

RICOH

RICOH Ri 1000X

User Manual



For safe and correct use, be sure to read the Safety Information in Safety Information and Quick Installation Guide before using the machine.

TABLE OF CONTENTS

TABLE OF CONTENTS	3
How to Read the Manuals	7
Before You Begin.....	7
Disclaimer	7
Notes.....	7
The Meanings of the Safety Symbols Used with This Machine	8
Notes for Using This Machine Safely	9
1. Before You Begin	10
1.1. Checking the Contents of the Product	10
1.2. Guide to Components	13
Front and Right View.....	13
Rear View	13
1.3. Important.....	14
8 Essential Tips for Keeping Your RICOH Ri 1000X in Top Shape	17
1.4. Machine Installation	19
Space Needed for the Printer.....	19
Unpacking	20
Installing the Waste Ink Bottle and Ink Cartridges.....	21
Turning On the Power	25
Attaching the Platen	29
Network Connection	29
Handling the Ink Cartridge	30
Handling the waste ink bottle	33
Handling the Front Cover	35
1.5. Control Panel Functions.....	37
Print Tab	37
Status.....	38
Maintenance Tab	39
Alignment Tab.....	39
Service Part Status Tab	40
Settings Tab	41
1.6. Printer Setup.....	43

The setting of IP address for the machine.....	43
1.7. Usage of ColorGATE Productionserver	46
Register as a user and product on the ColorGATE Service & Support website	48
Download software of ColorGATE RIP/MIM files	53
Start Software	56
License Update	57
Setup Driver	57
Print method.....	63
Setting of print mode	65
Image transparency setting.....	71
Adjusting Special Colors: White	72
Change of Media size	75
Specifying the Image Position/Size and Number of Prints	76
About Operating ColorGATE Productionserver.....	79
Firewall Settings.....	80
2. Printing.....	86
2.1. Printing Flow	86
2.2. Before Printing	87
Things to Prepare.....	87
Checking Garments	88
Pre-treatment of Dark Colored Garments	89
2.3. Setting the Garment.....	92
Flatten the garment by using a heat press	92
Setting the Garment onto the Platen	93
2.4. Adjusting the Height of the Platen to the Print Position	96
2.5. Sending the Print Job and Printing It.....	99
Send the image file from ColorGATE Productionserver	100
Save the image file to a USB flash drive and read it via the machine	101
Selecting the image from the internal memory	103
Checking the Print Progress	105
Removing the Garment from the Platen.....	106
To cancel a print job.....	107
2.6. Set the Image with Heat Treatment	108
3. Maintenance.....	110
3.1. Maintenance Schedule	114
Daily	114
Weekly	114

Monthly	114
3.2. NOZZLE CHECK	115
3.3. AUTO HEAD CLEAN	118
Specifying the Maintenance Schedule	121
3.4. REGULAR MAINTENANCE.....	123
3.5. How to Clean the Guide Rod	124
Start REGULAR MAINTENANCE	125
Cleaning the Guide Rods	126
Cleaning the Encoder Sheet	132
Ending the maintenance	136
3.6. How to Clean the Maintenance Unit and the Left Ink Sump	137
Start REGULAR MAINTENANCE	139
Cleaning the Maintenance Unit and the Left Ink Sump	140
Ending the maintenance	149
3.7. How to Clean the Cover of Head Nozzle Plate (the Nozzle Cover).....	150
What Not to Do for Cleaning	152
Start REGULAR MAINTENANCE	155
Cleaning the Cover of Head Nozzle Plate (the Nozzle Cover)	156
Ending the maintenance	162
3.8. White Clean Freq.	163
3.9. Agitating a White Cartridge	165
3.10. Circulation	171
3.11. Emptying the Waste Ink Bottle	172
3.12. Cleaning the Cartridges and Cartridge Slots.....	173
Cleaning the Cartridges	173
Cleaning the Cartridge Slots	174
What to Check after Cleaning	175
4. Adjustments.....	176
4.1. Adjusting the Head.....	178
4.2. Adjusting the Table	181
4.3. Adjusting the print position.....	184
5. Replacing Service Parts.....	187
5.1. Service parts	187
5.2. Replacing the Mist Fan Filter	189
6. Preparing Your Printer for Storage/Shipping.....	192
7. Using the Printer in 4-color mode (CMYK Only).....	194

7.1.	Changing the printer to 6-color mode from 4-color mode.....	196
8.	Ink Path Guide	198
9.	Troubleshooting Guide	199
9.1.	When the Printing Result Is Not as Expected	203
	If bleeding occurs	203
	When white spot appears.....	205
	Dark spots appear in light-colored images	206
9.2.	If an SC (Service Call) error is displayed	207
	Stopping printing	208
	Moving the carriage from the touch panel	209
	Checking the carriage position	210
	Unlocking the carriage	212
	Attaching the head protection cover.....	214
10.	Appendix	217
10.1.	Update the firmware.....	217
	Update by using USB drive	217
	Firmware update (Panel (GIB))	219
	Firmware update (Sub Control (SCB) / Engine (CTL)).....	220
	When update is failed.....	221
	Update by connecting your PC and RICOH Ri 1000X with Ethernet cable	222
10.2.	Specifications.....	223
	General	223
	Ink Set.....	223
	Options.....	223
10.3.	About Open Source Software License	224
10.4.	Where to Inquire	225
10.5.	Revision history.....	225
10.6.	Trademarks.....	226

How to Read the Manuals

Before You Begin...

Only appropriately trained users should operate the machine.

Disclaimer

Contents of this manual are subject to change without prior notice.

To the maximum extent permitted by applicable laws, in no event will the manufacturer be liable for any damages whatsoever arising out of failures of this machine, losses of the registered data, or the use or non-use of this machine and operation manuals provided with it.

Make sure that you always copy or have backups of the data registered in this machine. Documents or data might be erased due to your operational errors or malfunctions of the machine.

In no event will the manufacturer be responsible for any documents created by you using this machine or any results from the data executed by you.

Notes

Read this manual carefully before you use the machine and keep it handy for future reference.

For safe and correct use, be sure to read Safety Information before using the machine.

The manufacturer will not be responsible for any damage or expense that might result from the use of parts other than genuine parts from the manufacturer with your products.

For good output quality, the manufacturer recommends that you use genuine ink from the manufacturer.

Some illustrations in this manual may be slightly different from the machine.

Certain options may not be available in some countries. For details, please contact your local dealer. Depending on which country you are in, certain units may be optional. For details, please contact your local dealer.

The Meanings of the Safety Symbols Used with This Machine

The meanings of the safety symbols for this machine are as follows:

	Prohibition
	Caution
	Warning; Pinch Point
	Caution, risk of electric shock
	Caution, risk of having hands or arms caught
	Keep out of reach of children
	Prohibition of disassembly
	See operating instructions For details about the precautions in each location with this graphic symbol, see "Safety Labels of This Machine" in Safety Information and Quick Installation Guide.
	Do not touch
	Caution, hot surface
	Wear eye protection
	Wear protective gloves

Notes for Using This Machine Safely

To use this machine, it is recommended you take the following measures, which include:

- Installing this machine in a network protected by a firewall.
- Specifying your private IP address.

Using a Private IP Address

An IP address is a numerical label assigned to devices connected to the network. An IP address that is used for Internet connection is a "global IP address", and an IP address that is used for network connection in a local environment such as a company is a "private IP address". If an IP address that is specified for a machine is a global IP address, unspecified numbers of Internet users can access this machine, so that there is higher risks of information leakage through illegal access outside from the environment where this machine is located. If a private IP address is specified for a machine, however, only users within a local network such as a company LAN can access the machine. Unless there is any specific reason, specify a private IP address for a machine. A private IP address can be selected from the following address ranges:

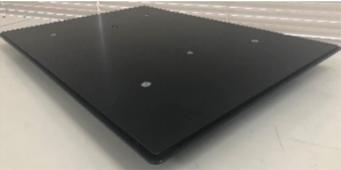
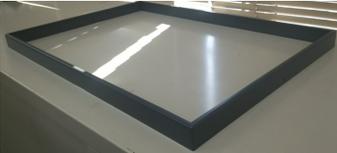
Private IP address ranges

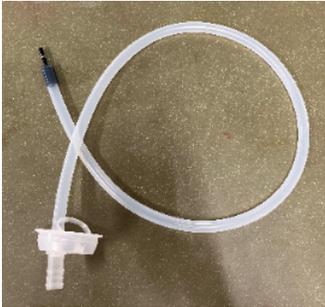
- 10.0.0.0-10.255.255.255
- 172.16.0.0-172.31.255.255
- 192.168.0.0-192.168.255.255

If you are concerned about the network environment, you can use the machine without a network connection by printing from a USB memory containing print data.

1. Before You Begin

1.1. Checking the Contents of the Product

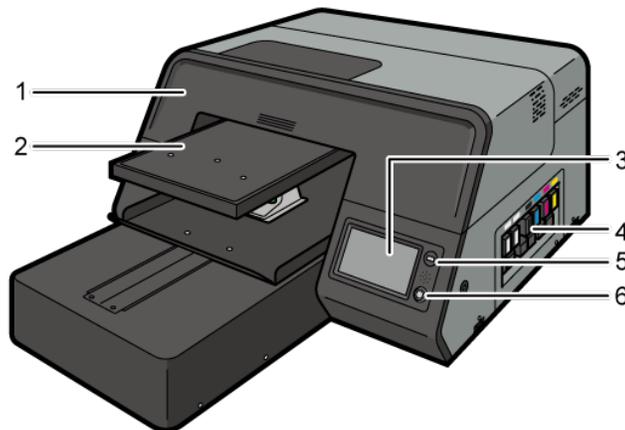
Item	Number
<p data-bbox="298 470 459 499">This machine</p>  A black RICOH Ri 1000X machine with a paper tray on the left and a control panel on the right.	1
<p data-bbox="310 730 448 760">Power cord</p>  A black power cord with a white label, packaged in a clear plastic bag.	1
<p data-bbox="293 911 464 940">Ethernet cable</p>  A white Ethernet cable with RJ45 connectors, packaged in a clear plastic bag.	1
<p data-bbox="282 1138 475 1167">Platen (Medium)</p>  A black, square-shaped platen with rounded corners and a small circular mark in the center.	1
<p data-bbox="282 1383 475 1413">Frame (Medium)</p>  A black, square-shaped frame with a white border and a white strip in the center.	1

Item	Number
<p>Waste ink bottle</p> 	<p>1</p>
<p>Waste ink tube with waste ink bottle cap</p> 	<p>1</p>
<p>Squeegee</p> 	<p>1</p>
<p>Heat press paper</p> 	<p>1</p>
<p>ColorGATE Productionserver License card</p>	<p>1</p>
<p>Safety Information and Quick Installation Guide</p>	<p>1</p>
<p>User Maintenance Precautions</p>	<p>1</p>

Maintenance Supplies	Number
<p>Cleaning liquid (with dropper)</p> 	<p>1</p>
<p>Cleaning applicators</p> 	<p>1</p>
<p>Lint free wipes</p> 	<p>1</p>
<p>Grease</p> 	<p>1</p>
<p>Polyethylene gloves</p> 	<p>5 sets</p>
<p>Cleaning JIG</p> 	<p>1</p>
<p>Head protection cover (This is attached to the main unit.)</p> 	<p>1</p>

1.2. Guide to Components

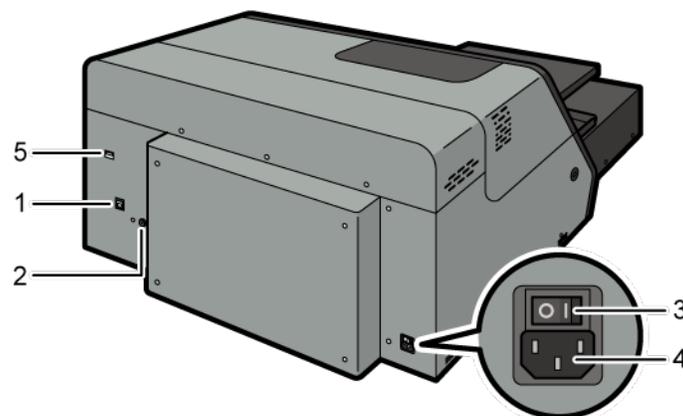
Front and Right View



EGU001

1. Front cover
2. Platen
3. Touch panel
4. Ink cartridges
5. USB-A port (2.0)
6. Sub power button

Rear View



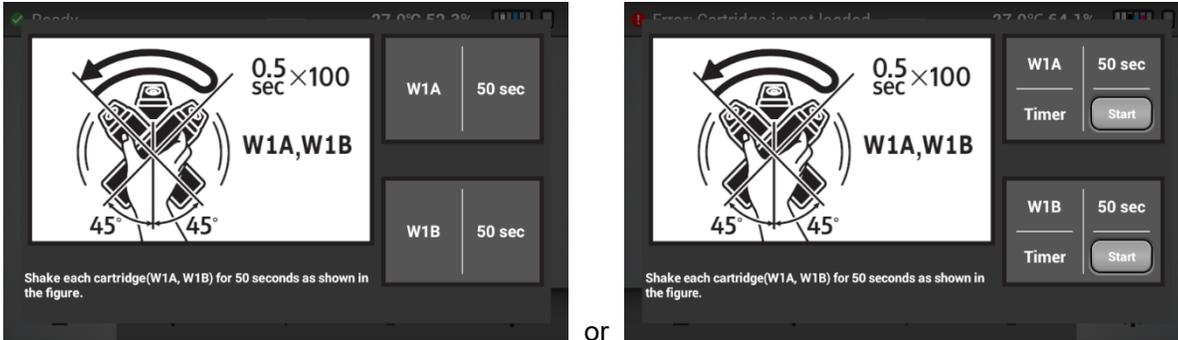
EGU002

1. Ethernet port
2. Waste ink bottle connector
3. Main power switch
4. Power connector
5. USB-A port (2.0)*
 - * If the USB-A port on the front cannot be used, the USB-A port on the back can be used instead. For USB connection, insert a USB memory stick into only one of the ports.

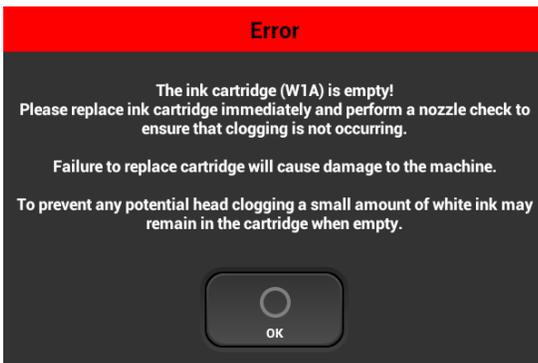
1.3. Important

Prevent Print Heads from Clogging

- Shake the ink cartridge when either of these pop-ups shows up.



- Replace a used ink cartridge with new one immediately to prevent print heads from clogging.



Basic Maintenance Items for Comfortable Printing

- Perform maintenance as outlined in the maintenance schedule

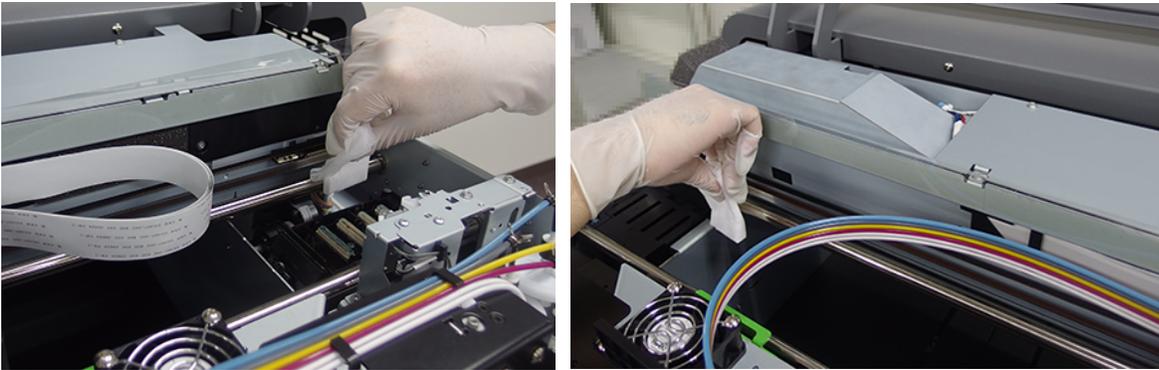
The printer will perform automatic maintenance periodically. But if you do not perform maintenance periodically, the ink in the cartridge may settle and/or coagulate, causing poor image quality or printer failure.



- Clean print heads to prevent them from clogging.
For details, see page 115 "NOZZLE CHECK".
For details, see page 118 "AUTO HEAD CLEAN".



- Clean the path of carriages with grease so that they can move smoothly and print precisely.
For details, see page 124 "How to Clean the Guide Rod".



Other Cautions

- Do not turn off the power of the printer.

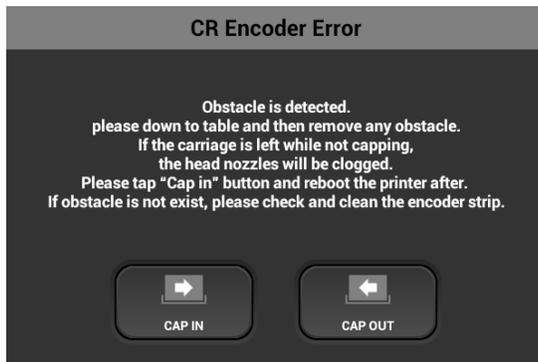
This printer periodically circulates ink internally and automatically performs head cleaning. If the printer is left powered off for 12 hours or more, attach a head protection cover to the carriage to protect the print head.



- Do not leave an error.

This might cause some kind of problem.

Please resolve an error shortly after the pop-up shows up.



- Some parts require periodical replacement

This printer includes parts that require replacement due to usage.

Parts must be replaced by a service representative.

NOTE - If a part has reached the end of its service life, as outlined in section, it will not be replaced under warranty as it is considered a consumable. Although the machine might still operate even if you use a part with expired service life, doing so could cause quality deterioration and malfunction. Therefore, we strongly recommend that you replace the part as soon as it reaches the end of its service life.

- If the printer encounters an error message, be sure to resolve the issue before continuing use as the self-maintenance functions will not work if there is a current error being experienced by the printer.

Need to know – Follow these steps to keep your printer in optimum working condition

WARNING! Failure to follow these steps may cause printer damage and possibly void the warranty

8 Essential Tips for Keeping Your RICOH Ri 1000X in Top Shape



As part of our commitment to your success, we want to make sure that you are getting optimal performance from your RICOH Ri 1000X while also minimizing any issues that can easily be prevented by following a few simple tips:

1. Always leave your printer on to allow the machine's automated maintenance sequences to run.

This is necessary to keep the printer in optimal condition and avoid potential damage that can be easily prevented. If the printer is left powered off for 12 hours or more, attach a head protection cover to the carriage to protect the print head. For more information, see page 214, "Attaching the head protection cover".

For long-term storage (powered off for 2 weeks or longer) or shipping, replace the ink with cleaning solution and attach a head protection cover to the carriage. For more information, see page 192, "Preparing Your Printer for Storage/Shipping".

2. Always shake new white ink cartridges thoroughly before installing them in your printer.

Adequately shaking your new white ink cartridges can ensure that your prints will come out bright and vibrant. For details, see page 19, "Machine Installation". Also, shake the white ink cartridges each day as prompted by the printer.

- 3. Make sure your ink is 5% or more when you are done printing for the day or plan on leaving your printer idle for a few hours.**

While you can continue to print using cartridges with less than 5% remaining, the machine's vital automated maintenance sequences require at least 5% or more in order to complete. If you do not have replacement ink available, you can fill your printer with cleaning fluid. For details, see page 192, "Preparing Your Printer for Storage/Shipping".

- 4. Perform a nozzle check daily, so you can spot and quickly address potential issues with the printer.**
- 5. Check the following websites to ensure that your printer and software firmware are completely up to date.**

Firmware: Ricoh website of the country that you are in

Software: Use latest dated version of the following.

ColorGATE products support page (<https://www.colorgate.com/support/>)

Please check the latest date in the Web site.

For details about download procedure, see page 53, "Download software of ColorGATE RIP/MIM files".

- 6. Exercise care when changing platens.**

This is a precision machine. When you replace or adjust the platen, handle it carefully.

- 7. Adjust the height of the platen correctly.**

For details, see page 96, "Adjusting the Height of the Platen to the Print Position".

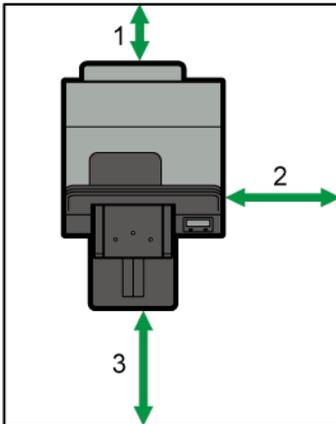
- 8. Do not leave the machine in the error status.**

If an error is displayed on the screen, try to resolve it immediately. Also, if the error is not resolved, contact your service representative.

1.4. Machine Installation

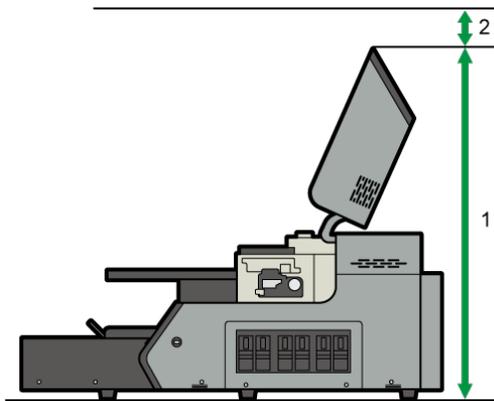
Space Needed for the Printer

◆ Installation Space: Top View



1. Rear: 10 cm (approx. 3.9 inches) or more
2. Right: 70 cm (approx. 27.6 inches) or more
3. Front: 50 cm (approx. 19.7 inches) or more

◆ Installation Space: Side View



1. Max. height: 100 cm (approx. 39.4 inches)
2. Above: 10 cm (3.9 inches) or more

EGU004

Unpacking

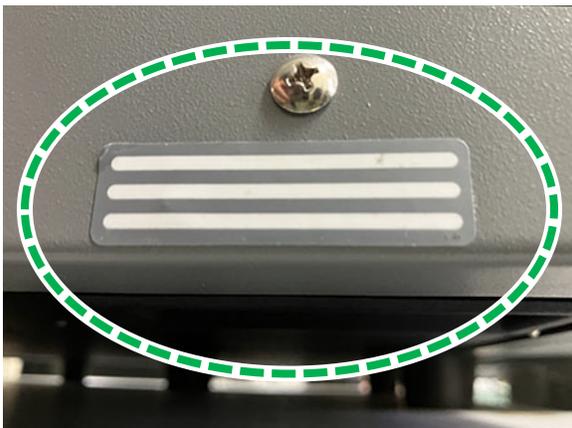
⚠ CAUTION

- The machine weights around 110 kg (242.5 lb.).
- Four or more people are required to lift the printer. When moving the printer, lift it slowly so that you do not strain yourself. Lifting the printer forcibly or handling it roughly to drop it will risk injury.

1. Keep the shipping box in the proper orientation (see arrows on the shipping box).
2. Remove the poly wrap and strapping.
3. Remove the top lid, upper foam, and separator sleeve.
4. Place the printer on your table.

IMPORTANT! Do not lift by the platen or platen base, lift from box with the help of 4 people.

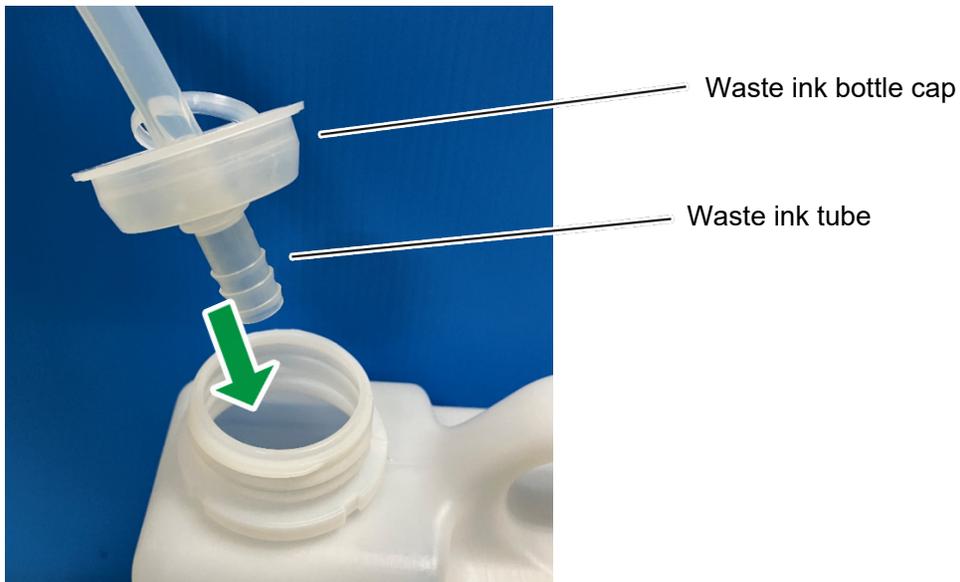
Grip the indentations for lifting at the base of the machine's sides with four people or more, as shown. Lift and carry the machine slowly and carefully.



Installing the Waste Ink Bottle and Ink Cartridges

IMPORTANT! The printer cannot determine if the waste ink bottle is connected. Make sure the waste ink bottle is connected properly.

1. Insert the waste ink tube into the waste ink bottle.



The waste ink bottle shown in the picture above might be slightly different than the actual waste ink bottle included with the product.

2. Close the waste ink bottle cap.

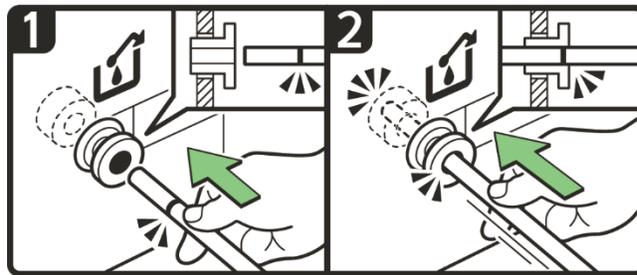


Close the waste ink bottle cap tightly and make sure that there is no gap between the waste ink bottle cap and the waste ink bottle.

3. Remove the tape and towel from the waste ink bottle connector, and then connect the waste ink tube to the waste ink bottle connectors on the right back side of the printer.



IMPORTANT! There is a marking on the waste ink tube. Insert the waste ink tube until the marking disappears into the waste ink bottle connector.



4. Secure the waste ink bottle in an upright position with tape.



IMPORTANT! Install the waste ink bottle vertically. If installed horizontally, the waste ink inside could leak out.



IMPORTANT! Connect the waste ink tube straight to the waste ink bottle. If the waste ink tube is bent or twisted, ink could become clogged inside the tube and thus could cause a malfunction.

Attach the waste ink tube in a way that the ink flows vertically from the printer on top to the waste ink bottle at the bottom. If the top-to-bottom orientation is reversed at any point along the way, the waste ink may not flow smoothly and cause a malfunction.



5. Agitate the new white cartridges.

For details about agitating a new white cartridge, see page 32, “Agitating New White Cartridge”.



6. Insert the ink cartridges.

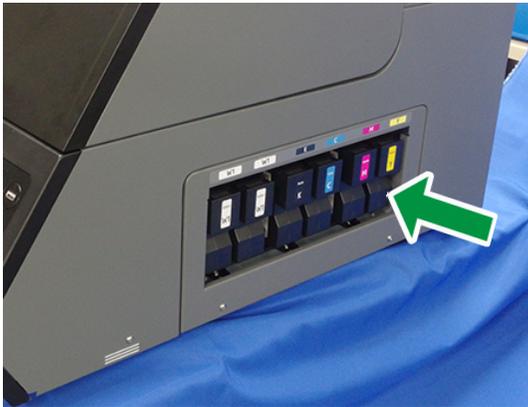
IMPORTANT! When installing the ink cartridges, do not touch the inside of the machine.

Carefully install a cartridge in the correct position.

During the initial ink charging, do not lift the front cover. Also, do not pull out the ink cartridge.

During the initial ink charging, if you lift the cover, the procedure will pause. To resume, hold the power button down to reboot the printer.

Agitate all the white cartridges before inserting them into the printer, and then begin the fill process.

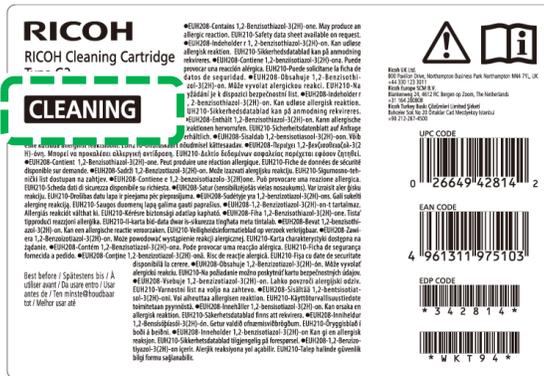


For white ink, insert two white ink cartridges.

You can insert each ink cartridge into either of the designated slots.

NOTE - Push the cartridges all the way through until they stop.

Be sure not to insert cleaning cartridges. The cleaning cartridges have the following labels affixed to them:



Supply the ink as follows:



EGU111

Turning On the Power

WARNING

- Avoid taking the following actions because doing so can result in fire or electric shock:
 - Using any power supply voltage or frequencies other than those that match the specifications shown
 - Using multi-socket adaptors
 - Using extension cords
 - Touching the prongs of the power cable's plug with anything metallic
- Avoid applying the following actions to power cords because doing so can result in fire or electric shock:
 - Damaging them
 - Bundling them
 - Modifying them
 - Putting heavy objects on them
 - Pulling them forcibly
 - Bending them forcibly
- Do not handle the power cord plug with wet hands. Doing so can result in electric shock.
- The supplied power cord or cords are for use with this machine only. They cannot be used for appliances other than this machine. Also, do not use power cords other than the power cord or cords supplied with this machine. Doing so can result in fire or electric shock.
- To prevent fire or electric shock, disconnect the plug and the power cord from the wall outlet at least once a year and check them. If any of the following conditions exist, do not use the plug and the power cord continuously, and consult your dealer or service representative.
 - There are burn marks on the plug
 - The prongs on the plug are deformed
 - The power cord's inner wires are exposed or broken
 - The power cord's coating is cracked, dented, or damaged
 - When the power cord is bent, the power turns off and on
 - Part of the power cord becomes hot

CAUTION

- Be sure to push the power cord plug fully into the wall outlet. Also, do not push it into loose and unstable wall outlets likely to cause a contact failure. Doing so can result in heat generation.

1. Connect the power cord to the power connector.



2. Turn ON the main power switch.



3. Hold down the sub power button for more than 2 seconds.



- 4. After booting, the printer will perform initial ink charging if the ink is not charged.**
Initial ink charging takes about 20 minutes.

NOTE – During the initial ink charging, do not lift the front cover. Also, do not pull out the ink cartridge. During initial ink charging, if it is paused by lifting the front cover, hold down the sub power button to reboot printer.



Once the initial ink charge is completed, the printer shows "Ready" in the upper left-hand corner of the touch screen.



After completing the initial ink charging, proceed to the next step.

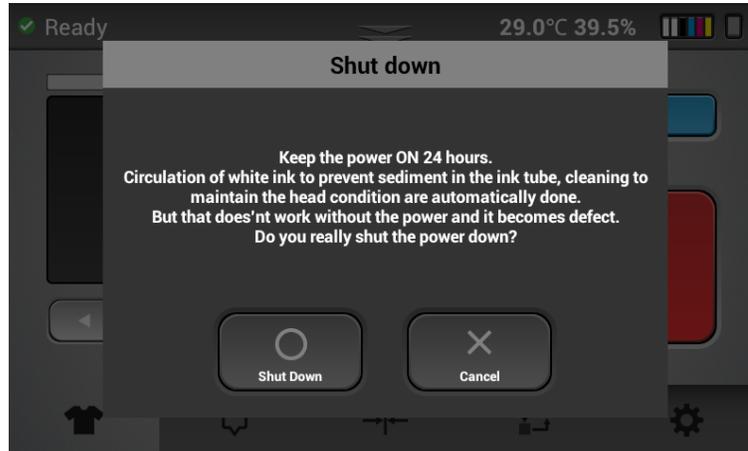
- 5. Perform a Nozzle check.**

For details, see page 115 "NOZZLE CHECK".

◆ Turning Off the Power

1. To turn off the power, hold down the sub power button for more than 3 seconds, which is located at the front near the touch panel.

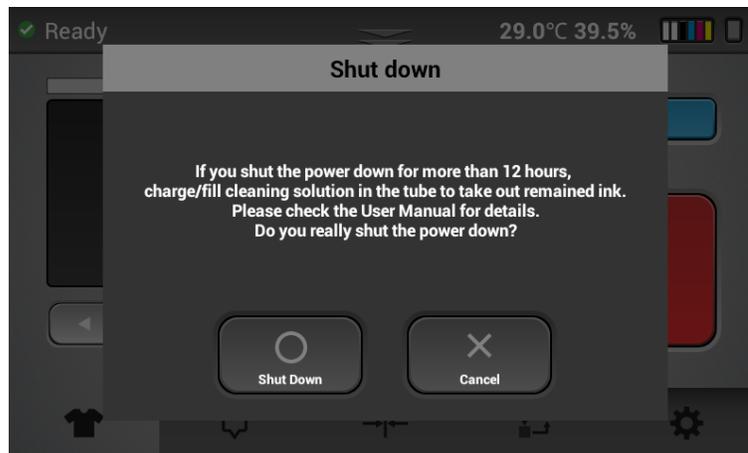
IMPORTANT! When you press the sub power button, the following screen warning appears.



Turning off the power for 12 hours or more may clog the heads because the auto maintenance routines are not being performed. So, if turning off the power is required for more than 12 hours, then the printer must be flushed with cleaning fluid per section.

2. Press [Shut Down].

IMPORTANT! After pressing [Shut Down], the following additional warning appears.



3. Press [Shut Down].
4. Press the main power switch to Off.

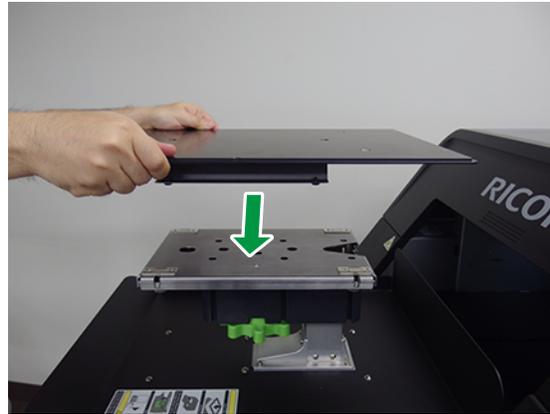
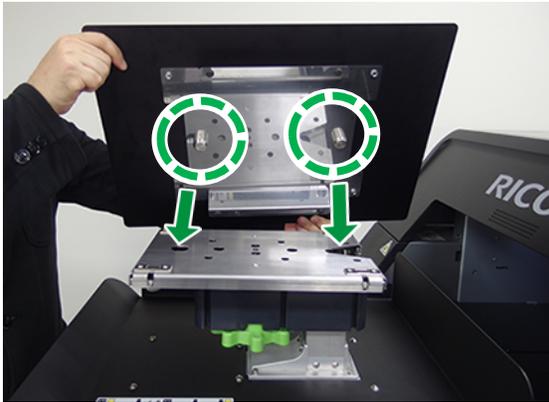
Attaching the Platen

1. Attach the platen.

The two protrusions on the back of the platen should be set correctly into the holes in the platen base.

There is a hole on the back side of the platen base that has a guide shape.

When setting the platen, it is easier to insert the pin to the back side when viewed from the front of the machine.



Network Connection

1. Insert the ethernet cable into the Ethernet port.



2. Configure the network settings.

For details about configuring such settings, see page 43, "The setting of IP address for the machine".

Handling the Ink Cartridge

WARNING

- The following explains the warning messages on the plastic bag used in this product's packaging:
 - Do not leave the polythene materials (bags, etc.) supplied with this machine close to babies and small children. Suffocation can result if polythene materials are brought into contact with the mouth or nose.

CAUTION

- When handling ink, cleaning solution, or pretreatment liquid, follow the instructions in the manual for the correct usage.
- If ink, cleaning solution, or pretreatment liquid is swallowed, inhaled, or gets in the eyes, follow the guidance in the appropriate safety data sheet (SDS). Download the SDS from the following website:
 - <https://www.ricoh.com/environment/msds/>
- To prevent being stained by ink or cleaning solution, wear protective gear (protective gloves, protective glasses/goggles, protective clothing). Also take care not to stain your surroundings while agitating the ink.
- Place ink, cleaning solution, and pretreatment liquid in a cool, well-ventilated place out of the reach of children.
- Keep waste ink, containers for ink, cleaning solution, and pretreatment liquid, and components that have been in contact with ink out of the reach of children.
- When handling ink, cleaning solution, or pretreatment liquid, avoid getting anything on your clothing. If you do, wash the stained area with cold water.
- When replacing a cartridge containing ink, cleaning solution, or pretreatment liquid, avoid getting anything on your clothing. If you do, wash the stained area with cold water.
- When replacing a cartridge containing ink, cleaning solution, or pretreatment liquid, avoid getting anything on your skin. If you do, wash the affected area thoroughly with soap and water.
- When removing a cartridge containing ink, cleaning solution, or pretreatment liquid, avoid putting your hand near the location in which the cartridge is installed (such as the ink supply nozzle and its surrounding areas). If you get anything on your hands, wash them thoroughly with soap and water.

⚠ CAUTION

- The ink cartridge surface may have ink on it, so be careful to avoid ink stains.
- Do not remove the cartridge while operating the machine. Doing so may cause the ink to spray, staining clothes and surroundings. If you get anything on your hands, wash them thoroughly with soap and water.
- Do not disassemble a cartridge containing ink, cleaning solution, or pretreatment liquid. Doing so may leave ink stains or cleaning solution on your hands and fingers.
- When shaking a cartridge containing ink, cleaning solution, or pretreatment liquid, be careful about safety of your surroundings and ink stains. Otherwise, injury or stains on household items may result.
- Do not hit or drop it when agitating. It may cause injury, cartridge damage, or ink leakage.
- Do not excessively agitate/shake. It may cause ink leakage.
- Agitate/shake as instructed. Other methods may cause ink leakage.
- Be sure to wear commercially available protective glasses, gloves, and clothing when replacing or handling cartridges.

IMPORTANT! If the ink cartridge has been empty for a long time, you will not be able to perform the maintenance for the print head. This may cause a printer malfunction. Make sure you always have a new ink cartridge. Install it soon after the message about replacement appears.

About ink cartridges

- Ink cartridges comply with the manufacturer's safety specifications. To ensure safety and reliability, use genuine ink cartridges.
- Do not reuse the ink cartridges.

Using ink cartridges

- Do not open the package of an ink cartridge until the cartridge will be installed in the machine.
- Do not touch the ink cartridges' ink inlets or chip contacts.
- Do not take apart ink cartridges.
- Always confirm the color of an ink cartridge before installing it.
- Do not remove an ink cartridge once it has been installed unless necessary.
- Do not remove an ink cartridge while printing is being performed. Printing will stop.

- The warranty period after opening the ink cartridge is 90 days or running out the ink, whichever comes first. If you print 50 sheets a month or less, it is recommended to use the standard type ink cartridges.

◆ Agitating New White Cartridge

Please agitate the white ink before attaching a new white cartridge to the printer.

Be sure to agitate the white ink daily. A message prompting you to agitate the white ink appears every 12 hours. When this message appears, immediately shake the white ink cartridge according to the instructions.

White ink is prone to ink precipitation (the tendency for the ink to accumulate at the bottom of the ink solution). Ink precipitation may decrease the print density or cause nozzle clogging. Be sure to agitate the white ink when you unpack the ink cartridge and once a day after it has been unpacked.

IMPORTANT! Failure to follow these procedures may cause print head nozzle issues.

Do not shake the cartridge too quickly or too hard.

The agitating method should be as follows:

- To prevent being stained by ink or cleaning solution, wear protective gear (protective gloves, protective glasses/goggles, protective clothing). Also take care not to stain your surroundings while agitating the ink.

1. Prepare

Use a lint free wipes to wipe off any dirt on the white ink cartridge and cartridge slot. For details on how to clean the cartridge and cartridge slot, see page 173 "Cleaning the Cartridges and Cartridge Slots". Make sure there are no tears or cracks on the white ink cartridge.

2. Agitate the ink

- Hold the cartridge as shown in Figure 1.
- Hold the white ink cartridge with the ink supply port face up.
- Shake the ink cartridge by tilting it side to side at 45° degree angles, as shown below.
- Shake the cartridge for 50 seconds at a speed of 2 back-and-forth shakes per second.

Figure 1



3. After agitating the ink, wipe off any ink stains on the ink supply port

◆ Disposing a Depleted Ink Cartridge

Dispose of a Depleted Ink Cartridge and Cleaning cartridge in accordance with applicable laws and ordinances.

If you are uncertain about disposal, consult with your local dealer.

Handling the waste ink bottle

CAUTION

- If the waste ink gets into contact with your eyes, wash them immediately with running water. Consult a doctor if necessary.
- Keep the waste ink bottle out of reach of children.
- Keep waste ink, containers for ink, cleaning solutions, pretreatment liquids, and components that have been in contact with ink out of reach of children.
- When replacing a waste ink bottle, avoid getting anything on your clothing. If otherwise, wash the stained area with cold water.
- When replacing a waste ink bottle, avoid getting anything on your skin. If otherwise, wash the affected area thoroughly with soap and water.
- Be sure to wear commercially available goggles and gloves when replacing the waste ink bottle.
- When disposing of the waste ink, clean the waste ink tube if there is dirt or buildup such as lumps of ink on the tip of the tube. Otherwise, clogging the waste ink tube and the defective discharging of waste ink could result.

About waste ink bottle

- Do not open a waste ink bottle unless necessary.
- Install the waste ink bottle vertically. If installed horizontally, the waste ink inside could leak outward.
- Be sure to secure the waste ink bottle.

◆ Disposing of the Waste Ink and Waste Ink Bottle

Dispose of the waste ink and waste ink bottle in accordance with applicable laws and ordinances.

If you are uncertain about how to dispose of these items, consult with your local dealer.

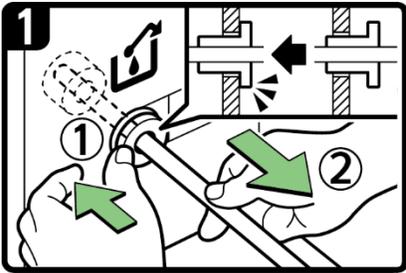
◆ Removing the Waste Ink tube

It is recommended to keep the waste ink tube installed unless absolutely necessary.

If it is necessary to remove the waste ink tube, use the below instructions.

IMPORTANT! The waste ink tube should not be removed unless doing so is required for the movement of the equipment or for replacement.

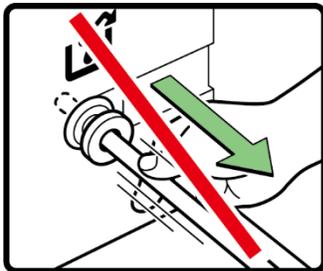
1. Gently push the plastic ring using either your fingers or a small flathead screwdriver.



2. Gently pull the waste ink tube away from the plastic ring.



IMPORTANT! Do not pull the waste ink tube without pushing the plastic ring.



NOTE: The waste ink tube should come out with minimal force.

Handling the Front Cover

◆ Opening the Front Cover

⚠ CAUTION

- When lifting and lowering the front cover, be sure to hold it by the part shown below. Be careful to ensure that your hand or any other part of your body does not get caught in the front cover.



1. Hold the center of the front cover as shown below.



2. Open the front cover until it stops.



◆ Closing the Front Cover

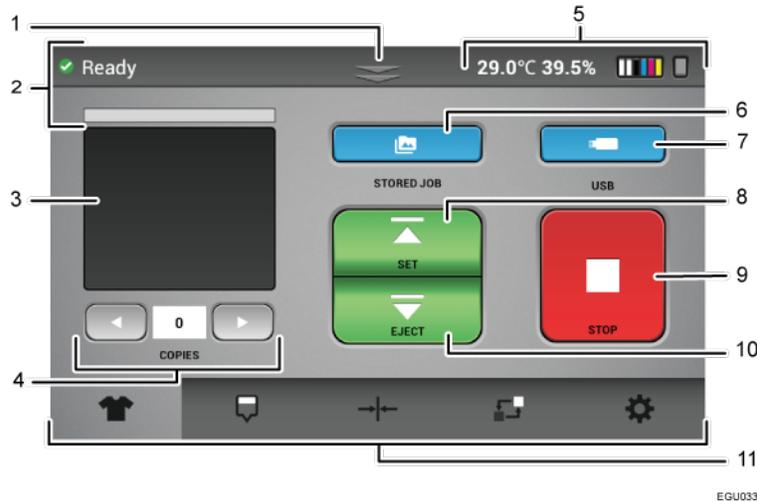
1. Close the front cover.



NOTE – Printer will not function if the front cover is open.

1.5. Control Panel Functions

Print Tab

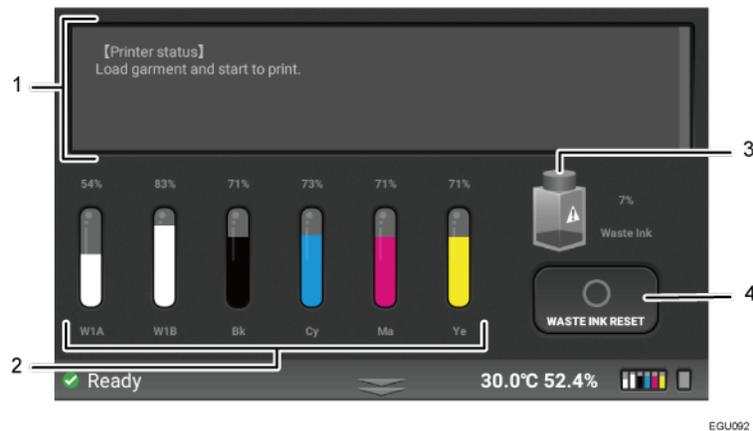


EGU033

1. **Status bar**
Press/Drag down the status bar to open the status screen menu.
2. **Machine status**
 - There are 4 possible colors.
 - Green: The printer is fully functional.
 - Yellow: The printer is fully functional, but there is a warning on the status screen.
 - Red: The printer is in an error state where printing and auto maintenance are not functional, which may lead to damage of the printer.
 - White: The printer is busy with some function such as printing or maintenance.
 - Displays the print progress during printing. For details, see page 105, "Checking the Print Progress".
3. **Printing the image preview**
Displays the printing image preview.
4. **Number of prints**
When printing the same image multiple times, specify the number of prints.
Displays the number of prints if it has been specified on Productions server.
5. **Machine information**
Displays the printer temperature and humidity, the amount of ink in ink cartridges, and the waste ink bottle capacity level.
6. **[STORED JOB]**
You can check the recent images used for printing and print directly from the stored folder or from jobs sent via network cable.
7. **[USB]**
You can choose a print job from a USB device.
Supported file type: Files with the extension ".prn"
8. **[SET]**
Press to move the platen to the printable position.

9. [STOP]
Stops any current movement of the platen and allows you to cancel the print job.
10. [EJECT]
Press to eject the platen from the printable position so that the media can be placed on the platen.
11. Function Tabs
Switches the menu displayed on the touch screen.

Status



EGU092

1. Status details
Displays the printer status in detail and shows any warnings or errors.
2. Ink status
Displays the current ink percentage levels in each installed cartridge. Each ink appears as their respective colors. Cleaner cartridges are displayed as clear. If no cartridge is installed, X and NC appear.
3. Waste ink bottle status
Displays the status and fill percentage of the waste ink bottle.
4. [WASTE INK RESET]
Reset the counts of the waste ink bottle. Press [WASTE INK RESET] to reset the percentage back to 0% after the waste ink bottle is manually drained/emptied.

IMPORTANT! Resetting the waste ink without actually emptying the waste ink bottle can result in the ink overflowing from the waste ink bottle. Also, if the waste ink bottle is full (100%), the machine will be in an error state, and auto maintenance will not be performed. This could cause damage to the machine.

Maintenance Tab



EGU034

1. [NOZZLE CHECK]
Prints a nozzle check pattern result. It is recommended that this is performed daily to monitor the printer.
2. [AUTO HEAD CLEAN]
Performs head cleaning automatically using systems components.
3. [REGULAR MAINTENANCE]
Allows the carriage to be released. The front cover can be opened in order to manually clean the print heads (during maintenance or troubleshooting) and the maintenance station.

Alignment Tab



EGU035

1. [HEAD ALIGNMENT]
Prints an adjustment pattern for the print head alignment so that print heads can be aligned to each other.
2. [TABLE ALIGNMENT]
Prints an adjustment pattern to the platen to check and tune the platen indexing.
3. [PRINT POSITION]
Prints an adjustment pattern to determine the print start position.

Service Part Status Tab



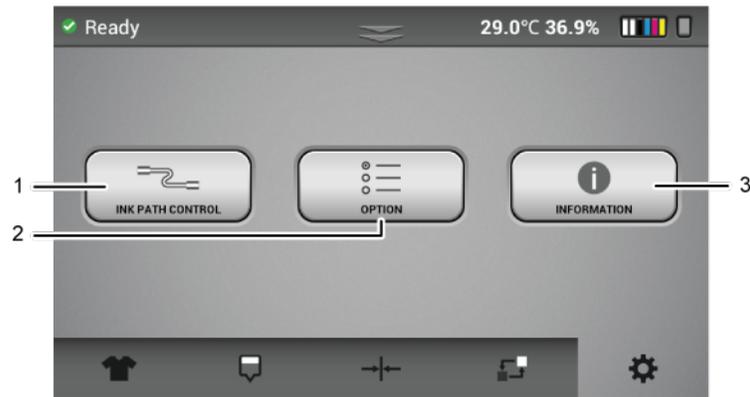
EGU093

1. Displays the current usage or status of each service part.
For details, see page 187, "Service parts".
2. [REPLACE LIST]
Allows you to check the part replacement history.

The layer counter displayed on [REPLACE LIST] is the counter used for making rough estimates for replacing parts. The counter indicates the total number of layers created from the time the printer was initially used. It differs from the number of sheets of garments printed.

The total number of print jobs indicates the total number printed from the time the printer was initially used.

Settings Tab



EGU036

1. [INK PATH CONTROL]
Performs the ink path control. If you press this button, you can flush the printer. For details, see page 198, "Ink Path Guide".
2. [OPTION]
You can change the following settings via the Option screen.

Setting	Description
[IP ADDRESS]	Set print IP address.
[DRYING TIME]	Set time between white layer printing and CMYK printing.
[OBSTACLE SENSOR]	Can set whether to use obstacle sensor for printing. Recommended to leave this ON at all times.
[FACTORY RESET]	Set Head. Table and print alignment to original settings.
[TEMPERATURE]	Can display temperature in Celsius or Fahrenheit.
[HIGH SPEED MODE]	You can switch ON/OFF the high speed mode for white layer printing. If set to ON, the white carriage operates at high speed. The time required for printing in this mode with white and full color is approximately 60-70%* of that for the OFF mode. However, the image quality may be affected because the carriage operates at a higher speed. *The effect to reduce the printing time varies depending on the print job.
[WHITE CLEAN FREQ.]	See page 163, "White Clean Freq.".
[LANGUAGE]	Select the display language.
[STORED JOB]	If selected, jobs in internal memory will be deleted after a selected # of days, the default is this is tuned off so jobs are not deleted.

[VOLUME]	Set volume of buzzer
[AGITATE SETTING]	Select display format when agitating white cartridges.
[USB UPDATE]	Update firmware using USB drive. If run it, you need to save latest firmware to USB drive in advance. For details, see page 217, "Update the firmware".
[TIME SHIFT]	Configure the time zone applied to the time displayed on the machine in units of one hour within the range of "-24" to "+24". As the default, this is set to the UTC time zone.
[SCHEDULE SET]	See page 121, "Specifying the Maintenance Schedule".
[VIDEO]	See page 112, "Watching the Procedure on Video".
[WHITE AMOUNT ADJ.]	Press to adjust the amount of white ink to apply. If the white in the print image is faint, you can increase the amount of white ink to make the white thicker. If uneven density occurs in the white image, you can make the white ink thicker to reduce the unevenness.

3. [INFORMATION]

Displays the general information of the printer such as Serial #, Control panel firmware version, Engine (CTL) firmware version, and Sub control board firmware version.

1.6. Printer Setup

The setting of IP address for the machine

The setting method of IP address for this machine are two patterns.

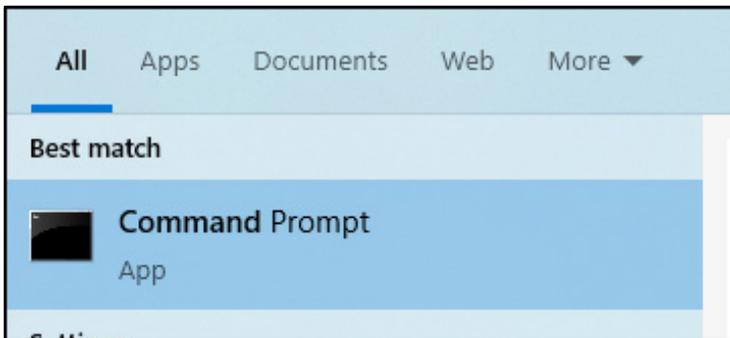
Case1: For connecting directly to the printer from a PC that is not parts of a network

Case2: For DHCP setup

Case1: For connecting directly to the printer from a PC that is not parts of a network

[Confirming IP address of your PC]

1. Open the command prompt dialogue box on your PC.

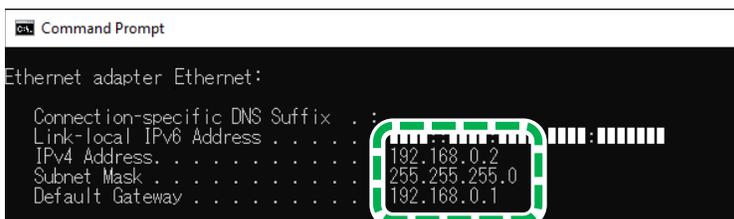


2. Type "ipconfig" in the first line in the command prompt.



3. In the "Ethernet adapter Ethernet" section, check the address of "IPv4 Address", "Subnet Mask", and "Default Gateway". For the IP address, use the "IPv4 Address" but change the last three digits to a number that will be unique to the printer. For subnet mask and default gateway, use them for the printer.

Example: The procedure for changing the IP address of the printer from 192.168.0.2 to 192.168.0.3 is shown below.



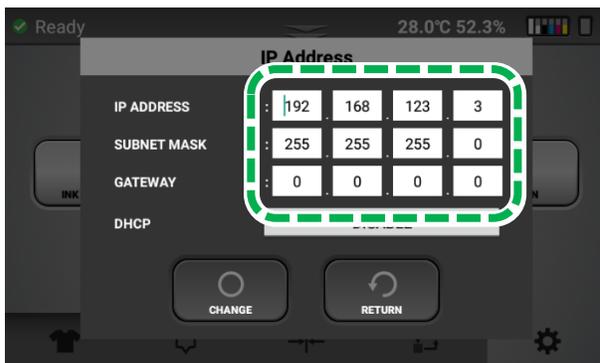
4. Proceed to Step 1 in [Configuring the IP address of the machine].

[Configuring the IP address of the machine]

1. Press the Setting tab on the touch panel of this machine.



2. Press [OPTION].
3. Press [IP ADDRESS].
4. If DHCP setting is “ENABLE”, change to “DISABLE”.
5. Enter the new IP address, subnet mask, and default gateway.



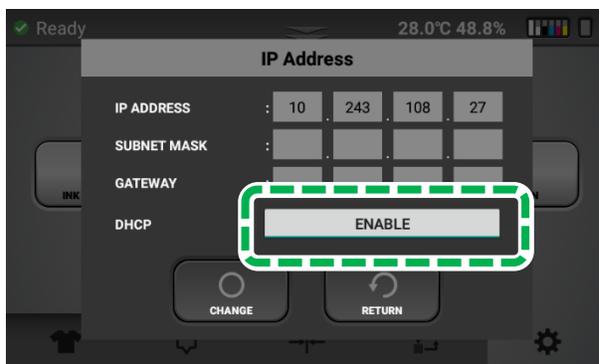
6. Press [CHANGE].

Case2: For DHCP setup

1. Press the Setting tab on the touch panel of this machine.



2. Press [OPTION].
3. Press [IP ADDRESS].
4. Setting DHCP to [ENABLE] to add the printer to an existing network.



Check the assigned IP ADDRESS.

1.7. Usage of ColorGATE Productionserver

This machine uses ColorGATE Productionserver for printing. ColorGATE Productionserver must be installed on your PC.

The productionserver22 system requirements are as follows.

For the system requirements for the latest version, see the ColorGATE web site (<https://www.colorgate.com/>).

◆ System Requirement

Operating systems (64-Bit):

- Microsoft Windows 10 (Pro, Enterprise)
- Microsoft Windows 11
- Microsoft Windows Server 2016
- Microsoft Windows Server 2019
- (Apple macOS with Parallels Desktop)

Minimum hardware requirements:

- CPU: Intel Core i3-2100 / Athlon II X2 340
- RAM: ≥4 GB
- Free disk space: 120 GB
- Display resolution: 1280 x 1024

Recommended for using one printer:

- CPU: Intel i5-7500 or newer / AMD Ryzen 5 1600 or newer
- RAM: ≥8 GB
- Free disk space: 120 GB SSD
- Display resolution: 1920 x 1080

Recommended for using multiple printers:

- CPU: Intel i9-9900K or newer / AMD Ryzen 7 3800X or newer
- RAM: ≥16 GB
- Free disk space: 512 GB NVME
- Display resolution: 1920 x 1080

Installation and operation:

LAN adapter, TCP/IP for network access required; software-based license requires Internet access.

Interfaces:

Ethernet, TCP/IP, FireWire

Software based licenses:

Operation of the ColorGATE software on virtual machines is not permitted with software based licenses.

Please check (<https://www.colorgate.com/requirements/>) for the latest supported OS.

The supported OS for each version can be found on the ColorGATE support site (<https://www.colorgate.com/support/>).

See the 2.2 system requirements in the Productionserver Manual. This document is located when ColorGATE Support site > [LOGIN / REGISTER] > Entry of login details > [LOGIN] > [DOWNLOAD AREA] > [DOCUMENTATION] and with [Software Manuals] checked in [Filter Results:].

Follow the steps below to install ColorGATE Productionserver.

Register as a user and product on the ColorGATE Service & Support website

NOTE - ColorGATE Service & Support website is available in English and German.
Products after ColorGATE Productionserver 22 are only available in Windows 64 bit.
For details about system requirements, see ColorGATE web site. (<https://colorgate.com/>)

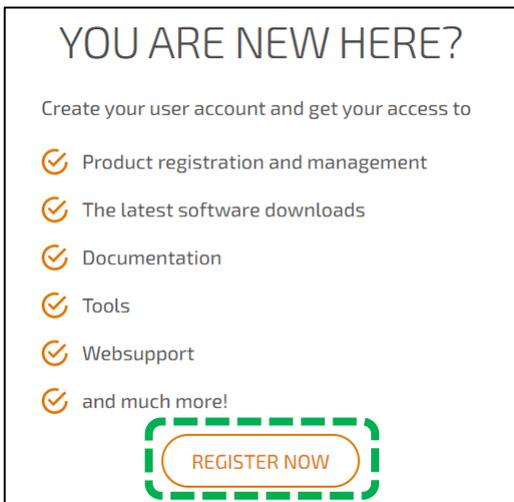
1. Start your web browser.
2. In the address bar of your web browser, enter the following URL and press the Enter key.

<https://www.colorgate.com/support/>

3. Click [LOGIN / REGISTER].



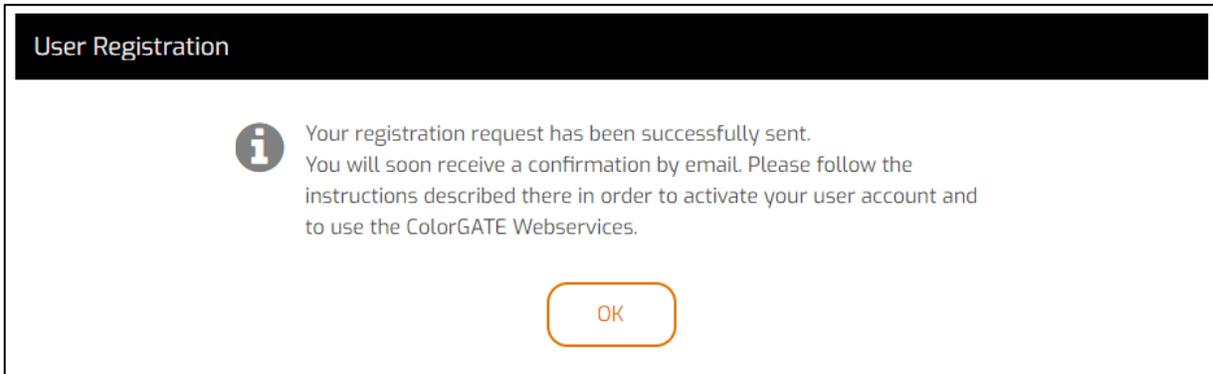
4. Click [REGISTER NOW].



5. Enter "Email address", "Password", and "Confirm password".
6. Click [Next].

An assistant will guide you through the next steps.

7. When registration is complete, the following message will be displayed.

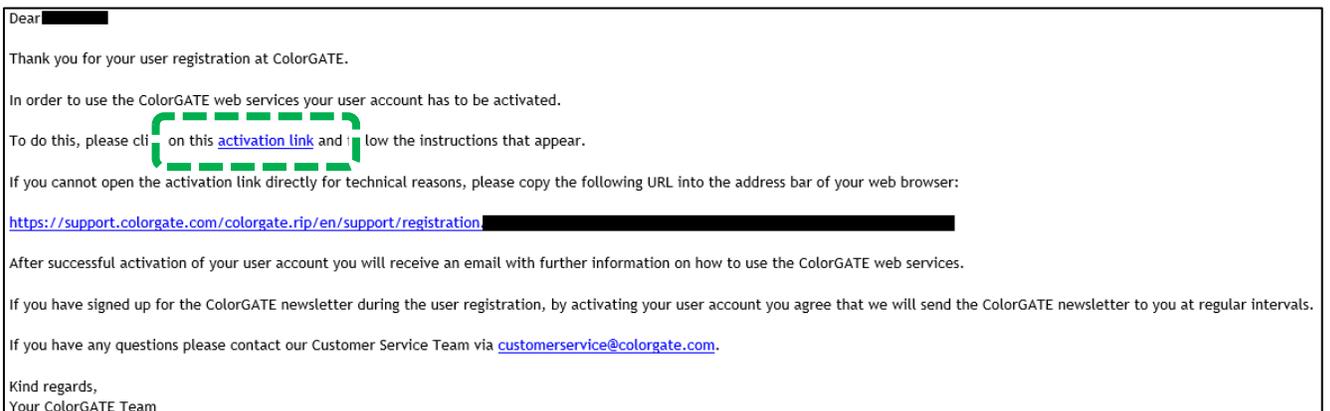


Important!

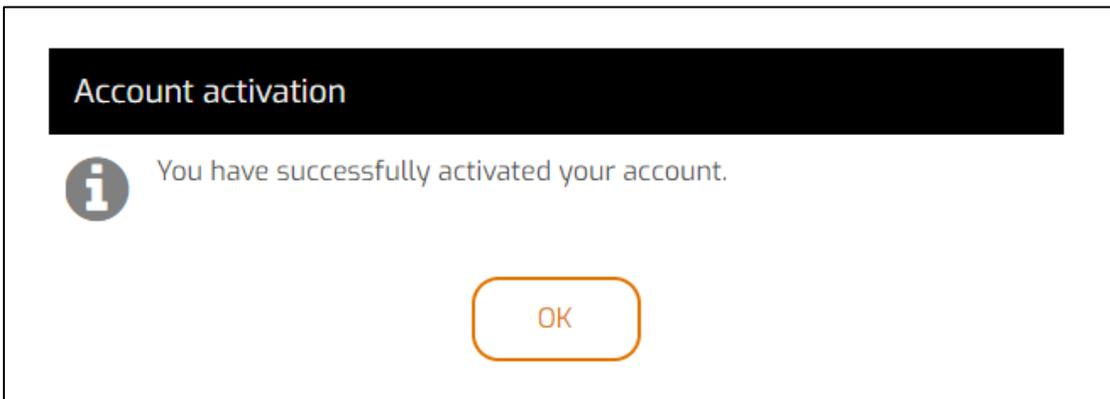
At this point, registration has not been completed yet.

You can use the service by activating the user account by following the steps below.

8. Activate the user account. You will receive a guide to activate your user account to the email address you registered. Click [activation link] in the text of the received email.



9. The following screen will be displayed and user registration will be completed.



10. Next, click [REGISTER PRODUCT] for product registration. (If you are not logged in, please log in.)



11. Enter the license number of the license card included with the RICOH Ri 1000X and click [Next].

Product registration

To be able to operate your ColorGATE product beyond the test period, please perform a product registration. Enter the following data:

License number* ⓘ

Primary email address

Additional email addresses ⓘ

* Required field

Next

12. Check the contents of the license, and if there are no problems, click [Next].

Product registration — Your license License number:

You are about to register the following license. Click on "Next" to continue the registration process. If you have not selected any drivers yet, you can set them in the next windows. You can also change already selected drivers.

LICENSE

- Number:
- Type:

PRODUCT:

- TP522 Ricoh DTG Basic Edition (Bundled) (SHL)

LIMITS:

-

OUTPUT MANAGEMENT:

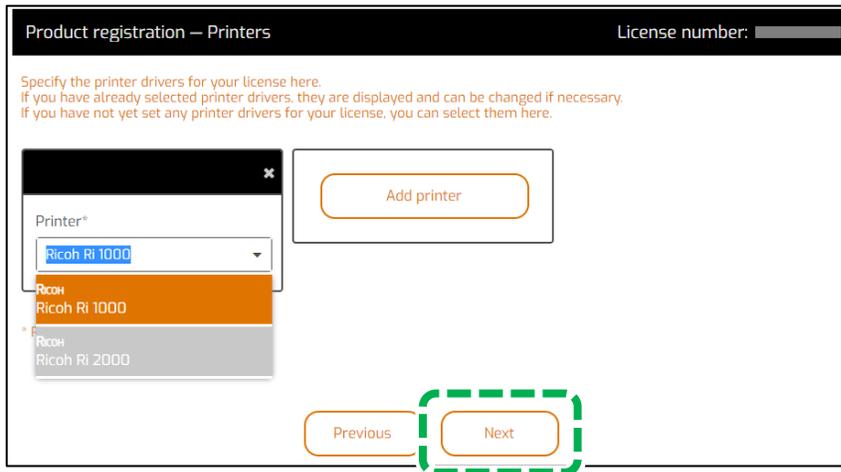
-
-

PRINTERS:

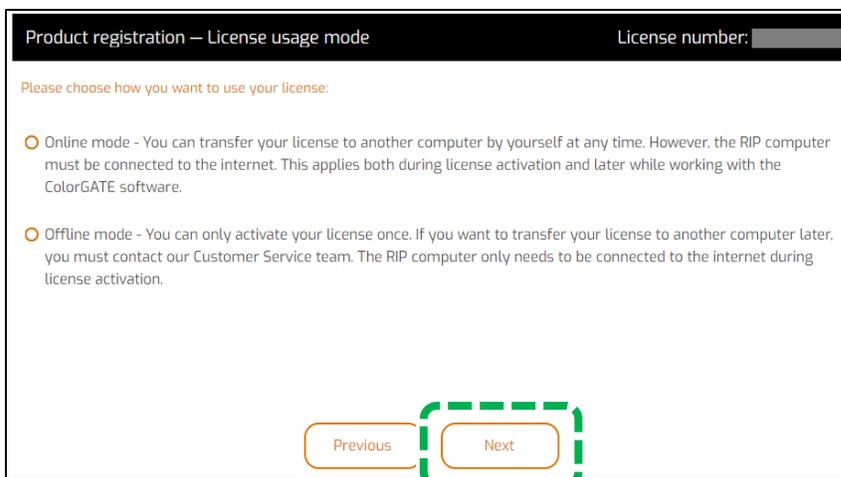
-
-

13. The printer selection screen is displayed. Select “Ricoh Ri 1000X” and click [Next].

The image below is when Ri 1000X is selected.



14. Select the mode in which you want to use the license and click [Next].



15. Make a final review of your product registration information and click [Register now] if you are satisfied.

Product registration — Register your license now License number: [REDACTED]

Please check the accuracy of the following data. If you have any comments or questions, you can leave a message for the ColorGATE Customer Service Team in the "Message to Customer Service" field. Then register your license by clicking "Register now".

LICENSE

- Number: [REDACTED]
- Type: [REDACTED]

PRODUCT:

- TPS22 Ricoh DTG Basic Edition (Bundled) (SHL)

EMAIL ADDRESSES:

- [REDACTED]

LIMITS:

- [REDACTED]

OUTPUT MANAGEMENT:

- [REDACTED]
- [REDACTED]
- [REDACTED]

PRINTERS:

- [REDACTED]
 - [REDACTED]

Message to Customer Service

[Previous] [Register now]

16. When the following screen is displayed, product registration is complete.

Product registration License number: [REDACTED]

You successfully registered your product.
A confirmation email will be sent shortly.
By clicking on "continue to your user profile" you will be forwarded to your user profile, where you can see your existing licenses and their details.

[Continue to your user profile] [Register another license]

Download software of ColorGATE RIP/MIM files

Note - If the email you received when you execute "User registration" contains a download link for the Productionserver and MIM, download it from that download location.

1. Access to the ColorGATE service & Support website again.
 (<https://www.colorgate.com/support/>)

2. Click [LOGIN / REGISTER].

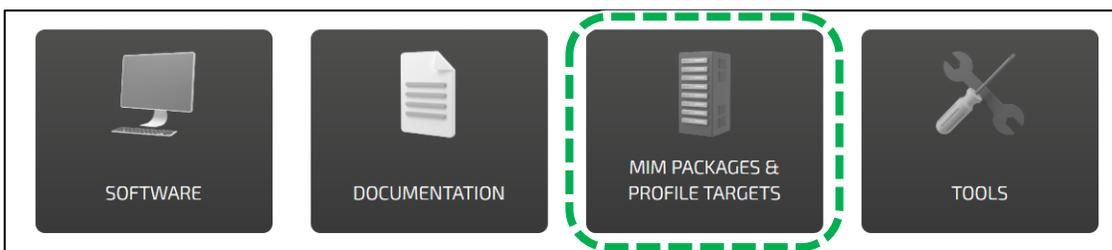


3. Enter the registered email address and password, and then click [LOGIN].

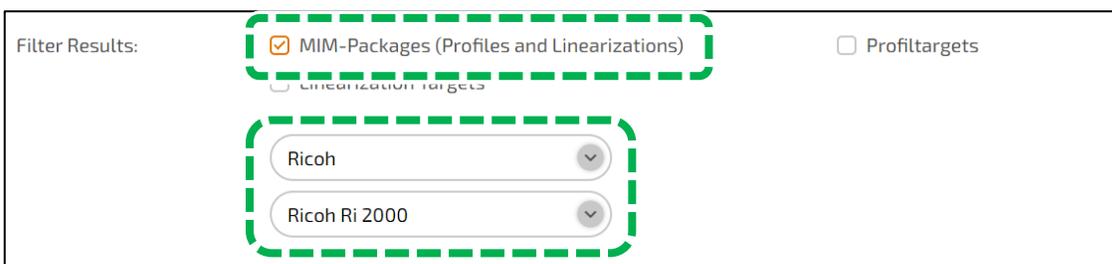
4. Click [DOWNLOAD AREA].



5. Click [MIM PACKAGES & PROFILE TARGETS].



6. Check [MIM-Packages (Profiles and Linearizations)] in "Filter Results:" and select [RICOH] and [Ricoh Ri 1000X].



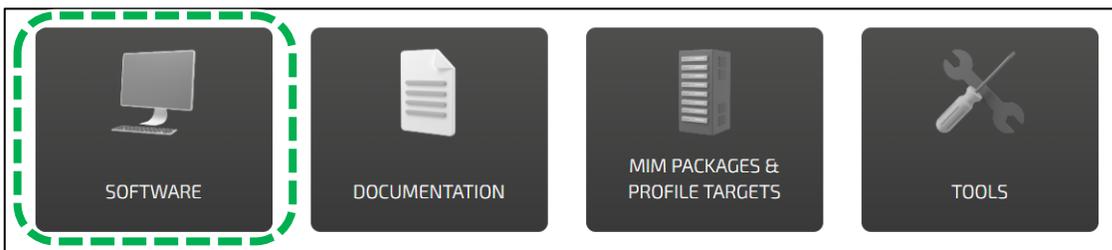
- Click the icon of [DOWNLOAD] of “PS_Ricoh_Ri1000X_Combi-MIM_ver***.cmp”, and then save the file in your local PC.

The file name is subject to change.

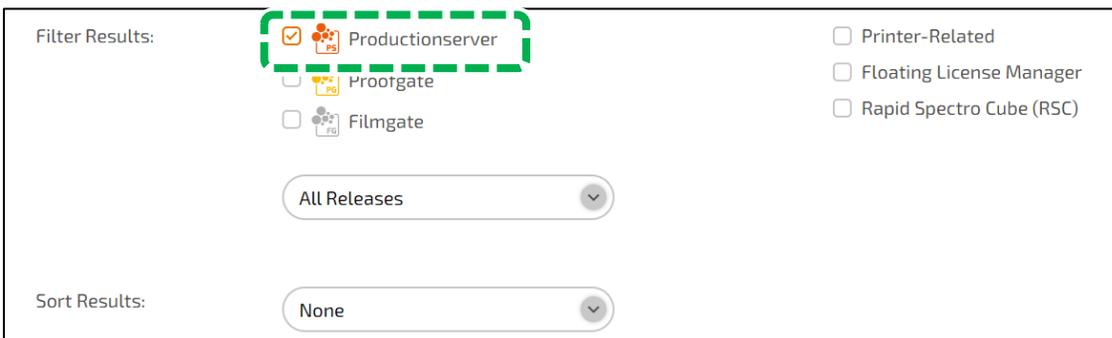
MIM PACKAGES & PROFILE TARGETS	DESCRIPTION	MANUFACTURER	RELEASED ON	SIZE	DOWNLOAD
PS_Ricoh_Ri2000_DTF_Europe_NorthAmerica.cmp	Ricoh Ri 2000 DTF MIM for Europe and North America	Ricoh	16.06.2022	30 MB	
PS_Ricoh_Ri2000_Combi-MIM_ver1.0.cmp	Contains standard MIMs for white and colored garments. Ricoh Ri 2000 Combi-MIM	Ricoh	30.09.2020	145 MB	

- Download the latest version of ColorGATE Productionserver.

- Click [SOFTWARE].



- Check [Productionserver] in "Filter Results:".



- Click icon of [DOWNLOAD] for the latest “PS**SetupV**.**.***.exe”, and then save the file in your local PC. The latest files are displayed at the top of the screen by default. (modified by Sort Results:)

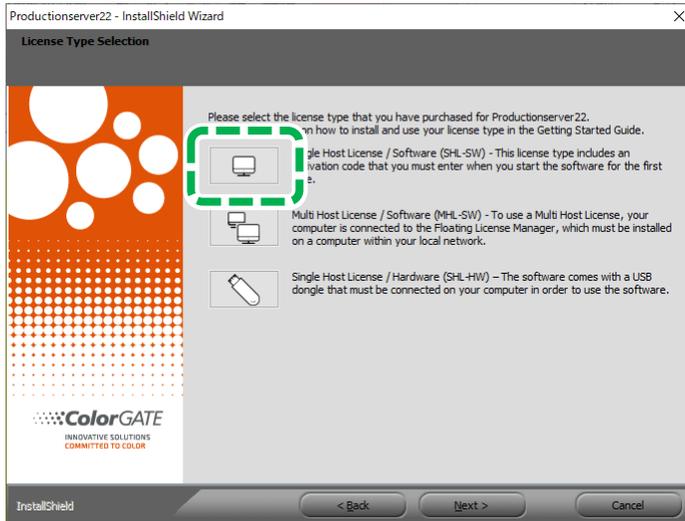
The latest version name is entered in *****.

SOFTWARE	DESCRIPTION	VERSION	RELEASENOTES	RELEASED ON	SIZE	DOWNLOAD
PS22SetupV22.02.12082.exe	Productionserver 22 [22.02 Build 12082] Setup (requires Value Pack that is valid till at least Apr. 22nd, 2022)	22		04.07.2022	1 GB	
CutServerSetupV2.2.12082.exe	Cutserver 2.2.12082 Setup	22		01.07.2022	66 MB	
PS22SetupV22.01.12053.exe	Productionserver 22 [22.01 Build 12053] Setup (requires Value Pack that is valid till at least Apr. 22nd, 2022)	22		27.05.2022	1 GB	
CutServerSetupV2.2.12053.exe	Cutserver 2.2.12053 Setup	22		27.05.2022	66 MB	

- Double-click “PS**SetupV**.**.***.exe”.

13. Follow the install wizard to install ColorGATE Productionserver.

NOTE1 – If you are using a bundled license, on the "License Type Selection" screen displayed in the wizard, Select [Single Host License/Software (SHL-SW)].



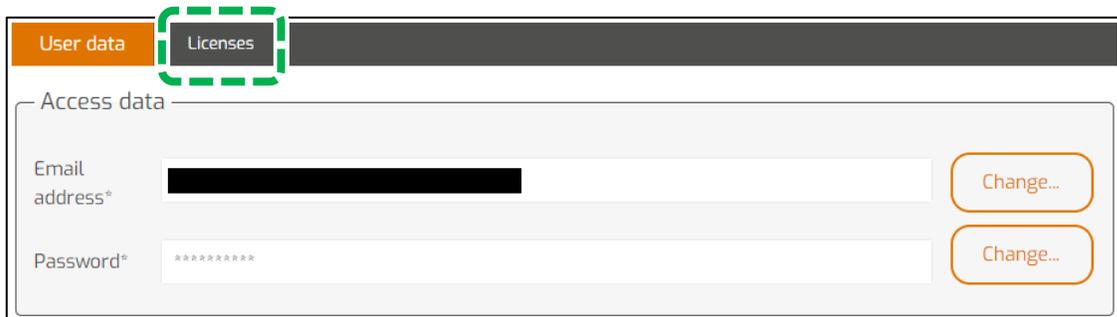
NOTE2 – When updating from an older version, back up the ColorGATE Productionserver settings ([Options] > [System Configuration] > [Backup]) before updating. For details, refer to the ColorGATE Productionserver help or user manual.

Start Software

1. Go to <https://www.colorgate.com/support/>.
2. If you are not logged in to your user profile, click Login to log in using your email address and password.
3. Click the [MENU] button in the upper right corner of the browser, and click [Account&Licenses].



4. Click the [Licenses] tab.



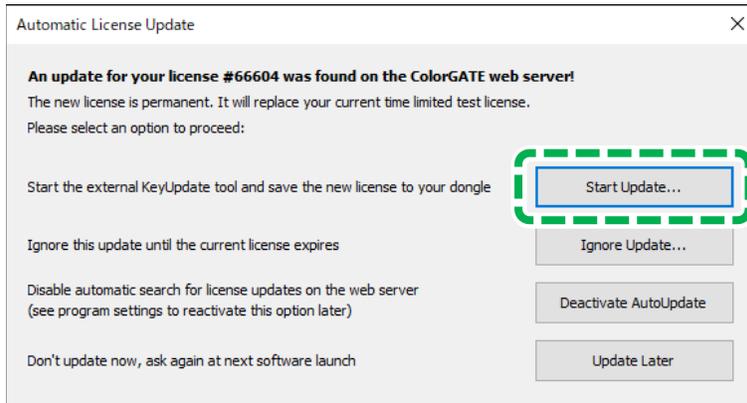
5. Select the desired license number.
6. In the License section you will find the corresponding activation code.



7. Start the Productionserver. A dialog will open.
8. Enter your activation code and confirm by clicking on Activate.

License Update

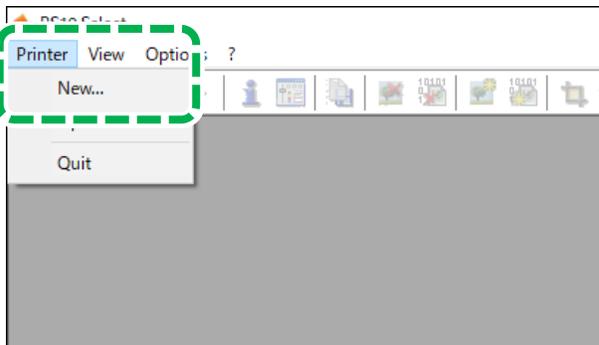
1. When the following dialog is displayed, click [Start Update...].



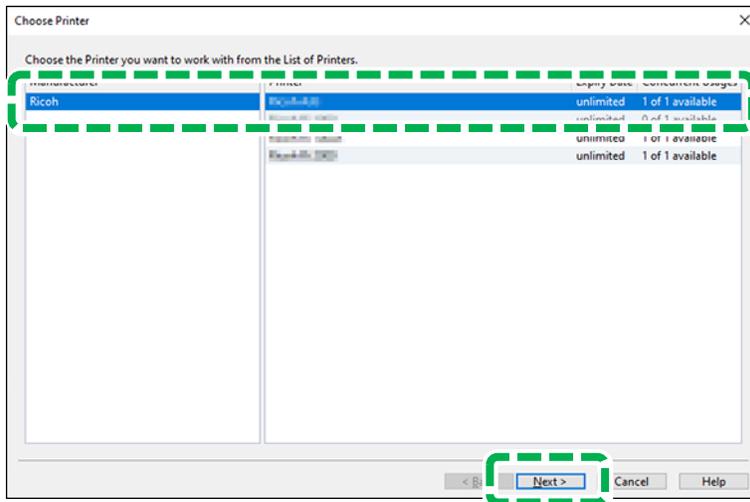
For details about updating the license file, see the manual or help file of ColorGATE Productionserver.

Setup Driver

1. Click [Printer], and then click [New].



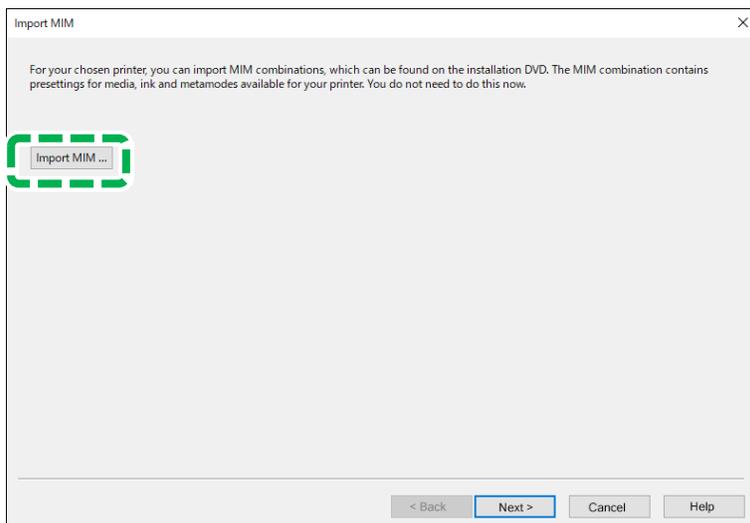
2. Select [Ricoh] and [Ricoh Ri 1000X], and then click [Next].



3. Click [Import MIM...].

If the message on the window is not displayed properly, read the following sentences.

For your chosen printer, you can import MIM combinations, which can be found on ColorGATE Service & Support website. The MIM combination contains presettings for media, ink and metamodes available for your printer. You do not need to do this now.

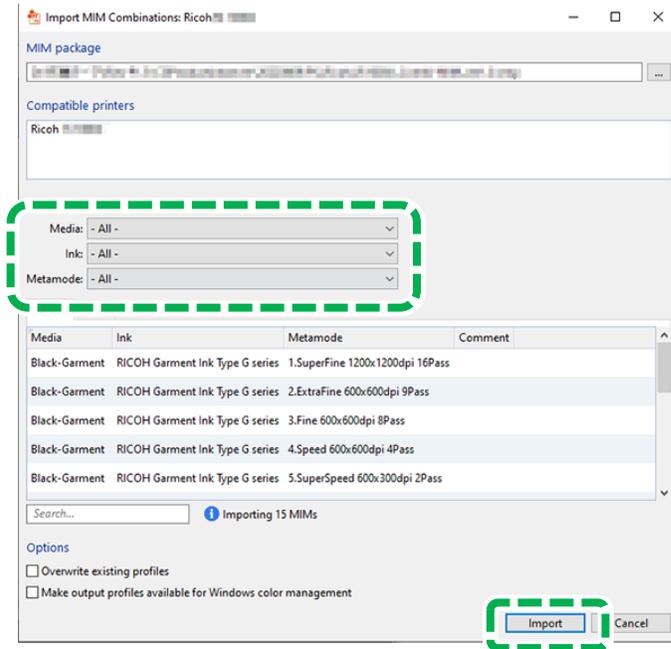


4. Select the MIM file*, and then click "Open".

*Example: Filename of "RICOH Ri1000X MIM package.cmp"

5. Click [Import].

Make sure "Media", "Ink" and "Metamode" are set to "All".

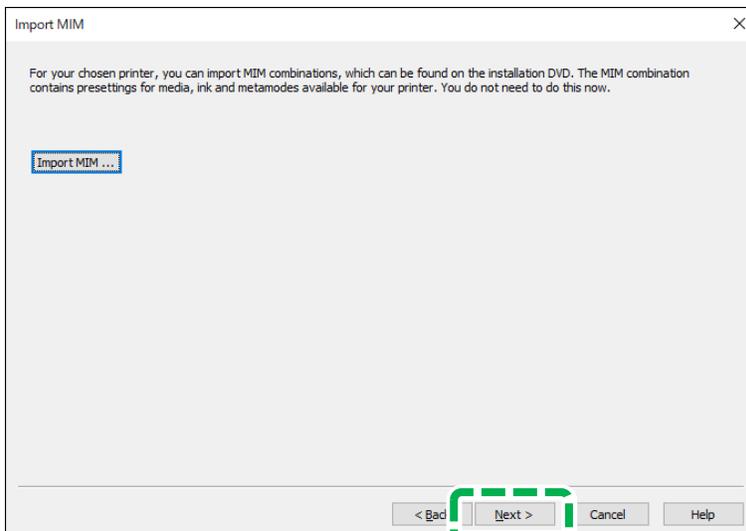


6. Click [OK].

7. Click [Next].

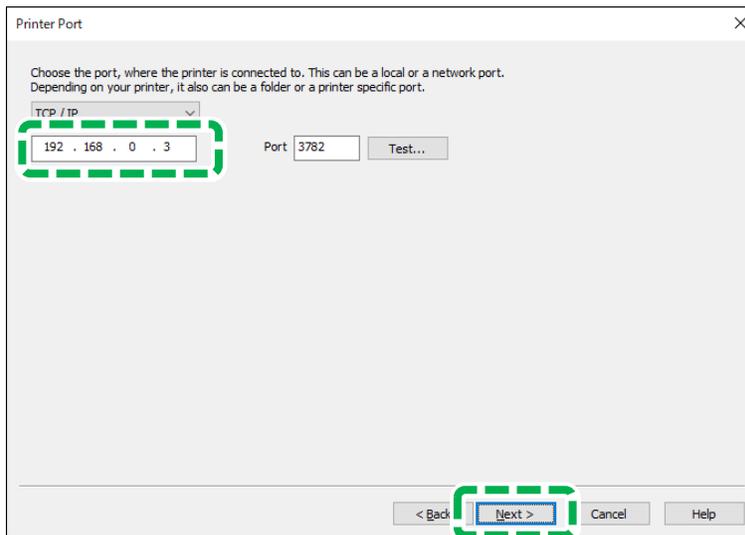
If the message on the window is not displayed properly, read the following sentences.

For your chosen printer, you can import MIM combinations, which can be found on ColorGATE Service & Support website. The MIM combination contains presettings for media, ink and metamodes available for your printer. You do not need to do this now.



8. Enter the IP address of the printer, and then click [Next].

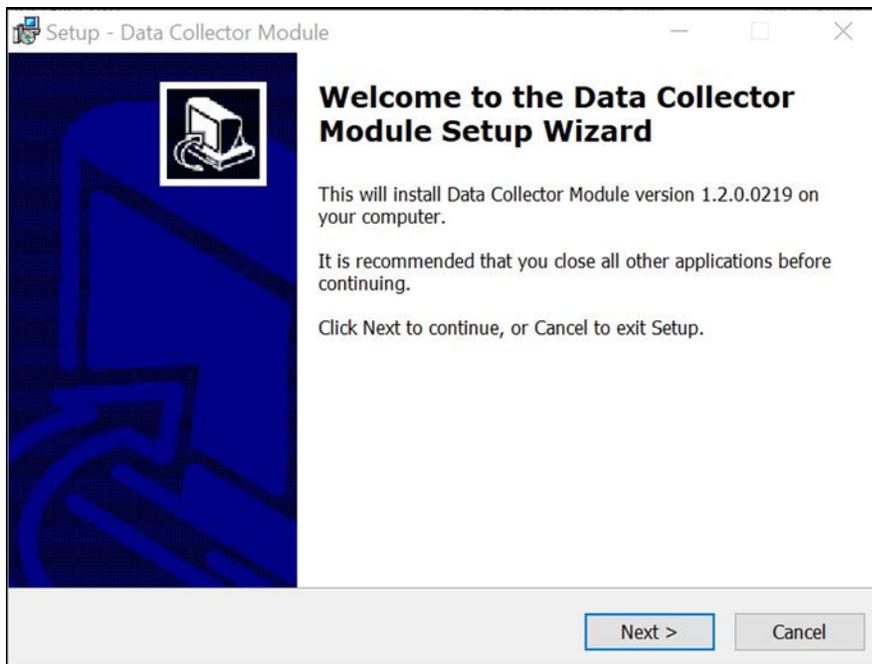
Do not change the port number, displayed as "3782".



If Data Collector Module has not been installed, the installer will be started after clicking [Next].

The Data Collector Module allows you to see key usage statistics for your printer over time.

When the install window is displayed, follow the instructions displayed to install Data Collector Module.



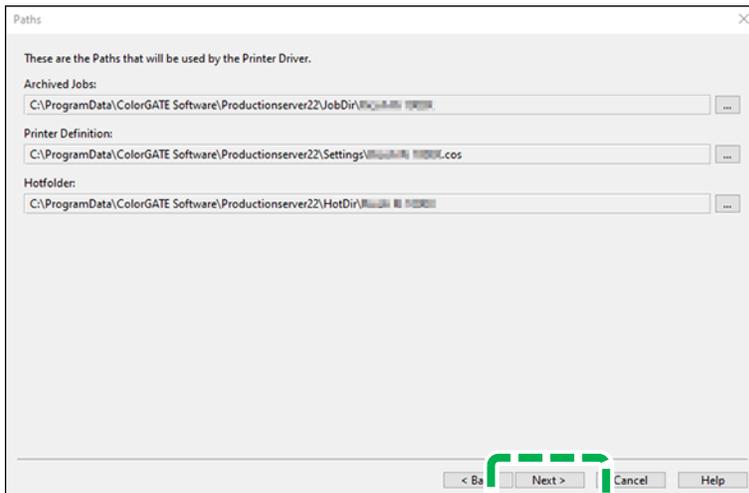
When the installation of Data Collector Module is finished, double-click the icon of Data Collector Module created on the desktop to complete the printer and user registration to use it.

For details about how to setup and operate the Data Collector Module, see the Data Collector Module manual.

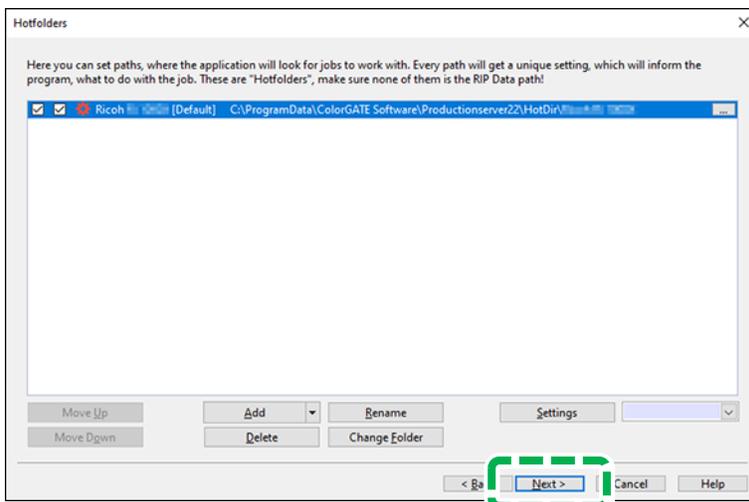
You can view the manual from the following URL:

- <https://contents-usstage.supervisor1.ricoh.com/manual/supervisor-i.manual.pdf>

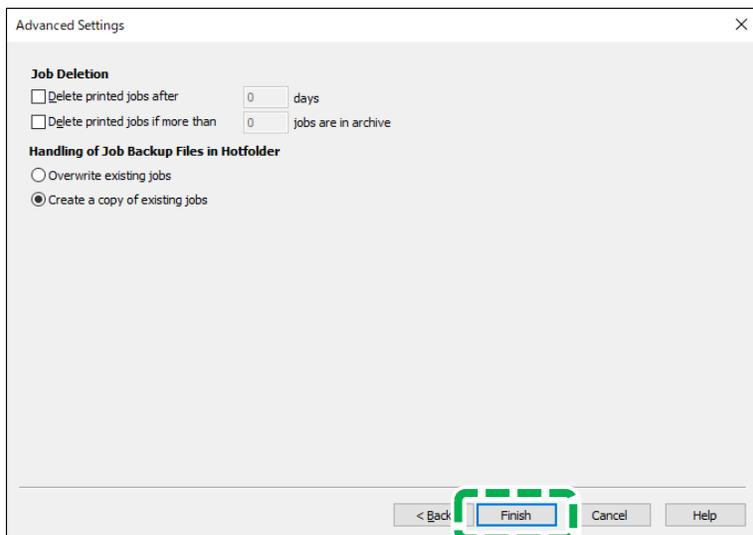
9. Click [Next].



10. Click [Next].



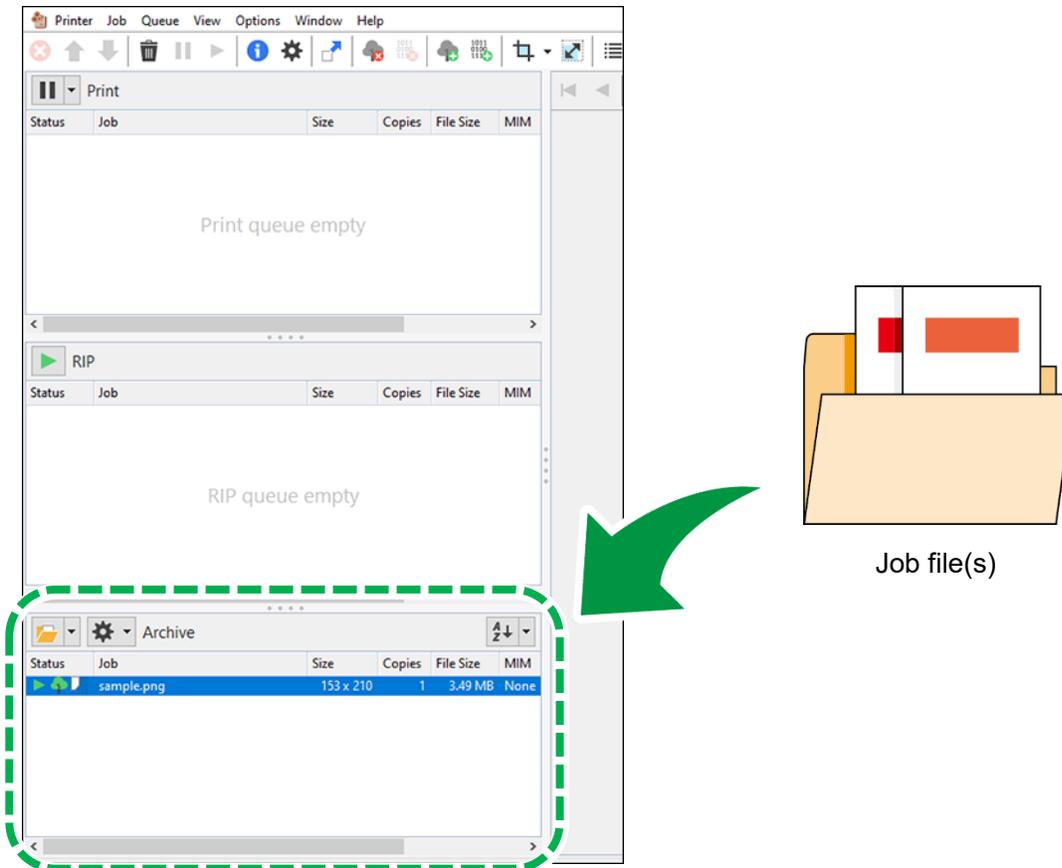
11. Click [Finish].



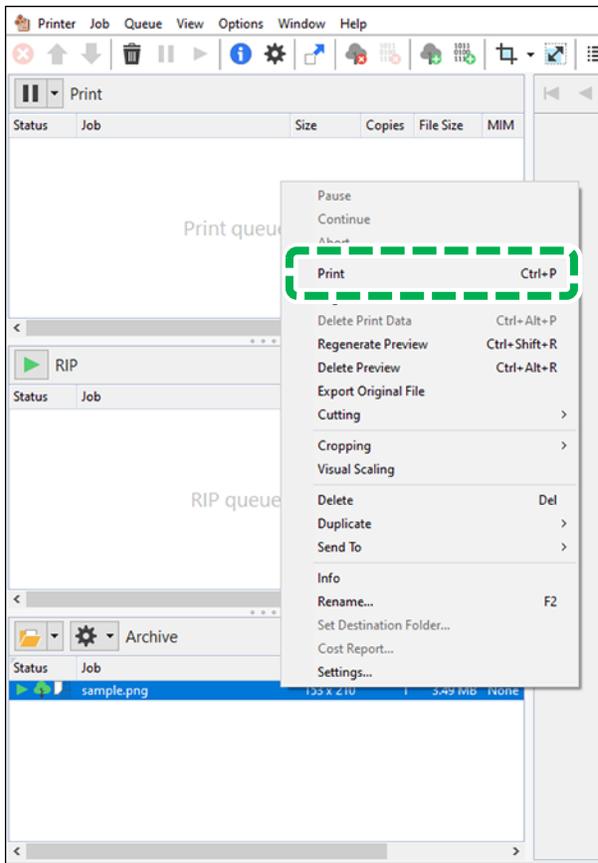
Print method

1. Drag & drop your job file(s) from Windows Explorer into the “Job” queue.

Supported file type: BMP, JPEG, TIFF, PNG

**2. Select the job in the “Job” archive, and then right-click the selected job.**

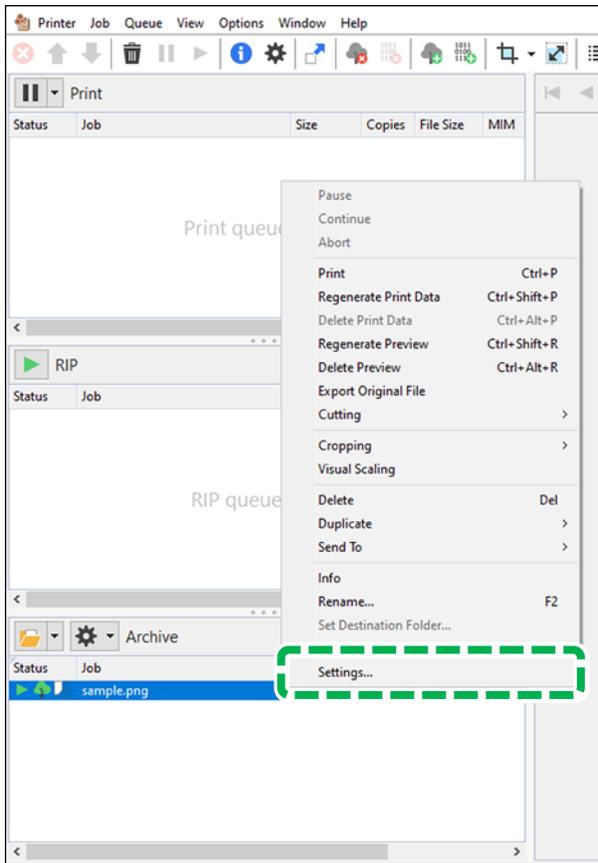
3. Click [Print].



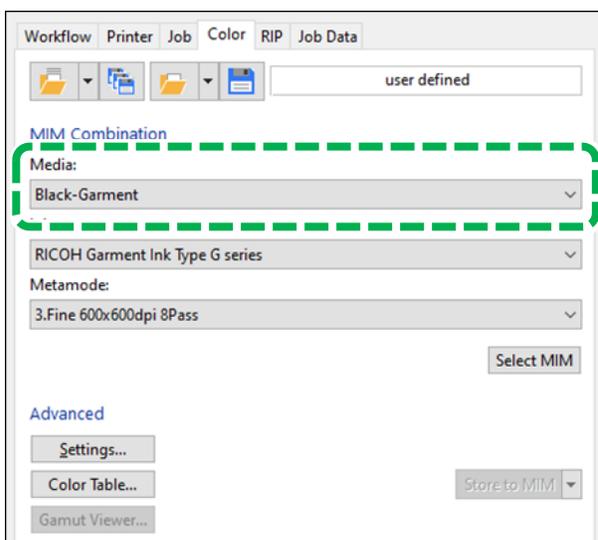
For details about loading jobs, see the manual or help file of ColorGATE Productionserver.

Setting of print mode

1. Select the job in the “Job” archive, and then right-click the selected job.
2. Click [Settings].

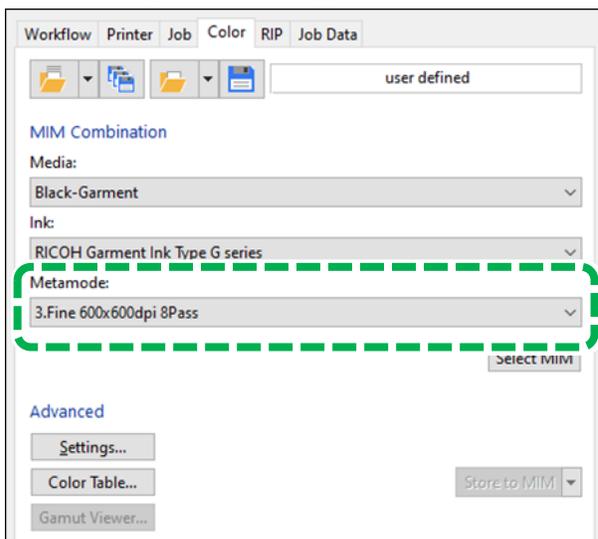


3. Click the [Media] in [Color] tab, and then select the Garment color.



Media	Description
Black-Garment	For printing black T-shirt Ink for use : W / C / M / Y NOTE - Black is expressed using the garment color. Not recommended for use other than black T-shirt.
Dark-Garment	For printing dark color T-shirt Ink for use : W / C / M / Y / K NOTE - Washing fastness of Dark-Garment mode is higher than Black-Garment mode. If you want to improve the washing fastness, recommended to use Dark-Garment mode even with black T-shirt.
White-Garment	For printing light color T-shirt Ink for use : C / M / Y / K

4. Click the [Metamode], and then select the print mode.



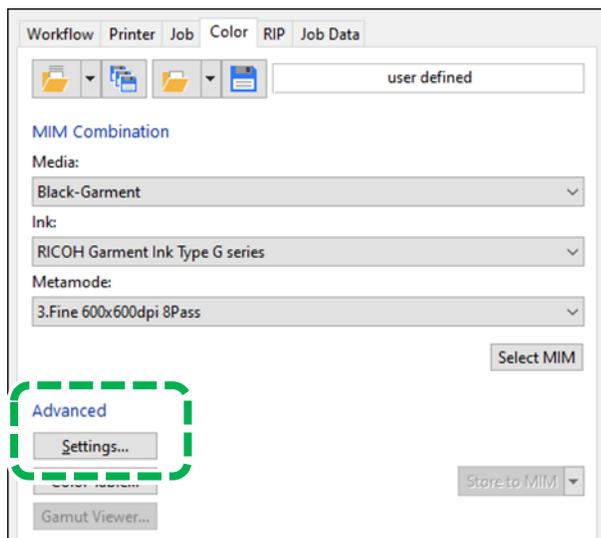
<Metamode>

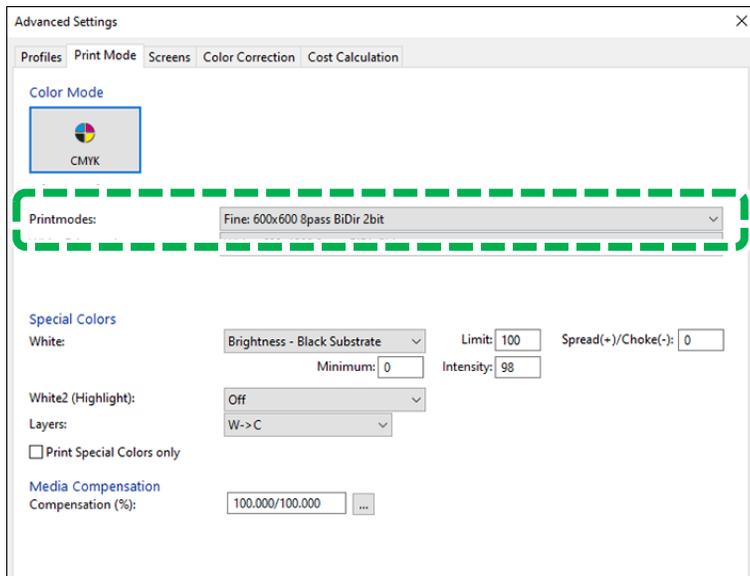
- 1. SuperFine 1200x1200dpi 16Pass
High definition print mode.
Recommended image : photograph
- 2. ExtraFine 600x600dpi 9Pass
Standard print mode, recommended as default.
- 3. Fine 600x600dpi 8Pass
Faster print mode than ExtraFine.
- 4. Speed 600x600dpi 4Pass
Fastest print mode with default resolution.
- 5. SuperSpeed 600x300dpi 2Pass
Fastest print mode.

5. Click [OK].

NOTE – Selecting unidirectional printing may help reduce tonal variation in some colors - gray for example. However, doing so also reduces throughput.

If you want to select Uni-directional printing, click the [Settings] under Advanced in [Color] tab. And, select UniDir for the same print mode as the Metamode in [Print Mode] tab.

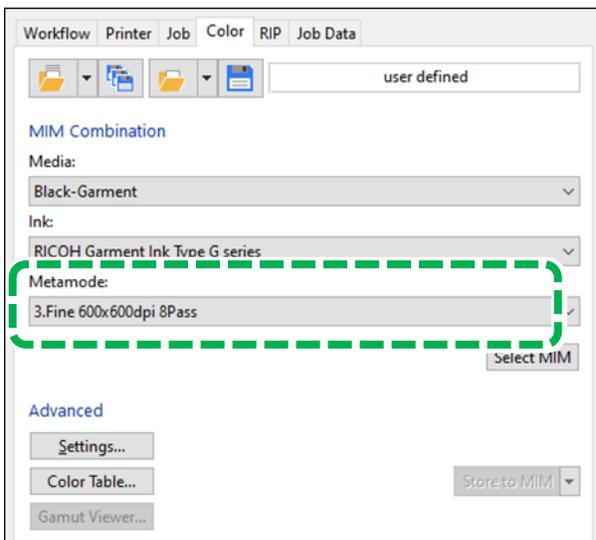




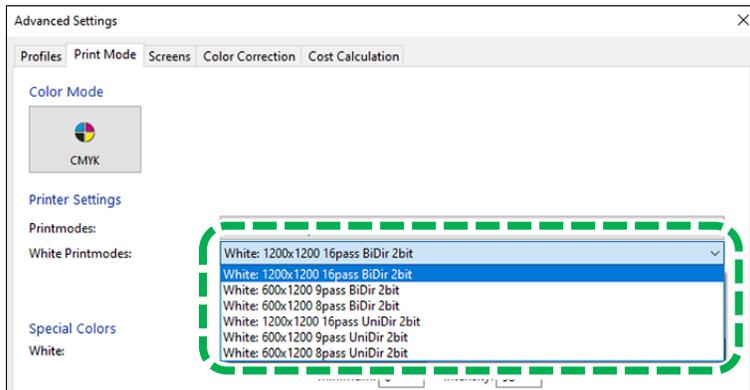
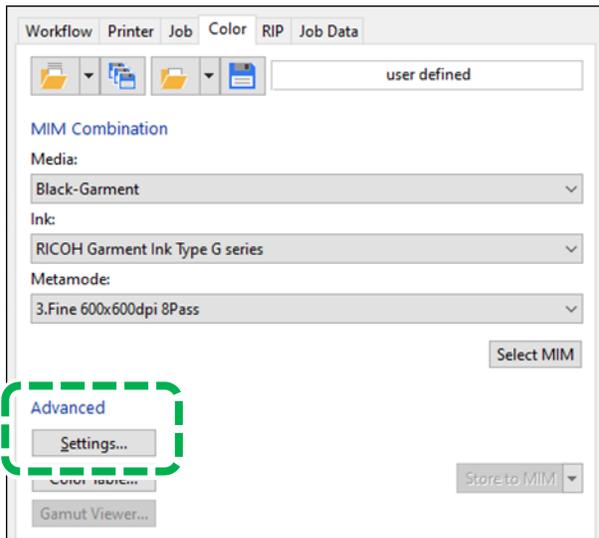
◆ **Additional Tips (Improvement of whiteness)**

If you want to print more whiteness, you can increase the whiteness by following the steps below.

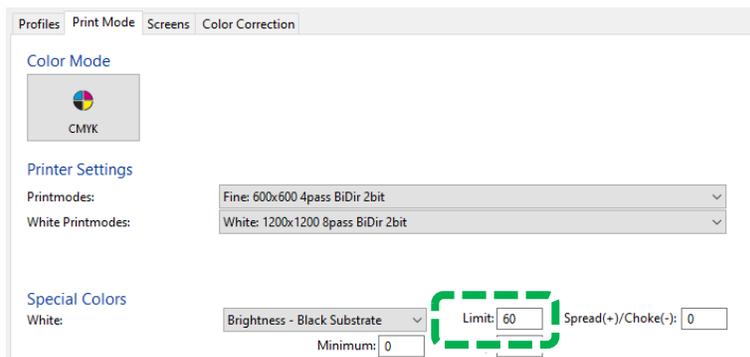
1. Click the [Metamode], and then select the print mode.



2. Click the [Settings] under Advanced in [Color] tab. And, select white print mode [White: 1200x1200 16pass BiDir 2bit] or [White: 1200x1200 16pass UniDir 2bit].



3. Set the Limit value.



Recommended value : 60

However, the optimum value depends on the type of T-shirt, so adjust the value if necessary.

4. Click [OK].

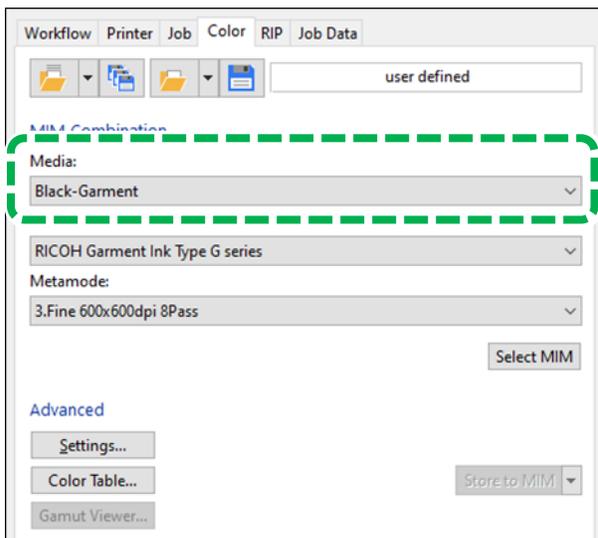
NOTE –

- This setting will increase the consumption of white ink.
- If ink bleeding occurs, set the drying time with of the printer. (see page 41, "[DRYING TIME]" in Settings Tab)
- When returning the white print mode to [White: 600x1200 8pass BiDir 2bit], also return the Limit value to the original value.
- By selecting [Filling] in [White2 (Highlight)], you can increase the amount of white ink used as the undercoat to increase the whiteness.

◆ Additional Tips (Improvement of washing fastness)

If the washing fastness is weak when printing with Black-Garment mode, you can improve the washing fastness by following the steps below.

1. Click the [Media] in [Color] tab, and then select the [Dark-Garment].



2. Click [OK].

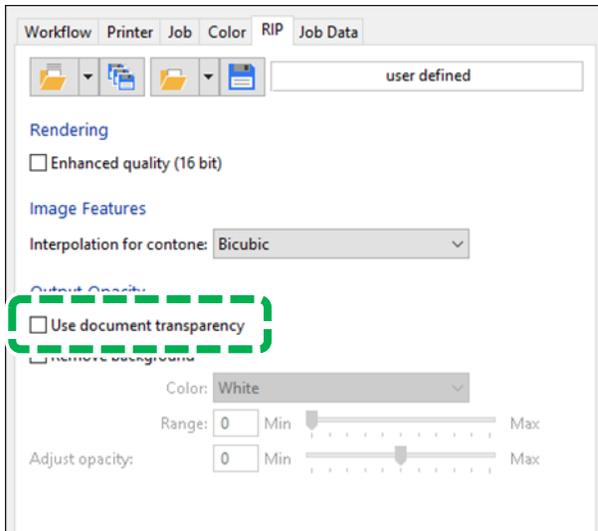
NOTE –

- In Black-Garment mode, there are small amount of white ink areas to express black with fabric color, and the washing fastness may be weak.
- In Dark-Garment mode, you can increase white ink even in small amount of white ink areas in Black-Garment mode.

Image transparency setting

If your image contains transparency information and you want to use that setting, follow the steps below.

1. Click [RIP] tab and check [Use document transparency].

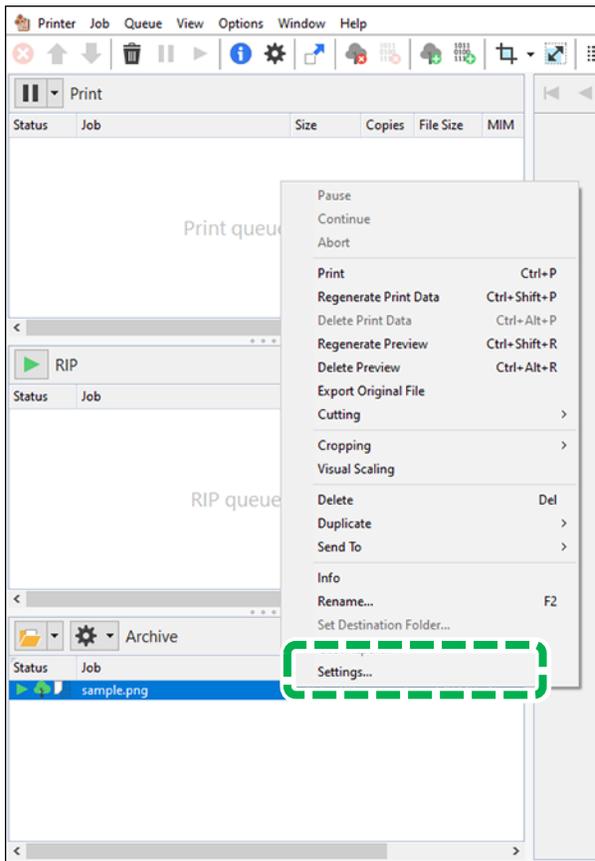


Displayed only for file formats that allow transparency information (such as PNG).

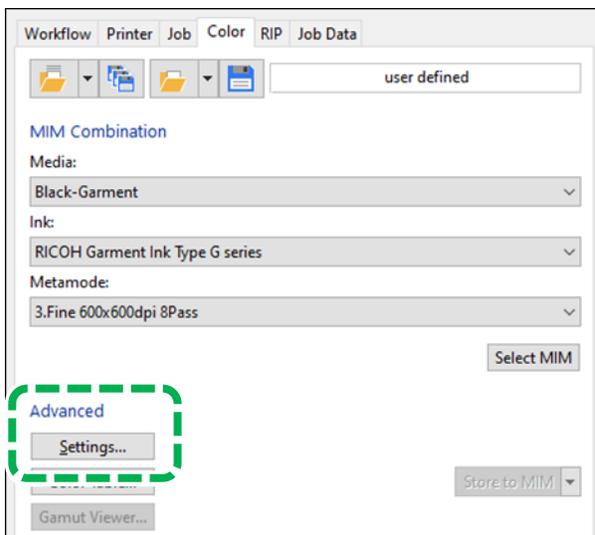
Adjusting Special Colors: White

Specify this when you adjust the mode to print white.

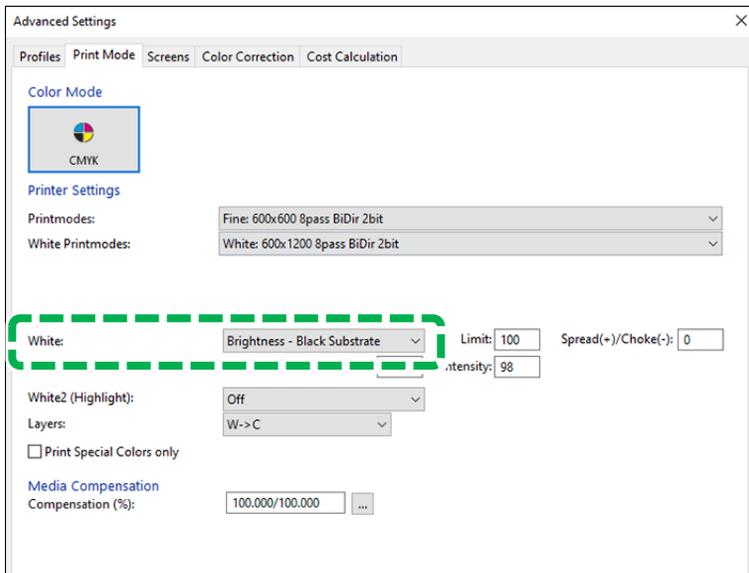
1. Select the job in the “Job” archive, and then right-click the selected job.
2. Click [Settings].



3. Click the [Settings] under Advanced in [Color] tab.



4. Click on the [Print Mode] tab, and then specify [White] in [Special Colors].

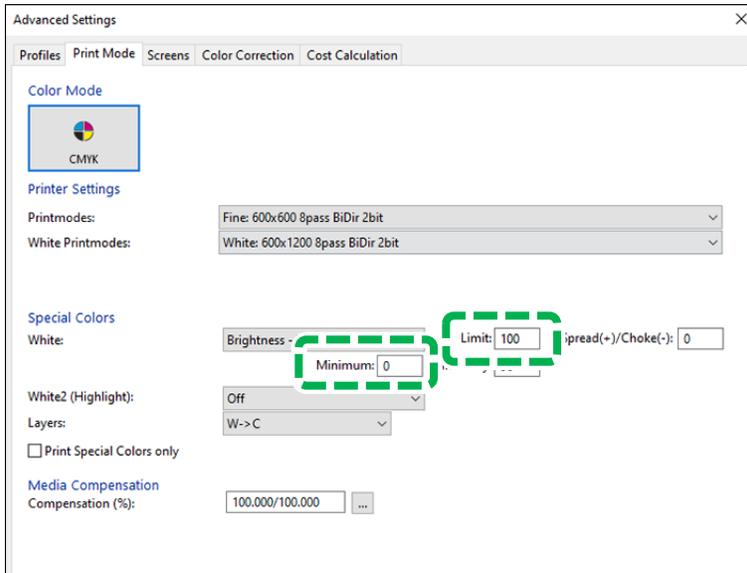


< White >

- Off
Not printing white.
- Brightness - Black Substrate
Select this when using the black color on black materials for printing. The black material is used for the black part of the image data, so neither the white nor black ink is discharged as the undercoat. Thus, you can save on white and black ink consumption.
- Brightness
Select this when not using the color of the material for printing when printing on red, blue or other deep color materials. Black ink is discharged for the black part of the image data. To prevent the influence of the material's color, it is required to apply white ink as the undercoat. If applying white ink, enter the value in [Minimum]. (Recommended value: 30)
* The optimal value depends on the type of material. Adjust the value as required.
- Other settings, such as Pixel, Pixel invert, Selective, Filling, Flood, and Spot
See the operation manual for ColorGATE Productionserver or the help file. (Help file: Processing Print Jobs > White and special colors > Printing Special Colors: Introduction)

5. Set the [Limit] and [Minimum].

It is required to specify this setting only if [Brightness - Black Substrate] or [Brightness] is selected in [White].



< Limit >

Specify (by %) the maximum limit for white ink consumption. (Recommended value : 100)

< Minimum >

Specify (by %) the minimum limit for white ink consumption.

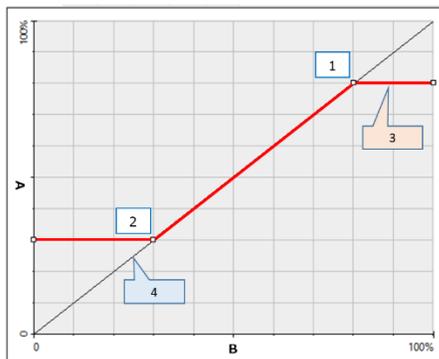
Recommended consumption when [White] is set to [Brightness – Black Substrate]: 0

Recommended consumption when [White] is set to [Brightness]: 30

If you enter a value below "100" in [Limit], white ink consumption is reduced for images that consume more white ink than the specified value but not for images that consume less.

If a value above 0 is entered as the minimum value, white ink consumption increases for images that consume less white ink than the specified value but not for images that consume an equal amount or more.

Example: A diagram indicating the amount of ink applied when white is set to [Brightness], [Limit] to 80, and [Minimum] to 30



A: Amount of ink applied

B: Image to print

1: [Limit]: 80%

2: [Minimum]: 30%

3: After the change (red line)

4: Before the change (black line)

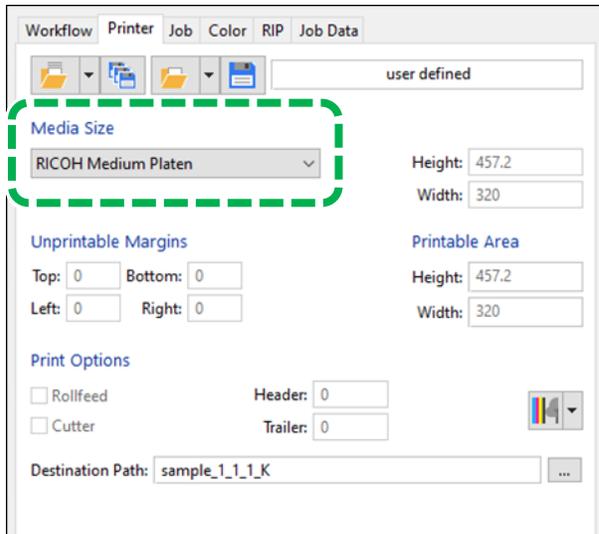
6. Click [OK].

Change of Media size

1. Select the job in the “Job” archive, and then right-click the selected job.
2. Click [Settings].
3. Click the [Media size] in [Printer] tab, and then select the platen type.

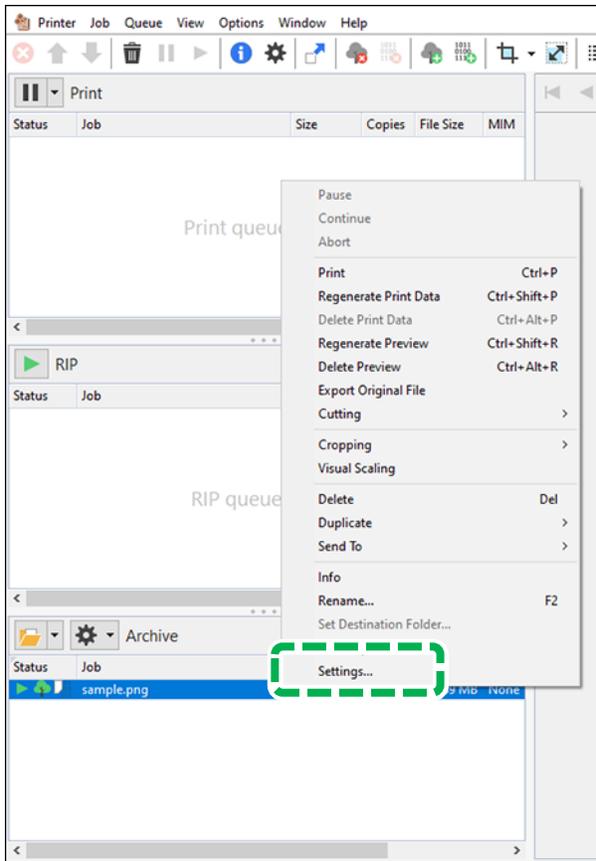
Be sure to select platen type matched printer’s platen type.

For details about optional platen, see “Option Platen User Guide”.

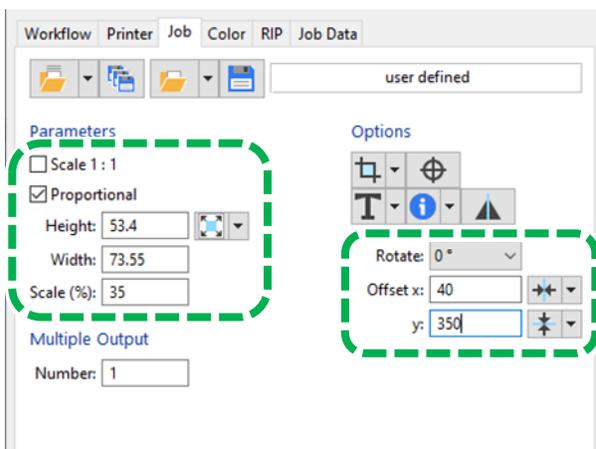


Specifying the Image Position/Size and Number of Prints

1. Select the job in the "Job" archive, and then right-click the selected job.
2. Click [Settings...].



3. On the [Job] tab, set the position and size of the image.

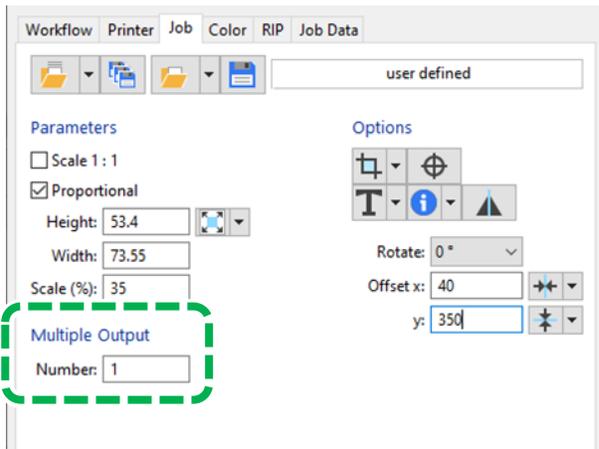


Parameter	Description
Scale 1:1	If you want to print the job with no scaling.
Proportional	If you want to retain the proportions of the job when entering the height or width.
Height/Width:	Enter the required values.
Fit to Page	<p>Fit Single Copy to Page: Activate this option if you want to adjust your individual job to the format set on the Printer tab or the size entered there.</p> <p>Fit All to Page: Activate this option if you want to adjust your job with multiple output or a multi-page job to the format set on the Printer tab or the size entered there. This works only with sheet paper.</p> <p>Fit Single Copy to Page (reduce only): Activate this option if you want to reduce your individual job to the format set on the Printer tab or the size entered there.</p> <p>Fill Single Copy to Page: The Feature sizes the graphic to fit the entire page without unproportional scaling. If the graphic is then over the edges of the media the rest is cropped.</p>
Scale (%):	Enter the required scaling value here in percent.
Rotate:	<p>0°- 270°: Here you have the option of specifying any rotation of the job required.</p> <p>Auto: The job is rotated so that it is automatically positioned to save as much space on the media as possible.</p>
Offset x/y:	<p>Enable this function if you want to center your print image on the media horizontally (x) or vertically (y).</p> <p>Enter the required values. The point of origin is in the left upper corner. The job will be shifted with the entered distance.</p>
Horizontal Alignment	<p>Specify you to select the Offset x position.</p> <p>Left/Center/Right: Specifies where to move the image relative to the media.</p> <p>Reset: Specify 0</p>
Vertical Alignment	<p>Specify you to select the Offset y position.</p> <p>Top/Center/Bottom: Specifies where to move the image relative to the media.</p> <p>Reset: Specify 0</p>

If "Job placement panel" is checked in Media Preview, you can also change the position and size of the image by drag and drop it.



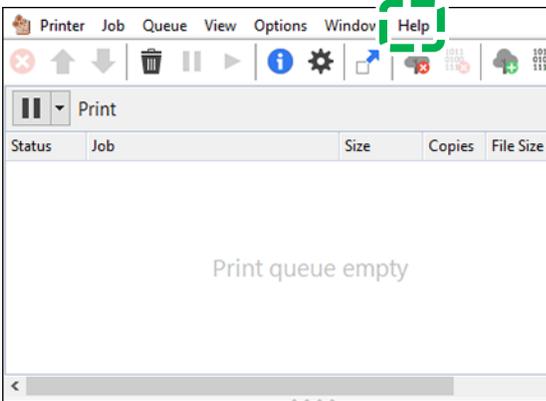
4. On the [Job] tab, enter the number of sheets to print in [Number:] for [Multiple Output].



About Operating ColorGATE Productionserver

HELP

For details about how to operate ColorGATE Productionserver, refer to the help file for ColorGATE Productionserver.



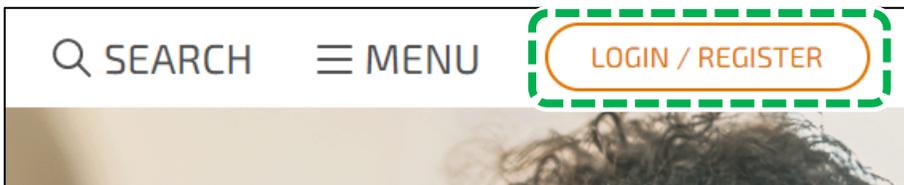
Manual

You can also check the manual for ColorGATE Productionserver via the ColorGATE website.

User registration is required in advance. For details, see page 48, "Register as a user and product on the ColorGATE Service & Support website".

1. Access to the ColorGATE service & Support website again.
 (<https://www.colorgate.com/support/>)

2. Click [LOGIN / REGISTER].

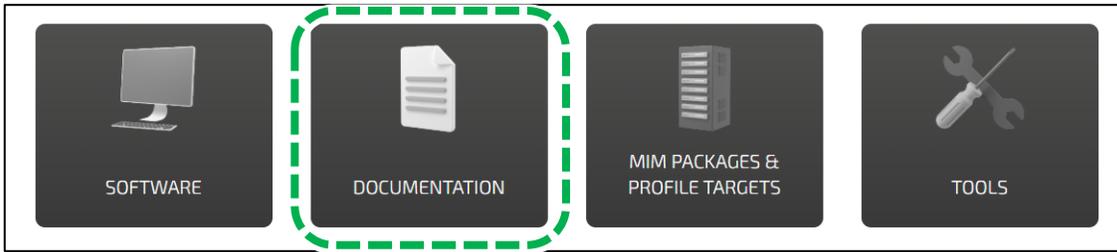


3. Enter the registered email address and password, and then click [LOGIN].

4. Click [DOWNLOAD AREA].



5. Click [DOCUMENTATION].



6. Check [Software Manuals] in "Filter Results:" and select a language.



7. Click the icon of [DOWNLOAD] of "Manual_PS_EN_V**.**_**.pdf", and then save the file in your local PC.

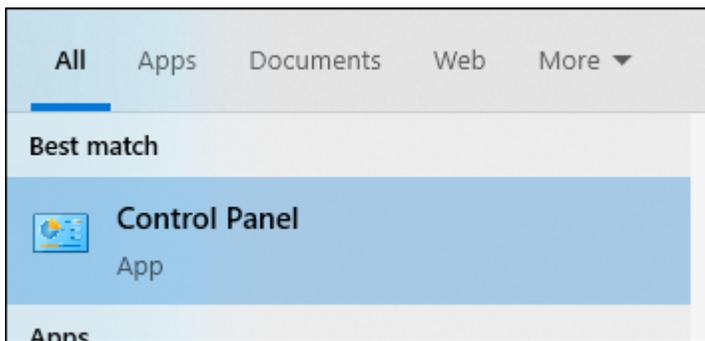
The latest version name and release date are entered in *****.

DOCUMENTATION	DESCRIPTION	VERSION	RELEASED ON	SIZE	DOWNLOAD
Manual_PS_EN_V22_20220629.pdf	Productionserver Manual [English] - April 2022 (Version 22)	22	29.06.2022	8 MB	

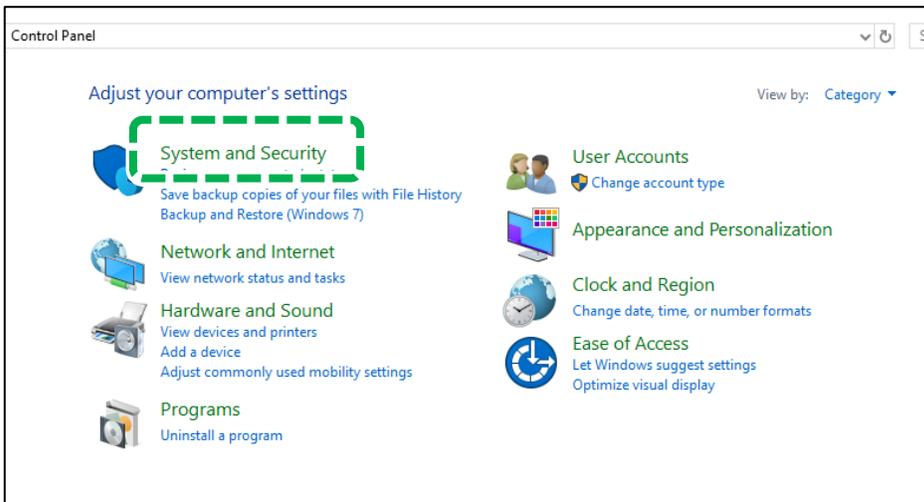
Firewall Settings

If you need to change the firewall settings to communicate between ColorGATE Productionserver and the printer, follow the procedure below to change the settings.

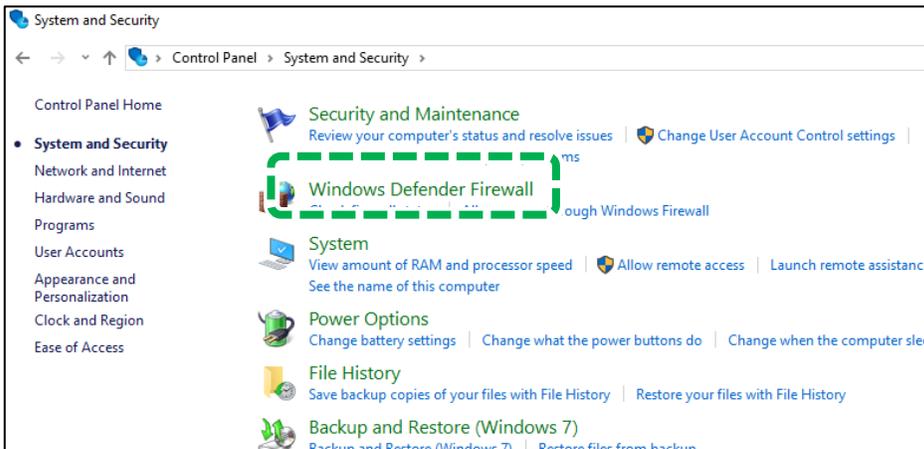
1. Open the Control Panel window on your PC.



2. Click [System and Security].



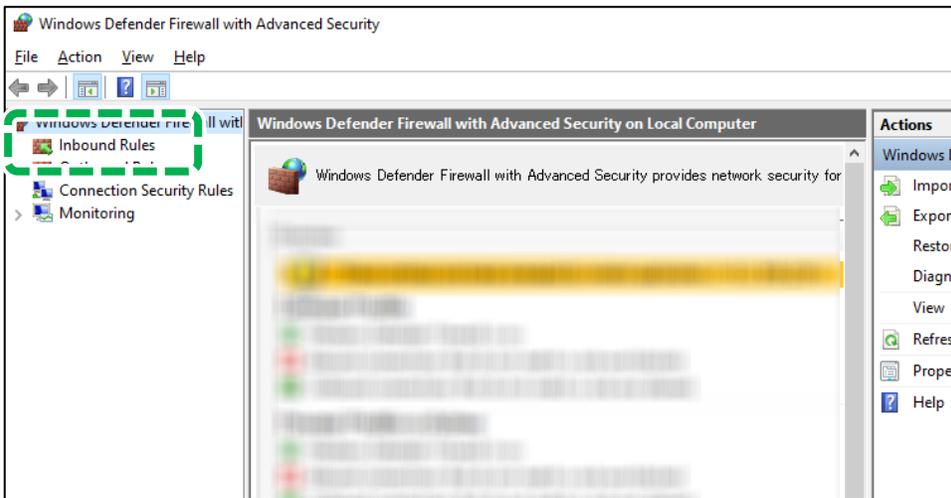
3. Click [Windows Defender Firewall].



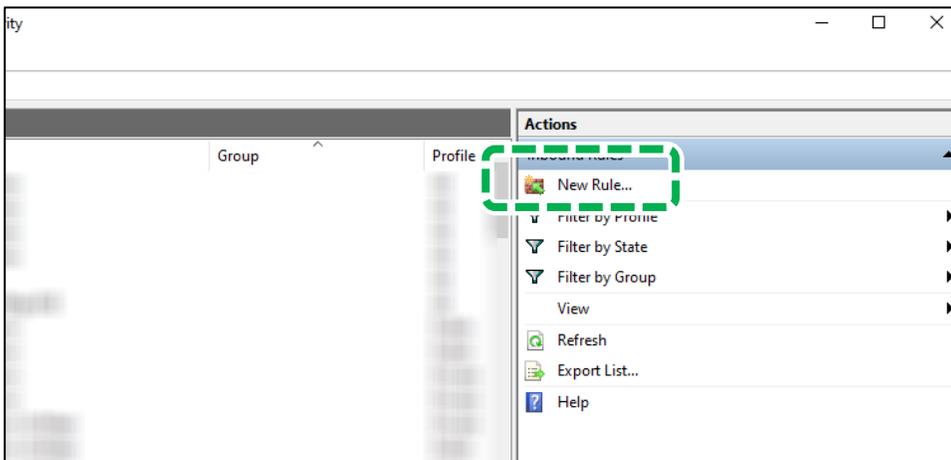
4. Click [Advanced settings].



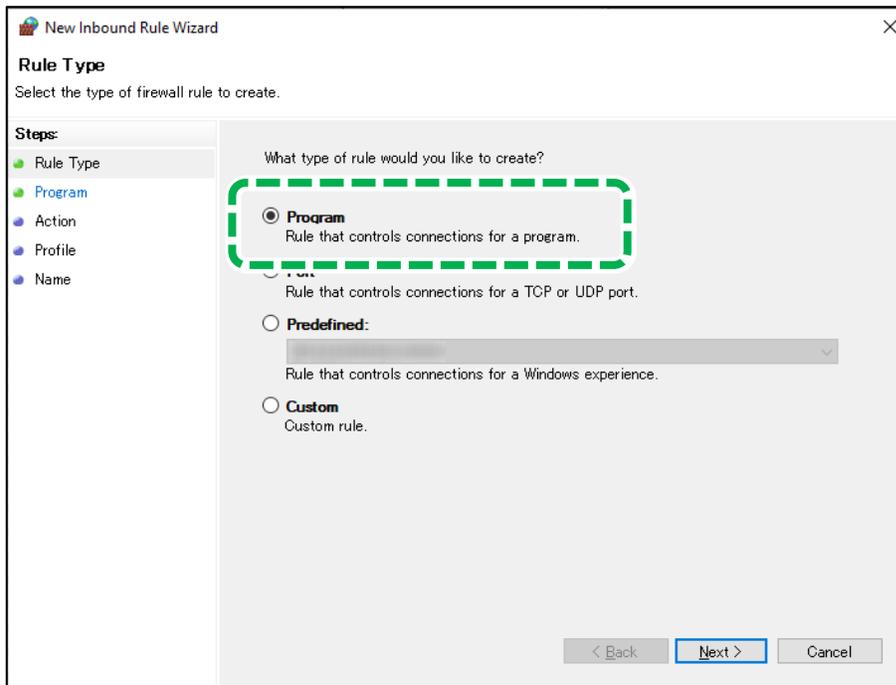
5. Click [Inbound Rules].



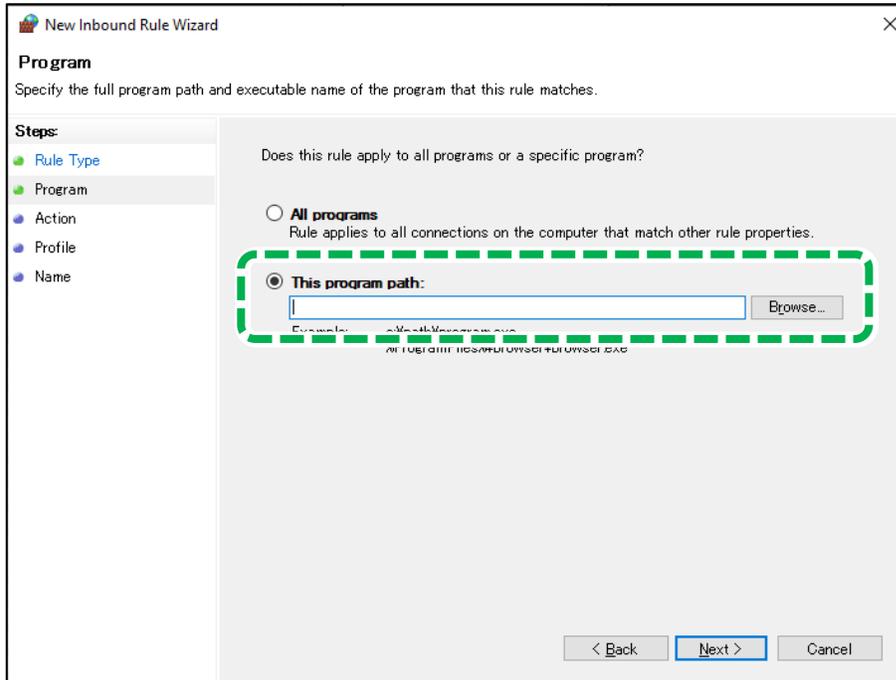
6. Click [New Rule...].



7. Select the [Program] radial button, and then click [Next].

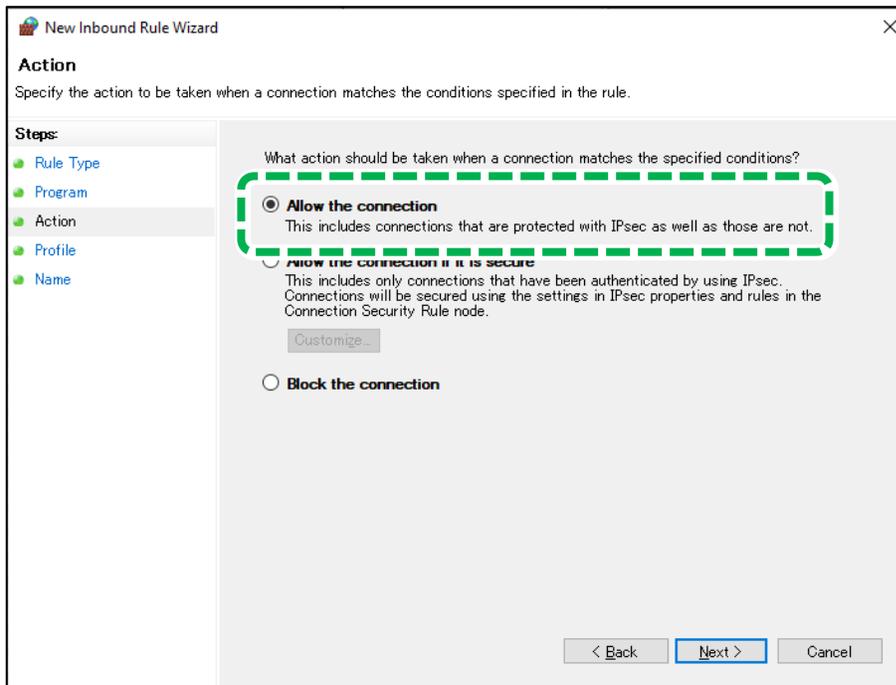


8. Type the path of the ColorGATE Productionserver program file, or browse to it via the [Browse] button.



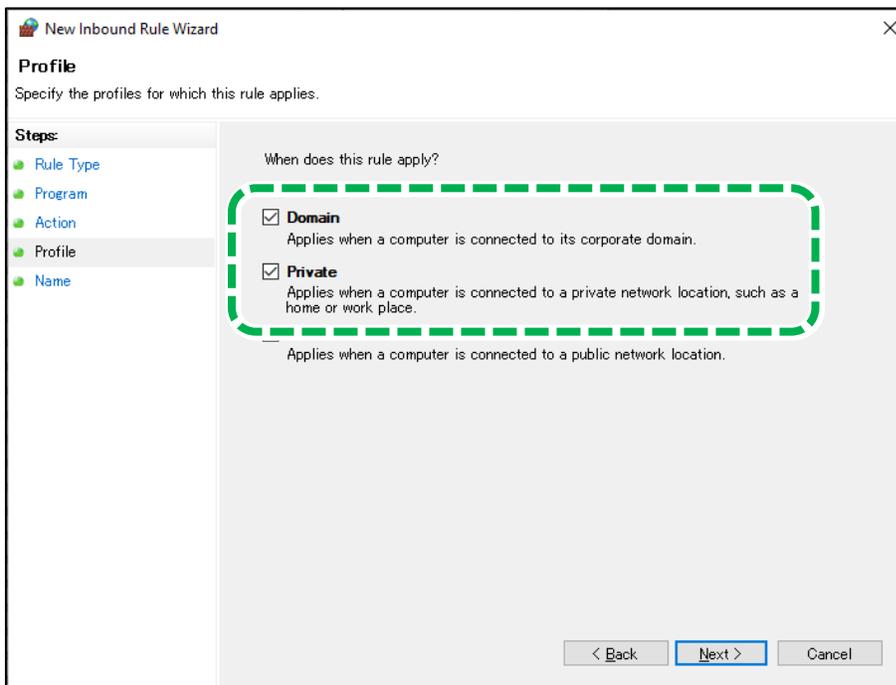
9. Select [Next] once the file path is selected.

10. Select the [Allow the connection] radial button, and then click [Next].



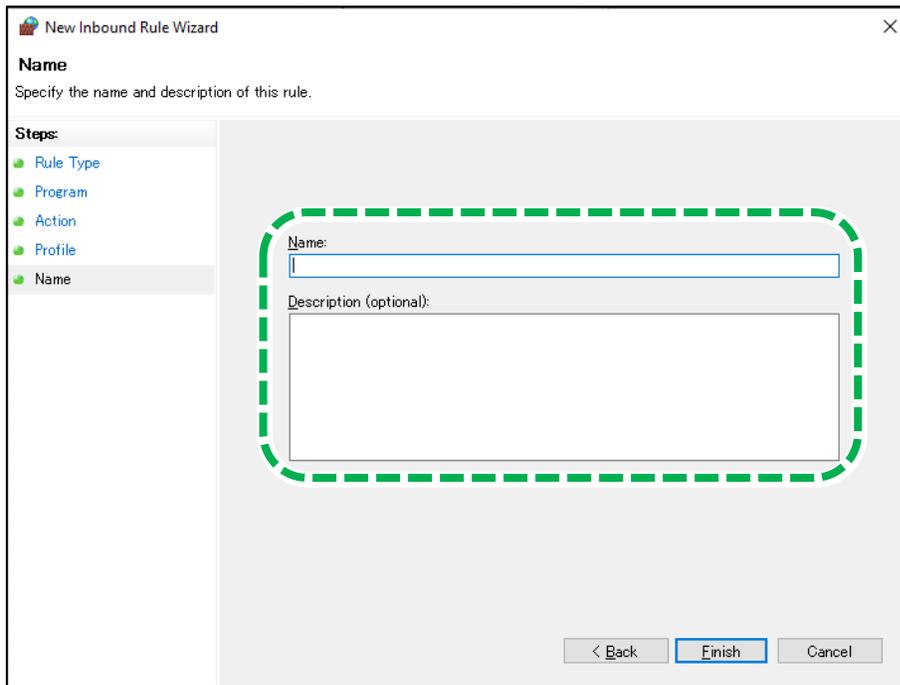
11. Select the box of the correct "Profile" of when this rule should apply.

It is suggested to select [Domain] and [Private].



12. Click [Next].

13. Name the rule and add a description (optional), and then click [Finish] when complete.

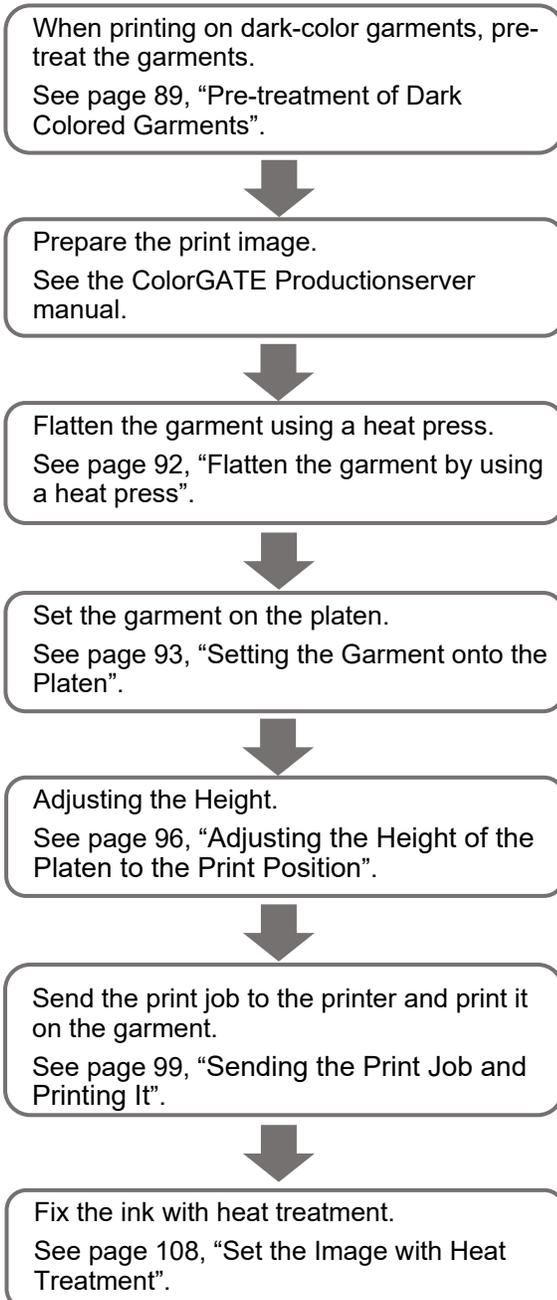


2. Printing

2.1. Printing Flow

The basic printing flow is as follows.

Adjust the image or printer settings as necessary.



2.2. Before Printing

Things to Prepare

◆ Things to prepare for pre-treatment (for dark-color garments)

Purpose	Items
To wear	Polyethylene gloves
	Protective glasses or goggles (commercially available)
For use	Dark-color (black) garment (commercially available)
	Pre-treatment liquid (commercially available)
	High-volume, low-pressure (HVLP) spray gun (commercially available)
	Distilled water (commercially available)
	Heat press paper
	Heat press (commercially available)

◆ Things to prepare for printing

Purpose	Items
To wear	Polyethylene gloves
	Protective glasses or goggles (commercially available)
For use	Garment (commercially available)
	Platen (with platen frame)
	Heat press paper
	Heat press (commercially available)

Checking Garments

Check the color of the garment that you want to use.

White garments

For printing on white garments or light-color garments which do not require the white undercoat, only color inks are used.

- Set the temperature of the heat press device to 356°F or 180°C.

Light-color garments

When producing colors that are true to the design or when the design uses white, perform the following:

- Use the dark-color (black) garments method.
- Specify not to use the black from the garment via ColorGATE Productions server.

When prioritizing softness to the touch, perform the following:

- Use the white garments method.

Dark-color (black) garments

Printing on dark-color (black) garments uses white and color ink. Mostly, the machine performs printing with white ink first and then with color ink.

If you want to print in dark-color garment mode after printing in light-color garment mode (only the color head is used), perform NOZZLE CHECK to check the nozzles of the white ink, and then perform AUTO HEAD CLEAN if necessary. Then, start printing.

For details about NOZZLE CHECK, see page 115, "NOZZLE CHECK".

For details about AUTO HEAD CLEAN, see page 118, "AUTO HEAD CLEAN".

- Perform pre-treatment for the garment.
For details, see page 89, "Pre-treatment of Dark Colored Garments".
- To improve the quality of the printed image, it is recommended that you change the dry time for drying white ink before printing with color ink starts. Set the value in [Drying Time] on the OPTION screen to "20 sec".

Increasing the "Drying Time" will reduce your productivity.

- Set the temperature of the heat press device to 330°F or 165°C.

Pre-treatment of Dark Colored Garments

◆ Pre-treatment application to prepare

If you want to use the dark-color (black) garments to print, you will need the following for pre-treatment application:

This section describes an example of using the “PowerBright” pre-treatment solution.

NOTE: Contact your sales representative for the usage method when using other pre-treatment liquids.

- A well-ventilated room: Good ventilation is essential for worker comfort and health. Application of pre-treatment liquid outdoors is not recommended on windy days, as the wind can cause uneven application. It is recommended that a room away from the printer be dedicated to the application of pre-treatment so that the spray will not affect your printer.
- Our recommended process for applying the pre-treatment liquid is to use a high-volume, low-pressure (HVLP) spray gun. These spray guns are commonly used for applying paints and are available from paint supply stores or home improvement stores. The Wagner Control Spray Gun, available for U.S. customers ONLY (figure below) and the Campbell Hausfeld Paint Sprayer, found in local hardware stores, are both good choices.



Wagner Control Spray Gun

◆ Pre-treatment application procedure:

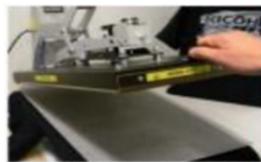
This section describes an example of using PowerBright pre-treatment liquid.

- Dilute the RICOH-authorized pretreatment liquid (i.e., PowerBright pre-treatment liquid) with a 1.5-time volume amount of distilled water (2:1).
- Fill the sprayer reservoir with the mixture. It is very important to use distilled water. Tap water, well water, or filtered water could have mineral content that can affect the performance of the pre-treatment.
- Lay the garment down on a flat spray table. Ensure that the garment is even and flat.
- Apply the pre-treatment mix with the sprayer. Apply an adequate and even amount to where the material has an even wet sheen. Remember that you only need to apply the pre-treatment to the areas that will be printed.

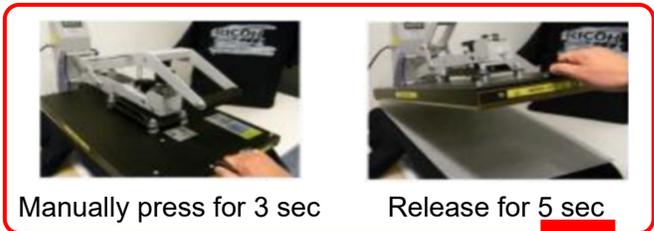
- Going in only one direction, use a plastic squeegee to help spread the pre-treatment evenly after spraying. This also flattens any fabric fibers that may have risen due to the application of the wet pre-treatment.
- Dry the garment. You can achieve an excellent result by letting the garments air dry, or you can use a heat press in the hover position (heat press not closed but with an approximate 1–2 cm gap [0.5–1 in.], to allow the steam to escape), a blow dryer, or a heat tunnel. Do not use tumble dryers. Doing so will cause the lint in the dryer to adhere to the pre-treated media.
- If using a heat press to dry the garment, use the following steps.
 - Put a sheet of heat press paper on top of the shirt.
 - Press and hold for 3 seconds.
 - Release for 5 seconds.
 - Repeat three times.
 - Finally press and hold for 10 seconds.



Wet shirt



Press paper



Manually press for 3 sec

Release for 5 sec

3x



Last step is 10 sec full pressure and result is dry without glaze.



Solution to absorb moisture

Caution:

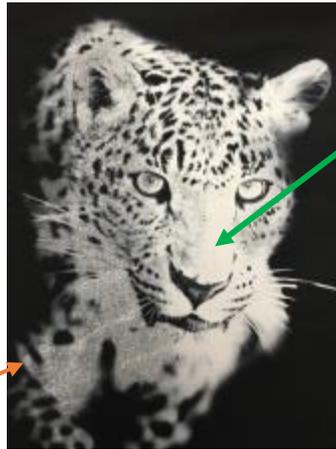
- When drying the pre-treated garment with a heat press, be sure to follow the steps above. If you clamp the press down, you may cause the pre-treatment to glaze as shown.



Figure: Heat press drying procedure

- Once the garment is dry to the touch, you can print on it. If you plan on storing the garments for later use, be sure that they are completely dry beforehand, in order to prevent mildew.
- When first attempting the pre-treatment process test with a few shirts to determine how much to spray. Too much pre-treatment can leave dark areas on the garments. Too little pre-treatment can make the prints look dull. The performance of white ink is highly dependent on the proper application of pre-treatment.
- If you do not wish to dilute your own pretreatment, pre-mixed pretreatment is also available.

The following image is shown to be muddled, gray, and not as solid as the nose of the leopard (green arrow).



Poor pre-treatment can be seen on the left side.

NOTE: Contact your sales representative for the usage method when using other pre-treatment agents.

2.3. Setting the Garment

Flatten the garment by using a heat press

WARNING

- Read the heat press manual carefully and use the press according to the safety precautions. Otherwise, injury or burns could result.

Use a heat press to lay flat wrinkles and fluff on the garment before setting it on the platen.

- 1. Set the new garment onto the heat press.**
- 2. Close the heat press and press the garment on the heat press for about 10 seconds.**

Press down at the set temperature of the printing media.

For example: White T-shirt (use color ink to print): 356°F or 180°C

Dark-color (black) T-shirt (use white and color ink to print): 330°F or 165°C

- 3. Open the top of the heat press, and then remove the garment softly.**

Setting the Garment onto the Platen

Place the garment flattened with a heat press on the platen.

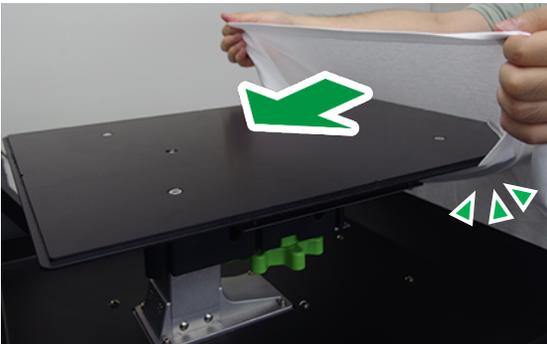
The following explains how to set the T-shirt on the platen as an example.

1. Remove the platen frame from the platen.



2. With the neckline of the T-shirt facing you, insert the platen into the T-shirt from the hem of the T-shirt.

Set the platen so that it goes inside the T-shirt.



Insert the bottom of the T-shirt into the gap of the platen base.



3. Place the hem and sleeves outside the print range under the platen.



Gather the hem and sleeves protruding from the platen as shown below.



4. Remove wrinkles and distortion on the printed surface.

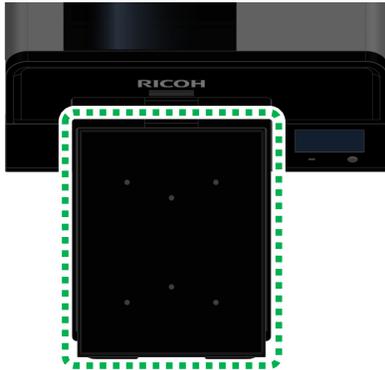
If there is slack, the GAP becomes wider, so set it horizontally.



5. Set the platen frame.



IMPORTANT! Make sure that the garment does not stick out of the lower frame of the platen.



If you print with the garment protruding, the garment could get caught in the machine and cause a malfunction.



2.4. Adjusting the Height of the Platen to the Print Position

The height adjustment of the platen must be performed before printing a garment.

IMPORTANT! If the garment is not flat, the platen height will not be set properly and will not print properly. Be sure to flatten the garment.

Having the head too far away from the printing surface can cause poor prints in addition to interfering with the encoder function, causing an error due to excessive ink mist. This can also cause damage to other components due to excessive ink mist. It is important when changing from a thicker fabric to a thinner fabric that the height adjustment of the platen must be performed.

1. Flatten the clothes set onto the platen as much as possible.

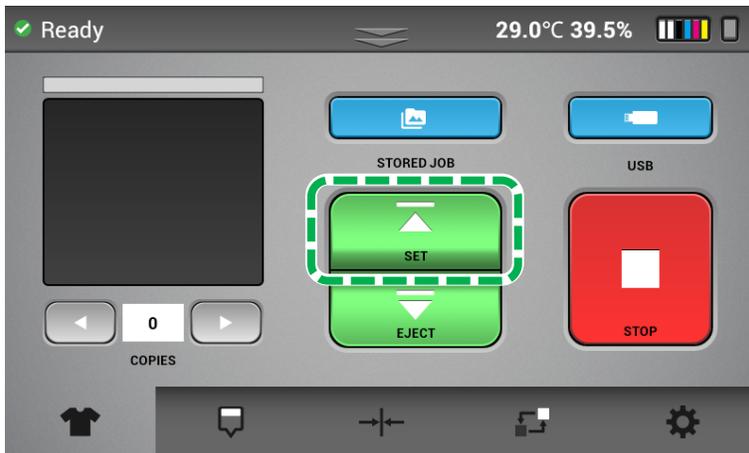
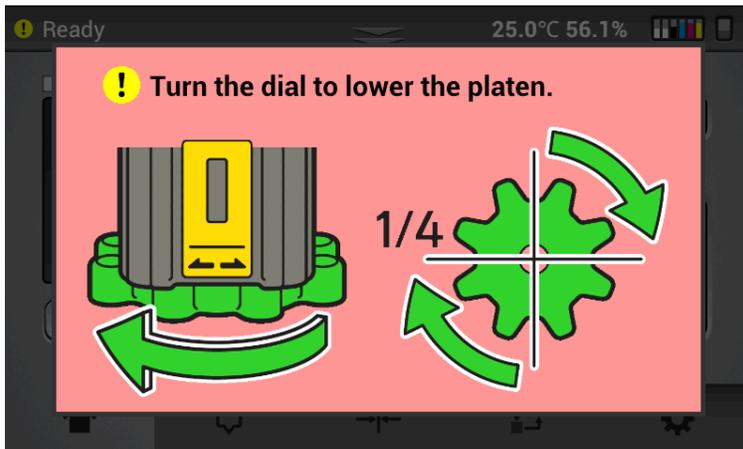


2. Adjust the height of the platen by turning the height adjustment knob under the platen.

Make adjustments so that the print side of the garment is within 1.5 mm from the print head carriage.



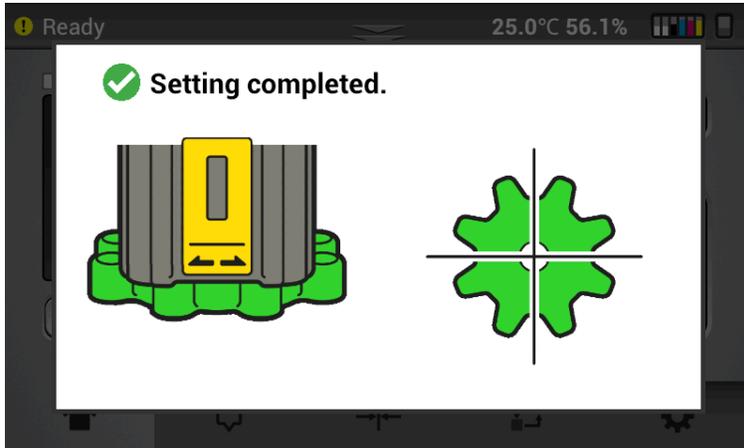
- To lower the platen: Turn the height adjustment knob clockwise.
- To lift the platen: Turn the height adjustment knob counterclockwise.

3. Press [SET].**4. If there is a problem with the height, "Display1" appears on the screen and prompts you to turn the height adjustment knob.**

<Display1>

Turn the height adjustment knob according to the instructions on "Display1". Be sure to turn the height adjustment knob slowly without rushing.

Keep turning the height adjustment knob until "Display2" appears.



<Display2>

The message "Display2" automatically disappears after a while (or by touching the control panel).

5. Press [SET].

If "Display1" appears again while the platen slides in, turn the height adjustment knob clockwise until "Display2" appears.

Repeat Step 5 until the platen is adjusted to the print position.

NOTE - By pressing [EJECT], the platen returns to its original position.

2.5. Sending the Print Job and Printing It

You can start printing after setting the garment, adjusting the platen height, and selecting the print image.

IMPORTANT! If you change the type of garment to be printed since the last time you adjusted the height, be sure to adjust the height again. For details, see page 96, "Adjusting the Height of the Platen to the Print Position".

Note - If it is possible to print, the message "Ready" appears at the upper left corner of the touch panel. If the touch panel shows anything else such as maintenance or ink error etc., you are not able to print.



The following methods are to be employed to send the image file to be printed via the machine.

- Send the image file from ColorGATE Productions server.
- Save the image file to a USB flash drive and read it using the machine.

The image from ColorGATE Productions server once used can be selected from "STORED JOB" and can be used for repeated printing.

Note - After sending print data, you can confirm setting of Media size.



The items displayed in print image preview are following.

- Image file name for print
- Print mode
- Media size (Data Platen)

Each item is displayed in print image preview, scrolling from right to left.

Send the image file from ColorGATE Productionserver

See the ColorGATE Productionserver manual.

The job ready to print is shown in the printing image preview.



Save the image file to a USB flash drive and read it via the machine

About how convert the image file into print data and save it to USB drive, see the ColorGATE Productionserver manual.

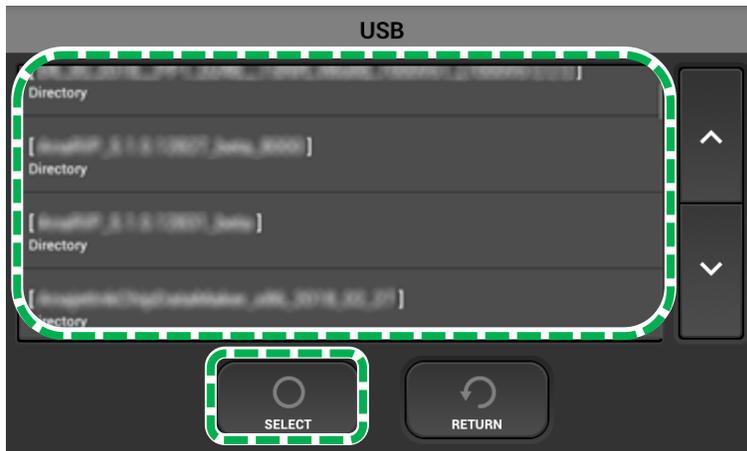
1. Save the image to a USB flash drive.
2. Insert the USB drive into the front USB port.



3. Press [USB].



4. Select the desired file to be printed, and then press [SELECT].



5. Press [YES].

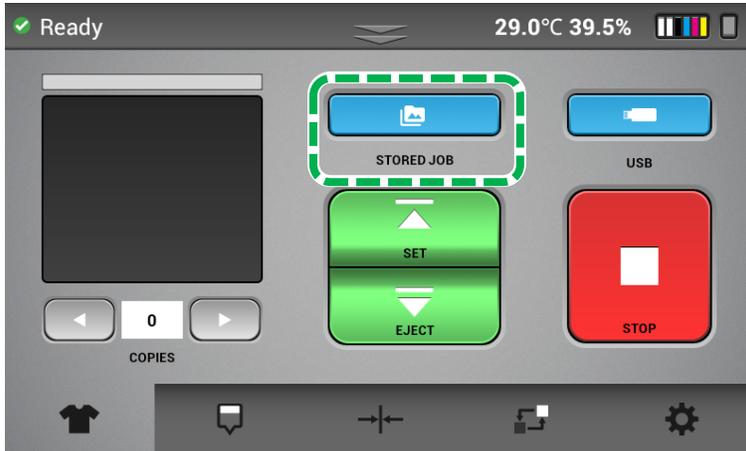
The job ready to print is shown in the printing image preview.



Selecting the image from the internal memory

Jobs previously sent from ColorGATE Productionserver are stored in internal memory.

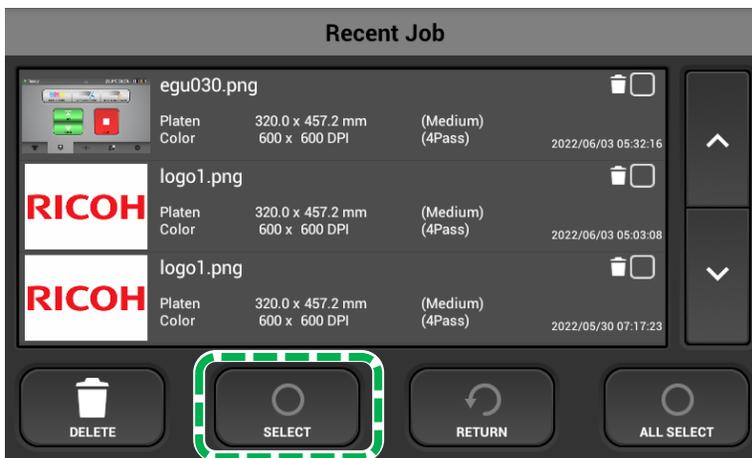
1. Press [STORED JOB].



2. Select the desired file to be printed, and then press [SELECT].

You can also delete jobs in the internal memory by selecting the file or files so that there is a checkmark in the box to the right, and then by pressing [DELETE].

Pressing [ALL SELECT] selects all jobs in the memory.



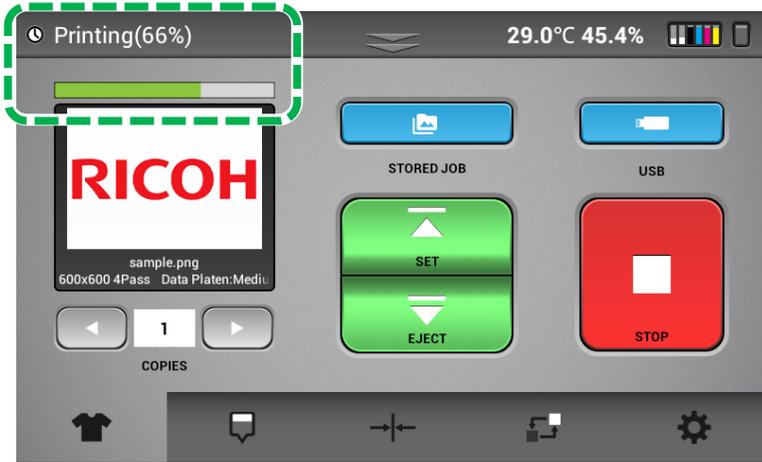
3. Press [YES].

The job ready to print is shown in the printing image preview.



Checking the Print Progress

You can check the print progress on the touch panel. Assess the print progress in accordance with the following table.



Print Progress (Approx.)	When printing in white then in full color	When printing only in white or in full color
33%	Displays the progress whereby printing in white starts.	Displays the progress whereby printing starts.
66%	Displays the progress whereby printing in white finishes.	-
100%	Displays the progress whereby printing in color finishes.	Displays the progress whereby printing finishes.
None	The indicator disappears when the platen returns to its original position or when an error occurs.	The indicator disappears when the platen returns to its original position or when an error occurs.

Removing the Garment from the Platen

When printing is complete, the platen returns to the front side of the machine.

1. Remove the platen frame.



2. Grasp the front side of the garment and remove it horizontally from the platen.

IMPORTANT! Do not touch the print side of the garment.



3. Proceed to fixing the ink with heat treatment.

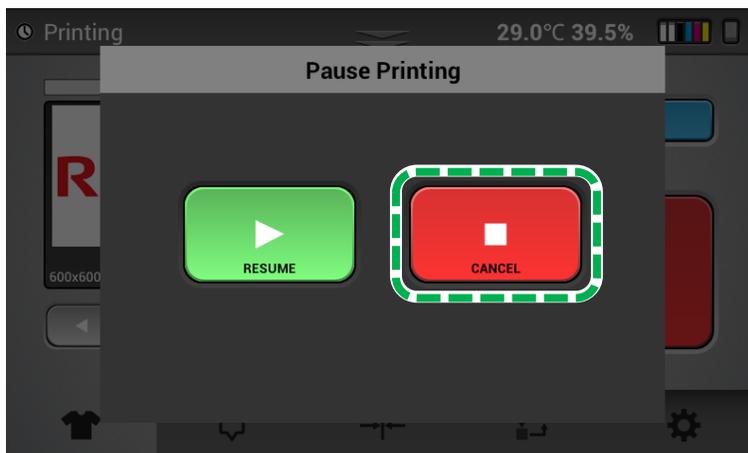
See page 108, "Set the Image with Heat Treatment".

To cancel a print job

1. Press [STOP] during printing.



2. Press [CANCEL] to stop the current print job.



2.6. Set the Image with Heat Treatment

NOTE - For information about how to use the heat press device, see the heat press manual. In order to fix the ink so that your images can be color-fast when washing, it is necessary to heat treat the image so that the image bonds with the garment.

1. Place the garment in your heat press machine image side up set to the correct settings found below.

Garment	Temperature	Time
White T-shirt (use color ink to print)	356°F or 180°C	40 seconds
Dark-color (black) T-shirt (use white and color ink to print)	330°F or 165°C	90 seconds

2. Bring the top down to within 2.5 cm (1 inch) of being closed and hover the heat press over the image for 15 seconds.

This hovering step prevents the mixing of the white and color layers. Both layers are still wet and need to set up a little before applying pressure.

This step is needed to produce the best final result when using a heat press.

3. Re-open the heat press and cover the image with heat press paper.

Instead of heat press paper, a Teflon sheet or a Kraft Paper Cover Sheet can be used. If you use a Teflon pad, it may leave a semi-glossy look on the prints.

4. Close the heat press and let the ink fix for the prescribed time.

5. When the time is completed, open the heat press, and then remove the heat press paper.

Your printed garment is complete.

NOTE - If you are using a textile oven or conveyor dryer, make sure to test the temperature of the printed image when it exits the dryer to ensure that it has reached the following temperature. Also, make sure to do a wash test of your first attempts to be sure that the inks have cured properly and that washing capability is attained.

Garment	Temperature	Time
White T-shirt with Conveyor Dryer (use color ink to print)	Printed image must reach 356°F or 180°C	Varies
Dark-color (black) T-shirt with Conveyor Dryer (use white and color ink to print)	Printed image must reach 330°F or 165°C	Varies

3. Maintenance

Your printer performs automatic maintenance routines based on time and use. Because of this, your machine is almost always ready to print when you need it. However, it is also a best practice to perform a nozzle check prior to printing.

It is also possible to specify the maintenance schedule (AUTO HEAD CLEAN only). For details, see page 121, "Specifying the Maintenance Schedule".

Below is a list of maintenance procedures and frequency for those that are time based.

Period	Perform
Every 1 hour	White ink circulation
Every 3 hours	White channel cleaning
Every 12 hours	All channel cleaning Alarm agitating white cartridge
Weekly	Cleaning the Maintenance unit and the Left ink sump Cleaning the Cover of Head Nozzle Plate (the Nozzle Cover)
Monthly	Cleaning the guide rod

IMPORTANT! Auto maintenance fails to be performed if the following conditions occur. Failure to perform Auto maintenance can result in a clogged print head. These conditions need to be cleared ASAP before auto maintenance is performed.

- Printer is powered off (always keep the printer powered on).
- Ink cartridge is missing or reading 0%.
- Waste ink tank is full.
- Encoder error and other errors.
- Any Service call message (see page 199, "Troubleshooting Guide")
- Front cover is open.
- The ink bay is opened for maintenance.

If the auto maintenance is not being performed, then the print heads can be clogged.

If Auto maintenance is prevented from happening for any reason, the messages appear.

When you acknowledge by pressing [YES], the message appears again in 5 minutes if the condition that prevented auto maintenance is not cleared (empty cartridge, full waste tank etc.).

IMPORTANT! Failure to address the underlying condition that is preventing auto maintenance in a timely manner can result in head clogging. If you do not know how to clear the condition, contact technical support immediately for assistance.

There are several warning messages that pop up to alert you of conditions that need to be addressed or need to be addressed soon.

Message	Solutions
Low ink	<p>IMPORTANT! If the remaining amount of white ink cartridge is less than 1%, printing will not be possible. Replace the relevant cartridge and perform a nozzle check to make sure the head is not clogged.</p> <p>Pressing [OK] removes the message. It reappears in 12 hours if the condition is the same.</p>
Ink empty	<p>IMPORTANT! Once an ink cartridge is empty, auto maintenance does not occur, and head clogging may occur.</p> <p>Pressing [OK] clears the message. It reappears in 12 hours if the cartridge is not replaced.</p>
Waste ink bottle almost full	<p>IMPORTANT! Once the waste ink bottle is full, auto maintenance does not occur, and head clogging may occur.</p>
Waste ink bottle full	<p>Pressing [OK] clears the message. It reappears in 12 hours if the waste ink bottle is not emptied and reset on the control panel.</p>

Parts with service life warnings:

Similar messages can appear for the parts listed in the parts replacement screen. "Warning" when the life of the part is near its end and "Attention" when the part has reached its end.

IMPORTANT! Only the left ink sump and right ink sump can stop printer operation and auto maintenance when the service life count is reached. Not the other parts such as the fan filters, maintenance station, carriage unit, and ink supply units. Printer operation and auto maintenance continues when the service life is reached for these parts. A part that reaches its service life count is considered to be out of warranty.

◆ Watching the Procedure on Video

You can watch the maintenance instruction video.

- Daily Maintenance: Agitating a White Cartridge
<https://vimeo.com/725399556>
- Weekly Maintenance: Cleaning the Maintenance unit and the Left ink sump
<https://vimeo.com/725408095>
- Monthly Maintenance: Cleaning the guide rods
<https://vimeo.com/733790378>
- Head Cleaning Jig: Cleaning the Cover of Head Nozzle Plate (the Nozzle Cover)
<https://vimeo.com/525879016>

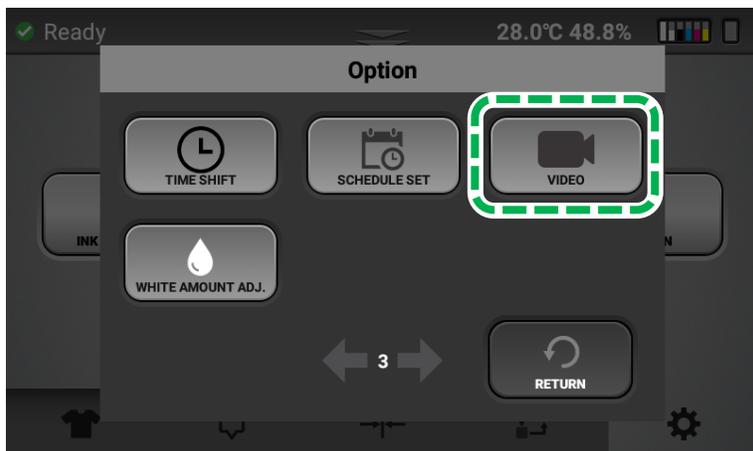
To display the QR code for the maintenance instruction video, follow the steps below.

1. Press the Settings tab.

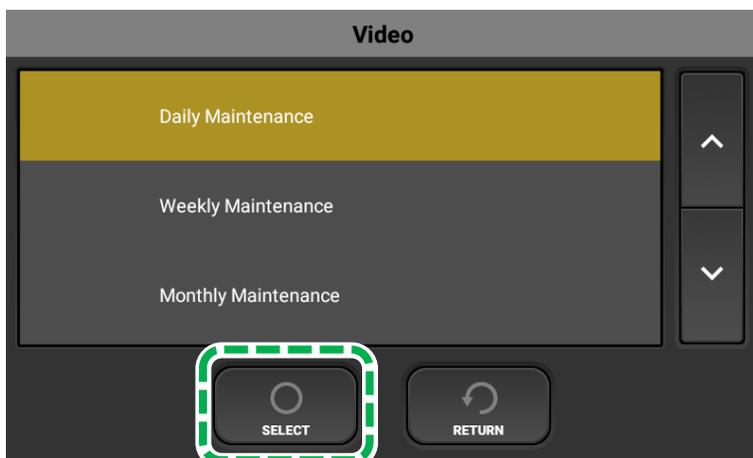


2. Press [OPTION].

3. Press [■] twice.

4. Press [VIDEO].**5. Select the maintenance instruction video from among [Daily Maintenance], [Weekly Maintenance], [Monthly Maintenance], and [Head Cleaning Jig] and then press [SELECT].**

The QR code is displayed on the screen.

**6. Start the application on the smart device, and then read the QR code.**

Follow the instructions on the screen.

NOTE - To dismiss the QR code from the screen, touch the QR code. The QR code cannot be dismissed by touching other parts of the screen.

3.1. Maintenance Schedule

Daily

The machine will prompt you to agitate white cartridges every 12 hours.

When the message appears, the white cartridges should be agitated.

For details, see page 165, "Agitating a White Cartridge".

Weekly

The machine will prompt you with the message every 7 days.

When prompted, you should perform the following:

- Clean the Maintenance unit and the Left ink sump.

For details, see page 137, "How to Clean the Maintenance Unit and the Left Ink Sump".

- Clean the cover of head nozzle plate.

For details, see page 150, "How to Clean the Cover of Head Nozzle Plate (the Nozzle Cover)".

Monthly

Frequency depends on use - clean weekly if printing 30 hours or more per week.

- Grease the guide rails.

Depending on use, once a month is OK unless using 5 days a week, 7 to 8 hours a day.

For details, see page 124, "How to Clean the Guide Rod".

3.2. NOZZLE CHECK

◆ Things to prepare

Purpose	Items
For use	Transparent A4 media

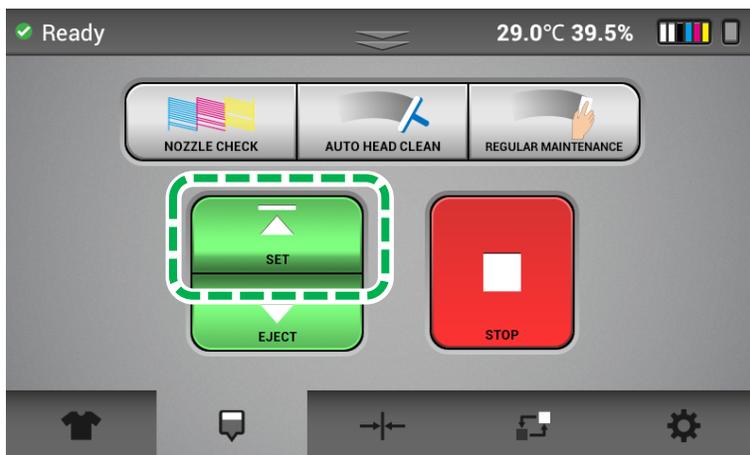
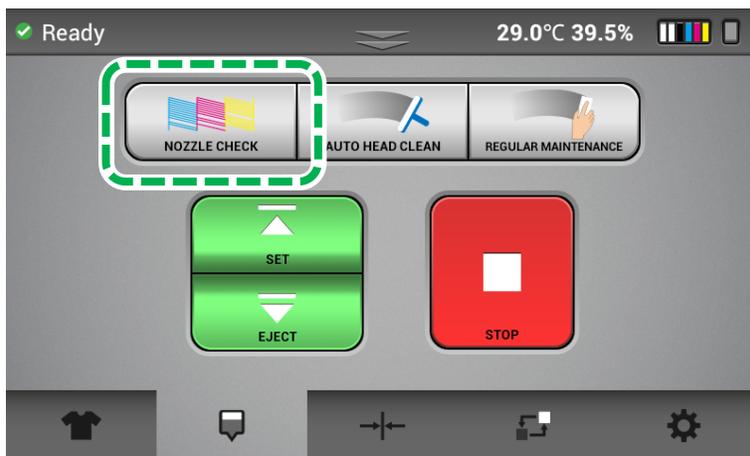
IMPORTANT! Make sure to perform a nozzle check before printing. If a nozzle is clogged, perform head cleaning until the clog is removed and reflected on the nozzle check. You should also perform a nozzle check daily as this is a good indicator of the printing conditions and can allow any clogging issues to be address while they are minor and easily resolved.

NOTE - Nozzle checks must be performed on transparent A4 media.

If any part of the transparent A4 media is curled, tape it down to avoid an obstruction detection.

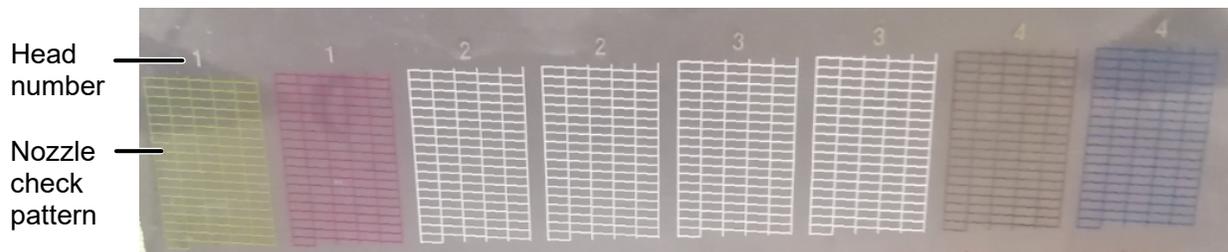
NOTE - The medium sized platen (included with the printer, optional small and large tables available) must be used to perform the nozzle check.



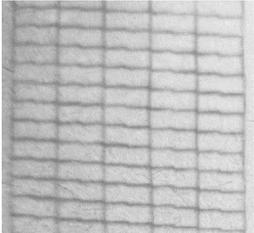
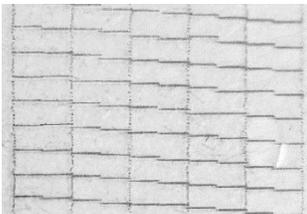
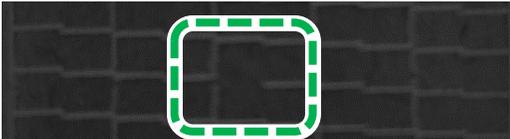
1. Press the Maintenance tab.**2. Set the transparent media, and press [SET].****3. Press [NOZZLE CHECK].****4. Press [YES].**

A nozzle check pattern is printed.

5. Check the results of the printed nozzle check pattern.



In your nozzle check please check for the following and take the appropriate steps:

Nozzle Check Pattern	Description
	Perfect Nozzle Check
	Nozzle Deflection: When horizontal lines are uneven
	Clogged Nozzle: When the horizontal lines have small or minor gaps

As a general rule: A missing nozzle in the CMYK channels may show in some prints while a few missing nozzles in the white channels does not affect the prints.

6. If there is a problem with the nozzle check pattern, check the head number for that nozzle check pattern. Then, perform AUTO HEAD CLEAN for the head of that number.

For details about the AUTO HEAD CLEAN, see page 118, "AUTO HEAD CLEAN".

3.3. AUTO HEAD CLEAN

WARNING

- "STRONG" head cleaning will use more ink than the "NORMAL" head cleaning. Use only as needed.

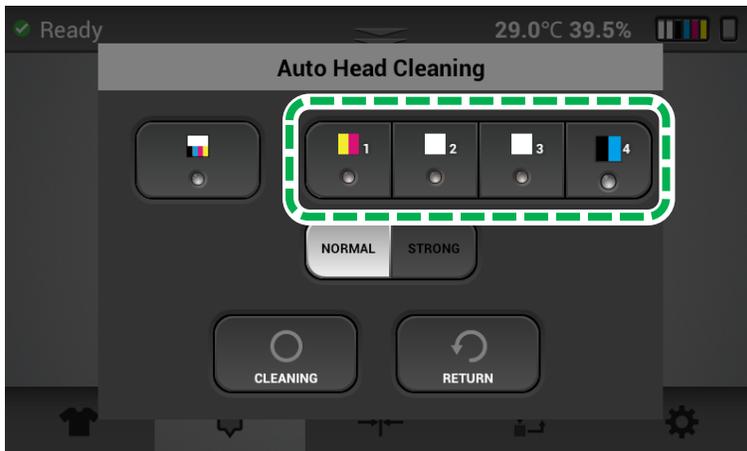
1. Press the Maintenance tab.



2. Press [AUTO HEAD CLEAN].

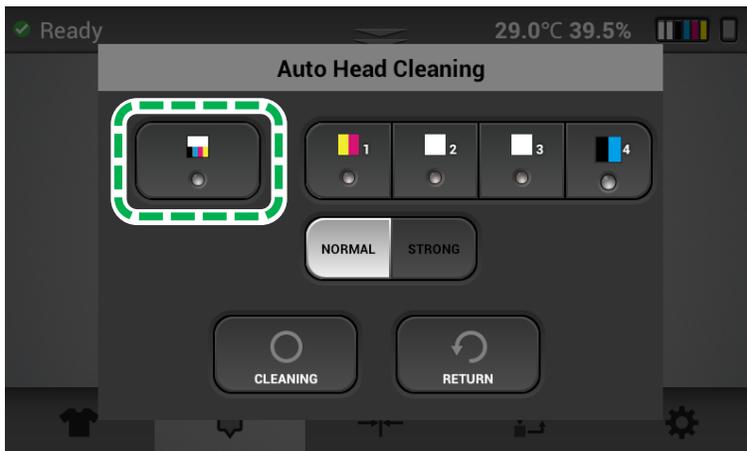


3. Press the head number to clean.

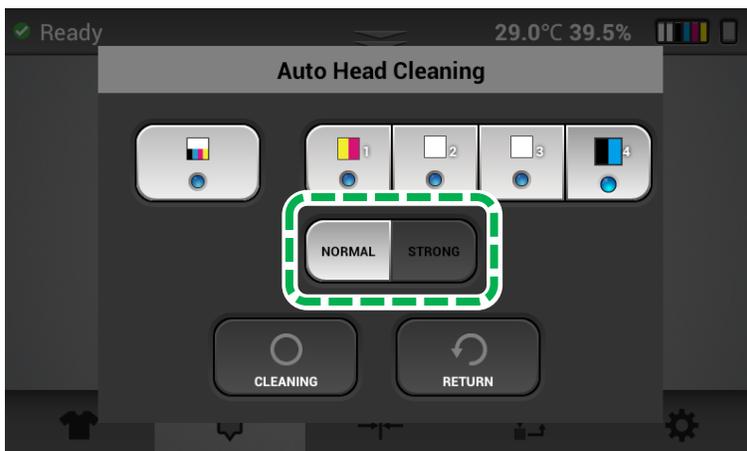


You can select multiple heads.

To clean all heads, press the button for all heads.



4. Press [NORMAL] or [STRONG].



NORMAL: For small or minor missing nozzles in the nozzle check.

STRONG: For large missing nozzles in the nozzle check.

NOTE - After performing the normal cleaning, if the nozzle condition is not recovered, proceed to using the "STRONG" head cleaning option.

"STRONG" head cleaning is the best to resolve deflection.

5. Press [CLEANING].

6. Perform a nozzle check.

If you perform a nozzle check and discover nozzle clogging persisting in any print head, check the number of that print head.

7. In accordance with Steps 1 to 5, select the head still affected by nozzle clogging and perform the cleaning again.

If the problem persists even by using [NORMAL], execute [STRONG] cleaning.

If nozzle clogging persists even after executing [STRONG] cleaning multiple times (3 to 5 times), wait for 6 hours or longer and then retry the [STRONG] cleaning.

NOTE -

- As a rule, most missing nozzle issues can be resolved by "NORMAL" head cleaning.
- Nozzles tend to drop out more in dryer environments. This is why it is best to keep the humidity levels at 45% or more.
- If the problem persists, see page 199, "Troubleshooting Guide".

Specifying the Maintenance Schedule

Specify the schedule to execute automatic maintenance.

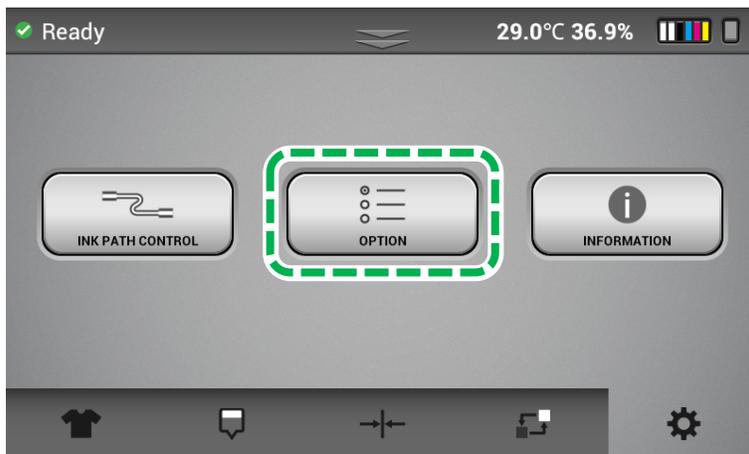
Although the printer periodically executes automatic maintenance, you can specify the schedule to execute it when not using the printer in order to reduce loss of time caused by automatic maintenance executed during printer operation.

You can specify up to 3 sets of schedules.

8. Press the Settings tab.

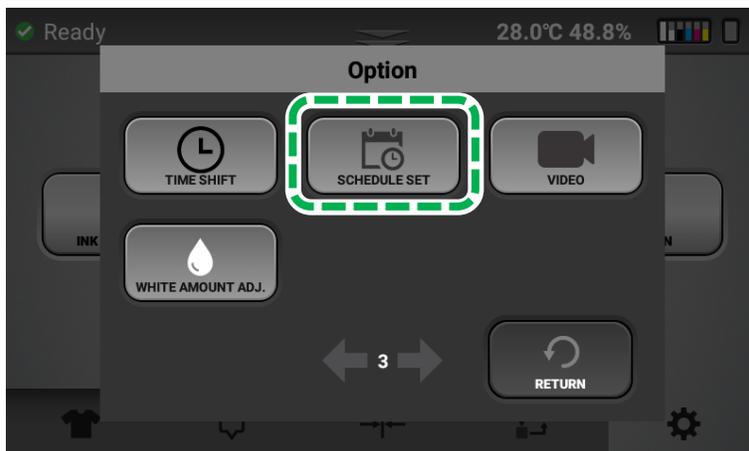


9. Press [OPTION].



10. Press [ENTER] twice.

11. Press [SCHEDULE SET].



12. Select the list on which to register the schedule.

13. Press [DAILY] or [DATE].

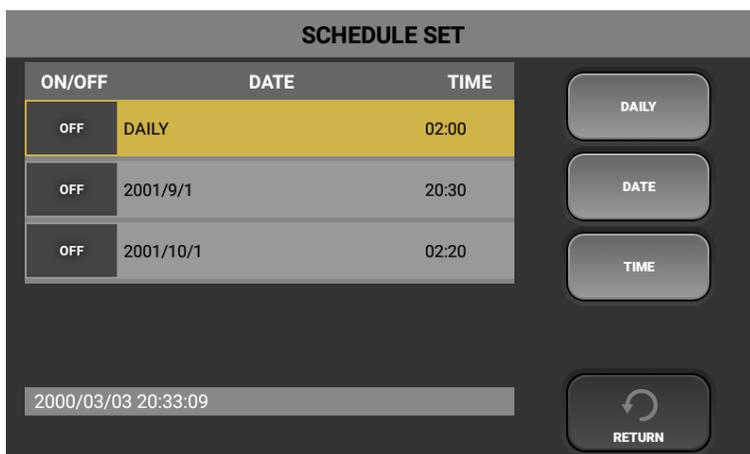
If you have selected [DAILY], proceed to Step 8.

14. Specify the date, and then press [OK].

15. Press [TIME].

16. Specify the time, and then press [OK].

17. Set [ON/OFF] for the specified schedule to [ON] in order to enable it.



18. Press [RETURN].

Keep pressing [RETURN] to reach the page you want to return to.

NOTE - In case of executing maintenance according to a specified schedule between the regular auto maintenance cycle, the machine starts counting the time until the next scheduled auto maintenance after the maintenance is completed.

3.4. REGULAR MAINTENANCE

Regular maintenance includes cleaning of the following parts:

- Cleaning the Guide rod

For details see page 124, “How to Clean the Guide Rod”.

- Cleaning the Maintenance unit and the Left ink sump

For details see page 137, “How to Clean the Maintenance Unit and the Left Ink Sump”.

- Cleaning the Cover of Head Nozzle Plate (the Nozzle Cover)

For details see page 150, “How to Clean the Cover of Head Nozzle Plate (the Nozzle Cover)”.

3.5. How to Clean the Guide Rod

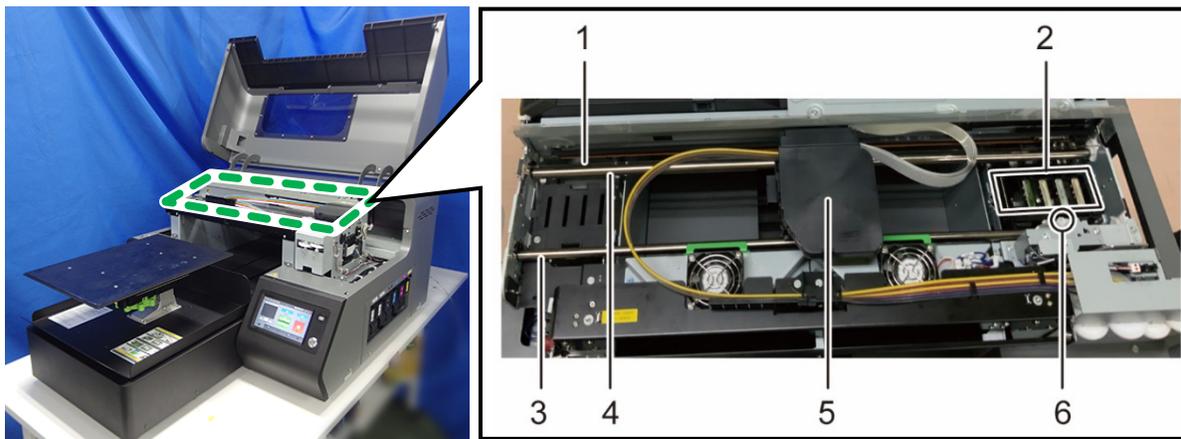
◆ Things to prepare

Purpose	Items
To wear	Polyethylene gloves
	Protective glasses or goggles (commercially available)
For use	Cleaning Applicator (Only for cleaning the Guide Rod)
	Cleaning Liquid
	Dropper
	Grease (Only for cleaning the Guide Rod)
	Lint Free Wipes
	Distilled water (commerciallyavailable)/(Only for cleaning the Encoder sheet)

◆ Cleaning times

About 30 minutes

◆ Guide to parts



1. Encoder sheet
2. Maintenance unit
3. Guide rod: front
4. Guide rod: main
5. Carriage
6. Filler sensor

◆ Video instruction

You can watch the maintenance instruction video. For details, see page 112, “Watching the Procedure on Video”.

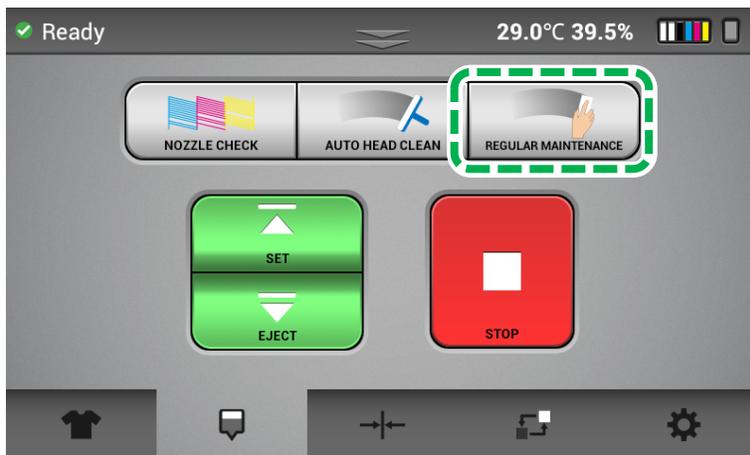
Start REGULAR MAINTENANCE

1. Press the Maintenance tab.



2. Press [REGULAR MAINTENANCE].

The carriage moves to the center position.

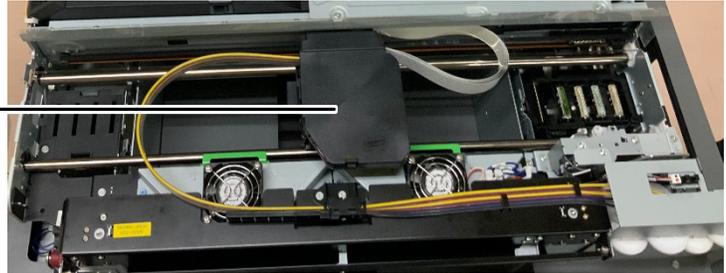


Cleaning the Guide Rods

⚠ CAUTION

- Be careful not to touch the nozzle with the Cleaning Applicator. Also, be careful not to adhere the wiped solid ink or lint to the nozzle. Also, be careful to keep the nozzle area dry (no cleaning fluid) while cleaning the side of the print head. All of these can cause the nozzle out.

Nozzle
(bottom side of
carriage)

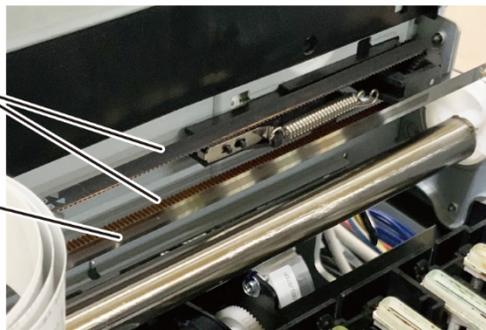


- When cleaning the guide rods, try to avoid touching the encoder or the carriage belt. This may cause the printer to not operate properly.



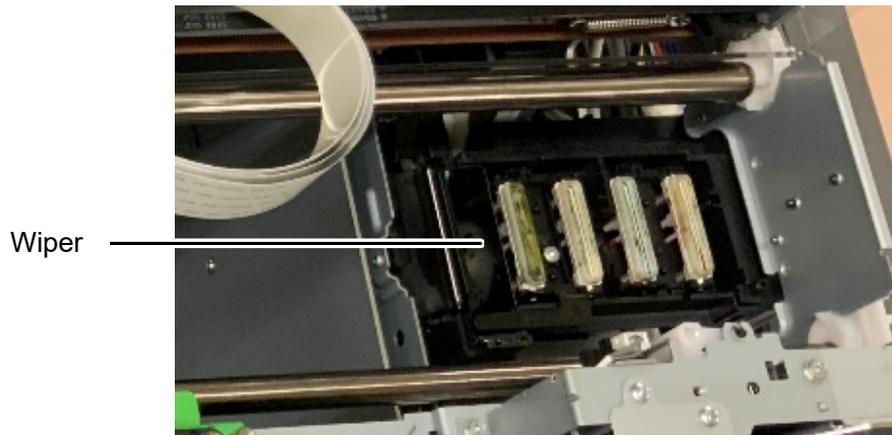
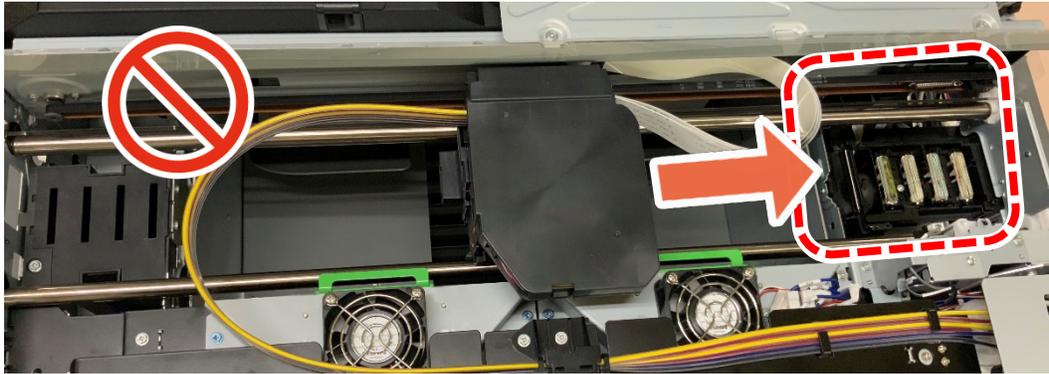
Carriage belt

Encoder



⚠ CAUTION

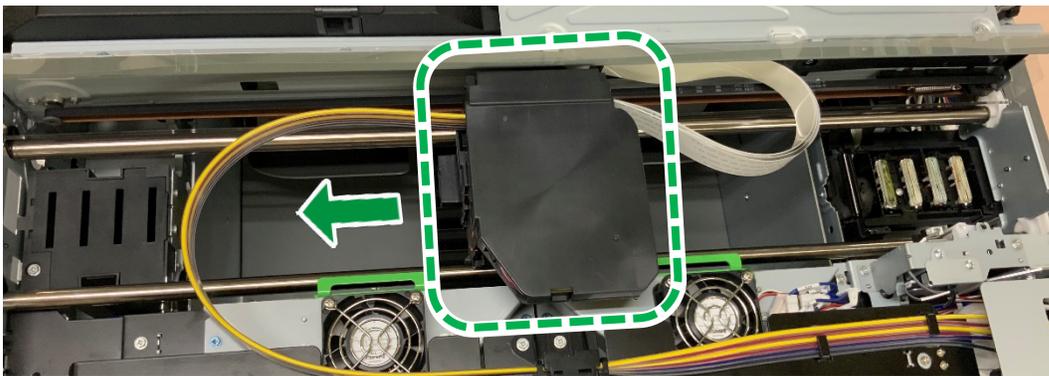
- Do not move the carriage to the prohibited range, which is outside the designated sliding range. Since the wiper of the Maintenance Unit is raised to the Wiper cleaning position and the carriage is moved above the Maintenance Unit, and the Wiper interferes with the Head. This may damage the Head.

**1. Open the front cover.**

2. Wipe off any old grease and lint that are stuck on both guide rods with a cleaning applicator.



3. Move the carriage to the left, and then wipe off any old grease and lint on the guide rods where the carriage had stopped.



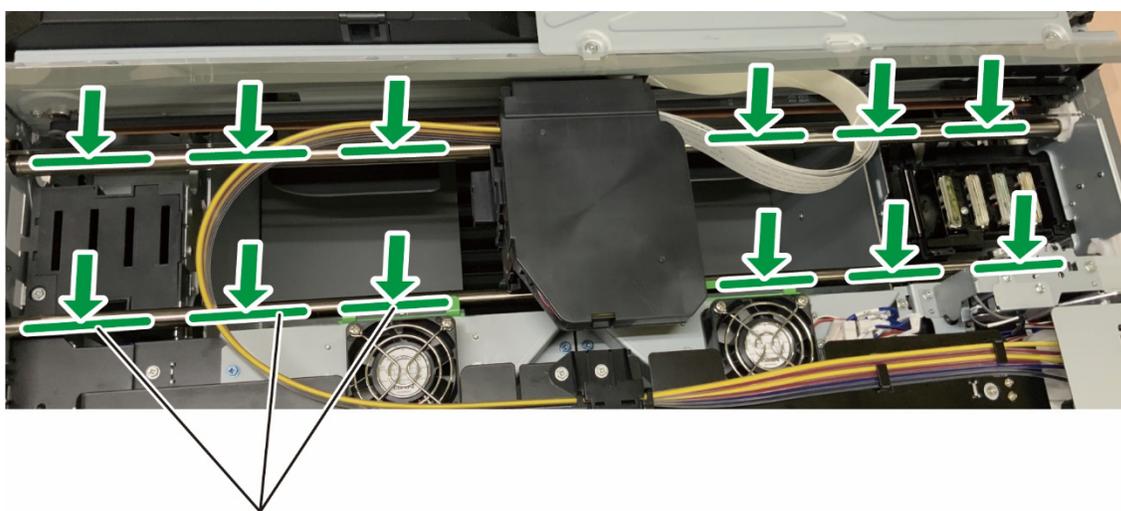
4. Return the carriage to the center.

5. Apply the dedicated grease to the Guide Rod. Use a new Cleaning Applicator for application.

As shown in the following picture, add the grease.

- The Guide Rod: main
Apply approximately 0.01 ml of grease to each of the six peripheral parts of the arrow.
- The Guide Rod: front
The six peripheral parts of the arrow.

Grease coverage



Grease application range

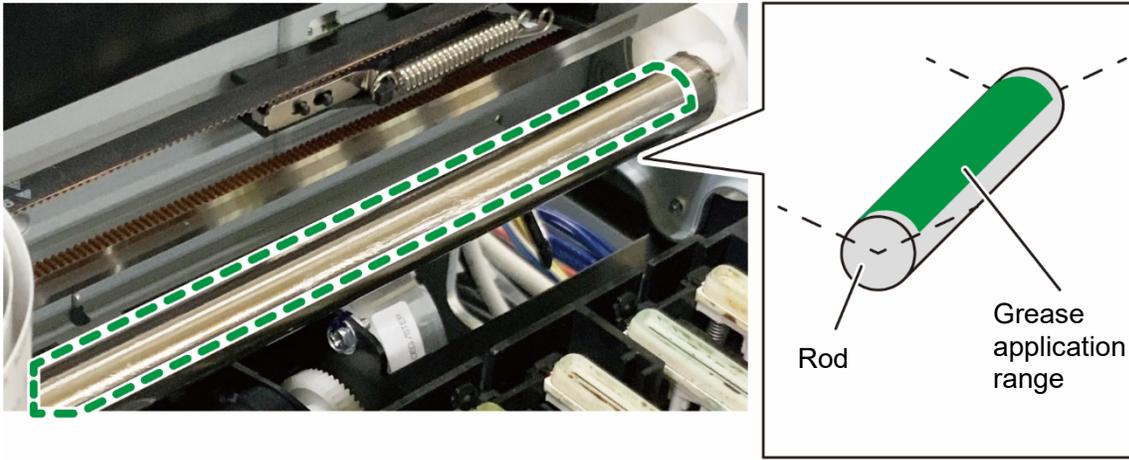
The outer grease should be applied 60 to 80 mm from the end of the rod.

Apply the inner grease 30 to 50 mm from the carriage.

Sample of the amount of grease to be applied to six places on each rod

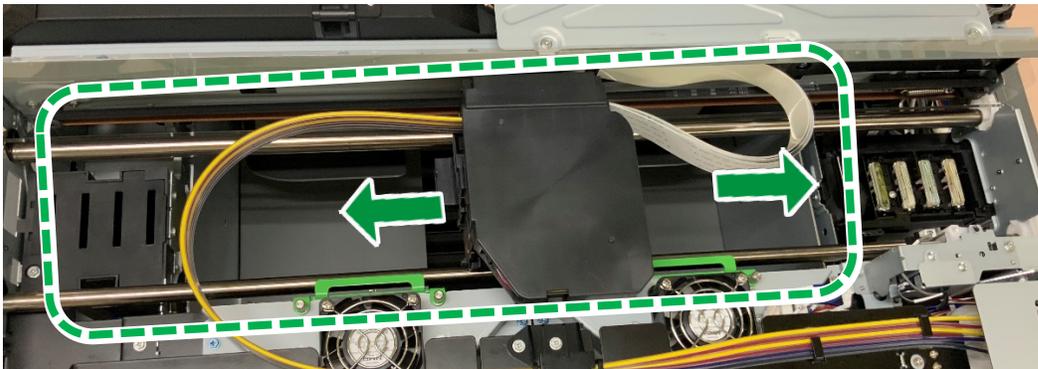
	After adding	After applying
0.01 ~ 0.02 ml (height: 2 mm)		

6. Use a dedicated Cleaning Applicator to spread the grease smoothly on the top portion of the rod (cover about the top third of the circumference of the rod).



7. Move the carriage to the left and right by hand in order to smooth the grease. Then move the carriage slowly over 2 seconds within the carriage designated sliding range.

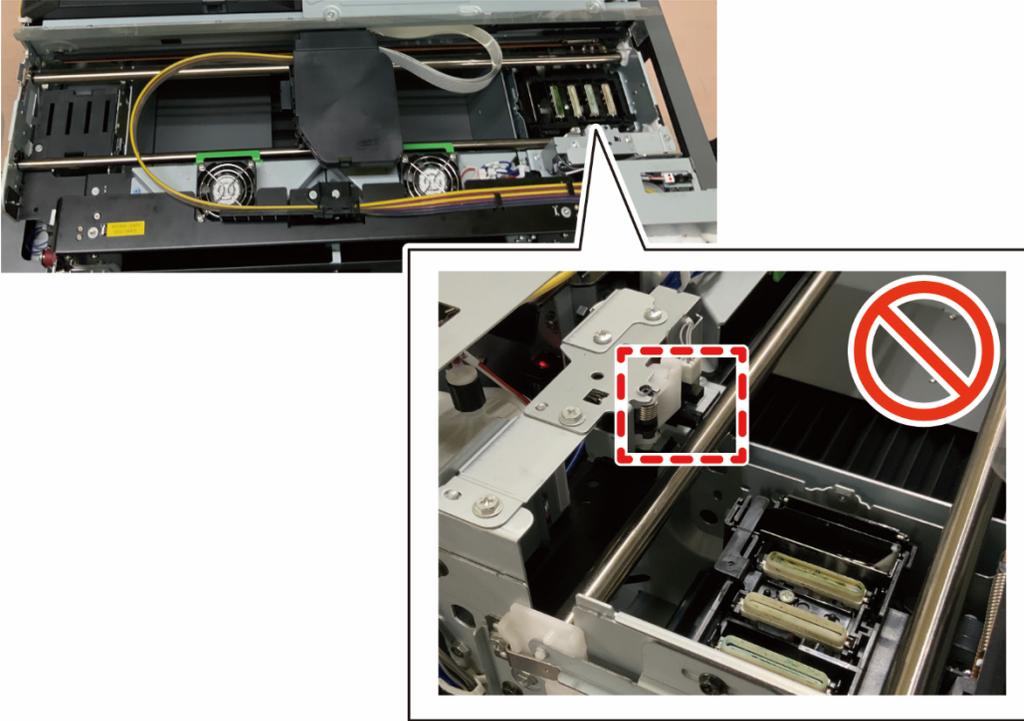
Do this for more than two round trips.



IMPORTANT! When moving the carriage, do not enter the area of the maintenance unit.

8. Wipe away grease that protrudes far beyond the coverage described in step 5.

IMPORTANT! Check that grease is not attached to the Filler Sensor.



9. After cleaning the guide rods, move the carriage to the left end by hand.

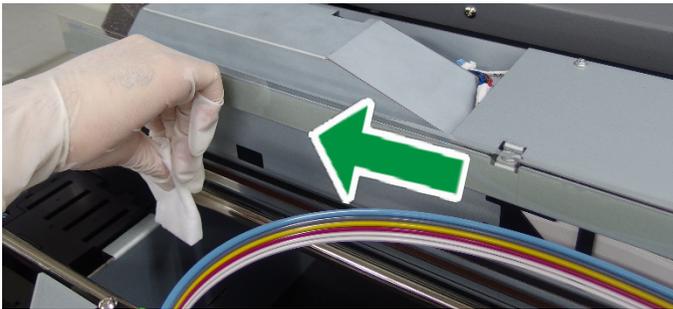
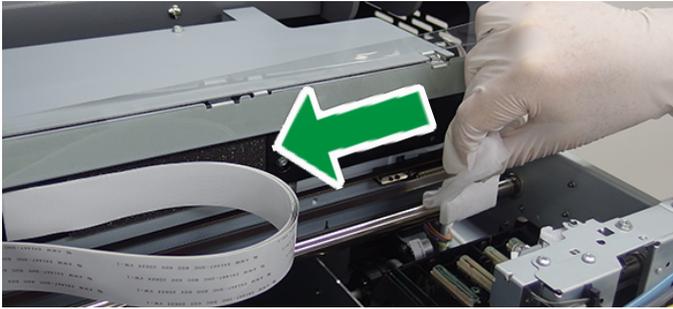
The Wiper may damage the Head if it makes it stand by on the right end Maintenance Unit.

Cleaning the Encoder Sheet

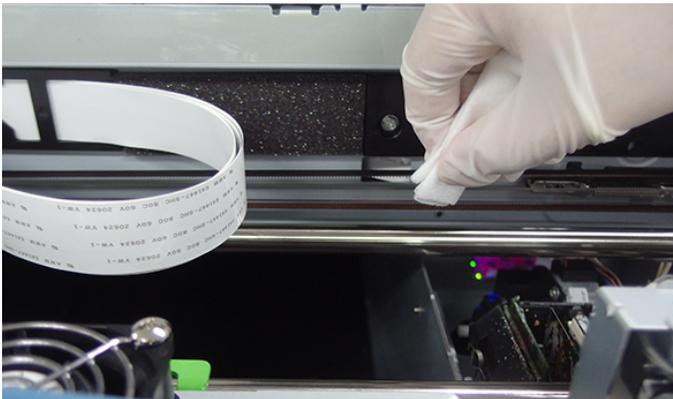
IMPORTANT! Cleaning the encoder strip is usually not required.

CAUTION

- Lint free wipes help ensure the integrity of the encoder strip, but improper usage of the lint free wipes may result in damage to the encoder strip and prevent printer functionality.



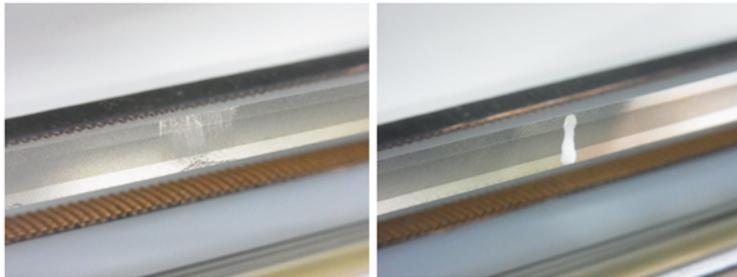
- Be sure to clean in the direction of the arrow shown in the figure above.
- Do not directly touch the encoder seat with hands.
- Do not bend the encoder seat.
- Do not allow the Cleaning Liquid to adhere to the timing belt.
- Do not allow the Lint Free Wipes to come into contact with the Guide Rod.



Any of the above can cause a CR encoder error and the encoder may need to be recleaned.

Clean the encoder seat only when:

- Grease or ink drops on encoder strip.



- Vertical stripes appear in the printed image.

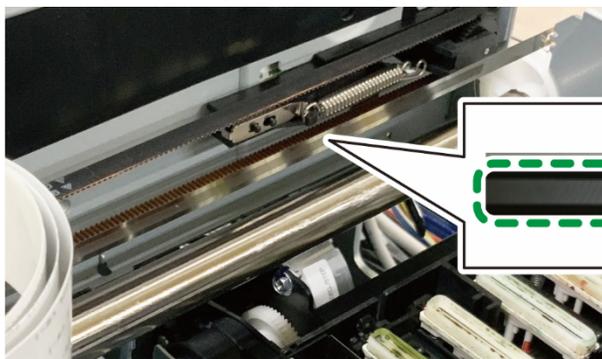


Print direction

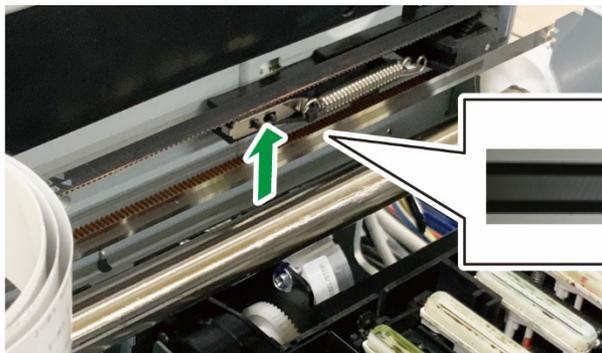
(moving carriage direction)

Clean the Encoder Sheet after applying the grease to the Guide Rod.

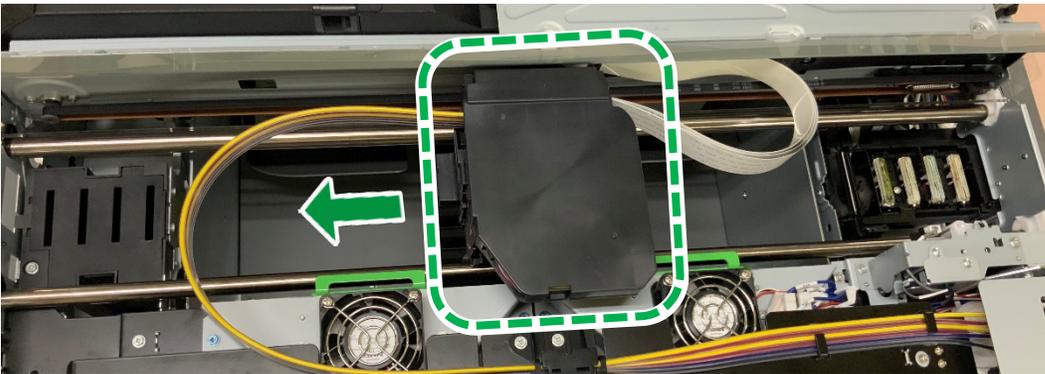
IMPORTANT! The slit part is fragile. Wipe it gently so as not to break or deform the slit part.



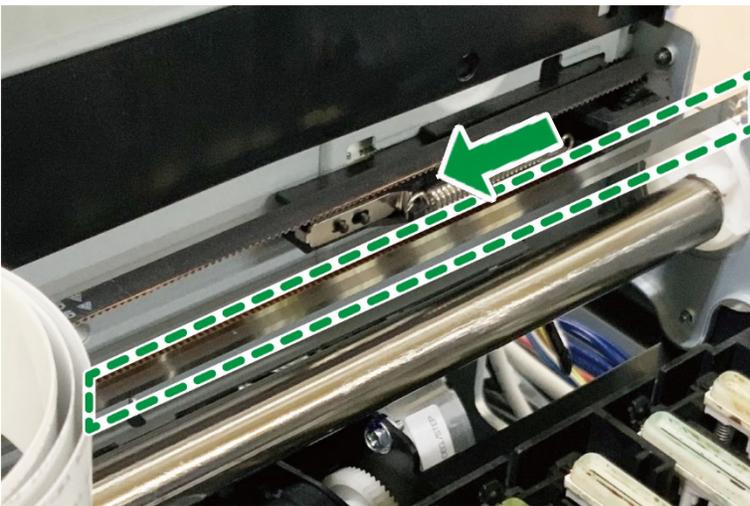
If it is difficult to remove ink or grease, wipe in the direction of the arrow below. The wiping direction must be parallel to the slit.



1. Move the carriage to the left end side by hand.



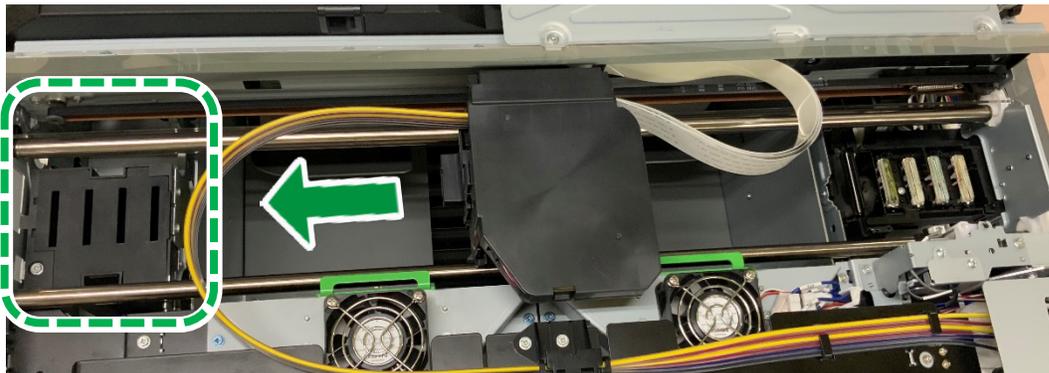
2. Wet a Lint Free Wipe with the cleaning liquid.
3. After applying the Lint Free Wipe with the Cleaning Liquid, use it to remove lint and ink adhering to the Encoder Sheet. Move the carriage to clean the entire Encoder Sheet.



4. Wet a Lint Free Wipe with distilled water.
5. After applying the Lint Free Wipe with distilled water, use it to remove lint and ink adhering to the Encoder Sheet. Move the carriage to clean the entire Encoder Sheet. Repeat the wipe process twice.
6. Prepare a dry Lint Free Wipe.
7. Using a dry Lint Free Wipe, remove any remaining liquid adhering to the Encoder Sheet. Move the carriage to clean the entire Encoder Sheet.

8. After cleaning the Encoder, move the carriage to the left end by hand.

The Wiper may damage the Head if it makes it stand by on the right end Maintenance Unit.



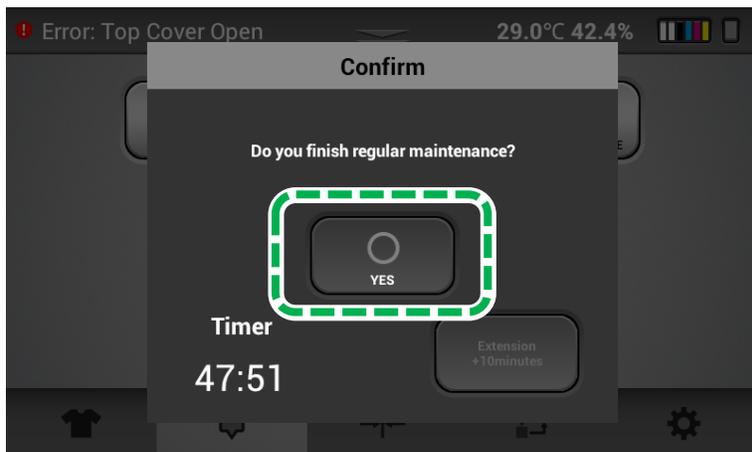
Ending the maintenance

1. Close the front cover.



2. Press [YES].

The carriage moves to the right end, and the Head is capped.



IMPORTANT! If encoder errors are frequent and require cleaning often, the encoder may need more thorough cleaning. Contact technical support for guidance on how to clean the encoder more thoroughly.

3. After completion of cleaning, perform **AUTO HEAD CLEANING** (recommended).

This prevents the ink from drying out and clogging the nozzles.

For details about AUTO HEAD CLEAN, see page 118, "AUTO HEAD CLEAN".

After completion, it is recommended to print the Nozzle Check and check that the ink discharge is normal.

3.6. How to Clean the Maintenance Unit and the Left Ink Sump

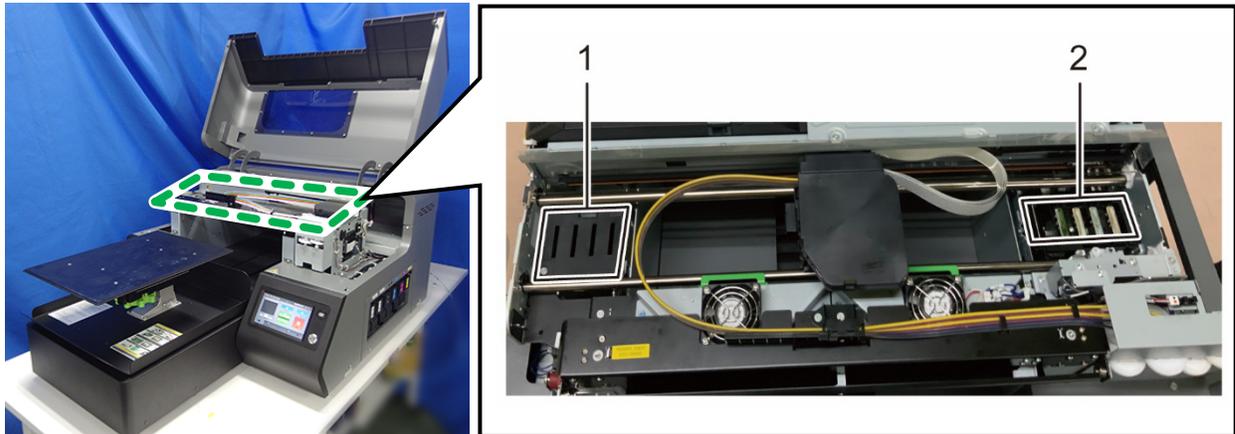
◆ Things to prepare

Purpose	Items
To wear	Polyethylene gloves
	Protective glasses or goggles (commercially available)
For use	Cleaning Applicator
	Cleaning Liquid
	Dropper

◆ Cleaning times

About 10 minutes

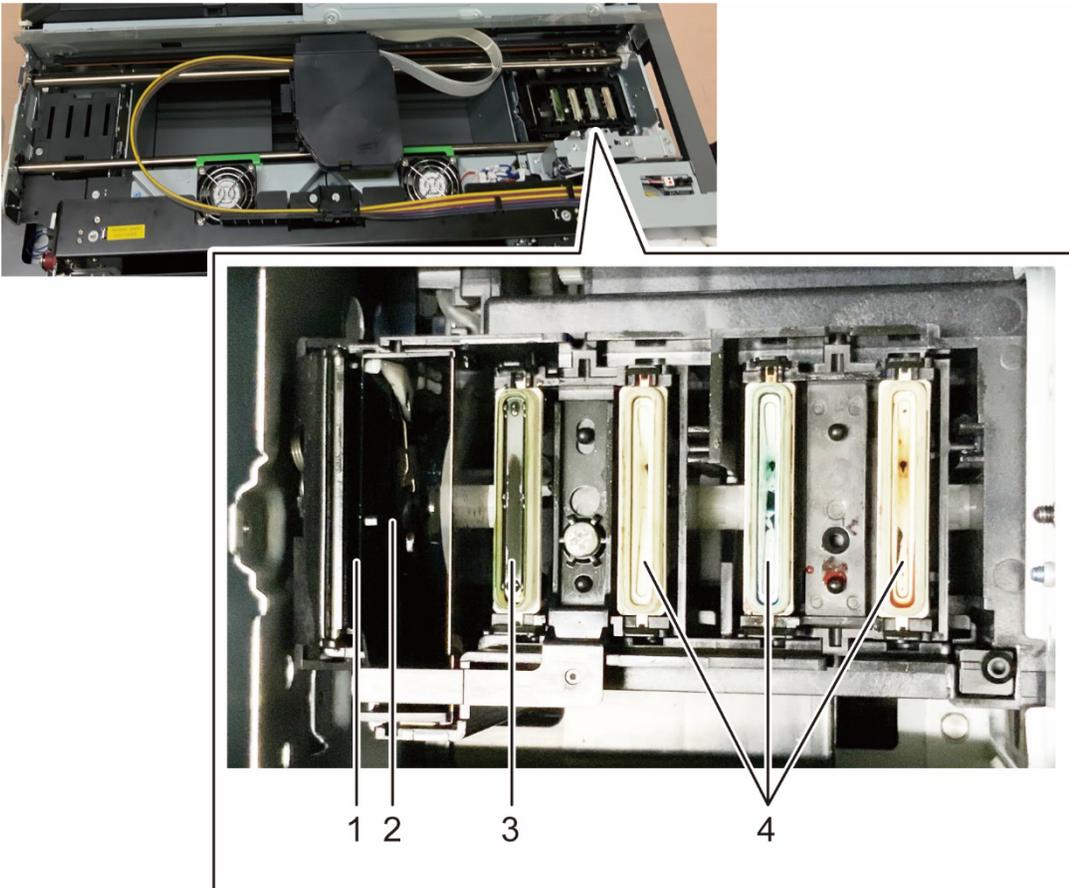
◆ Guide to parts



1. Left ink sump

2. Maintenance unit

Maintenance unit



1. Wiper
2. Wiper cleaner
3. Suction Cap
4. Moisturizing cap

◆ Video instruction

You can watch the maintenance instruction video. For details, see page 112, “Watching the Procedure on Video”.

Start REGULAR MAINTENANCE

1. Press the Maintenance tab.



2. Press [REGULAR MAINTENANCE].

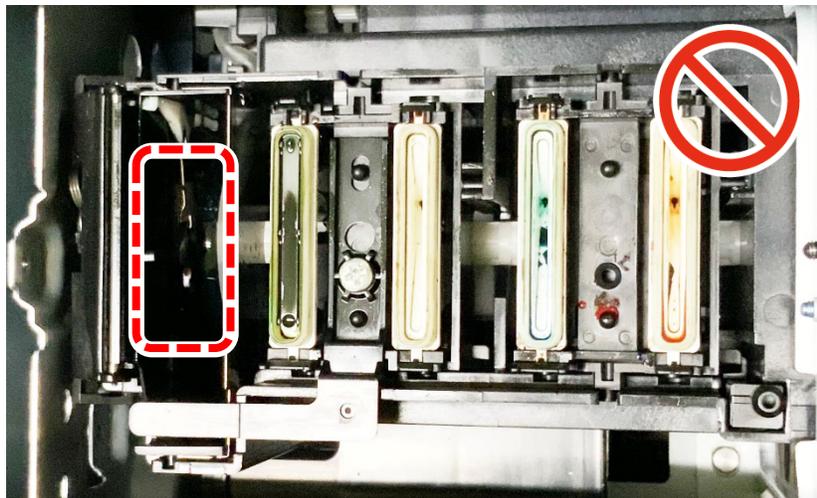
The carriage moves to the center position.



Cleaning the Maintenance Unit and the Left Ink Sump

⚠ CAUTION

- Do not rub too strongly. Do not wipe in areas other than indicated.
There is a possibility that parts may become damaged, deformed, or detached.
If there are parts breakage, deformation, or detachment occurs, it may cause a machine failure.
- Do not touch the bottom side of the lever or the lower side of the range indicated in the red frame.

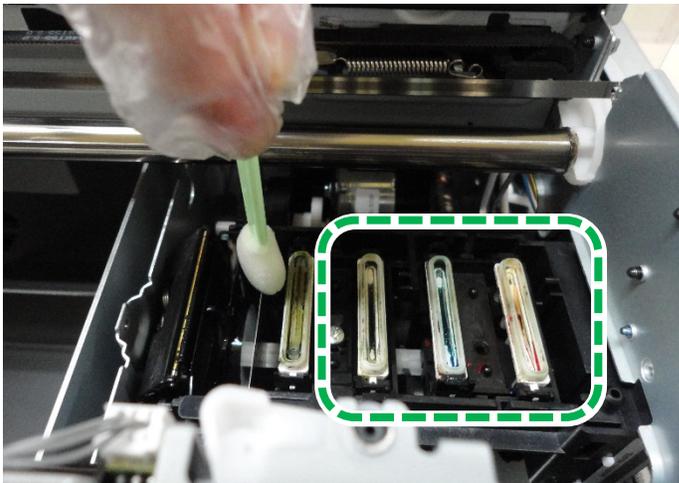


- Do not use force when cleaning the lever. It can easily deform, break, and detach.
- If the Maintenance unit is not cleaned sufficiently, it may cause nozzle clogging. Be sure to remove the clogging toner and lint.

1. Open the front cover.

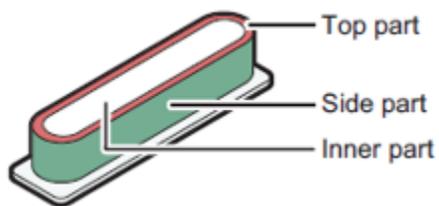


2. Clean the Moisturizing Caps.

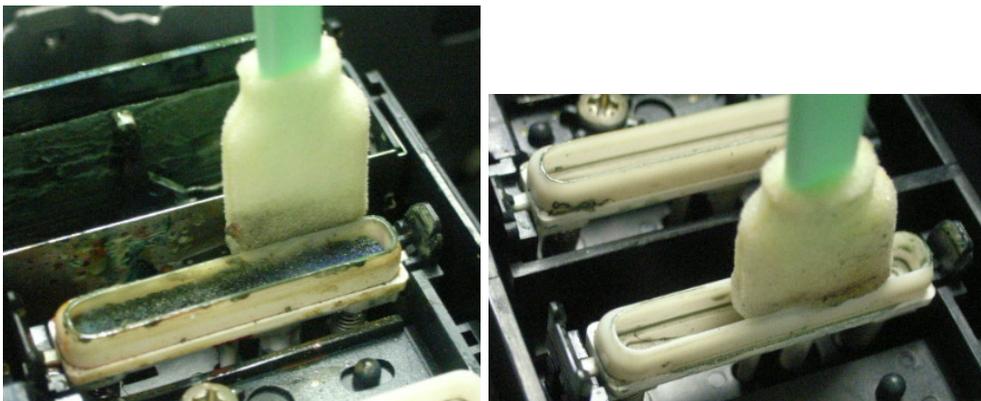


IMPORTANT! Do not deform or scratch the caps. Deformation and scratches may cause troubles.

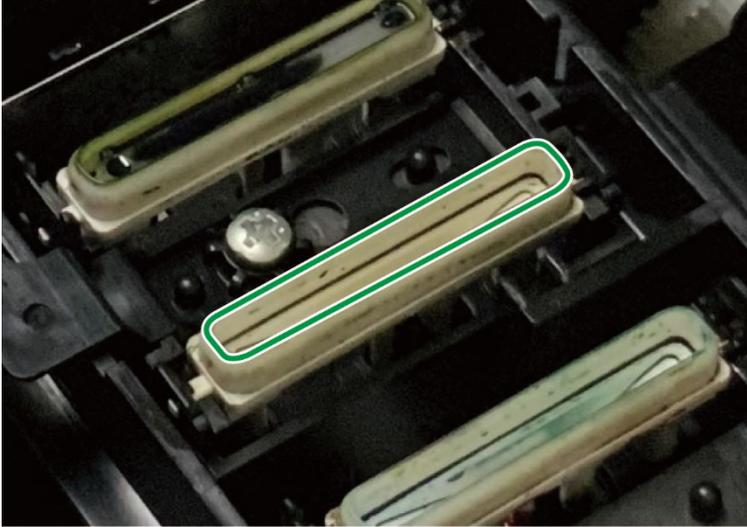
Especially, wipe the top part gently and carefully.



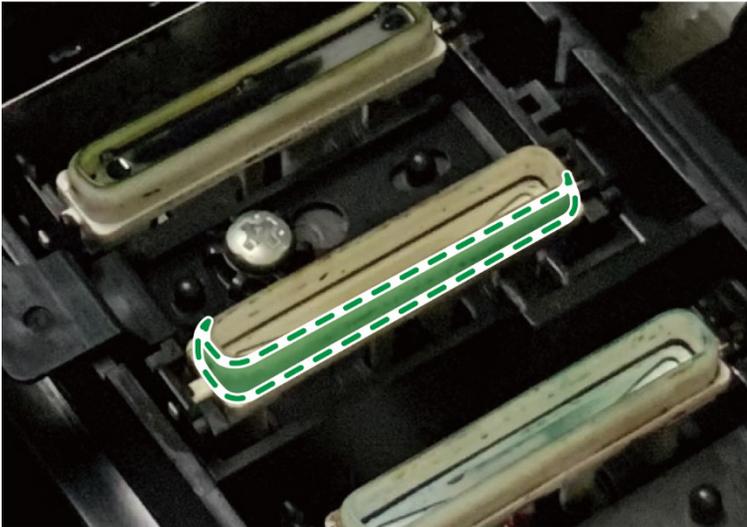
Example of how to apply the Cleaning Applicator:



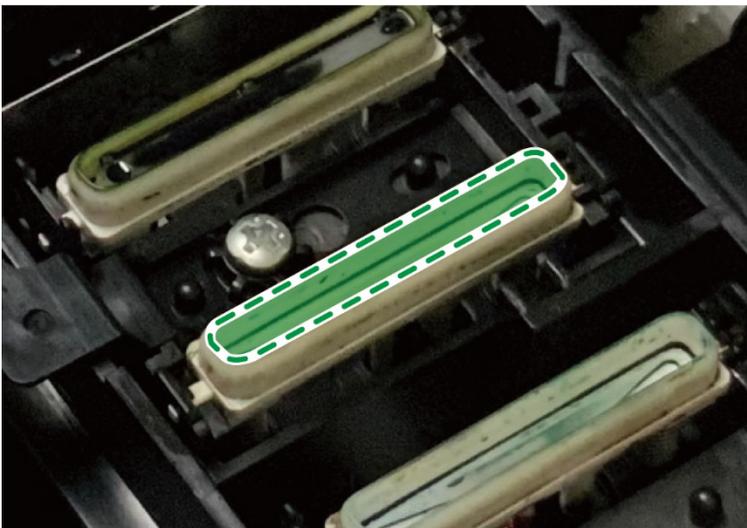
1. Gently wipe off the top part.



2. Gently wipe off the side part.



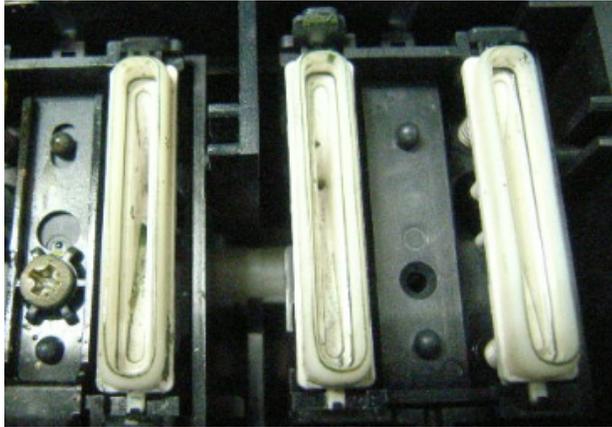
3. Gently wipe off the inner part.



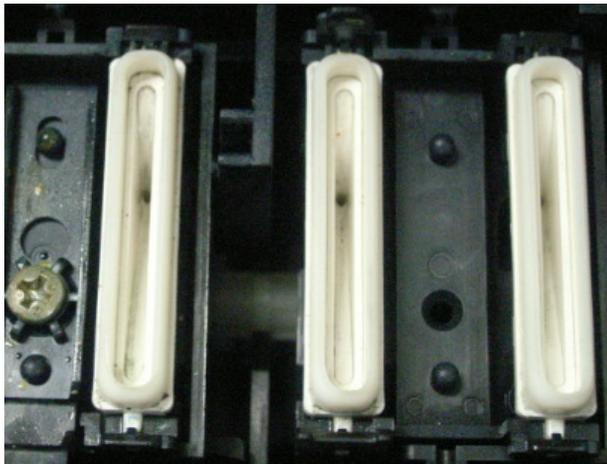
Example of the dirt level after cleaning.

Following pictures shows an example before and after cleaning.

Before

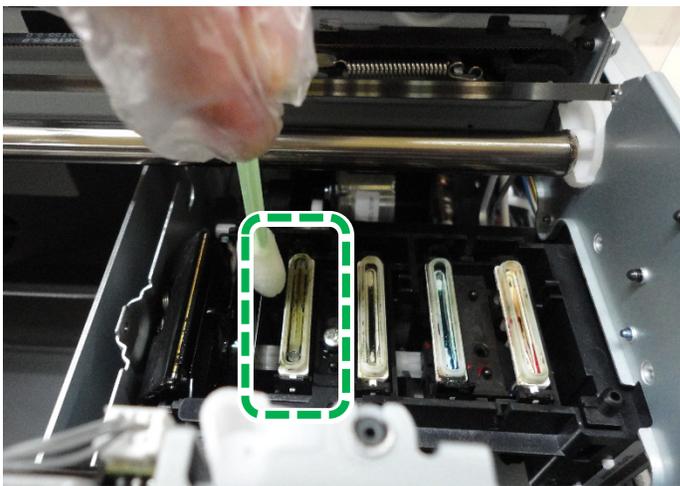


After



- Make sure that the solidified ink has not accumulated at the rim of the cap.

3. Clean the Suction Cap.



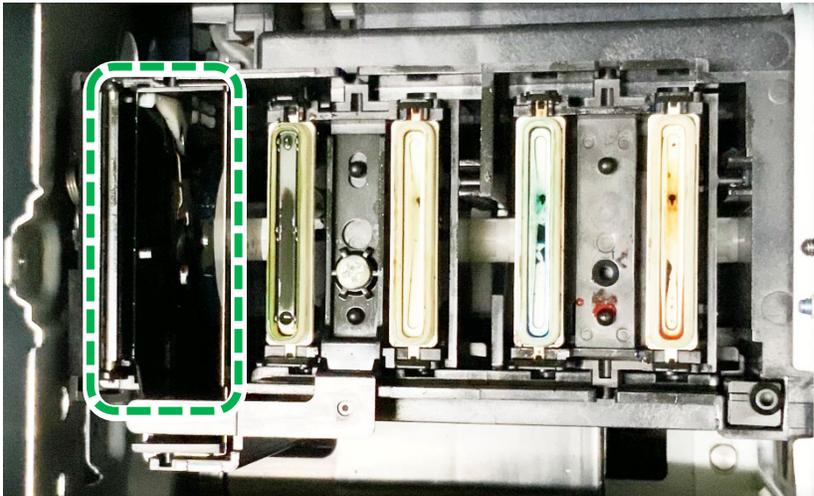
1. The method of cleaning the Suction Cap is the same as the cleaning method for the Moisturizing Caps.

However, there is a vacuum cap inset inside the cap. Clean it carefully so as not to shift or detach this part. Be sure to return the parts when the parts inside the cap are displaced or removed. Press down until the spring bottoms out. If parts are not returned properly, nozzle clogging could occur.

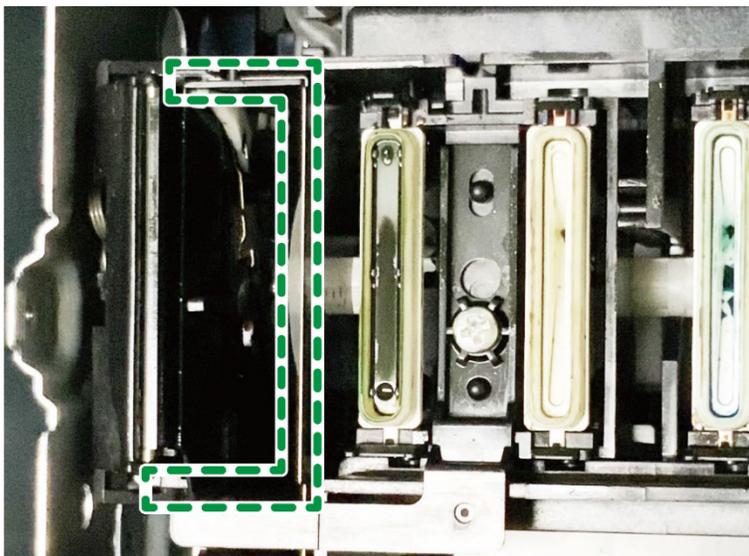
2. Wipe off any excess cleaning liquid with a dry applicator if necessary.

For parts inside the Suction Cap, it is necessary that the solid ink or the stuck ink is removed.

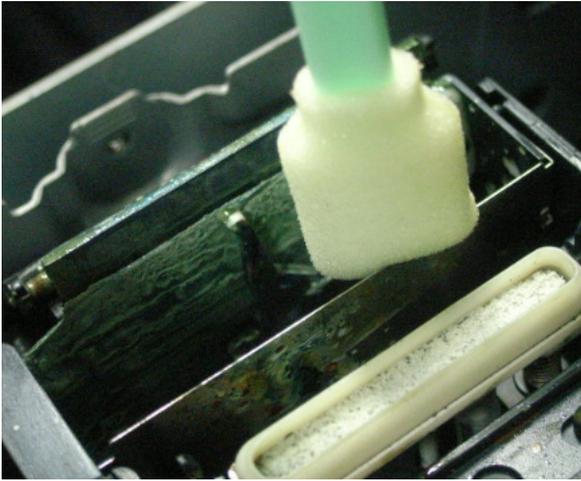
4. Clean the Wiper and Wiper Cleaner.



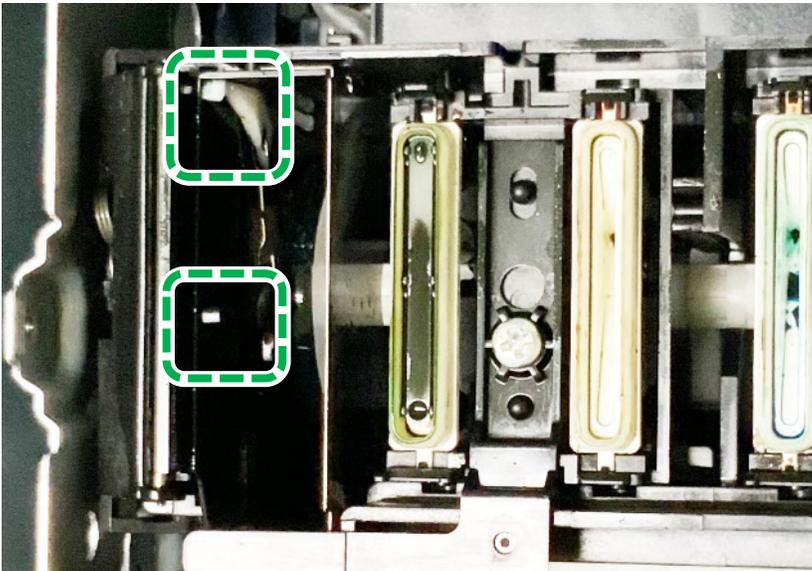
1. Clean the top of the frame of the Wiper Cleaner.



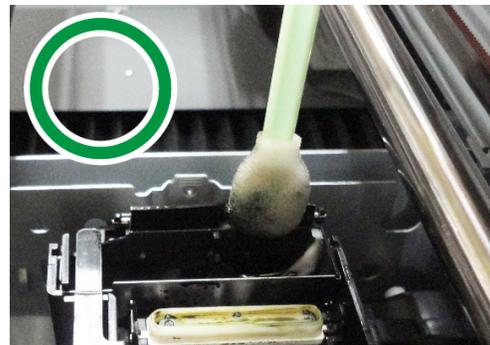
An example of how to apply the Cleaning Applicator is shown in below.



2. Clean the surface and the inside parts of the Wiper Cleaner.

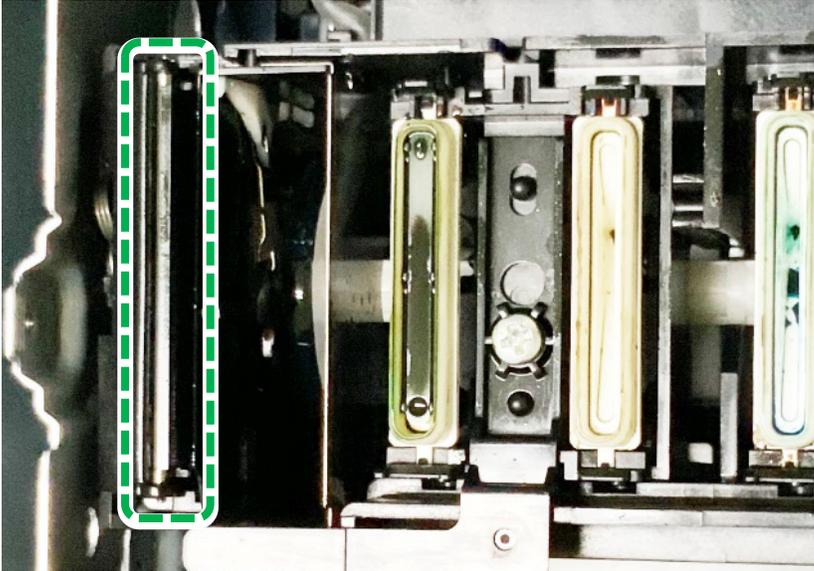


- Be careful as the lever is thin. It can easily deform, break, and detach.
- Clean the lever to the surface indicated in the green frame and wipe it gently.
- Do not insert the cleaning applicator too deeply.

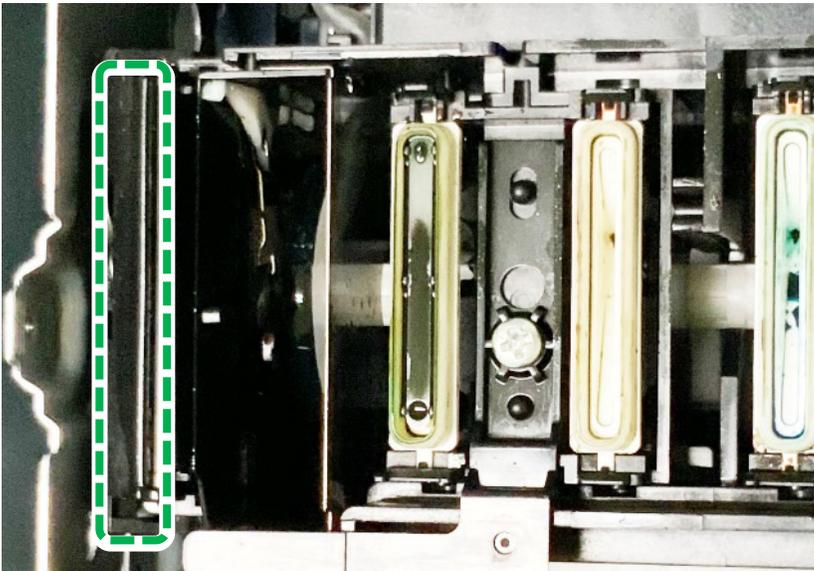


3. Clean the Wiper.

Clean the front and back surfaces and the upper surface of the Wiper (rubber plate part surrounded).

**4. Clean up the Roller.**

Rotate the roller, move the Cleaning Applicator back and forth, and then wipe the entire circumference.

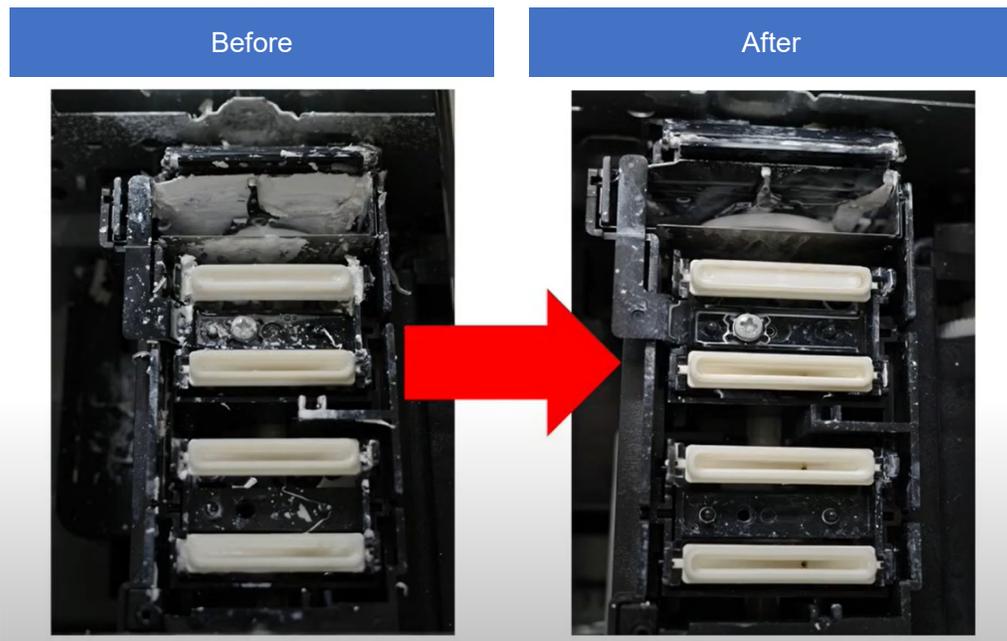


Following picture shows the removal of dirt at this level after cleaning of the Wiper and the Wiper Cleaner as described above.

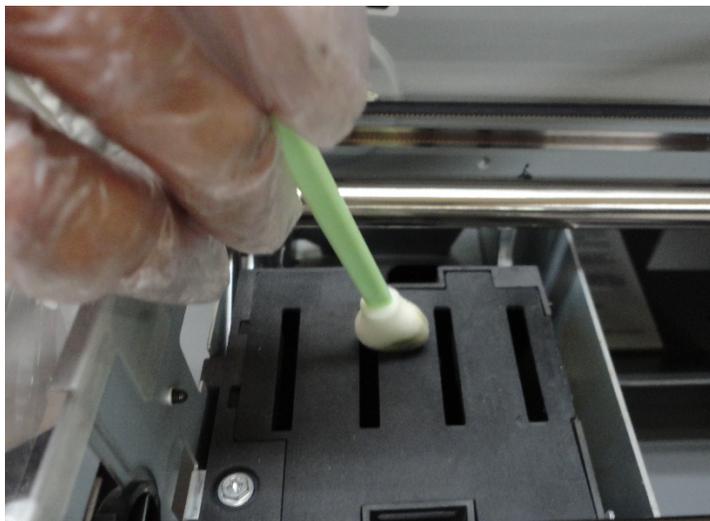


- Perform cleaning until the surface of the roller, wiper and bottom part of the wiper cleaner are completely visible.

Following pictures shows an example before and after cleaning.



- Make sure that the solidified ink has not accumulated at the rim of the cap.
- Perform cleaning until the surface of the roller wiper and bottom part of the wiper cleaner are completely visible.

5. Clean the Left ink sump.

If the top of the left ink sump or left ink sump is dirty with ink, clean it with a cleaning applicator.
After wiping off, do not leave ink on the top of the Left ink sump.

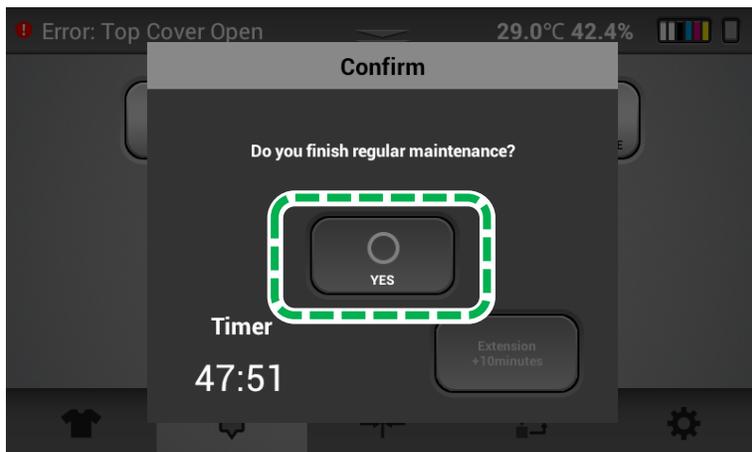
Ending the maintenance

1. Close the front cover.



2. Press [YES].

The carriage moves to the right end, and the Head is capped.



IMPORTANT! If encoder errors are frequent and require cleaning often, the encoder may need more thorough cleaning. Contact technical support for guidance on how to clean the encoder more thoroughly.

3. After completion of cleaning, perform **AUTO HEAD CLEANING** (recommended).

This prevents the ink from drying out and clogging the nozzles.

For details about AUTO HEAD CLEAN, see page 118, "AUTO HEAD CLEAN".

After completion, it is recommended to print the Nozzle Check and check that the ink discharge is normal.

3.7. How to Clean the Cover of Head Nozzle Plate (the Nozzle Cover)

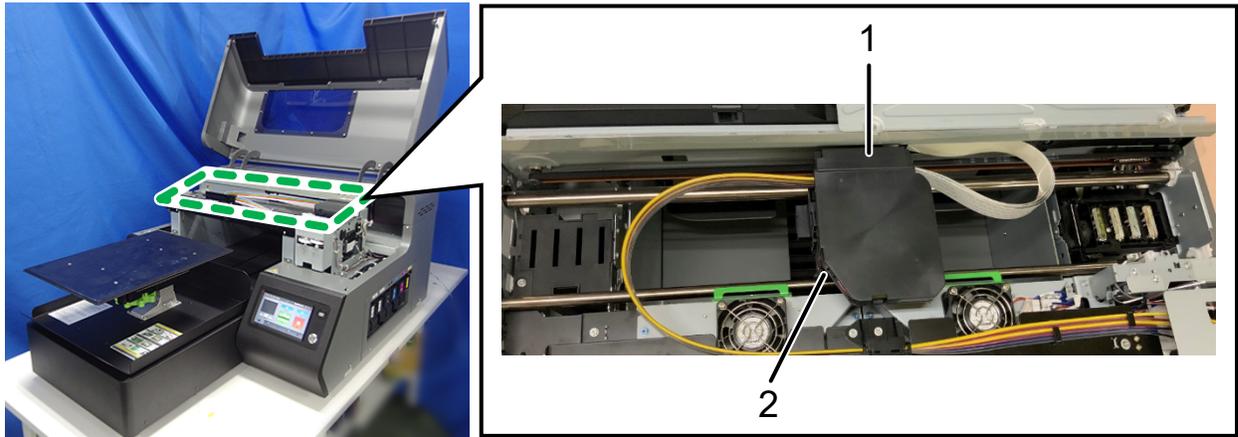
◆ Things to prepare

Purpose	Items
To wear	Polyethylene gloves
	Protective glasses or goggles (commercially available)
For use	Cleaning Applicator
	Cleaning Liquid
	Cleaning Jig

◆ Cleaning time

About 15 minutes

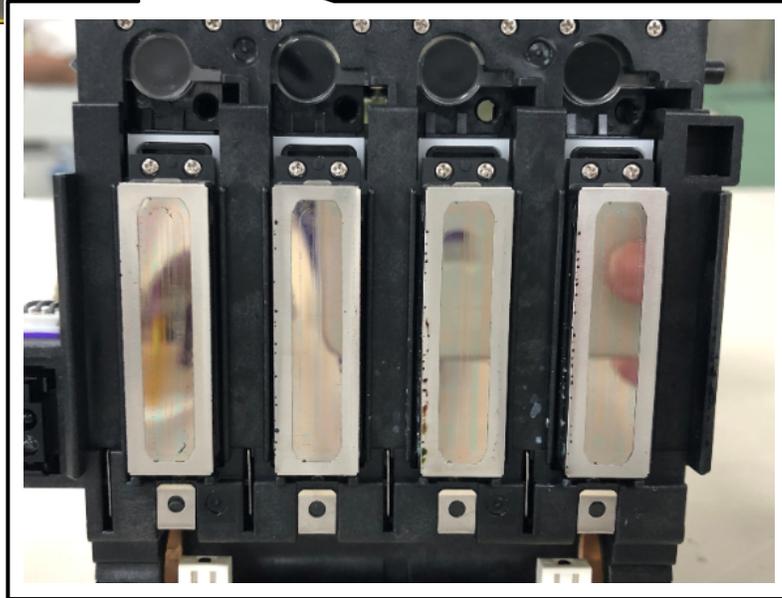
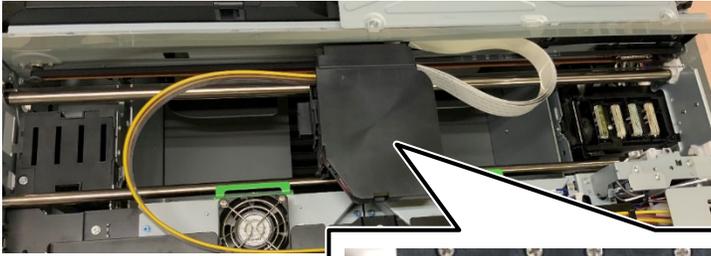
◆ Guide to parts



1. Carriage

2. Head (Located behind the carriage)

Head Nozzle Plate



◆ Video instruction

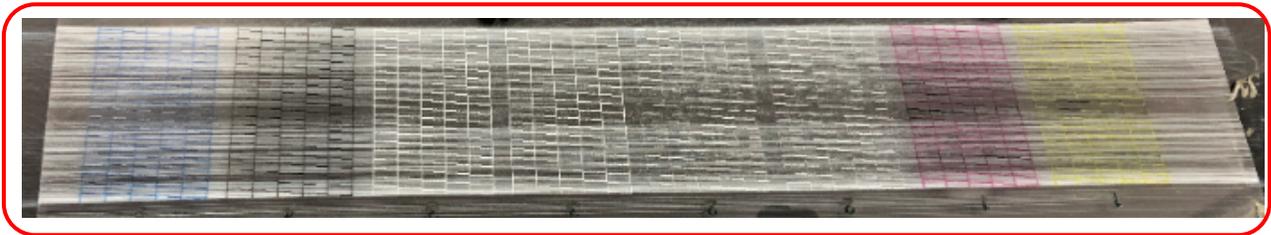
You can watch the maintenance instruction video. For details, see page 112, “Watching the Procedure on Video”.

What Not to Do for Cleaning

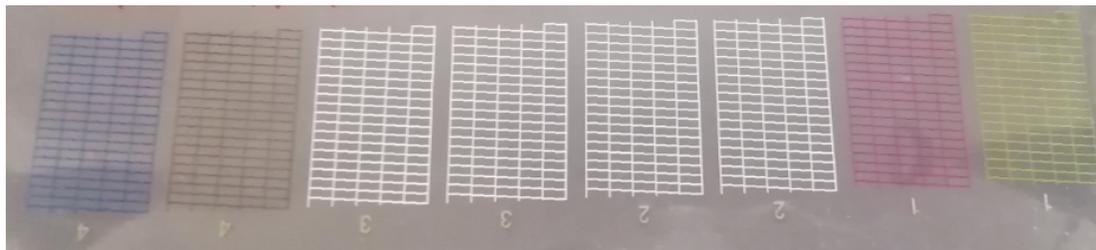
IMPORTANT! Clean it the right way. If you clean it the wrong way, the print head will break down. Some liquid enters the head of the carriage unit and short-circuits the electric parts. Due to the short circuit, the electric parts break down and Ink droplets cannot be ejected to the target location.

- Sample of White continuous ink jetting

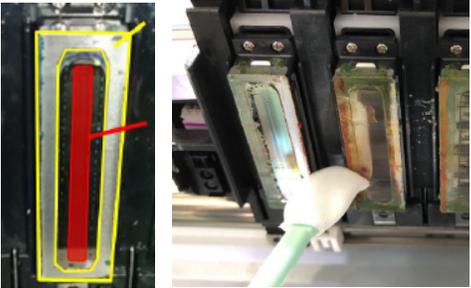
There are White lines at each color nozzle check pattern.



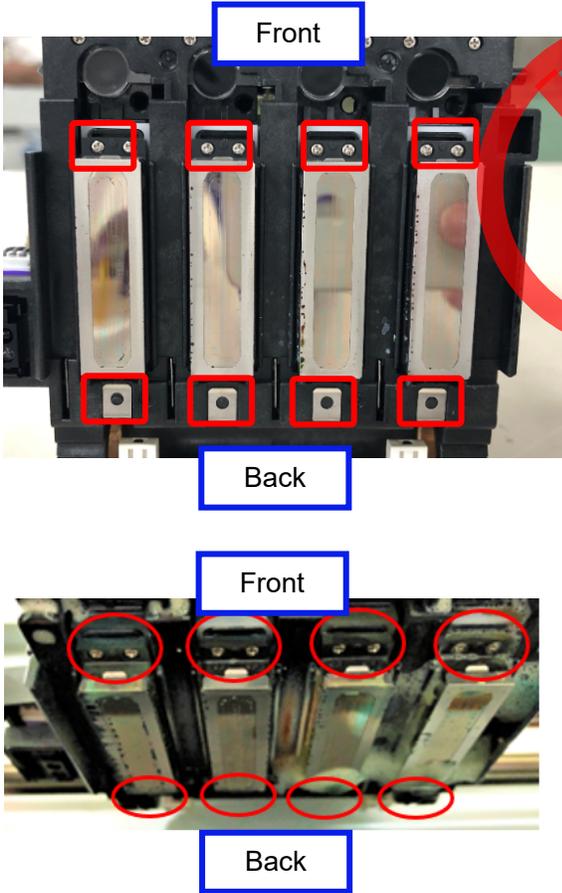
Nozzle check pattern printed in normal nozzle condition.

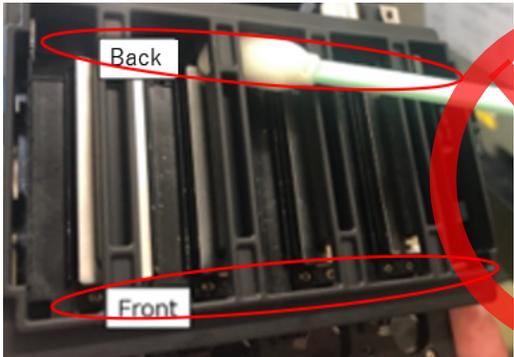


The correct and incorrect ways of cleaning are as follows.

Incorrect	Correct
 <p>Dampening the cleaning applicator with the cleaning liquid, and cleaning each side of the head (part shown in red).</p> <p>Note Due to the structure of the head, the cleaning liquid may enter the head from the sides and cause a short circuit.</p>	<p>Wear gloves. Dampen the cleaning applicator with an appropriate amount of cleaning liquid, and pinch the tip to squeeze out excess cleaning liquid. Carefully wipe the yellow area shown in the picture with the cleaning applicator without touching the red area.</p> 

Incorrect	Correct
 <p data-bbox="500 254 800 516">Do not clean the nozzle side cover with a wet cleaning applicator.</p>	<p data-bbox="841 233 1414 386">The sides of the head (red area shown in the picture below) is do not need to be cleaned. Keep this area as it is. If the sides have become dirty and appear to require cleaning, be sure to use a dry cleaning applicator.</p>  <p data-bbox="1154 411 1455 569">Use only a dry cleaning applicator.</p>

Incorrect	Correct
 <p>Wetting the indicated areas with a wet cleaning applicator.</p> <p>Front side: Screw hole and its vicinity</p> <p>Back side: Leaf spring and its vicinity</p> <p>Note</p> <p>Using a wet cleaning applicator may cause the liquid to seep in through the gaps in the parts and result in short circuits in the electrical parts and damage to the printer. Be careful not to make the indicated parts wet.</p>	<p>These areas do not need to be cleaned. Keep them as they are. If these areas have become dirty and appear to require cleaning, be sure to use a dry cleaning applicator.</p>

Incorrect	Correct
 <p>With the cleaning jig attached, wiping the areas indicated with a wet cleaning applicator.</p>	<p>Normally, it is not necessary to clean the areas indicated in the photo.</p> <p>However, if the areas are stained and you wish to clean them, wipe them with a dry cleaning applicator.</p>

Start REGULAR MAINTENANCE

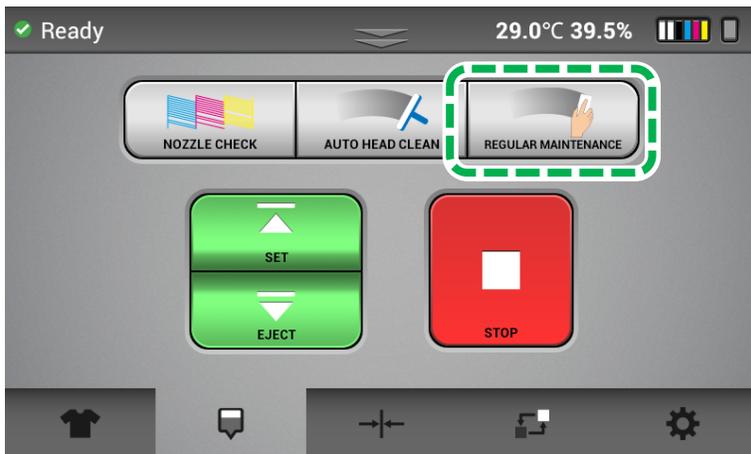
1. Press the Maintenance tab.



2. Press [SET] and move the platen to the back.

3. Press [REGULAR MAINTENANCE].

The carriage moves to the center position.



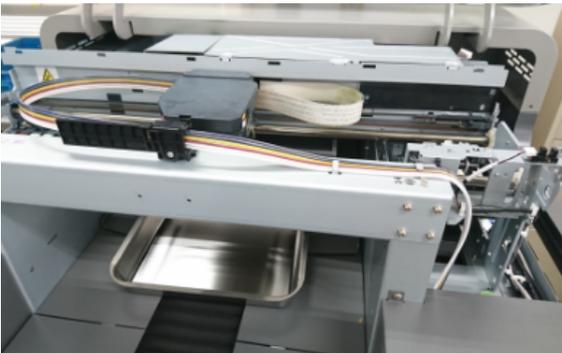
Cleaning the Cover of Head Nozzle Plate (the Nozzle Cover)

1. Open the front cover.



2. Put tray or paper under the Head.

Prevents solid ink, lint and Cleaning Liquid from entering the unit during cleaning.



IMPORTANT! Do not move the head and platen by hand. It may cause the printer failure.

3. Perform cleaning according to the procedure described in "Case 1".

- Before cleaning, be sure to read p.152 "What Not to Do for Cleaning".
- If it is difficult to see the part to clean, you may use a mirror for this purpose.

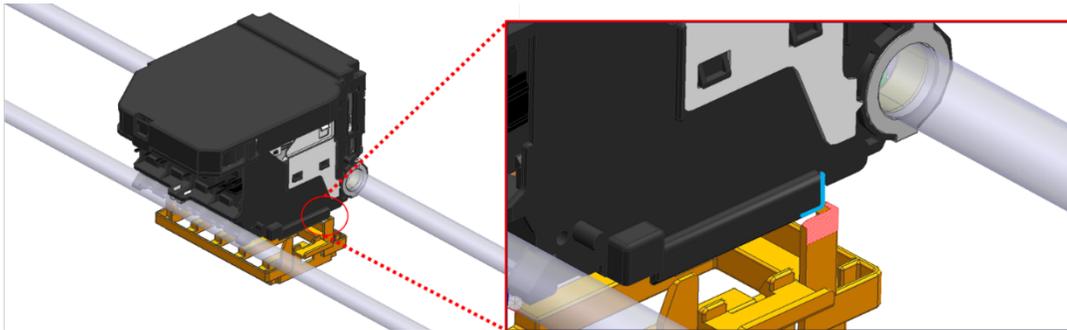
Note - The cleaning jig is a tool for cleaning properly. To prevent erroneously touching the nozzle, it is recommended to clean with the cleaning jig attached, although it is possible to perform cleaning without attaching the cleaning jig to the carriage. To clean without attaching the cleaning jig to the carriage, perform cleaning according to the procedure described in "Case 2".

Case1: Cleaning with the Cleaning Jig Attached

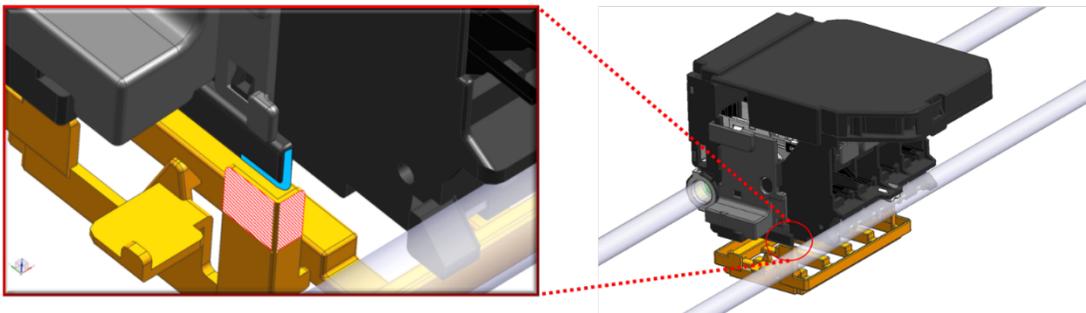
1. Adjust the position so that the left and right corners (shaded red) of the cleaning jig match the corners of the carriage (blue line).

If it is difficult to check the position of the head, use a mirror to check the position.

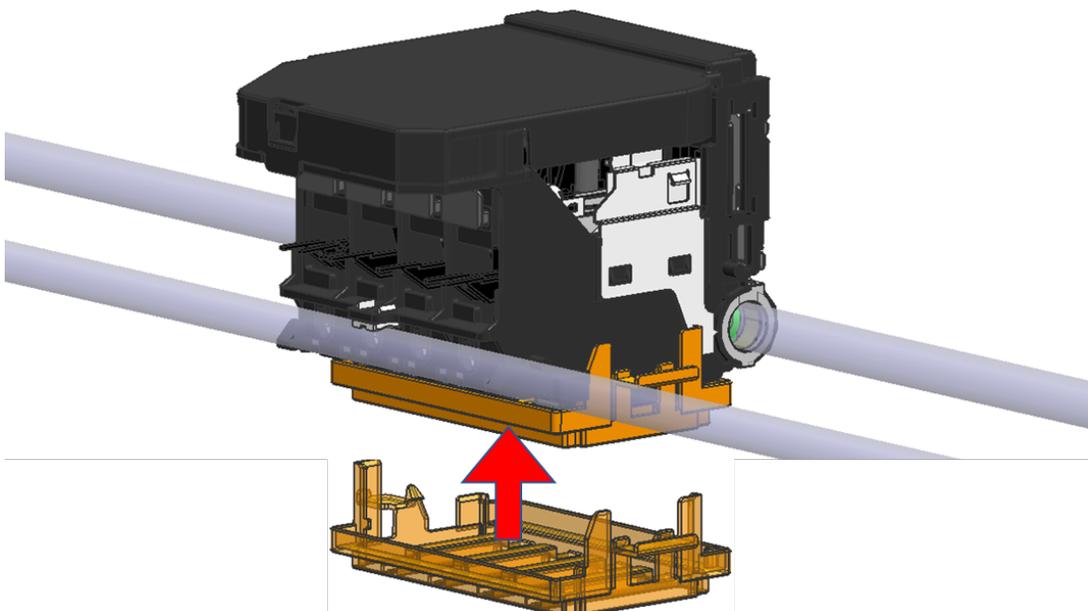
Right side



Left side



2. With the position adjusted, push the cleaning jig up until it clicks.



3. Prepare a brand-new Cleaning Applicator and the Cleaning Liquid.

Immerse the Cleaning Liquid into the Cleaning Applicator.

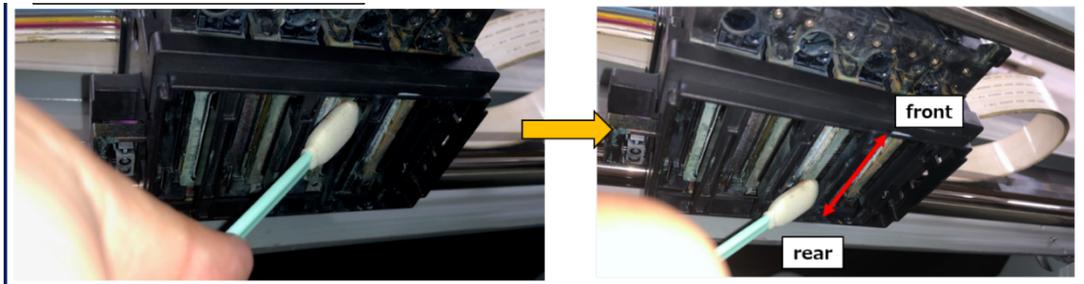
For cleaning, use the Cleaning Applicator containing the Cleaning Liquid and the Cleaning Applicator not containing the Cleaning Liquid.



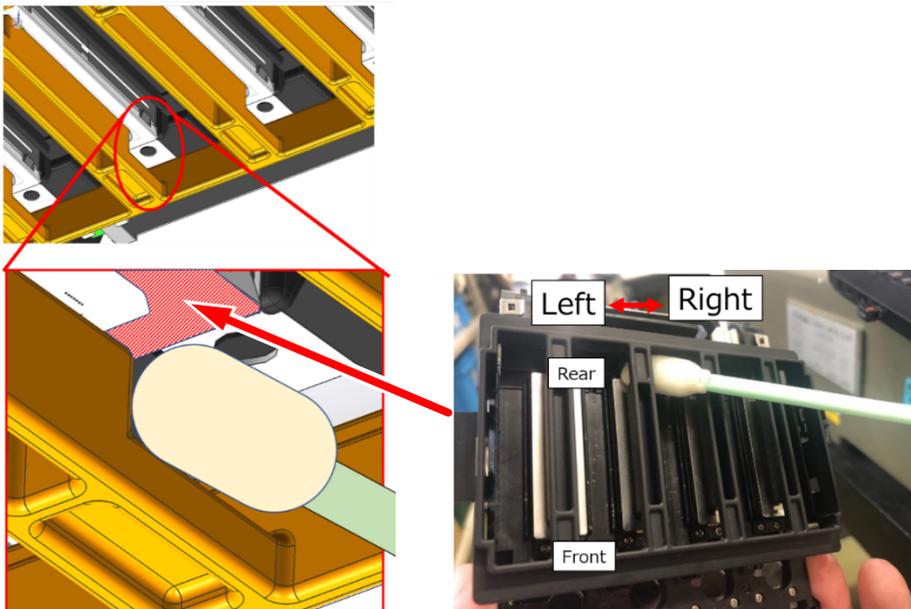
IMPORTANT! Be sure to use Cleaning Applicator and Cleaning Liquid dedicated to Ri 1000X.
Otherwise, it may cause a failure.

4. Set the cleaning applicator to the cleaning area and wipe 5 to 10 times in the front-rear direction.

Wipe the opposite side as well and repeat this for all heads.

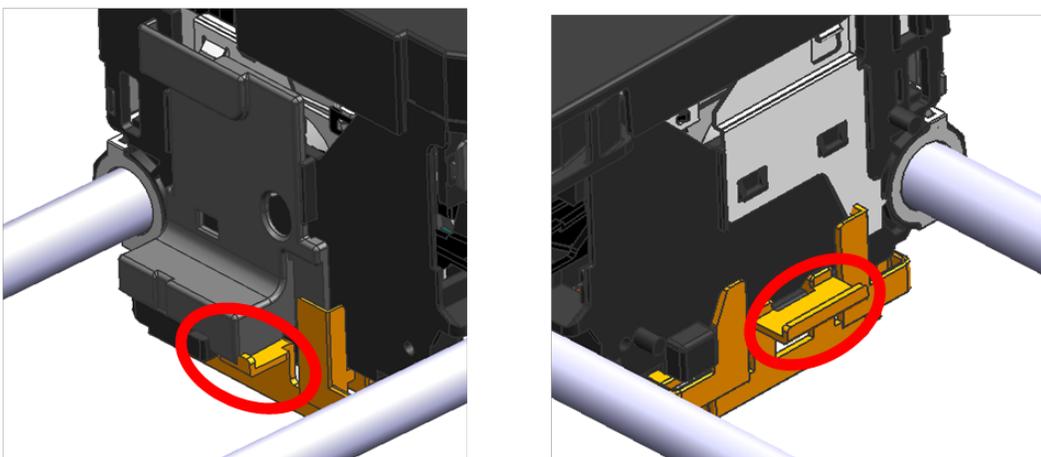


- Put the cleaning applicator in the space between the end face and the cleaning jig. Wipe 5 to 10 times left and right. Wipe both rear and front-end face as well, and repeat this for all heads.



IMPORTANT! Do not push the cover too strong. It may cause the damages.

- Holding the tabs on the sides of the Cleaning Jig, remove the Cleaning Jig from the carriage.



- After removing the Cleaning Jig, check that there is no dirt on the entire head. If dirt remains, remove it with an applicator.
Be careful not to touch the nozzle.
- After cleaning the Nozzle Cover, remove the tray or paper placed under the Head.
Note- Wipe off the used cleaning jig and keep it clean.

Case2: Cleaning without the Cleaning Jig Attached

Before cleaning, be sure to read p.152 "What Not to Do for Cleaning".

1. Prepare a brand-new Cleaning Applicator and the Cleaning Liquid.

Immerse the Cleaning Liquid into the Cleaning Applicator.

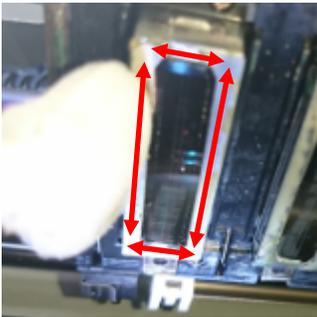
For cleaning, use the Cleaning Applicator containing the Cleaning Liquid and the Cleaning Applicator not containing the Cleaning Liquid.



IMPORTANT! Be sure to use Cleaning Applicator and Cleaning Liquid dedicated to Ri 1000X. Otherwise, it may cause a failure.

2. Clean the nozzle cover surface.

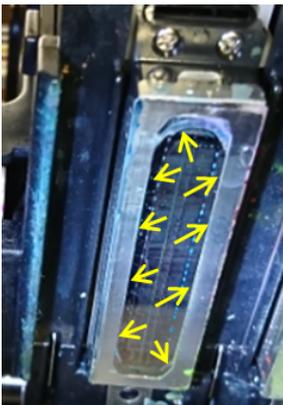
As shown in the figure below, clean along the arrow direction.



IMPORTANT! Be careful not to touch the nozzle with the cleaning applicator. Also, be careful not to let the wiped solid ink or lint adhere to the nozzle. It may clog the nozzle.

3. Clean the stepped portion of the Nozzle surface and the Nozzle Cover.

Wipe off any dirt adhering to the stepped portion of the Nozzle surface and the Nozzle Cover.



After cleaning, if washing the Cleaning Liquid and foam etc. attached to surplus have adhered to the Head, wipe it off with the dry, Cleaning Applicator that does not contain the Cleaning Liquid. (It is important not to leave wet cleaning fluid on any part of the head after this manual clean)

4. Clean the print heads and sides.

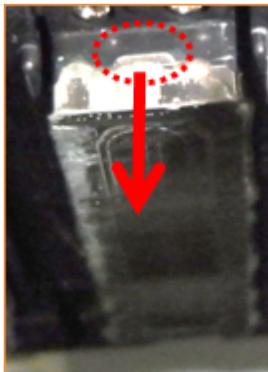
Normally, the side surface of the nozzle cover does not need to be cleaned.

If there is ink or dust on the side of the nozzle cover, clean the side of the Nozzle Cover with the dry, cleaning Applicator that does not contain the Cleaning Liquid.

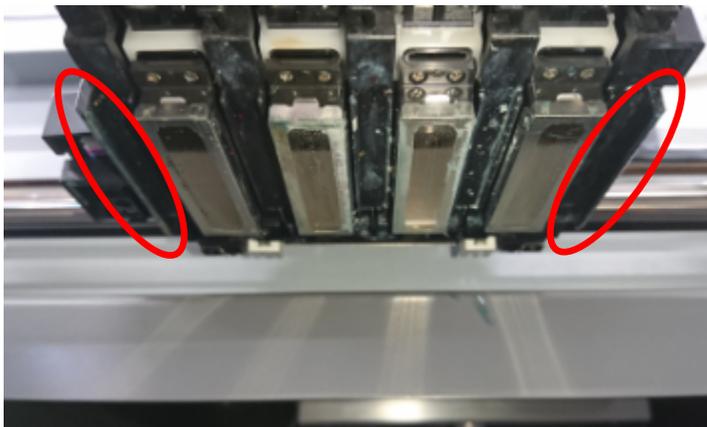
When cleaning the side of the Nozzle Cover, scrape the dirt along the direction of the arrow in the figure below and clean it.



IMPORTANT! Do not wipe the protrusion of the Nozzle Cover downward as shown below. The Nozzle Cover may come off causing failure.



5. Clean the left and right ribs on both ends of the carriage.



6. After cleaning the Nozzle Cover, remove the tray or paper placed under the Head.

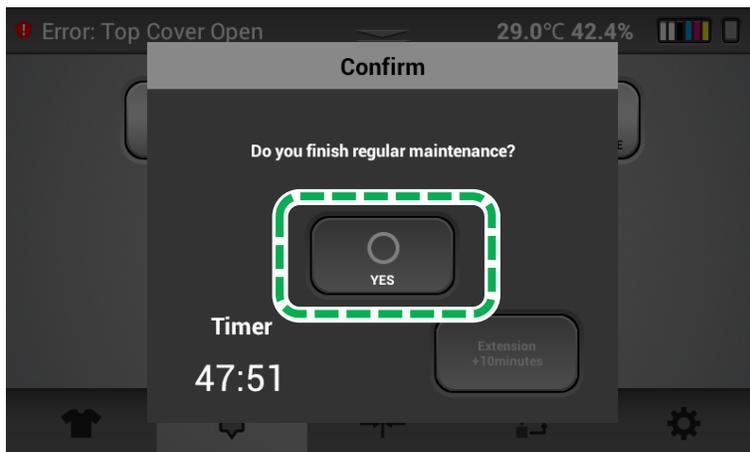
Ending the maintenance

1. Close the front cover.



2. Press [YES].

The carriage moves to the right end, and the Head is capped.



IMPORTANT! If encoder errors are frequent and require cleaning often, the encoder may need more thorough cleaning. Contact technical support for guidance on how to clean the encoder more thoroughly.

3. After completion of cleaning, perform **AUTO HEAD CLEANING** (recommended).

This prevents the ink from drying out and clogging the nozzles.

For details about AUTO HEAD CLEAN, see page 118, "AUTO HEAD CLEAN".

After completion, it is recommended to print the Nozzle Check and check that the ink discharge is normal.

3.8. White Clean Freq.

You can change the level of White Cleaning Frequency with printing.

1. Press the Settings tab.



2. Press [OPTION].

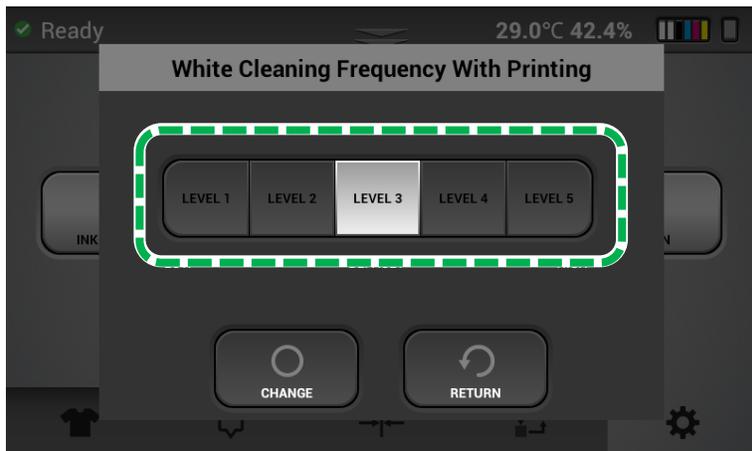
3. Press [→].

4. Press [WHITE CLEAN FREQ.].



5. Press the level you want to use.

This option determines how often an automatic white head clean can occur while printing.



Clean Levels	Description
LEVEL 1 (LOW)	After 20 CMYK only Prints or after approximately 10 (varies depending on size) CMYK and White prints a white head Clean will occur.
LEVEL 2	After 15 CMYK Prints or 7 to 8 CMYK and white a white head clean will occur.
LEVEL 3 (Default)	After 10 CMYK Prints or 5 CMYK and White a white head clean will occur.
LEVEL 4	After 5 CMYK Prints or 2 to 3 CMYK and White prints a white head clean will occur.
LEVEL 5 (HIGH)	After 1 CMYK or CMYK and white print a white head clean will occur.

3.9. Agitating a White Cartridge

WARNING

- Do not shake the cartridge too quickly or too hard.

CAUTION

- Do not hit or drop it when agitating. It may cause injury, cartridge damage, or ink leakage.
- Do not excessively agitate/shake. It may cause ink leakage.
- Agitate/Swing as instructed. Other methods may cause ink leakage.
- Be sure to wear commercially available protective glasses, gloves, and clothing when replacing or handling cartridges.

The printer will prompt you every 12 hours.

White ink is prone to ink precipitation (the tendency for the ink to accumulate at the bottom of the ink solution). Ink precipitation may decrease the print density or cause nozzle clogging. Be sure to agitate the white ink when you unpack the ink cartridge and once a day after it has been unpacked.

After the first displayed, it will notify you by the buzzer every hour (selectable ON/OFF).

There are two types of display formats (Count Manually / Count Automatically) and you can select which one to use.

When the message appears, pull out all white cartridges and agitate/shake it as follows.

NOTE - You can watch the maintenance instruction video. For details, see page 112, "Watching the Procedure on Video".

- To prevent being stained by ink or cleaning solution, wear protective gear (protective gloves, protective glasses/goggles, protective clothing). Also take care not to stain your surroundings while agitating the ink.

1. Prepare

Use a lint free wipes to wipe off any dirt on the white ink cartridge and cartridge slot. For details on how to clean the cartridge and cartridge slot, see page 173 "Cleaning the Cartridges and Cartridge Slots". Make sure there are no tears or cracks on the white ink cartridge.

2. Agitate the ink

- Hold the cartridge as shown in Figure 1.
- Hold the white ink cartridge with the ink supply port face up.
- Shake the ink cartridge by tilting it side to side at 45° degree angles, as shown below.
- Shake the cartridge for 50 seconds at a speed of 2 back-and-forth shakes per second.

IMPORTANT! Shaking ink cartridges in other ways may cause nozzle clogging or affect the print quality when the ink cartridge is low on ink.

Figure 1



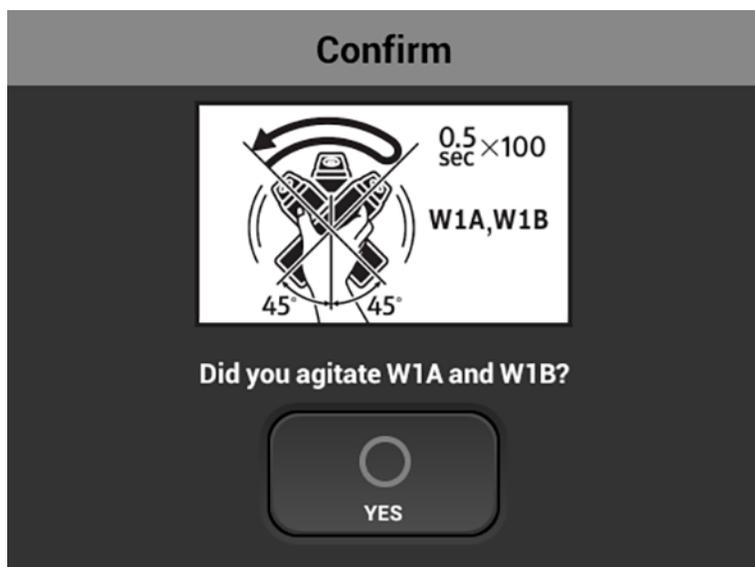
3. After agitating the ink, wipe off any ink stains on the ink supply port

◆ Count Manually (at a button)

The printer will prompt you every 12 hours with the following message:



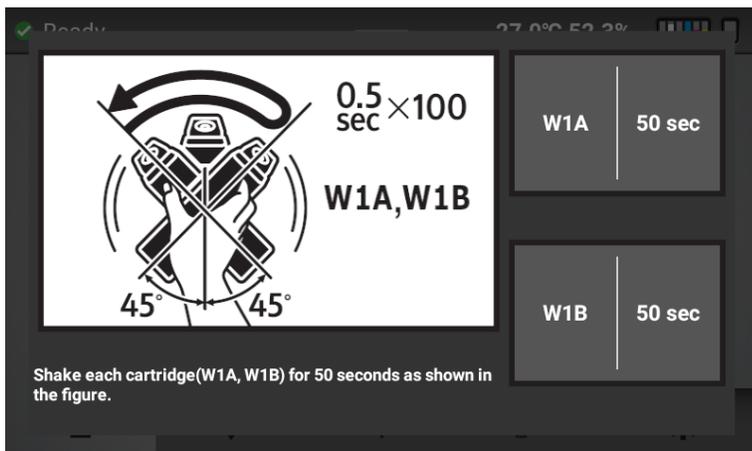
- Pull out each white cartridge, then “Start” button is displayed for each target cartridge.
- Press “Start”, button changes to “Counting” and counter will start to decrease.
- When you insert the cartridge before counter reaches 0, the counter will pause, button will change to “Resume”.
- If you remove the cartridge again and press “Resume”, timer will restart, and button will return to “Counting”.
- All the counters reach 0, then the printer will display the following message:



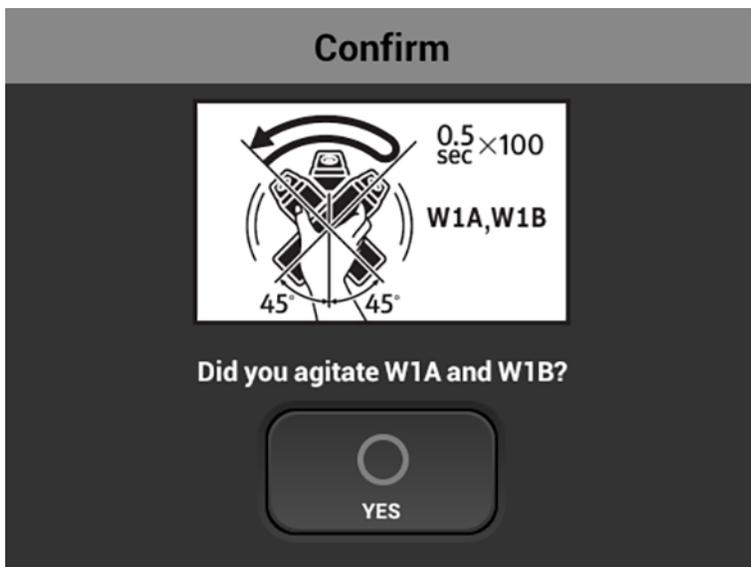
- After agitating cartridges, insert the cartridges.

◆ Count Automatically

The printer will prompt you every 12 hours with the following message:



- Pull out each white cartridge, then each counter will start to decrease.
- When you insert the cartridge before counter reaches 0, the counter will pause.
- If you remove the cartridge again, timer will restart.
- All the counters reach 0, then the printer will display the following message:



- After agitating cartridges, insert the cartridges.

◆ Select display format

You can select two types of display format (Count Manually / Count Automatically).

1. Press the Setting tab on the touch panel of this machine.



2. Press [OPTION].
3. Press [▶].
4. Press [AGITATE SETTING].

5. Select the display format to use from following:



◆ Setting buzzer notification

You can set the buzzer notification.

1. Press the Setting tab on the touch panel of this machine.

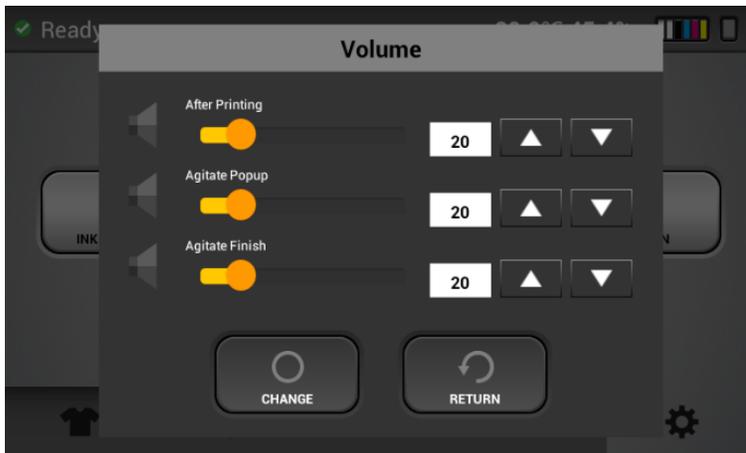


2. Press [OPTION].

3. Press [➡].

4. Press [VOLUME].

5. Set the buzzer parameter from following. (volume 0 equals “OFF”)



3.10. Circulation

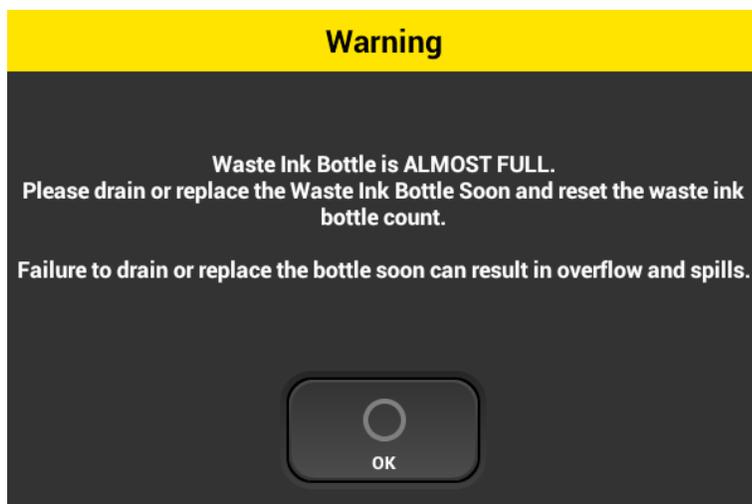
This printer has the function of white ink circulation that moves the white ink in the system from the ink bay to the printhead and back. This is used to avoid the white ink settling within the lines and provides quality white ink prints.

3.11. Emptying the Waste Ink Bottle

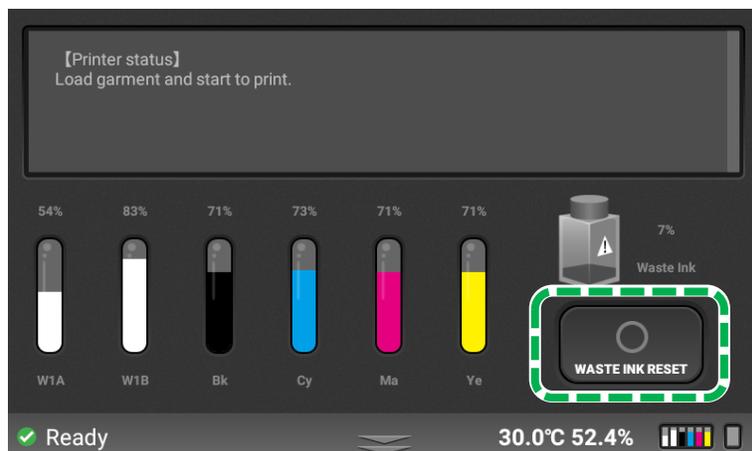
⚠ CAUTION

- If the waste ink bottle is full, auto maintenance will not occur, and head clogging may occur.
- Do not press [WASTE INK RESET] to reset the waste ink bottle warning without emptying the waste ink tank. This will avoid any spilling or other potential hazards.
- When disposing the waste ink, clean the waste ink tube if there is dirt such as lumps of ink on the tip of the tube. Otherwise, clogging the waste ink tube and defective discharging of waste ink could result.

Once a certain amount of ink is used, the following message is displayed on the touch panel.



- Put the waste ink from the waste ink bottle into a container to discharge it.
- You can check the amount of waste ink on the Status screen and reset the waste ink bottle.
- To reset the waste ink bottle, press [WASTE INK RESET] after the waste ink bottle is emptied.



3.12. Cleaning the Cartridges and Cartridge Slots

⚠ CAUTION

- Be sure to wear commercially available protective glasses, gloves, and clothing for this work.

The (ink and cleaning) cartridges and cartridge slots may become stained by ink or cleaning solution. Be sure to perform cleaning each time after removing the cartridge for cases such as by replacing a cartridge or agitating the white ink.

- To prevent being stained by ink or cleaning solution during the work, wear protective gear (protective gloves, protective glasses/goggles, protective clothing). Also take care not to smudge the surroundings during the work.
- Wipe off any stains by ink or cleaning solution on the cartridge and cartridge slot (where the print cartridge is attached to the printer) with lint free wipes. Be sure to perform cleaning each time after removing the cartridge.
- **Do not use cleaning liquid for cleaning (because the circuit board is nearby).**

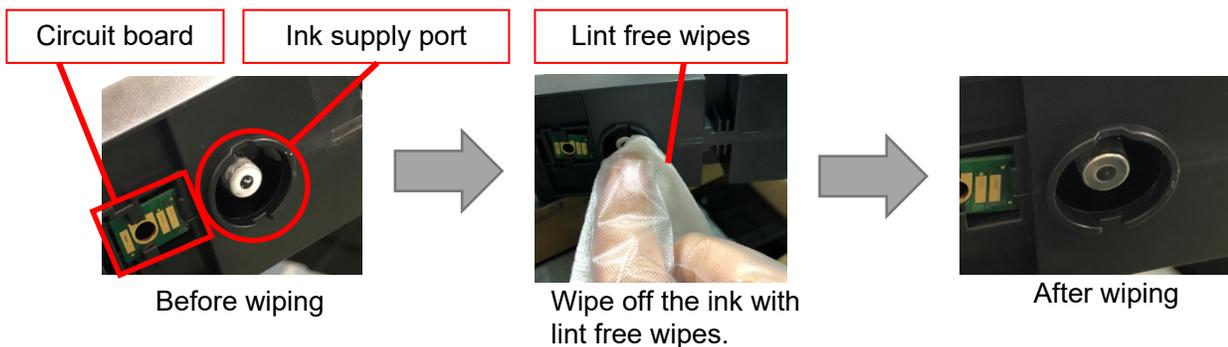
Cleaning the Cartridges

Do not use cleaning liquid for cleaning.

Take care not to touch or stain the circuit board.

The main part to clean on the cartridge is the ink supply port.

Wipe off any stains on other parts of the cartridge as well.



Cleaning the Cartridge Slots

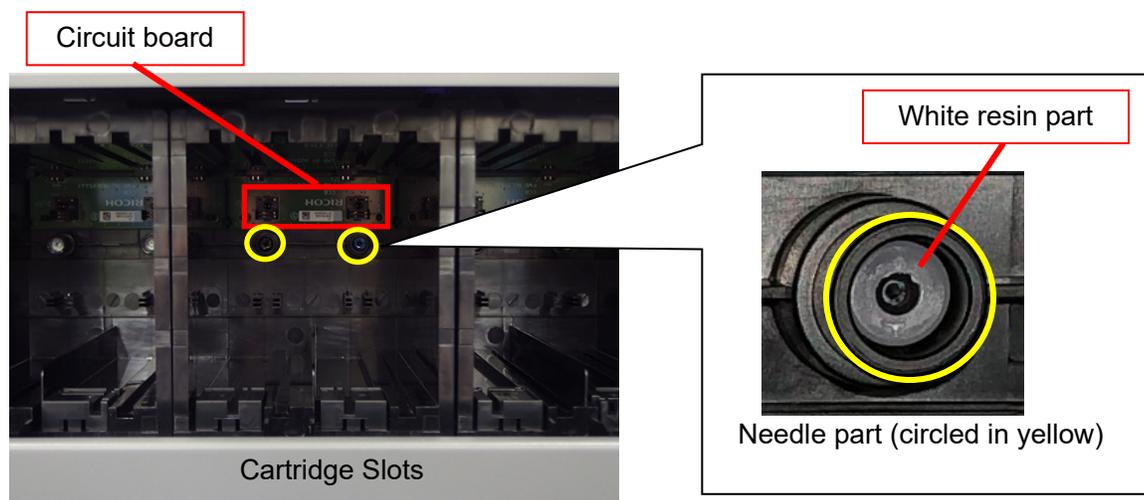
Do not use cleaning liquid for cleaning.

Take care not to touch or stain the circuit board.

The needle part in the cartridge slot (the cylindrical part circled in yellow on the photo) has a needle inside the cylinder, so clean only its surface with the cleaning applicators. The white resin part can be pushed in, but do not push it in during cleaning. Do not perform cleaning if the white resin part circled in yellow is further in the recess than shown on the photo.

Wipe off the stains on any other areas of the cartridge slot.

It is not necessary to wipe off the ink that has dried and stuck to the surface.



For the needle part, clean only its surface.

What to Check after Cleaning

After cleaning, insert the cartridges, and check that they are correctly identified.

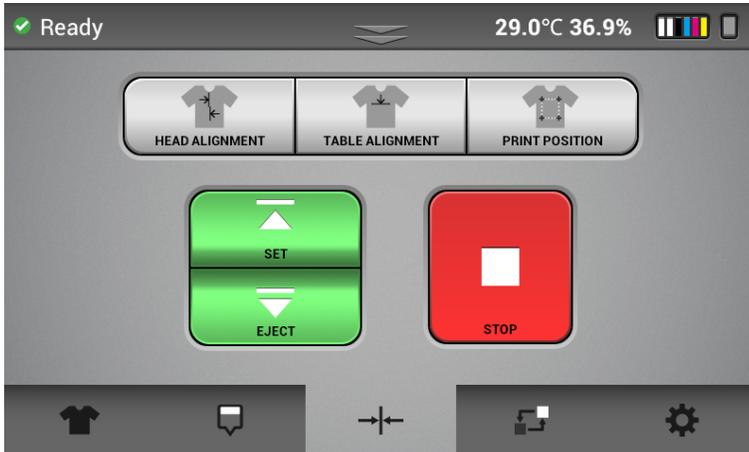


4. Adjustments

This section describes how to adjust the image quality of this printer from the touch panel.

Although the printer head nozzle status is good, if the printer quality is not good, you need to perform the following process.

- These functions can be performed on the Alignment tab.



- You can print the basic adjustment pattern. Also, it is best to print it on the transparent A4 media (such as OHP films).
- It is recommended to use the medium-sized platen.



- If a part of the media is raised, use tape to fix the four corners of the media.

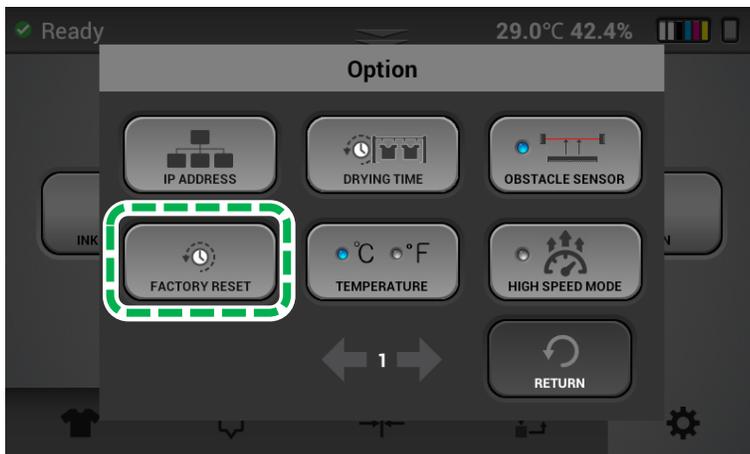
Adjustment tips

If the print is misaligned even after the adjustment, it is recommended to adjust it according to the thickness of the medium (T-shirt, etc.) to be printed.

1. Set the medium to be printed on the platen, and then adjust the height.
2. Remove the media from the platen.
3. Add plain paper to the back side of the transparent OHP sheet until it becomes the same height as the medium used for printing, and then fix it with tape to prevent it from slipping. At this time, be careful not to cause warping or floating.
4. Perform the adjustment using the OHP sheet with plain paper set in Step 3. The subsequent procedure is the same as the normal adjustment procedure.

NOTE - You can reset adjustment value (Head Alignment / Table Alignment / Print Position) to the original settings by pressing [FACTORY RESET] by going to the Settings tab and pressing [OPTION].

For details, see page 41, "Settings Tab".



4.1. Adjusting the Head

Typically, this adjustment is only necessary after a part replacement such as a carriage or CTL replacement.

This function adjusts the print head alignment position. When the print result is not clear (for example, vertical lines are misaligned, color is not clear, or print is fuzzy) this adjustment may improve the result.

NOTE - Always check the table height first. If the printing surface is too far away from the head, the prints may be fuzzy, and the lines may not appear straight.

◆ Things to prepare

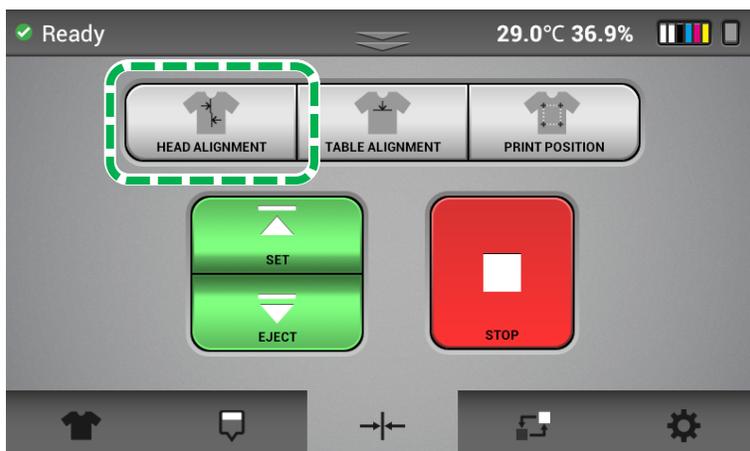
Purpose	Items
For use	Transparent A4 media

1. Press the Alignment tab.



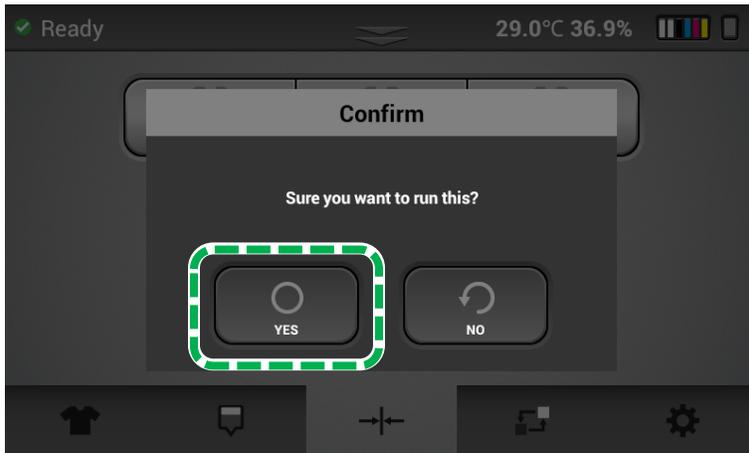
2. Set the transparent media, and press [SET].

3. Press [HEAD ALIGNMENT].

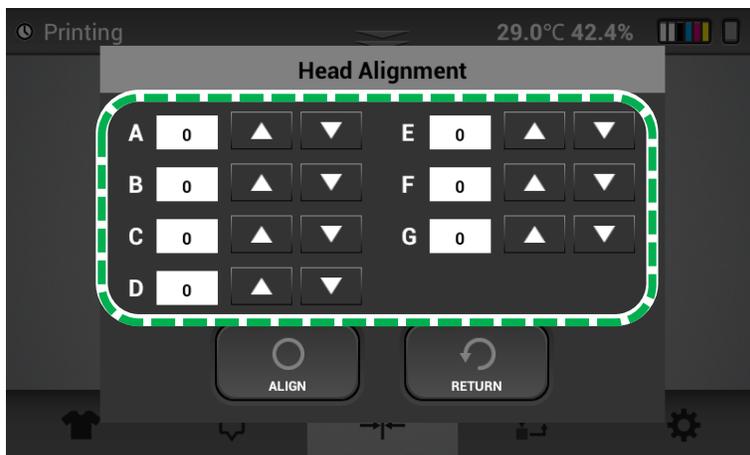


4. Press [YES].

The adjustment pattern is printed.



5. After finding an appropriate adjustment value, form the print result of the adjustment pattern.

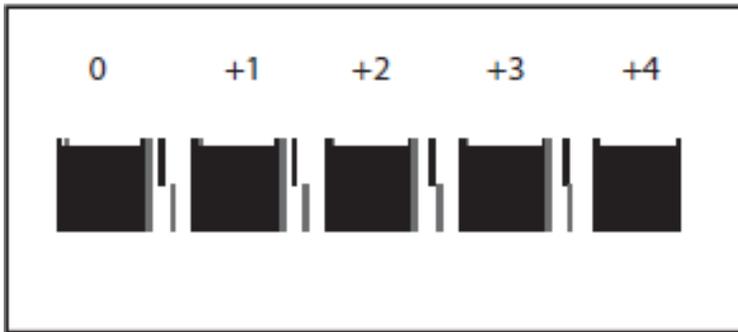


1. Find a pattern with a square in the lightest color and vertical lines on both sides that are the straightest (or closest to this condition) aligned in row A.

Note that the value indicated over the pattern indicates an appropriate adjustment value. An appropriate adjustment value is "+2" in this example.



2. Enter this value in the box for ROW A (the up arrows make the value go up and down arrows make the value go down).
3. Repeat this for the other rows in the test pattern (B, C, etc.).



4. When there are no straight vertical side lines, as shown in the upper illustration, check the last square out of the sequence of squares with the smallest gap in the side lines and then find a corresponding value.
In the upper illustration, the value is "+4".
6. After you enter a value for all the rows, press [ALIGN] that sets the new values.
7. Print the pattern again and repeat the above process.
8. Repeat the process until all rows (A, B, C, etc.) show the 0 column or close to the 0 column as the best value.

4.2. Adjusting the Table

The printing indexing of the table can be adjusted. Typically, you do not need to do this unless a component is replaced such as the sub control board or the CTL board.

If the print result shows horizontal lines and the nozzle check is perfect (no missing nozzles and no nozzle deflection and the table height is correct), you need to do this function.

◆ Things to prepare

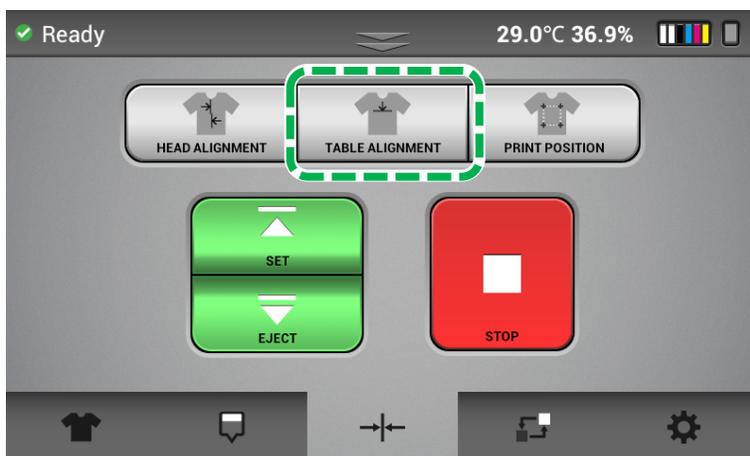
Purpose	Items
For use	Transparent A4 media

1. Press the Alignment tab.



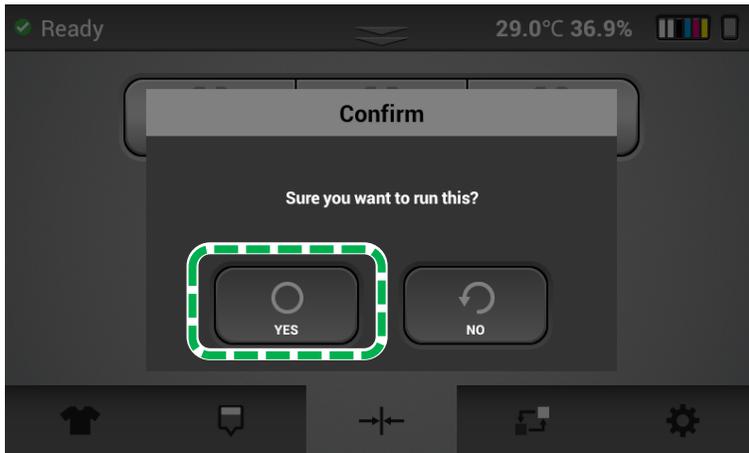
2. Set the transparent media, and press [SET].

3. Press [TABLE ALIGNMENT].



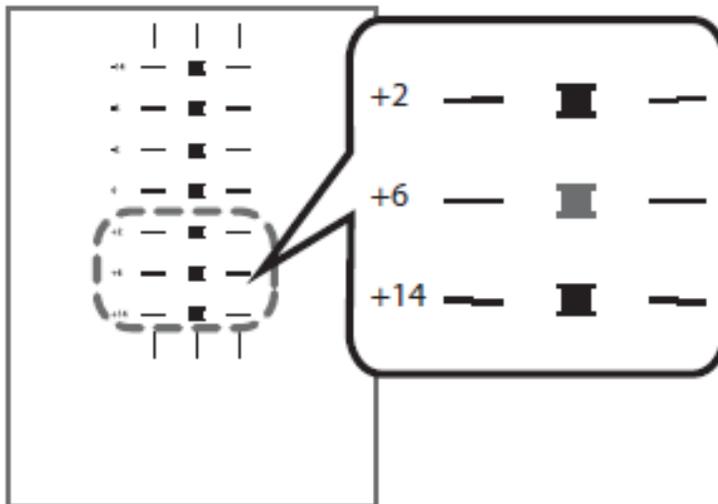
4. Press [YES].

The adjustment pattern is printed.



5. Find an appropriate adjustment value from the print result of adjustment patterns.

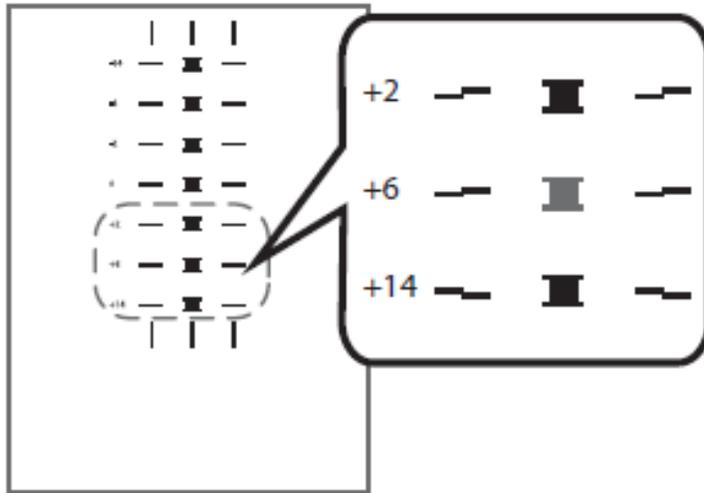
1. Find a pattern with a square in the lightest color and horizontal lines on both sides aligned.



- A value on the upper of the pattern indicates an appropriate adjustment value.
- An appropriate adjustment value is “+6”.

NOTE - In some cases, an adjustment value is an in-between value of patterns.

When a square is in the lightest color, but horizontal lines on both sides are misaligned.



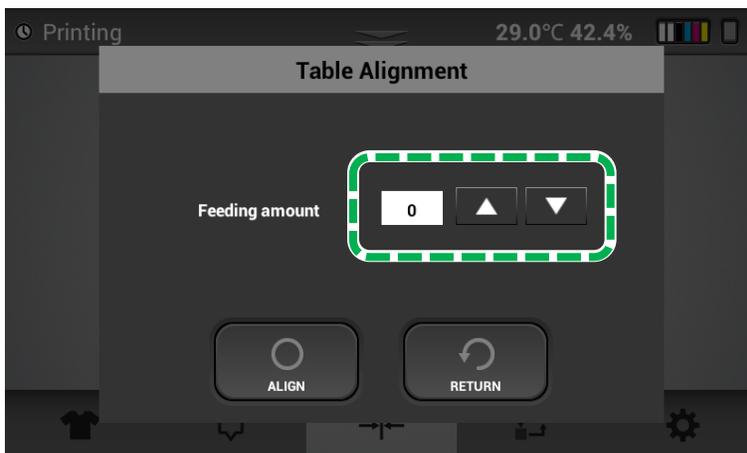
In the upper illustration, a square in the lightest color is for “+6”, but horizontal lines on both sides are misaligned. In this case, check horizontal lines for one pattern above and one pattern below of the square.

The horizontal lines for “+2” and “+6” are misaligned in the same direction, but the horizontal lines for “+14” are misaligned in the opposite direction.

In this case, a value that horizontal lines align exists somewhere in between “+6” and “+14”. After passing the value, the horizontal lines begin to be misaligned in the opposite direction as getting closer to “+14”.

By referring to the alignment of the lines, decide a value between “+6” and “+14” as an appropriate adjustment value.

6. After entering the value, press [ALIGN] and reprint the pattern.



7. Repeat the process until the pattern print shows 0 or close to 0 as the best result as described above.

4.3. Adjusting the print position

The printing start position can be adjusted accurately within the range of ± 8.0 mm in the Table Direction and ± 5.0 mm in the Head Direction. This typically only needs to be adjusted if a component such as the Z-axis or CTL is replaced.

◆ Things to prepare

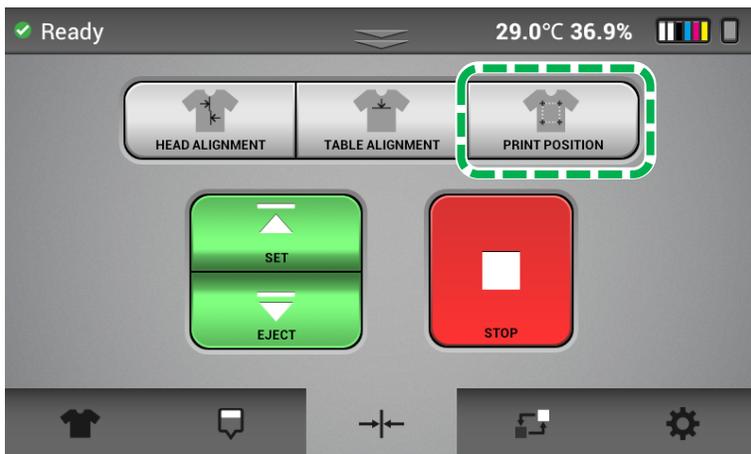
Purpose	Items
For use	Transparent A4 media

1. Press the Alignment tab.



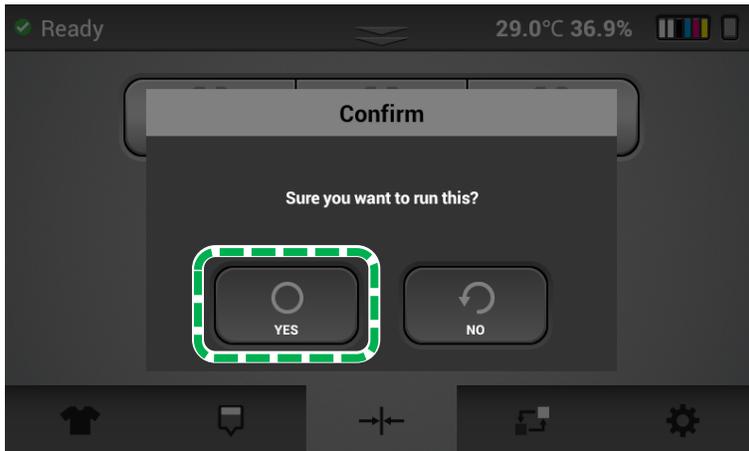
2. Set the transparent media, and press [SET].

3. Press [PRINT POSITION].

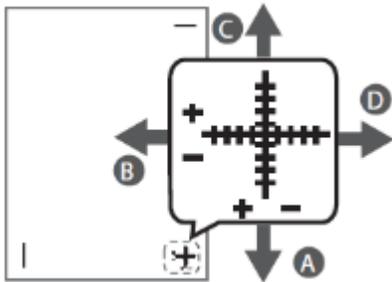


4. Press [YES].

The print position pattern is printed.



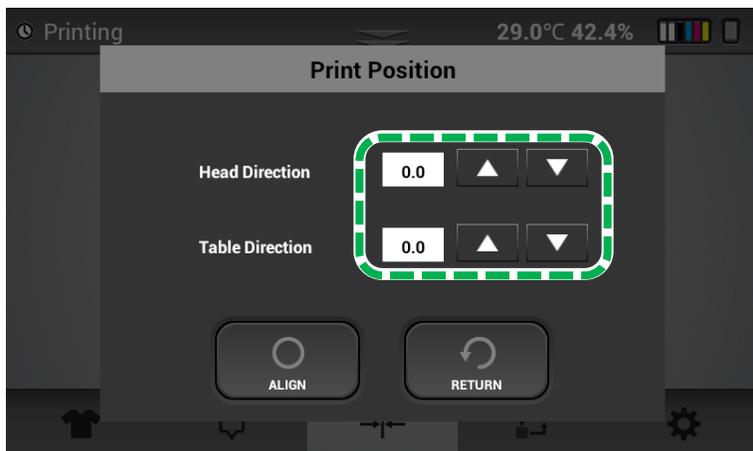
5. After printing the pattern for the print position adjustment, you need to find an appropriate value based on the alignment files to the 4 arrows on the platen.



6. Position the paper so that the cross on the test print paper comes at the right bottom corner.

- You can select values between “-5.0” and “+5.0” in the Head Direction and between “-8.0” and “+8.0” in the Table Direction increments of 0.1 mm.
- To move the print position to the “A” direction, enter a value between “-0.1” and “-8.0” in the Table input area.
- To move the print position to the “B” direction enter a value between “+0.1” and “+5.0” in the head input area.
- To move the print position to the “C” direction enter a value between “+0.1” and “+8.0” in the table input area.
- To move the print position to the “D” direction enter a value between “-0.1” and “-5.0” in the Head input area.

7. After entering the values, press [ALIGN] to set the values.



8. Repeat the process until the print appears to be centered.

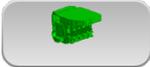
5. Replacing Service Parts

5.1. Service parts

This printer has some replaceable service parts and sumps that are monitored for service life.

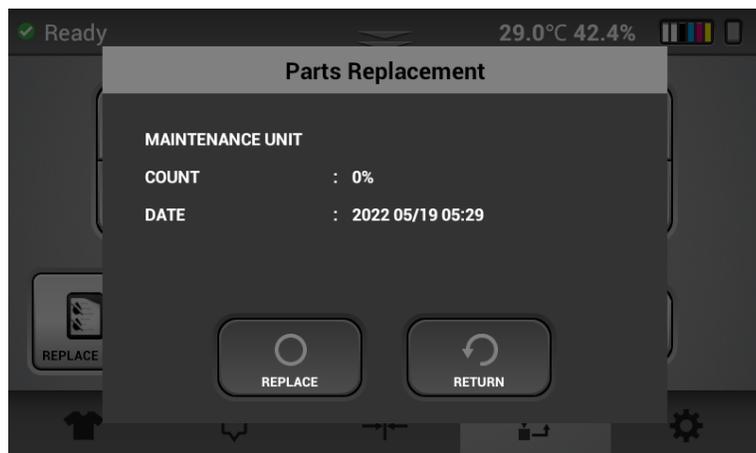


- Each icon provides the status of each service part.

The color of each component icon	Description
Green 	Normal
Yellow 	Replace soon
Red 	Replace now

NOTE - This is a suggested service life end based on averages. Printing and maintenance operation will not be interrupted when the service life end is reached for all components except for the left and right sumps. These sumps must be drained or replaced when the service life end is reached. Contact technical support. The components such as the maintenance unit cannot be replaced under warranty when the service life is reached (typically this is several thousand prints depending on use).

- When a component is selected, the [Parts Replacement] dialog box is displayed. It shows the count and the date of the last replacement.



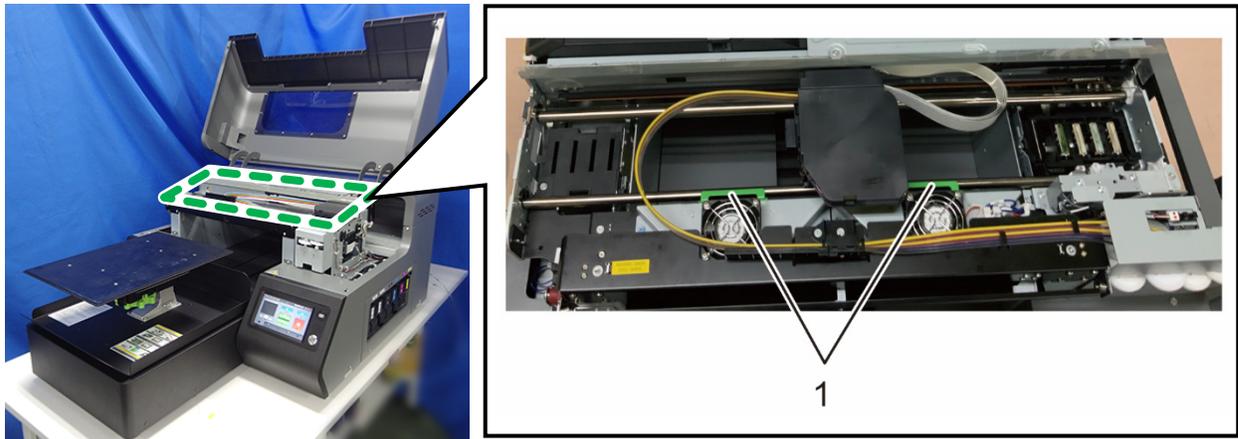
5.2. Replacing the Mist Fan Filter

If the mist fan filter needs to be replaced, a message will be displayed on the touch panel.

◆ Things to prepare

Purpose	Items
To wear	Polyethylene gloves
	Protective glasses or goggles (commercially available)
For use	New mist fan filters (2)

◆ Guide to parts



1. Mist fan filters with fixing frames

1. Press [FAN FILTER].
2. Press [REPLACE].
3. Open the front cover.

4. Remove the mist fan filter fixing frame.



5. Remove the mist fan filter from the fixing frame.



6. Set the new mist fan filter into the fixing frame.



7. Insert the mist fan filter fixing frame into its original position until it clicks.



8. Press [YES] on the confirmation message on the touch panel.

6. Preparing Your Printer for Storage/Shipping

Note - Please have cleaning cartridges available for all channels

1. Clean the Maintenance Unit.

For details about how to clean, see page 137, "How to Clean the Maintenance Unit and the Left Ink Sump".

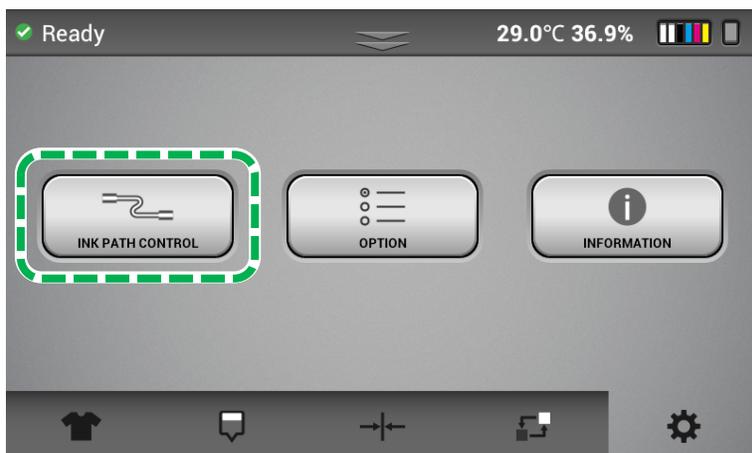
2. Remove ink cartridges.

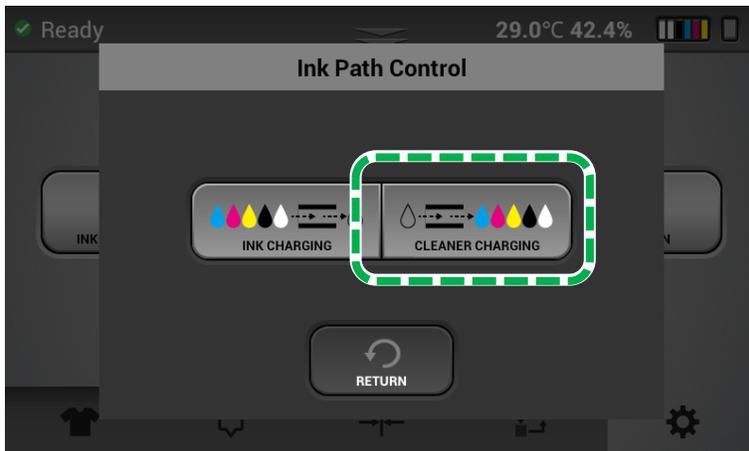
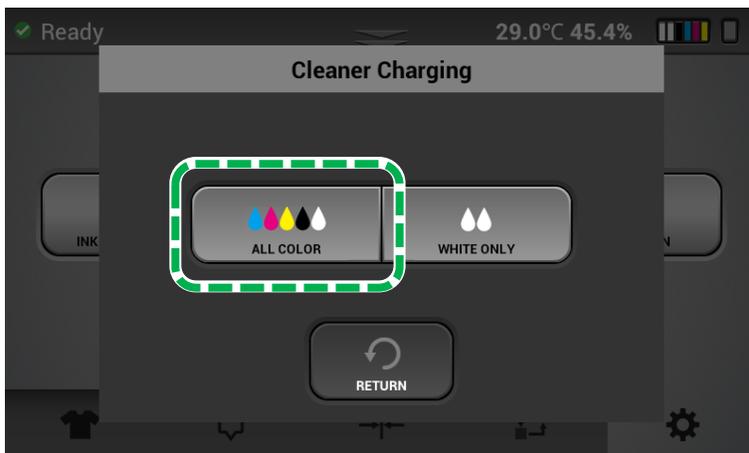
3. Insert cleaning cartridges.

4. Press the Settings tab.



5. Press [INK PATH CONTROL].



6. Press [CLEANER CHARGING].**7. Press [ALL COLOR].****8. Confirm by pressing [YES] to charge the system with cleaning solution.****9. Attach the head protection cover to the carriage.**

For information on how to attach the head protection cover, see page 214 "Attaching the head protection cover".

IMPORTANT! If the moving or shipping the printer, the right and left sumps must be emptied prior to moving or ink may spill out of the sumps and damage the printer. Contact technical support for guidance.

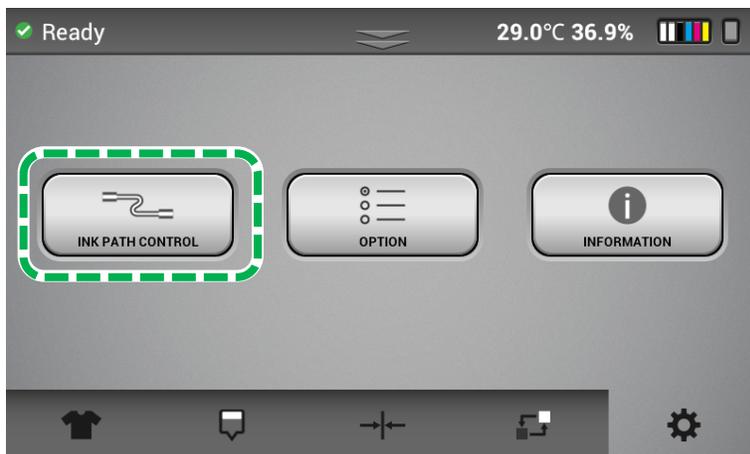
7. Using the Printer in 4-color mode (CMYK Only)

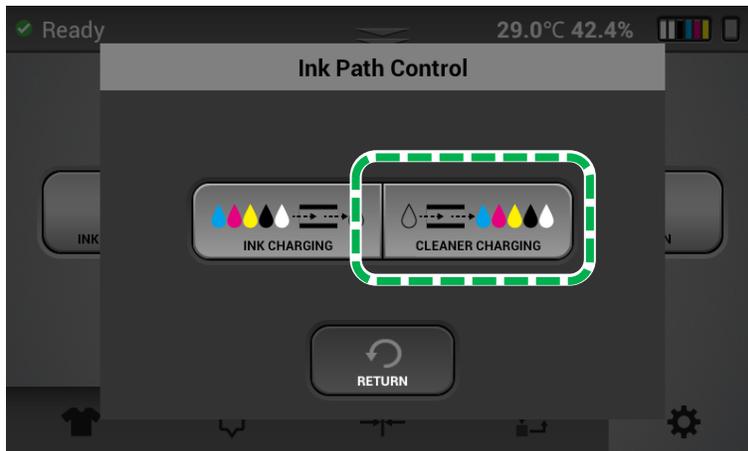
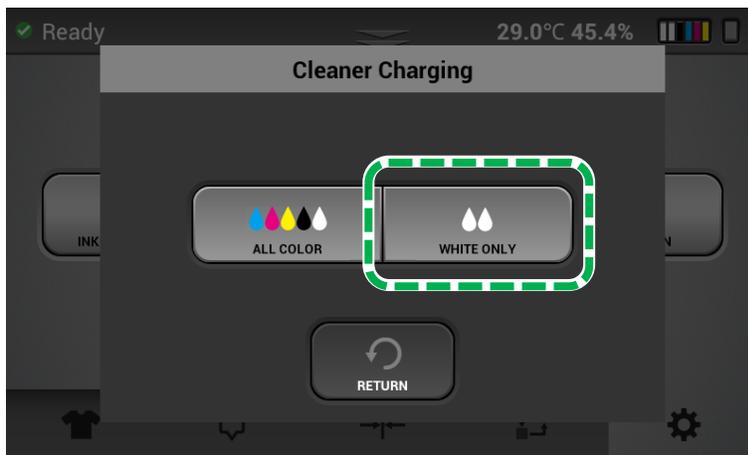
When using the printer in Four (4) color mode, it allows you only to use CMYK and keep the white in storage mode.

1. Remove white Ink cartridges.
2. Insert the cleaning cartridges designated for white channel.
3. Press the Settings tab.



4. Press [INK PATH CONTROL].



5. Press [CLEANER CHARGING].**6. Press [WHITE ONLY].****7. Confirm by pressing [YES] to charge the system with cleaning solution.**

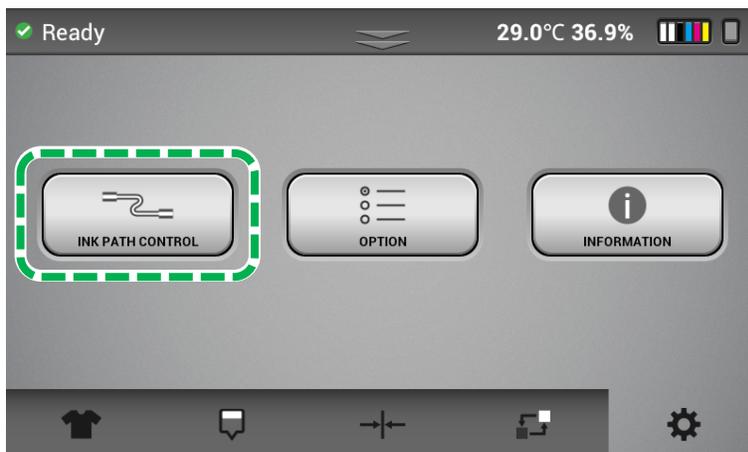
NOTE – Please allow up to 40 mins (approx.) for the system to flush the ink out and full the white lines with cleaning solution.

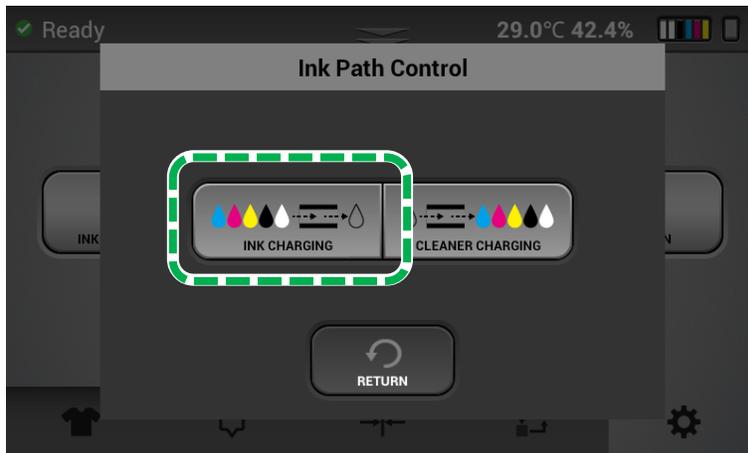
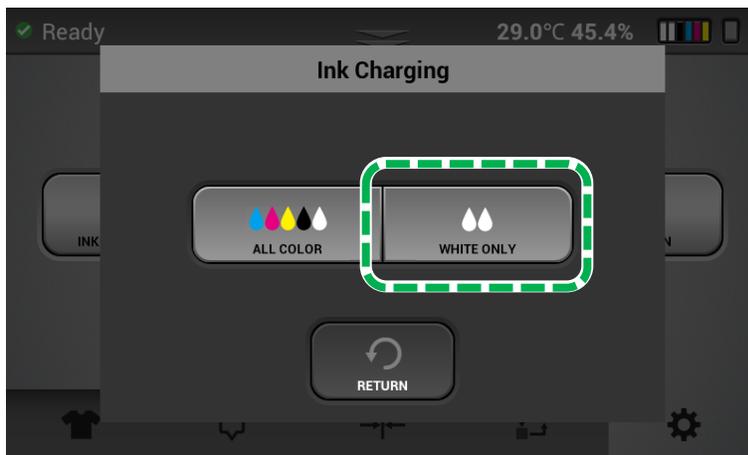
7.1. Changing the printer to 6-color mode from 4-color mode

1. Remove the cleaning cartridges for white channel.
2. Insert the white ink cartridges.
3. Press the Settings tab.



4. Press [INK PATH CONTROL].



5. Press [INK CHARGING].**6. Press [WHITE ONLY].****7. Confirm by pressing [YES] to charge the system with ink.**

8. Ink Path Guide

Status	Printable media	Remarks
Ink in all channels 6 Color mode After Ink Charging	White media, Dark media (requiring Underbase)	All kinds all printing
Color ink in color channel Cleaner in white channel 4 Color mode After Ink Without White	White media	OK for any printing that does not require a white Underbase The Cleaner in the white channel is for protecting the nozzle of the print head.
Cleaner in all channels. After Cleaner Charging	Unprintable	For long term storage/Shipping

9. Troubleshooting Guide

Issue/ Error	Causes	Solutions
Fuzzy blurry prints	Table height is too low.	Set the garment correctly on the platen, and then adjust the height again.
	Too much ink (oversaturated) causing bleeding (mostly for white or light shirts without pretreat).	Check the settings in ColorGATE Productionserver. Especially rendering intent (perceptual is default and should be used in most cases). Make sure you have not changed profiles selection.
	Nozzle check shows all nozzles, but some areas show deflection. (See page 115, "NOZZLE CHECK").	Perform normal nozzle cleaning or strong nozzle cleaning, and then recheck the nozzles to see if the deflection is gone.
	For dark shirts with a white Underbase, poor pretreat. Not enough pretreat can make the white can CMYK areas of print to appear dull or fuzzy. Especially if a section of the print appears sharp and another section appears dull or fuzzy.	Check the dilution ratio of the pre-treatment and the coating/drying method again. For details, see page 89, "Pre-treatment of Dark Colored Garments".
	Head alignment is off.	Perform the head alignment procedure (see page 178, "Adjusting the Head"). Make sure to rule out the above reasons before this adjustment.
Horizontal banding and thin horizontal lines across the entire shirt	Nozzles are missing. A nozzle check may show some nozzles are missing.	Perform head cleans until the CMYK nozzles are 100%.
	Nozzles are all accounted for, but some are showing minor deflection.	Check the table height. The effect of any deflection can be exaggerated if the printing surface is too far away from the head. Set the garment correctly on the platen, and then adjust the height again.
		Perform head cleans until the deflection is reduced.
Nozzles are 100% and little to no deflection.	Perform the table alignment procedure (see page 181, "Adjusting the Table").	

Issue/ Error	Causes	Solutions
Horizontal banding and thick horizontal lines across the entire shirt	Nozzles are 100% and appears in solid colors of dark or gray. Bi-directional banding has to do with the colors laying down in different sequence depending on which direction the carriage is traveling.	Select the uni-directional printing (see page 65, "Setting of print mode").
	Nozzles are 100%. It appears in solid colors and the colors are inconsistent in the scanning direction of the carriage. This is caused by the different drops of CMYK that are not combining consistently.	This can show in the Speed mode for CMYK. Print in Fine mode for CMYK. If the problem still persists, perform printing in SuperFine or ExtraFine mode. Doing so may improve the image quality. (See page 65, "Setting of print mode")
Several nozzles out – does not improve not at all or just a little with head normal and strong head cleans	During an initial ink fill, air is introduced to the head or after a head clean cleaning fluid or air was inadvertently pushed into the head by the cleaning applicator.	Let the printer sit overnight. This will give the air a chance to settle. The nozzle should be good after this.
	The print head nozzle has dried and is clogged with toner.	<ol style="list-style-type: none"> 1. Turn off the power. 2. Attach the head protection cover to the carriage. Leave the printer idle for 1 to 3 days (or 1 week if possible) with the head protection cover attached. For information on how to attach the head protection cover, see page 214 "Attaching the head protection cover". 3. Remove the head protection cover. 4. Turn the power on, select [AUTO HEAD CLEAN] and perform [STRONG] cleaning for 3 to 5 times. 5. Use a cleaning cartridge to replace the ink in the head where the nozzle is clogged with the cleaning liquid, and leave it on for 24 hours. There are two patterns of replacement with cleaning liquid. See page 192, "Preparing Your Printer for Storage/Shipping" See page 194, "Using the Printer in 4-color mode (CMYK Only)" 6. Replace the ink again and perform Nozzle check to see if it meets the recovery criteria. If the problem persists, contact your service or sales representative.

Issue/ Error	Causes	Solutions
Dark shirt prints look dull	White nozzles are 100% or near 100%. In adequate amount of pretreat on the shirt. This can cause the white ink to sink into the shirt.	Increase the amount of pretreat being sprayed onto the shirt.
	White nozzles are 100% or near 100%, but it looks dull. White ink has settled.	If the white cartridges are not agitated per instructions, agitate the white ink cartridges for 2 minutes. Then perform 3 to 4 strong head cleans. This will replace most of the settled ink.
	Missing many nozzles on one or both white heads.	Perform head cleans to recover the nozzle to 100% or near 100%.
Color print appear to be shift from white Underbase print.	Table height is too low.	Set the garment correctly on the platen, and then adjust the height again.
	Head alignment is off.	Perform the head alignment procedure (see page 178, "Adjusting the Head").
	The print positions of white and color are misaligned.	Adjust the print position for white and color (see page 184, "Adjusting the print position").
	Depending on the material of the shirt and the amount of ink ejected.	Input the amount of "Choke" with ColorGATE Productionserver. (see ColorGATE Productionserver Online Help).
Light shirt looks too dull	Nozzle is 100%. Wrong output profile is selected.	If printing in 600 X 600 Dpi and using a profile meant for 1200 X 1200 DPI, the shirt will look dull. Change the profile.
Cartridge reads 0% but it was just at a high percentage (for example 65%) from a previous operation (before printing or before cleaning).	Temporary loss of Comm caused the cartridge reading error.	Pull out the cartridge that reads 0%. The status should change to NC and the cartridges not loaded message will appear in the status bar. Put the cartridge back in and the percentage reading should go back to normal. If the percentage still reads 0% after inserting the cartridge again, turn the printer off and then turn it back on. The cartridge should read correctly.
Blot of ink on the shirt	The frame is blotting with ink.	Clean the frame.
	The print head rubs against the media during printing.	Set the garment correctly on the platen, and then adjust the height again.

Maintenance Requirements

IMPORTANT! Perform the following to prevent the risk of printer failure:

- Always keep the machine power on.
- Do not leave the machine with an empty ink cartridge installed in it, or with any pending errors or service call messages.
- Always keep spare ink on hand. If you do not have replacement ink, fill the printer with cleaning fluid to prevent the risk of damage to the carriage.
- If white ink clogging occurs frequently, please increase the frequency of cleaning the white ink. Refer to the user manual for details.
- Do not move the table back and forth by hand. It can cause printer failure.

Maintenance Schedule

Always perform the following maintenance schedule. These are minimum guidelines. More frequent cleaning may be necessary depending on machine usage. Please refer to the user manual for detailed instructions.

[Daily]

Shake White Cartridge

[Weekly]

Clean the Maintenance Unit and the Flushing Box
Clean the Nozzle Cover

[Monthly]

Clean the Guide Rod

Installation/Operation Environment

Temperature: 59°F/15°C - 90°F/32°C

Humidity: 45% - 80%RH, non-condensing humidifier recommended

9.1. When the Printing Result Is Not as Expected

Depending on the printing conditions, when printing on a dark-colored fabric that involves the formation of a background with white ink, an undesired printed image may occur.

For problems with printing results, see the solutions below.

If bleeding occurs

Bleeding as shown below.



Causes:

The following are possible causes.

- The height of the image size being less than 100 mm,* and the drying time of the white ink being short.
*If the image size is too small, the proper drying time cannot be ensured after the white ink prints.
- The drying time is set to 0 sec.
- The design of the image uses a lot of dark colors.
- The garment is not pretreated properly.
- Large amounts of white ink being ejected. (The intensity is set to 100 instead of the default value of 98.)
- Color ink flowing when white ink is set to white solid mode (flood or minimum 100 of brightness).
- When the output profile is set to OFF.

Solutions:

Focusing on image quality at the expense of productivity

- Set the drying time to 20 seconds.

Focusing on productivity by shortening printing time

1. Select the job in the “Job” archive, and then right-click the selected job.
2. Click [Settings].

3. Click the [Color] tab, and then click [Settings] under “Advanced”.
4. Click the [Print Mode] tab.
5. Set the value of “Intensity” to “70”.
6. Click [OK].

If the problem persists

- Set the drying time longer.
- Check the storage status of the garment after pretreatment, and then follow the following points.
 - Make sure the garment is dry before storing.
 - Do not store for too long.
 - Do not store in a humid environment.
- Check the temperature of the printing environment.
If the temperature of the printing environment is 15°C or less, the ink may not dry properly and may bleed. The temperature of the printing environment should be 23°C or higher.
- There is a possibility that certain brands or types of fabric may cause bleeding easily.
If possible, change the fabric brand or fabric type.

When white spot appears

For image types with solid ink, white spot appears on the surface after fixing the ink with a heat press.



Causes:

It may occur when the white ink is not sufficiently dried.

The following causes are possible.

- The height of the image size being less than 100 mm,* and the drying time of the white ink being short.
*If the image size is too small, the proper drying time cannot be ensured after the white ink prints.
- The design of the image uses a lot of dark colors.
- Large amounts of white ink being ejected. (The intensity is set to 100 instead of the default value of 98.)
- Color ink flowing when white ink is set to white solid mode (flooding or minimum 100 of brightness).
- It is set to use a lot of color ink.

Solutions:

See the solutions on page 203, "If bleeding occurs".

If the problem persists, perform the following.

- Make sure to heat press the shirt prior to printing.
- Set drying time longer.
- At the time of fixing the ink, the normal fixing is carried out after leaving a gap of about 1 to 2 cm for about 10 seconds without touching the medium with the heat press.



- There is a possibility that the brand or type of printed fabric is bleeding easily.
If possible, change the brand or type of printed fabric.

Dark spots appear in light-colored images

After fixing the ink, dark spots may appear on the spots.



Causes:

The following causes are possible.

- The height of the image size being less than 100 mm,* and the drying time of the white ink being short.
*If the image size is too small, the proper drying time cannot be ensured after the white ink prints.
- The garment is not pretreated properly.
- The design of the image uses a lot of dark colors.
- Large amounts of white ink being ejected. (Intensity is set to 100 instead of the default value of 98.)
- Color ink flowing when white ink is set to white solid mode (flooding or minimum 100 of brightness).

Solutions:

See the solutions on page 203, "If bleeding occurs".

If the problem persists, perform the following.

- The pretreatment concentration may be high.
It is recommended to replace with a new pretreatment liquid or change the dilution ratio from pure water = 2:1 to (2.5~3):1.
- Check the storage status of the garment after pretreatment, and note the following points.
 - Make sure it is dry before storing.
 - Do not store for too long.
 - Do not store in a humid environment.
- There is a possibility that the brand or type of printed fabric is bleeding easily.
If possible, change the brand or type of printed fabric.

9.2. If an SC (Service Call) error is displayed

If a problem occurs with the machine and if "SC-**" (** is a number) is displayed on the touch panel, contact your sales or service representative as soon as possible.

If you are instructed to attach the head protection cover by the sales or service representative, attach it to the head as instructed.

The head protection cover protects from damage to the heads.

◆ Things to prepare

Purpose	Items
To wear	Polyethylene gloves
	Protective glasses or goggles (commercially available)
For use	Cleaning liquid
	Dropper
	Head protection cover
	Tray or paper
	Cleaning cloth

Stopping printing

If an SC error occurs during printing, stop printing.

If you cannot use the touch panel and if the platen has stopped inside the machine, turn off the machine and pull the platen slowly to the front side of the machine by hand. Then, proceed to page 210, "Checking the carriage position".

CAUTION: Moving the platen fast or hard by hand could cause a malfunction.

1. Press [STOP].



2. Press [CANCEL].

The printing job is stopped and the platen returns to the front side of the machine.

Proceed to page 210, "Checking the carriage position".

Moving the carriage from the touch panel

To attach the head protection cover to the heads, move the carriage to the center position.

First, move the position of the carriage by operating the touch panel.

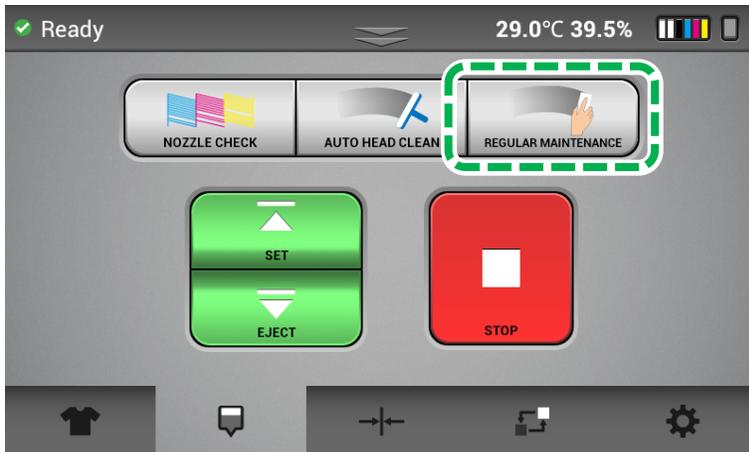
If you cannot operate the touch panel, proceed to page 210, "Checking the carriage position".

1. Press the Maintenance tab.



2. Press [REGULAR MAINTENANCE].

The carriage moves to the center position.



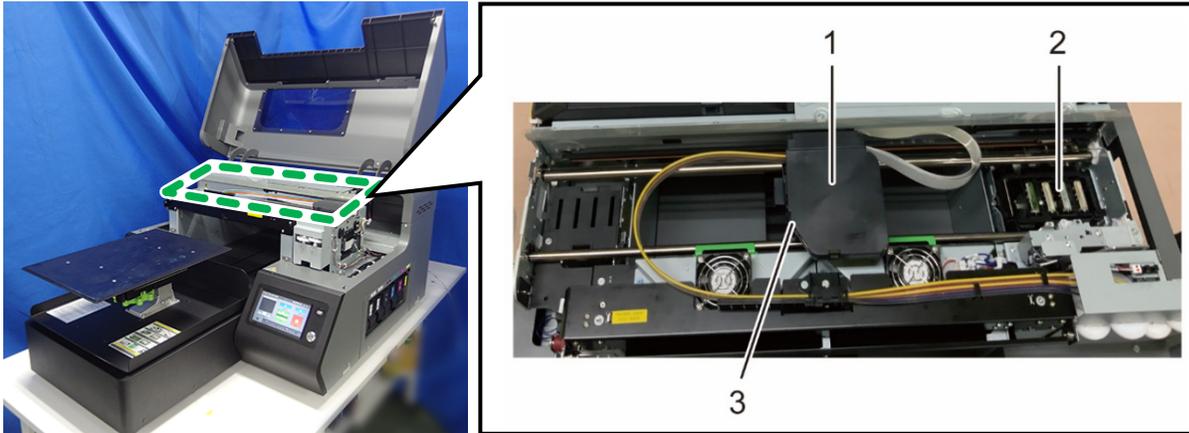
3. Turn off the machine.

If you cannot turn off the machine, turn off the main power switch.

Proceed to page 210, "Checking the carriage position".

Checking the carriage position

Guide to parts



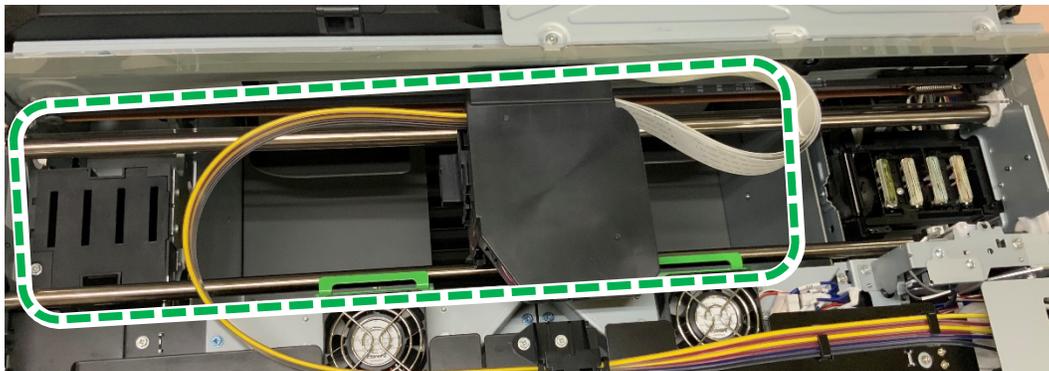
1. Carriage
2. Maintenance unit
3. Head (Located behind the carriage)

1. Open the front cover.

2. Check the carriage position.

Possible case of carriage position

Case 1: The carriage is in the center position or in a position other than the position of the maintenance unit. Proceed to page 214, "Attaching the head protection cover".



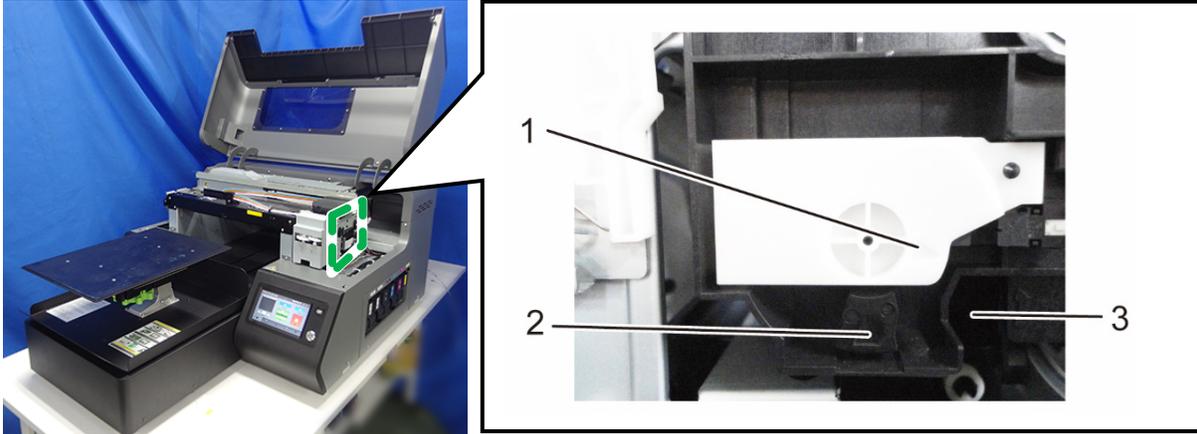
Case 2: The carriage is in the maintenance unit position. The carriage needs to be unlocked. Proceed to page 212, "Unlocking the carriage".



Unlocking the carriage

If the carriage is in the maintenance unit position and cannot be moved by operating the touch panel, the carriage must be unlocked manually and moved by hand.

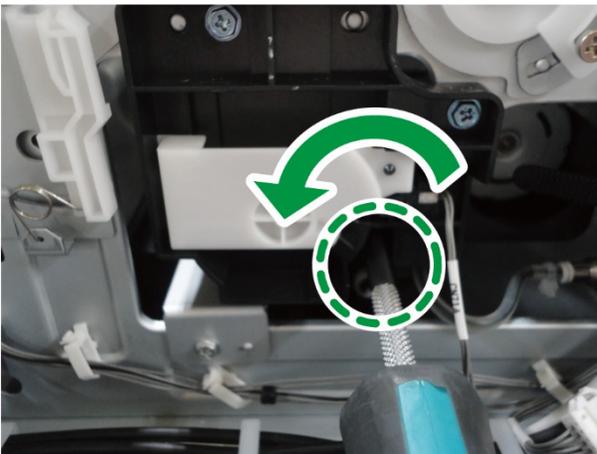
◆ Guide to parts



1. Mark A
2. Mark B
3. Unlock knob (in the recessed area)

1. Insert the screwdriver to unlock the knob.

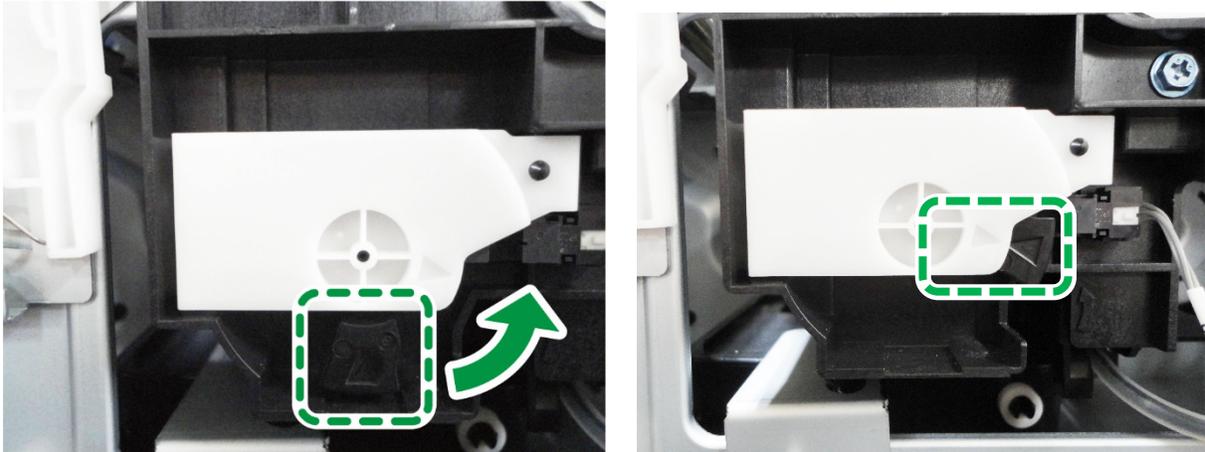
Align the screwdriver with the cross on the surface of the unlocking knob.



IMPORTANT! Never use the screwdriver for any places other than those specified in this manual. When using a screwdriver, be careful not to damage or break any cables or parts. If you have any questions or concerns about this operation, do not force it to continue. Contact your sales or service representative.

2. Turn the screwdriver counterclockwise to align mark B with mark A.

When marks A and B are facing each other, the carriage lock is released.

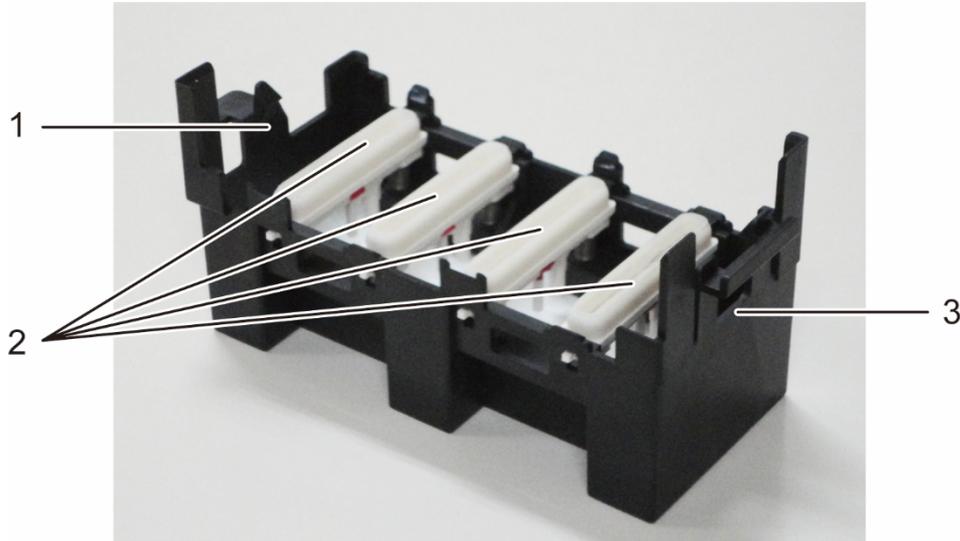
**3. Move the carriage slowly by hand.**

Proceed to page 214, “Attaching the head protection cover”.

Attaching the head protection cover

IMPORTANT! Turn off the printer before attaching the head protection cover.

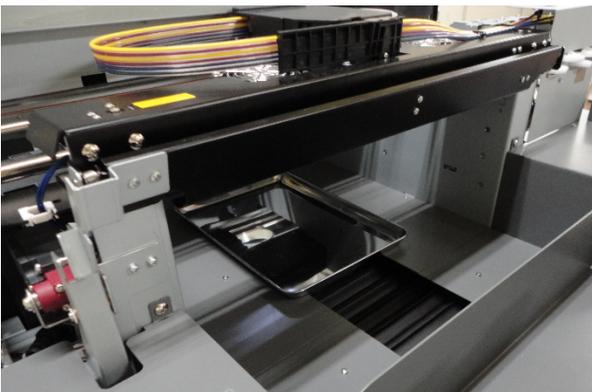
◆ Guide to the head protection cover



1. Left side (single frame on the top front)
2. Caps
3. Right side (two frames on the top)

1. Put a tray or paper under the head.

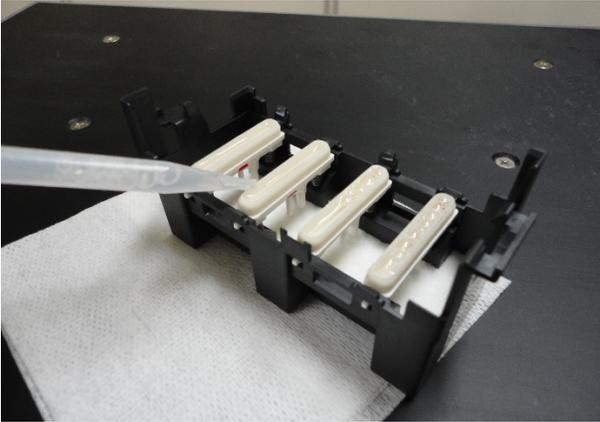
The tray or paper prevents solid ink, lint, and cleaning liquid from entering the machine.



2. If the carriage is in a position where it is difficult to operate, move the carriage slowly by hand.

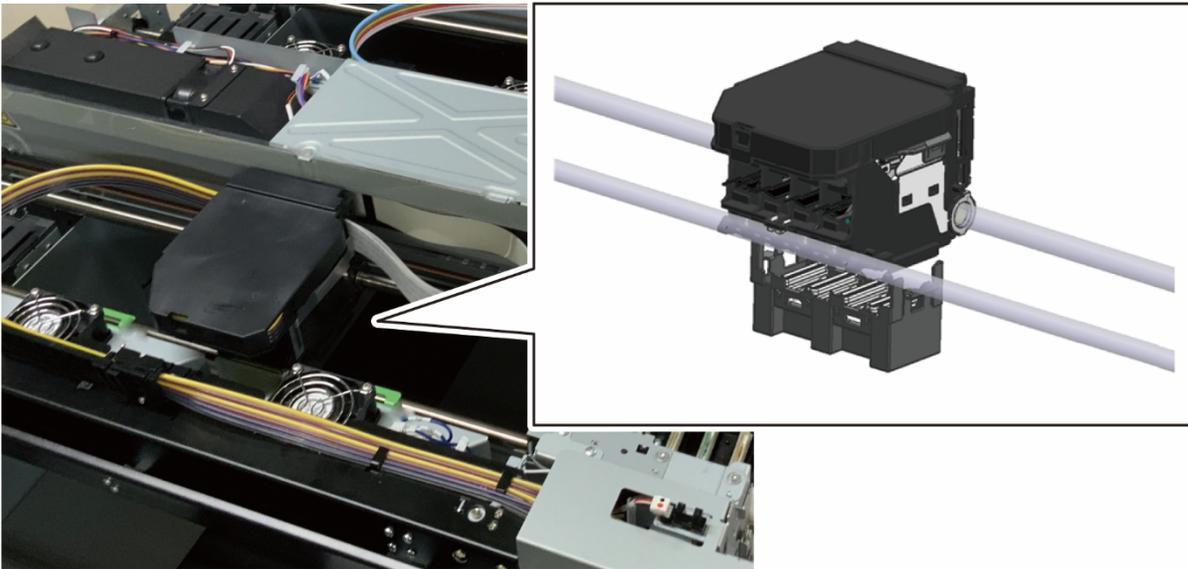
3. Use a dropper to pour the cleaning liquid into the cap and around the edges of the cap.

Make sure that the inside of the cap is filled with cleaning liquid.



4. Take the filled cleaning liquid with the head protection cover under the carriage to prevent spillage.

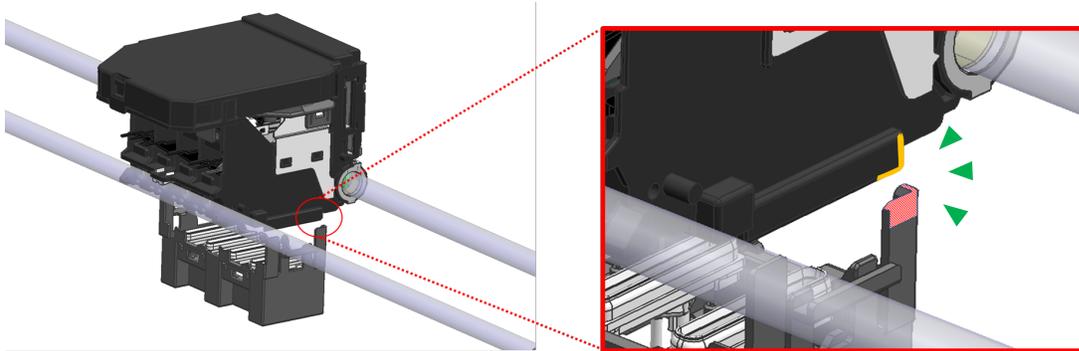
There is no problem if you spill a little. If it gets on the machine, wipe it off.



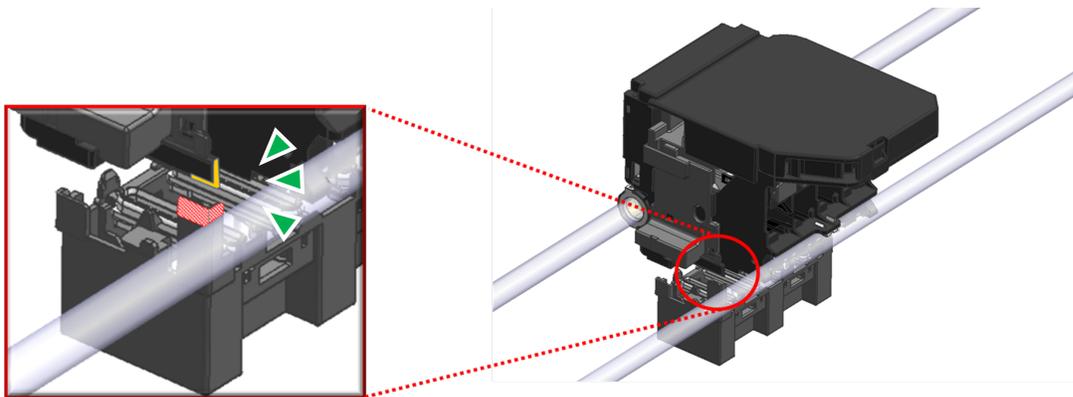
If it is difficult to check the position of the head, use a mirror to check the position.

5. Adjust the left and right corners of the head protection cover to the corners of the carriage.

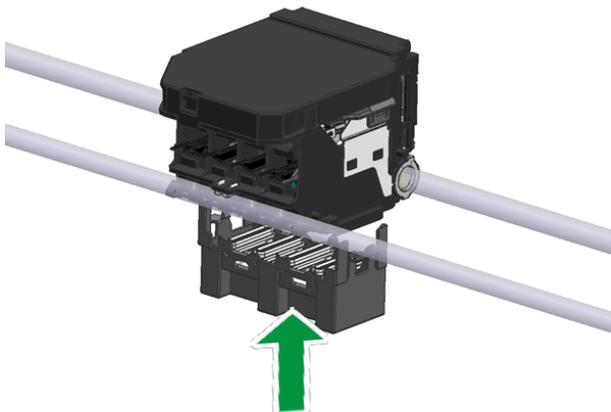
Right side



Left side



6. Push the head protection cover up until it clicks.



7. Leave the machine as it is until a serviceperson comes.

10. Appendix

10.1. Update the firmware

RICOH Ri 1000X has 2 manual firmware update methods.

Follow the procedure described in this manual to update.

For details, see below chapter.

- Update by using USB drive
- Update by connecting your PC and RICOH Ri 1000X with Ethernet cable

Note - If you installed the Data Collector Module, you can be easy to update automatically.

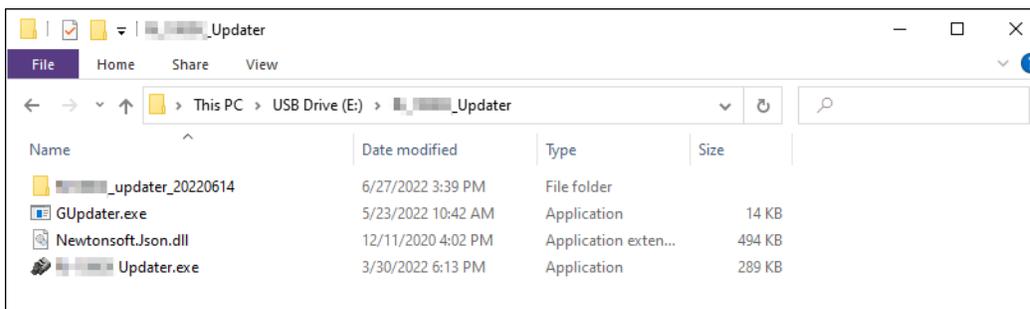
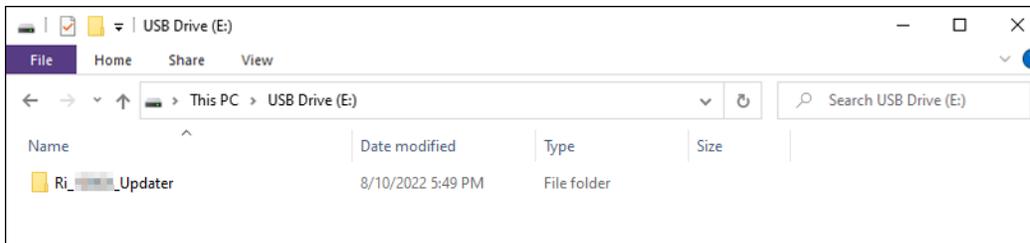
For details about how to install the Data Collector Module, see page 57, "Setup Driver".

Below are the steps to update manually.

Update by using USB drive

1. Insert USB drive into PC and save updater files.

Save the folder "Ri_1000X_Updater" to USB drive with the directory shown below.



Note - Use a USB drive with the following specification.

Format: FAT32

Capacity: 32GB or less recommended.

Be sure to save files in the above directory. If files are saved in different directory, firmware cannot update normally.

USB drive is not included in this product, please prepare USB drive yourself.

2. Remove the USB drive, insert into the front USB port.



3. Press the Settings tab.



4. Press [OPTION].

5. Press [RIGHT ARROW].

6. Press [USB UPDATE].



7. Press [YES].

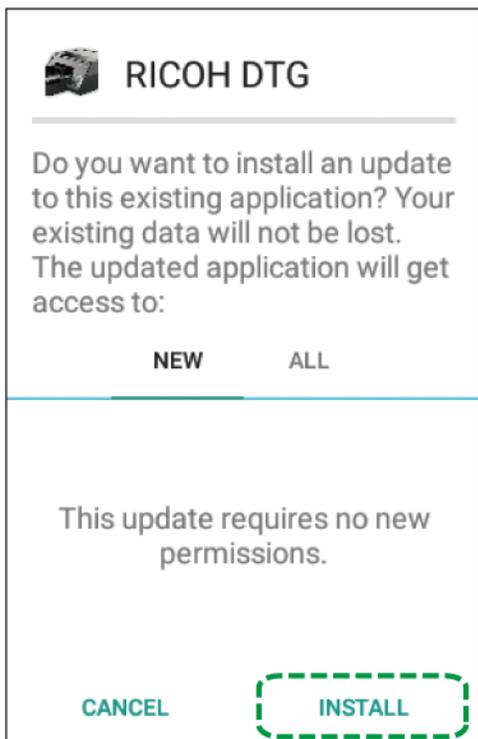
8. Update automatically in order of Panel (GIB), Sub Control (SCB) and Engine (CTL).

Follow the steps below to update each firmware.

IMPORTANT! Do not turn off RICOH Ri 1000X or remove the USB drive during updating. It may cause the printer failure.

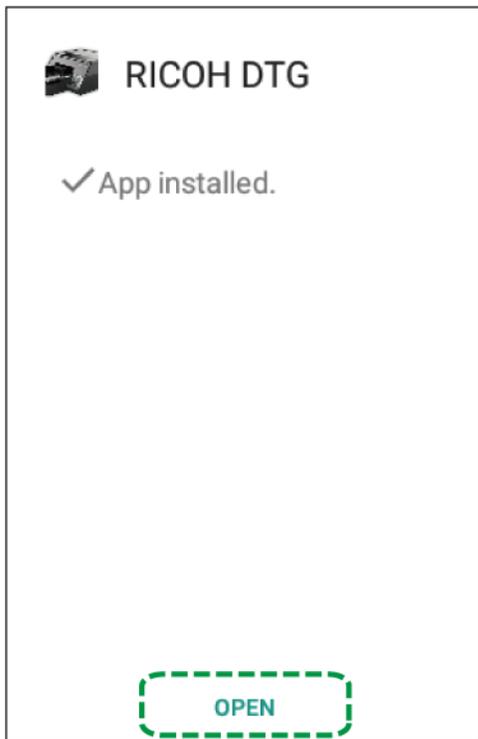
Firmware update (Panel (GIB))

1. After sending the updater, press [INSTALL] when the screen below is displayed.



EGU090

2. After install completed, press [OPEN] when the screen below is displayed.



EGU091

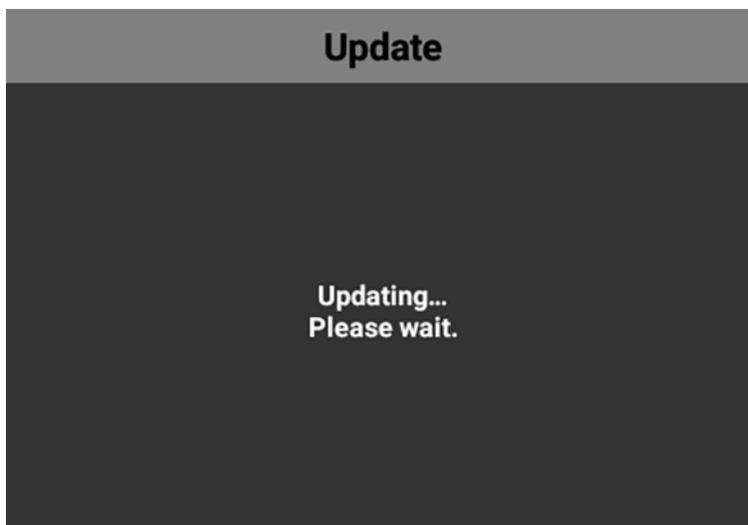
Panel (GIB) reboot automatically after press [OPEN].

Afterwards, Sub Control (SCB) and engine (CTL) start to update automatically.

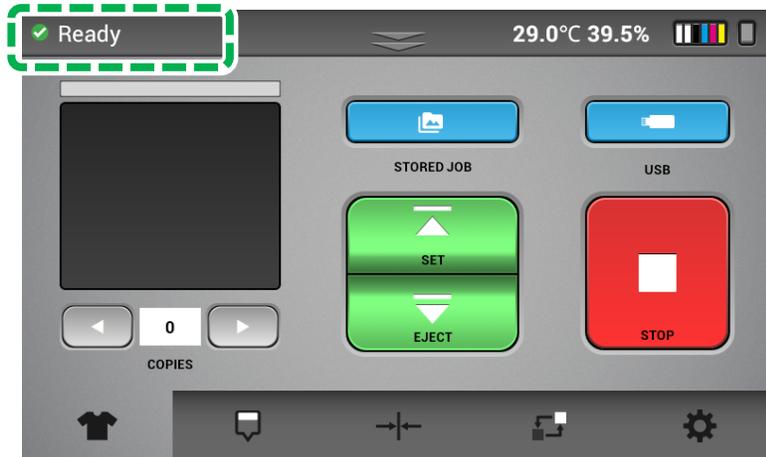
IMPORTANT! You must not follow the steps different from the above.
The printer may become unrecoverable by user.

Firmware update (Sub Control (SCB) / Engine (CTL))

1. After sending the updater, wait until the dialog below disappears.



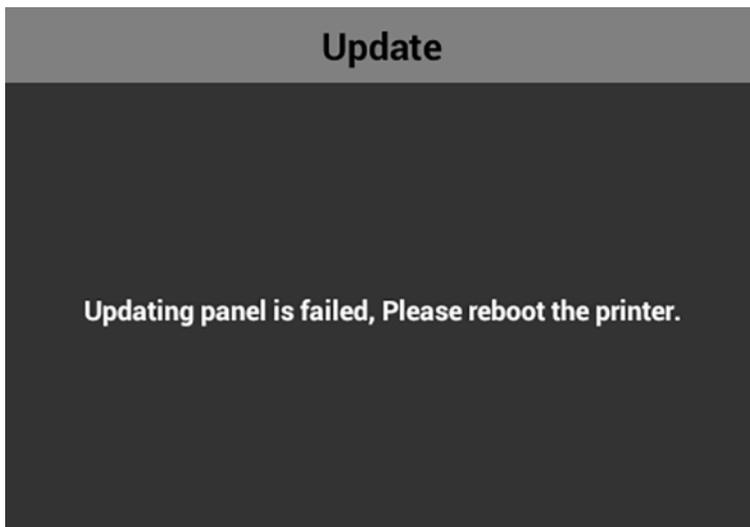
2. After dialog disappears, wait until displayed “Ready” in panel.



These completes all updates.

When update is failed

If the following is displayed or if you have started to update but there is nothing displayed about the firmware update, the update may have failed.



If update is failed, please reboot the printer.

Afterwards, update once again in order from Panel (GIB).

Update by connecting your PC and RICOH Ri 1000X with Ethernet cable

IMPORTANT! Do not disconnect any cable (Communication, Power, and so on) during updating.
 Make sure that update firmware is the latest one published on the web.
 Do not downgrade, downgrade is not granted.
 When update by this method, it is necessary to disable DHCP setting of the IP address.
 For details see page 43, "The setting of IP address for the machine".

1. Double-click "Ri-1000X Updater.exe".
2. Key-in the printer IP address to update.

Printer IP Address: 192 . 168 . 0 . 3

3. Select Firmware Set.

Ri-1000X Updater

Printer IP Address: 192 . 168 . 0 . 3

Firmware Set: 1000X_updater_2012.2016.04
 Ri1000X_updater_2012.2016.04

Panel: GIB_v[0.28].apk Update

Sub Control: SCB_v[0.04].bin Update

Engine (One file): CTL_o_v[1.55_617R] Update

egu098

4. Click [Update] to send new firmware.

Please update in order of Panel (GIB), Sub Control (SCB) and Engine (CTL).

Note - You should always update Panel (GIB) first.

Make sure that "Ready" is displayed in panel each update, then update next firmware.

5. Sending firmware done and then start to update.

The following steps are as same as steps of "Update by using USB drive".

Note - Sub Control (SCB) and Engine (CTL) do not start update automatically by this method.

You should update in order of Panel (GIB), Sub Control (SCB) and Engine (CTL) manually.

Therefore, Click [Update] in the above order.

These completes all updates.

10.2. Specifications

General

Printer Type:	Direct-to-garment printer
Technology:	RICOH Piezo-electric drop on demand inkjet systems
Head Type:	RICOH print head
Number of Print Heads:	Color - 4 channels, white - 4 channels
Resolution:	1,200 x 1,200 dpi(Maximum)
Printable Area:	Maximum 406 x 498 mm
Fabric:	100% cotton, cotton blends with minimum 50% cotton, 100% light polyester
Garment Type:	T-shirts, tote bags, sweatshirts, polo shirts, cushion covers, and more
Fabric Thickness:	Up to 30 mm
Platen Height Adjustment:	Manual
Maintenance Features:	Temperature and humidity measuring, maintenance alerts, auto print head cleaning, precise ink monitoring
Operating Conditions:	Temperature: 15–32°C Relative humidity: 45–80% RH
Noise Emission:	67 dB(A) or less (reference value)
Dimensions (W x D x H):	862 x 1,325 x 493 mm
Weight:	110 kg (242.5 lb.)
Power Source:	North America: AC100–120 V, 50–60 Hz, 1.1 A or more Europe/Asia: AC220–240 V, 50–60 Hz, 0.8 A or more
Power Consumption:	North America: Active 141 W(Maximum), Standby 22.1 W Europe/Asia: Active 135 W(Maximum), Standby 22.0 W
Host Interface:	Ethernet 10/100 BASE-T, USB Type-A (2.0)

Ink Set

Ink Type:	Water-based pigment ink
Ink Colors:	CMYK and white
Ink Delivery System:	Cartridge type and pump system, white ink circulation system

Options

Small Platen:	266 x 330 mm
Medium Platen (Standard):	320 x 457 mm
Large Platen:	406 x 498 mm

10.3. About Open Source Software License

ZLib

Copyright (C) 1995-1996 Jean-loup Gailly and Mark Adler

This software is provided 'as-is', without any express or implied warranty. In no event will the authors be held liable for any damages arising from the use of this software.

Permission is granted to anyone to use this software for any purpose, including commercial applications, and to alter it and redistribute it freely, subject to the following restrictions:

1. The origin of this software must not be misrepresented; you must not claim that you wrote the original software. If you use this software in a product, an acknowledgment in the product documentation would be appreciated but is not required.
2. Altered source versions must be plainly marked as such, and must not be misrepresented as being the original software.
3. This notice must not be removed or altered from any source distribution.

Jean-loup Gailly Mark Adler

gzip@prep.ai.mit.edu madler@alumni.caltech.edu

10.4. Where to Inquire

For inquiries, contact your sales or service representative.

10.5. Revision history

Revision	Date issued	Description
Initial version	February, 2023	
A	June, 2023	Page. 11,20,21,22,23,29

10.6. Trademarks

ColorGATE and Productionserver are registered trademarks of ColorGATE Digital Output Solutions GmbH.

Adobe, Elements, Illustrator, and Photoshop are either registered trademarks or trademarks of Adobe in the United States and/or other countries.

Microsoft and Windows are either registered trademarks or trademarks of Microsoft Corporation in the United States and/or other countries.

The proper names of the Windows operating systems are as follows:

The product names of Windows 10 are as follows:

- Microsoft® Windows® 10 Home
- Microsoft® Windows® 10 Pro
- Microsoft® Windows® 10 Enterprise

The product names of Windows 11 are as follows:

- Microsoft® Windows® 11 Home
- Microsoft® Windows® 11 Pro
- Microsoft® Windows® 11 Enterprise
- Microsoft® Windows® 11 Education
- Microsoft® Windows® 11 Pro Education
- Microsoft® Windows® 11 Pro for Workstations

The product names of Windows Server 2016 are as follows:

- Microsoft® Windows Server® 2016 Datacenter
- Microsoft® Windows Server® 2016 Standard
- Microsoft® Windows Server® 2016 Essentials
- Microsoft® Windows Server® 2016 MultiPoint® Premium Server

The product names of Windows Server 2019 are as follows:

- Microsoft® Windows Server® 2019 Datacenter
- Microsoft® Windows Server® 2019 Standard
- Microsoft® Windows Server® 2019 Essentials

Microsoft product screen shots reprinted with permission from Microsoft Corporation.

Other product names used herein are for identification purposes only and might be trademarks of their respective companies. We disclaim any and all rights to those marks.

