

About Maintenance

Instructions for Maintenance

Switch the power on once every two weeks

Switch the sub power on once every two weeks. When you turn on the power, the machine performs operations to keep the print heads from drying out. Leaving the machine unused for a prolonged period may damage the print heads, so be sure to switch on the power to perform these automatic operations.

Keep the machine at a constant temperature and relative humidity

Even when the machine is not in use, keep it at a temperature of 5 to 40°C (41 to 104°F) and a relative humidity of 20 to 80%RH (with no condensation). Not doing so may cause the machine to break down.

Automatic Maintenance Function and Notes

This machine has a function that automatically performs maintenance periodically. This function performs operations for preventing the print heads from drying out, so:

- Always keep the main power switched on.
- Do not leave the front cover open for a long time.
- Return to the top menu after specifying settings in the menus.

Alarm Function

This function reminds you to switch on the sub power once a month. When the machine remains unused for about a month, this screen appears and a warning buzzer sounds. If this screen appears, switch on the sub power. When maintenance operations finish, switch off the sub power.

This function operates when the printer's main power is turned on. Leave the main power switched on at all times even when the printer is to remain out of use for a prolonged period.



PRESS THE POWER
KEY TO CLEAN

Maintenance That Should Be Performed Daily

Ink Cartridge Maintenance

The components in the ink have a tendency to precipitate. The deposits may harden and cause problems including printer malfunctions if left alone for an extended period of time, and this is especially true for the white ink.

- Shake new ink cartridges 50 times (about 15 seconds) before installing them.

☞ "2. Insert the Ink Cartridges for the Respective Colors" (First Step Guide)

- Every day before starting work, remove the white ink cartridges, shake them 50 times (about 15 seconds), and then reinsert them.

☞ "STEP 3: Printing Tests and Normal Cleaning" (First Step Guide)

About Care and Maintenance of the Print Heads

Be sure to perform a printing test and normal cleaning before and after daily operations so that you can perform optimum printing at any time. Also perform care and maintenance during daily operations if necessary.

☞ "STEP 3: Printing Tests and Normal Cleaning" (First Step Guide)

* The print heads are components that wear out. Periodic replacement is required, with the frequency of replacement depending on use. Purchase them from your authorized Roland DG Corp. dealer.

About Care and Maintenance of the Machine



WARNING

Never use gasoline, alcohol, thinner, or any other flammable material.

Doing so may cause a fire.

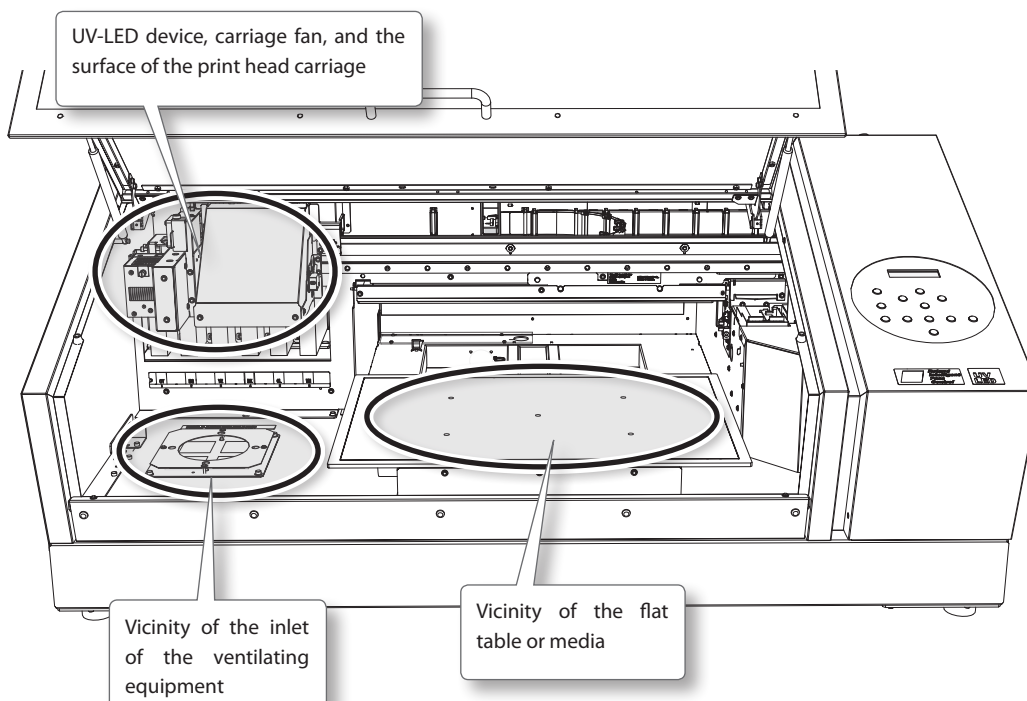
As part of daily cleaning, wipe away any buildup of ink or grime that has adhered to the machine. In particular, the flat table is likely to have a buildup of grime. Clean by wiping with a cloth moistened with neutral detergent diluted with water then wrung dry.

IMPORTANT

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

About Care and Maintenance of the Inside of the Machine

Frequently clean the inside of the machine using a vacuum cleaner or by wiping with a cloth moistened with water then wrung dry. If dust and dirt accumulate in the machine, they are likely to affix to printed materials.



Disposing of Discharged Fluid

⚠ WARNING

Never place discharged fluid and ink near open flame.

Doing so may cause a fire.

⚠ CAUTION

Before you detach the drain bottle, be sure to wait for the screen to display [EMPTY DRAIN BOTTLE].

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

⚠ CAUTION

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

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

Do not store discharged fluid in a location where it is exposed to direct sunlight.

When temporarily storing discharged fluid in the included drain bottle, do not store it in a location that is exposed to direct sunlight. The discharged fluid may harden, making the drain bottle unusable.

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

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

When "EMPTY DRAIN BOTTLE" Is Displayed

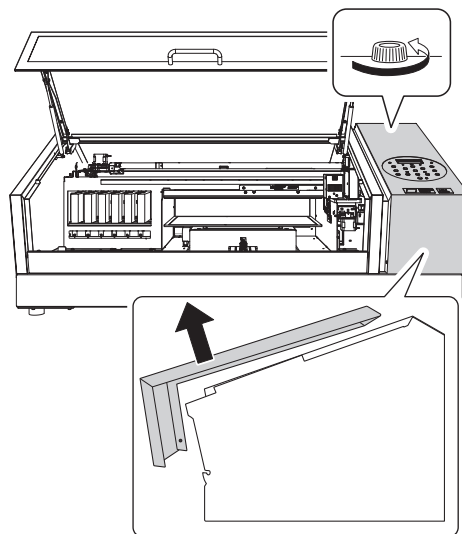
The message shown in the figure appears when a certain amount of discharged fluid has collected in the bottle.



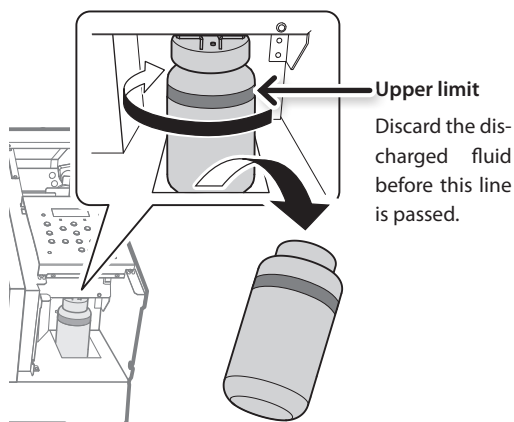
Follow the procedure below to discard the discharged fluid.

1. Open the panel cover.

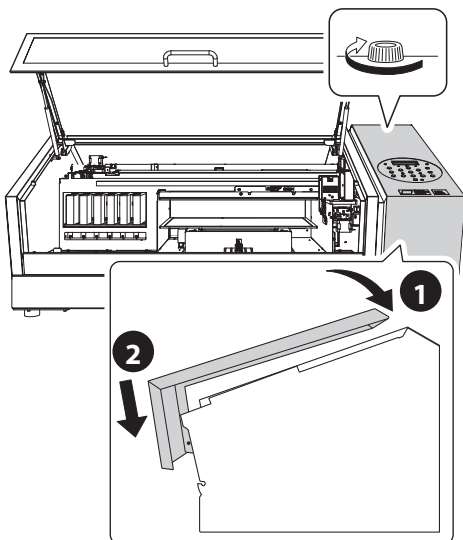
Remove the screw on the top of the panel cover, and then pull out the panel cover in the direction indicated by the arrow.



2. Remove the drain bottle and empty it to discard the discharged ink.



3. Attach the emptied drain bottle to the machine once more.
4. Close the panel cover.



5. Press [ENTER].

```
NOW EMPTY?  < >
[YES]  NO    < >
```

6. Press [←] or [→] to select "YES."
7. Press [ENTER].

NOTE

The "EMPTY DRAIN BOTTLE" message also disappears when you select "NO" and press [ENTER] without discarding the discharged fluid.

If "EMPTY DRAIN BOTTLE" appears again, you should discard the discharged fluid, if you can. Repeatedly selecting "NO" without discarding the discharged fluid may cause it to spill out of the drain bottle, soiling your hands or the floor.

Discarding the Discharged Fluid before the Message Appears

To discard the discharged fluid when "EMPTY DRAIN BOTTLE" has not been displayed yet, follow the procedure given below.

1. Press [MENU].
2. Press [↓] to display the screen shown below.

```
MENU  < >
SUB MENU  < >
```

3. Press [→], then [↑].

```
SUB MENU  < >
MAINTENANCE  < >
```

4. Press [→], then [↑].

```
MAINTENANCE  < >
DRAIN BOTTLE  < >
```

5. Press [ENTER].

```
OPEN PANEL
COVER
```

6. Open the panel cover (P.30).

```
EMPTY  < >
DRAIN BOTTLE  < >
```

7. Remove the drain bottle and empty it to discard the discharged ink (P.30).
8. Attach the emptied drain bottle to the machine once more.
9. Press [ENTER].

```
RESET DRAIN
COUNTER < >
```

10. Press [ENTER].

```
CLOSE PANEL
COVER
```

11. Close the panel cover (P.31).
12. Press [MENU], then [←] to go back to the original screen.

Periodic Cleaning Maintenance

This Machine has several cleaning menus. Perform the appropriate type of cleaning in accordance with the cleaning period and machine condition.

CLEANING	Explanation
NORMAL CL.	<p>Select this cleaning under normal operation.</p> <p>Perform it when there is a nozzle drop-out in test prints. Normal cleaning should be performed at the following timings:</p> <ul style="list-style-type: none"> • Before the start of daily operations • After daily operations <p>Also, perform normal cleaning during daily operations as needed.</p> <p>☞ "STEP 3: Printing Tests and Normal Cleaning" (First Step Guide)</p>
MEDIUM CL.	<p>If you cannot fix nozzle drop-out with normal cleaning, try medium cleaning. If medium cleaning does not fix the problem, perform powerful cleaning.</p> <p>☞ "Medium and Powerful Cleaning" (P. 32)</p>
POWERFUL CL.	
M a n u a l Cleaning	<p>Perform this cleaning every day when the machine's interior tends to be grimy due to the scattering of ink mist (this problem tends to occur when printing with some distance between the print heads and print surface). Manual cleaning should be performed at least once a month.</p> <p>☞ "Manual Cleaning" (P. 35)</p>

Medium and Powerful Cleaning

When problems such as dot drop-out are not resolved by normal cleaning ("STEP 3: Printing Tests and Normal Cleaning" [First Step Guide]), perform the more forceful "medium cleaning" two or three times. If this still does not resolve the problem, try the even more forceful "powerful cleaning."

NOTE

Normal cleaning consumes the smallest amount of ink, followed by medium cleaning and then powerful cleaning.

Also, frequent cleaning may damage the print heads. Avoid using these cleaning methods more than necessary.

Procedure

1. Press [FUNCTION].

```

FUNCTION      ◀◆
CLEANING      ▶
  
```

2. Press [▶], then [▼].

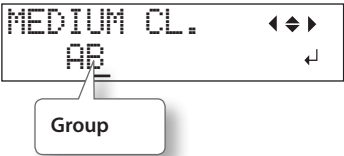
3. Press [▲] or [▼] to select the type of cleaning.

```

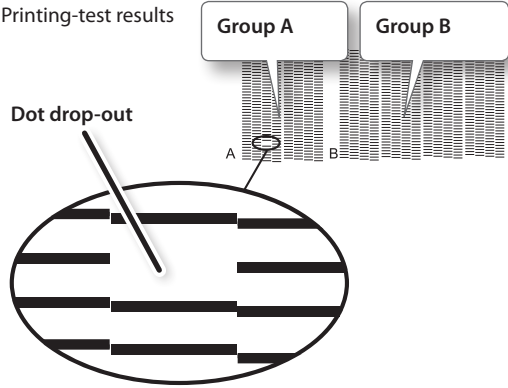
CLEANING      ◀◆
NORMAL CL.    ▶
  
```

CLEANING	Explanation
NORMAL CL.	Cleaning of the print heads is performed.
MEDIUM CL.	Select this cleaning method when you cannot fix nozzle drop-out with NORMAL CL.
POWERFUL CL.	Select this cleaning method when you cannot fix nozzle drop-out with MEDIUM CL.
TEST PRINT	A printing test is performed. ☞ "STEP 3: Printing Tests and Normal Cleaning" (First Step Guide)

4. Press [▶].



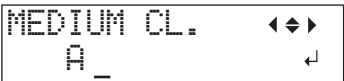
5. Press [◀] or [▶] to select the group of print heads that is not to be cleaned.



MEMO

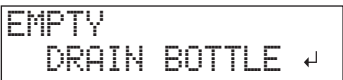
If the printing-test results are difficult to interpret, examine the results from different angles in a well-lit location. Take advantage of reflected light to enable visual checking.

6. Press [▲] or [▼] to get rid of the group display.



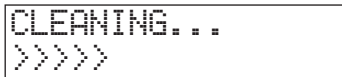
7. Press [ENTER].

When you select powerful cleaning, the screen shown below appears.



If the amount of discharged fluid is near the upper-limit line, remove the bottle, and then discard the collected fluid. Reattach the bottle, and then press [ENTER].

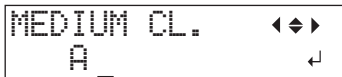
The screen shown below appears, and then cleaning starts.



CLEANING...
>>>>

When finished, the screen shown in the figure appears again.

* The screen shown below appears when you select medium cleaning.



MEDIUM CL. ◀▶
A ↵

8. Press [FUNCTION] to go back to the original screen.

When powerful cleaning is not effective

If problems such as dot drop-out persist even after you have performed powerful cleaning several times, perform "manual cleaning." Such cleaning can be effective when carried out periodically, according to the frequency of use.

☞ "Manual Cleaning" (P. 35)

Manual Cleaning

When manual cleaning becomes necessary

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

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

Perform manual cleaning once a month or more

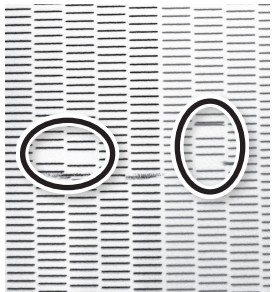
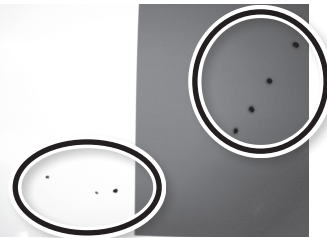
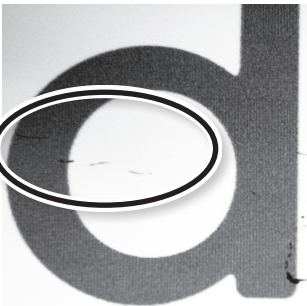
To keep the stable printing condition at all times, perform manual cleaning once a month or more.

Manual cleaning is recommended when the following symptoms occur.

If symptoms such as those shown below persist even after you have performed cleaning such as normal cleaning, perform manual cleaning.

Replacing the wipers is also an effective means of improving the symptoms.

☞ "Replacing the Wipers" (P. 46)

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

- The frequency with which manual cleaning should be performed depends on the machine's use. For information about the frequency of cleaning needed for your conditions of use, contact your authorized Roland DG Corp. dealer.
- If you use up the cleaning sticks and cleaning liquid used for manual cleaning, purchase new ones from your authorized Roland DG Corp. dealer.
- The print heads are components that wear out. Periodic replacement is required, with the frequency of replacement depending on use. Purchase them from your authorized Roland DG Corp. dealer.

Important notes on this procedure

- Cleaning requires the cleaning liquid and cleaning sticks included with the printer and commercially available glass cleaner, so have these items ready.
- Before performing this operation, remove any media.
- To prevent the heads from drying out, finish this procedure in 10 minutes or less. A warning beep sounds after 10 minutes.
- Never use any implements other than the included cleaning sticks. Cotton swabs or other lint-producing items may damage the heads. If you use up the cleaning sticks, purchase new ones from your authorized Roland DG Corp. dealer.
- Use one cleaning stick per cleaning session, and then discard the stick after use. Reusing cleaning sticks will reduce the printing quality.
- Do not put a cleaning stick that has been used for cleaning into the cleaning liquid. Doing so will deteriorate the cleaning liquid.
- Never rub the nozzle surface of the heads.
- Stroke the sponges very gently, applying as little pressure as possible. Never rub, scrape, or crush them.

If a warning beep sounds during cleaning

A warning beep sounds 10 minutes after operation begins. Stop work, close the front cover, and then press [ENTER] to end the manual cleaning mode. After that, restart operation from the first procedure.



CAUTION

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

Failure to observe this instruction may cause the machine to move suddenly, resulting in injury.

1. Change to the print-head manual-cleaning mode

NOTE

Be sure to hold the handle of the front cover and open and close it gently.

1. Remove any media. Close the front cover.
2. Press [MENU].
3. Press [▼] to display the screen shown below.

MENU ◀▶
SUB MENU ▶

4. Press [▶], then [▲].

SUB MENU ◀▶
MAINTENANCE ▶

5. Press [▶].

MAINTENANCE ◀▶
CLEANING ↵

6. Press [ENTER].

NOW PROCESSING..

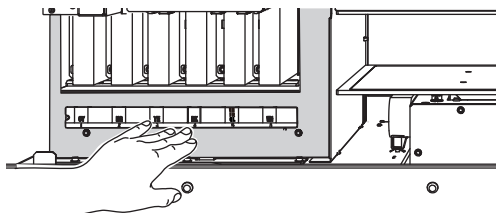
The print-head carriage moves, and then the following screen appears.

OPEN FRONT
COVER

7. Open the front cover.

FINISHED? ↵

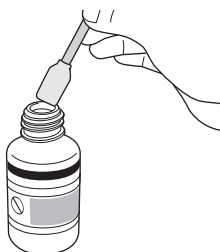
8. Touch the location shown in the figure (the area below the ink cartridge slots) to discharge any static electricity.



2. Clean Using a Cleaning Stick

1. Moisten the cleaning stick with the cleaning liquid.

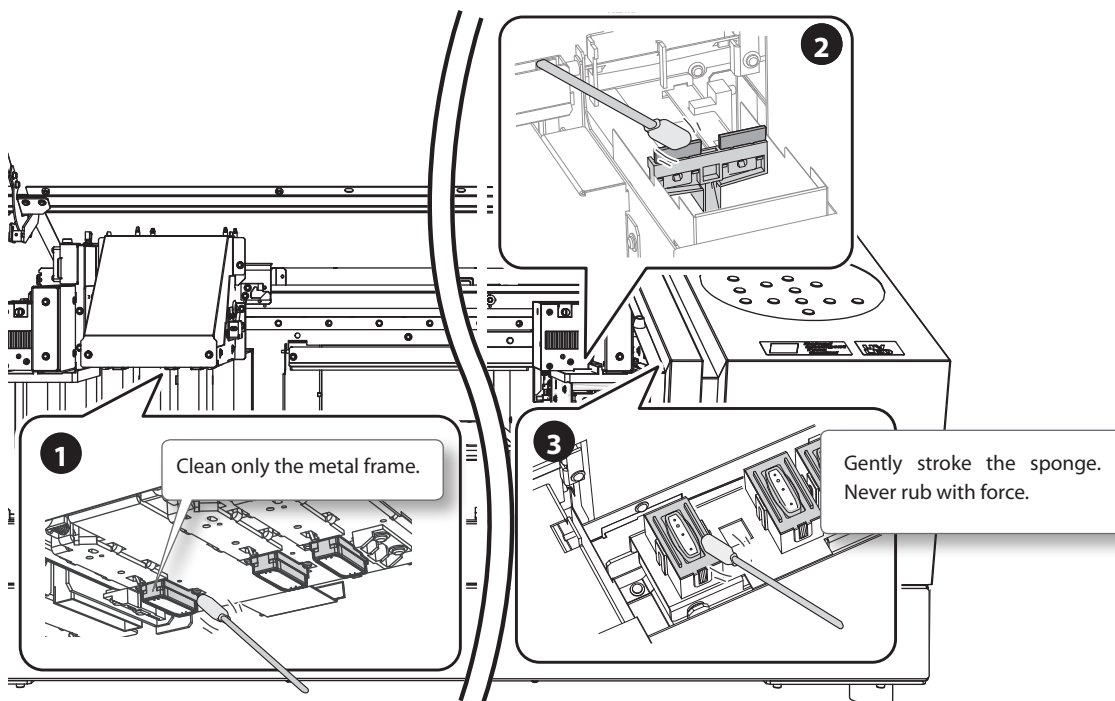
Be sure to use one of the included cleaning sticks.



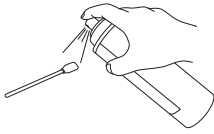
2. Clean in the sequence shown in the figure below.

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

During this work, be careful not to touch the head surfaces (nozzle surfaces) directly with the cleaning stick.



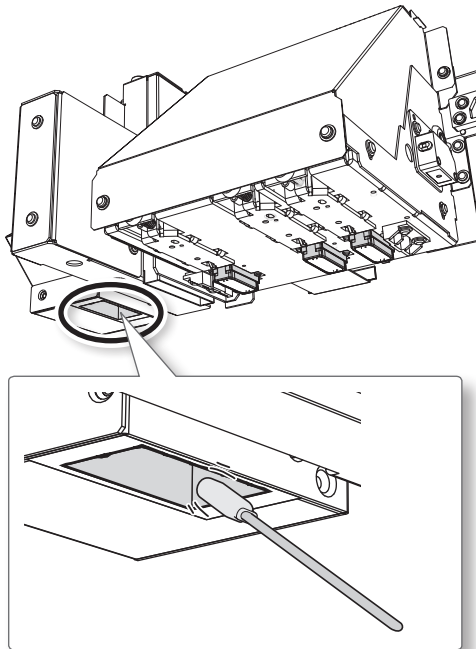
3. Apply commercially available glass cleaner to a new cleaning stick.

**NOTE**

Never, under any circumstances, use the cleaning liquid for this purpose. The machine may malfunction if the cleaning liquid is used for this cleaning.

4. Clean the locations shown in the figure.

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



3. Exit the Manual Cleaning Mode

NOTE

Be sure to hold the handle of the front cover and open and close it gently.

1. Close the front cover.
2. Press [ENTER].

A rectangular box representing the printer's display screen. Inside the box, the text "CLEANING..." is displayed on the top line, and four right-pointing arrows ">>>>" are displayed on the bottom line.

The print-head carriage moves to the right side of the machine. After the operation of exiting from the manual cleaning mode, the original screen is displayed again.

4. Perform a Printing Test to Check the Results of Cleaning

1. Perform a printing test to check the results.

Perform cleaning using the machine's cleaning functions several times when necessary.

➤ "STEP 3: Printing Tests and Normal Cleaning" (First Step Guide)

Checking for Remaining Ink and Replacing Ink Cartridges

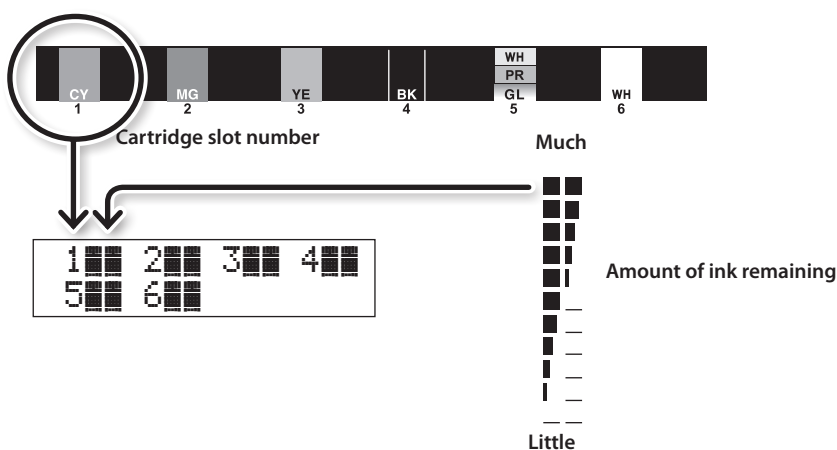
Checking for Remaining Ink

Procedure

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



3. Press [▶].



■ indicates the amount of ink remaining. The more there are, ■ the more ink there is remaining.

* The display shows approximately how much ink remains. It may differ somewhat from the actual amount remaining.

4. Press [MENU], then [◀] to go back to the original screen.

How to Replace the Ink Cartridges

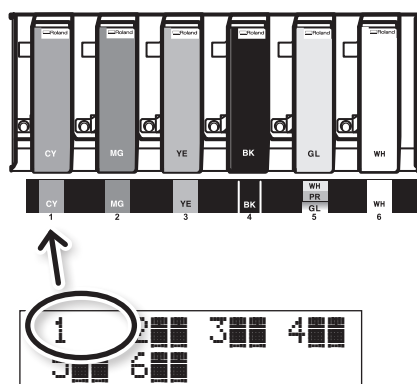
When ink runs out, a warning beep sounds and printing pauses (unless the factory default settings have been changed). Pull out the empty cartridge and insert a new one. After replacing the ink cartridge, close the front cover. Printing resumes.

NOTE

Be sure to hold the handle of the front cover and open and close it gently.

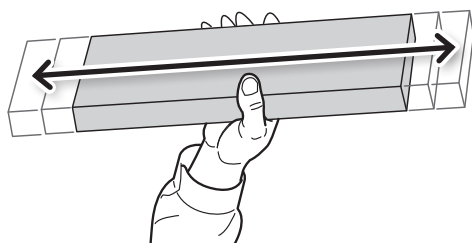
Procedure

1. Check the number flashing on the screen.



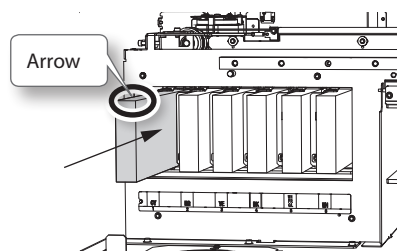
The ink at the flashing cartridge slot number is running out.

2. Open the front cover.
3. Shake a new ink cartridge of the same type and color 50 times (about 15 seconds).



If ink components precipitate, it will not be possible to print with correct colors. So that the ink mixes well, shake the ink cartridge horizontally with a stroke length of around 5 cm (2 in.) from each end of the ink cartridge.

4. Pull out the empty ink cartridge and immediately insert the new one.



- Insert the cartridge so that the side with the arrow faces up.
- Insert and remove cartridges slowly, one at a time.

5. Close the front cover.

Important notes on replacing ink cartridges

- Be sure to replace each cartridge with an item of identical type.
- Never mix different types of items.
- Never leave the machine with an ink cartridge removed. The print heads may become clogged.
- Never insert or remove a partially used ink cartridge with undue force.
- Never remove an ink cartridge suddenly while the printer is in operation.

⚠ WARNING

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

- Any location exposed to open flame
- Any location where high temperature may occur
- Near bleach or any other such oxidizing agent or explosive material
- Any location within the reach of children (Accidental ingestion by children may pose a health hazard.)

When the White Ink Concentration Is Low

Restoring the White Ink Concentration

Prolonged use of this machine may cause the concentration of the white ink to decrease. This is because the components in the white ink easily precipitate. The "CIRCULATE INK" function circulates the ink to eliminate white ink precipitation, which restores the white ink concentration.

MEMO

This procedure requires some ink to be discharged, so we do not recommend that you perform this procedure frequently.

Procedure

1. Press [MENU].
2. Press [▼] to display the screen shown below.



MENU ◀▶
SUB MENU ▶

3. Press [▶].
4. Press [▲] several times to display the screen shown below.



SUB MENU ◀▶
INK CONTROL ▶

5. Press [▶], then [▲].



INK CONTROL ◀▶
CIRCULATE INK ▶

6. Press [▶].



CIRCULATE INK ◀
CIR-DISCHARGE ↵

7. Press [ENTER].

Ink circulation starts.



CIRCULATING INK



CIRCULATE INK ◀
CIR-DISCHARGE ↵

8. Press [MENU], then [◀] to go back to the original screen.

When Dot Drop-Out Cannot Be Cleared Up for White/Gloss Ink or Primer

In this operation, all of the white ink, gloss ink and primer within the printer are discharged and the interior is cleaned. The inks and primer are refilled after cleaning. This operation requires two SOL INK cleaning cartridges.

☞ If you want to perform maintenance on ink other than white ink, gloss ink and primer, see "Cleaning All Print Heads" (P. 44).

MEMO

White ink tends to settle and may harden if left alone for a lengthy time. Therefore, abnormal ink emission including dot drop-out tends to occur more frequently than with other inks, even when using the cleaning function (normal, medium, or powerful) or manual cleaning.

NOTE

Be sure to hold the handle of the front cover and open and close it gently.

Important notes on this procedure

- A large amount of ink will be discharged during this operation. Perform this operation only when ink emission failures (such as dot drop-out) cannot be improved even after performing "normal," "medium," "powerful," and "manual" cleaning.
- ☞ "Maintenance That Should Be Performed Daily" (P. 28)
- ☞ "Medium and Powerful Cleaning" (P. 32)
- ☞ "Manual Cleaning" (P. 35)
- Be sure to use SOL INK cleaning cartridges. Using any other cleaning cartridges may result in breakdown.
- Follow the procedure and fill the machine with ink as soon as possible. Leaving the machine alone without ink may damage the print heads.

Procedure

Prepare

SOL INK cleaning cartridges (2)

1. Press [MENU].
2. Press [▲] to display the screen shown below.



MENU ◀▶
INK RENEWAL ⏴⏵

3. Press [ENTER].



CLEANING LIQUID ◀
IS REQUIRED ⏴⏵

4. Press [ENTER].



EMPTY ◀
DRAIN BOTTLE ⏴⏵

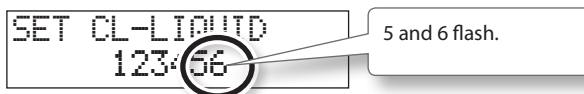
5. Discard the discharged fluid, and then reattach the drain bottle (P.30).

6. Press [ENTER].

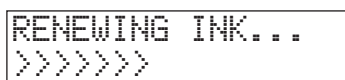


7. Open the front cover.

8. Remove the ink cartridges from slots 5 and 6.



9. Insert SOL INK cleaning cartridges into slots 5 and 6.

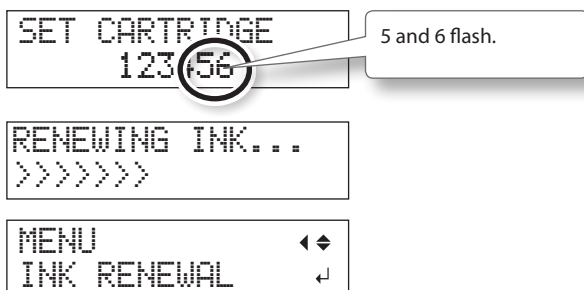


10. When the screen shown below appears, remove the SOL INK cleaning cartridges from slots 5 and 6.



11. Carry out steps 8 through 10 as many times as indicated on the display.

12. When the screen shown below appears, insert ink cartridges into slots 5 and 6.



13. Close the front cover.

14. Press [MENU], then [◀] to go back to the original screen.

Cleaning All Print Heads

In this operation, all ink within the printer is discharged and the interior is cleaned. Ink is refilled after cleaning.

This operation requires six unused SOL INK cleaning cartridges (four for cleaning and two for refilling ink). Have these on hand before you start.

* The effect on white ink, gloss ink and primer is the same as "When Dot Drop-Out Cannot Be Cleared Up for White/Gloss Ink or Primer" (P. 42). If you want to perform maintenance only on white ink and gloss ink, see P.42.

Important notes on this procedure

- All ink is discharged in this operation. Perform this operation only when ink emission failures (such as dot drop-out) cannot be improved even after performing "normal," "medium," "powerful," and "manual" cleaning.
- ☞ "Maintenance That Should Be Performed Daily" (P. 28)
- ☞ "Medium and Powerful Cleaning" (P. 32)
- ☞ "Manual Cleaning" (P. 35)
- Be sure to use SOL INK cleaning cartridges. Using any other cleaning cartridges may result in breakdown.
- Fill the machine with ink as soon as possible after cleaning is finished. Leaving the machine alone without ink may damage the print heads.

Procedure

Prepare

SOL INK cleaning cartridges (6)

1. Press [MENU].
2. Press [▼] to display the screen shown below.

```
MENU          ◀▶
SUB MENU      ▶
```

3. Press [▶].
4. Press [▲] several times to display the screen shown below.

```
SUB MENU      ◀▶
INK CONTROL   ▶
```

5. Press [▶], [▼], then [▼].

```
INK CONTROL   ◀▶
HEAD WASH     ↵
```

6. Press [ENTER].

```
CLEANING LIQUID◀
IS REQUIRED↵
```

7. Make sure the cleaning liquid is ready.

8. Press [ENTER].

```
EMPTY         ◀
DRAIN BOTTLE  ↵
```

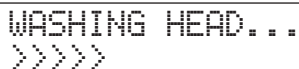
9. Discard the discharged fluid.

"Disposing of Discharged Fluid" (P. 30) Be sure to discard the discharged fluid according to .

NOTE

The following operations will discharge large amounts of fluid. If you do not empty the drain bottle, the discharged fluid may overflow.

- 10.** Press [ENTER].



- 11.** Next, follow the on-screen instructions to carry out the operations.

After cleaning has finished, the sub power switches off.

- 12.** Start filling the machine with ink.

See "STEP 7: Filling with Ink for the First Time" (First Step Guide) and promptly fill the machine with ink. When filling the machine with ink, use (two) SOL INK cleaning cartridges again.

Cleaning of the head surface as an emergency measure

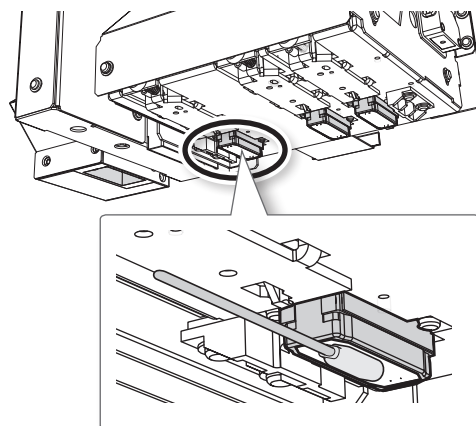
When problems such as dot drop-out are not improved even if cleaning is performed several times, you can clean the head surface as an emergency measure. Since the head surface (nozzle surface) is an extremely delicate mechanism, make sure to perform the operations carefully and deliberately.

Note that this operation is an emergency measure. Depending on how operations are performed, normal areas may be damaged and symptoms may be worsened. If you have any questions, contact your authorized Roland DG Corp. dealer.

Procedure

- 1.** Perform "1. Change to the print-head manual-cleaning mode" (P. 36) under "Manual Cleaning."
- 2.** Apply a large amount of cleaning liquid to the cleaning stick.
- 3.** Very gently touch the cleaning stick against the head surface (nozzle surface).

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



- 4.** Perform "3. Exit the Manual Cleaning Mode" (P. 38) and "4. Perform a Printing Test to Check the Results of Cleaning" (P. 38) under "Manual Cleaning."