

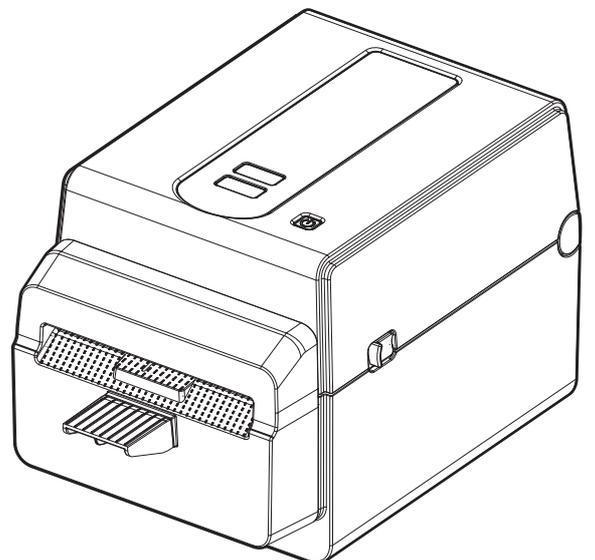
**TOSHIBA**

Barcode Printer

# Owner's Manual

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## BV420D-GL02-QM-S



## Notes to Users

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### **WARNING:**

This is a Class A product. In a domestic environment, this product may cause radio interference in which case the user may be required to take adequate measures.

### **FCC Notice**

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.

### **WARNING**

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

(for USA only)

### **California Proposition 65:USA-California only**

### **WARNING:**

This product can expose you to chemicals including DINP, which is/are known to the State of California to cause cancer, and chemicals including Phthalate[s], which is/are known to the State of California to cause birth defects or other reproductive harm.

For more information go to  
[www.P65Warnings.ca.gov](http://www.P65Warnings.ca.gov).

The device is not intended for use in the direct field of view at visual display workplaces.

To avoid incommoding reflections at visual display workplaces this device must not be placed in the direct field of view.

**This product is designed for commercial usage and is not consumer product.**

### **NOTES:**

- This manual may not be copied in whole or in part without prior written permission of Toshiba Tec Corporation.
- The contents of this manual may be changed without notification.  
Please contact your authorized Toshiba Tec Corporation representative for the latest version of the manual.
- Please refer to your local authorized service representative with regard to any queries you may have in this manual.
- Windows is a registered trademark of Microsoft Corporation.

### Manufacturer:

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

## Precautions for the handling of Wireless Communication Devices

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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.

#### ☐ 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 provide with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

### ■ 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.

# Safety Precautions

## ■ Safety Summary

Personal safety in handling or maintaining the equipment is extremely important. Warnings and Cautions necessary for safe handling are included in this manual. All warnings and cautions contained in this manual should be read and understood before handling or maintaining the equipment.

Do not attempt to effect repairs or modifications to this equipment. If a fault occurs that cannot be rectified using the procedures described in this manual, turn off the power, unplug the machine, and then contact your authorized Toshiba Tec Corporation representative for assistance.

## ■ Meanings of Each Symbol

	<b>WARNING</b>	This symbol 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.
	<b>CAUTION</b>	This symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate injury, partial damage to the equipment or surrounding objects, or loss of data.
	<b>PROHIBITED</b>	This symbol indicates prohibited actions (prohibited items). Specific prohibited contents are drawn inside or near the  symbol. (The symbol on the left indicates “no disassembling”.)
	<b>MUST be Performed</b>	This symbol indicates actions which must be performed. Specific instructions are drawn inside or near the  symbol. (The symbol on the left indicates “disconnect the power cable plug from the outlet”.)

### Note

Indicates information to which you should pay attention when operating the manual.

## ■ WARNING

	<b>WARNING</b> This indicates that there is the risk of <b>death</b> or <b>serious injury</b> if the machine is improperly handled contrary to this indication.
	<b>Any other than the specified AC voltage is prohibited.</b> Do not use voltages other than the AC voltage specified on the rating plate, as this may cause a <b>fire</b> or an <b>electric shock</b> .
	<b>Prohibited</b> Do not plug in or unplug the power cable with wet hands as this may cause an <b>electric shock</b> .
	<b>Prohibited</b> If the machine share the same electrical outlet with any other appliance that consumes a large amount of power, the voltage will fluctuate widely each time these appliances operate. Be sure to provide an exclusive outlet for the machine as this may cause a <b>fire</b> or an <b>electric shock</b> .
	<b>Prohibited</b> Do not place metal objects or water-filled containers such as flower vases, flower pots or mugs, etc. on the top of the machine. If metal objects or spilled liquid enter the machine, this may cause a <b>fire</b> or an <b>electric shock</b> .

	<b>Prohibited</b>	Do not insert or drop metal, flammable or other foreign objects into the machine through the ventilation slits, as this may cause a <b>fire</b> or an <b>electric shock</b> .
	<b>Prohibited</b>	Do not scratch, damage or modify the power cable. Also, do not place heavy objects on, pull on, or excessively bend the power cable, as this may cause a <b>fire</b> or an <b>electric shock</b> .
	<b>Disconnect the plug.</b>	If the machine is dropped or their cabinet damaged, first turn off the power switch and disconnect the power cable plug from the outlet, and then contact your authorized Toshiba Tec Corporation representative for assistance. Continued use of the machine in that condition may cause a <b>fire</b> or an <b>electric shock</b> .
	<b>Disconnect the plug.</b>	Continued use of the machine in an abnormal condition such as when the machine is producing smoke or strange smells may cause a <b>fire</b> or an <b>electric shock</b> . In these cases, immediately turn off the power switch and disconnect the power cable plug from the outlet. Then, contact your authorized Toshiba Tec Corporation representative for assistance.
	<b>Disconnect the plug.</b>	If foreign objects (metal fragments, water, liquids) enter the machine, turn off the power switch and disconnect the power cable plug from the outlet, and then contact your authorized Toshiba Tec Corporation representative for assistance. Continued use of the machine in that condition may cause a <b>fire</b> or an <b>electric shock</b> .
	<b>Disconnect the plug.</b>	When unplugging the power cable, be sure to hold and pull on the plug. Pulling on the cable may cut or expose the internal wires and cause a <b>fire</b> or an <b>electric shock</b> .
	<b>Connect a grounding wire.</b>	Ensure that the equipment is properly grounded. Extension cables should also be grounded. <b>Fire</b> or <b>electric shock</b> could occur on improperly grounded equipment.
	<b>No disassembling.</b>	Do not remove covers, repair or modify the machine by yourself. Contact your authorized Toshiba Tec Corporation representative for assistance. You may be <b>injured</b> by high voltage, very hot parts or sharp edges inside the machine.
	<b>Prohibited</b>	Do not use a spray cleaner containing flammable gas for cleaning this product, as this may cause a <b>fire</b> .
	<b>Prohibited</b>	Care must be taken not to injure yourself with the printer paper cutter.

## ■ CAUTION



### CAUTION

This indicates that there is the risk of personal **Injury** or **damage** to objects if the machine is improperly handled contrary to this indication.

### Precautions

The following precautions will help to ensure that this machine will continue to function correctly.

- Try to avoid locations that have the following adverse conditions:
  - Temperatures out of the specification
  - Direct sunlight
  - High humidity
  - Shared power source
  - Excessive vibration
  - Dust/Gas
- The cover should be cleaned by wiping with a dry cloth or a cloth slightly dampened with a mild detergent solution. NEVER USE THINNER OR ANY OTHER VOLATILE SOLVENT on the plastic covers.
- USE ONLY TOSHIBA TEC CORPORATION SPECIFIED paper.
- DO NOT STORE the paper where they might be exposed to direct sunlight, high temperatures, high humidity, dust, or gas.
- Ensure the printer is operated on a level surface.
- When an external power source such as an AC adapter is connected to the printer, DO NOT use any device other than the FSP060-RAAK3 AC adapter.
- Any data stored in the memory of the printer could be lost during a printer fault.
- Try to avoid using this equipment on the same power supply as high voltage equipment or equipment likely to cause mains interference.
- Unplug the machine whenever you are working inside it or cleaning it.
- Keep your work environment static free.
- Do not place heavy objects on the top of the machine, as these items may become unbalanced and fall causing **injury**.
- Do not block the ventilation slits of the machine, as this will cause heat to build up inside the machine and may cause a **fire**.
- Do not lean against the machine. It may fall on you and could cause **injury**.
- Unplug the machine when it is not used for a long period of time.
- Place the machine on a stable and level surface.

### Request Regarding Maintenance

- Utilize our maintenance services.

After purchasing the machine, contact your authorized Toshiba Tec Corporation representative for assistance once a year to have the inside of the machine cleaned.

Dust will build up inside the machine and may cause a **fire** or a **malfunction**.

Cleaning is particularly effective before humid rainy seasons.
- Our preventive maintenance service performs periodic checks and other work required to maintain the quality and performance of the machine, preventing accidents beforehand.

For details, please consult your authorized Toshiba Tec Corporation representative.
- Using insecticides and other chemicals.

Do not expose the machine to insecticides or other volatile solvents. This will cause the cabinet or other parts to deteriorate and may cause the paint to peel.
- For Software License Information, refer to the following website.

[https://www.toshibatec.com/download\\_overseas/printer/manual/](https://www.toshibatec.com/download_overseas/printer/manual/)

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# 1. Product Overview

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## ■ Introduction

Thank you for purchasing our barcode printer. This Owner's Manual contains valuable information such as the general setup and how to confirm the printer's operation using test prints. Read this carefully to help you to gain maximum performance and life from your printer. Be sure to keep this manual close at hand for daily reference. For further information concerning this manual, contact your Toshiba Tec Corporation representative.

## ■ Features

This printer has the following features:

<b>Interfaces</b>	A USB port and Ethernet support interface are embedded in this printer as standard. Wireless LAN, Bluetooth and serial interface (RS-232C) can also be embedded as an option.
<b>Easy to use</b>	The printer mechanism is designed to allow simple operation and easy access to maintenance.
<b>Full range of options</b>	The following optional devices can also be installed in this printer. <ul style="list-style-type: none"><li>• Wireless LAN interface</li><li>• Bluetooth interface</li><li>• Serial (RS-232C) interface</li><li>• AC adapter cover</li></ul>

## ■ Unpacking

**1 Unpack the printer.**

**2 Check that there are no scratches on the printer or any other damage to it.**

**Note**

Toshiba Tec Corporation shall have no liability for any damage or anything similar sustained during transportation.

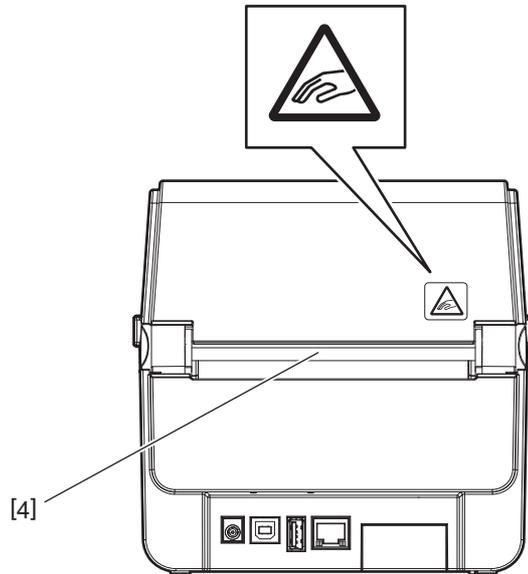
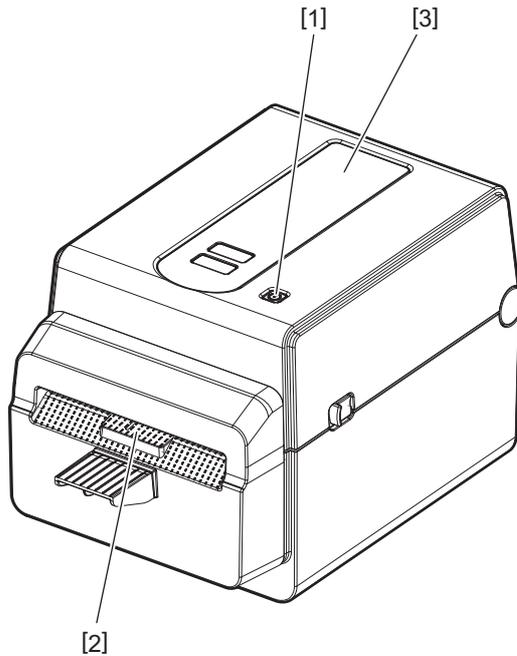
**3 Keep the carton and internal packing materials for future transportation of the printer.**

## 2. Description of Components

The name of the components in this section is used in the following chapters.

### ■ Front and rear views

	<p><b>⚠ CAUTION</b> <b>MECHANICAL HAZARD</b> To avoid injury, be careful not to trap your fingers in the paper slot while opening or closing the top cover.</p>
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No.	Part Name	No.	Part Name
1	[POWER] button	3	Media view window
2	Media outlet	4	Paper slot

#### Note

For the interface section at the rear side, refer to  P.14 “6. Connecting the Cables”.

## Interior



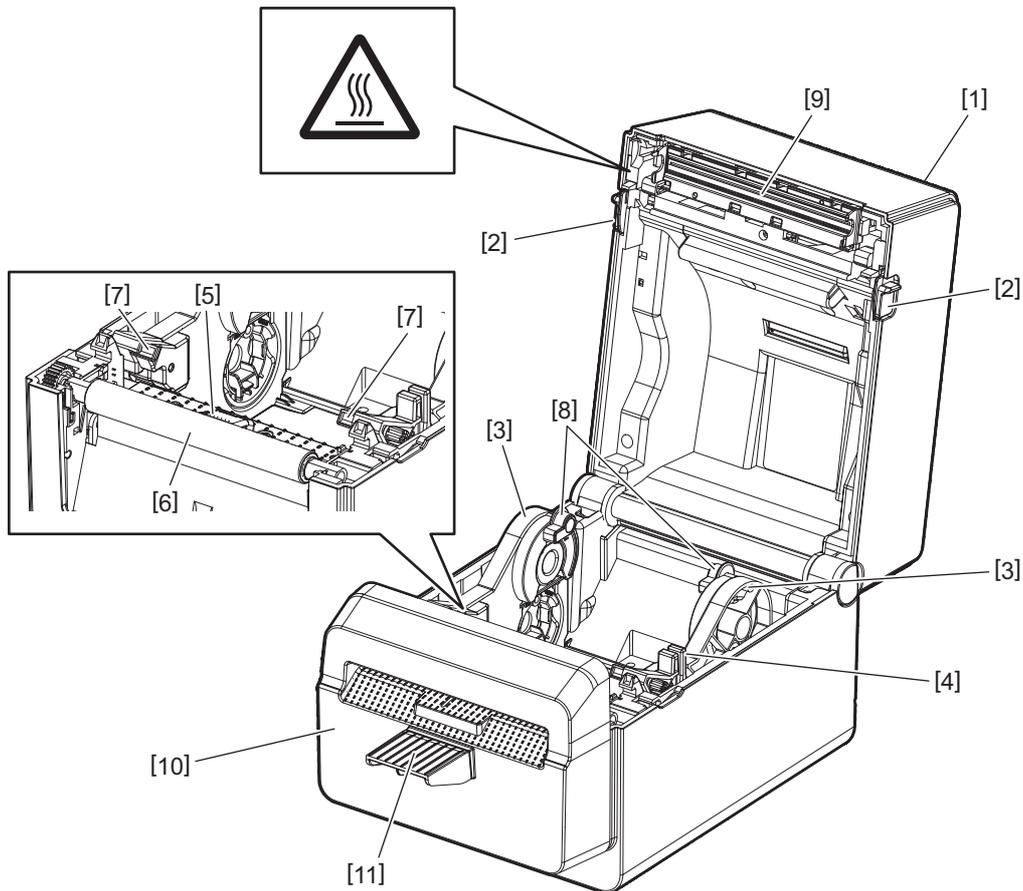
### ⚠ WARNING

#### **HOT SURFACE**

You may get burned.

Do not touch the print head or around it immediately after printing.

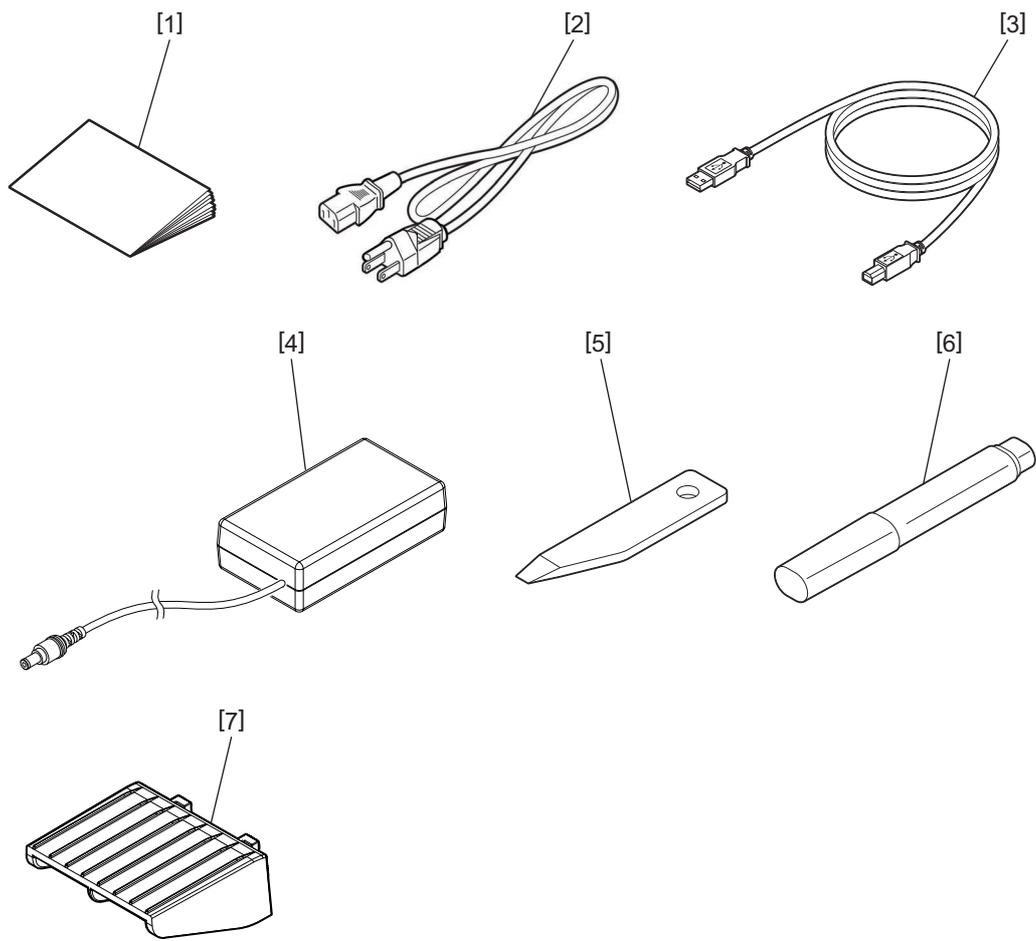
The print head will become very hot during printing.



No.	Part Name	No.	Part Name
1	Top cover	6	Platen roller
2	Lock release portions (left, right)	7	Media guides (left, right)
3	Media roll holder	8	Core holders (left, right)
4	Holder lock lever	9	Print head
5	Media sensors	10	Cutter unit
		11	Cutter tray

### 3. Accessories

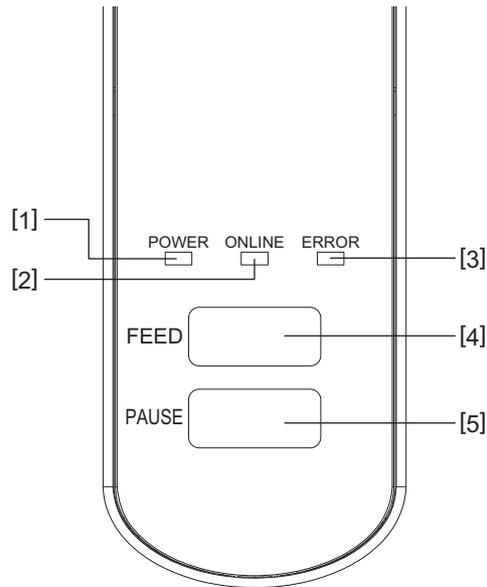
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No.	Part Name	No.	Part Name
1	Owner's Manual	5	Scraper
2	Power Cable	6	Cleaner pen
3	USB cable	7	Cutter tray
4	AC adapter		

## 4. Operation Panel Functions

The buttons on the operation panel are used to operate and set the printer.



No.	Name	Function/Usage
1	POWER lamp	Lights when the power is turned on.
2	ONLINE lamp	<ul style="list-style-type: none"><li>• Lights when the printer is in the online mode.</li><li>• Blinks when communicating with a host computer.</li></ul>
3	ERROR lamp	Lights when a communication error occurs, the paper ends or the printer is not operating correctly.
4	[FEED] button	Feeds one sheet of media by pressing this button while the printer is in the online mode.
5	[PAUSE] button	<ul style="list-style-type: none"><li>• Pauses printing.</li><li>• Resets the printer when paused or when an error occurs.</li></ul>

### Note

When the ERROR lamp lights, an error has occurred in the printer.  
For details, refer to P.26 “12. Troubleshooting”.

## 5. Printer Setup

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This chapter explains the procedures necessary to set up the printer prior to its operation.

### **⚠ WARNING**

Avoid using the printer in the locations where it is subjected to intense light (e.g.: direct sunlight or desk light). Such light may affect the sensors of the printer, causing malfunctions.

### **■ Precautions**

To insure the best operating environment, as well as to assure the safety of the operator and the printer, be sure to observe the following precautions.

- Operate the printer on a stable and level surface in a location free from excessive humidity, high temperature, dust, vibration and direct sunlight.
- Keep the work environment static free. Static discharges can cause damage to delicate internal components.
- Make sure that the printer is connected to a clean AC power source and that no other high voltage devices that may cause line noise interference are connected to the same power source.
- Ensure that the printer is connected only to an AC power source that has a proper ground (earth) connection.
- Do not operate the printer with the cover open. Be careful not to allow your fingers or any articles of clothing to get caught in any of the moving parts of the printer.
- Before working on the inside of the printer or cleaning it, be sure to turn off the power of the printer and remove the AC adapter from it.
- For best results and a longer printer life, use only Toshiba Tec Corporation recommended media. (Refer to the Supply Manual.)
- Store the media in accordance with “How to store and handle the media” in this manual.
- This printer mechanism contains high voltage components. Therefore, you should never remove any of the covers of the printer as you may get an electric shock.  
Additionally, the printer contains many delicate components. They may be damaged if accessed by unauthorized personnel.
- Clean the outside of the printer with a clean dry cloth or a clean cloth slightly dampened with a mild detergent solution.
- The print head and its peripherals will become very hot during printing. You may get burnt if you touch it in such a condition. Therefore, wait until the printer has cooled down sufficiently before cleaning.  
Use only the Toshiba Tec Corporation recommended print head cleaner to clean the print head.
- Do not turn off the printer or remove the power plug while printing or while any lamp is blinking.
- The printer shall be installed near the socket outlet and shall be set so that the power plug can be removed from the socket outlet easily.
- The power plug should be removed from the socket outlet once a year at least and cleaned around the prongs. Accumulating dust and dirt could cause a fire due to the heat released by electrical leakage.
- When the printer will not be used for a long time, pull the lock release lever toward you to unlock the top cover so that no pressure is applied to the label.

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## ■ Setup procedure of the printer

This section explains the procedures necessary to set up the printer properly.

### ⚠ CAUTION

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- To make a communication with a host computer, an RS-232C, Ethernet or USB cable is required.
  - RS-232C cable: 9 pins (Do not use a null modem cable.)
  - Ethernet cable: 10/100 base
  - USB cable: V2.0 (Hi-Speed)
- The use of a Windows driver will enable printing from Windows applications. The printer can also be controlled with its own programming commands. For details, contact your Toshiba Tec representative.

### **1 Unpack the printer and its accessories from the carton.**

### **2 Place the printer in the location where it is used.**

To correctly use and install the printer, see the co-packed "Safety Precautions".

### **3 Check that the printer is turned off.**

Refer to  P.16 "8. Turning the Printer On and Off".

### **4 Connect the printer to the host computer or network using an RS-232C, Ethernet or USB cable.**

Refer to  P.14 "6. Connecting the Cables".

### **5 Connect the AC adapter to the printer and plug the power cable into a properly grounded outlet.**

Refer to  P.15 "7. Connecting the AC Adapter and Power Cable".

### **6 Load the media.**

Refer to  P.18 "10. Loading the Media".

### **7 Install the printer driver in the host computer.**

For the printer driver, download it from the following site.

[https://www.toshibatec.com/download\\_overseas/printer/printer\\_driver/](https://www.toshibatec.com/download_overseas/printer/printer_driver/)

### **8 Turn the power on.**

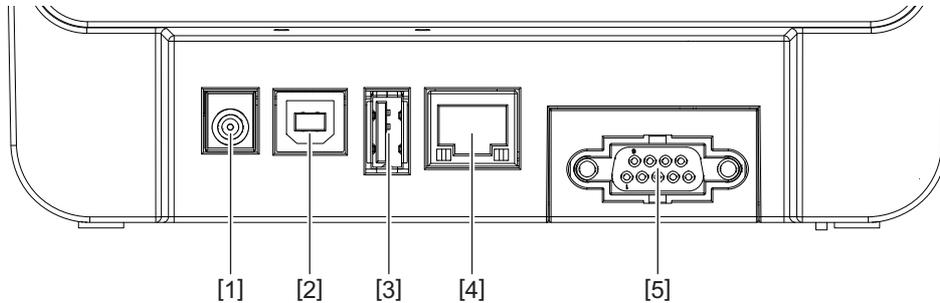
Refer to  P.16 "8. Turning the Printer On and Off".

## 6. Connecting the Cables

This chapter explains on how to connect the communication cables to the printer from a host computer or other devices. Three types of cables can be used in this printer.

### ⚠ CAUTION

- Be sure to connect the serial cable while the printer and the host computer are turned off.
- If an attempt is made to connect the cable while the printer and the host computer are turned on, this may cause damage, an electric shock or a short circuit.

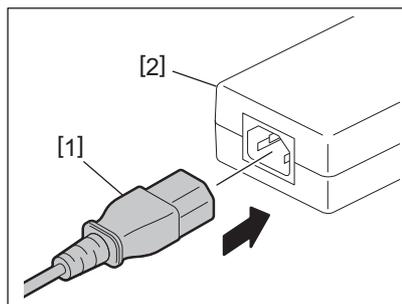


No.	Part Name	Usage
1	Power jack	This is used to connect the AC adapter.
2	USB interface for connecting a host computer	This is used to connect one of the USB ports of a host computer with a USB cable. Use a USB cable which has a type B plug attached to one of its sides.
3	USB interface for connecting a USB memory	This is used to connect another device with a USB cable. e.g. the firmware downloading, the flash ROM expansion by a USB memory etc. and not for user.
4	Ethernet interface	This is used to connect a network with an Ethernet cable. In addition, direct connection to the Ethernet port of a host computer is possible.  <div style="background-color: #cccccc; padding: 2px;"><b>Note</b></div> <ul style="list-style-type: none"> <li>• Be sure to use an Ethernet cable complying with the standard. 10BASE-T: Category 3 or greater 100BASE-TX: Category 5 or greater Cable length: Up to 100 m segment length</li> <li>• If a communication error caused by radio wave interference on the cable has occurred, use a shield cable (STP).</li> </ul>
5	Serial interface (RS-232C) (Option)	This is used to connect one of the COM ports of a host computer with a serial cable.

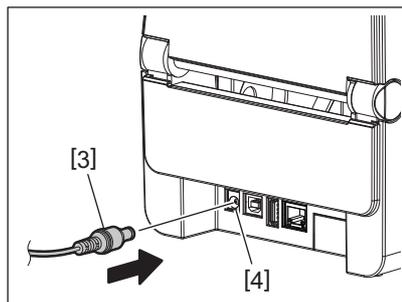
## 7. Connecting the AC Adapter and Power Cable

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- 1** Plug the power cable [1] into the AC adapter [2].



- 2** Plug the AC adapter connector [3] into the power jack [4] at the rear side of the printer.



- 3** Plug the other end of the power cable into a grounded outlet.

## 8. Turning the Printer On and Off

---

### ⚠ CAUTION

- Press the [POWER] button of the printer to turn it on or off.  
Do not plug in or unplug the power cable when you are turning the printer on or off as this may cause a fire, an electric shock or damage to the printer.
- Do not turn the power off during printing as this may cause a media jam or damage to the printer.
- Do not turn the power off while the ONLINE lamp is blinking as this may cause loss or corruption of the data being downloaded.

### ■ How to turn the power on

#### Note

If the printer is connected to a host computer, it is recommended to turn the printer on first and then the host computer.

**1 While the printer is turned off, press the [POWER] button for a few seconds.**

**2 The POWER lamp on the control panel lights.**

If the printer is connected to a host computer, the ONLINE lamp lights.

#### Note

- Approx. 30 seconds will be required to complete the loading of Open Type fonts after the power is turned on. The ONLINE lamp starts blinking (interval: 0.5 sec.) after 10 seconds have passed after the power has come on. When the loading of Open Type fonts is completed, the ONLINE lamp status is changed to lit. While the ONLINE lamp is blinking, print data can be received; however, printing of files including Open Type fonts is not possible.
- When the ERROR lamp lights, an error has occurred in the printer.  
For details, refer to  P.26 “12. Troubleshooting”.

### ■ How to turn the power off

#### Note

If the printer is connected to a host computer, it is recommended to turn the host computer off first and then the printer.

**1 Check that the ONLINE lamp on the control panel is lighting (not blinking).**

**2 Press the [POWER] button for a while. All the lamps will go out and the printer will be turned off.**

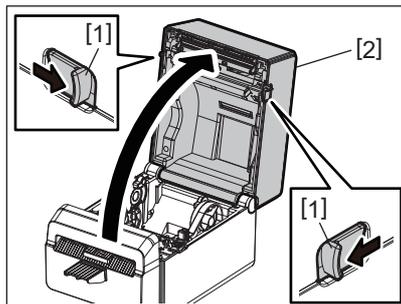
If the printer is connected to a host computer, check that the ONLINE lamp on the control panel has gone out.

## 9. Opening and Closing the Top Cover

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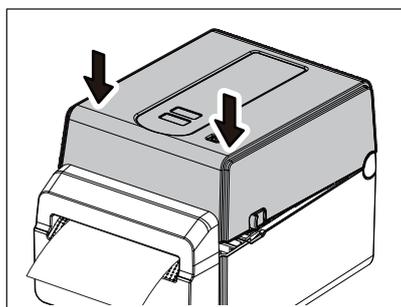
### ■ To open the top cover

While pulling the lock release part [1], open the top cover [2].



### ■ To close the top cover

Close the top cover.



#### Note

Be sure to close the top cover completely. Otherwise, this may affect the print quality.

## 10. Loading the Media

---

This chapter explains how to load the media in the printer. This printer is intended for printing the media roll without liner. Use Toshiba Tec Corporation approved media.

### **⚠ WARNING**

Do not touch the print head or around it immediately after printing.

The print head will become very hot during printing. You may get burnt if you touch it in such a condition.

### **⚠ CAUTION**

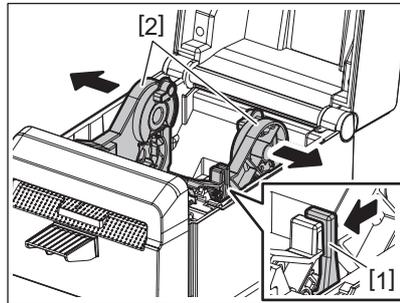
- To avoid injury, be careful not to trap your fingers in the paper slot while opening or closing the top cover.
- Do not touch the print head.  
Otherwise, some dots may be damaged due to static electricity or other print quality problems.

## ■ Loading the media roll

### **1 Open the top cover.**

For details, refer to  P.17 “9. Opening and Closing the Top Cover”.

### **2 While holding the holder lock lever [1], slide the media holder [2] toward the exterior.**

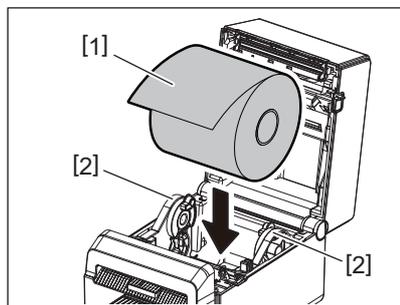


### **Note**

- Be sure to perform calibration of the media sensors whenever you change the media type.  
For details, refer to “BV400 Series Key Operation Specification.”
- The available media size to be set in the printer is as below.
  - Roll diameter: Max. 107 mm (4.2")
  - Inner core diameter: 38.1 mm (1.5")
- Use the outside wound type media and load it so that the print side faces up.

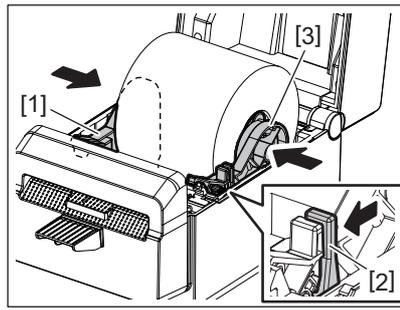
### **3 Place the media roll.**

Set the media roll [1] between the media roll holders [2] while its printing surface comes upward.



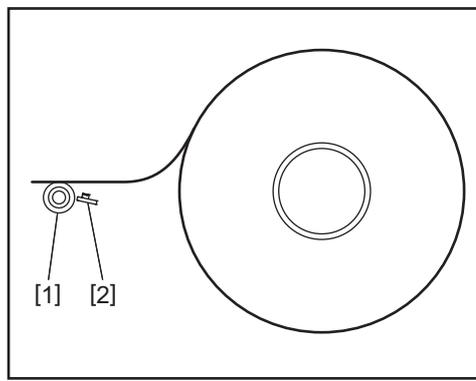
#### 4 Align the media guides [1] to the media roll width.

While holding the holder lock lever [2], slide the media holder [3] to fix the media roll securely.



#### Note

- Check that the printer printing surface has come upward.
- Cut the edge of the media with scissors.

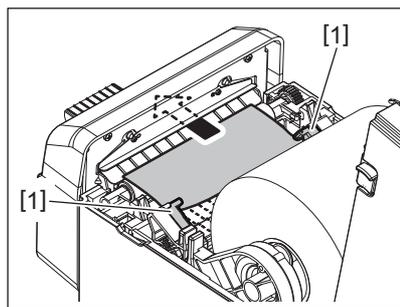


[1] Platen roller

[2] Paper sensor (Reflective sensor)

#### 5 Load the media.

Pass the media through the media guides [1] and pull it until it reaches the front of the printer.



#### Note

Do not squeeze the media too much with the media guides. Otherwise, the media will bend and this may cause jamming or misfeeding.

#### 6 Close the top cover.

For details, refer to  P.17 "9. Opening and Closing the Top Cover".

#### Note

Be sure to close the top cover completely. Otherwise, this may affect the print quality.

#### 7 Press the [FEED] button.

Check that the media is fed correctly.

## 11. Maintenance

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This chapter explains the routine maintenance procedures.

To ensure the continuous high quality operation of your printer, regularly perform the maintenance routines or every time when the media is changed.

When the printer is intensively used (high throughput), perform the maintenance on a daily basis. When the printer is not intensively used, perform these maintenance on a weekly basis.

### **⚠ WARNING**

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- Before cleaning the printer and its inside, be sure to turn off the power of the printer and unplug the power plug from the outlet for safety.
- To avoid injury, be careful not to trap your fingers in the paper slot while opening or closing the top cover. You may injure yourself.
- The print head will become very hot during printing. Therefore, do not touch the print head or its vicinity immediately after printing. You may get burnt if you touch it in such a condition.
- Do not pour water directly onto the printer. This may cause damage, an electric shock or a fire.

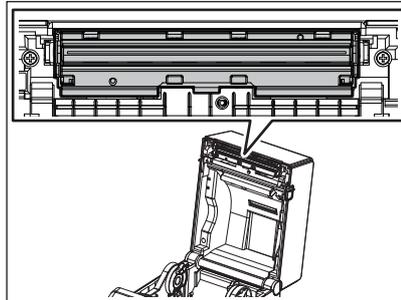
### **⚠ CAUTION**

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- Do not allow any hard objects to touch the print head or platen roller. This may cause damage to them.
- Do not use any volatile solvents including thinner and benzene. This may cause discoloration of the cover, print failure or printer damage.
- Do not touch the print head with your bare hands. This may cause static electricity and thus may damage the print head.

## ■ Print head

- 1 Turn the power off and open the top cover.**
- 2 Clean the print head with the cleaner pen (accessory), cotton swab or soft cloth slightly moistened with ethyl alcohol.**



### **Note**

Clean the print head every one label roll or at the end of day.

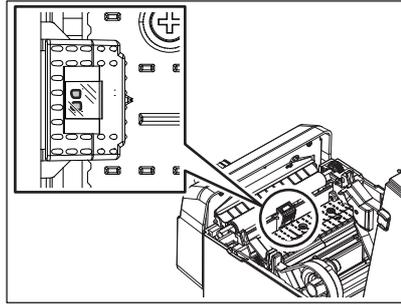
## ■ Media sensors

- 1 Turn the power off and open the top cover.**

---

**2 Wipe the media sensors with a soft cloth or a cotton swab slightly moistened with absolute (pure) ethyl alcohol.**

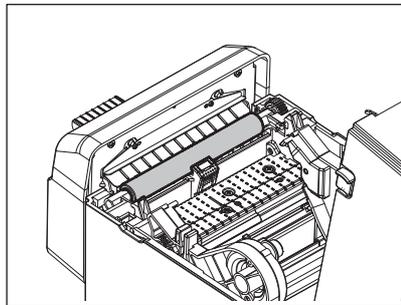
To remove dust or paper particles, wipe the media sensors with a dry soft cloth.



■ **Platen roller**

**1 Turn the power off and open the top cover.**

**2 Wipe the platen roller with a soft cloth slightly moistened with Silicone oil.**



⚠ **CAUTION**

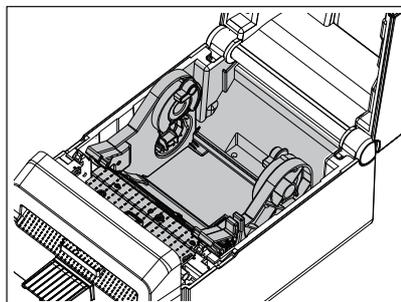
Do not apply alcohol to the platen roller. This may cause deteriorate the platen roller.

■ **Media housing**

**1 Turn the power off and open the top cover.**

**2 Wipe the media housing with a dry soft cloth.**

If dirt still adheres, wipe it off with a soft cloth slightly moistened with mild detergent solution.



## ■ Cutter

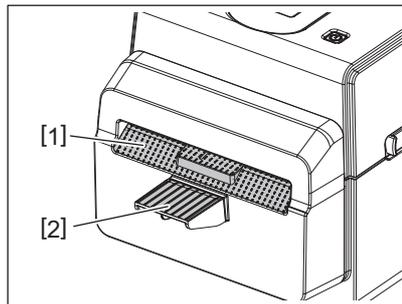
### ⚠ WARNING

Be careful not to touch the cutter blade during the cleaning since it is very sharp. You may injure yourself.

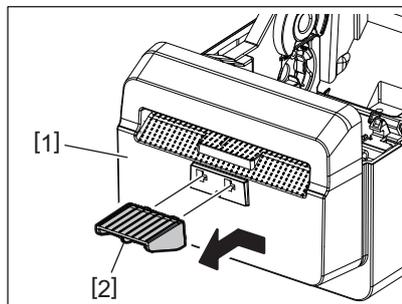
### Note

Clean the cutter every one label roll or at the end of day.

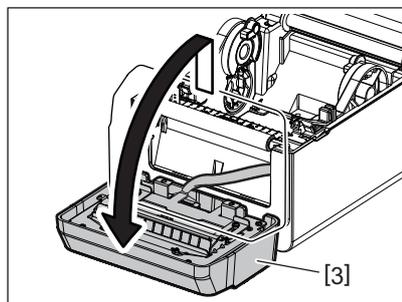
- 1 Turn the power off.**
- 2 Wipe the cutter outlet [1] and the cutter tray [2] with a dry soft cloth.**



- 3 Open the top cover.**
- 4 Remove the cutter tray [2] from the cutter unit [1].**

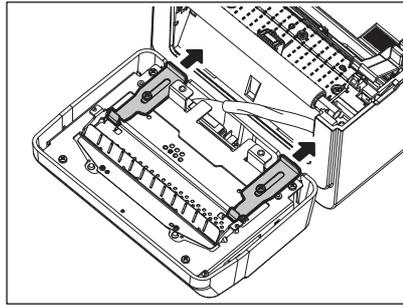


- 5 Lift up the cutter unit [3] from the printer to take it off.**

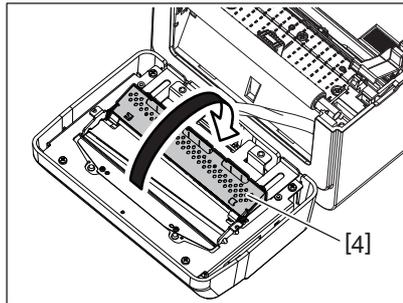


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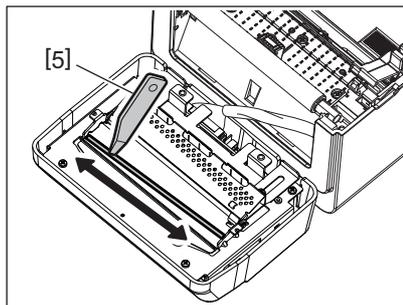
**6** Slide the two levers as indicated by the arrows.



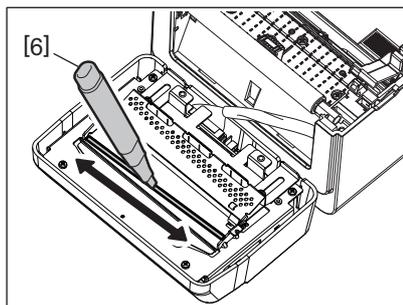
**7** Open the paper guide [4].



**8** Use the scraper (accessory) [5] to remove adhesive residue from the cutter blade.



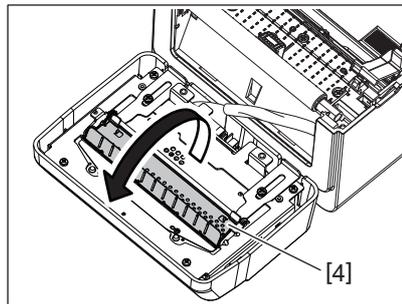
**9** Use the cleaner pen (accessory) [6] to clean the blade surface.



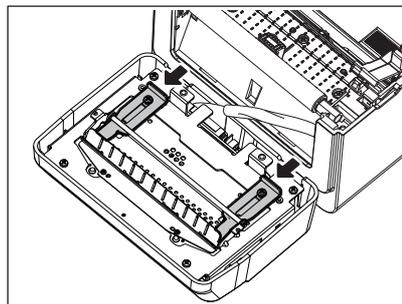
**10** Close the paper guide [4].

**⚠ WARNING**

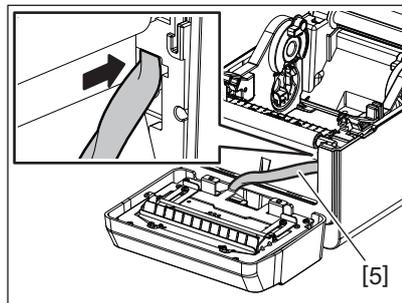
When closing the paper guide, be careful not to drop anything metal or any other foreign objects, such as a paper clip, into the guide. This may cause the printer to malfunction.



**11 Return the 2 levers to their original position.**

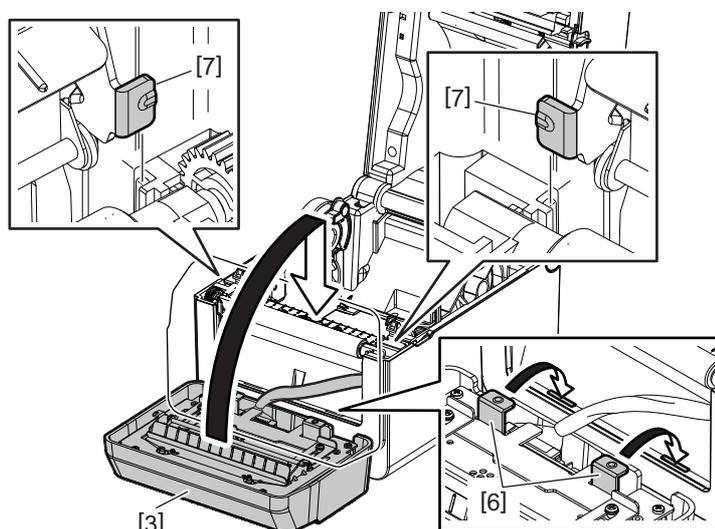


**12 Push the cutter harness [5] into the printer.**



**13 Attach the cutter unit [3] to the designated position.**

Confirm that the two lower hooks [6] and the two upper hooks [7] of the cutter unit are inserted into the slits indicated by the arrows.

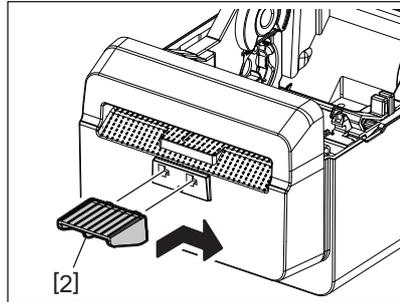


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**⚠ CAUTION**

Confirm that the curter unit is attached correctly.  
Otherwise, problems will occur in printing or cutting.

**14 Attach the cutter tray [2] to the cutter unit.**



**■ How to store and handle the media**

**⚠ CAUTION**

Be sure to carefully review and understand the Supply Manual. Use only media which meets the specified requirements. Use of non-specified media may shorten the head life and result in problems concerning barcode readability or print quality. All media should be handled with care to avoid any damage to the media or the printer. Read the guidelines in this section carefully.

- Do not store media for longer than the manufacturer's recommended shelf life.
- Store the media on the flat end. Do not store them on the curved sides as this might flatten that side causing an erratic media advance and poor print quality.
- Store the media in plastic bags and always reseal after opening. Unprotected media can get dirty and the extra abrasion from the dust and dirt particles will shorten the print head life.
- Store the media in a cool, dry place. Avoid areas where they would be exposed to direct sunlight, high temperatures, high humidity, dust or gas.
- The thermal paper used for direct thermal printing must not have specifications which exceed Na<sup>+</sup> 800 ppm, K<sup>+</sup> 250 ppm and Cl<sup>-</sup> 500 ppm.
- Some ink used on pre-printed media may contain ingredients which shorten the print head's product life. Do not use labels pre-printed with ink which contain hard substances such as carbonic calcium (CaCO<sub>3</sub>) and kaolin (Al<sub>2</sub>O<sub>3</sub>, 2SiO<sub>2</sub>, 2H<sub>2</sub>O).

For further information, contact your local distributor or your media manufacturer.

## 12. Troubleshooting

### ⚠ WARNING

If a problem cannot be solved by taking the actions described in this chapter, do not attempt to repair the printer. Turn off and unplug the printer. Then contact an authorized Toshiba Tec representative for assistance.

### ■ Troubleshooting

Symptom	Cause	Solutions
The POWER lamp of the printer does not light when the [POWER] button is pressed.	The power cable is not connected to the AC adapter.	Unplug the power cable from the AC outlet. Connect the power cable to the AC adapter and plug it into the AC outlet. 📖 P.15 “7. Connecting the AC Adapter and Power Cable”
	There is a power failure or the power is not being supplied to the AC outlet.	Check the AC outlet with a power cable from another electric appliance. If the power is not being supplied, ask your electrician or electricity supplier.
	The fuse of the building has blown or the circuit breaker has tripped.	Check the fuse or the circuit breaker.
	The AC adapter connector is disconnected from the power jack.	Unplug the power cable from the AC outlet. Connect the AC adapter connector to the power jack and plug the power cable to the AC outlet. 📖 P.15 “7. Connecting the AC Adapter and Power Cable”
Media is not issued.	The media is not loaded correctly.	Reload the media correctly. 📖 P.18 “10. Loading the Media”
	The interface cable is not connected correctly.	Reconnect the interface cable. 📖 P.14 “6. Connecting the Cables”
	The media sensors are dirty.	Clean the media sensors. 📖 P.20 “11. Maintenance”
Nothing is printed.	Even if the direct thermal mode is selected, the direct thermal media is not loaded.	Load a direct thermal media. 📖 P.18 “10. Loading the Media”
	The media is not loaded correctly.	Reload the media correctly. 📖 P.18 “10. Loading the Media”
	Print data are not sent from the host computer.	Send the print data.
Poor printing	Toshiba Tec Corporation approved media is not used.	Replace the media with the approved one.
	The print head is dirty.	Clean the print head. 📖 P.20 “11. Maintenance”
Missing dots	The print head is dirty.	Clean the print head. 📖 P.20 “11. Maintenance”
	Some print head parts are broken.	When missing dots affect the printout, turn off the printer and ask your Toshiba Tec representative to replace the print head.
Printing is done intermittently.	This will occur in order to cool down a print head whose temperature has become heated during a long-time continuous printing sequence.	Continue to use the printer in this condition. There is no problem in the life and safety of the printer.

Symptom	Cause	Solutions
Media jamming occurs immediately after printing has started.	If the printer is left for a long time without any printing being performed, media jamming may occur between the label and the platen roller.	When the printer will not be used for a long time, pull the lock release lever toward you to unlock the top cover so that no pressure is applied to the label.
Media jamming occurs in continuous printing.	If the print head becomes warm during continuous printing, it is difficult for the label to come off from the platen roller.	Select a lower printing speed. Increase the printing interval.
Barcodes or 2D codes are not readable correctly.	This symptom might happen depending on paper characteristics.	Increase the module size. Select a lower printing speed. Change the barcode print orientation for the ladder barcode to the picket fence barcode (rotate 90 degrees). Check the scanner settings.
The media is not cut cleanly.	The cutter blade has reached the end of its useful life.	Turn off the printer and ask your Toshiba Tec representative to replace the cutter blade.
A wireless LAN communication error occurs immediately after the printer is turned on.	It will take approx. 10 seconds to enable wireless LAN communication while the ONLINE lamp is being lit.	Turn on the printer. Wait at least 10 seconds after the ONLINE lamp has lit to start the communication.

## ■ Status lamp

LED lamps will light (ON) or blink corresponding to the printer status.

LED			Printer status
POWER	ONLINE	ERROR	
ON	ON	OFF	Normal - Online mode
ON	Blink	OFF	Normal - Online mode (communicating)
ON	OFF	OFF	1. The top cover is opened in the online mode. 2. Printing is temporarily stopped (paused).
ON	OFF	ON	1. A communication error has occurred. (Only when the RS-232C is used) 2-1. Media jamming has occurred. 2-2. The media is not loaded correctly. 2-3. The media sensors differing from the media to be used are selected. 2-4. The black mark sensor is not correctly aligned to the black marks on the media. 2-5. The size of the loaded media differs from that for the specified paper size. 2-6. The media sensor level is not suitable for the actual media. 3. Media jamming has occurred in the cutter unit. 4. No media is left. 5. Printing or media feeding is attempted while the top cover is opened. 6. There is a problem in the print head. 7. The temperature of the print head has exceeded the upper limit. 8. An error has occurred during writing into the flash ROM. 9. An error has occurred during initialization of the flash ROM. 10. Saving has failed due to the flash ROM having insufficient blank space. 11. An improper command such as a print command has been received while the firmware is being upgraded in the download mode.

LED			Printer status
POWER	ONLINE	ERROR	
ON	OFF	ON	12. When any abnormal operations as below are performed, a system error occurs. (a) Command fetch from an odd address. (b) Access to the word data from a place other than the boundary of the word data. (c) Access to the long word data from a place other than the boundary of the long word data. (d) Access to the area of 80000000H to FFFFFFFFH in the logic space in the user system mode. (e) Undefined command placed in other than the delay slot has been decoded. (f) Undefined command in the delay slot has been decoded. (g) Command to rewrite the delay slot has been decoded.

## ■ Removing jammed media

### ⚠ CAUTION

Do not use any tool that may damage the print head.

When media jamming occurs, please remove jammed media from the printer as following procedure.

- 1 Turn the power off.**
- 2 Open the top cover and remove the media roll.**
- 3 Remove the jammed media from the printer. DO NOT USE any sharp implements or tools as these could damage the printer.**
- 4 Clean the print head and platen, then remove any further dust or foreign substances.**
- 5 Load the media again, and close the top cover.**

## 13. Printer Specifications

This chapter describes the printer specifications.

### Printer

The following table shows the printer specifications.

Item	BV420D-GL02-QM-S				
Supply voltage	DC +24V, 2.5A (External AC adapter)				
Power consumption					
<table border="1"> <tr> <td>During a print job</td> <td>60 W</td> </tr> <tr> <td>During standby</td> <td>4.4 W (without options)</td> </tr> </table>	During a print job	60 W	During standby	4.4 W (without options)	
During a print job	60 W				
During standby	4.4 W (without options)				
Operating temperature range	5°C to 35°C (41°F to 95°F)				
Storage temperature range	-20°C to 60°C (-4°F to 140°F)				
Relative humidity	25% to 85% RH (no condensation)				
Humidity for storage	10% to 90% RH (no condensation)				
Resolution	203 dpi (8-dot/mm)				
Printing method	Direct thermal				
Issue mode	Cut				
Printing speed	50.8 mm/sec. (2"/sec.), 76.2 mm/sec. (3"/sec.), 101.6 mm/sec. (4"/sec.), 127 mm/sec. (5"/sec.), 152.4 mm/sec. (6"/sec.), 177.8 mm/sec. (7"/sec.)				
Available media width (including backing paper)	32mm (1.26") to 102mm (4.0")				
Effective print width (max.)	99.0 mm (3.9")				
Dimension (W x D x H)	169 mm x 250 mm x 173 mm (6.66" x 9.84" x 6.81") (excluding projecting parts) 174 mm x 288 mm x 173 mm (6.85" x 11.34" x 6.81") (including projecting parts)				
Weight	2.6 kg (5.7 lb)				
Available barcode types	UPC-A, UPC-E, EAN8/13, UPC-A add on 2&5, UPC-E add 2&5, EAN-8/13 add on 2&5, Code39, Code93, Code128, EAN128, NW7, MSI, Industrial 2 of 5, ITF, POSTNET, RM4SCC, KIX-code, GS1 Databar, USPS Intelligent mail barcode				
Available two-dimensional code	Data Matrix, PDF417, QR Code, Maxi Code, Micro PDF417, Micro QR, GS1 Data Matrix, Aztec Code				
Available font	Bitmap: 21 types, Outline: 7 types, Writable characters: 132 types, Optional TTF: 20 types, Chinese-simp 24x24, OTF(CJK)				
Rotations	0°, 90°, 180°, 270°				
Standard interface	USB 2.0 Hi-speed Ethernet interface (10BASE-T, 100BASE-TX)				
Option interface	Serial interface (RS-232C) Wireless LAN interface (IEEE802.11a/b/g/n) Bluetooth interface (Ver.2.1+EDR)				

#### Note

- Data Matrix™ is a trademark of International Data Matrix Inc., U.S.
- PDF417™ is a trademark of Symbol Technologies Inc., US.
- QR Code is a trademark of DENSO CORPORATION.
- Maxi Code is a trademark of United Parcel Service of America, Inc., U.S.
- Bluetooth® is a registered trademark owned by Bluetooth SIG, Inc.

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## ■ Options

### Note

The following options are available from your nearest Toshiba Tec Corporation representative or Toshiba Tec Corporation Head Quarters.

<b>Option Name</b>	<b>Type</b>	<b>Description</b>
Wireless LAN interface kit	BV700-WLAN-QM-S	This interface kit enables wireless LAN (WLAN) communication.
Bluetooth interface kit	BV700-BLTH-QM-S	This interface kit enables Bluetooth communication.
Serial (RS-232C) I/F board	BV700-RS-QM-S	This interface kit enables Serial (RS-232C) communication.
AC adapter cover (Black)	BV924-ACD-QM-S	Attached to the printer bottom for housing the AC adapter

## 14. Media Specifications

This chapter describes the media specifications.

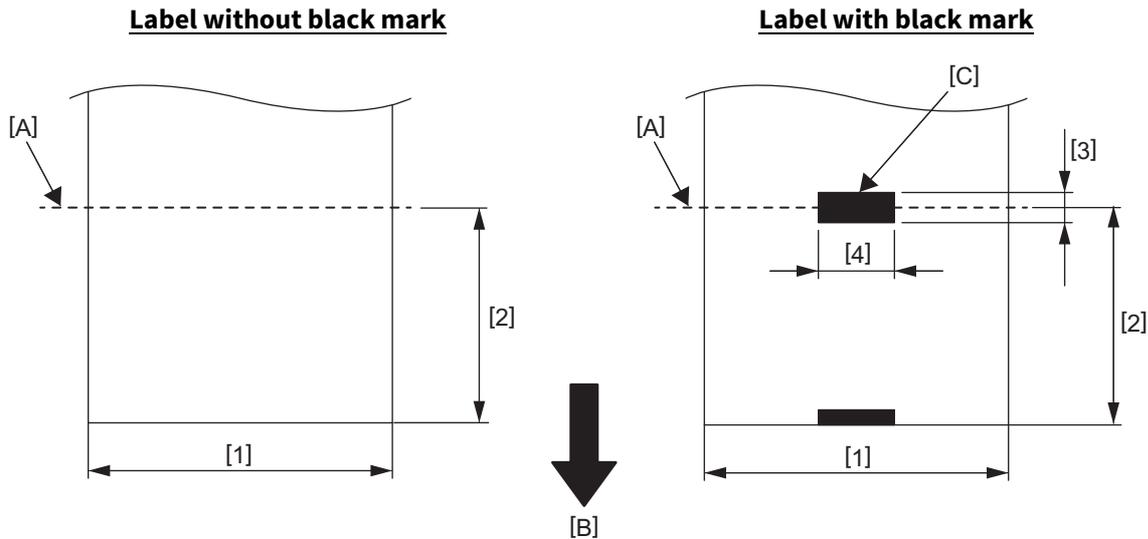
### Media

Make sure that the media to be used is approved by Toshiba Tec Corporation. The warranties do not apply to problems caused by using media that is not approved by Toshiba Tec Corporation.

For information regarding Toshiba Tec Corporation-approved media, contact your Toshiba Tec authorized representative.

#### Media type

The table below shows the size and shape of the media that can be used on this printer.



[A]: Cut position

[B]: Feed direction

[C]: Black mark (on the back side)

Unit: mm (inch)

Item	Issue mode	Cut mode
[1] Label width		32.0 to 102.0 (1.26 to 4.0)
[2] Cut length		25.4 to 152.4 (1.0 to 6.0)
[3] Black mark length		6.0 to 10.0 (0.24 to 0.39)
[4] Black mark width		Min. 8.0 (0.32)
Thickness		0.06 to 0.19 (0.0024 to 0.0074)
Max. outer roll diameter		Ø107 (4.2)
Roll direction		Outside wound
Inner core diameter		38.1 (1.5)

#### Note

- To ensure print quality and print head life, use only Toshiba Tec Corporation approved media.
- A label jam is more likely to occur with the approach of label end because labels around the paper core curl intensely.

**Barcode Printer**  
**Owner's Manual**  
**BV420D-GL02-QM-S**

**Toshiba Tec Corporation**

1-11-1, OSAKI, SHINAGAWA-KU, TOKYO, 141-8562, JAPAN

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