Important

Leave the main power switched on at all times.

Never switch off the main power. By switching on the main power, the automatic maintenance function is carried out periodically. If the automatic maintenance is not carried out, it may result in a machine breakdown, e.g. damage to the print heads.

Never switch off the main power or unplug the power cord during operation.

Switching off the main power or unplugging the power cord during operation may damage the print heads. Be sure to first switch off the sub power. If the main power is accidentally switched off, immediately turn the main and sub power back on.

Periodic use of the machine is recommended.

We recommend using the machine at least once a week. If left unused for a long period of time, the ink may settle, resulting in unstable discharge (and dot drop-out). Any dry ink will need to be discharged.

Allow the ink to dry completely.

After output, allow the ink to dry completely. In particular, white ink and metallic silver ink must be printed with a high concentration and takes longer to dry than CMYK ink.

Lamination is strongly recommended.

Because metallic silver ink and white ink may not be as weather resistant as CMYK ink, depending on conditions, we strongly recommend laminating output of metallic silver ink.

R9-190726
http://www.rolanddg.com/

1000021697

Thank you for purchasing this product.

➤ To ensure safe use of this product and to thoroughly familiarize yourself with its performance, be sure to read this operation manual and store it for future reference.
➤ Unauthorized copying or transfer, in whole or in part, of this manual is prohibited.
➤ The contents of this document and the specifications of this product are subject to change without notice.
➤ The documentation and the product have been prepared and tested as much as possible. If you find any misprint or errors, please inform us.
➤ Roland DG Corp. assumes no responsibility for any direct or indirect loss or damage which may occur through use of this product, regardless of any failure of this product.
➤ Roland v Corp. assumes no responsibility for any direct or indirect loss or damage which may occur with respect to any article made using this product.

First Step Guide

VersaSTUDIO
SIGN MAKER BN-20

Note : Please read accompanying sheet "To Ensure Safe Use" beforehand.

Roland DG Corporation

Thank you very much for purchasing the BN-20.
This document describes the procedure of "First Time Printing and Cutting," from installation and setup of this machine to the actual printing.

About Roland On Support

Using On Support allows you to receive your printer's ink status and error information as an email sent to your PC and mobile phone. You can also receive product updates and other support information from On Support.
To install On Support, download from the following URL.
http://download.rolanddg.jp/en/bn_onsupport.html
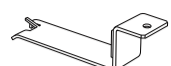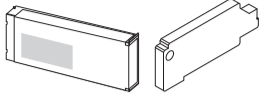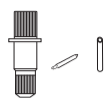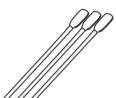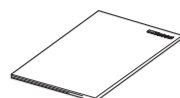
Imagine.
Roland

Installation and Preparation

Checking the Included Items

The following items are included with this machine. Check that all items are present.

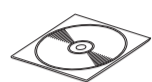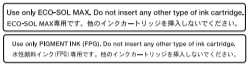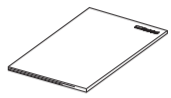|					
Power cord (1)	USB cable (1)	Wiper (1)	Jig for inserting cartridges (1) **	SOL INK cleaning cartridge (1)** and dummy cartridge(4) **	Software RIP***(1)
Blade holder, blade, Pin (1 each)	Cleaning sticks	Felt wiper (1)	Cleaning liquid (1) **	Inkjet printer maintenance guide (1)**	
Media flanges (2), Media bar (1), Mounting pin (1)	Tweezers (1)	Roland Software Package (1)	Label for cartridge slot (one each for ECO-SOL MAX and FPG)	Operation manuals (3)*	

* "To Ensure Safe Use," "First Step Guide" (this document)," "Special Color Ink Guide"
** Included only in ECO-SOL MAX ink type machines, *** VersaWorks (with Installation Guide)

About Operation manual (Electronic-format Manual)

How to use and maintain the machine as well as an FAQ (a set of frequently asked questions) are described in the "Master Guide" (Electronic Manual).

> **You can view and download the electronic-format manual from the following URL or QR code.**
> ## https://webmanual.rolanddg.com/BN-20
> * You can also view and download all the paper manuals.
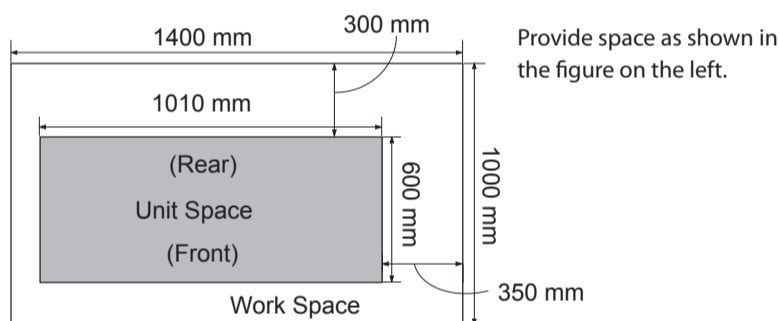> * You can also view this website from a smartphone.

Installation

Temperature and Humidity

Maintain the specified temperature and humidity even when the machine is not in use. If temperatures are too high or too low, it may cause the machine to malfunction.
> ➢ During operation: Temperature 20 to 32˚C (68 to 90˚F), relative humidity 35 to 80% (no condensation)
> ➢ During non-operation: Temperature 5 to 40˚C (41 to 104˚F), relative humidity 20 to 80% (no condensation)

Installation Space

1400 mm
300 mm
1010 mm
(Rear)
Unit Space
(Front)
600 mm
1000 mm
350 mm
Work Space

Provide space as shown in the figure on the left.

Height of Installation

The height of installation should be 0.6 m (23.7 in.) or higher above the work floor. This machine is desktop type. Please decide the height of installation so that you can easily reach the emergency stop button when operating this machine.

Removing and storing the retainer

⚠**WARNING** **Carry out these operations before you connect the power cord.**
Inadvertent powerup may result in pinched hands or other injury.

> ➢ Be sure to remove the retainer. Failure to do so may cause faulty operation or breakdown when the power is switched on.
> ➢ The retainer is required when moving the machine to a different location. Store it carefully so that it does not get misplaced.
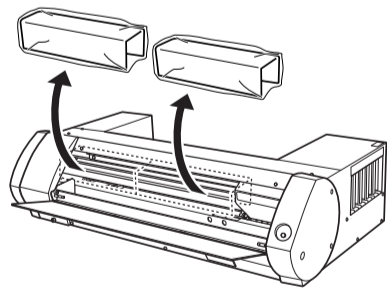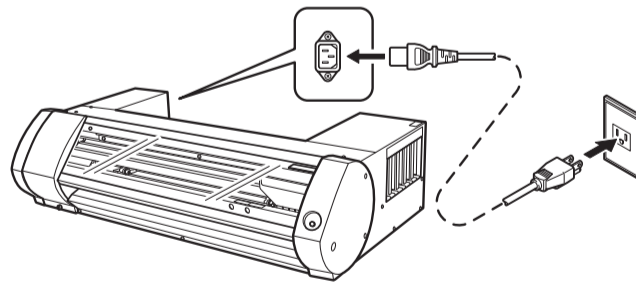

Connecting the Power Cable

⚠**WARNING** **Perform this task with all power switches left switched off.**
Otherwise sudden movement of the machine may cause injury.

Installing and Setting Up the Software

System requirements	
Operating system	Windows 10, 8.1, 7 (32- or 64-bit)
CPU and RAM	CPU of 2.0-GHz or faster Core 2 Duo, and RAM of 2 GB or more
Optical drive	DVD-ROM drive
Video card and display	Recommended: 1024 x 768 dots or higher, 256 colors or more

For the latest information, see the Roland DG Corp. website (http://www.rolanddg.com).

> ➢ This software is a 32-bit application and uses WoW64 (Windows 32-bit On Windows-64) when run on a 64-bit Windows system.

Installation software	
BN-20 driver	Driver required for sending data from a computer to this machine.
Utility	Software for operating the m)machine, checking its status, and performing maintenance.
R-Works	Software for creating output data *** This is not available on a white ink model. To make an output on a white ink model, the software RIP (VersaWorks) is needed.**

* For information on how to install software RIP (VersaWorks), refer to "VersaWorks Installation Guide."

> **Important**
> Do not connect the machine with a computer using a USB cable before installing the BN-20 driver. If you do so, you may not be able to install the BN-20 driver.
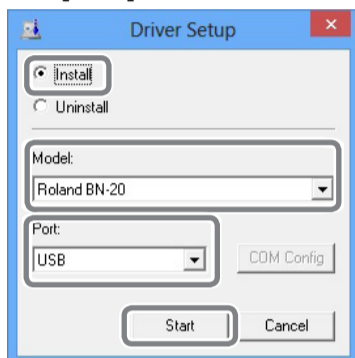
1. Installing the software

❶ **Load the VersaWorks DVD into the computer's DVD-ROM drive.**
When the automatic playback window appears, click [Run menu. exe].When the [User Account Control] appears, click [Allow] or [Yes]. After a while, the install menu appears automatically.
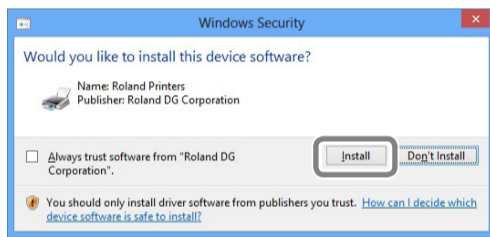
❷ **Click [Install] for "Driver & Utility."**

❸ **Select [Install], Model name [Roland BN-20], Port [USB], and then click [Start].**

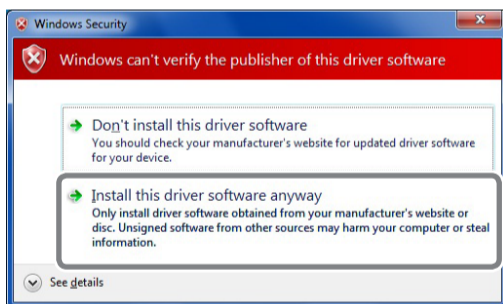Installation of the BN-20 driver starts. Proceed with the installation by following the on-screen instructions.

Windows 10, 8.1:
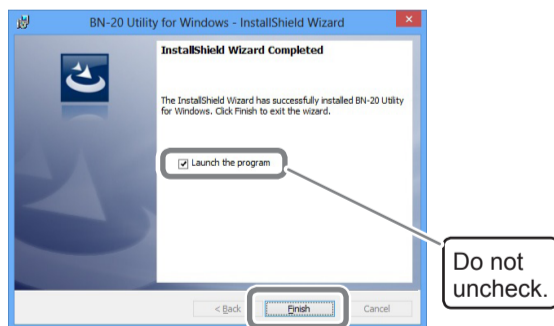When the screen shown here is displayed, click [Install].

Windows 7:
If the screen shown in the figure appears, click [Install this driver software anyway].

After completing the installation of the driver, continue to install the utility software. When the following screen appears, the installation is complete. Click "Finish."
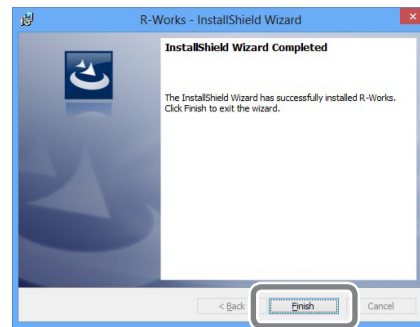

Do not uncheck.

❹ **Click [Install] for "R-Works."**

Since you cannot make an output from R-Works on a white ink model, you do not need to install it. Go to "Step *2.* Setting Up Printer".

Proceed with the installation by following the on-screen instructions. When the following screen appears, the installation is complete. Click "Finish."
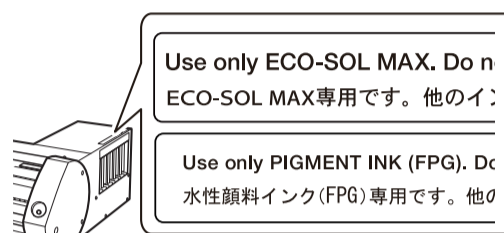

❺ **Remove the Roland Software Package DVD-ROM from the computer.**

2. Setting up the printer

❶ **Place the label for the ink type that will be used.**
Mixing different types of ink may cause a malfunction. Please make sure to affix this label.

Use only ECO-SOL MAX. Do n
ECO-SOL MAX専用です。他のイン

Use only PIGMENT INK (FPG). Do
水性顔料インク（FPG）専用です。他の

❷ ① **Close the front cover, press** ② **Main power, and then press**③ **POWER key.**
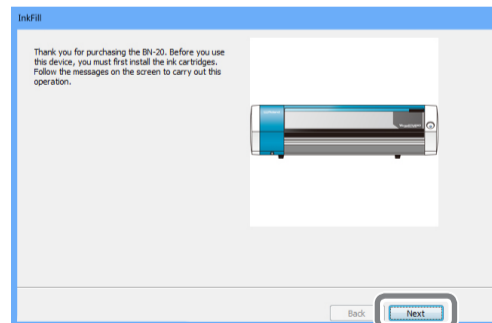When the POWER key indicator changes from flashing to steady, startup is completed.
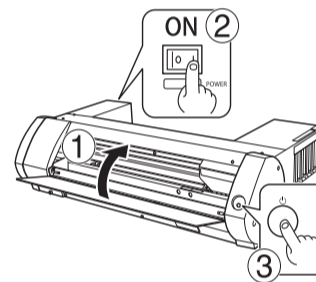
❸ **Connect the machine to the computer by USB cable.**
Use the supplied USB cable.
Do not use a USB hub.
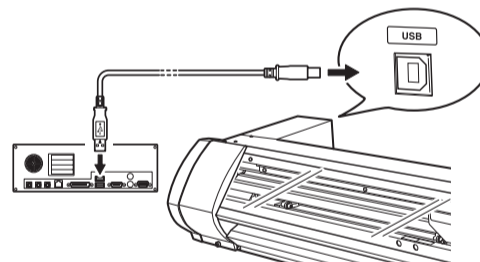
The driver is installed automatically.

❹ After a while, the screen shown in the figure will appear.

Click [Next] to start filling with ink.
Proceed by reading the on-screen instructions. The POWER key will flash while filling with ink.

* When having difficulty pulling out the dummy cartridges which is used for filling with ink, insert the Jig for inserting cartridges into the slots to make the task easier.
* Please note, you will be asked to remove and re-insert the cleaning cartridge into the same ink cartridge slot several times, before being asked to move the cleaning cartridge to the next ink cartridge color slot. Please make you have the cleaning cartridge inserted into the slot that matches the ink cartridge color slot shown on the computer screen of the BN-20 Utility software program.

When the message of "The ink tanks have been filled" appears, filling with ink is completed. Click [Close], and then continue to "Printing and Cutting for the First Time" on the back.

Printing and Cutting for the First Time

STEP 1: Installing the Blade and Roll Media

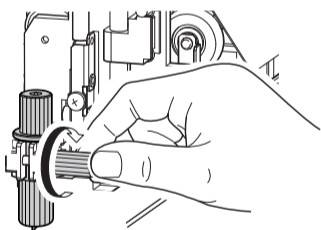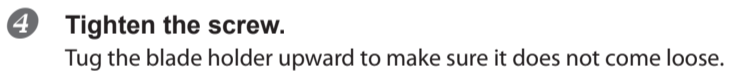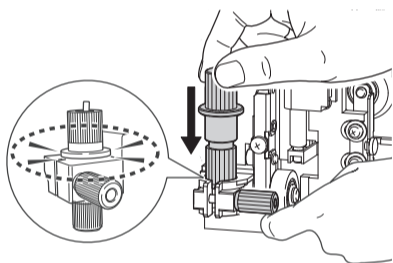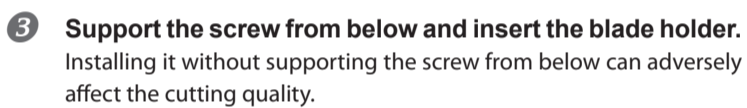Prepare roll media for printing and cutting that meets the following criteria:
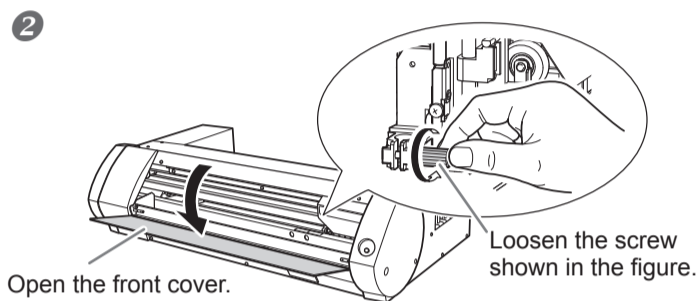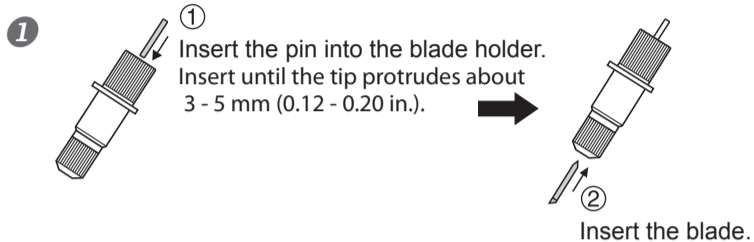 ➢ Width: 150 - 515 mm (5.9 - 20.27 in.). Paper tube inner diameter: 3 or 2 inches.
  *In this manual, the paper wound onto the paper tube is called "roll media."
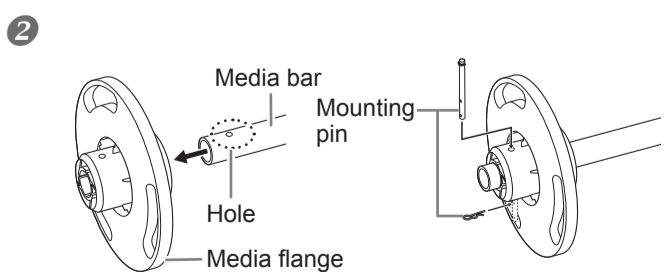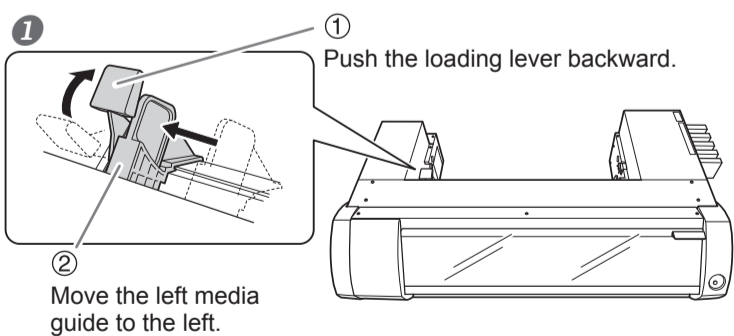 * To purchase these media, contact your authorized dealer or Roland DG.

> * For detailed information about how to install sheet media, such as standard-sized media, and usable media for this machine, refer to "BN-20 Master Guide."

1. Installing the Blade

❶

① Insert the pin into the blade holder.
Insert until the tip protrudes about 3 - 5 mm (0.12 - 0.20 in.).

② Insert the blade.

❷

Open the front cover.

Loosen the screw shown in the figure.

❸ **Support the screw from below and insert the blade holder.**
Installing it without supporting the screw from below can adversely affect the cutting quality.

❹ **Tighten the screw.**
Tug the blade holder upward to make sure it does not come loose.

> **Important Note on the Handling and Use of the Cutting Carriage**
> Leave the cutting-carriage screw loose when no blade holder is installed. Keeping the screw tightened causes the blade-holder insertion hole to become gradually smaller, making installation difficult.
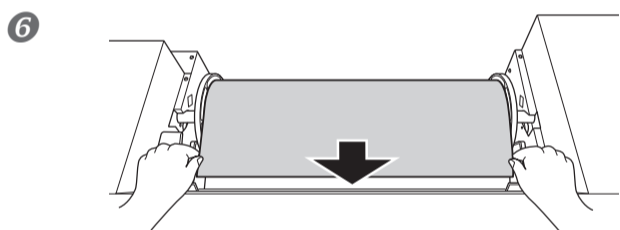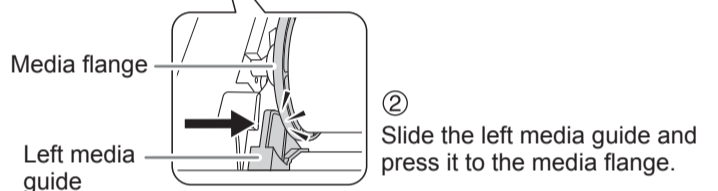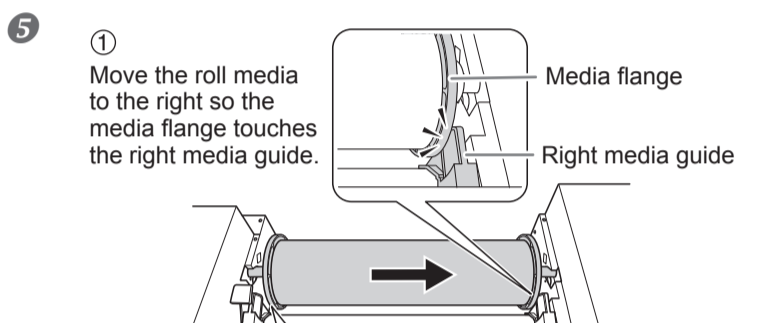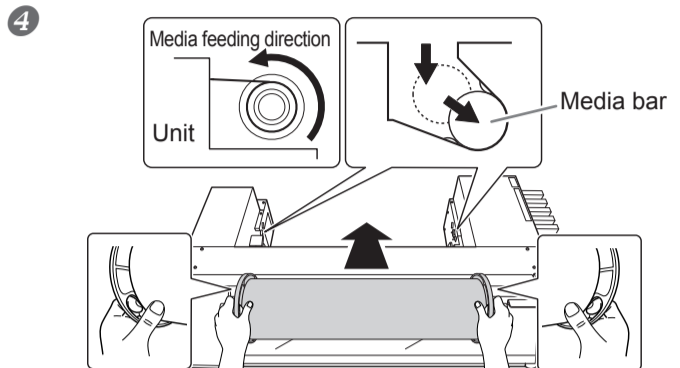
2. Loading the Roll Media

❶

① Push the loading lever backward.

② Move the left media guide to the left.
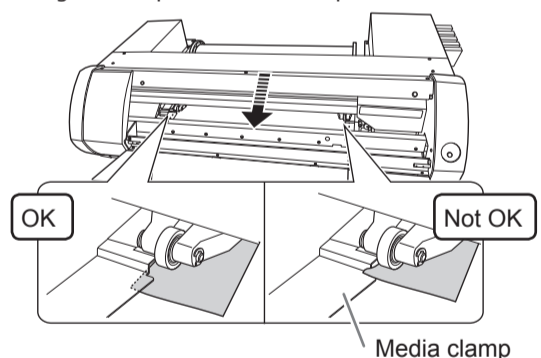
❷

Media bar
Mounting pin
Hole
Media flange

Insert the side of the media bar with a hole into the media flange, and secure it with the mounting pin. Use one of the two media flanges. The inside should be the one that fits the inner diameter of the roll media paper tube.

❸

Push in
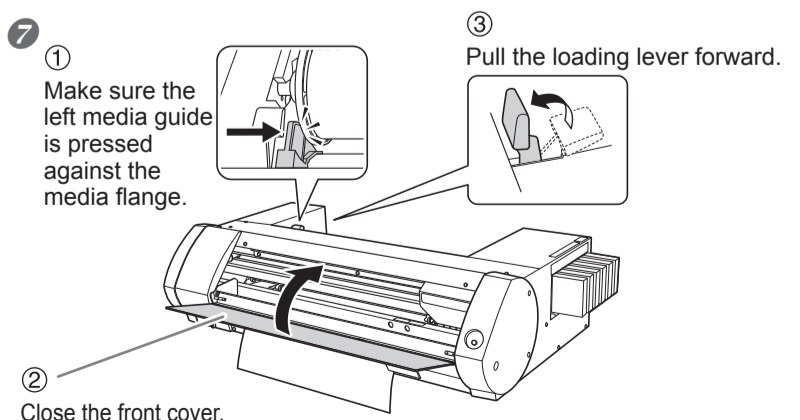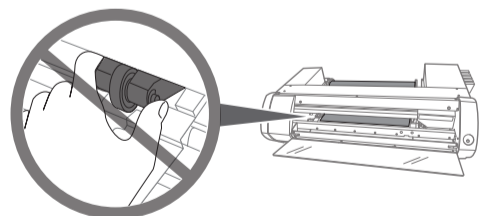Make sure that there are no gaps.
Push in
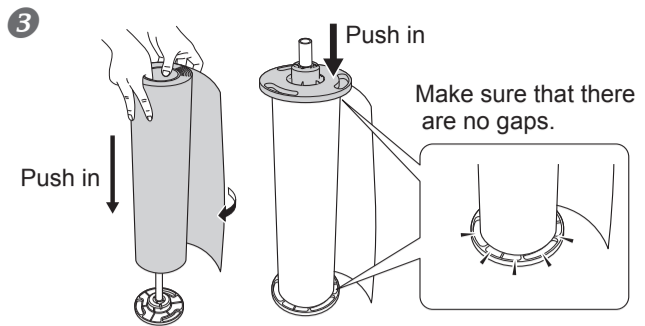
Place the fixed media flange at the bottom, so that the media feeds in a clockwise direction when looking from above. You cannot set the media correctly if the feed direction is not right.

❹

Media feeding direction
Unit
Media bar

❺

① Move the roll media to the right so the media flange touches the right media guide.
Media flange
Right media guide

Media flange
Left media guide
② Slide the left media guide and press it to the media flange.

❻

Pull the media straight to keep it taut, and let it pass beneath the media clamps.

OK
Not OK
Media clamp

⚠**CAUTION** **Do not move the pinch roller by hand. Use the media guide to move the pinch roller.**
Moving the pinch roller by force may result in injury.

❼

① Make sure the left media guide is pressed against the media flange.
③ Pull the loading lever forward.

② Close the front cover.

Initialization starts when the front cover is closed and the loading lever is raised. Initialization is complete when the POWER key stops flashing and remains lit.

STEP 2: Making Adjustments Before Output

Before output, perform printing tests and test cuts, and make the necessary adjustments. This is required to make the most of BN-20's printing and cutting capabilities. Perform this task before daily operations and when changing the media type.

> Important
> The components of the white ink and metallic silver ink can separate easily, so gently shake this ink cartridge each day before operations. The other color cartridges do not have to be shaken each day, but be sure to shake them when replacing. Failure to shake the ink

1. Starting the adjustment

❶

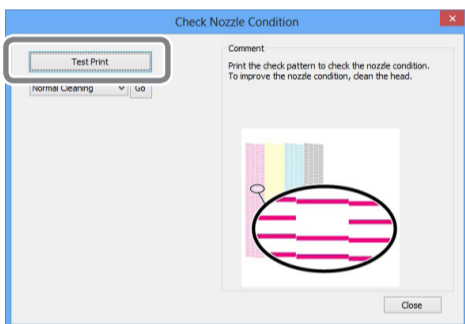**Click 🔘 in the computer's task tray.**
The BN-20 utility is displayed.

❷ **In the [Adjustment] tab, click [Adjust All].**
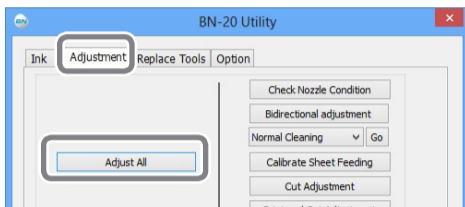
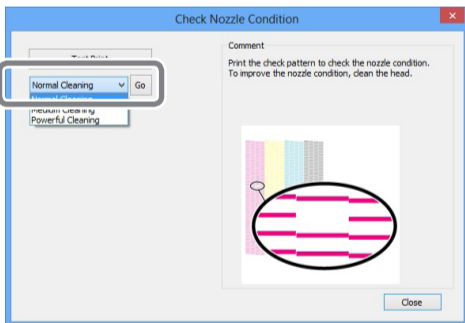**❸** **Click [Next] on the displayed screen.**

2. Check for nozzle clogging

❶ **Click [Test Print].**
The test pattern is printed. Follow the on-screen instructions to check for nozzle clogging.

Nozzle is clogged ⇨ Proceed to ❷
Nozzle is not clogged ⇨ Proceed to ❹

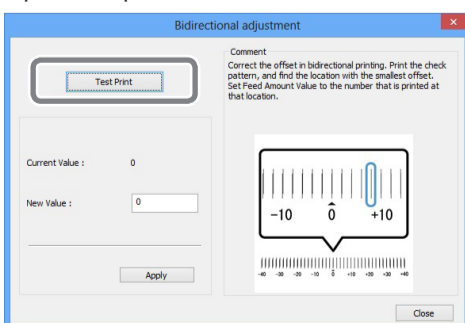**❷** **Select [Normal Cleaning] and click [Go].**
Normal cleaning starts.

❸ To check for nozzle clogging again ⇨ Return to **❶**
If the nozzle clogging is not fixed, perform "Normal Cleaning" again. For information about "Medium Cleaning" and "Powerful Cleaning," refer to pages regarding maintenance in "BN-20 Master Guide."

❹ **Click [Next] on the displayed screen.**

3. Bidirectional adjustment

❶ **Click [Test Print].**
The test pattern is printed.

❷ **Read the on-screen instructions and then enter a value in the [New Value] box.**

❸ **Click [Apply].**
The value in [Present Value] changes to the entered value.

❹ **Click [Close].**

❺ **Click [Next] on the displayed screen.**

4. Media feed correction

❶ **Click [Test Print].**
The test pattern is printed.

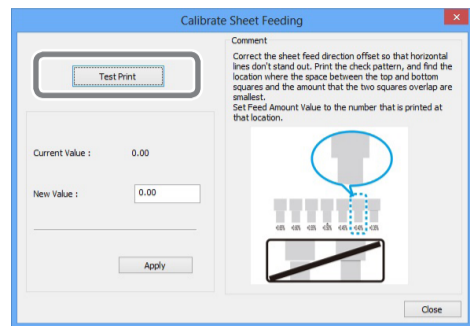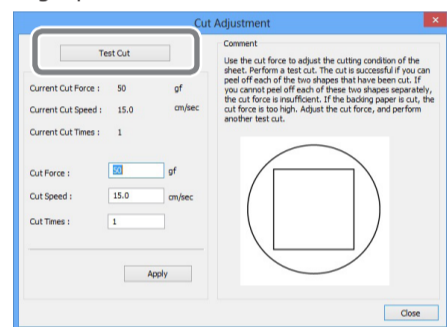**❷** **Read the on-screen instructions and then enter a value in the [New Value] box.**

❸ **Click [Apply].**
The value in [Present Value] changes to the value entered.

❹ **Click [Close].**

❺ **Click [Next] on the displayed screen.**

5. Adjusting cutting

❶ **Click [Test Cut].**
Test cutting is performed.

❷ **Read the on-screen instructions and then enter values in the [Cut Force] box.**
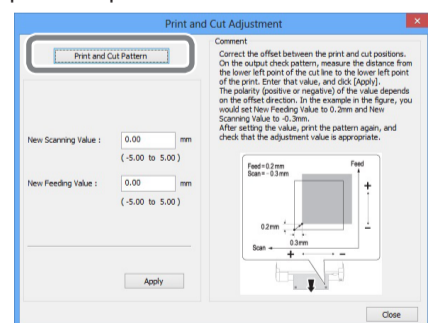
❸ **Click [Apply].**
Repeat **❶ ❷ ❸** until adjustment is done to allow the two shapes to peel off separately.

❹ **Click [Close].**

❺ **Click [Next] on the displayed screen.**

6. Adjusting printing & cutting

❶ **Click [Print and Cut Pattern].**
The test pattern is printed.

❷ **Follow the on-screen instructions and enter the values for [New Value for Scanning] and [New Value for Feeding].**

❸ **Click [Apply].**
The values in [New Value for Scanning] and [New Value for Feeding] change to "0."

❹ **Click [Close].**

❺ **Click [Skip] on the displayed screen.**
"Crop cut adjustment" will not be done here. It is not necessary for printing and cutting.

❻ **Click [OK] on the displayed screen.**
Adjustment is completed.

STEP 3: Output Printing & Cutting Data

Output from R-Works

This section describes how to output printing and cutting data using R-Works.
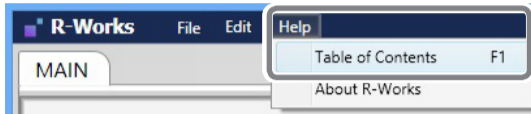
❶ R-Works starts.

Windows 10, 7:
From the Start menu, click [All apps] (or [All Programs]) – [R-Works] – [R-Works].

Windows 8.1:
Right-click the background in the start screen to display the app bar, and click [All Apps].Click the [R-Works].

❷ Click [Help] > [Table of Contents].
"R-Works Help" is displayed.

❸ From the contents on the left, click [Operation Procedures].
Follow the instructions from "Introduction" to "Step 4: Output the data" to perform each operation and test the output of printing and cutting.

Output from VersaWorks

This section describes how to output printing and cutting data using VersaWorks. For installation of VersaWorks, refer to "VersaWorks Installation Guide".

❶ VersaWorks starts.

Windows 10, 7:
From the Start menu, click [All apps] (or "All Programs") – [VersaWorks] – [VersaWorks].

Windows 8.1:
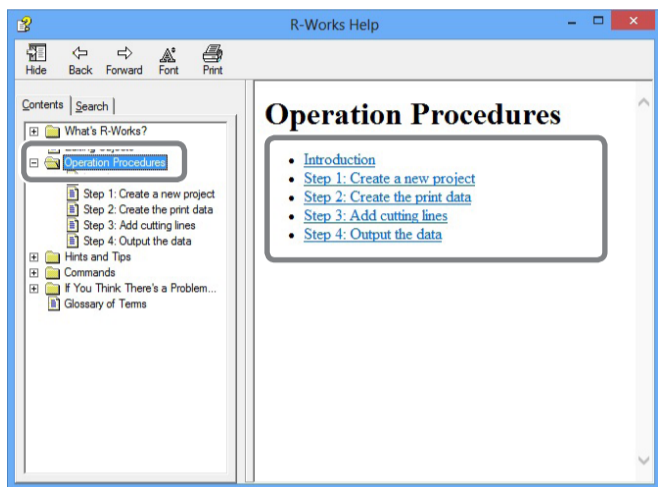Right-click the background in the start screen to display the app bar, and click [All Apps].Click the [VersaWorks].
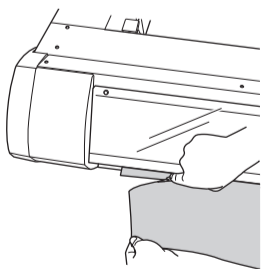
❷ Draw cutting paths on the data for output.
For information on how to use VersaWorks, refer to the "VersaWorks Help."

❸ Make an output.
For information on how to use VersaWorks, refer to the "VersaWorks Help."

Cutting off the media
Use a commercially-available utility knife to cut the media.

STEP 4: Manual Cleaning after Daily Operations Finish

*This operation is required every day if you are using ECO-SOL MAX 3 ink.
*This operation is required once a month if you are using ECO-SOL MAX ink or ECO-SOL MAX 2 ink.

Requirements for Manual Head Cleaning

➢ Remove media before cleaning.
➢ To prevent the heads from drying out, complete the cleaning within 30 minutes. After 30 minutes a warning alarm will sound.
➢ Only use the included cleaning sticks. Any other tool, e.g. cotton bud or similar is not designed for this task and will become fluffy and damage the heads. Please order cleaning sticks directly from us or your authorized Roland DG Corp. dealer.
➢ Do not use a cleaning stick more than once; the print quality will deteriorate. Dispose of the stick after each cleaning.
➢ Do not soak a used cleaning stick in cleaning liquid; the cleaning liquid will deteriorate.
➢ Do not rub the nozzle surface of the print heads.
➢ Clean the sponge section by stroking very lightly and gently. Do not rub, scrape, or flatten the section.

When a warning alarm sounds during cleaning
An alarm sounds 30 minutes after the start of the operation. Perform the operation by following the message displayed in the Utility window.

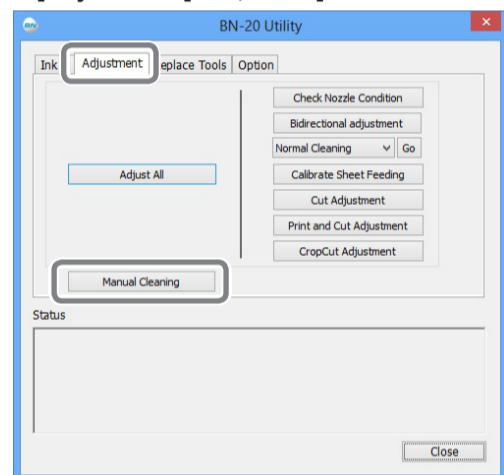**⚠CAUTION** **Always carefully follow the procedures in accordance with the instructions.** Otherwise a sudden movement of the machine may cause injury.
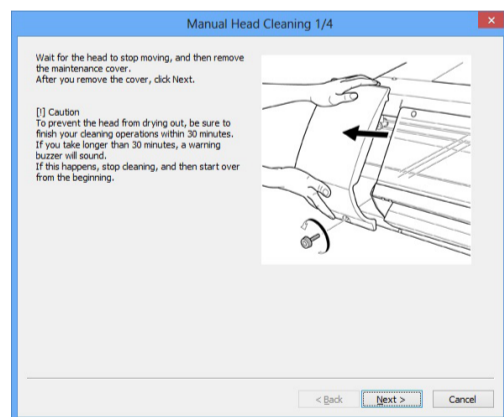
Procedure

❶ Click 🔳 in the computer's task tray.
The BN-20 utility is displayed.

❷ In the [Adjustment] tab, click [Manual Cleaning].

Manual Head Cleaning procedures are displayed. Carefully read the on-screen instructions and start the cleaning tasks.

❸ Carry out test printing and check the result.
Use the cleaning functions and perform cleaning several times if needed.