, click Tiling.



The Tiling dialog box is displayed.

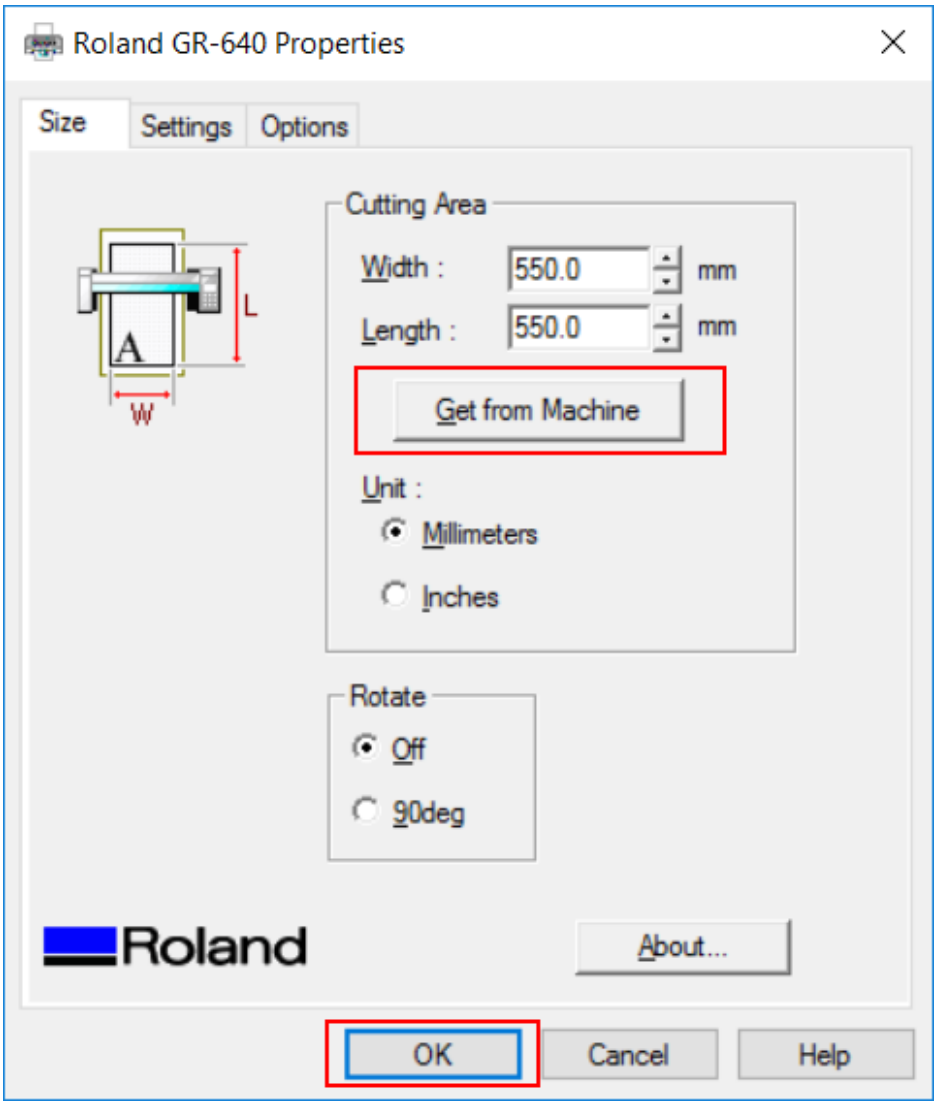


3. Click Change Size.

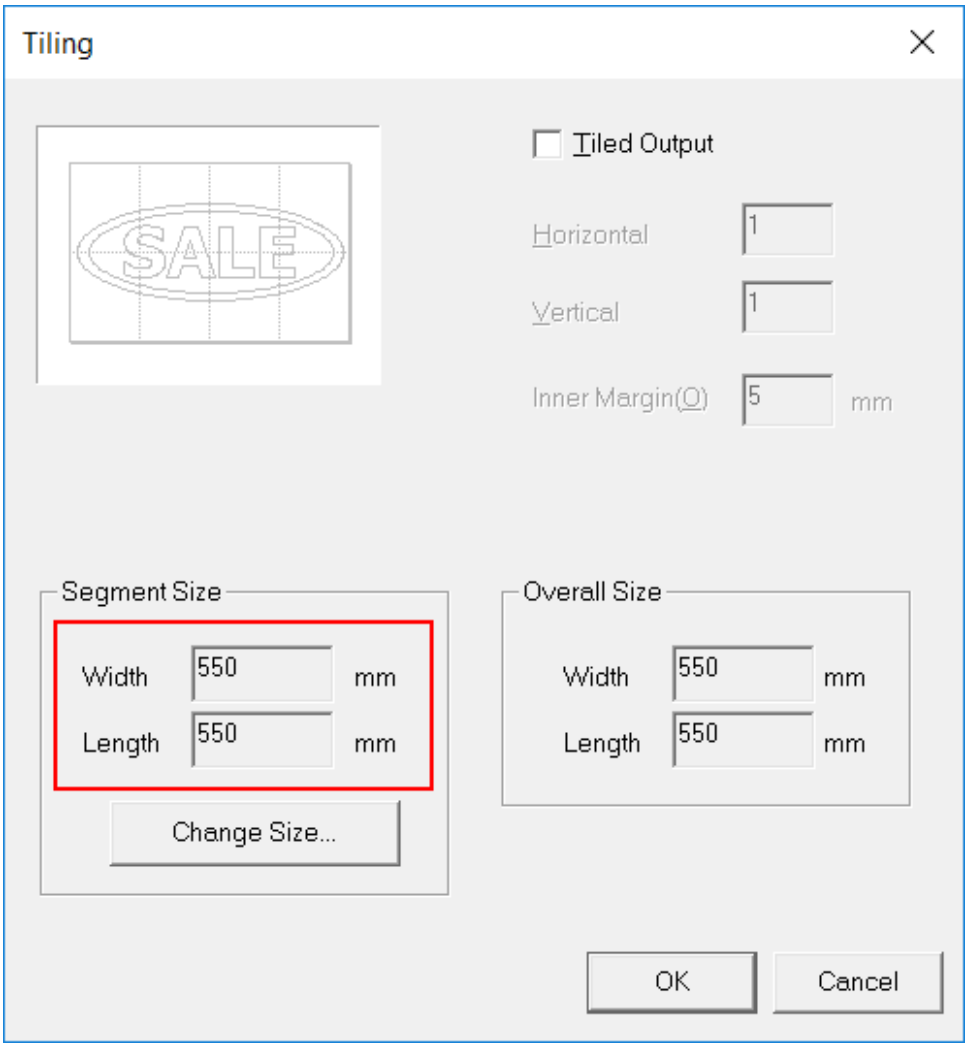


4. Click Get from Machine.

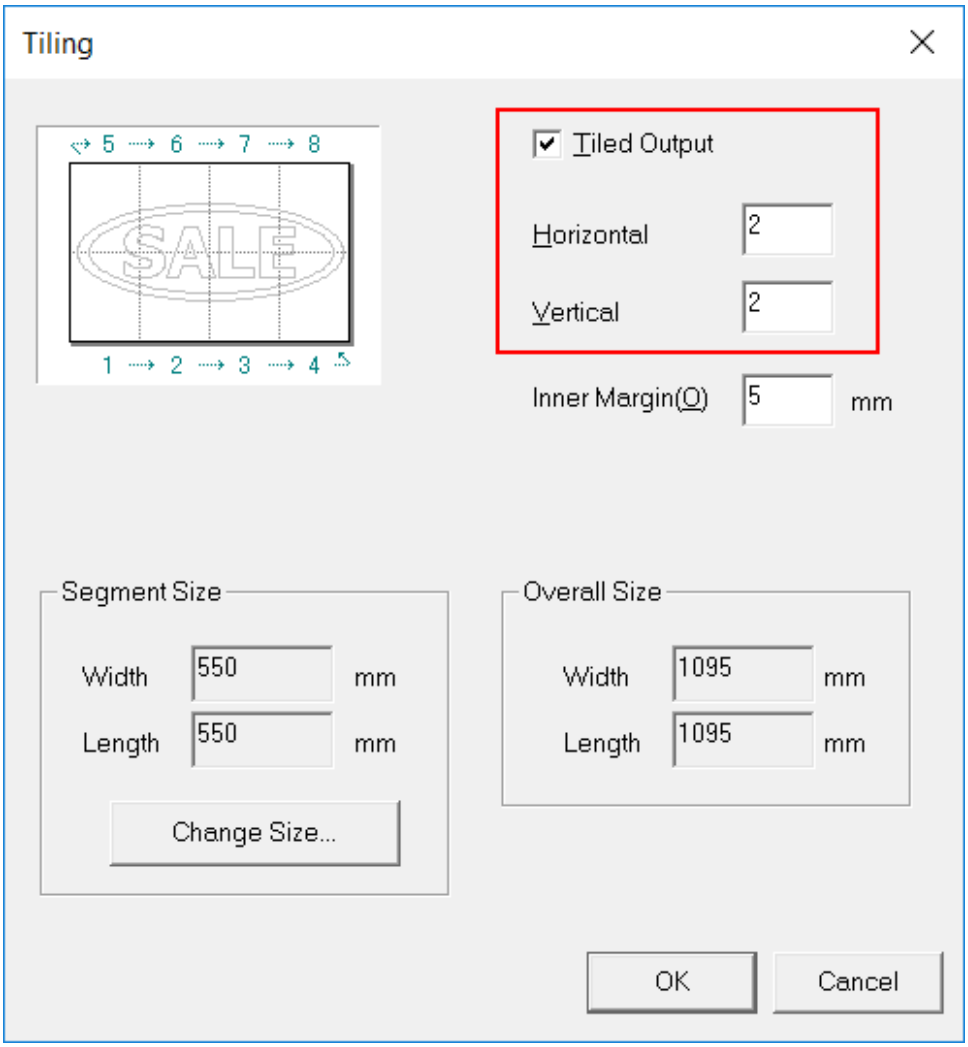
The cutting area is entered automatically. Once the cutting area has been entered, click OK.



The segment size is updated.



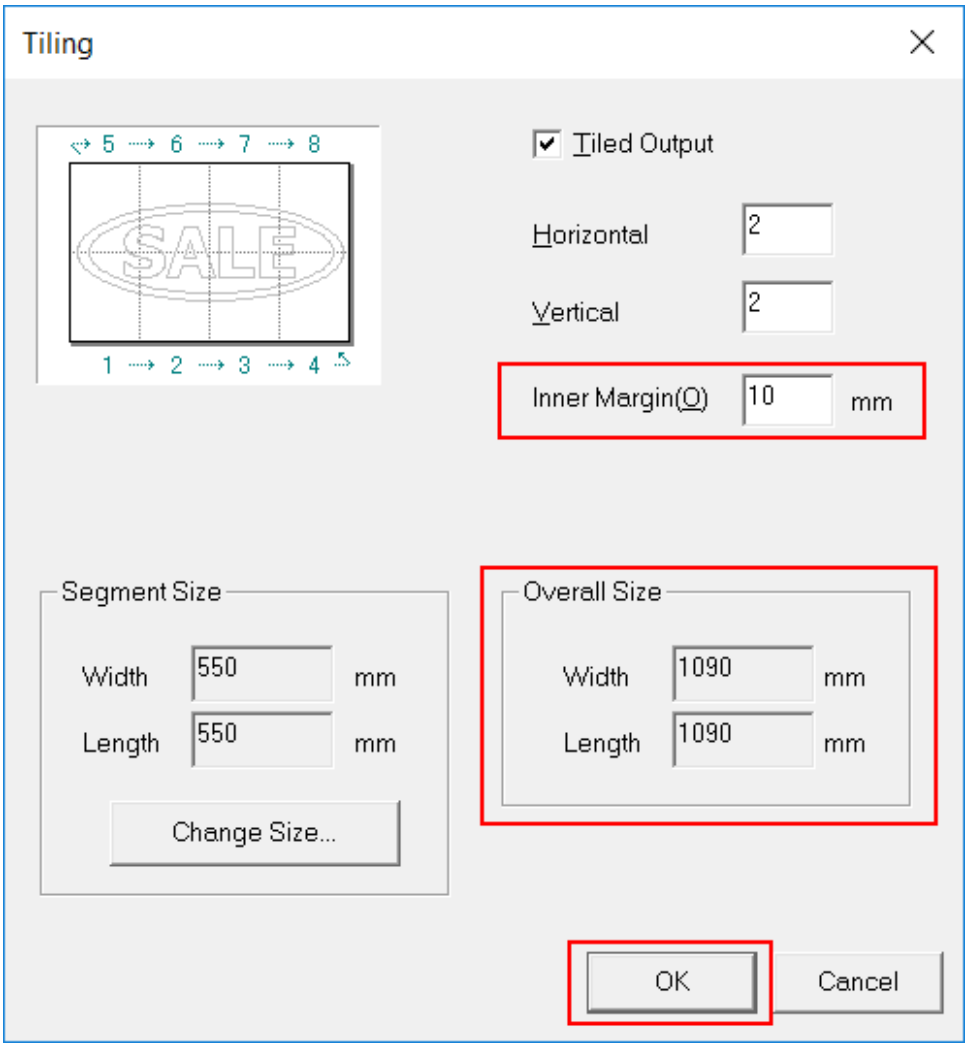
5. **Select the Tiled Output check box, and then enter the number of tiles.**



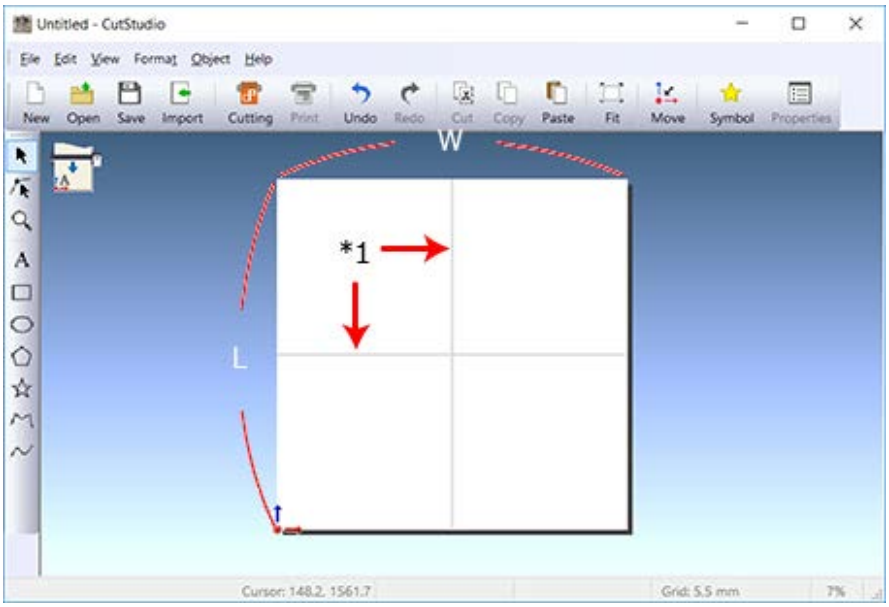
6. Enter a value for the inner margin, then click OK.

To enter a value for the inner margin, the overall size is updated automatically. Make sure Overall Size is larger than the size of the data determined in Step 1.

Inner Margin Function



The document is displayed.
The edges of the segments are displayed even if an inner margin has not been set.



W: Overall Size width
L: Overall Size length
*1 Inner margin

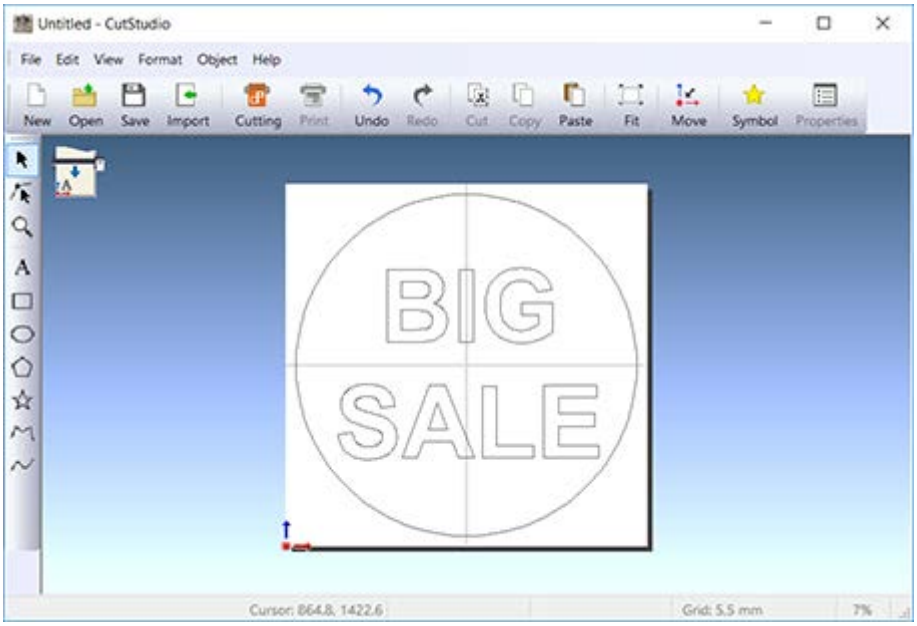
Step 4: Enter Text and Shapes

Step 4: Enter Text and Shapes

Procedure

1. Enter text and/or shapes as desired.

In this example, you will enter the data shown in the figure below.



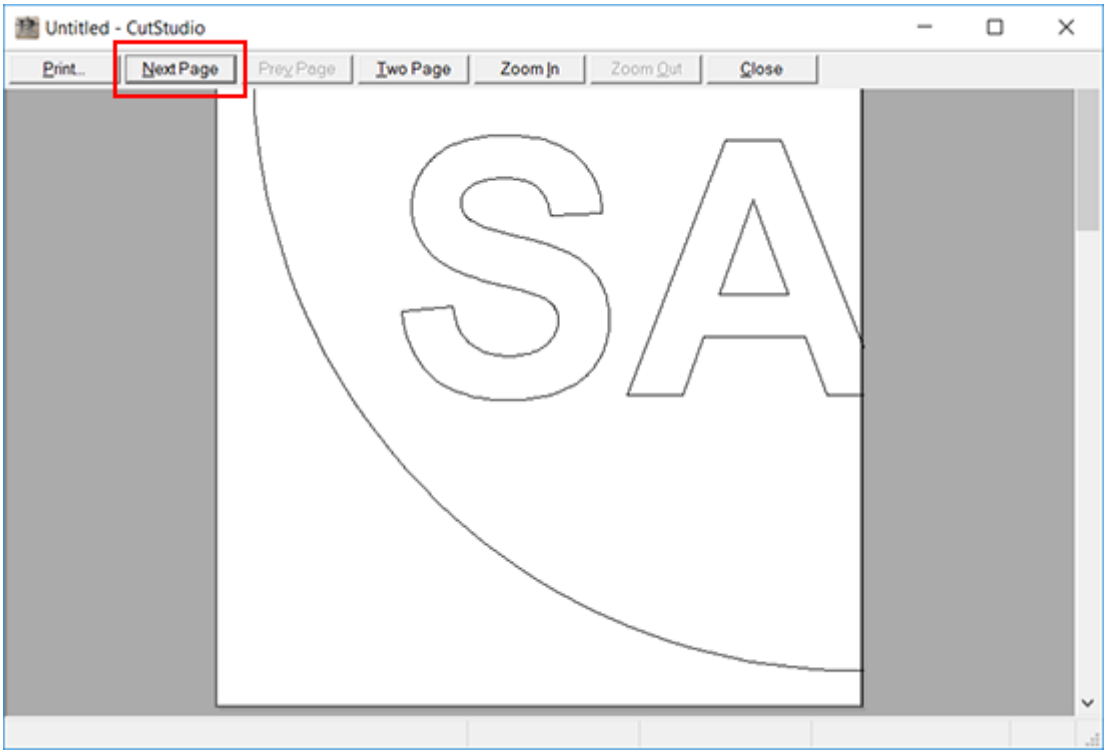
Step 5: Check Preview

Step 5: Check Preview

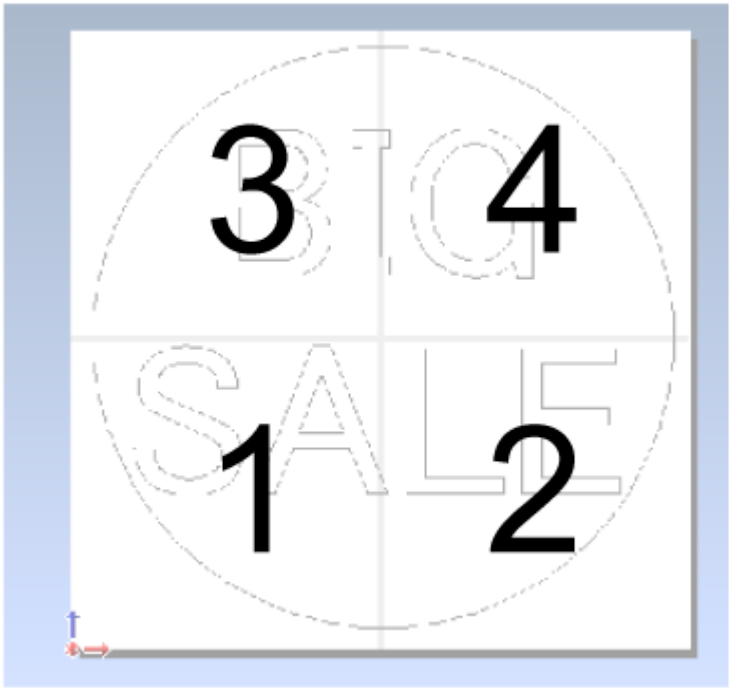
Procedure

1. From the File menu, click Cutting Preview.

Click Next Page to display the segments in the cutting order.



Cutting Order



Step 6: Perform Cutting

Step 6: Perform Cutting

CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

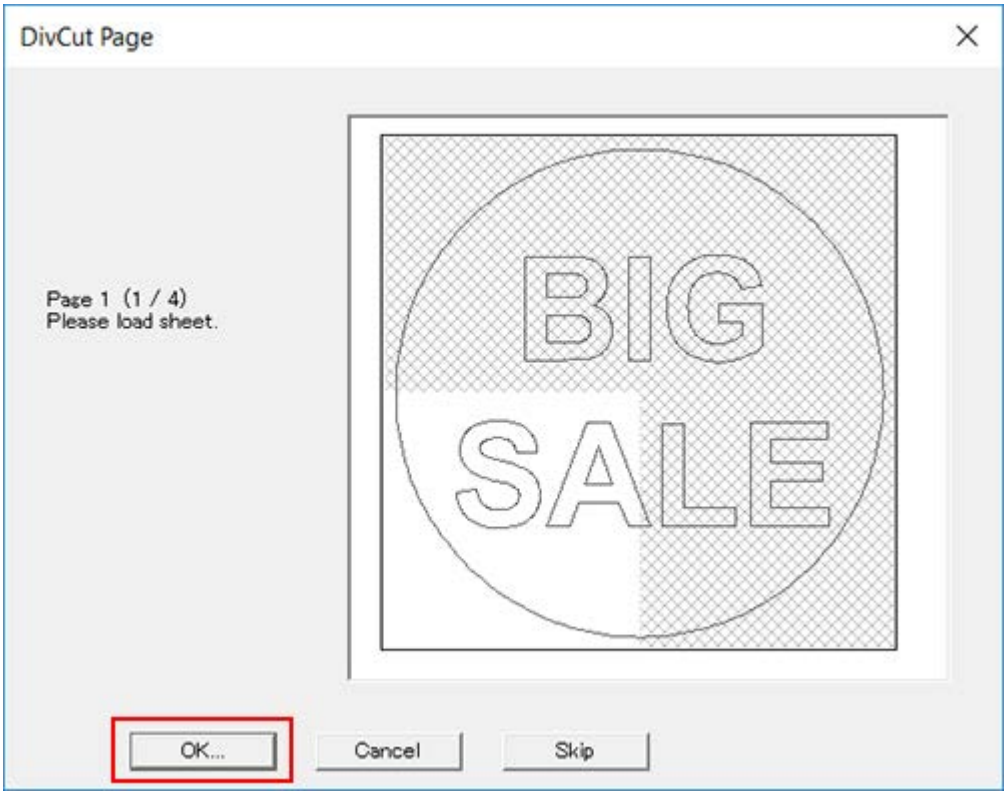
Procedure

Make sure the material is loaded in the machine.

1. Click

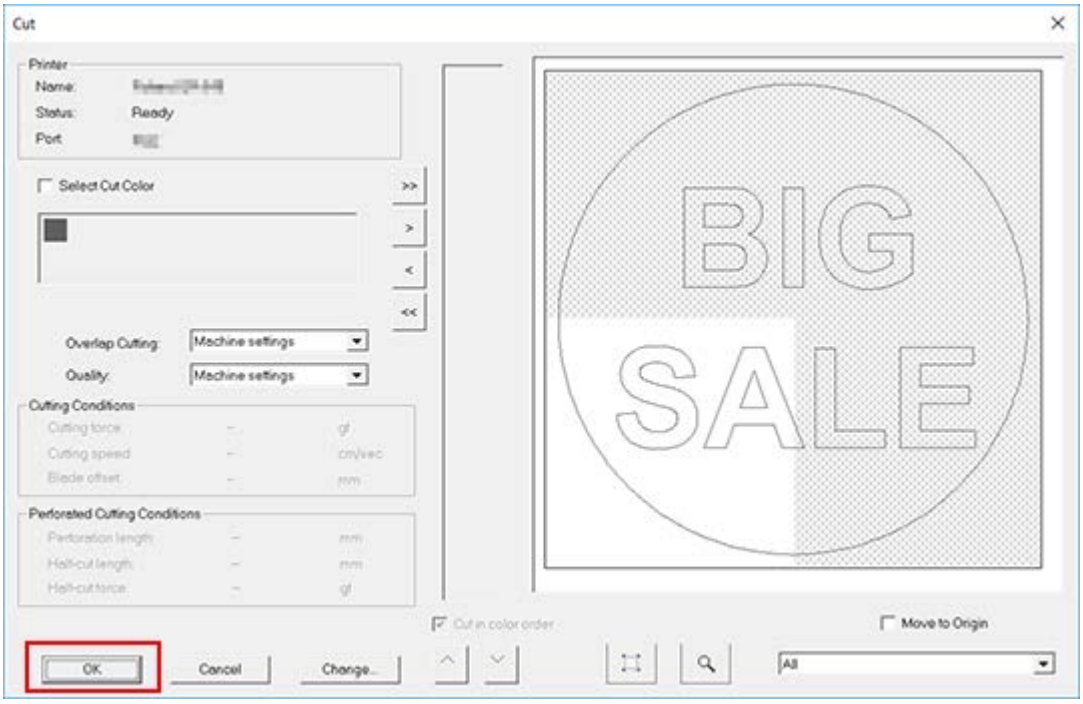
.

2. Click OK.

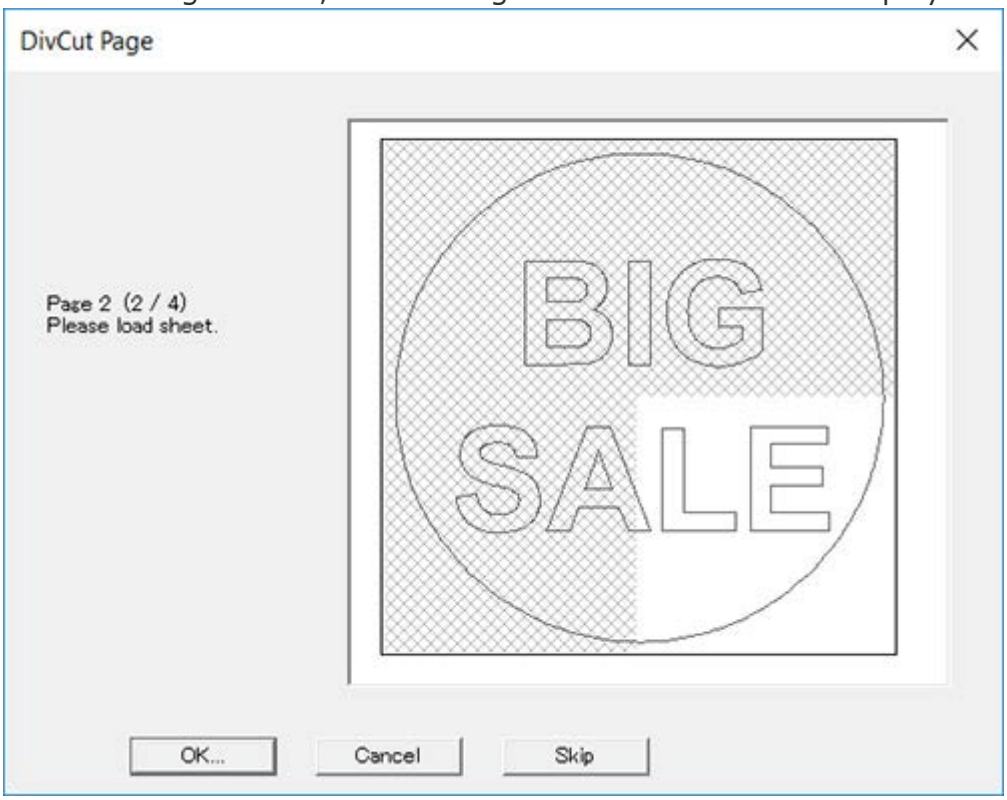


3

3. Click OK.



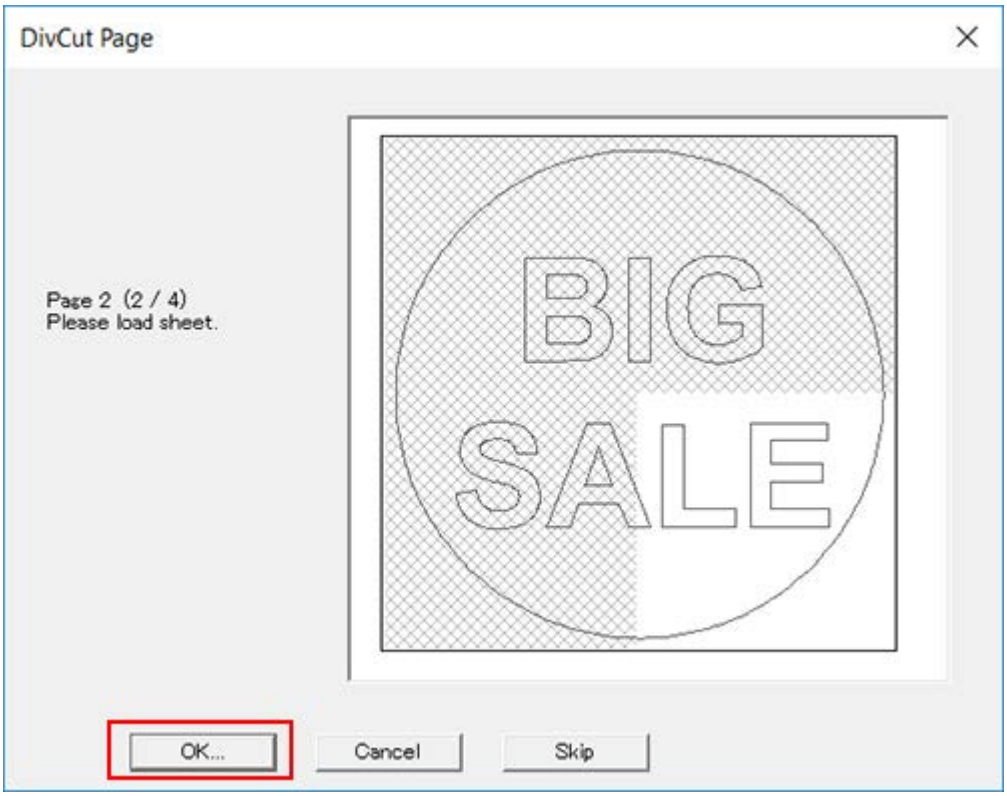
Cutting starts.
When cutting finishes, the message shown below will be displayed.



4. Click OK.

If you are using flat material, load new material before you click OK.

- Removing the Material
- Loading Flat Material



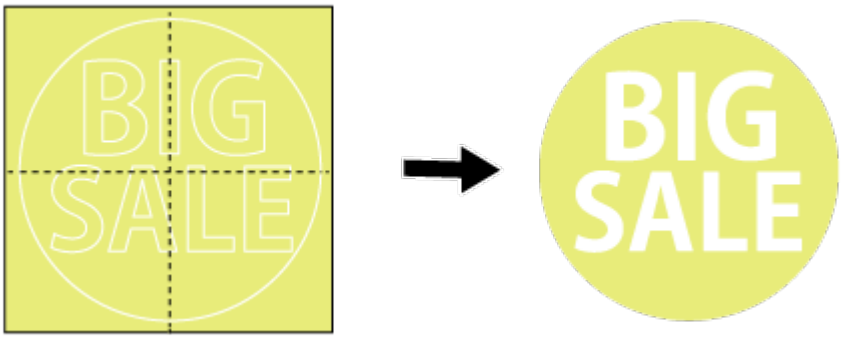
Cutting starts.

5. Repeat steps 3 and 4 in this procedure.

Output the set number of tiles.

6. Combine the output material.

Align the margins to complete the procedure.



Other Things That You Can Do

Changing or Checking the Machine's Operation

- Changing the Language Used for the Display
- Setting the Displayed Unit
- Initializing All Settings to Their Default Values
- Checking the Machine Status <Self Test>
- Changing the Contrast of the Display Screen
- Frequently Using Perforated Cutting

Minimizing Wasted Material

- Setting the Direction of the Coordinate Axis for Cutting <ROTATE>
- Extending the Cutting Area <EXTEND>

Cutting More Cleanly

- Cutting Detailed Characters and Complex Shapes

Dealing with Material Thickness/Hardness (Softness)

- Using Narrow Material/Preventing Marking Made by the Middle Pinch Rollers
- Cutting in the Same Position Repetitively <OVERLAP>
- Cutting Corners Cleanly <Over Cut>
- Setting Cutting Quality <QUALITY>
- Setting the Amount of Offset for the Tip of the Blade <OFFSET>
- Setting the Speed of the Blade During Cutting <UPSPEED>

Preventing and Correcting Misaligned Cutting

- Using Thinner or Harder Material than Normal
- Preventing Misaligned Cutting

- Adjusting the Cutting Position
- Adjusting the Printing Position

Adjusting the Cutting Quality and Saving and Reusing the Adjusted Conditions

- Saving the Cutting Conditions
- Loading Cutting Conditions

Creating Copies of the Same Object

- Cutting the Same Object Repetitively

Moving the Carriage at High Speed

- Moving the Cutting Carriage at High Speed

Changing the Language Used for the Display

The language for messages on the display can be selected.

Procedure

1. While holding down [MENU], switch on the power switch.

```
LANG ENGLISH    ◆
*ENGLISH        ↵
```

2. Use [▼] to select the desired language.

```
LANG ｺﾄﾊﾞｺﾞ     ◆
 ENGLISH        ↵
```

3. Press [ENTER] to select the setting.

Other Things That You Can Do

Setting the Displayed Unit

The unit used in messages on the display can be selected.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press the [▶] key, the [▼] key, and then press the [▶] key.

The screen shown in the figure below is displayed.

```
UNIT mm
*mm
```

4. Use [▲] and [▼] to select the unit.

It is possible to select millimeters or inches.

5. Press [ENTER] to select the setting.

Use [MENU] to return to the screen in the figure.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Initializing All Settings to Their Default Values

This procedure returns all settings to their factory default values. However, the language setting remains unchanged.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press the [▶] key, the [▼] key, the [▼] key, and then press the [▶] key.

The screen shown in the figure below is displayed.

```
FACTORYDEFAULT
*PRESET
```

4. Press [ENTER] to execute the operation.

You are returned to the screen in the figure.

```
SELECT SHEET    ◆
*ROLL           ↵
```

Other Things That You Can Do

Checking the Machine Status <Self Test>

Execute a self test to check the status of the machine. Use this to check the machine when it appears to be not operating correctly. A computer is not required in order to carry out the self test.
If the self test cannot be executed, the machine may have malfunctioned. Contact your authorized Roland DG Corp. dealer.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

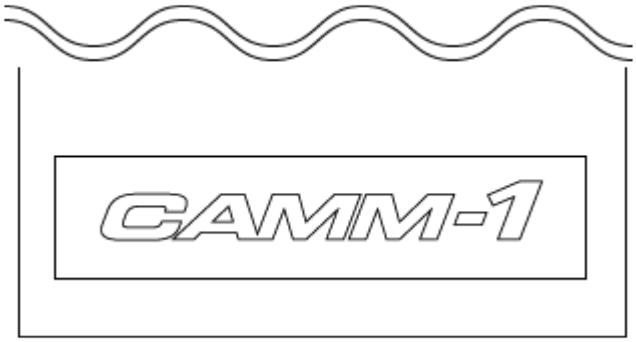
```
OTHERS
```

3. Press the [▶] key, the [▼] key, the [▼] key, and then press the [▼] key.

```
SELF TEST
```

4. Press [ENTER].

Operation is normal if the figure shown below is cut.



Other Things That You Can Do

Changing the Contrast of the Display Screen

Procedure

Make sure the material is loaded in the machine.

1. **Press [MENU] several times to display the screen shown in the figure.**

```
UNSETUP
```

2. **Press [▼] several times to display the screen shown in the figure.**

```
OTHERS
```

3. **Press [▶].**

4. **Press [▼] several times to display the screen shown in the figure.**

```
CONTRAST    5
```

5. Press [▶].

6. Use [▲] and [▼] to select the screen brightness.

```
CONTRAST    5   ◀◆
*   5           ↵
```

Setting range: 1 to 5

7. Press [ENTER].

Other Things That You Can Do

Frequently Using Perforated Cutting

There are two locations in which you can install the cutting carriage tool.
Normally install it in the rear position. Install it in the front position when cutting perforated lines.

Installing the Cutting Tool

If you enable [BLADE DETECT] and send the cutting data, the tool's installation position will be checked before cutting starts.
If the tool is installed in the incorrect position, operation will be paused and the following message will be displayed to prompt you to install the tool in the correct position.

<When the cutting tool is installed in the front position and normal cutting is being performed>

```
PEN TO R ▸ PAUSE
QUIT     ▸ ENTER
```

* R = Rear

<When the cutting tool is installed in the rear position and perforated cutting is being performed>

```
PEN TO F ▸ PAUSE
QUIT     ▸ ENTER
```

* F = Front

This function is useful for users who commonly switch between normal cutting and perforated cutting. You can use this function to prevent products from being wasted due to the tool being installed in the incorrect position.
When one of the messages shown above is displayed, install the cutting tool in the correct position, and then press [PAUSE]. The pausing of machine operations is released, and the tool position is detected again. Cutting starts if the tool installation position is correct.

Note that even if you disable [BLADE DETECT], when you send data that contains a mix of normal cutting and perforated cutting, the second message shown above will be displayed when normal cutting finishes.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen

shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
BLADE DETECT
```

5. Press [▶].

6. Use [▲] and [▼] to display the screen shown in the figure.

```
BLADE DETECT
 ENABLE
```

7.

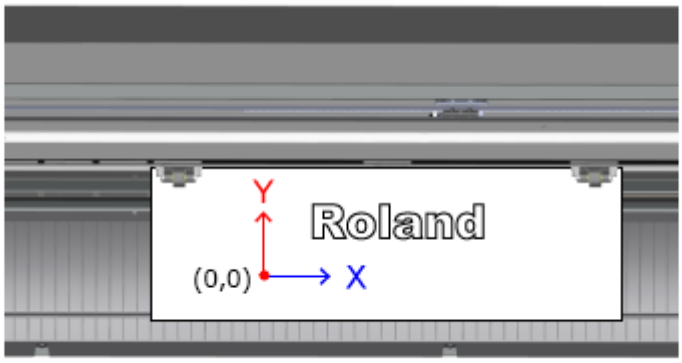
7. Press [ENTER].

Other Things That You Can Do

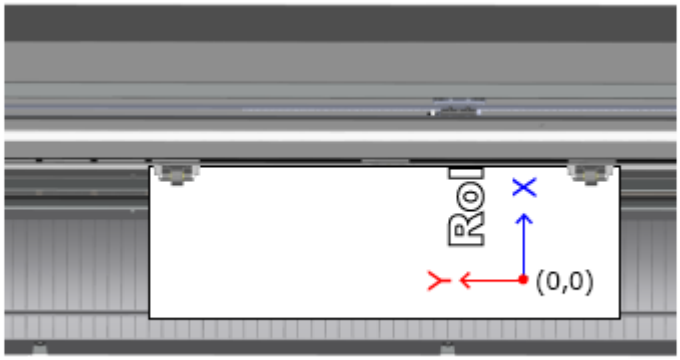
Setting the Direction of the Coordinate Axis for Cutting <ROTATE>

This setting lets you set the direction of the coordinate axis for cutting.
When set to [0deg] (default value), the origin is set to the lower-left corner of the material. When set to [90deg], the origin is set to the lower-right corner of the material, and the data is rotated counterclockwise by 90 degrees. Note that when [90deg] is selected, the coordinate axis changes.
The arrows in the following figures indicate the positive directions of the X and Y axes.

When Set to 0deg



When Set to 90deg



Factory default setting	0deg
Options	0deg or 90deg

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
ROTATE  0deg A
```

5. Press [▶].

6. Use [▲] and [▼] to set the value.

```
ROTATE  0deg A
* 0deg A
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Extending the Cutting Area <EXTEND>

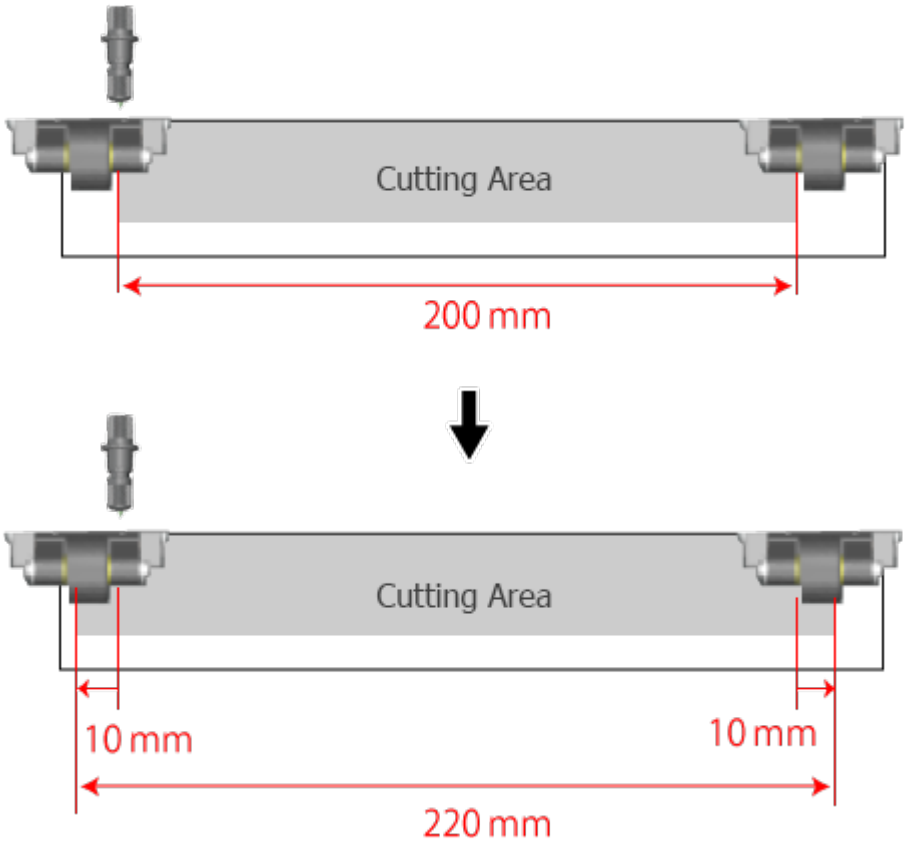
It is possible to extend the cutting area by up to 20 mm.

Factory default setting	0.00 mm (OFF)
Setting range	0.1 to 10.0 mm

Depending on the design to be cut, the pinch rollers may pass over the top of the cutting line.

Example: Setting 0 mm → 10 mm

```
EXTEND   0.0
 10.0mm
```



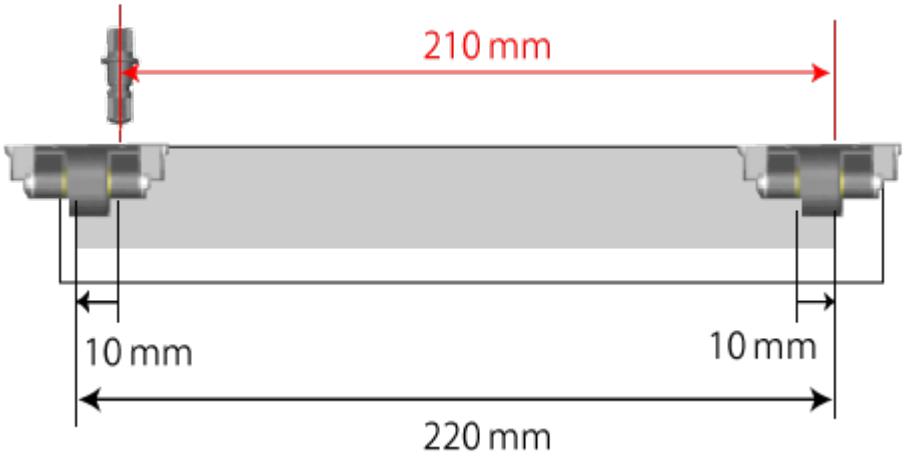
When "EXTEND" Is Set after the Material Is Loaded

The value of W displayed on the panel and the actual cut width are different.

When you set the value according to the above example, the panel is displayed as shown in the figure below.

```
W:  210mm
L:---[    0mm]
```

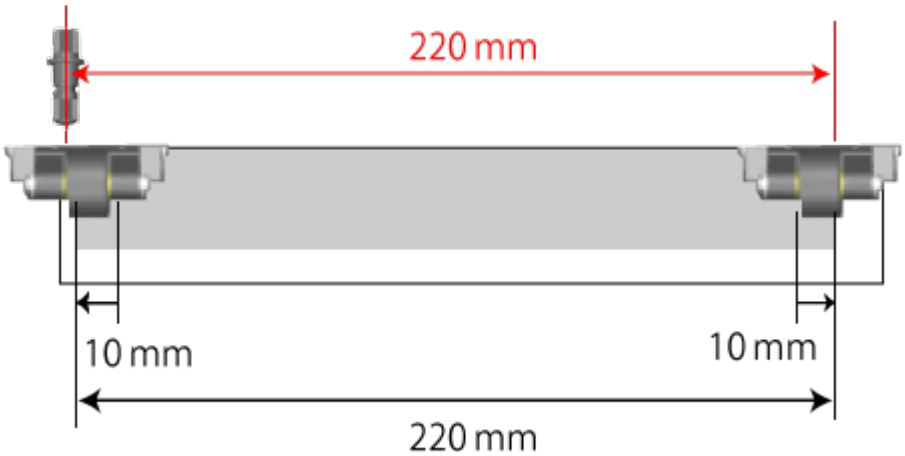
*** The panel indication is 210 mm, but the actual cut width is 220 mm**



When "EXTEND" Is Set before the Material Is Loaded

The value of W displayed on the panel and the actual cut width are the same.
When you set the value according to the above example, the panel is displayed as shown in the figure below.

```
W:  220mm
L:---[    0mm]
```



Procedure

Make sure the material is loaded in the machine.

1. **Press [MENU] several times to display the screen shown in the figure.**

```
UNSETUP
```

2. **Press [▼] to display the screen shown in the figure.**

```
CONDITION
```

3. **Press [▶].**

4. **Press [▼] several times to display the screen shown in the figure.**

```
EXTEND  0.0
```

5. **Press [▶].**

6. **Use [▲] and [▼] to set the value.**

```
EXTEND  0.0
* 0.0mm
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Cutting Detailed Characters and Complex Shapes (SMOOTHING)

The smoothing function can be used to cut smooth curves such as arcs.

Factory default setting	ON
Options	ON, OFF

■ ON
When curves in cutting results are not smooth

■ OFF
When cutting small characters or complex shapes

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

2. Press [▼] several times.

3. Press [▶] twice.

4. Use [▲] and [▼] to select [ON] or [OFF].

```
SMOOTHING ON   ◀◆
*ON            ↵
```

5. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Using Narrow Material/ Preventing Marking Made by the Middle Pinch Rollers

When using narrow material and when using material that is easily marked by the pinch rollers, use just the pinch rollers on the ends to feed the material. In this mode, the middle pinch rollers are not used (they are disabled).

Reducing the Force of the Middle Pinch Rollers

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
AUTO PINCHROLL
```

3. Press [▶].

4. Press [▼] to display the screen shown in the

figure.

```
MIDDLE PINCH   ◀◆
               ▶
```

5. Press [▶].

6. Press [▲] or [▼] to display the screen shown in the figure.

```
MIDDLE PINCH   ◀◆
 NONE          ↵
```

This setting will be enabled the next time the pinch rollers are lowered.

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Reducing the Force of the Middle Pinch Rollers

When using a wide sheet for which it is useful to use the middle pinch rollers in order to prevent the material from coming loose during cutting but is also easily marked by rollers, reduce the force with which the pinch rollers press down on the material.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
AUTO PINCHROLL
```

3. Press [▶].

4. Press [▼] to display the screen shown in the figure.

```
MIDDLE PINCH
```

5. Press [▶].

6. Press [▲] or [▼] to set this to [SLIGHT].

```
MIDDLE PINCH
 SLIGHT
```

This setting will be enabled the next time the pinch rollers are lowered.

7.

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Cutting in the Same Position Repetitively <OVERLAP>

The overlap function is used when it is not possible to cut through the material in a single pass, for example, when cutting thick material.

Factory default setting	OFF
Setting range	OFF, 1 to 10

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
OVERLAP OFF
```

5. Press [▶].

6. Use [▲] to set the number of cuts.

Setting range: 1 to 10

```
OVERLAP OFF
 2
```

OVERLAP 2 → Normal cut + 2 → 3 cuts are made.

7. Press [ENTER].

This setting remains enabled until you disable it. If you do not require it, disable it after use.

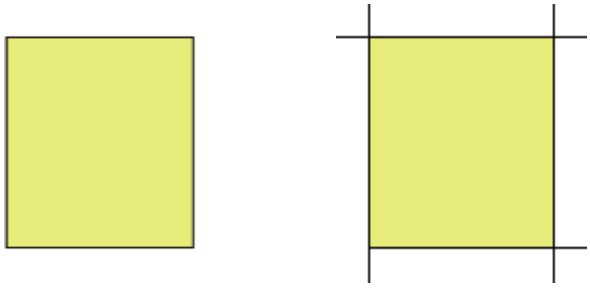
Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Cutting Corners Cleanly <Over Cut>

This function cuts an extra 1 mm at the start and end of each line. It is effective when you want to produce particularly sharp corners, for example when cutting thicker materials.
In most cases the over cut function should be set to [OFF]. Set it to [ON] when you want to ensure that corners are cut cleanly. However, if the over cut function is enabled when cutting small characters or complex shapes, areas of the material that are required may be cut. In such cases it should therefore be set to [OFF].



Factory default setting	OFF
Options	OFF, ON

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
OVER CUT OFF
```

5. Press [▶].

6. Press [▼] to select [ON].

```
OVER CUT OFF
 ON
```

7. Press [ENTER].

This setting remains enabled until you disable it. If you do not require it, disable it after use.

Press [MENU] to return to the top screen.

```
W: 500mm
L:---[    0mm]
```

Other Things That You Can Do

Setting Cutting Quality <QUALITY>

This setting lets you set cutting quality.

Factory default setting	NORMAL
Options	NORMAL, HIGH SPEED, HEAVY NORMAL: This setting should be used for normal operation. HIGH SPEED: This setting should be used when you want to increase the cutting speed. HEAVY: This setting should be used when using thick or heavy material.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press [▶].

4.

4. Press [▼] several times to display the screen shown in the figure.

```
QUALITY NORMAL◀◆
                ▶
```

5. Press [▶].

6. Use [▲] and [▼] to display the item that you want to set.

```
QUALITY NORMAL◀◆
*NORMAL         ↵
```

7. Press [ENTER].

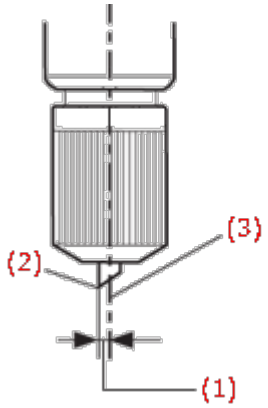
Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Setting the Amount of Offset for the Tip of the Blade <OFFSET>

This setting lets you set the amount of offset for the tip of the blade. Set a value that matches the conditions for the blade installed.
When using the included blade or equivalent parts, cutting can be performed using the factory default setting.



(1) Offset amount
(2) Blade tip
(3) Blade centerline

Factory default setting	0.250 mm
Setting range	0.000 to 1.000 mm (in 0.025 mm steps)

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
OFFSET 0.250mm
```

5. Press [▶].

6. Use [▲] and [▼] to set the value.

```
OFFSET 0.250mm
*0.250mm
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Setting the Speed of the Blade During Cutting <UPSPEED>

This setting lets you set the speed for moving the blade to the next cutting position with the blade lifted off the material during cutting operation.
When this is set to [AUTO], the blade moves at the speed specified by [SPEED].
Increasing [UPSPEED] shortens the cutting time. When cutting material that is thinner or thicker than the standard material, it may be better to decrease the speed to prevent problems such as the material being lifted up.

Factory default setting	AUTO
Setting range	10 to 50 cm/s (in 10 cm/s steps), AUTO

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press [▶].

4. Press [▲] or [▼] several times to display the screen shown in the figure.

```
UPSPEED AUTO
```

5. Press [▶].

6. Use [▲] and [▼] to set the value.

```
UPSPEED AUTO
*AUTO
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Using Thinner or Harder Material than Normal

You can use the fan to hold down the material and prevent misalignment.
Change these settings to match the thickness and hardness of the material used.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
VACUUMFAN AUTO◀◆
                ▶
```

5. Press [▶].

6. Use [▲] and [▼] to select the air volume.

1: Weak ... 5: Strong, AUTO:　　Automatic

Use a weaker air volume when using thin material.

```
VACUUMFAN AUTO◀◆
*AUTO          ↵
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Preventing Misaligned Cutting

Set this setting to [ON] to feed out the material automatically during cutting.
While this setting is enabled, when cutting data is sent from the computer, cutting is performed every 1 meter after the material has automatically been fed forward (depending on the data, the material may be fed out more than 1 m, for example if the next movement point is more than 1 m back).
If material has already been fed out using the [AREA] function, the material will not be fed out automatically until the length of material that was fed out using the [AREA] function is reached, even if [PRE-FEED] is set to [ON].

* This function is only enabled when the material type has been set to [ROLL].

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4.

4. Press [▼] several times to display the screen shown in the figure.

```
PRE-FEED OFF
```

5. Press [▶].

```
PRE-FEED OFF
*OFF
```

6. Use [▲] and [▼] to select [ON] or [OFF].

Setting the Material Feed Speed

```
PRE-FEED OFF
 ON
```

When the figure shown above is displayed, press [▶] twice to display the figure shown below.

```
SPEED 10cm/s
*10cm/s
```

Press [▲] and [▼] to set the speed.

Setting range: 1 to 10

```
SPEED 10cm/s
  7cm/s
```

Press [ENTER].

7.

7. Press [ENTER].

Press [MENU] to return to the top screen.

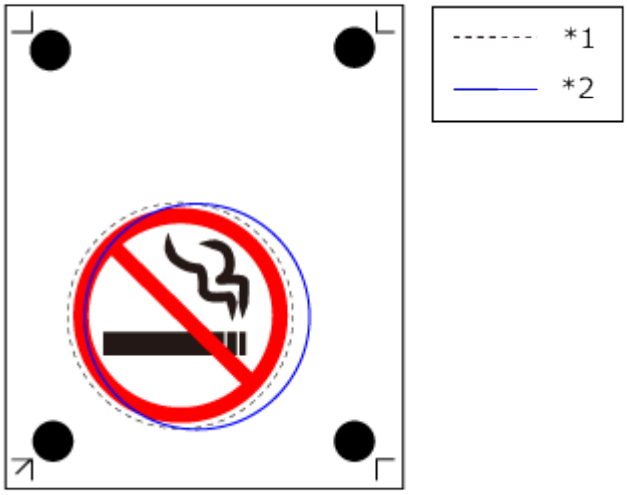
```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Adjusting the Cutting Position

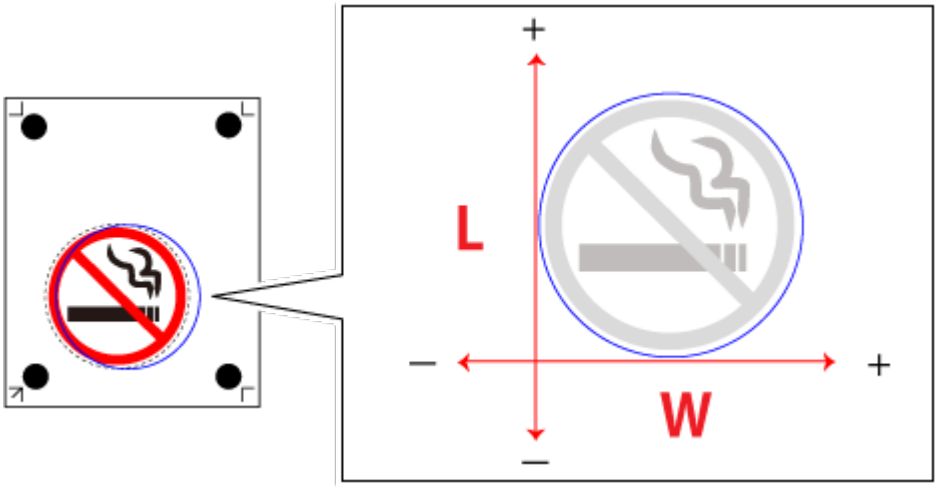
If the printing position and the cutting position are offset as shown in the following figure, you can correct the issue by adjusting either the printing position or the cutting position. This example shows the procedure for adjusting the cutting position.

Adjusting the Printing Position



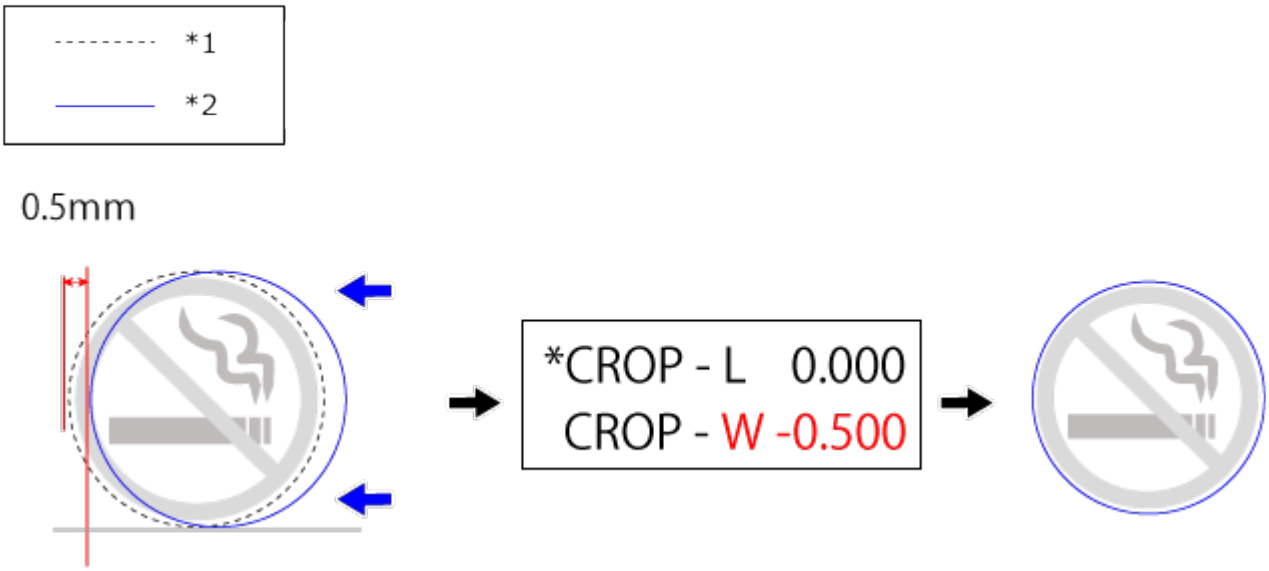
*1: Intended cutting line
*2: Actual cutting line

CROP-L/W Values



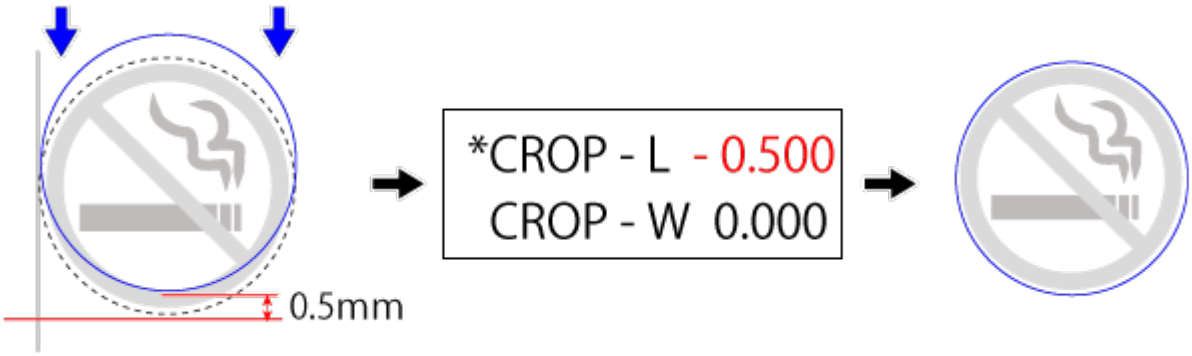
Input range: -25 mm to 25 mm

To move the cutting line 0.5 mm to the left → Enter the W value

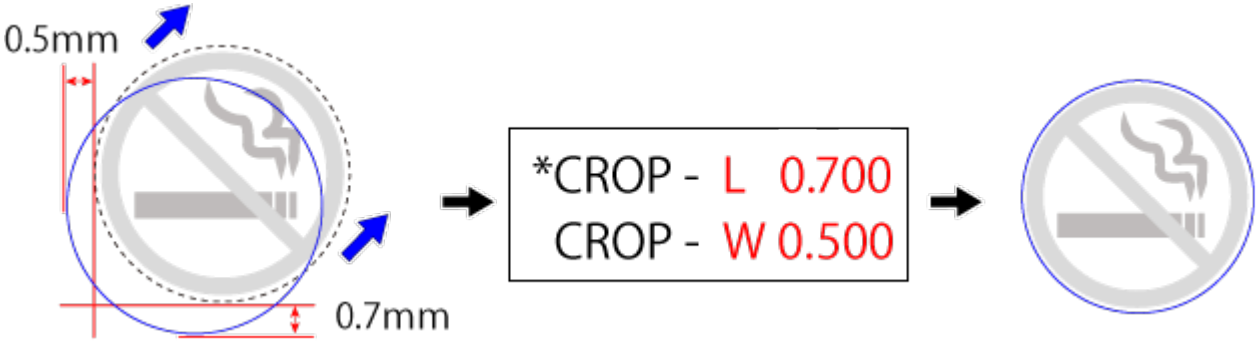


*1: Intended cutting line *2: Actual cutting line

To move the cutting line 0.5 mm down → Enter the L value



To move the cutting line 0.7 mm up and 0.5 mm to the right → Enter both W and L values



1. Set the CROP-L value.

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
CROP ADJ.
```

5. Press [▶] twice.

The screen shown in the following figure is displayed. First enter the CROP-L value.

```
CROP-L 0.000
*0.000mm
```

6. Use [▲] and [▼] to enter the value.

Refer to the section above titled "CROP-L/W Values" to enter the values.

7. Press [ENTER].

The screen shown in the following figure is displayed.

```
CROP ADJ.
CROP-L 0.250
```

2. Set the CROP-W value.

1. Press [▼].

The screen shown in the following figure is displayed. Enter the CROP-W value.

```
CROP ADJ.
CROP-W 0.000
```

2. Press [▶].

3. Use [▲] and [▼] to enter the value.

```
CROP ADJ.
CROP-W 0.250
```

4. Press [ENTER].

When you have finished, press [MENU] to return to the screen in the figure.

```
W:  183mm
L:  258mm
```

5. Send the cutting data.

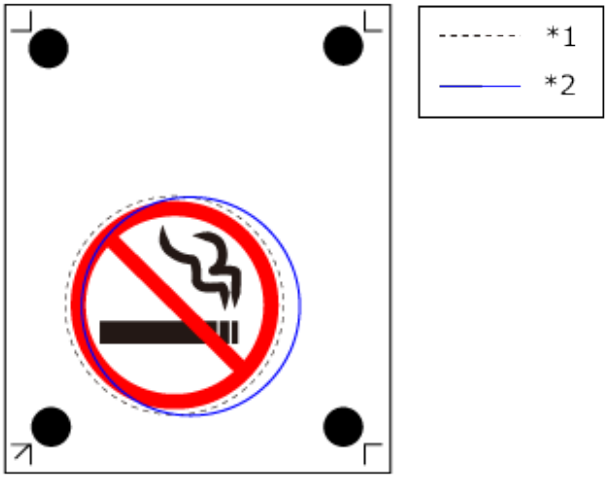
Perform cutting again and check the cutting position.

Other Things That You Can Do

Adjusting the Printing Position

If the printing position and the cutting position are offset as shown in the following figure, you can correct the issue by adjusting either the printing position or the cutting position. This example shows the procedure for adjusting the printing position.

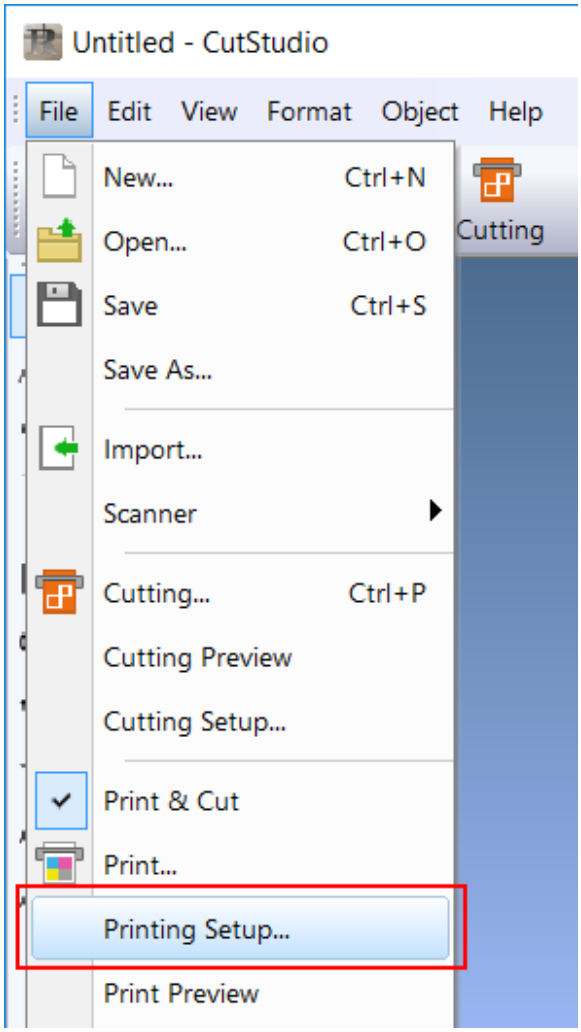
Adjusting the Cutting Position



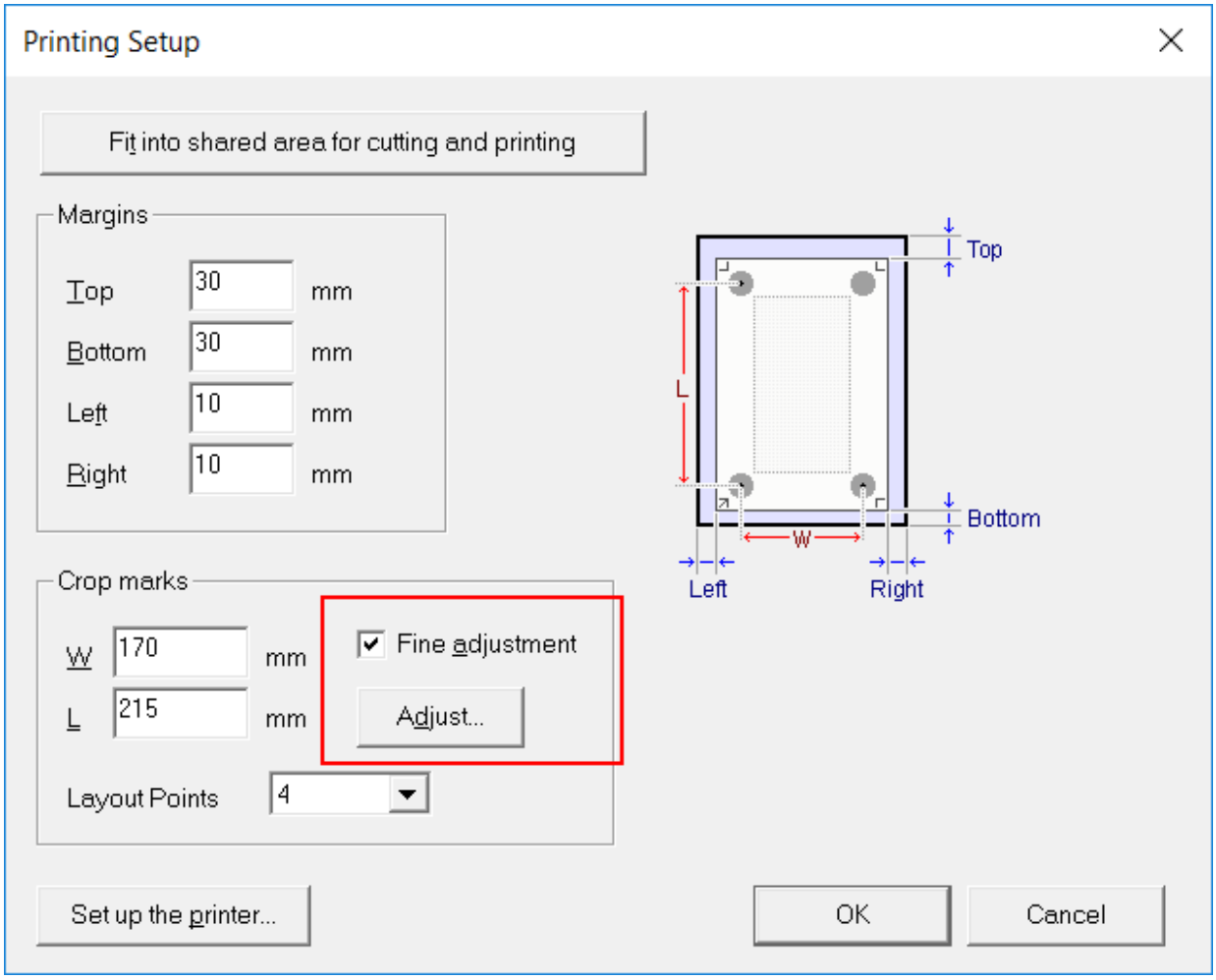
*1: Intended cutting line
*2: Actual cutting line

Procedure

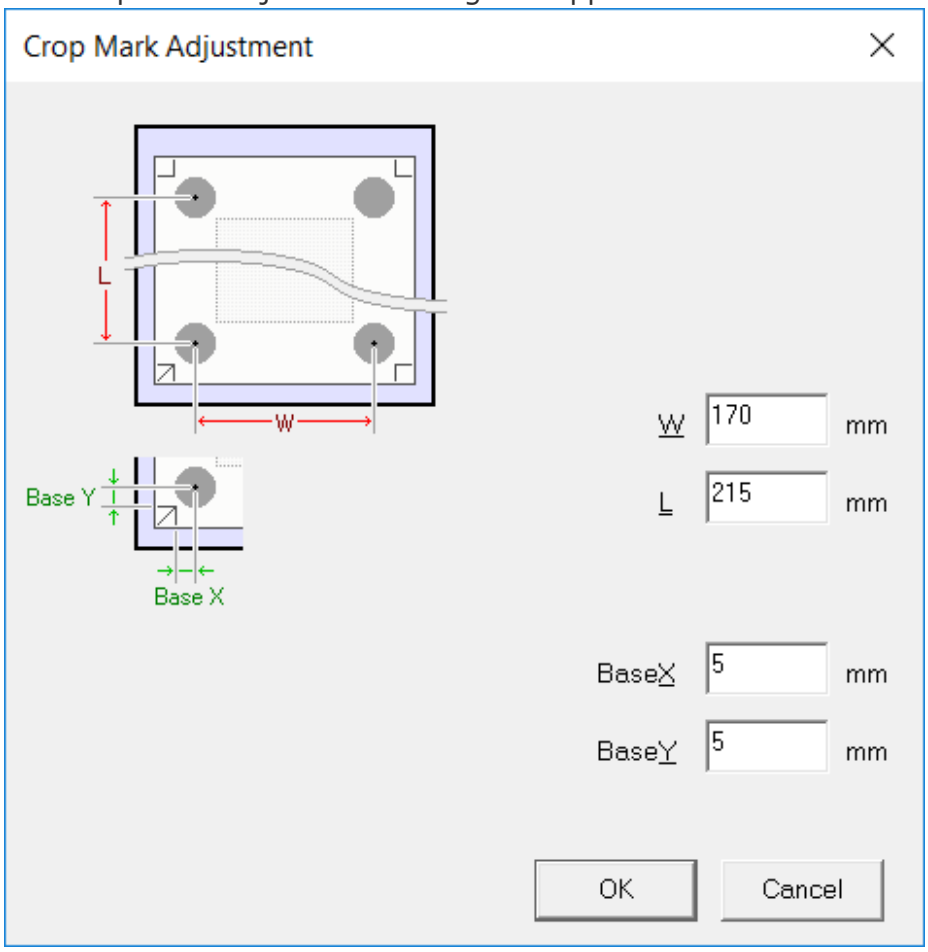
1. In CutStudio, from the File menu, click Printing Setup.



2. Select the Fine adjustment check box, and then click Adjust.



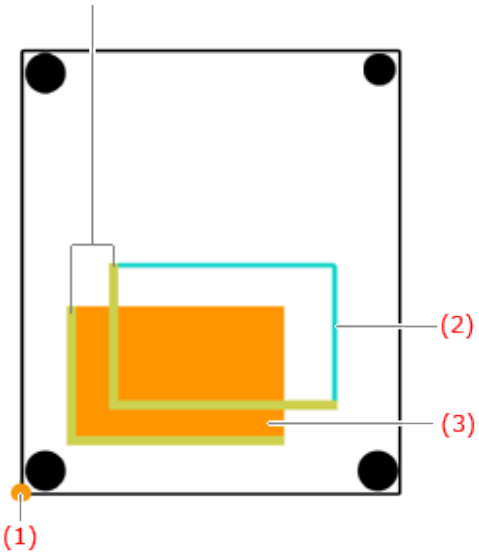
The Crop Mark Adjustment dialog box appears.



3. Align the position with respect to a line or point that is close to the origin.

Adjust the Base X and Base Y values to eliminate the offset, and then click OK.
Do not change the W and L values at this point.

Align the position with respect to this side.



(1): Origin
(2): Cutting line
(3): Printing position

The Cutting Position Is Offset to the Left or Right of the Printing Position

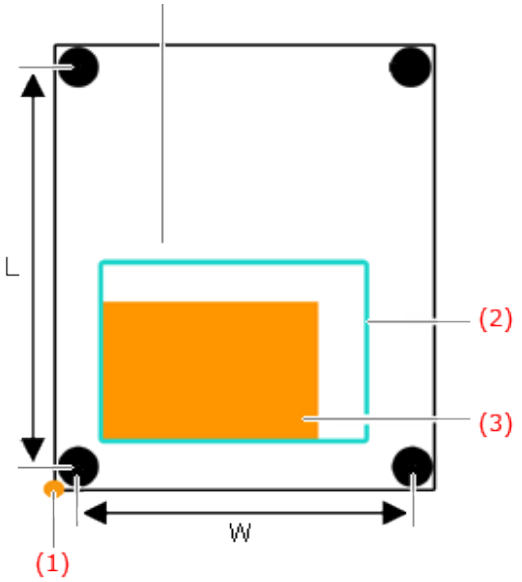
Change the Base X value. If the cutting position is offset to the right of the printing position, increase the value; if it is offset to the left of the printing position, decrease the value. In the case shown in the above figure, increase Base X.

The Cutting Position Is Offset above or below the Printing Position

Change the Base Y value. If the cutting position is offset above the printing position, increase the value; if it is offset below the printing position, decrease the value. In the case shown in the above figure, increase Base Y.

If the printing and cutting positions are offset at a location distant from the origin as shown in the following figure even after adjusting the positions with Base X and Base Y values, it is possible that the distance between the printed crop marks is offset from the settings (W and L). This may be due to the expansion or contraction of the material or distortion in the printing. Proceed to step 4.

Just the part that is distant from the origin is offset.



(1): Origin
(2): Cutting line
(3): Printing position

The actual distance is longer than the W and L settings.

4. Set W and L in the Crop Mark Adjustment dialog box as described below to correct the error.

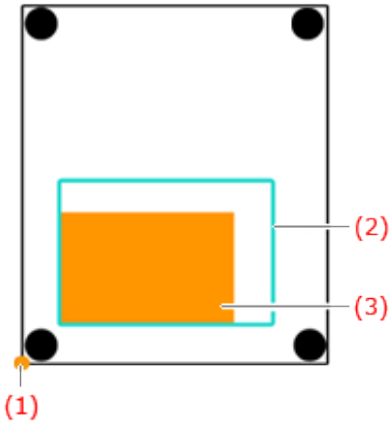
However, the values are merely guidelines. The optimal values must be found by changing the values and actually cutting the material several times.

CAUTION

Before changing the settings, check that the Base X and Base Y settings have been adjusted with respect to a line or point close to the origin. If they were not, the adjustment result of step 3 will be offset if the W and L settings are changed.

The Cutting Lines Are Offset Outward from the Printing Position

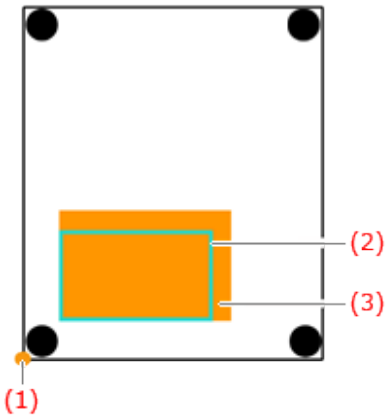
This may be because the distance between the printed crop marks is longer than the setting. In this case, set the W and L values greater than the settings to make the adjustment.



(1): Origin
(2): Cutting line
(3): Printing position

The Cutting Lines Are Offset Inward from the Printing Position

This may be because the distance between the printed crop marks is shorter than the setting. In this case, set the W and L values smaller than the settings to make the adjustment.



(1): Origin
(2): Cutting line
(3): Printing position

CAUTION

The values entered in the Crop Mark Adjustment dialog box are effective only when Fine adjustment in the Printing Setup dialog box is enabled. All the entered values are cleared if Fine adjustment is disabled or if the W and L values of Crop marks are changed.

If the Sensor Fails to Read the Crop Marks

If the sensor fails to read the crop marks, the screen in the figure appears. If this screen appears, proceed to "Crop Marks Cannot Be Read."
If this does not resolve the issue, refer to "Cutting in Tool Mode (1)," and then perform positioning in tool mode.

```
SET TO
<TOOL MODE>
```

Back (to "Adjusting the Cutting Position")

Saving the Cutting Conditions

The current cutting conditions can be saved to memory.
Eight sets of settings can be saved to USER 1 to USER 8 memories. Overwriting a memory deletes any old conditions it contains.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▲].

```
MEMORY
<USER1>
```

3. Press the [▶] key, the [▼] key, and then press the [▶] key.

```
SAVE *USER1
 50-30-0.250
```

The display shows the values of the FORCE, SPEED, and OFFSET menus from the left.

4. Use [▲] and [▼] to select the memory number you want to save the cutting conditions to.

```
SAVE  USER2
 50-30-0.250
```

5. Press [ENTER].

The screen shown in the following figure is displayed.

```
SAVE USER2
```

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Memo

Though not shown on the display, the UPSPEED (the speed at which the blade moves when not cutting) and cut quality are also saved.

Loading Cutting Conditions

Other Things That You Can Do

Loading Cutting Conditions

Cutting conditions saved to memory can be loaded.
You can select the memory from USER 1 to USER 8. Note that loading cutting conditions from memory erases any cutting conditions that have not been saved.

Saving the Cutting Conditions

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▲].

```
MEMORY
<USER1>
```

3. Press the [▶] key, and then press the [▶] key.

```
LOAD *USER1
 50-30-0.250
```

4. Use [▲] and [▼] to select the memory number you

wish to load.

```
LOAD  USER2
 50-30-0.250
```

5. Press [ENTER] to execute the operation.

Use [MENU] to return to the screen in the figure.

```
W:  500mm
L:---[   0mm]
```

Other Things That You Can Do

Cutting the Same Object Repetitively

Replot

The data received from the computer can be saved to the machine's memory. This data can then be recut. To recut, use the [REPLOT] menu in the display menu.

All the data received from the time the machine is put in the setup condition to the time the setup condition is canceled is saved.

The data is not cleared even when the setup condition is canceled.

If the setup condition is canceled and the machine is then put back in the setup condition again, the data that was saved is overwritten with the new data that is sent from the computer.

All data is cleared when the power is turned off.

If the data stored in the machine's memory exceeds 2 MB, recutting cannot be performed until the data has been cleared. If [REPLOT] is carried out in this condition, [DATA OVERFLOW] appears. If no data is stored in the machine's memory, [NO DATA] appears when [REPLOT] is selected from the menu.

Procedure

- Step 1: Prepare the Data for Recutting
- Step 2: Perform Recutting

Step 1: Prepare the Data for Recutting

CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Clear all data remaining in the machine's memory, and then send new data so that only the required data is stored in the machine's memory.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▲] several times to display the screen shown in the figure.

```
REPLOT
<DATA EXISTS>
```

If [NO DATA] is displayed, proceed to step 6.

3. Press [▶].

```
REPLOT
*START
```

4. Use [▲] and [▼] to select [CLEAR].

```
REPLOT
*CLEAR
```

5. Press [ENTER].

The data is cleared.

```
REPLOT
<NO DATA>
```

6. Send data from the computer.

To next procedure

Step 2: Perform Recutting

CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▲] several times to display the screen shown in the figure.

```
REPLOT
<DATA EXISTS>
```

3. Press [▶].

```
REPLOT
*START
```

4.

4. Press [ENTER].

You are returned to the screen in the figure, and cutting is performed.

```
30cm/s
50gf 0.250mm ∠A
```

To previous procedure

Moving the Cutting Carriage at High Speed

Press [◀] and [▶] to move the cutting carriage. Press [▼] and [▲] to move the material.

Procedure

This function can be used when the screen shown below is displayed.

```
30cm/s
509f 0.250mm ∠A
```

```
W: 500mm
L:---[    0mm]
```

1. **Press [ENTER] and one of the cursor keys ([◀], [▶], [▼], and [▲]) at the same time.**

Other Things That You Can Do

Troubleshooting

Creating or Importing Data

- Changing the Darkness of an Aligned Image
- Illustrator Data Cannot Be Imported
- Sample Data Cannot Be Found

Crop Marks Cannot Be Read

- Crop Marks Cannot Be Read

Cutting Results Are Not Clean

- The Results of Cutting Are Displaced When Using the Printing and Cutting Function
- The Machine Cuts the Same Area Twice

Frequently Asked Questions

- Moving a Saved Symbol to a New Computer
- Supported Versions of Illustrator
- Supported Versions of CorelDRAW

Changing the Darkness of an Aligned Image

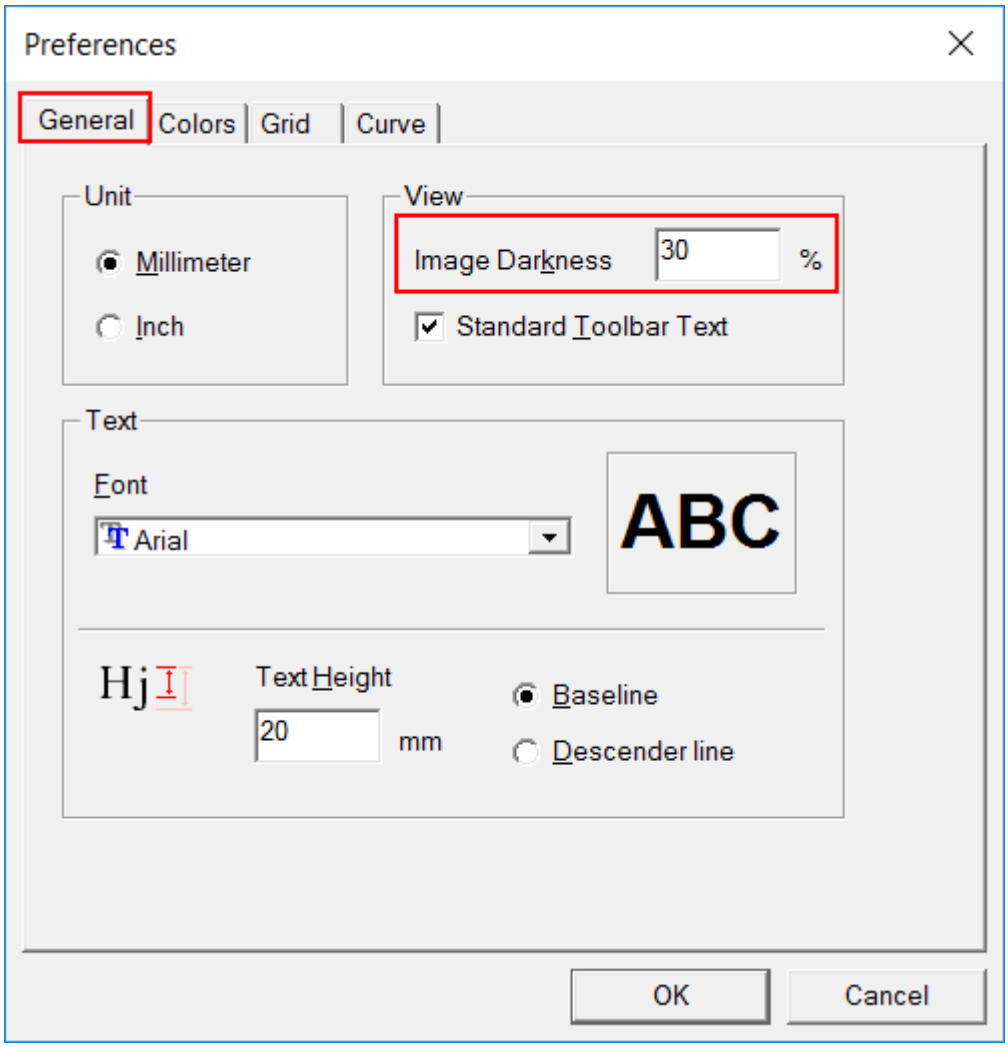
It is possible to change the darkness of an image imported into CutStudio.

Procedure

1. From the File menu, click Preferences.

2. On the General tab, enter a value in the Image Darkness box.

Setting range: 1 to 100%



3. Click OK.

Illustrator Data Cannot Be Imported

Is the data saved in Illustrator 8.0 or EPS 8.0 format?

Illustrator 8.0 and EPS 8.0 are the Illustrator file formats that can be imported into CutStudio. If using a higher version, save files as a lower version before importing.

File Formats That Can Be Imported into CutStudio

Sample Data Cannot Be Found

Location of Sample Data Folder

Open the Sample.bmp file found in the CutStudio installation folder (usually located in the CutStudio folder under Program Files on the C drive).

Is the computer not set to show hidden folders?

Sample data may not be displayed in some cases depending on the computer settings. If sample data is not displayed, follow the procedure shown below and recheck the location of the sample data folder.

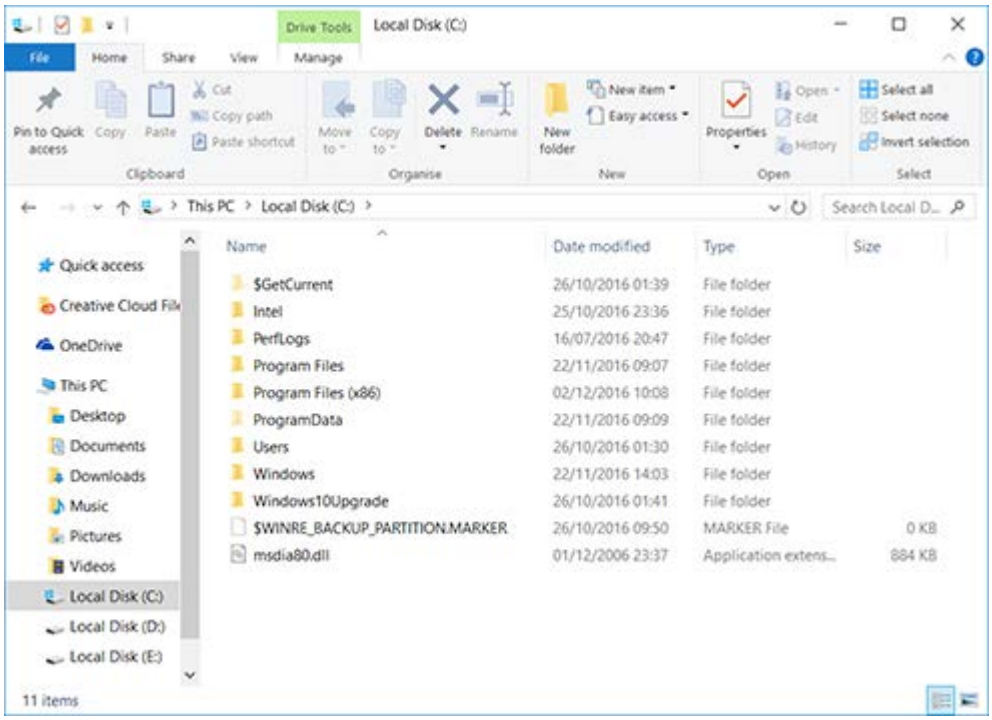
Windows 10 and Windows 8.1

Procedure

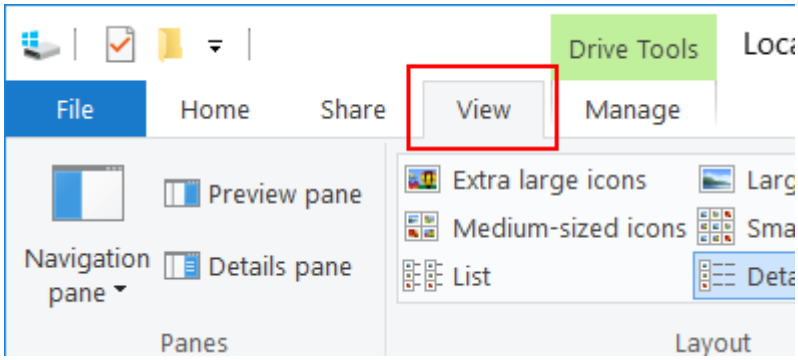
1. Click Explorer.

Click the folder in the lower-left corner of the desktop.

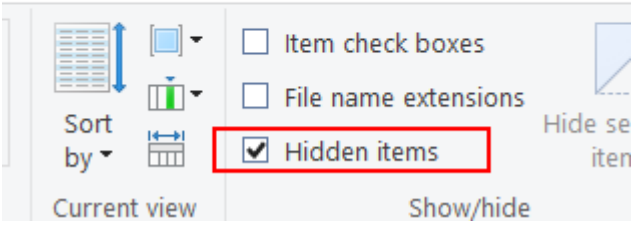
The screen shown in the following figure is displayed.



2. Click the View tab.



3. Select the Hidden items check box.

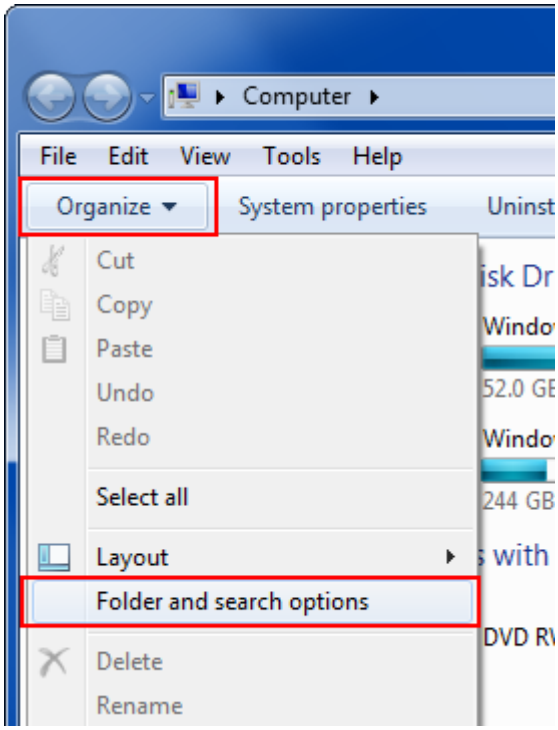


Windows 7

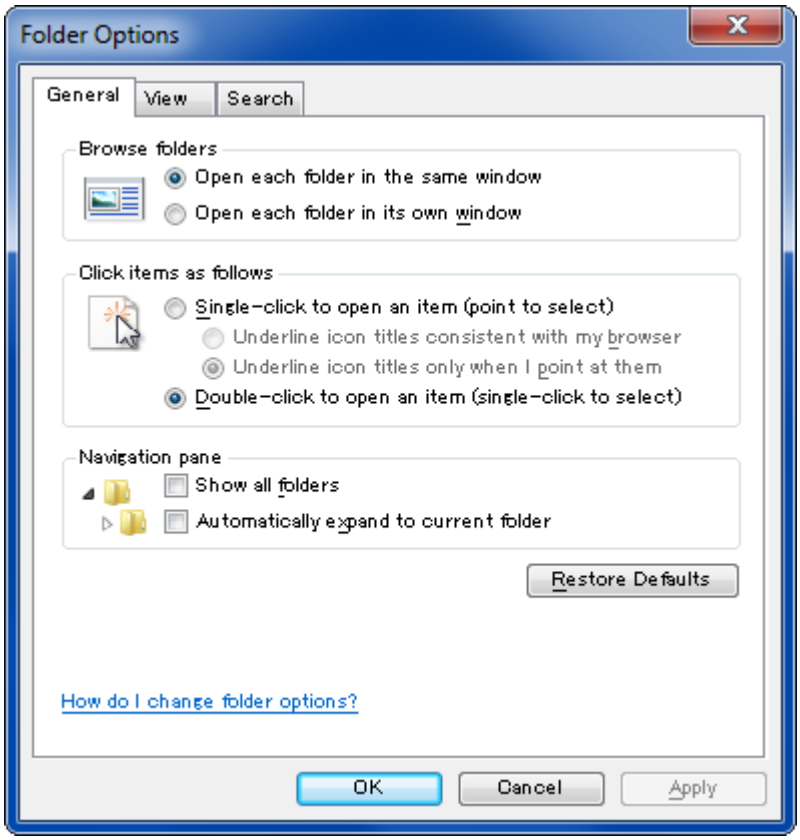
Procedure

1. From the Start menu, click Computer.

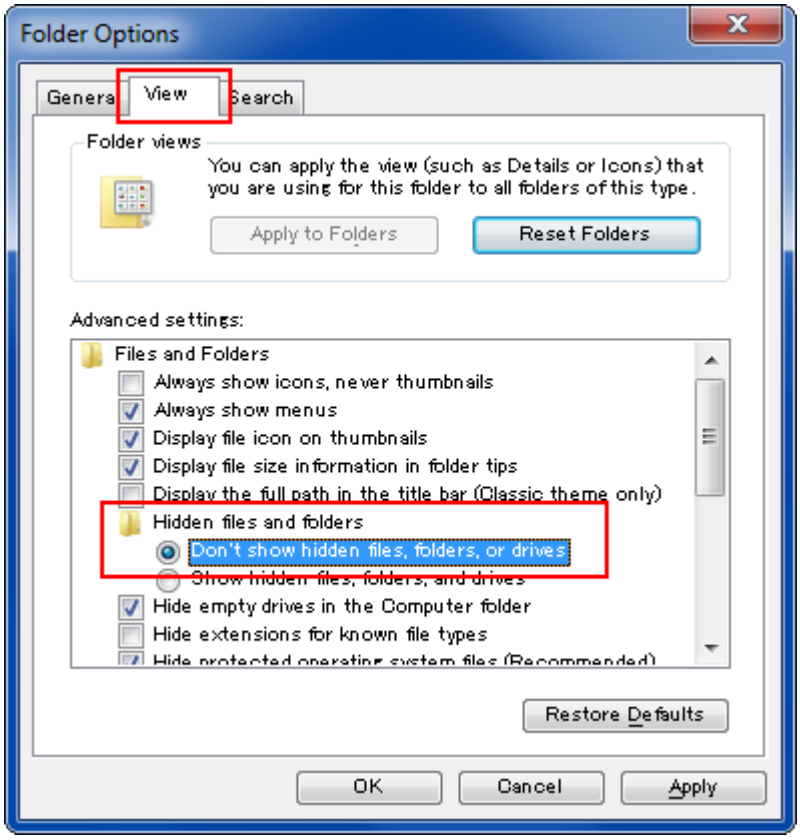
2. In the Organize menu, click Folder and search options.



The screen shown in the following figure is displayed.



3. Click the View tab, and then select the Show hidden files, folders, and drives option.



4. Click OK.

Crop Marks Cannot Be Read

When the machine cannot read crop marks, it displays an error message and pauses operation.
If this happens, press any key on the operation panel. Remove the material, check the following items, and then reload the material.

"CROPMARK ERR" or "SET TO <TOOL MODE>" Is Displayed

Is the material loaded correctly?

Refer to "Using Various Types of Materials" and load the material in the correct position.

Are you using material that is not white or is glossy?

Crop marks cannot be detected if decorations or colors are on the material.
Crop marks also may not be detected on glossy material even if it is white.

Materials That Can Be Used for Printing and Cutting

Does the material have creases or wrinkles?

Crop marks may not be read if the material has creases or wrinkles. Stretch the creases or wrinkles out and load the material again.
If the crop marks still fail to be read, prepare new material without creases or wrinkles and redo the operation from printing the data.

Are the crop marks blurred or are they in a color other than black?

Set the color of crop marks to black, specify 100% density, and then print the data again.

Crop Marks

Are the size and shape of crop marks correct?

Make the crop marks perfect circles 10 mm (0.39 in.) in diameter.
The machine can only detect crop marks in the prescribed shape.

Crop Marks

Are the crop marks at the correct positions?

Refer to "Setting the Margins and the Distance between Crop Marks" and place the crop marks at the correct positions.

Is the [ROTATE] menu set to [90deg]?

Be sure to set the [ROTATE] menu to [0deg] when using crop marks.
Crop marks cannot be read if this is set to [90deg].

Setting the Direction of the Coordinate Axis for Cutting <ROTATE>

Is the machine exposed to direct sunlight or strong indoor lighting?

If the cutting carriage sensor is exposed to direct sunlight or indoor lighting, crop marks may not be detected. Move the machine to a location where it is not exposed to direct sunlight or indoor lighting.

If the Issue Is Not Resolved Even after Taking the Above Steps

Perform alignment in Tool Mode.

Cutting in Tool Mode (1)

"LENGTH NG," "WIDTH NG," or "ANGLE TOO BIG" Is Displayed

Is the material loaded at an angle? Are the printing results crooked?

Crop marks cannot be detected in the following cases:

The left and right crop marks are slanted by 5 degrees or more with respect to the moving direction of the carriage.
The left and right crop marks are offset by 20 mm or more in the material-feed direction.

Do the distances between crop marks specified by the software match those specified on the machine? (Manual mode)

On the machine, correctly set the distance specified by the software.

Are the crop marks at the correct positions?

If the angle formed by the two lines connecting the centers of the crop marks is not 90 degrees, the crop marks cannot be read. Crop marks cannot be read if the distance between crop marks in the material-feed direction is 500 mm (19.69 in.) or more.

Is the printing expanded or reduced?

If the size is expanded or reduced during printing, the crop marks cannot be read during cutting. Print the data by specifying 100% for the magnification.

The Results of Cutting Are Displaced When Using the Printing and Cutting Function

Is a thick material being used?

When using thick material, set [Cutting Quality] to [HEAVY].

Setting Cutting Quality <QUALITY>

When using roll material, was the amount of material to be cut pulled out before performing cutting?

If cutting is performed without pulling out the material, the material may slip or a motor error may stop the operation

Loading Roll Material

Fine-tuning the Printing Position

Adjusting the Printing Position

Fine-tuning the Cutting Position

Adjusting the Cutting Position

The Machine Cuts the Same Area Twice

Is Overlap Cutting set to 0 in CutStudio?

If Overlap Cutting is set to any number other than 0 on the Cut screen, the number is added to the number of cuts.

Is the machine's [OVERLAP] setting a number from 1 to 10?

Set the machine's [OVERLAP] setting to [OFF].

Cutting in the Same Position Repetitively <OVERLAP>

Are there overlapping lines?

The same data may have been copied, resulting in overlapping lines. Check the data.

Moving a Saved Symbol to a New Computer

Memo For instructions on how to save symbols, check the CutStudio Help.

Procedure

1. Copy the Symbol folder from the path below.

Store the folder in a desired location or move it.

C:¥ProgramData¥Roland DG Corporation¥CutStudio¥Symbol

If the Folder Is Not Displayed

In "Sample Data Cannot Be Found," configure the settings for displaying hidden folders.

2. Copy the Symbol folder to a new computer.

Copy the folder to the same location on the new computer.
If the folder is not displayed on the new computer, adjust the settings to display hidden folders.

Installing Plug-in for Illustrator

Installation Procedure

Install from the following link.
http://startup.rolanddg.com/

Supported Versions

For information regarding the latest supported versions, visit the Roland DG Corp. website (http://www.rolanddg.com/).

Installing Plug-in for CorelDRAW

Installation Procedure

Install from the following link.
http://startup.rolanddg.com/

Supported Versions

For information regarding the latest supported versions, visit the Roland DG Corp. website (http://www.rolanddg.com/).

Cover

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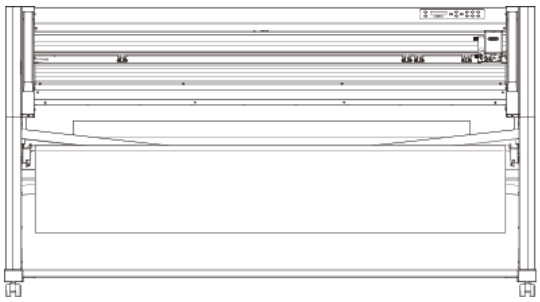
GR-640 / 540 / 420
CAMM-1

User's Manual

Application Edition
Macintosh Version



Sending Data from Illustrator

Printing and Cutting

Cutting Perforated Lines

Other Things That You Can Do

Troubleshooting

http://www.rolanddg.com/
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Sending Data from Illustrator

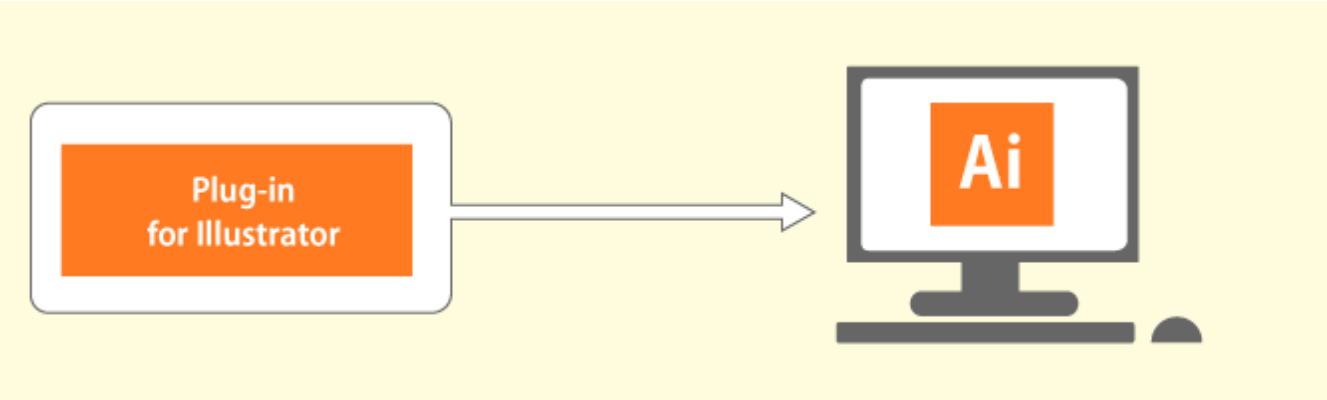
You can output cutting line data drawn with Adobe Illustrator to the cutting machine.
To output data it is necessary to install a plug-in.

Required Items

Plug-in for Illustrator

Installing Plug-in for Illustrator

Install Plug-in for Illustrator on the computer on which Illustrator is installed.



Sending Data from Illustrator

Outputting Data Created in Illustrator

Viewing Help

Viewing Help (Illustrator)

Outputting Data Created in Illustrator

CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

* The screenshots show an example of Illustrator CC 2015, but the operation procedure is the same for other versions.

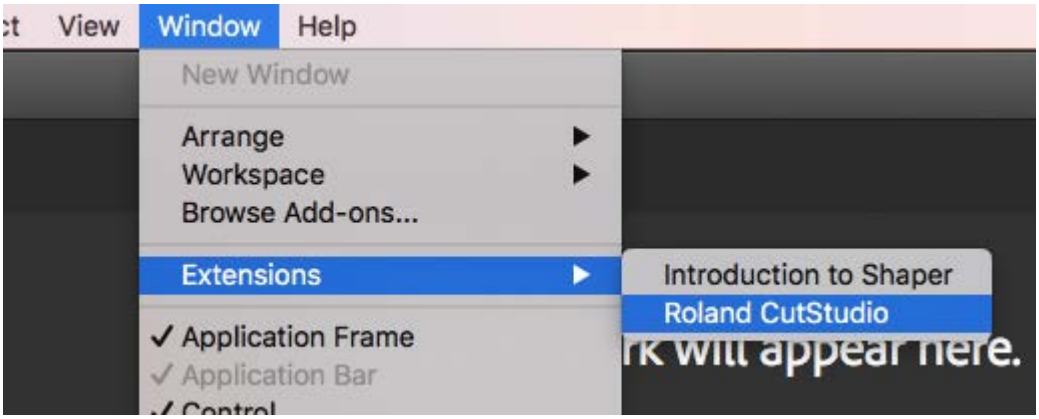
You must install Plug-in for Illustrator before proceeding.

Installing Plug-in for Illustrator

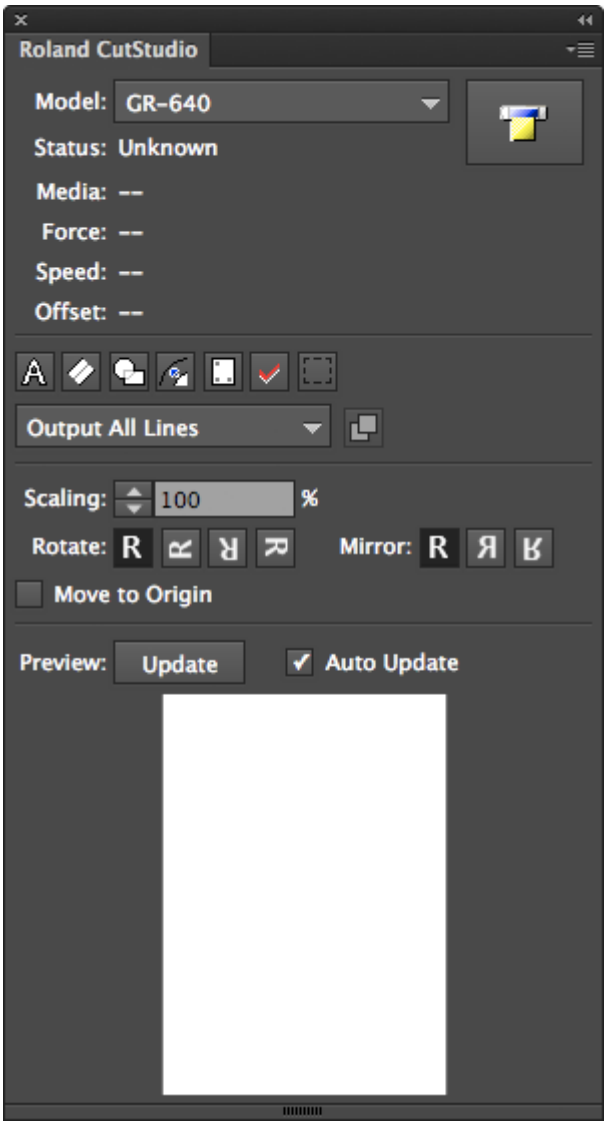
Procedure

1. Start Illustrator.

2. In Illustrator, click Extensions > Roland CutStudio from the Window menu.

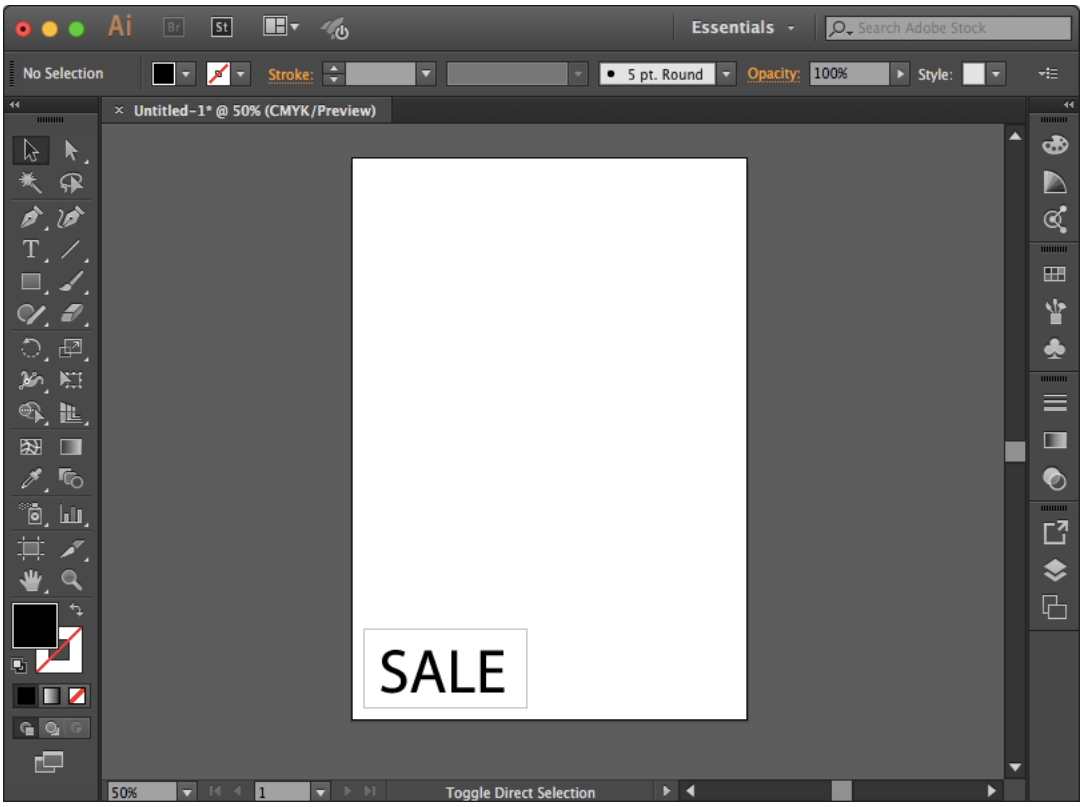


The "Roland CutStudio" palette appears.



3. Create a new file and create a new design or open an existing file.

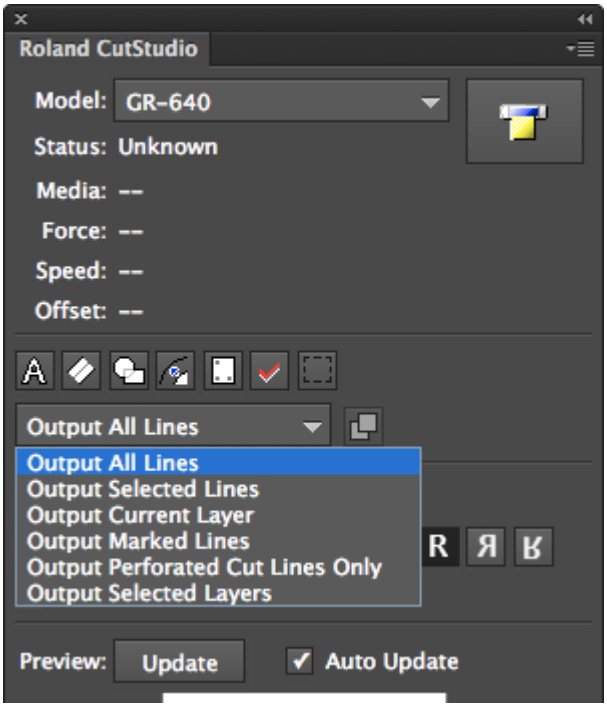
In this example, you will create the design shown in the figure below. Change the characters to outline data.



Memo

When you select characters and click A on the palette, the characters change to outline data.

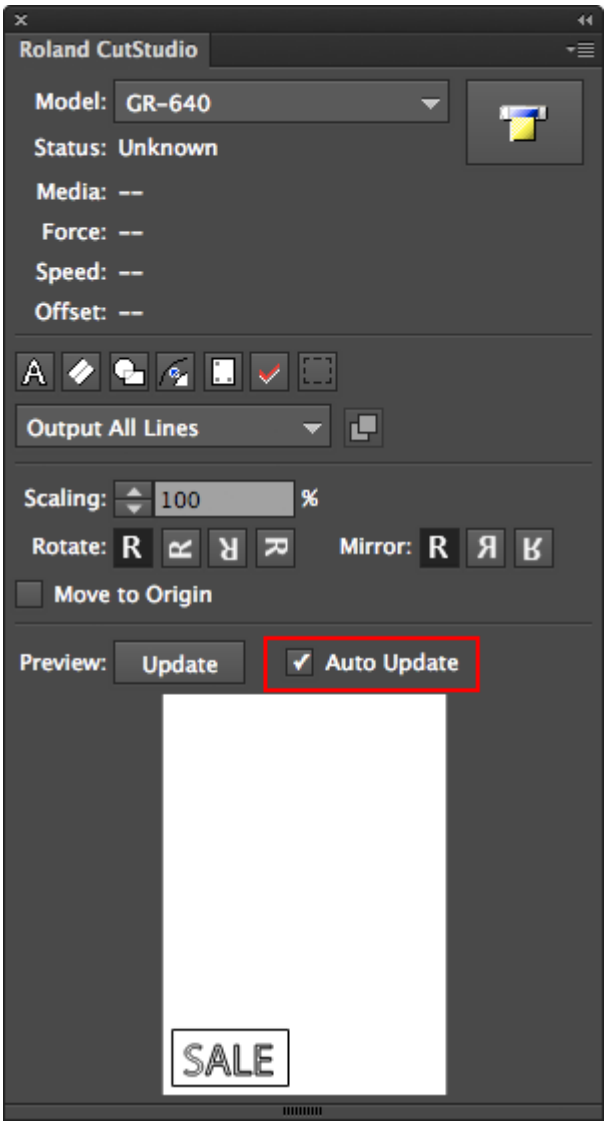
4. Select Output All Lines.



5

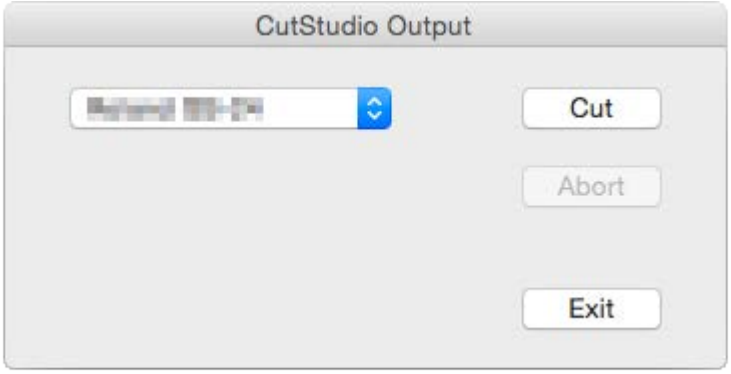
5. On the Roland CutStudio palette, select the Auto Update check box.

Check that the cutting line that you wish to output is shown on the preview screen.



6. Click .

The following dialog box appears.



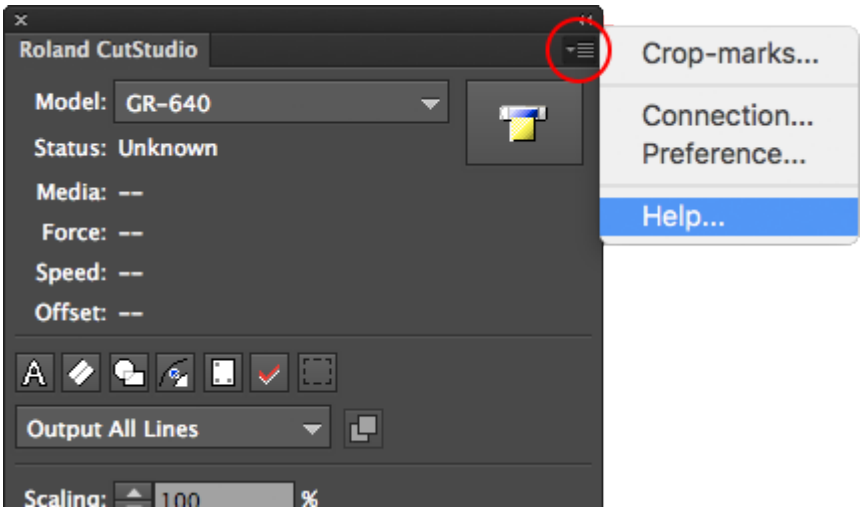
7. Select the model name of the machine on hand, and then click Cut.

The cutting data is output.

Viewing Help (Illustrator)

Procedure

1. On the Roland CutStudio palette, click ▤, and then click Help.



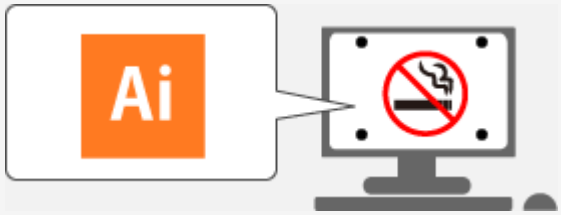
Printing and Cutting

Printing and Cutting Overview

Your favorite picture can be printed and cut. This makes it easy to create your own original stickers.

Flow Diagram

Create the data in Illustrator.



↓

Print the data with the printer.
(Use the printer that you have on hand.)

↓

Cut the printed material.

Your original sticker is complete!

Materials That Can Be Used for Printing and Cutting

- Materials That Can Be Used for Printing and Cutting

Printing and Cutting with Illustrator

- Preparations for Printing and Cutting (When Using Illustrator)
- Printing and Cutting Procedure (Illustrator)

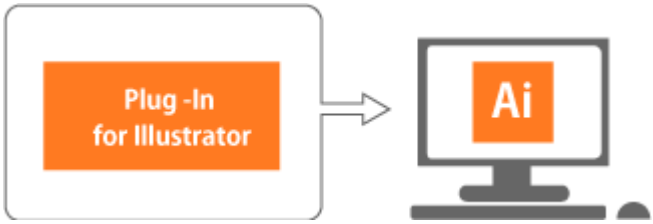
Preparations for Printing and Cutting (When Using Illustrator)

Printing and Cutting Sample Data

We recommend that you get comfortable with the printing and cutting procedure by using the sample data first.
In this procedure, you will create the sticker shown below.

Printing and Cutting Procedure (Illustrator)

Items Required Other than the Machine

Printer	Material (210 x 298 mm)	Sample data
		
A computer on which Illustrator and Plug-In for Illustrator are installed		

Printer Requirements

You must use a laser or inkjet printer with a resolution of 720 dpi or greater.

If the printed filled sections are blurred, crop marks will not be read correctly.

Plug-In for Illustrator

Be sure to install this program.

Installing Plug-In for Illustrator

Material

This example uses A4-size material.

Materials That Can Be Used for Printing and Cutting

Sample Data

Use Sample.bmp, which is found in the CutStudio folder under Applications.

Printing and Cutting Procedure (Illustrator)

Printing and Cutting Procedure (Illustrator)

Procedure

- Step 1: Set the Printing and Cutting Areas
- Step 2: Position the Sample Data
- Step 3: Draw the Cutting Lines
- Step 4: Perform Printing
- Step 5: Load the Printed Material
- Step 6: Set the Alignment Method (Sensor Mode)
- Step 7: Perform Cutting (Sensor Mode)

Step 1: Set the Printing and Cutting Areas

Procedure

1. Perform preparations for cutting.

Click the link below and perform the procedures from "Loading Roll Material" to "Setting the Origin."

Loading Roll Material

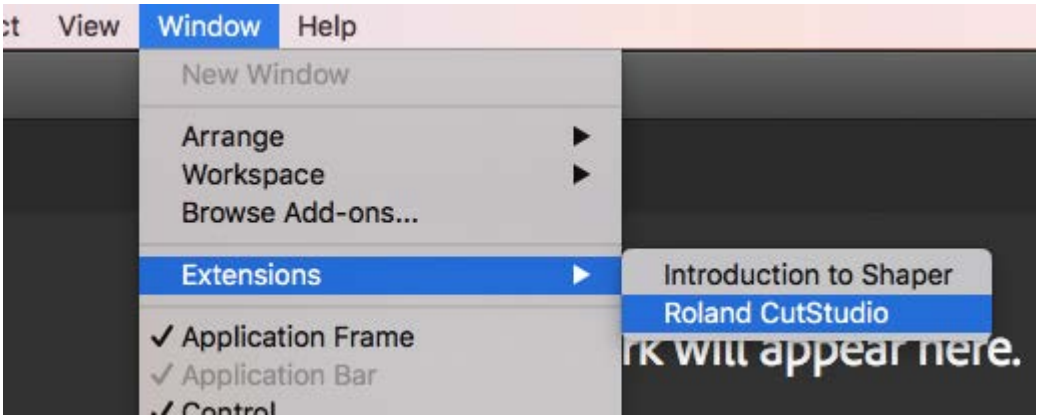
2. Start Illustrator.

3. Open a new document, and then set the artboard.

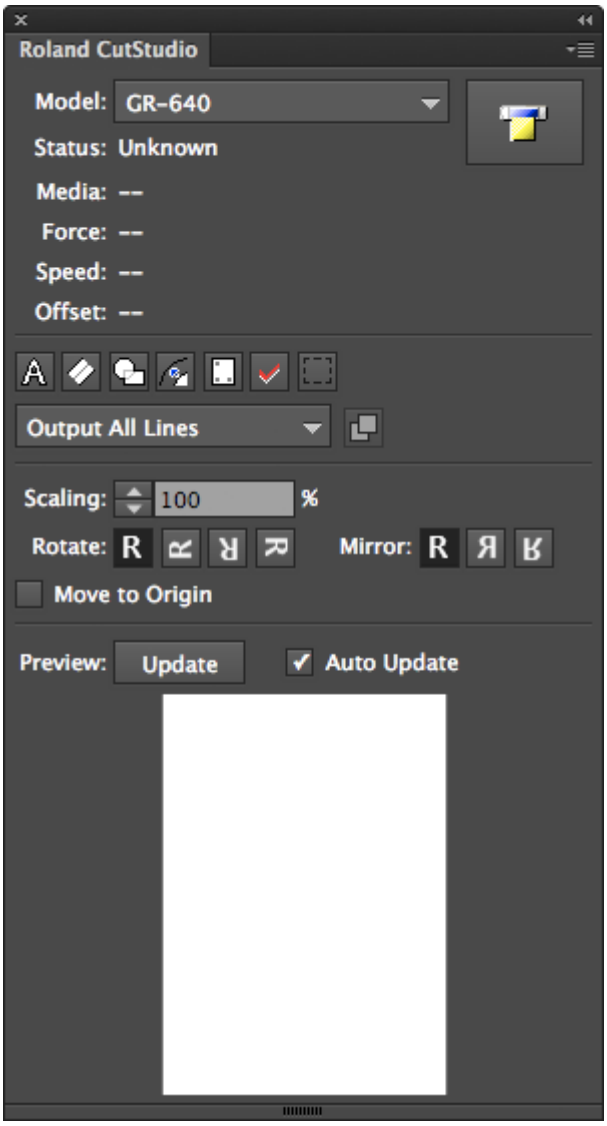
Set the document size to be the same as the cutting width displayed on the machine.

```
W:  183mm
L:  258mm
```

4. From the Window menu, click Extensions, and then click Roland CutStudio.

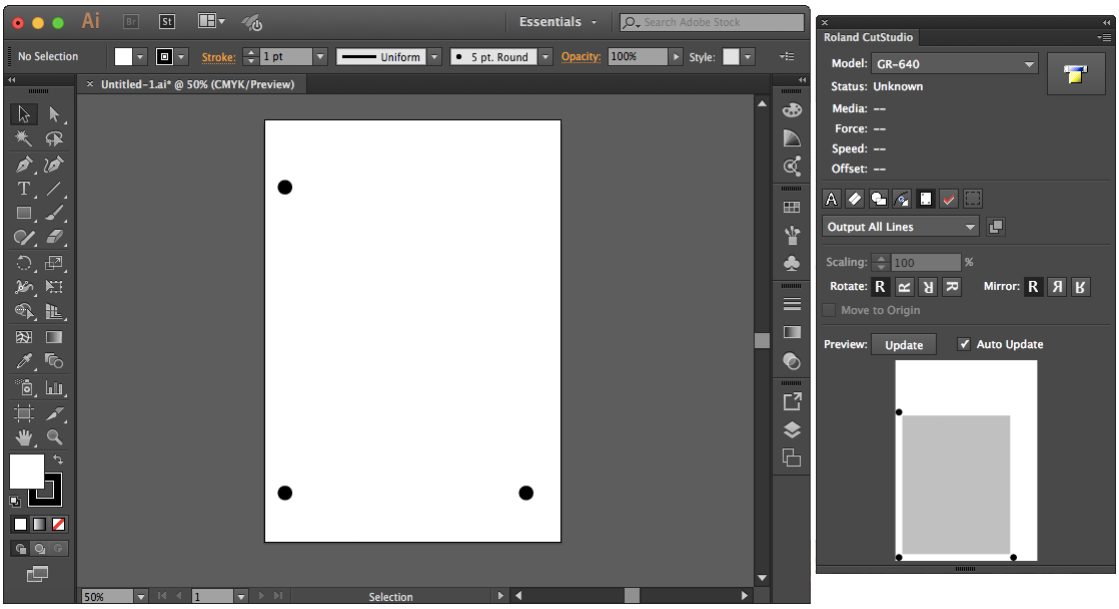


The Roland CutStudio palette appears.

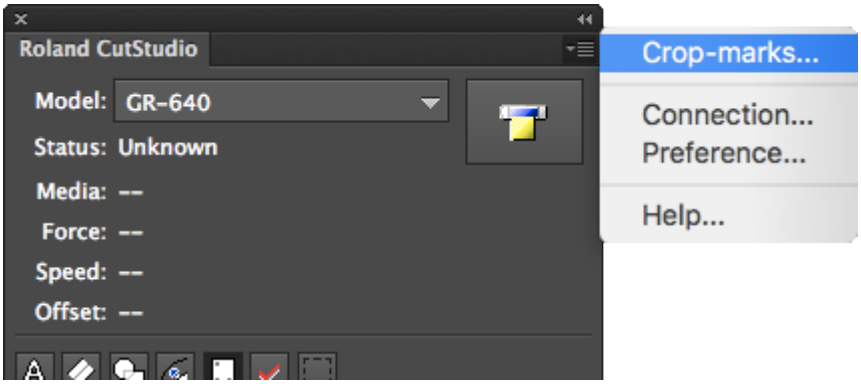


5. On the palette, click ⊡.

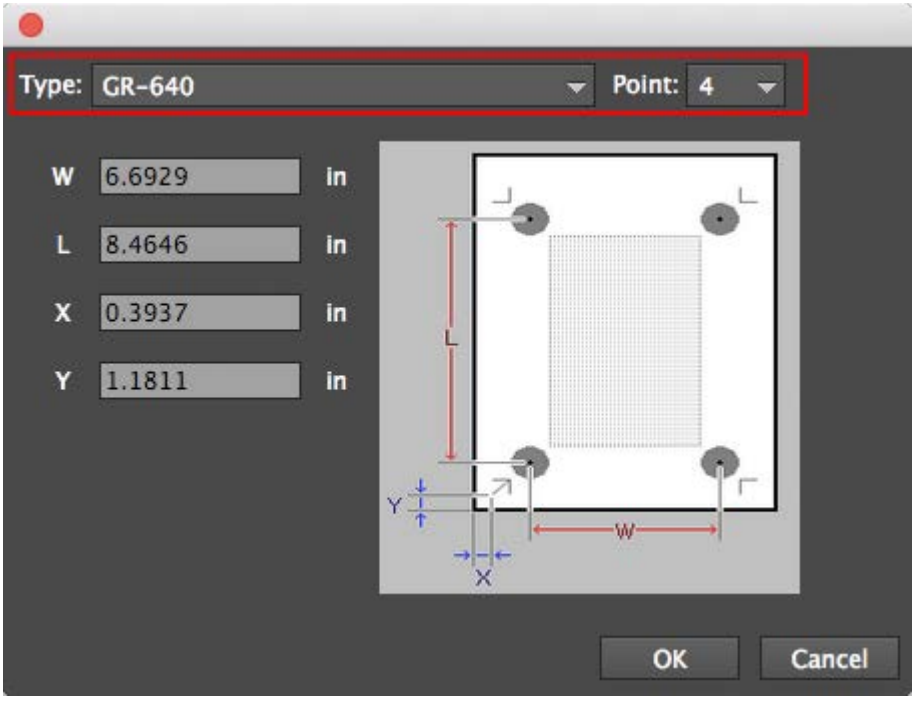
Crop marks are inserted in the artboard.



6. Click , and then click Crop marks.



7. Select the model name from the Type list, and then select 4 from the Point list.



Point: Set the number of crop marks.

8. Set the margins, and then click OK.

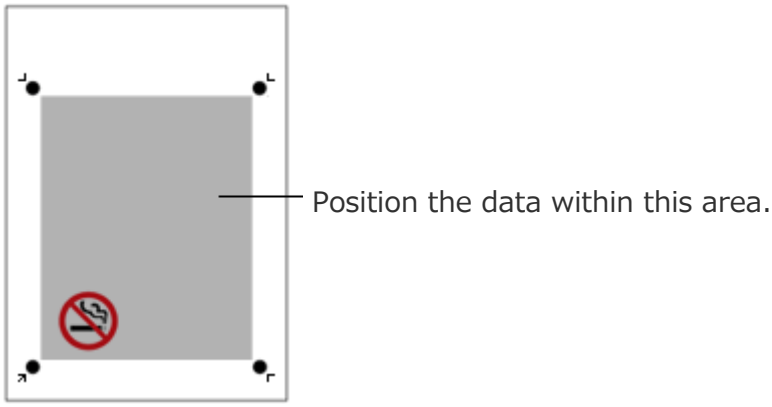
[Setting the Margins and the Distance between Crop Marks]

[Step 2: Position the Sample Data]

Step 2: Position the Sample Data

Procedure

1. **Position the image data in the area within the crop marks.**



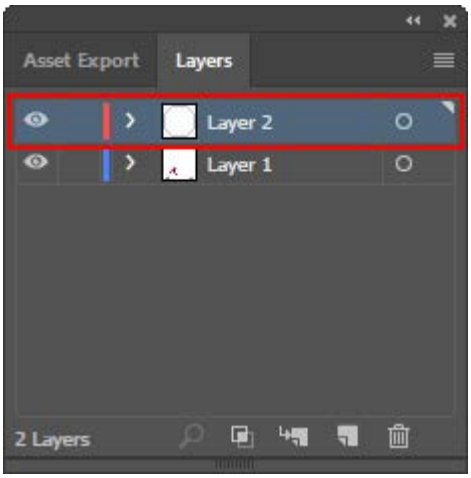
Step 3: Draw the Cutting Lines

Step 3: Draw the Cutting Lines

Procedure

1. Draw the cutting lines.

Create a new layer for the cutting lines and draw the cutting lines there.



Newly created layer

Cutting line

2. Save the data.

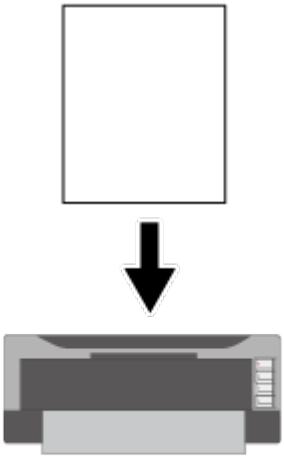
Step 4: Perform Printing

Step 4: Perform Printing

Procedure

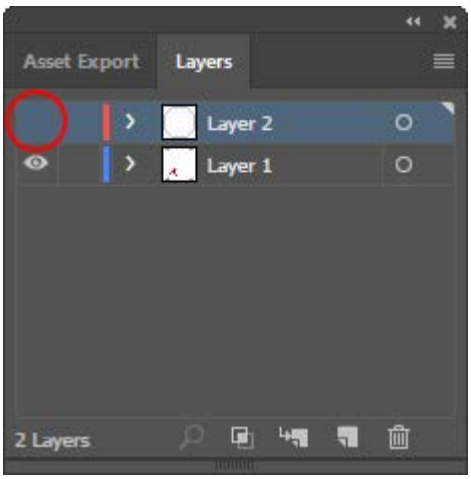
1. Load the material in the printer.

For details on how to load the material, see the instruction manual for your printer.



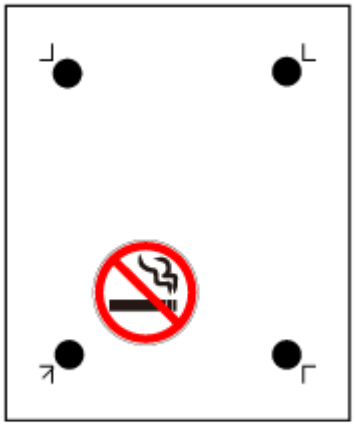
*** When expanded/reduced printing is enabled, disable it.**
Print at 100% scale.

2. Hide the layer containing the cutting lines.



3. From the File menu, click Print.

The image is printed as shown in the figure below.

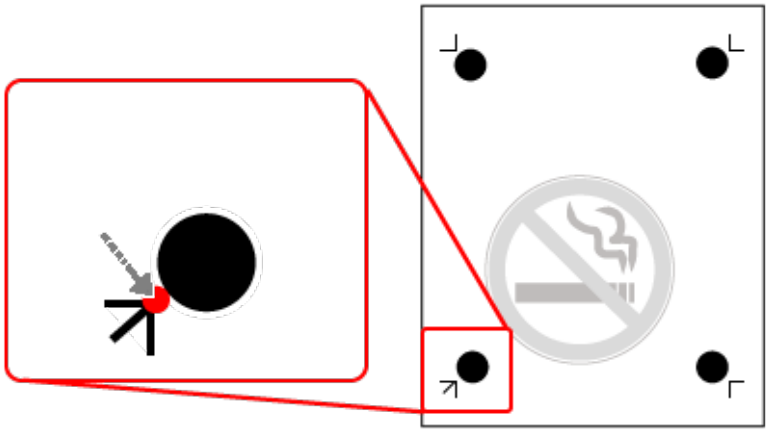


Step 5: Load the Printed Material

Step 5: Load the Printed Material

Procedure

1. Check the origin for cutting of the printed material.

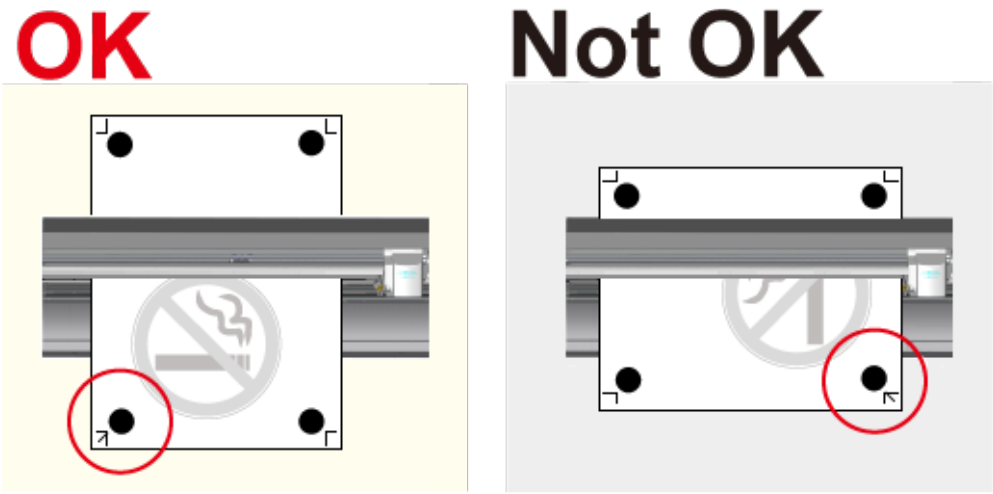


2. Turn on the cutting machine.

Wait for the initial operation to finish.

3. Set the origin for cutting to the lower-left corner of the material, and then load the material in the machine.

If the material is loaded in the wrong direction, the machine will not be able to read the crop marks.

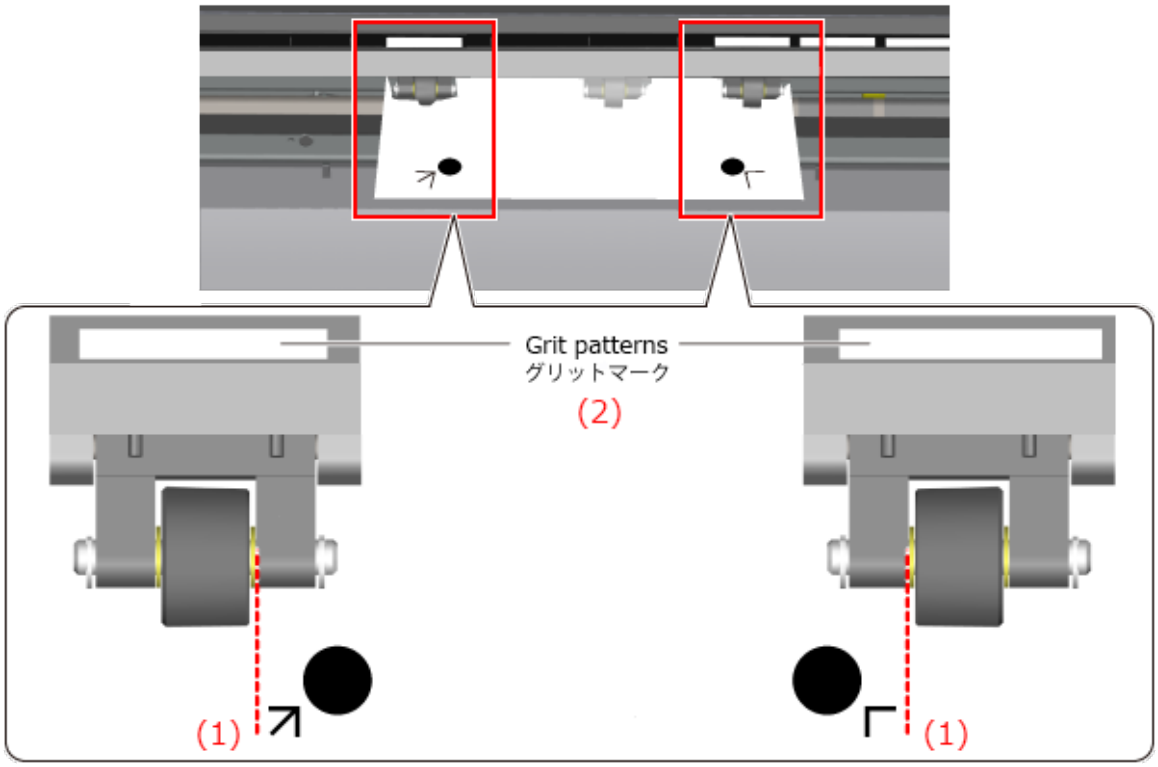


4. Position the left and right pinch rollers as shown in the figure.

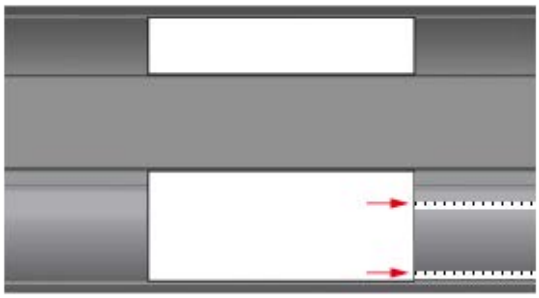
For A4-size material, do not use the middle pinch rollers.

Using Narrow Material/Preventing Marking Made by the Middle Pinch Rollers

(1) Position the pinch rollers outside the tool marks.
(2) Be sure that both edges of the material and the pinch rollers are inside the grit patterns.



5. Align the right edge of the material with the front and back gradations of the platen.



6. Select the type of material.

```
SELECT SHEET    ◆
 PIECE          ↵
```

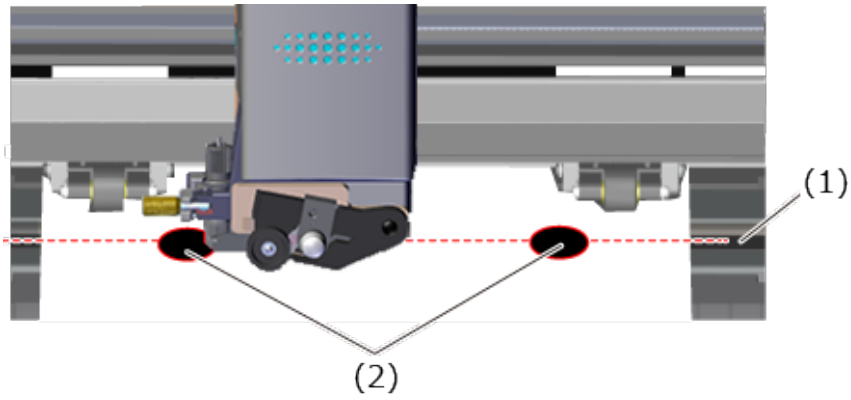
Using Various Types of Materials

7. Press [ENTER].

The pinch rolls lower and the carriage and material move.
When the movement is finished, the cuttable width and length are displayed.

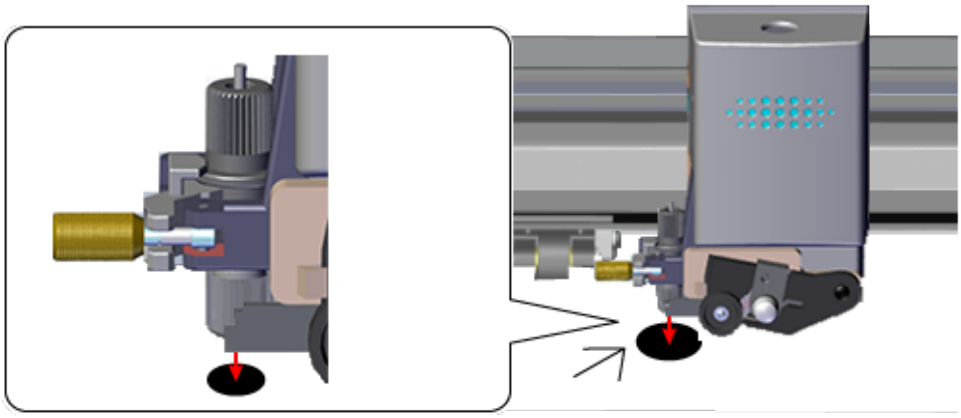
```
W:  183mm
L:  258mm
```

8. Use [▲] and [▼] to move the material and position the crop marks above the blade protector.



(1) Blade protector
(2) Crop marks

9. Press [◀] and [▶] to position the tip of the blade over the center of the lower-left crop mark.

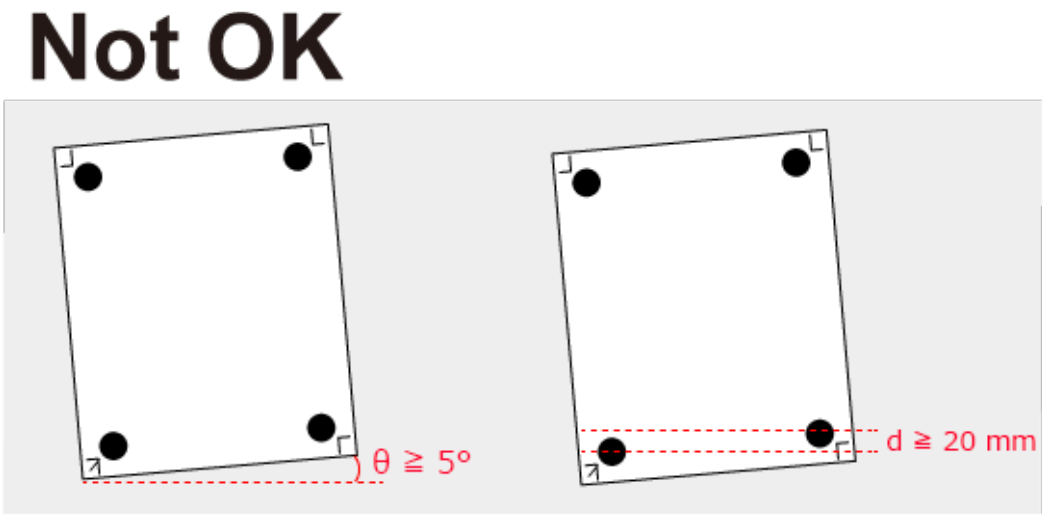


Do not set the origin.

Crop marks cannot be read in the situations indicated below.

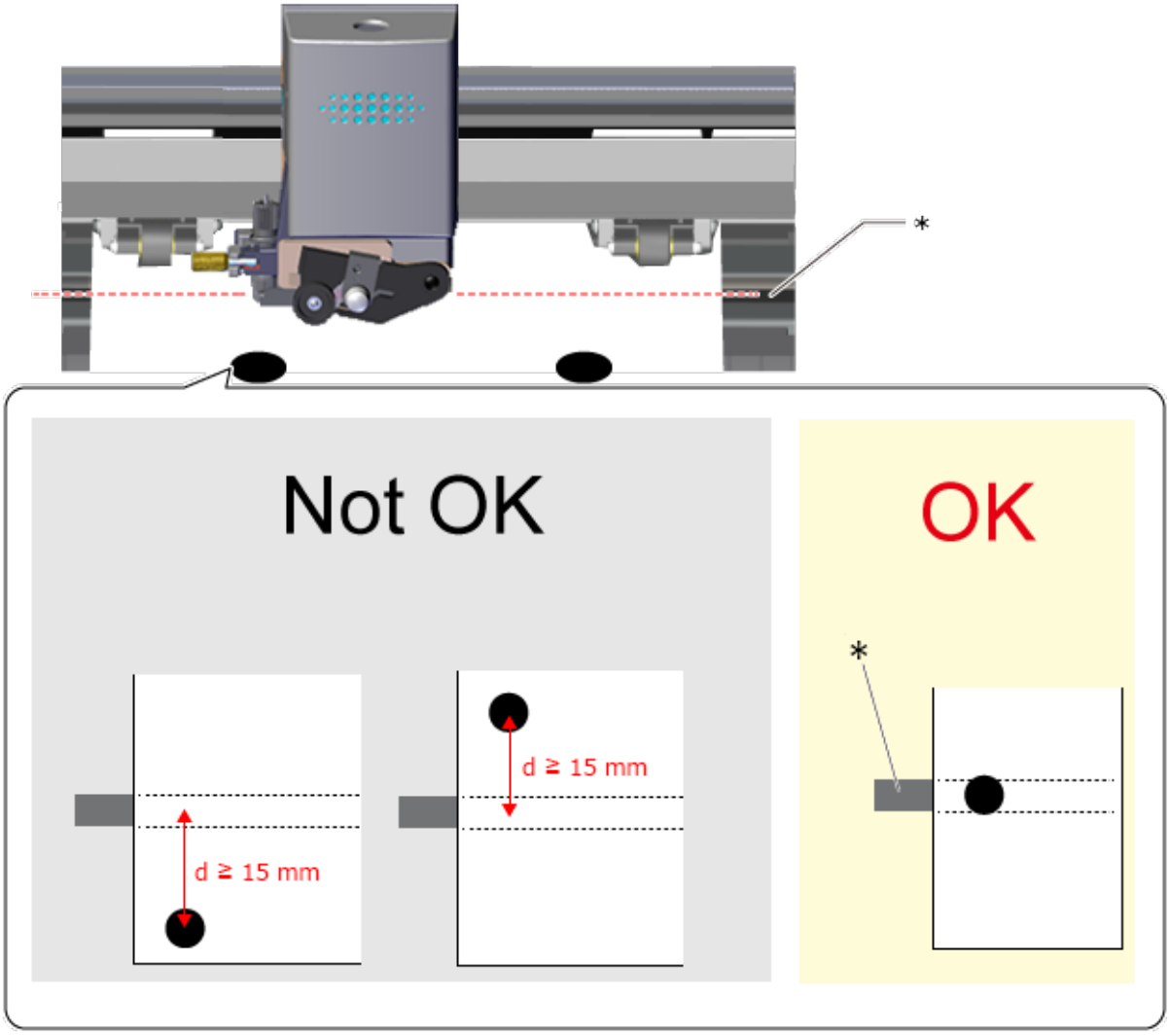
If any of the following situations occur, remove the material, and then reload it.

The left and right crop marks are slanted by 5 degrees or more with respect to the moving direction of the cutting carriage.
The left and right crop marks are offset by 20 mm or more in the material-feed direction.



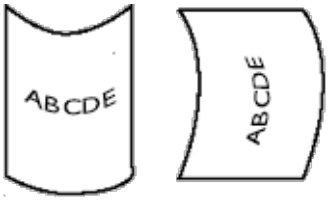
The crop marks are separated from the blade protector by a distance of 15 mm

or more.



*: Blade protector

The material sometimes curls when it is printed on the printer.
Do not use material that is curled as shown in the figure. The crop marks may not be read. If this happens, straighten out the material before loading it on the cutting machine.



Step 6: Set the Alignment Method

Step 6: Set the Alignment Method (Sensor Mode)

Position the crop marks automatically using the machine's integrated sensor.

Procedure

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
CROPMARK
<SENSOR MODE>
```

3. Press [▶] once, and then press [▼] several times to select [SENSOR MODE]

```
CROPMARK
*SENSOR MODE
```

4. Press [ENTER] to select the setting.

Press [MENU] to return to the screen shown in the figure.

```
W: 183mm
L: 258mm
```

Step 7: Perform Cutting (Sensor Mode)

Step 7: Perform Cutting (Sensor Mode)

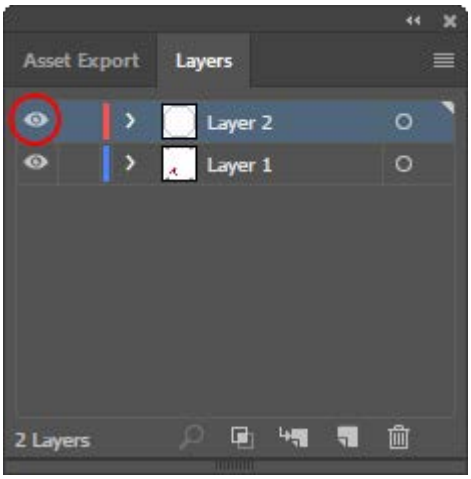
CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Procedure

1. Show the layer containing the cutting lines and select it.

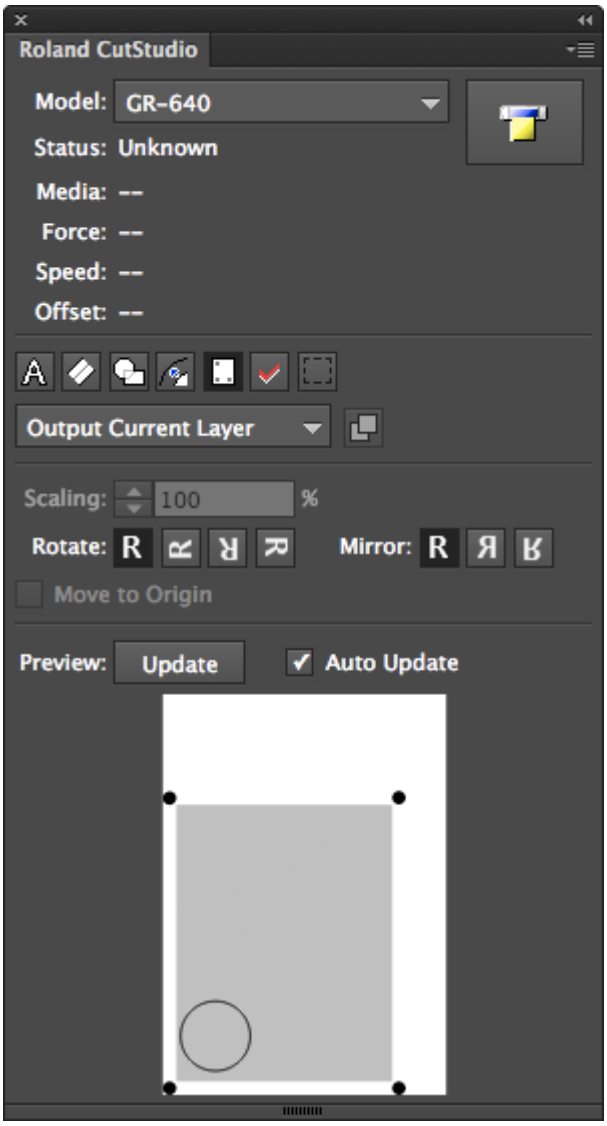
Check that all the cutting lines that you wish to cut are shown on the palette's preview screen.



2. On the Roland CutStudio palette, select Output Current Layer, and then click Update.

Check that all the cutting lines that you wish to cut are shown on the palette's preview screen.

Changing the Cutting Settings



3. Click .

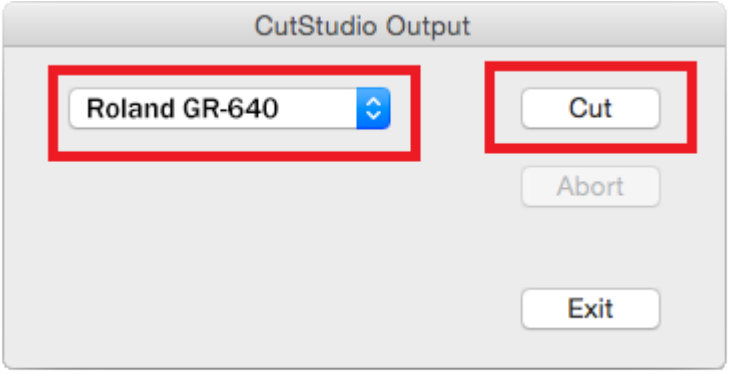
The screen shown in the following figure is displayed.

If you want to check the cutting settings, refer to "Configuring Cutting Settings from a Computer."

4

4. Select the model name of the machine on hand, and then click Cut.

If the model name is not displayed, see "The Machine Doesn't Run" in "Troubleshooting."



The cutting data is sent to the machine. When the machine receives the data, it automatically reads the crop marks using a sensor, and then starts cutting.

Crop Marks Cannot Be Read

If the Sensor Fails to Read the Crop Marks

If the sensor fails to read the crop marks, the screen in the figure appears. If this screen appears, proceed to "Crop Marks Cannot Be Read." If this does not resolve the issue, refer to "Cutting in Tool Mode (1)," and then perform positioning in tool mode.

```
SET TO
<TOOL MODE>
```

5. When cutting is finished, click Exit to close the window.

To Cancel Cutting

6. Remove the cut material.

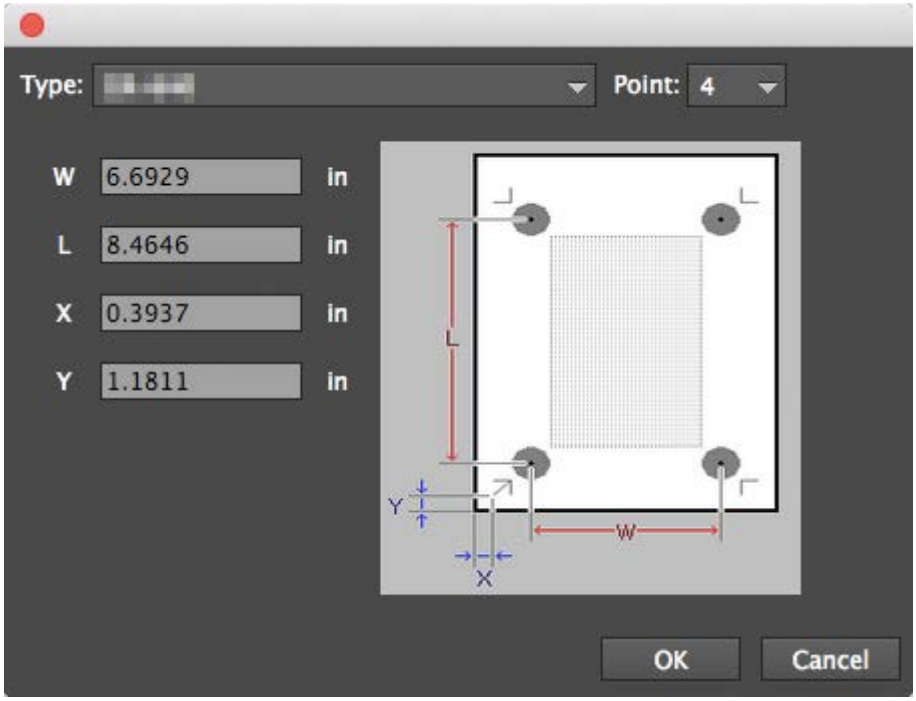
Remove the material to complete the cutting procedure.

Removing the Material

Setting the Margins and the Distance between Crop Marks

Set the margins and the distance between crop marks.
Take into account the margin necessary for cutting the material and set the crop mark position.

When Using Illustrator



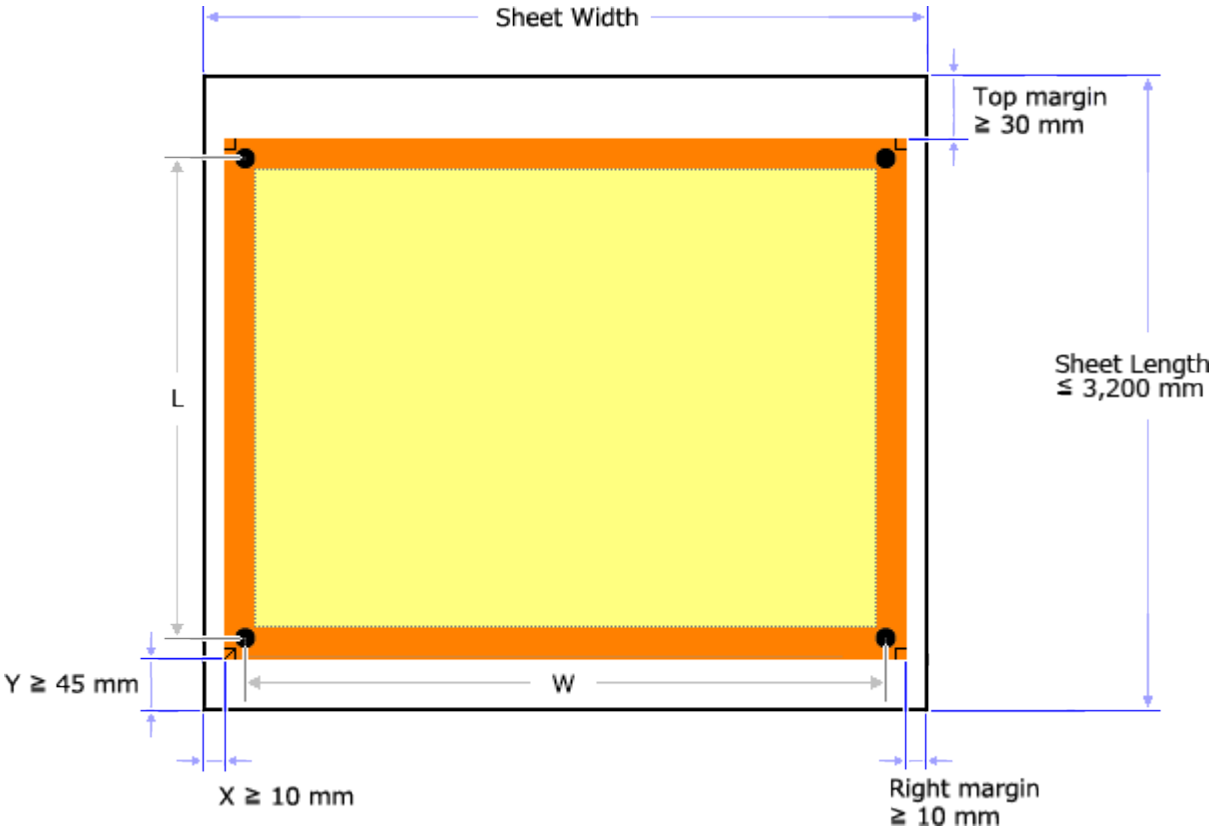
* When using material with a large amount of feed (long material), we recommend that you set the left and right margins to approximately 25 mm.

<crop marks: 3 points>, <crop marks: 4 points>

Size	Crop mark positions
A4 portrait	X: 10 mm, Y: 45 mm W: 170 mm, L: 202 mm
A4 landscape	X: 10 mm, Y: 45 mm W: 257 mm, L: 115 mm
A3 portrait	X: 10 mm, Y: 45 mm W: 257 mm, L: 325 mm
A3 landscape	X: 10 mm, Y: 45 mm W: 380 mm, L: 202 mm
B4 portrait	X: 10 mm, Y: 45 mm W: 217 mm, L: 269 mm
B4 landscape	X: 10 mm, Y: 45 mm

	W: 324 mm, L: 162 mm

*** If you are using material that is larger than the sizes listed above, set the values by referring to the figure below.**



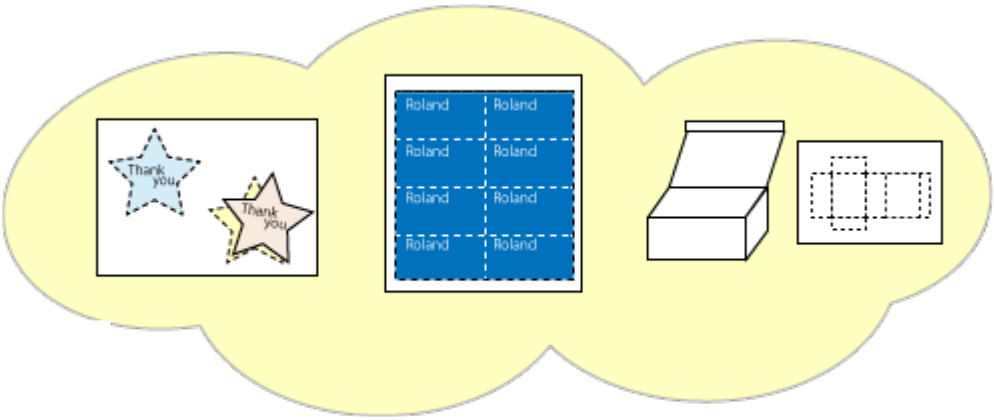
: Cuttable area

: Ensure that only crop marks are present within this area and that it is free of any other illustrations and dirt.

Cutting Perforated Lines

Overview of Cutting Perforated Lines

The machine can also cut material without carrier paper, such as coated paper.
This function makes it easy to create point-of-purchase advertisements, cards, and other materials.



- Step 1: Perform Preparations for Cutting
- Step 2: Create Perforated Line Data
- Step 3: Set Perforated Cutting Conditions
- Step 4: Cut Perforated Lines

Step 1: Perform Preparations for Cutting

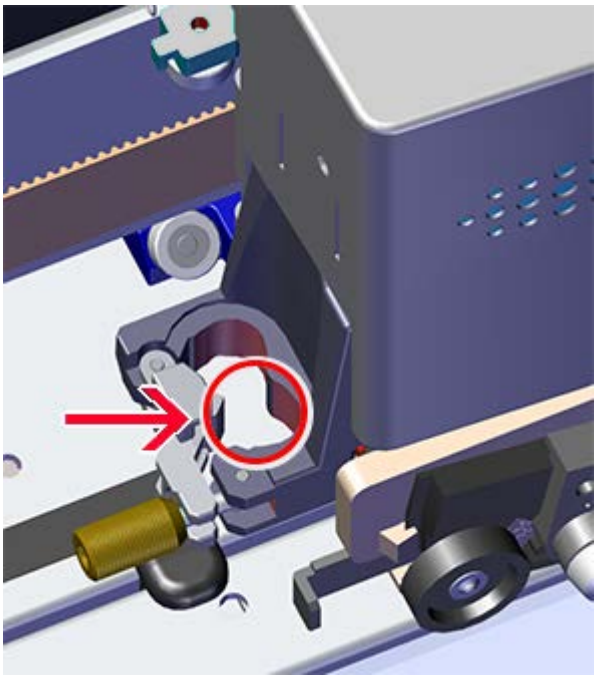
Procedure

1. Perform preparations for cutting.

Click the link below and perform the procedures from "Loading Roll Material" to "Setting the Origin."
Exercise caution regarding the position in which the cutting tool is installed.

Loading Roll Material

When cutting perforated lines, install the cutting tool in the position shown in the figure.
Note that this is the position in front of the normal installation position.



Step 2: Create Perforated Line Data

Step 2: Create Perforated Line Data

* The screenshots show an example of Illustrator CC 2015, but the operation procedure is the same for other versions.

*** You must install Plug-in for Illustrator before proceeding.**

Installing Plug-in for Illustrator

Procedure

1. Start Illustrator.

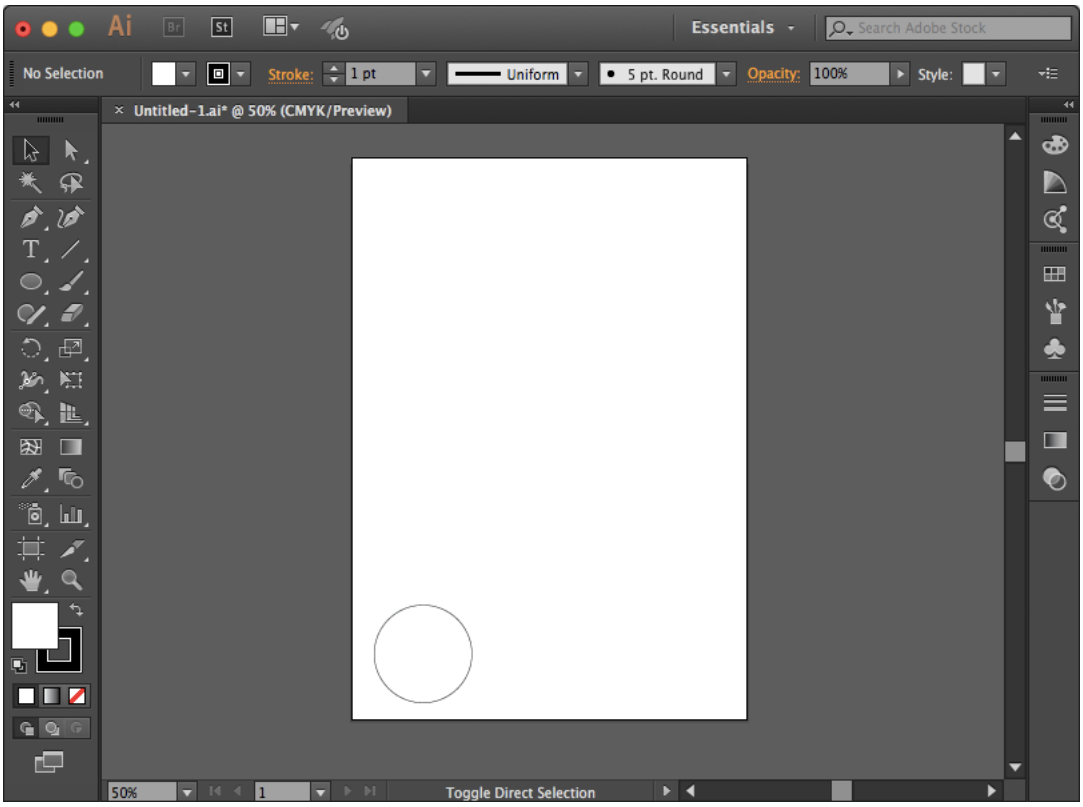
2. Open a new document, and then set the artboard.

Set the document size to be the same as the cutting width displayed on the machine.
Set a length that is longer than the product that you want to create.

```
W:  500mm
L:---[    0mm]
```

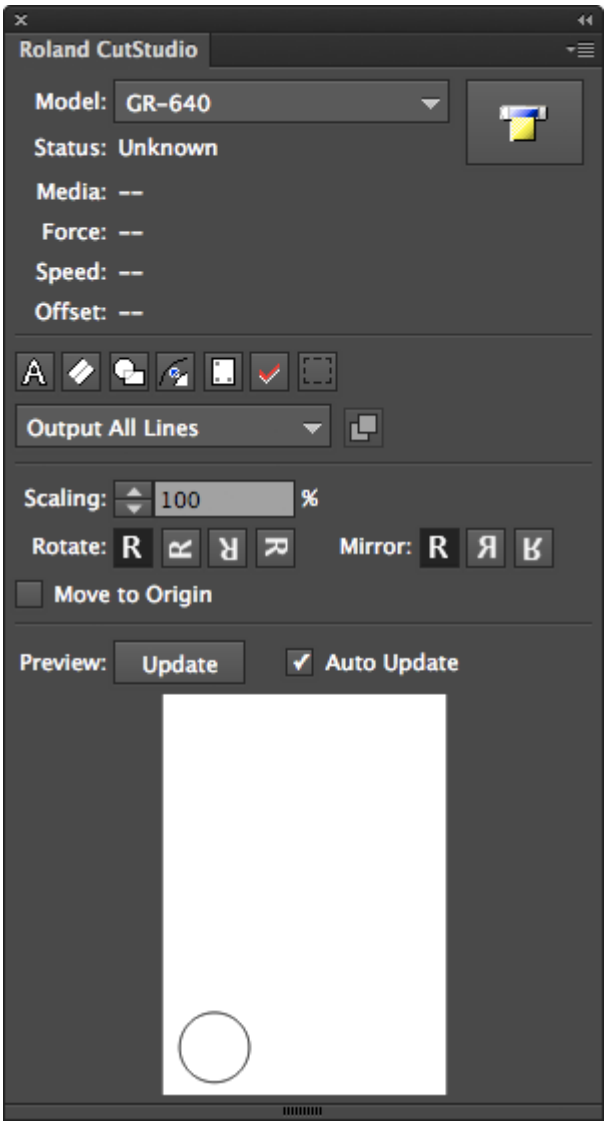
3. Create a new design or open an existing file.

In this example, you will create the design shown in the figure below.

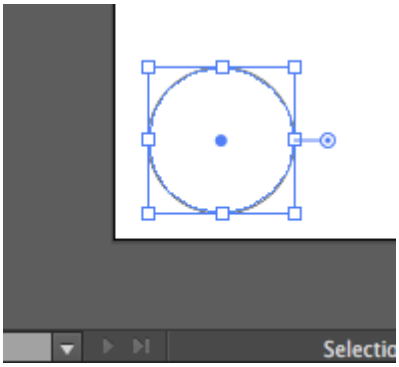


4. From the Window menu, click Extensions, and then click Roland CutStudio.

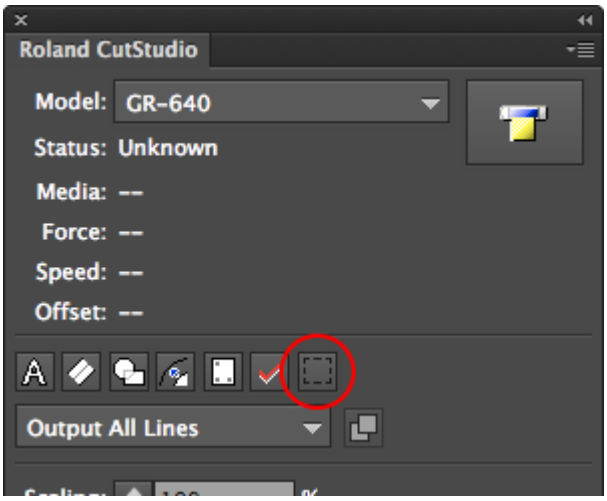
The Roland CutStudio palette appears.



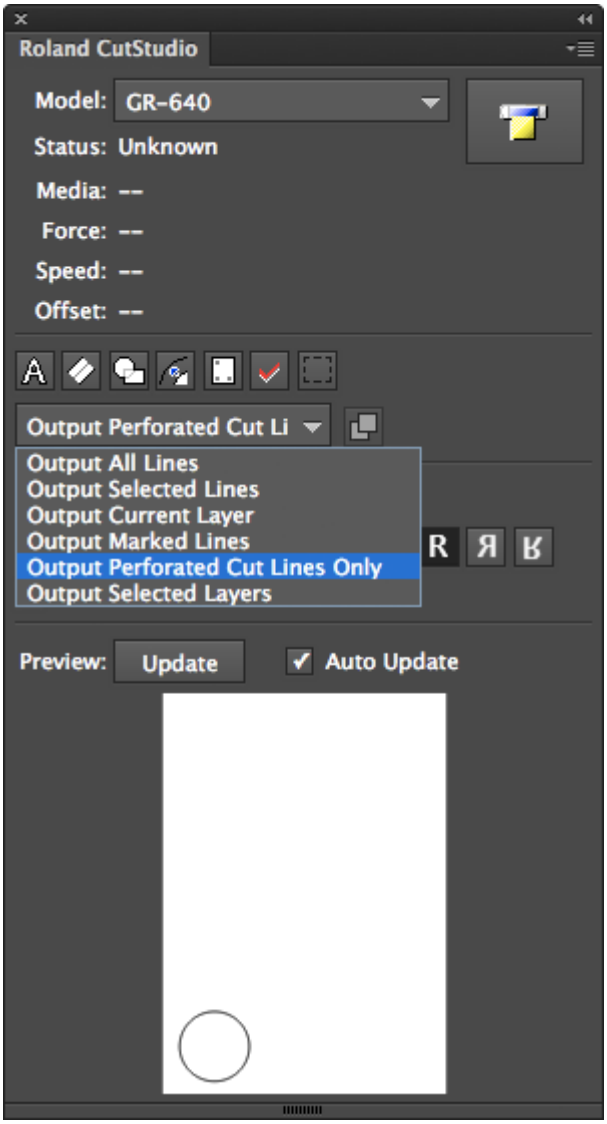
5. Select the object that you want to apply perforated lines to.



6. Click ⬚.



7. Select Output Perforated Cut Lines.



8. On the Roland CutStudio palette, click Update.

Check that the cutting line that you wish to output is shown on the preview screen.

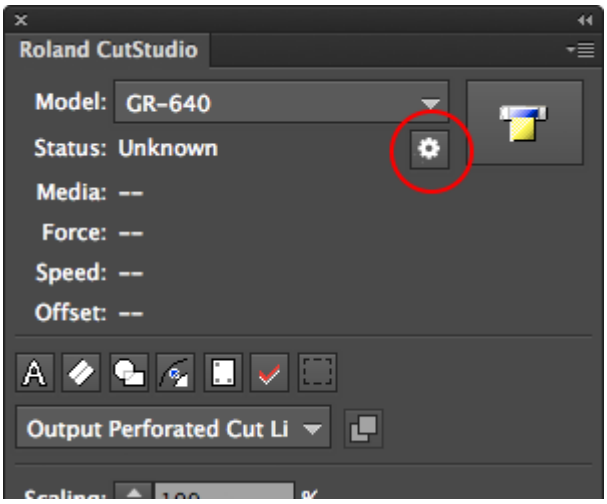
Step 3: Set Perforated Cutting Conditions

Step 3: Set Perforated Cutting Conditions

* The screenshots show an example of Illustrator CC 2015, but the operation procedure is the same for other versions.

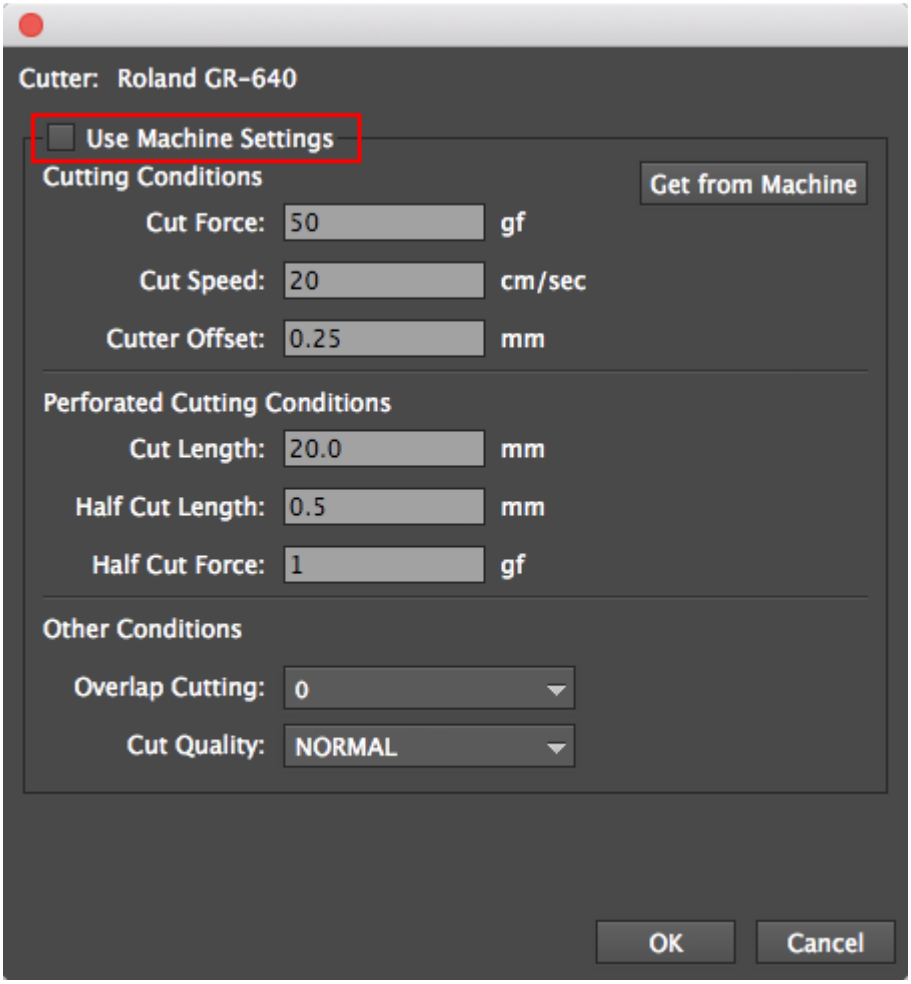
Procedure

1. On the palette, click ⚙.



If ⚙ is not displayed, refer to "Configuring Cutting Settings from a Computer" and configure the settings.

2. Clear the Use Machine Settings check box.

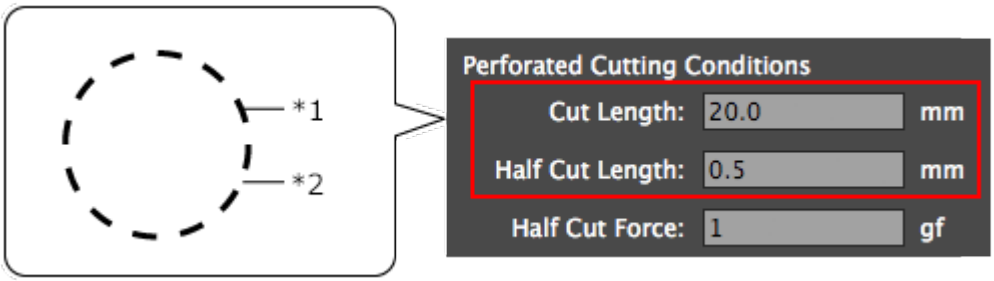


You can now enter the values.

3. Enter the Perforated Cutting Conditions.

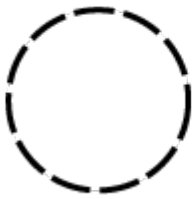
Set the length of each perforation to make in the material (the perforation length) and the length of the part that is not perforated because the blade force is reduced (the half-cut length).
Adjust the half-cut force to suit the type of material or paper used.

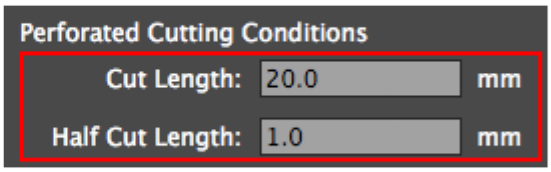
Perforation Length/Half-cut Length



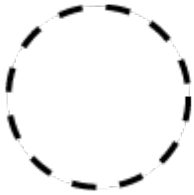
*1: Perforation length
*2: Half-cut length

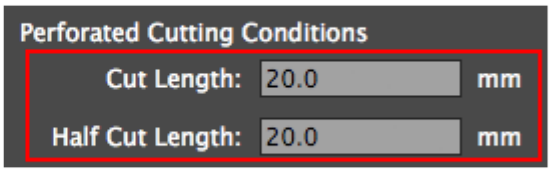
Perforation Length > Half-Cut Length



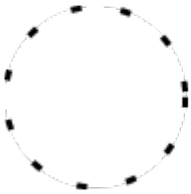


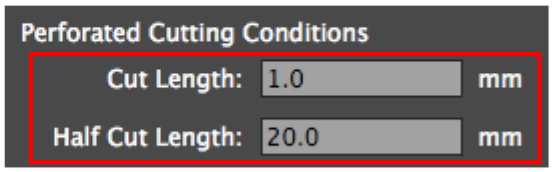
Perforation Length = Half-Cut Length





Perforation Length < Half-Cut Length





4. Click OK.

Step 4: Cut Perforated Lines

Step 4: Cut Perforated Lines

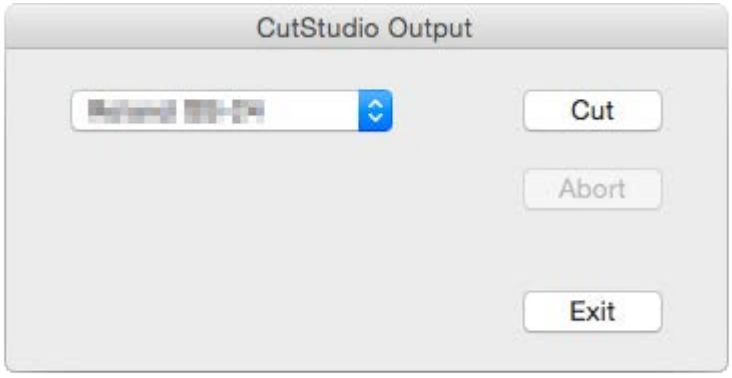
CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Procedure

1. On the palette, click .

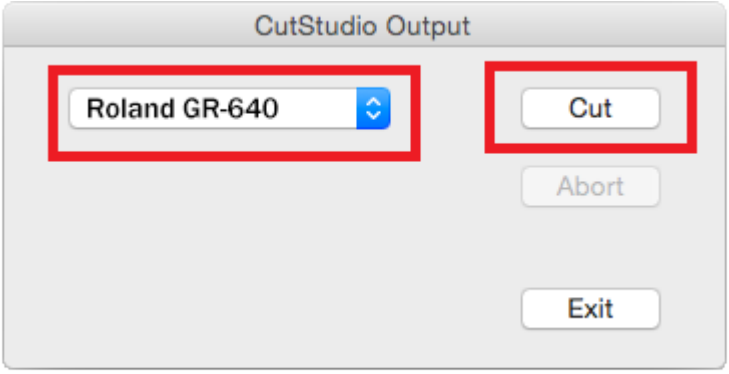
The screen shown in the following figure is displayed.



Checking the Installed Position of the Cutting Tool Each Time before Cutting

Frequently Using Perforated Cutting

2. Select the model name of the machine on hand, and then click Cut.



Cutting starts.

Adjusting Perforated Cutting Conditions

Select optimum cutting conditions on the basis of the cutting results.

Optimizing the Cutting Quality for the Material

Other Things That You Can Do

Changing or Checking the Machine's Operation

- Changing the Language Used for the Display
- Setting the Displayed Unit
- Initializing All Settings to Their Default Values
- Checking the Machine Status <Self Test>
- Changing the Contrast of the Display Screen
- Frequently Using Perforated Cutting

Minimizing Wasted Material

- Setting the Direction of the Coordinate Axis for Cutting <ROTATE>
- Extending the Cutting Area <EXTEND>

Cutting More Cleanly

- Cutting Detailed Characters and Complex Shapes

Dealing with Material Thickness/Hardness (Softness)

- Using Narrow Material/Preventing Marking Made by the Middle Pinch Rollers
- Cutting in the Same Position Repetitively <OVERLAP>
- Cutting Corners Cleanly <Over Cut>
- Setting Cutting Quality <QUALITY>
- Setting the Amount of Offset for the Tip of the Blade <OFFSET>
- Setting the Speed of the Blade During Cutting <UPSPEED>

Preventing and Correcting Misaligned Cutting

- Using Thinner or Harder Material than Normal
- Preventing Misaligned Cutting

Adjusting the Cutting Position

Adjusting the Cutting Quality and Saving and Reusing the Adjusted Conditions

Saving the Cutting Conditions

Loading Cutting Conditions

Creating Copies of the Same Object

Cutting the Same Object Repetitively

Moving the Carriage at High Speed

Moving the Cutting Carriage at High Speed

Changing the Language Used for the Display

The language for messages on the display can be selected.

Procedure

1. While holding down [MENU], switch on the power switch.

```
LANG ENGLISH    ◆
*ENGLISH        ↵
```

2. Use [▼] to select the desired language.

```
LANG ｺﾄﾊﾞｺﾞ     ◆
 ENGLISH        ↵
```

3. Press [ENTER] to select the setting.

Other Things That You Can Do

Setting the Displayed Unit

The unit used in messages on the display can be selected.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press the [▶] key, the [▼] key, and then press the [▶] key.

The screen shown in the figure below is displayed.

```
UNIT mm
*mm
```

4. Use [▲] and [▼] to select the unit.

It is possible to select millimeters or inches.

5. Press [ENTER] to select the setting.

Use [MENU] to return to the screen in the figure.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Initializing All Settings to Their Default Values

This procedure returns all settings to their factory default values. However, the language setting remains unchanged.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press the [▶] key, the [▼] key, the [▼] key, and then press the [▶] key.

The screen shown in the figure below is displayed.

```
FACTORYDEFAULT
*PRESET
```

4. Press [ENTER] to execute the operation.

You are returned to the screen in the figure.

```
SELECT SHEET    ◆
*ROLL           ↵
```

Other Things That You Can Do

Checking the Machine Status <Self Test>

Execute a self test to check the status of the machine. Use this to check the machine when it appears to be not operating correctly. A computer is not required in order to carry out the self test.
If the self test cannot be executed, the machine may have malfunctioned. Contact your authorized Roland DG Corp. dealer.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

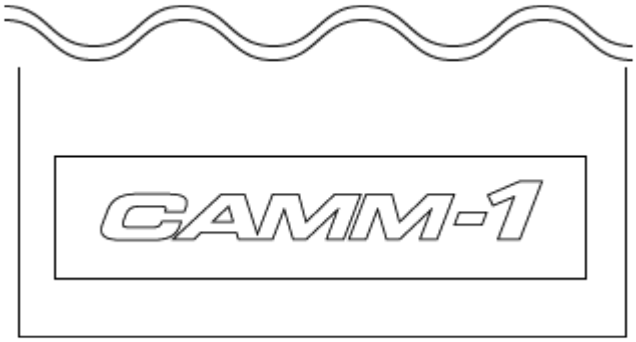
```
OTHERS
```

3. Press the [▶] key, the [▼] key, the [▼] key, and then press the [▼] key.

```
SELF TEST
```

4. Press [ENTER].

Operation is normal if the figure shown below is cut.



Other Things That You Can Do

Changing the Contrast of the Display Screen

Procedure

Make sure the material is loaded in the machine.

1. **Press [MENU] several times to display the screen shown in the figure.**

```
UNSETUP
```

2. **Press [▼] several times to display the screen shown in the figure.**

```
OTHERS
```

3. **Press [▶].**

4. **Press [▼] several times to display the screen shown in the figure.**

```
CONTRAST    5
```

5. Press [▶].

6. Use [▲] and [▼] to select the screen brightness.

```
CONTRAST    5   ◀◆
*   5           ↵
```

Setting range: 1 to 5

7. Press [ENTER].

Other Things That You Can Do

Frequently Using Perforated Cutting

There are two locations in which you can install the cutting carriage tool.
Normally install it in the rear position. Install it in the front position when cutting perforated lines.

Installing the Cutting Tool

If you enable [BLADE DETECT] and send the cutting data, the tool's installation position will be checked before cutting starts.
If the tool is installed in the incorrect position, operation will be paused and the following message will be displayed to prompt you to install the tool in the correct position.

<When the cutting tool is installed in the front position and normal cutting is being performed>

```
PEN TO R ▸ PAUSE
QUIT     ▸ ENTER
```

* R = Rear

<When the cutting tool is installed in the rear position and perforated cutting is being performed>

```
PEN TO F ▸ PAUSE
QUIT     ▸ ENTER
```

* F = Front

This function is useful for users who commonly switch between normal cutting and perforated cutting. You can use this function to prevent products from being wasted due to the tool being installed in the incorrect position.
When one of the messages shown above is displayed, install the cutting tool in the correct position, and then press [PAUSE]. The pausing of machine operations is released, and the tool position is detected again. Cutting starts if the tool installation position is correct.

Note that even if you disable [BLADE DETECT], when you send data that contains a mix of normal cutting and perforated cutting, the second message shown above will be displayed when normal cutting finishes.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen

shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
BLADE DETECT
```

5. Press [▶].

6. Use [▲] and [▼] to display the screen shown in the figure.

```
BLADE DETECT
 ENABLE
```

7.

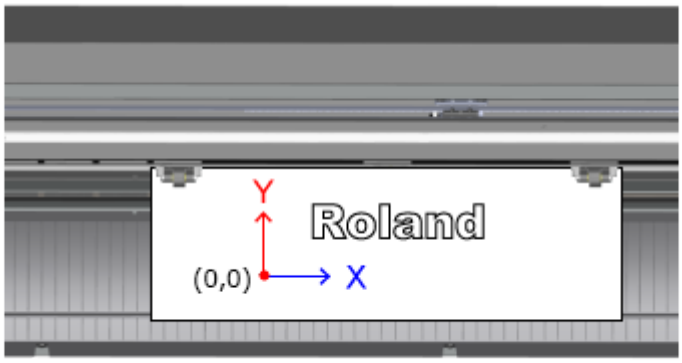
7. Press [ENTER].

Other Things That You Can Do

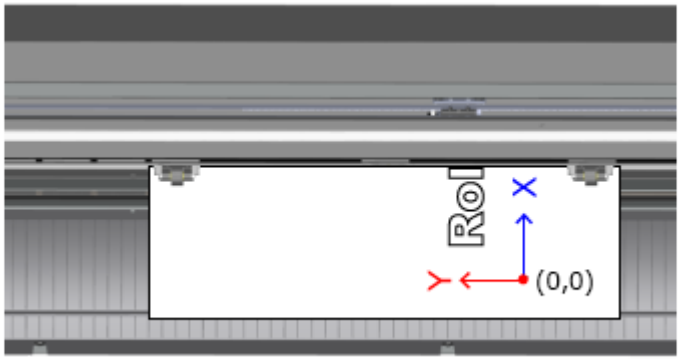
Setting the Direction of the Coordinate Axis for Cutting <ROTATE>

This setting lets you set the direction of the coordinate axis for cutting.
When set to [0deg] (default value), the origin is set to the lower-left corner of the material. When set to [90deg], the origin is set to the lower-right corner of the material, and the data is rotated counterclockwise by 90 degrees. Note that when [90deg] is selected, the coordinate axis changes.
The arrows in the following figures indicate the positive directions of the X and Y axes.

When Set to 0deg



When Set to 90deg



Factory default setting	0deg
Options	0deg or 90deg

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
ROTATE  0deg A
```

5. Press [▶].

6. Use [▲] and [▼] to set the value.

```
ROTATE  0deg A
* 0deg A
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Extending the Cutting Area <EXTEND>

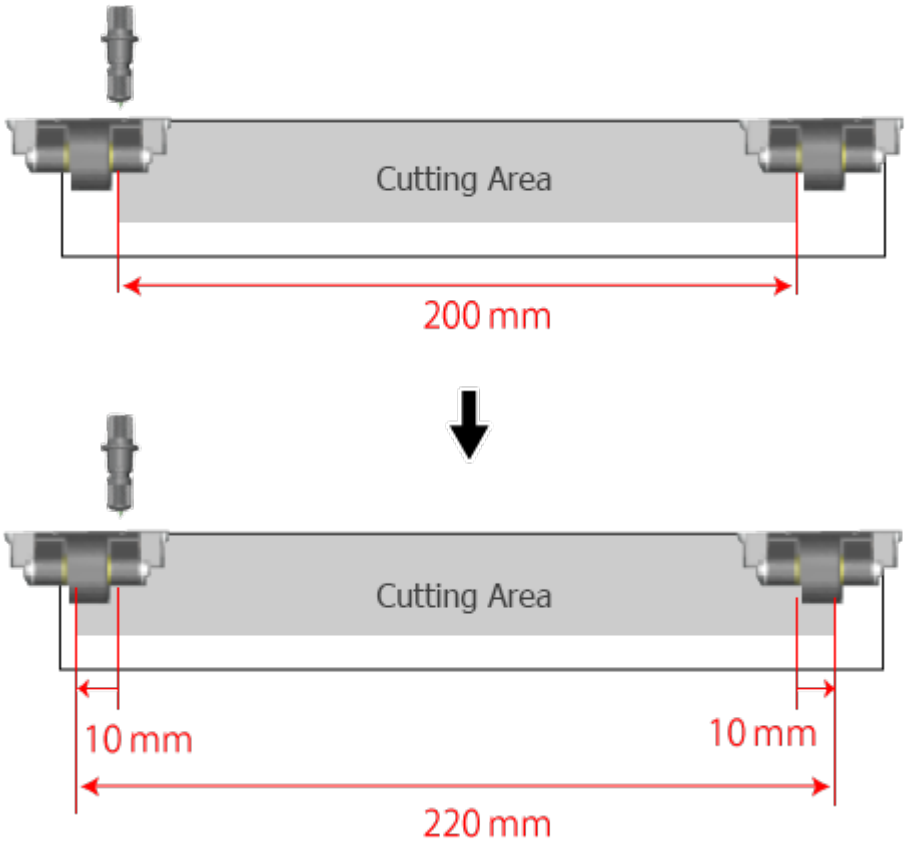
It is possible to extend the cutting area by up to 20 mm.

Factory default setting	0.00 mm (OFF)
Setting range	0.1 to 10.0 mm

Depending on the design to be cut, the pinch rollers may pass over the top of the cutting line.

Example: Setting 0 mm → 10 mm

```
EXTEND   0.0
 10.0mm
```



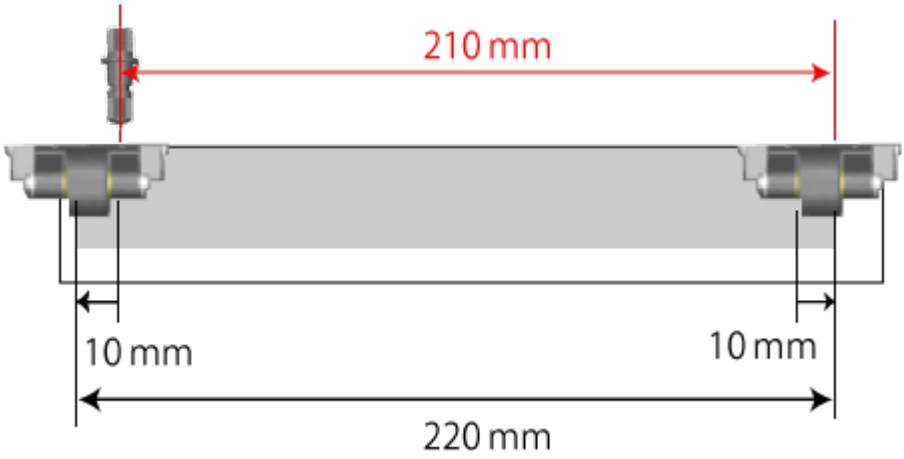
When "EXTEND" Is Set after the Material Is Loaded

The value of W displayed on the panel and the actual cut width are different.

When you set the value according to the above example, the panel is displayed as shown in the figure below.

```
W:  210mm
L:---[    0mm]
```

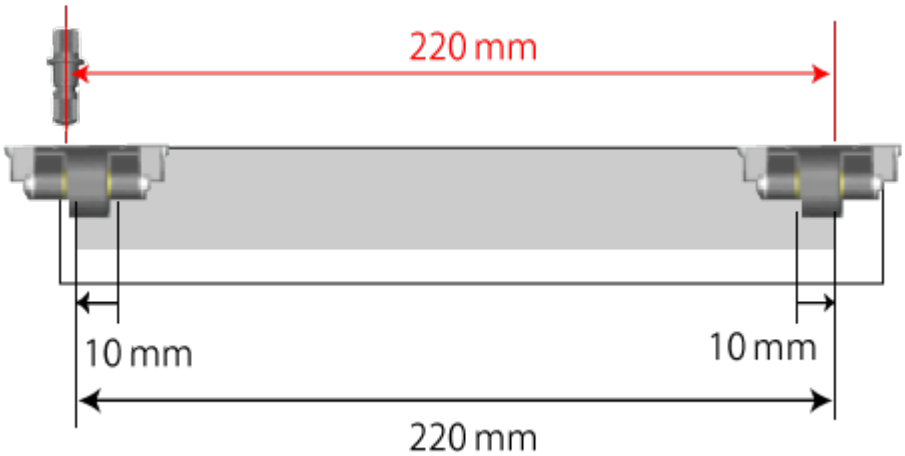
*** The panel indication is 210 mm, but the actual cut width is 220 mm**



When "EXTEND" Is Set before the Material Is Loaded

The value of W displayed on the panel and the actual cut width are the same.
When you set the value according to the above example, the panel is displayed as shown in the figure below.

```
W:  220mm
L:---[    0mm]
```



Procedure

Make sure the material is loaded in the machine.

1. **Press [MENU] several times to display the screen shown in the figure.**

```
UNSETUP
```

2. **Press [▼] to display the screen shown in the figure.**

```
CONDITION
```

3. **Press [▶].**

4. **Press [▼] several times to display the screen shown in the figure.**

```
EXTEND  0.0
```

5. **Press [▶].**

6. **Use [▲] and [▼] to set the value.**

```
EXTEND  0.0
* 0.0mm
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Cutting Detailed Characters and Complex Shapes (SMOOTHING)

The smoothing function can be used to cut smooth curves such as arcs.

Factory default setting	ON
Options	ON, OFF

■ ON
When curves in cutting results are not smooth

■ OFF
When cutting small characters or complex shapes

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

2. Press [▼] several times.

3. Press [▶] twice.

4. Use [▲] and [▼] to select [ON] or [OFF].

```
SMOOTHING ON   ◀◆
*ON            ↵
```

5. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Using Narrow Material/ Preventing Marking Made by the Middle Pinch Rollers

When using narrow material and when using material that is easily marked by the pinch rollers, use just the pinch rollers on the ends to feed the material. In this mode, the middle pinch rollers are not used (they are disabled).

Reducing the Force of the Middle Pinch Rollers

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
AUTO PINCHROLL
```

3. Press [▶].

4. Press [▼] to display the screen shown in the

figure.

```
MIDDLE PINCH   ◀◆
               ▶
```

5. Press [▶].

6. Press [▲] or [▼] to display the screen shown in the figure.

```
MIDDLE PINCH   ◀◆
 NONE          ↵
```

This setting will be enabled the next time the pinch rollers are lowered.

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Reducing the Force of the Middle Pinch Rollers

When using a wide sheet for which it is useful to use the middle pinch rollers in order to prevent the material from coming loose during cutting but is also easily marked by rollers, reduce the force with which the pinch rollers press down on the material.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
AUTO PINCHROLL
```

3. Press [▶].

4. Press [▼] to display the screen shown in the figure.

```
MIDDLE PINCH
```

5. Press [▶].

6. Press [▲] or [▼] to set this to [SLIGHT].

```
MIDDLE PINCH
 SLIGHT
```

This setting will be enabled the next time the pinch rollers are lowered.

7.

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Cutting in the Same Position Repetitively <OVERLAP>

The overlap function is used when it is not possible to cut through the material in a single pass, for example, when cutting thick material.

Factory default setting	OFF
Setting range	OFF, 1 to 10

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
OVERLAP OFF
```

5. Press [▶].

6. Use [▲] to set the number of cuts.

Setting range: 1 to 10

```
OVERLAP OFF
 2
```

OVERLAP 2 → Normal cut + 2 → 3 cuts are made.

7. Press [ENTER].

This setting remains enabled until you disable it. If you do not require it, disable it after use.

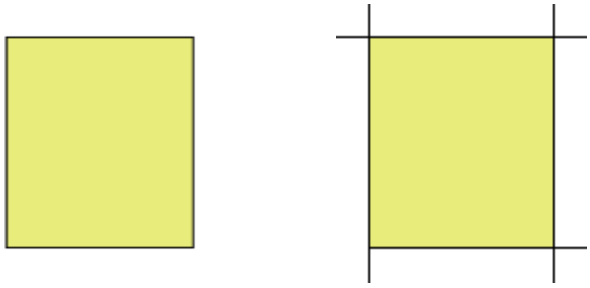
Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Cutting Corners Cleanly <Over Cut>

This function cuts an extra 1 mm at the start and end of each line. It is effective when you want to produce particularly sharp corners, for example when cutting thicker materials.
In most cases the over cut function should be set to [OFF]. Set it to [ON] when you want to ensure that corners are cut cleanly. However, if the over cut function is enabled when cutting small characters or complex shapes, areas of the material that are required may be cut. In such cases it should therefore be set to [OFF].



Factory default setting	OFF
Options	OFF, ON

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
OVER CUT OFF
```

5. Press [▶].

6. Press [▼] to select [ON].

```
OVER CUT OFF
 ON
```

7. Press [ENTER].

This setting remains enabled until you disable it. If you do not require it, disable it after use.

Press [MENU] to return to the top screen.

```
W: 500mm
L:---[    0mm]
```

Other Things That You Can Do

Setting Cutting Quality <QUALITY>

This setting lets you set cutting quality.

Factory default setting	NORMAL
Options	NORMAL, HIGH SPEED, HEAVY NORMAL: This setting should be used for normal operation. HIGH SPEED: This setting should be used when you want to increase the cutting speed. HEAVY: This setting should be used when using thick or heavy material.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press [▶].

4.

4. Press [▼] several times to display the screen shown in the figure.

```
QUALITY NORMAL◀◆
                ▶
```

5. Press [▶].

6. Use [▲] and [▼] to display the item that you want to set.

```
QUALITY NORMAL◀◆
*NORMAL         ↵
```

7. Press [ENTER].

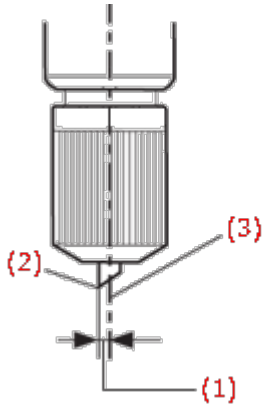
Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Setting the Amount of Offset for the Tip of the Blade <OFFSET>

This setting lets you set the amount of offset for the tip of the blade. Set a value that matches the conditions for the blade installed.
When using the included blade or equivalent parts, cutting can be performed using the factory default setting.



(1) Offset amount
(2) Blade tip
(3) Blade centerline

Factory default setting	0.250 mm
Setting range	0.000 to 1.000 mm (in 0.025 mm steps)

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
OFFSET 0.250mm
```

5. Press [▶].

6. Use [▲] and [▼] to set the value.

```
OFFSET 0.250mm
*0.250mm
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Setting the Speed of the Blade During Cutting <UPSPEED>

This setting lets you set the speed for moving the blade to the next cutting position with the blade lifted off the material during cutting operation.
When this is set to [AUTO], the blade moves at the speed specified by [SPEED].
Increasing [UPSPEED] shortens the cutting time. When cutting material that is thinner or thicker than the standard material, it may be better to decrease the speed to prevent problems such as the material being lifted up.

Factory default setting	AUTO
Setting range	10 to 50 cm/s (in 10 cm/s steps), AUTO

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] to display the screen shown in the figure.

```
CONDITION
```

3. Press [▶].

4. Press [▲] or [▼] several times to display the screen shown in the figure.

```
UPSPEED AUTO
```

5. Press [▶].

6. Use [▲] and [▼] to set the value.

```
UPSPEED AUTO
*AUTO
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W: 500mm
L:---[   0mm]
```

Other Things That You Can Do

Using Thinner or Harder Material than Normal

You can use the fan to hold down the material and prevent misalignment.
Change these settings to match the thickness and hardness of the material used.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
VACUUMFAN AUTO◀◆
                ▶
```

5. Press [▶].

6. Use [▲] and [▼] to select the air volume.

1: Weak ... 5: Strong, AUTO:　　Automatic

Use a weaker air volume when using thin material.

```
VACUUMFAN AUTO◀◆
*AUTO          ↵
```

7. Press [ENTER].

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Preventing Misaligned Cutting

Set this setting to [ON] to feed out the material automatically during cutting.
While this setting is enabled, when cutting data is sent from the computer, cutting is performed every 1 meter after the material has automatically been fed forward (depending on the data, the material may be fed out more than 1 m, for example if the next movement point is more than 1 m back).
If material has already been fed out using the [AREA] function, the material will not be fed out automatically until the length of material that was fed out using the [AREA] function is reached, even if [PRE-FEED] is set to [ON].

* This function is only enabled when the material type has been set to [ROLL].

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4.

4. Press [▼] several times to display the screen shown in the figure.

```
PRE-FEED OFF
```

5. Press [▶].

```
PRE-FEED OFF
*OFF
```

6. Use [▲] and [▼] to select [ON] or [OFF].

Setting the Material Feed Speed

```
PRE-FEED OFF
 ON
```

When the figure shown above is displayed, press [▶] twice to display the figure shown below.

```
SPEED 10cm/s
*10cm/s
```

Press [▲] and [▼] to set the speed.

Setting range: 1 to 10

```
SPEED 10cm/s
  7cm/s
```

Press [ENTER].

7.

7. Press [ENTER].

Press [MENU] to return to the top screen.

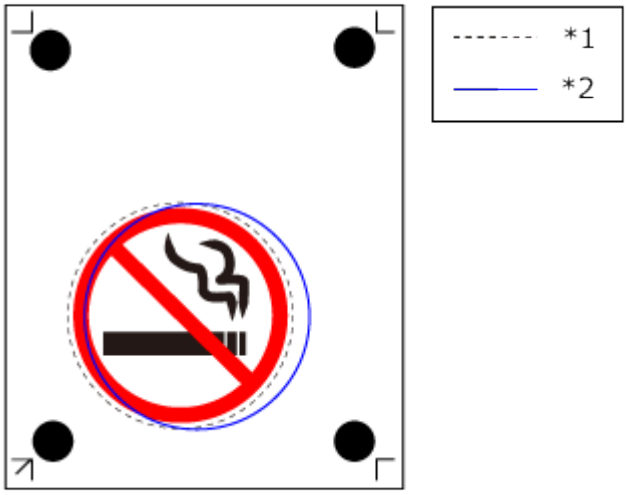
```
W:  500mm
L:---[    0mm]
```

Other Things That You Can Do

Adjusting the Cutting Position

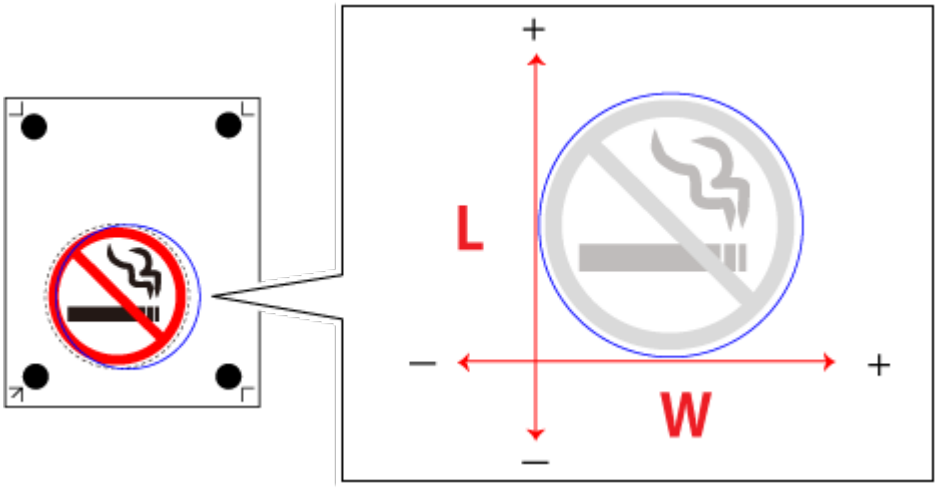
If the printing position and the cutting position are offset as shown in the following figure, you can correct the issue by adjusting either the printing position or the cutting position. This example shows the procedure for adjusting the cutting position.

Adjusting the Printing Position



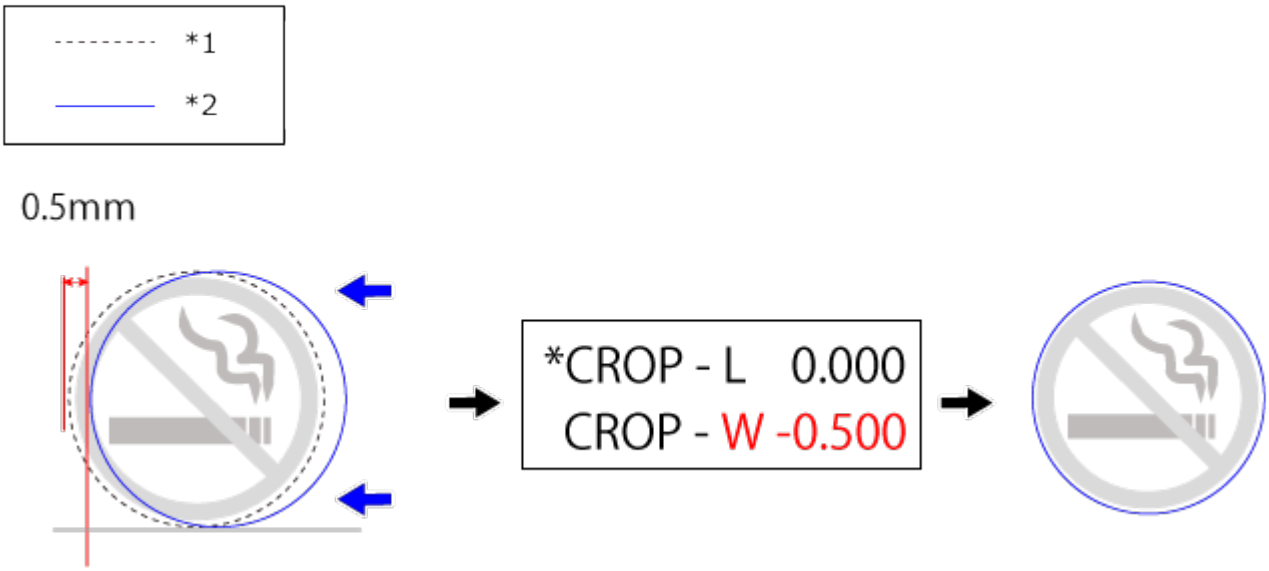
*1: Intended cutting line
*2: Actual cutting line

CROP-L/W Values



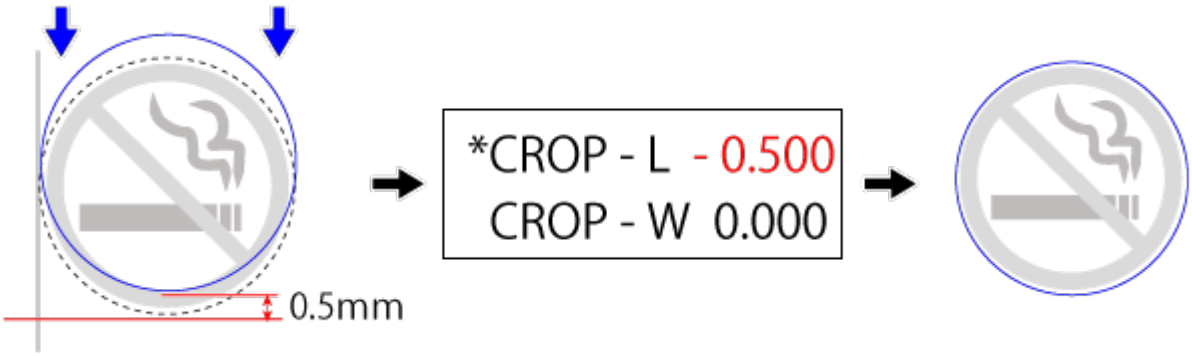
Input range: -25 mm to 25 mm

To move the cutting line 0.5 mm to the left → Enter the W value

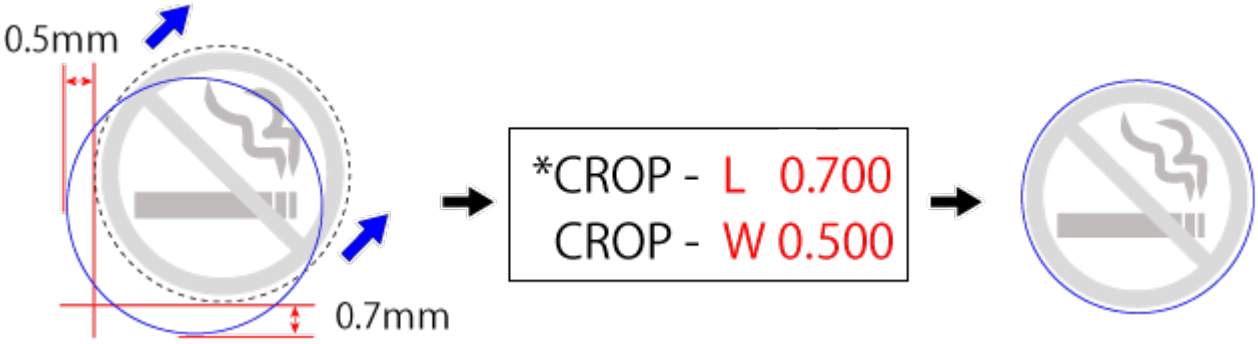


*1: Intended cutting line *2: Actual cutting line

To move the cutting line 0.5 mm down → Enter the L value



To move the cutting line 0.7 mm up and 0.5 mm to the right → Enter both W and L values



1. Set the CROP-L value.

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▼] several times to display the screen shown in the figure.

```
OTHERS
```

3. Press [▶].

4. Press [▼] several times to display the screen shown in the figure.

```
CROP ADJ.
```

5. Press [▶] twice.

The screen shown in the following figure is displayed. First enter the CROP-L value.

```
CROP-L 0.000
*0.000mm
```

6. Use [▲] and [▼] to enter the value.

Refer to the section above titled "CROP-L/W Values" to enter the values.

7. Press [ENTER].

The screen shown in the following figure is displayed.

```
CROP ADJ.
CROP-L 0.250
```

2. Set the CROP-W value.

1. Press [▼].

The screen shown in the following figure is displayed. Enter the CROP-W value.

```
CROP ADJ.
CROP-W 0.000
```

2. Press [▶].

3. Use [▲] and [▼] to enter the value.

```
CROP ADJ.
CROP-W 0.250
```

4. Press [ENTER].

When you have finished, press [MENU] to return to the screen in the figure.

```
W:  183mm
L:  258mm
```

5. Send the cutting data.

Perform cutting again and check the cutting position.

Other Things That You Can Do

Saving the Cutting Conditions

The current cutting conditions can be saved to memory.
Eight sets of settings can be saved to USER 1 to USER 8 memories. Overwriting a memory deletes any old conditions it contains.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▲].

```
MEMORY
<USER1>
```

3. Press the [▶] key, the [▼] key, and then press the [▶] key.

```
SAVE *USER1
 50-30-0.250
```

The display shows the values of the FORCE, SPEED, and OFFSET menus from the left.

4. Use [▲] and [▼] to select the memory number you want to save the cutting conditions to.

```
SAVE  USER2
 50-30-0.250
```

5. Press [ENTER].

The screen shown in the following figure is displayed.

```
SAVE USER2
```

Press [MENU] to return to the top screen.

```
W:  500mm
L:---[    0mm]
```

Memo

Though not shown on the display, the UPSPEED (the speed at which the blade moves when not cutting) and cut quality are also saved.

Loading Cutting Conditions

Other Things That You Can Do

Loading Cutting Conditions

Cutting conditions saved to memory can be loaded.
You can select the memory from USER 1 to USER 8. Note that loading cutting conditions from memory erases any cutting conditions that have not been saved.

Saving the Cutting Conditions

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▲].

```
MEMORY
<USER1>
```

3. Press the [▶] key, and then press the [▶] key.

```
LOAD *USER1
 50-30-0.250
```

4. Use [▲] and [▼] to select the memory number you

wish to load.

```
LOAD  USER2
 50-30-0.250
```

5. Press [ENTER] to execute the operation.

Use [MENU] to return to the screen in the figure.

```
W:  500mm
L:---[   0mm]
```

Other Things That You Can Do

Cutting the Same Object Repetitively

Replot

The data received from the computer can be saved to the machine's memory. This data can then be recut. To recut, use the [REPLOT] menu in the display menu.

All the data received from the time the machine is put in the setup condition to the time the setup condition is canceled is saved.

The data is not cleared even when the setup condition is canceled.

If the setup condition is canceled and the machine is then put back in the setup condition again, the data that was saved is overwritten with the new data that is sent from the computer.

All data is cleared when the power is turned off.

If the data stored in the machine's memory exceeds 2 MB, recutting cannot be performed until the data has been cleared. If [REPLOT] is carried out in this condition, [DATA OVERFLOW] appears. If no data is stored in the machine's memory, [NO DATA] appears when [REPLOT] is selected from the menu.

Procedure

- Step 1: Prepare the Data for Recutting
- Step 2: Perform Recutting

Step 1: Prepare the Data for Recutting

CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Clear all data remaining in the machine's memory, and then send new data so that only the required data is stored in the machine's memory.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▲] several times to display the screen shown in the figure.

```
REPLOT
<DATA EXISTS>
```

If [NO DATA] is displayed, proceed to step 6.

3. Press [▶].

```
REPLOT
*START
```

4. Use [▲] and [▼] to select [CLEAR].

```
REPLOT
*CLEAR
```

5. Press [ENTER].

The data is cleared.

```
REPLOT
<NO DATA>
```

6. Send data from the computer.

To next procedure

Step 2: Perform Recutting

CAUTION

Never touch the cutting carriage while output is in progress.
The cutting carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Procedure

Make sure the material is loaded in the machine.

1. Press [MENU] several times to display the screen shown in the figure.

```
UNSETUP
```

2. Press [▲] several times to display the screen shown in the figure.

```
REPLOT
<DATA EXISTS>
```

3. Press [▶].

```
REPLOT
*START
```

4.

4. Press [ENTER].

You are returned to the screen in the figure, and cutting is performed.

```
30cm/s
50gf 0.250mm ∠A
```

To previous procedure

Moving the Cutting Carriage at High Speed

Press [◀] and [▶] to move the cutting carriage. Press [▼] and [▲] to move the material.

Procedure

This function can be used when the screen shown below is displayed.

```
30cm/s
509f 0.250mm ∠A
```

```
W: 500mm
L:---[    0mm]
```

1. **Press [ENTER] and one of the cursor keys ([◀], [▶], [▼], and [▲]) at the same time.**

Other Things That You Can Do

Troubleshooting

Crop Marks Cannot Be Read

Crop Marks Cannot Be Read

Cutting Results Are Not Clean

The Results of Cutting Are Displaced When Using the Printing and Cutting Function
The Machine Cuts the Same Area Twice

Frequently Asked Questions

Supported Versions of Illustrator

Crop Marks Cannot Be Read

When the machine cannot read crop marks, it displays an error message and pauses operation.
If this happens, press any key on the operation panel. Remove the material, check the following items, and then reload the material.

"CROPMARK ERR" or "SET TO <TOOL MODE>" Is Displayed

Is the material loaded correctly?

Refer to "Using Various Types of Materials" and load the material in the correct position.

Are you using material that is not white or is glossy?

Crop marks cannot be detected if decorations or colors are on the material.
Crop marks also may not be detected on glossy material even if it is white.

Materials That Can Be Used for Printing and Cutting

Does the material have creases or wrinkles?

Crop marks may not be read if the material has creases or wrinkles. Stretch the creases or wrinkles out and load the material again.
If the crop marks still fail to be read, prepare new material without creases or wrinkles and redo the operation from printing the data.

Are the crop marks blurred or are they in a color other than black?

Set the color of crop marks to black, specify 100% density, and then print the data again.

Crop Marks

Are the size and shape of crop marks correct?

Make the crop marks perfect circles 10 mm (0.39 in.) in diameter.
The machine can only detect crop marks in the prescribed shape.

Crop Marks

Are the crop marks at the correct positions?

Refer to "Setting the Margins and the Distance between Crop Marks" and place the crop marks at the correct positions.

Is the [ROTATE] menu set to [90deg]?

Be sure to set the [ROTATE] menu to [0deg] when using crop marks.
Crop marks cannot be read if this is set to [90deg].

Setting the Direction of the Coordinate Axis for Cutting <ROTATE>

Is the machine exposed to direct sunlight or strong indoor lighting?

If the cutting carriage sensor is exposed to direct sunlight or indoor lighting, crop marks may not be detected. Move the machine to a location where it is not exposed to direct sunlight or indoor lighting.

If the Issue Is Not Resolved Even after Taking the Above Steps

Perform alignment in Tool Mode.

Cutting in Tool Mode (1)

"LENGTH NG," "WIDTH NG," or "ANGLE TOO BIG" Is Displayed

Is the material loaded at an angle? Are the printing results crooked?

Crop marks cannot be detected in the following cases:

The left and right crop marks are slanted by 5 degrees or more with respect to the moving direction of the carriage.
The left and right crop marks are offset by 20 mm or more in the material-feed direction.

Do the distances between crop marks specified by the software match those specified on the machine? (Manual mode)

On the machine, correctly set the distance specified by the software.

Are the crop marks at the correct positions?

If the angle formed by the two lines connecting the centers of the crop marks is not 90 degrees, the crop marks cannot be read. Crop marks cannot be read if the distance between crop marks in the material-feed direction is 500 mm (19.69 in.) or more.

Is the printing expanded or reduced?

If the size is expanded or reduced during printing, the crop marks cannot be read during cutting. Print the data by specifying 100% for the magnification.

The Results of Cutting Are Displaced When Using the Printing and Cutting Function

Is a thick material being used?

When using thick material, set [Cutting Quality] to [HEAVY].

Setting Cutting Quality <QUALITY>

When using roll material, was the amount of material to be cut pulled out before performing cutting?

If cutting is performed without pulling out the material, the material may slip or a motor error may stop the operation

Loading Roll Material

Fine-tuning the Cutting Position

Adjusting the Cutting Position

The Machine Cuts the Same Area Twice

Is Overlap Cutting set to 0 in the cutting settings?

If Overlap Cutting is set to any number other than 0 on the Cut Setting screen in Plug-in for Illustrator, the number is added to the number of cuts.

Is the machine's [OVERLAP] setting a number from 1 to 9?

Set the machine's [OVERLAP] setting to [OFF].

Cutting in the Same Position Repetitively <OVERLAP>

Are there overlapping lines?

The same data may have been copied, resulting in overlapping lines. Check the data.

Installing Plug-in for Illustrator

Installation Procedure

Install from the following link.
http://startup.rolanddg.com/

Supported Versions

For information regarding the latest supported versions, visit the Roland DG Corp. website (http://www.rolanddg.com/).