VersaOBJECT

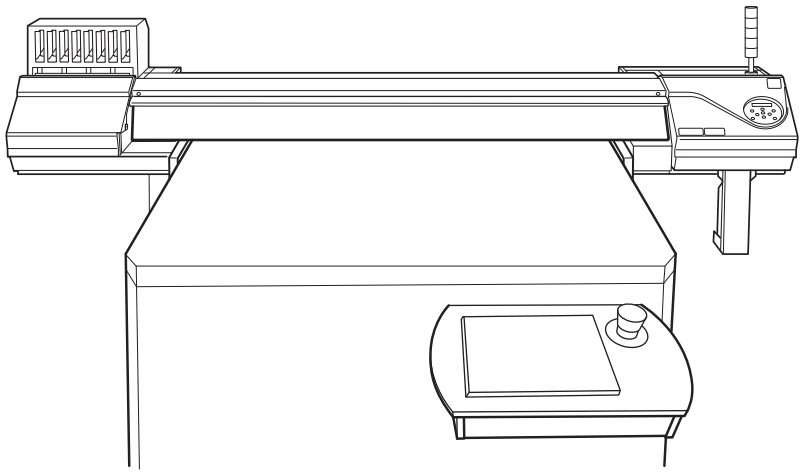
CO-640i

F2 / F3 / F4

CO-300i

F2 / F2A

User's Manual



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- The specifications of this product and the contents of this operation manual are subject to change without notice.
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FA04330
R2-240830

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Roland DG Corporation

Contents

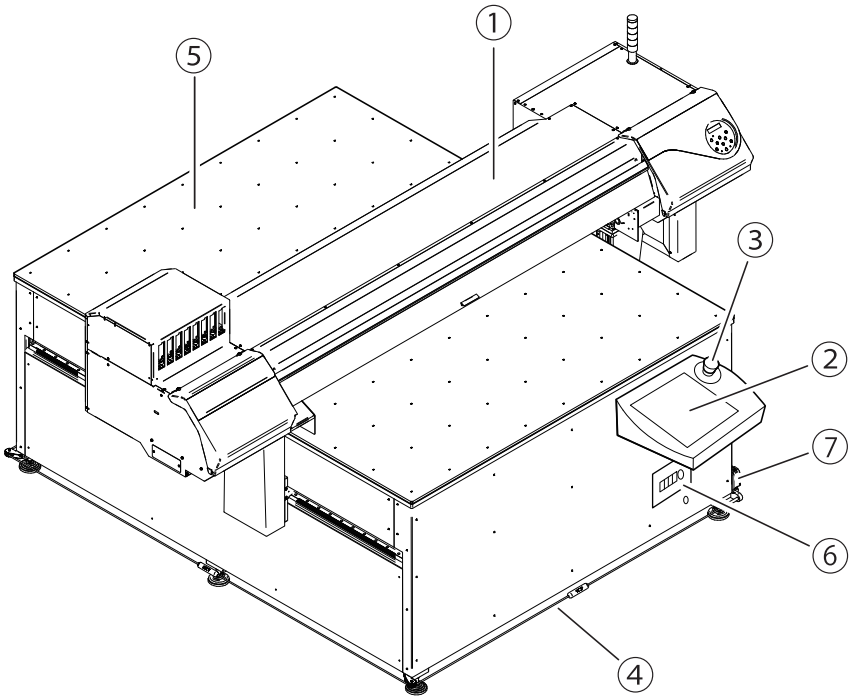
Basic Handling Methods

Basic Information

Part Names and Functions

Entire Machine

The following is an overhead view of the entire machine, including the printer unit and the transporter.

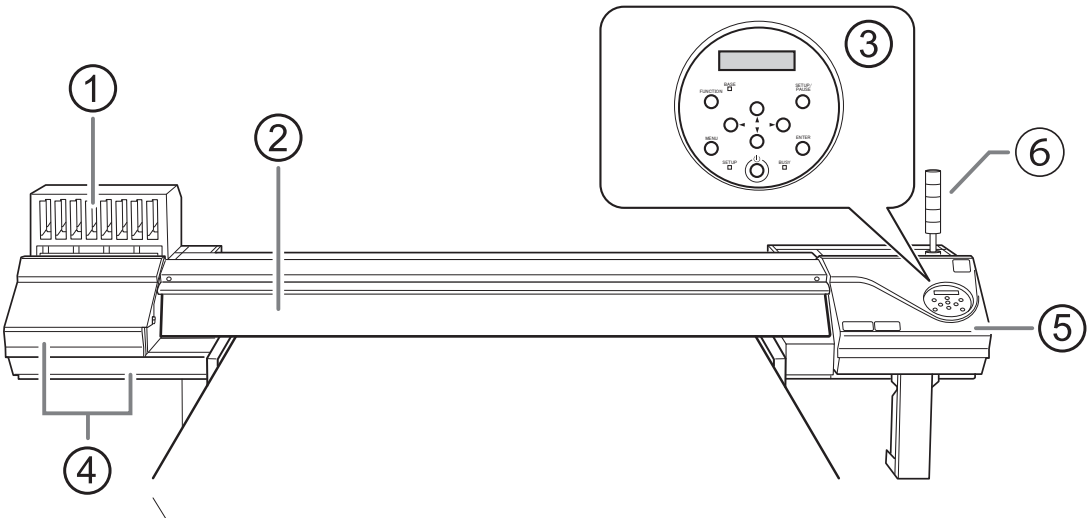


No.	Name	Function overview
①	Printer unit	Performs printing by discharging ink.
②	Touch panel	Moves the printer unit and switches the vacuum*1 on or off.
③	Emergency stop device/recovery device (button)	Forcibly interrupts the power supply to stop all operations of the machine immediately/recovers from an emergency stop.
④	Emergency stop device (wire)	Forcibly interrupts the power supply to stop all operations of the machine immediately.
⑤	Transporter	Load the object to be printed on.
⑥	Power distribution board	Turns the power for the printer unit, vacuum, transporter, and other components on or off.
⑦	Recovery device	Recovers from an emergency stop caused by the emergency stop device (wire).

*1 For models with a vacuum

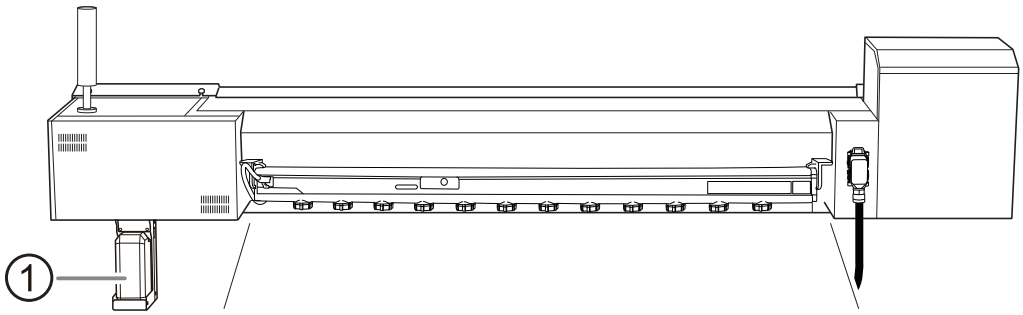
Printer Unit

Front



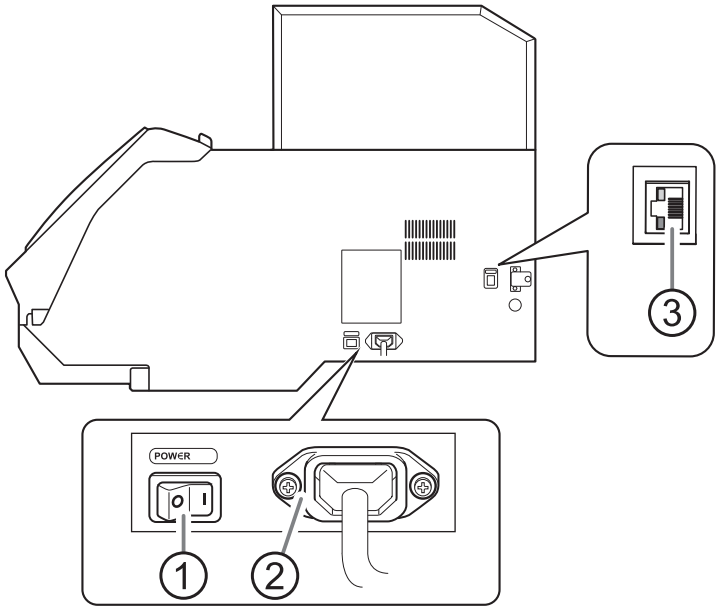
No.	Name	Function overview
①	Cartridge slots	The location where ink cartridges are installed.
②	Front cover	Open this when necessary, such as when loading the object to be printed on. In all other situations, keep the front cover closed.
③	Operation panel	The panel containing the buttons used to operate the printer unit. P. 11 Operation Panel
④	Left cover (top) and left cover (bottom)	Open these when you perform maintenance.
⑤	Right cover	Open this when you perform maintenance.
⑥	Indicator light	Uses colors to indicate the transporter status. Red: Error Orange: Not used Yellow: Not used Green: Normal

Rear



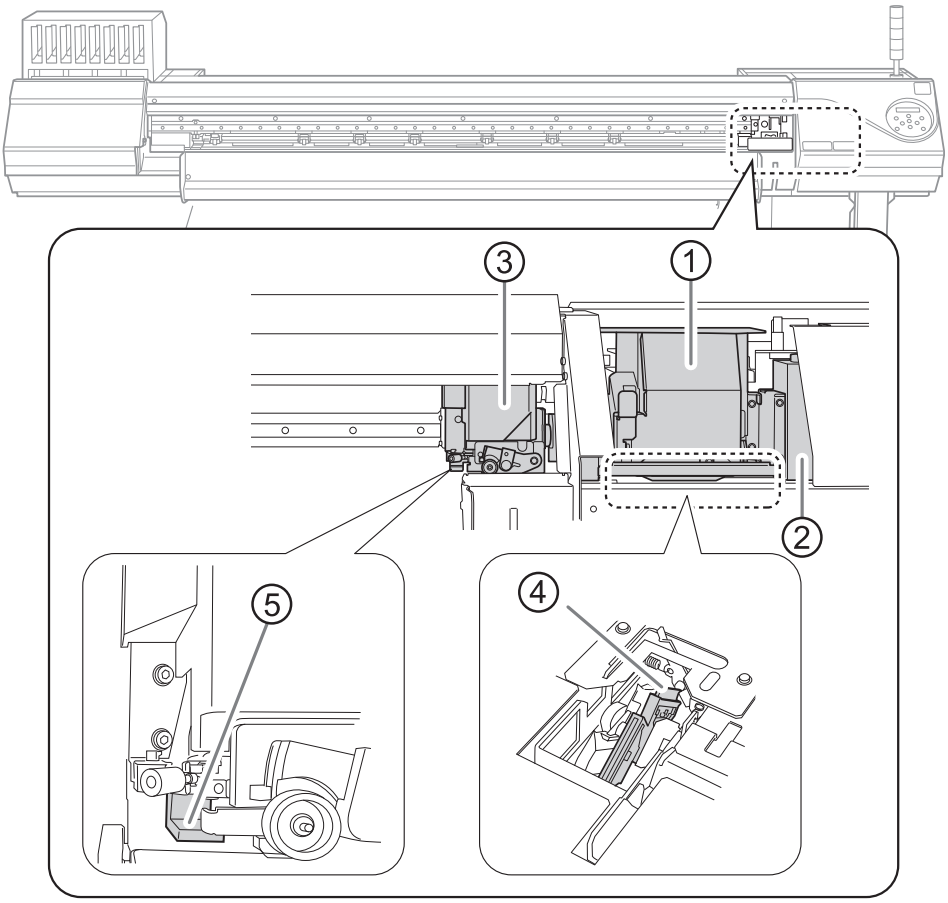
No.	Name	Function overview
①	Drain bottle	Discharged fluid is stored in this bottle. When discharged fluid is nearly overflowing from the bottle, an error is displayed and printing is not possible.

Side



No.	Name	Function overview
①	Main power switch	Switch the main power of the printer unit on/off. Normally, do not turn the power off.
②	Power-cord connector	Use this to connect the power cable from the transporter.
③	Ethernet connector	Use this to connect the Ethernet cable from the transporter.

Front Cover Interior/Print Head Area



No.	Name	Function overview
①	Print-head carriage	The print heads are inside here.
②	UV-LED device	Shines the UV light used to cure the ink.
③	Cutting carriage	Used to align the base point settings. (This machine does not include a cutting function.)
④	Wiper	Cleans the print heads during automatic cleaning and in similar situations.
⑤	Height sensor	Detects the height of the object to be printed on.

If a Cover Opens during Operation

If the front cover, left cover, or right cover (hereinafter these items are all referred to as the "cover") opens during an output operation, the machine makes an emergency stop. When an emergency stop occurs, a message prompting you to close the cover appears on the screen. Close the covers as directed in the instructions shown on the screen.

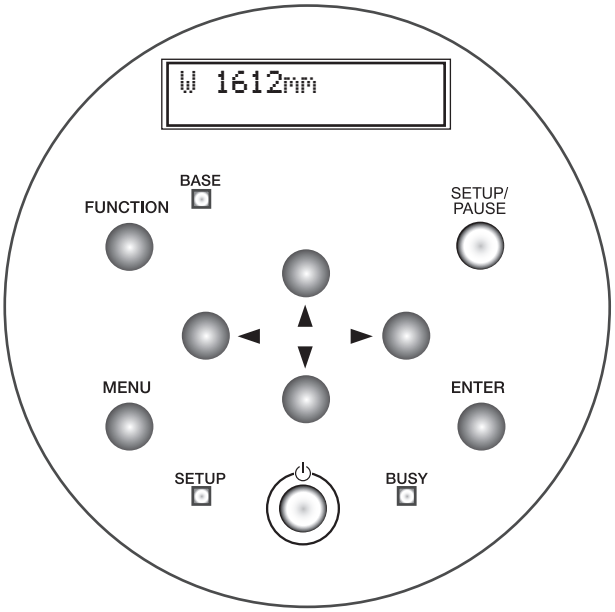
When the cover is closed, you will be able to continue the operation.

If you cannot continue the operation even after you close the cover, a nonrecoverable error may have occurred.

RELATED LINKS

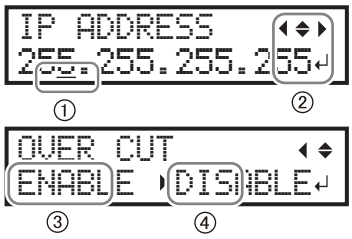
- P. 162 Error Messages

Operation Panel



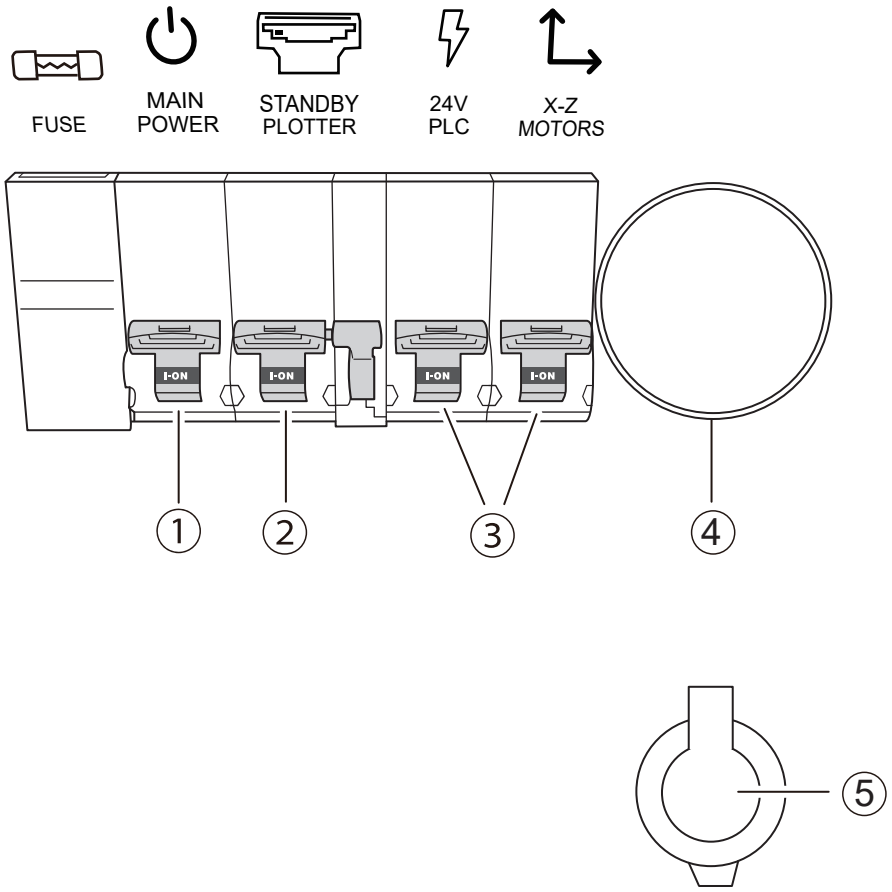
Part	Name	Details	Notation in this manual
W 1612mm	Display screen	This displays various setting menus and other information.	
	Sub power switch	This switches the printer unit on and off. (To switch the printer off, hold down the switch for one second or longer). The light flashes slowly when the machine is in sleep mode.	
ENTER	ENTER key	Use this for such tasks as enabling setting values.	[ENTER]
MENU	MENU key	Press this to enter the menus for various settings.	[MENU]
FUNCTION	FUNCTION key	You press this when entering the setting menu for cleaning of the print heads, printing tests, and so on.	[FUNCTION]
SETUP/ PAUSE	SETUP/PAUSE key	Starts/cancels setting up the object to be printed on. To cancel the setup, press and hold the key for at least 1 second. Pressing this key during printing will pause output. It lights when operation is paused.	[SETUP/PAUSE]
	Cursor keys	Use these to select settings for menu items and to move the printer unit.	[◀][▼][▲][▶]
BUSY	BUSY light	This lamp lights up during printing and other such operations.	[BUSY]
SETUP	SETUP light	This lamp lights up when setup is complete.	[SETUP]
BASE	BASE POINT light	This lights when the base point (the output-start location) has been set.	[BASE]

Display Screen



①	Cursor		Displays the setting to be changed. You can move it with the cursor keys.
②	Direction mark	◀ ▲ ▼ ▶	You can select settings and switch screens by pressing the cursor keys indicating directions.
	ENTER mark	↵	Press [ENTER] to set the selected setting or execute the processing.
③	Present value		The present value (before change) is displayed.
④	Setting value		Select the setting you want to set (after change).

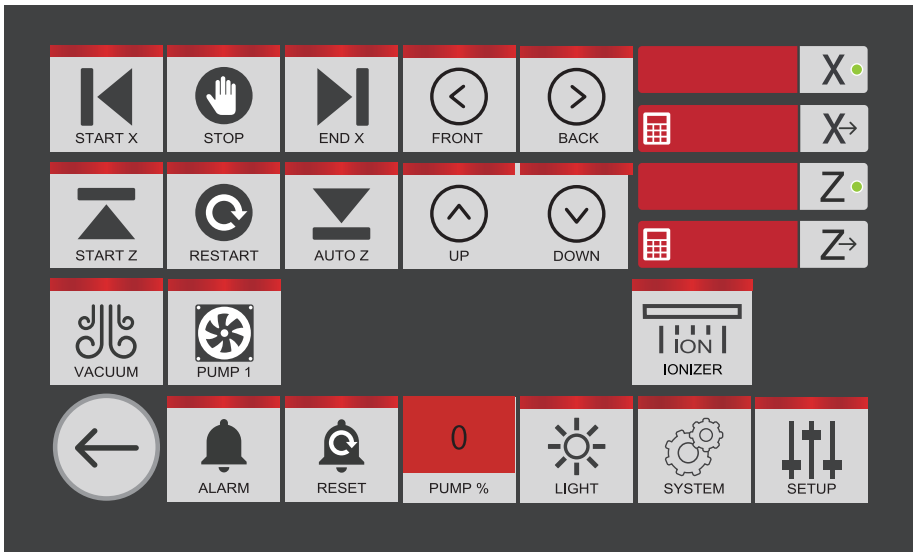
Power Distribution Board



No.	Function overview
①	Turns the power for the entire system (such as the printer unit, the vacuum*1, and the transporter) on or off. Normally, do not turn the power off. To maintain a state in which printing is possible (such as by preventing ink clogging), do not set this switch to the off position even when the machine is not operating.
②	Turns the power for the printer on or off. Normally, do not turn the power off. To maintain a state in which printing is possible (such as by preventing ink clogging), do not set this switch to the off position even when the machine is not operating.
③	Turns the power for devices other than the printer unit (such as the printer unit's up/down and forward/backward movement devices) on or off. These devices do not perform work that maintains the operating state, so it is not necessary to keep their power turned on. Turn off the power after the day's work is finished.
④	This is the power supply connector. Do not use this connector. It is mainly used by service technicians.
⑤	This connector allows you to connect the machine to a network with an Ethernet cable.

*1 * For models with a vacuum

Touch Panel



Part	Name	Details	Notation in this manual
	START X key	Returns the printer unit to the front of the table. Press and hold until the printer begins moving.	[TS : START X]
	STOP key	Stops the printer unit when moving to a specified location.	[TS : STOP]
	END X key	Moves the printer unit to the back of the table. Press and hold until the printer begins moving.	[TS : END X]
	FRONT key	Moves the printer unit to the front. The printer moves while the key is pressed and stops moving when the key is released.	[TS : FRONT]
	BACK key	Moves the printer unit to the back. The printer moves while the key is pressed and stops moving when the key is released.	[TS : BACK]
	X coordinates	Displays the current position in the feed direction (toward the front and back of the table) using the front of the table as the origin (zero). The lamp lights in green during normal operation and in red when an error occurs.	[TS : X]
	Move to X coordinates	Press  , and then enter the distance to move from the front position. Press and hold  to move the printer unit the set value in the feed direction.	[TS : X - ▶]
	Z coordinates	Displays the current position in the vertical direction using the lowest point of the printer unit as the origin (zero). The lamp lights in green during normal operation and in red when an error occurs.	[TS : Z]
	Move to Z coordinates	Press  , and then enter the distance to move from the lowest point. Press and hold  to move the printer unit the set value up.	[TS : Z - ▶]

Part	Name	Details	Notation in this manual
	START Z key	Moves the printer unit to the highest point. Press and hold until the printer begins moving.	[TS : START Z]
	RESTART key	Restarts the transporter and sets the machine origin again.	[TS : RESTART]
	AUTO Z key	Detects the print surface height of the object to be printed on. The printer will descend while the key is pressed and automatically stop when the height is detected. If the key is released before the height is detected, the printing height will be set to that height.	[TS : AUTO Z]
	UP key	Lifts the printer unit up. The printer moves while the key is pressed and stops moving when the key is released.	[TS : UP]
	DOWN key	Lowers the printer unit. The printer moves while the key is pressed and stops moving when the key is released.	[TS : DOWN]
	VACUUM/BLOW key*1	Suctions the object to be printed on against the table when set to VACUUM. Applies air against the object to be printed on when set to BLOW. Normally set to VACUUM. Set to BLOW if the object to be printed on is heavy and not easily moved.	[TS : VACUUM/BLOW]
	PUMP1 key*1	Switches the vacuum or blower pump on or off.	[TS : PUMP1]
	IONIZER key	Switches the ionizer on or off. The ionizer neutralizes the static electricity within the machine and the object. This can reduce issues caused by static electricity such as ink landing position misalignment and adhesion of dust on the object.	[TS : IONIZER]
	ALARM key	Displays warning and error information.	[TS : ALARM]
	RESET key	Press and hold this key to cancel the warning beep and clear the error.	[TS : RESET]
	PUMP % key*1	Adjusts the vacuum or blower pump strength.	[TS : PUMP %]
	LIGHT key	Switches the internal lighting on or off.	[TS : LIGHT]
	SYSTEM key	Used by service technicians. Do not use this key.	[TS : SYSTEM]
	SETUP key	Used by service technicians. Do not use this key.	[TS : SETUP]
	ARROW key	Displays the language selection menu. Also, when an error occurs, you can press the ALARM key followed by this key to return to the original screen.	[TS : ARROW]

*1 For models with a vacuum

Object to Be Printed On

Conditions for Settable Objects and Maximum Printable Area

This printer cannot print on all objects. When selecting an object to be printed on, be sure to carry out testing in advance to make sure that satisfactory printing results are obtained.

The conditions for objects that can be set in the machine and the maximum printable area are shown below.

MEMO

The maximum printable areas are not the same as the maximum sizes of objects that can be loaded on the table.

Model	Object size	Maximum printable area	Printing length	Weight
CO-640i F4	Width: Max. 1,625 mm (64 in.), Thickness: Max. 242 mm (9.5 in.)	Width: 1,612 mm (63.4 in.), Thickness: 242 mm (9.5 in.)	3,050 mm (120.0 in.)	Max. 100 kg/m^2 (0.142 lb./in^2)
CO-640i F3			2,500 mm (98.4 in.)	
CO-640i F2			1,500 mm (59.0 in.)	
CO-300i F2	Width: Max. 762 mm (30 in.), Thickness: Max. 242 mm (9.5 in.)	Width: 749 mm (29.4 in.), Thickness: 242 mm (9.5 in.)		
CO-300i F2A				

IMPORTANT

- Objects that easily reflect light cannot be used as objects to be printed on.

  Materials that are likely to reflect the UV-LED lamp light, such as mirrors and stainless steel, promote the curing of the surface of the print heads and therefore cannot be used as the object to be printed on.
- Using an object charged with static electricity will result in an unstable ink landing position, which can negatively affect print quality and the print heads.

  Switch on the ionizer to neutralize the static electricity within the object.

  P. 14 Touch Panel
- Be sure to confirm whether an object can be used as an object to be printed on before use. Perform a test print to see if the object meets the quality requirements.

  Check to see if the ink adhesion is sufficient, if the printing comes off when rubbed, if the colors fade after extended exposure to sunlight, etc.
- Objects with excessive unevenness cannot be used for printing.

  P. 63 Notes When the Print Surface Is Uneven
- For models with a vacuum: If the object still comes loose even when it is suctioned, use commercially available tape or some other means to hold the object in place.

  If the object to be printed on comes loose during printing, the object may contact and damage the ink emission surface of the print heads.

  If the object comes loose even when it is suctioned, use commercially available tape or some other means to hold the object in place.
- Detecting the print surface height may not be possible with transparent printing objects.

  If the object is transparent, the light from the height sensor may pass through the object, making height detection impossible.

  Use colored tape on the sides of the object to be printed on to prevent the light from passing through.

Features of Inks

Primer Ink

The primer is a colorless and transparent coating agent used as an ink base. By using primer as a base, you can print on glass or other materials on which UV ink cannot be applied.

However, the primer may not be fully efficient on some materials. Be sure to perform test printing to check the effect.

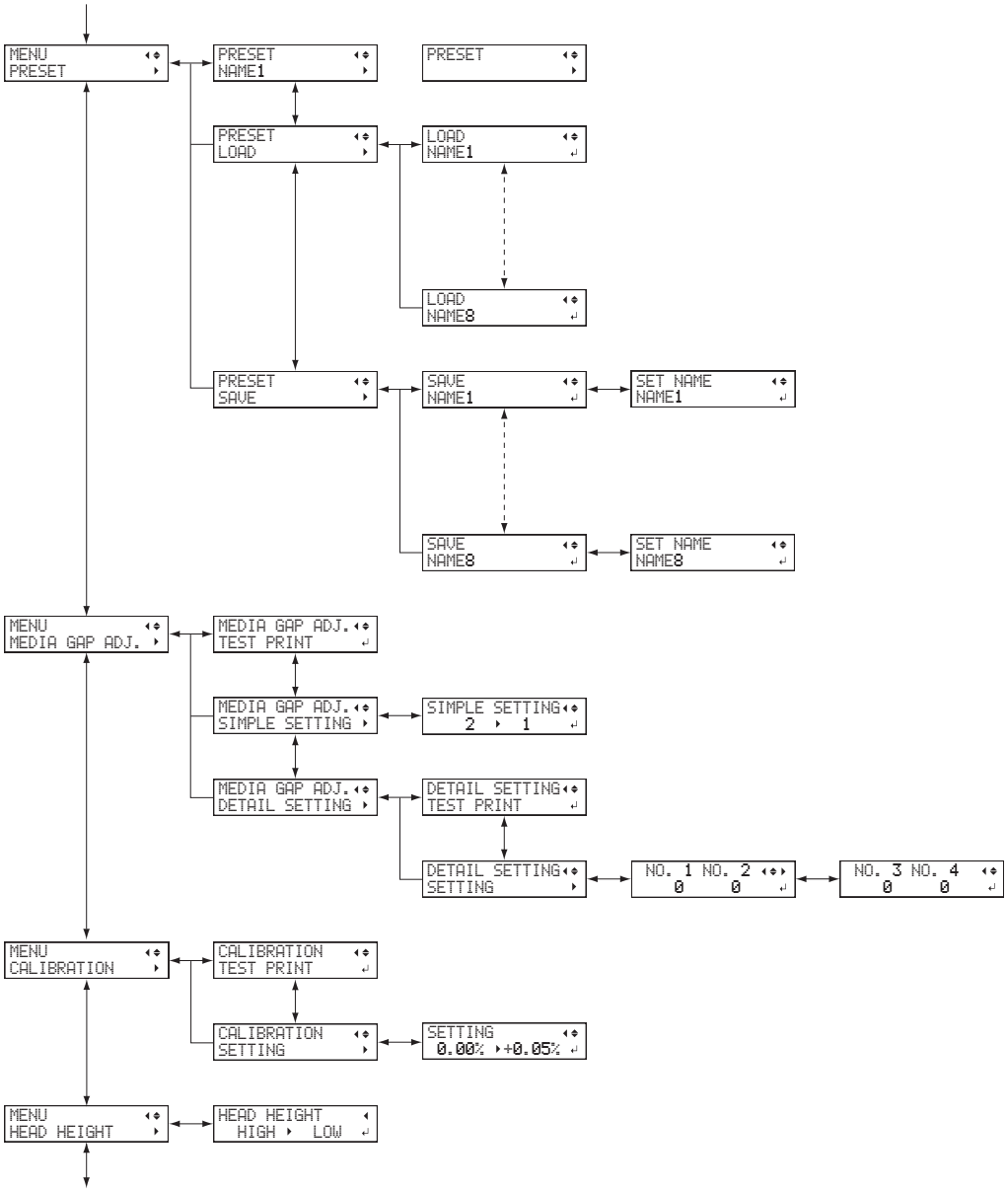
Printer Unit Menu List

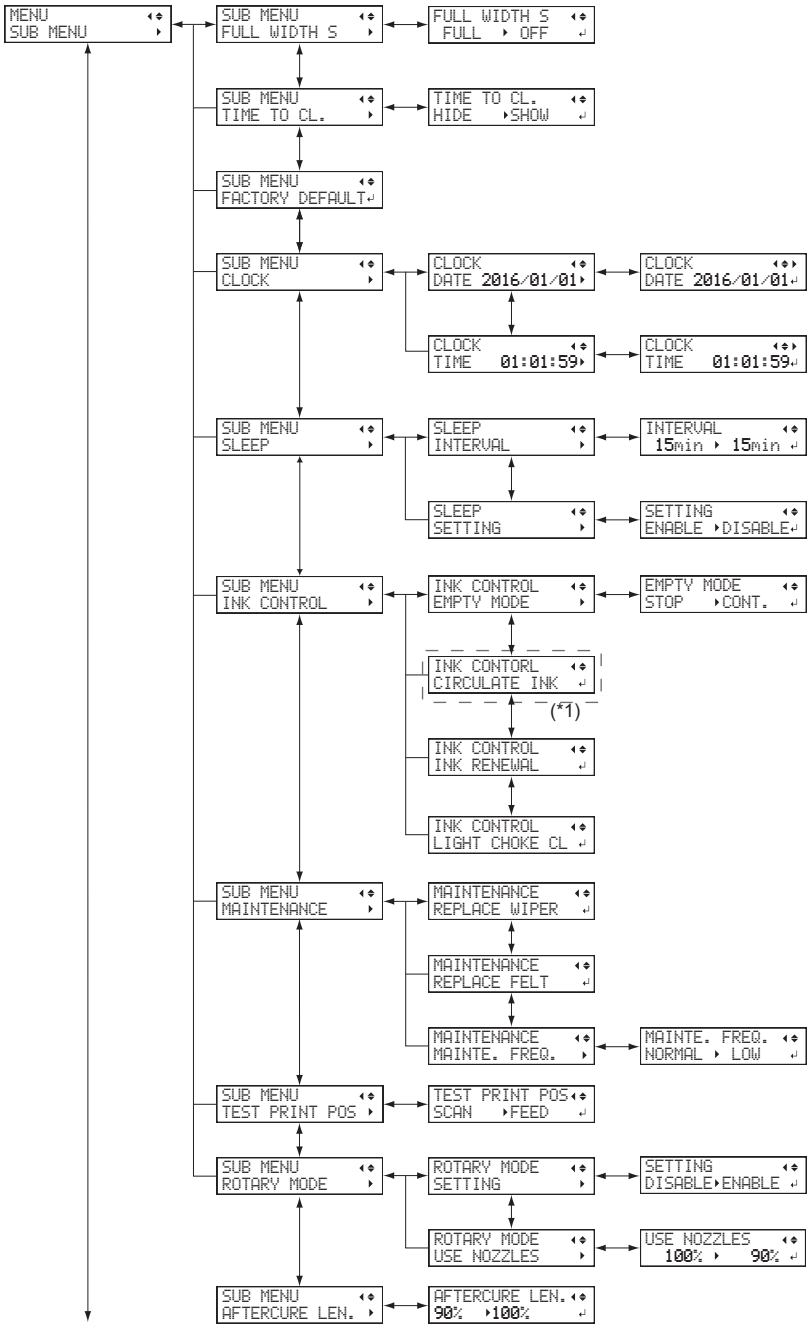
MEMO

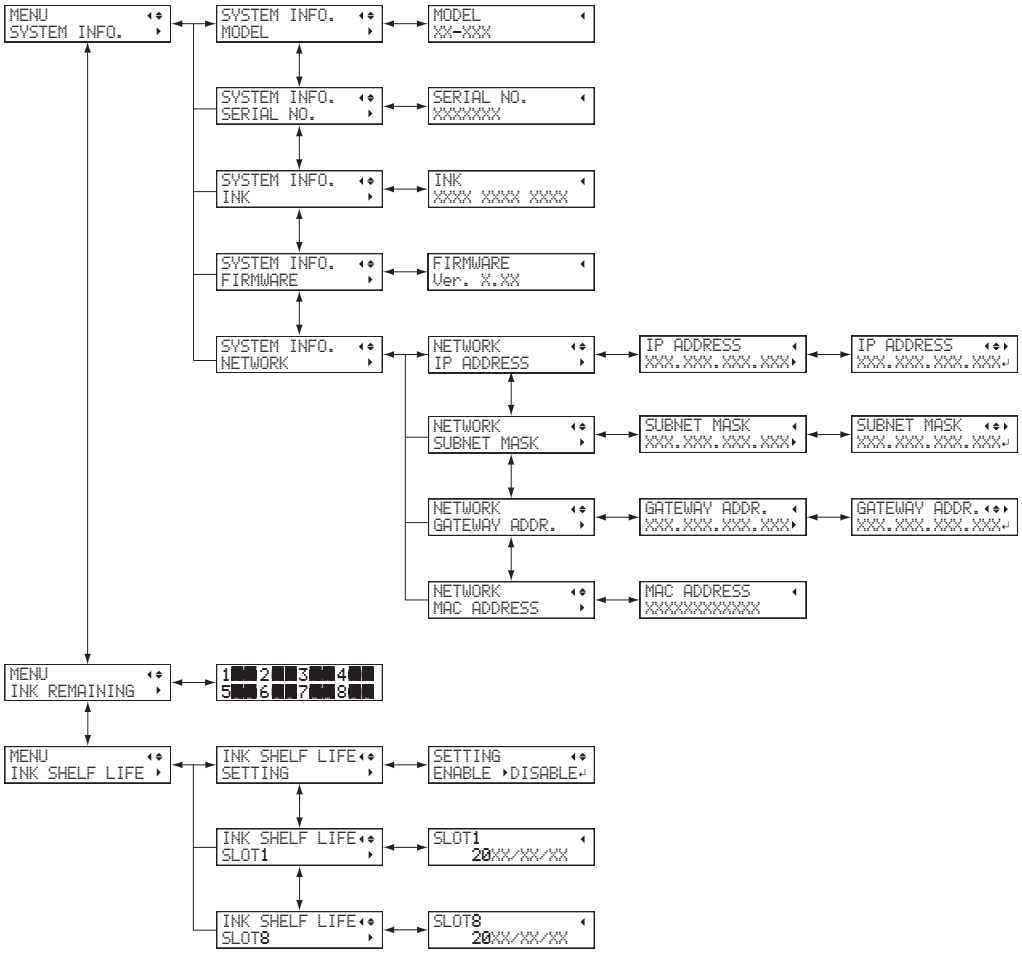
If 5 minutes pass with no operations on the panel of the printer unit, you will be returned to the first menu screen.

Main Menu

Press [MENU].



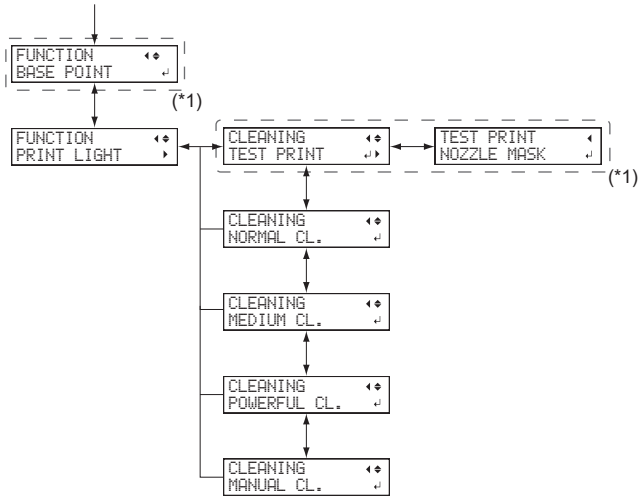

MENU
SUB MENU
SUB MENU
FULL WIDTH S
FULL WIDTH S
FULL OFF
SUB MENU
TIME TO CL.
TIME TO CL.
HIDE SHOW
SUB MENU
FACTORY DEFAULT
SUB MENU
CLOCK
CLOCK
DATE 2016/01/01
CLOCK
DATE 2016/01/01
CLOCK
TIME 01:01:59
CLOCK
TIME 01:01:59
SUB MENU
SLEEP
SLEEP
INTERVAL
INTERVAL
15min 15min
SLEEP
SETTING
SETTING
ENABLE DISABLE
SUB MENU
INK CONTROL
INK CONTROL
EMPTY MODE
EMPTY MODE
STOP CONT.
INK CONTORL
CIRCULATE INK
(*1)
INK CONTROL
INK RENEWAL
INK CONTROL
LIGHT CHOKE CL
SUB MENU
MAINTENANCE
MAINTENANCE
REPLACE WIPER
MAINTENANCE
REPLACE FELT
MAINTENANCE
MAINTE. FREQ.
MAINTE. FREQ.
NORMAL LOW
SUB MENU
TEST PRINT POS
TEST PRINT POS
SCAN FEED
SUB MENU
ROTARY MODE
ROTARY MODE
SETTING
SETTING
DISABLE ENABLE
ROTARY MODE
USE NOZZLES
USE NOZZLES
100% 90%
SUB MENU
AFTERCURE LEN.
AFTERCURE LEN.
90% 100%



(*1) This is displayed when the ink type includes white.

Function Menu

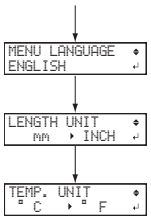
Press [FUNCTION].



(*1) Displayed during object setup.

Language and Unit Menu

Hold down [MENU] and switch on the sub power.

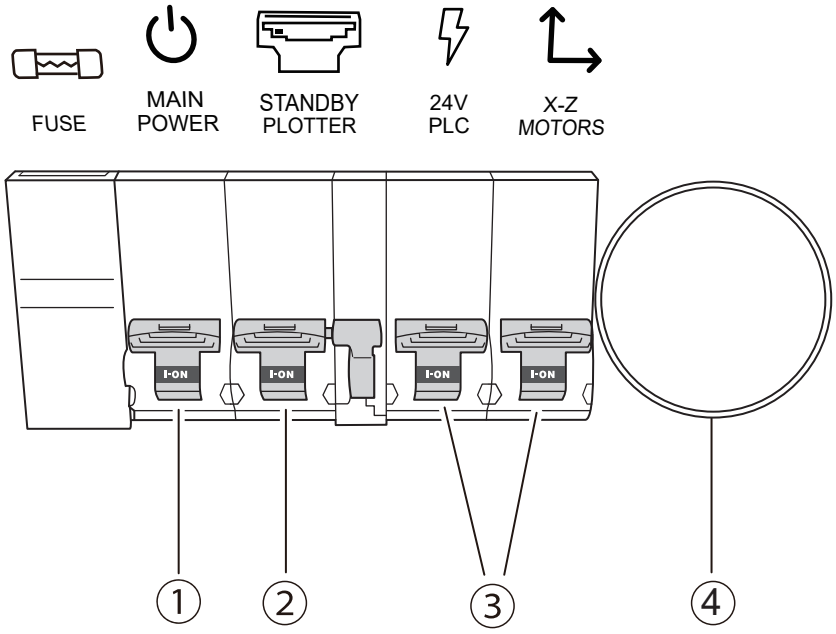


Basic Operations

Power Supply Operations

Precautions When Operating the Power Supply

Power Distribution Board



①	Turns the power for the entire system (such as the printer unit, the vacuum*1, and the transporter) on or off. Normally, do not turn the power off. To maintain a state in which printing is possible (such as by preventing ink clogging), do not set this switch to the off position even when the machine is not operating.
②	Turns the power for the printer on or off. Normally, do not turn the power off. To maintain a state in which printing is possible (such as by preventing ink clogging), do not set this switch to the off position even when the machine is not operating.
③	Turns the power for devices other than the printer unit (such as the printer unit's up/down and forward/backward movement devices) on or off. Unlike the printer unit, these devices do not perform work that maintains the operating state, so it is not necessary to keep their power turned on. Turn off the power after the day's work is finished.
④	This is the power supply connector. Do not use this connector. It is mainly used by service technicians.

*1 For models with a vacuum

Printer Unit

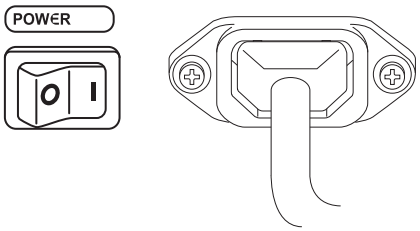
IMPORTANT

Always keep the printer unit's main power switched on.

Never switch off the printer unit's main power. Leaving the main power enables automatic maintenance to be carried out periodically. If the automatic maintenance is not carried out, it may result in the breakdown of this machine, such as the breakdown of the print heads.

Never switch off the printer unit's main power or unplug the power cord suddenly while operation is in progress.

Switching off the printer unit's main power or unplugging the power cord suddenly while operation is in progress may damage the print heads. Be sure to first switch off the printer unit's sub power. If the printer unit's main power is accidentally switched off, immediately turn the main power and sub power back on.



To turn off the printer unit's main power, use the [MAIN POWER] or [STANDBY PLOTTER] switch on the power distribution board.

Turning the Power On

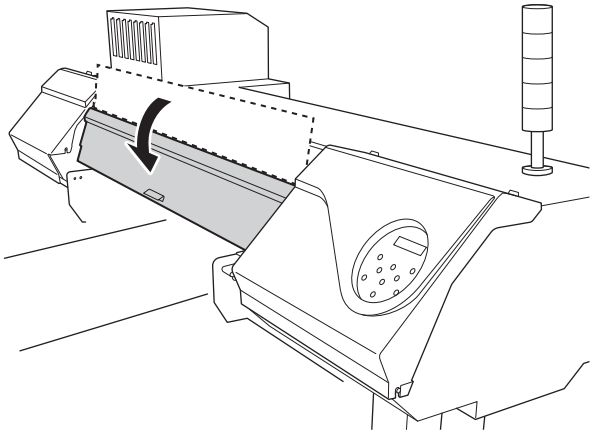
Procedure

1. **Check that the area around the machine is free of people and obstacles.**
   Be sure to keep everyone away from the area around the machine and to remove any obstacles.

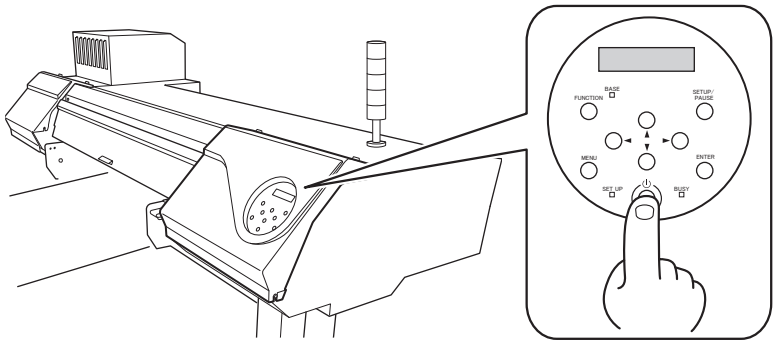
2. **Turn on all the switches on the power distribution board.**
   The red alarm lamp lights, and a warning beep sounds.

3. **On the touch panel, press the language to use.**
   After selecting the language, press [TS : RESET] to stop the warning beep.

4. **Close the printer unit's front cover.**



5. **Switch on the printer unit's sub power.**

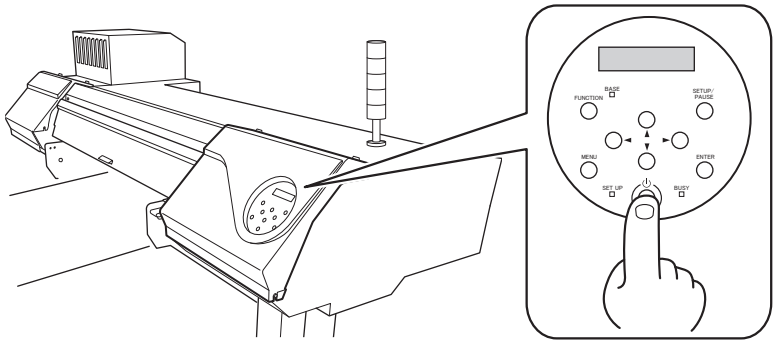


Turning the Power Off

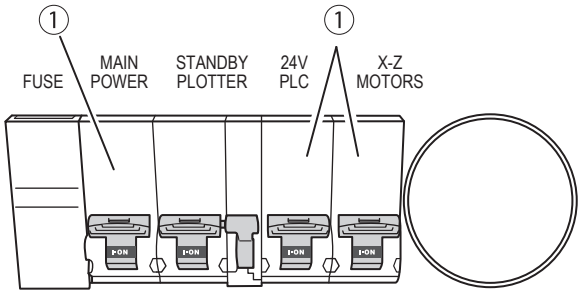
Procedure

1. **Switch off the printer unit's sub power.**

Hold down the sub power switch for 1 second or longer.



2. **Switch off [MAIN POWER], [24V PLC], and [X-Z MOTORS] (①) on the power distribution board.**



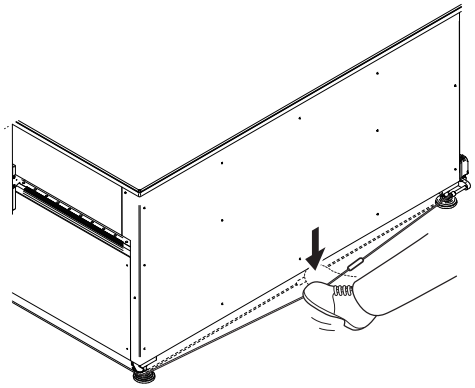
Emergency Stop Devices

Stopping with the Wire

If you detect a hazard during work close to this machine, step on the wire to stop the operation of the printer unit.

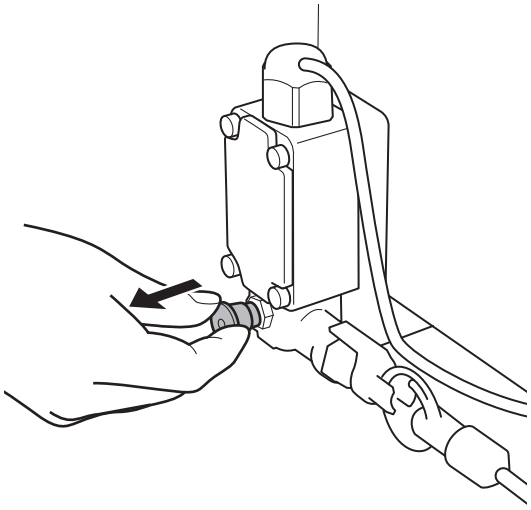
Procedure

1. **Strongly step on the wire strung across the bottom of the main unit.**
   Printer unit operation will immediately stop.



2. **After confirming that the situation is safe even if this machine starts operating again, operate the recovery device at the bottom of the transporter as shown in the figure to recover the operation of the printer unit.**

> **IMPORTANT**
> Operation resumes immediately after it is recovered. Check the surrounding area and make sure it is safe before recovering operation.



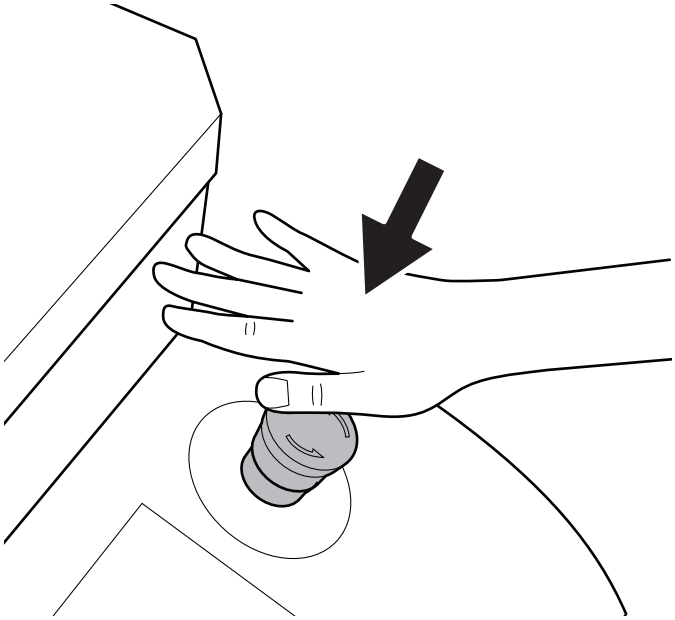
3. **Press [TS : RESET] to stop the warning beep.**

Stopping with the Button

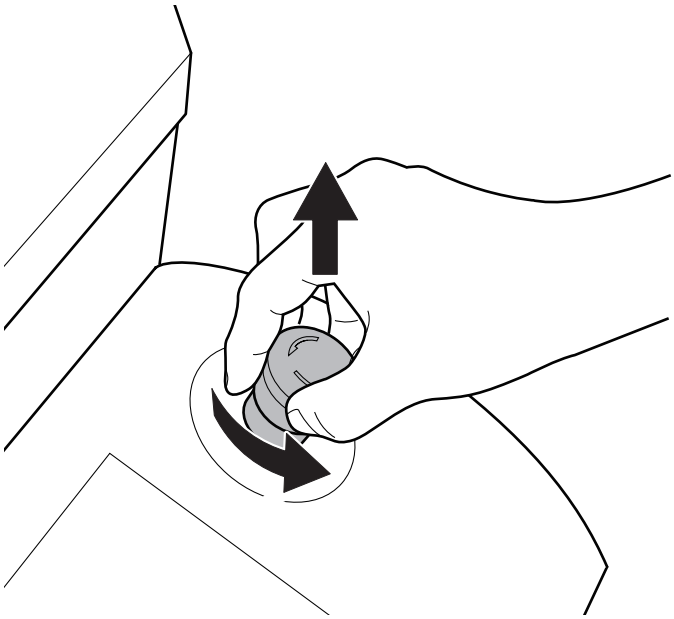
If you detect a hazard during work close to the touch panel, press the button to stop the operation of the machine.

Procedure

1. **Press the button to the right of the touch panel.**
   Machine operation will immediately stop.



2. **After confirming that the situation is safe even if this machine starts operating again, turn the part shown in the figure counterclockwise.**
   The button pops out.



3. **Press [TS : RESET] to stop the warning beep.**

MEMO

When you use the button to perform an emergency stop, the sub power of the printer unit turns off, and transporter operation also stops.

Printer Unit Sleep Mode (Power-saving Feature)

The printer unit is provided with a power-saving feature that switches to a low-power "sleep mode" when a fixed interval passes with no operation. The factory default for the time after which the machine switches to sleep mode is 30 minutes. When the machine is in the sleep mode, the sub power switch flashes slowly. Using the operation panel or performing operations such as sending print data from the computer restores the machine to its normal mode.

This sleep mode setting can be changed. However, we recommend setting the activation time for sleep mode to 30 minutes or less to reduce power consumption and prevent problems such as overheating.

RELATED LINKS

- P. 79 Setting the Activation Interval for Sleep Mode (Power-saving Feature)

Transporter Sleep Mode (Power-saving Feature)

The transporter is provided with a power-saving feature that stops the vacuum system and turns off the light when 30 minutes pass with no operation.

Setting Up the Object to Be Printed On

Loading the Object, and Setting the Print Surface Height and Print Start Point

MEMO

If the thickness of the object to be printed on is less than 20 mm (0.78 in.), we recommend that you set [**MAINTE. FREQ.**] to [**LOW**]. The number of cleaning operations will decrease, reducing ink consumption.

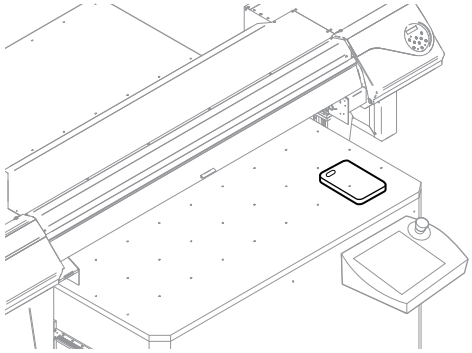
P. 18 Main Menu

Procedure

1. **Press and hold [TS : START Z] on the touch panel.**
   The printer unit will rise to its highest point.

2. **Press [TS : BACK] on the touch panel.**
   The printer unit will move to the back of the table while [TS : BACK] is pressed.
   Move the printer to a location it will not interfere with the loading of the object to be printed on.
   Movement will stop when the button is released.

3. **Place the object in the printable area.**

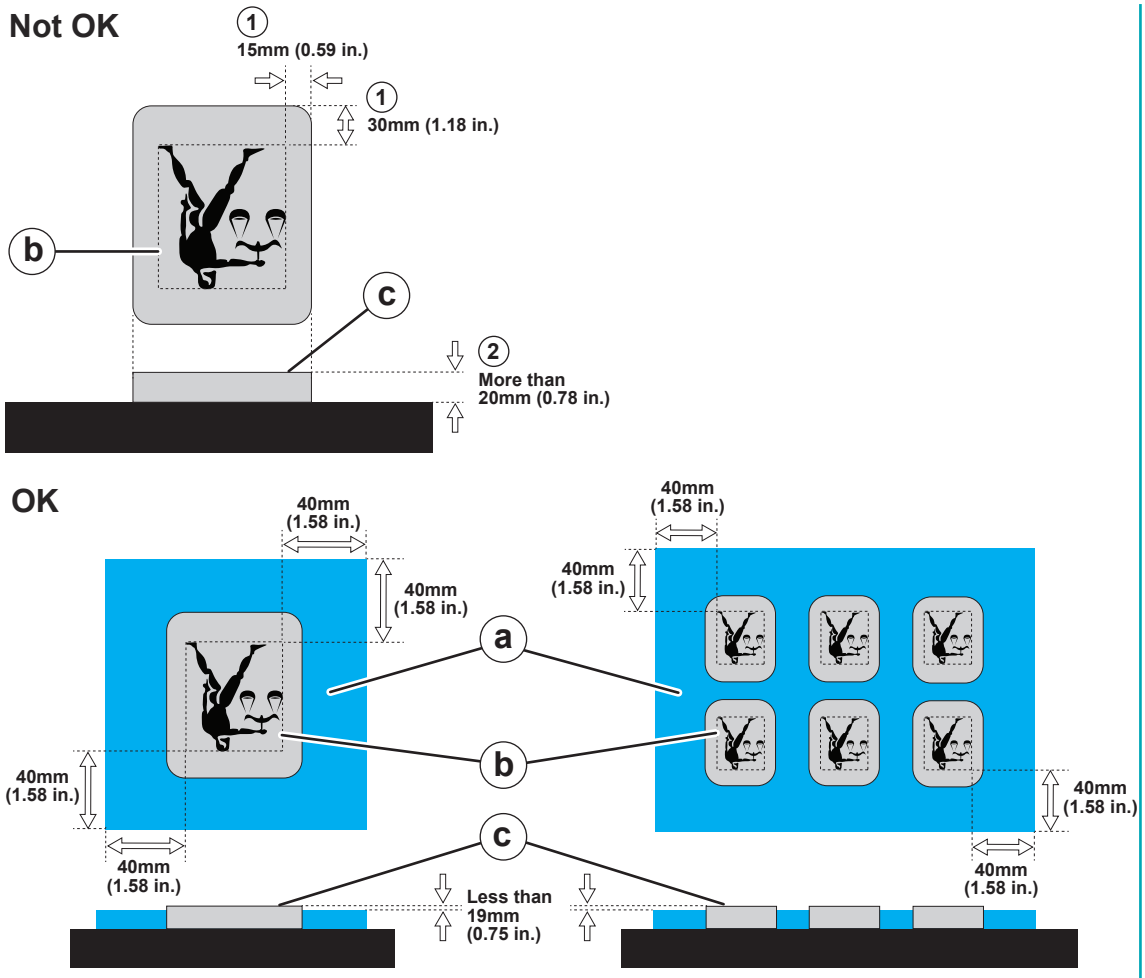


IMPORTANT

When printing, make sure that there is no unnecessary space under the bottom of the print-head carriage (ink ejection surface of the print heads). If too much space is left open, ink mist can more easily form. Therefore, a jig to fill the space around the object to be printed on might be required depending on the size and shape of the object to be printed on.

Prepare a jig (a) if both of the following conditions are met.

1. An area around the print data size (b) plus a margin of 40 mm (1.57 in.) extends beyond the object to be printed on.
2. The height of the print surface (c) is 20 mm (0.79 in.) or more.



MEMO

Use the blower (for models with a vacuum) if the object is heavy or difficult to place.

P. 67 Loading Heavy and Difficult-to-Move Objects to Be Printed On

4. **For models with a vacuum, use the following procedure to suction the object to the table.**

If the object is not secured in place, uneven colors may occur. Suction the object to secure it in place.

MEMO

For models without a vacuum, secure the object in place using a substance such as commercially available adhesive tape.

(1) **Check that [TS : VACUUM] is shown for the button on the touch panel.**

If the button is displaying [TS : BLOW], tap the button to switch to [TS : VACUUM].

If [TS : VACUUM] is already displayed, there is no need to switch the setting.

(2) **Tap [TS : PUMP1].**

The object to be printed on will be suctioned against the table.

If the suction is weak and the object to be printed on comes loose, tap [TS : PUMP %] and increase the suction power.

P. 67 Loading Heavy and Difficult-to-Move Objects to Be Printed On

IMPORTANT

Do not print on the object if it comes loose.
Doing so will not only result in poor print quality but the object to be printed on may also contact and damage the print heads.

5. **Press and hold [TS : START X] on the touch panel.**

The printer unit will move closer to the object.

6. **Press [TS : FRONT] or [TS : BACK] on the touch panel to move the printer unit to the highest position for the object.**

MEMO

Align the printer unit's height sensor with the position of the object.
P. 10 Front Cover Interior/Print Head Area

7. **Press [TS : AUTO Z] on the touch panel.**

The printer unit will descend while [TS : AUTO Z] is pressed.

A sensor is used to detect the height and stop the descent. When the printer is stopped, the height will be set as the print surface height.

P. 63 Notes When the Print Surface Is Uneven

Keep pressing [TS : AUTO Z] until the printer stops descending.

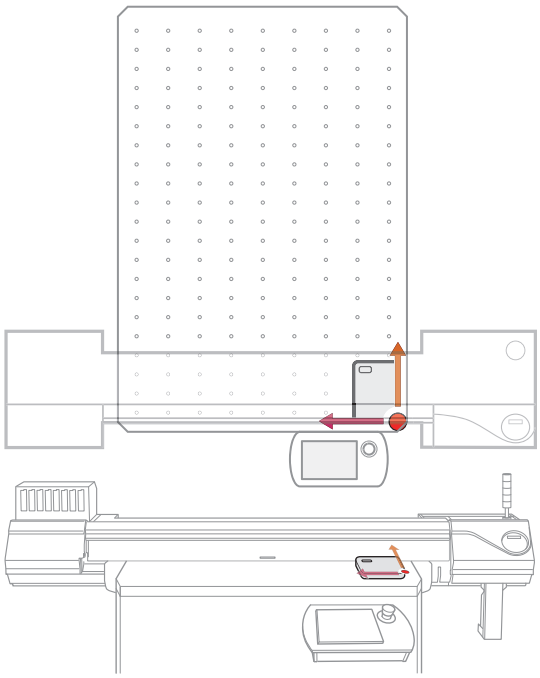
8. **Press and hold [TS : START X] on the touch panel again.**

The printer unit will move to the front of the table.

The destination becomes the print start point.

MEMO

The print start point toward the front or back of the table (feed direction) will always be the current position of the printer unit.
Even if the printer unit is moved using the touch panel, or if it is in the stop position after printing has been completed, the current position will always be the print start point.



9. **Press [SETUP/PAUSE] on the operation panel of the printer unit.**
This completes the setup of the object.

Creating Print Data and Determining the Printing Position

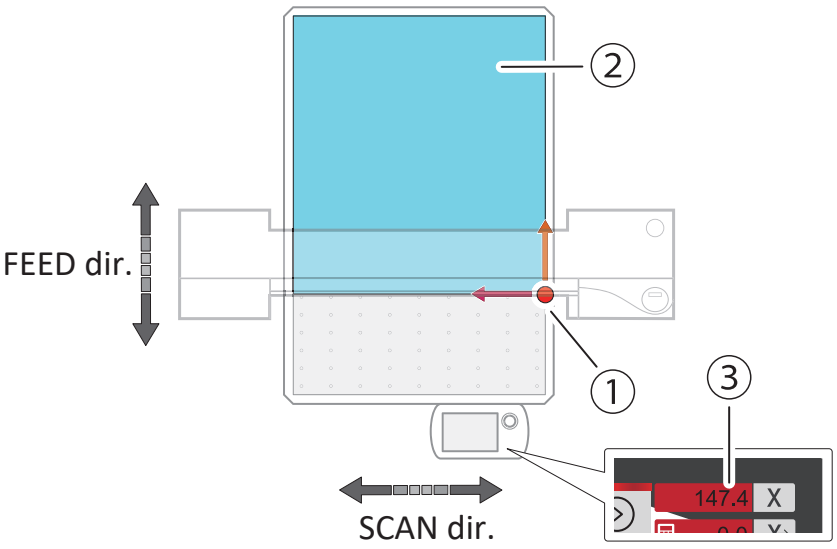
Creating Print Data

The methods for creating print data differ depending on the color layering and whether a primer has been applied.

Refer to the instructions linked below for information on how to create typical print data.

https://downloadcenter.rolanddg.com/contents/manuals/UV-Guide_USE_JP/

Printing-start Location on the Machine and in VersaWorks



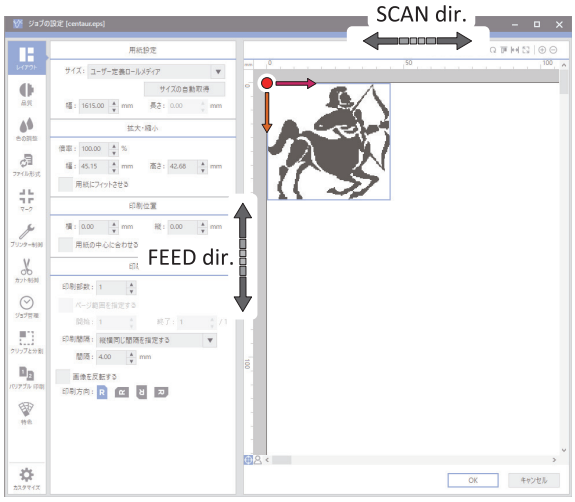
①	Printing-start location
②	Printable range
③	Current position in feed direction

The current position is always the printing-start location in the feed direction (forward/backward).

The right edge of the printing area is the printing-start location in the scan direction (left/right).

To set a specific position as the printing-start location, configure the base point settings for the printer unit.

P. 69 Setting the Base Point



Perform Printing

Procedure

1. **Create the print data using Adobe Illustrator, CorelDRAW, or some other software.**

   Save the file as a PDF, EPS, JPEG, TIFF, or PostScript (PS) file.

   MEMO

   When saving as a PDF file, do not include margins other than images and figures.
   For Adobe Illustrator, configure the settings as follows.

   - Align the artboard with the entire object.
   - Set all "Bleed" values in the document settings to "0."

2. **Start VersaWorks and input the print data.**

   Drag the file to the job list.

3. **Double-click the job registered in step 2, and open the job settings window.**

   Use this window to enter the printing position and configure print quality settings.

   When finished configuring the settings, click [OK] to close the window.

4. **Click  to print.**

RELATED LINKS

- https://downloadcenter.rolanddg.com/VersaWorks6

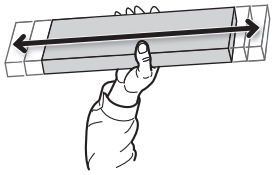
Checking before Output

Preventing Sedimentation in Inks

The precipitation of the ingredients in the ink disables printing in normal color. So that the ink mixes well, shake the ink cartridge horizontally with a stroke length of around 5 cm (2 in.) from each end of the ink cartridge.

- Remove the white ink cartridge, shake it 50 times (about 20 seconds), and then reinsert this cartridge.
- The ink cartridges for colors other than white do not need to be shaken before every operation, but be sure to shake them when installing new ones.

The ingredients in white ink tend to settle. Each day, before starting work for that day, be sure to shake the ink cartridge. Allowing the ink to stand can cause the settled material to harden, resulting in malfunctions or other problems.



IMPORTANT

- Before shaking the ink cartridge, wipe off any ink from around its mouth. If you do not wipe off the ink, it may splatter when you shake the ink cartridge.
- When you have finished mixing the ink, reattach the ink cartridge immediately. Taking time to reattach the ink cartridge will adversely affect the ink path.
- Even if you are not using the printer unit, shake the white ink cartridge 50 times (about 20 seconds) once a week.

Pausing and Canceling Output

You can pause and cancel output before it finishes.

Pausing and Resuming Output

IMPORTANT

Resuming printing may produce horizontal stripes at the place where printing was paused.

Procedure

1. **Press [SETUP/PAUSE] before printing finishes.**
   This pauses the printing operation.
2. **Press [SETUP/PAUSE] again.**
   The printing operation resumes.

Canceling Output

Procedure

1. **Press [SETUP/PAUSE] before printing finishes.**
   This pauses the printing operation.
2. **Stop sending the output data from the computer.**
3. **When the screen shown below appears, hold down [SETUP/PAUSE] for 1 second or longer.**

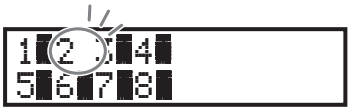
   

   This cancels the printing operation.

Replacing Ink Cartridges

Out-of-ink Warnings

When an ink pouch runs out, printing pauses and a warning beep sounds. Pull out the empty cartridge and insert a new one. Printing resumes.



If an ink runs out, the numbers of the color that has run out flash.

Lit	Indicates that ink still remains
Flashing	Indicates that ink has run out

RELATED LINKS

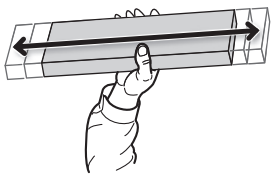
- P. 40 Replacing Ink Cartridges

Preventing Sedimentation in Inks

The precipitation of the ingredients in the ink disables printing in normal color. So that the ink mixes well, shake the ink cartridge horizontally with a stroke length of around 5 cm (2 in.) from each end of the ink cartridge.

- Remove the white ink cartridge, shake it 50 times (about 20 seconds), and then reinsert this cartridge.
- The ink cartridges for colors other than white do not need to be shaken before every operation, but be sure to shake them when installing new ones.

The ingredients in white ink tend to settle. Each day, before starting work for that day, be sure to shake the ink cartridge. Allowing the ink to stand can cause the settled material to harden, resulting in malfunctions or other problems.



IMPORTANT

- Before shaking the ink cartridge, wipe off any ink from around its mouth. If you do not wipe off the ink, it may splatter when you shake the ink cartridge.
- When you have finished mixing the ink, reattach the ink cartridge immediately. Taking time to reattach the ink cartridge will adversely affect the ink path.
- Even if you are not using the printer unit, shake the white ink cartridge 50 times (about 20 seconds) once a week.

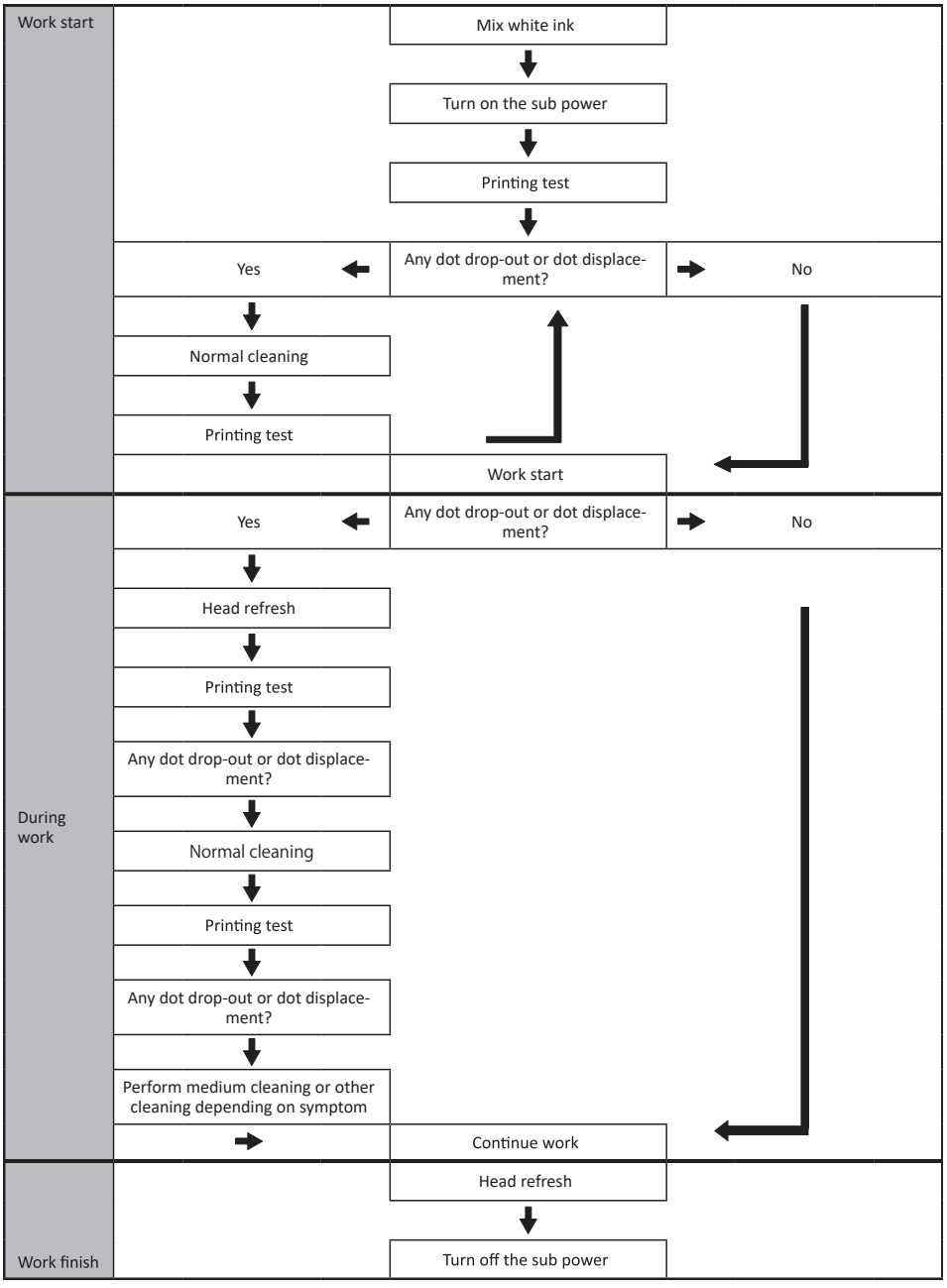
Output Method

Printing Method

Preparations before Printing Output

Maintenance during Daily Operation

Performing appropriate maintenance at the correct times can help prevent malfunction as well as bring out the full potential of this machine.



Printing Tests and Normal Cleaning

1. Perform a printing test.

Before you carry out actual printing, perform a printing test to ensure no dot drop-out or dot displacement occurs. If dot drop-out or dot displacement occurs, perform cleaning of the print heads (normal cleaning).

MEMO

- When performing printing tests successively, you can select "FEED" (vertical printing) or "SCAN" (horizontal printing) as the print position for the second and later tests in comparison to the first test.

Procedure

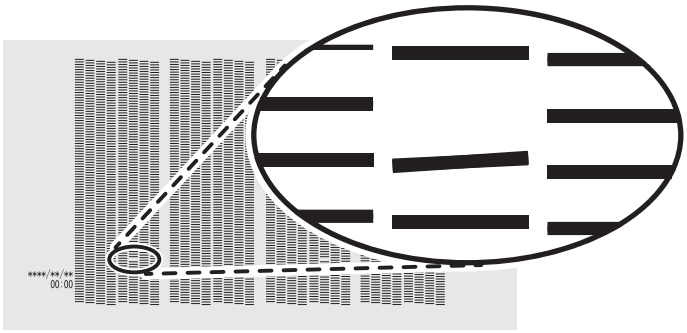
1. **Set up the object.**
2. **Press [FUNCTION].**
3. **Press [▼], then [▶] to display the screen shown below.**

4. **Press [ENTER].**

   Printing of the test pattern starts.

5. **Check whether there is dot drop-out or dot displacement in the test pattern.**

   Missing blocks indicate dot drop-out. Collapsed or inclined blocks indicate dot displacement.



6. **If you have opened the front cover, close it.**

   If no dot drop-out or dot displacement occurs, this operation is finished. Press [FUNCTION] to go back to the original screen.

RELATED LINKS

- P. 32 Setting Up the Object to Be Printed On
- P. 73 Performing Printing Tests Arranged Horizontally

2. Perform normal cleaning.

Procedure

1. **Press [▼] to display the following screen.**

2. **Press [ENTER].**

   The screen shown below appears, and then cleaning starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")

   When finished, the screen shown below appears again.

3. **Press [▲].**

4. **Press [ENTER].**

   Perform a printing test again to check whether the dot drop-out and dot displacement have been corrected.

5. **Check to make sure the dot drop-out or dot displacement has been corrected.**

   If the problem persists, try performing normal cleaning again. If the printer has been used for a long period, dot drop-outs may not be fixed even after performing normal cleaning two or three times. If this is the case, clean using a different method.

6. **Press [FUNCTION] to return to the original screen.**

RELATED LINKS

- P. 109 When Normal Cleaning Is Not Effective

Printing Output

Adjusting the Print Head Height

When printing on objects that easily come loose due to poor suction, or if the print surface is slightly uneven, resulting in a height difference between the detected and actual print surface height, adjust the height of the print heads so that they do not come into contact with the object to be printed on.

When printing on objects with low unevenness, select the print head height from "LOW" or "HIGH". Normally move the height-adjustment lever to "LOW". When printing on objects with higher unevenness, use "HIGH". The printing quality degrades as the distance between the print surface and the print heads increases. Do not move the height-adjustment lever to "HIGH" needlessly.

Select "SpLOW" when printing on a flat object with a high degree of parallelism between the contact surface and the print surface as well as minimal unevenness on the print surface.

Procedure

1. **Press [MENU].**

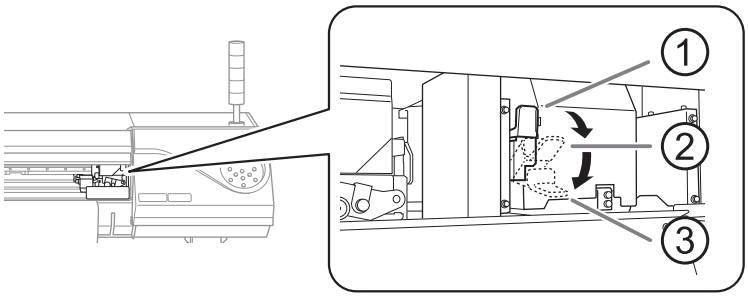
2. **Press [▼] several times to display the following screen.**

3. **Press [▶]. After "NOW PROCESSING.." is displayed, the screen shown below appears.**

4. **Open the front cover.**

5. **Move the height-adjustment lever to adjust the head height.**

When you change the position of the height-adjustment lever, the display screen changes and a warning beep sounds at the same time.



	Position	Display screen
①	"HIGH"	
②	"LOW"	
③	"SpLOW"	

MEMO

- Normally move the height-adjustment lever to "LOW". When printing on objects with higher unevenness on the print surface, use "HIGH".
- The printing quality degrades as the distance between the object to be printed on and the print heads increases. Do not move the height-adjustment lever to "HIGH" needlessly.

6. **Close the front cover.**

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

MEMO

- Default setting: "LOW"

Starting Output

⚠ WARNING

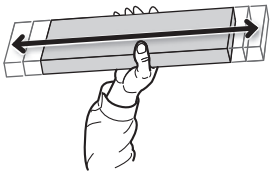
Never touch the print-head carriage while output is in progress.

The print-head carriage moves at high speed. Coming into contact with the moving carriage may cause injury.

Procedure

1. **Before the start of daily operations, remove just the white ink cartridge, shake it 50 times (about 20 seconds), and then reinsert it.**

   So that the ink mixes well, shake the ink cartridge horizontally with a stroke length of around 5 cm (2 in.) from each end of the ink cartridge.



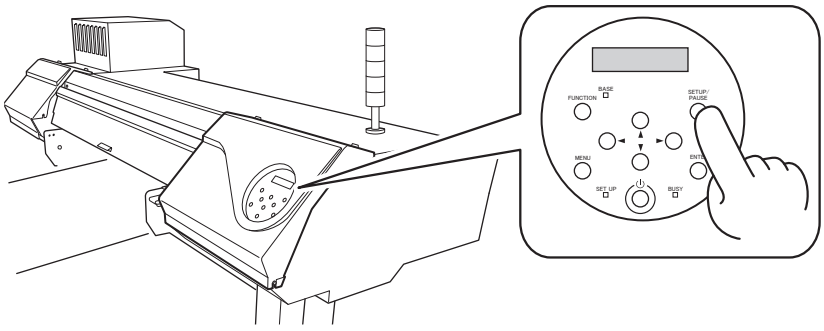
IMPORTANT

The ingredients in white ink tend to settle. The precipitation of the ingredients in the ink disables printing in normal color. Allowing the ink to stand can cause the settled material to harden, resulting in malfunction or other problems.

2. **Close the front cover.**

3. **Check that [SETUP] is lit.**

   If [SETUP] is not lit, the setup is not completed. Press [SETUP/PAUSE].



4. **Check that the screen shown below (the top menu) is displayed.**

   If the top menu is not displayed, press [MENU].

5. **Send the output data from the computer.**

   For information on how to create the output data, refer to the documentation for the software RIP.

MEMO

When you send the output data, "CLEANING..." may be displayed on the screen. These indicate the preparation operations performed before output. Output will begin after the time displayed on the screen elapses.

IMPORTANT

Output Is Not Possible in These Situations

- The machine does not run when a cover (front, left, or right) is open.
- Data from the computer is not accepted when [SETUP] is dark.
- Data from the computer is not accepted when you are not at the top menu.

Points that must be observed

- Never open a cover (front, left, or right) while output is in progress. Doing so interrupts printing.
- Do not touch the object being printed on while output is in progress.

Optimizing Quality and Efficiency

Optimizing the Output Quality

Using the Correction Functions

To optimize the output quality, it is effective to use some correction functions.

Adjusting the Misalignment of the Ink Landing Position

This adjusts the landing position of the ink discharged from the print heads. The landing position varies according to the print head height, so we recommend that you make corrections to match the object to be printed on you are using.

First, print a test pattern, and then determine and enter the correction value. After entering the correction value, print a test pattern again and check the correction results.

Procedure

1. **Press [MENU].**

2. **Press [▼] to display the following screen.**

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

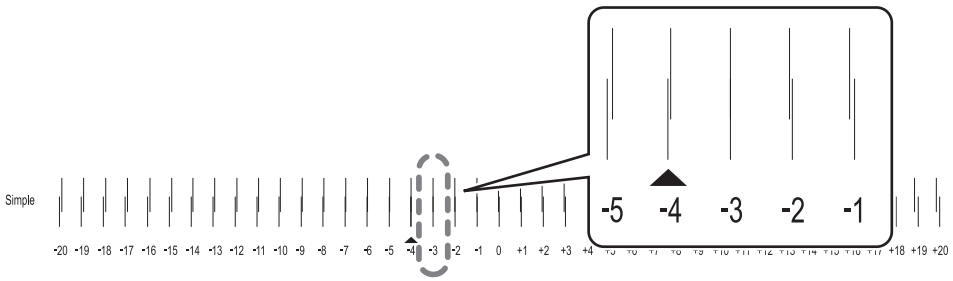
4. **Press [ENTER].**

   Printing of the test pattern starts.

5. **When printing is finished, press [▼], then [▶] to display the screen shown below.**

6. **View the printed test pattern, and then determine the correction value.**

   Select the value that gives the least misalignment between the two lines. In the case of the following figure, select "-3." When you cannot choose between two sequential numbers, select a value that is between them (you can set correction values in units of "0.5").



7. **Press [▲] or [▼] to select the correction value.**

8. **Press [ENTER] to confirm your entry.**

9. **Press [◀][▲] to display the following screen.**

10. **Press [ENTER].**

Printing of the test pattern starts.

11. **Check the test pattern to see whether the correction was successful.**

Check that the misalignment is minimized for the two vertical lines indicated by "▲" (that is, the current correction value). If the misalignment is smaller for another set of vertical lines, set the correction value again.

12. **When you have successfully performed the correction, press [MENU] to go back to the original screen.**

RELATED LINKS

- P. 54 Accurately Adjusting the Misalignment of the Ink Landing Position

Accurately Adjusting the Misalignment of the Ink Landing Position

This adjusts the landing position of the ink discharged from the print heads. You can make adjustments more accurately than "MEDIA GAP ADJ SIMPLE SETTING". The landing position varies according to the print head height, so we recommend that you make corrections to match the object to be printed on you are using.

First, print a test pattern, and then determine and enter the correction value. After entering the correction value, print a test pattern again and check the correction results.

This adjustment should be performed in the following cases.

- When you have changed the print-head height
- When the image quality is not improved with"MEDIA GAP ADJ SIMPLE SETTING"

Procedure

1. **Press [MENU].**

2. **Press [▼] to display the following screen.**

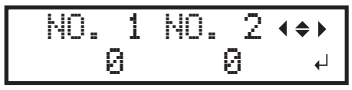
3. **Press [▶], then [▲] to display the screen shown below.**

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

5. **Press [ENTER].**

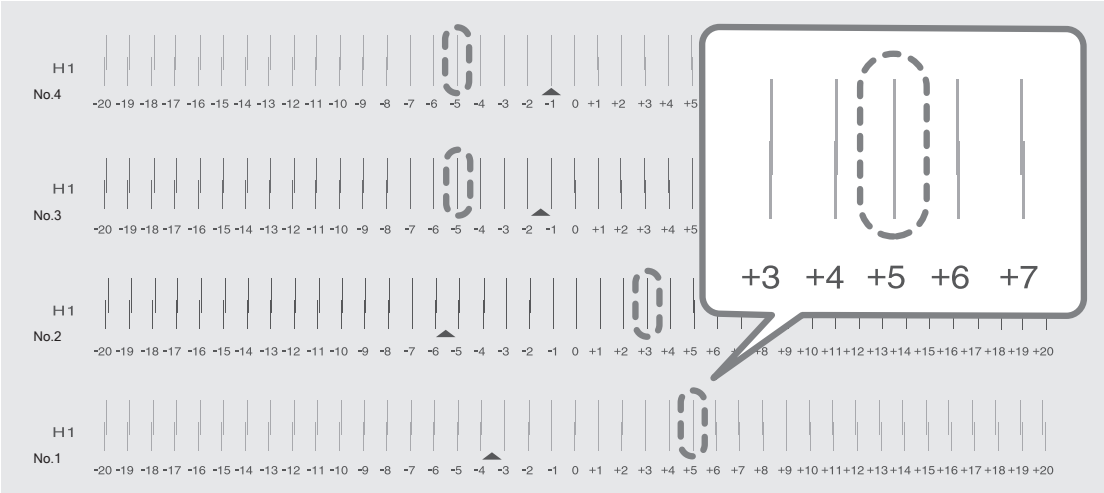
   Printing of the test pattern starts.

6. **When printing is finished, press [▼], then [▶] to display the screen shown below.**



7. **View the printed test pattern, and then determine the correction values from "MEDIA GAP ADJ. No.1" to "MEDIA GAP ADJ. No.4".**

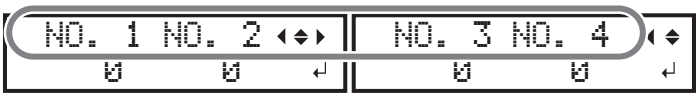
   Select the value that gives the least misalignment between the two lines. In the case of the following figure, select "+5" for NO. 1. When you cannot choose between two sequential numbers, select a value that is between them (you can set correction values in units of "0.5").



8. **Set the correction values from "No.1" to "No.4".**

(1) **Press [◀] or [▶] to select a value from "No.1" to "No.4".**

(2) **Press [▲] or [▼] to select the correction value.**



(3) **When you have finished setting the correction values, press [ENTER].**

The screen shown below appears again.

9. **Press [▼] to display the following screen.**

10. **Press [ENTER].**

Printing of the test pattern starts.

11. **Check the test pattern to see whether the correction was successful.**

For all the correction values, check that the misalignment is minimized for the two vertical lines indicated by "▲" (that is, the current correction value). If the misalignment is smaller for another set of vertical lines, set the correction value again.

12. **When you have successfully performed the correction, press [MENU] to go back to the original screen.**

RELATED LINKS

- P. 52 Adjusting the Misalignment of the Ink Landing Position

Reducing Horizontal Bands (Feed Correction Function)

Perform corrections to make the band-shaped "stripes" on the printed surface less noticeable.

The band-shaped "stripes" are called "horizontal bands" or "banding."

First, print a test pattern, and then determine and enter the correction value. After entering the correction value, print a test pattern again and check the correction results. Repeat the process of printing a test pattern and entering a correction value several times to find the optimal correction value.

Procedure

1. **Press [MENU].**

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

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

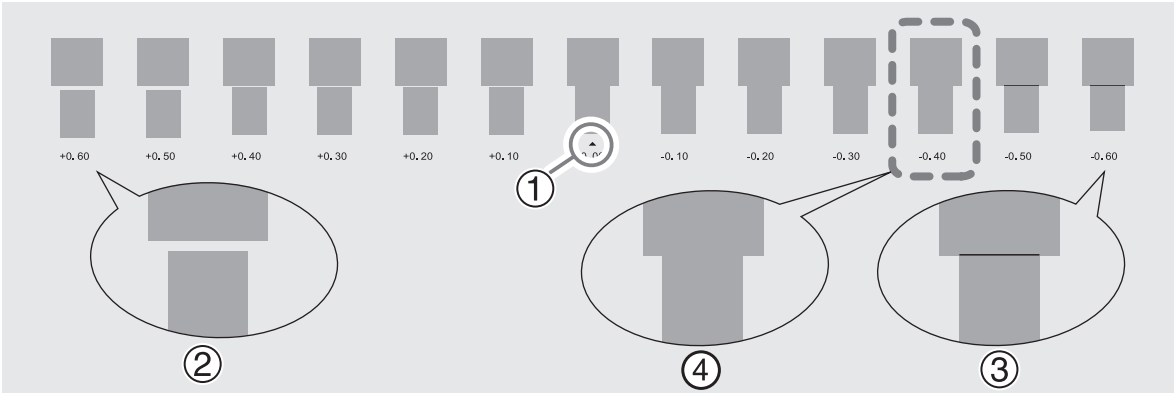
4. **Press [ENTER].**

   Printing of the test pattern starts.

5. **When printing is finished, press [▼], then [▶] to display the screen shown below.**

6. **View the printed test pattern, and then determine the correction value.**

   The current correction value (①) is that of the figure indicated by "▲." Select the value to make the gap (②) and overlap (③) between the upper/lower squares smallest (④). In the case of the following figure, select "-0.40." When you cannot choose between two sequential numbers, specify a value that is between them.



7. **Press [▲] or [▼] to select the correction value.**

8. **Press [ENTER] to confirm your entry.**

9. **Press [◀] or [▼] to display the following screen.**

10. **Press [ENTER].**

Printing of the test pattern starts.

11. **Check the test pattern to see whether the correction was successful.**

Check that the gap and overlap are the smallest for the figure indicated by "▲" (that is, the current correction value). If the gap and overlap are smaller for another figure, set the correction value again.

12. **When you have successfully performed the correction, press [MENU] to go back to the original screen.**

MEMO

- Default setting: 0.00%
- Depending on the software RIP you are using, you can also configure this setting in the software RIP (by, for example, choosing the media type). When you have made the setting in the software RIP, the software RIP's setting is used and the printer unit's setting is ignored.

Configuring Settings to Match the Properties of the Object to Be Printed On

Setting the Print Head Height to Suit Unevenness on the Print Surface

When printing on objects that easily come loose due to poor suction, or if the print surface is slightly uneven, resulting in a height difference between the detected and actual print surface height, adjust the height of the print heads so that they do not come into contact with the object to be printed on.

When printing on objects with low unevenness, select the print head height from "LOW" or "HIGH". Normally move the height-adjustment lever to "LOW". When printing on objects with higher unevenness, use "HIGH". The printing quality degrades as the distance between the print surface and the print heads increases. Do not move the height-adjustment lever to "HIGH" needlessly.

Select "SpLOW" when printing on a flat object with a high degree of parallelism between the contact surface and the print surface as well as minimal unevenness on the print surface.

Procedure

1. **Press [MENU].**

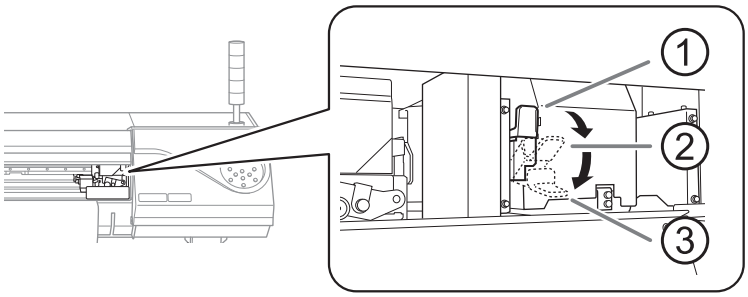
2. **Press [▼] several times to display the following screen.**

3. **Press [▶]. After "NOW PROCESSING.." is displayed, the screen shown below appears.**

4. **Open the front cover.**

5. **Move the height-adjustment lever to adjust the head height.**

When you change the position of the height-adjustment lever, the display screen changes and a warning beep sounds at the same time.



	Position	Display screen
①	"HIGH"	
②	"LOW"	
③	"SpLOW"	

MEMO

- Normally move the height-adjustment lever to "LOW". When printing on objects with higher unevenness on the print surface, use "HIGH".
- The printing quality degrades as the distance between the object to be printed on and the print heads increases. Do not move the height-adjustment lever to "HIGH" needlessly.

6. **Close the front cover.**

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

MEMO

- Default setting: "LOW"

Avoiding Canceling Due to Cleaning during Printing

Cleaning during Printing

This machine counts the hours of printing, and when the accumulated printing hours reach a specified time, automatic cleaning is performed. When cleaning finishes, the accumulated printing time is reset. This cleaning is performed during printing, so print quality may be affected.

To avoid cleaning during printing, first obtain the time until cleaning is performed. Next, use the software RIP to confirm the required time for printing. If the required time for printing is greater than the time until cleaning, perform normal cleaning prior to printing. This will cause the accumulated printing time to be reset. Alternatively, change the print quality to reduce the time required for printing. Either of these methods can be used to prevent cleaning from being performed while printing is in progress.

1. Confirm the accumulated printing time.

Procedure

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

3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

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

5. **Press "▲" or "▼" to select "SHOW".**
6. **Press [ENTER] to confirm your entry.**
7. **Load the object to be printed on to display the screen shown below.**

   The time until cleaning is performed is displayed on the screen after "CL.".

> **MEMO**
>
> Default setting: "HIDE"

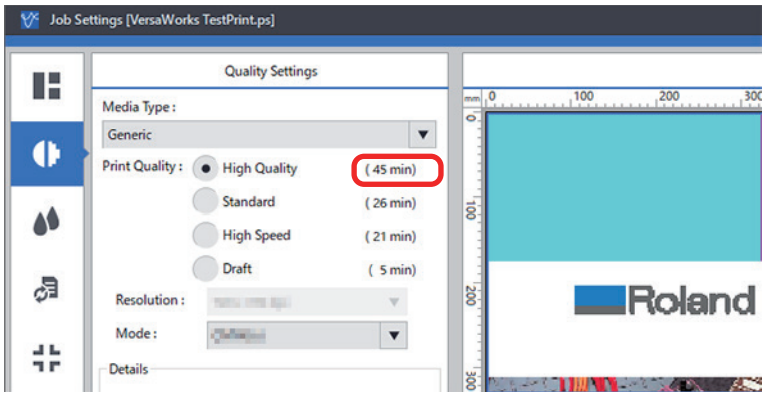
2. Confirm the required time for printing.

Use the software RIP to confirm the required time for printing. The following is the method for confirming when using VersaWorks.

Procedure

1. **Display the [Job Settings] window.**

2. **Confirm the required time for printing.**



RELATED LINKS

- VersaWorks manual (https://downloadcenter.rolanddg.com/VersaWorks6)

3. Perform normal cleaning.

Check the time until cleaning and the required time for printing, and perform normal cleaning if necessary.

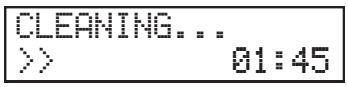
Procedure

1. **Press [FUNCTION].**

2. **Press [▼], then [▶][▼] to display the screen shown below.**

3. **Press [ENTER].**

   The screen shown below appears, and then cleaning starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")



   When finished, the screen shown below appears again.

4. **Press [▲].**

5. **Press [ENTER].**

   Ensure that no dot drop-out or dot displacement occurs.

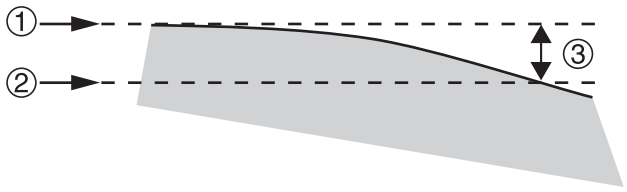
6. **Press [FUNCTION] to return to the original screen.**

Notes When the Print Surface Is Uneven

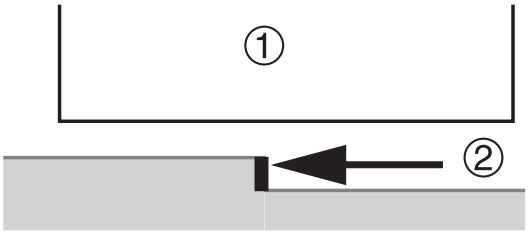
This machine can also print on uneven surfaces. However, remember the following points for the height setting.

- The gap between the "highest position of the object to be printed on" (①) and the "lowest position of the print surface" (②) should be 2 mm (78.7 mil) or less (③; as a general guide).

Print quality at the lower position degrades as the height gap widens.



- Printing on a surface (②) that is perpendicular to the print heads (①) is not possible.



Optimizing Work Efficiency

Aligning the Object to Be Printed On

Loading the Object to Be Printed On in the Dedicated Jig

Although producing jigs can be time-consuming and costly, jigs make it possible to create a wide variety of products efficiently.

Using jigs can be beneficial if the labor and costs that can be cut using a jig exceed the labor and costs of making the jig.

The following is an overview of printing using jigs.

- Temporarily fix the dedicated jig to the table. Because the position and angle will be adjusted during actual printing, temporary installation is acceptable.
- Attach the object to be printed on to the temporarily fixed jig, and set the height of the print surface.
- Once the jig position has been set, you can determine exactly where the object to be printed on will be placed.
- Create print data that takes into account the installation location of the object to be printed on in the dedicated jig.
- Use VersaWorks to set the printing position of the data.

  https://downloadcenter.rolanddg.com/VersaWorks6
- Perform several test prints to adjust the printing position and height.

The dimensions, mounting position, and mounting angle of the jig may not be as expected.

Moreover, some jig materials may expand or contract according to the temperature and humidity.

For these reasons, checking and adjusting the printing position using an actual object is recommended.

Loading the Object to Be Printed On in the Printing Position

When not making enough prints to require the need for making jigs, use simple positioning.

However, note that positioning accuracy will be limited to visual inspection levels.

- Set the media surface height as the print surface height.
- Print the print data—including the external shape of the object to be printed on—onto the media.
- Place the object to be printed on directly on top of the printed object.

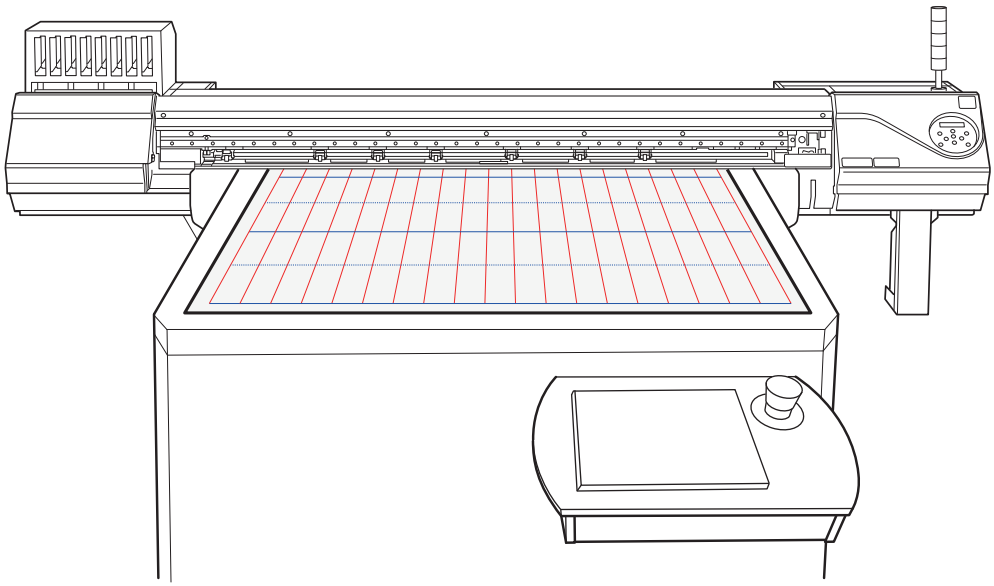
  Secure the object in place using a substance such as commercially available adhesive tape.
- Set the height of the object to be printed on as the print surface height.
- Print the print data—excluding the external shape of the object to be printed on—onto the object.
- Attach paper or some other wide, flat, printable media to the table.

  Turn on [TS : VACUUM] to ensure the media does not come loose when doing the work.

MEMO

- [TS : VACUUM] can be used for models with a vacuum.
- Media refers to the thin sheet used to make it easier to position the object.

Aligning the Object to Be Printed on to the Grid



This section explains how to affix and suction printable media to the table and how to print grid lines onto the media.

These printed grid lines can be used to align the object to be printed on, making it easier to set the printing position.

If the media becomes dirty or unusable, replace it.

<Items required>

- Printable media that meets the following requirements:

  Highly breathable

  Uniform thickness

  Minimal expansion/contraction due to temperature or humidity
- Tape for securing media
- Squeegee
- Print data for grid lines

  Click here for printing data with 10 mm (0.39 in.) spacing: (, Adobe Illustrator EPS file)

  * The data has a size of 1615 × 3050 mm (63.58 × 120.08 in.). Remove any unnecessary lines so that the grid does not extend beyond the media on the table.

Procedure

1. **Use the touch panel to move the printer unit to a location where it will not interfere with the work.**

   Press and hold [TS : START Z]. The printer unit will rise to the highest point.

   Then, press and hold [TS : END X]. The printer unit will move to the back of the table.

2. **Place the media on the table.**

   Place the media in the front-right corner of the maximum printing area.

3. **Check that [TS : VACUUM] is shown for the button on the touch panel, and then press [TS : PUMP1].**

   While the media is being suctioned against the table, remove any wrinkles from the media with a squeegee.

Place the object to be printed on atop the media as a test, and confirm that the object to be printed on can still be suctioned through the media.

If the object to be printed on cannot be suctioned, the media is not suitable for use on the table. In such cases, try different media.

IMPORTANT

If the button is displaying [TS : BLOW], press [TS : BLOW] to switch to [TS : VACUUM].

4. **After removing all of the wrinkles, secure the media with tape.**

5. **Press and hold [TS : START X] on the touch panel.**

   The printer unit will move to the front of the printable range.

6. **Press [TS : AUTO Z] on the touch panel.**

   The printer unit will descend while [TS : AUTO Z] is pressed.

   A sensor is used to detect the height and stop the descent. When the printer is stopped, the height will be set as the print surface height.

   Keep pressing [TS : AUTO Z] until the printer stops descending.

7. **Edit the print data so that it does not extend beyond the size of the media on the table.**

   Save the file in EPS format.

8. **Start VersaWorks and input the print data.**

   Drag the file to the job list.

9. **Double-click the job registered in step 8, and open the job settings window.**

   Set the print quality and other settings as necessary. Do not change the printing position from the default setting (0,0).

   When finished configuring the settings, click [**OK**] to close the window.

10. **Click  to print.**

Loading Heavy and Difficult-to-Move Objects to Be Printed On

Use the blower if the object to be printed on is heavy or difficult to place.

Air will be blown from holes in the surface of the table, making it easier to move the object to be printed on when placed on the table.

MEMO

The blower can be used for models with a vacuum.

Procedure

1. **Tap [TS : VACUUM] on the touch panel.**

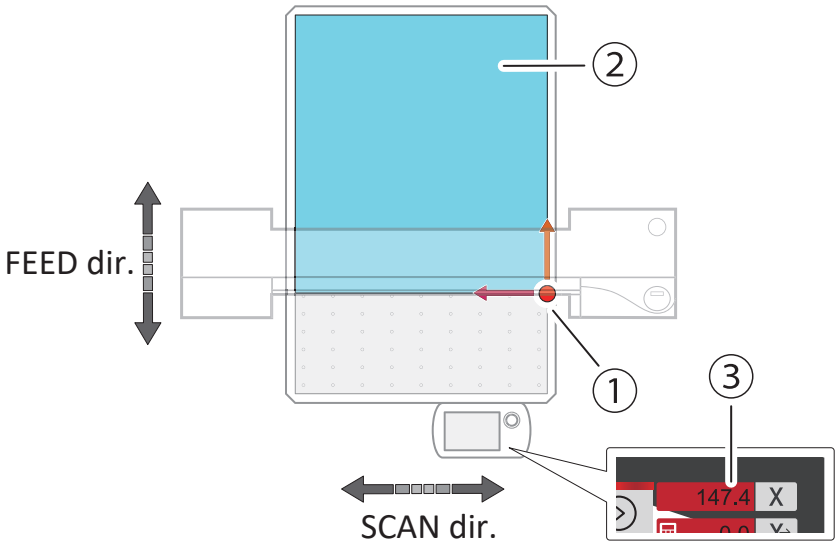
   The button display will switch to [TS : BLOW].

   If [TS : BLOW] is already displayed, there is no need to switch the setting.

2. **Tap [TS : PUMP1].**
   Air will begin blowing.

Adjusting the Output-start Location

Printing-start Location



The current position (③) is always the printing-start location (①) in the feed direction (forward/backward).

The right edge of the printing area (②) is the printing-start location in the scan direction (left/right).

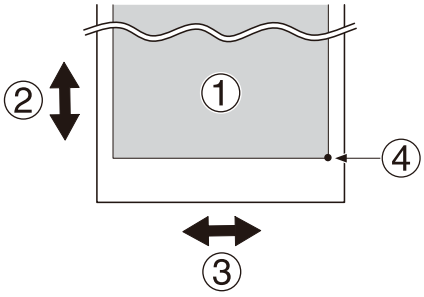
To set a specific position as the printing-start location, set the base point.

Setting the Base Point

Set the base point to determine the printing position on the loaded object to be printed on.

The base point (④) indicates the lower-right corner of the printing area (①) (②: feed direction, ③: scan direction).

The base point will be cleared after printing.



MEMO

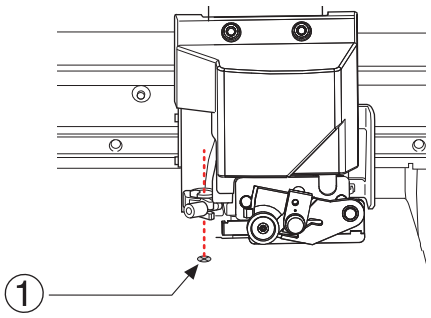
- Note that the left and right positions are not restored to their defaults for test patterns.

Procedure

1. **Press [◀] while the following screen is displayed.**
   The cutting carriage moves to within the printing area.

2. **Press [◀], [▶], [▲] or [▼] to move the center of the cylinder in the figure to the position that you want to set as the base point.**

Only the cutting carriage moves.



- ①: Base point (right edge of the output area)

3. **Once the position has been decided, press [FUNCTION] to display the screen shown below.**

4. **Press [ENTER] to confirm your entry.**

When the screen displays the character [**B**] together with the printable width at the location (as shown in the following figure), setting is completed.

MEMO

After the location of the base point has been set, do not change this location in the feed direction. Printing will be performed from the changed location.

Reducing Output Time

Speeding Up Output for Narrow Print Objects

This shortens output time by reducing the width of head movement to the minimum necessary. This feature is effective when the object to be printed on or the output data has a small width.

Procedure

1. **Press [MENU].**

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

3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

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

5. **Press [▲] or [▼] to select "OFF".**

"OFF"	Matches the range of print head movement to the output data. Movement is limited to the minimum amount necessary, and this can be expected to yield the fastest output. Note, however, that because the movement speed of the object to be printed on is no longer constant, colors may be uneven.
"FULL" (Default settings)	"FULL" makes the speed of the movement of the object to be printed on constant at all times and produces the most stable printing results.

6. **Press [ENTER] to confirm your entry.**

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

Speeding Up Output for Deep Objects

You can reduce the output time by shortening the illumination distance of the UV-LED lamp after printing.

IMPORTANT

If this distance is too short, the UV-LED lamp's illumination time will also be too short, possibly preventing the ink from being cured. Be sure to try printing and check that the ink is cured.

MEMO

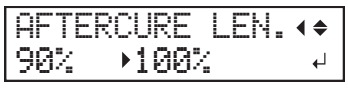
- This setting is effective for objects that have high ink adhesion. Check the material of the object before printing.
- Using primer and degreasing the object with anhydrous ethanol or isopropyl alcohol are also effective methods for increasing the adhesion of the ink.

Procedure

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

3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

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



5. **Press [▲] or [▼] to set the illumination distance of the UV-LED lamp.**

   The smaller the number, the shorter the illumination distance of the UV-LED lamp after printing.

   MEMO

   - You can change the illumination distance of the UV-LED lamp in increments of 5%.
   - Default setting: [**100%**]

6. **Press [ENTER] to confirm your entry.**
7. **Press [MENU] to return to the original screen.**

Other Useful Functions

Performing Printing Tests Arranged Horizontally

When performing printing tests successively, you can select "FEED" (vertical printing) or "SCAN" (horizontal printing) as the print position for the second and later tests in comparison to the first test.

Procedure

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

3. **Press [▶], then [▲] to display the screen shown below.**

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

5. **Press [▲] or [▼] to select "SCAN".**

6. **Press [ENTER] to confirm your entry.**
7. **Press [ENTER] to go back to the original screen.**

> MEMO
>
> Default setting: "FEED"

Optimizing Operation Management

Managing the Operations Appropriately and Efficiently

Setting the Current Date/Time and Using It for Maintenance

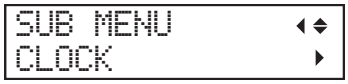
Set the current date/time. By setting this, when you perform a printing test the printing test date and time will be printed alongside the printed test pattern.

Procedure

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

3. Press [▶] once, and then press [▼] several times to display the screen shown below.

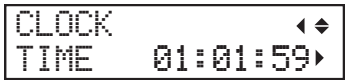
   

4. Press [▶] to display the following screen.

   (1) Press [▶].
   (2) Press [▲] or [▼] to set the year.
   (3) Press [▶].
   (4) Press [▲] or [▼] to set the month.
   (5) Press [▶].
   (6) Press [▲] or [▼] to set the day.

5. Press [ENTER] to confirm your entry.
6. Press [▼] to display the following screen.

   (1) Press [▶].
   (2) Press [▲] or [▼] to set the hour.
   (3) Press [▶].
   (4) Press [▲] or [▼] to set the minute.
   (5) Press [▶].
   (6) Press [▲] or [▼] to set the second.

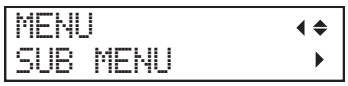
7. Press [ENTER] to confirm your entry.
8. Press [MENU] to return to the original screen.

Determining What Happens When Ink Runs Out

This menu lets you determine the operation that takes place when an ink cartridge becomes empty during printing. The print quality will be affected by the selected operation.

Procedure

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



3. **Press [▶].**
4. **Press [▼] several times to display the following screen.**

5. **Press [▶] twice to display the screen shown below.**

6. **Press [▲] or [▼] to select an item.**

"EMPTY MODE"	Description
"STOP" (Default settings)	Printing is paused immediately when an ink cartridge becomes empty. Printing pauses, so colors may be uneven. To prevent uneven colors, ensure that a sufficient amount of ink remains before you begin printing.
"CONT"	A warning beep sounds when an ink cartridge becomes empty. Printing continues until all the data that this machine has received is printed. In this case, it is also possible to press [SETUP/PAUSE] and pause printing.

7. **Press [ENTER] to confirm your entry.**
8. **Press [MENU] to return to the original screen.**

Notifying the User of Ink Exceeding Its Shelf Life

Use this menu item to set the machine so that a warning message ("INK SHELF LIFE EXPIRE") is displayed on the screen when the ink's shelf life is exceeded.

This message is displayed when the sub power is turned on for the first time after the ink has expired. A warning beep sounds at the same time the message is displayed.

Procedure

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

3. **Press [▶] twice to display the screen shown below.**

4. **Press [▲] or [▼] to select an item.**

"SETTING"	Description
"ENABLE" (Default settings)	The user is notified of ink exceeding its shelf life with a warning beep and a message.
"DISABLE"	The user is not notified of the ink exceeding its shelf life.

5. **Press [ENTER] to confirm your entry.**
6. **Press [MENU] to return to the original screen.**

MEMO

Continuing to use ink that has exceeded its shelf life may lead to the following problems and malfunction. We recommend setting this item to "ENABLE".

- Ink leaks from the ink cartridge.
- The ink viscosity increases, leading to ink discharge issues (which may result in decreased print quality).
- The ink hardens, leading to printer unit malfunctions.

Checking the Ink Shelf Life

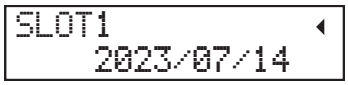
You can use the display to check the shelf lives of the inks in slots 1 to 8.

Procedure

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

3. **Press [▶], then [▼] to display the screen shown below.**

4. **Press [▶] to display the following screen.**
   You can check the shelf lives of the inks.



5. **Press [◀].**
6. **Check the shelf lives of the inks in the other slots according to steps 3 and 4.**
7. **Press [MENU] to return to the original screen.**

MEMO

The shelf life items (the expiration year, month, and day) are blank when the ink cartridge's IC chip is broken.

RELATED LINKS

- P. 77 Notifying the User of Ink Exceeding Its Shelf Life

Setting the Activation Interval for Sleep Mode (Power-saving Feature)

This setting is used to set how long it should take until the machine goes into sleep mode (the state in which the power-saving feature is working) when no print data is received and no operations are performed for a continued length of time.

Procedure

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

3. **Press [▶].**
4. **Press [▼] several times to display the following screen.**

5. **Press [▶] twice to display the screen shown below.**

6. **Press [▲] or [▼] to set the time.**
7. **Press [ENTER] to confirm your entry.**
8. **Press [MENU] to return to the original screen.**

MEMO

- Default setting: 30 Minutes
- When "SLEEP SETTING" is set to "DISABLE", the machine does not switch to sleep mode, so this setting is ignored.

RELATED LINKS

• P. 80 Deactivating the Sleep Mode (Power-saving Feature)

Deactivating the Sleep Mode (Power-saving Feature)

This setting is used to set the machine so that it never goes into sleep mode (the state in which the power-saving feature is working) when no print data is received and no operations are performed for a continued length of time.

Procedure

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

3. **Press [▶].**
4. **Press [▼] several times to display the following screen.**

5. **Press [▶], then [▼] to display the screen shown below.**

6. **Press [▶] to display the following screen.**

7. **Press [▲] or [▼] to select an item.**

"SETTING"	Description
"ENABLE" (Default settings)	The sleep mode is activated after a certain period of time.
"DISABLE"	The sleep mode is not activated.

8. **Press [ENTER] to confirm your entry.**
9. **Press [MENU] to return to the original screen.**

RELATED LINKS

- P. 79 Setting the Activation Interval for Sleep Mode (Power-saving Feature)

Managing the Basic Settings of the Printer Unit

Setting the Menu Language and Units of Measurement

This feature sets the language and units of measurement displayed on the display screen of the operation panel.

MEMO

This procedure does not change the language set on the touch panel.

Procedure

1. **Hold down [MENU] and switch on the sub power.**
2. **Press [▲] or [▼] to select the display (menu) language.**

3. **Press [ENTER] to confirm your entry.**
4. **Press [▲] or [▼] to select the measurement unit for length.**

5. **Press [ENTER] to confirm your entry.**
6. **Press [▲] or [▼] to select the measurement unit for temperature.**

7. **Press [ENTER] to confirm your entry.**

MEMO

Default settings

- "MENU LANGUAGE": ENGLISH
- "LENGTH UNIT": mm
- "TEMP UNIT": °C

Viewing System Information

This is a method for viewing system information of this machine, such as serial number and ink type.

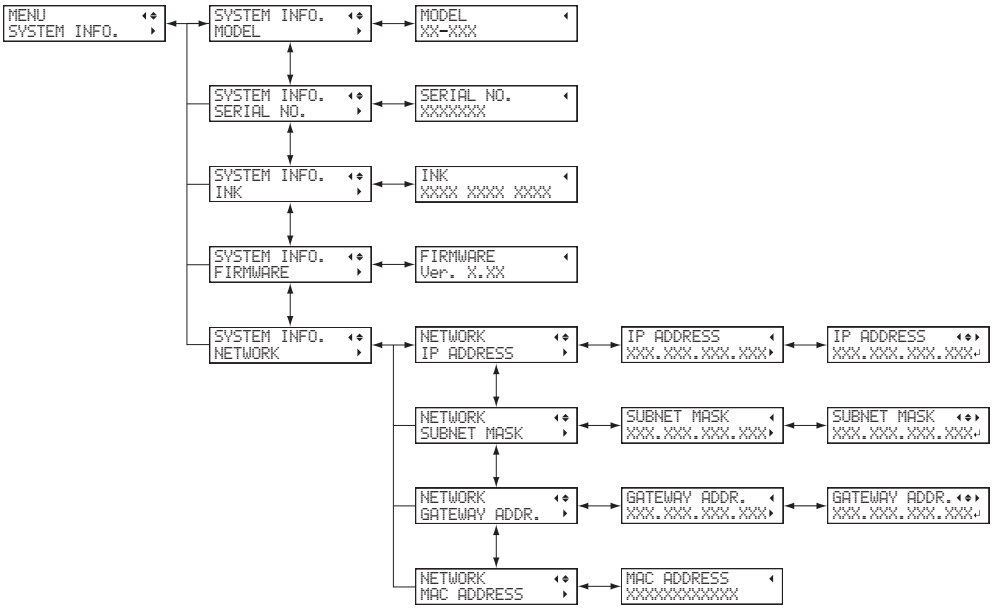
Procedure

1. **Press [MENU].**

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

You can check the following information:

- "MODEL": Model name
- "SERIAL NO.": Serial number
- "INK": Ink type
- "FIRMWARE": Firmware version
- "NETWORK": Network settings such as the IP address



Returning All Settings to Factory Defaults

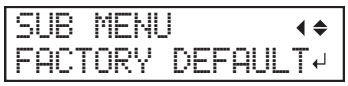
This menu returns all settings to the same as their factory defaults.

The settings for "MENU LANGUAGE", "LENGTH UNIT", and "TEMP UNIT" are not returned to their factory default values.

Procedure

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

3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**



4. **Press [ENTER] to confirm your entry.**

Maintenance

Introduction

Important Notes on Handling and Use

Printer Unit

- **The printer unit is a precision device.**
  - Never subject the machine to impacts or excessive force.
  - Never needlessly put your hand or fingers inside the cover, the ink-cartridge ports, or other internal areas of the machine.
- **Install in a suitable location.**
  - Install the machine in a location having the specified temperature and humidity.
  - Install the machine in a quiet, stable location offering good operating conditions.
- **The print heads and the UV-LED device are delicate devices.**
  - Never needlessly touch or allow the object to be printed on to scrape them. Failure to handle these items with care may cause damage.
  - The print heads may be damaged if allowed to dry out. The machine prevents desiccation automatically, but improper operation may render this feature inoperative. Operate the machine properly, as specified in this manual.
  - Never leave the machine with an ink cartridge removed. Remaining ink in the printer unit may harden and clog the print heads.
  - Daily maintenance as well as various types of maintenance depending on the status must be performed. Read this manual thoroughly and perform the appropriate maintenance at the appropriate times.
  - The print heads are components that wear out. Periodic replacement is required, with the frequency of replacement depending on use.

Ink Cartridges

⚠ WARNING

Never store ink, cleaning liquid, or discharged fluid in any of the following locations.

- **Any location exposed to open flame**
- **Any location where high temperature may occur**
- **Near bleach or any other such oxidizing agent or explosive material**
- **Any location within the reach of children**

Fire may be a danger. Accidental ingestion by children may pose a health hazard.

- **Ink cartridges come in various types.**
  - Use a type that is compatible with the printer unit. Also, be sure to use only genuine items from Roland DG Corporation.
- **Never subject to impact or attempt to disassemble.**
  - Never drop the ink cartridges or shake them forcefully. The impact may rupture the internal pouch and cause the ink to leak.
  - Never attempt to disassemble the ink pouches.
  - Never attempt to refill the ink.
  - If ink gets on your hands or clothing, wash it off as soon as possible. Removal may become difficult if you leave such adhered ink untreated.
- **Storage**

- Use up the ink before the expiration date printed on the ink cartridge.
- Store the ink cartridges in a location that is not subject to direct sunlight or strong illumination.
- Store the ink cartridges unopened in a well-ventilated location at a temperature of 5°C (41°F) or higher and less than 40°C (104°F) and a relative humidity of 20 to 80%RH.

Basic Maintenance Knowledge

Types and Timing of Maintenance

To use this machine under its optimal conditions, it is important to perform the appropriate maintenance at the appropriate times.

Regular Maintenance

These are the maintenance items that are required on a daily basis.

Timing	Category	Item
Before daily operations	Maintenance of ink cartridges	P. 96 Maintenance of Ink Cartridges
	Cleaning of the print heads	P. 97 Printing Tests and Normal Cleaning
During and after daily operations	Cleaning the machine	P. 92 Cleaning the Machine
	Manual cleaning	P. 99 Manual Cleaning
If the discharged fluid disposal message appears	Disposing of discharged fluid	P. 94 If the Discharged Fluid Disposal Message Appears
Once a month	Cleaning the UV-LED device	P. 116 How to Clean the UV-LED Device

Advanced Maintenance

These maintenance methods consume a large amount of ink. Thoroughly read the explanation, and then perform the operation at the appropriate point in time.

Timing	Category	Item
When dot drop-out or dot displacement occurs	Cleaning of the print heads	P. 109 Medium Cleaning Method
		P. 111 Powerful Cleaning Method
		P. 99 Manual Cleaning
When the white ink concentration drops	Eliminating drops in ink concentration	P. 123 Light Choke Cleaning Method
When manual cleaning is not effective	Eliminating uneven colors, dot drop-out, and dot displacement	P. 129 Handling Severe Dot Drop-out, Dot Displacement, and Uneven Colors

Replacing Consumable Parts

These items are for replacement of consumable parts. Thoroughly read the explanation, and then perform the operation at the appropriate point in time.

Timing	Category	Item
When a replacement message appears	Replacing consumable parts • Wiper • Felt wiper	P. 137 Replacing the Wiper
		P. 141 Replacing the Felt Wiper

Automatic Maintenance Feature and Notes

This machine has a feature that automatically performs maintenance periodically.

This function performs operations for preventing the print heads from drying out, so:

- **Always keep the printer unit's main power switched on.**
- **Always leave [STANDBY PLOTTER] on the power distribution board switched on.**
- **Do not leave the front cover open for a long time.**
- **Return to the top menu after specifying settings in the menus.**

Measures When the Printer Is Not in Use for a Prolonged Period

Be sure to follow the instructions shown below when the printer is not in use for a prolonged period.

- **Empty the drain bottle.**

  If you know that you will not use the machine for a prolonged period, empty the drain bottle. When the main power is on, the machine periodically performs automatic maintenance in which fluid is discharged.

  The drain bottle is filled when the following periods elapse. To perform automatic maintenance, discard the discharged fluid during these periods.

  - Approximately 3 weeks after the message "EMPTY DRAIN BOTTLE" is displayed
  - Approximately 300 days after the drain bottle is emptied
- **Switch the sub power on once every two weeks.**

  Switch the sub power on once every two weeks. Check for notifications and perform the required maintenance.
- **Keep the machine at a constant temperature and relative humidity.**

  Even when the machine is not in use, keep it at a temperature of 5 to 40°C (41 to 104°F) and a relative humidity of 20 to 80% (with no condensation). Failure to do so may result in malfunction.

RELATED LINKS

- P. 94 If the Discharged Fluid Disposal Message Appears

Regular Maintenance

Cleaning the Machine

Cleaning the Table

Wipe away any ink or other substances on the table.
Ink stains left on the table may stain the attached object to be printed on.
Clean by wiping with a cloth moistened by neutral detergent diluted with water then wrung dry.

⚠ WARNING

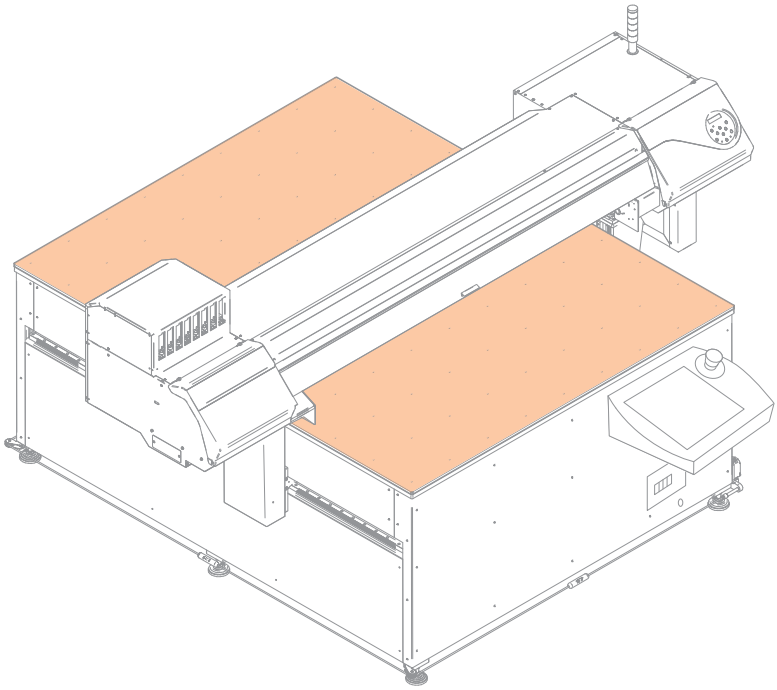
Never use a solvent such as gasoline, alcohol, or thinner to perform cleaning.
Doing so may cause a fire.

⚠ CAUTION

Before attempting cleaning, switch off the sub power and wait until the UV-LED device cools (approximately 15 minutes).
Sudden movement of the machine may cause injury, or hot components may cause burns.

IMPORTANT

- This machine is a precision device and is sensitive to dust and dirt. Perform cleaning on a daily basis.
- Never attempt to oil or lubricate the machine.



Disposing of Discharged Fluid

Precautions for Disposing of Discharged Fluid

⚠ WARNING

Never place discharged fluid or ink near an open flame.

Doing so may cause a fire.

⚠ CAUTION

To store discharged fluid temporarily, place it in the included drain bottle or in a durable sealed container such as a metal can or polyethylene tank, and cap the container tightly.

Any spillage or vapor leakage may cause fire, odor, or physical distress.

IMPORTANT

Dispose of discharged fluid properly, in accordance with the laws in effect in your locale.

Discharged fluid is flammable and contains toxic ingredients. Never attempt to incinerate discharged fluid or discard it with ordinary trash. Also, do not dispose of it in sewer systems, rivers, or streams. Doing so may have an adverse impact on the environment.

If the Discharged Fluid Disposal Message Appears

The message shown below appears when a certain amount of discharged fluid has collected in the bottle and the sub power is turned on. If this message appears, dispose of the discharged fluid.

```
EMPTY
   DRAIN BOTTLE↵
```

If you continue to use the drain bottle without discarding the discharged fluid even though the message above has been displayed, the drain bottle will become full, and the message shown below will be displayed. No more discharged fluid can be stored in the drain bottle, so be sure to discard the discharged fluid immediately. If this message appears during printing, printing is stopped.

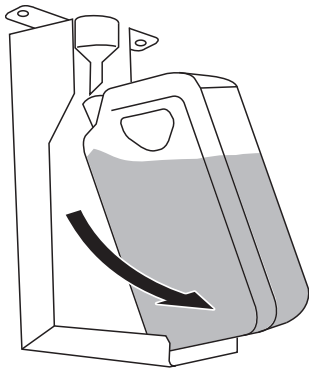
```
LIMIT OVER EMPTY
DRAIN BOTTLE   ↵
```

IMPORTANT

When the message "LIMIT OVER EMPTY DRAIN BOTTLE" appears on the screen, be sure to discard the discharged fluid. If you do not discard the discharged fluid, you will not be able to clear this message.

Procedure

1. **Remove the drain bottle and discard the discharged fluid.**



IMPORTANT

When you remove the drain bottle, a few drops of discharged fluid may come out of the machine. Exercise caution to prevent this fluid from soiling your hands or the floor.

⚠ WARNING

Never place discharged fluid or ink near an open flame.
Doing so may cause a fire.

⚠ CAUTION

To store discharged fluid temporarily, place it in the included drain bottle or in a durable sealed container such as a metal can or polyethylene tank, and cap the container tightly.
Any spillage or vapor leakage may cause fire, odor, or physical distress.

IMPORTANT

Dispose of discharged fluid properly, in accordance with the laws in effect in your locale.
Discharged fluid is flammable and contains toxic ingredients. Never attempt to incinerate discharged fluid or discard it with ordinary trash. Also, do not dispose of it in sewer systems, rivers, or streams. Doing so may have an adverse impact on the environment.

2. **Quickly attach the emptied drain bottle to the machine once more.**

3. **Press [ENTER].**

   The display returns to the original screen.

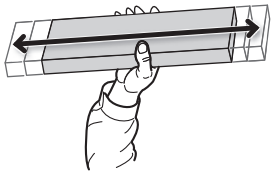
Maintenance That Must Be Performed Daily

Maintenance of Ink Cartridges

The precipitation of the ingredients in the ink disables printing in normal color. So that the ink mixes well, shake the ink cartridge horizontally with a stroke length of around 5 cm (2 in.) from each end of the ink cartridge.

- Remove the white ink cartridge, shake it 50 times (about 20 seconds), and then reinsert this cartridge.
- The ink cartridges for colors other than white do not need to be shaken before every operation, but be sure to shake them when installing new ones.

The ingredients in white ink tend to settle. Each day, before starting work for that day, be sure to shake the ink cartridge. Allowing the ink to stand can cause the settled material to harden, resulting in malfunctions or other problems.



IMPORTANT

- Before shaking the ink cartridge, wipe off any ink from around its mouth. If you do not wipe off the ink, it may splatter when you shake the ink cartridge.
- When you have finished mixing the ink, reattach the ink cartridge immediately. Taking time to reattach the ink cartridge will adversely affect the ink path.
- Even if you are not using the printer unit, shake the white ink cartridge 50 times (about 20 seconds) once a week.

Printing Tests and Normal Cleaning

1. Perform a printing test.

Before you carry out actual printing, perform a printing test to ensure no dot drop-out or dot displacement occurs. If dot drop-out or dot displacement occurs, perform cleaning of the print heads (normal cleaning).

MEMO

- When performing printing tests successively, you can select "FEED" (vertical printing) or "SCAN" (horizontal printing) as the print position for the second and later tests in comparison to the first test.

Procedure

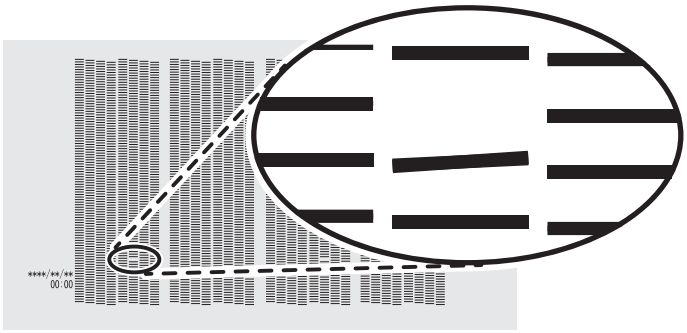
1. **Set up the object.**
2. **Press [FUNCTION].**
3. **Press [▼], then [▶] to display the screen shown below.**

4. **Press [ENTER].**

   Printing of the test pattern starts.

5. **Check whether there is dot drop-out or dot displacement in the test pattern.**

   Missing blocks indicate dot drop-out. Collapsed or inclined blocks indicate dot displacement.



6. **If you have opened the front cover, close it.**

   If no dot drop-out or dot displacement occurs, this operation is finished. Press [FUNCTION] to go back to the original screen.

RELATED LINKS

- P. 32 Setting Up the Object to Be Printed On
- P. 73 Performing Printing Tests Arranged Horizontally

2. Perform normal cleaning.

Procedure

1. **Press [▼] to display the following screen.**

2. **Press [ENTER].**

   The screen shown below appears, and then cleaning starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")

   When finished, the screen shown below appears again.

3. **Press [▲].**

4. **Press [ENTER].**

   Perform a printing test again to check whether the dot drop-out and dot displacement have been corrected.

5. **Check to make sure the dot drop-out or dot displacement has been corrected.**

   If the problem persists, try performing normal cleaning again. If the printer has been used for a long period, dot drop-outs may not be fixed even after performing normal cleaning two or three times. If this is the case, clean using a different method.

6. **Press [FUNCTION] to return to the original screen.**

RELATED LINKS

- P. 109 When Normal Cleaning Is Not Effective

Manual Cleaning

Be sure to perform manual cleaning after daily operations are finished. If you want to perform unmanned printing at night, perform manual cleaning before sending the print data.

⚠ CAUTION

Do not perform cleaning immediately after printing has finished. (Wait approximately 15 minutes after printing finishes.)

The area around the UV-LED device is hot and may cause burns.

⚠ WARNING

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.

IMPORTANT

Important notes on this procedure

- Before performing this operation, remove any objects to be printed on.
- To prevent the print heads from drying out, finish this procedure in 10 minutes or less. A warning beep sounds after 10 minutes.
- Never use any implements other than the included cleaning sticks. Cotton swabs or other lint-producing items may damage the print heads.
- Use only the included cleaning liquid.
- Use one cleaning stick per cleaning session, and then discard the stick after use. Reusing cleaning sticks will adversely affect the printing results.
- Do not put a cleaning stick that has been used for cleaning into the cleaning liquid. Doing so will deteriorate the cleaning liquid.
- Never rub the print head surface (nozzle surface).
- Stroke the sponges very gently, applying as little pressure as possible. Never rub, scrape, or crush them.
- If you use up the cleaning sticks or cleaning liquid, contact your authorized dealer or visit our website (https://www.rolanddg.com/).

When an alarm sounds during cleaning

- A warning beep sounds 10 minutes after operation starts. Stop work, close all the covers, and then press [ENTER] to end the manual cleaning mode. After that, restart the procedure from the beginning.

Required items	
	
Cleaning sticks	Cleaning liquid

1. Clean the print heads.

Procedure

1. **Remove the object to be printed on.**
2. **If the object is already set up, cancel the setup.**

3. Press [FUNCTION].

4. Press [▶].

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

6. Press [ENTER].

After "NOW PROCESSING.." is displayed, the screen shown below appears.

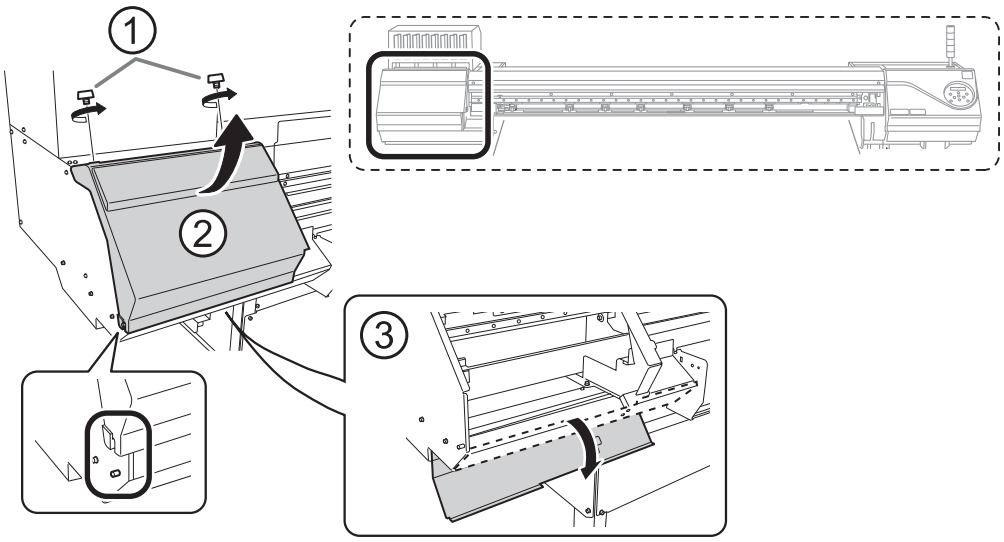
Also, the print head moves to the left end of the platen.

IMPORTANT

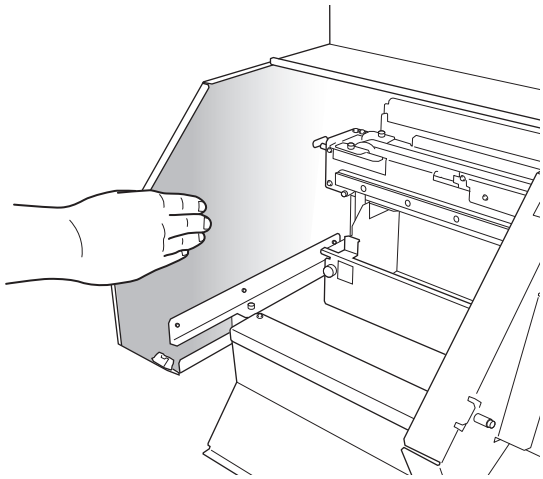
Do not press [ENTER] at this stage. Press [ENTER] after cleaning is complete. If you press [ENTER] at this stage, wait for the screen to change as shown in the following figure, and then press [ENTER] again.

7. Open the front cover.

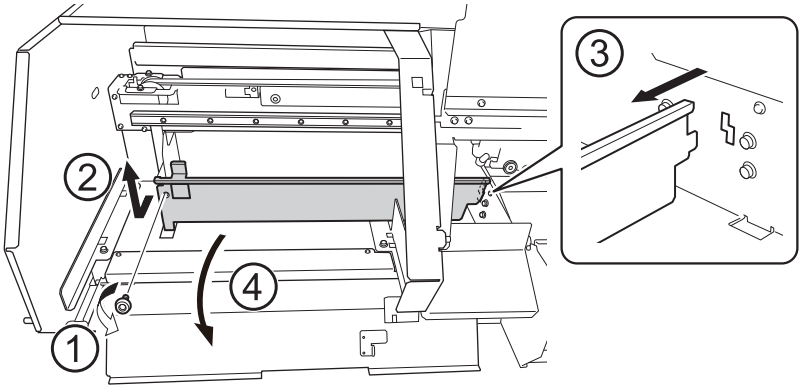
8. Open the left covers (top and bottom).



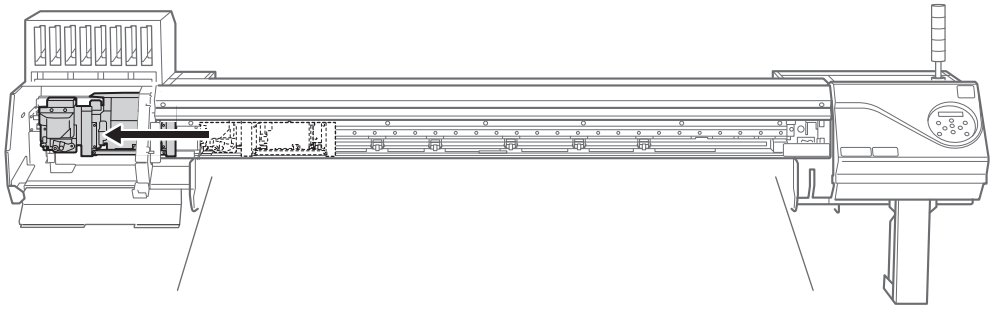
9. Touch the location shown in the figure to discharge any static electricity.



10. **Remove the cut rail.**



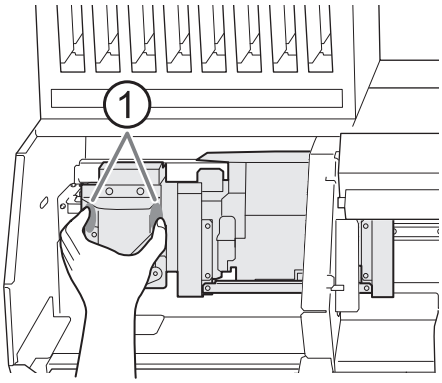
11. **Move the print-head carriage to the left end.**



Move the cutting carriage by hand.

IMPORTANT

When moving the cutting carriage by hand, be sure to hold the specified position.
Moving it by holding positions other than those specified may deform and damage the cover.

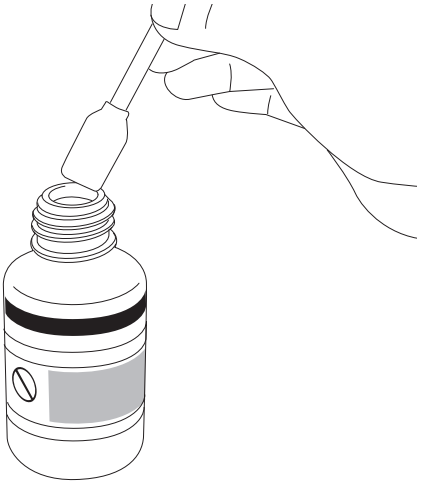


①: Position to hold with your hand

12. **Apply a large amount of cleaning liquid to the cleaning stick.**

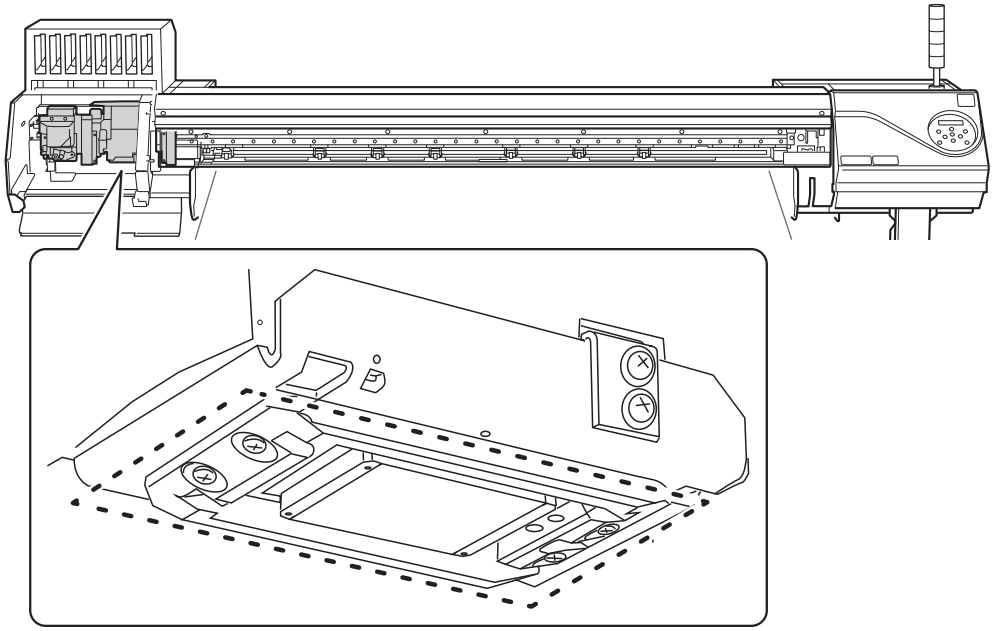
IMPORTANT

Be sure to use one of the included cleaning sticks.

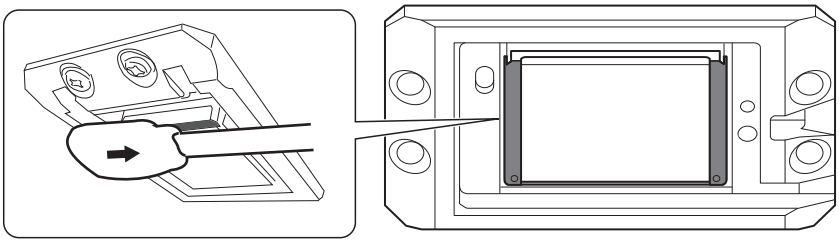


13. **Clean the locations shown in the following figure.**

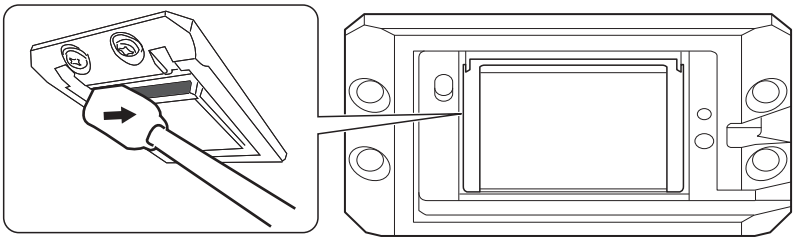
Be especially careful to clean away any fibrous dust (lint).



(1) **Press the wide surface of the cleaning stick against the left side and wipe it off. Then, press the opposite surface (which is clean) against the right side and wipe it off.**

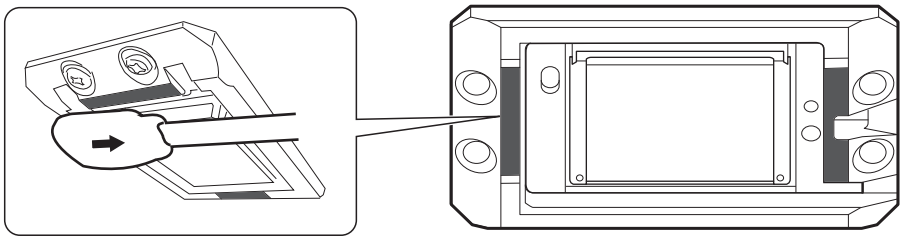


(2) **Stand the cleaning stick upright and wipe off the left side. Then, use the opposite surface to wipe off the right side.**

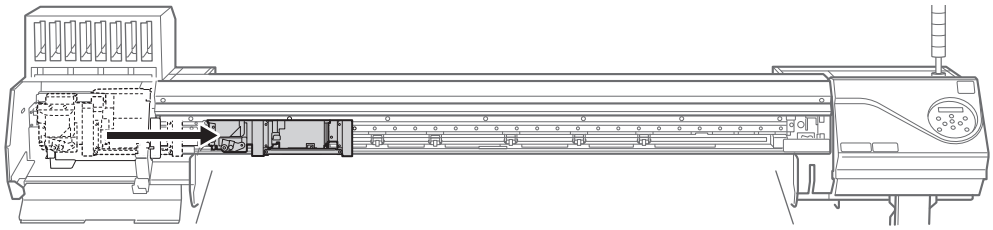


(3) **Use the wide surface of the cleaning stick to wipe away any dirt from the locations shown in the figure.**

If this area has any ink or cleaning liquid that appears likely to drip, use a dry cloth that is not fluffy to gently wipe away the ink or cleaning liquid.



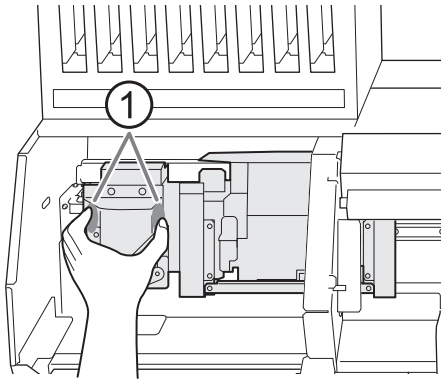
14. **When you have finished cleaning, move the print-head carriage to above the table.**



Move the cutting carriage by hand.

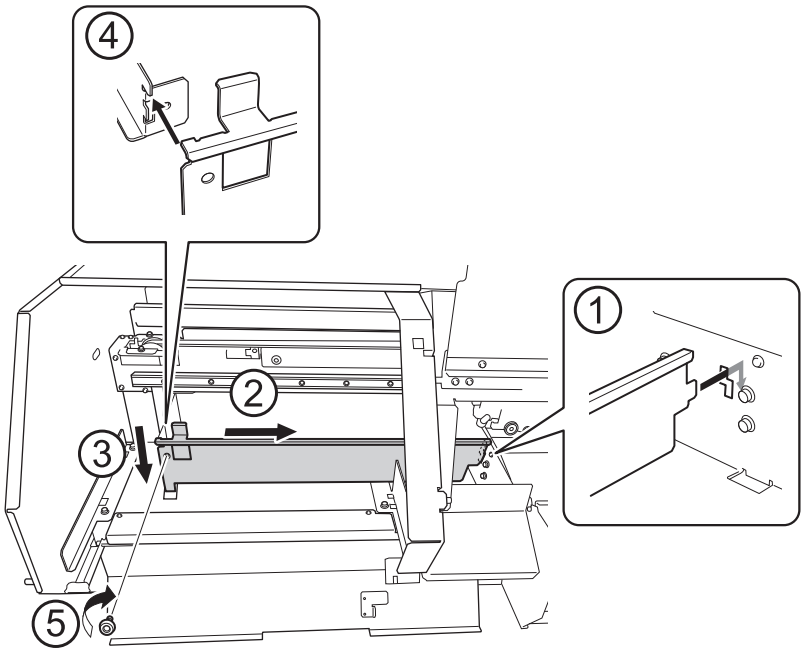
IMPORTANT

When moving the cutting carriage by hand, be sure to hold the specified position.
Moving it by holding positions other than those specified may deform and damage the cover.



①: Position to hold with your hand

15. **Attach the cut rail.**

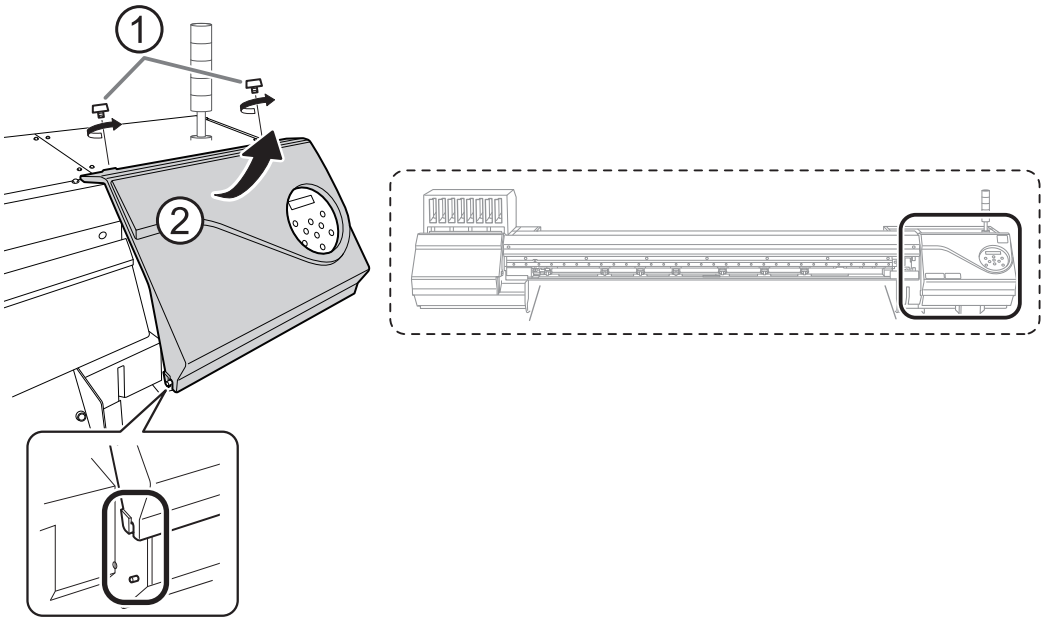


16. **Close the left covers (top and bottom).**

2. Clean the print head caps.

Procedure

1. **Open the right cover.**



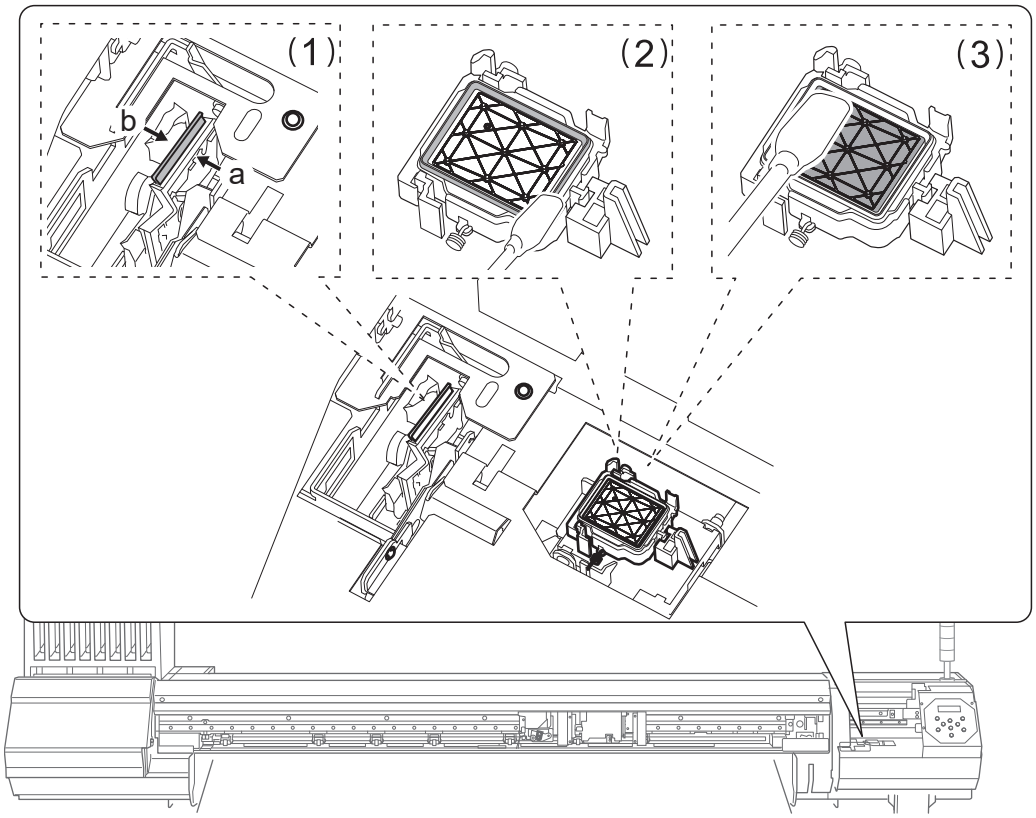
2. **Clean the locations shown in the following figure.**

Be especially careful to clean away any fibrous dust (lint).

(1) **After wiping off the hooked side of the wiper (a) with a cleaning stick, wipe off the opposite side (b).**

(2) **Wipe off the area in the figure with a cleaning stick.**

(3) **Use the wide surface of the cleaning stick, and then shift it to a different location, pressing the cleaning stick against the location to absorb the dirt there.**

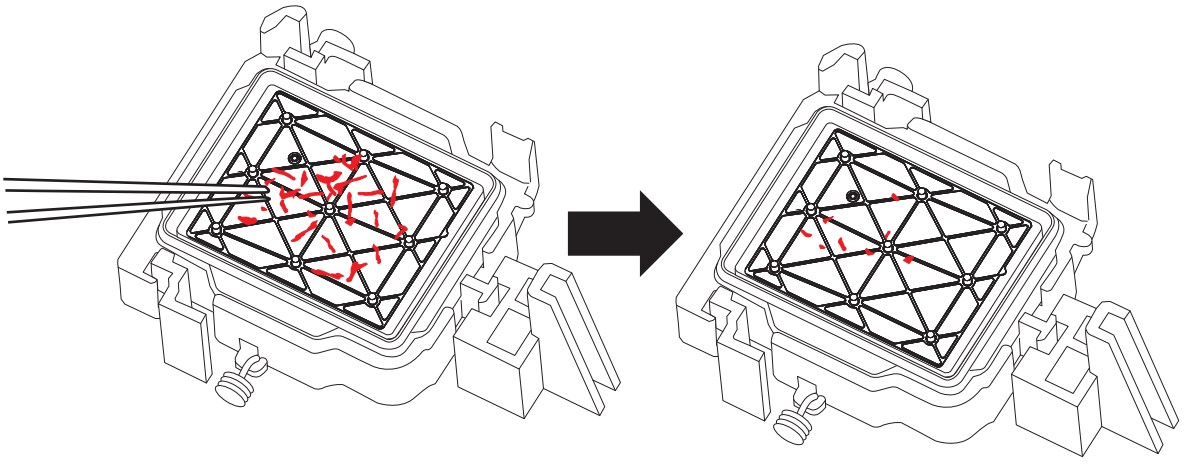


3. **Remove any hardened ink on top of the print head caps.**

Use a pair of tweezers to remove the pieces of hardened ink that are 3 mm (0.12 in.) or more in length.

IMPORTANT

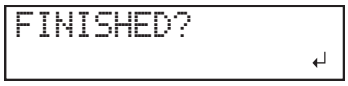
Do not use excessive force when pulling on pieces of hardened ink that are difficult to remove. Doing so may damage the print head caps.



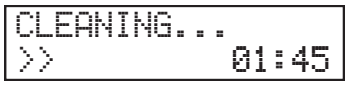
4. **Close the right cover.**

5. **Close the front cover.**

6. **Press [ENTER].**



The screen shown below appears, and then cleaning starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")



When cleaning finishes, the screen shown below appears again.

7. **Press [FUNCTION] to return to the original screen.**

3. Perform a printing test to check the results.

Procedure

1. **Load the object to be printed on.**
   P. 32 Setting Up the Object to Be Printed On

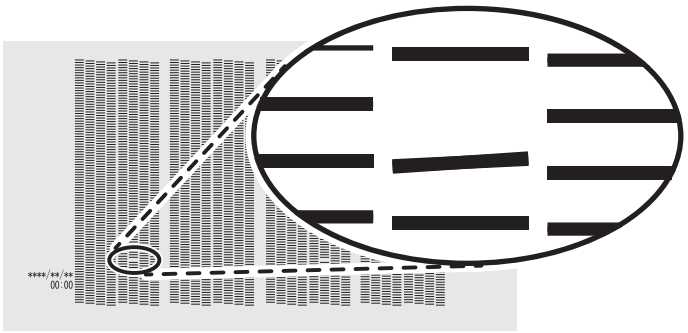
2. **Press [FUNCTION].**

3. **Press [▼], then [▶] to display the screen shown below.**

4. **Press [ENTER].**
   Printing of the test pattern starts.

5. **Check whether there is dot drop-out or dot displacement in the test pattern.**
   Missing blocks indicate dot drop-out. Collapsed or inclined blocks indicate dot displacement.

6. **If you have opened the front cover, close it.**
   If no dot drop-out or dot displacement occurs, this operation is finished. Press [FUNCTION] to go back to the original screen.

If dot drop-out or dot displacement is present, perform cleaning such as normal cleaning.

RELATED LINKS

- P. 32 Setting Up the Object to Be Printed On
- P. 97 Printing Tests and Normal Cleaning
- P. 109 Medium Cleaning Method
- P. 111 Powerful Cleaning Method

When Normal Cleaning Is Not Effective

Medium Cleaning Method

The print heads are important components that discharge ink. They require periodic and appropriate maintenance. When problems such as dot drop-out are not resolved by normal cleaning, perform the more forceful "medium cleaning" to remove clogging from the print heads.

IMPORTANT

Medium cleaning consumes more ink than normal cleaning, and overly frequent use may damage the print heads themselves. Avoid performing this operation more than necessary.

Procedure

1. **Load the object to be printed on.**

   P. 32 Setting Up the Object to Be Printed On

2. **Press [FUNCTION].**

3. **Press [▼], then [▶] to display the screen shown below.**

4. **Press [ENTER].**

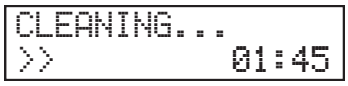
   A test pattern is printed.

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

6. **Press [ENTER] to confirm your entry.**

   The screen shown below appears, and then cleaning starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")

   When finished, the screen shown below appears again.

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

8. **Press [ENTER].**

   Perform a printing test again to check whether the dot drop-out and dot displacement have been corrected.

MEMO

- If the problem persists, try performing medium cleaning again.
- If problems such as dot drop-out and dot displacement persist even after you have performed medium cleaning several times, perform "powerful cleaning."

9. **Press [FUNCTION] to return to the original screen.**

RELATED LINKS

- P. 32 Setting Up the Object to Be Printed On
- P. 97 Printing Tests and Normal Cleaning
- P. 111 Powerful Cleaning Method

Powerful Cleaning Method

The print heads are important components that discharge ink. They require periodic and appropriate maintenance. When problems such as dot drop-out are not resolved by medium cleaning, perform the more forceful "powerful cleaning" to remove clogging from the print heads.

IMPORTANT

Powerful cleaning consumes more ink than medium cleaning, and overly frequent use may damage the print heads themselves. Avoid performing this operation more than necessary.

Procedure

1. **Load the object to be printed on.**

   P. 32 Setting Up the Object to Be Printed On

2. **Press [FUNCTION].**

3. **Press [▼], then [▶] to display the screen shown below.**

4. **Press [ENTER].**

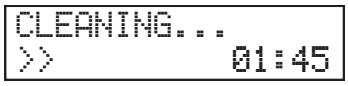
   A test pattern is printed.

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

6. **Press [ENTER] to confirm your entry.**

   The screen shown below appears, and then cleaning starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")

   When finished, the screen shown below appears again.

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

8. **Press [ENTER].**

   Perform a printing test again to check whether the dot drop-out and dot displacement have been corrected.

MEMO

- If the problem persists, try performing powerful cleaning again.
- If problems such as dot drop-out and dot displacement persist even after you have performed powerful cleaning several times, perform "manual cleaning."

9. **Press [FUNCTION] to return to the original screen.**

RELATED LINKS

- P. 32 Setting Up the Object to Be Printed On
- P. 109 Medium Cleaning Method
- P. 99 Manual Cleaning

Manual Cleaning

When Manual Cleaning Is Necessary

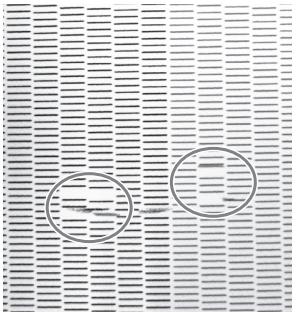
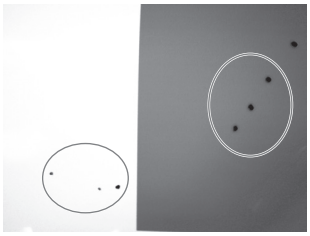
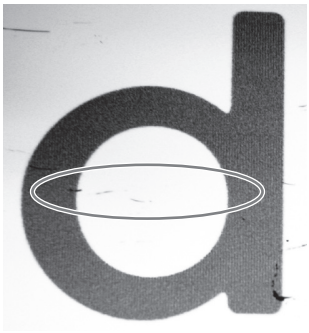
The print heads are important components that discharge ink. They require periodic and appropriate maintenance. It is important to perform manual cleaning with the appropriate timing.

After daily operations are finished

Be sure to perform manual cleaning after daily operations are finished.

When symptoms that cannot be improved with powerful cleaning occur

When any of the symptoms given below occur and powerful cleaning is not effective, perform manual cleaning.

Dot drop-out/Dot displacement	Ink drips	Dragging dirt
		
Dust or other foreign matter adheres to the print heads and impedes correct ink discharge.	Ink accumulates on dirty areas around the print heads and drips onto the object to be printed on.	Dirt accumulates on the area around the print heads and touches the object to be printed on.

MEMO

- Wiper replacement may also be effective in improving these symptoms.
- The print heads are components that wear out. Periodic replacement is required, with the frequency of replacement depending on use.

RELATED LINKS

- P. 137 Replacing the Wiper
- P. 99 Manual Cleaning

Consumable Products and Parts Related to Manual Cleaning

The cleaning sticks, cleaning liquid, and print heads are consumable products or consumable parts.

- If you use up the cleaning sticks and cleaning liquid used for manual cleaning, contact your authorized Roland DG Corporation dealer or visit our website (https://www.rolanddg.com/).
- The print heads are components that wear out. Periodic replacement is required, with the frequency of replacement depending on use. Contact your authorized Roland DG Corporation dealer.

Cleaning That Must Be Performed Once a Month or More

When UV-LED Device Cleaning Is Necessary

The UV-LED device is an important component for ink adhesion. They require periodic and appropriate maintenance. It is important to clean the UV-LED device with the appropriate timing.

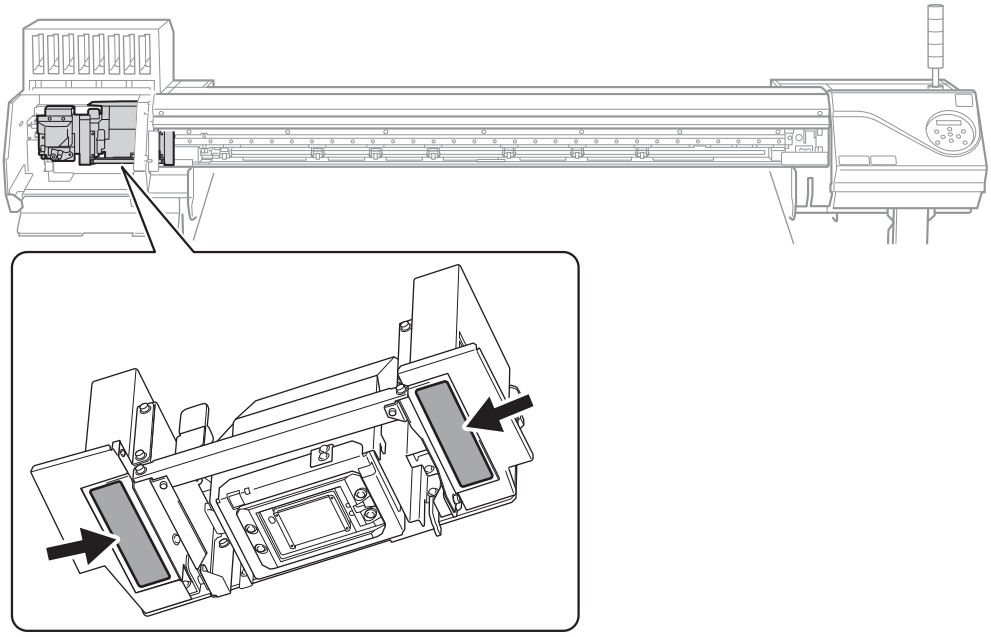
Once a month or more

To keep a stable printing condition at all times, perform cleaning once a month or more.

When there is a lot of scattered ink mist and the inside of the machine is soiled

Perform this cleaning every day when frequently printing with the print heads at a distance from the print surface or when ink is emitted to locations that protrude from the print surface. If the scattered ink mist is allowed to harden, it may cause malfunctions.

When the bases and irradiation windows of the UV-LED device are dirty (see the following figure).



MEMO

- The frequency with which UV-LED device cleaning is required depends on the machine's use. For information about the frequency of cleaning needed for your conditions of use, contact your authorized dealer.
- For hardened ink and other such dirt that cannot be completely cleaned away, contact your authorized dealer.

How to Clean the UV-LED Device

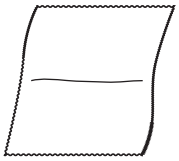
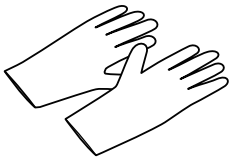
IMPORTANT

Important notes on this procedure

- Before performing this operation, remove any objects to be printed on.
- To prevent the print heads from drying out, finish this procedure in 10 minutes or less. A warning beep sounds after 10 minutes.
- The cloths, alcohol, and similar items used in cleaning are not included with the product.

When a warning beep sounds during cleaning

- A warning beep sounds 10 minutes after operation starts. Stop work, close all the covers, and then press [ENTER] to end the manual cleaning mode. After that, restart the procedure from the beginning.

Required items		
		
Anhydrous ethanol or isopropyl alcohol	Cloth (that is not fluffy)	Rubber gloves

⚠ CAUTION

Do not perform cleaning immediately after printing has finished. (Wait approximately 15 minutes after printing finishes.)

The area around the UV-LED device is hot and may cause burns.

⚠ CAUTION

When using anhydrous ethanol or isopropyl alcohol, be sure to follow the product's usage precautions.

Exercise caution regarding items such as fire, ventilation, and rashes.

⚠ CAUTION

Only use anhydrous ethanol or isopropyl alcohol.

Using chemicals (or similar substances) other than anhydrous ethanol or isopropyl alcohol may lead to UV-LED device damage.

⚠ CAUTION

Use cloth that is not fluffy to wipe off the parts. Do not use a hard material such as metal.

Using cloth that is fluffy or a hard material such as metal may lead to UV-LED device damage.

Procedure

1. **Remove the object to be printed on.**
2. **Press [FUNCTION].**

3. Press [▶].

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

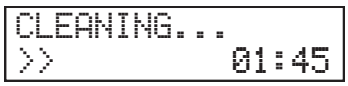
5. Press [ENTER].

After "NOW PROCESSING.." is displayed, the screen shown below appears.

Also, the print head moves to the left end of the platen.

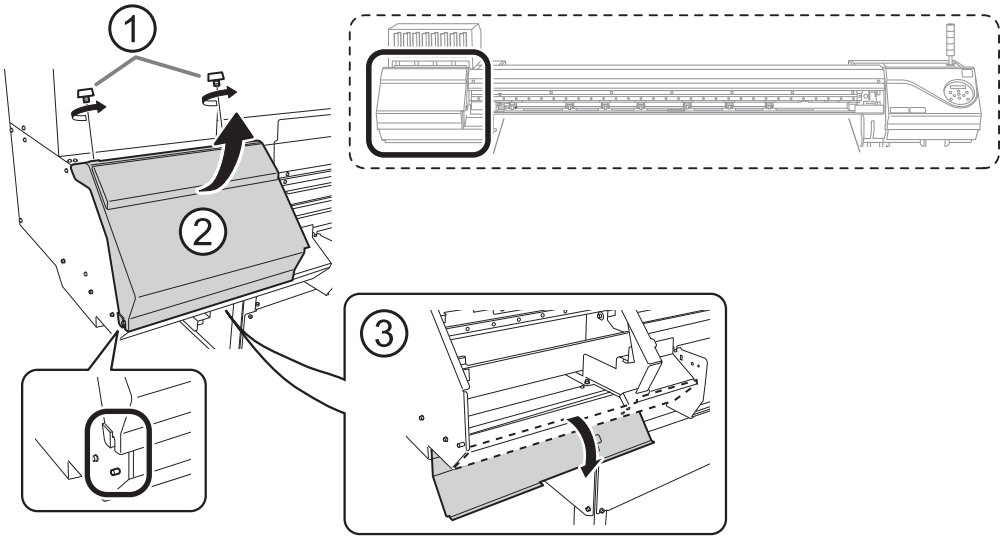
IMPORTANT

Do not press [ENTER] at this stage. Press [ENTER] after the work is complete. If you press [ENTER] at this stage, wait for the screen to change as shown in the following figure, and then press [ENTER] again.

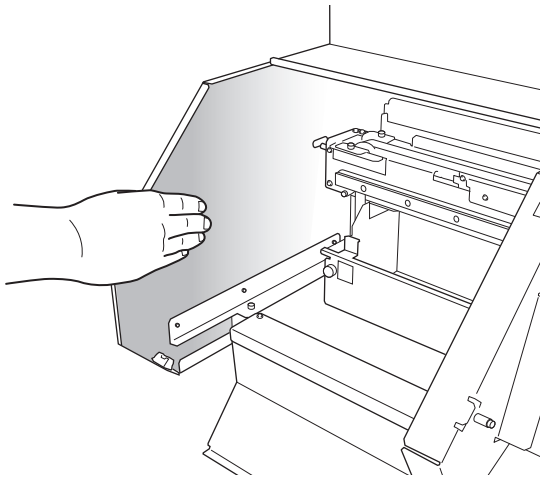


6. Open the front cover.

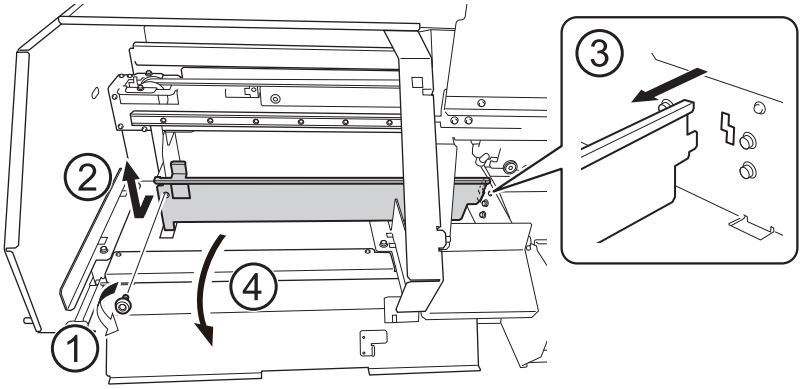
7. Open the left covers (top and bottom).



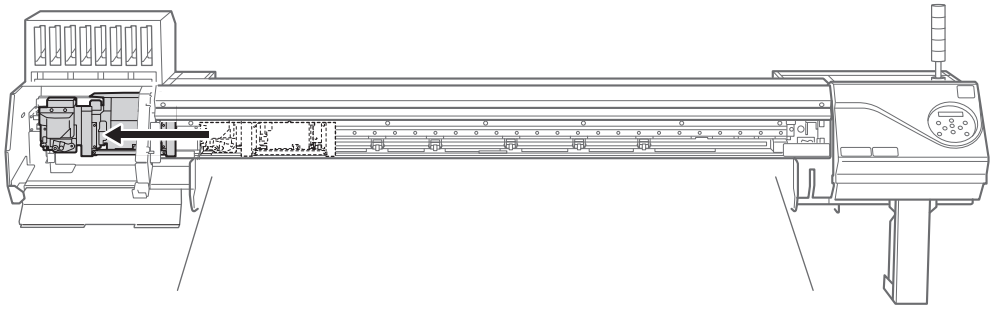
8. Touch the location shown in the figure to discharge any static electricity.



9. **Remove the cut rail.**



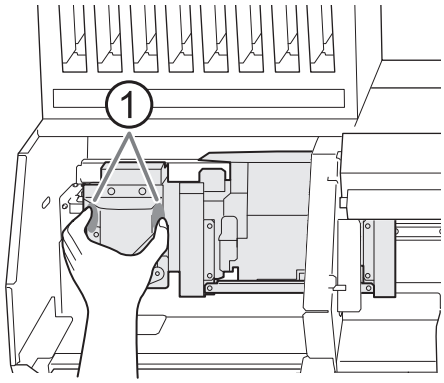
10. **Move the print-head carriage to the left end.**



Move the cutting carriage by hand.

IMPORTANT

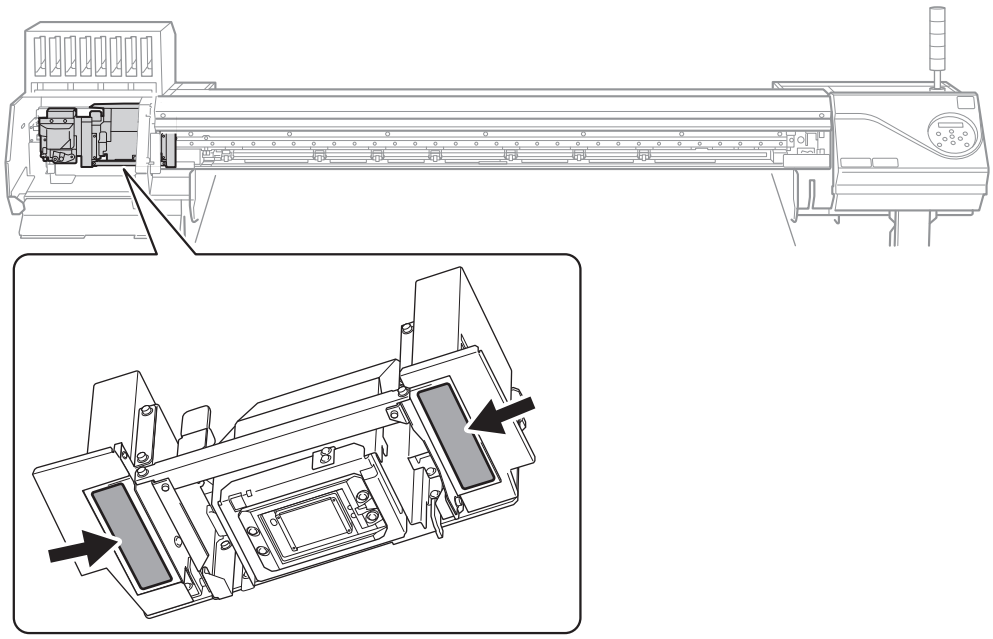
When moving the cutting carriage by hand, be sure to hold the specified position.
Moving it by holding positions other than those specified may deform and damage the cover.



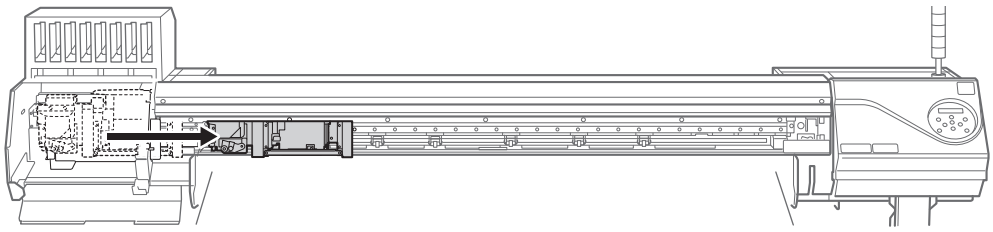
①: Position to hold with your hand

11. **Wet a cloth with anhydrous ethanol or isopropyl alcohol, and then wipe off the base and irradiation unit of each UV-LED lamp with this cloth.**

Wipe the cloth across each lamp for approximately 10 round trips until all the dirt is cleared away.



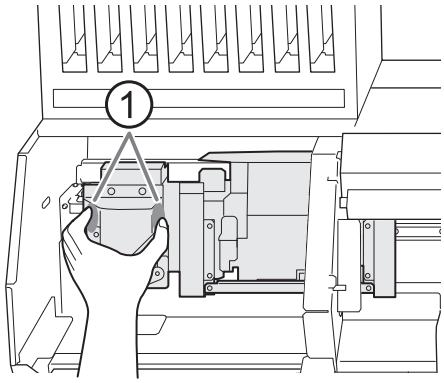
12. **When you have finished cleaning, move the print-head carriage to above the table.**



Move the cutting carriage by hand.

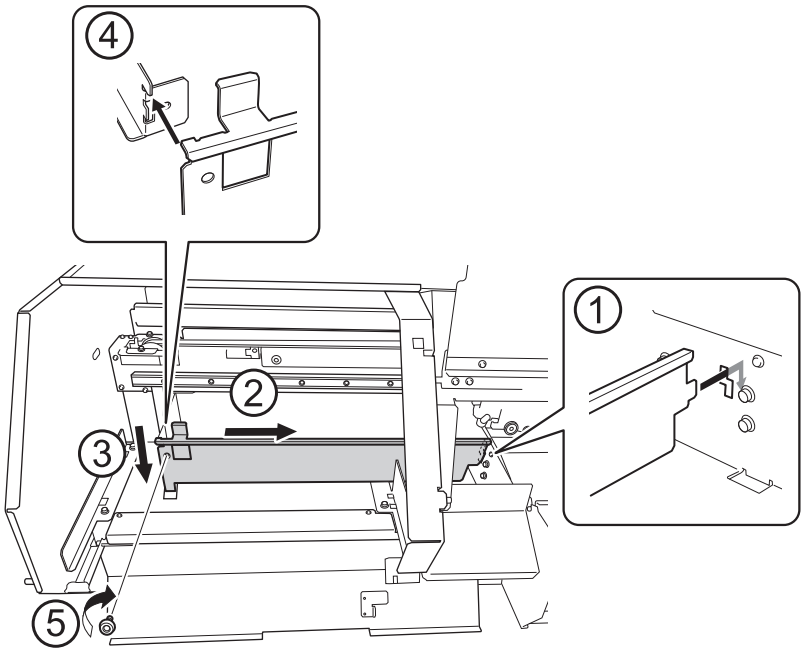
IMPORTANT

When moving the cutting carriage by hand, be sure to hold the specified position.
Moving it by holding positions other than those specified may deform and damage the cover.



①: Position to hold with your hand

13. **Attach the cut rail.**



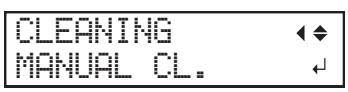
14. **Close the left covers (top and bottom).**

15. **Close the front cover.**

16. **Press [ENTER].**

The screen shown below appears, and then head cleaning starts.

When the following screen is displayed again, UV-LED device cleaning is finished.



17. **Press [FUNCTION] to return to the original screen.**

RELATED LINKS

- P. 115 When UV-LED Device Cleaning Is Necessary

Advanced Maintenance

When Uneven Color Issues Occur with White Ink

Ink Circulating Method

If uneven color issues with white ink are not resolved even after shaking the ink cartridges to mix the ink, perform "ink circulation." Uneven colors refers to the symptom of printed colors being uneven (such as the color density being inconsistent) even when the same data is printed with the same settings.

Procedure

1. **Press [MENU].**

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

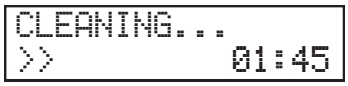
3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

4. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

5. **Press [ENTER].**

   The screen shown below appears, and then the ink circulation starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")

   Depending on the timing with which the ink circulation is started, the following screen may be displayed and cleaning may start. When cleaning is complete, the ink circulation will start, so wait for the ink circulation to complete. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")



   When finished, the screen shown below appears again.

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

Light Choke Cleaning Method

If problems still remain even after circulating the ink, perform "light choke cleaning."
Light choke cleaning can be used to stabilize the output colors by agitating the ink.

IMPORTANT

Light choke cleaning consumes a lot of ink, and overly frequent use may damage the print heads themselves. Avoid performing this operation more than necessary.

Procedure

1. **Press [MENU].**

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

3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

4. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

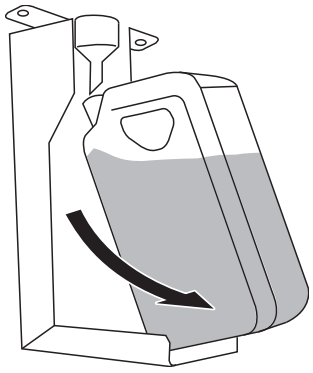
5. **Press [ENTER].**

   The screen shown below appears, and then cleaning starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")

MEMO

When "EMPTY DRAIN BOTTLE" is displayed during cleaning

1. Remove the drain bottle and discard the discharged fluid.
2. Quickly attach the emptied drain bottle to the machine once more.
3 Press [ENTER].



IMPORTANT

When you remove the drain bottle, a few drops of discharged fluid may come out of the machine. Exercise caution to prevent this fluid from soiling your hands or the floor.

⚠ WARNING

Never place discharged fluid or ink near an open flame.

Doing so may cause a fire.

⚠ CAUTION

Before you detach the drain bottle, be sure to wait for the screen to display "EMPTY DRAIN BOTTLE". After discarding the discharged fluid, promptly attach the drain bottle to the machine.

Failing to follow this procedure may cause discharged fluid to flow out of the tube and spill, soiling your hands or the floor.

⚠ CAUTION

To store discharged fluid temporarily, place it in the included drain bottle or in a durable sealed container such as a metal can or polyethylene tank, and cap the container tightly.

Any spillage or vapor leakage may cause fire, odor, or physical distress.

IMPORTANT

Dispose of discharged fluid properly, in accordance with the laws in effect in your locale.

Discharged fluid is flammable and contains toxic ingredients. Never attempt to incinerate discharged fluid or discard it with ordinary trash. Also, do not dispose of it in sewer systems, rivers, or streams. Doing so may have an adverse impact on the environment.

When cleaning finishes, the screen shown below appears again.

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

If uneven color issues are not resolved by "light choke cleaning," perform "ink renewal."

RELATED LINKS

- P. 129 Ink Renewal Method

When Uneven Color Issues Occur with Ink other than White Ink

Light Choke Cleaning Method

Perform this cleaning when printed colors are unstable or uneven, e.g., when color density is inconsistent, even if the same data is printed with the same settings. This will stabilize the output colors by agitating the ink.

IMPORTANT

Light choke cleaning consumes a lot of ink, and overly frequent use may damage the print heads themselves. Avoid performing this operation more than necessary.

Procedure

1. **Press [MENU].**

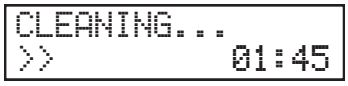
2. **Press [▼] several times to display the following screen.**

3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

4. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

5. **Press [ENTER].**

   The screen shown below appears, and then cleaning starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")



MEMO

When "EMPTY DRAIN BOTTLE" is displayed during cleaning

1. Remove the drain bottle and discard the discharged fluid.
2. Quickly attach the emptied drain bottle to the machine once more.
3 Press [ENTER].

IMPORTANT

When you remove the drain bottle, a few drops of discharged fluid may come out of the machine. Exercise caution to prevent this fluid from soiling your hands or the floor.

⚠ WARNING

Never place discharged fluid or ink near an open flame.

Doing so may cause a fire.

⚠ CAUTION

Before you detach the drain bottle, be sure to wait for the screen to display "EMPTY DRAIN BOTTLE". After discarding the discharged fluid, promptly attach the drain bottle to the machine.

Failing to follow this procedure may cause discharged fluid to flow out of the tube and spill, soiling your hands or the floor.

⚠ CAUTION

To store discharged fluid temporarily, place it in the included drain bottle or in a durable sealed container such as a metal can or polyethylene tank, and cap the container tightly.

Any spillage or vapor leakage may cause fire, odor, or physical distress.

IMPORTANT

Dispose of discharged fluid properly, in accordance with the laws in effect in your locale.

Discharged fluid is flammable and contains toxic ingredients. Never attempt to incinerate discharged fluid or discard it with ordinary trash. Also, do not dispose of it in sewer systems, rivers, or streams. Doing so may have an adverse impact on the environment.

When cleaning finishes, the screen shown below appears again.

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

If uneven color issues are not resolved by "light choke cleaning," perform "ink renewal."

RELATED LINKS

- P. 129 Ink Renewal Method

Handling Severe Dot Drop-out, Dot Displacement, and Uneven Colors

Ink Renewal Method

Perform the procedure below if ink discharge issues such as dot drop-out are not corrected after performing cleaning using the cleaning function (normal, medium, powerful) or manual cleaning.

IMPORTANT

A large amount of ink will be discharged during this operation. Perform this operation only when ink discharge issues such as dot drop-out, dot displacement, and uneven colors cannot be corrected even after performing cleaning using the other cleaning functions (normal, medium, powerful, and manual).

Procedure

1. **Press [MENU].**

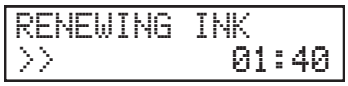
2. **Press [▼] several times to display the following screen.**

3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

4. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

5. **Press [ENTER].**

   The screen shown below appears, and then ink renewal starts. The (approximate) remaining time for the procedure is displayed on the screen. (The display shown below is an example. "01:45" = "1 minute and 45 seconds")



MEMO

If **"EMPTY DRAIN BOTTLE"** appears

1. Remove the drain bottle and discard the discharged fluid.
2. Quickly attach the emptied drain bottle to the machine once more.
3 Press [ENTER].

IMPORTANT

When you remove the drain bottle, a few drops of discharged fluid may come out of the machine. Exercise caution to prevent this fluid from soiling your hands or the floor.

⚠ WARNING

Never place discharged fluid or ink near an open flame.

Doing so may cause a fire.

⚠ CAUTION

Before you detach the drain bottle, be sure to wait for the screen to display "EMPTY DRAIN BOTTLE". After discarding the discharged fluid, promptly attach the drain bottle to the machine.

Failing to follow this procedure may cause discharged fluid to flow out of the tube and spill, soiling your hands or the floor.

⚠ CAUTION

To store discharged fluid temporarily, place it in the included drain bottle or in a durable sealed container such as a metal can or polyethylene tank, and cap the container tightly.

Any spillage or vapor leakage may cause fire, odor, or physical distress.

IMPORTANT

Dispose of discharged fluid properly, in accordance with the laws in effect in your locale.

Discharged fluid is flammable and contains toxic ingredients. Never attempt to incinerate discharged fluid or discard it with ordinary trash. Also, do not dispose of it in sewer systems, rivers, or streams. Doing so may have an adverse impact on the environment.

When cleaning finishes, the screen shown below appears again.

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

RELATED LINKS

- P. 97 Printing Tests and Normal Cleaning
- P. 109 Medium Cleaning Method
- P. 111 Powerful Cleaning Method
- P. 113 Manual Cleaning

Partially Restricting the Print Heads Used for Printing

When dot drop-out or dot displacement is not improved even after renewing the ink, partially restrict the print heads to use for printing (i.e. prevent the use of the print heads that are causing discharge issues). This operation is called the "nozzle mask," and while it slows down printing speed, it also allows you to decrease the impact of dot drop-out or dot displacement.

First print a test pattern, and then select the nozzle group to use by viewing the test results. After that, use VersaWorks to select the nozzle group used for printing.

1. Perform a printing test for the nozzle mask.

Procedure

1. **Load the object to be printed on.**

   P. 32 Setting Up the Object to Be Printed On

2. **Press [FUNCTION].**

3. **Press [▼] once, and then press [▶] twice to display the screen shown below.**

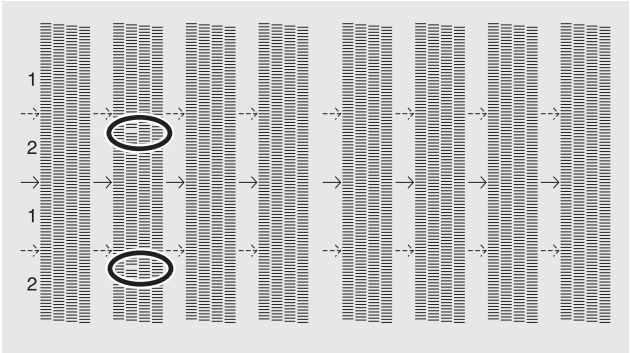
   

4. **Press [ENTER].**

   Printing of the test pattern starts.

5. **Check for the nozzle group with dot drop-out or dot displacement by viewing the results of the printing test.**

   "1" or "2" is the nozzle group. The following shows a dot drop-out in nozzle group 2.

MEMO

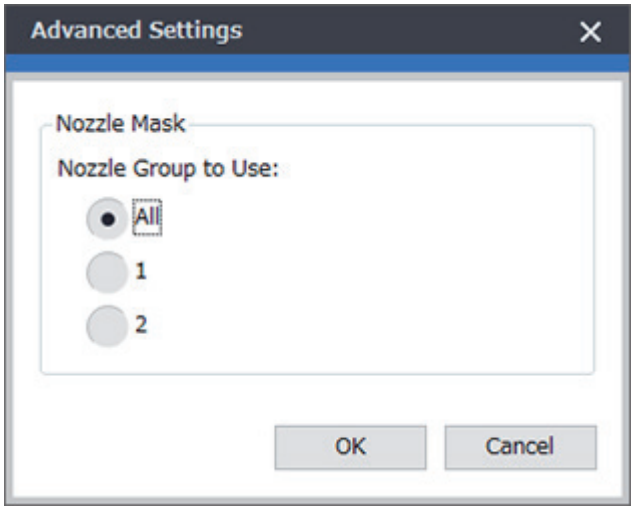
If the printing-test results are difficult to interpret

Check the results in a bright location, changing your line of vision. They are visible using the reflection of the light.

2. Limit the print heads used for printing.

Procedure

1. **Start VersaWorks.**
2. **Click [Printer]>[Printer Settings].**
   The [**Printer Settings**] dialog box appears.
3. **From the [Printer List], select the printer whose print heads will be limited.**
4. **Click [Advanced].**
   The [**Advanced**] dialog box appears.
5. **Select the nozzle group to use in printing from the printing-test results.**
   The nozzle group numbers that can be selected vary depending on the model being used and the firmware version. Select the appropriate group number (or all the group numbers) to match the results of the printing test.



6. **Click [OK].**
   Close the [**Advanced**] dialog box.
7. **Click [OK].**
   Close the [**Printer Settings**] dialog box.
   The icon is displayed on top of the image of the printer whose setting has been changed.

RELATED LINKS

- VersaWorks manual (https://downloadcenter.rolanddg.com/VersaWorks6)

Emergency Measure) Cleaning the Print Head Surface

When dot drop-out or dot deflection is not improved even if cleaning is performed several times, you can clean the surface of the print heads as an emergency measure. The print head surface (nozzle surface) is a very delicate mechanism, so work must be performed carefully and cautiously.

This operation is an emergency measure. It may damage defect-free parts depending on the symptoms, worsening the symptoms. If you have any questions, contact your authorized dealer.

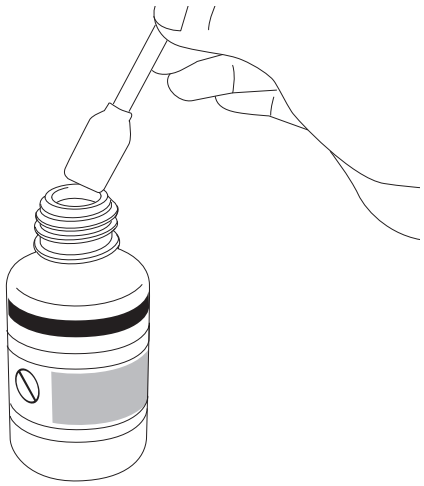
Procedure

1. **Referring to 1. Clean the print heads., move the print-head carriage to the left end.**

2. **Apply a large amount of cleaning liquid to the cleaning stick.**

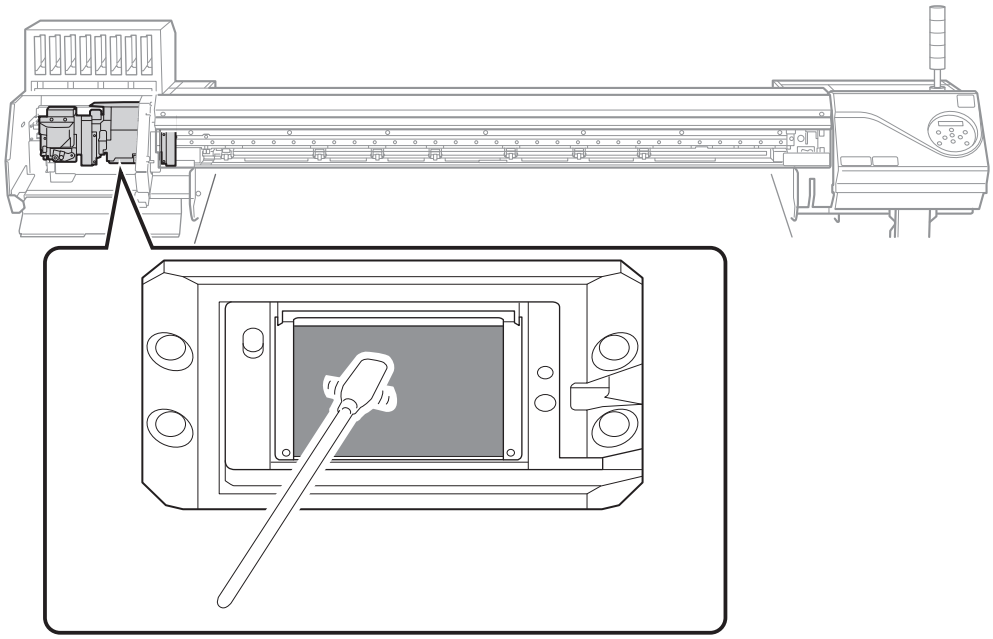
   IMPORTANT

   Be sure to use one of the included cleaning sticks.

3. **Very gently touch the cleaning stick against the print head surface (nozzle surface).**

   Very softly press the cleaning stick against the print head so that cleaning liquid soaks into the print head surface (nozzle surface). Never rub the stick on the surface or press it forcibly.



Replacing Consumable Parts

Replacing Parts for Maintenance

Replacing the Wiper

The wiper is a component that is used for cleaning the print heads.

When the following screen is displayed, it is time to replace the wiper.

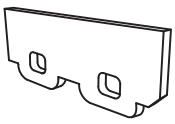
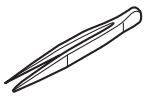
```
TIME FOR
  WIPER REPLACE↵
```

For information about purchasing wipers, contact your authorized dealer or visit our website (https://www.rolanddg.com/).

⚠ CAUTION

Be sure to perform operations as specified by the instructions, and never touch any area not specified in the instructions.

Otherwise sudden movement of the machine may cause injury.

Required items			
			
Wiper	Tweezers	Cleaning sticks	Cleaning liquid

Procedure

1. **Press [ENTER] when the following screen appears.**

   ```
   TIME FOR
     WIPER REPLACE↵
   ```

2. **Remove the object to be printed on.**

3. **Press [MENU].**

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

   ```
   MENU                ◆
   SUB MENU            ▶
   ```

5. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

   ```
   SUB MENU            ◆
   MAINTENANCE         ▶
   ```

6. **Press [▶] to display the following screen.**

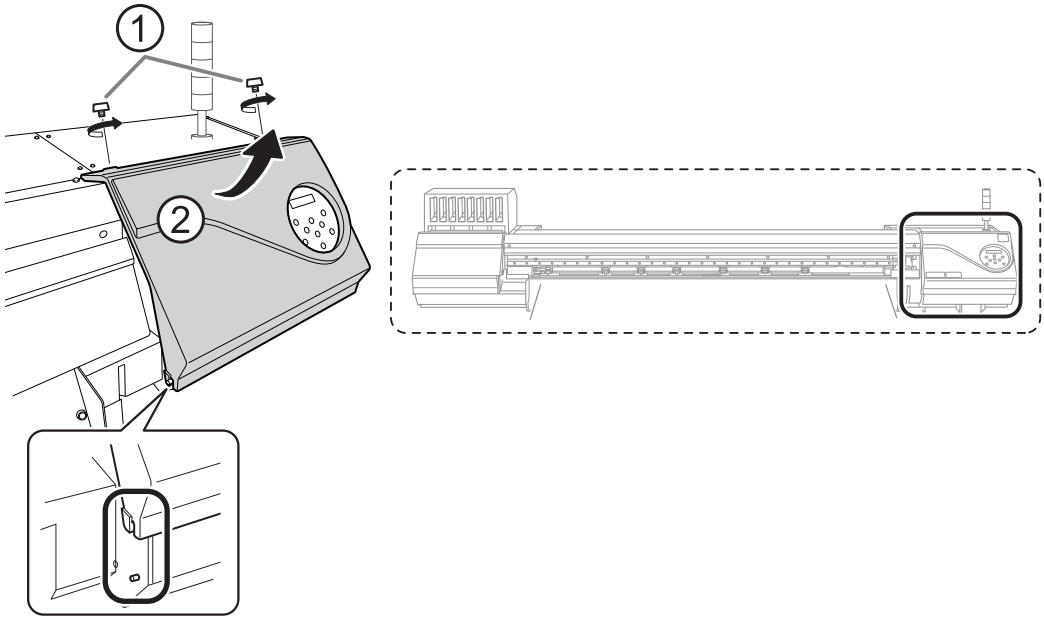
   ```
   MAINTENANCE         ◆
   REPLACE WIPER       ↵
   ```

7. **Press [ENTER].**

The print-head carriage moves to a location where wiper replacement is possible, and then the screen shown below appears.

```
OPEN COVER R
```

8. Open the right cover.



Preparation is complete once the following screen is displayed.

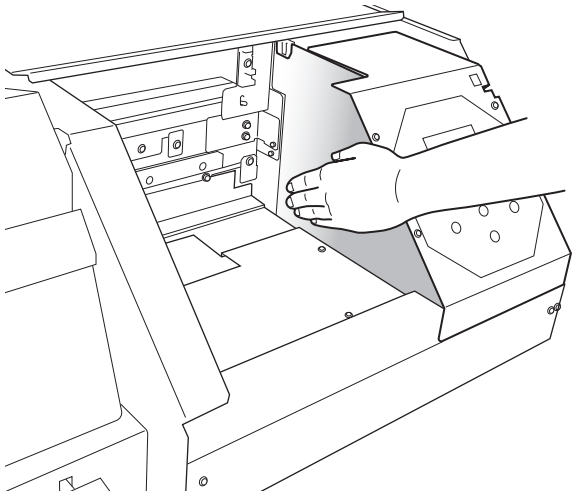
```
REPLACE WIPER
      FINISHED?↵
```

IMPORTANT

Do not press [ENTER] at this stage. Press [ENTER] after replacing the wiper. If you press [ENTER] at this stage, press [ENTER] again after the message "CLEAN WIPER FINISHED?" appears. Then, close the right cover according to the instructions on the screen, wait for the following screen to be displayed, and then press [ENTER] again.

```
MAINTENANCE    ◆▲
REPLACE WIPER   ↵
```

9. Touch the location shown in the figure to discharge any static electricity.



10. **Replace the wiper.**

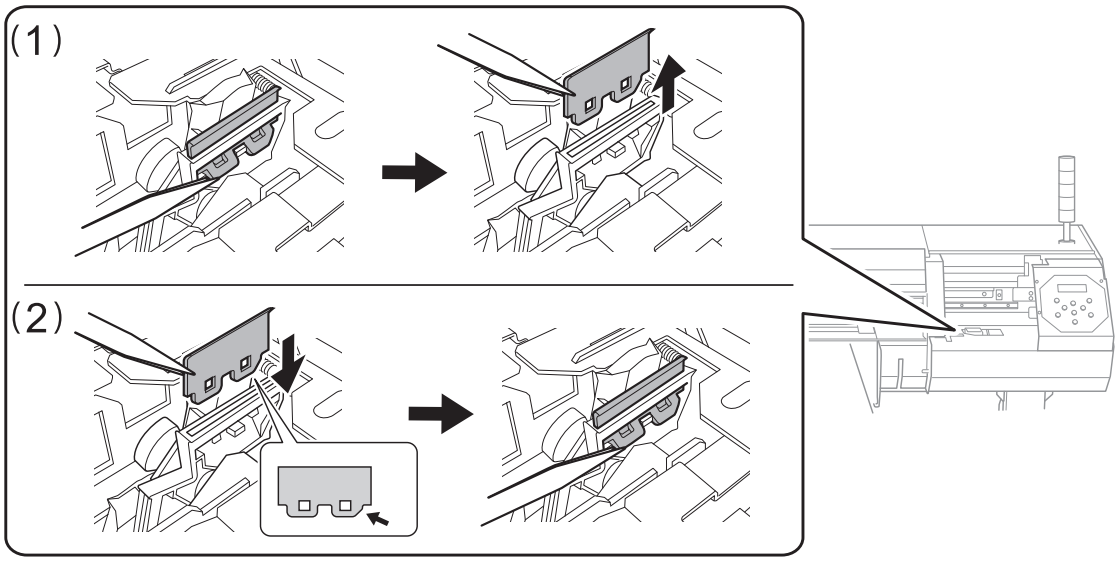
(1) **Detach the old wiper.**

Using the tweezers, unhook the wipers, and then pull them up. Using the tweezers to press on the hook in the hole on the wiper makes it easier to remove the wiper.

(2) **Attach the new wiper.**

Place the inclined end of the wiper on the back side of the machine. If the wiper is installed with the incorrect orientation, appropriate cleaning will not be possible.

Be sure to attach the wiper to the hook. Failure to do so may result in dot drop-out or other problems.



MEMO

To make this work easier, bring the printer unit forward by pressing [TS : FRONT] on the touch panel.

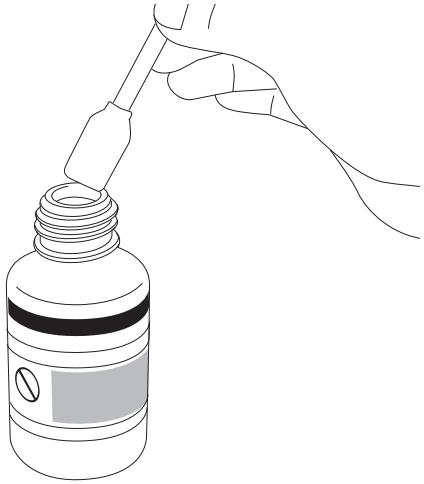
11. **Press [ENTER].**

The screen shown below appears.

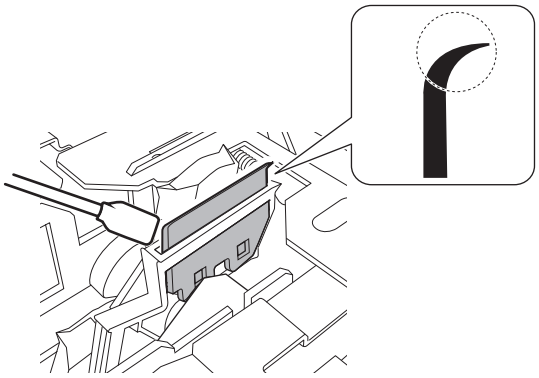
```
CLEAN WIPER
      FINISHED?↵
```

12. **Apply a large amount of cleaning liquid to the cleaning stick.**

> **IMPORTANT**
>
> Be sure to use one of the included cleaning sticks.



13. **Clean the locations shown in the following figure.**



14. **Press [ENTER].**

15. **When the following screen is displayed, close the right cover.**

When the following screen is displayed again, the wiper replacement is finished.

16. **Press [MENU] to return to the original screen.**

Replacing the Felt Wiper

The felt wiper is a component that is used for cleaning the print heads.

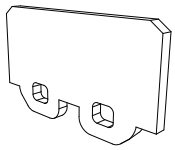
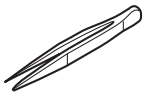
When the following screen is displayed, it is time to replace the wiper.

For information about purchasing felt wipers, contact your authorized dealer or visit our website (https://www.rolanddg.com/).

⚠ CAUTION

Be sure to perform operations as specified by the instructions, and never touch any area not specified in the instructions.

Otherwise sudden movement of the machine may cause injury.

Required items	
	
Felt wiper	Tweezers

Procedure

1. **Press [ENTER] when the following screen appears.**

2. **Remove the object to be printed on.**

3. **Press [MENU].**

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

5. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

6. **Press [▶] once, and then press [▼] once to display the screen shown below.**

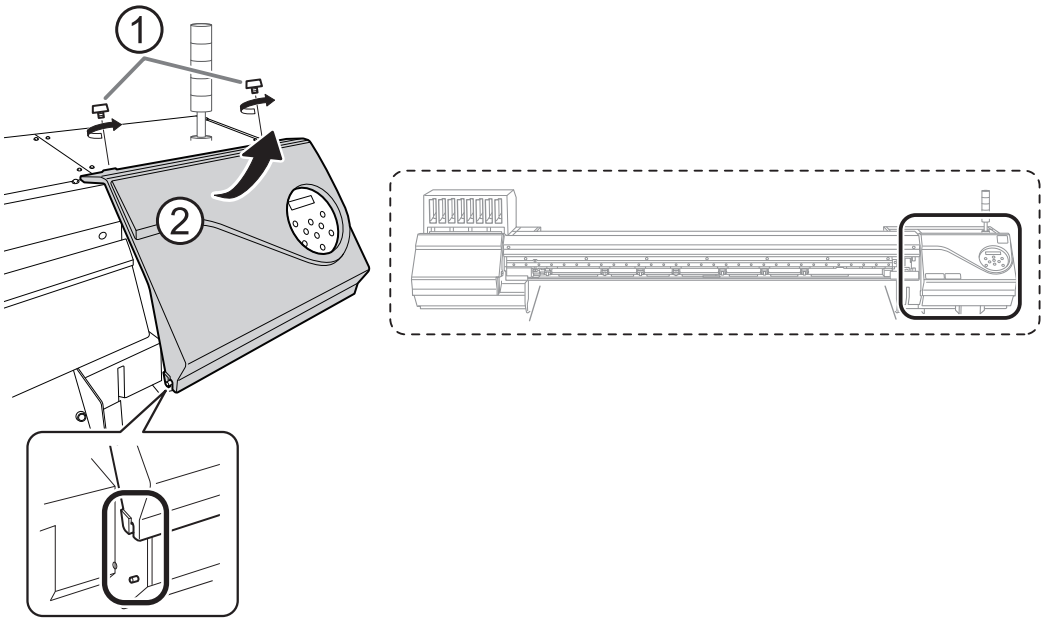
   

7. **Press [ENTER].**

   The print-head carriage moves to a location where felt wiper replacement is possible, and then the screen shown below appears.

```
OPEN COVER R
```

8. **Open the right cover.**



Preparation is complete once the following screen is displayed.

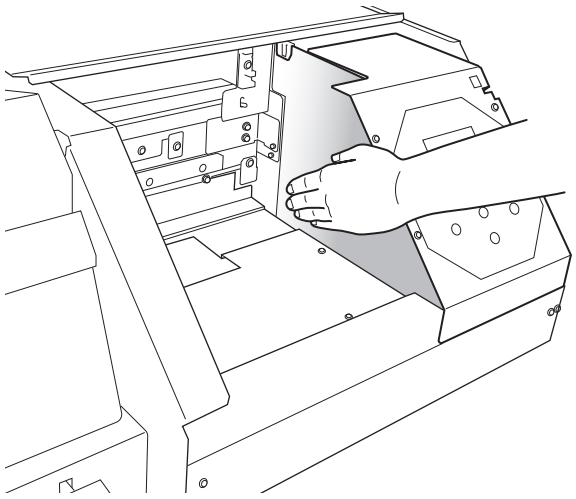
```
FINISHED?
                    ↵
```

IMPORTANT

Do not press [ENTER] at this stage. Press [ENTER] after replacing the felt wiper. If you press [ENTER] at this stage, close the right cover according to the instructions on the screen, wait for the following screen to be displayed, and then press [ENTER] again.

```
MAINTENANCE      ◆▲
REPLACE FELT     ↵
```

9. **Touch the location shown in the figure to discharge any static electricity.**



10. **Open the front cover.**

This makes it easier to check the mounting status of the felt wiper.

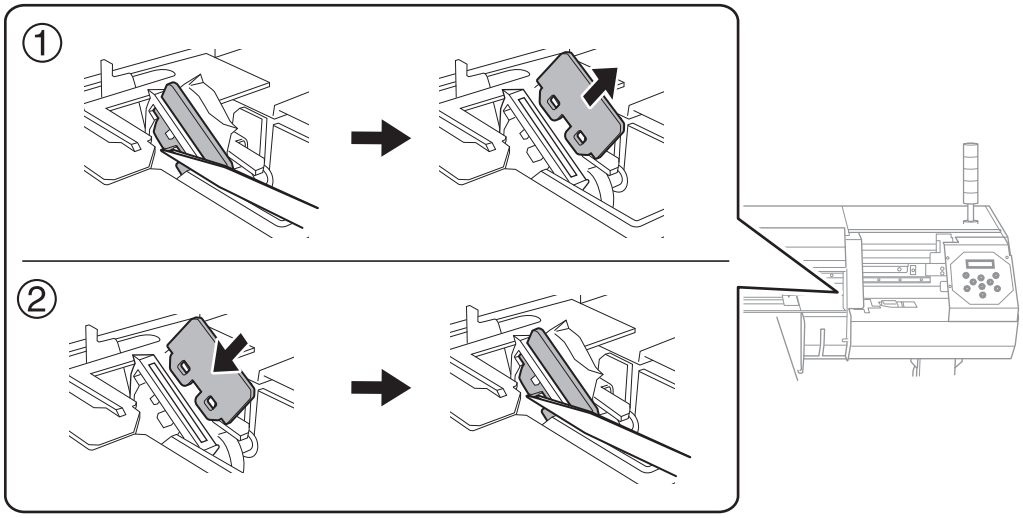
11. **Replace the felt wiper.**

(1) **Detach the old felt wiper.**

Using the tweezers, unhook the wipers, and then pull them up. Catching the tweezers on the hole in the felt wiper makes it easier to remove the felt wiper.

(2) **Attach a new felt wiper.**

Be sure to attach the felt wiper to the hook. Failure to do so may result in dot drop-out or other problems.



MEMO

To make this work easier, bring the printer unit forward by pressing [TS : FRONT] on the touch panel.

12. **Close the front cover.**

13. **Press [ENTER].**

14. **When the following screen is displayed, close the right cover.**

When the following screen is displayed again, the felt wiper replacement is finished.

15. **Press [MENU] to return to the original screen.**

Inquiries for Consumable Parts and Products

Items That You Can Purchase and Replace by Yourself

To purchase the following consumable parts or products, contact your authorized dealer or visit our website (https://www.rolanddg.com/).

Item	Related page
Wiper	P. 137 Replacing the Wiper
Felt wiper	P. 141 Replacing the Felt Wiper
Cleaning sticks	P. 113 Manual Cleaning
Cleaning liquid	

Items That Require Inquiries before Replacement

When replacing the following consumable parts, contact your authorized Roland DG Corporation dealer.

Item	Related page
Print heads	P. 113 Manual Cleaning

Troubleshooting Methods

Output Quality Problems

Printed results are coarse or contain horizontal stripes

Is there any dot drop-out or dot displacement?

Carry out a printing test and make sure no dot drop-out or dot displacement occurs. If dot drop-out or dot displacement is present, perform head cleaning.

RELATED LINKS

- P. 44 Printing Tests and Normal Cleaning
- P. 109 When Normal Cleaning Is Not Effective

Is the print head height appropriate?

Printing when the "HEAD HEIGHT" menu item is set to "HIGH" is coarser than when set to "LOW". Set to "LOW" unless otherwise necessary.

RELATED LINKS

- P. 58 Setting the Print Head Height to Suit Unevenness on the Print Surface

Is the machine installed in a level and stable location?

Never install the machine in a location where it is tilted or where it may wobble or experience vibration. Also make sure that the print heads are not exposed to moving air. These factors may lead to dot drop-out or reduced printing quality.

Is the machine installed in a location that is not exposed to direct sunlight?

Never install the machine in a location that is exposed to direct sunlight. Doing so may result in dot drop-out, dot displacement, or other problems with reduced print quality, or may even result in malfunction.

Is the print mode suitable?

If attractive printing is impossible, try using a higher-quality print mode. Depending on the object to be printed on, smudging may occur when using a high-quality print mode, and results may also vary greatly depending on the settings of your software RIP (such as the color-profile selection). Select settings appropriate for the object to be printed on you are using.

Is the object set up correctly?

If the object is not set up correctly, printing may be adversely affected. Make sure the object is set up correctly.

RELATED LINKS

- P. 32 Loading the Object, and Setting the Print Surface Height and Print Start Point

Is [MAINTE. FREQ.] set to [LOW]?

If [**MAINTE. FREQ.**] is set to [**LOW**], change it to [**NORMAL**]. Changing this setting to [**NORMAL**] will increase the number of cleaning operations, preventing dot drop-out and dot displacement.

MEMO

- Especially when printing on objects with a thickness of 20 mm (0.79 in.) or more, change [**MAINTE. FREQ.**] to [**NORMAL**].
- Default setting: [**NORMAL**]

RELATED LINKS

- P. 18 Main Menu

The Object to be Printed on Becomes Soiled When Printed

Do the print heads come into contact with the object being printed on?

The height of the print heads may be too low. Also, if the object to be printed on is not loaded and set up correctly, it may wrinkle or come loose and contact the print heads.

RELATED LINKS

- P. 32 Loading the Object, and Setting the Print Surface Height and Print Start Point
- P. 58 Setting the Print Head Height to Suit Unevenness on the Print Surface

Are the print heads dirty?

The following may cause ink to drip on the object to be printed on during printing.

- Buildup of fibrous dust (lint) around the heads
- Ink transferred to the heads due to their rubbing against the object

If this happens, perform manual cleaning. We recommend carrying out periodic head cleaning.

- Too low humidity in the installation location

Use the machine in an environment with a humidity of 20 to 80%RH (no condensation).

RELATED LINKS

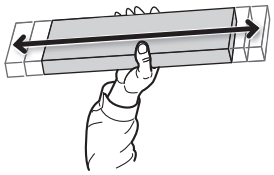
- P. 113 Manual Cleaning

Colors are unstable or uneven

Did you shake the ink cartridges before installing them?

Shake new ink cartridges 50 times (about 20 seconds) before you install them.

Every day before starting work, remove the white ink cartridge, shake it 50 times (about 20 seconds), and then reinsert it.



Was printing paused partway through?

When printing is paused, the coloring at the seam may be altered when printing resumes. Avoid pausing printing. Before you perform printing, check the amount of ink remaining. Printing may also pause when data is not sent from the computer quickly enough. We recommend not performing any other tasks with the computer while printing is in progress.

Was cleaning performed during printing?

Performing cleaning during printing can affect the print quality. Check the time until cleaning and the printing time before printing.

RELATED LINKS

- P. 60 Avoiding Canceling Due to Cleaning during Printing

Is the machine installed in a level and stable location?

Never install the machine in a location where it is tilted or where it may wobble or experience vibration. Also make sure that the print heads are not exposed to moving air. These factors may lead to dot drop-out or reduced printing quality.

Is the object set up correctly?

If the object is not set up correctly, printing may be adversely affected. Make sure the object is set up correctly.

RELATED LINKS

- P. 32 Loading the Object, and Setting the Print Surface Height and Print Start Point

Are the operating parameters set to appropriate values?

Depending on the setting for the "FULL WIDTH S" menu item, uneven colors may occur. If the settings have been changed, try restoring them to their default values.

RELATED LINKS

- P. 71 Speeding Up Output for Narrow Print Objects

Are the irradiation windows of the UV-LED devices dirty?

If the irradiation windows are dirty, this can reduce ink adhesion and the quality of the printed materials. Check the level of dirt and clean at the appropriate times.

RELATED LINKS

- P. 115 Cleaning That Must Be Performed Once a Month or More

Machine Problems

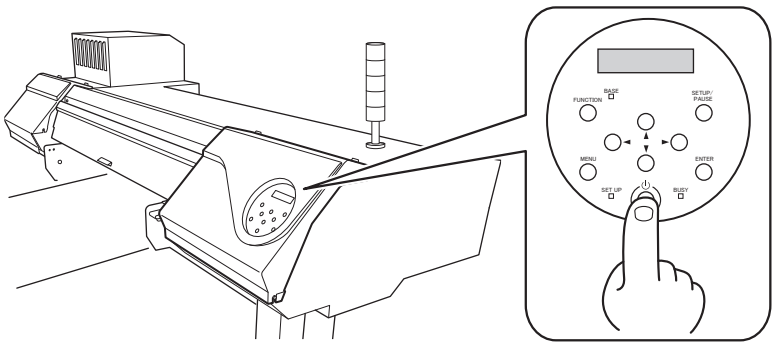
Why Has the Print-Head Carriage Stopped Moving?

If the print-head carriage stops over the platen, take action immediately to prevent the heads from drying out.

What to Do First

Switch the sub power off and then back on again.

If the print-head carriage moves to the home position (inside the right cover), it means the operation has ended successfully.



If the print-head carriage still does not move

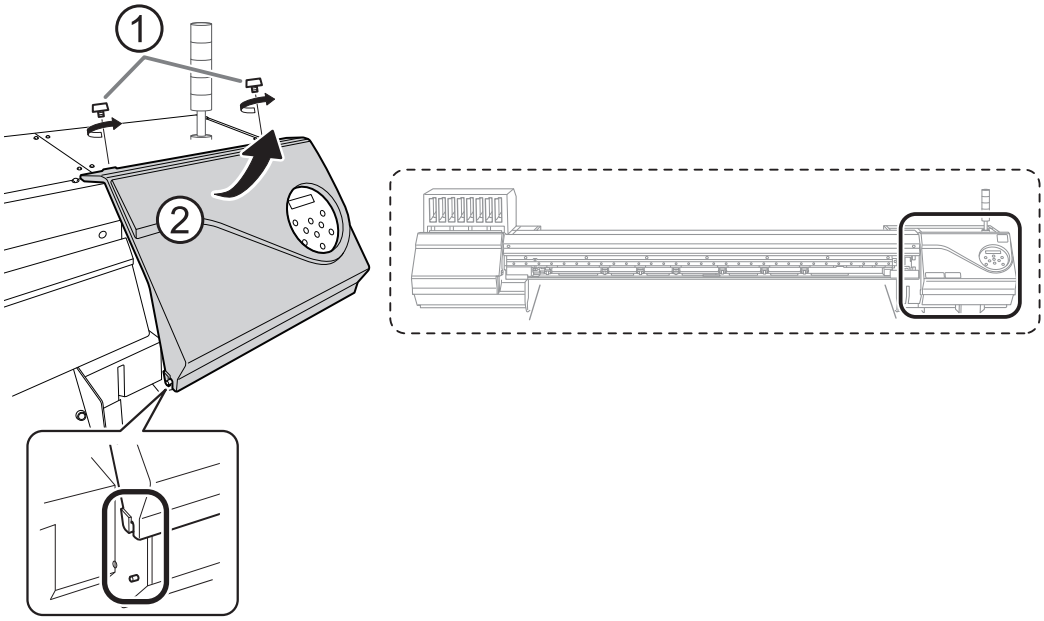
Try switching off the sub power of the printer unit, followed by the main power, then switching on the main power again, followed by the sub power.

If the Print Heads Still Do Not Move

If the print heads still do not move, carry out the following emergency response measure, then contact your authorized dealer.

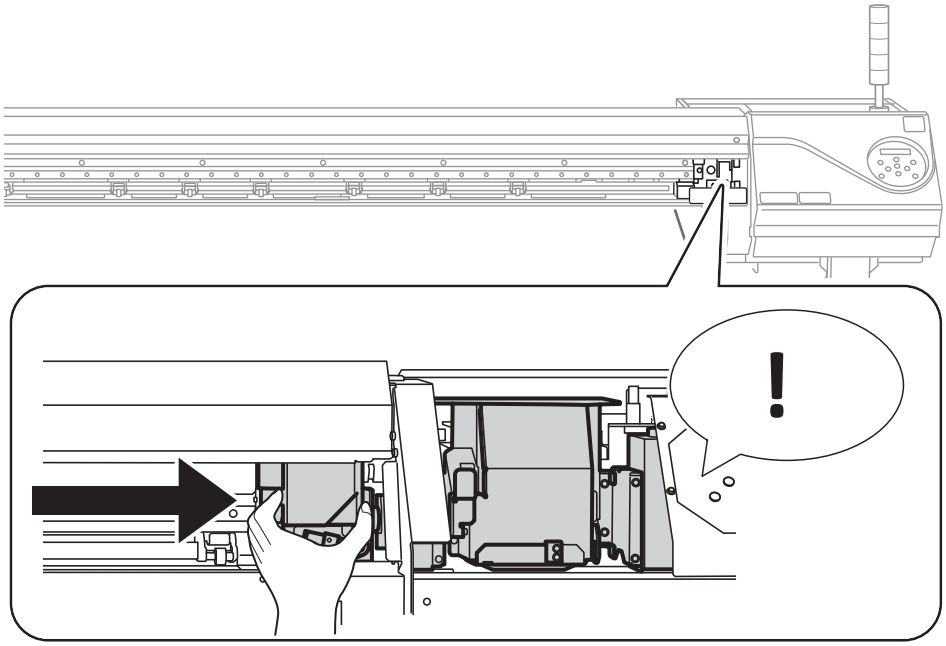
Procedure

1. **Switch off the sub power of the printer unit, switch off the main power, and then open the front cover.**
2. **Open the right cover.**



3. **Grasp the cutting carriage as shown in the figure, and then gently move the print-head carriage to the home position.**

Stopping at the place where the audible click is heard locks the print-head carriage in place.



4. **Gently apply pressure from the right side to make sure the print-head carriage does not move to the left.**

If the print-head carriage moves to the left, move it again slowly by applying pressure from the left side and make sure it locks in place.

The printer unit does not run

Is the power switched on?

Connect the printer unit's power cable, and then turn on all the power distribution boards. If the printer unit's power is turned off, turn on the main power, and then press the sub power switch and make sure the sub power switch lights.

RELATED LINKS

- P. 9 Side
- P. 26 Turning the Power On
- P. 24 Precautions When Operating the Power Supply

Is [SETUP] lit?

Output is not performed when [SETUP] is not lit. Attach the object to be printed on, determine the start position, and then press [SETUP].

RELATED LINKS

- P. 32 Setting Up the Object to Be Printed On
- P. 48 Starting Output

Are any covers open?

Close the front, left, and right covers.

Is the top menu displayed?

Top menu

If the top menu isn't displayed, output doesn't start even when data is sent from the computer. To go to the top menu, press [MENU].

RELATED LINKS

- P. 48 Starting Output

Is [SETUP/PAUSE] lit?

When [SETUP/PAUSE] is lit, operation is paused. To resume, press [SETUP/PAUSE]. [SETUP/PAUSE] turns off and output resumes.

RELATED LINKS

- P. 39 Pausing and Canceling Output

Is a message displayed on the screen?

RELATED LINKS

- P. 160 Messages
- P. 162 Error Messages

Are the cables connected?

Connect the cables securely.

Is the LAN routing appropriate?

Check whether or not the network routing is appropriate. Try connecting the computer and the machine to the same hub or connecting them directly using a cable. If this makes it possible to perform output, it means the problem may be in the network itself.

Are the LAN settings correct?

If the cable connections are secure and no problem is found in the network itself, make sure that the IP address and other such settings are appropriate. The settings on both the machine and the computer must be appropriate. Redo the settings, checking to ensure that the IP address does not conflict with the IP address for another device on the network, that the port setting for the software RIP specifies the IP address set on the machine, that the settings have no typing errors, and for other such problems.

RELATED LINKS

- P. 82 Viewing System Information
- P. 165 Reconfiguring the Network Settings

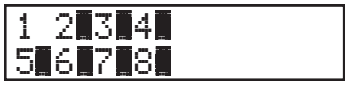
Did the software RIP end abnormally?

Make sure the software RIP is running correctly, and then switch the sub power switch off and back on.

RELATED LINKS

- VersaWorks manual (https://downloadcenter.rolanddg.com/VersaWorks6)

Has the ink run out?



When the screen shown in the figure is displayed, output data cannot be accepted. The error can be resolved by replacing the ink cartridge with a new one. If there is data that has not yet been output remaining in the machine, output resumes. If there is unsent data in the computer, output resumes when the data is resent.

RELATED LINKS

- P. 40 Replacing Ink Cartridges

Setup Cannot Be Completed

Did you perform manual cleaning?

If you do not perform manual cleaning, setup of the object to be printed on cannot be completed.

RELATED LINKS

- P. 99 Manual Cleaning

A Warning Beep Sounds Due to Touch Panel Operation during Printer Unit Movement

Is an object still on the table?

When the printer unit is moved by touch panel operations, if the height sensor detects an object or something similar, a warning beep will sound, and the operation of the printer unit will stop. Check the transporter table and remove any objects or similar items that are there. Alternatively, raise the printer unit to a point where the height sensor does not detect these items.

MEMO

Press [TS : RESET] on the touch panel to stop the warning beep.

RELATED LINKS

- P. 14 Touch Panel
- P. 10 Front Cover Interior/Print Head Area

Messages on the Operation Panel

Messages

These are the main messages that appear on the screen of the operation panel to prompt correct operation. They do not indicate any error. Follow the prompts and take action accordingly.

"1 ■ 2 ■ 3 ■ 4 ■ 5■ 6 ■ 7 ■ 8 ■"

Only a small amount of ink remains.

Replace the ink cartridge indicated by the flashing number with a new cartridge.

"CLOSE THE COVER"

The front, left, or right cover is open. For safety, some carriage operations are limited while a cover is open.

Close the front, left, and right covers.

"EMPTY DRAIN BOTTLE"

This message appears when a certain amount of discharged fluid collects in the drain bottle.

Discard the discharged fluid in the bottle.

RELATED LINKS

- P. 94 If the Discharged Fluid Disposal Message Appears

"LIMIT OVER EMPTY DRAIN BOTTLE"

This message is displayed when the drain bottle has reached its limit for discharged fluid.

When this message is displayed, immediately discard the discharged fluid.

RELATED LINKS

- P. 94 If the Discharged Fluid Disposal Message Appears

"INSTALL DRAIN BOTTLE"

Check whether the drain bottle is installed correctly.

Install the drain bottle, and then press [ENTER].

RELATED LINKS

- P. 93 Disposing of Discharged Fluid

"TIME FOR FELT REPLACE"

It is time to replace the felt wiper.

After verifying the message, press [ENTER], and then replace the felt wiper.

RELATED LINKS

- P. 141 Replacing the Felt Wiper

"HEAD PROTECTION ACTIVATED"

The ink in use may not be a product specified by Roland DG Corporation.

To clear the message, press [ENTER]. To obtain optimal performance, we recommend that you use ink specified by Roland DG Corporation. To purchase ink, contact your authorized Roland DG Corporation dealer.

"TIME FOR MAINTENANCE"

The machine is in a state in which it is recommended to perform manual cleaning.

The user attempted to print after a length of time exceeding the threshold had passed since manual cleaning was last performed. Press [ENTER] to clear the message, and then perform manual cleaning.

RELATED LINKS

- P. 113 Manual Cleaning

"MAINTENANCE REQIRED"

The print data was received, but printing is not possible.

The received print data is canceled automatically and is not printed. Continuing printing in this situation may damage the print heads, so perform manual cleaning.

If you do not perform manual cleaning, you will not be able to perform any further printing. Press [ENTER] to cancel the setup conditions.

RELATED LINKS

- P. 113 Manual Cleaning

"TIME FOR WIPER REPLACE"

It is time to replace the wipers.

After verifying the message, press [ENTER], and then replace the wiper.

RELATED LINKS

- P. 137 Replacing the Wiper

Error Messages

This section describes the error messages that may appear on the operation panel's screen and how to take action to remedy the problem. If the action described here does not correct the problem or if an error message not described here appears, contact your authorized dealer.

"INK SHELF LIFE EXPIRE"

One of the ink cartridges has expired.

The numbers of the cartridges whose ink has exceeded its shelf life flash. After pressing [ENTER], replace the ink cartridge indicated by the flashing number.

This message is displayed when the sub power is turned on for the first time after the ink has expired. A warning beep sounds at the same time the message is displayed.

You can still continue to use the printer without replacing the ink cartridge. However, continuing to use an ink cartridge that has exceeded its shelf life may lead to the following problems and malfunction.

- Ink leaks from the ink cartridge.
- The ink viscosity increases, leading to ink discharge issues (which may result in decreased output quality).
- The ink hardens, leading to printer unit malfunctions.

We recommend that you replace any expired ink cartridges. For information about purchasing ink cartridges, contact your authorized dealer or visit our website (https://www.rolanddg.com/).

"TEMPERATURE IS TOO HIGH **° C"

The temperature of the location where the machine is installed has risen above the ambient temperature at which the machine can operate.

Operation cannot be continued. Turn off the sub power. The displayed temperature is the current ambient temperature of the installation location. Bring the installed location to a temperature at which operation is possible (20 to 32°C [68 to 89.6°F]), allow the machine to come to room temperature, and then turn on the power.

"SERVICE CALL ****"

An unrecoverable error occurred or part replacement that must be performed by a service technician is required.

Note the number displayed, and then switch off the sub power. After you switch off the power, inform your authorized Roland DG Corporation dealer of the number that appeared on the display.

"TEMPERATURE IS TOO LOW **° C"

The temperature of the location where the machine is installed has fallen below the ambient temperature at which the machine can operate.

Operation cannot be continued. Turn off the sub power. The displayed temperature is the current ambient temperature of the installation location. Bring the installed location to a temperature at which operation is possible (20 to 32°C [68 to 89.6°F]), allow the machine to come to room temperature, and then turn on the power.

"DATA ERROR CANCELING..."

Output was stopped because a problem was found in the received data.

Operation cannot be continued. Completing the data cancellation will clear the message. Check for a problem with the connector cable or the computer, or if the printer data has any defects (a color is designated that cannot be output, etc.). Once the problem or defect has been corrected, send the data again.

"WRONG CARTRIDGE 12345678"

Has an ink cartridge that cannot be used been installed?

Remove the ink cartridge to clear the error. Use an ink cartridge of the specified type.

"AVOIDING DRY-UP TURN POWER OFF"

The print heads were forced to the home position to prevent them from drying out.

Operation cannot be continued. Switch the sub power off, and then back on.

"SET HEAD HEIGHT TO ****"

Is the height of the print heads lower than the height specified in the software RIP?

This warning indicates that the height of the print heads is too low for the head height specified in the software RIP. The print heads move to a location where you can operate the height-adjustment lever. Adjust to the displayed height, and then press [ENTER].

RELATED LINKS

- P. 58 Setting the Print Head Height to Suit Unevenness on the Print Surface

"CANCELED FOR PUMP PROTECTION"

The printer made an emergency stop because an error continued for 10 minutes or longer while cleaning (normal, medium, powerful, light choke, or automatic cleaning while sub power was switched off) was in progress or during the first ink filling procedure for the machine.

Operation cannot be continued. Turn off the sub power. After turning the power off, contact your authorized Roland DG Corporation dealer.

"MOTOR ERROR TURN POWER OFF"

A motor error occurred.

Operation cannot be continued. Turn off the sub power. Next, eliminate the cause of the error, then immediately switch on the sub power. If the machine is allowed to stand with the error uncorrected, the print heads may dry out and become damaged.

"EMERGENCY STOPPED"

The emergency stop device (wire) has been activated, resulting in an emergency stop.

After confirming that the situation is safe even if this machine starts operating again, operate the recovery device at the bottom of the transporter to recover the operation of the printer unit.

RELATED LINKS

- P. 28 Stopping with the Wire

Appendix

Reconfiguring the Network Settings

Network

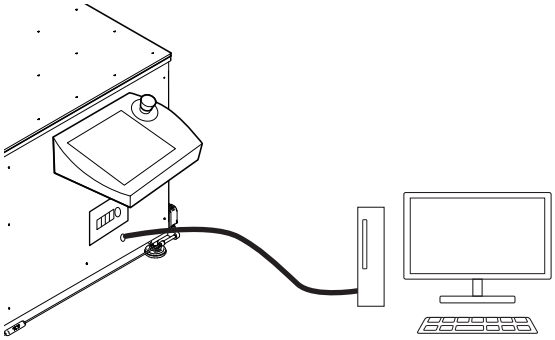
The examples used in the procedures for making the settings described in this section assume you are using one computer and one machine. The settings used in this section are merely example settings. The procedures and setting values described here may not be suitable for all operating environments.

In an environment where the computer being used is connected to multiple network devices and the Internet, inappropriate settings will have a large effect on the entire network. For detailed information about the settings, consult your network administrator.

Setting the Computer's Network

Procedure

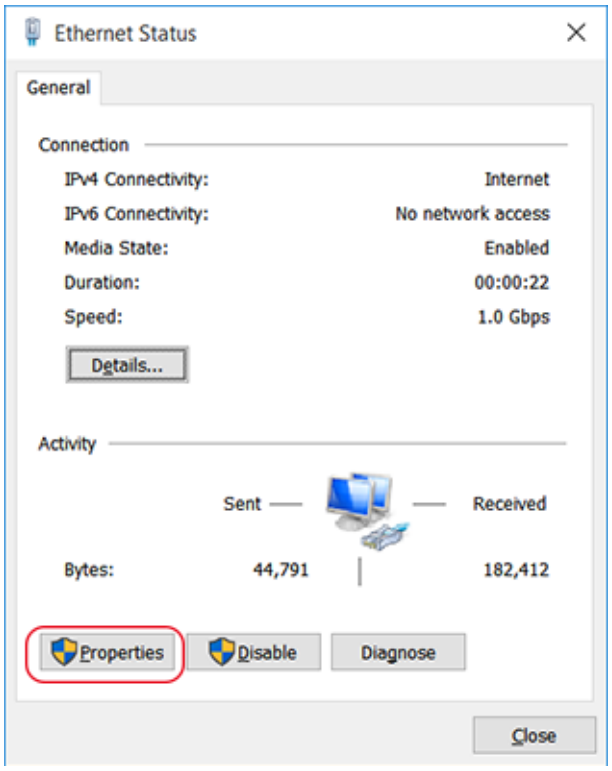
1. **Connect the machine and the computer over Ethernet.**



2. **Log on to Windows as the [Administrator] or a member of the [Administrators] group.**

3. **Display the network connections screen.**
   - Windows 11
     a. Click [**Start**]>[**Settings**].
     b. Click [**Network And Internet**]>[**Dial-up**].
     c. Click [**Network And Sharing Center**].
     d. Click [**Ethernet**].
   - Windows 10
     a. Click [**Start**]>[**Settings**]>[**Network And Internet**].
     b. Click [**Network And Sharing Center**].
     c. Click [**Ethernet**].

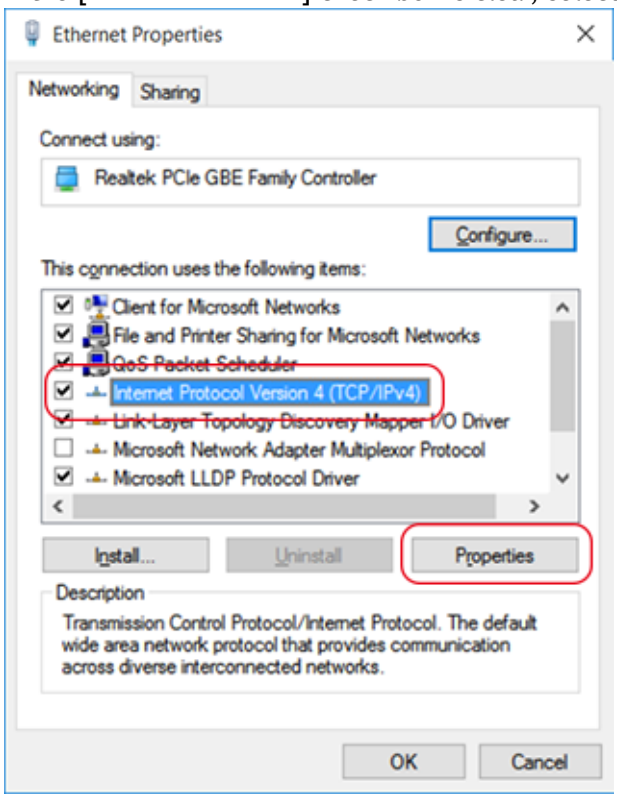
4. **Click [Properties].**
   If a [**User Account Control**] window appears, click [**Continue**].



The [**Ethernet Properties**] window appears.

5. **Select [Internet Protocol Version 4 (TCP/IPv4)], and then click [Properties].**

If the [**Internet Protocol**] check box is clear, select it.

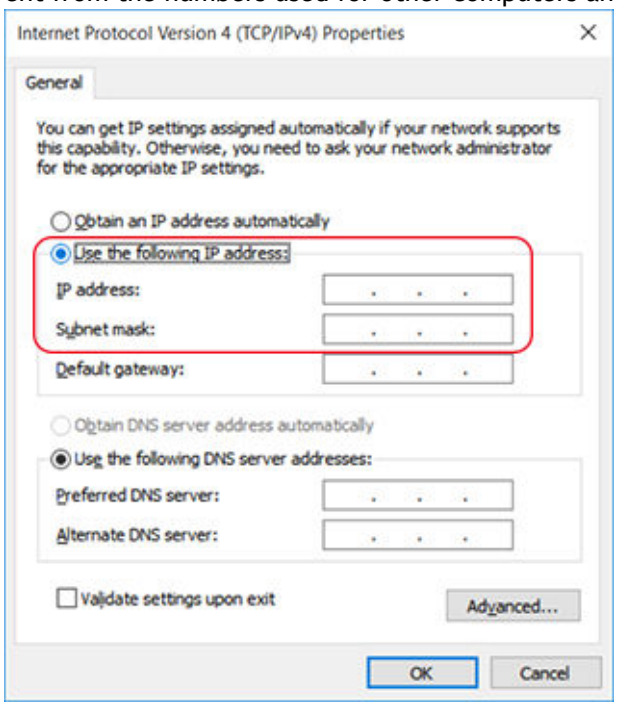


6. **Select [Use the following IP address]. Enter the information as shown below, and then click [OK].**

The numbers used in this section are examples.

Item	Address to enter
IP address	192.168.0.XXX
Subnet mask	255.255.255.0

Here, "XXX" can be any number from 1 to 254. However, be sure to specify a number that is different from the numbers used for other computers and devices.



7. **Click the following buttons to return to the original state.**
   a. [**OK**] in the [**Internet Protocol Version 4 (TCP/IPv4) Properties**] window
   b. [**Close**] in the [**Ethernet Properties**] window
   c. [**Close**] in the [**Ethernet Status**] window

Making the Network Settings on the Printer Unit

Setting the IP Address

Procedure

1. **Press [MENU].**

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

3. **Press [▶] once, and then press [▼] several times to display the screen shown below.**

4. **Press [▶] three times to display the screen shown below.**

5. **Press [▲] or [▼] to select the address number.**

6. **Press [▶].**

7. **Repeat steps 5 and 6 to set [IP ADDRESS] (192.168.0.XXX).**

   The numbers used in this section are examples.

   "XXX" represents a number from 1 to 254. However, be sure to specify a number that is different from the setting you made in Setting the Computer's Network and from the numbers used for other computers and devices.

   For the part corresponding to [192.168.0], apply the same value as the setting of your computer.

   Here, [192.168.0.3] is entered by way of example.

8. **When you finish making the setting, press [ENTER].**

9. **Press [◀] to go back to the screen shown below.**

Set the subnet mask.

Procedure

1. **Press [▼] to display the screen shown below.**

2. **Press [▶] twice to display the screen shown below.**

3. **Press [▲] or [▼] to select the address number.**

4. **Press [▶].**

5. **Repeat steps 3 and 4 to set [SUBNET MASK] to "255.255.255.0."**

   The numbers used in this section are examples.

   Note: For the subnet mask, make the setting the same value as the one used by the computer. Here, "255.255.255.0" is entered by way of example.

6. **When you finish making the setting, press [ENTER].**

7. **Press [◀] to go back to the screen shown below.**

   If you are using the computer and the printer on a one-to-one basis, this completes the settings to make on the printer unit.

   Press [MENU] to go back to the original screen. Then, proceed to
   P. 172 Setting the Software RIP
   .

   If you need to set the gateway address, proceed to the following procedure.

Set the gateway address.

Procedure

1. **Press [▼] to display the screen shown below.**

2. **Press [▶] twice to display the screen shown below.**

3. **Press [▲] or [▼] to select the address number.**

4. **Press [▶].**

5. **Repeat steps 3 and 4 to set [GATEWAY ADDR.] to [255.255.255.255].**

   For the value to enter for your gateway address, consult your network administrator. Here, [255.255.255.255] is entered by way of example.

6. When you finish making the setting, press [ENTER].

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

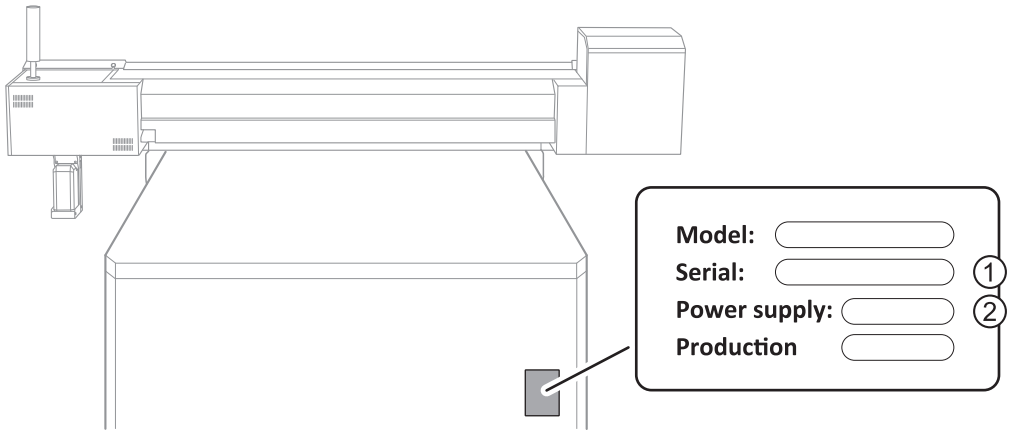
Setting the Software RIP

For information on how to connect the printer unit after installing VersaWorks, see the VersaWorks Installation Guide.

Specifications

Location of the Power Rating and Serial Number Label

Rear

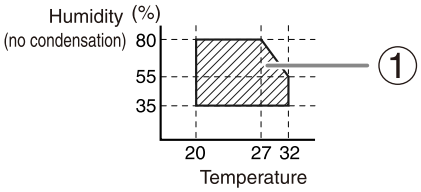


①	Serial number This number is required when you seek maintenance, servicing, or support. Never peel off the label.
②	Power rating Use an electrical outlet that meets the requirements for voltage, frequency, and amperage given here.

Specifications

		CO-300i		CO-640i		
		F2	F2A	F2	F3	F4
Printing method		Piezo ink-jet method				
Attachable objects to be printed on	Width	Max. 762 mm (30 in.)		Max. 1,625 mm (64 in.)		
	Thickness	Max. 242 mm (9.5 in.)				
	Weight	Max. 100 kg/m^2 (0.142 lb./in^2)				
Printing width		Max. 749 mm (29.4 in.)		Max. 1,612 mm (63.4 in.)		
Printing length		Max. 1,500 mm (59.0 in.)			Max. 2,500 mm (98.4 in.)	Max. 3,050 mm (120.0 in.)
Ink	Type	ECO-UV (EUV5) 220 ml cartridge (white) ECO-UV (EUV5) 500 ml cartridge (cyan, magenta, yellow, black, red, orange, gloss, and primer)				
	Colors	Eight colors (cyan, magenta, yellow, black, red, orange, white, and gloss) Seven colors (cyan, magenta, yellow, black, red, orange, and white) Seven colors(cyan, magenta, yellow, black, red, orange, and white) and primer Seven colors (cyan, magenta, yellow, black, red, white, and gloss) and primer Six colors (cyan, magenta, yellow, black, white, and gloss) and primer Six colors (cyan, magenta, yellow, black, white, and gloss) Four colors (cyan, magenta, yellow, and black)				
Ink-curing unit		Built-in UV-LED lamp				
Printing resolution (dots per inch)		Max. 1,440 dpi				
Connectivity		Ethernet (100BASE-TX/1000BASE-T, automatic switching)				
Power-saving function		Automatic sleep feature				
Power requirements		230V 16A 2P+E				
Power consumption	During operation (100% Vacuum)	Approx. 1.80 kW	Approx. 0.24 kW	Approx. 1.80 kW	Approx. 2.90 kW	
	Sleep mode	Approx. 0.08 kW				
Acoustic noise level	During operation	80 dB (A) or less	70 dB (A) or less	80 dB (A) or less	90 dB (A) or less	
	During standby	70 dB (A) or less	60 dB (A) or less	70 dB (A) or less	80 dB (A) or less	
Dimensions (width x depth x height)		1,928 mm × 2,384 mm × 1,469 mm (76.0 in. × 93.9 in. × 57.9 in.)		2,815 mm × 2,384 mm × 1,469 mm (110.9 in. × 93.9 in. × 57.9 in.)	2,815 mm × 3,399 mm × 1,469 mm (110.9 in. × 133.9 in. × 57.9 in.)	2,815 mm × 3,999 mm × 1,469 mm (110.9 in. × 157.5 in. × 57.9 in.)
Weight		487 kg (1,074 lb.)	455 kg (1,004 lb.)	667 kg (1,471 lb.)	863 kg (1,903 lb.)	959 kg (2,115 lb.)
Environment	During operation*1	Temperature: 20 to 32 °C (68 to 89.6 °F), Humidity: 35 to 80 %RH (no condensation)				
	Not operating	Temperature: 5 to 40 °C (41 to 104 °F), Humidity: 20 to 80 %RH (no condensation)				
Included Items		Power cord, cleaning liquid, drain bottle, User's Manual, software (VersaWorks, Roland DG Connect), etc.				

*1 Operating environment
(① : Use the machine in an operating environment within these ranges.)


Humidity (%)
(no condensation) 80
55
35
20
27 32
Temperature
①

Memo

About this Manual

This document is the user's manual for the CO-640i/300i. This document uses the following notations to distinguish between the models where necessary.

- CO-640i: 64-inch model
- CO-300i: 30-inch model

Most of the figures in this document depict the CO-640i.


Roland