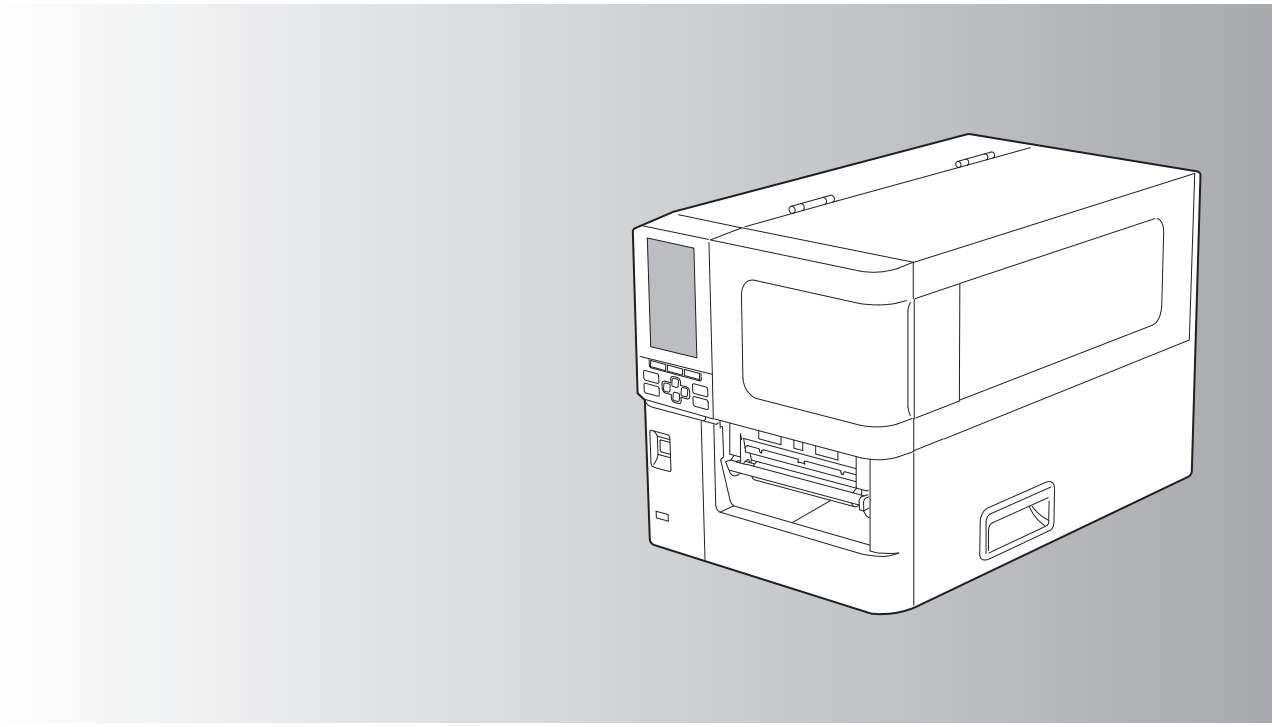
TOSHIBA

BARCODE PRINTERS

Owner's Manual

BX410T-GS02-QM-S/BX410T-GS06-QM-S
BX410T-TS02-QM-S/BX410T-TS06-QM-S



Preface

Thank you for purchasing our product.
To keep the product in its best condition, keep this manual handy and use it whenever necessary.

■ How to read this manual

❑ Symbols in this manual

In this manual, some important items are described with the symbols shown below. Be sure to read these items before using this equipment.

⚠ WARNING	Indicates a potentially hazardous situation which, if not avoided, could result in death, serious injury, or serious damage, or fire in the equipment or surrounding objects.
⚠ CAUTION	Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury, partial damage to the equipment or surrounding objects, or loss of data.
Note	Indicates information to which you should pay attention when operating the equipment.
Tip	Describes handy information that is useful to know when operating the equipment.
🕮	References describing items related to what you are currently doing. See these references as required.

❑ Target audience for this manual

This is a manual that is aimed at general users and administrators.

❑ Important notices about this manual

- This product is designed for commercial usage and is not consumer product.
- When using the product (including software), be sure to follow the instructions in this manual.
- This manual cannot be reproduced, duplicated, or reprinted in any form without prior written permission of Toshiba Tec Corporation.
- The contents of this manual may be changed without notification. Contact your authorized Toshiba Tec Corporation representative for the latest version of the manual. Refer to your local authorized service representative with regard to any queries you may have in this manual.

❑ Disclaimer Notice

The following notice sets out the exclusions and limitations of liability of Toshiba Tec Corporation (including its employees, agents and sub-contractors) to any purchaser or user ('User') of this printer including its accessories, options and bundled software ('Product').

1. The exclusion and limitations of liability referred to in this notice shall be effective to the fullest extent permissible at law. For the avoidance of doubt, nothing in this notice shall be taken to exclude or limit Toshiba Tec Corporation's liability for death or personal injury caused by Toshiba Tec Corporation's negligence or Toshiba Tec Corporation's fraudulent misrepresentation.
2. All warranties, conditions and other terms implied by law are, to the fullest extent permitted by law, excluded and no such implied warranties are given or apply in relation to the Products.
3. Toshiba Tec Corporation shall not be liable for any loss, cost, expense, claim or damage whatsoever caused by any of the following:
   (a) use or handling of the Product otherwise than in accordance with the manuals, including but not limited to Operator's Manual, User's Guide, and/or incorrect or careless handling or use of the Product;
   (b) any cause which prevents the Product from operating or functioning correctly which arises from or is attributable to either acts, omissions, events or accidents beyond the reasonable control of Toshiba Tec Corporation including without limitation acts of God, war, riot, civil commotion, malicious or deliberate damage, fire, flood, or storm, natural calamity, earthquakes, abnormal voltage or other disasters;
   (c) additions, modifications, disassembly, transportation, or repairs by any person other than service technicians authorized by Toshiba Tec Corporation; or
   (d) use of paper, supplies or parts other than those recommended by Toshiba Tec Corporation.

4. Subject to paragraph 1, Toshiba Tec Corporation shall not be liable to Customer for:
(a) loss of profits; loss of sales or turnover; loss of or damage to reputation; loss of production; loss of anticipated savings; loss of goodwill or business opportunities; loss of customers; loss of, or loss of use of, any software or data; loss under or in relation to any contract; or
(b) any special, incidental, consequential or indirect loss or damage, costs, expenses, financial loss or claims for consequential compensation;

whatsoever and howsoever caused which arise out of or in connection with the Product or the use or handling of the Product even if Toshiba Tec Corporation is advised of the possibility of such damages.

Toshiba Tec Corporation shall not be liable for any loss, cost, expense, claim or damage caused by any inability to use (including, but not limited to failure, malfunction, hang-up, virus infection or other problems) which arises from use of the Product with hardware, goods or software which Toshiba Tec Corporation has not directly or indirectly supplied.

❑ Screens and description of operation procedures

The screen display may differ depending on your model and operating environment, such as installed options, OS version, and application software.

❑ Trademarks

- Microsoft, Windows, Windows NT, and the brand names and product names of other Microsoft products are trademarks of Microsoft Corporation in the US and other countries.
- Bluetooth® is a registered trademark owned by Bluetooth SIG, Inc.
- Android is a trademark of Google LLC.
- iPad and iPhone are trademarks of Apple Inc.
- IOS is a trademark or registered trademark of Cisco in the U.S. and other countries and is used under license.
- Other company names and product names in this manual are the trademarks of their respective companies.

❑ Official Names of Windows Operating System

- The official name of Windows® 10 is Microsoft Windows 10 Operating System.
- The official name of Windows® 11 is Microsoft Windows 11 Operating System.
- The official name of Windows Server® 2016 is Microsoft Windows Server 2016 Operating System.
- The official name of Windows Server® 2019 is Microsoft Windows Server 2019 Operating System.
- The official name of Windows Server® 2022 is Microsoft Windows Server 2022 Operating System.

❑ Importers/Manufacturer

Importer (For EU, EFTA)
Toshiba Tec Germany Imaging Systems GmbH
Carl-Schurz-Str. 7, 41460 Neuss, Germany

Importer (For UK)
Toshiba Tec U.K. Imaging Systems Ltd
Abbey Cloisters, Abbey Green, Chertsey, Surrey, KT16 8RB, United Kingdom

Importer (For Turkiye)
Boer Bilisim San. Tic. AS.
Yukari Dudullu, Tavukcuyolu Cad. Demirturk Sok No: 8A 34775,
Umraniye - Istanbul, Turkiye

Manufacturer
Toshiba Tec Corporation
1-11-1, Osaki, Shinagawa-ku, Tokyo, 141-8562, Japan

Precautions for the handling of Wireless Communication Devices

The following precautions are specific to wireless function. See “Safety Information” for general product precautions and regulatory information.

This product is classified as “wireless equipment for stations of low-power data transmissions systems” under the Wireless Telegraphy Act, and does not require a radio transmission license. The law prohibits modification of the interior of this product.

■ Regulatory Information

This product must be installed and used in strict accordance with the manufacturer’s instructions as described in the user documentation that comes with the product. This product complies with the following radio frequency and safety standards.
Standards below are certified under the operation with the provided antenna. Do not use this product with other antennas.

❑ Europe – EU Declaration of Conformity

Hereby, Toshiba Tec Corporation, declares that the BX410T series are in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

❑ USA – Federal Communications Commission (FCC)

NOTE:
This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operations of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

CAUTION:
This device complies with Part 15 of the FCC Rules.
Operation is subject to the following two conditions:
(1) this device may not cause harmful interference, and
(2) this device must accept any interference received, including interference that may cause undesired operation.
Any changes or modifications not expressly approved by the grantee of this device could void the user’s authority to operate the equipment.

RF EXPOSURE WARNING:
This equipment must be installed and operated in accordance with provided instructions and the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter. End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

❑ Canada – Innovation, Science and Economic Development Canada (ISED)

This device complies with ISED’S licence-exempt RSS standard(s).
Operation is subject to the following two conditions:
(1) this device may not cause interference, and
(2) this device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'ISDE applicables aux appareils radio exempts de licence.
L'exploitation est autorisée aux deux conditions suivantes :
(1) cet appareil ne doit pas causer d’interférence et
(2) cet appareil doit accepter toute interférence, notamment les interférences qui peuvent affecter son fonctionnement.

Radio Frequency (RF) Exposure Information

The radiated output power of the Wireless Device is below the Innovation, Science and Economic Development Canada (ISED) radio frequency exposure limits. The Wireless Device should be used in such a manner such that the potential for human contact during normal operation is minimized.

This device has also been evaluated and shown compliant with the ISED RF Exposure limits under mobile exposure conditions (antennas are greater than 20 cm from a person's body).

Informations concernant l'exposition aux fréquences radio (RF)

La puissance de sortie émise par l'appareil de sans fil est inférieure à la limite d'exposition aux fréquences radio Innovation, Sciences et Développement économique Canada (ISDE). Utilisez l'appareil de sans fil de façon à minimiser les contacts humains lors du fonctionnement normal.

Ce périphérique a également été évalué et démontré conforme aux limites d'exposition aux RF d'ISDE dans des conditions d'exposition à des appareils mobiles (antennes sont supérieures à 20 cm à partir du corps d'une personne).

■ Approved Countries/Regions for Use for the Devices

This equipment is approved to the radio standard by the specific countries/regions. Please ask Toshiba Tec authorized dealers or service technicians.

■ Precaution for Use

This product communicates with other devices by radio. Depending on the installation location, orientation, environment, etc., its communication performance may deteriorate or devices installed near by may be affected.

Bluetooth® and Wireless LAN devices operate within the same radio frequency range and may interfere with one another. If you use Bluetooth® and Wireless LAN devices simultaneously, you may occasionally experience a less than optimal network performance or even lose your network connection.

If you should experience any such problem, immediately turn off your Bluetooth® or Wireless LAN device.

Keep away from a microwave. Communication performance may deteriorate or a communication error may occur due to the radio emitted from a microwave.

Do not use the product on a metal table or near a metal object. Communication performance may be deteriorated.

* Bluetooth® is a registered trademark owned by Bluetooth SIG, Inc.

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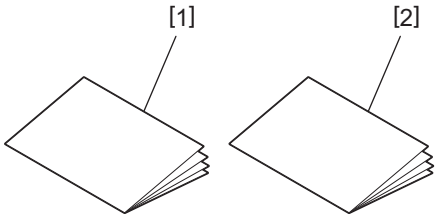
Chapter 5 Appendix

1

Product Overview

Accessories

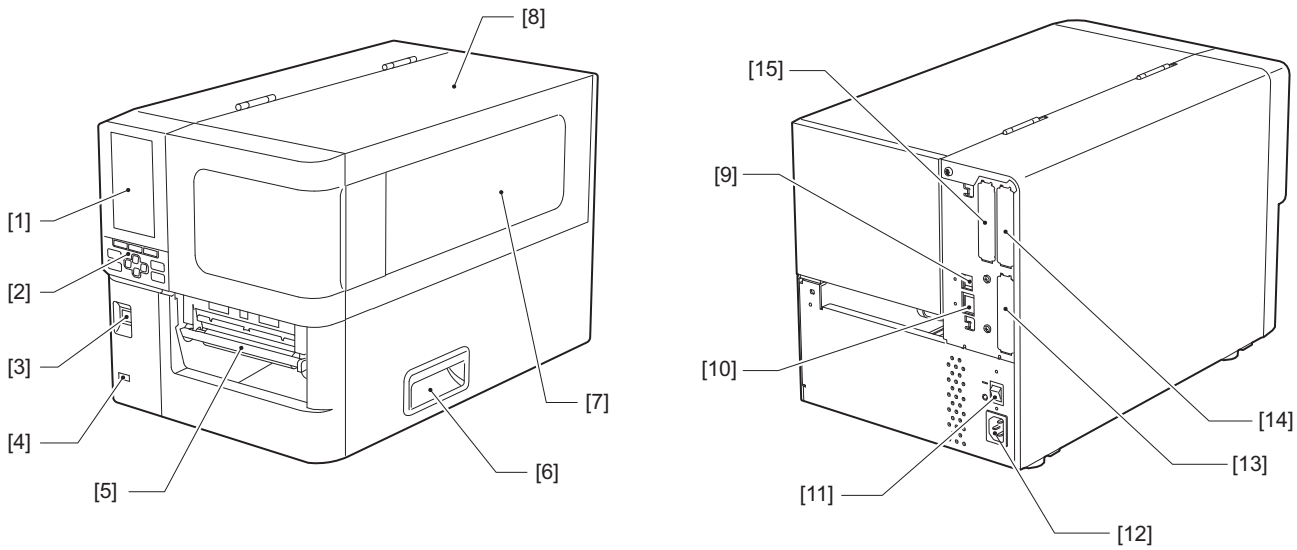
Confirm whether all the accessories are present.
If anything is missing, contact your service representative.



No.	Name of part
1	Safety Information (multi-language)
2	Quick Setup Guide (1 set)

Names and functions of parts

■ Exterior view



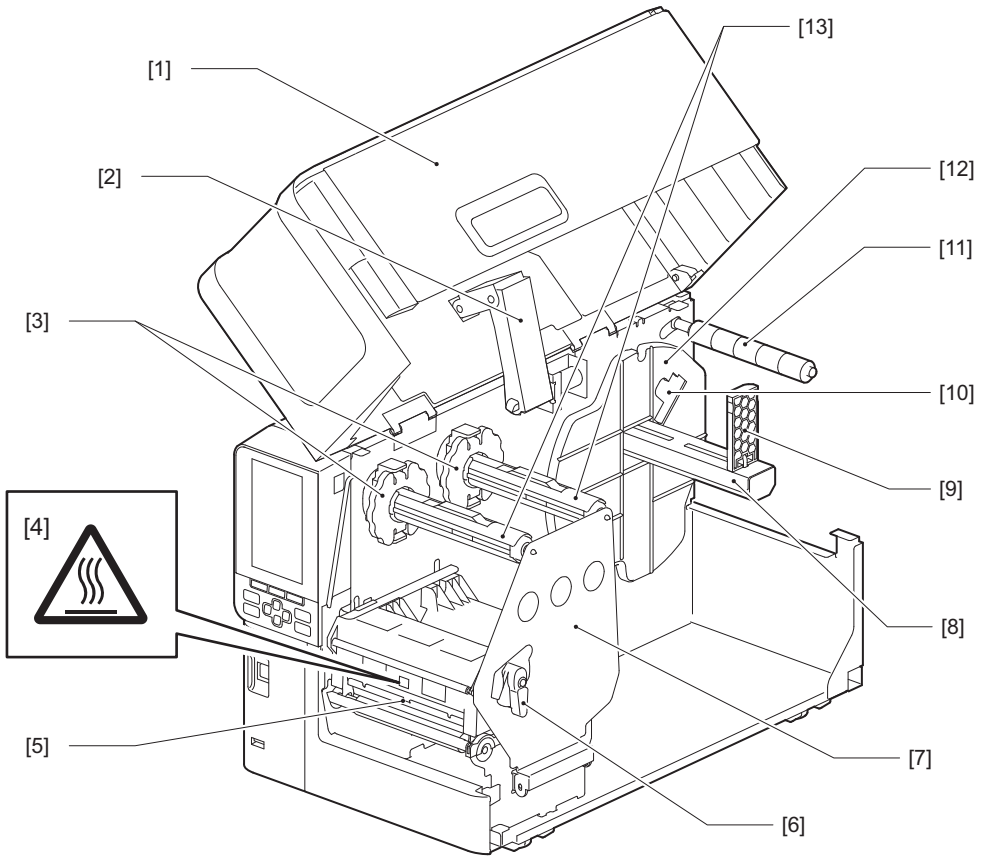
No.	Name of part
1	Color LCD Displays the setting screen of each function and the status of the printer.
2	Operation panel There are two types of lamps that indicate the status of the printer and 11 buttons that operate the printer. 📖 P.14 “Operation panel”
3	POWER button Press to turn on/off the power of the printer.
4	USB host Connects a USB memory, scanner, keyboard, etc.
5	Media outlet The printed media comes from this outlet.
6	Handle Hook your fingers when opening and closing the top cover.
7	Remaining media confirmation window You can check the remaining amount of media and ribbon from this window.
8	Top cover Open this cover to replace the media or ribbon, or to clean the inside.
9	USB port Connects a USB cable. 📖 P.23 “Connecting to a computer”
10	LAN port Connects a LAN cable. 📖 P.23 “Connecting to a computer”
11	Main power switch Turn on/off the main power of the printer. ー: ON ○: OFF

No.	Name of part
12	AC power inlet Connects the power cable. 📖 P.21 “Connecting the power cable”
13	Extended I/O port (optional) Connects peripherals. For peripheral devices connected to the extended I/O port, use devices that comply with specifications and relevant laws and regulations. Note that Toshiba Tec does not manufacture any devices for connection to the extended I/O port.
14	Serial interface port (option) Connects RS-232C compliant communication cable. (D-Sub 9-pin connector inch-screw type)
15	Wireless LAN port (optional) Connects the wireless communication module. The serial interface port cannot be used when using wireless LAN.

■ Printing mechanism

⚠ CAUTION

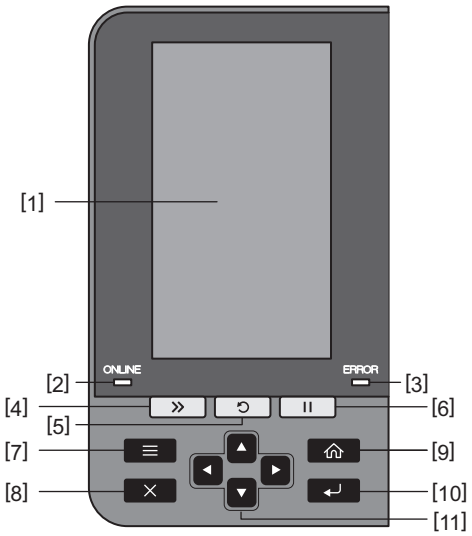
Do not touch the sharp cutter blade.
This could cause injury.



No.	Name of part
1	Top cover
2	Cover damper

No.	Name of part
3	Ribbon stopper Adjusts the position of the stoppers to match the width of the ribbon to be used.
4	High-temperature warning label Be careful of high temperatures.
5	Print head block This unit prints on media. Beneath the print head block are temperature sensor, reflective sensor, transmissive sensor, and ribbon end sensors.
6	Head lever Opens and closes the print head block and switches the pressure applied to the media.
7	Ribbon shaft fixing plate
8	Supply shaft Mount the media.
9	Roll media holder Slides this to fit the width of the media to secure the media.
10	Media near-end sensor adjustment switch Adjusts the detection level of the sensor to detect the remaining amount of media. 📖 P.51 “Adjusting the media near-end sensor”
11	Media guide shaft
12	Supply holder Secures the media in conjunction with the roll media holder.
13	Ribbon shafts Installs a ribbon.

■ Operation panel



No.	Name of part
1	Color LCD (272 x 480 dots) Displays the status of the printer and the setting screen of each function.
2	ONLINE lamp (blue) The status of the printer is informed as follows. • On: The printer is ready to communicate with the computer. • Fast flashing: The printer is currently communicating with the computer. • Slow flashing: The printer is in the power-saving mode.
3	ERROR lamp (orange) The status of the printer is informed as follows. • On: An error has occurred. • Flashing: Ribbon end detected.
4	[FEED] button Press this button to advance the media by one sheet or to adjust the media to the designated position. Note After replacing the media or ribbon, press and hold down the [FEED] button to feed the media by about 10 to 20 cm (3.94" to 7.87") to confirm that the media can be fed correctly. If any print wrinkles occur, press [FEED] button a few more times.
5	[RESTART] button • Press this button to restart printing after a pause or to clear an error and reissue the print job if an error occurs. • Press this button to revert to the initial power-on state. This action will reset any data and settings that were being processed. • Holding this button down for more than 3 seconds while in pause state will switch to user mode.
6	[PAUSE] button • Press this button to pause printing. • Press this button to confirm menu selections or adjust settings. • Holding this button down for more than 3 seconds while in pause state will switch to threshold mode.

No.	Name of part
7	[MODE] button • Press this button to display the menu screen. • Holding this button down for more than 3 seconds in online mode will switch to user mode.
8	[CANCEL] button • Press this button to clear the current print job. • Press this button to cancel any ongoing setting changes.
9	[HOME] button Press this button to return to online mode.
10	[ENTER] button Press this button to confirm your menu selection or any setting changes.
11	[Up arrow] button/[Down arrow] button Moves the cursor up and down. These buttons are also used to increase or decrease the settings. When you hold down these buttons, the settings will continue to increase (or decrease).
	[Left arrow] button/[Right arrow] button Moves the cursor to the left or right.

■ Compatible USB memories

You can save receive buffer contents and operation log information to a USB memory.
For details, refer to “Key Operation Specification”.

Use a USB memory that meets the following conditions:

- Integrated device with flash memory (directly connects to the USB port)
- Capacity of 1 GB or more (2 GB or more recommended)
- Compliant with the following standards set by the USB-IF (USB Implementers Forum):
  - Class value: 8 (08h) (USB Mass Storage Class)
  - SubClass value: 6 (06h) (SCSI Transparent Command Set)
  - Protocol value: 80 (50h) (Bulk-Only Transport)
- Compliant with USB 2.0
  If using a USB memory compliant with USB 3.0, it will operate at USB 2.0 speed (High Speed, 480 Mbps)
- USB format type must be FAT32 or exFAT
  If saving files larger than 2 GB, use a USB memory formatted with exFAT.

Tip

You can use a USB memory by inserting it immediately before an operation. It does not need to be inserted in advance.

USB memories whose operation has been confirmed on the printer

Manufacturer	Product name	Capacity
Silicon Power	ULTIMA-U02	32 GB, 128 GB
BUFFALO	RUF3-C	16 GB, 32 GB
	RUF3-K32GA	32 GB
ELECOM	MF-MSU3A04GBK	4 GB
KIOXIA	TransMemory U301	16 GB
SONY	USM128GU	128 GB
GREEN HOUSE	GH-UF3LA512G-WH	512 GB
Kingston	DataTraveler	8 GB

2

Printer Setup

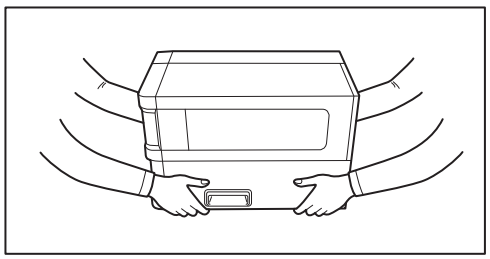
Preparing to use the printer

This section explains how to set up the printer, connect a computer, and connect the power cable.

■ Setup locations

⚠ CAUTION

Always ensure that at least two people are involved when relocating the printer.
Attempting to relocate this printer alone can lead to injury.
When relocating this printer, grasp it at the indicated area shown below.

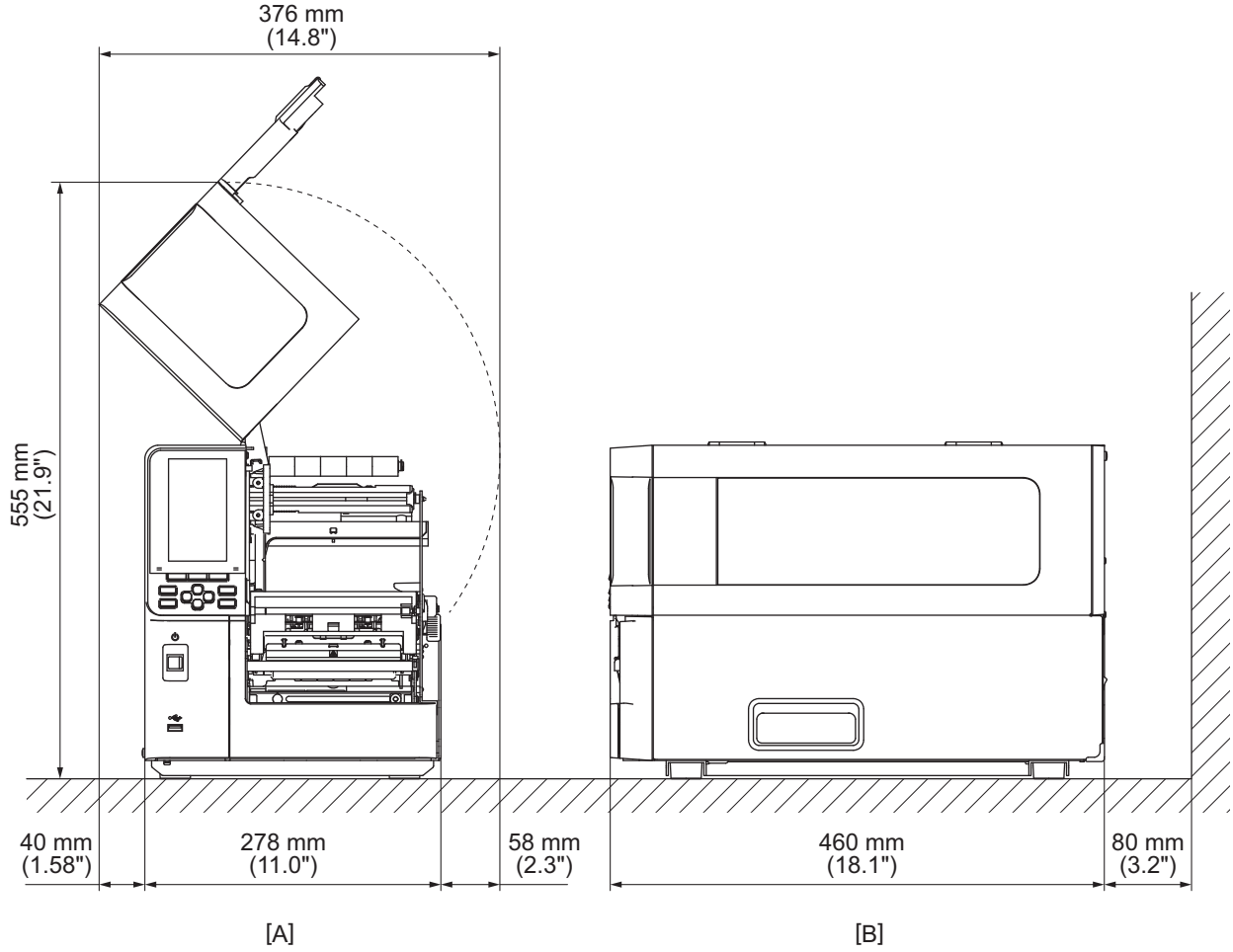


When relocating this printer, do not hold it by the optional modules.
Doing so could lead to the printer becoming detached and falling, potentially causing injury.
(When installing optional cutter module, peel-off module, etc.)

Do not set up in the following locations.
It may cause fire, electric shock, malfunction, damage, or deformation.

- Locations with temperatures outside the specified range
- Locations exposed to direct sunlight
- Near a window
- High humidity locations
- Locations exposed to direct cold air
- Locations subject to vibrations
- Locations with a lot of steam or dust
- Locations exposed to oil smoke, steam, or heat
- Near cooking appliances, humidifiers, or heating devices
- Near devices that use microwaves, such as microwave ovens
- Near devices that generate magnetic fields or electromagnetic waves
- Near the sea

Set up the printer in a location that is flat and level, with good ventilation, and enough space to do operations. Also, provide open space around the printer as shown in the illustrations below.



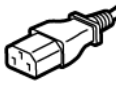
[A]: Front side
[B]: Right side

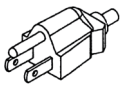
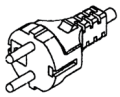
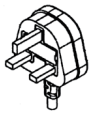
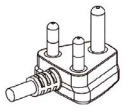
■ When purchasing the power cable

In some countries/regions, the power cable is not provided with this printer. In this case, use a power cable approved for your country/region.

Power cable instructions

1. For use with 100 – 125 Vac mains power supply, select a power cable rated Min. 125 V, 10 A.
2. For use with 200 – 240 Vac mains power supply, select a power cable rated Min. 250 V.
3. Select a power cable with the length of 2 m or less.
4. The power cable plug connected to the AC adapter must be able to be inserted into an ICE-320-C14 inlet. Refer to the following figure for the shape.



Country/Region	North America	Europe	United Kingdom	Australia	South Africa
Power cable					
Rated (Min.)	125 V, 10 A	250 V	250 V	250 V	250 V
Type	SVT	H05VV-F	H05VV-F	AS3191 approved, Light or Ordinary Duty type	H05VV
Conductor size (Min.)	No. 3/18AWG	3 x 0.75 mm^2	3 x 0.75 mm^2	3 x 0.75 mm^2	3 x 0.75 mm^2
Plug configuration (locally approved type)					
Rated (Min.)	125 V, 10 A	250 V, 10 A	250 V *1	250 V *1	250 V *1

*1 At least, 125% of the rated current of the product

■ Connecting the power cable

Use the following procedure to connect the provided power cable to an electric outlet.
The power plug has a ground wire, so be sure to connect it to a ground terminal also.

⚠ WARNING

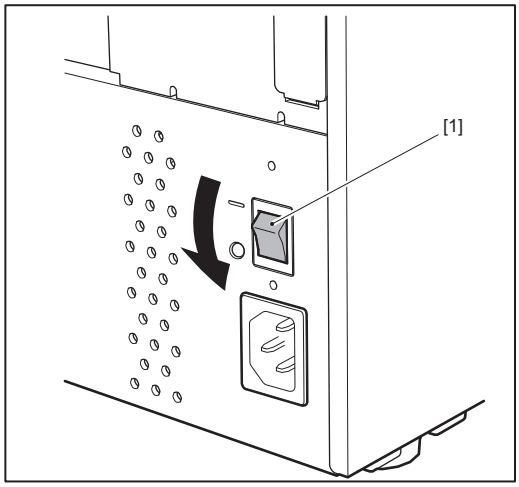
- **Use only the AC voltage specified on the rating plate.**
  Otherwise, it may cause fire or electric shock.
- **The socket outlet shall be near the equipment and be easily accessible.**
- **Be sure to use the power cable* supplied with this printer.**
  Use of a power cable other than the supplied one may result in a fire. Also, do not use the supplied power cable for equipment other than this printer.
  * In some countries/regions, the power cable is not provided with this printer. In this case, use a power cable approved for your country/region.
- **Do not use extension cords or connect multiple wires to a single outlet.**
  There is a risk of fire and electric shock from exceeding the capacity of the power source.
- **Do not excessively bend, damage, pull on, place heavy objects on, or heat the power cable.**
  There is a risk of fire and electric shock from damaging the power cable. If the power cable should ever be damaged, ask for a replacement at your service representative.
- **Be sure to connect the ground wire to the ground terminal.**
  There is a risk of fire and electric shock if current leaks occur. However, do not connect it to a gas pipe, water pipe, faucet, or lightning rod, etc., which could cause an accident or malfunction.
- **Do not plug or unplug the power plug with wet hands.**
  There is a risk of fire and electric shock from plugging or unplugging the power plug with wet hands.

⚠ CAUTION

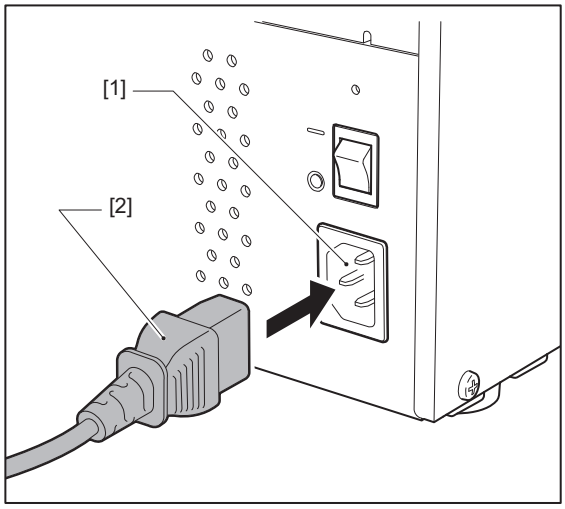
- **Ensure the printer's power switch is off before connecting the power cable.**
  Connecting while the power is on may cause electric shock or short circuit.
- **Insert the power plug fully and securely into the electric outlet.**
  There is a risk of fire and electric shock from not plugging the power plug in securely.
- **Always hold the plug when unplugging the power plug.**
  There is a risk of fire and electric shock from pulling on the power cable which can break or expose the core wires.
- **Unplug the power plug at least once a year and clean the blades of the plug and the area around the blades.**
  There is a risk of fire from the collected dust.
- **When unplugging the power cable, make sure that the main power is turned off.**
  There is a risk of malfunction from unplugging the power cable while the power is on.

1 **Confirm that the main power switch [1] of the printer is turned off.**

○ side is off.



2 **Connect the power cable [2] to the AC power inlet [1] on the rear panel.**

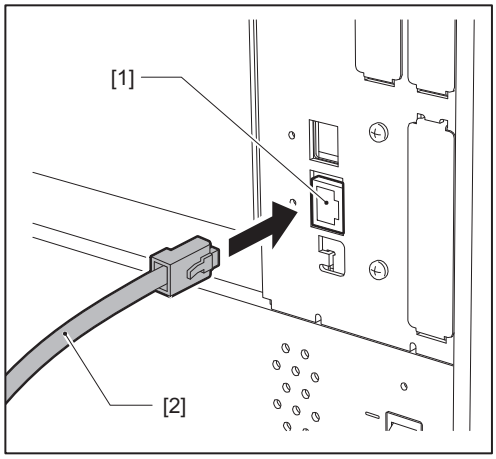


■ Connecting to a computer

Use the following procedure to connect to a computer.
Which communications cable to use depends on the means of communicating with the computer.
For details, consult with your service representative.

❑ Connecting with a LAN cable

1 Connect the connector of the LAN cable [2] to the LAN port [1] on the back of the printer.



Tip

You do not need to turn off the power to the printer or the computer.

2 Connect the connector on the other end of the LAN cable to the LAN port on the computer.
Refer to the owner's manual for the computer being used regarding how to connect to the computer.

Note

- Use a LAN cable that is compliant with standards.
  - 10BASE-T standard: Category 3 or higher
  - 100BASE-TX standard: Category 5 or higher
  - 1000BASE-T standard: Category 5e or higher
  - Cable length: Up to 100 m (328.1 ft) maximum segment length
- Communication errors may occur depending on the connected LAN environment and the noise environment. In this case, you may need shielded cables (STP) and matching of the connected devices.
- It is recommended to change the default SNMP community name.

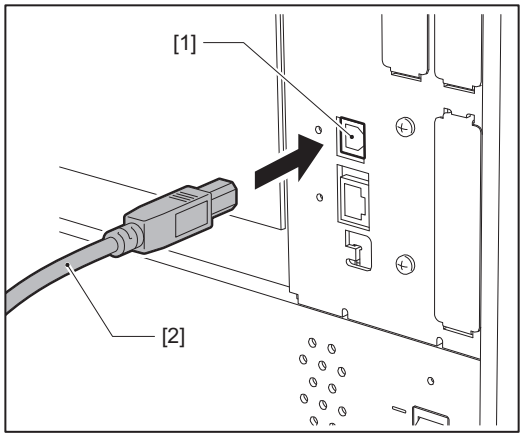
❑ Connecting with a USB cable

1 Turn on the computer and start up the Windows system.

2 Turn on the main power switch on the rear of the printer and press the POWER button on the front.

P.26 “Turning on the printer”

3 Connect the connector of the USB cable [2] to the USB interface [1] for connecting a host computer on the back of the printer.



4 Connect the connector on the other end of the USB cable to the USB interface on the computer.

Refer to the owner’s manual for the computer being used regarding how to connect to the computer.

Note

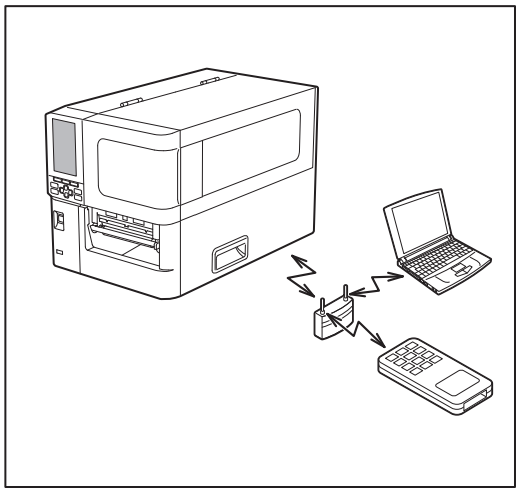
Use the B type connector of a USB cable that is compliant with the 2.0 standard or higher to connect to the printer.

❑ Connecting via wireless LAN (optional)

Note

- Before doing wireless communications, be sure to carefully read the information referenced below.
  📖 P.5 “Precautions for the handling of Wireless Communication Devices”
- Check that there are no obstructions between the printer and the host. Obstructions in between them could cause poor communications.

1 Place the printer inside the coverage area of the access point.



2 Turn on the printer and host device.

3 Transmit data from the host device to the printer.

Tip

Communications may be difficult, depending on the environment in which the printer is being used. Confirm this in advance. Specifically, communications may be impossible near metal objects, in locations with extensive metal dust, or in a room enclosed by metal walls, etc.

Turning the printer ON/OFF

Turn the printer on or off using the main switch at the rear and the POWER button on the front.

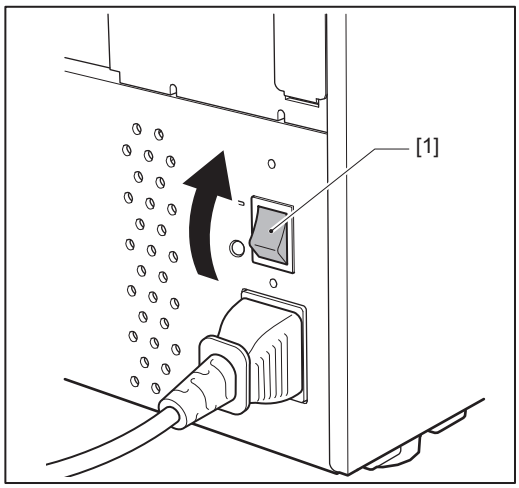
Note

Do not connect or disconnect the power cable to on/off the printer. This could cause malfunctions.

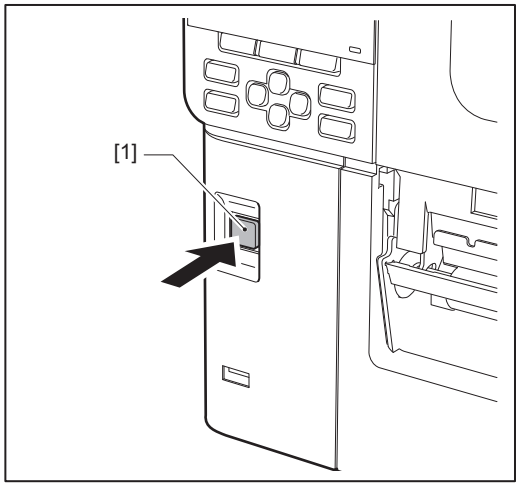
■ Turning on the printer

1 **Turn on the main power switch [1] on the rear of the printer.**

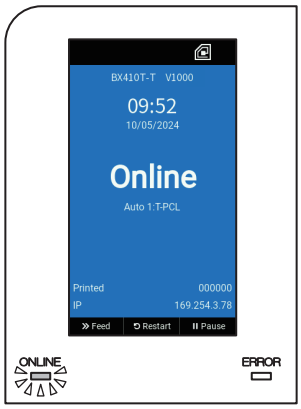
— side is on.



2 **Press the POWER button [1] on the front of the printer.**



“Online” is displayed on the color LCD. The ONLINE lamp (blue) flashes for about 15 seconds, and then stays lit.



Tip

- If the power does not turn on or an error message is displayed, refer to the following page.
  P.64 “Troubleshooting”
- This printer has a function that allows you to start the printer by simply turning on the main power switch on the rear without using the POWER button on the front. For details, contact your service representative.

■ Turning off the printer

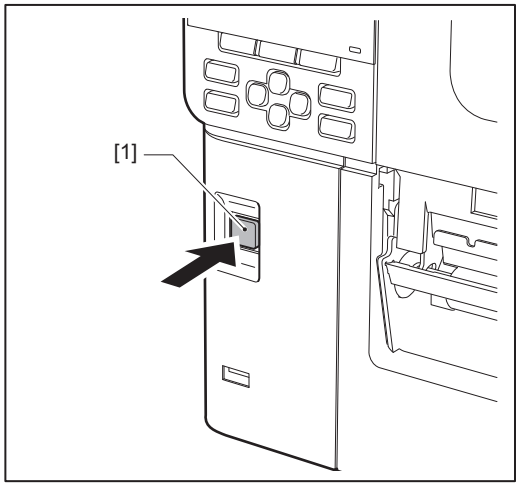
Note

- Do not turn off the power while media is being output. This could cause paper jams or malfunctions. However, if the printer produces strange smells or smoke, immediately turn off the power and unplug the power plug from the electric outlet.
- If the ONLINE lamp is flashing quickly, the printer may be communicating with the computer, so do not turn off the power. This could have a bad effect on the connected computer.

1 Confirm that “Online” is displayed on the color LCD and ONLINE lamp (blue) is lit.

If the ONLINE lamp (blue) is flashing, wait until it lights up.

2 **Press the POWER button [1] on the front of the printer.**
The data in memory is erased and the printer is turned off.



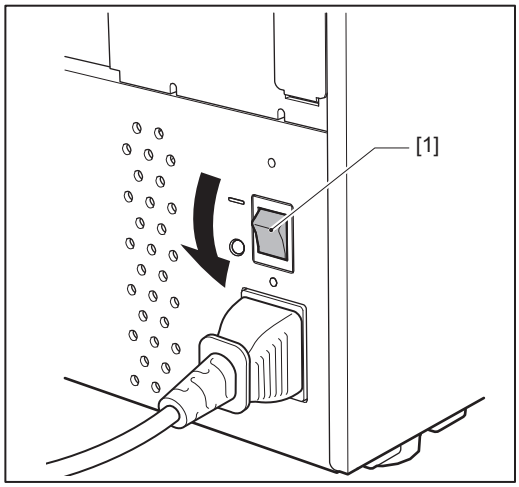
3 **Press the [PAUSE] or [ENTER] button.**

Tip

- To cancel the operation and return to the previous screen, press the [FEED] or [CANCEL] button.
- The message displayed on the color LCD varies depending on the printer operation status.
- The power cannot be turned off while network functions are active, firmware updates are in progress, or font data is being uploaded from the Web Utility. Press the [PAUSE] or [ENTER] button to return to the previous screen.

4 **The color LCD turns off.**
After the ONLINE lamp and ERROR lamp flash together, they turn off.

5 **Turn off the main power switch [1] on the rear of the printer.**
○ side is off.

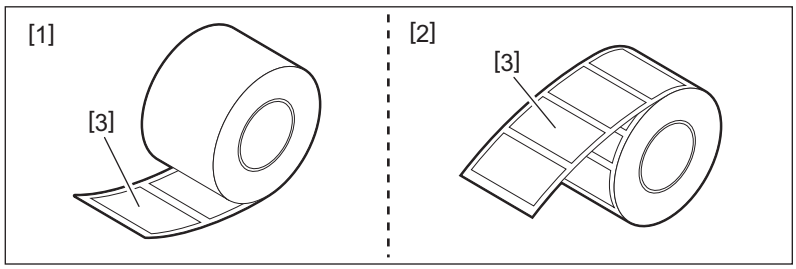


Media loading procedure

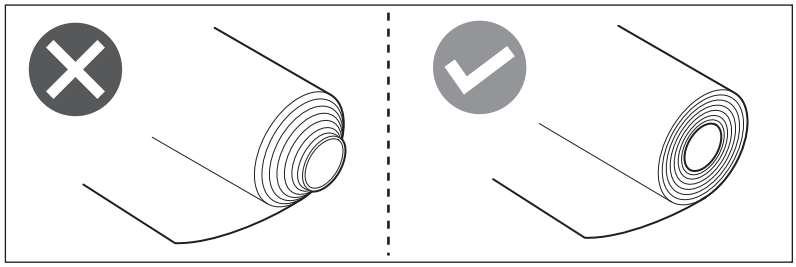
This section explains the procedure for loading media (Label/Tag) in the printer.

Note

- The size of media that can be loaded in the printer is as below.
  - Roll diameter: Up to 200 mm (7.87")
  - Inner diameter of the core: 76.2 mm (3")
- There are media for thermal transfer and direct thermal use, and the media include both labels and tags.
- Media are available in inner roll [1] and outer roll [2], which differ as shown in the figure below. Regardless of the rolling direction, load the media so that the print side [3] will face upward.



- Before loading the roll media, flatten the sides of the roll as shown below.



- When installing new or different media than previously used, adjust the media detection sensor's sensitivity using the "Sensor" option in system mode.
  For details, refer to "Key Operation Specification".
- If you install a pre-printed media, set the threshold.
  For details, refer to "Key Operation Specification".

Tip

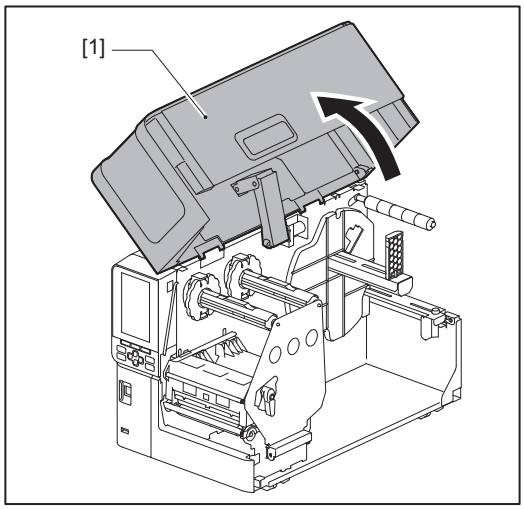
- Use Toshiba Tec Corporation certified genuine media. For details about ordering and preparing media, contact your service representative.
- Toshiba Tec Corporation shall assume no liability for any consequences of printing by loading media other than Toshiba Tec Corporation certified ones.

■ Loading the media

⚠ CAUTION

- **Fully open the top cover to the left.**
  Leaving it at a halfway position could cause it to close by itself, causing injury.
- **Immediately after printing, do not touch the print head or its surrounding area.**
  This could cause burns.

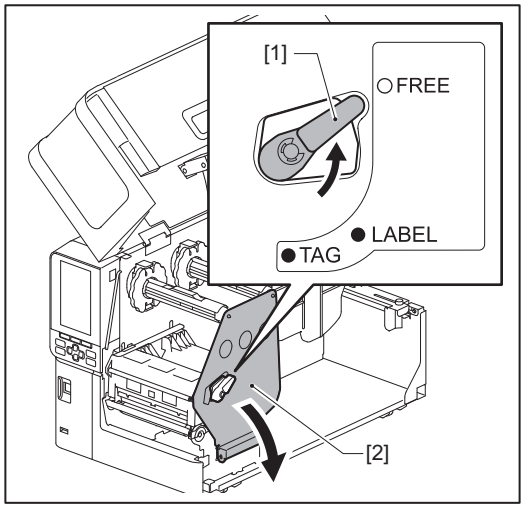
1 **Fully open the top cover [1] to the left.**



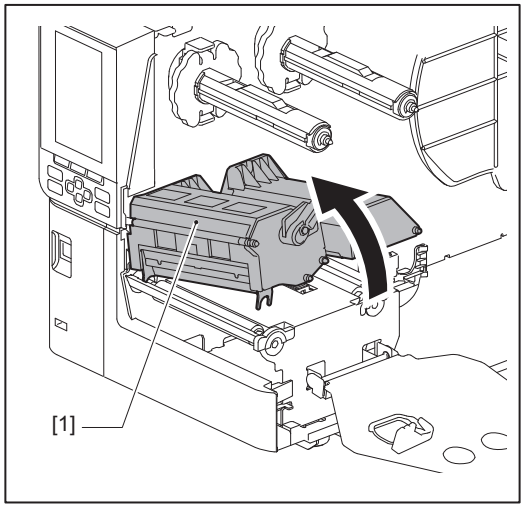
2 **Turn the head lever [1] to the “FREE” position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.**

⚠ CAUTION

The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.

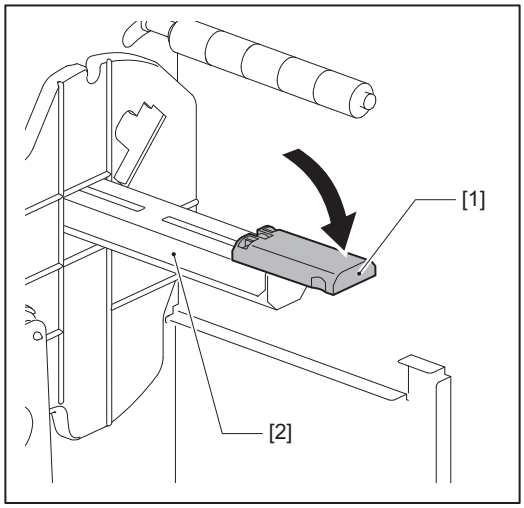


3 **Raise the print head block [1].**

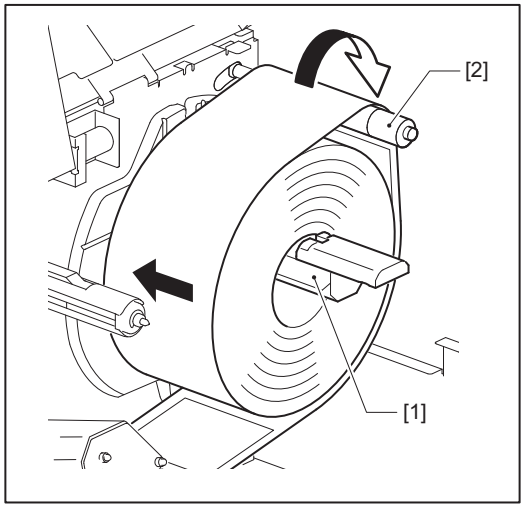


4 **Fold down the roll media holder [1].**

When replacing the media, remove the old media or its core from supply shaft [2].

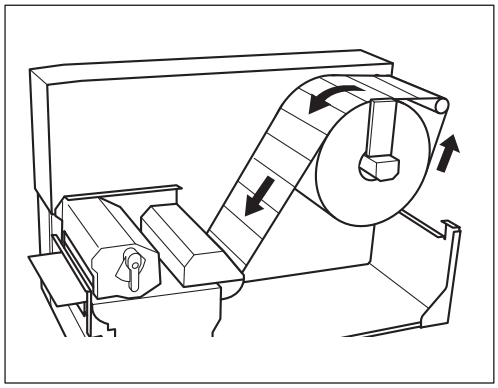


5 Set the media on the supply shaft [1], and pass the media behind the media guide shaft [2].

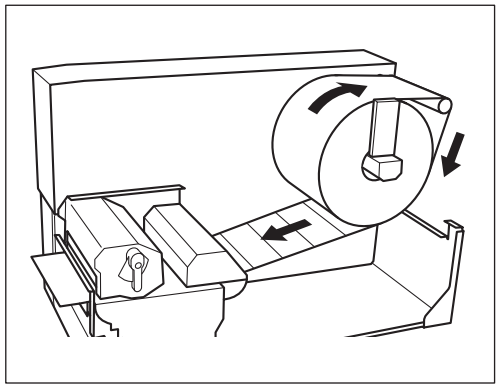


Tip

The media path varies based on the orientation of the print side, whether it faces outward or inward. Refer to the figure below for correct media installation.



[A]

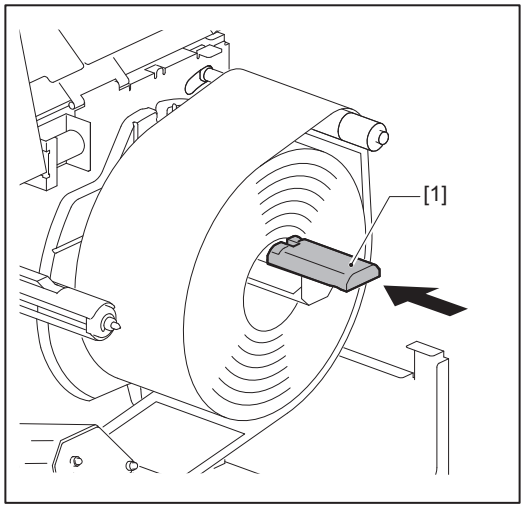


[B]

[A]: Outer roll
[B]: Inner roll

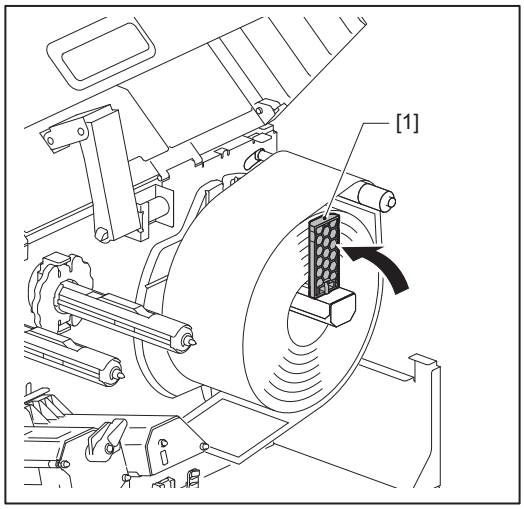
6 Push in the roll media holder [1].

Gently push the roll media holder to prevent damage to the roll media.
The roll media is set in the center position.

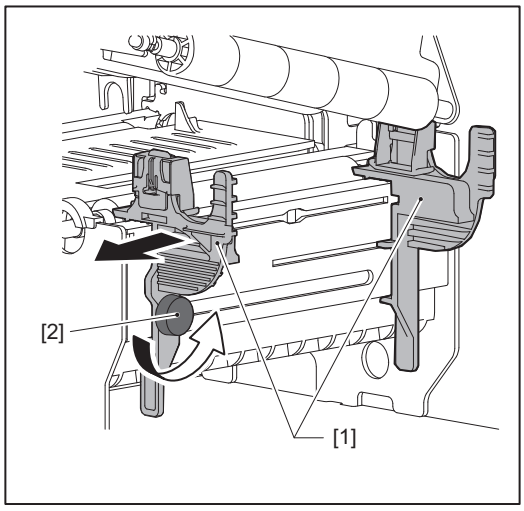


7 **Place the roll media holder [1] upright.**

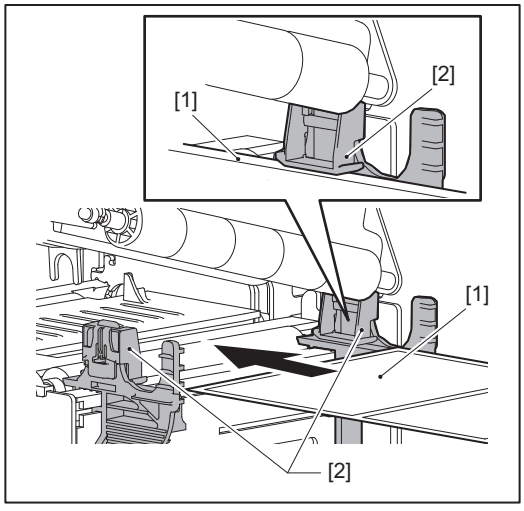
Carefully lift the roll media holder to prevent damage to the roll media.
Ensure the gap between the roll media holder and the roll media is between 0.5 mm (0.02") and 2 mm (0.08").



8 **Loosen the thumbscrew [2] on the media guides [1] and spread them slightly wider than the width of the media.**

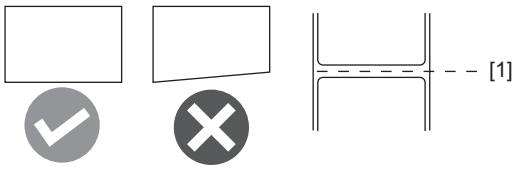


9 **Pass the leading edge of the media [1] between the left and right media guides [2], and feed it to the media outlet through the lower side of the print head block.**

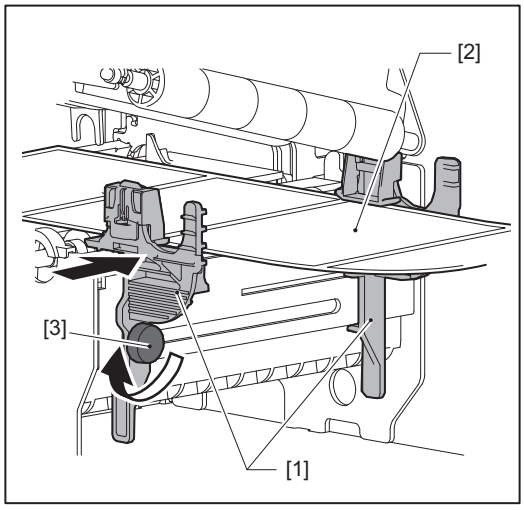


Note

For labels, cut the base [1] straight between the labels.



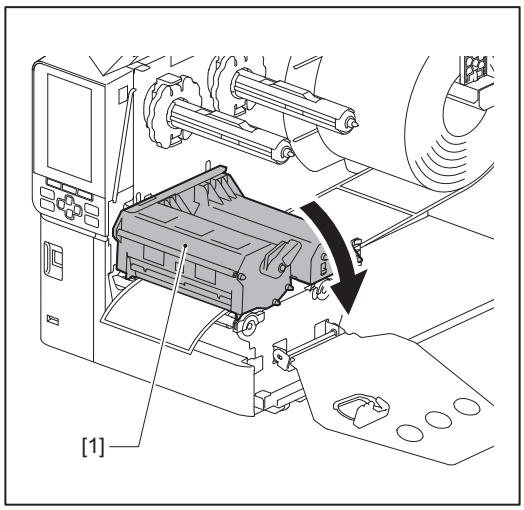
10 Adjust the gap between the media guides [1] and the media [2] to approx. 0.5 mm (0.02"), and tighten the thumbscrew [3] to secure the media guide.



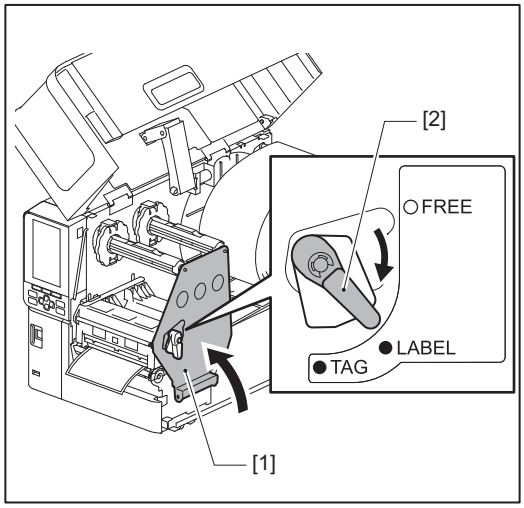
11 Lower the print head block [1].

To adjust the position of the media detection sensor, refer to the following reference.

P.49 “Adjusting the position of the media detection sensor”



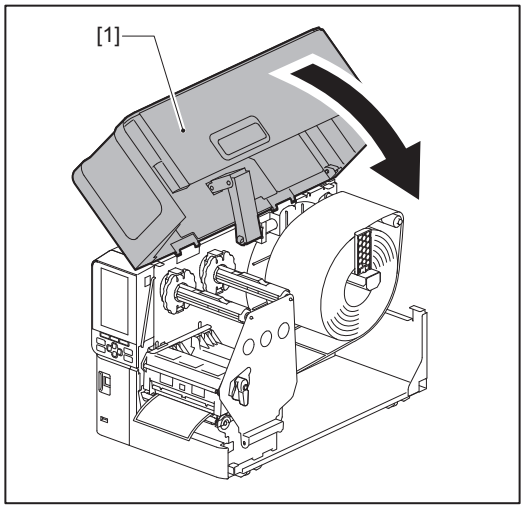
12 **Set the ribbon shaft fixing plate [1] and secure the print head block by rotating the head lever [2] to the "LABEL" or "TAG" position, depending on the media type.**



Tip

- Switch the position of the head lever according to the thickness of the media.
  Label media: LABEL
  Tag media: TAG
- Turn the head lever to the "LABEL" position when loading tag media that is less than 50 mm (2") wide.

13 **Close the top cover [1] gently.**



Tip

When you load media that use the reflective sensor, adjust the position of the reflective sensor.
P.50 "Adjusting the position of the reflective sensor"

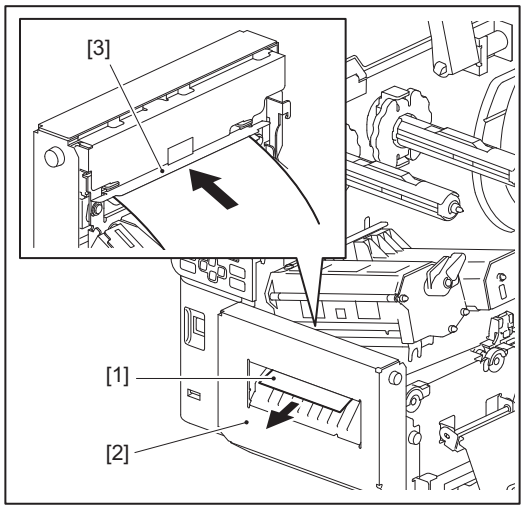
■ Loading media with the optional cutter module attached

⚠ CAUTION

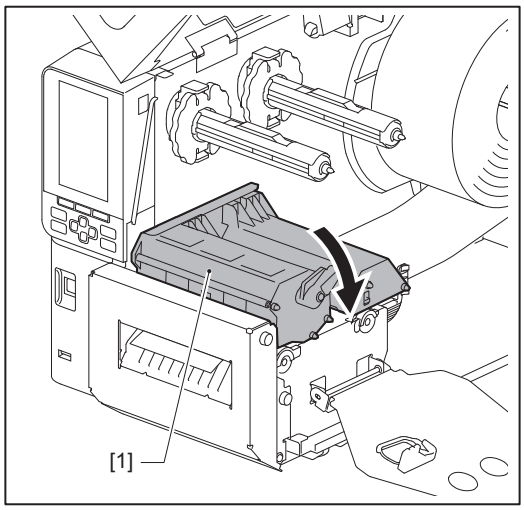
- **Fully open the top cover to the left.**
  Leaving it at a halfway position could cause it to close by itself, causing injury.
- **Immediately after printing, do not touch the print head or its surrounding area.**
  This could cause burns.
- **Do not touch the sharp cutter blade.**
  This could cause injury.

1 **Follow the standard media installation steps 1 through 10 to load the media.**

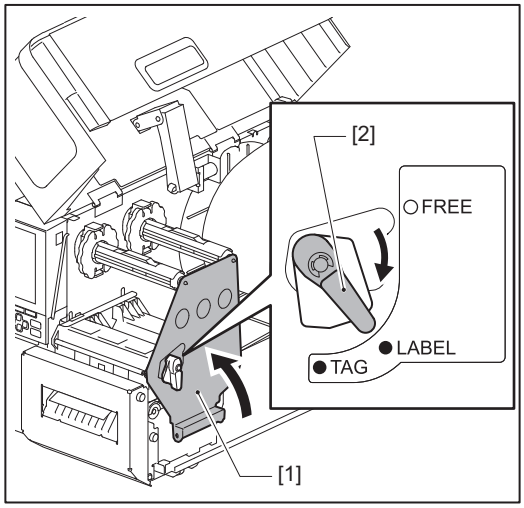
2 **Insert the end [1] of the media into the media slot [3] of the cutter module [2].**



3 **Lower the print head block [1].**
To adjust the position of the media detection sensor, refer to the following reference.
P.49 “Adjusting the position of the media detection sensor”



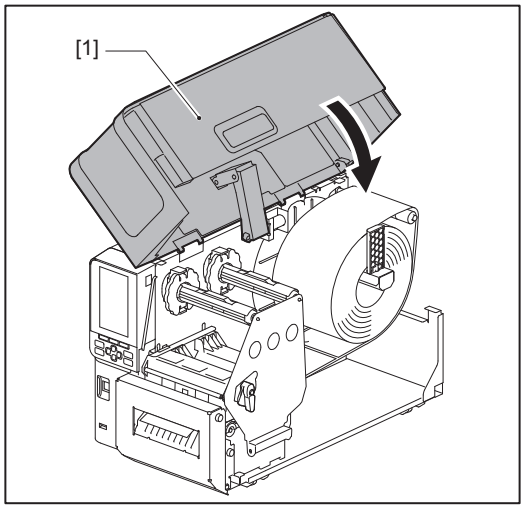
4 Set the ribbon shaft fixing plate [1] and secure the print head block by rotating the head lever [2] to the "LABEL" or "TAG" position, depending on the media type.



Tip

- Switch the position of the head lever according to the thickness of the media.
  Label media: LABEL
  Tag media: TAG
- Turn the head lever to the "LABEL" position when loading tag media that is less than 50 mm (2") wide.

5 Close the top cover [1] gently.



Tip

When you load media that use the reflective sensor, adjust the position of the reflective sensor.
P.50 "Adjusting the position of the reflective sensor"

■ Loading the fanfold paper

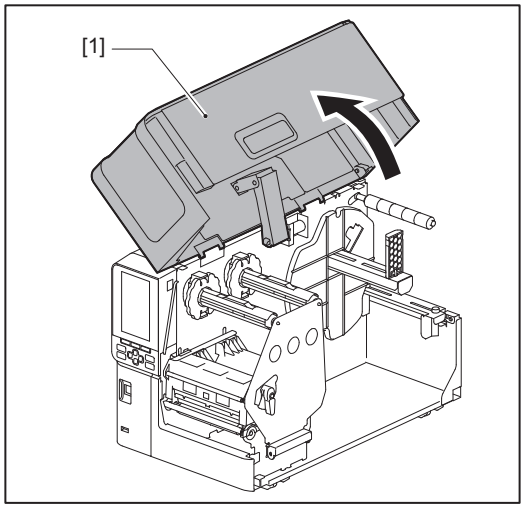
⚠ CAUTION

- **Fully open the top cover to the left.**
  Leaving it at a halfway position could cause it to close by itself, causing injury.
- **Immediately after printing, do not touch the print head or its surrounding area.**
  This could cause burns.

Tip

Install the optional media guide when using fanfold paper.

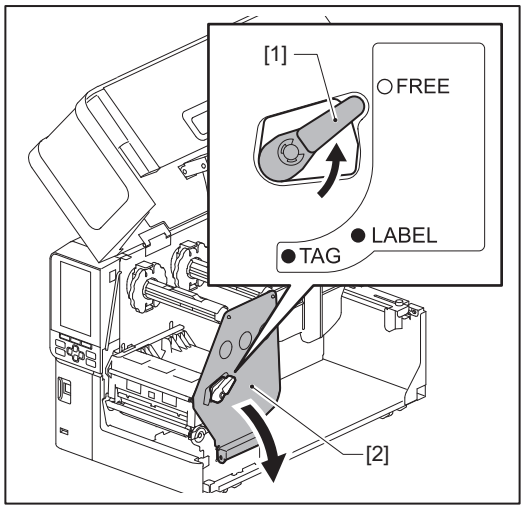
1 **Fully open the top cover [1] to the left.**



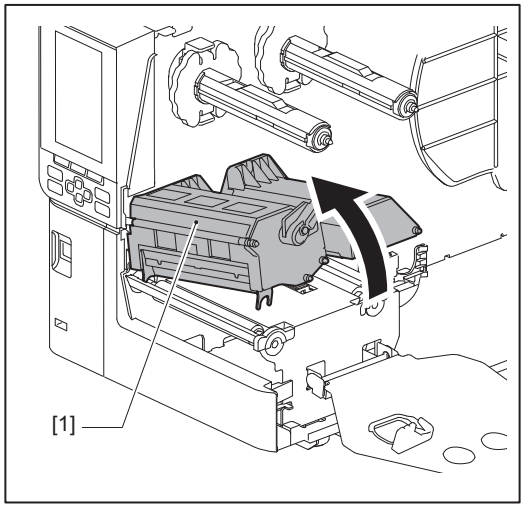
2 **Turn the head lever [1] to the “FREE” position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.**

⚠ CAUTION

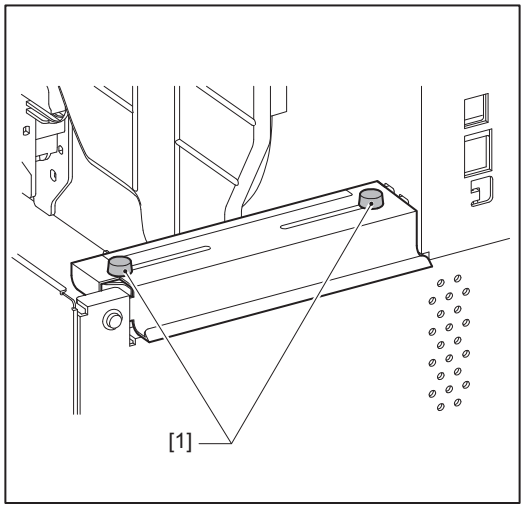
The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.



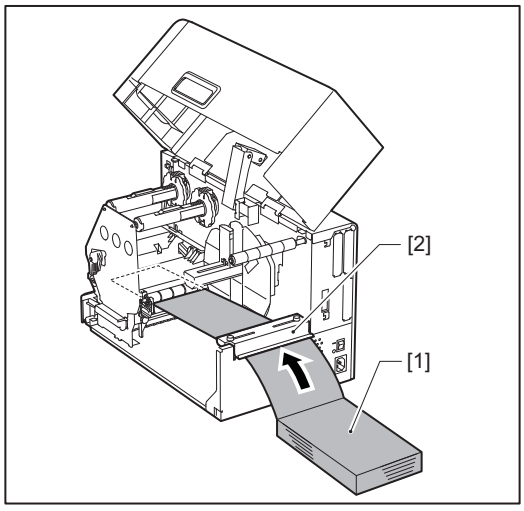
3 Raise the print head block [1].



4 Loosen the thumbscrews [1] on the right and left sides of the external media guide to spread it slightly wider than the width of the media.



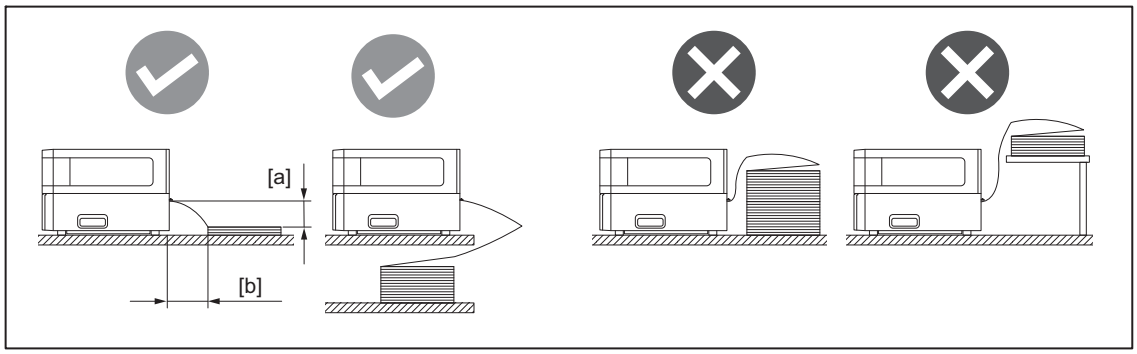
5 Place fanfold paper [1] behind the rear of the printer and insert the end of it into the media slot under the external media guide [2].



Note

- Place the fanfold paper so that the print side will face upward.
- Align the center of the fanfold paper with the external media guide.

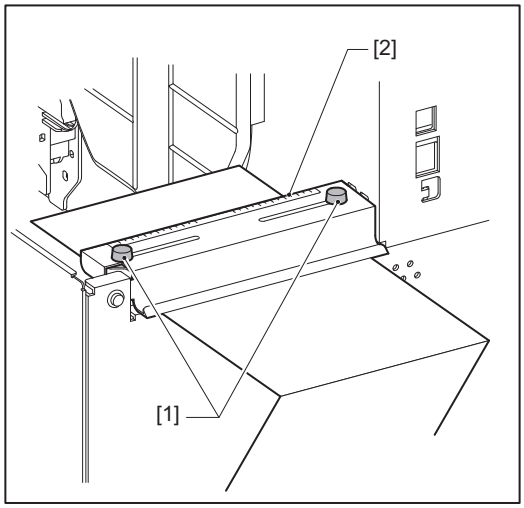
- Position the fanfold paper so its top is at least 45 mm (approx. 1.77") below the printer's media slot at position [a].
- To place the printer and the fanfold paper on a table of a single height, make sure that the distance [b] between the fanfold paper and the media slot of the printer is at least 20 mm (0.79").



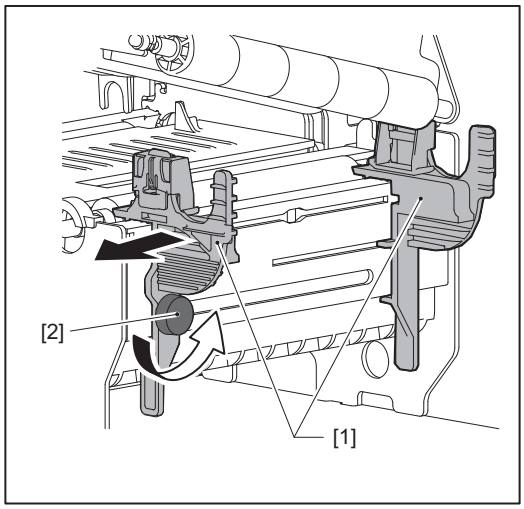
- Make sure that the communication cable, power cable, etc. do not interfere with the fanfold paper.
- If a media feed error occurs, move the fanfold paper farther away from the printer.

6 Adjust and tighten the left and right thumbscrews [1] of the external media guide to match the width of the media.

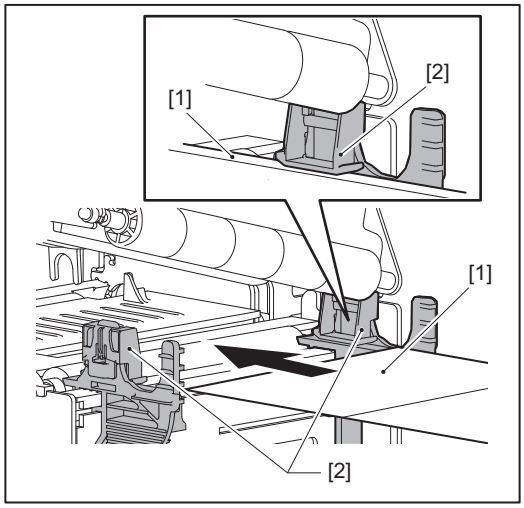
Referring to the scale [2] on the external media guide, adjust the position of the thumbscrews [1] so that the media is located in the center of the transport path.



7 Loosen the thumbscrew [2] on the media guides [1] and spread them slightly wider than the width of the media.

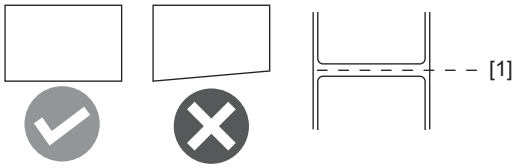


8 Pass the leading edge of the media [1] between the left and right media guides [2], and feed it to the media outlet through the lower side of the print head block.

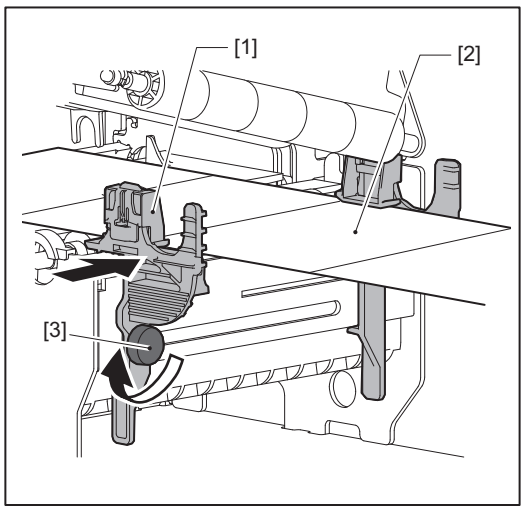


Note

For labels, cut the base [1] straight between the labels.



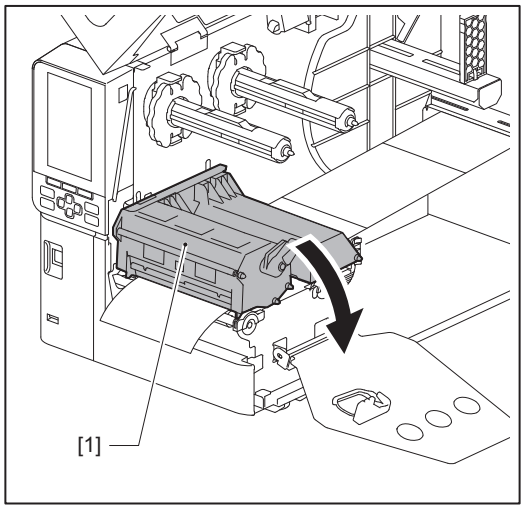
9 Adjust the gap between the media guides [1] and the media [2] to approx. 0.5 mm (0.02"), and tighten the thumbscrew [3] to secure the media guide.



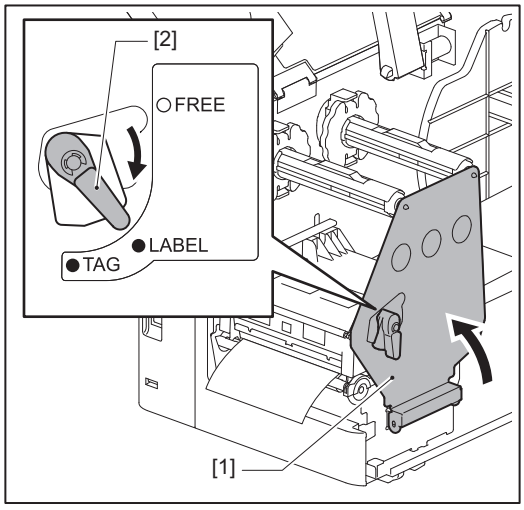
10 Lower the print head block [1].

To adjust the position of the media detection sensor, refer to the following reference.

P.49 “Adjusting the position of the media detection sensor”



11 Set the ribbon shaft fixing plate [1] and secure the print head block by rotating the head lever [2] to the “LABEL” or “TAG” position, depending on the media type.



Tip

- Switch the position of the head lever according to the thickness of the media.
  Label media: LABEL
  Tag media: TAG
- Turn the head lever to the “LABEL” position when loading tag media that is less than 50 mm (2") wide.

12 Close the top cover gently.

Tip

When you load media that use the reflective sensor, adjust the position of the reflective sensor.

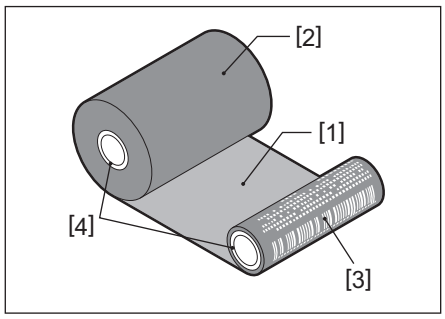
P.50 “Adjusting the position of the reflective sensor”

Loading the ribbon (thermal transfer method)

The printer supports two printing methods, thermal transfer and direct thermal.
The thermal transfer method is a printing method whereby the ink in the ribbon is melted with the heat from the print head and is fixed on the media.
The direct thermal method is a printing method whereby heat is applied from the print head to media containing color formers to create colors.
This section explains the procedure for loading a ribbon in the printer.
Use a Toshiba Tec Corporation certified genuine ribbon. For details about ordering a ribbon, contact your service representative.

Note

- To print with the direct thermal method, do not load a ribbon. Printing with a ribbon loaded could damage the print head and could also cause the melted ribbon to adhere to the print head, requiring the replacement of the print head (for a fee).
- The ribbon has a front (ink) side and a back side [1]. Load it carefully; incorrect loading can result in printing failure and may necessitate replacing the print head, which incurs a fee.
- Consult the figure below to differentiate between the unused and used sides of a partially used ribbon. For a new ribbon, the side with the larger diameter [2] is the unused side.



1. Back side
2. Ribbon (unused roll)
3. Ribbon (used roll)
4. Core

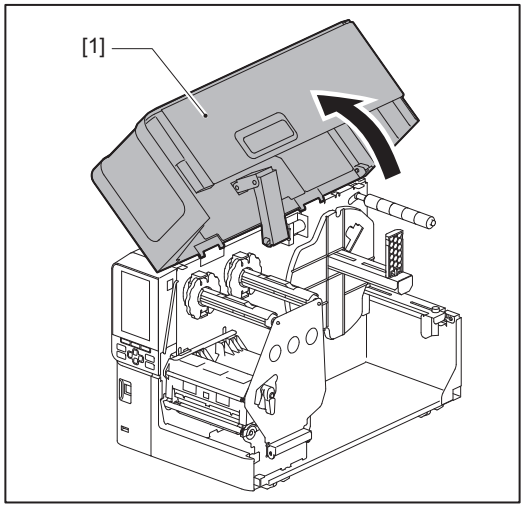
⚠ CAUTION

- **Fully open the top cover to the left.**
  Leaving it at a halfway position could cause it to close by itself, causing injury.
- **Immediately after printing, do not touch the print head or its surrounding area.**
  This could cause burns.

Tip

Ensure the ribbon width matches the media size. For assistance, please contact your service representative.

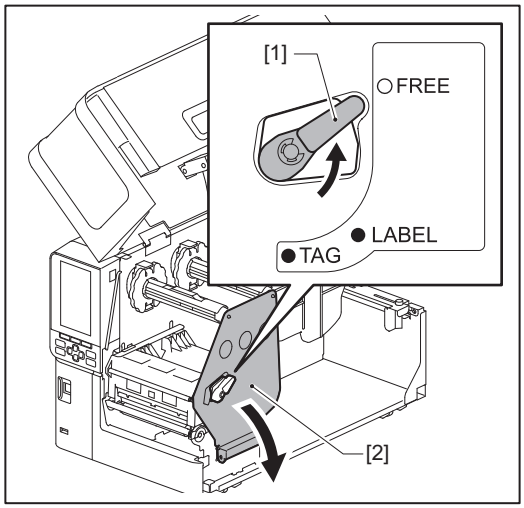
1 **Fully open the top cover [1] to the left.**



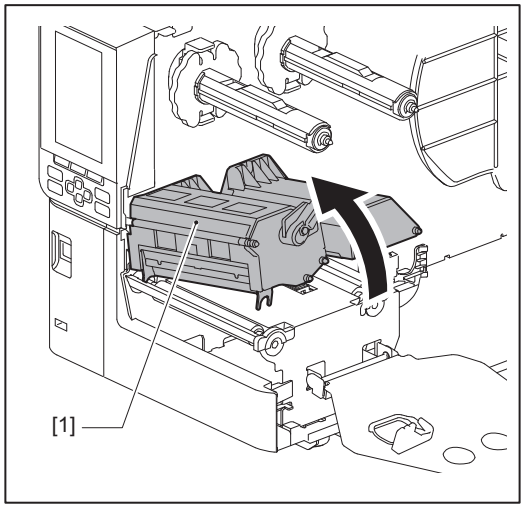
2 **Turn the head lever [1] to the “FREE” position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.**

⚠ **CAUTION**

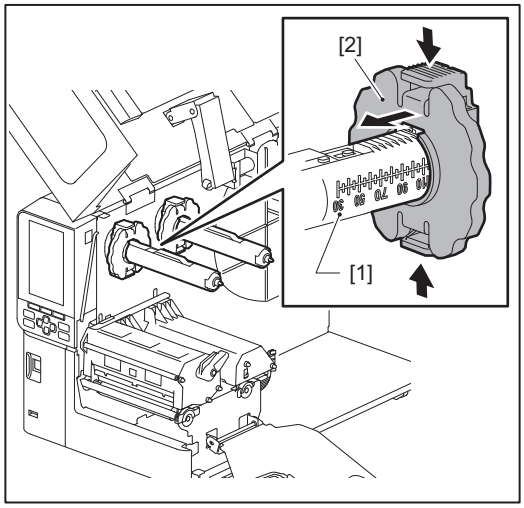
The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.



3 **Raise the print head block [1].**

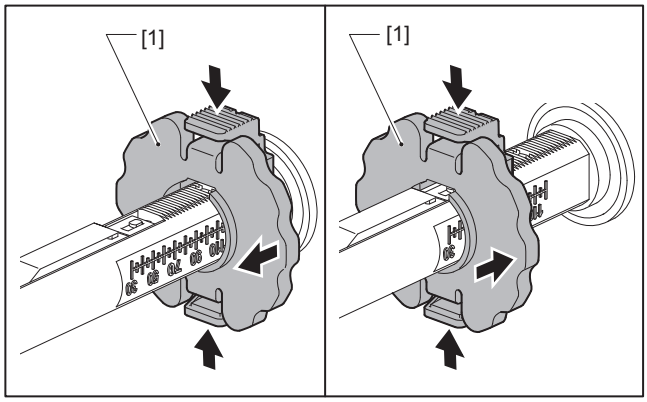


4 Referring to the scale [1] stamped on the ribbon shafts, adjust the ribbon stoppers [2] to match the width of the ribbon being installed.



Note

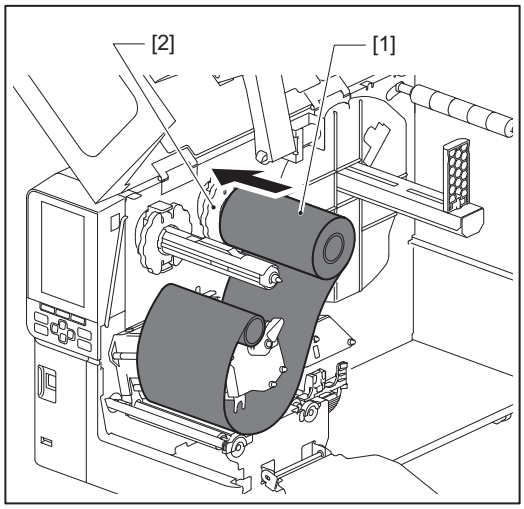
While pressing the two knobs, move the ribbon stoppers [1].



Tip

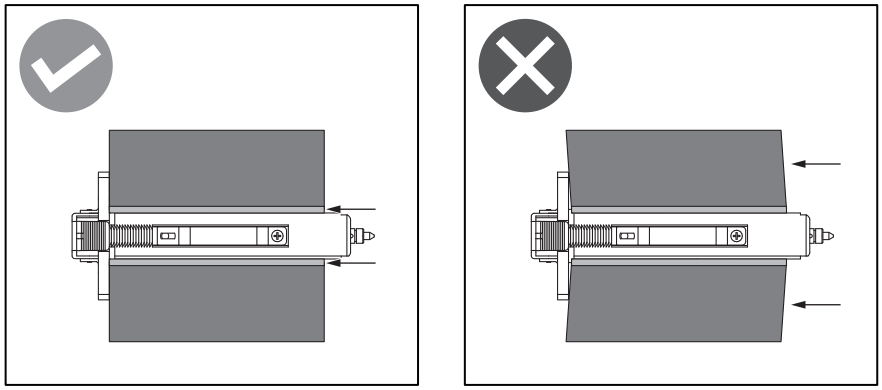
- Adjust the ribbon so its center aligns with the center of the media.
- Use a ribbon that matches the width of the media.

5 Insert the unused side of the ribbon [1] into the rear ribbon shaft, then slide it until it reaches the ribbon stopper [2].



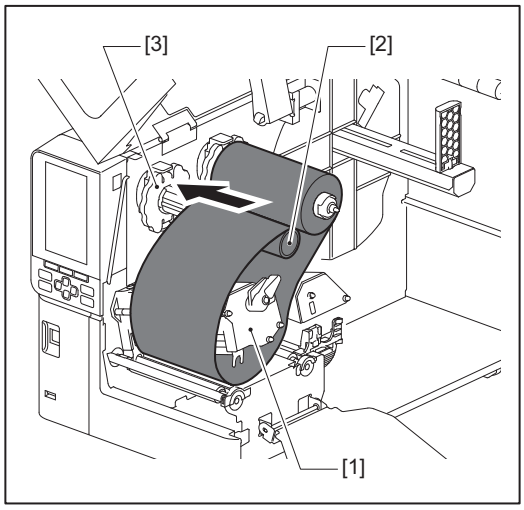
Note

- When inserting the ribbon, press on its core. Applying pressure to the ribbon's side can cause it to shift diagonally, leading to wrinkles.



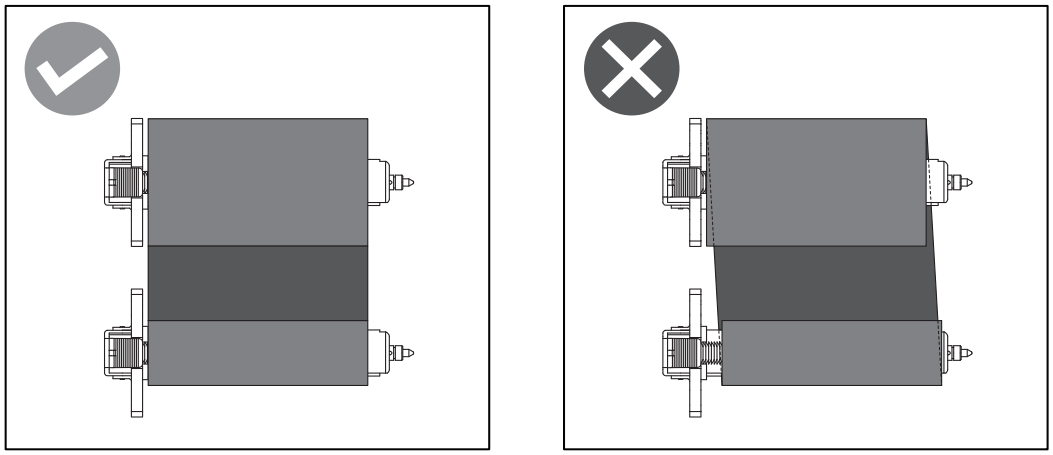
- Be sure to hold the ribbon firmly with your hands during installation, as it can easily unwind and spread out.

6 Thread the ribbon beneath the print head block [1]. Then, insert the take-up side's paper core [2] into the front ribbon shaft and slide it until it reaches the ribbon stopper [3].

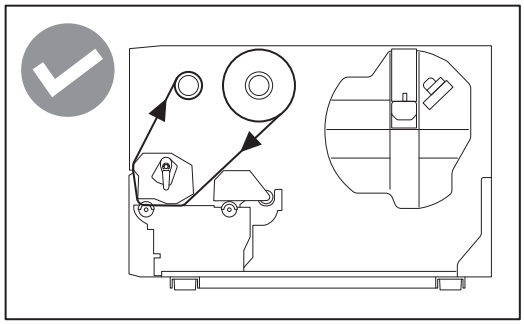


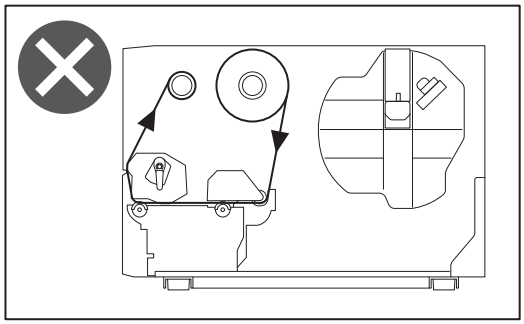
Note

- Align the position of the ribbon on both the unused and take-up sides. Misalignment may cause wrinkles to form on the ribbon.

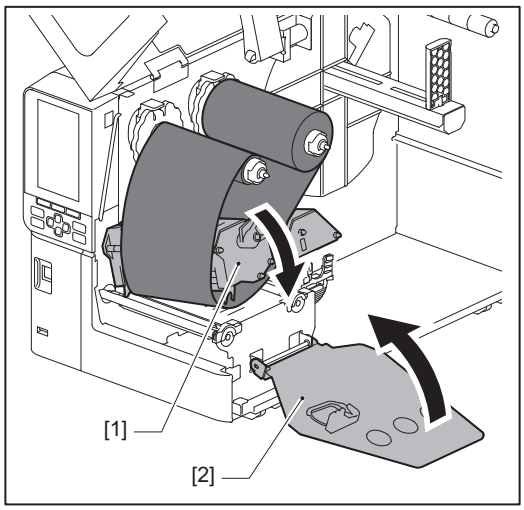


- Pass the ribbon through the correct path.

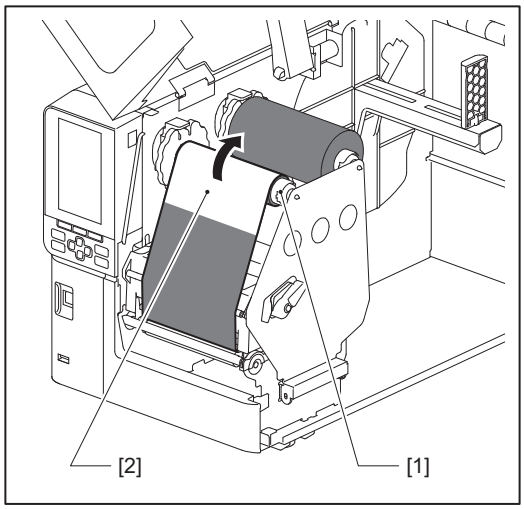




7 Lower the print head block [1] and set the ribbon shaft fixing plate [2].



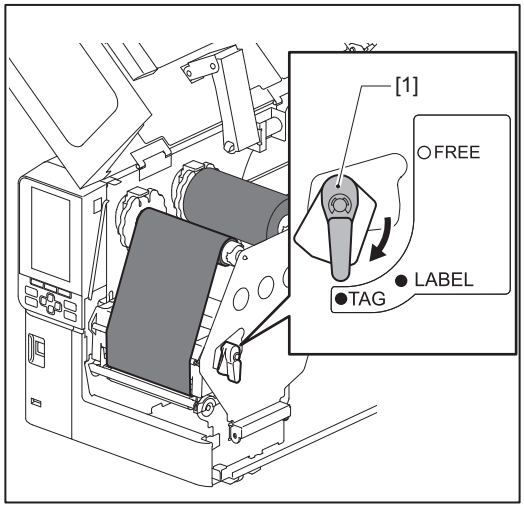
8 Turn the ribbon shaft [1] on the take-up side clockwise to fully wind up the leader tape section (silver) [2] on the ribbon.



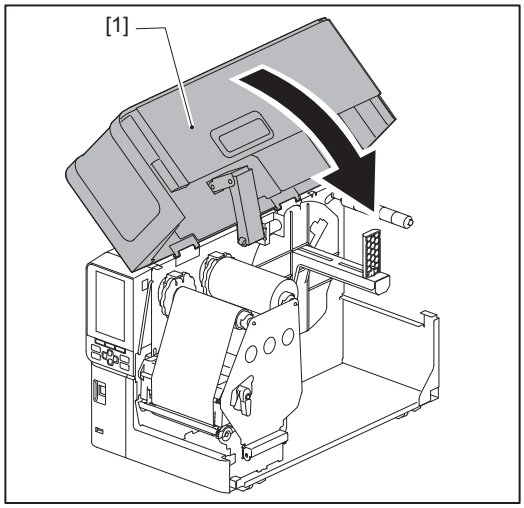
Note

- To avoid poor print quality, remove any slack or wrinkles from the ribbon. Ensure the print head block is lowered first; otherwise, lifting it while adjusting the ribbon could cause it to break.
- The ribbon section you touched may result in poor print quality. Advance the ribbon until the part your fingers contacted has moved beyond the print head block's path.

9 **Rotate the head lever [1] to the “LABEL” or “TAG” position based on your media type to lock the print head block in place.**



10 **Close the top cover [1] gently.**



Adjusting the position of the media detection sensor

The printer features two media detection sensors: a transmissive sensor for detecting gaps between labels, and a reflective sensor for identifying black marks on the media's backside.
If the sensor is improperly adjusted, the printer may not feed the media, displaying an "Paper Jam ****" error message. Adjust the sensor's sensitivity whenever you change the media type or quality.
For details, refer to "Key Operation Specification".

⚠ CAUTION

- **Fully open the top cover to the left.**
  Leaving it at a halfway position could cause it to close by itself, causing injury.
- **Immediately after printing, do not touch the print head or its surrounding area.**
  This could cause burns.

■ Adjusting the position of transmissive sensor

1 **Fully open the top cover to the left.**

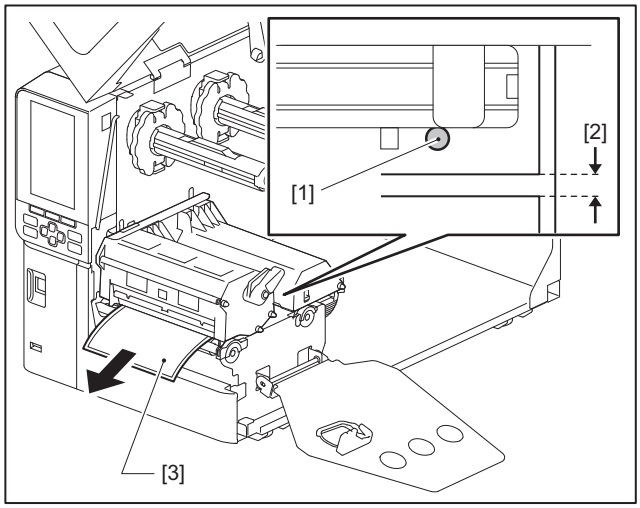
2 **Turn the head lever to the "FREE" position. Then, gently pull the ribbon shaft fixing plate [2] downward and to the right.**
📖 P.30 "Loading the media"

⚠ CAUTION

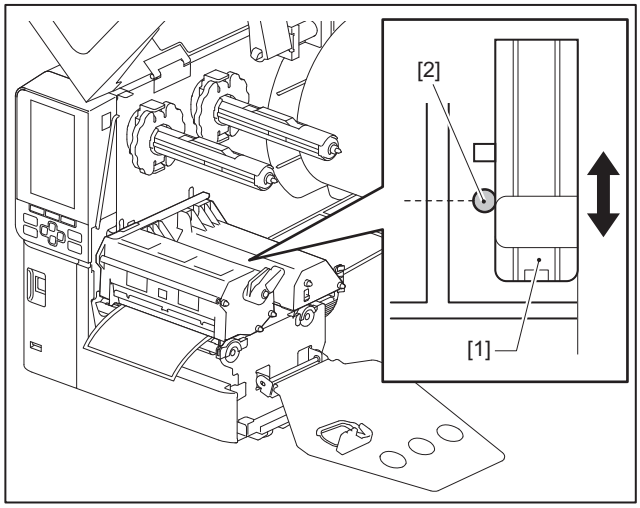
The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.

3 **Remove the ribbon.**

4 **Push the media [3] forward until you can see a gap [2] right before the transmissive sensor's position indicator (●) [1].**



5 Manually position the media sensor [1] to ensure the transmissive sensor's indicator (●) [2] precisely aligns with the required gap.



■ Adjusting the position of the reflective sensor

1 Fully open the top cover to the left.

2 Turn the head lever to the "FREE" position. Then, gently pull the ribbon shaft fixing plate [2] downward and to the right.

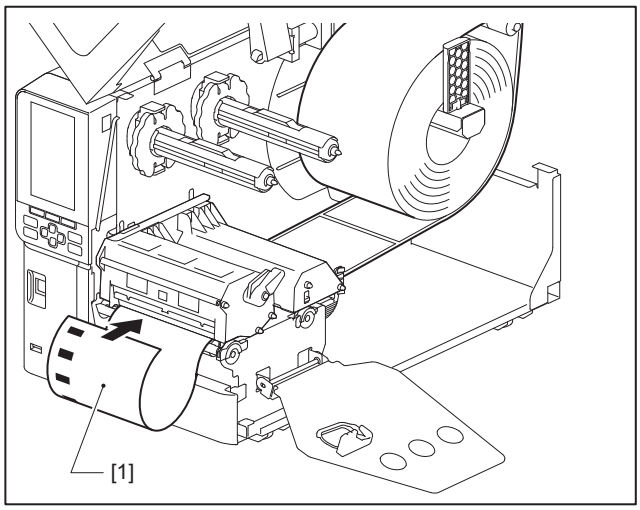
📖 P.30 "Loading the media"

⚠ CAUTION

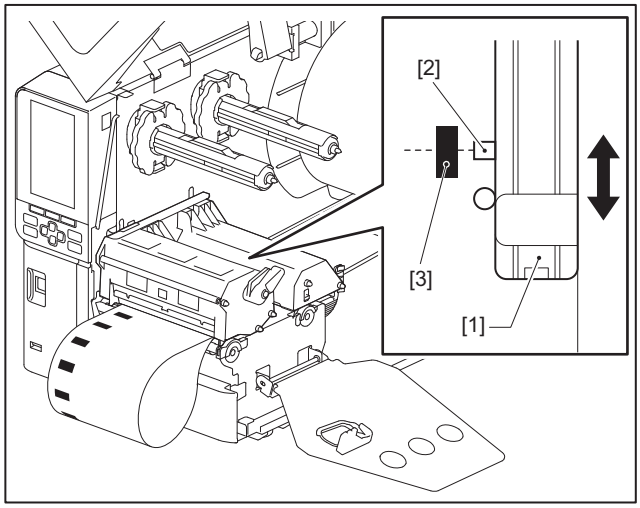
The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.

3 Remove the ribbon.

4 Pull out the media to about 50 cm (19.69") and fold it so the black mark [1] on the back faces upward.



5 Move the media sensor [1] by hand and align the reflective sensor [2] with the center line of the black mark [3].



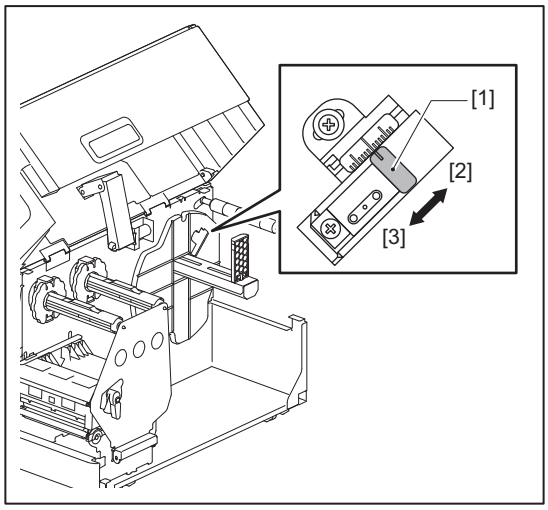
■ Adjusting the media near-end sensor

For cut or peel-off issuance with inner roll media, the (ribbon near-end/paper near-end) icon will display on the color LCD to alert you as the media approaches its end.

1 Fully open the top cover to the left.

2 If roll media is set on the supply shaft, remove it.

3 Slide the adjustment switch [1] on the media near-end sensor to adjust the detection level.
If you want to display the icon earlier, slide the switch to the [2] side. If you want to display the icon later, slide the switch to the [3] side.



Tip

Media near-end detection is possible only with inner roll media during cut or peel-off issuance. However, due to slight variations in the core size of different roll media, accurate near-end detection may not be achievable.

3

Daily Maintenance

Cleaning the printer

Clean the printer periodically (at each media replacement) to ensure that clear prints can always be obtained.
The print head and the platen unit, in particular, can easily get dirty. Clean them with the procedure below.

⚠ WARNING

Do not splash water directly or clean with a cloth containing a large amount of moisture.
Allowing water to enter inside the printer could cause fire and electric shock.

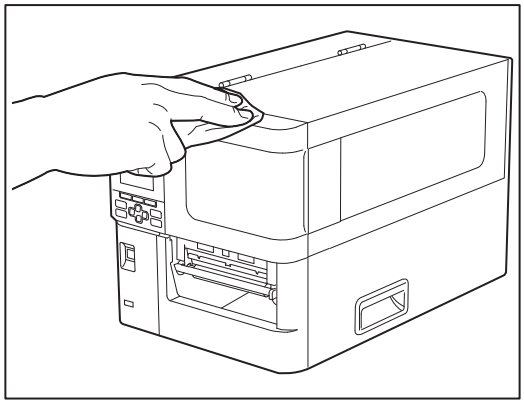
⚠ CAUTION

- **Turn off the main power switch and unplug the power cable.**
  Cleaning with the power on could cause fire and electric shock.
- **Do not clean the printer with a cleaner that contains paint thinner, benzine, and flammable gas, for example.**
  This could cause fire.
- **Immediately after printing, do not touch the print head or its surrounding area.**
  This could cause burns.

■ Cover

1 **Turn off the main power switch and unplug the power cable.**

2 **Wipe dirt off the cover with a dry, soft cloth.**
Wipe any particularly conspicuous dirt with a soft cloth containing a small amount of water.



Note

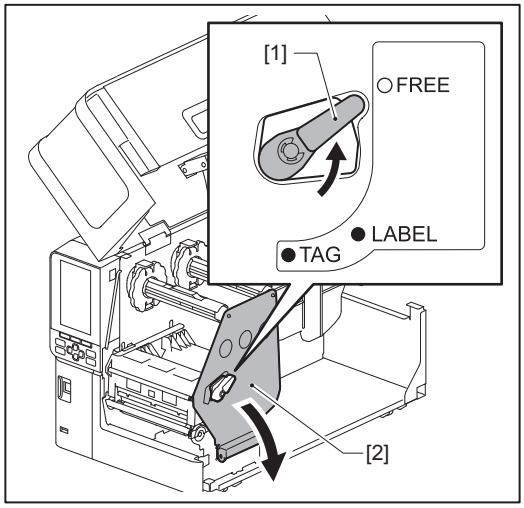
Never use paint thinner, benzine, or other chemicals. Using them could cause discoloration of the cover and breakage of plastic parts.

■ Print head

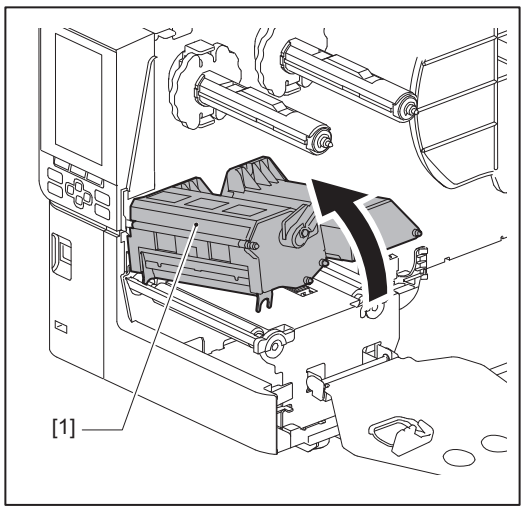
1. **Turn off the main power switch and unplug the power cable.**
2. **Fully open the top cover to the left.**
3. **Turn the head lever [1] to the "FREE" position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.**

⚠ CAUTION

The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.

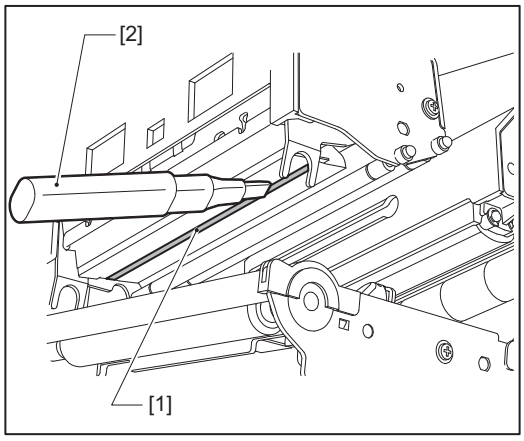


4. **Raise the print head block [1] and remove the media or ribbon.**



5 Clean the print head (hatched portion).

Clean the print head heating section [1] (hatched portion), with a head cleaner pen [2], a commercially available cotton swab, or a soft cloth containing a small amount of anhydrous ethanol.



Tip

Order the separately sold head cleaner pen from your service representative.

Note

- Do not damage the print head with a sharp object. This could cause print failures and malfunctions.
- Do not touch the heating portion of the print head directly. This could cause electrostatic damage and corrosion.
- Never use paint thinner, benzine, or other chemicals. This could cause print failures and malfunctions.

■ Platen unit

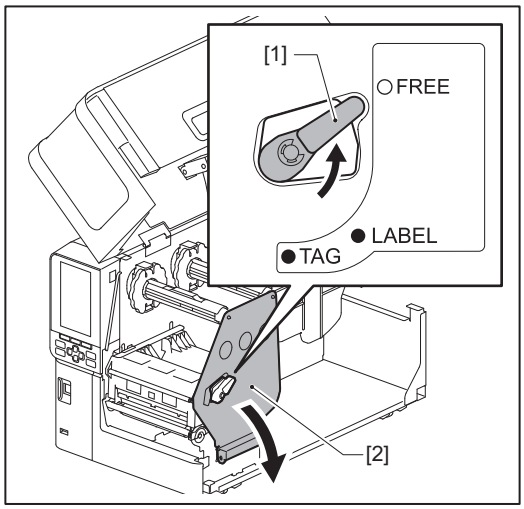
1 Turn off the main power switch and unplug the power cable.

2 Fully open the top cover to the left.

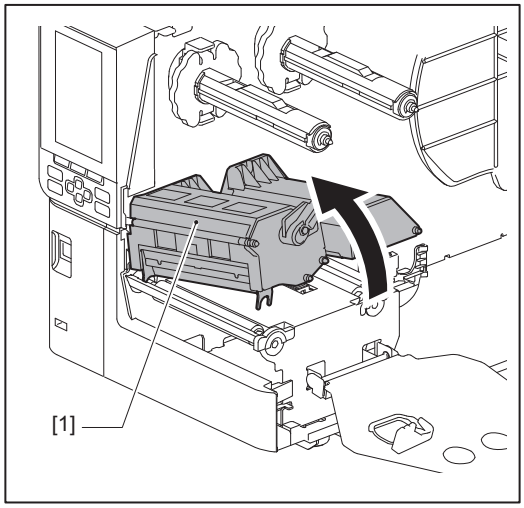
3 Turn the head lever [1] to the "FREE" position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.

⚠ CAUTION

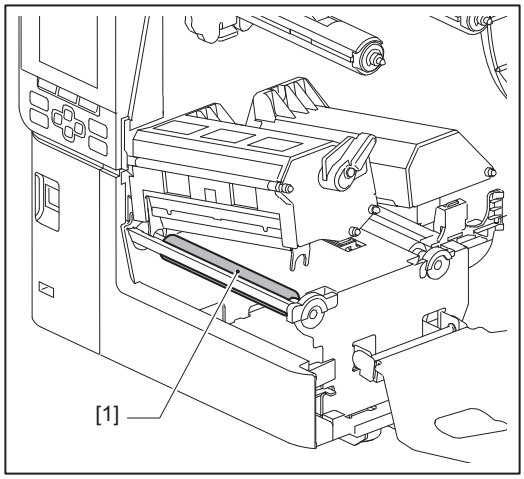
The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.



4 **Raise the print head block [1] and remove the media or ribbon.**



5 **Wipe dirt off the platen unit [1] a soft cloth containing a small amount of anhydrous ethanol.**
Conduct cleaning for each roll of media.



Note

- Do not damage the platen unit with a sharp object. This could cause print failures and malfunctions.
- Never use paint thinner, benzine, or other chemicals. This could cause print failures and malfunctions.

■ Media detection sensors / Ribbon end sensor

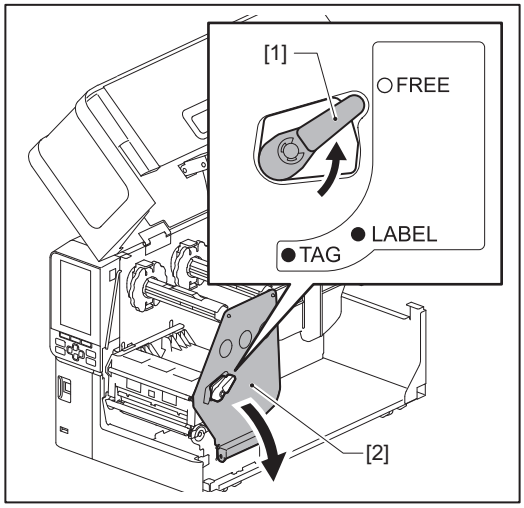
1 **Turn off the main power switch and unplug the power cable.**

2 **Fully open the top cover to the left.**

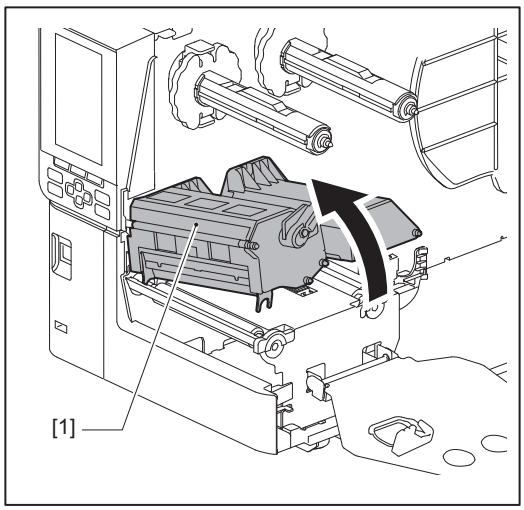
3 **Turn the head lever [1] to the “FREE” position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.**

⚠ CAUTION

The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.

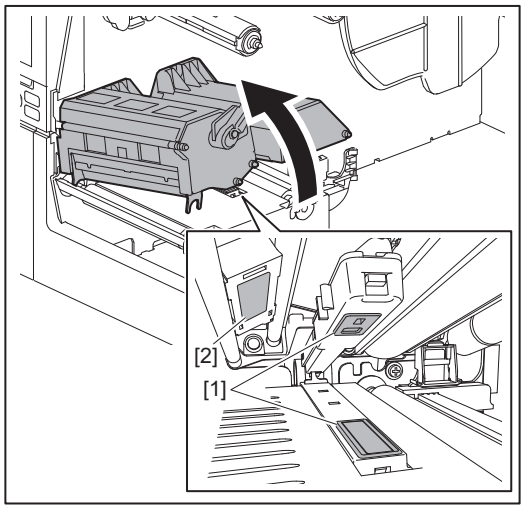


4 **Raise the print head block [1] and remove the media or ribbon.**



5 Clean the media detection sensor [1] and the ribbon end sensor [2] with a soft cloth containing a small amount of anhydrous ethanol or a cotton swab.

Wipe paper powder and dust with a dry, soft cloth.



Note

- Do not damage the sensor with a sharp object. This could cause print failures and malfunctions.
- Never use paint thinner, benzine, or other chemicals. This could cause print failures and malfunctions.

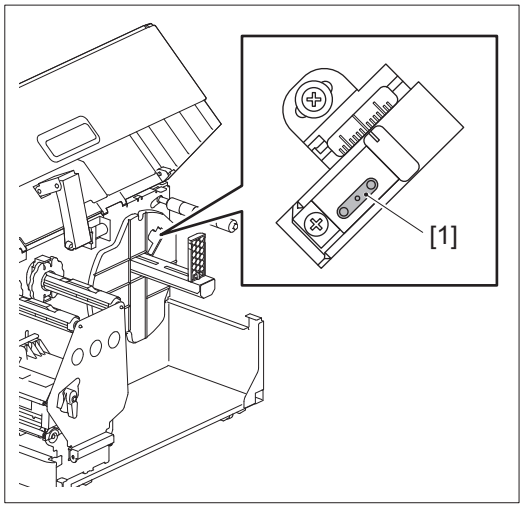
■ Media near-end sensor

1 Turn off the main power switch and unplug the power cable.

2 Fully open the top cover to the left.

3 Wipe the media near-end sensor [1] with a soft cloth containing a small amount of anhydrous ethanol or a cotton swab.

Wipe paper powder and dust with a dry, soft cloth.



Note

- Do not damage the sensor with a sharp object. This could cause print failures and malfunctions.
- Never use paint thinner, benzine, or other chemicals. This could cause print failures and malfunctions.

■ Media housing

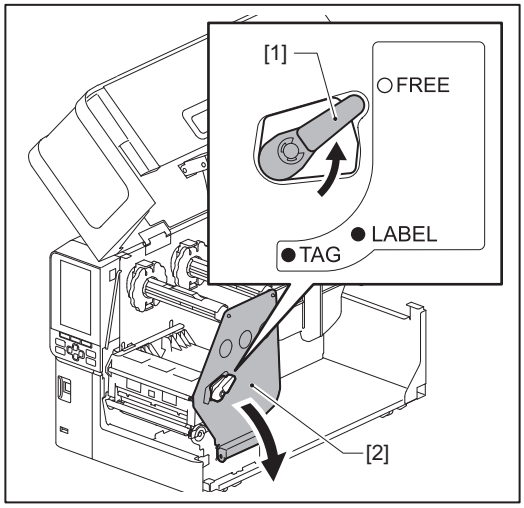
1 **Turn off the main power switch and unplug the power cable.**

2 **Fully open the top cover to the left.**

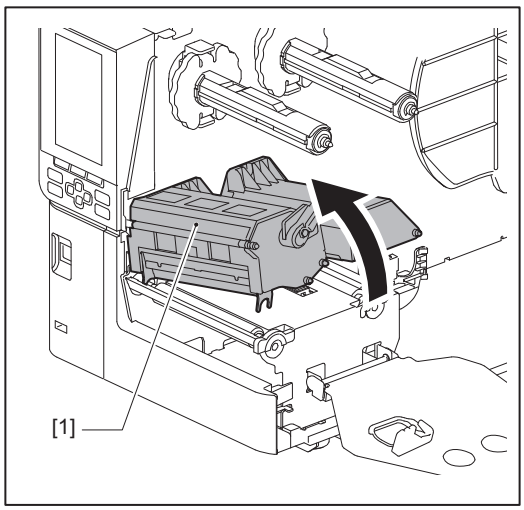
3 **Turn the head lever [1] to the “FREE” position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.**

⚠ CAUTION

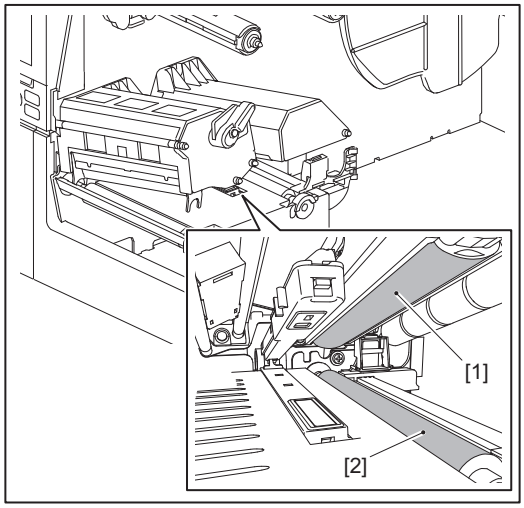
The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.



4 **Raise the print head block [1] and remove the media or ribbon.**

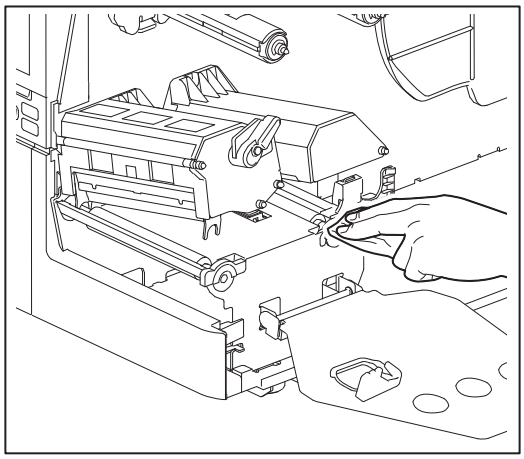


5 Clean the pinch roller [1] and feed roller [2] with a soft cloth containing a small amount of anhydrous ethanol.



6 Wipe paper powder and dust off the media housing with a dry, soft cloth.

If the dirt cannot be removed, wipe the dirt off with a soft cloth moistened with a neutral detergent diluted with water. After cleaning, wipe the neutral detergent completely with a cloth moistened with water and wrung firmly. Conduct cleaning for each roll of media.



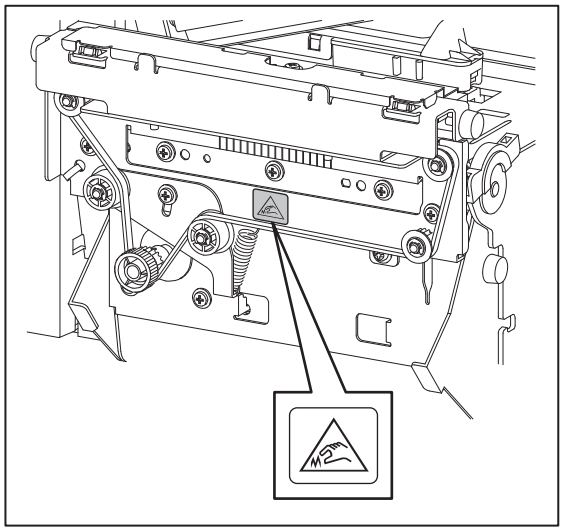
Note

- Avoid damaging the pinch roller or feed roller with sharp objects as this may lead to print errors and printer malfunctions.
- Never use chemicals such as thinner or benzine. This could discolor and deteriorate the media enclosure.

■ Cutter module (optional)

⚠ CAUTION

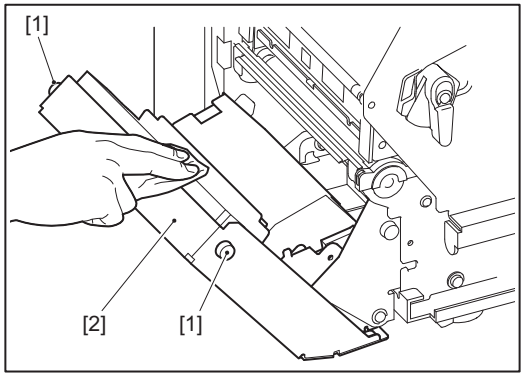
Do not touch sharp cutter blade.
This could cause injury.



1 **Turn off the main power switch and unplug the power cable.**

2 **Fully open the top cover to the left.**

3 **Loosen screws [1] and open cutter cover [2].**



4 **Wipe paper powder and dust with a dry, soft cloth.**

■ When you do not use the printer for a long period of time

If the printer is to be left unused for a long time, remove the media from the print head block to prevent deformation of the media.

4

Troubleshooting

Troubleshooting

If any problems occur during use, check the following.
If the printer is not restored to normal, turn off the main power switch, unplug the power cable from the electric outlet, and consult with your service representative.

■ Error messages

If an error message appears, take action according to the details of the error.
Resolving the error's cause and pressing the [RESTART] button will clear the error.

Display	Cause	Action
Paper Jam	The media are not loaded correctly.	Load the media correctly. 📖 P.29 "Media loading procedure"
	During issuance, a paper jam occurred.	Remove the media jam, load the media again, and press the [RESTART] button. 📖 P.71 "If the media are jammed"
	The media are not fed correctly.	Load the media again and press the [RESTART] button to continue printing where it left off. 📖 P.29 "Media loading procedure"
	Media with a size different from that specified in the program are loaded.	Load media with the specified size and press the [RESTART] button.
	The reflective sensor does not detect the black marks.	Adjust the position of the reflective sensor. 📖 P.50 "Adjusting the position of the reflective sensor" If the position is correct, adjust the sensor level or set the threshold. For details, refer to "Key Operation Specification". If the problem recurs, turn off the power and contact the service personnel.
	The transmissive sensor does not detect the transmissive between labels.	Adjust the sensor level or set the threshold. For details, refer to "Key Operation Specification". If the problem recurs, turn off the power and contact the service personnel.
	Media of a type not suitable for the sensor specified in the program are set.	Load the media suitable for the specified sensor and press the [RESTART] button.
	Media with a size other than the specified one or not suitable for the sensor were loaded and the [FEED] button was operated.	Load media with the specified size or suitable for the sensor and press the [RESTART] button.
	Automatic media measurement was performed using media with both black marks and inter-label gaps, with the setting [Auto Calibration] configured to either [All Sensor] or [All (with Back Feed)].	To perform automatic media measurement with media featuring both black marks and inter-label gaps, configure [Auto Calibration] to either [Reflective Sensor] or [Refl. (with Back Feed)]. For details, refer to "Key Operation Specification".

Display	Cause	Action
No Paper	The media were used up.	Load new media and press the [RESTART] button to continue printing where it left off. 📖 P.29 “Media loading procedure”
	No media are loaded.	Load the media correctly. 📖 P.29 “Media loading procedure”
	The detection level of the media sensor does not match the media.	Adjust the sensor by using the media used. For details, refer to “Key Operation Specification”.
Ribbon Error	The ribbon is not loaded correctly.	Load the ribbon correctly. 📖 P.43 “Loading the ribbon (thermal transfer method)”
	The ribbon has a slack.	Turn the ribbon shaft on the take-up side clockwise to remove any slack in the ribbon. 📖 P.43 “Loading the ribbon (thermal transfer method)”
	The ribbon was cut off in the middle.	Paste the cut-off portions of the ribbon together or replace it with a new one. 📖 P.74 “If the ribbon is cut off in the middle” 📖 P.43 “Loading the ribbon (thermal transfer method)”
	The ribbon is jammed inside.	Load the ribbon again and press the [RESTART] button to continue printing where it left off. 📖 P.43 “Loading the ribbon (thermal transfer method)”
	The ribbon drive sensor is faulty.	Turn off the power and contact the service personnel.
No Ribbon	The ribbon has run out.	Load a new ribbon. 📖 P.43 “Loading the ribbon (thermal transfer method)”
Head Open	The print head block is not secured.	Set the ribbon shaft fixing plate and secure the print head block by rotating the head lever to the “LABEL” or “TAG” position, depending on the media type.
Head Error	A disconnection error occurred in the print head. Or, an error occurred in the print head driver.	Turn off the power and contact the service personnel.
Excess Head Temp.	The temperature of the print head is too high.	Turn off the power and wait until the temperature reduces. If the problem recurs, turn off the power and contact the service personnel.
Communication Error	During RS-232C communication, a parity error or a framing error occurred.	Make sure that the communication settings on the connected computer side match those on the printer side.
Memory Write Error	An error occurred in writing to the registration memory (USB memory or flash ROM on the CPU board).	Turn off the power and then on again and retry writing. Check the details of the command to register. If the problem recurs, turn off the power and contact the service personnel.

Display	Cause	Action
Format Error Check the settings.	An error occurred in formatting the registration memory (USB memory or flash ROM on the CPU board).	Turn off the power and then on again and retry formatting. Check the details of the command to register. If the problem recurs, turn off the power and contact the service personnel.
Memory Full	Registration fails because the registration memory (USB memory or flash ROM on the CPU board) does not have enough free space.	Turn off the power and then on again. Confirm the free memory space and the size of the data to register. If the problem recurs, turn off the power and contact the service personnel.
Password Invalid	The password was entered incorrectly three times in a row.	Turn off the power and then on again.
Power Failure	An instantaneous power outage occurred.	Turn off the power and then on again.
Cutter Error	A paper jam occurred in the cutter.	Remove the media jam, load the media again, and press the [RESTART] button to continue printing where it left off. 📖 P.71 “If the media are jammed”
	The cutter module cover is open.	Close the cutter module cover securely.
	Due to a cutter fault, the cutter does not move from the home position.	Contact the service personnel.
Peel-Off Error	Peeling did not occur properly.	Take the following measures. • Replace the media with one that allows easier label peeling. • Enable the Pre Peel-Off function. • Lower the print speed setting. • If the base is slack, the peeling force will be reduced. When setting the base on the rewinder, make sure it is tightly stretched.
	During peel-off issuance, the label is not positioned over the peel-off sensor at the end of printing or paper feeding.	Take the following measures. • Use the [Cut/Peel Adjust] function to position the label at the peel-off plate at the end of printing or paper feeding. • To ensure the sensor detects the label, wait until printing is completely finished before removing the media.
Rewinder Full	Full capacity detected in the rewinder section.	Remove labels and bases from the rewinder.
Internal COM Error	A hardware error occurred in the internal serial interface port.	Turn off the power and then on again.

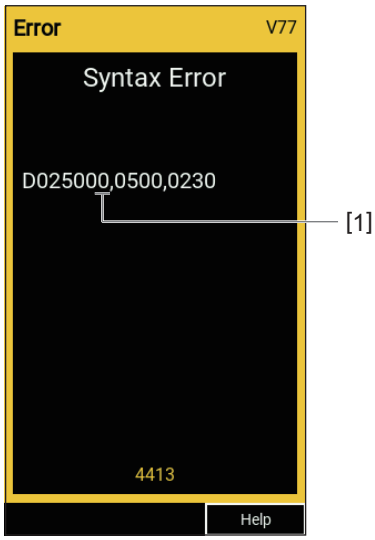
Display	Cause	Action
System Error ## (##: 2-digit number)	An operation such as the following was performed: • Fetch an instruction from an odd-numbered address • Access word data from other than a word data boundary • Access long word data from other than a long word data boundary • Access the 80000000H to FFFFFFFFH area in the logical space in user mode • Decode an undefined instruction inside/outside a delay slot • Decode an instruction or rewriting in a delay slot	Turn off the power and then on again. If the problem recurs, turn off the power and contact the service personnel.
Low Battery	The RTC (Real Time Clock) battery voltage is low.	Turn off the power and contact the service personnel.
RFID Configuration Error	RFID region setting is not configured.	Configure the RFID region setting.
Syntax Error	If up to 42 alphanumeric characters are displayed, a syntax error has occurred.	Turn off the power and then on again and then send the correct command again. P.68 “Syntax error”
RFID Error	Unable to communicate with the RFID module.	Press the [RESTART] button and then perform the operation again. If the problem recurs, turn off the power and contact the service personnel.
RFID Write Error	Writing RFID data failed a certain number of times in a row.	Press the [RESTART] button to write RFID data to the next label. If the problem recurs, turn off the power and perform the following confirmation and investigation. • Verify the alignment between the printer’s RFID antenna and the RFID tag. If the tag is positioned where data cannot be written, adjust the feed amount before RFID issuance using the setting command in the issuing software. • Confirm that the RFID tag supported by the RFID kit is used. • Increase the number of RFID write retries/time. • Set the RFID write retry position fine-tune value to ±3 mm (0.12") or grater and enable retries. • Replace the RFID label. If an error occurs even after the above actions, the RFID module may be faulty. Turn off the power and contact the service personnel.

Display	Cause	Action
Please insert USB Memory	A USB memory is required but not inserted.	Insert the USB memory.
Other error messages	A problem has occurred in hardware or software.	Turn off the power and then on again. If the problem recurs, turn off the power and contact the service personnel.

❑ Syntax error

If a command sent from the computer has an error, 42 bytes are displayed on the LCD, starting with the command code of the command that has an error. [LF], [NUL], and any portion that exceeds 42 bytes are not displayed.

Syntax error display examples



1. Syntax error

Tip

When a syntax error is displayed, codes other than 20H to 7FH and A0H to DFH are displayed as " ?" (3FH).

■ If the printer does not operate correctly

Symptom	Cause	Action
The power is not supplied even though the power is turned on.	The power cable is disconnected from the printer.	Insert the power cable into the AC power inlet securely. 📖 P.21 "Connecting the power cable"
	The power plug is disconnected from the electric outlet.	Insert the power plug fully and securely into the electric outlet. 📖 P.21 "Connecting the power cable"
	A power outage occurs or the power is not supplied to the electric outlet.	Confirm whether the power is supplied, using another electric appliance. If the power is not supplied, consult with the nearest power company.
	The fuse or the circuit breaker in the building is blown.	Inspect the fuse and the circuit breaker.

Symptom	Cause	Action
The media are not issued.	The media are not loaded correctly.	Load the media correctly. 📖 P.29 “Media loading procedure”
	The print head block is not properly secured.	Set the head lever to the “LABEL” or “TAG” position. 📖 P.29 “Media loading procedure”
	The communication cable is disconnected.	Confirm the connection states on the printer side and the computer side and connect the communication cable securely. 📖 P.23 “Connecting to a computer”
	The media detection sensors are dirty.	Clean the media detection sensors. 📖 P.58 “Media detection sensors / Ribbon end sensor”
	Ribbon is not loaded even though the thermal transfer method is selected.	Load the ribbon. 📖 P.43 “Loading the ribbon (thermal transfer method)”
The media are not printed.	Direct thermal media are not loaded although the direct thermal method is selected.	Load direct thermal media. 📖 P.29 “Media loading procedure”
	The media are not loaded correctly.	Load the media correctly. 📖 P.29 “Media loading procedure”
	The ribbon is not loaded correctly.	Load the ribbon correctly. 📖 P.43 “Loading the ribbon (thermal transfer method)”
	No print data is sent from the computer.	Send print data.
Printing is blurry.	Toshiba Tec Corporation certified media are not used.	Replace the media with Toshiba Tec Corporation certified ones. 📖 P.80 “Media”
	Toshiba Tec Corporation certified ribbon is not used.	Replace the ribbon with Toshiba Tec Corporation certified one. 📖 P.88 “Ribbon”
	The print head is dirty.	Clean the print head. 📖 P.55 “Print head”
	The print head pressure does not match the media being used.	Rotate the head lever to the position corresponding to your media type. 📖 P.29 “Media loading procedure”
	The density setting of the print head is low.	Set the density to high with the density fine-tuning parameter. For details, refer to “Key Operation Specification”.
	The print speed is too high depending on what to print.	If printing is blurry if ruled lines and reversed characters are printed at a maximum speed, reduce the print speed. For details, refer to “Key Operation Specification”.
	If left unused for an extended period with media in the print head block, the media may become deformed where it is pressed between the print head and the platen unit.	Remove the media from the printer if it will not be used for an extended period.

Symptom	Cause	Action
Printing is blurry.	The platen has deformed because the printer was left unused for a long time with the print head block fixed.	If the printer is to be left unused for a long time, rotate the head lever to the “FREE” position.
There are broken letters.	The print head is dirty.	Clean the print head. 📖 P.55 “Print head”
	Part of the heating portion of the print head is disconnected.	Turn off the power, unplug the power plug from the electric outlet, and contact the service personnel.
	The media stuck to the print head when the print rate or the print density was high.	You can keep the print head from sticking by changing the printing conditions appropriately. • Reduce the number of dots to be printed at a time. • Fine-tune the print density to a lower value. • Increase the print speed setting.
Scanning of the printed serial barcode (ladder barcode) and 2 dimensional codes is poor.	Depending on the printing conditions, the print quality may deteriorate and scanning may become poor.	You can improve the print quality by changing the printing conditions appropriately. • Lower the print density. • Decrease the print speed setting. • Increase the cell size (module size).
The ribbon residue adheres to the media.	When data that partially has a high print rate, such as serial barcodes, was printed continuously, ribbon debris stuck to the media due to the heat accumulated in the print head.	You can keep ribbon residue from adhering by changing the printing conditions appropriately. • Change the print pattern. • Fine-tune the print density to a lower value. • Decrease the print speed setting.
The ribbon residue adheres to the base surface between the labels.	Ribbon residue adhered to the base surface, not the label surface, due to residual adhesive on the base.	This is not a fault. Continue to use the printer.
A media feed error occurs immediately after the media are issued.	If left unused for an extended period with media in the print head block, the media may become deformed where it is pressed between the print head and the platen unit.	Remove the media from the printer if it will not be used for an extended period.
The label is not peeled off. (When the peel-off module is attached)	Toshiba Tec Corporation certified media are not used.	Replace the media with Toshiba Tec Corporation certified ones. 📖 P.80 “Media”
	The media are not loaded correctly.	Load the media correctly. 📖 P.29 “Media loading procedure”
The media are not cut neatly. (When the cutter module is attached)	The cutter blade is dirty.	Turn off the power, unplug the power plug from the electric outlet, and contact the service personnel.
	The cutter blade has expired.	Turn off the power, unplug the power plug from the electric outlet, and contact the service personnel.

Symptom	Cause	Action
The ribbon is wrinkled.	There is more print data on either the right or left side.	Open the top cover, rotate the head lever to “FREE”, and tightly wind the ribbon to eliminate any slack or wrinkles. Afterwards, reset the head lever to its original position. P.43 “Loading the ribbon (thermal transfer method)” Review the placement of the print format so that there will be equal amounts of print data on the right and left sides.
During printing operation, operation is momentarily stopped and then printing is resumed.	When high-density printing continued, operation was temporarily stopped to keep the performance of the printer.	This is not a fault. Continue to use the printer.
During printing operation, operation is stopped for a few seconds and then printing is resumed.	When the temperature of the print head exceeded the specified value, operation was temporarily stopped to keep the performance of the printer.	This is not a fault. Continue to use the printer.
Wireless LAN connection fails.	The LAN/Wireless LAN settings are not made correctly.	Confirm whether the settings are correct. For details, refer to “Key Operation Specification”. If the problem persists, contact the service personnel.
	Unable to make a connection to a wireless LAN access point.	For details about the establishment of an access point, refer to the instruction manual for the wireless LAN access point used.
A wireless LAN communication error occurs immediately after the power is turned on.	Wireless LAN communication is unavailable immediately after the power is turned on.	After turning on the power, start communication at least 10 seconds after the ONLINE lamp turns on.

■ If the media are jammed

If the media are jammed inside the printer, remove the jam by following the procedure below.

⚠ WARNING

Turn off the main power switch and unplug the power cable.
Cleaning with the power on could cause fire and electric shock.

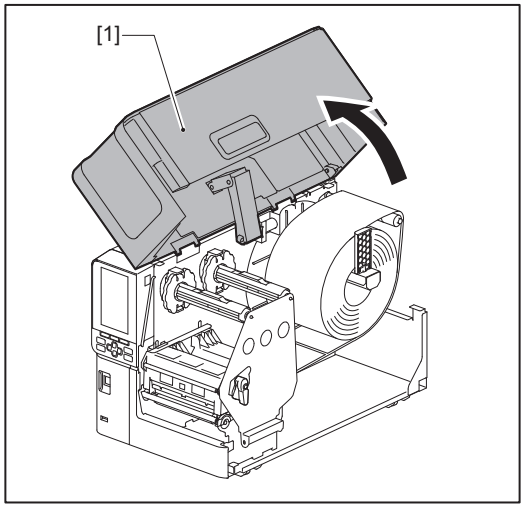
⚠ CAUTION

- **Fully open the top cover to the left.**
  Leaving it at a halfway position could cause it to close by itself, causing injury.
- **Immediately after printing, do not touch the print head or its surrounding area.**
  This could cause burns.

Note

- Do not damage the print head or the platen unit with a sharp object. This could cause print failures and malfunctions.
- Do not touch the heating portion of the print head directly. This could cause electrostatic damage to the print head.

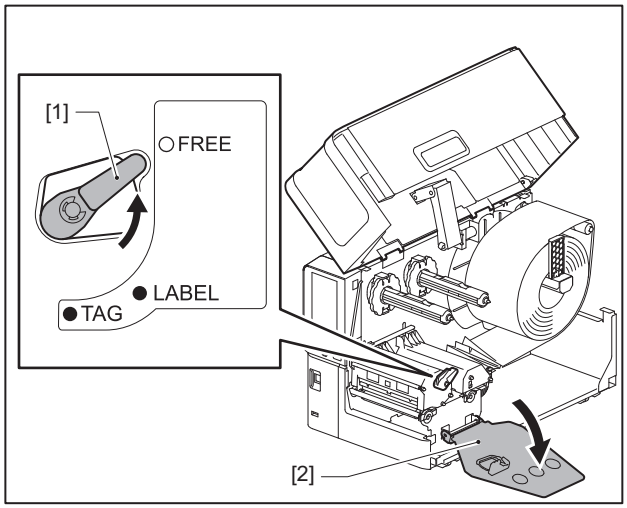
1 **Fully open the top cover [1] to the left.**



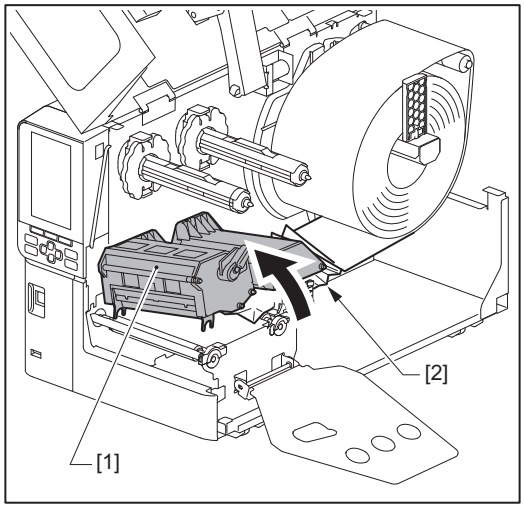
2 **Turn the head lever [1] to the “FREE” position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.**

⚠ **CAUTION**

The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.



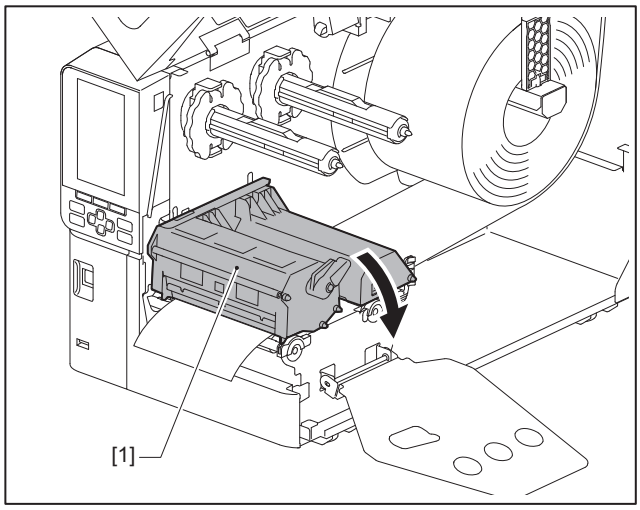
3 **Raise the print head block [1] to clear any jammed media [2].**



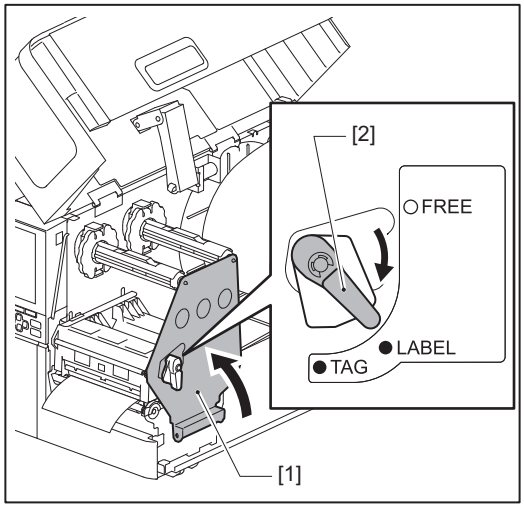
4 **Reload the media properly.**
P.29 “Media loading procedure”

If you removed the ribbon, reload it.
P.43 “Loading the ribbon (thermal transfer method)”

5 **Lower the print head block [1].**



6 **Install the ribbon shaft fixing plate [1] and then turn the head lever [2] to the “LABEL” or “TAG” position to secure the print head block, depending on the media you are using.**



7 **Close the top cover gently.**

8 **Turn on the power to resume printing.**
P.26 “Turning on the printer”

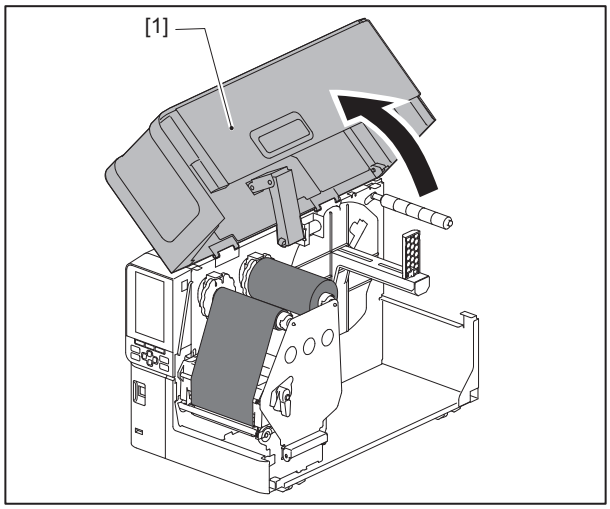
■ If the ribbon is cut off in the middle

If the ribbon is cut off in the middle, repair it with the procedure below. (Temporary measure)
If you have a new ribbon, replace the ribbon with that one.
🕮 P.43 “Loading the ribbon (thermal transfer method)”

⚠ CAUTION

- **Fully open the top cover to the left.**
  Leaving it at a halfway position could cause it to close by itself, causing injury.
- **Immediately after printing, do not touch the print head or its surrounding area.**
  This could cause burns.

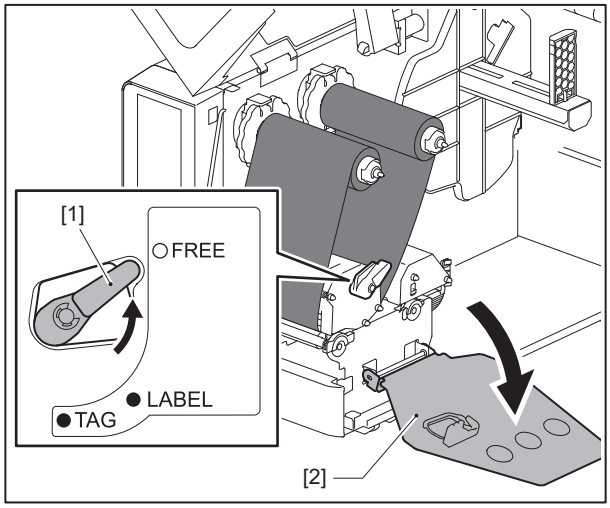
1 **Fully open the top cover [1] to the left.**



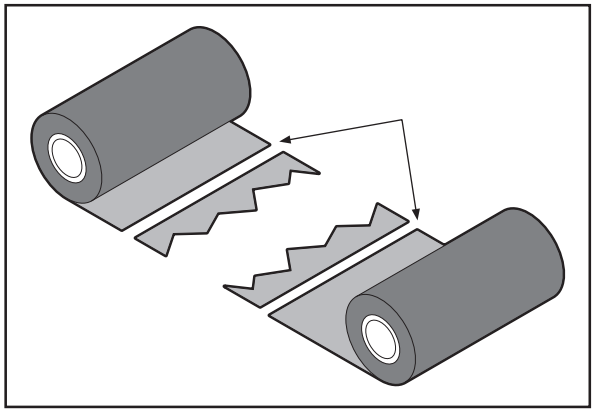
2 **Turn the head lever [1] to the “FREE” position. Then, gently pull the ribbon shaft fixing plate [2] downwards to the right.**

⚠ CAUTION

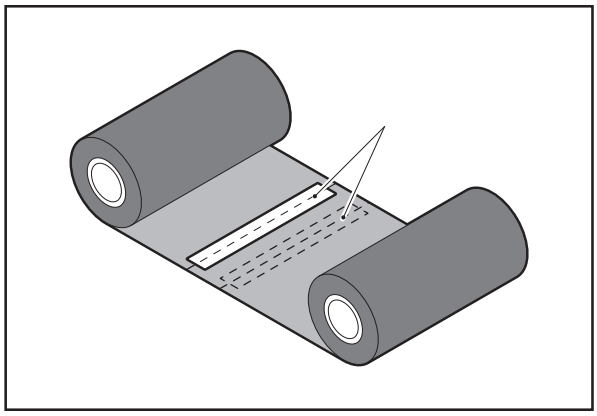
The ribbon shaft fixing plate may fall under its own weight, causing injury. Put your hand on the ribbon shaft fixing plate and pull it down slowly.



3 **Cut the cut off portions neatly.**



4 **Overlay one portion on the other, aligning them horizontally, and fasten the overlay firmly with adhesive cellophane tape.**



5 **Make two or three winds of the ribbon around the take-up (used ribbon) side roll.**

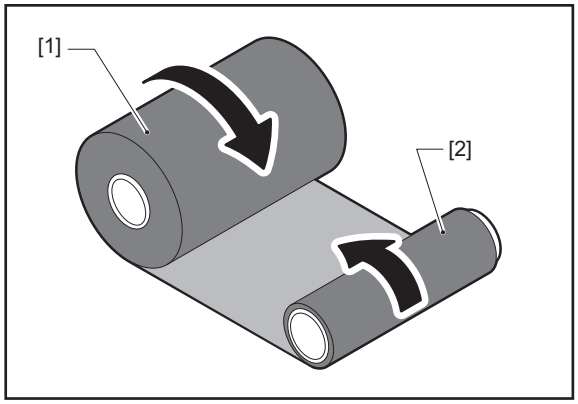
6 **Reload the ribbon properly.**

P.43 “Loading the ribbon (thermal transfer method)”

■ If the ribbon winds become disordered

If the ribbon winds become disordered because the ribbon storage condition is poor or you dropped the ribbon when loading it, wind the ribbon again with the procedure below. (Temporary measure)
If you have a new ribbon, replace the ribbon with that one.
🕮 P.43 “Loading the ribbon (thermal transfer method)”

1 This step requires two people. One person holds the supply side (unused) ribbon roll [1] and the other holds the take-up side (used) ribbon roll [2]. Wind the ribbon, aligning it horizontally, while keeping the ribbon taut.

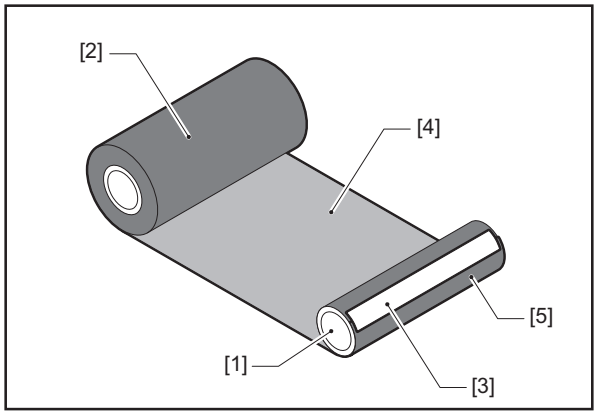


Note

Do not pull the ribbon strongly. Pulling it more strongly than necessary could cut off the ribbon.

2 If the ribbon cannot be wound properly, cut off the used ribbon roll.
Remove the used ribbon roll from the take-up side core.

3 Attach the supply side (unused) ribbon [2] to the take-up side core [1] firmly with adhesive cellophane tape [3].
A ribbon has a back side [4] and a front side (ink side) [5]. Load it carefully.



Note

Attach the ribbon so that it will be vertical to the take-up side core [1].
Attaching it diagonally could cause the ribbon to be wrinkled.

4 Make two or three winds of the ribbon around the take-up side core.

5 Reload the ribbon properly.
🕮 P.43 “Loading the ribbon (thermal transfer method)”

5

Appendix

Specifications

■ Printer

Item		Description
Model		BX410T-GS02-QM-S, BX410T-TS02-QM-S, BX410T-GS06-QM-S, BX410T-TS06-QM-S
Power supply		AC100–240 V, 50/60 Hz
Power consumption		During printing: 140 W (at a print rate of 20 %, slant line print format) During standby: 9 W
Operating temperature range		5 to 40 °C (41 to 104 °F)
Operating humidity range		25 to 85% (no condensation)
Printing method		Thermal transfer (ribbon transfer)/Direct thermal (heat direct coloring)
Resolution		BX410T-GS02-QM-S, BX410T-GS06-QM-S: 8 dots/mm (203 dpi) BX410T-TS02-QM-S, BX410T-TS06-QM-S: 12 dots/mm (305 dpi) (The print head replacement allows for resolution switching between 203 dpi and 305 dpi.)
Printing speed *1	203 dpi	Batch/cut issuance: 76.2 mm (3")/sec., 152 mm (6")/sec., 254.0 mm (10")/sec., 304.8 mm (12")sec., 355.6 mm (14")/sec. When using a rotary cutter: 76.2 mm (3")/sec., 152 mm (6")/sec. Peel-off issuance: 76.2 mm (3")/sec., 152 mm (6")/sec., 254.0 mm (10")/sec. Peel-off issuance with External I/O (mode Type1-TTEC mode): 76.2 mm (3")/sec., 152 mm (6")/sec. Peel-off issuance with External I/O (mode Type2-Inline mode): 76.2 mm (3")/sec., 152 mm (6")/sec., 254.0 mm (10")/sec., 304.8 mm (12")/sec., 355.6 mm (14")/sec.
	305 dpi	Batch/cut issuance: 76.2 mm (3")/sec., 127 mm (5")/sec., 203.2 mm (8")/sec., 254.0 mm (10")/sec., 304.8 mm (12")/sec., 355.6 mm (14")/sec. When using a rotary cutter: 76.2 mm (3")/sec., 127 mm (5")/sec., 203.2 mm (8")/sec. Peel-off issuance: 76.2 mm (3")/sec., 127 mm (5")/sec., 203.2 mm (8")/sec. Peel-off issuance with External I/O (mode Type1-TTEC mode): 76.2 mm (3")/sec., 127 mm (5")/sec. Peel-off issuance with External I/O (mode Type2-Inline mode): 76.2 mm (3")/sec., 127 mm (5") /sec., 203.2 mm (8")/sec., 254.0 mm (10")/sec., 304.8 mm (12")/sec., 355.6 mm (14")/sec.
Issue mode		Batch/Cut (optional)/Peel-off issuance (optional)
Color LCD		272 x 480 dot-color LCD
Display language		English, German, French, Dutch, Spanish, Japanese, Italian, Portuguese, Simplified Chinese, Korean, Turkish, Polish, Russian, Czech
Effective print width		Up to 104 mm (4.1")
Characters	Alpha-numeric/ kana	Times Roman, Helvetica, Presentation, Letter Gothic, Prestige Elite, Courier, OCR-A, OCR-B, Gothic 725 Black
	Kanji	16x16, 24x24, 32x32, 48x48 (Kaku Gothic) 24x24, 32x32 (Mincho)
	External characters	16x16, 24x24, 32x32, 48x48 dots: 1 type each, one-size-fits-all: 40 types
	Other	Outline font (alphanumeric): 5 types, Price font: 3 types, NotoSansFont
Barcodes		JAN8/13, EAN8/13, EAN8/13 add on 2&5, UPC-A/E, UPC-A/E add on 2&5, Interleaved 2 of 5, NW-7, CODE39/93*2/128*2, EAN128, MSI, Industrial 2of5, RM4SCC, KIX code, GS1 Databar, USPS Intelligent mail barcode, Customer Barcode, POSTNET, MATRIX 2of5 for NEC
2D codes		QR code, Micro QR code, Security QR code, PDF417, MaxiCode, DataMatrix, MicroPDF417, GS1 Data Matrix, GS1 QR code, Aztec code, CP code

Item	Description
Interface	USB port x1 (high-speed 2.0-compliant port) LAN port x1 (10BASE-T/100BASE-TX/1000BASE-T compliant) USB host x1 (high-speed USB V2.0-compliant port) Bluetooth x1 (Optional: BX700-WLBT-S) (V5.0 Dual mode) Wireless LAN x1 (Optional: BX700-WLBT-S) (IEEE802.11a/b/g/n/ac/ax compliant) RS-232C x1 (Optional: B-EX700-RS-QM-R) External I/O x1 (Optional: BX700-IO-QM-S)
Dimensions (W x D x H)	278.0 mm x 460.0 mm x 310.0 mm (10.95" x 18.11" x 12.20")
Weight	Approx. 17.0 kg (37.5 lb)
Options (separately sold)	Disc cutter module (BX204-QM-S) Rotary cutter module (BX204-R-QM-S) Peel-off module (BX904-H-QM-S) Ribbon saving kit (BX904-R-QM-S) Real time clock (BX704-RTC-QM-S) External media guide module (BX904-FF-QM-S) Wireless communication module (BX700-WLBT-QM-S) *3 Serial I/F board (B-EX700-RS-QM-R) External I/O board (BX700-IO-QM-S) UHF RFID kit (BX704-RFID-U4-US-S/EU-S/AU-S/IN-S)*4 HF RFID kit (BX704-RFID-H3-QM-S) *4 203 dpi print head (BX704-TPHE2-QM-S) 305 dpi print head (BX704-TPHE3-QM-S) Narrow width platen (B-EX904-PK-QM-R)

*1 Depending on the combination of supplies used, the print speed may be restricted.
*2 When printing a CODE93 or CODE128 serial barcode, locate it at least 10 mm away from the print start position. Otherwise, poor scanning may occur.
*3 Ask your dealer when the Bluetooth function will be available.
*4 The GS06/TS06 models come standard with a UHF RFID module. This option is not utilized.

Tip

Specifications of the printer are subject to change in the future without prior notice.

■ Media

Media include labels, tags, and receipts of the heat direct coloring type.
Use Toshiba Tec Corporation certified genuine media.
For details about ordering and preparing media, contact your service representative.

❑ BX410T-GS02-QM-S, BX410T-GS06-QM-S

Unit: mm (inch)

<table>
<tr><th colspan="2" rowspan="4">Item</th><th rowspan="4">Batch issuance</th><th rowspan="4">Peel-off issuance *1</th><th colspan="3">Cut issuance</th></tr>
<tr><th rowspan="3">Disc cutter</th><th colspan="2">Rotary cutter *2</th></tr>
<tr><th colspan="2">Head-up</th></tr>
<tr><th>No</th><th>Yes</th></tr>
<tr><td rowspan="3">Media length (pitch)</td><td rowspan="2">Label</td><td rowspan="2">10.0 - 1500.0
(0.39 - 59.1)</td><td rowspan="2">17.0 - 1500.0
(0.67 - 59.1)</td><td rowspan="2">26.0 - 1500.0
(1.02 - 59.1)</td><td>3 ips:
87.0 - 1500.0
(3.43 - 59.1)</td><td rowspan="2">38.0 - 1500.0
(1.50 - 59.1)</td></tr>
<tr><td>6 ips:
99.0 - 1500.0
(3.9 - 59.1)</td></tr>
<tr><td>Tag</td><td>10.0 - 1500.0
(0.39 - 59.1)</td><td>-</td><td>25.0 - 1500.0
(0.98 - 59.1)</td><td colspan="2">3 ips, 6 ips:
30.0 - 1500.0
(1.18 - 59.1)</td></tr>
<tr><td colspan="2" rowspan="2">Label length</td><td rowspan="2">8.0 - 1498.0
(0.31 - 59.0)</td><td rowspan="2">15.0 - 1498.0
(0.59 - 59.0)</td><td rowspan="2">23.0 - 1494.0
(0.91 - 58.82)</td><td>3 ips:
81.0 - 1494.0
(3.19 - 58.82)</td><td rowspan="2">25.0 - 1494.0
(0.98 - 58.82)</td></tr>
<tr><td>6 ips:
93.0 - 1494.0
(3.66 - 58.82)</td></tr>
<tr><td rowspan="2">Base width (Tag width)</td><td>Thermal</td><td>30.0 - 120.0
(1.18 - 4.72)</td><td>50.0 - 120.0
(1.97 - 4.72)</td><td colspan="3">30.0 - 120.0
(1.18 - 4.72)</td></tr>
<tr><td>Transfer</td><td>30.0 - 107.0
(1.18 - 4.21)</td><td>50.0 - 107.0
(1.97 - 4.21)</td><td colspan="3">30.0 - 107.0
(1.18 - 4.21)</td></tr>
<tr><td rowspan="2">Label width</td><td>Thermal</td><td colspan="5">22.0 - 117.0
(0.87 - 4.61)</td></tr>
<tr><td>Transfer</td><td colspan="5">22.0 - 104.0
(0.87 - 4.09)</td></tr>
<tr><td colspan="2">Gap length</td><td colspan="2">2.0 - 20.0
(0.08 - 0.79)</td><td>3.0 - 20.0
(0.12 - 0.79)</td><td colspan="2">6.0 - 20.0
(0.24 - 0.79)</td></tr>
<tr><td colspan="2">Black mark length</td><td colspan="5">2.0 - 10.0</td></tr>
<tr><td colspan="2">Effective print width</td><td colspan="5">104.0</td></tr>
<tr><td rowspan="3">Effective print length</td><td rowspan="2">Label</td><td rowspan="2">6.0 - 1496.0
(0.24 - 58.9)</td><td rowspan="2">21.4 - 1496.0
(0.84 - 58.9)</td><td rowspan="2">21.4 - 1492.0
(0.84 - 58.74)</td><td>3 ips:
79.0 - 1492.0
(3.11 - 58.74)</td><td rowspan="2">23.0 - 1492.0
(0.91 - 58.74)</td></tr>
<tr><td>6 ips:
91.0 - 1492.0
(3.58 - 58.74)</td></tr>
<tr><td>Tag</td><td>8.0 - 1498.0
(0.31 - 59.0)</td><td>-</td><td>21.4 - 1498.0
(0.84 - 59.0)</td><td colspan="2">3 ips, 6 ips:
28.0 - 1498.0
(1.10 - 59.0)</td></tr>
</table>

Item	Batch issuance	Peel-off issuance *1	Cut issuance		
			Disc cutter	Rotary cutter *2	
				Head-up	
				No	Yes
Non-printing area in the slow up/down section	Slow up: 1.0 (0.04) Slow down: 1.0 (0.04) (1.5 (0.06) only at 14 ips)				
Thickness	0.13 - 0.17 (0.005 - 0.007)	0.13 - 0.17 (0.005 - 0.007)	0.13 - 0.17 (0.005 - 0.007)	0.13 - 0.17 (0.005 - 0.007)	
				(30 - 50 mm (1.18" - 1.97") width) 0.13 - 0.263 (0.005 - 0.007)	
Maximum effective print length for on-the-fly issuance	749.0 (29.5)				
Maximum outer roll diameter	Ø200 (7.87)				
Core inner diameter	Ø76.2±0.3 (3.0±0.01)				
Roll direction	Inner roll (standard)/Outer roll				

*1 If 12 ips or more is specified, the media is issued at 10 ips.
*2 If 10 ips or more is specified, the media is issued at 6 ips.

❑ BX410T-TS02-QM-S, BX410T-TS06-QM-S

Unit: mm (inch)

<table>
<tr><th colspan="2" rowspan="3">Item</th><th rowspan="3">Batch issuance</th><th rowspan="3">Peel-off issuance *1</th><th colspan="3">Cut issuance</th></tr>
<tr><th rowspan="2">Disc cutter</th><th colspan="2">Rotary cutter *1</th></tr>
<tr><th colspan="2">Head-up</th></tr>
<tr><th colspan="2"></th><th></th><th></th><th></th><th>No</th><th>Yes</th></tr>
<tr><td rowspan="4">Media length (pitch)</td><td rowspan="3">Label</td><td rowspan="3">10.0 - 1500.0
(0.39 - 59.1)</td><td rowspan="3">17.0 - 1500.0
(0.67 - 59.1)</td><td rowspan="3">26.0 - 1500.0
(1.02 - 59.1)</td><td>3 ips:
87.0 - 1500.0
(3.43 - 59.1)</td><td rowspan="3">38.0 - 1500.0
(1.50 - 59.1)</td></tr>
<tr><td>5 ips:
102.0 - 1500.0
(4.02 - 59.1)</td></tr>
<tr><td>8 ips:
113.0 - 1500.0
(4.45 - 59.1)</td></tr>
<tr><td>Tag</td><td>10.0 - 1500.0
(0.39 - 59.1)</td><td>-</td><td>25.0 - 1500.0
(0.98 - 59.1)</td><td colspan="2">3 ips, 5 ips:
30.0 - 1500.0
(1.18 - 59.1)</td></tr>
<tr><td colspan="2" rowspan="3">Label length</td><td rowspan="3">6.0 - 1498.0
(0.24 - 59.0)</td><td rowspan="3">15.0 - 1498.0
(0.59 - 59.0)</td><td rowspan="3">23.0 - 1494.0
(0.91 - 58.82)</td><td>3 ips:
81.0 - 1494.0
(3.19 - 58.82)</td><td rowspan="3">25.0 - 1494.0
(0.98 - 58.82)</td></tr>
<tr><td>5 ips:
89.0 - 1494.0
(3.50 - 58.82)</td></tr>
<tr><td>8 ips:
100.0 - 1494.0
(3.94 - 58.82)</td></tr>
<tr><td rowspan="2">Base width (Tag width)</td><td>Thermal</td><td>30.0 - 120.0
(1.18 - 4.72)</td><td>50.0 - 120.0
(1.97 - 4.72)</td><td colspan="3">30.0 - 120.0
(1.18 - 4.72)</td></tr>
<tr><td>Transfer</td><td>30.0 - 107.0
(1.18 - 4.21)</td><td>50.0 - 107.0
(1.97 - 4.21)</td><td colspan="3">30.0 - 107.0
(1.18 - 4.21)</td></tr>
<tr><td rowspan="2">Label width</td><td>Thermal</td><td colspan="4">22.0 - 117.0
(0.87 - 4.61)</td><td></td></tr>
<tr><td>Transfer</td><td colspan="4">22.0 - 104.0
(0.87 - 4.09)</td><td></td></tr>
<tr><td colspan="2">Gap length</td><td colspan="2">2.0 - 20.0
(0.08 - 0.79)</td><td>3.0 - 20.0
(0.12 - 0.79)</td><td colspan="2">6.0 - 20.0
(0.24 - 0.79)</td></tr>
<tr><td colspan="2">Black mark length</td><td colspan="5">2.0 - 10.0</td></tr>
<tr><td colspan="2">Effective print width</td><td colspan="5">104.0</td></tr>
</table>

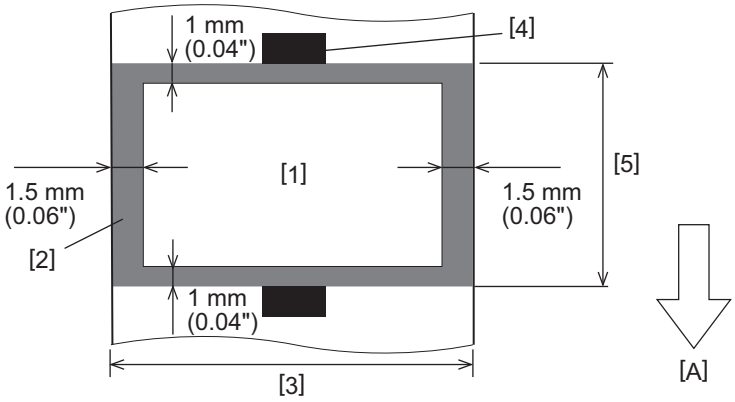
<table>
<tr><th colspan="2" rowspan="3">Item</th><th rowspan="3">Batch issuance</th><th rowspan="3">Peel-off issuance *1</th><th colspan="3">Cut issuance</th></tr>
<tr><th rowspan="2">Disc cutter</th><th colspan="2">Rotary cutter *1</th></tr>
<tr><th colspan="2">Head-up</th></tr>
<tr><th colspan="2"></th><th></th><th></th><th></th><th>No</th><th>Yes</th></tr>
<tr><td rowspan="4">Effective print length</td><td rowspan="3">Label</td><td rowspan="3">6.0 - 1496.0
(0.24 - 58.9)</td><td rowspan="3">21.4 - 1496.0
(0.84 - 58.9)</td><td rowspan="3">21.4 - 1492.0
(0.84 - 58.74)</td><td>3 ips:
79.0 - 1492.0
(3.11 - 58.74)</td><td rowspan="3">23.0 - 1492.0
(0.91 - 58.74)</td></tr>
<tr><td>5 ips:
87.0 - 1492.0
(3.43 - 58.74)</td></tr>
<tr><td>8 ips:
98.0 - 1492.0
(3.86 - 58.74)</td></tr>
<tr><td rowspan="2">Tag</td><td rowspan="2">8.0 - 1498.0
(0.31 - 59.0)</td><td rowspan="2">-</td><td rowspan="2">21.4 - 1498.0
(0.84 - 59.0)</td><td colspan="2">3 ips, 5 ips:
28.0 - 1498.0
(1.10 - 59.0)</td></tr>
<tr><td colspan="2">8 ips:
36.0 - 1498.0
(1.42 - 59.0)</td></tr>
<tr><td colspan="2">Non-printing area in the slow up/down section</td><td colspan="5">Slow up: 1.0 (0.04)
Slow down: 1.0 (0.04) (1.5 (0.06) only at 14 ips)</td></tr>
<tr><td colspan="2" rowspan="2">Thickness</td><td rowspan="2">0.13 - 0.17
(0.005 - 0.007)</td><td rowspan="2">0.13 - 0.17
(0.005 - 0.007)</td><td rowspan="2">0.13 - 0.17
(0.005 - 0.007)</td><td colspan="2">0.13 - 0.17
(0.005 - 0.007)</td></tr>
<tr><td colspan="2">(30 - 50 mm (1.18" - 1.97") width)
0.13 - 0.263
(0.005 - 0.007)</td></tr>
<tr><td colspan="2">Maximum effective print length for on-the-fly issuance</td><td colspan="5">749.0
(29.5)</td></tr>
<tr><td colspan="2">Maximum outer roll diameter</td><td colspan="5">Ø200 (7.87)</td></tr>
<tr><td colspan="2">Core inner diameter</td><td colspan="5">Ø76.2±0.3 (3.0±0.01)</td></tr>
<tr><td colspan="2">Roll direction</td><td colspan="5">Inner roll (standard)/Outer roll</td></tr>
</table>

*1 If 10 ips or more is specified, the media is issued at 8 ips.

❑ Notes for media

Note

- If the tail end of the media is fastened to the core with tape or glue, the load on the media could fluctuate at the moment the tail end is peeled off. This could cause uneven transfer, having an impact on printing. Of particular note is that in that event, the printed barcodes or 2 dimensional codes could become unreadable. Before using such labels, be sure to confirm the codes.
  For labels, the impact on printing can be avoided by attaching the media by leaving about 600 mm (23.62") of the base from the last label. Note that in this case, after the last label is printed, a media feed error occurs with the base, instead of a media absence error.
  For labels for which the media pitch is 75.5 mm (2.97") or less, it is possible to make a media absence error occur even without leaving the base from the last label, as mentioned above, but for the printing of labels about 550 mm (21.65") before the end of the base, uneven transfer may occur, having an impact on printing.
- Depending on the status of the tape at the tail end of the media, the peeled off tape may affect the sensor, causing a media feed error to occur, not a media absence error.
- Use RFID labels in batch issuance mode. Using them with reverse operations (cut issuance, peel-off issuance, or batch issuance with move to tearoff) may cause paper jams depending on the pitch of the RFID labels.
- The gray portions in the figure below are outside the printing-guaranteed area. Printing in any of these portions could affect the print quality in the printing-guaranteed area.



1. Printing-guaranteed area
2. Area outside the printing-guaranteed area
3. Width of label upper paper/tag
4. Detector
5. Length of label upper paper/tag

A: Media feed direction

■ RFID tag

Basically, the specification of RFID tag paper conform to the specifications of print media. Items that differ are listed in the table below. For details about ordering RFID tag paper, contact your service representative.

Unit: mm (inch)

Item		Issue mode		
		Batch issuance	Peel-off issuance	Cut issuance
Media pitch		16.0 - 1500 (0.63 - 59.1)	25.4 - 256 (1.0 - 10.08)	25.4 - 1500 (1.0 - 59.1)
Media length		13.0 - 1498 (0.51 - 59.0)	23.4 - 254 (0.92 - 10.0)	22.4 - 1494 (0.88 - 58.82)
Gap/black mark length		2.0 - 20.0 (0.08 - 0.79)	2.0 - 20.0 (0.08 - 0.79)	6.0 - 20.0 (0.24 - 0.79)
Effective print length	Label	6.0 - 1496 (0.24 - 58.9)	21.4 - 252 (0.84 - 9.92)	21.4 - 1492 (0.84 - 58.74)
	Tag	8.0 - 1498 (0.31 - 59.0)	-	21.4 - 1498 (0.84 - 59.0)
Core inner diameter		Ø76.2±0.3 (3.0±0.01)		
Roll direction		Inner roll/Outer roll		

❑ Notes on using RFID tag paper

1. Accuracy of encoding

It is not possible to guarantee 100% encoding under all usage environments and conditions, including external factors (noise), apart from the performance of the tag used (IC, inlay shape/size), temperature, and humidity. Thus, be sure to conduct advance confirmation in the environment actually used. If encoding fails, horizontal lines are printed.

2. Storing RFID tag paper

Avoid storing RFID tag paper close to the printer, such as on or near the media outlet, as this can impair read/write performance.

3. RFID tag paper rolls

If making RFID tag paper into a roll, pay attention to the rolling pressure. In general, RFID tag paper tends to become curly when rolled depending on the label glue, tag, and base. Besides, for inner rolls, paper jams could result. It is recommended to use outer rolls of RFID tag paper if there is no particular reason.

4. Sensor

Using the transmissive or reflective sensor to issue media may result in variable transmittance/reflectance due to the RFID tag's antenna pattern and other factors. Should this issue arise, adjust the sensor sensitivity and configure the threshold settings in system mode.
For details, refer to "Key Operation Specification".

5. Cutter

When cutting RFID tag paper, take care not to cut through the RFID tags' antennas or IC chips. The cutting position can be adjusted through [User Mode] > [Set Parameters] > [Position Adjustment] > [Cut/Peel Adjust].

6. Static electricity

If issuing RFID tag paper in a low-humidity environment, for example, use caution because static electricity generated due to the paper or the ribbon could reduce the data write success rate.

7. Ambient temperature

The performance of the wireless system changes depending on the ambient temperature. If the ambient temperature changes from the one at the time of making the RFID settings, writing to data to the RFID tag may fail.

8. Manual cutting/Cut issuance

During manual cutting or cut issuance, reverse feeding to the RFID writing position may cause the RFID tag paper to slip out of the platen, resulting in a failure to continue issuance.

9. Peel-off issuance

If you perform the peel-off issuance of RFID labels, the peel-off performance varies depending on the glue of the label used, tag, and base. Depending on the media, peel-off issuance cannot be performed normally.

10. Notes on using short-pitch media

If media with a short pitch (RFID tag placement interval) are used, there are cases in which even if an attempt is made to write data to the tag to which it should be written, the data is written to a neighboring tag. The position at which data can be written differs depending on the tag type, and it is necessary to conduct measurement by using actual tags so that data cannot be written to a neighboring tag. To diagnose read/write positions, use the BCP RFID analyze tool. For details, contact your service representative.

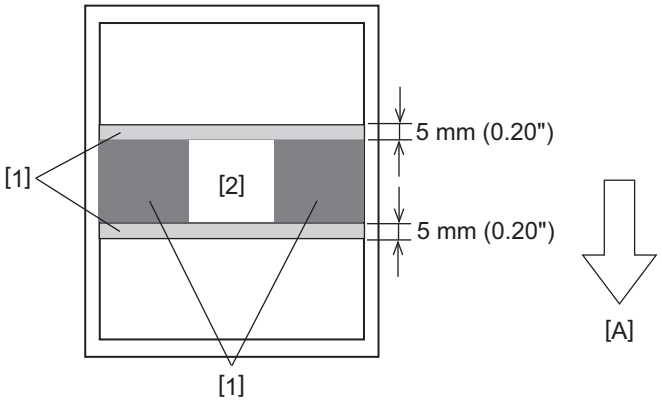
11. Defective RFID tag

RFID tag paper may contain defective tags before shipment from the manufacturer. The defect rate differs depending on the tag type, the method of manufacturing the RFID tag paper, and other factors. It is necessary to have the RFID tag paper manufacturer remove defective tags in the manufacture process or to have them make defective tags identifiable by, for example, placing marks on defective tags and confirm the identification method.

12. Printing on the RFID tag-encapsulated portion (chip/antenna portion)

The surface of the portion of the media in which the RFID tag is encapsulated is uneven, and printing in this portion could cause the print around the uneven portion to be discontinuous. In the area of 5 mm (0.20") before and after the RFID tag-encapsulated portion and on both lateral sides of the portion, in particular, printing is likely to be blurred and discontinuous. These areas are outside the printing-guaranteed area. (Refer to the figure below.)

* The degree of blur or discontinuity differs depending on the height of the RFID tag (chip/antenna) encapsulated.

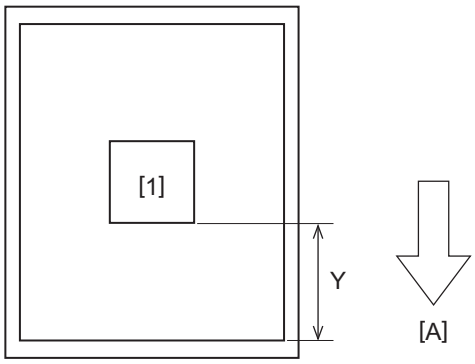


1. Area outside the printing-guaranteed area
2. RFID tag-encapsulated portion

A: Media feed direction

13. Constraints on the placement of the RFID tag-encapsulated portion (chip/antenna portion)

- The RFID tag-encapsulated portion (chip/antenna portion) should be placed within 50 mm (1.97") of the leading edge of the paper (as shown in the figure below, Y ≤ 50 mm). If it is placed beyond 50 mm (1.97"), reverse feeding of more than 50 mm (1.97") may be required to move from the RFID writing position to the home position, which could cause the printer to fail in performing reverse feeding properly.
- For manual cutting or cut issuance, the RFID tag-encapsulated portion should be placed at least 30 mm (1.18") from the leading edge of the paper (as shown in the figure below, Y ≥ 30 mm). If it is placed within 30 mm (1.18"), reverse feeding during the movement from the home position to the RFID writing position may cause the RFID tag paper to slip out of the platen, resulting in a failure to continue issuance.



1. RFID tag-encapsulated portion

A: Media feed direction

■ Ribbon

Use a Toshiba Tec Corporation certified genuine ribbon.
For details about ordering a ribbon, contact your service representative.

Item		Description
Ribbon shape		Spool method
Ribbon width		40 - 112 mm (1.57" - 4.41")
Ribbon width tolerance		±1 mm (0.04")
Ribbon winding width		Ribbon width -0/+2 mm (-0/+0.08")
Maximum ribbon length		800 mm (31.5") (Ø90 mm (3.54") or less)
Maximum ribbon outer diameter		Ø90 mm (3.54")
Back treatment		Yes
Ribbon core	Material	Paper
	Inner diameter	Ø25.7±0.2 mm (1.01"±0.008")
	Length	112±0.5 mm (4.41"±0.02")
Leader tape		Polyester film (silver) 300±5 mm (11.81"±0.20") or longer
End tape		Polyester film (silver) 250±5 mm (9.84"±0.20") or longer
Winding method		Outer roll

Note

- Select a ribbon that matches the width of your media (base). A ribbon that is too narrow reduces the printable area, while one that is too wide can lead to wrinkling. Ideally, use a ribbon slightly wider than the media (base) as shown below.
- Ribbon motor voltage adjustment may be necessary depending on the ribbon width. Using a narrow ribbon can cause wrinkling if wound too tightly. Adjust the ribbon torque and fine tuning via the parameter setting menu in system mode as follows.
  For details, refer to “Key Operation Specification”.

Media width	Ribbon width	Ribbon torque	Ribbon fine adjustment (Take-up side)	Ribbon fine adjustment (Supply side)
30 ≤ Width < 36 mm (1.18" ≤ Width < 1.42")	41 mm (1.61")	Low speed	0	0
36 ≤ Width < 50 mm (1.42" ≤ Width < 1.97")	55 mm (2.17")	Standard	0	0
50 ≤ Width < 63 mm (1.97" ≤ Width < 2.48")	68 mm (2.68")	Standard	0	0
63 ≤ Width < 79 mm (2.48" ≤ Width < 3.11")	84 mm (3.31")	Standard	-1	0
79 ≤ Width < 97 mm (3.11" ≤ Width < 3.82")	102 mm (4.02")	Standard	0	0
97 ≤ Width < 107 mm (3.82" ≤ Width < 4.21")	112 mm (4.41")	Standard	0	0

- Adjust the ribbon so its center aligns with the media’s center. Misaligned centers can lead to ribbon wrinkling.
- Cores with notches can also be used.

■ Notes on using options

⚠ WARNING

Be sure to turn off the main power switch and unplug the power plug from the wall outlet before installing the options.

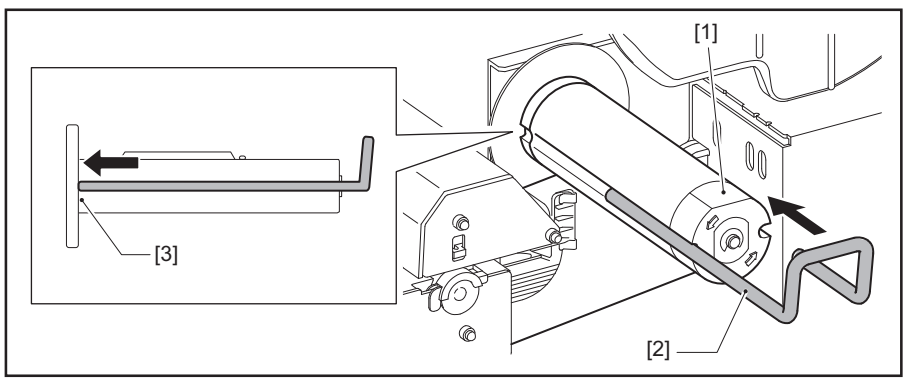
Incorporating an option with the power on could cause fire, electric shock, and injury. To protect the electric circuit inside the printer, connect and disconnect cables at least 1 minute after turning off the power of the printer.

⚠ CAUTION

- **Make sure that your fingers and hands do not get caught in covers and so on.**
- **Immediately after printing, do not touch the print head, stepping motor, or their surrounding areas.**
  This could cause burns.
- **When mounting and cleaning the cutter module, do not touch the cutter blade directly.**
  This could cause injury.

Note

- When using a cutter module or rotary cutter module to cut label media, ensure cuts are made at the media gaps (base) rather than through the labels themselves. Cutting through labels can lead to media jams, malfunctions, and reduced cutter lifespan. We recommend using paper with a 6 mm (0.24") gap between labels (base).
- Adjust the cutting position as needed using the [Cut/Peel Adjust].
  For details, refer to “Key Operation Specification”.
- If the media jams in the platen during cut issuance, set the [Move To Tearoff] in the parameter settings to [Enable].
  For details, refer to “Key Operation Specification”.
- If you want to use perforated label media, contact your service representative for details.
- When using the rotary cutter for cut issuance, set the [Head Up Cut/Rewinder] parameter to [Enable] in the settings.
  For details, refer to “Key Operation Specification”.
- BX410T-GS02-QM-S, BX410T-GS06-QM-S: The rotary cutter cannot perform cut issuance at print speeds of 10 ips or higher. When the print speed is set to 10 ips or above, it will automatically be reduced to 6 ips.
- BX410T-TS02-QM-S, BX410T-TS06-QM-S: The rotary cutter cannot perform cut issuance at print speeds of 10 ips or higher. When the print speed is set to 10 ips or above, it will automatically be reduced to 8 ips.
- If you attach the peel-off module and perform the peel-off issuance of label media, it may be impossible to peel off labels correctly depending on the material of the label or the base. For details about the materials of labels and bases, contact your service representative.
- BX410T-GS02-QM-S, BX410T-GS06-QM-S: The peel-off module cannot perform peel-off issuance at print speeds of 12 ips or higher. When the print speed is set to 12 ips or above, it will automatically be reduced to 10 ips.
- BX410T-TS02-QM-S, BX410T-TS06-QM-S: The peel-off module cannot perform peel-off issuance at print speeds of 10 ips or higher. When the print speed is set to 10 ips or above, it will automatically be reduced to 8 ips.
- When setting the print speed to 10 ips or more and performing peel-off issuance, even if the parameter setting [Pre Peel-Off] is set to [Disable], pre-peeling will still be executed.
- When winding media or the base directly onto the peel-off module’s take-up shaft and securing with the clip, please observe the following guidelines:
  [1] Turn up the flat side of the take-up shaft.
  [2] Insert the clip into the take-up shaft.
  [3] Insert the clip until it stops.



BARCODE PRINTERS

Owner's Manual

BX410T-GS02-QM-S/BX410T-GS06-QM-S
BX410T-TS02-QM-S/BX410T-TS06-QM-S

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