

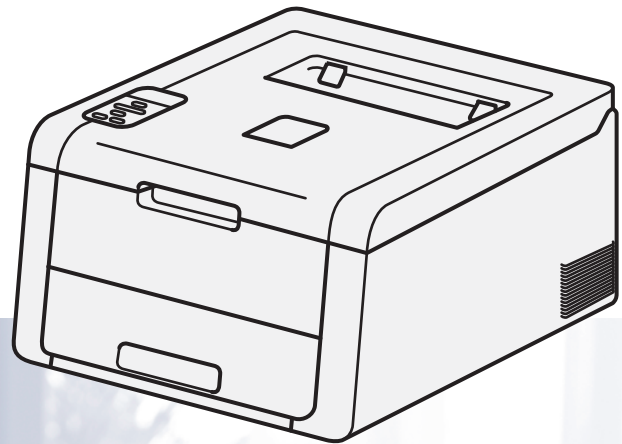
# User's Guide

Brother Color Printer

HL-3140CW

HL-3150CDN

HL-3170CDW



## For visually-impaired users

You can read this manual with Screen Reader 'text-to-speech' software.

You must set up the hardware and install the driver before you can use the machine.

Please use the Quick Setup Guide to set up the machine. You can find a printed copy in the box.

Please read this User's Guide thoroughly before you use the machine.

Please visit us at <http://solutions.brother.com/> where you can get product support, the latest driver updates and utilities, and answers to frequently asked questions (FAQs) and technical questions.

Note: Not all models are available in all countries.

HL-3140CW and HL-3170CDW in USA: Visit the Brother Solutions Center at <http://solutions.brother.com/> and click **Manuals** on your model's page to download other manuals.

## User's Guides and where do I find them?

Which Guide?	What's in it?	Where is it?
<b>Product Safety Guide</b>	Read this Guide first. Read the Safety Instructions before you set up your machine. See this Guide for trademarks and legal limitations.	Printed / In the Box
<b>Quick Setup Guide</b>	Follow the instructions for setting up your machine and installing the drivers and software for the operating system and connection type you are using.	Printed / In the Box
<b>User's Guide</b>	Learn the print operations, how to replace consumables, and performing routine maintenance. See troubleshooting tips.	For USA: HL-3140CW and HL-3170CDW PDF file / Brother Solutions Center at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a>
<b>Network User's Guide</b>	This Guide provides useful information about wired and wireless network settings and security settings using the Brother machine. You can also find supported protocol information for your machine and detailed troubleshooting tips.	HL-3150CDN PDF file / CD-ROM / In the box  For Other Countries: PDF file / CD-ROM / In the box
<b>Wi-Fi Direct™ Guide</b> (HL-3140CW and HL-3170CDW)	This Guide provides information about how to configure and use your Brother machine for wireless printing directly from a mobile device supporting the Wi-Fi Direct™ standard.	PDF file / Brother Solutions Center at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a>
<b>Google Cloud Print Guide</b>	This Guide provides information about how to configure your Brother machine to a Google account and use Google Cloud Print services for printing over the Internet.	PDF file / Brother Solutions Center at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a>
<b>Mobile Print/Scan Guide for Brother iPrint&amp;Scan</b>	This Guide provides useful information about printing from your mobile device and scanning from your Brother machine to your mobile device when connected on a Wi-Fi network.	PDF file / Brother Solutions Center at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a>
<b>AirPrint Guide</b>	This Guide provides information for using AirPrint to print from OS X v10.7.x, 10.8.x and your iPhone, iPod touch, iPad, or other iOS device to your Brother machine without installing a printer driver.	PDF file / Brother Solutions Center at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a>

# Using the documentation

Thank you for buying a Brother machine! Reading the documentation will help you make the most of your machine.

## Symbols and conventions used in the documentation

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The following symbols and conventions are used throughout the documentation.

### **WARNING**

WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injuries.

### **IMPORTANT**

IMPORTANT indicates a potentially hazardous situation which, if not avoided, may result in damage to property or loss of product functionality.

### **NOTE**

Notes tell you how you should respond to a situation that may arise or give tips about how the operation works with other features.



Electrical Hazard icons alert you to possible electrical shocks.



Fire Hazard icons alert you to the possibility of a fire.



Hot Surface icons warn you not to touch machine parts that are hot.



Prohibition icons indicate actions that must not be performed.

### **Bold**

Bold style identifies keys on the machine control panel or computer screen.

### *Italics*

Italicized style emphasizes an important point or refers you to a related topic.

### Courier New

Courier New font identifies the messages shown on the LCD of the machine.

### **NOTE**

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If you are using a tablet running Windows<sup>®</sup> 8, you can make your selections either by tapping the screen or by clicking with your mouse.

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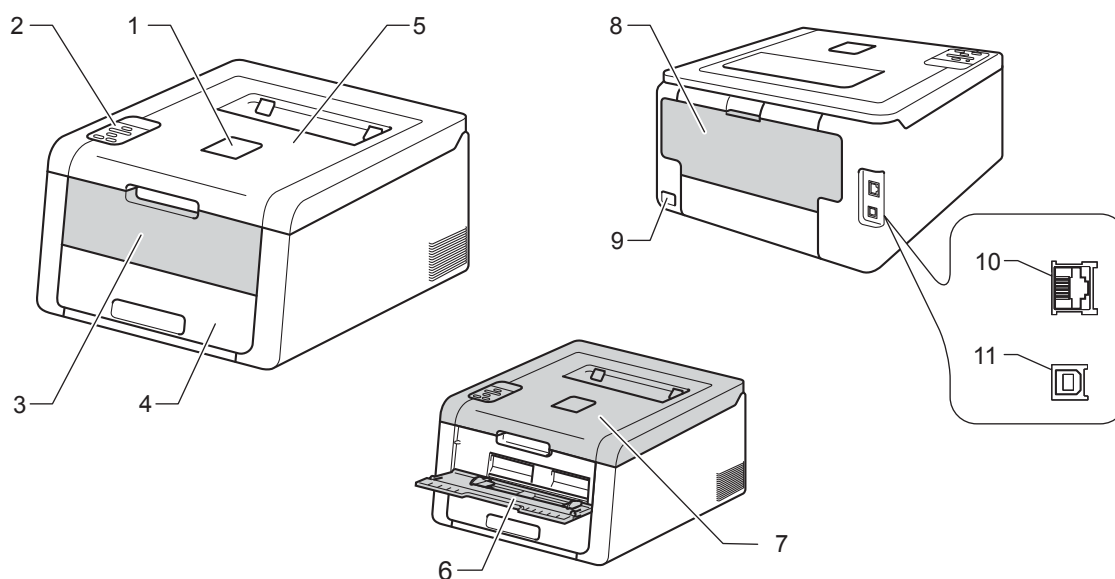
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## About this Machine

### Front view and Back view



- 1 Face-down output tray support flap (support flap)
- 2 Control panel with a Liquid Crystal Display (LCD)
- 3 Manual feed slot cover
- 4 Paper tray
- 5 Face-down output tray
- 6 Manual Feed Slot
- 7 Top cover
- 8 Back cover (Face-up output tray when open)
- 9 AC power connector
- 10 10BASE-T / 100BASE-TX (HL-3150CDN and HL-3170CDW)
- 11 USB port

### NOTE

Most of the illustrations in this User's Guide show the HL-3170CDW.

## Acceptable paper and other print media

Print quality may vary according to the type of paper you are using.

You can use the following types of print media: plain paper, thin paper, thick paper, thicker paper, bond paper, recycled paper, labels, envelopes or Glossy paper (see *Print media* on page 189).

For best results, follow the instructions below:

- DO NOT put different types of paper in the paper tray at the same time because it may cause paper jams or misfeeds.
- For correct printing, you must choose the same paper size from your software application as the paper in the tray.
- Avoid touching the printed surface of the paper immediately after printing.
- Before you buy a lot of paper, test a small quantity to make sure that the paper is appropriate for the machine.

## Recommended paper and print media

Paper Type	Item
Plain paper	Xerox 4200 20 lb
	Hammermill Laser Print 24 lb (90 g/m <sup>2</sup> )
Recycled paper	(No specific brand recommended)
Labels	Avery laser labels white #5160
Envelopes	(No specific brand recommended)
Glossy paper	NewPage Futura Laser Gloss 80 lb (118 g/m <sup>2</sup> )
	Xerox Digital Color Elite Gloss

## Type and size of paper

The machine feeds paper from the installed standard paper tray or the manual feed slot.

The names for the paper trays in the printer driver and this Guide are as follows:

Tray	Name
Paper tray	Tray 1
Manual feed slot	Manual



### Paper capacity of the paper trays

	Paper size	Paper types	No. of sheets
Paper Tray (Tray 1)	Letter, A4, Legal, B5 (JIS), Executive, A5, A5 (Long Edge), A6, Folio <sup>1</sup>	Plain paper, Thin paper and Recycled paper	up to 250 sheets 20 lb (80 g/m <sup>2</sup> )
Manual feed slot	Width: 3.0 to 8.5 in. (76.2 to 216 mm) Length: 4.57 to 14 in. (116 to 355.6 mm)	Plain paper, Thin paper, Thick paper, Thicker paper, Bond paper, Recycled paper, Envelopes, Labels and Glossy Paper	1 sheet 1 Envelope

<sup>1</sup> Folio size is 8.5 in. × 13 in. (215.9 mm x 330.2 mm).

### Recommended paper specifications

The following paper specifications are appropriate for this machine.

Basis weight	20-24 lb (75-90 g/m <sup>2</sup> )
Thickness	80-110 μm
Roughness	Higher than 20 sec.
Stiffness	90-150 cm <sup>3</sup> /100
Grain direction	Long grain
Volume resistivity	10e <sup>9</sup> -10e <sup>11</sup> ohm
Surface resistivity	10e <sup>9</sup> -10e <sup>12</sup> ohm-cm
Filler	CaCO <sub>3</sub> (Neutral)
Ash content	Below 23 wt%
Brightness	Higher than 80%
Opacity	Higher than 85%

- Use plain paper that is suitable for laser/LED machines to make copies.
- Use paper that is 20 to 24 lb (75 to 90 g/m<sup>2</sup>).
- Use long grain paper with a neutral Ph value, and a moisture content of approx. 5%.
- This machine can use recycled paper that meets DIN 19309 specifications.

(Before you put paper in this machine, see *Important information for choosing your paper* on page 194.)

## Handling and using special paper

The machine is designed to work well with most types of xerographic and bond paper. However, some paper variables may have an effect on print quality or handling reliability. Always test samples of paper before purchasing to ensure desirable performance. Store paper in its original packaging and keep it sealed. Keep the paper flat and away from moisture, direct sunlight and heat.

Some important guidelines when selecting paper are:

- DO NOT use inkjet paper because it may cause a paper jam or damage your machine.
- Preprinted paper must use ink that can withstand the temperature of the machine's fusing process 392 °F (200 °C).
- If you use bond paper, paper having a rough surface or paper that is wrinkled or creased, the paper may exhibit degraded performance.

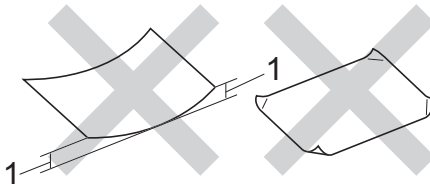
### Types of paper to avoid

#### IMPORTANT

Some types of paper may not perform well or may cause damage to your machine.

DO NOT use paper:

- that is highly textured
- that is extremely smooth or shiny
- that is curled or warped



**1 A curl of 0.08 in. (2 mm) or greater may cause jams to occur.**

- that is coated or has a chemical finish
- that is damaged, creased or folded
- that exceeds the recommended weight specification in this guide
- with tabs and staples
- with letterheads using low temperature dyes or thermography
- that is multipart or carbonless
- that is designed for inkjet printing

If you use any of the types of paper listed above, they may damage your machine. This damage is not covered under any Brother warranty or service agreement.

## Envelopes

Most envelopes can be used with your machine. However, some envelopes may have feed and print-quality problems because of the way they have been made. Envelopes should have edges with straight, well-creased folds. Envelopes should lie flat and not be of baggy or flimsy construction. Use only quality envelopes from a supplier who understands that you will be using the envelopes in a laser machine.

We recommend that you print a test envelope to make sure the print results are what you want.

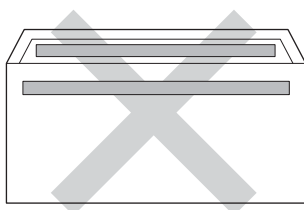
### Types of envelopes to avoid

#### IMPORTANT

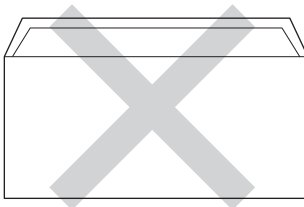
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DO NOT use envelopes:

- that are damaged, curled, wrinkled or an unusual shape
- that are extremely shiny or textured
- with clasps, staples, snaps or tie strings
- with self-adhesive closures
- that are of a baggy construction
- that are not sharply creased
- that are embossed (have raised writing on them)
- that were previously printed by a laser/LED printer
- that are pre-printed on the inside
- that cannot be arranged neatly when stacked
- that are made of paper that weighs more than the paper weight specifications for the machine
- with edges that are not straight or consistently square
- with windows, holes, cut-outs or perforations
- with glue on surface as shown in figure below

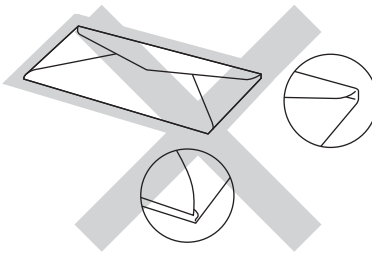


- with double flaps as shown in figure below



- with sealing flaps that are not folded down when purchased

- with each side folded as shown in figure below



If you use any of the types of envelopes listed above, they may damage your machine. This damage may not be covered under any Brother warranty or service agreement.

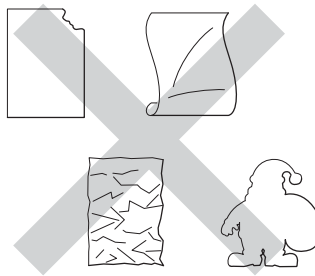
## Labels

Most labels can be used with your machine. Labels should have an adhesive that is acrylic-based since this material is more stable at the high temperatures in the fuser unit. Adhesives should not come in contact with any part of the machine, because the label stock may stick to the drum units or rollers and cause jams and print quality problems. No adhesive should be exposed between the labels. Labels should be arranged so that they cover the entire length and width of the sheet. Using labels with spaces may result in labels peeling off and causing serious jams or print problems.

All labels used in this machine must be able to withstand a temperature of 392 °F (200 °C) for a period of 0.1 seconds.

## Types of labels to avoid

Do not use labels that are damaged, curled, wrinkled or an unusual shape.

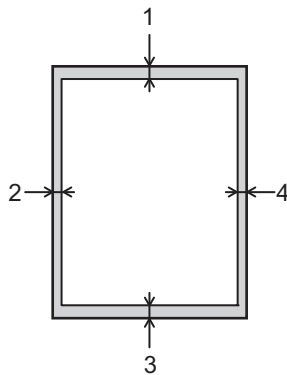


## IMPORTANT

- Avoid feeding labels with the carrier sheet exposed because your machine will be damaged. DO NOT feed partially used carrier sheets.
- DO NOT reuse or insert labels that have previously been used or are missing a few labels on the sheet.
- Label sheets should not exceed the paper weight specifications described in this User's Guide. Labels exceeding this specification may not feed or print correctly and may cause damage to your machine.

## Unprintable area when printing from a computer

The figures below show maximum unprintable areas. The unprintable areas may vary depending on the paper size or settings in the application you are using.



Usage	Document Size	Top (1) Bottom (3)	Left (2) Right (4)
Print	Letter	0.16 in. (4.23 mm)	0.16 in. (4.23 mm)
	A4	0.16 in. (4.23 mm)	0.16 in. (4.23 mm)
	Legal	0.16 in. (4.23 mm)	0.16 in. (4.23 mm)

# Loading paper

## Loading paper and print media

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The machine can feed paper from the standard paper tray or the manual feed slot.

When you put paper into the paper tray, note the following:

- If your application software supports paper size selection on the print menu, you can select it through the software. If your application software does not support it, you can set the paper size in the printer driver or by using the control panel keys.

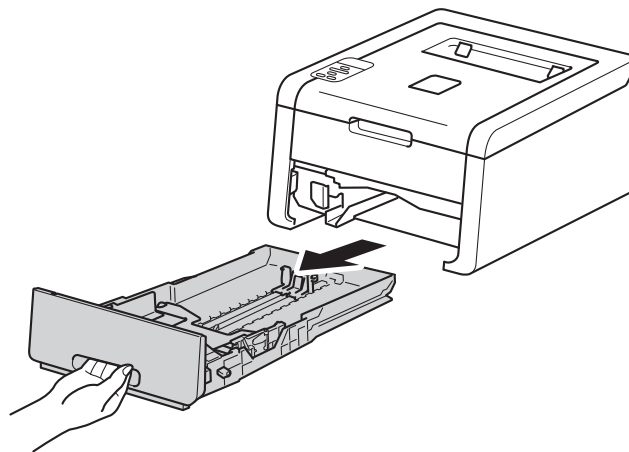
## Loading paper in the standard paper tray

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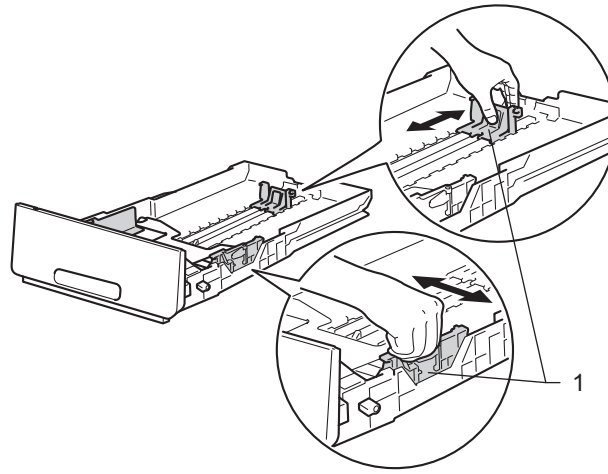
Load up to 250 sheets of paper in the standard paper tray (Tray 1). Paper can be loaded up to the maximum paper mark (▼▼▼) on the right side of the paper tray. (For the recommended paper to use, see *Acceptable paper and other print media* on page 2.)

### Printing on plain paper, thin paper or recycled paper from Tray 1

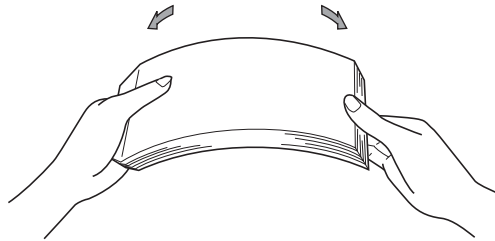
- 1 Pull the paper tray completely out of the machine.



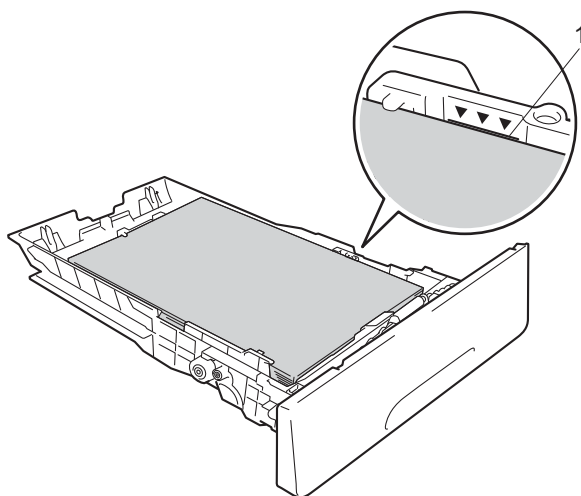
- 2 While pressing the green paper-guide release levers (1), slide the paper guides to fit the paper you are loading in the tray. Make sure that the guides are firmly in the slots.



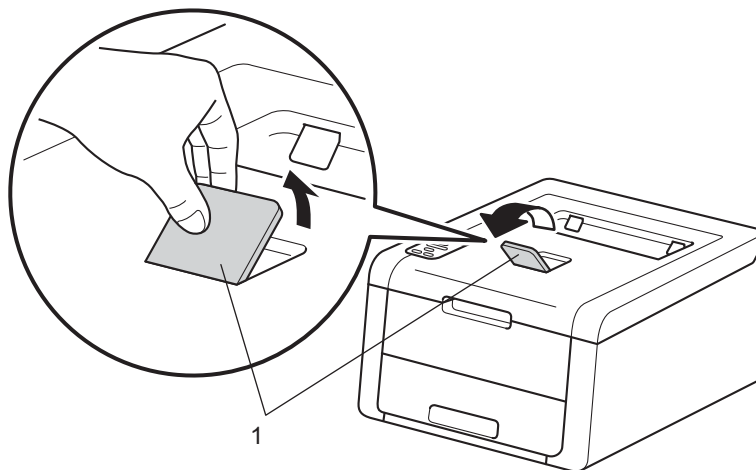
- 3 Fan the stack of paper well to avoid paper jams and misfeeds.



- 4 Put paper in the tray and make sure:
- The paper is below the maximum paper mark (▼▼▼) (1).  
Over filling the paper tray will cause paper jams.
  - The side to be printed on is face down.
  - The paper guides touch the sides of the paper so it will feed correctly.



- 5 Put the paper tray firmly back in the machine. Make sure that it is completely inserted into the machine.
- 6 Lift up the support flap (1) to prevent paper from sliding off the face-down output tray, or remove each page as soon as it comes out of the machine.





7 Choose the following settings from each drop-down list of the printer driver.

■ Paper Size

A4	Letter	Legal	Executive	A5
B5	JIS B5	Folio	A5 Long Edge	A6

For the acceptable paper sizes, see *Type and size of paper* on page 2.

■ Media Type

Plain Paper	Thin Paper	Recycled Paper
-------------	------------	----------------

■ Paper Source

Tray1

For any other settings, see *Driver and Software* in Chapter 2.

**NOTE**

The name of options in the drop-down lists may vary depending on your operating system and its version.

8 Send the print data to the machine.

## Loading paper in the Manual feed slot

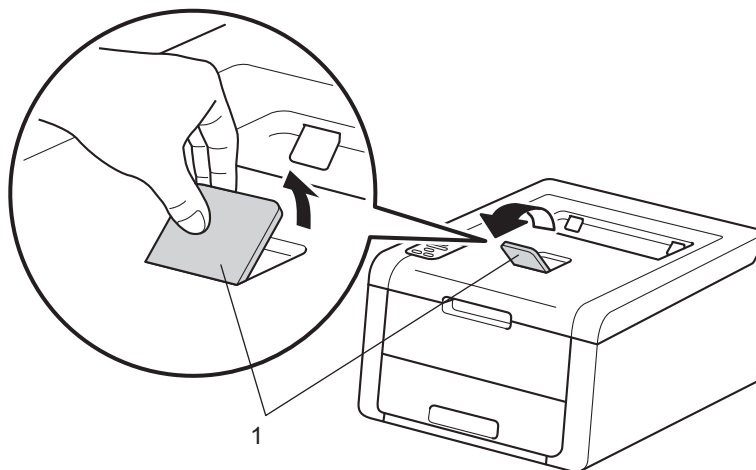
(For the recommended paper to use, see *Acceptable paper and other print media* on page 2.)

### NOTE

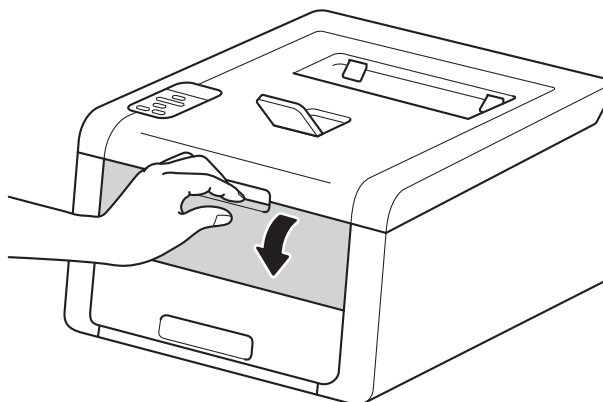
The machine turns on the Manual Feed mode when you put paper in the manual feed slot.

## Printing on plain paper, thin paper, recycled paper or bond paper from the Manual feed slot

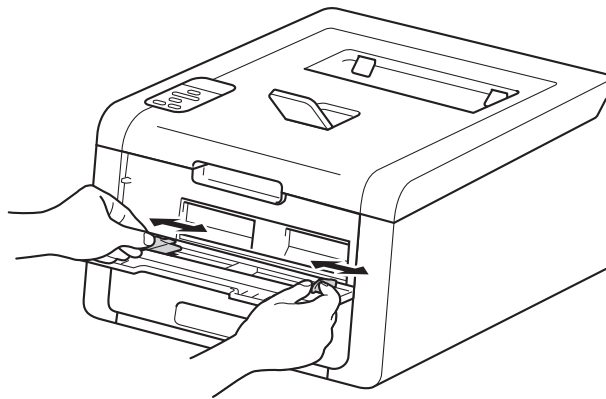
- 1 Lift up the support flap (1) to prevent paper from sliding off the face-down output tray, or remove each page as soon as it comes out of the machine.



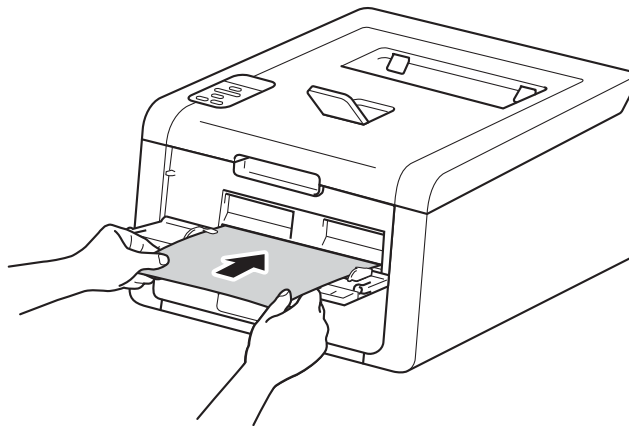
- 2 Open the manual feed slot cover.



- Use both hands to slide the manual feed slot paper guides to the width of the paper that you are going to use.



- Use both hands to push one sheet of paper *firmly* into the manual feed slot until the top edge of the paper presses against the paper feed rollers. Continue pressing the paper against the rollers for about two seconds, or until the machine grabs the paper and pulls it in further.



## NOTE

- If the error message `Jam Inside` appears on the LCD, the machine cannot grasp and pull the paper. Reset the machine by removing the paper and then pressing **Cancel** on the control panel. Reinsert the paper and be sure to press it *firmly* against the rollers.
- Put the paper into the manual feed slot with the side to be printed on face up.
- Make sure that the paper is straight and in the correct position on the manual feed slot. If it is not, the paper may not be fed correctly, resulting in a skewed printout or a paper jam.
- Pull the paper out completely when you retry putting the paper into the manual feed slot.
- Do not put more than one sheet of paper in the manual feed slot at any one time, as it may cause a jam.
- If you put paper or other print media in the manual feed slot before the machine is in Ready mode, an error may occur and the machine will stop printing.

5 Choose the following settings from each drop-down list of the printer driver.

■ **Paper Size**

Width: 3.0 to 8.5 in. (76.2 to 216 mm)

Length: 4.57 to 14 in. (116 to 355.6 mm)

Customized paper size <sup>1</sup>

<sup>1</sup> Define your original paper size by choosing **User Defined...** in Windows® printer driver, **PostScript Custom Page Size** in BR-Script printer driver for Windows®, or **Manage Custom Sizes...** in Macintosh printer drivers.

For the acceptable paper sizes, see *Type and size of paper* on page 2.

■ **Media Type**

Plain Paper

Thin Paper

Recycled Paper

Bond Paper

■ **Paper Source**

Manual

For any other settings, see *Driver and Software* in Chapter 2.

**NOTE**

The name of options in the drop-down lists may vary depending on your operating system and its version.

6 Send the print data to the machine.

7 After the LCD shows `Manual Feed`, return to step 4 to put in the next sheet of paper. Repeat for each page you want to print.

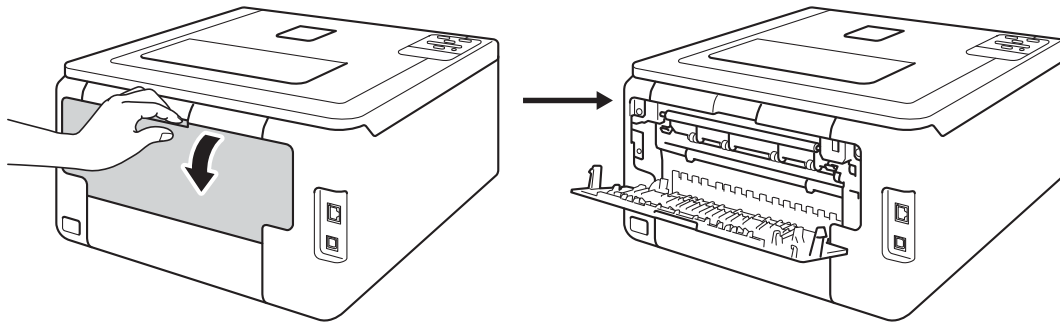
**NOTE**

The LCD will show `Manual Feed` until a sheet of paper is put in the manual feed slot.

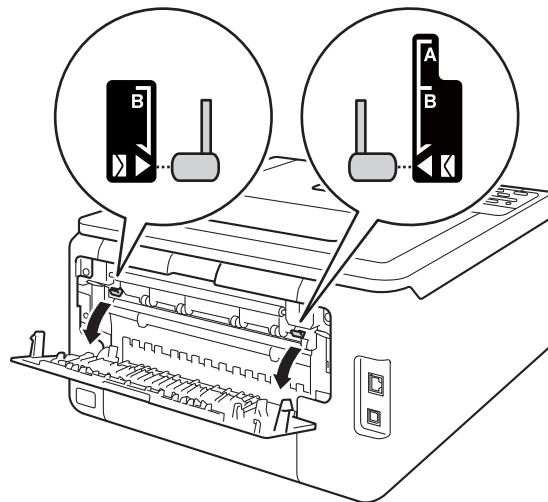
## Printing on thick paper, labels, envelopes and glossy paper from the Manual feed slot

When the back cover (face-up output tray) is pulled down, the machine has a straight paper path from the manual feed slot through to the back of the machine. Use this paper feed and output method when you want to print on thick paper, labels, envelopes or glossy paper. (For the recommended paper to use, see *Acceptable paper and other print media* on page 2 and *Envelopes* on page 5.)

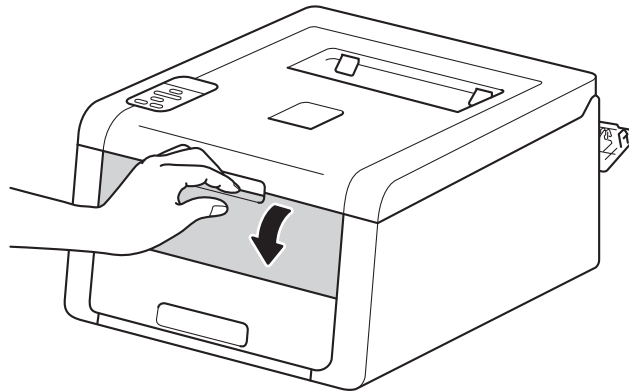
- 1 Open the back cover (face-up output tray).



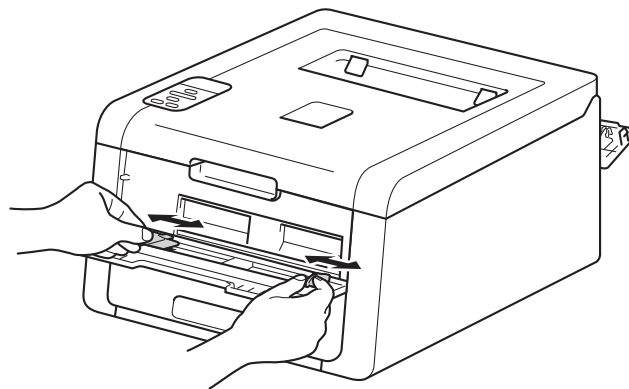
- 2 (For printing envelopes only)  
Pull down the two gray levers, one on the left side and one on the right side, toward you as shown in the illustration below.



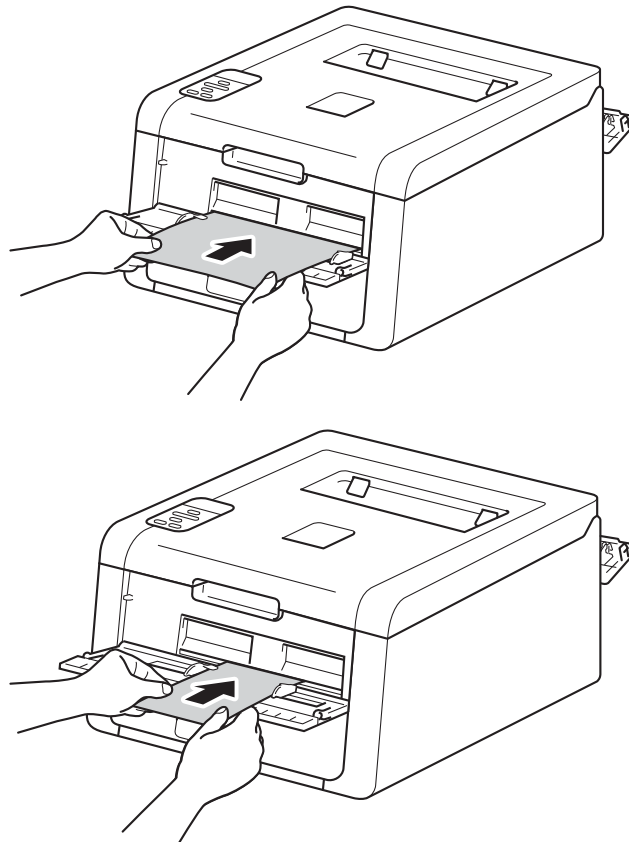
- 3 Open the manual feed slot cover.



- 4 Use both hands to slide the manual feed slot paper guides to the width of the paper that you are going to use.



- 5 Use both hands to push one sheet of paper *firmly* into the manual feed slot until the top edge of the paper presses against the paper feed rollers. Continue pressing the paper against the rollers for about two seconds, or until the machine grabs the paper and pulls it in further.



## NOTE

- If the error message `Jam Inside` appears on the LCD, the machine cannot grasp and pull the paper. Reset the machine by removing the paper and then pressing **Cancel** on the control panel. Reinsert the paper and be sure to press it *firmly* against the rollers.
- Put the paper into the manual feed slot with the side to be printed on face up.
- Make sure that the paper is straight and in the correct position on the manual feed slot. If it is not, the paper may not be fed correctly, resulting in a skewed printout or a paper jam.
- Pull the paper out completely when you retry putting the paper into the manual feed slot.
- Do not put more than one sheet of paper in the manual feed slot at any one time, as it may cause a jam.
- If you put paper or other print media in the manual feed slot before the machine is in Ready mode, an error may occur and the machine will stop printing.

6 Choose the following settings from each drop-down list of the printer driver.

■ **Paper Size**

(For printing on thick paper, labels or glossy paper)

- |                     |               |                                    |                  |           |
|---------------------|---------------|------------------------------------|------------------|-----------|
| <b>A4</b>           | <b>Letter</b> | <b>Legal</b>                       | <b>Executive</b> | <b>A5</b> |
| <b>A5 Long Edge</b> | <b>A6</b>     | <b>B5</b>                          | <b>JIS B5</b>    |           |
| <b>3 x 5</b>        | <b>Folio</b>  | Customized paper size <sup>1</sup> |                  |           |

(For printing envelopes)

- |                                    |           |           |                |
|------------------------------------|-----------|-----------|----------------|
| <b>Com-10</b>                      | <b>DL</b> | <b>C5</b> | <b>Monarch</b> |
| Customized paper size <sup>1</sup> |           |           |                |

<sup>1</sup> Define your original paper size by choosing **User Defined...** in Windows® printer driver, **PostScript Custom Page Size** in BR-Script printer driver for Windows®, or **Manage Custom Sizes...** in Macintosh printer drivers.

For the acceptable paper sizes, see *Type and size of paper* on page 2.

■ **Media Type**

(For printing on thick paper, labels or glossy paper)

- |                    |                      |                     |              |
|--------------------|----------------------|---------------------|--------------|
| <b>Thick Paper</b> | <b>Thicker Paper</b> | <b>Glossy Paper</b> | <b>Label</b> |
|--------------------|----------------------|---------------------|--------------|

(For printing envelopes)

- |                  |                  |                   |
|------------------|------------------|-------------------|
| <b>Envelopes</b> | <b>Env. Thin</b> | <b>Env. Thick</b> |
|------------------|------------------|-------------------|

■ **Paper Source**

**Manual**

For any other settings, see *Driver and Software* in Chapter 2.

**NOTE**

- The name of options in the drop-down lists may vary depending on your operating system and its version.
- When **Label** is selected in the printer driver, the machine will feed the paper from the manual feed slot, even if **Manual** is not selected as the paper source.
- When you use Envelope #10, choose **Com-10** (for Windows®) or **Envelope #10** (for Macintosh) from the **Paper Size** drop-down list.
- For other envelopes that are not listed in the printer driver, such as Envelope #9 or Envelope C6, choose **User Defined...** (for Windows® printer driver), **PostScript Custom Page Size** (for BR-Script printer driver for Windows®) or **Manage Custom Sizes...** (for Macintosh printer driver).

7 Send the print data to the machine.



- 8 After the LCD shows `Manual Feed`, return to step 5 to put in the next sheet of paper.
- 9 (For printing envelopes only)  
When you have finished printing, reset the two gray levers that you pulled down in step 2 back to their original positions.
- 10 Close the back cover (face-up output tray).

---

**NOTE**

- The LCD will show `Manual Feed` until a sheet of paper or an envelope is put in the manual feed slot.
  - Remove each page or envelope immediately after printing. Letting pages or envelopes become stacked may cause the paper to jam or curl.
-

## 2-sided printing

The supplied printer drivers all enable 2-sided printing.

### Guidelines for printing on both sides of the paper

---

- If the paper is thin, it may wrinkle.
- If paper is curled, straighten it and put it back in the paper tray. If the paper continues to curl, replace the paper.
- If the paper is not feeding correctly, it may be curled. Remove the paper and straighten it. If the paper continues to curl, replace the paper.
- When you use the manual 2-sided function, it is possible that there may be paper jams or poor print quality. (If there is a paper jam, see *Paper jams* on page 163. If you have a print quality problem, see *Improving the print quality* on page 177.)

### NOTE

---

Make sure that the paper tray is completely inserted in the machine.

---

## Automatic 2-sided printing (HL-3150CDN and HL-3170CDW)

If you are using the Macintosh Printer Driver, see *2-sided Printing* on page 71.

### Automatic 2-sided printing with the Windows® printer driver

1 Choose the following settings from each menu of the printer driver.

■ **Paper Size**

Letter                      Legal                      Folio

■ **Media Type**

Plain Paper              Recycled Paper      Thin Paper

■ **Paper Source**

Tray1                      Manual

■ **2-sided / Booklet**

2-sided

■ **2-sided Type in 2-sided Settings**

There are four options for each orientation (see *2-sided / Booklet* on page 33).

■ **Binding Offset in 2-sided Settings**

Specify the offset for binding (see *2-sided / Booklet* on page 33).

### NOTE

- Do not use bond paper.
- The name of options in the drop-down lists may vary depending on your operating system and its version.

For any other settings, see *Driver and Software* in Chapter 2.

2 Send the print data to the machine. The machine will print on both sides of the paper automatically.

## Automatic 2-sided printing with the BR-Script printer driver for Windows®

1 Choose the following settings from each menu of the printer driver.

■ **Paper Size**

Letter                      Legal                      Folio

■ **Media Type**

Plain Paper              Recycled Paper      Thin Paper

■ **Paper Source**

Tray1                      Manual Feed

■ **Print on Both Sides**

Flip on Short Edge      Flip on Long Edge

■ **Page Order**

Front to Back              Back to Front

### NOTE

---

- Do not use bond paper.
  - The name of options in the drop-down lists may vary depending on your operating system and its version.
- 

For any other settings, see *Driver and Software* in Chapter 2.

2 Send the print data to the machine. The machine will print on both sides of the paper automatically.

## Manual 2-sided printing

---

The BR-Script printer driver for Windows® does not support manual 2-sided printing. If you are using the Macintosh Printer Driver, see *Manual 2-sided Printing* on page 71.

### Manual 2-sided printing with the Windows® printer driver

- 1 Choose the following settings from each drop-down list of the printer driver.
  - **Paper Size**  
You can use all the paper sizes specified for the tray you are using.
  - **Media Type**  
You can use all the media types that are specified for the tray you are using, except envelopes and labels, which have only one print side.
  - **Paper Source**  

Tray1	Manual
-------	--------
  - **2-sided / Booklet**  
  
**2-sided (Manual)**
  - **2-sided Type in 2-sided Settings**  
There are four options for each orientation (see *2-sided / Booklet* on page 33).
  - **Binding Offset in 2-sided Settings**  
Specify the offset for binding (see *2-sided / Booklet* on page 33).

For any other settings, see *Driver and Software* in Chapter 2.
- 2 Send the print data to the machine. The machine will print all the even-numbered pages on one side of the paper first. Then, the Windows® driver instructs you (with a pop-up message) to reinsert the paper to print the odd-numbered pages.

### NOTE

---

Before reinserting the paper, straighten it well, or you may get a paper jam. Very thin or thick paper is not recommended.

---

## Printer driver

A printer driver is software that translates data from the format used by a computer to the format that a particular printer needs. Typically, this format is page description language (PDL).

The printer drivers for the supported versions of Windows® and Macintosh are on the CD-ROM we have supplied or on the Brother Solutions Center website at <http://solutions.brother.com/>. Install the drivers by following the steps in the Quick Setup Guide. The latest printer drivers can be downloaded from the Brother Solutions Center website at:

<http://solutions.brother.com/>

### For Windows®

- Windows® printer driver (the recommended printer driver for this product)
- BR-Script printer driver (PostScript® 3™ language emulation, for HL-3170CDW) <sup>1</sup>

<sup>1</sup> Install the driver using the Custom Install from the CD-ROM.

### For Macintosh

- Macintosh printer driver (the recommended printer driver for this product)
- BR-Script printer driver (PostScript® 3™ language emulation, for HL-3170CDW) <sup>1</sup>

<sup>1</sup> For the installation instruction of the driver, visit us at <http://solutions.brother.com/>.

### For Linux® <sup>1 2</sup>

- LPR printer driver
- CUPS printer driver

<sup>1</sup> For more information and to download the printer driver for Linux please visit your model page at <http://solutions.brother.com/> or use the link on the CD-ROM we have supplied.

<sup>2</sup> Depending on Linux distributions, the driver may not be available or it may be released after the initial release of your model.

## Printing a document

---

When the machine receives data from your computer, it begins printing by picking up paper from the paper tray or manual feed slot. The manual feed slot can feed many types of paper and envelopes (see *Paper capacity of the paper trays* on page 3).

- 1 From your application, choose the Print command.  
If any other printer drivers are installed on your computer, choose **Brother HL-XXXX series** (where XXXX is your model name) as your printer driver from the Print or Print Settings menu in your software application, and then click **OK** or **Print** to begin printing.
- 2 Your computer sends the data to the machine. The **Data** LED will blink and the LCD will show *Printing*.
- 3 When the machine finishes printing all the data, the **Data** LED finishes blinking.

### NOTE

---

- Select the paper size and orientation in your application software.
  - If your application software does not support your custom paper size, choose the next largest paper size.
  - Then adjust the print area by changing the right and left margins in your application software.
-

## Printer driver settings

You can change the following printer settings when you print from your computer:

	Windows® printer driver	BR-Script printer driver for Windows® (HL-3170CDW only)	Macintosh Printer Driver	BR-Script printer driver for Macintosh (HL-3170CDW only)
Paper Size	✓	✓	✓	✓
Orientation	✓	✓	✓	✓
Copies	✓	✓	✓	✓
Media Type	✓	✓	✓	✓
Print Quality	✓	✓	✓	✓
Color/Mono	✓	✓	✓	✓
Multiple Page	✓	✓	✓	✓
2-sided <sup>1</sup> / Booklet <sup>2</sup>	✓	✓	✓	✓
Paper Source	✓	✓	✓	✓
Scaling	✓	✓	✓	✓
Reverse Print	✓		✓	✓
Use Watermark	✓			
Header-Footer Print	✓			
Toner Save Mode	✓	✓	✓	✓
Secure Print	✓	✓	✓	✓
Administrator	✓			
User Authentication	✓			
Color Calibration	✓			
Use Reprint	✓			
Sleep Time	✓	✓	✓	✓
Improve Print Output	✓	✓	✓	✓
Skip Blank Page	✓		✓	
Print Text in Black	✓			
Print Profile	✓			

<sup>1</sup> Manual 2-sided printing is not available with the BR-Script printer driver for Windows®.

<sup>2</sup> Booklet is not available with the Macintosh printer driver and the BR-Script printer driver for Macintosh.





# Windows®

## Accessing the printer driver settings

---

- 1 (For Windows® XP and Windows Server® 2003)  
Click **Start**, and then **Printers and Faxes**.  
(For Windows Vista® and Windows Server® 2008)

Click the  (**Start**) button, **Control Panel**, **Hardware and Sound**, and then **Printers**.  
(For Windows® 7 and Windows Server® 2008R2)

Click the  (**Start**) button and **Devices and Printers**.
- 2 Right-click the **Brother HL-XXXX series** icon (where XXXX is your model name) and select **Printer properties (Properties)**, and **Brother HL-XXXX series** if necessary. The printer properties dialog box appears.
- 3 Choose the **General** tab and then click **Preferences... (Printing Preferences...)**. To configure the tray settings, click the **Device Settings** tab.

## Features in the Windows® printer driver

For more information, see the **Help** text in the printer driver.

### NOTE

- The screens in this section are from Windows® 7. The screens on your PC will vary depending on your operating system.
- To access the printer driver settings, see *Accessing the printer driver settings* on page 27.

## Basic tab

Change the Page Layout settings by clicking the illustration on the left side of the **Basic** tab.



- 1 Choose the **Paper Size**, **Orientation**, **Copies**, **Media Type**, **Print Quality**, **Color / Mono** and **Document Type** (1).
- 2 Choose **Multiple Page** and **2-sided / Booklet** (2).
- 3 Choose the **Paper Source** (3).
- 4 Review the displayed list of settings (4).
- 5 Click **OK** to confirm the settings.  
To return to the default settings, click **Default**, then **OK**.

### NOTE



If you want to preview your document before printing, select the **Print Preview** check box (5).

## Paper Size

From the drop-down box choose the Paper Size you are using.

## Orientation

Orientation selects the position of how your document will be printed (**Portrait** or **Landscape**).

Portrait (Vertical)	Landscape (Horizontal)
	

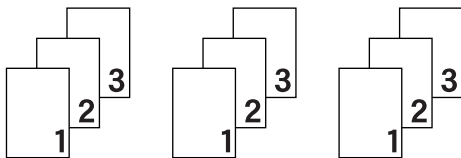
## Copies

The copies selection sets the number of copies that will be printed.

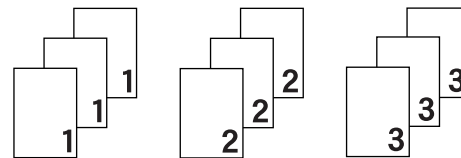
### ■ Collate

With the Collate check box selected, one complete copy of your document will be printed and then repeated for the number of copies you selected. If the Collate check box is not selected, then each page will be printed for all the copies selected before the next page of the document is printed.

Collate selected



Collate deselected



## Media Type

You can use the following types of media in your machine. For the best print quality, select the type of media that matches the paper you are using.

- Plain Paper
- Thin Paper
- Thick Paper
- Thicker Paper
- Bond Paper
- Envelopes
- Env. Thick
- Env. Thin
- Recycled Paper
- Label
- Glossy Paper

## NOTE

---

- When using ordinary plain paper 16 to 28 lb (60 to 105 g/m<sup>2</sup>) choose **Plain Paper**. When using heavier weight paper or rough paper choose **Thick Paper** or **Thicker Paper**. For bond paper, choose **Bond Paper**.
  - When you are using envelopes, choose **Envelopes**. If the toner is not fixed to the envelope correctly when **Envelopes** has been selected, choose **Env. Thick**. If the envelope is crumpled when **Envelopes** has been selected, choose **Env. Thin**. For more information, see *Paper capacity of the paper trays* on page 3.
- 

## Print Quality

Choose one of the following print quality settings.

### ■ Normal (600 x 600 dpi)

600×600 dpi. Recommended for ordinary printing. Good print quality with reasonable print speeds.

### ■ Fine (2400 dpi class)

2400 dpi class. The finest print mode. Use this mode to print precise images such as photographs. Since the print data is much larger than in Normal mode, processing time / data transfer time and print time will be longer.

## NOTE

---

The print speed will change depending on the print quality setting you choose. Higher print quality takes longer to print, while lower print quality takes less time to print.

---

## Color / Mono

Choose the appropriate Color/Mono setting:

### ■ Auto

The machine checks the content of your documents for color. If color is detected, it prints in color. If no color content is detected, it prints in monochrome. The total print speed may become slower.

### ■ Color

When your document contains color and you want to print it in color, select this mode.

### ■ Mono

Select this mode if your document has only black and grayscale text and/or objects. If your document contains color, selecting Mono mode prints your document in 256 levels of gray.

## NOTE

---

- Sometimes a document can contain color information even if it appears to be monochrome (for example, grey areas can actually be made from a combination of colors).
  - If either the Cyan, Magenta or Yellow toner reaches the end of its life while printing a color document, the print job cannot be completed. You can start the print job again in Mono mode, as long as black toner is available.
-

## Document Type

Use **Document Type** to automatically select the optimal settings for printing the relevant type of data.

### ■ Document (Standard)

Use this mode for printing a combination of graphics and text.

### ■ Photo / Image

Use this mode for printing photos or images.

### ■ Document (Mixed)

Use this mode for printing combinations of graphics/text and photos/images.

## NOTE

---

This mode takes longer to print the data.

---

### ■ Manual

Choosing **Manual** allows you to select the settings manually by clicking the **Settings** button.

## Settings dialog box

To change the following settings, click **Settings...** in the **Basic** tab.

### ■ Color Mode

The following options are available in color Matching mode:

- **Normal**

This is the default color mode.

- **Vivid**

The color of all elements are adjusted to become a more vivid color.

- **Auto**

The printer driver selects the **Color Mode** type.

## NOTE

---

Using this mode may take longer to print the data.

---

- **None**

### ■ Import...

To adjust the print configuration of a particular image, click **Settings**. When you have finished adjusting the image parameters, such as brightness and contrast, import those settings as a print configuration file. Use the **Export...** function to create a print configuration file from the current settings.

### ■ Export...

To adjust the print configuration of a particular image, click **Settings**. When you have finished adjusting the image parameters, such as brightness and contrast, export those settings as a print configuration file. Use the **Import...** function to load a previously exported configuration file.

### ■ **Improve Gray Color**

You can improve the image quality of a shaded area.

### ■ **Enhance Black Printing**

If a black graphic does not print correctly, choose this setting.

### ■ **Improve Thin Line**

You can improve the image quality of thin lines.

### ■ **Improve Pattern Printing**

Select this option if printed fills and patterns are different from the patterns and fills you see on your computer.

## **Multiple Page**

The Multiple Page selection can reduce the image size of a page to allow multiple pages to be printed on one sheet of paper or to enlarge the image size for printing one page on multiple sheets of paper.

### ■ **Page Order**

When the N in 1 option is selected, the page order can be selected from the drop-down list.

### ■ **Border Line**

When using the Multiple Page feature to print multiple pages on one sheet, you can choose to have a solid border, dash border or no border around each page on the sheet.

### ■ **Print cut-out line**

When the 1 in NxN pages option is selected, the **Print cut-out line** option can be selected. This option allows you to print a faint cut-out line around the printable area.

## 2-sided / Booklet

To print a booklet or do 2-sided printing, use this function.

- **None**

Disable 2-sided printing.

- **2-sided / 2-sided (Manual)**

To do 2-sided printing, use these options.

- **2-sided** (HL-3150CDN and HL-3170CDW)

The machine prints on both sides of the paper automatically.

- **2-sided (Manual)**

The machine prints all the even numbered pages first. Then the printer driver will stop and show the instructions required to re-install the paper. When you click **OK** the odd numbered pages will be printed.

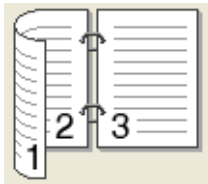
When you choose **2-sided** or **2-sided (Manual)**, the **2-sided Settings...** button becomes available to choose. You can set following settings in the **2-sided Settings** dialog box.

- **2-sided Type**

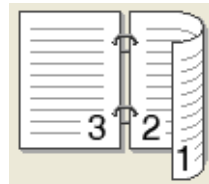
There are four types of 2-sided binding directions available for each orientation.

### Portrait

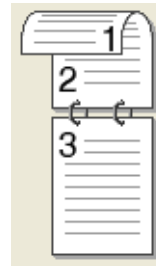
**Long Edge (Left)**



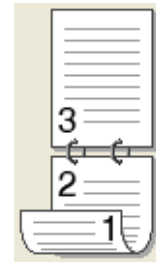
**Long Edge (Right)**



**Short Edge (Top)**



**Short Edge (Bottom)**



### Landscape

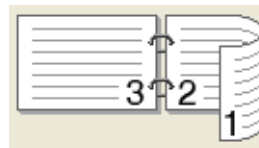
**Long Edge (Top)**



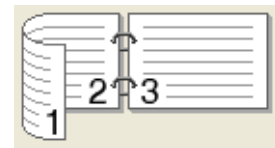
**Long Edge (Bottom)**



**Short Edge (Right)**



**Short Edge (Left)**



- **Binding Offset**

When you check **Binding Offset**, you can also specify the offset for binding in inches or millimeters.

## ■ Booklet / Booklet (Manual)

Use this option to print a document in booklet format using 2-sided printing; it will arrange the document according to the correct page number and allow you to fold at the center of the print output without having to change the order of the page numbers.

- **Booklet** (HL-3150CDN and HL-3170CDW)

The machine prints on both sides of the paper automatically.

- **Booklet (Manual)**

The machine prints all the even numbered sides first. Then the printer driver will stop and show the instructions required to re-install the paper. When you click **OK** the odd numbered sides will be printed.

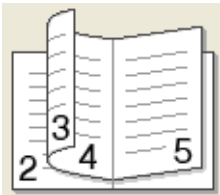
When you choose **Booklet** or **Booklet (Manual)**, the **2-sided Settings...** button becomes available to choose. You can set the following settings in the **2-sided Settings** dialog box.

- **2-sided Type**

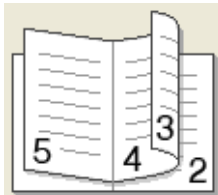
There are two types of 2-sided binding directions available for each orientation.

### Portrait

#### Left Binding



#### Right Binding

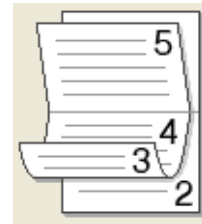


### Landscape

#### Top Binding



#### Bottom Binding



- **Booklet Printing Method**

When **Divide into Sets** is selected:

This option allows you to print the whole booklet in smaller individual booklet sets, and it still allows you to fold at the center of the smaller individual booklet sets without having to change the order of the page numbers. You can specify the number of sheets in each smaller booklet can be set, from 1 to 15. This option is helpful for folding a printed booklet that has a large number of pages.

- **Binding Offset**

Check **Binding Offset** to specify the offset for binding in inches or millimeters.

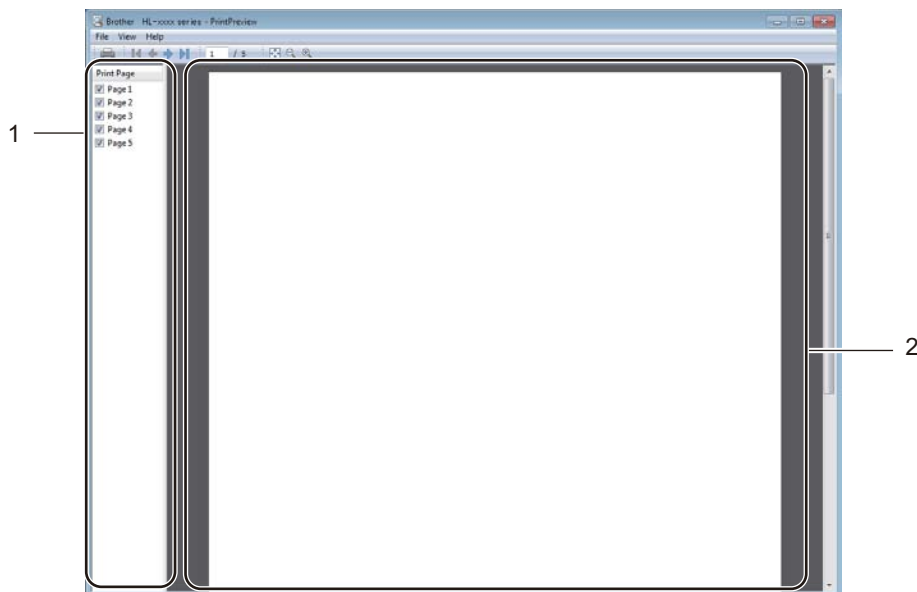
## Paper Source

You can choose **Auto Select**, **Tray1** or **Manual** and specify separate trays for printing the first page and for printing from the second page onward.



## Print Preview

Preview a document before it is printed. If you check the **Print Preview** check box the Print Preview Viewer window will open before printing starts.



### ■ Page List Area (1)

The Page List Area displays the page numbers for the actual pages that will be printed. If you chose a page in this list, a preview of the print results for the page will be displayed in the Preview Area. If you do not want to print a page, deselect the check box.

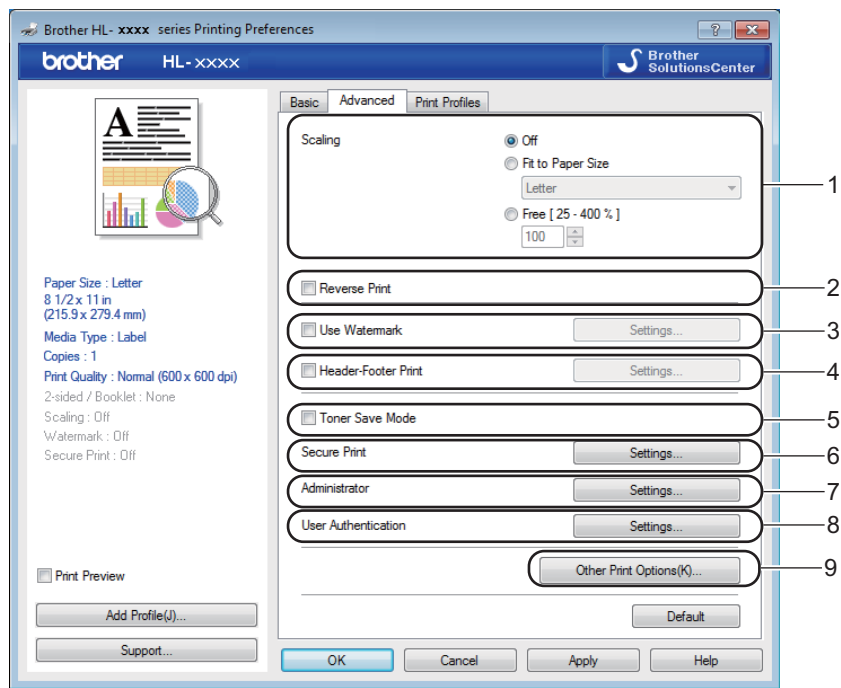
### ■ Preview Area (2)

The Preview Area displays a preview of the print results for the pages chosen in the Page List Area.

## NOTE

- If the **Booklet** setting was selected in the Printer driver settings, you cannot use the Print Preview function.
- If the **2-sided** setting was selected in the Printer driver settings, you cannot delete pages using the Page List Area.

## Advanced tab



Change the tab settings by clicking the following selections:

- **Scaling (1)**
- **Reverse Print (2)**
- **Use Watermark (3)**
- **Header-Footer Print (4)**
- **Toner Save Mode (5)**
- **Secure Print (6)**
- **Administrator (7)**
- **User Authentication (8)**
- **Other Print Options (9)**

### Scaling

You can change the scale of the print image.

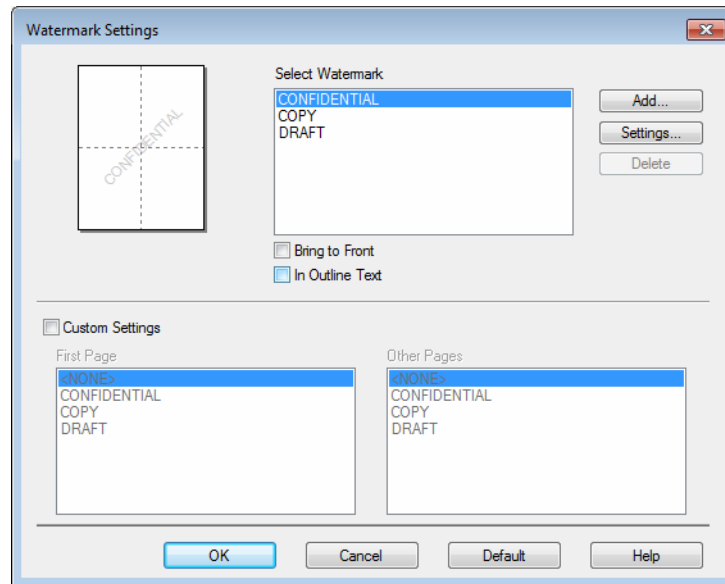
### Reverse Print

Select **Reverse Print** to rotate the page 180 degrees.

## Use Watermark

Put a logo or text to your document as a watermark. Choose one of the preset Watermarks, or use a bitmap file that you have created. Check **Use Watermark**, and then click the **Settings...** button.

## Watermark Settings



### ■ Bring To Front

This option will overlay the selected characters or image onto your printed document.

### ■ In Outline Text

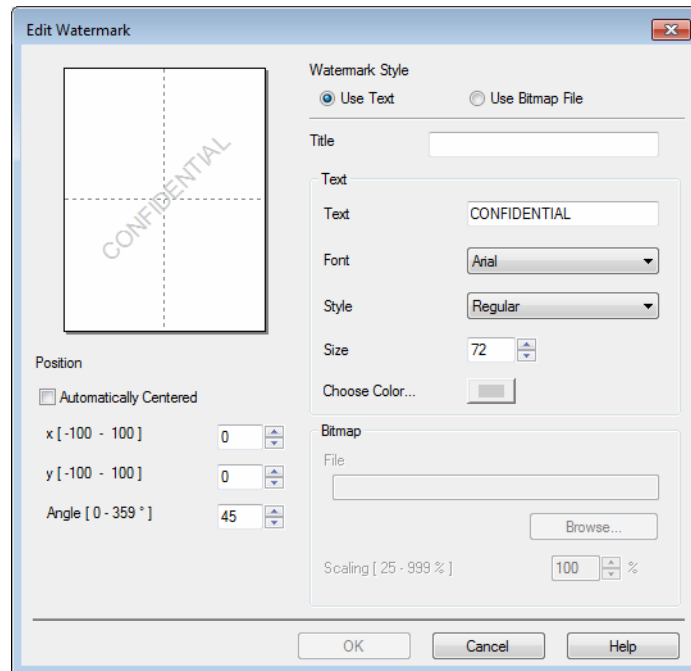
Check **In Outline Text** if you only want to print an outline of a text watermark.

### ■ Custom Settings

Print one watermark on the first page and another watermark on the following pages.

### ■ Edit Watermark

Click the **Add** button to add the watermark settings, and then choose **Use Text** or **Use Bitmap File** in **Watermark Style**.



- **Title**

Enter an appropriate title for the watermark.

- **Text**

Enter your Watermark Text into the **Text** box, and then choose the **Font**, **Style**, **Size** and **Choose Color...**

- **Bitmap**

Enter the file name and location of your bitmap image in the **File** box, or click **Browse** to search for the file. The scaling of the bitmap image can be adjusted from 25 - 999%.

- **Position**

Use this setting to control the position of the watermark on the page.

## Header-Header Print

When this feature is enabled, it will print the date and time on your document from your computer's system clock and the PC login user name or the text you entered. Click **Settings** to customize.

### ■ ID Print

Select **Login User Name** to print your PC login user name. To print a different name, select **Custom** and type a name in the **Custom** text box.

## Toner Save Mode

Conserve toner use with this feature. When you set **Toner Save Mode** to On, print appears lighter. The default setting is Off.

## NOTE

We do not recommend **Toner Save Mode** for printing photo or grayscale images.

## Secure Print

Secure documents are documents that are password protected when they are sent to the machine. Only the people who know the password will be able to print them. Since the documents are secured at the machine, you must enter the password using the control panel of the machine to print them.

To send a secured document:

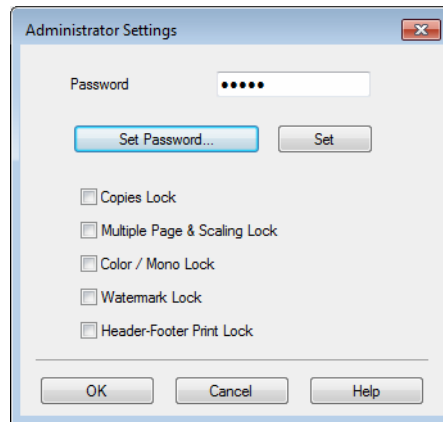
- 1 Click **Settings...** from **Secure Print** and check **Secure Print**.
- 2 Enter your password and click **OK**.
- 3 To print a secured document, you must enter your password using the control panel of the machine (see *Printing Secure data* on page 99).

To delete a secured document:

You must use the control panel of the machine to delete a secured document (see *Printing Secure data* on page 99).

## Administrator

Administrators have the authority to limit access to functions such as scaling and watermark.



### ■ Password

Type the password in this box.

## NOTE

---

Click **Set Password...** to change the password.

---

### ■ Copies Lock

Locks the Copies selection in the Basic tab to prevent users from printing multiple copies.

### ■ Multiple Page & Scaling Lock

Locks the multiple page and scaling settings.

### ■ Color / Mono Lock

Locks the Color/Mono settings as Mono to prevent color printing.

### ■ Watermark Lock

Locks the settings of the Watermark option to prevent changes being made.

### ■ Header-Footer Print Lock

Locks the settings of the Header-Footer Print option to prevent changes being made.

## User Authentication

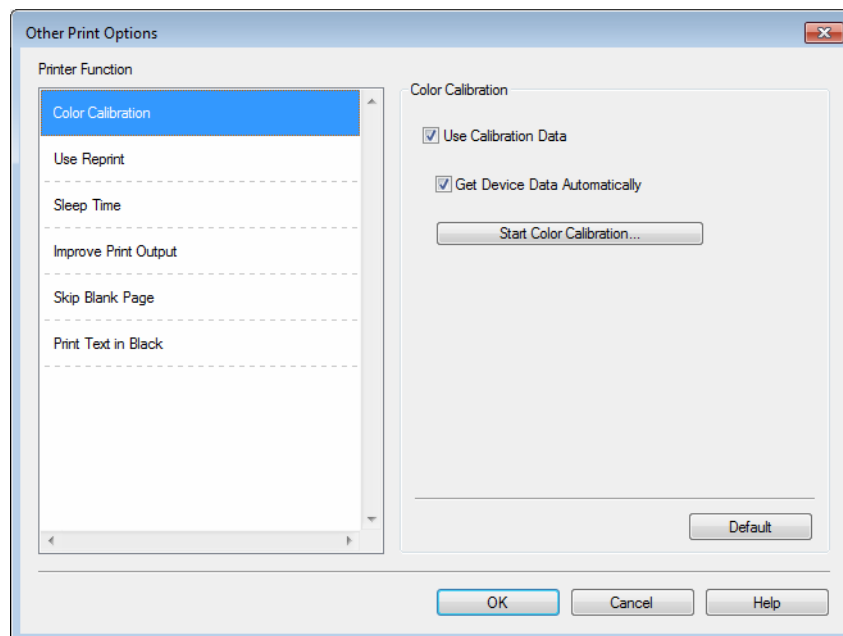
If you are restricted from PC Print by the Secure Function Lock 2.0 feature, you must set your ID and PIN in the **User Authentication Settings** dialog box. Click **Settings** in **User Authentication** and enter your ID and PIN. If your PC login name is registered to Secure Function Lock 2.0, you can select the **Use PC Login Name** check box instead of entering your ID and PIN.

More information about Secure Function Lock 2.0, see Network User's Guide

## NOTE

- If you are using the machine on a network, you can click **Check Print Status** to see your ID information, such as the restricted features and the remaining number of pages you are allowed to print. The **Authentication result** dialog box will appear.
- If you are using the machine on a network, you can check the **Show print status before printing** check box to cause the **Authentication result** dialog box to open each time you print.
- If you want to enter your ID and PIN each time you print, select the **Enter ID Name/PIN for each print job** check box.

## Other Print Options



You can set the following in Printer Function:

- **Color Calibration**
- **Use Reprint**
- **Sleep Time**
- **Improve Print Output**
- **Skip Blank Page**
- **Print Text in Black**

## Color Calibration

The output density of each color may vary depending on the temperature and humidity of the environment the machine is in. This setting helps you to improve color density by letting the printer driver use the color calibration data stored in your machine.

### ■ Use Calibration Data

If you select this check box, the printer driver will use the calibration data retrieved from the machine to set color matching in the printer driver. This will ensure consistent print quality.

### ■ Get Device Data Automatically

If you select this check box, the printer driver will use the color calibration data from your machine.

### ■ Start Color Calibration

If you click this button, your machine will start the color calibration, and then the printer driver will use the calibration data from your machine.

## Use Reprint

The machine stores the print jobs sent to it in memory. You can reprint the last job without sending the data again from your computer. For more information about the Reprint function, see *Reprinting documents* on page 98.

## NOTE

---

To prevent other people from printing your data using the Reprint function, deselect the **Use Reprint** check box.

---



## Sleep Time

When the machine does not receive data for a certain period of time, it enters Sleep mode. In Sleep mode, the machine acts as though it were turned off. When you choose Printer Default, the timeout setting will be reset to the specific time set at the factory; this can be altered in the driver. Intelligent Sleep mode adjusts to the most appropriate timeout setting depending on the frequency of your machine use.

While the machine is in Sleep mode, the LCD shows `Sleep`, but the machine can still receive data. Receiving a print job will wake up the machine to start printing.

## Improve Print Output

This feature allows you to improve a print quality problem.

### ■ Reduce Paper Curl

If you choose this setting, the paper curl may be reduced.

If you are printing only a few pages, you do not need to choose this setting. We recommend that you change the printer driver setting in **Media Type** to a thin setting.

### NOTE

---

This operation will decrease the temperature of the machine's fusing process.

---

### ■ Improve Toner Fixing

If you choose this setting, the toner fixing capabilities may be improved. If this selection does not provide enough improvement, change the printer driver setting in **Media Type** to a thick setting.

### NOTE

---

This operation will increase the temperature of the machine's fusing process.

---

## Skip Blank Page

If **Skip Blank Page** is selected, the printer driver detects blank pages and excludes them from printing.

### NOTE

---

This option does not work when you choose the following options:

- **Use Watermark**
  - **Header-Footer Print**
  - **N in 1** and **1 in NxN Pages** in **Multiple Page**
  - **2-sided (Manual)**, **Booklet**, **Booklet (Manual)** and **2-sided** with **Binding Offset** in **2-sided / Booklet**
- 

## Print Text in Black

This function enables printing all text in Black only.

### NOTE

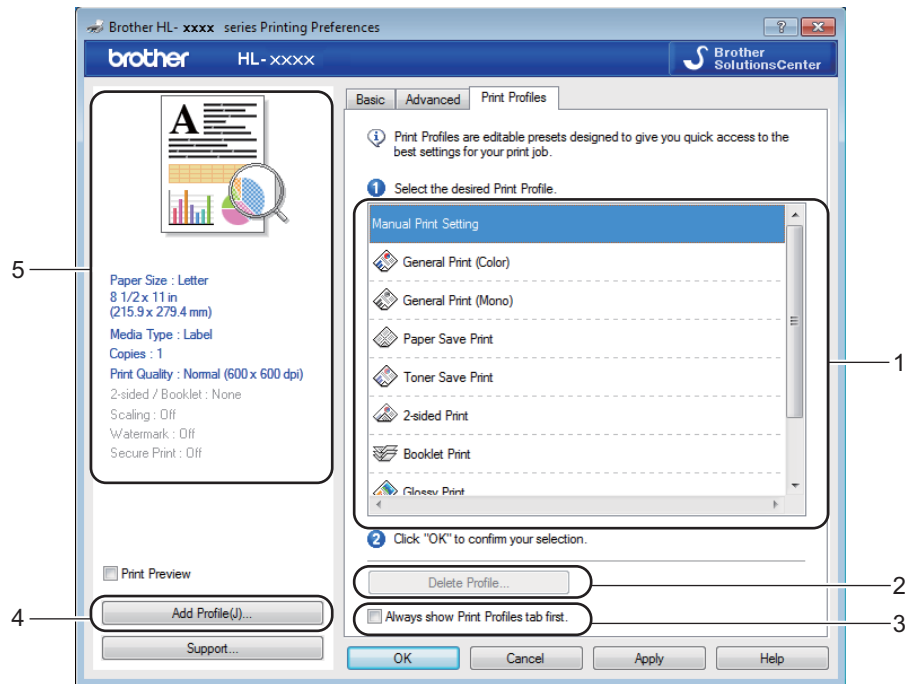
---

It may not work with certain characters.

---

## Print Profiles tab

**Print Profiles** are editable presets designed to give you quick access to frequently used printing configurations.



- **Print profile list box (1)**
- **Delete Profile (2)**
- **Always show Print Profiles tab first (3)**
- **Add Profile (4)**
- **Current print profile view (5)**

- 1 Choose your profile from the print profile list box.
- 2 To display the **Print Profiles** tab at the front of the window every time you print, select **Always show Print Profiles tab first**.
- 3 Click **OK** to apply your chosen profile.

### Add Profile

Click the **Add Profile** button to display the **Add Profile** dialog box. Add up to 20 new profiles with your preferred settings.

- 1 Enter the desired title in **Name**.
- 2 Choose an icon you want to use from the Icon list, then click **OK**.
- 3 The settings shown on the left side of the printer driver window will be saved.

## Delete Profile

Click the **Delete Profile** button to display the **Delete Profile** dialog box. You can delete any of the profiles you have added.

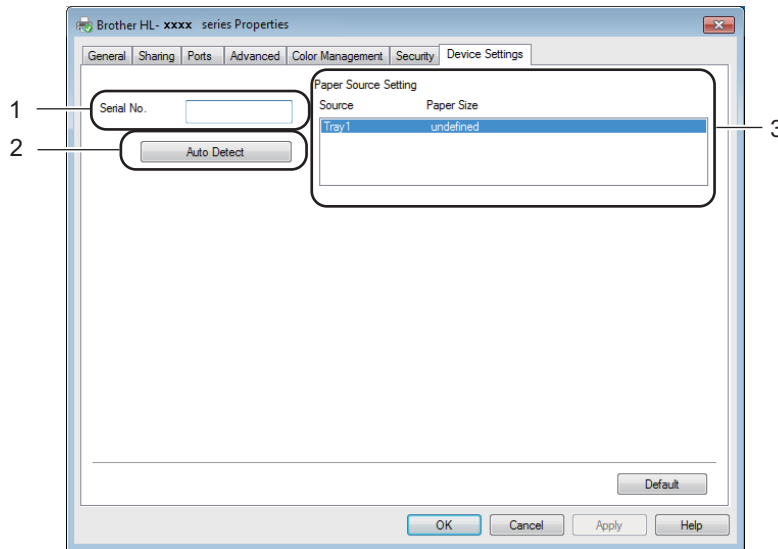
- 1 Choose your profile from the print profile list box.
- 2 Click **Delete**.
- 3 The selected profile will be deleted.

## Device Settings tab

### NOTE

To access the **Device Settings** tab, see *Accessing the printer driver settings* on page 27.

The printer driver detects and displays the machine's serial number and paper size setting for the paper tray when you click the **Auto Detect** button.



#### ■ Serial No. (1)

By clicking **Auto Detect** (2), the printer driver will probe the machine and display its serial number. If it fails to receive the information, the screen will display “-----”.

#### ■ Paper Source Setting (3)

Click the **Auto Detect** (2) button to detect and display the machine's serial number and paper size setting for the paper trays.

### NOTE

The **Auto Detect** (2) function is not available under the following machine conditions:

- The machine is turned off.
- The machine is in an error state.
- The machine is connected to the print server using a USB cable in a shared network environment.
- The cable is not connected to the machine correctly.

## Support

Click **Support...** in the **Printing Preferences** dialog box.



### ■ Brother Solutions Center (1)

The Brother Solutions Center (<http://solutions.brother.com/>) is a website offering information about your Brother product including FAQs (Frequently Asked Questions), User's Guides, driver updates and tips for using your machine.

■ **Genuine Supplies Website** (2)

You can visit our website for genuine Brother supplies by clicking this button.

■ **Brother CreativeCenter** (3)

You can visit our website for free and easy online solutions for business and home users by clicking this button.

■ **Print Settings** (4)

This button will print the pages that show how the internal settings of the machine have been configured.

■ **Check Setting...** (5)

You can check the printer driver settings.

■ **About...** (6)

This button will list the printer driver files and version information.

## Features in the BR-Script3 printer driver (PostScript® 3™ language emulation)

### NOTE

The screens in this section are from Windows® 7. The screens on your PC may vary depending on your operating system.

2

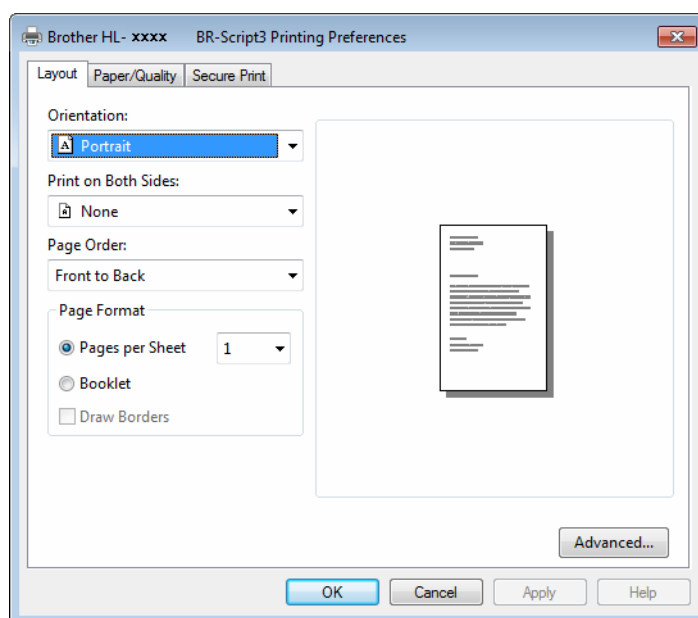
### Printing Preferences

### NOTE

You can access the **Printing Preferences** dialog box by clicking **Preferences...** in the **General** tab of the **Brother HL-XXXX BR-Script3 Properties** dialog box.

#### ■ Layout tab

You can change the layout by choosing the settings for **Orientation**, **Print on Both Sides** (2-sided), **Page Order** and **Pages Per Sheet**.



- **Orientation**

Orientation selects the position of your document on the printed page.

(**Portrait**, **Landscape** or **Rotated Landscape**)

- **Print on Both Sides**

To do 2-sided printing, choose **Flip on Short Edge** or **Flip on Long Edge**.

- **Page Order**

Specifies the order in which the pages of your document will be printed. **Front to Back** prints the document so that page 1 is on top of the stack. **Back to Front** prints the document so that page 1 is on the bottom of the stack.



- **Pages Per Sheet**

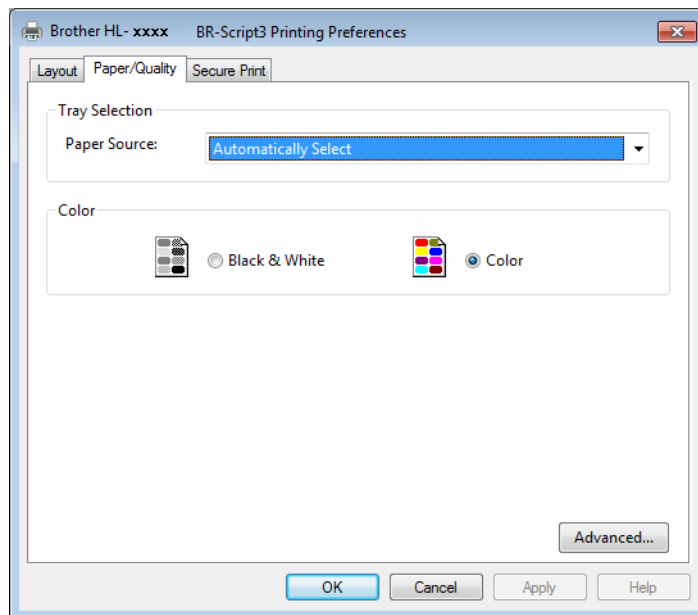
The **Pages Per Sheet** selection can reduce the image size of a page by allowing multiple pages to be printed on one sheet of paper. Choose **Booklet** to print a document in the booklet style.

- **Draw Borders**

To add a border, use this function.

- **Paper/Quality tab**

Choose the **Paper Source**.



- **Paper Source**

Choose **Automatically Select**, **Tray1** or **Manual Feed**.

### **Automatically Select**

This setting will pull paper from any paper source that has a paper size defined in the printer driver that matches your document.

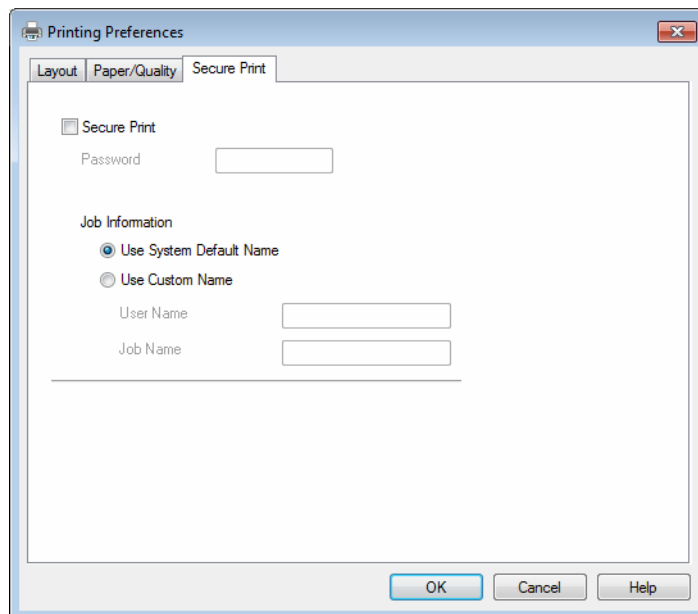
### **Tray1**

This setting will pull paper from Tray 1.

### **Manual Feed**

This setting will pull paper from the manual feed slot. The paper size in the manual feed slot should match the size defined in the printer driver.

## ■ Secure Print tab



Secure documents are documents that are password protected when they are sent to the machine. Only the people who know the password will be able to print them. Since the documents are secured at the machine, you must enter the password using the control panel of the machine to print them.

To send a secured document:

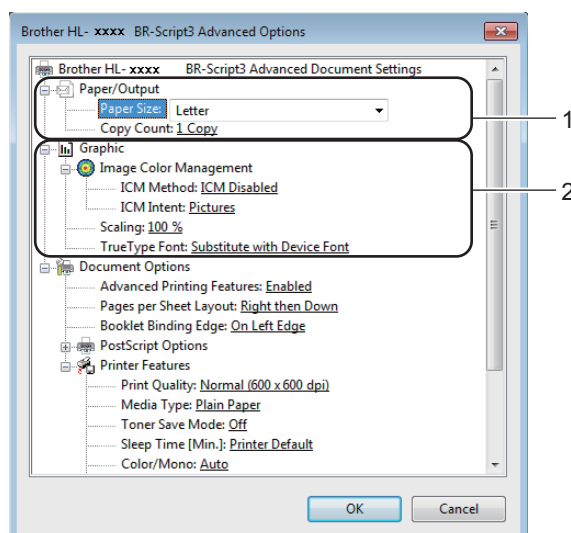
- 1 Check **Secure Print**.
- 2 Enter your password and click **OK**.
- 3 To print the secured document, you must enter your password using the control panel of the machine (see *Printing Secure data* on page 99).

To delete a secured document:

You must use the control panel of the machine to delete a secured document (see *Printing Secure data* on page 99).

## Advanced options

Access the **Advanced options** by clicking the **Advanced...** button on the **Layout** tab or **Paper/Quality** tab.



### 1 Choose the **Paper Size** and **Copy Count** (1).

#### ■ **Paper Size**

From the drop-down box choose the Paper Size you are using.

#### ■ **Copy Count**

The copy selection sets the number of copies that will be printed.

### 2 Set the **Image Color Management**, **Scaling** and **TrueType Font** settings (2).

#### ■ **Image Color Management**

Specifies how to print your color graphics.

- If you don't want to enable **Image Color Management**, click **ICM Disabled**.
- If you want the calculations for color matching to be performed on the host computer before it sends the document to the machine, click **ICM Handled by Host System**.
- If you want the calculations for color matching to be performed on your machine, click **ICM Handled by Printer using printer calibration**.

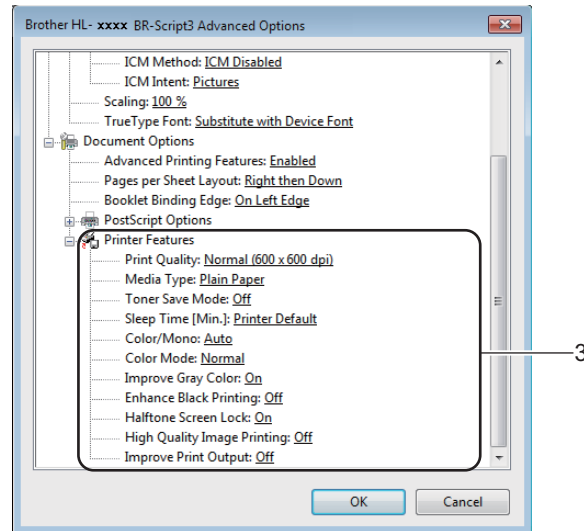
#### ■ **Scaling**

Specifies whether to reduce or enlarge documents, and by what percentage.

#### ■ **TrueType Font**

Specifies the TrueType font options. Click **Substitute with Device Font** (the default) to use equivalent printer fonts for printing documents that contain TrueType fonts. This will permit faster printing; however, you might lose special characters not supported by the printer font. Click **Download as Softfont** to download TrueType fonts for printing instead of using printer fonts.

### 3 Change settings by choosing a setting in the **Printer Features** list (3):



#### ■ **Print Quality**

Choose one of the following print quality settings.

- **Normal (600 x 600 dpi)**

600 dpi class. Recommended for ordinary printing. Good print quality with good print speed.

- **Fine (2400 dpi class)**

2400 dpi class. The finest print mode. Use this mode to print precise images such as photographs. Since the print data is much larger than in Normal mode, processing time, data transfer time, and print time will be longer.

#### ■ **Media Type**

You can use the following types of media in your machine. For the best print quality, select the type of media you are using.

- **Plain Paper**
- **Thin Paper**
- **Thick Paper**
- **Thicker Paper**
- **Bond Paper**
- **Envelopes**
- **Env. Thick**
- **Env. Thin**
- **Recycled Paper**
- **Label**
- **Glossy Paper**

### ■ Toner Save Mode

Conserve toner use with this feature. When you set **Toner Save Mode** to **On**, print appears lighter. The default setting is **Off**.

## NOTE

We do not recommend **Toner Save Mode** for printing Photo or grayscale images.

### ■ Sleep Time [Min.]

When the machine does not receive data for a certain period of time, it enters Sleep mode. In Sleep mode, the machine acts as though it were turned off. When you choose Printer Default, the timeout setting will be reset to the specific time set at the factory; this can be altered in the driver. Intelligent Sleep mode adjusts to the most appropriate timeout setting depending on the frequency of your machine use.

While the machine is in Sleep mode, the LCD shows *sleep*, but the machine can still receive data. Receiving a print job will wake up the machine to start printing.

### ■ Color / Mono

Choose the color mode:

- **Auto**

The machine checks the content of your documents for color. If color is detected, it prints in color. If no color content is detected, it prints in monochrome. The total print speed may become slower.

- **Color**

The device will print all pages in full color mode.

- **Mono**

Selecting Mono mode prints your documents in grayscale.

## NOTE

- Sometimes a document can contain color information even if it appears to be monochrome (for example, gray areas can actually be made from a combination of colors).
- If either the Cyan, Magenta or Yellow toner reaches the end of its life while printing a color document, the print job cannot be completed. You can choose to start the print job again in Mono mode, as long as black toner is available.

### ■ Color Mode

The following options are available in Color Matching mode:

- **Normal**

This is the Default color mode.

- **Vivid**

The color of all elements are adjusted to become a more vivid color.

- **None**

### ■ Improve Gray Color

You can improve the image of a shaded area.

■ **Enhance Black Printing**

If a black graphic does not print correctly, choose this setting.

■ **Halftone Screen Lock**

Stops other applications from modifying the Halftone settings. The default setting is **On**.

■ **High Quality Image Printing**

You can get high quality image printing. If you set **High Quality Image Printing** to **On**, the print speed will be slower.

■ **Improve Print Output**

This feature allows you to improve a print quality problem.

• **Reduce Paper Curl**

If you choose this setting, the paper curl may be reduced. If you are printing only a few pages, you do not need to choose this setting. We recommend that you change the printer driver setting in **Media Type** to a thin setting.

**NOTE**

---

This operation will decrease the temperature of the machine's fusing process.

---

• **Improve Toner Fixing**

If you choose this setting, the toner fixing capabilities may be improved. If this selection does not provide enough improvement, change the printer driver setting in **Media Type** to a thick setting.

**NOTE**

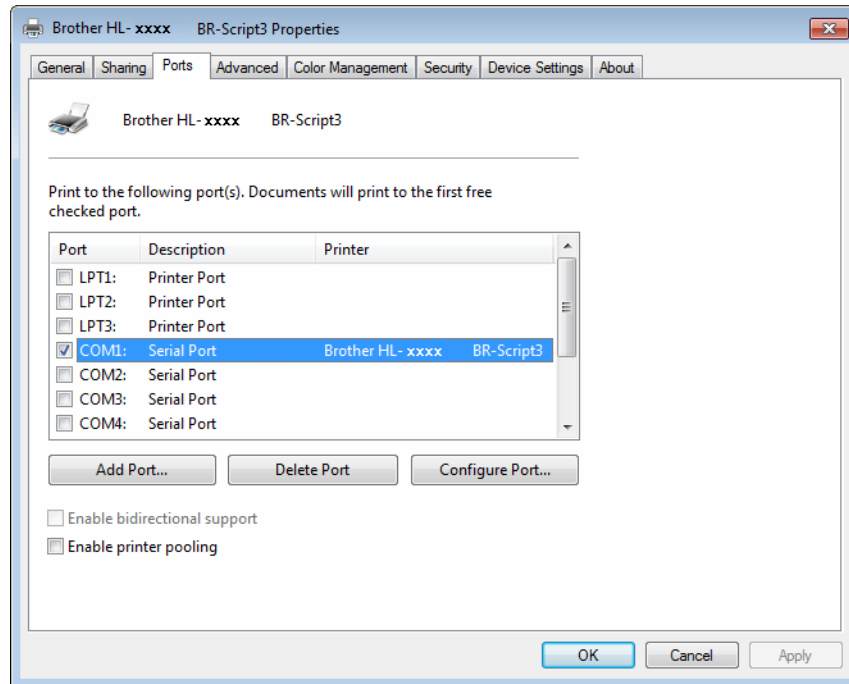
---

This operation will increase the temperature of the machine's fusing process.

---

## Ports tab

To change the port where your machine is connected or the path to the network machine you are using, choose or add the port you want to use.



## Uninstalling the printer driver

---

Uninstall the printer driver that you have installed with the following steps.

### NOTE

---

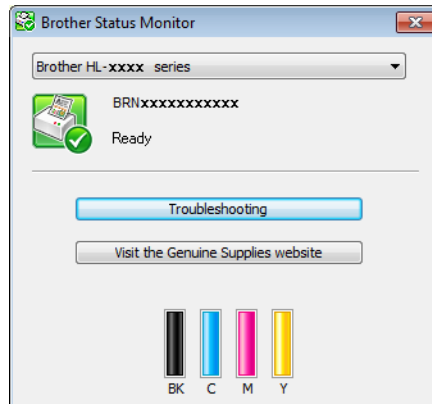
- **UnInstall** is not available if you originally installed the printer driver from the Windows **Add a printer** function.
  - After uninstalling, we recommend that you restart your computer to remove files that were in use during the uninstall.
- 

- 1 Click the **Start** button, point to **All Programs, Brother**, and then to your machine name.
- 2 Click **UnInstall**.
- 3 Follow the instructions on the screen.



## Status Monitor



The **Status Monitor** utility is a configurable software tool for monitoring the status of one or more devices; it allows you to get immediate notification of error messages such as paper empty, paper jam or toner replacement required.



Check the device status at any time by double-clicking the icon in the taskbar or by choosing **Status Monitor** located in **Start/All Programs/Brother/HL-XXXX** on your computer.

(Windows® 7 / Windows® 8)



If you have selected the **Enable Status Monitor on startup** check box during installation, you will find the  button or **Status Monitor** icon on the taskbar.

To show the **Status Monitor** icon on your taskbar, click the  button. The **Status Monitor** icon will appear in the small window. Then drag the  icon to the taskbar.



Click the Troubleshooting button to access the troubleshooting website.

If the toner level is low or there is a problem with the toner cartridge, the following icons will appear.





	The toner level is low.
	The toner cartridge is empty.

### NOTE

- For more information about using the Status Monitor software, right-click the **Status Monitor** icon and choose **Help**.
- The automatic software update feature is active when the status monitor feature is active.

## Monitoring the machine's status

Once you start up your computer, the Brother Status Monitor icon appears on the tasktray.

	A green icon indicates the normal stand-by condition.
	A yellow icon indicates a warning.
	A red icon indicates an error has occurred.
	A gray icon indicates the offline condition.

The **Status Monitor** can be displayed in the tasktray or on the desktop of your computer.

### Popup on Error

**Popup on Error** lets you know if there is a problem with a device that your computer is monitoring. The default setting is On.

To turn off **Popup on Error**, right-click the **Brother Status Monitor** icon or window and deselect the **Popup on Error** check box.

### NOTE

Even if **Popup on Error** is turned off, you can check the machine's status at any time by displaying the Status Monitor.

# Macintosh

## Features in the printer driver (Macintosh)

This machine supports Mac OS X v10.6.8, 10.7.x, 10.8.x.

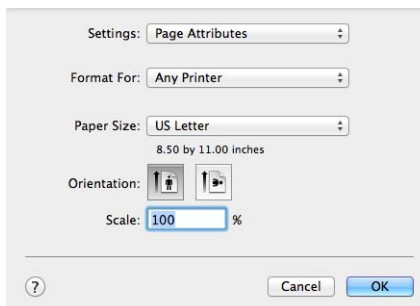
### NOTE

The screens in this section are from OS X v10.7.x. The screens on your Macintosh will vary depending on your operating system version.

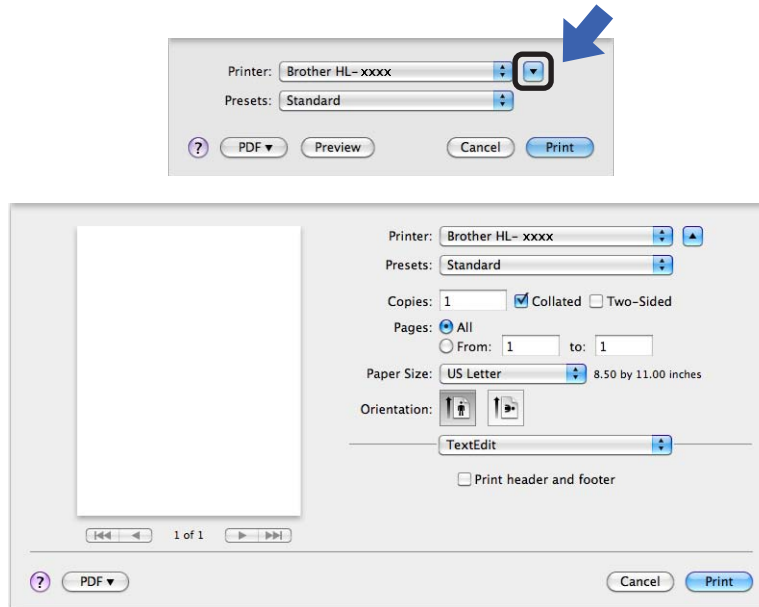
## Choosing page setup options

Select the **Paper Size**, **Orientation** and **Scale**.

- 1 From an application such as TextEdit, click **File**, then **Page Setup**. Make sure **Brother HL-XXXX** (where XXXX is your model name.) is chosen in the **Format For** pop-up menu. Select change the settings for **Paper Size**, **Orientation** and **Scale**, then click **OK**.



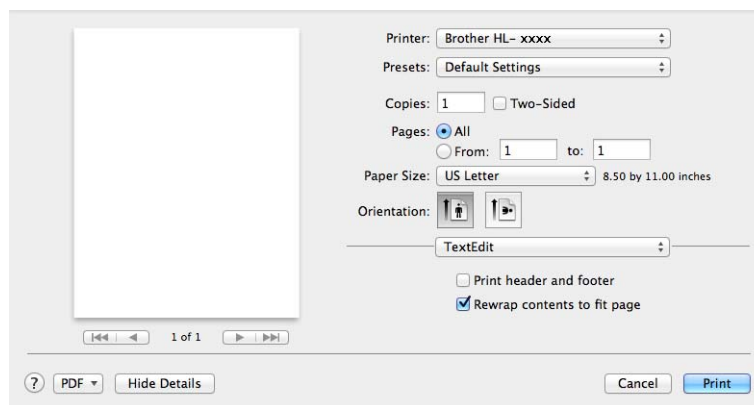
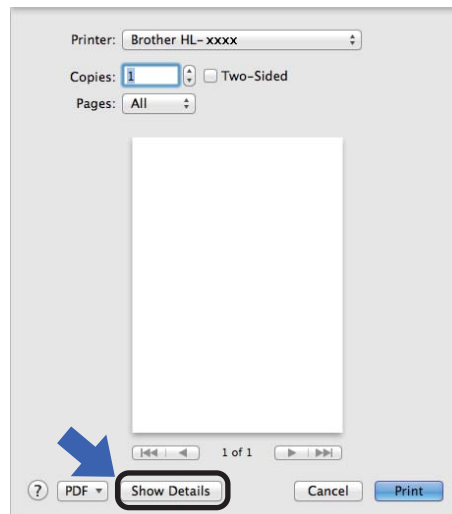
- 2 From an application such as TextEdit, click **File**, then **Print** to start printing.
  - (For Mac OS X v10.6.8)  
For more page setup options, click the disclosure triangle beside the Printer pop-up menu.



## NOTE

Save the current settings as a preset by choosing **Save As** from the **Presets** drop-down list.

- (For OS X v10.7.x and 10.8.x)  
For more page setup options, click the **Show Details** button.

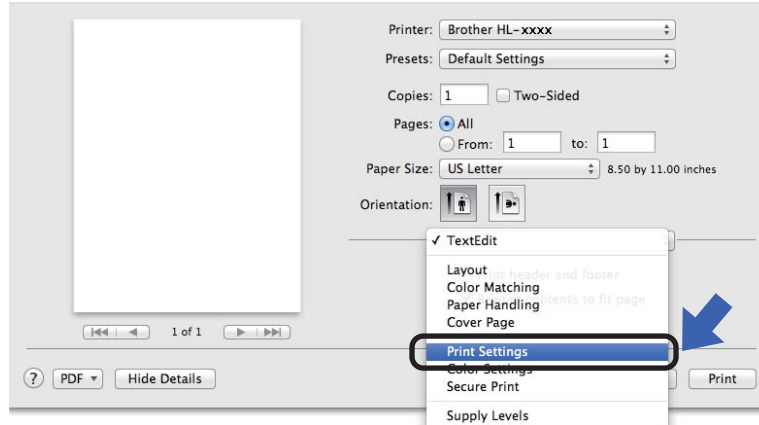


## NOTE

Save the current settings as a preset by choosing **Save Current Settings as Preset...** from the **Presets** drop-down list.

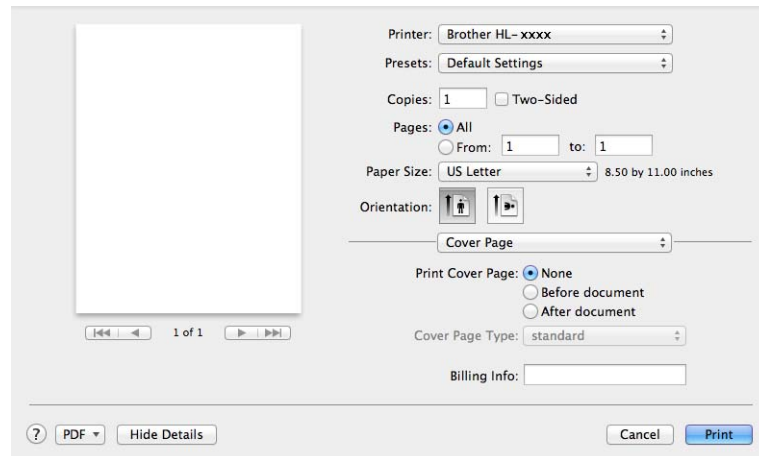
## Choosing printing options

To control special printing features, choose **Print Settings** from the Print dialog box. For the details of available options, see the following descriptions of each option.



## Cover Page

You can choose the following cover page settings:



- **Print Cover Page**

To add a cover page to your document, use this function.

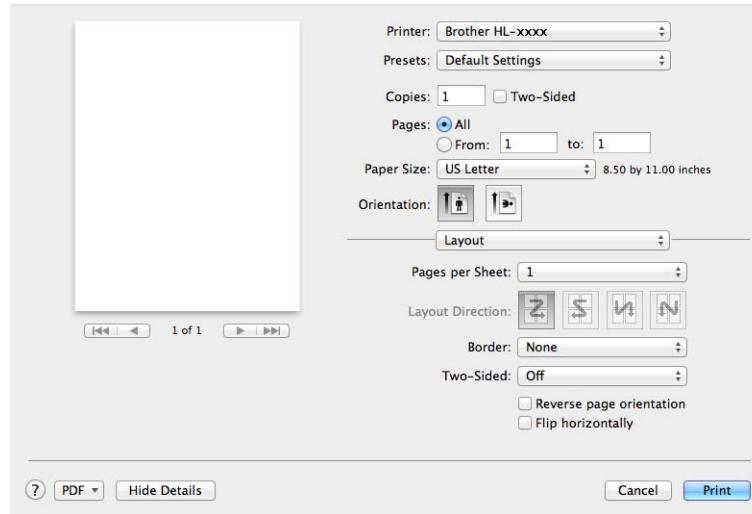
- **Cover Page Type**

Choose a template for the cover page.

- **Billing Info**

To add the billing information to the cover page, enter text in the **Billing Info** text box.

## Layout



### ■ Pages per Sheet

The **Pages per Sheet** selection can reduce the image size of a page by allowing multiple pages to be printed on one sheet of paper.

### ■ Layout Direction

When you specify the pages per sheet, you can also specify the direction of the layout.

### ■ Border

To add a border, use this function.

### ■ Two-Sided

See *2-sided Printing* on page 71.

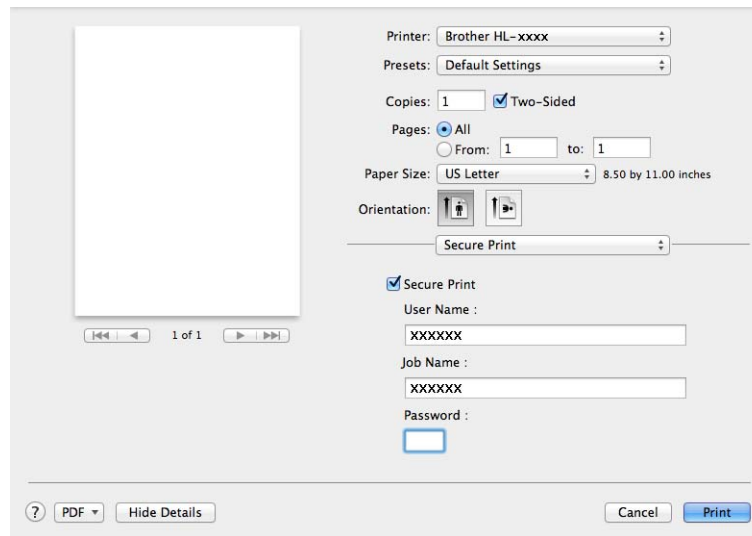
### ■ Reverse page orientation

Select **Reverse page orientation** to rotate the page 180 degrees.

### ■ Flip horizontally

Select **Flip horizontally** to print the page as a reflection flipped left-to-right.

## Secure Print



### ■ Secure Print:

Secure documents are documents that are password protected when they are sent to the machine. Only the people who know the password will be able to print them. Since the documents are secured at the machine, you must enter the password using the control panel of the machine to print them.

To send a secured document:

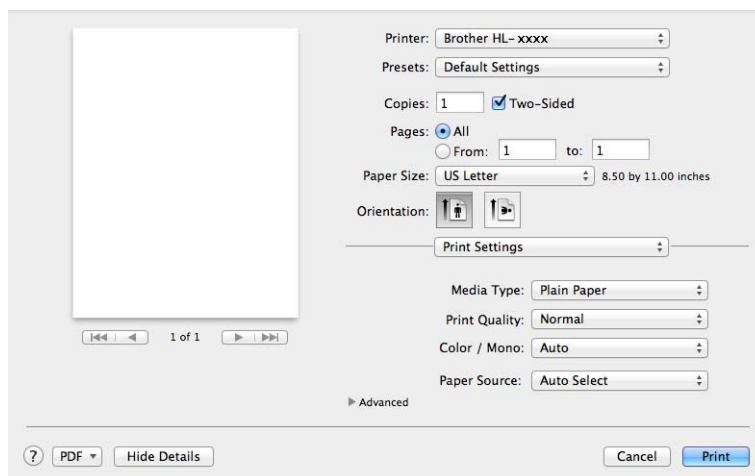
- 1 Select **Secure Print**.
- 2 Enter your password, user name and job name and then click **Print**.
- 3 To print a secured document, you must enter your password using the control panel of the machine (see *Printing Secure data* on page 99).

To delete a secured document, you must use the control panel of the machine to delete it (see *Printing Secure data* on page 99).



## Print Settings

Choose your settings in the **Print Settings** list:



### ■ Media Type

Select one of the following media types:

- Plain Paper
- Thin Paper
- Thick Paper
- Thicker Paper
- Bond Paper
- Envelopes
- Env. Thick
- Env. Thin
- Recycled Paper
- Label
- Glossy Paper

### ■ Print Quality

Choose one of the following print quality settings:

- **Normal**  
600 dpi class. Recommended for ordinary printing. Good print quality with good print speed.
- **Fine**  
2400 dpi class. The finest print mode. Use this mode to print precise images such as photographs. Since the print data is much larger than in Normal mode, processing time, data transfer time, and printing time will be longer.

## NOTE

---

The print speed will change depending on the print quality setting you choose. Higher print quality takes longer to print, while lower print quality takes less time to print.

---

### ■ Color / Mono

Choose the appropriate Color/Mono setting:

- **Auto**

The machine checks the content of your documents for color. If color is detected, it prints in color. If no color content is detected, it prints in monochrome. The total print speed may become slower.

- **Color**

When your document contains color and you want to print it in color, select this mode.

- **Mono**

Select this mode if your document has only black and grayscale text and/or objects. Mono mode makes the print processing speed faster than color mode. If your document contains color, selecting Mono mode prints your document in 256 levels of gray.

## NOTE

---

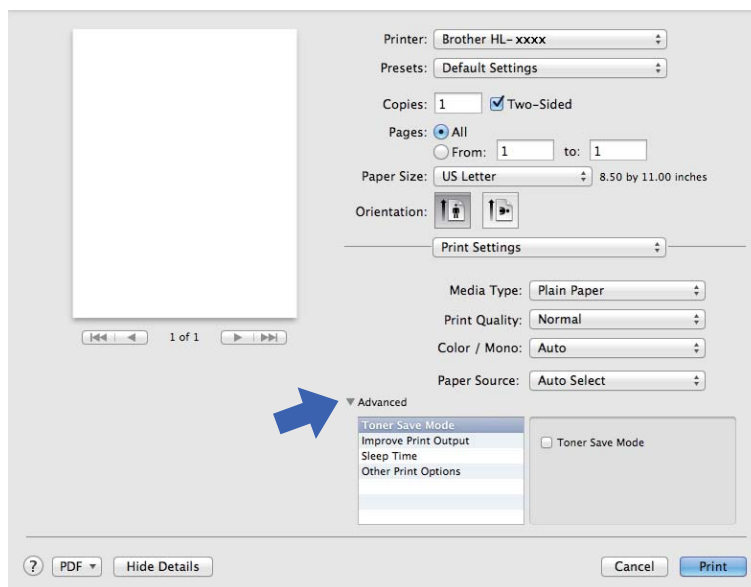
- Sometimes a document can contain color information even if it appears to be monochrome (for example, gray areas can actually be made from a combination of colors).
  - If either the Cyan, Magenta or Yellow toner cartridge reaches the end of its life while printing a color document, the print job cannot be completed. You can choose to start the print job again in Mono mode, as long as black toner is available.
- 

### ■ Paper Source

Choose **Auto Select**, **Tray1** or **Manual**.

## Advanced print settings

When you click the triangle mark (▶) beside **Advanced**, the advanced print settings appear.



### ■ Toner Save Mode

Conserve toner use with this feature. When you set **Toner Save Mode** to On, print appears lighter. The default setting is Off.

### NOTE

We do not recommend **Toner Save Mode** for printing Photo or grayscale images.

### ■ Improve Print Output

This feature allows you to improve a print quality problem.

- **Reduce Paper Curl**

If you choose this setting, the paper curl may be reduced.

If you are printing only a few pages, you do not need to choose this setting. We recommend that you change the printer driver setting in **Media Type** to a thin setting.

### NOTE

This operation will decrease the temperature of the machine's fusing process.

- **Improve Toner Fixing**

If you choose this setting, the toner fixing capabilities may be improved. If this selection does not provide enough improvement, change the printer driver setting in **Media Type** to a thick setting.

### NOTE

This operation will increase the temperature of the machine's fusing process.

### ■ Sleep Time

When the machine does not receive data for a certain period of time, it enters Sleep mode. In Sleep mode, the machine acts as though it were turned off. If you choose **Printer Default**, the timeout setting will be reset to the specific time set at the factory; this can be altered in the driver. To change the Sleep Time, choose **Manual** and then enter the time in the text box on the driver.

While the machine is in Sleep mode, the LCD shows `Sleep`, but the machine can still receive data. Receiving a print job will wake up the machine to start printing.

### ■ Other Print Options

- **Skip Blank Page**

If **Skip Blank Page** is selected, the printer driver detects blank pages and excludes them from printing.

## Color Settings

### ■ Color Mode

The following options are available in Color Matching mode:

- **Normal**

This is the Default color mode.

- **Vivid**

The color of all elements are adjusted to become a more vivid color.

- **None**

### ■ Improve Gray Color

You can improve the image of a shaded area.

### ■ Enhance Black Printing

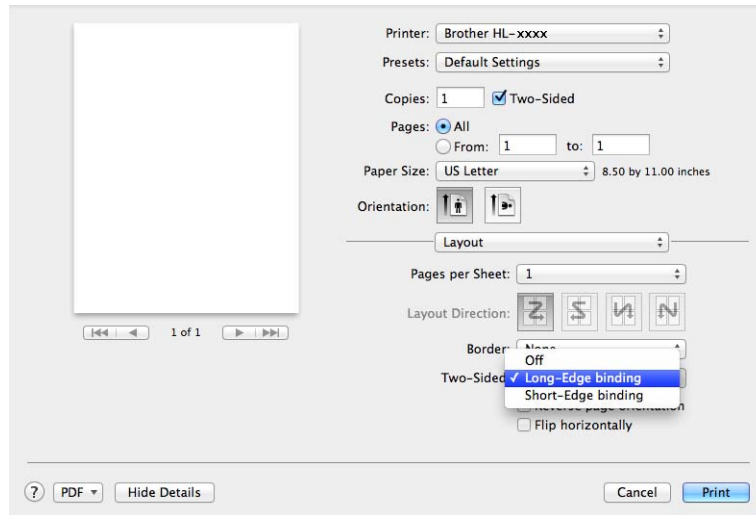
If a black graphic does not print correctly, choose this setting.

## 2-sided Printing

### ■ Automatic 2-sided Printing (HL-3150CDN and HL-3170CDW)

Select **Layout**.

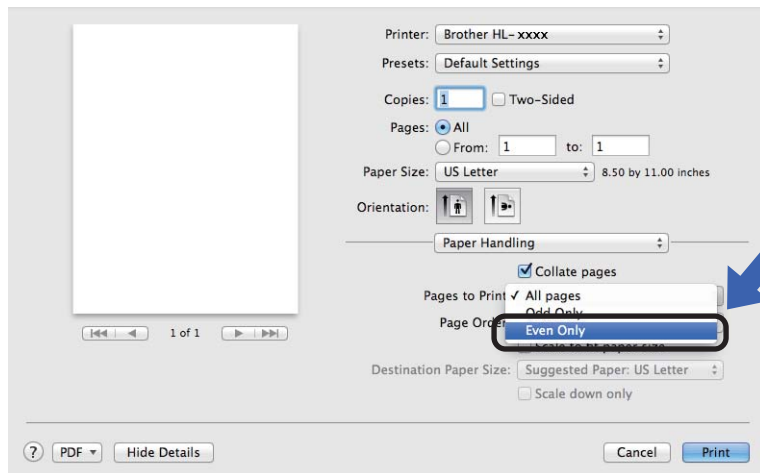
Choose **Long-Edge binding** or **Short-Edge binding** in **Two-Sided**.



### ■ Manual 2-sided Printing

Select **Paper Handling**.

- Choose **Even Only** and **Print**. Reload the printed paper into the tray (blank side face down in Tray 1 or Manual Feed Slot). Choose **Odd Only** and **Print**.

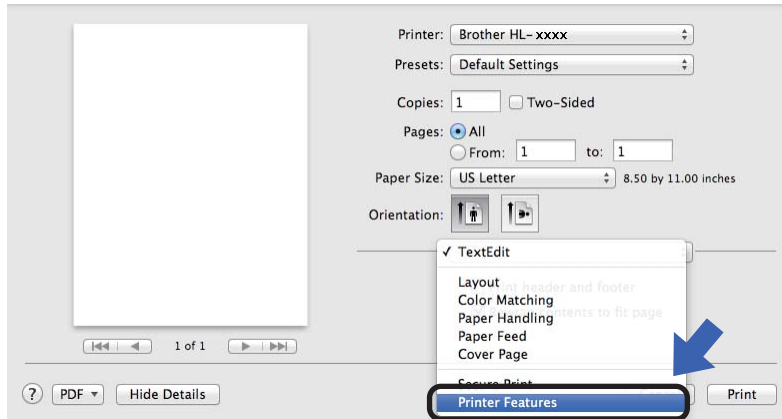


## Features in the BR-Script3 printer driver (PostScript® 3™ language emulation)

This section introduces the distinctive operations of the BR-Script3 printer driver. For the basic operations of the BR-Script3 printer driver, see *Features in the printer driver (Macintosh)* on page 61 for **Page Setup**, **Cover Page**, **Paper Source** and **Layout**.

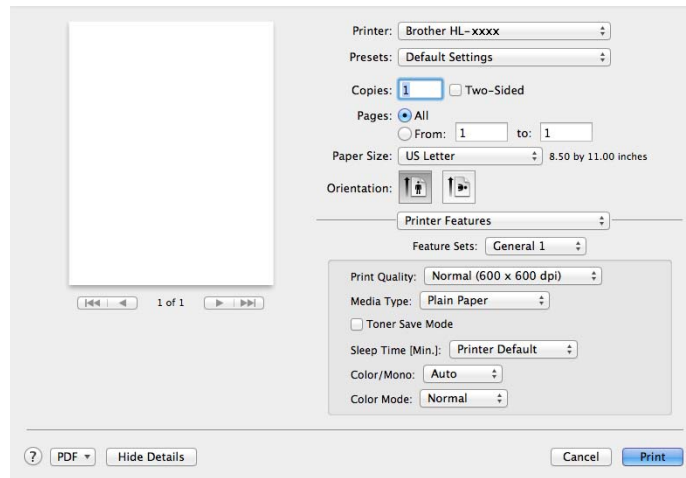
### Choosing printing options

To control special print features, choose **Printer Features** from the Print dialog box.



## Printer Features

### Feature Sets: General 1



#### ■ Print Quality

Select one of the following resolutions from the **Print Quality** drop-down list.

- **Normal**

600×600 dpi. Recommended for ordinary printing. Good print quality with reasonable print speeds.

- **Fine**

2400 dpi class. The finest print mode. Use this mode to print precise images such as photographs. Since the print data is much larger than in Normal mode, processing time / data transfer time and print time will be longer.

#### ■ Media Type

Select the media type that matches the type of paper you loaded in the machine.

- **Plain Paper**
- **Thin Paper**
- **Thick Paper**
- **Thicker Paper**
- **Bond Paper**
- **Envelopes**
- **Env. Thick**
- **Env. Thin**
- **Recycled Paper**
- **Label**
- **Glossy Paper**

#### ■ Toner Save Mode

You can conserve toner using this feature. When you check **Toner Save Mode**, your print appears lighter. The default setting is Off.

## NOTE

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We do not recommend **Toner Save Mode** for printing Photo or grayscale images.

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### ■ Sleep Time [Min.]

When the machine does not receive data for a certain period of time, it enters Sleep mode. In Sleep mode, the machine acts as though it were turned off. If you choose **Printer Default**, the timeout setting will be reset to the specific time set at the factory; this can be altered in the driver. To change the Sleep Time, choose **2**, **10** or **30**.

While the machine is in Sleep mode, the LCD shows `sleep`, but the machine can still receive data. Receiving a print job will wake up the machine to start printing.

### ■ Color / Mono

Choose the appropriate color mode:

- **Auto**

The machine checks the content of your documents for color. If color is detected, it prints in color. If no color content is detected, it prints in monochrome. The total print speed may become slower.

- **Color**

The device will print all pages in full color mode.

- **Mono**

Selecting Mono mode prints your documents in grayscale.

## NOTE

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- Sometimes a document can contain color information even if it appears to be monochrome (for example, gray areas can actually be made from a combination of colors).
  - If either the Cyan, Magenta or Yellow toner cartridge reaches the end of its life while printing a color document, the print job cannot be completed. You can choose to start the print job again in Mono mode, as long as black toner is available.
- 

### ■ Color Mode

The following options are available in Color Matching mode:

- **Normal**

This is the Default color mode.

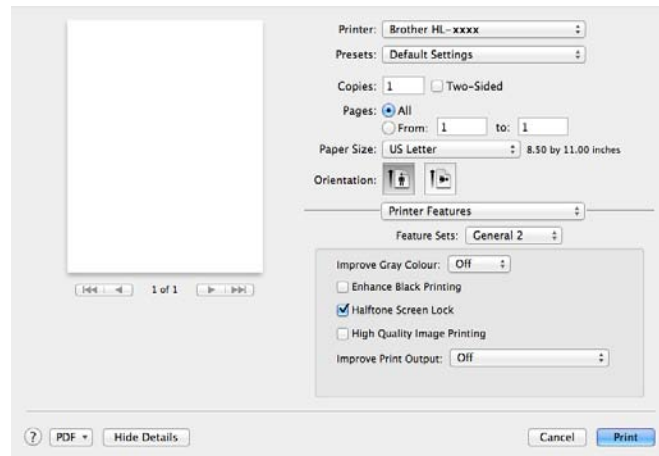
- **Vivid**

The color of all elements are adjusted to become a more vivid color.

- **None**



## Feature Sets: General 2



### ■ Improve Gray Color

You can improve the image of a shaded area.

### ■ Enhance Black Printing

If a black graphic does not print correctly, choose this setting.

### ■ Halftone Screen Lock

Stops other applications from modifying the Halftone settings. The Default setting is **On**.

### ■ High Quality Image Printing

You can increase the quality of the printed image. If you set **High Quality Image Printing** to **On**, the print speed will be slower.

### ■ Improve Print Output

This feature allows you to improve a print quality problem.

#### • Reduce Paper Curl

If you choose this setting, the paper curl may be reduced.

If you are printing only a few pages, you do not need to choose this setting. We recommend that you change the printer driver setting in **Media Type** to a thin setting.

## NOTE

This operation will decrease the temperature of the machine's fusing process.

#### • Improve Toner Fixing

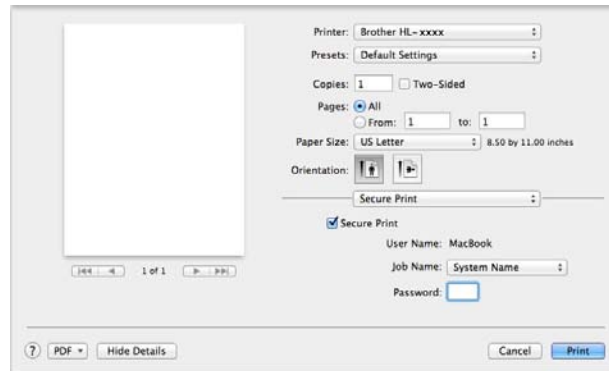
If you choose this setting, the toner fixing capabilities may be improved. If this selection does not provide enough improvement, change the printer driver setting in **Media Type** to a thick setting.

## NOTE

This operation will increase the temperature of the machine's fusing process.

## Secure Print

Secure documents are documents that are password protected when they are sent to the machine. Only the people who know the password will be able to print them. Since the documents are secured at the machine, you must enter the password using the control panel of the machine to print them.



To create a secure print job, select **Secure Print** and select the **Secure Print** check box. Enter a password in the **Password** text box and click **Print**.

(For more information about Secure Print, See *Printing Secure data* on page 99.)

## Removing the printer driver

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- 1 Log in as an 'Administrator'.
- 2 From the Apple menu, choose **System Preferences**. Click **Print & Fax** or **Print & Scan**<sup>1</sup>, then choose the printer you want to remove and remove it by clicking the - button.
- 3 Click **Delete Printer**.

<sup>1</sup> **Print & Scan** for OS X v10.7.x and 10.8.x users

## Status Monitor

The **Status Monitor** utility is a configurable software tool for monitoring the status of the machine; it lets you see error messages such as paper empty or paper jam at pre-set update intervals and access the Web Based Management utility. Check the device status by following these steps to Launch the Brother Status Monitor:


■ For Mac OS X v10.6.8

- 1 Run **System Preferences**, select **Print & Fax**, then choose the machine.
- 2 Click **Options & Supplies....** Select the **Utility** tab, and then click **Open Printer Utility**. The Status Monitor will start up.

■ For OS X v10.7.x and 10.8.x



- 1 Run **System Preferences**, select **Print & Scan**, then choose the machine.
- 2 Click **Options & Supplies....** Select the **Utility** tab, and then click **Open Printer Utility**. The Status Monitor will start up.

### Updating the machine's status

If you want the latest machine status while the **Status Monitor** window is open, click the Refresh  icon.



If the toner level is low or there is a problem with the toner cartridge, the following icons will appear.

	The toner level is low.
	The toner cartridge is empty.

You can set the interval at which the software will update the machine status information. Go to the menu bar, **Brother Status Monitor** and choose **Preferences**.

## Hiding or showing the window

After starting the **Status Monitor**, you can hide or show the window. To hide the window, go to the menu bar, **Brother Status Monitor** and choose **Hide Status Monitor**. To show the window, click the **Brother Status Monitor** icon in the dock.



## Quitting the window

Click **Brother Status Monitor** in the menu bar and then choose **Quit Status Monitor** from the pop-up menu.

## Web Based Management (Network Connection only)

Access the Web Based Management System by clicking the machine icon on the **Status Monitor** screen. A standard Web Browser can be used to manage your machine using HTTP (Hyper Text Transfer Protocol). For information about the Web Based Management System, see Network User's Guide: *Web Based Management*

# Software

## Software for networks

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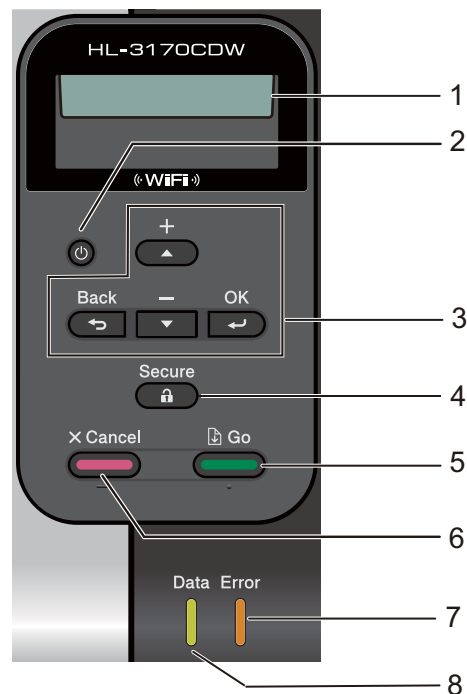
For information about network utility software, see Network User's Guide: *Network features*

## Control panel

This machine has one Liquid Crystal Display (LCD), eight keys and two Light Emitting Diodes (LEDs) on the control panel. The LCD is a 16 character single-line display.

### Control panel overview

The illustration is based on HL-3170CDW.



#### 1 LCD

Displays messages to help you set up and use your machine.


A four level indicator shows the wireless signal strength if you are using a wireless connection.



#### 2 Power On/Off

You can turn the machine on and off.

Press and hold down  to turn the machine on.

Press and hold down  to turn the machine off. The screen will show *Shutting Down* and will stay on for a few seconds before going off.

### 3 Menu Keys:

#### ▲ or ▼ (+ or -)

Press to scroll through the menus and options.

Press to enter numbers and increase the number. You can enter numbers in two ways. Press ▲ or ▼ to move up or down one number at a time, or hold down ▲ or ▼ to move faster. When you see the number you want, press **OK**.

#### **OK**

Lets you store your settings in the machine. After changing a setting, the machine returns to the previous menu level.

#### **Back**

Go back one level in the menu structure.

Lets you choose the previous digit while setting numbers.

### 4 Secure

You can print data saved in the memory when you enter your four-digit password. (For more information, see *Printing Secure data* on page 99.)

### 5 Go

You can clear some error messages by pressing **Go**. To clear all other errors follow the control panel instructions or see *Error and maintenance messages* on page 158.

Pause and continue printing.

Lets you print any data remaining in the machine's memory.

Lets you choose the displayed option in the last menu level. After a setting is changed, the machine returns to Ready mode.

Switch to Reprint mode by pressing this key and holding it down for about 4 seconds. (For details, see *Reprinting documents* on page 98.)

### 6 Cancel

Lets you cancel the current setting.

Cancels a programmed print job and clears it from the machine's memory. To cancel multiple print jobs, hold down this key until the LCD shows `Cancel All Jobs`.

### 7 Error LED

Blinks in orange when the LCD displays an error or an important status message. (For details, see *LED indications* on page 83.)

### 8 Data LED

The LED will blink depending on the machine status. (For details, see *LED indications* on page 83.)



## LED indications

The LEDs are lights that show the machine's status.

### Data LED (Green)

LED indication	Meaning
On	Data is in the machine's memory.
Blinking	The machine is receiving or processing data.
Off	There is no remaining data in the memory.

### Error LED (Orange)

LED indication	Meaning
Blinking	There is a problem with the machine.
Off	There is no problem with the machine.

## Machine status messages

The following table shows the machine's status messages during normal operation:

Machine Status Message	Meaning
Cooling Down	The machine is cooling down.
Cancel Printing Cancel All Jobs	The machine is canceling the job.
Calibrate	The machine is calibrating the color density.
Ignore Data	The machine is ignoring data processed using the PS driver.
Pause	The machine has suspended its operations. Press <b>Go</b> to start the machine again.
Please Wait	The machine is warming up. The machine is carrying out the calibration process.
Printing	The machine is printing.
Ready	The machine is ready to print.
Sleep	In Sleep mode (power save mode) the machine acts as though it were turned off, but the machine can still receive data. Receiving a print job will wake up the machine to start printing.
Deep Sleep	In Deep Sleep mode (reducing more power consumption than Sleep mode), the machine acts as though it were turned off. If the machine does not receive data for a certain length of time while it is in Sleep mode, it enters Deep Sleep mode. The machine will wake up when the machine receives a print job.
Registration	The machine is adjusting the print position.

## Menu table

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### How to access the menu mode

- 1 Press any of the Menu keys (▲, ▼, **OK** or **Back**) to take the machine offline.
- 2 Scroll through each menu level by pressing ▲ or ▼ for the direction you want.
- 3 Press **OK** when the option you want appears on the LCD. The LCD will then show the next menu level.
- 4 Press ▲ or ▼ to scroll to your next menu selection.
- 5 Press **OK** or **Go**.  
When you have finished setting an option, the LCD will show *Accepted*.

### Menu table

There are seven menus. For more information about the selections available in each menu, see the following tables.

If no control panel operations are performed for 30 seconds, the LCD returns to Ready mode.

### NOTE

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The control panel LCD names are as follows:

- Standard paper tray: `Tray1`
  - Manual feed slot: `Manual Feed`
-

**Machine Info.**

Submenu 1	Submenu 2	Menu Selections	Options	Descriptions
Print Settings	-	-	-	Prints the Printer Settings page.
Print NetSetting	-	-	-	Prints the Network Configuration Report.
Print WLANReport (HL-3140CW and HL-3170CDW)	-	-	-	Prints the result of wireless LAN connectivity diagnosis.
Test Print	-	-	-	Prints the test page.
Demo Print	-	-	-	Prints the demonstration sheet.
Drum Dot Print	-	-	-	Prints the drum dot check sheet.
Print Font (HL-3170CDW)	HP LaserJet	-	-	Prints the font list and samples of HP LaserJet.
	BR-Script 3	-	-	Prints the font list and samples of BR-Script.
Serial No.	-	-	-	Shows the machine's serial number.
Version	Main Version	-	-	Shows the main firmware version.
	Sub1 Version	-	-	Shows the sub firmware version.
	RAM Size	-	-	Shows the size of memory in this machine.
Page Count	Total	-	-	Shows the total printed pages.
	Color	-	-	Shows the total color printed pages.
	Monochrome	-	-	Shows the total monochrome printed pages.
Image Count	Black (BK)	-	-	Shows the amount of images produced by the black color.
	Cyan (C)	-	-	Shows the amount of images produced by the cyan color.
	Magenta (M)	-	-	Shows the amount of images produced by the magenta color.
	Yellow (Y)	-	-	Shows the amount of images produced by the yellow color.
Drum Count	Black (BK)	-	-	Shows the total pages printed for black drum unit.
	Cyan (C)	-	-	Shows the total pages printed for cyan drum unit.
	Magenta (M)	-	-	Shows the total pages printed for magenta drum unit.
	Yellow (Y)	-	-	Shows the total pages printed for yellow drum unit.



The factory settings are shown in Bold with an asterisk.

**Machine Info. (continued)**

Submenu 1	Submenu 2	Menu Selections	Options	Descriptions
Parts Life	Toner Life	Black (BK)	-	Shows the remaining life for each toner cartridge.
		Cyan (C)	-	For example, if the remaining life for the black toner cartridge is 20%, the LCD shows as follow.
		Magenta (M)	-	
		Yellow (Y)	-	BK ■■■■■■■■■■
	Drum Life	Black (BK)	-	Shows the remaining life for the black drum unit.
		Cyan (C)	-	Shows the remaining life for the cyan drum unit.
		Magenta (M)	-	Shows the remaining life for the magenta drum unit.
		Yellow (Y)	-	Shows the remaining life for the yellow drum unit.
	Belt Life	-	-	Shows the remaining life for the belt unit.
	PF Kit 1 Life	-	-	Shows the pages left to print with the PF kit 1.
Fuser Life	-	-	Shows the pages left to print with the fuser unit.	
Reset Parts Life (Appears only when the drum unit or belt unit has exceeded its rated life.)	Drum Unit	Black (BK)	-	Resets the black drum unit life. Appears when you replace the drum unit.
		Cyan (C)	-	Resets the cyan drum unit life. Appears when you replace the drum unit.
		Magenta (M)	-	Resets the magenta drum unit life. Appears when you replace the drum unit.
		Yellow (Y)	-	Resets the yellow drum unit life. Appears when you replace the drum unit.
	Belt Unit	-	-	Resets the belt unit life. Appears when you replace the belt unit.



The factory settings are shown in Bold with an asterisk.


## Paper Tray

Submenu	Options	Descriptions
Manual Feed	On / <b>Off*</b>	Chooses whether to feed paper manually.
2-sided (HL-3150CDN and HL-3170CDW)	On(Long Bind) / On(Short Bind) / <b>off*</b>	Chooses whether to print on both sides of the paper.
Tray1 Size	<b>Any*</b> / Letter / Legal / A4 / Executive / JIS B5 / A5 / A5 L / JIS B6 / A6 / Folio	Chooses the size of paper you loaded in the standard paper tray.




The factory settings are shown in Bold with an asterisk.

### General Setup

Submenu	Menu Selections	Options	Descriptions
Local Language	-	<b>English*</b> / Français...	Changes the LCD language for your country.
Ecology	Sleep Time	0 / 1 / 2 / <b>3*</b> / 4 / 5 / ... Min	Sets the time to return to Power Save mode.
	Toner Save	On / <b>Off*</b>	Increases the page yield of the toner cartridge.
	Auto Power Off	<b>Off*</b> / 1 hour / 2 hours / 4 hours / 8 hours	Sets the number of hours that the machine will remain in Deep Sleep mode before going into Power Off mode. Choose <b>Off</b> if you do not want the machine to go into Power Off mode.
Panel Control	Button Repeat	<b>0.1*</b> / 0.4 / 0.6 / 0.8 / 1.0 / 1.4 / 1.8 / 2.0 Sec	Sets the time for the LCD message to change when holding ▲ or ▼ at intervals.
	Message Scroll	<b>level1*</b> / level2 / ... / Level10	Sets the time in seconds that an LCD message will scroll across the LCD. From Level 1=0.2 sec to Level 10=2.0 sec.
	LCD Contrast	-□□■□□+	Adjusts the contrast of the LCD.
	Auto Online	<b>On*</b> / Off	Sets the machine to return to Ready mode after it has been idle for 30 seconds. If you choose <b>Off</b> , the machine cannot receive print jobs if it has been left in Menu mode.
Setting Lock	-	On / <b>Off*</b>	Turns the lock panel settings On or Off using the password.
Reprint	-	On / <b>Off*</b>	Turns the reprint settings On or Off.
Interface	Select	<b>Auto*</b> / USB / Network	Chooses the interface to use. If you choose <b>Auto</b> , the machine automatically changes the interface to USB or Ethernet depending on which interface is receiving data.
	Auto IF Time	1 / 2 / 3 / 4 / <b>5*</b> / ... / 99Sec	You must set the time-out period for the auto interface selection.
	Input Buffer	Level 1 / 2 / 3 / <b>4*</b> / ... / 7	Increases or decreases the input buffer capacity.
 The factory settings are shown in Bold with an asterisk.			

**Print Menu**

Submenu	Menu Selections	Options	Descriptions
Emulation (HL-3170CDW)	-	<b>Auto*</b> / HP LaserJet / BR-Script 3	Chooses the emulation mode you use.
Auto Continue	-	On / <b>Off*</b>	Select this setting if you want the machine to automatically clear paper size errors.
Output Color (HL-3170CDW)	-	<b>Auto*</b> / Color / Mono	Sets the output color.
Media Type (HL-3170CDW)	-	<b>Plain Paper*</b> / Thick Paper / Thicker Paper / Thin Paper / Recycled Paper / Bond Paper / Envelopes / Env. Thick / Env. Thin / Glossy Paper	Sets the type of paper.
Paper (HL-3170CDW)	-	<b>Letter*</b> / Legal / A4 / Executive / Com-10 / DL / JIS B5 / B5 / A5 / A5 L / JIS B6 / A6 / Monarch / C5 / Folio	Sets the size of paper.
Copies (HL-3170CDW)	-	<b>1*</b> / 2 / ... / 999	Sets the number of printed pages.
Orientation (HL-3170CDW)	-	<b>Portrait*</b> / Landscape	This machine can print pages in portrait or landscape orientation.
Print Position	X Offset	-500 / -499 / ... / -1 / <b>0*</b> / 1 / ... / 499 / 500Dots	Moves the print start position (at the top-left corner of pages) horizontally up to -500 (left) to +500 (right) dots in 300 dpi.
	Y Offset	-500 / -499 / ... / -1 / <b>0*</b> / 1 / ... / 499 / 500Dots	Moves the print start position (at the top-left corner of pages) vertically up to -500 (up) to +500 (down) dots in 300 dpi.
Auto FF (HL-3170CDW)	-	On / <b>Off*</b>	Allows you to print the remaining data without pressing <b>Go</b> .
 The factory settings are shown in Bold with an asterisk.			

## Print Menu (continued)


Submenu	Menu Selections	Options	Descriptions
HP LaserJet (HL-3170CDW)	Font No.	I000 / ... / <b>I059*</b> / ... / I071	Sets the font number.
	Font Pitch	0.44 / ... / <b>10.00*</b> / ... / 99.99	Sets the font pitch. The Font Pitch menu will appear when you choose I059 to I071 in Font No. setting.
	Font Point	4.00 / ... / <b>12.00*</b> / ... / 999.75	Sets the font size. The Font Point menu will appear when you choose I000 to I058 in Font No. setting.
	Symbol Set	<b>PC-8*</b> / PC-8 D/N / ...	Sets the symbol set or the character set.
	Table Print	-	Prints the code table. If Change Emulation appears on the LCD, choose Auto or HP LaserJet in Emulation of the Print Menu (see page 89).
	Auto LF	On / <b>off*</b>	ON: CR → CR+LF, OFF: CR → CR
	Auto CR	On / <b>off*</b>	ON: LF → LF+CR, FF → FF+CR, or VT → VT+CR OFF: LF → LF, FF → FF, or VT → VT
	Auto WRAP	On / <b>off*</b>	Chooses whether a line feed and carriage return will happen when the machine reaches the right margin.
	Auto SKIP	<b>On*</b> / Off	Chooses whether a line feed and carriage return will happen when the carriage position reaches the bottom margin.
	Left Margin	##	Sets the left margin at column 0 to 70 columns at 1 cpi. The default setting is 0 cpi.
	Right Margin	##	Sets the right margin at column 10 to 80 columns at 1 cpi. The default setting is 80 cpi (Letter).
	Top Margin	#.##	Sets the top margin at a distance from the top edge of the paper: 0.00, 0.33, 0.50, 1.00, 1.50 or 2.00 inches. The default setting is 0.50 inches.
	Bottom Margin	#.##	Sets the bottom margin at a distance from the bottom edge of the paper: 0.00, 0.33, 0.50, 1.00, 1.50 or 2.00 inches. The default setting is 0.50 inches.




The factory settings are shown in Bold with an asterisk.



**Print Menu (continued)**

Submenu	Menu Selections	Options	Descriptions
HP LaserJet (HL-3170CDW) (Continued)	Lines	###	Sets the number of lines on each page from 5 to 128 lines. The default setting is 60 lines (Letter).
BR-Script 3 (HL-3170CDW)	Error Print	<b>On</b> * / Off	Choose whether the machine prints the error information when errors occur.
	CAPT	On / <b>off</b> *	Use CAPT (Color Advanced Printing Technology) for optimal print quality when printing a PS file created by a non-Brother PS driver. Colors and photos will appear clearer and more accurate. Print speed will be slower.
 The factory settings are shown in Bold with an asterisk.			


## Network Menu for HL-3150CDN

Submenu 1	Submenu 2	Menu Selections	Options	Descriptions
TCP/IP	Boot Method	-	<b>Auto*</b> / Static / RARP / BOOTP / DHCP	Chooses the IP method that best suits your needs.
	IP Address	-	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the IP address.
	Subnet Mask	-	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the Subnet mask.
	Gateway	-	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the Gateway address.
	IP Boot Tries	-	0 / 1 / 2 / <b>3*</b> / ... / 32767	Specifies the number of attempts the machine will try to obtain an IP address when the Boot Method is set to any setting except Static.
	APIPA	-	<b>On*</b> / Off	Automatically allocates the IP address from the link-local address range. <sup>1</sup>
	IPv6	-	On / <b>Off*</b>	Sets use of IPv6 protocol.
Ethernet	-	-	<b>Auto*</b> / 100B-FD / 100B-HD / 10B-FD / 10B-HD	Chooses Ethernet link mode.
Wired Status	-	-	Active 100B-FD / Active 100B-HD / Active 10B-FD / Active 10B-HD / Inactive / Wired OFF	Shows Ethernet link status.
MAC Address	-	-	-	Shows MAC address of the machine.
Network Reset	Restores all network settings of the internal print server to the factory default.			
 The factory settings are shown in Bold with an asterisk.				

<sup>1</sup> ### means a number within the range of 000 to 255. On connection to the network, if the machine's 'Boot Method' is 'Auto' the machine will attempt to set the IP address and Subnet Mask from a boot server such as DHCP or BOOTP. If a boot server cannot be found, an APIPA IP address will be allocated, such as 169.254.[001-254].[000-255]. If the 'Boot Method' of the machine is set to 'Static' you will need to manually enter an IP address from the machine's control panel.


## Network Menu for HL-3140CW and HL-3170CDW

Submenu 1	Submenu 2	Menu Selections	Options	Descriptions
Wired LAN (HL-3170CDW)	TCP/IP	Boot Method	<b>Auto*</b> / Static / RARP / BOOTP / DHCP	Chooses the IP method that best suits your needs.
		IP Address	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the IP address.
		Subnet Mask	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the Subnet mask.
		Gateway	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the Gateway address.
		IP Boot Tries	0 / 1 / 2 / <b>3*</b> / ... / 32767	Specifies the number of attempts the machine will try to obtain an IP address when the Boot Method is set to any setting except Static.
		APIPA	<b>On*</b> / Off	Automatically allocates the IP address from the link-local address range. <sup>1</sup>
		IPv6	On / <b>Off*</b>	Enables or disables the IPv6 protocol.
	Ethernet	-	<b>Auto*</b> / 100B-FD / 100B-HD / 10B-FD / 10B-HD	Chooses Ethernet link mode.
	Wired Status	-	Active 100B-FD / Active 100B-HD / Active 10B-FD / Active 10B-HD / Inactive / Wired OFF	Shows Ethernet link status.
	MAC Address	-	-	Shows MAC address of the machine.
Set to Default	Restores wired network settings of the internal print server to the factory default.			
Wired Enable	-	<b>On*</b> / Off	Chooses Ethernet link mode.	


 The factory settings are shown in Bold with an asterisk.

## Network Menu for HL-3140CW and HL-3170CDW (continued)

Submenu 1	Submenu 2	Menu Selections	Options	Descriptions
WLAN	TCP/IP	Boot Method	<b>Auto*</b> / Static / RARP / BOOTP / DHCP	Chooses the IP method that best suits your needs.
		IP Address	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the IP address.
		Subnet Mask	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the Subnet mask.
		Gateway	###.###.###.### (000.000.000.000)* <sup>1</sup>	Enter the Gateway address.
		IP Boot Tries	0 / 1 / 2 / <b>3*</b> / ... / 32767	Specifies the number of attempts the machine will try to obtain an IP address when the Boot Method is set to any setting except Static.
		APIPA	<b>On*</b> / Off	Automatically allocates the IP address from the link-local address range. <sup>1</sup>
		IPv6	On / <b>Off*</b>	Enables or Disables the IPv6 protocol.
	Setup Wizard	-	-	Configures the wireless network settings using the setup wizard.
	WPS/AOSS	-	-	Configures the wireless network settings using WPS or AOSS™ method.
	WPS w/PIN Code	-	-	Configures the wireless network settings using WPS with a PIN code.


 The factory settings are shown in Bold with an asterisk.

## Network Menu for HL-3140CW and HL-3170CDW (continued)

Submenu 1	Submenu 2	Menu Selections	Options	Descriptions
WLAN (Continued)	WLAN Status (Appears only when WLAN Enable is On and Wired Enable <sup>2</sup> is Off.)	Status	Active (11n) / Active (11b) / Active (11g) / Wired LAN Active <sup>2</sup> / WLAN OFF / AOSS Active / Connection Fail	Shows wireless Ethernet link status.
		Signal	Strong / Medium / Weak / None	Shows the signal condition.
		Channel	-	Shows the channel in use when Status is Active.
		Speed	-	Shows the connecting speed when Status is Active.
		SSID	-	Shows SSID [uses a maximum of 32 digits and characters 0-9, a-z and A-Z in ASCII values]
		Comm. Mode	Ad-hoc / Infrastructure	Shows the current Communication Mode.
	MAC Address	-	-	Shows MAC address of the machine.
	Set to Default (HL-3170CDW)	Restores wireless network settings of the internal print server to the factory default.		
WLAN Enable	-	On / <b>Off*</b>	Turns the wireless interface on or off.	
Wi-Fi Direct	Push Button	-	-	You can easily configure your Wi-Fi Direct™ network settings easily using the one-button push method.
	PIN Code	-	-	You can easily configure your Wi-Fi Direct™ network settings easily using WPS with a PIN code.
	Manual	-	-	You can manually configure your Wi-Fi Direct™ network settings manually.
	Group Owner	-	On / <b>Off*</b>	Sets your machine as the Group Owner.
	Device Info.	Device Name	-	You can see the device name of your machine.
 The factory settings are shown in Bold with an asterisk.				

**Network Menu for HL-3140CW and HL-3170CDW (continued)**

Submenu 1	Submenu 2	Menu Selections	Options	Descriptions
Wi-Fi Direct (Continued)	Device Info. (Continued)	SSID	-	Shows SSID of Group Owner.  When the machine is not connected, the LCD shows Not Connected.
		IP Address	-	Shows the IP Address of your machine.
	Status Info.	Status	G/O Active(**) / Client Active / Not Connected / Off / Wired LAN Active  ** = the number of devices	Shows the Wi-Fi Direct™ network status.
		Signal	Strong / Medium / Weak / None	Shows the Wi-Fi Direct™ network signal strength.  When your machine acts as the Group Owner, the LCD always shows Strong.
		Channel	-	Shows the channel in use when the Status is G/O Active(**) or Client Active.
		Speed	-	Shows the connecting speed when the Status is G/O Active(**) or Client Active.
	I/F Enable	-	On / <b>Off*</b>	Enables or disables the Wi-Fi Direct™ connection.
Network Reset	Restores all network settings of the internal print server to the factory default.			


 The factory settings are shown in Bold with an asterisk.

<sup>1</sup> ### means a number within the range of 000 to 255. On connection to the network, if the machine's 'Boot Method' is 'Auto' the machine will attempt to set the IP address and Subnet Mask from a boot server such as DHCP or BOOTP. If a boot server cannot be found, an APIPA IP address will be allocated, such as 169. 254. [001-254]. [000-255]. If the 'Boot Method' of the machine is set to 'Static' you will need to manually enter an IP address from the machine's control panel.


<sup>2</sup> HL-3170CDW only

**Reset Menu**

Display Shows	Description
Network	Restores all network settings of the internal print server to the factory default.
Factory Reset	Resets the machine and restores the printer settings (including command settings) to the factory default settings.

 The factory settings are shown in Bold with an asterisk.

### Color Correction

Submenu	Options	Descriptions
Frequency	<b>Normal*</b> / Low / Off	Sets the interval time you want to carry out the color calibration and the auto registration.
ColorCalibration	Calibrate	Carry out calibration to revise the colors.
	Reset	Set the calibration parameters back to the default settings.
Auto Regist.	-	Adjusts the print position of each color automatically.
 The factory settings are shown in Bold with an asterisk.		

# Reprinting documents

## Reprinting the last job

---

Reprint the data from the last print job without sending it from the computer again.

### NOTE

- The Reprint function is not available when Secure Function Lock 2.0 is On. (For more information about Secure Function Lock 2.0, see Network User's Guide: *Secure Function Lock 2.0*)
  - If the machine does not have enough memory to spool the print job, it will not print the document.
  - If you wait 30 seconds to continue the control panel operation, the Reprint setting will close and the LCD will return to Ready mode.
  - For more information about the settings in the printer driver, see *Advanced tab* on page 36.
  - After you turn the machine off, the last print job will be deleted.
- 

## How to reprint the last job

---

- 1 Make sure that the `Reprint` setting is `On` by using the keys on the control panel to enter the `General Setup` menu.

### NOTE

If you print with the Windows® printer driver we have supplied with the machine, the settings for **Use Reprint** in the printer driver will take priority over the settings made on the control panel. Select the **Use Reprint** check box in the printer driver. (For more information, see *Use Reprint* on page 42.)

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- 2 Press **Go** for about 4 seconds and then release it.
- 3 Make sure that the LCD shows `Reprint: Print`. Press **OK**.
- 4 Press **▲** or **▼** to enter the number of copies. Choose between 1 and 999 `Copies`.
- 5 Press **OK** or **Go**.

### NOTE

To delete the last print job from the memory, replace steps 3 to 5 with the following step:

- Press **▲** or **▼** to choose `Reprint: Delete`. Press **OK**.

The LCD will show `Deleted`, and then the machine will return to Ready mode.

---



## Printing Secure data

### Secure data

---

Secure documents are protected by a password and only those people who know the password will be able to print the document. The machine will not print the document when you send it for printing. To print the document, you must use the control panel of the machine (with the password). Secure data will be deleted after it is printed once.

When the area to spool data is full, the LCD shows `Out of Memory`. Press **Cancel** to return to Ready mode. To delete the spooled data, carry out this operation using the control panel.

#### NOTE

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- Secure data will be deleted when the machine is turned off.
  - If you wait 30 seconds to continue the control panel operation, the Secure Print setting will close and the LCD will return to Ready mode.
  - For more information about the settings in the printer driver and how to create secure data, see *Secure Print* on page 39 (For Windows® printer driver), *Advanced options* on page 53 (For Windows® BR-Script printer driver), *Secure Print* on page 66 (For Macintosh printer driver) or *Secure Print* on page 76 (For Macintosh BR-Script printer driver).
- 

### How to print Secure data

---

- 1 Press **Secure**.
- 2 Press ▲ or ▼ to choose the user name. Press **OK**.
- 3 Press ▲ or ▼ to choose the job. Press **OK**.
- 4 Press ▲ or ▼ to enter your password. Press **OK**.
- 5 Press ▲ or ▼ to choose `Print`. Press **OK**.
- 6 Press ▲ or ▼ to enter the number of copies you want.
- 7 Press **OK** or **Go**.

#### NOTE

---

To delete the secure print data from the memory, replace steps ⑤ to ⑦ with the following step:

- Press ▲ or ▼ to choose `Delete`. Press **OK**.

The LCD will show `Deleted`, and then the machine will return to Ready mode.

---

# Security features

## Secure Function Lock 2.0

---

Secure Function Lock lets you restrict Public access to the Print functions <sup>1</sup>.

This feature also prevents users from changing the Default settings of the machine by limiting access to the Menu settings. Before using the security features you must first enter an administrator password. The administrator can set up restrictions for individual users along with a user password. Restricted users must enter the user password to use the machine. Secure Function Lock can be set by using Web Based Management and BRAdmin Professional 3 (Windows<sup>®</sup> only) (see Network User's Guide).

<sup>1</sup> The Print functions include print jobs via AirPrint, Google Cloud Print and Brother iPrint&Scan.

### NOTE

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- Make a careful note of your password. If you forget it, you will have to reset the password stored in the machine. For information about how to reset the password call Brother Customer Service.
  - Only administrators can set limitations and make changes for each user.
- 

## Setting Lock

---

Setting Lock lets you set a password to stop other people from accidentally changing your machine settings. Make a careful note of your password. If you forget it, you will have to reset the passwords stored in the machine. Please call your administrator, Brother Customer Service.

While Setting Lock is On, you cannot change the following settings without a password:

- Paper Tray
- General Setup
- Print Menu (except Table Print)
- Network (except Status, Mac Address, Status Info. and Device Info. of Wi-Fi Direct)
- Reset Menu

### Setting up the password

- 1 Press ▲ or ▼ to choose `General Setup`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Setting Lock`. Press **OK**.
- 3 Enter a four-digit number for the password. To enter each digit, press ▲ or ▼ to choose a number and then press **OK**.
- 4 Re-enter the password when the LCD shows `Verify:`.

## Changing your Setting Lock password

Turn Setting Lock off before you change the password (see *Turning Setting Lock on/off* on page 101).

- 1 Press ▲ or ▼ to choose `General Setup`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Setting Lock`. Press **OK**.
- 3 Press ▲ or ▼ to choose `Set Password`. Press **OK**.
- 4 Enter the registered four-digit password. To enter each digit, press ▲ or ▼ to choose a number and then press **OK**.
- 5 Enter a four-digit number for the new password. To enter each digit, press ▲ or ▼ to choose a number and then press **OK**.
- 6 Re-enter the password when the LCD shows `Verify:`.

## Turning Setting Lock on/off

If you enter the wrong password when following the instructions below, the LCD will show `Wrong Password`. Re-enter the correct password.

### Turning Setting Lock on

- 1 Press ▲ or ▼ to choose `General Setup`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Setting Lock`. Press **OK**.
- 3 Press **OK** when the LCD shows `On`.
- 4 Enter the registered four-digit password. To enter each digit, press ▲ or ▼ to choose a number and then press **OK**.

### Turning Setting Lock off

- 1 Press ▲ or ▼ to choose `General Setup`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Setting Lock`. Press **OK**.
- 3 Enter the registered four-digit password. To enter each digit, press ▲ or ▼ to choose a number and then press **OK**.
- 4 Press **OK** or **Go** when the LCD shows `Off`.

## Ecology features

### Toner Save

---

Save toner by using this feature. When you set Toner Save to **On**, the print appears lighter. The default setting is **Off**.

- 1 Press ▲ or ▼ to choose **General Setup**. Press **OK**.
- 2 Press ▲ or ▼ to choose **Ecology**. Press **OK**.
- 3 Press ▲ or ▼ to choose **Toner Save**. Press **OK**.
- 4 Press ▲ or ▼ to choose **On** or **Off**. Press **OK** or **Go**.

### Sleep Time

---

The Sleep mode setting can reduce power consumption. When the machine is in Sleep mode (Power Save mode) it acts as though it were turned off. The machine will wake up and start printing when it receives a print job.

Choose how long the machine must be idle before it goes into Sleep mode. When the machine receives a print file or document, the timer will be reset. The default setting is 3 minutes. While the machine is in Sleep mode the LCD will show **Sleep**.

- 1 Press ▲ or ▼ to choose **General Setup**. Press **OK**.
- 2 Press ▲ or ▼ to choose **Ecology**. Press **OK**.
- 3 Press ▲ or ▼ to choose **Sleep Time**. Press **OK**.
- 4 Press ▲ or ▼ to enter the length of time the machine will remain idle before entering Sleep mode. Press **OK** or **Go**.


### Deep Sleep mode

---

If the machine is in Sleep mode and does not receive any jobs for a certain length of time, the machine will go into Deep Sleep mode and the LCD will show **Deep Sleep**. Deep Sleep mode uses less power than Sleep mode. The machine will wake up, when the machine receives a print job.

## Auto Power Off

---

If the machine is in Deep Sleep mode for a certain length of time, it will go into Power Off mode automatically. To start printing, press and hold down  on the control panel and then send the print data.

You can choose how long the machine must be in Deep Sleep mode before it goes into Auto Power Off mode, by following these steps:

- 1 Press ▲ or ▼ to choose `General Setup`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Ecology`. Press **OK**.
- 3 Press ▲ or ▼ to choose `Auto Power Off`. Press **OK**.
- 4 Press ▲ or ▼ to choose `Off, 1 hour, 2 hours, 4 hours or 8 hours`. Press **OK or Go**.

### NOTE

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The machine does not go into Power Off when the machine is connected to a wired or wireless network or has secure print data in the memory.

---

# Color Correction

## Frequency

Set how often the color correction (Color Calibration and Auto Registration) occurs. The factory setting is Normal. The color correction process consumes some amount of the toner.

- 1 Press ▲ or ▼ to choose `Color Correction`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Frequency`. Press **OK**.
- 3 Press ▲ or ▼ to choose `Normal`, `Low` or `Off`. Press **OK**.

## Color Calibration

The output density for each color may vary depending on the machine's environment, such as temperature and humidity. Calibration helps you to improve the color density.

### NOTE

- If you are using the Windows® printer driver, the driver will get the calibration data automatically if both **Use Calibration Data** and **Get Device Data Automatically** check boxes are selected. The default settings are on. See *Color Calibration* on page 42.
- If you are using the Macintosh printer driver, you must perform the calibration using the Status Monitor. Turn on the Status Monitor, and then select **Color Calibration** from the **Control** menu. See *Status Monitor* on page 78 for how to turn on the Status Monitor.

### Calibration

- 1 Press ▲ or ▼ to choose `Color Correction`. Press **OK**.
- 2 Press ▲ or ▼ to choose `ColorCalibration`. Press **OK**.
- 3 Press ▲ or ▼ to choose `Calibrate`. Press **OK**.
- 4 Press ▲ to choose `Yes`.  
The machine performs the Calibration, and then returns to Ready mode.

### Reset

Reset the calibration parameters back to those set at the factory.

- 1 Press ▲ or ▼ to choose `Color Correction`. Press **OK**.
- 2 Press ▲ or ▼ to choose `ColorCalibration`. Press **OK**.
- 3 Press ▲ or ▼ to choose `Reset`. Press **OK**.
- 4 Press ▲ to choose `Reset`.  
The LCD shows `Accepted`, and then returns to Ready mode.

## Auto Registration

---

Adjust the print position of each color automatically.

If solid areas of color or images have cyan, magenta or yellow fringes, use the auto-registration feature to correct the problem.

- 1 Press ▲ or ▼ to choose `Color Correction`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Auto Regist..` Press **OK**.
- 3 Press **OK** to select `Registration`.
- 4 Press ▲ to choose `Yes`.  
The machine performs the Registration, and then returns to Ready mode.

# 4

## Routine Maintenance

### Replacing consumable items

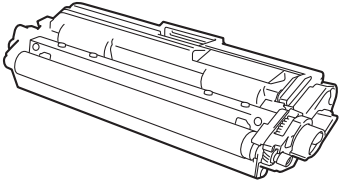
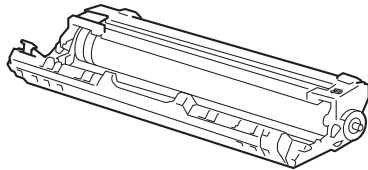
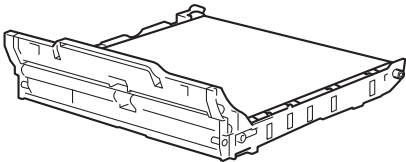
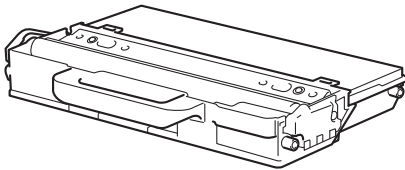
You will need to replace the consumable items when the machine indicates that the life of the consumable is over. You can replace the following consumable items by yourself.

Using non-Brother supplies may affect the print quality, hardware performance, and machine reliability.

#### NOTE

The drum unit and toner cartridge are two separate parts.

4

Toner cartridge	Drum unit
See <i>Replacing the toner cartridges</i> on page 110. Order No. TN-221BK, TN-221C, TN-225C, TN-221M, TN-225M, TN-221Y, TN-225Y	See <i>Replacing the drum units</i> on page 121. Order No. 4 pc. Drum Set DR-221CL or single drum units DR-221CL-BK, DR-221CL-CMY
	
Belt unit	Waste toner box
See <i>Replacing the belt unit</i> on page 128. Order No. BU-220CL	See <i>Replacing the waste toner box</i> on page 133. Order No. WT-220CL
	



The following messages appear on the LCD in Ready mode. These messages provide advanced warnings to replace the consumable items before they reach their end of life. To avoid any inconvenience, you may want to buy spare consumable items before the machine stops printing.

LCD messages	Consumable item to get ready	Approximate life	How to replace	Order No.
Toner Low: X	Toner cartridge X = C, M, Y, BK C = Cyan M = Magenta Y = Yellow BK = Black	<Black> 2,500 pages <sup>1 2 5</sup> <Cyan, Magenta, Yellow> 1,400 pages <sup>1 2 5</sup> 2,200 pages <sup>1 2 6</sup>	See page 111	TN-221BK <sup>5</sup> TN-221C <sup>5</sup> TN-225C <sup>6</sup> TN-221M <sup>5</sup> TN-225M <sup>6</sup> TN-221Y <sup>5</sup> TN-225Y <sup>6</sup>
Drums End Soon	4 Drum units	15,000 pages <sup>1 3 4</sup>	See page 119	(4 Drum units) DR-221CL
Drum End Soon: X	1 Drum unit X = C, M, Y, BK C = Cyan M = Magenta Y = Yellow BK = Black	15,000 pages <sup>1 3 4</sup>	See page 119	(1 Drum unit) DR-221CL-BK DR-221CL-CMY
Belt End Soon	Belt unit	50,000 pages <sup>1</sup>	See page 128	BU-220CL
WT Box End Soon	Waste toner box	50,000 pages <sup>1</sup>	See page 133	WT-220CL

- <sup>1</sup> Letter or A4 size single-sided pages.
- <sup>2</sup> Approx. cartridge yield is declared in accordance with ISO/IEC 19798.
- <sup>3</sup> 1 page per job
- <sup>4</sup> Drum life is approximate and may vary by type of use.
- <sup>5</sup> Standard toner cartridge
- <sup>6</sup> High yield toner cartridge

You will need to clean the machine regularly and replace the consumable items when the following messages are displayed on the LCD.

LCD messages	Consumable item to replace	Approximate life	How to replace	Order No.
Replace Toner	Toner cartridge	<Black> 2,500 pages <sup>1 2 5</sup> <Cyan, Magenta, Yellow> 1,400 pages <sup>1 2 5</sup> 2,200 pages <sup>1 2 6</sup>	See page 111	TN-221BK <sup>5</sup> TN-221C <sup>5</sup> TN-225C <sup>6</sup> TN-221M <sup>5</sup> TN-225M <sup>6</sup> TN-221Y <sup>5</sup> TN-225Y <sup>6</sup>
Replace Drums	4 Drum units	15,000 pages <sup>1 3 4</sup>	See page 119	(4 Drum units) DR-221CL
Replace Drum: X	1 Drum unit X = C, M, Y, BK C = Cyan M = Magenta Y = Yellow BK = Black	15,000 pages <sup>1 3 4</sup>	See page 119	(1 Drum unit) DR-221CL-BK DR-221CL-CMY
Drum Stop	Drum unit	15,000 pages <sup>1 3 4</sup>	See page 119	
Replace Belt	Belt unit	50,000 pages <sup>1</sup>	See page 128	BU-220CL
Replace WT Box	Waste toner box	50,000 pages <sup>1</sup>	See page 133	WT-220CL
Replace Fuser	Fuser unit	50,000 pages <sup>1</sup>	Call Brother Customer Service for a replacement fuser unit.	
Replace PF kit1	Paper feeding kit	50,000 pages <sup>1</sup>	Call Brother Customer Service for a replacement paper feeding kit 1.	

- <sup>1</sup> Letter or A4 size single-sided pages.
- <sup>2</sup> Approx. cartridge yield is declared in accordance with ISO/IEC 19798.
- <sup>3</sup> 1 page per job
- <sup>4</sup> Drum life is approximate and may vary by type of use.
- <sup>5</sup> Standard toner cartridge
- <sup>6</sup> High yield toner cartridge

## NOTE

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- Go to <http://www.brother.com/original/index.html> for instructions on how to return the used toner cartridge to the brother collection program. If you choose not to return your used toner cartridge, please discard the used toner cartridge according to local regulations, keeping it separate from domestic waste. If you have questions, call your local waste disposal office.
  - We recommend placing used consumable items on a piece of paper to prevent accidentally spilling or scattering the material inside.
  - If you use paper that is not a direct equivalent for the recommended paper, the life of consumable items and machine parts may be reduced.
  - The projected life for each of the toner cartridges is based on ISO/ICE 19798. Frequency of replacement will vary depending on the print volume, percentage of coverage, types of media used, and powering on/off the machine.
  - Frequency of replacement consumables except toner cartridges will vary depending on the print volume, types of media used, and powering on/off the machine.
-

## Replacing the toner cartridges

Order No. For the model name of toner cartridges, see *Replacing consumable items* on page 106

The Standard toner cartridge can print approximately 2,500 pages (black) or approximately 1,400 pages (cyan, magenta, yellow)<sup>1</sup>. The High Yield toner cartridge can print approximately 2,200 pages (cyan, magenta, yellow)<sup>1</sup>. Actual page count will vary depending on your average type of document. When a toner cartridge is running low, the LCD shows `Toner Low`.

The toner cartridge that comes supplied with the machine will need to be replaced after approximately 1,000 pages<sup>1</sup>.

<sup>1</sup> Approx. cartridge yield is declared in accordance with ISO/IEC 19798.

### NOTE

- The indication of remaining toner life will vary depending on the types of documents printed and customer's usage.
- It is a good idea to keep a new toner cartridge ready for use when you see the Toner Low warning.
- To ensure high quality printing, we recommend that you use only Genuine Brother Brand toner cartridges. When you want to buy toner cartridges, please call Brother Customer Service.
- We recommend that you clean the machine when you replace the toner cartridge. See *Cleaning and Checking the machine* on page 140.
- DO NOT unpack the new toner cartridge until you are ready to install it.

### Toner Low: X

`Toner Low: X`

If the LCD shows `Toner Low: X`, the machine has nearly run out of toner. Buy a new toner cartridge and have it ready before you get a `Replace Toner` message. `X` shows the toner color that is near the end of its life. (BK=Black, C=Cyan, M=Magenta, Y=Yellow). To replace the toner cartridge, see *Replacing the toner cartridges* on page 111.

Buy a new toner cartridge and have it ready before you get a `Replace Toner` message.

### Replace Toner

When the following message appears on the LCD, you must replace the toner cartridge:

`Replace Toner`

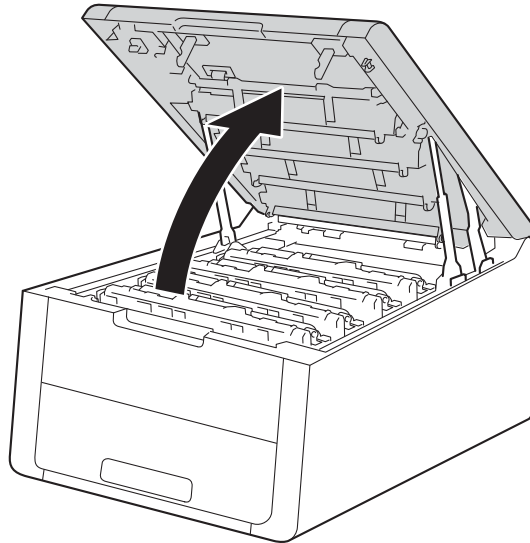
The scrolling message on the LCD indicates which color you must replace.

When the LCD shows `Replace Toner` the machine will stop printing until you replace the toner cartridge.

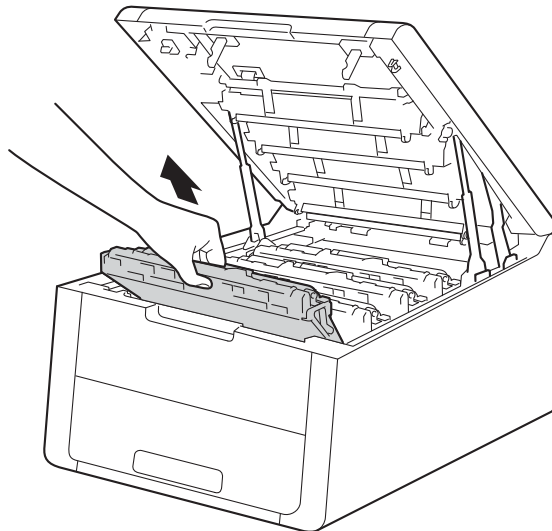
A new genuine Brother toner cartridge will reset the `Replace Toner` mode.

## Replacing the toner cartridges

- 1 Make sure that the machine is turned on.
- 2 Open the top cover until it locks in the open position.



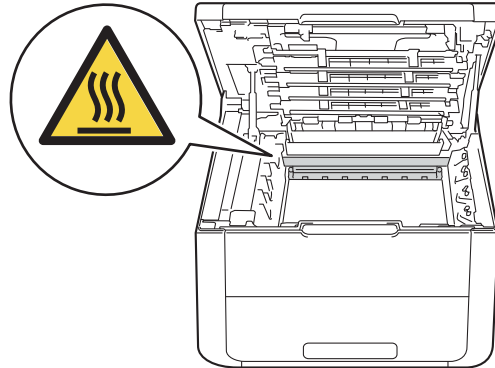
- 3 Take out the toner cartridge and drum unit assembly for the color shown on the LCD.



## WARNING

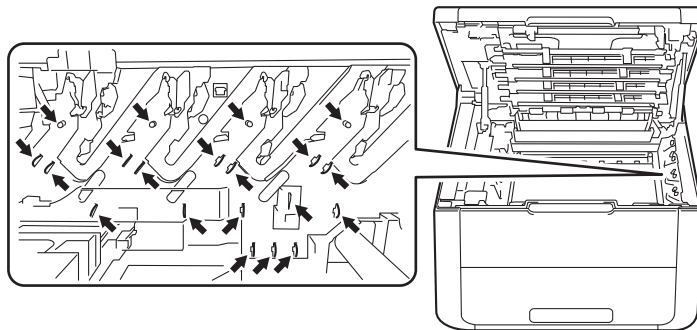
### HOT SURFACE

After you have just used the machine, some internal parts of the machine will be extremely hot. Wait for the machine to cool down before you touch the internal parts of the machine.

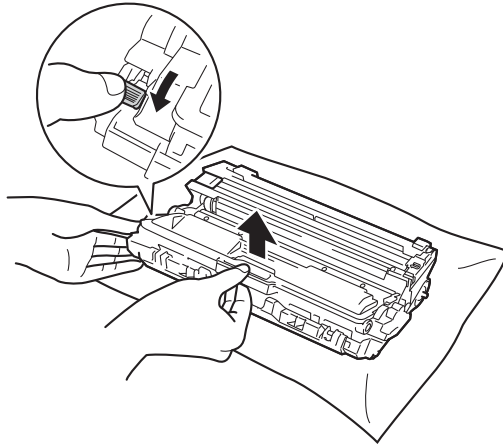


## IMPORTANT

- We recommend that you place the toner cartridge and drum unit assembly on a clean, flat surface with a piece of disposable paper underneath it in case you accidentally spill or scatter toner.
- To prevent damage to the machine from static electricity, DO NOT touch the electrodes shown in the illustration.



- 4 Push down the green lock lever and take the toner cartridge out of the drum unit.



## WARNING



- DO NOT put a toner cartridge or a toner cartridge and drum unit assembly into a fire. It could explode, resulting in injuries.
- DO NOT use flammable substances, any type of spray, or an organic solvent/liquid containing alcohol or ammonia to clean the inside or outside of the machine. Doing so could cause a fire or electrical shock. Instead, use only a dry, lint-free cloth.

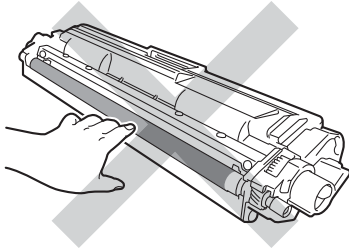
(See Product Safety Guide: *To use the product safely*)



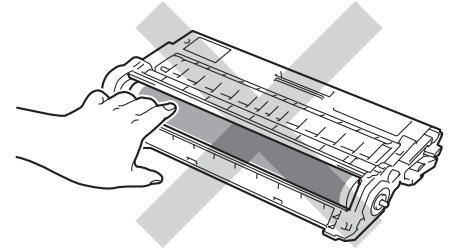
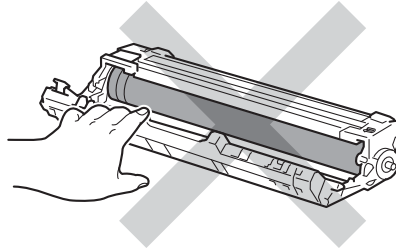
## IMPORTANT

- Handle the toner cartridge carefully. If toner scatters on your hands or clothes, immediately wipe or wash it off with cold water.
- To avoid print quality problems, DO NOT touch the shaded parts shown in the illustrations.

### <Toner cartridge>



### <Drum unit>



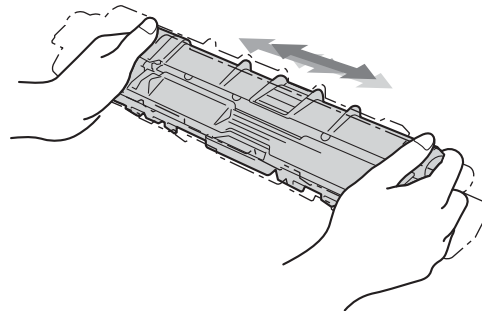
4

- We recommend that you place the toner cartridge on a clean, flat, level, stable surface with a sheet of disposable paper or cloth underneath it in case you accidentally spill or scatter toner.

## NOTE

- Be sure to seal up the used toner cartridge tightly in a bag so that toner powder does not spill out of the cartridge.
- Go to <http://www.brother.com/original/index.html> for instructions on how to return your used consumable items to the Brother collection program. If you choose not to return your used consumable, please discard the used consumable according to local regulations, keeping it separate from domestic waste. If you have questions, call your local waste disposal office.

- 5 Unpack the new toner cartridge. Hold the cartridge level with both hands and gently shake it from side to side several times to spread the toner evenly inside the cartridge.

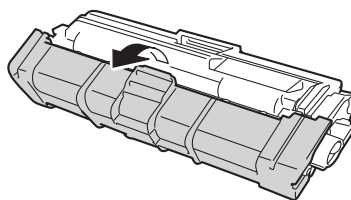




## IMPORTANT

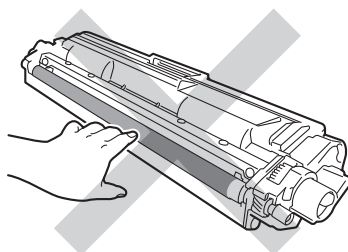
- DO NOT unpack the new toner cartridge until you are ready to install it. If a toner cartridge is left unpacked for a long time, the toner life will be shortened.
- If an unpacked drum unit is exposed to direct sunlight (or room light for long periods of time), the unit may be damaged.
- Brother strongly recommends that you DO NOT refill the toner cartridge provided with your machine. We also strongly recommend that you continue to use only Genuine Brother Brand replacement toner cartridges. Use or attempted use of third party toner and/or cartridges in the Brother machine may cause damage to the machine and/or may result in unsatisfactory print quality. Our limited warranty coverage does not apply to any problem that is caused by the use of third party toner and/or cartridges. To protect your investment and obtain premium performance from the Brother machine, we strongly recommend the use of Genuine Brother Supplies.

- 6 Pull off the protective cover.

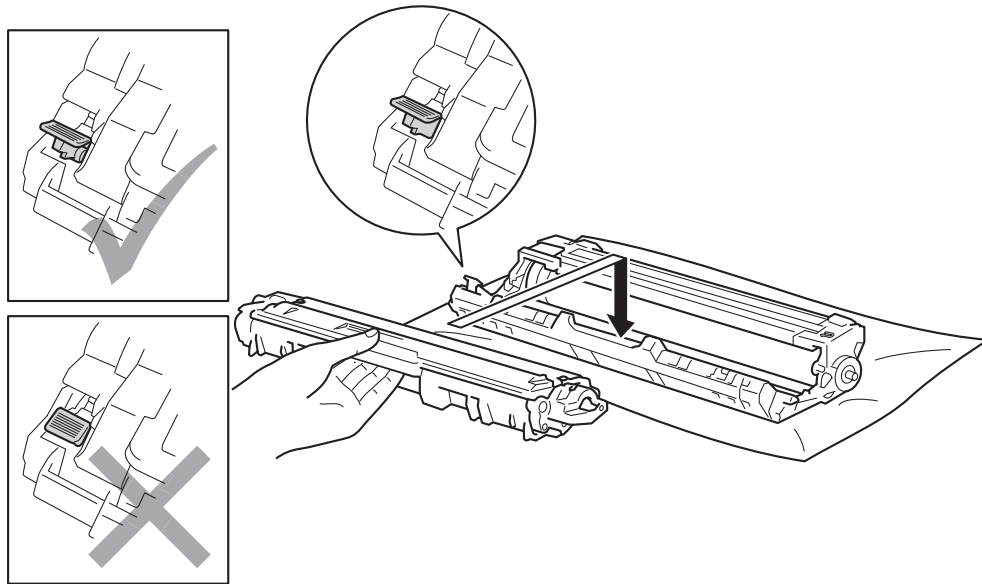


## IMPORTANT

Put the toner cartridge in the drum unit immediately after you have removed the protective cover. To prevent any degradation to the print quality, DO NOT touch the shaded parts shown in the illustrations.



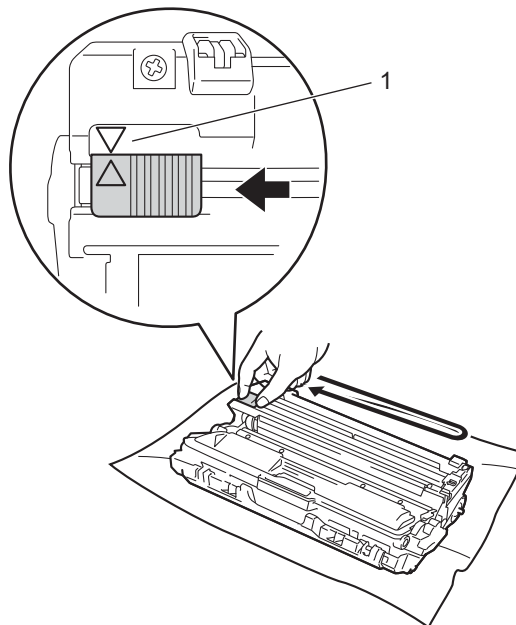
- Put the new toner cartridge firmly into the drum unit until you hear it lock into place. If you install it correctly, the green lock lever on the drum unit will lift automatically.



**NOTE**

Make sure you installed the toner cartridge correctly or it may separate from the drum unit.

- Clean the corona wire inside the drum unit by gently sliding the green tab from left to right and right to left several times.



**NOTE**

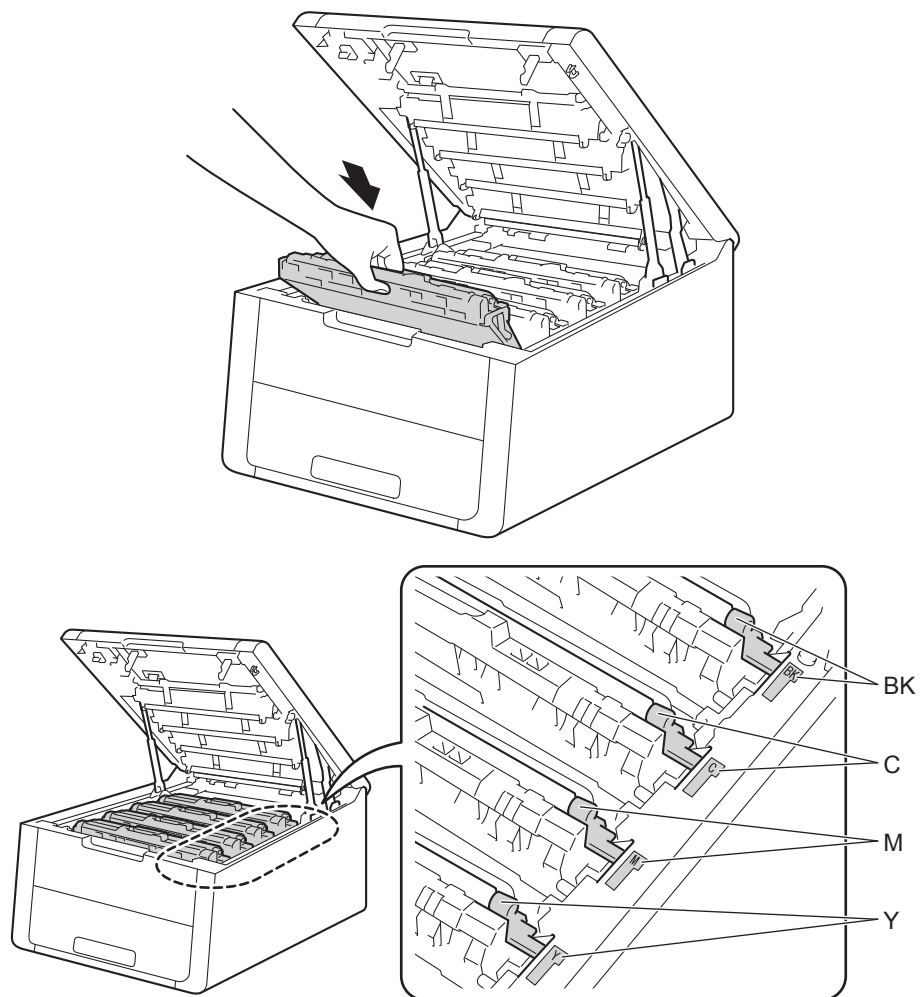
Be sure to return the tab to the home position (▲) (1). The arrow on the tab must be aligned with the arrow on the drum unit. If it is not, printed pages may have a vertical stripe.

- 9 Repeat step 3 and step 8 to clean each of three remaining corona wires.

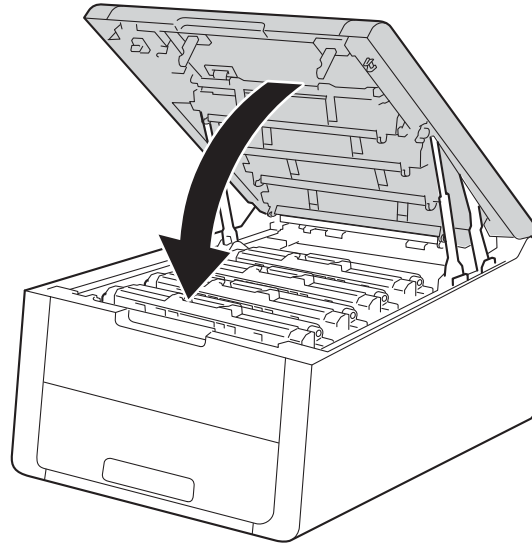
**NOTE**

When you clean the corona wires, you do not have to remove the toner cartridge from the drum unit.

- 10 Slide the toner cartridge and drum unit assembly into the machine. Make sure that you match the toner cartridge color to the same color label on the machine.



- 11 Close the top cover of the machine.



---

**NOTE**

After replacing the toner cartridge, DO NOT turn off the machine or open the top cover until the LCD shows Ready.

---

## Replacing the drum units

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Order No. DR-221CL 4 pc. Drum Set or single drum units DR-221CL-BK, DR-221CL-CMY

A new drum unit can print approximately 15,000 Letter or A4 size single-sided pages. DR-221CL Drum Set contains four drum units one Black (DR-221CL-BK) and three Color (DR-221CL-CMY). DR-221CL-BK contains one Black drum. DR-221CL-CMY contains one Color drum.

Drum wear and tear occurs due to use and rotation of the drum and interaction with paper, toner and other materials in the paper path. In designing this product, Brother decided to use the number of rotations of the drum as a reasonable determinant of the drum life. When a drum reaches the factory-established rotation limit corresponding to the rated page yield, the product's LCD display will advise you to replace the applicable drum(s). The product will continue to function; however, print quality may not be optimal.

As the drums rotate in unison during the various stages of operation (regardless of whether toner is deposited on the page) and because damage to a single drum unit is not likely, you will need to replace all of the drums at once (unless you have replaced an individual drum [DR-221CL-BK for black and DR-221CL-CMY for Color] for reasons other than reaching its rated life). For your convenience, Brother sells the drum units as a set of four (DR-221CL).

### NOTE

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- There are many factors that determine the actual drum life, such as the temperature, humidity, type of paper, type of toner used and so on. Under ideal conditions, the average drum life is estimated at approximately 15,000 pages. The actual number of pages that your drum will print may be significantly less than this estimate. Because we have no control over the many factors that determine the actual drum life, we cannot guarantee a minimum number of pages that will be printed by your drum.
  - For best performance, use only genuine Brother toner. The machine should be used only in a clean, dust-free environment with adequate ventilation.
  - Printing with a non-Brother drum unit may reduce not only the print quality but also the quality and life of the machine itself. Warranty coverage does not apply to problems caused by the use of a non-Brother drum unit.
- 

### Drum!

Drum!

The corona wires have become dirty. Clean the corona wires in the 4 drum units (see *Cleaning the corona wires* on page 143).

### Drums End Soon

Drums End Soon

The four drum units are nearing the end of their rated life and will require replacement. We recommend you keep genuine Brother drum units ready for installation. Buy a new drum unit set (DR-221CL) and have it ready before you get a `Replace Drums` message.

## Drum End Soon: X

Drum End Soon: X

If only a specified drum is near the end of its life, the LCD shows the `Drum End Soon: X` message. The X indicates the drum unit color that is near the end of its life. (BK =Black, C=Cyan, M=Magenta, Y=Yellow). We recommend you keep genuine Brother drum units ready for installation. Buy a new drum unit DR-221CL-BK (for Black) or a DR-221CL-CMY (for either C, M, Y colors) and have it ready before you get a `Replace Drums` message. To replace the drum units, see *Replacing the drum units* on page 121.

## Replace Drums

Replace Drums

The four drum units have exceeded their rated life. Please replace each drum unit with a new one. We recommend Brother Genuine drum units be installed at this time.

After replacement, reset each drum counter for each drum unit by following the instructions included with the new drum units.

## Replace Drum: X

Replace Drum: X

If only a specified drum needs to be replaced, the LCD shows the `Replace Drum: X` message. The X indicates the drum unit color that you must replace. (BK=Black, Y=Yellow, M=Magenta, C=Cyan).

## Drum Stop

Drum Stop

We cannot guarantee the print quality. Please replace the drum unit with a new one. We recommend a genuine Brother drum unit be installed at this time.

After replacement, reset the drum counter by following the instructions included with the new drum unit.

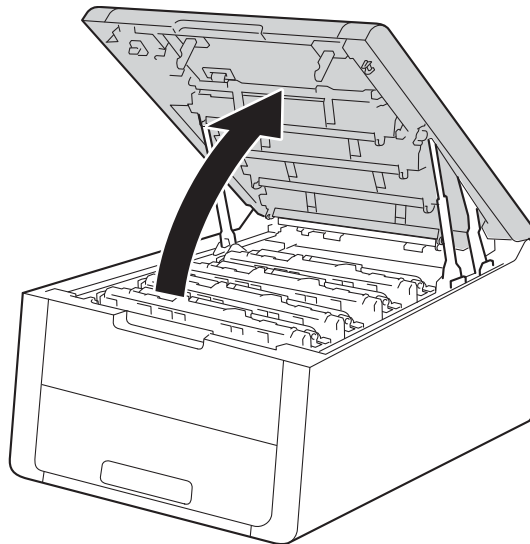
## Replacing the drum units

### IMPORTANT

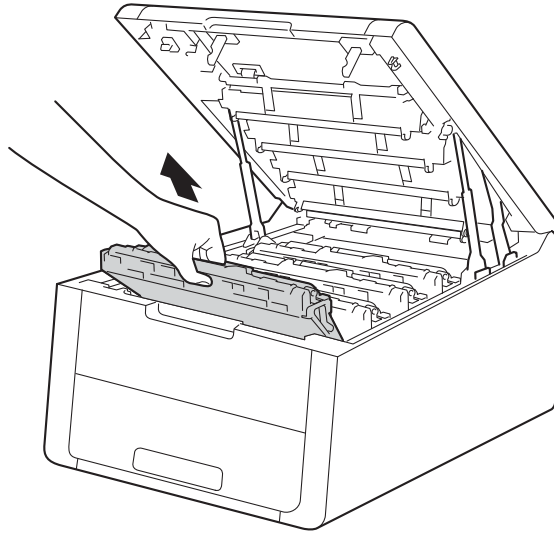
- While removing the drum unit, handle it carefully because it may contain toner. If toner scatters on your hands or clothes, immediately wipe or wash it off with cold water.
- Every time you replace the drum unit, clean the inside of the machine (see *Cleaning and Checking the machine* on page 140).

When you replace a drum unit with a new one, you must reset the drum counter by completing the following steps:

- 1 Make sure that the machine is turned on.
- 2 Open the top cover until it locks in the open position.



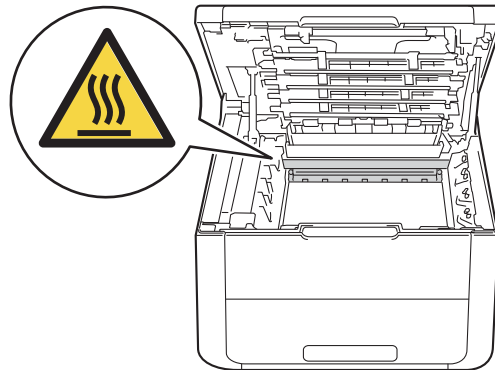
- 3 Take out the toner cartridge and drum unit assembly for the color shown on the LCD.



## WARNING

### HOT SURFACE

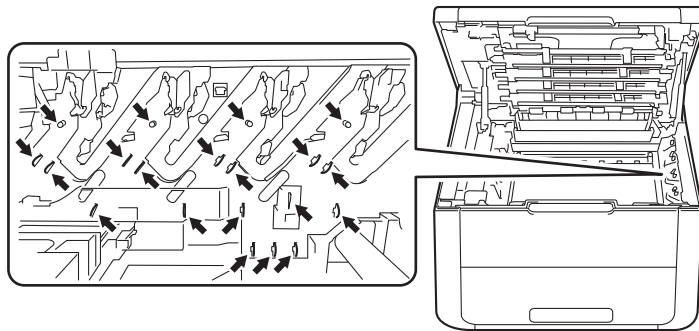
After you have just used the machine, some internal parts of the machine will be extremely hot. Wait for the machine to cool down before you touch the internal parts of the machine.





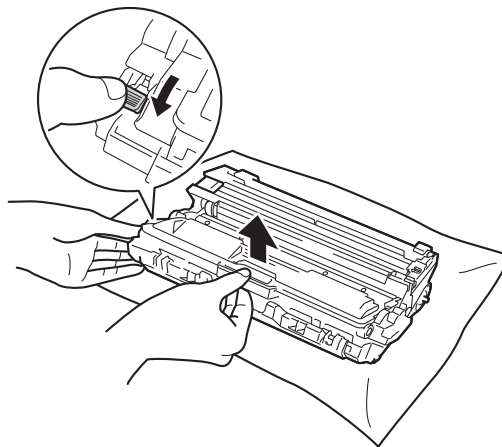
## IMPORTANT

- We recommend that you place the toner cartridge and drum unit assembly on a clean, flat surface with a piece of disposable paper underneath it in case you accidentally spill or scatter toner.
- To prevent damage to the machine from static electricity, **DO NOT** touch the electrodes shown in the illustration.



4

- 4 Push down the green lock lever and take the toner cartridge out of the drum unit.



## ⚠ WARNING



- DO NOT put a toner cartridge or a toner cartridge and drum unit assembly into a fire. It could explode, resulting in injuries.
- DO NOT use flammable substances, any type of spray, or an organic solvent/liquid containing alcohol or ammonia to clean the inside or outside of the machine. Doing so could cause a fire or electrical shock. Instead, use only a dry, lint-free cloth.

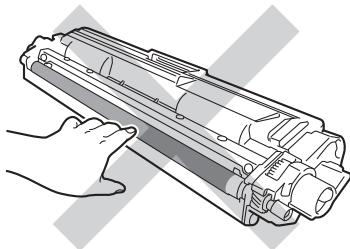
(See Product Safety Guide: *To use the product safely*)



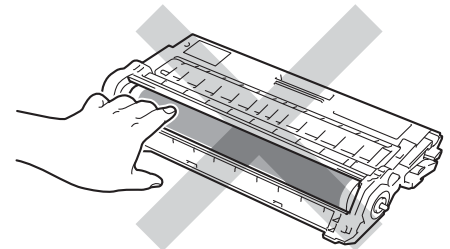
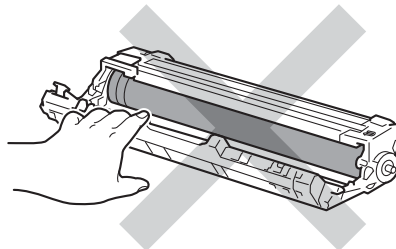
## IMPORTANT

- Handle the toner cartridge carefully. If toner scatters on your hands or clothes, immediately wipe or wash it off with cold water.
- To avoid print quality problems, DO NOT touch the shaded parts shown in the illustrations.

<Toner cartridge>



<Drum unit>



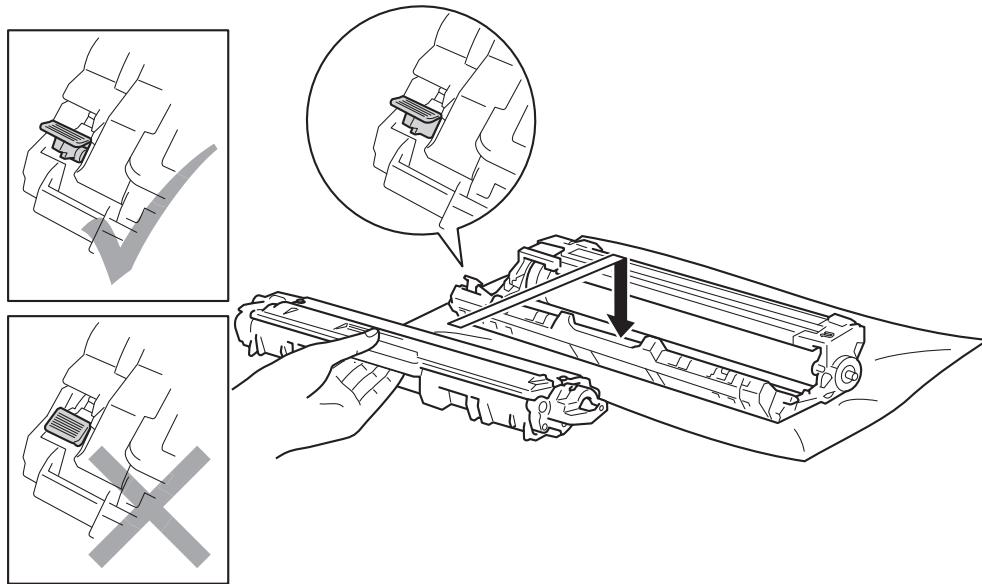
- We recommend that you place the toner cartridge on a clean, flat, level, stable surface with a sheet of disposable paper or cloth underneath it in case you accidentally spill or scatter toner.

## NOTE

- Be sure to seal up the used drum unit tightly in a bag so that toner powder does not spill out of the drum unit.
- Go to <http://www.brother.com/original/index.html> for instructions on how to return your used consumable items to the Brother collection program. If you choose not to return your used consumable, please discard the used consumable according to local regulations, keeping it separate from domestic waste. If you have questions, call your local waste disposal office.

- 5 Unpack the new drum unit.

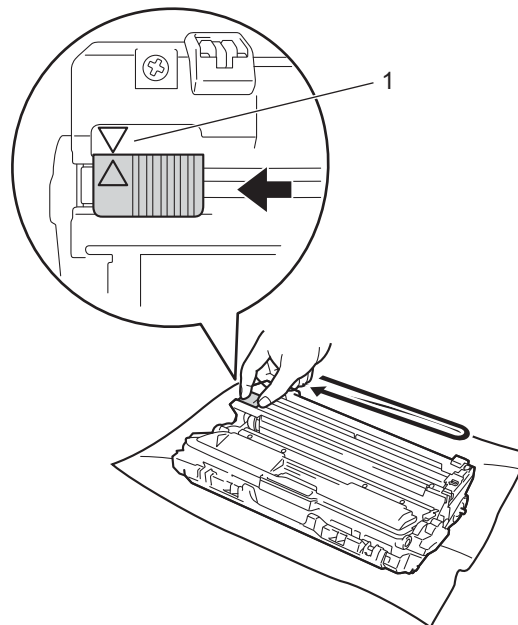
- Put the toner cartridge firmly into the new drum unit until you hear it lock into place. If you install the cartridge correctly, the green lock lever on the drum unit will lift automatically.



**NOTE**

Make sure you install the toner cartridge correctly or it may separate from the drum unit.

- Clean the corona wire inside the drum unit by gently sliding the green tab from left to right and right to left several times.



**NOTE**

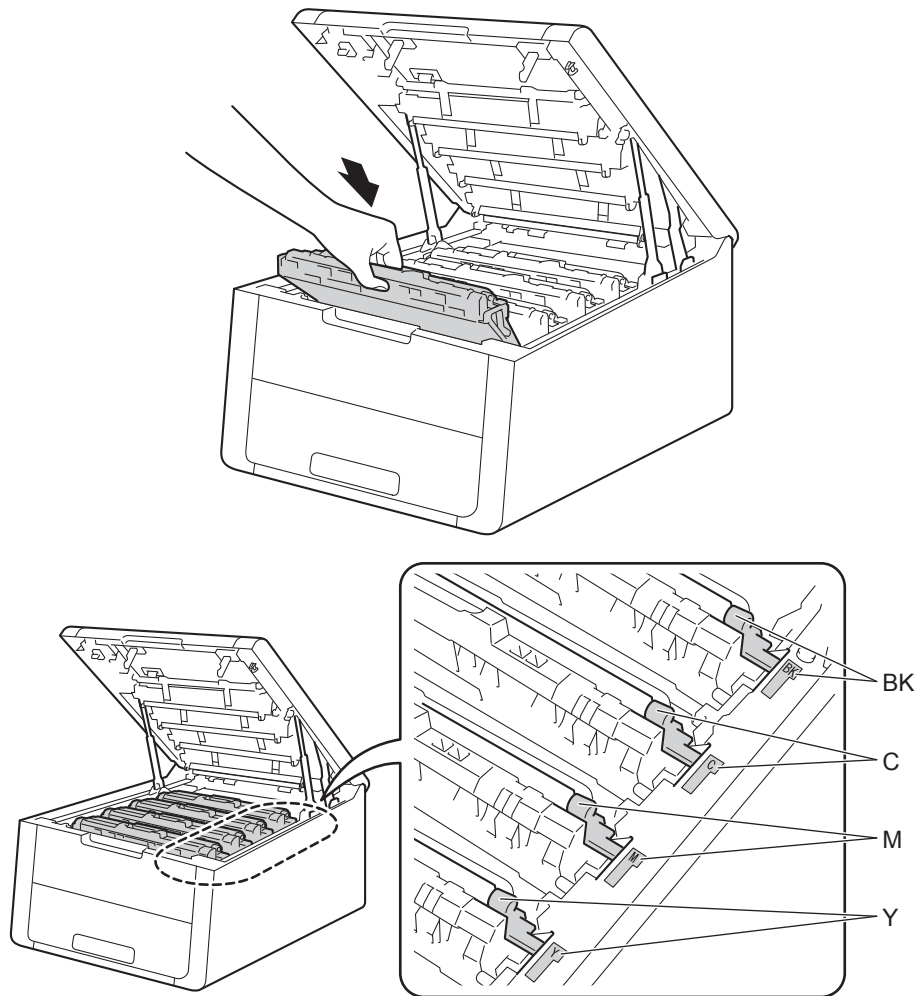
Be sure to return the tab to the home position (▲) (1). The arrow on the tab must be aligned with the arrow on the drum unit. If it is not, printed pages may have a vertical stripe.

- Repeat step ③ and step ⑦ to clean each of three remaining corona wires.

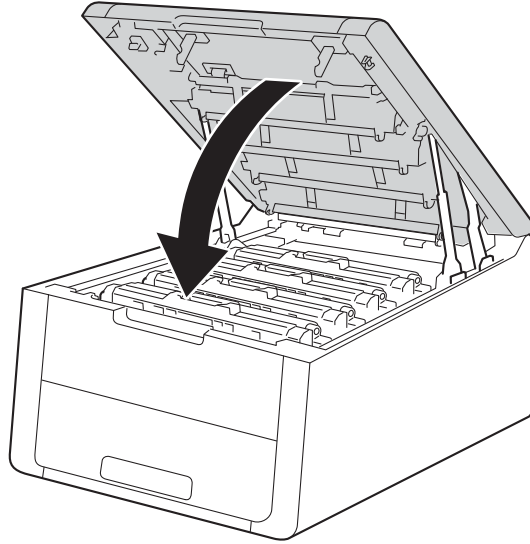
**NOTE**

When you clean the corona wires, you do not have to remove the toner cartridge from the drum unit.

- Slide the toner cartridge and drum unit assembly into the machine. Make sure you match the toner cartridge color to the same color label on the machine.



- 10 Close the top cover of the machine.



When you replace a drum unit with a new one, you must reset the drum counter by completing the following steps:

- 1 Press ▲ while holding down **Go** on the machine's control panel.
- 2 Press ▲ or ▼ to display `Drum Unit`. Press **OK**.
- 3 Press ▲ or ▼ to display the color of the drum unit that you replaced. Press **OK**.
- 4 Press ▲ for `Reset` to reset the drum counter.

## Replacing the belt unit

---

Order No. BU-220CL

A new belt unit can print approximately 50,000 A4 or Letter size single-sided pages.

### Belt End Soon

Belt End Soon

If the LCD shows `Belt End Soon`, it means the belt unit is near the end of its life. Buy a new belt unit and have it ready before you get a `Replace Belt` message. To replace the belt unit, see `Replacing the belt unit` on page 128.

### Replace Belt

When the following message appears on the LCD, you must replace the belt unit:

Replace Belt

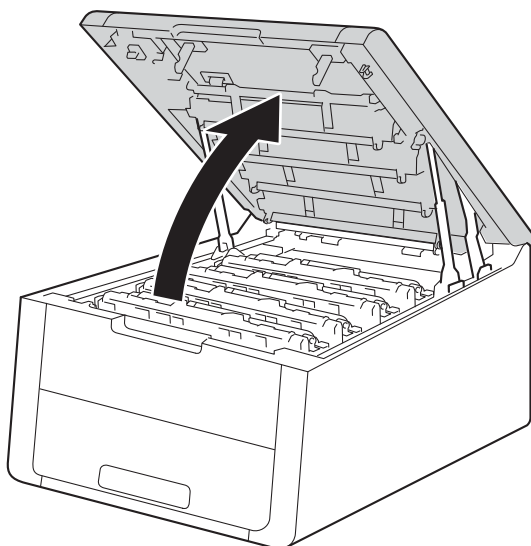
### IMPORTANT

---

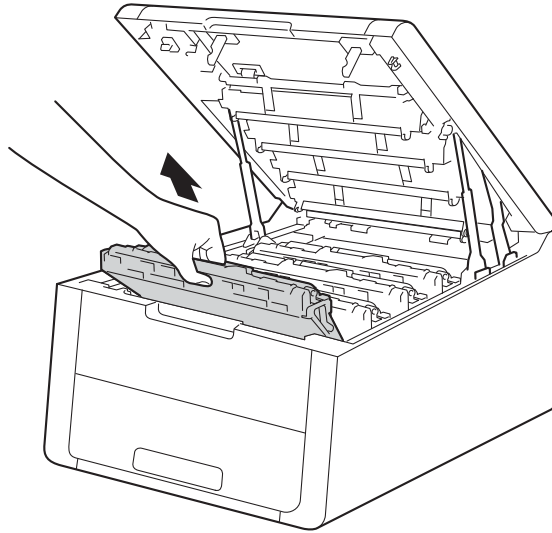
- DO NOT touch the surface of the belt unit. If you touch it, it could degrade print quality.
  - Damage caused by incorrect handling of the belt unit may void your warranty.
- 

### Replacing the belt unit

- 1 Make sure that the machine is turned on.
- 2 Open the top cover until it locks in the open position.

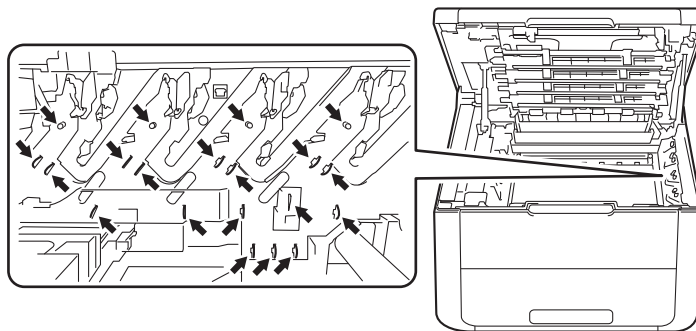


- 3 Take out all of the toner cartridge and drum unit assemblies.



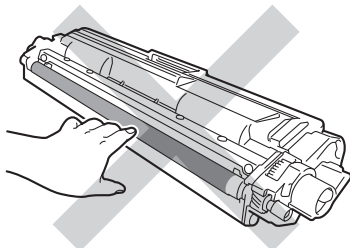
### IMPORTANT

- We recommend that you place the toner cartridge and drum unit assemblies on a clean, flat surface with disposable paper underneath them in case you accidentally spill or scatter toner.
- To prevent damage to the machine from static electricity, DO NOT touch the electrodes shown in the illustration.

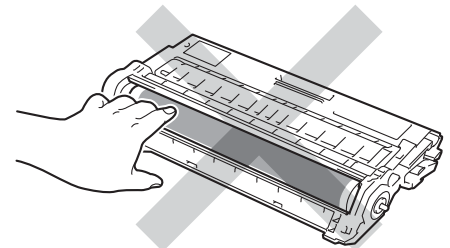
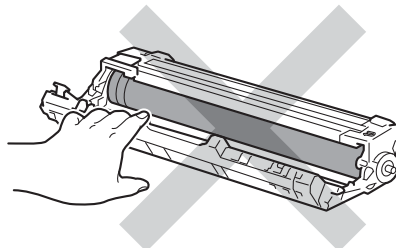


- Handle the toner cartridge carefully. If toner scatters on your hands or clothes, immediately wipe or wash it off with cold water.
- To avoid print quality problems, DO NOT touch the shaded parts shown in the illustrations.

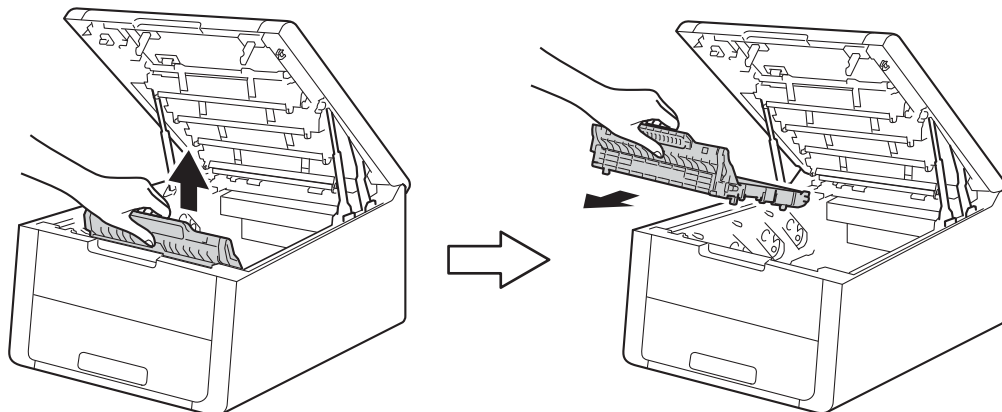
#### <Toner cartridge>



#### <Drum unit>

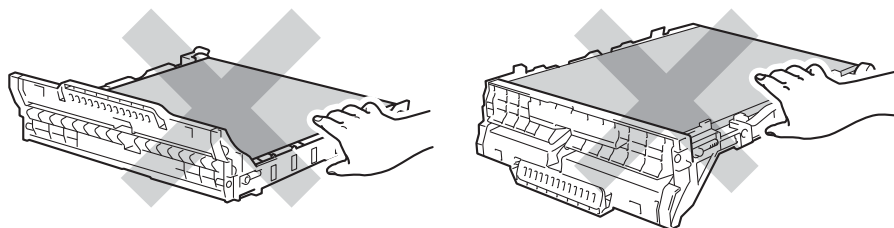


- 4 Hold the green handle of the belt unit and lift the belt unit up, and then pull it out.

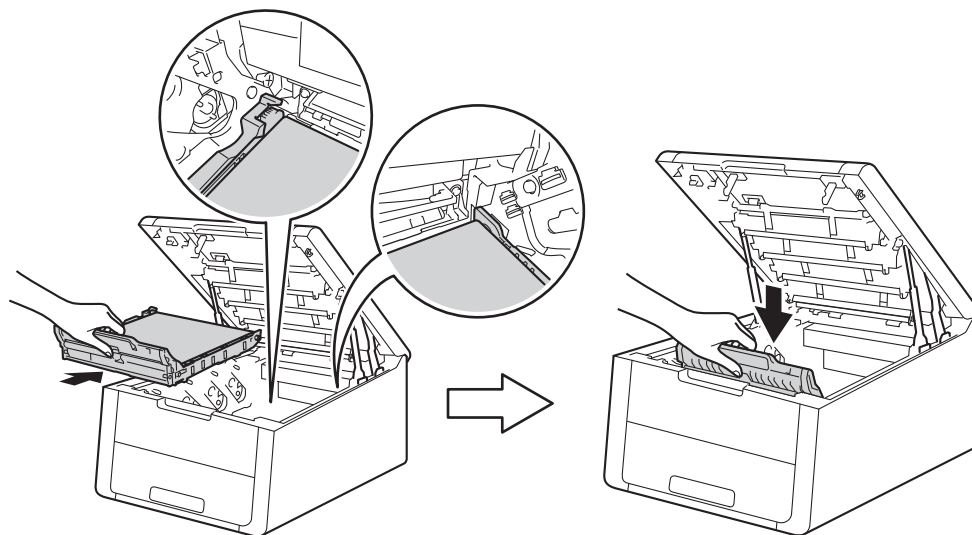


**IMPORTANT**

To avoid print quality problems, DO NOT touch the shaded parts shown in the illustrations.

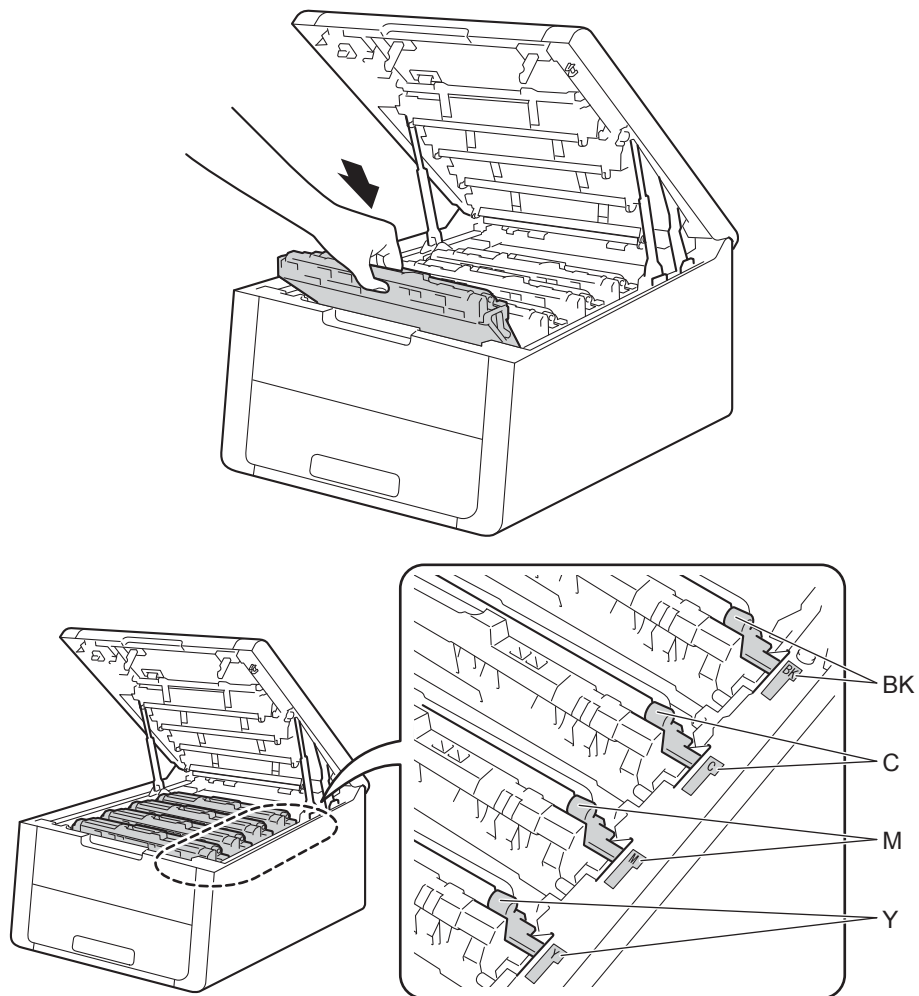


- 5 Unpack the new belt unit and install the new belt unit in the machine.

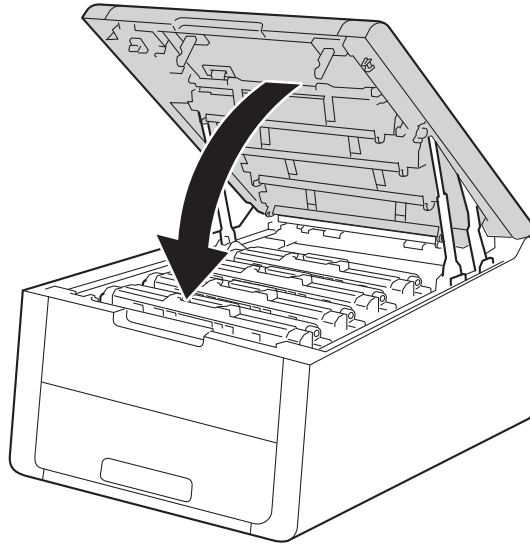




- Slide each toner cartridge and drum unit assembly into the machine. Make sure that you match the toner cartridge color to the same color label on the machine. Repeat this step for each of the toner cartridge and drum unit assemblies.



- 7 Close the top cover of the machine.



When you replace the belt unit with a new one, you must reset the belt unit counter by completing the following steps:

- 1 Press ▲ while holding down **Go** on the machine's control panel.
- 2 Press ▲ or ▼ to display `Belt Unit`. Press **OK**.
- 3 Press ▲ for `Reset` to reset the belt unit counter.

## Replacing the waste toner box

---

Order No. WT-220CL

The life of a waste toner box is approximately 50,000 A4 or Letter size single-sided pages.

### WT Box End Soon

WT Box End Soon

If the LCD shows WT Box End Soon, it means the waste toner box is near the end of its life. Buy a new waste toner box and have it ready before you get a Replace WT Box message. To replace the waste toner box, see Replacing the waste toner box on page 133.

4

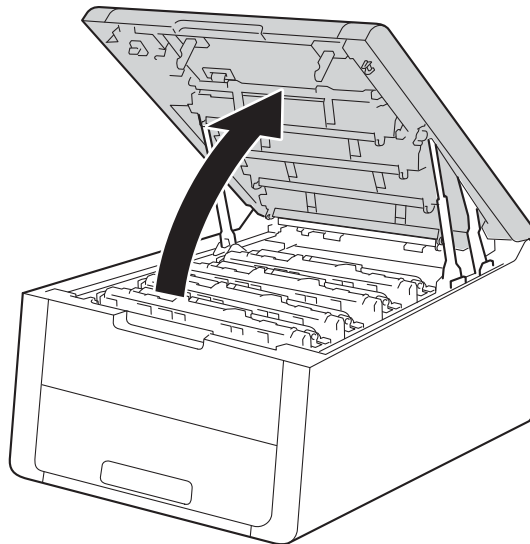
### Replace WT Box

When the following message appears on the LCD, you must replace the waste toner box:

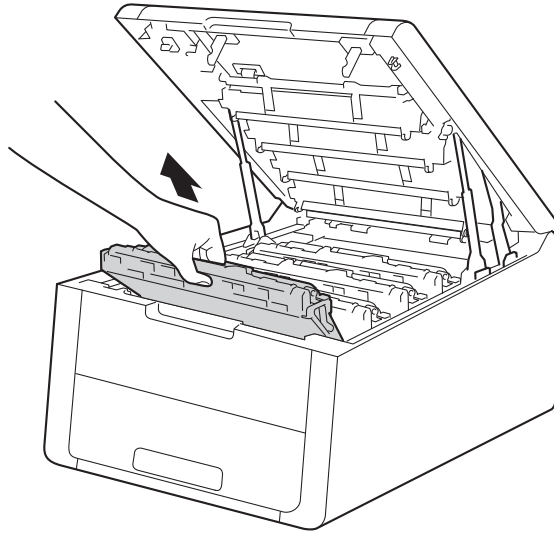
Replace WT Box

### Replacing the waste toner box

- 1 Make sure that the machine is turned on.
- 2 Open the top cover until it locks in the open position.

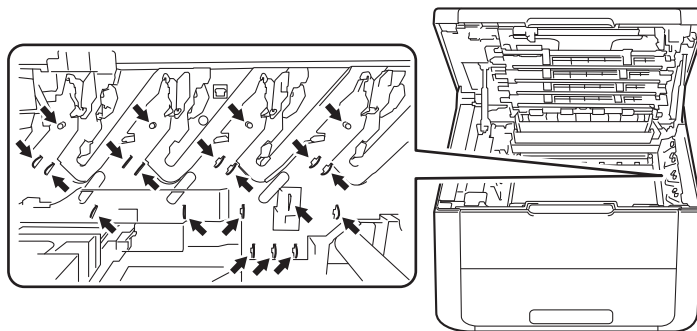


- 3 Take out all of the toner cartridge and drum unit assemblies.



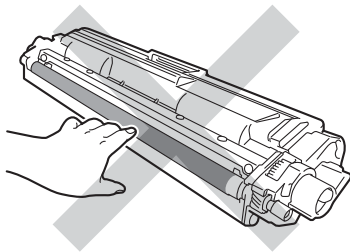
### IMPORTANT

- We recommend that you place the toner cartridge and drum unit assemblies on a clean, flat surface with disposable paper underneath them in case you accidentally spill or scatter toner.
- To prevent damage to the machine from static electricity, DO NOT touch the electrodes shown in the illustration.

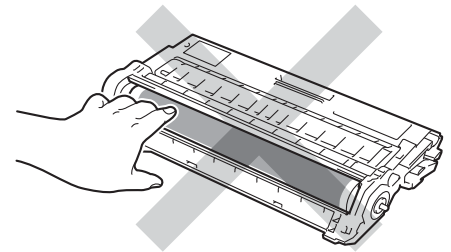
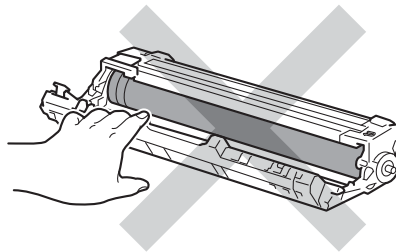


- Handle the toner cartridge carefully. If toner scatters on your hands or clothes, immediately wipe or wash it off with cold water.
- To avoid print quality problems, DO NOT touch the shaded parts shown in the illustrations.

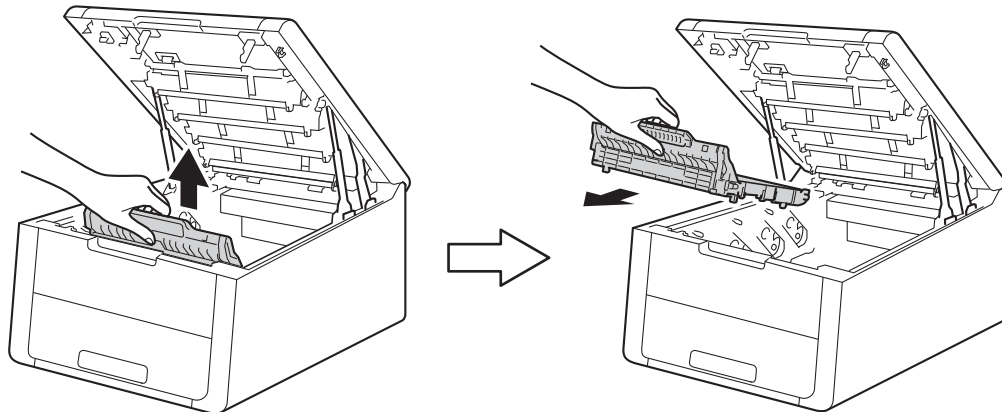
#### <Toner cartridge>



#### <Drum unit>

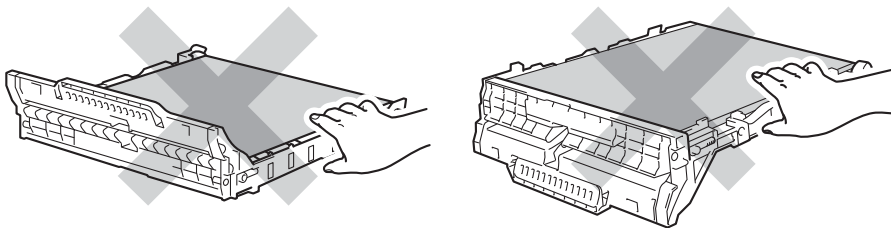


- 4 Hold the green handle of the belt unit and lift the belt unit up, and then pull it out.

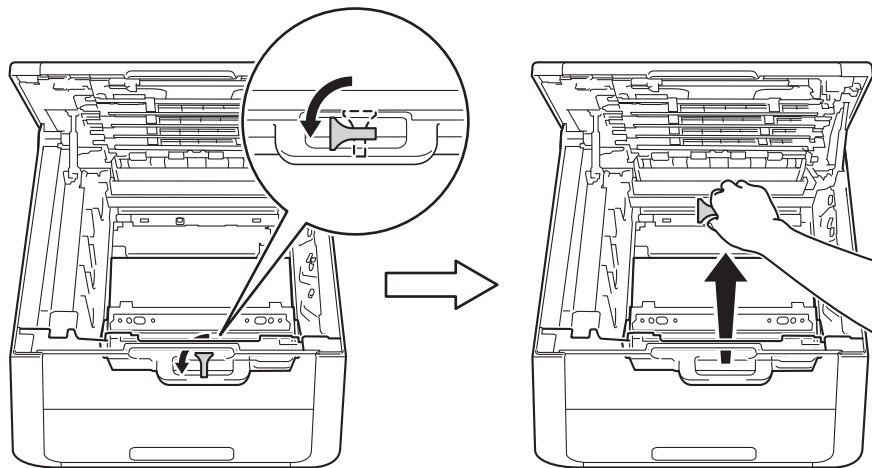


**IMPORTANT**

To avoid print quality problems, DO NOT touch the shaded parts shown in the illustrations.



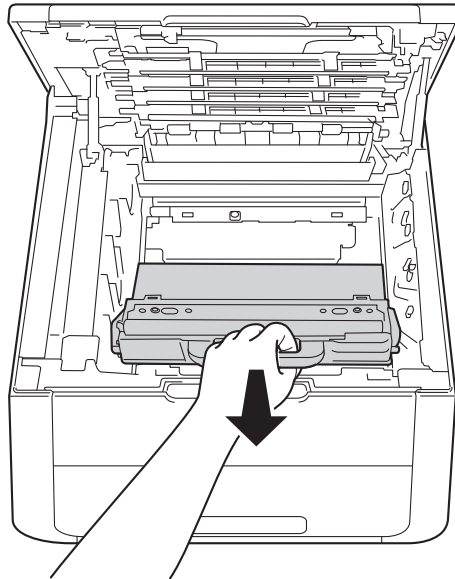
- 5 Remove the orange packing material and discard it.



**NOTE**

This step is only necessary when you are replacing the waste toner box for the first time, and is not required for the replacement waste toner box. The orange packing pieces are installed at the factory to protect your machine during shipment.

- 6 Hold the green handle of the waste toner box and remove the waste toner box from the machine.



## IMPORTANT

DO NOT reuse the waste toner box.

## WARNING



- DO NOT put the waste toner box into a fire. It could explode, resulting in injuries.
- DO NOT use flammable substances, any type of spray, or an organic solvent/liquid containing alcohol or ammonia to clean the inside or outside of the machine. Doing so could cause a fire or electrical shock. Instead, use only a dry, lint-free cloth.

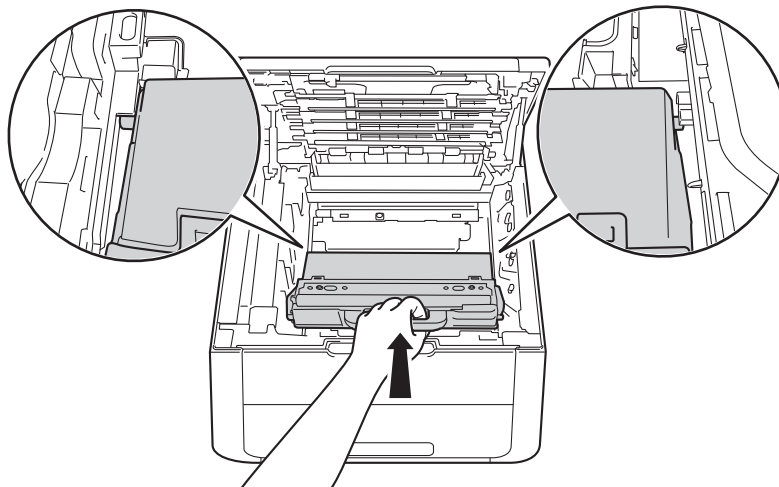
(See Product Safety Guide: *To use the product safely*)



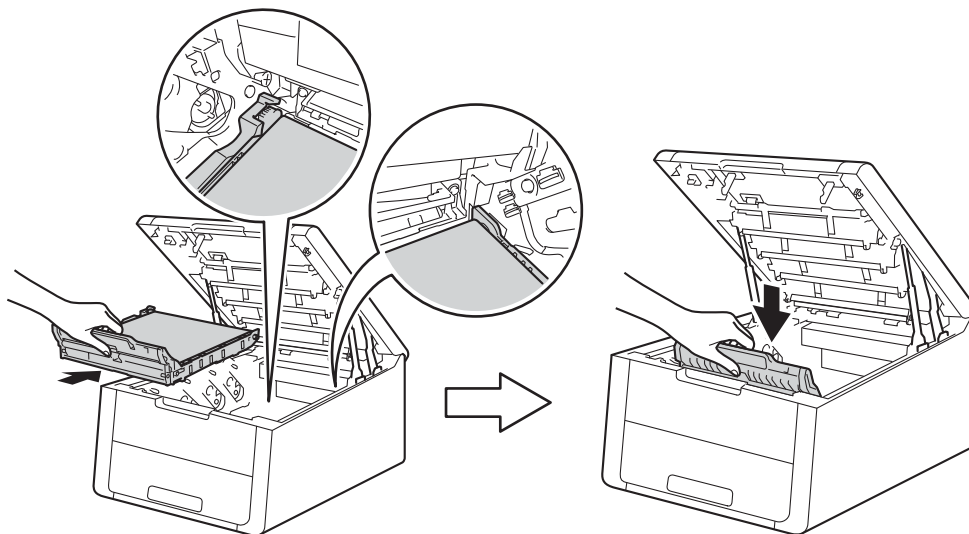
## NOTE

- Be sure to seal up the waste toner box tightly in an appropriate bag so that toner powder does not spill out of the waste toner box.
- Discard the used waste toner box according to local regulations, keeping it separate from domestic waste. If you have questions, call your local waste disposal office.

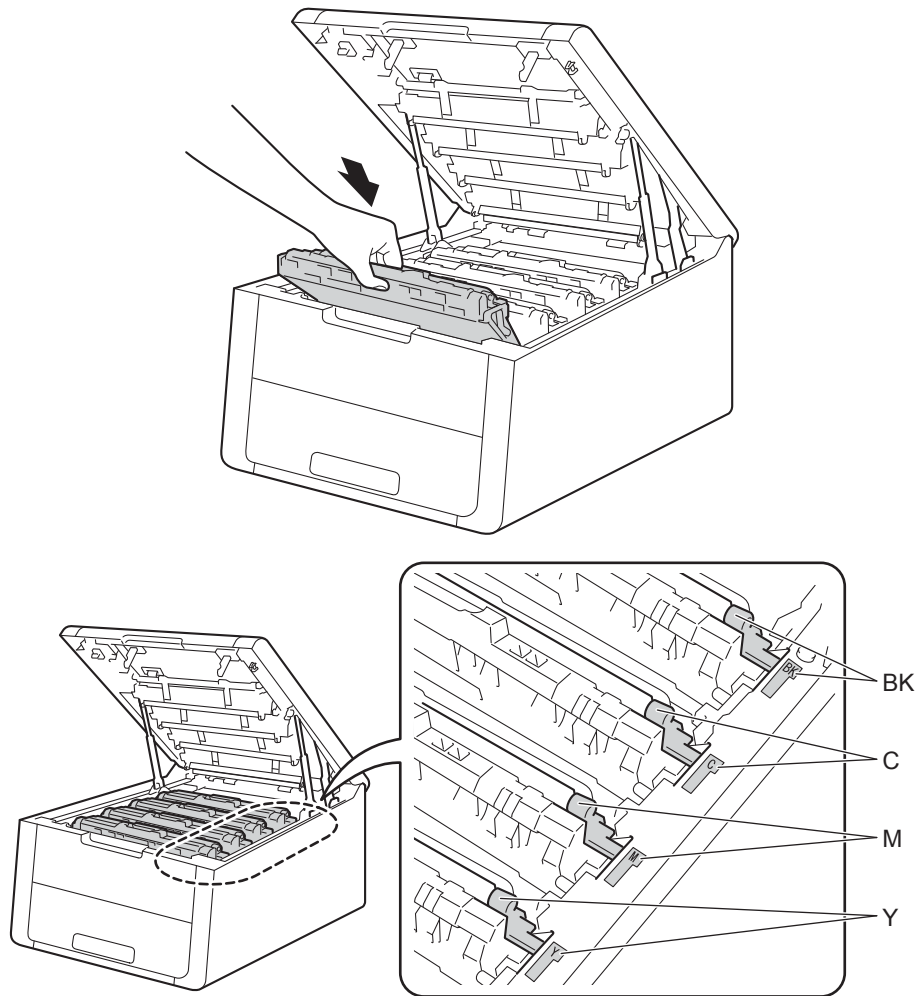
7. Unpack the new waste toner box and install the new waste toner box in the machine.



8. Put the belt unit back in the machine.

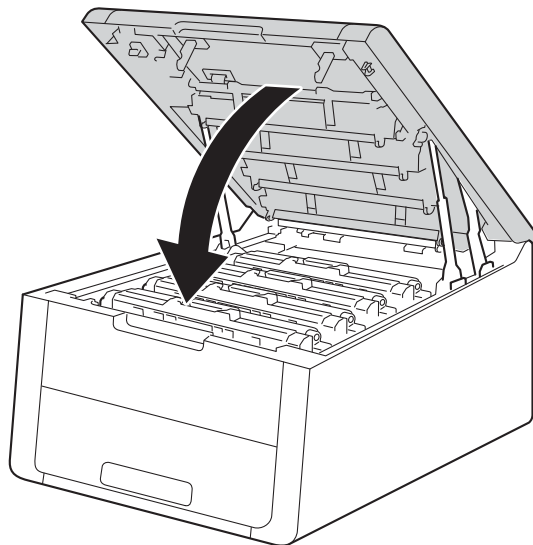


- 9 Slide each toner cartridge and drum unit assembly into the machine. Make sure that you match the toner cartridge color to the same color label on the machine. Repeat this step for all the toner cartridge and drum unit assemblies.





- 10 Close the top cover of the machine.



## Cleaning and Checking the machine

Clean the outside and inside of the machine regularly with a dry, lint-free cloth. When you replace the toner cartridge or the drum unit, make sure that you clean the inside of the machine. If printed pages are stained with toner, clean the inside of the machine with a dry, lint-free cloth.

### WARNING



- DO NOT put a toner cartridge or a toner cartridge and drum unit assembly into a fire. It could explode, resulting in injuries.
- DO NOT use flammable substances, any type of spray, or an organic solvent/liquid containing alcohol or ammonia to clean the inside or outside of the machine. Doing so could cause a fire or electrical shock. Instead, use only a dry, lint-free cloth.


(See Product Safety Guide: *To use the product safely*)



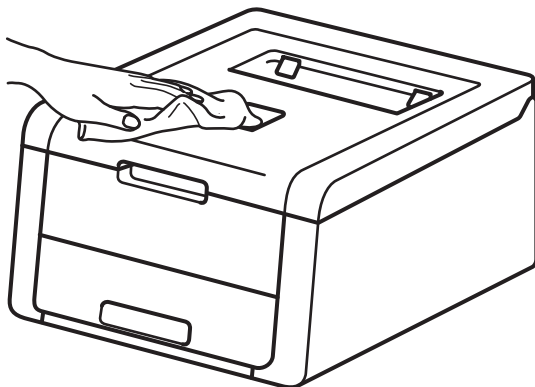
### IMPORTANT

Use neutral detergents. Cleaning with volatile liquids such as thinner or benzine will damage the surface of the machine.

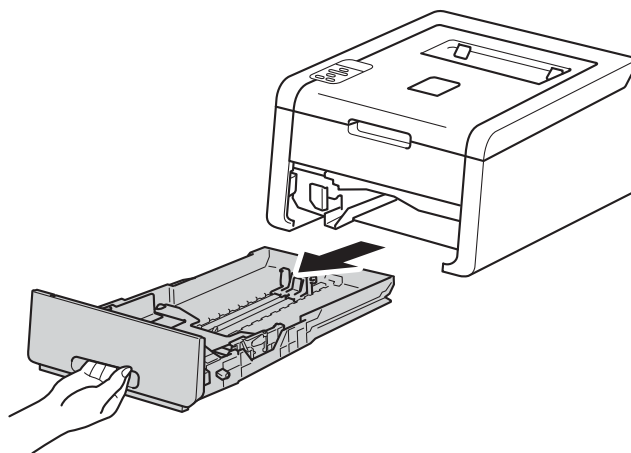
## Cleaning the outside of the machine

- 1 Press and hold down  to turn the machine off.
- 2 Disconnect the interface cables from the machine, and then unplug the power cord from the AC power outlet.

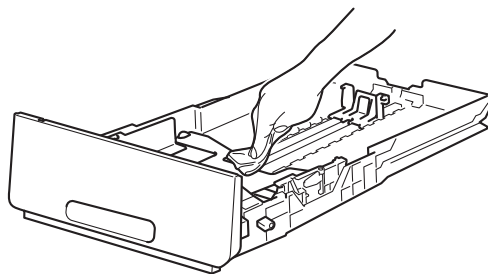
- 3 Wipe the outside of the machine with a dry, lint-free cloth to remove dust.



- 4 Pull the paper tray completely out of the machine.




- 5 If paper is loaded in the paper tray, remove it.
- 6 Remove anything that is stuck inside the paper tray.
- 7 Wipe the inside and the outside of the paper tray with a dry, lint-free cloth to remove dust.

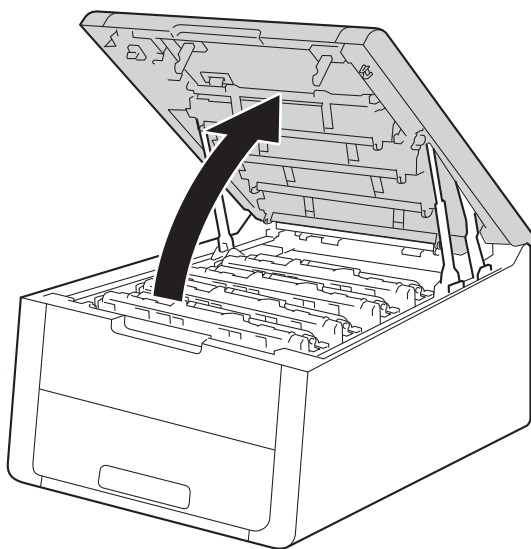


- 8 Re-load the paper and put the paper tray firmly back in the machine.
- 9 Plug the machine's power cord back into the AC power outlet first, and then connect the interface cables.
- 10 Turn on the machine.

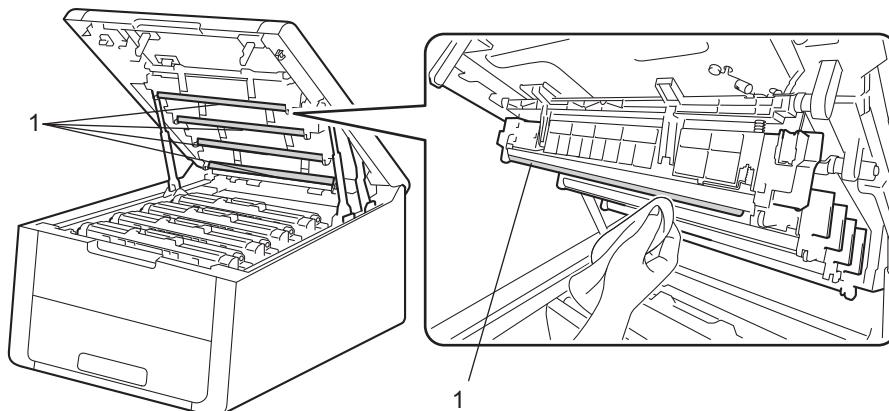
## Cleaning the LED head

If there is a problem with the print quality, such as light or faded colors or white streaks or bands down the page, clean the LED heads as follows:

- 1 Press and hold down  to turn the machine off.
- 2 Open the top cover until it locks in the open position.



- 3 Wipe the windows of LED heads (1) with a dry, lint-free cloth. Be careful not to touch the windows of LED heads (1) with your fingers.



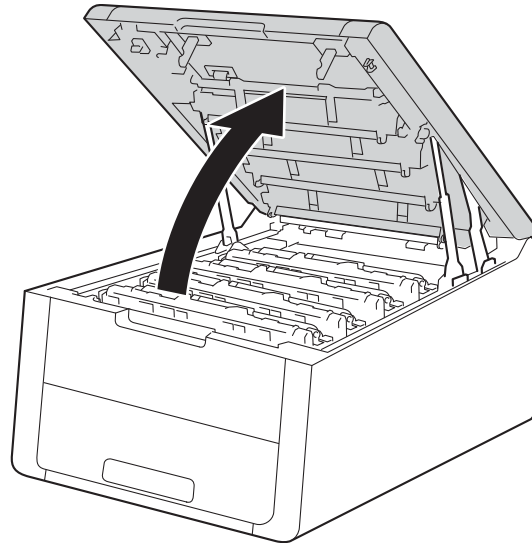
- 4 Close the top cover of the machine.
- 5 Turn on the machine.

## Cleaning the corona wires

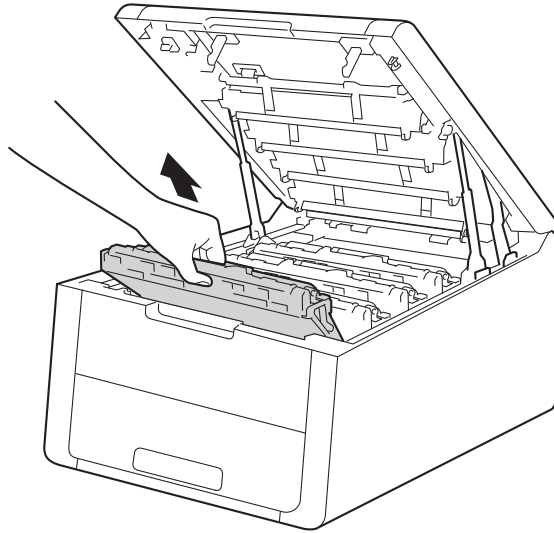
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If you have print quality problems, clean the corona wire as follows:

- 1 Make sure that the machine is turned on.
- 2 Open the top cover until it locks in the open position.



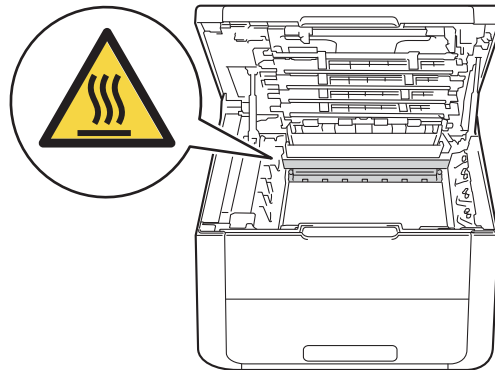
- 3 Take out a toner cartridge and drum unit assembly.



**! WARNING**

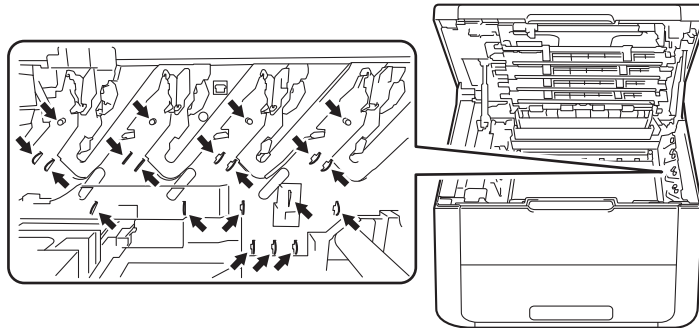
**! HOT SURFACE**

After you have just used the machine, some internal parts of the machine will be extremely hot. Wait for the machine to cool down before you touch the internal parts of the machine.

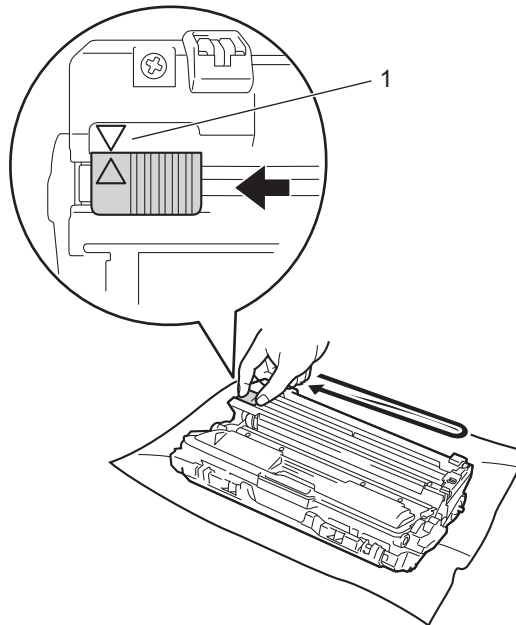


## IMPORTANT

- We recommend that you place the toner cartridge and drum unit assembly on a piece of disposable paper or cloth in case you accidentally spill or scatter toner.
- Handle the toner cartridge and drum unit assemblies carefully. If toner scatters on your hands or clothes, immediately wipe or wash it off with cold water.
- To prevent damage to the machine from static electricity, **DO NOT** touch the electrodes shown in the illustration.



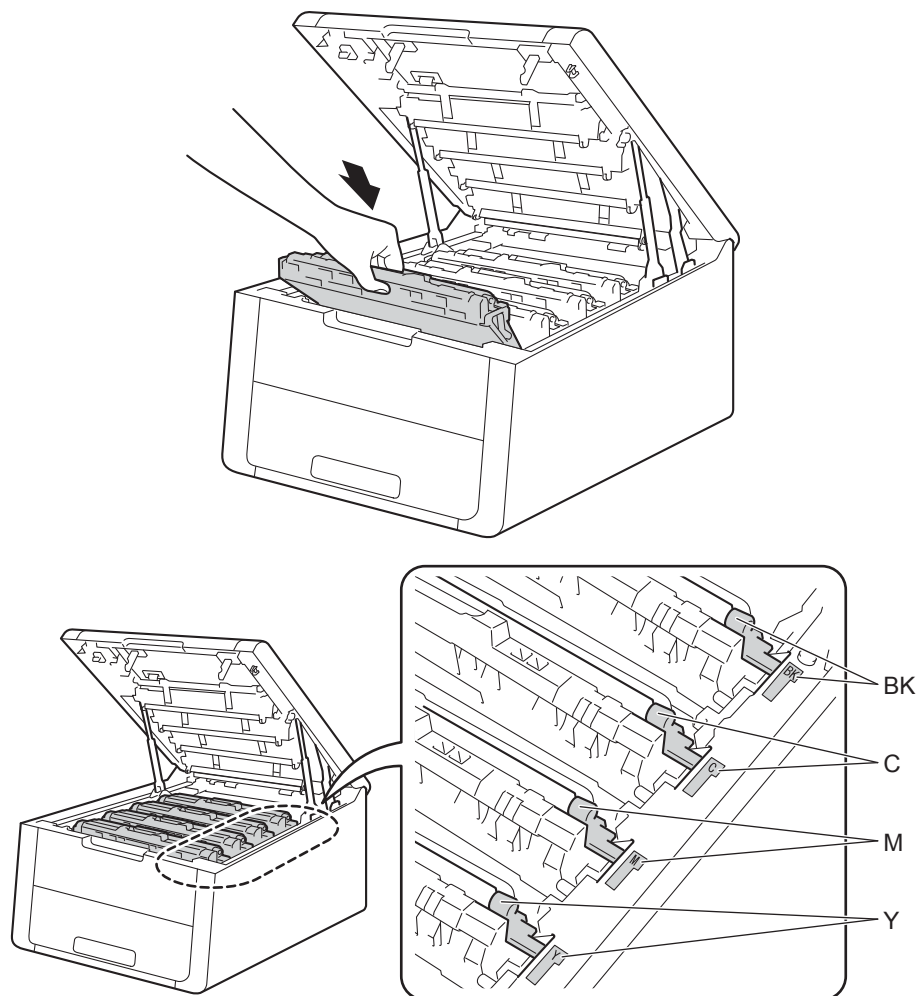
- 4 Clean the corona wire inside the drum unit by gently sliding the green tab from left to right and right to left several times.



## NOTE

Be sure to return the tab to the home position (▲) (1). The arrow on the tab must be aligned with the arrow on the drum unit. If it is not, printed pages may have a vertical stripe.

- Slide the toner cartridge and drum unit assembly into the machine.  
Make sure that you match the toner cartridge color to the same color label on the machine.




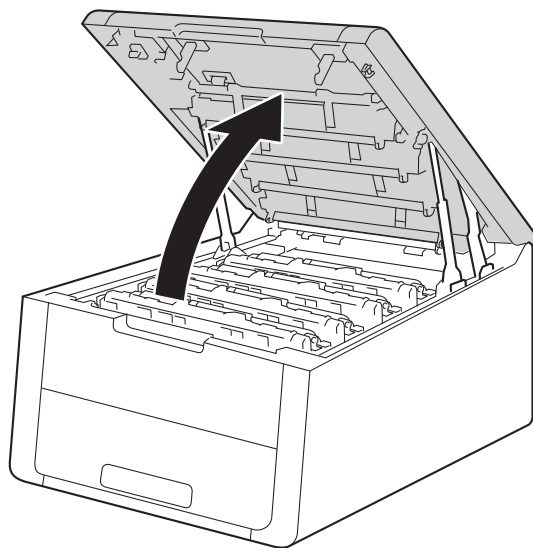
- Repeat steps 3 to 5 to clean each of the remaining corona wires.
- Close the top cover of the machine.



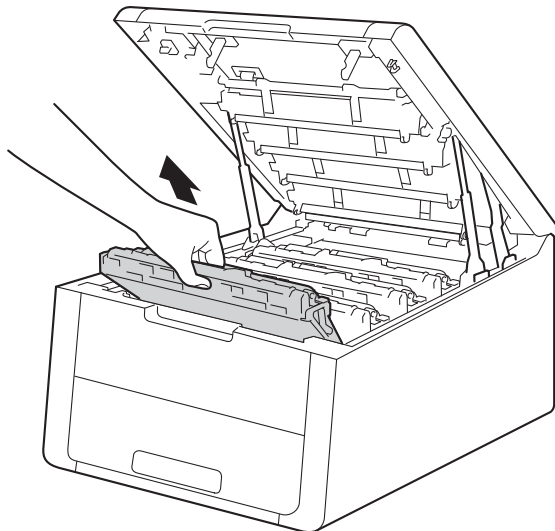
## Cleaning the drum unit

If your printout has white or black dots at 3.7 in. (94 mm) intervals, the drum may have foreign material, such as glue from a label stuck on the drum surface. Follow the steps below to solve the problem.

- 1 Make sure the machine is in Ready mode.
- 2 Press ▲ or ▼ to choose **Machine Info.** Press **OK**.
- 3 Press ▲ or ▼ to choose **Drum Dot Print**. Press **OK** to print the drum dot check sheet.
- 4 Press and hold down  to turn the machine off.
- 5 Open the top cover until it locks in the open position.



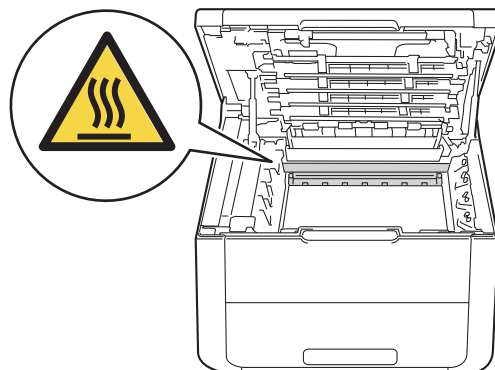
- 6 The color of printed dots is the color of the drum you should clean. Take out the toner cartridge and drum unit assembly of the color causing the problem.



## WARNING

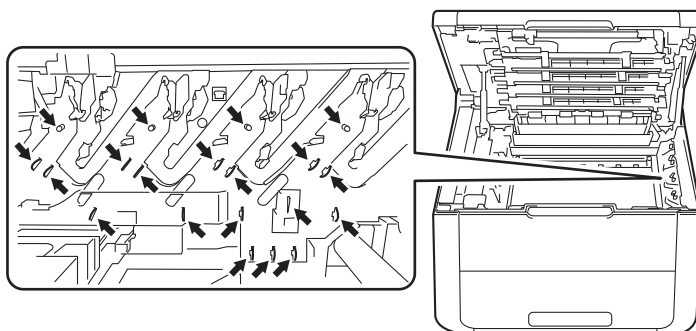
### HOT SURFACE

After you have just used the machine, some internal parts of the machine will be extremely hot. Wait for the machine to cool down before you touch the internal parts of the machine.

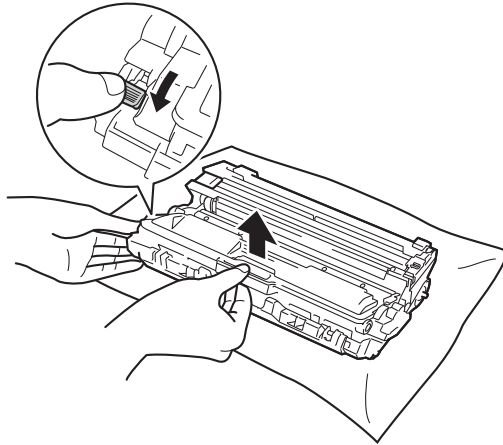


## IMPORTANT

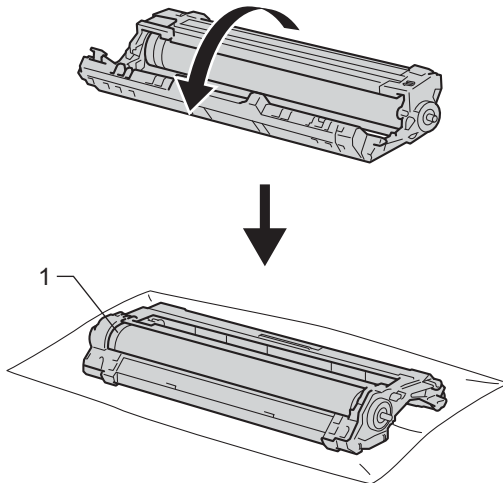
- We recommend that you place the toner cartridge and drum unit assembly on a piece of disposable paper or cloth in case you accidentally spill or scatter toner.
- Handle the toner cartridge and drum unit assembly carefully. If toner scatters on your hands or clothes, immediately wipe or wash it off with cold water.
- To prevent damage to the machine from static electricity, DO NOT touch the electrodes shown in the illustration.



- 7 Push down the green lock lever and take the toner cartridge out of the drum unit.

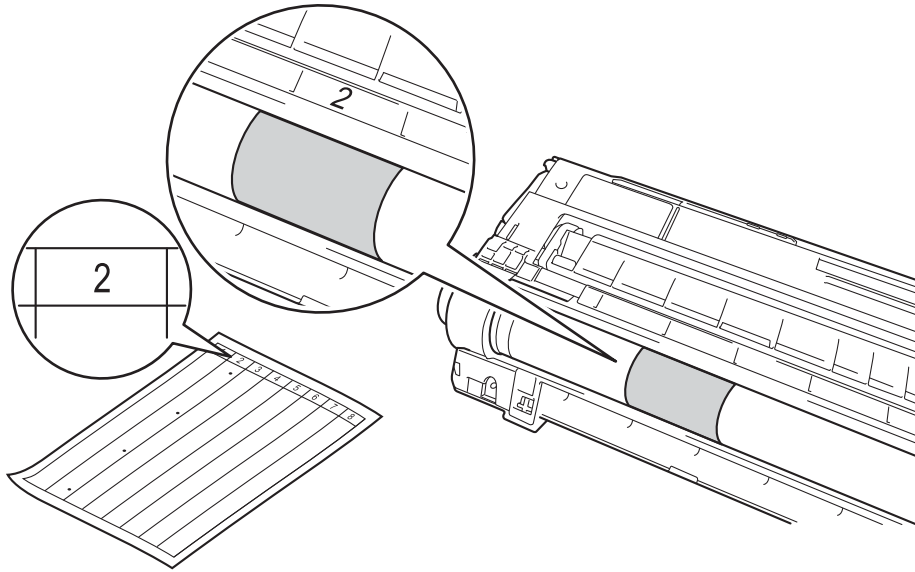


- 8 Turn the drum unit as shown in the illustration. Make sure that the drum unit gear (1) is on the left side.

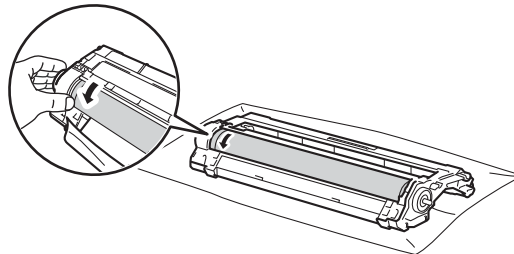


- 9 Read following information from the drum dot check sheet.
  - Dot location: The sheet has eight numbered columns. The number of the column with the printed dot in it is used to find the dot position on the drum.

- 10 Use the numbered markers next to the drum roller to find the mark. For example, a dot in column 2 on the check sheet would mean that there is a mark in the "2" region of the drum.



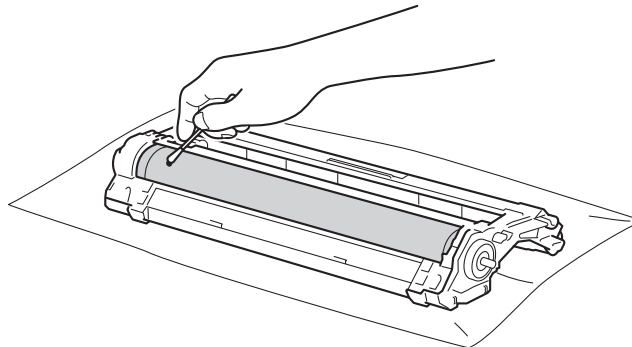
- 11 Turn the edge of the drum unit toward you by hand while looking at surface of the suspected area.



## NOTE

To avoid print quality problems, DO NOT touch the surface of the drum unit except the edge.

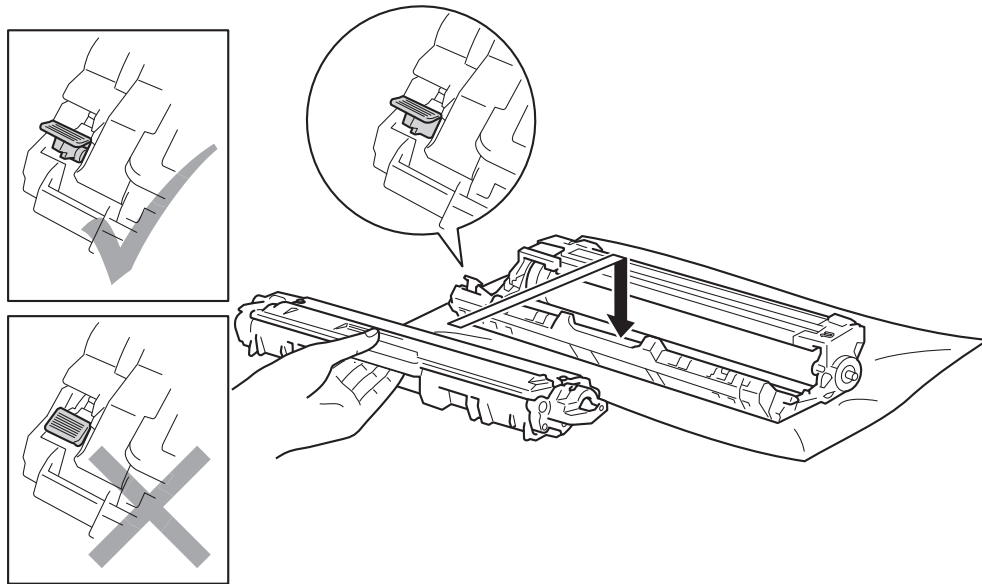
- 12 When you have found the mark on the drum that matches the drum dot check sheet, wipe the surface of the drum gently with a cotton swab until the mark on the surface comes off.



## IMPORTANT

DO NOT clean the surface of the photosensitive drum with a sharp object or any liquids.

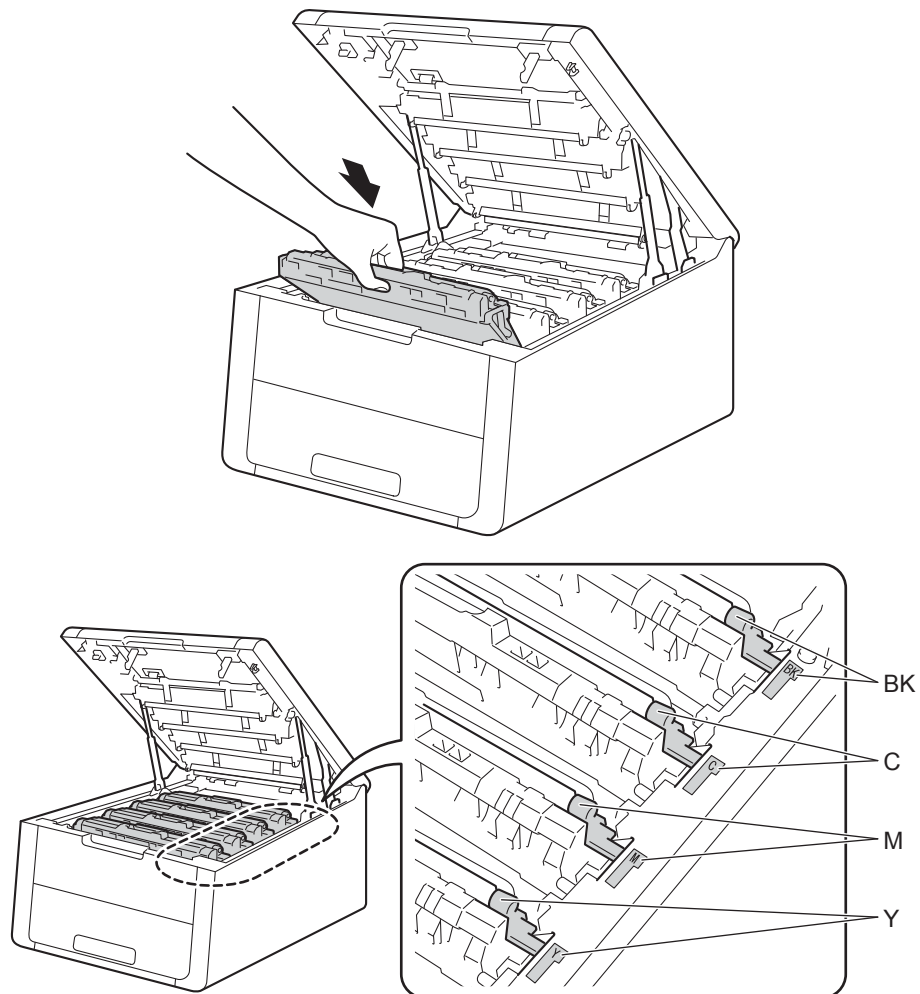
- Put the toner cartridge back into the drum unit until you hear it lock into place. If you install the cartridge in correctly, the green lock lever on the drum unit will lift automatically.



**NOTE**

Make sure that you put in the toner cartridge correctly or it may separate from the drum unit.


- Slide the toner cartridge and drum unit assembly into the machine.  
Make sure that you match the toner cartridge color to the same color label on the machine.

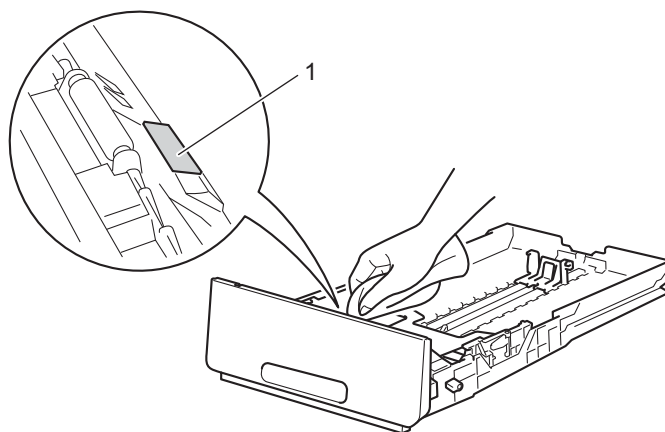


- Close the top cover of the machine.
- Turn on the machine.

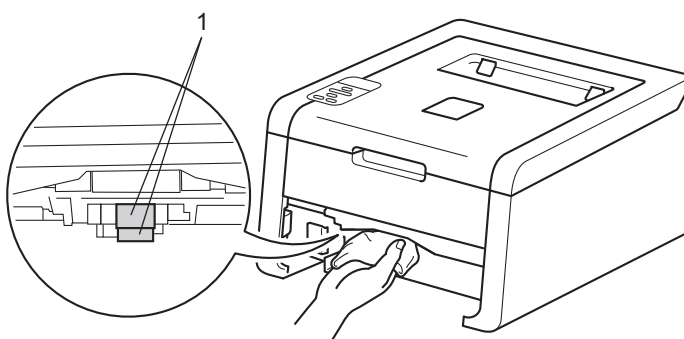
## Cleaning the paper pick-up roller

Cleaning the paper pick-up roller periodically may prevent paper jams by insuring the proper feeding of paper.

- 1 Press and hold down  to turn the machine off.
- 2 Pull the paper tray completely out of the machine.
- 3 If paper is loaded in the paper tray, remove it.
- 4 Remove anything that is stuck inside the paper tray.
- 5 Tightly wring out a lint-free cloth soaked in lukewarm water, and then wipe the separator pad (1) of the paper tray with it to remove dust.



- 6 Wipe the two pick-up rollers (1) inside of the machine to remove dust.



- 7 Reload the paper and put the paper tray firmly back in the machine.
- 8 Turn on the machine.


## Packing and shipping the machine

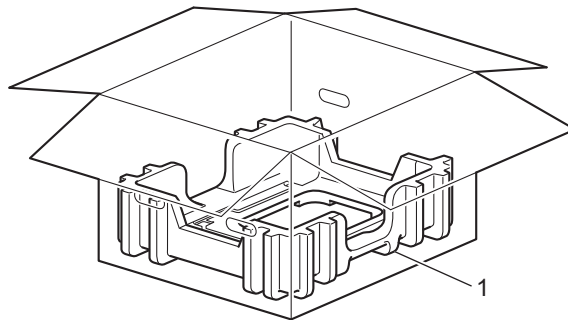
### **⚠ WARNING**

This machine is heavy and weighs more than 37.5 lb (17.0 kg). Be careful not to pinch your fingers when you put the machine down.

If for any reason you must ship your machine, carefully repack the machine in the original packaging to avoid damage during transit. The machine should be adequately insured with the carrier.

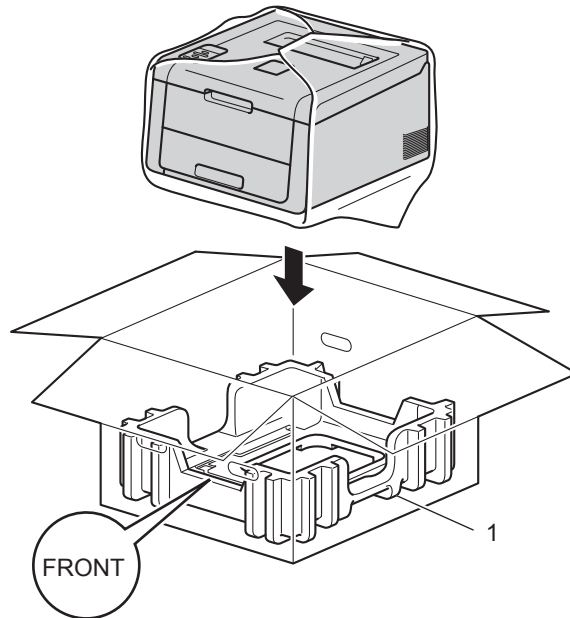
Unless you are returning the machine as part of the Brother Exchange Service, leave the toner cartridges and drum units inside the machine when you pack and ship it.

- 1 Press and hold down  to turn the machine off. Leave the machine turned off for at least 10 minutes to cool down.
- 2 Disconnect all the cables, and then unplug the power cord from the AC power outlet.
- 3 Put the packing material (1) into the carton.





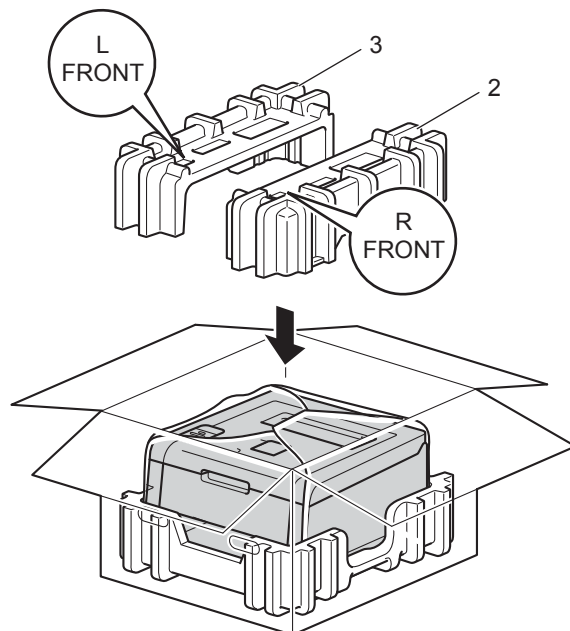
- 4 Wrap the machine in a plastic bag, then put it on the bottom packing material (1).



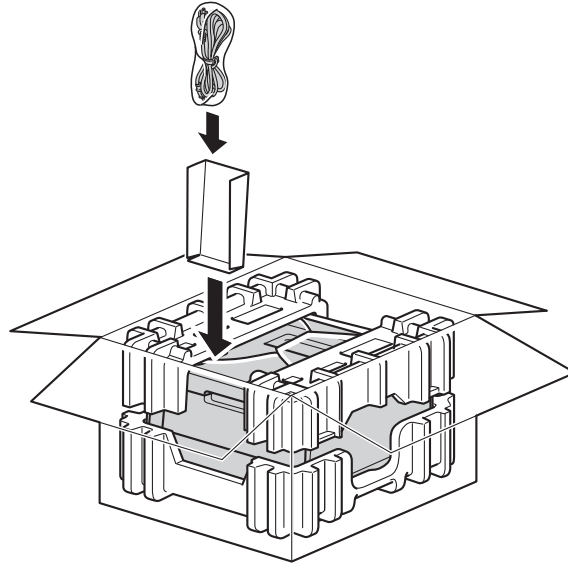
**NOTE**

If you are returning your machine to Brother as part of the Exchange Service, pack only the machine. Keep all separate parts, including the drum unit and toner cartridge assemblies and printed materials, to use with your 'Exchange' machine.

- 5 Put the packing material (2) marked "R FRONT" on the right of the machine. Put the packing material (3) marked "L FRONT" on the left of the machine.



- Put the AC power cord and printed materials in the original carton as shown in the illustration.



- Close the carton and tape it shut.

If you think there is a problem with your machine, check each item below first and follow the troubleshooting tips. Most problems can be easily resolved by yourself.

HL-3140CW and HL-3170CDW in USA: Visit the Brother Solutions Center at <http://solutions.brother.com/> and click **Manuals** on your model page to download the other manuals.

## Identifying your problem

First, check the following:

- The machine's power cord is connected correctly and the machine is turned on. If the machine does not turn on after connecting the power cord, see *Other difficulties* on page 175.
- All of the protective parts have been removed.
- Paper is inserted correctly in the paper tray.
- The interface cables are securely connected to the machine and the computer, or the wireless connection is set up on both the machine and your computer.

### ■ LCD Messages

(See *Error and maintenance messages* on page 158.)

If you did not solve your problem with the above checks, identify your problem and then go to the page suggested below.

Machine does not print.

### ■ Paper handling

(See *Paper handling difficulties* on page 174.)

Pages are printed, but there are still problems.

### ■ Print quality

(See *Improving the print quality* on page 177.)

### ■ Printout is incorrect

(See *Printing difficulties* on page 173.)

Network and other problems:

- *Network difficulties* on page 175
- *Other difficulties* on page 175

## Error and maintenance messages

As with any sophisticated office product, errors may occur and consumable items may need to be replaced. If this happens, your machine identifies the error or required routine maintenance and shows the appropriate message. The most common error and maintenance messages are shown below.

You can correct most errors and perform routine maintenance by yourself. If you need more help, the Brother Solutions Center offers the latest FAQs and troubleshooting tips:


Visit us at <http://solutions.brother.com/>.

Using non-Brother supplies may affect the print quality, hardware performance, and machine reliability.


### NOTE


The LCD names are as follows.

- Standard paper tray: Tray 1
- Manual feed slot: Manual Feed

Error message	Cause	Action
2-sided Disabled	The back cover of the machine is not closed completely.	Close the back cover of the machine.
Access Denied	The function you want to use is restricted by Secure Function Lock 2.0.	Contact your administrator to check your Secure Function Lock Settings.
Belt End Soon	The belt unit is near the end of its life.	Buy a new belt unit before you get a Replace Belt message.
Calibrate	Calibration failed.	<ul style="list-style-type: none"> <li>■ Press and hold down  to turn the machine off. Wait a few seconds, and then turn it on again. Perform the color calibration again using the control panel or the printer driver (see <i>Color Calibration</i> on page 42).</li> <li>■ Put in a new belt unit (see <i>Replacing the belt unit</i> on page 128).</li> <li>■ If the problem continues, call Brother Customer Service.</li> </ul>
Cartridge Error	The toner cartridge is not installed correctly.	Pull out the toner cartridge and drum unit assembly for the color that is indicated on the LCD, take out the toner cartridge, and put it back into the drum unit again. Put the toner cartridge and drum unit assembly back in the machine. If the problem continues, call Brother Customer Service.

Error message	Cause	Action
Cover is Open	The top cover is not closed completely.	Close the top cover of the machine.
	The fuser cover is not closed completely or paper was jammed in the back of the machine when you turned on the power.	<ul style="list-style-type: none"> <li>■ Close the fuser cover located inside the back cover of the machine.</li> <li>■ Make sure paper is not jammed inside the back of the machine, and then close the fuser cover and press <b>Go</b> (see <i>Paper is jammed at the back of the machine</i> on page 167).</li> </ul>
Drums End Soon	The 4 drum units are near the end of their life.	Order a new drum unit set now so a replacement drum unit will be available when the LCD shows <i>Replace Drums</i> (see <i>Drums End Soon</i> on page 119).
Drum End Soon: X (X shows the toner cartridge or drum unit color that must be replaced. BK=Black, C=Cyan, M=Magenta, Y=Yellow.)	The drum unit for the color indicated on the LCD is near the end of its life.	Order a new drum unit for the color indicated on the LCD before you get a <i>Replace Drum: X</i> message.
Drum!	The corona wire on the drum unit needs to be cleaned.	Clean all four corona wires (one for each color) inside the drum unit by sliding the green tab (see <i>Cleaning the corona wires</i> on page 143).
	The drum unit or the toner cartridge and drum unit assembly is not installed correctly.	Remove the toner cartridge and drum unit assembly, remove the toner cartridge from the drum unit, and reinstall the toner cartridge back into the drum unit. Reinstall the toner cartridge and drum unit assembly back in the machine. If the problem continues, replace the toner cartridge (see <i>Replacing the toner cartridges</i> on page 111).
Drum Stop	It is time to replace the drum unit.	Replace the drum unit for the color indicated on the LCD (see <i>Replacing the drum units</i> on page 121).
Fuser Error	The temperature of the fuser unit does not rise to a specified temperature within the specified time.	Turn the machine off, wait a few seconds, and then turn it on again. Leave the machine for 15 minutes with the power on.
	The fuser unit is too hot.	
Jam 2-sided	The paper is jammed underneath the paper tray or the fuser unit.	See <i>Paper is jammed underneath the Paper Tray</i> on page 165.
Jam Inside	The paper is jammed inside the machine.	See <i>Paper is jammed inside the machine</i> on page 169.
	The toner cartridge was placed in the machine without the drum unit.	Put the toner cartridge into the drum unit, and then reinstall the toner cartridge and drum unit assembly in the machine.
Jam Manual Feed	The paper is jammed in the manual feed slot of the machine.	See <i>Paper is jammed in the manual feed slot</i> on page 163.

Error message	Cause	Action
Jam Rear	The paper is jammed in the back of the machine.	See <i>Paper is jammed at the back of the machine</i> on page 167.
Jam Tray 1	The paper is jammed in the paper tray of the machine.	See <i>Paper is jammed in the Paper Tray</i> on page 163.
Limit Exceeded	The print limit set in Secure Function Lock 2.0 was reached.	Contact your administrator to check your Secure Function Lock Settings.
Log Access Error	The machine could not access the print log file in the server.	Contact your administrator to check the Store Print Log to Network settings.  (For detailed information, see Network User's Guide: <i>Store Print Log to Network</i> )
Manual Feed	<b>Manual</b> was selected as the paper source when there was no paper in the Manual Feed Slot.	Place the same size of paper in the Manual Feed Slot as is shown on the LCD. If the machine is in Pause mode, press <b>Go</b> (see <i>Loading paper in the Manual feed slot</i> on page 12).
No Belt Unit	The belt unit is not installed correctly.	Reinstall the belt unit (see <i>Replacing the belt unit</i> on page 128).
No Paper Load <size> paper in <tray>.	The machine is out of paper or paper is not correctly loaded in the specified paper tray.	Put paper in the indicated paper tray. Make sure the paper guides are set to the correct size.
No Permission	Printing color documents is restricted.	Contact your administrator to check your Secure Function Lock Settings.
No Toner	The toner cartridge or the toner cartridge and drum unit assembly is not installed correctly.	Remove the toner cartridge and drum unit assembly, remove the toner cartridge from the drum unit, and reinstall the toner cartridge back into the drum unit. Reinstall the toner cartridge and drum unit assembly back in the machine. If the problem continues, replace the toner cartridge (see <i>Replacing the toner cartridges</i> on page 111).
No Tray	The standard paper tray is not installed or not installed correctly.	Reinstall the standard paper tray.
No Waste Toner	The waste toner box is not installed correctly.	Reinstall the Waste Toner Box (see <i>Replacing the waste toner box</i> on page 133).
Not Available	The requested function is not permitted to all User IDs by Secure Function Lock 2.0.	Contact your administrator to check your Secure Function Lock Settings.
Out of Memory Secure Print Data is full.	The machine's memory is full.	Press <b>Cancel</b> and delete the previously stored secure print data.
Out of Memory	The machine's memory is full.	Reduce the complexity of your document or reduce the print resolution.
Print Unable ##	The machine has a mechanical problem.	Press and hold down  to turn the machine off. Wait a few seconds, then turn it on again.  If the problem continues, call Brother Customer Service.

Error message	Cause	Action
Registration	Registration failed.	<ul style="list-style-type: none"> <li>■ Press and hold down  to turn the machine off. Wait a few seconds, and then turn it on again. Perform the auto color registration again using the control panel (see <i>Auto Registration</i> on page 105).</li> <li>■ Put in a new belt unit (see <i>Replacing the belt unit</i> on page 128).</li> <li>■ If the problem continues, call Brother Customer Service.</li> </ul>
Replace Belt	It is time to replace the belt unit.	Replace the belt unit (see <i>Replacing the belt unit</i> on page 128).
Replace Drums	It is time to replace the 4 drum units.	Replace the 4 drum units (see <i>Replacing the drum units</i> on page 121).
	The drum unit counter was not reset when a new drum was installed.	Reset the drum unit counter (see <i>Replacing the drum units</i> on page 121).
Replace Drum: X (X shows the toner cartridge or drum unit color that must be replaced. BK=Black, C=Cyan, M=Magenta, Y=Yellow.)	It is time to replace the drum unit for the indicated color.	Replace the drum unit for the color indicated on the LCD (see <i>Replacing the drum units</i> on page 121).
	The drum unit counter was not reset when a new drum was installed.	Reset the drum unit counter (see <i>Replacing the drum units</i> on page 121).
Replace Fuser	It is time to replace the fuser unit.	<p>Call Brother Customer Service or a Brother Authorized Service Center to replace the fuser unit.</p> <p>To replace the Fuser Unit call Brother Customer Service at:</p> <p><b>1-877-BROTHER (1-877-276-8437) (in USA)</b>  <b>1-877-BROTHER (in Canada)</b></p> <p>or to locate a Brother Authorized Service Center, visit us at:</p> <p><a href="http://www.brother-usa.com/service/">http://www.brother-usa.com/service/</a></p>
Replace PF Kit1	It is time to replace the paper feeding kit.	<p>Call Brother Customer Service or a Brother Authorized Service Center to replace the PF kit.</p> <p>To replace the PF Kit call Brother Customer Service at:</p> <p><b>1-877-BROTHER (1-877-276-8437) (in USA)</b>  <b>1-877-BROTHER (in Canada)</b></p> <p>or to locate a Brother Authorized Service Center, visit us at:</p> <p><a href="http://www.brother-usa.com/service/">http://www.brother-usa.com/service/</a></p>
Replace Toner	The toner cartridge is at the end of its life. The machine will stop all print operations.	Replace the toner cartridge for the color indicated on the LCD (see <i>Replacing the toner cartridges</i> on page 111).

Error message	Cause	Action
Replace WT Box	It is time to replace the waste toner box.	Replace the waste toner box (see <i>Replacing the waste toner box</i> on page 133).
Short Paper	The length of the paper in the tray is too short for the machine to deliver it to the Face-down output tray.	Open the back cover (face-up output tray) to let the printed page exit onto the face-up output tray. Remove the printed pages and then press <b>Go</b> .
Size Error DX	The paper size defined in the printer driver and the control panel menu is not available for automatic 2-sided printing.	Press <b>Cancel</b> . Choose a paper size that is supported by 2-sided printing. The paper size for automatic 2-sided printing is Letter, Legal or Folio.
	The paper in the tray is not the correct size and is not available for automatic 2-sided printing.	Load the correct size of paper in the tray and set the size of paper for the tray (see <i>Paper Tray</i> on page 87). The paper size for automatic 2-sided printing is Letter, Legal or Folio.
Size Mismatch	The paper in the indicated tray is not the correct size.	Put the same size paper in the paper tray that is selected in the printer driver, and then press <b>Go</b> , or in the printer driver select the size of paper that you loaded in the indicated paper tray.
Small Paper	The paper size specified in the printer driver is too small for the machine to deliver it to the Face-down output tray.	Open the back cover (face-up output tray) to let the printed paper out on the face-up output tray and then press <b>Go</b> .
Toner Error	One or more toner cartridges are not installed correctly.	Pull out all the drum units. Take out all the toner cartridges, and then put them back into the drum units.
Toner Low: X (X shows the toner cartridge or drum unit color that is near the end of its life. BK=Black, C=Cyan, M=Magenta, Y=Yellow.)	If the LCD shows <i>Toner Low</i> you can still print; however, the machine is telling you that the toner cartridge is near the end of its life.	Order a new toner cartridge now so a replacement toner cartridge will be available when the LCD shows <i>Replace Toner</i> .
WT Box End Soon	The waste toner box is almost full.	Order a new waste toner box before you get a <i>Replace WT Box</i> message.



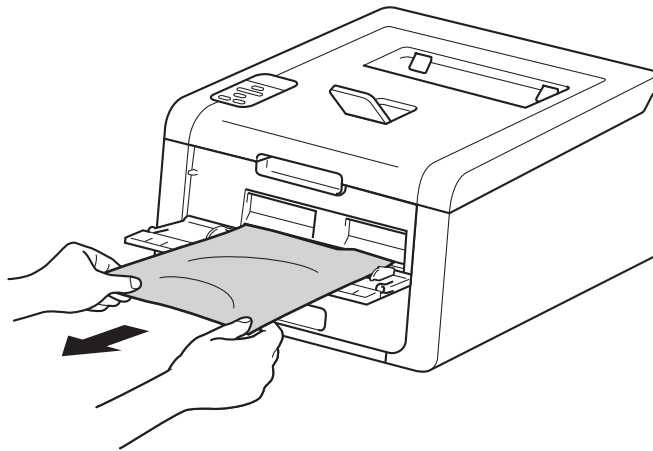
## Paper jams

Always remove the remaining paper from the paper tray and straighten the stack when you are adding new paper. This helps prevent multiple sheets of paper from feeding through the machine at one time and prevents paper jams.

### Paper is jammed in the manual feed slot

If the LCD shows `Jam Manual Feed`, follow these steps:

- 1 Remove any paper that is jammed in and around the manual feed slot.

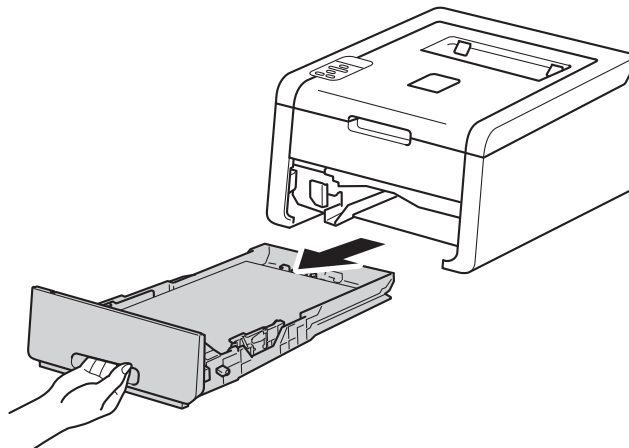


- 2 Press **Go** to resume printing.

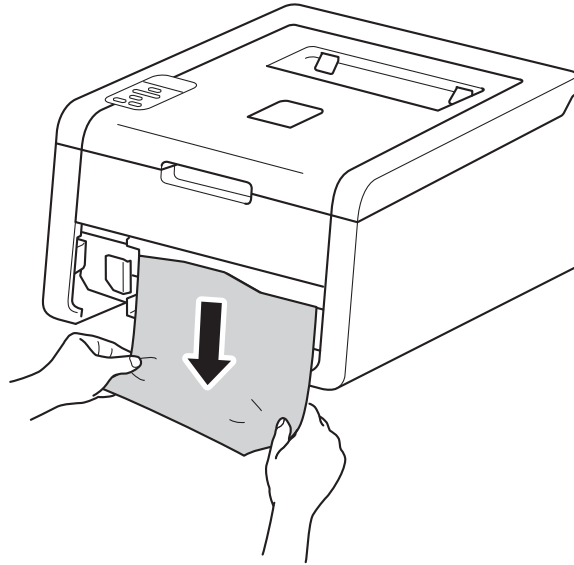
### Paper is jammed in the Paper Tray

If the LCD shows `Jam Tray 1`, follow these steps:

- 1 Pull the paper tray completely out of the machine.



- 2 Use both hands to slowly pull out the jammed paper.



## NOTE

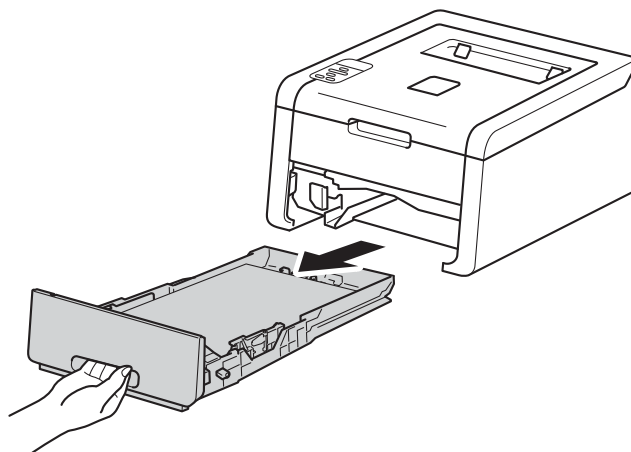
Pulling the jammed paper downward allows you to remove the paper more easily.

- 3 Make sure that the paper is below the maximum paper mark (▼▼▼) in the paper tray. While pressing the green paper-guide release lever, slide the paper guides to fit the paper size. Make sure that the guides are firmly in the slots.
- 4 Put the paper tray firmly back in the machine.

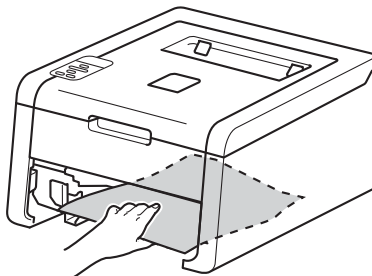
## Paper is jammed underneath the Paper Tray

If the LCD shows `Jam 2-sided`, follow these steps:

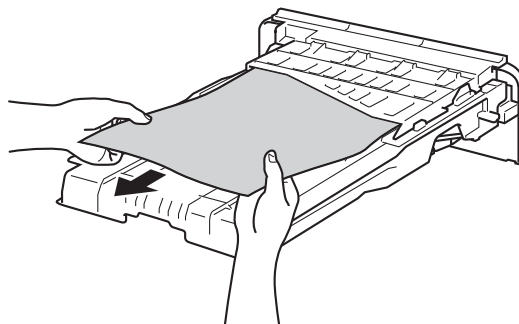
- 1 Leave the machine turned on for 10 minutes for the internal fan to cool the extremely hot parts inside the machine.
- 2 Pull the paper tray completely out of the machine.



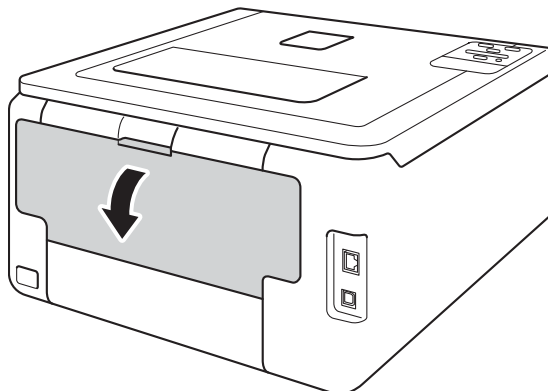
- 3 Make sure that the jammed paper does not remain inside the machine.



- 4 If paper is not caught inside the machine, check underneath the paper tray.



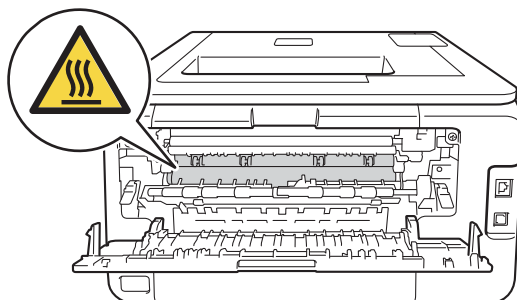
- 5 If the paper is not caught in the paper tray, open the back cover.



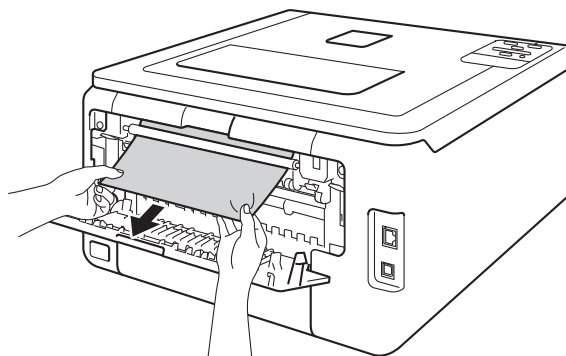
## WARNING

### HOT SURFACE

After you have just used the machine, some internal parts of the machine will be extremely hot. Wait for the machine to cool down before you touch the internal parts of the machine.



- 6 Use both hands to pull out the jammed paper slowly.

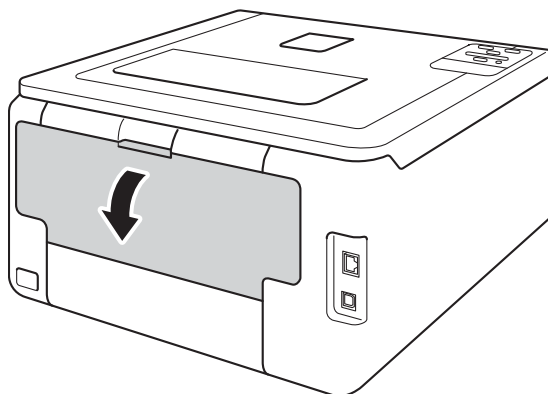


- 7 Close the back cover until it locks in the closed position.
- 8 Put the paper tray back in the machine.

## Paper is jammed at the back of the machine

If the LCD shows **Jam Rear**, a paper jam occurred behind the back cover. Follow these steps:

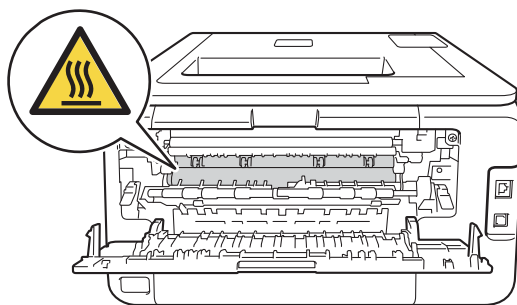
- 1 Leave the machine turned on for 10 minutes for the internal fan to cool the extremely hot parts inside the machine.
- 2 Open the back cover.



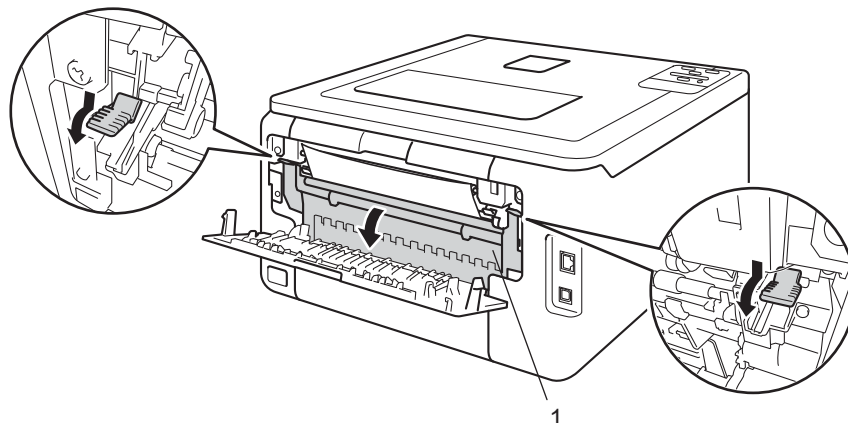
### **WARNING**

#### **HOT SURFACE**

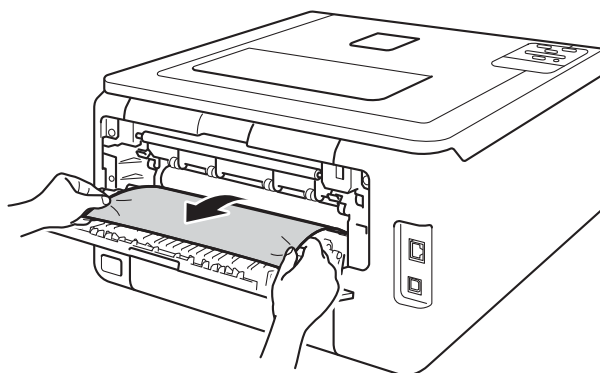
After you have just used the machine, some internal parts of the machine will be extremely hot. Wait for the machine to cool down before you touch the internal parts of the machine.



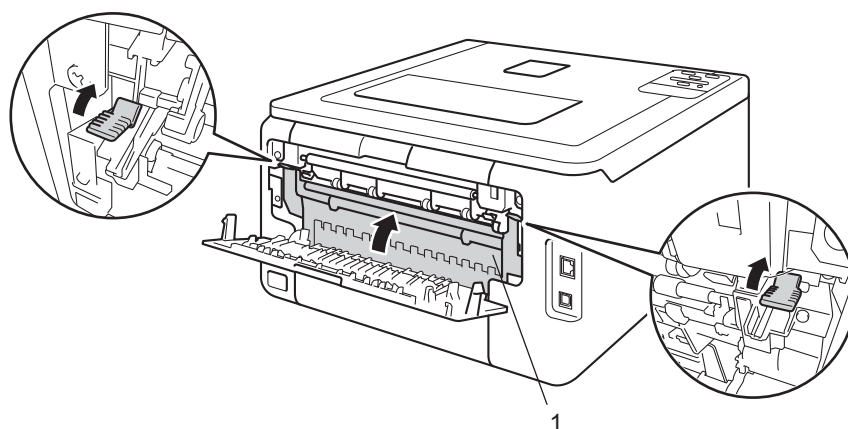
- 3 Pull the green tabs at the left and right sides toward you to release the fuser cover (1).



- 4 Use both hands to gently pull the jammed paper out of the fuser unit.



- 5 Close the fuser cover (1).

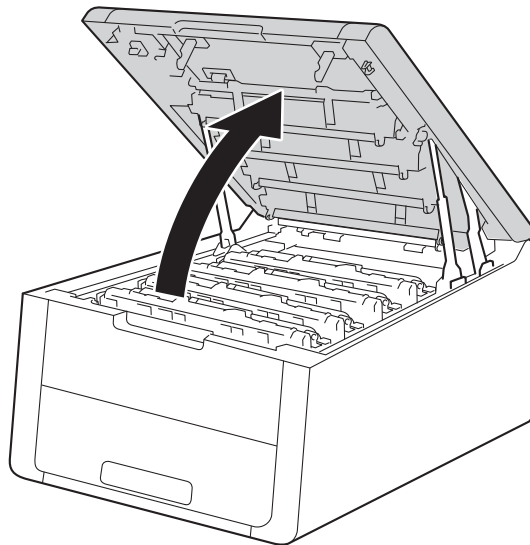


- 6 Close the back cover.

## Paper is jammed inside the machine

If the LCD shows `Jam Inside`, follow these steps:

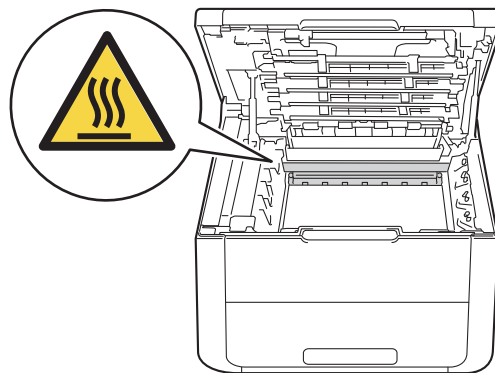
- 1 Leave the machine turned on for 10 minutes for the internal fan to cool the extremely hot parts inside the machine.
- 2 Open the top cover until it locks in the open position.



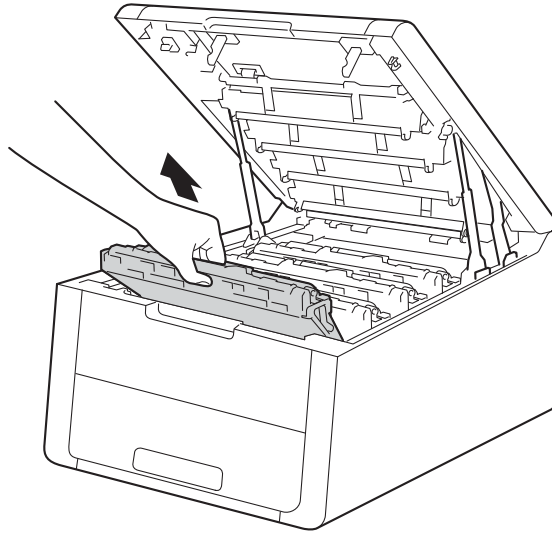
### **WARNING**

#### **HOT SURFACE**

After you have just used the machine, some internal parts of the machine will be extremely hot. Wait for the machine to cool down before you touch the internal parts of the machine.

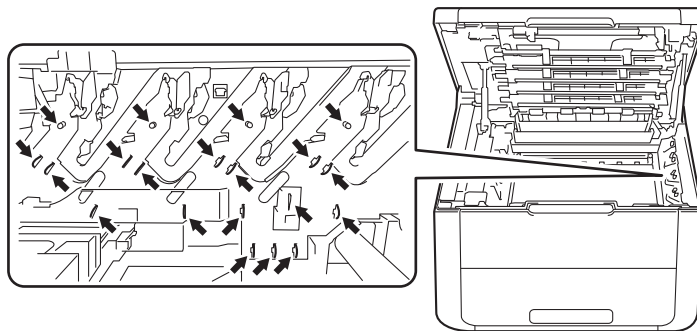


- 3 Take out all four toner cartridge and drum unit assemblies.



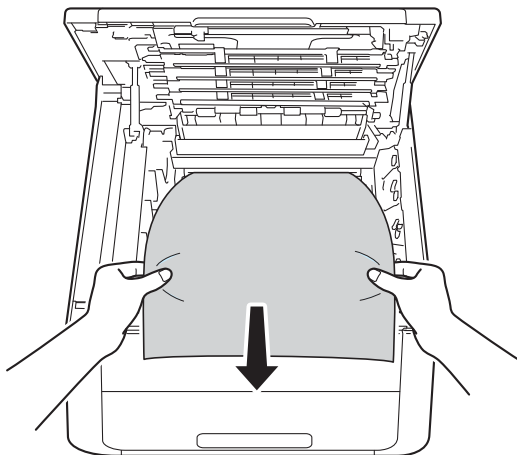
## IMPORTANT

- We recommend that you put the toner cartridge and drum unit assemblies on a piece of disposable paper or cloth in case you accidentally spill or scatter toner.
- Handle the toner cartridge and drum unit assemblies carefully. If toner scatters on your hands or clothes, immediately wipe or wash it off with cold water.
- To prevent damage to the machine from static electricity, **DO NOT** touch the electrodes shown in the illustration.

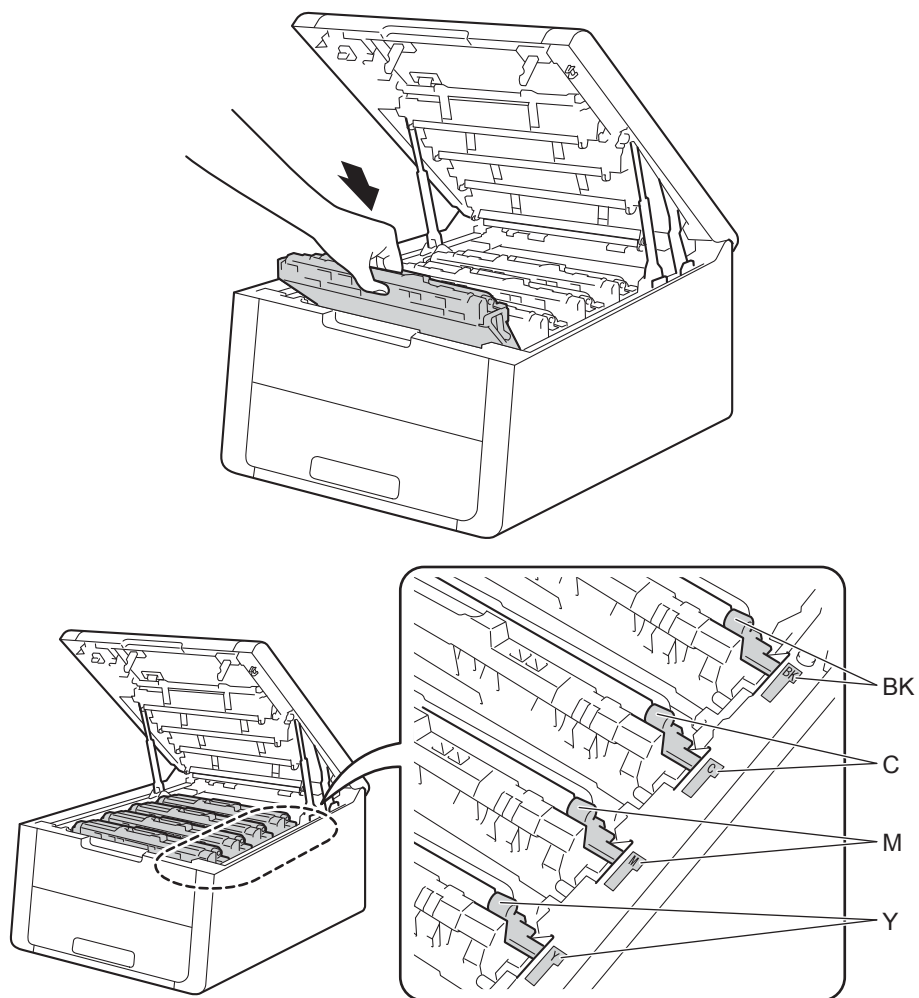




- 4 Pull out the jammed paper slowly.



- 5 Slide each toner cartridge and drum unit assembly into the machine. Make sure that you match the toner cartridge color to the same color label on the machine for all four toner cartridge and drum unit assemblies.



- 6 Close the top cover of the machine.

**NOTE**

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If you turn off the machine during `Jam Inside`, the machine will print incomplete data from your computer when it is turned back on. Before you turn on the machine, delete the print spooler job on your computer.




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## If you are having difficulty with your machine

### IMPORTANT

- For technical help, you must call the country where you bought the machine. Calls must be made from within that country.
- If you think there is a problem with your machine, check the chart below and follow the troubleshooting tips. Most problems can be easily resolved by yourself.
- If you need additional help, the Brother Solutions Center offers the latest FAQs and troubleshooting tips. Visit us at <http://solutions.brother.com/>.
- Using non-Brother supplies may affect the print quality, hardware performance, and machine reliability.

### Printing difficulties

Difficulties	Suggestions
No printout.	Check that the correct printer driver has been installed and chosen.
	Check to see if the LCD is showing an error message. (See <i>Error and maintenance messages</i> on page 158.)
	Check that the machine is online: (Windows® 7 and Windows Server® 2008 R2) Click the  ( <b>Start</b> ) button and <b>Devices and Printers</b> . Right-click <b>Brother HL-XXXX series</b> and click <b>See what's printing</b> . Click <b>Printer</b> and make sure <b>Use Printer Offline</b> is deselected. (Windows Vista® and Windows Server® 2008)
	Click the  ( <b>Start</b> ) button, <b>Control Panel, Hardware and Sound</b> , and then <b>Printers</b> . Right-click <b>Brother HL-XXXX series</b> . Make sure that <b>Use Printer Offline</b> is deselected. (Windows® XP and Windows Server® 2003)
	Click the <b>Start</b> button and choose <b>Printers and Faxes</b> . Right-click <b>Brother HL-XXXX series</b> . Make sure that <b>Use Printer Offline</b> is deselected.
	Contact your administrator to check your Secure Function Lock settings.
	Make sure the interface is set to <i>Auto</i> on the machine (see how to change the interface on page 88).
The machine is not printing or has stopped printing.	Check that the machine is not in Power Off mode.  If the machine is in Power Off mode, press and hold down  on the control panel, and then re-send print data. (See <i>Auto Power Off</i> on page 103.)
	Press <b>Cancel</b> . The machine will cancel the print job and clear it from the memory. The printout may be incomplete.
The headers or footers appear when the document displays on the screen but they are not on the printed page.	There is an unprintable area on the top and bottom of the page. Adjust the top and bottom margins in your document to allow for this. (See <i>Unprintable area when printing from a computer</i> on page 7.)


### Printing difficulties (continued)

Difficulties	Suggestions
The machine prints unexpectedly or it prints garbage.	Press <b>Cancel</b> to cancel print jobs.
	Check the settings in your application to make sure it is set up to work with your machine.
The machine prints the first couple of pages correctly, then some pages have text missing.	Check the settings in your application to make sure that it is set up to work with your machine.
	Your computer is not recognizing the machine's input buffer's full signal. Make sure that you connected the interface cable correctly. (See Quick Setup Guide)
Cannot perform 'Page Layout' printing.	Check that the paper size setting in the application and in the printer driver are the same.
Print speed is too slow.	Try changing the printer driver setting. The highest quality needs longer data processing, sending and printing time.
The machine does not print from Adobe® Illustrator®.	Reduce the print quality. (For Windows, see <i>Basic tab</i> on page 28) (For Macintosh, see <i>Print Settings</i> on page 67)
Poor print quality	See <i>Improving the print quality</i> on page 177.

### Paper handling difficulties

Difficulties	Suggestions
The machine does not feed paper.	If the paper tray is empty, load a new stack of paper into the paper tray.
	If there is paper in the paper tray, make sure it is straight. If the paper is curled, straighten it. Sometimes it is helpful to remove the paper, turn the stack over and put it back in the paper tray.
	Reduce the amount of paper in the paper tray, and then try again.
	Make sure that manual feed mode is not selected in the printer driver.
	Clean the paper pick-up roller. (See <i>Cleaning the paper pick-up roller</i> on page 153.)
The machine does not feed paper from the Manual feed slot.	Make sure that <b>Manual</b> is selected in the printer driver.
How do I print on envelopes?	Load one envelope at a time in the Manual feed slot. Your application must be set to print the envelope size you are using. This is usually done in the Page Setup or Document Setup menu of your application. (See your application's manual for more information.)



### Network difficulties

Difficulties	Suggestions
Cannot print over a network after completing the software installation. (HL-3150CDN and HL-3170CDW)	When the <b>Cannot print to the networked printer.</b> screen appears, follow the on-screen instructions. If the problem is not solved, see Network User's Guide: <i>Troubleshooting</i> . Make sure the interface is set to <code>Auto</code> on the machine (see how to change the interface on page 88).
The Brother software cannot be installed.	<b>(Windows®)</b> If the Security Software warning appears on the PC screen during the installation, change the Security Software settings to permit the Brother product setup program or other program to run. <b>(Macintosh)</b> If you are using a firewall function of anti-spyware or antivirus security software, temporarily disable it and then install the Brother software.
Cannot connect to wireless network. (HL-3140CW and HL-3170CDW)	Investigate the problem using the WLAN report. Print the WLAN report in the menu selection: <code>Machine Info.</code> , <code>Print WLAN Report</code> and then press <b>Go</b> . For more details, see Quick Setup Guide
 For other problems concerning using your machine on a Network, see Network User's Guide	

### Other difficulties

Difficulties	Suggestions
The machine will not turn on.	Adverse conditions on the power connection (such as lightning or a power surge) may have triggered the machine's internal safety mechanisms. Turn the machine off and unplug the power cord. Wait for ten minutes, then plug in the power cord and turn the machine on. If you still cannot turn on the machine, plug the power cord directly into a different known working wall outlet (do not plug it into a surge suppressor or backup battery type of device), and then turn on the machine. If this works, then the wall outlet, battery backup device, or surge suppressor device is the cause of the problem.

**Other difficulties (continued)**

Difficulties	Suggestions
<p>The machine cannot print EPS data that includes binary with the BR-Script3 printer driver.</p>	<p><b>(Windows®)</b>                      To print EPS data, do the following:</p> <ol style="list-style-type: none"> <li>1 For Windows® 7 and Windows Server® 2008 R2:                              Click the  (<b>Start</b>) button and <b>Devices and Printers</b>.                              For Windows Vista® and Windows Server® 2008:                              Click the  (<b>Start</b>) button, <b>Control Panel, Hardware and Sound</b>, and then <b>Printers</b>.</li> <li>2 For Windows® XP and Windows Server® 2003:                              Click the <b>Start</b> button, and select <b>Printers and Faxes</b>.</li> <li>2 Right-click the <b>Brother HL-XXXX BR-Script3</b> icon and select <b>Printer properties (Properties)</b>, and <b>Brother HL-XXXX BR-Script3</b> if necessary.</li> <li>3 From the <b>Device Settings</b> tab, choose <b>TBCP</b> (Tagged binary communication protocol) in <b>Output Protocol</b>.</li> </ol> <p><b>(Macintosh)</b>                      If your machine is connected to a computer with a USB interface, you cannot print EPS data that includes binary. You can print the EPS data at the machine through a network. For installing the BR-Script3 printer driver through the network, visit the Brother Solutions Center at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a>.</p>

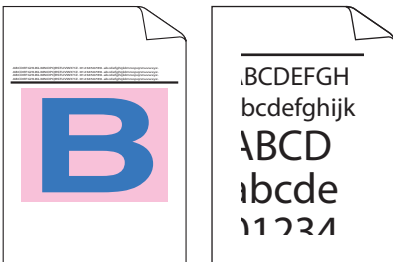
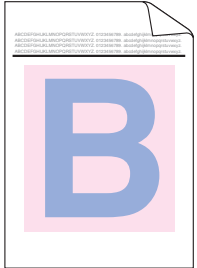
## Improving the print quality

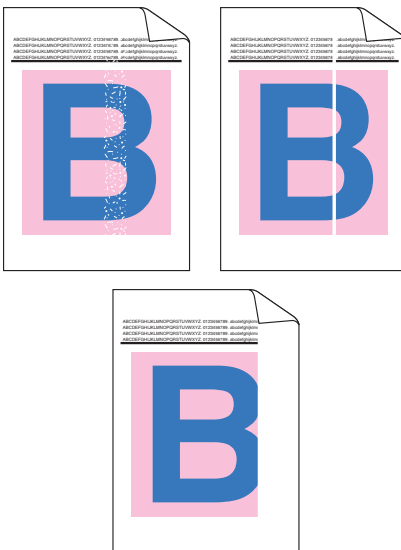
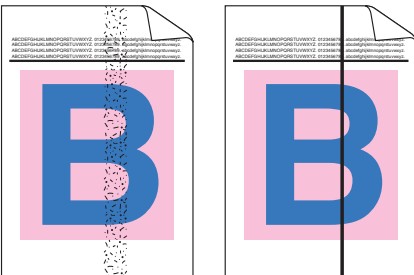
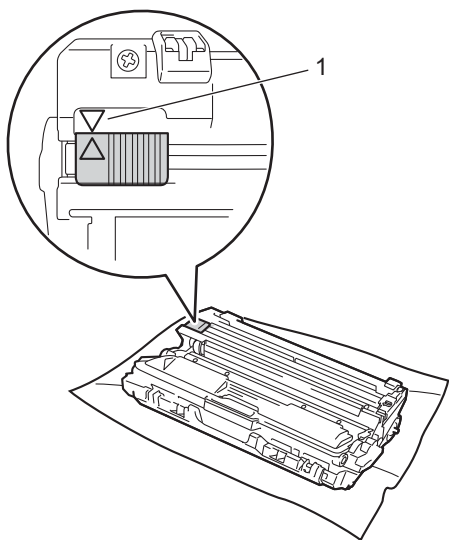
If you have a print quality problem, print a test page first (see on page 85). If the printout looks good, the problem is probably not the machine. Check the interface cable or try the machine on another computer. If the printout has a quality problem, check the following steps first. And then, if you still have a print quality problem, check the chart below and follow the recommendations.

### NOTE

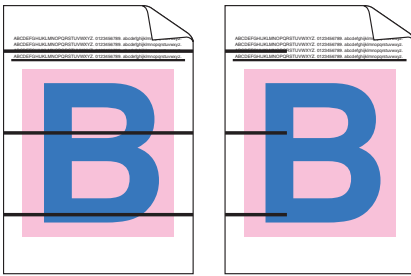

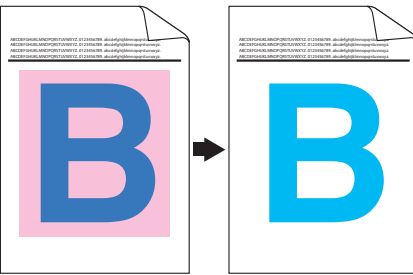
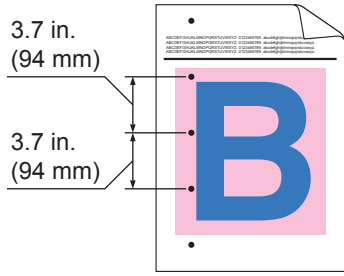
Using non-Brother supplies may affect the print quality, hardware performance, and machine reliability.

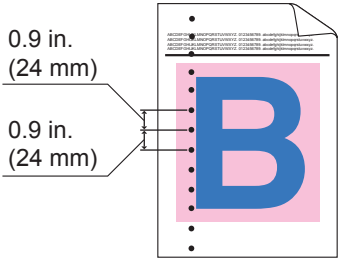

- 1 To get the best print quality, we suggest using the recommended paper. Check that you are using paper that meets our specifications (see *Acceptable paper and other print media* on page 2).
- 2 Check that the drum units and toner cartridges are installed correctly.

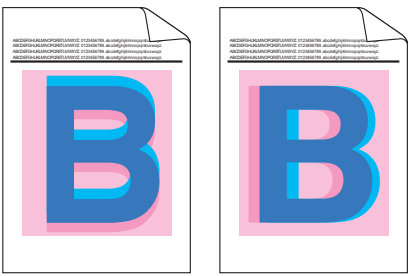

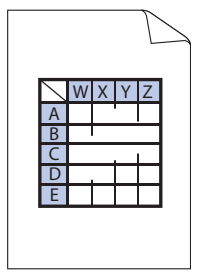
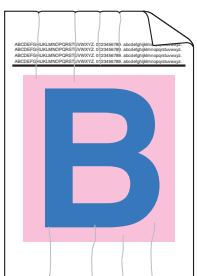
Examples of poor print quality	Recommendation
 <p><b>Printed pages are compressed, horizontal stripes appear, or characters in the top, bottom, left and right margins are cut off</b></p>	<ul style="list-style-type: none"> <li>■ Adjust the print margins on your application and reprint the job.</li> </ul>
 <p><b>Colors are light or faint on the whole page</b></p>	<ul style="list-style-type: none"> <li>■ Perform the calibration using the control panel or the printer driver (see <i>Color Calibration</i> on page 104).</li> <li>■ Make sure toner save mode is off in the control panel or the printer driver.</li> <li>■ Make sure that the media type setting in the driver matches the type of paper you are using (see <i>Acceptable paper and other print media</i> on page 2).</li> <li>■ Shake all four toner cartridges gently.</li> <li>■ Wipe the windows of all four LED heads with a dry lint free soft cloth (see <i>Cleaning the LED head</i> on page 142).</li> </ul>

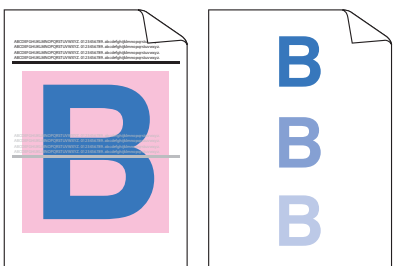
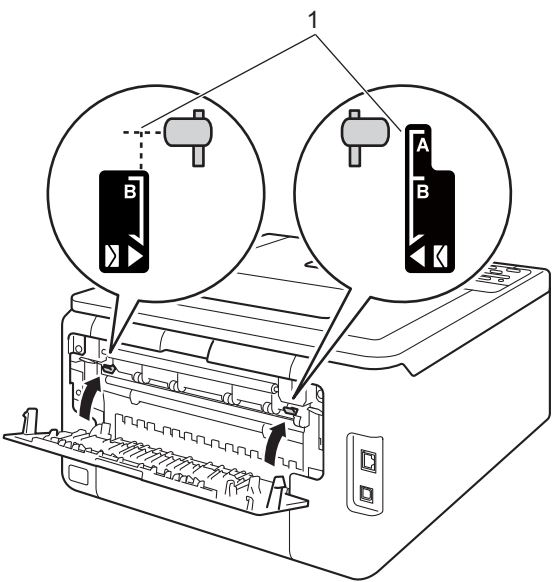
Examples of poor print quality	Recommendation
 <p data-bbox="138 850 552 913"><b>White streaks or bands down the page</b></p>	<ul style="list-style-type: none"> <li>■ Wipe the windows of all four LED heads with a <i>dry</i> lint free soft cloth (see <i>Cleaning the LED head</i> on page 142).</li> <li>■ Make sure that foreign material such as a torn piece of paper, sticky note or dust is not inside the machine and around the drum unit and toner cartridge.</li> <li>■ Clean the drum unit (see <i>Cleaning the drum unit</i> on page 147).</li> </ul>
 <p data-bbox="138 1260 552 1333"><b>Colored streaks or bands down the page</b></p>	<ul style="list-style-type: none"> <li>■ Clean all four corona wires (one for each color) inside the drum unit by sliding the green tab (see <i>Cleaning the corona wires</i> on page 143).</li> <li>■ Make sure the green tab of the corona wire is at the home position (▲) (1).</li> </ul> <div data-bbox="812 1060 1258 1596" style="text-align: center;">  </div> <ul style="list-style-type: none"> <li>■ Replace the toner cartridge that matches the color of the streak or band (see <i>Replacing the toner cartridges</i> on page 111). To identify the color of the toner cartridge, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> <li>■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>

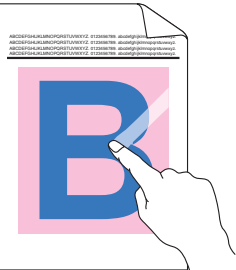
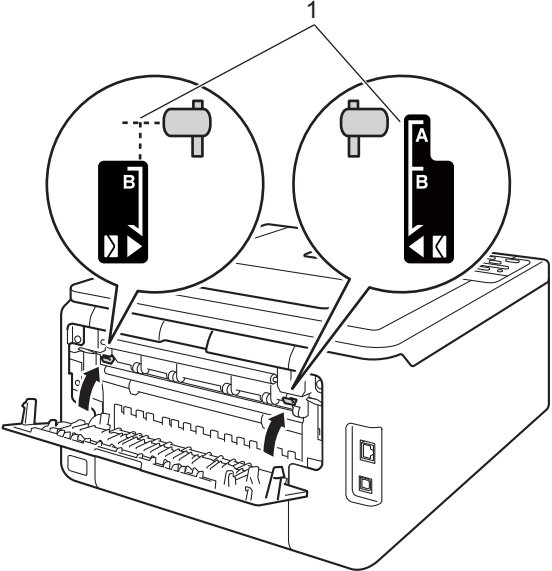
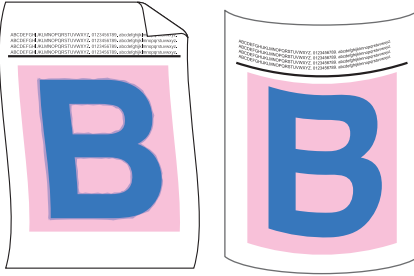



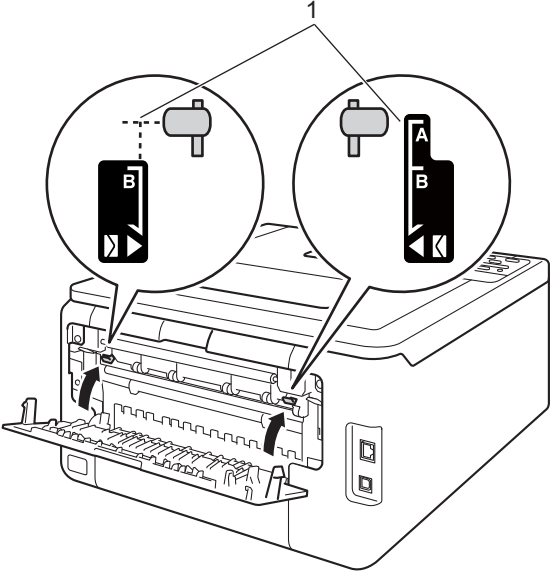
Examples of poor print quality	Recommendation
 <p data-bbox="159 583 535 613"><b>Colored lines across the page</b></p>	<ul style="list-style-type: none"> <li data-bbox="581 289 1474 380">■ Identify the color causing the problem and replace the toner cartridge that matches the color of the line (see <i>Replacing the toner cartridges</i> on page 111). To identify the color of the toner cartridge, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> <li data-bbox="581 474 1430 537">■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>
 <p data-bbox="175 924 519 953"><b>White spots or hollow print</b></p>	<ul style="list-style-type: none"> <li data-bbox="581 630 1495 688">■ Make sure that the media type setting in the driver matches the type of paper you are using (see <i>Acceptable paper and other print media</i> on page 2).</li> <li data-bbox="581 703 1463 793">■ Check the machine's environment. Conditions such as high humidity can cause hollow print. (See Product Safety Guide: <i>Choosing a location.</i>)</li> <li data-bbox="581 814 1495 905">■ If the problem is not solved after printing a few pages, the drum may have foreign material, such as glue from a label, stuck on the drum surface. Clean the drum unit (see <i>Cleaning the drum unit</i> on page 147).</li> <li data-bbox="581 926 1430 989">■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>
 <p data-bbox="159 1365 535 1423"><b>Blank page or some colors are missing</b></p>	<ul style="list-style-type: none"> <li data-bbox="581 1071 1495 1192">■ Identify the color causing the problem and put in a new toner cartridge (see <i>Replacing the toner cartridges</i> on page 111). To identify the color of the toner cartridge, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> <li data-bbox="581 1213 1430 1276">■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>
 <p data-bbox="151 1734 544 1764"><b>Colored spots at 3.7 in. (94mm)</b></p>	<ul style="list-style-type: none"> <li data-bbox="581 1440 1495 1535">■ If the problem is not solved after printing a few pages, the drum may have foreign material, such as glue from a label, stuck on the drum surface. Clean the drum unit (see <i>Cleaning the drum unit</i> on page 147).</li> <li data-bbox="581 1556 1430 1619">■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>

Examples of poor print quality	Recommendation
 <p data-bbox="181 321 277 380">0.9 in. (24 mm)</p> <p data-bbox="181 415 277 474">0.9 in. (24 mm)</p> <p data-bbox="154 569 548 600"><b>Colored spots at 0.9 in. (24mm)</b></p>	<ul style="list-style-type: none"> <li>■ Identify the color causing the problem and put in a new toner cartridge (see <i>Replacing the toner cartridges</i> on page 111). To identify the color of the toner cartridge, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>
 <p data-bbox="173 905 521 932"><b>Toner scatter or toner stain</b></p>	<ul style="list-style-type: none"> <li>■ Check the machine's environment. Conditions such as high humidity and high temperatures may cause this print quality problem.</li> <li>■ Identify the color causing the problem and put in a new toner cartridge (see <i>Replacing the toner cartridges</i> on page 111). To identify the color of the toner cartridge, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> <li>■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>
<p data-bbox="142 980 548 1039"><b>The color of your printouts is not what you expected</b></p>	<ul style="list-style-type: none"> <li>■ To improve the color density, calibrate the colors using first the control panel and then the printer driver (see <i>Color Calibration</i> on page 104).</li> <li>■ To adjust the print position of colors for sharper edges, perform an automatic color registration using the control panel (see <i>Auto Registration</i> on page 105).</li> <li>■ Make sure toner save mode is off in the control panel or the printer driver. See <b>Toner Save Mode</b> in <i>Advanced tab</i> on page 36 (For Windows® printer driver), <i>Advanced options</i> on page 53 (For Windows® BR-Script printer driver), <i>Advanced print settings</i> on page 69 (For Macintosh printer driver), <i>Printer Features</i> on page 73 (For Macintosh BR-Script printer driver).</li> <li>■ If the print quality of the black portion is not what you expected, select the <b>Print Text in Black</b> check box of the printer driver. See <b>Print Text in Black</b> in <i>Other Print Options</i> on page 41. If the print quality is poor, deselect the <b>Improve Gray Color</b> check box of the printer driver. See <b>Improve Gray Color</b> in <i>Settings dialog box</i> on page 31 (For Windows® printer driver), <i>Advanced options</i> on page 53 (For Windows® BR-Script printer driver) or <i>Advanced print settings</i> on page 69 (For Macintosh printer driver).</li> <li>■ Identify the color causing the problem and put in a new toner cartridge (see <i>Replacing the toner cartridges</i> on page 111). To identify the color of the toner cartridge, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> <li>■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>

Examples of poor print quality	Recommendation
 <p data-bbox="211 577 487 609"><b>Color misregistration</b></p>	<ul style="list-style-type: none"> <li>■ Make sure that the machine is on a solid level surface.</li> <li>■ Perform the auto color registration using the control panel (see <i>Auto Registration</i> on page 105).</li> <li>■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> <li>■ Put in a new belt unit (see <i>Replacing the belt unit</i> on page 128).</li> </ul>
 <p data-bbox="170 913 527 976"><b>Uneven density appears periodically across the page</b></p>	<ul style="list-style-type: none"> <li>■ Perform the calibration using the control panel or the printer driver (see <i>Color Calibration</i> on page 104).</li> <li>■ Deselect the <b>Improve Gray Color</b> check box of the printer driver.</li> <li>■ Identify the color causing the problem and put in a new toner cartridge (see <i>Replacing the toner cartridges</i> on page 111). To identify the color of the toner cartridge, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> <li>■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121). To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</li> </ul>
 <p data-bbox="186 1323 511 1354"><b>Missing image at thin line</b></p>	<ul style="list-style-type: none"> <li>■ Make sure toner save mode is off in the control panel or the printer driver. See <b>Toner Save Mode</b> in <i>Advanced tab</i> on page 36 (For Windows® printer driver), <i>Advanced options</i> on page 53 (For Windows® BR-Script printer driver), <i>Advanced print settings</i> on page 69 (For Macintosh printer driver), <i>Printer Features</i> on page 73 (For Macintosh BR-Script printer driver).</li> <li>■ Change the print resolution.</li> <li>■ If you use a Windows printer driver, choose <b>Improve Pattern Printing</b> in Print Setting of Basic tab (see <i>Settings dialog box</i> on page 31).</li> </ul>
 <p data-bbox="300 1648 397 1680"><b>Wrinkle</b></p>	<ul style="list-style-type: none"> <li>■ Check the paper type and quality (see <i>Acceptable paper and other print media</i> on page 2).</li> <li>■ Make sure that the back cover is closed correctly.</li> <li>■ Make sure that the two gray levers inside the back cover are in the up positions.</li> <li>■ Make sure that the media type setting in the driver matches the type of paper you are using (see <i>Acceptable paper and other print media</i> on page 2).</li> </ul>

Examples of poor print quality	Recommendation
 <p data-bbox="308 577 389 619"><b>Ghost</b></p>	<ul style="list-style-type: none"> <li data-bbox="576 283 1502 388">■ Check the machine's environment. Conditions such as low humidity and low temperatures may cause this print quality problem. (See Product Safety Guide: <i>Choosing a location.</i>)</li> <li data-bbox="576 388 1502 472">■ Make sure that the media type setting in the driver matches the type of paper you are using (see <i>Acceptable paper and other print media</i> on page 2).</li> <li data-bbox="576 472 1502 556">■ Make sure you lift up the two gray levers inside the back cover until they stop in the up position (1).</li> </ul> <div data-bbox="763 556 1315 1134" style="text-align: center;">  </div> <ul style="list-style-type: none"> <li data-bbox="576 1144 1502 1228">■ Identify the color causing the problem and put in a new drum unit (see <i>Replacing the drum units</i> on page 121).</li> </ul> <p data-bbox="609 1228 1502 1291">To identify the color of the drum unit, visit us at <a href="http://solutions.brother.com/">http://solutions.brother.com/</a> to view our FAQs and troubleshooting tips.</p>

Examples of poor print quality	Recommendation
 <p data-bbox="277 596 418 625"><b>Poor fixing</b></p>	<ul style="list-style-type: none"> <li>■ Make sure you lift up the two gray levers inside the back cover until they stop in the up position (1).</li> </ul>  <ul style="list-style-type: none"> <li>■ Make sure that the media type setting in the driver matches the type of paper you are using (see <i>Acceptable paper and other print media</i> on page 2).</li> <li>■ Choose <b>Improve Toner Fixing</b> mode in the printer driver. (For Windows, see <i>Other Print Options</i> on page 41.) (For Macintosh, see <i>Print Settings</i> on page 67.) If this selection does not provide enough improvement, change the printer driver setting in <b>Media Type</b> to a thick setting. If you are printing an envelope, choose <b>Env. Thick</b> in the media type setting.</li> </ul>
 <p data-bbox="251 1577 444 1606"><b>Curled or wavy</b></p>	<ul style="list-style-type: none"> <li>■ Choose <b>Reduce Paper Curl</b> mode in the printer driver. (For Windows, see <i>Other Print Options</i> on page 41.) (For Macintosh, see <i>Print Settings</i> on page 67.) If the problem is not solved, choose <b>Plain Paper</b> in the media type setting. If you are printing an envelope, choose <b>Env. Thin</b> in the media type setting.</li> <li>■ If you do not use the machine often, the paper may have been in the paper tray too long. Turn over the stack of paper in the paper tray. Also, fan the paper stack and then rotate the paper 180° in the paper tray.</li> <li>■ Store the paper where it will not be exposed to high temperatures and high humidity.</li> <li>■ Open the back cover (face-up output tray) to let the printed pages exit onto the face-up output tray.</li> </ul>

Examples of poor print quality	Recommendation
 <p data-bbox="233 653 464 684"><b>Envelope Creases</b></p>	<ul style="list-style-type: none"> <li>■ Make sure that the envelope levers inside the back cover are pulled down to the envelope position when you print envelopes.</li> </ul> <p data-bbox="610 369 1260 401">See <i>Loading paper in the Manual feed slot</i> on page 12.</p> <p><b>NOTE</b></p> <p>When you have finished printing, open the back cover and reset the two gray levers back to their original positions (1) by lifting them up until they stop.</p> 

## Machine Information

### Checking the Serial Number

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You can see the machine's Serial Number on the LCD.

- 1 Press ▲ or ▼ to choose `Machine Info..` Press **OK**.
- 2 Press ▲ or ▼ to choose `Serial No..` Press **OK**.

### Default settings

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The machine has three levels of default settings; the default settings have been set at the factory before shipment (see *Menu table* on page 84).

- Network
- Factory Reset
- Settings Reset

#### NOTE

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- You cannot modify the preset default settings.
  - Page counters can never be changed.
- 

### Network default settings

To reset only the print server back to its default settings (by resetting all network information such as the password and IP address), follow these steps:

- 1 Press ▲ or ▼ to choose `Reset Menu`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Network`. Press **OK**.
- 3 Press ▲ to choose `Yes`. The machine will restart automatically.

### Factory Reset

You can partially reset the machine partially back to its factory printer settings. The settings that will not be reset are the `Interface`, `Local Language`, `Reprint`, `Setting Lock`, `Secure Function Lock 2.0` and the `Network settings`:

- 1 Press ▲ or ▼ to choose `Reset Menu`. Press **OK**.
- 2 Press ▲ or ▼ to choose `Factory Reset`. Press **OK**.
- 3 Press ▲ to choose `Reset`.

## Settings Reset

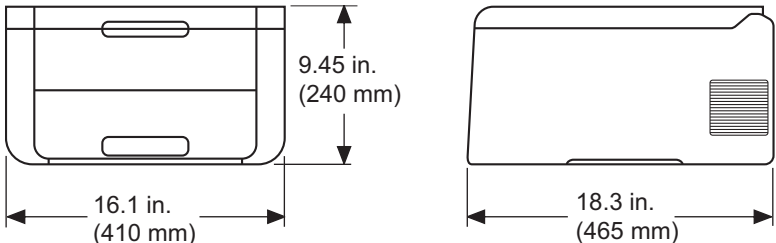
This operation will reset all the machine's settings back to the settings that were set at the factory:

- 1 Disconnect the network cable from the machine; otherwise the network settings (such as IP address) will not be reset.
- 2 Press ▲ or ▼ to choose `Reset Menu`. Press **OK**.
- 3 Press ▲ and **Cancel** at the same time. Press **OK** after `Settings Reset` appears.
- 4 Press **OK** after `Restart Printer?` appears.
- 5 The machine will restart automatically.



## Machine specifications

### General

Model		HL-3140CW	HL-3150CDN	HL-3170CDW
Printer Type		LED		
Print Method		Electrophotographic LED Printer (single-pass)		
Memory Capacity	Standard	64 MB		128 MB
LCD (liquid crystal display)		16 characters × 1 line		
Power Source		110 - 120 V AC 50/60 Hz	-	110 - 120 V AC 50/60 Hz
		-	220 - 240 V AC 50/60 Hz <sup>1</sup>	
Power Consumption <sup>2 3</sup> (Average)	Peak	Approx. 1152 W	-	Approx. 1152 W
	Printing	Approx. 365 W at 77 °F (25 °C)	-	Approx. 410 W at 77 °F (25 °C)
	Ready	Approx. 65 W at 77 °F (25 °C)	-	Approx. 70 W at 77 °F (25 °C)
	Sleep	Approx. 7 W	-	Approx. 7 W
	Deep Sleep	Approx. 0.61 W	-	Approx. 0.61 W
	Power Off <sup>4 5</sup>	Approx. 0.03 W	-	Approx. 0.03 W
Dimensions				
Weights (with consumables)		37.5 lb (17.0 kg)	39.0 lb (17.7 kg)	

<sup>1</sup> Not available in USA and Canada.

<sup>2</sup> USB connections to PC

<sup>3</sup> For models sold in the USA and Canada.

<sup>4</sup> Measured according to IEC 62301 Edition 2.0.

<sup>5</sup> Power consumption varies slightly depending on the usage environment or part wear.

Model			HL-3140CW	HL-3150CDN	HL-3170CDW
Noise Level	Sound Pressure	Printing	LPAm = 53.0 dB (A)		
		Ready	LPAm = 33.0 dB (A)		
	Sound Power <sup>1</sup>	Printing	(Color) LWAd = 6.31 B (A)	(Color) LWAd = 6.43 B (A)	
			(Mono) LWAd = 6.30 B (A)	(Mono) LWAd = 6.42 B (A)	
	Ready	LWAd = 4.15 B (A)	LWAd = 4.53 B (A)		
Temperature		Operating	50 °F to 90.5 °F (10 to 32.5 °C)		
		Storage	32 °F to 104 °F (0 to 40 °C)		
Humidity		Operating	20 to 80% (without condensation)		
		Storage	10 to 90% (without condensation)		

<sup>1</sup> Measured in accordance with the method described in RAL-UZ122.

## Print media

Model		HL-3140CW	HL-3150CDN	HL-3170CDW
<b>Paper Input</b> <sup>1</sup>	Paper Tray (Standard)	Paper Type	Plain Paper, Thin Paper, Recycled Paper	
		Paper Size	Letter, A4, B5 (JIS), A5, A5 (Long Edge), A6, Executive, Legal, Folio	
		Paper Weight	16 to 28 lb (60 to 105 g/m <sup>2</sup> )	
		Maximum Paper Capacity	Up to 250 sheets of 20 lb (80 g/m <sup>2</sup> ) Plain paper	
	Manual feed slot	Paper Type	Plain Paper, Thin Paper, Thick Paper, Thicker Paper, Recycled Paper, Bond Paper, Label, Envelope, Env.Thin, Env.Thick, Glossy Paper	
		Paper Size	Width: 3.0 to 8.5 in (76.2 to 216 mm) Length: 4.57 to 14 in (116 to 355.6 mm)	
Paper Weight		16 to 43 lb (60 to 163 g/m <sup>2</sup> )		
<b>Paper Output</b> <sup>1</sup>	Face-Down Output Tray	Up to 100 sheets of 20 lb (80 g/m <sup>2</sup> ) Plain paper (face-down delivery to the face-down output paper tray)		
	Face-Up Output Tray	One sheet (face-up delivery to the face-up output tray)		
<b>2-sided</b>	Automatic 2-sided Printing	Paper Type	-	Plain Paper, Thin Paper, Recycled Paper
		Paper Size	-	Letter, Legal, Folio
		Paper Weight	-	16 to 28 lb (60 to 105 g/m <sup>2</sup> )

<sup>1</sup> For labels, we recommend removing the printed sheets from the output paper tray immediately after they exit the machine to avoid the possibility of smudging.

## Printer

Model			HL-3140CW	HL-3150CDN	HL-3170CDW
<b>Automatic 2-sided Print</b>			-	Yes	
<b>Emulation</b>			GDI		PCL6, BR-Script3 (PostScript® 3™)
<b>Resolution</b>			600 × 600 dpi 2400dpi (600 × 2400) quality		
<b>Print Speed</b> <sup>1 2</sup>	Single side print	Monochrome	Up to 19 ppm (Letter size) Up to 18 ppm (A4 size)		Up to 23 ppm (Letter size) Up to 22ppm (A4 size)
		Full color	Up to 19 ppm (Letter size) Up to 18 ppm (A4 size)		Up to 23 ppm (Letter size) Up to 22ppm (A4 size)
	2-sided Print	Monochrome	-	Up to 7 sides per minute (3.5 sheets per minute) (Letter or A4 size)	
		Full color	-	Up to 7 sides per minute (3.5 sheets per minute) (Letter or A4 size)	
<b>First Print Time</b> <sup>3</sup>			(Color) Less than 16 seconds at 73.4 °F (23 °C) / 115 V or 230 V (Mono) Less than 16 seconds at 73.4 °F (23 °C) / 115 V or 230 V		

<sup>1</sup> The print speed may change depending on the type of document you print.

<sup>2</sup> Print speed may be slower when the machine is connected by wireless LAN.

<sup>3</sup> From Ready mode and standard tray

## Interface

Model	HL-3140CW	HL-3150CDN	HL-3170CDW
<b>USB</b>	Hi-Speed USB 2.0 <sup>1 2</sup> We recommend using a USB 2.0 cable (Type A/B) that is no more than 6 feet (2 meters) long.		
<b>Ethernet</b> <sup>3</sup>	-	10BASE-T / 100BASE-TX Use a straight-through Category 5 (or greater) twisted-pair cable.	
<b>Wireless LAN</b> <sup>3</sup>	IEEE 802.11b/g/n (Infrastructure Mode/ Ad-hoc Mode)  IEEE 802.11g/n (Wi-Fi Direct)	-	IEEE 802.11b/g/n (Infrastructure Mode/ Ad-hoc Mode)  IEEE 802.11g/n (Wi-Fi Direct)

<sup>1</sup> Your machine has a Hi-Speed USB 2.0 interface. The machine can also be connected to a computer that has a USB 1.1 interface.

<sup>2</sup> Third party USB ports are not supported.

<sup>3</sup> For detailed network specifications, see *Network (LAN)* on page 192 and see Network User's Guide

## Network (LAN)

Model		HL-3140CW	HL-3150CDN	HL-3170CDW
<b>LAN</b>		You can connect your machine to a network for Network Printing. Also included is Brother BRAdmin Light <sup>1 2</sup> Network Management software.		
<b>Protocols</b>	IPv4	ARP, RARP, BOOTP, DHCP, APIPA(Auto IP), WINS/NetBIOS name resolution, DNS Resolver, mDNS, LLMNR responder, LPR/LPD, Custom Raw Port/Port9100, IPP/IPPS, FTP Server, TELNET Server, HTTP/HTTPS server, TFTP client and server, SMTP Client, SNMPv1/v2c/ v3, ICMP, Web Services (Print), CIFS client, SNTIP client		
	IPv6	NDP, RA, DNS resolver, mDNS, LLMNR responder, LPR/LPD, Custom Raw Port/Port9100, IPP/IPPS, FTP Server, TELNET Server, HTTP/HTTPS server, TFTP client and server, SMTP Client, SNMPv1/v2c/v3, ICMPv6, Web Services (Print), CIFS Client, SNTIP Client		
<b>Security Protocols</b>	Wired	-	APOP, POP before SMTP, SMTP-AUTH, SSL/TLS (IPPS, HTTPS, SMTP, POP), SNMP v3 802.1x (EAP-MD5, EAP-FAST, PEAP, EAP-TLS, EAP-TTLS), Kerberos	
	Wireless	APOP, POP before SMTP, SMTP-AUTH, SSL/TLS (IPPS, HTTPS, SMTP, POP), SNMP v3 802.1x (LEAP, EAP-FAST, PEAP, EAP-TLS, EAP-TTLS), Kerberos	-	APOP, POP before SMTP, SMTP-AUTH, SSL/TLS (IPPS, HTTPS, SMTP, POP), SNMP v3 802.1x (LEAP, EAP-FAST, PEAP, EAP-TLS, EAP-TTLS), Kerberos
<b>Wireless Network Security</b>		WEP 64/128 bit, WPA-PSK (TKIP/AES), WPA2-PSK (AES)	-	WEP 64/128 bit, WPA-PSK (TKIP/AES), WPA2-PSK (AES)
<b>Wireless Network Setup Support Utility</b>	<b>AOSS™</b>	Yes	-	Yes
	<b>WPS</b>	Yes	-	Yes

<sup>1</sup> (For Windows® users) Brother BRAdmin Light is available from the CD-ROM provided with the machine.  
(For Macintosh users) Brother BRAdmin Light is available as a download from <http://solutions.brother.com/>.

<sup>2</sup> (For Windows® users) If you require more advanced printer management, use the latest Brother BRAdmin Professional utility version that is available as a download from <http://solutions.brother.com/>.

## Computer requirements

Computer Platform & Operating System Version		PC Interface			Processor	Hard Disk Space to install
		USB <sup>1</sup>	10/100 Base-TX (Ethernet) <sup>2</sup>	Wireless 802.11b/g/n <sup>3</sup>		
<b>Windows® Operating System</b>	Windows® XP Home	Printing			32bit (x86) or 64bit (x64) processor	80 MB
	Windows® XP Professional					
	Windows® XP Professional x64 Edition				64bit (x64) processor	
	Windows Vista®				32bit (x86) or 64bit (x64) processor	
	Windows® 7					
	Windows® 8					
	Windows Server® 2003	Printing			32bit (x86) or 64bit (x64) processor	
	Windows Server® 2003 x64 Edition				64bit (x64) processor	
	Windows Server® 2008				32bit (x86) or 64bit (x64) processor	
	Windows Server® 2008 R2				64bit (x64) processor	
Windows Server® 2012	64bit (x64) processor					
<b>Macintosh Operating System</b>	Mac OS X v10.6.8	Printing			Intel® Processor	80 MB
	OS X v10.7.x					
	OS X v10.8.x					

<sup>1</sup> Third party USB ports are not supported.

<sup>2</sup> HL-3150CDN and HL-3170CDW only

<sup>3</sup> HL-3140CW and HL-3170CDW only

For the latest driver updates, visit <http://solutions.brother.com/>.

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## Important information for choosing your paper

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The information in this section will help you choose paper to use with this machine.

### NOTE

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If you use paper that is not recommended, a paper jam or misfeed may occur in the machine.

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### Before you buy a large quantity of paper

Make sure that the paper is appropriate for the machine.

### Paper for plain paper copies

Paper is divided by usage, such as paper for printing and paper for copying. The usage is usually written on the paper's package. Check the package to see whether it is appropriate for laser printers. Use paper that is appropriate for laser printers.

### Basis weight

The basis weight of the paper in general use varies in different countries. We recommend that you use paper that weighs 20 to 24 lb (75 to 90 g/m<sup>2</sup>), although this machine is able to cope with thinner or thicker paper than these weights.

### Long grain and short grain

The pulp fiber of the paper is aligned during paper manufacturing. And paper can be classified into two types, long grain and short grain.

Long grain paper fibers run in the same direction as the long edge of the paper. Short grain paper fibers run perpendicular to the long edge of the paper. Though most plain paper for copying is long grain, some is short grain. We recommend that you use long grain paper for this machine. Short grain paper is too weak for the paper transport of the machine.

### Acid paper and neutralized paper

Paper can be classified as either acid paper or neutralized paper.

Though modern paper manufacture methods started with acid paper, neutralized paper is recently taking the place of acid paper because of environmental issues.

However, many forms of acid paper can be found in recycled paper. We recommend that you use neutralized paper for this machine.

Use an acid paper check pen to distinguish acid paper from neutral paper.

### Print surface

The characteristics of the face side and reverse side of a sheet of paper may vary a little.

Usually, the opening side of the paper ream package is the print side. Follow the instructions on the paper package. Typically, the print side is indicated by an arrow.



## Consumable Items

Model			HL-3140CW	HL-3150CDN	HL-3170CDW	Order No.
Toner Cartridge	Inbox	Black	Approx. 1,000 pages Letter or A4 page <sup>1</sup>			-
		Cyan, Magenta, Yellow	Approx. 1,000 pages Letter or A4 page <sup>1</sup>			-
	Standard	Black	Approx. 2,500 pages Letter or A4 page <sup>1</sup>			TN-221BK
		Cyan, Magenta, Yellow	Approx. 1,400 pages Letter or A4 page <sup>1</sup>			TN-221C, TN-221M, TN-221Y
	High Yield	Black	-			-
		Cyan, Magenta, Yellow	Approx. 2,200 pages Letter or A4 page <sup>1</sup>			TN-225C, TN-225M, TN-225Y
Drum Unit			Approx. 15,000 pages Letter or A4 pages (1 page / job) <sup>2</sup>			DR-221CL <sup>3</sup> , DR-221CL-BK <sup>4</sup> , DR-221CL-CMY <sup>5</sup>
Belt Unit			Approx. 50,000 pages Letter or A4 pages			BU-220CL
Waste Toner Box			Approx. 50,000 pages Letter or A4 pages			WT-220CL

<sup>1</sup> Approx. cartridge yield is declared in accordance with ISO/IEC 19798.

<sup>2</sup> Drum life is approximate and may vary by type of use.

<sup>3</sup> Contains 4 pc. Drum Set.

<sup>4</sup> Contains 1 pc. Black Drum Unit.

<sup>5</sup> Contains 1 pc. Color Drum Unit.

## Brother numbers

### IMPORTANT

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For technical and operational help, you must call the country where you bought the machine. Calls must be made **from within** that country.

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### Register your product

By registering your product with Brother International Corporation, you will be recorded as the original owner of the product.

Your registration with Brother:

- may serve as a confirmation of the purchase date of your product should you lose your receipt;
- may support an insurance claim by you in the event of product loss covered by insurance; and,
- will help us notify you of enhancements to your product and special offers.

Please complete the Brother Warranty Registration or, for your convenience and most efficient way to register your new product, register on-line at

<http://www.brother.com/registration/>

### FAQs (frequently asked questions)

The Brother Solutions Center is our one-stop resource for all your machine needs. Download the latest software and utilities and read FAQs and troubleshooting tips to learn how to get the most from your Brother product.

<http://solutions.brother.com/>

Check here for Brother driver updates.

## Customer Service

**In USA:**        <http://www.brother-usa.com/support> (Self-Service/Email/Chat)  
1-877-BROTHER (1-877-276-8437)

**In Canada:**    1-877-BROTHER

If you have comments or suggestions, please write us at:

**In USA:**        Printer Customer Support  
Brother International Corporation  
7905 North Brother Boulevard  
Bartlett, TN 38133

**In Canada:**    Brother International Corporation (Canada), Ltd.  
- Marketing Dept.  
1, rue Hotel de Ville Dollard-des-Ormeaux, PQ, Canada H9B 3H6

### Service center locator (USA only)

For the location of a Brother authorized service center, call 1-877-BROTHER (1-877-276-8437), or visit us on-line at <http://www.brother-usa.com/service/>.

### Service center locations (Canada only)

For the location of a Brother authorized service center, call 1-877-BROTHER

#### Internet addresses

Brother Global Web Site: <http://www.brother.com/>

For Frequently Asked Questions (FAQs), Product Support and Technical Questions, and Driver Updates and Utilities: <http://solutions.brother.com/>

For Brother Accessories & Supplies:

**In USA:**        <http://www.brothermall.com/>

**In Canada:**    <http://www.brother.ca/>

## Ordering supplies

For best quality results use only genuine Brother supplies, which are available at most Brother retailers. If you cannot find the supplies you need and you have a Visa, MasterCard, Discover, or American Express credit card, order supplies directly from Brother. (Visit us online for a complete selection of the Brother accessories and supplies that are available for purchase.)

### NOTE

In Canada only Visa and MasterCard are accepted.

**In USA:** 1-877-552-MALL (1-877-552-6255)  
1-800-947-1445 (fax)  
<http://www.brothermall.com/>

**In Canada:** 1-877-BROTHER  
<http://www.brother.ca/>

Description	Item
Toner Cartridge <Black>	TN-221BK (Standard, Approx. 2,500 pages) <sup>1 2</sup>
Toner Cartridge <Cyan>	TN-221C (Standard, Approx. 1,400 pages) <sup>1 2</sup> TN-225C (High Yield, Approx. 2,200 pages) <sup>1 2</sup>
Toner Cartridge <Magenta>	TN-221M (Standard, Approx. 1,400 pages) <sup>1 2</sup> TN-225M (High Yield, Approx. 2,200 pages) <sup>1 2</sup>
Toner Cartridge <Yellow>	TN-221Y (Standard, Approx. 1,400 pages) <sup>1 2</sup> TN-225Y (High Yield, Approx. 2,200 pages) <sup>1 2</sup>
4 pc. Drum Unit	DR-221CL (Approx. 15,000 pages) <sup>1 3 4</sup>
1 pc. Drum Unit <Black>	DR-221CL-BK (Approx. 15,000 pages ea.) <sup>1 3 4</sup>
1 pc. Drum Unit <Color>	DR-221CL-CMY (Approx. 15,000 pages ea.) <sup>1 3 4</sup>
Waste Toner Box	WT-220CL (Approx. 50,000 pages) <sup>1</sup>
Belt Unit	BU-220CL (Approx. 50,000 pages) <sup>1</sup>

<sup>1</sup> Letter or A4 size single-sided pages.

<sup>2</sup> Approx. cartridge yield is declared in accordance with ISO/IEC 19798.

<sup>3</sup> 1 page per job.

<sup>4</sup> Drum life is approximate and may vary by type of use.

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