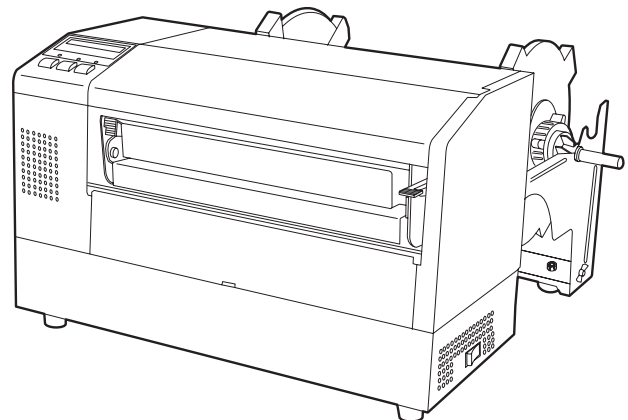


TEC

TEC Label/Tag Printer

B-852-TS12-QP

Owner's Manual
Mode d'emploi
Bedienungsanleitung
Manual de instrucciones
Gebruikershandleiding
Manuale Utente



TOSHIBA TEC CORPORATION

LIST OF STANDARD OF CONFORMITY

Manufacturer : TOSHIBA TEC Corporation
Address : 570 Ohito, Ohito-cho, Tagata-Gun, Shizuoka-Ken, 410-2323
Japan

declares that following product

Product Name : Bar Code Printer
Model : B-852-TS12-QP
Options : All

conforms to the following product specifications

Generic Standard : EN 50 082-1
Safety : EN 60 950
EMC : EN 55 022
Harmonics : EN 61000-3-2, 3

Supplementary Information

The product herewith complies with the requirements of the Low Voltage Directive 73/23/EEC, and the EMC Directive 89/336/EEC.

The product was tested in a typical set up TOSHIBA TEC personnel advocated.

VORSICHT:

- *Schallemission: unter 70dB (A) nach DIN 45635 (oder ISO 7779)*
- *Die für das Gerät Vorgesehene Steckdose muß in der Nähe des Gerätes und leicht zugänglich sein.*

HP-PCL5 is a registered trademark of Hewlett Packard Corporation.

Centronics is a registered trademark of Centronics Data Computer Corp.

Microsoft is a registered trademark of Microsoft Corporation.

Windows is a trademark of Microsoft Corporation.



TEC Label/Tag Printer

B-852-TS12-QP

Owner's Manual

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, then contact your authorised TOSHIBA TEC representative for assistance.

Meanings of Each Symbol



This symbol indicates warning items (including cautions). Specific warning contents are drawn inside the \triangle symbol. (The symbol on the left indicates a general caution.)



This symbol indicates prohibited actions (prohibited items). Specific prohibited contents are drawn inside or near the \odot symbol. (The symbol on the left indicates “no disassembling”.)



This symbol indicates actions which must be performed. Specific instructions are drawn inside or near the \bullet symbol. (The symbol on the left indicates “disconnect the power cord plug from the outlet”.)



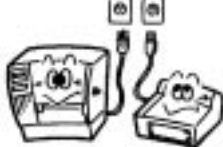
WARNING

This indicates that there is the risk of **death** or **serious injury** if the machines are improperly handled contrary to this indication.



Any other than the specified AC voltage is prohibited.

Do not use voltages other than the voltage (AC) specified on the rating plate, as this may cause **fire** or **electric shock**.



Prohibited

Do not plug in or unplug the power cord plug with wet hands as this may cause **electric shock**.



Prohibited

If the machines share the same outlet with any other electrical appliances which consume large amounts 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 the machines to **malfunction**.



Prohibited

Do not place metal objects or water-filled containers such as flower vases, flower pots or mugs, etc. on top of the machines. If metal objects or spilled liquid enter the machines, this may cause **fire** or **electric shock**.



Prohibited

Do not insert or drop metal, flammable or other foreign objects into the machines through the ventilation slits, as this may cause **fire** or **electric shock**.



Prohibited

Do not scratch, damage or modify the power cords. Also, do not place heavy objects on, pull on, or excessively bend the cords, as this may cause **fire** or **electrical shock**.



Disconnect the plug.









If the machines are dropped or their cabinets damaged, first turn off the power switches and disconnect the power cord plugs from the outlet, and then contact your authorised TOSHIBA TEC representative for assistance. Continued use of the machine in that condition may cause **fire** or **electric shock**.



Disconnect the plug.

Continued use of the machines in an abnormal condition such as when the machines are producing smoke or strange smells may cause **fire** or **electric shock**. In these cases, immediately turn off the power switches and disconnect the power cord plugs from the outlet. Then, contact your authorised TOSHIBA TEC representative for assistance.



 <p>Disconnect the plug.</p> 	<p>If foreign objects (metal fragments, water, liquids) enter the machines, first turn off the power switches and disconnect the power cord plugs from the outlet, and then contact your authorised TOSHIBA TEC representative for assistance. Continued use of the machine in that condition may cause fire or electric shock.</p>	 <p>Disconnect the plug.</p> 	<p>When unplugging the power cords, be sure to hold and pull on the plug portion. Pulling on the cord portion may cut or expose the internal wires and cause fire or electric shock.</p>
 <p>Connect a grounding wire.</p> 	<p>Ensure that the equipment is properly grounded. Extension cables should also be grounded. Fire or electric shock could occur on improperly grounded equipment.</p>	 <p>No disassembling.</p> 	<p>Do not remove covers, repair or modify the machine by yourself. You may be injured by high voltage, very hot parts or sharp edges inside the machine.</p>



CAUTION

This indicates that there is the risk of personal **Injury** or **damage** to objects if the machines are 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
 - * Shared power source
- * Direct sunlight
- * Excessive vibration
- * High humidity
- * 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 SPECIFIED paper and ribbons.
- DO NOT STORE the paper or ribbons where they might be exposed to direct sunlight, high temperatures, high humidity, dust, or gas.
- Ensure the printer is operated on a level surface.
- 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 top of the machines, as these items may become unbalanced and fall causing **injury**.
- Do not block the ventilation slits of the machines, as this will cause heat to build up inside the machines and may cause **fire**.
- Do not lean against the machine. It may fall on you and could cause **injury**.
- Care must be taken not to injure yourself with the printer paper cutter.
- Unplug the machine when it is not used for a long period of time.

Request Regarding Maintenance

- Utilize our maintenance services.
After purchasing the machine, contact your authorised TOSHIBA TEC representative for assistance once a year to have the inside of the machine cleaned. Otherwise, dust will build up inside the machines and may cause a **fire** or a **malfunction**. Cleaning is particularly effective before humid rainy seasons.
- Our preventive maintenance service performs the periodic checks and other work required to maintain the quality and performance of the machines, preventing accidents beforehand.
For details, please consult your authorised TOSHIBA TEC representative for assistance.
- Using insecticides and other chemicals
Do not expose the machines to insecticides or other volatile solvents. This will cause the cabinet or other parts to deteriorate or cause the paint to peel.

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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.

CAUTION!

1. *This manual may not be copied in whole or in part without prior written permission of TOSHIBA TEC.*
2. *The contents of this manual may be changed without notification.*
3. *Please refer to your local Authorised Service representative with regard to any queries you may have in this manual.*

1. PRODUCT OVERVIEW

1.1 Introduction

Thank you for choosing the TEC B-852 series label/tag printer. This Owner's Manual contains from general set-up through how to confirm the printer operation using a test print, and should be read carefully to help gain maximum performance and life from your printer. For most queries please refer to this manual and keep it safe for future reference. Please contact your TOSHIBA TEC representative for further information concerning this manual.

1.2 Features

The B-852 printer has the following features:

- A 8.3 inch wide print head is installed in such a compact body that the size of the printer body (except the Supply Holder Unit) is about 1/3 of the B-872 printer.
- The print head block which can be fully opened realizes great operability.
- Various kinds of media can be used since the black mark sensors are located above and under the media passage, respectively, and the media sensors can be moved from the center to the left edge of the media.
- When the optional interface board is installed, Web functions such as remote maintenance and other advanced network functions are available.
- Superior hardware, including the specially developed 11.8 dots/mm (300 dots/inch) thermal print head which will allow very clear print at a printing speed of 50.8 mm/sec. (2 inches/sec.) or 101.6 mm/sec. (4 inches/sec.).
- Besides the optional cutter module, there is also an optional PCMCIA Interface Board, Expansion I/O Interface Board, PCL5 Interface Board Kit, and the KB-80-QM Keyboard Unit.

1.3 Unpacking

NOTES:

- *Check for damage or scratches on the printer. However, please note that TOSHIBA TEC shall have no liability for any damage of any kind sustained during transportation of the product.*
- *Keep the cartons and pads for future transportation of the printer.*

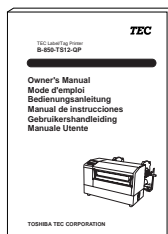
Unpack the printer as per the Unpacking Instructions supplied with the printer.

1.4 Accessories

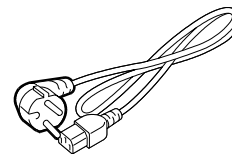
When unpacking the printer, please make sure all accessories are supplied with the printer.

CAUTION!
 Be sure to use TOSHIBA TEC approved print head cleaner. Failure to do this may shorten the print head life.

- Owner's Manual (1 copy)
 (Doc./No. EO1-33028)



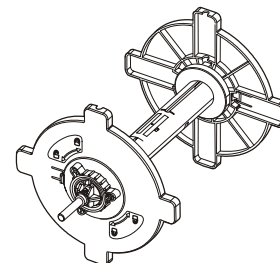
- Power Cord (1 pc.)
 (P/No. H00436904 A)



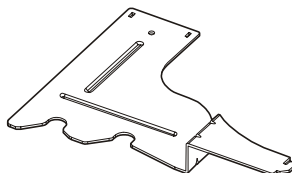
- Print Head Cleaner (1 pc.)
 (P/No. 24089500013)



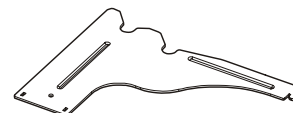
- Supply Holder Unit (1 pc.)
 (P/No. FMBD0042701)



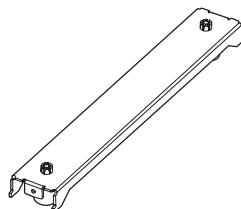
- Supply Holder Frame (L)
 (1 pc.)
 (P/No. FMED0035201)



- Supply Holder Frame (R)
 (1 pc.)
 (P/No. FMED0035301)



- Supply Holder Base (1 pc.)
 (P/No. FMBB0063401)



- Wing Bolt M-4x6 (2 pcs.)
 (P/No. X20L406130)

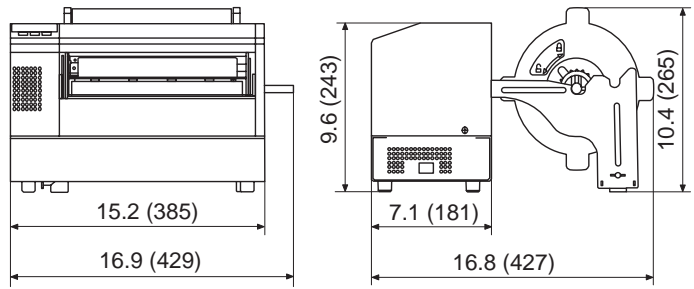


1.5 Appearance

The names of the parts or units introduced in this section are used in the following chapters.

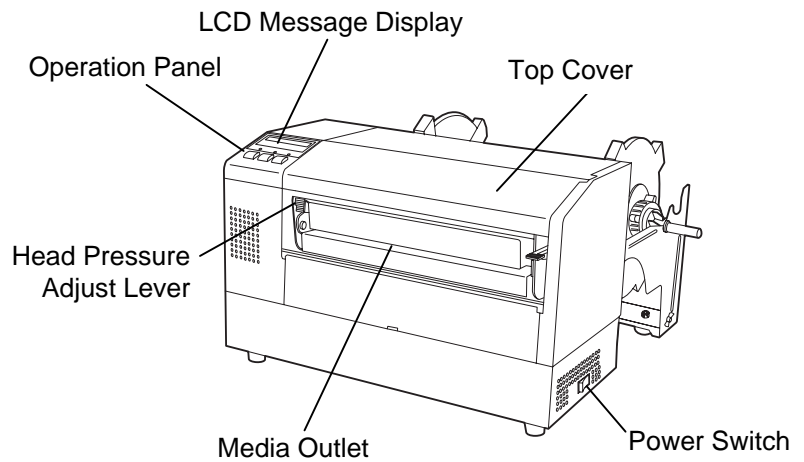
1.5.1 Dimensions

NOTE:
 Depth is 470 mm (18.5 inches)
 when the optional Cutter
 Module is installed on the
 printer.

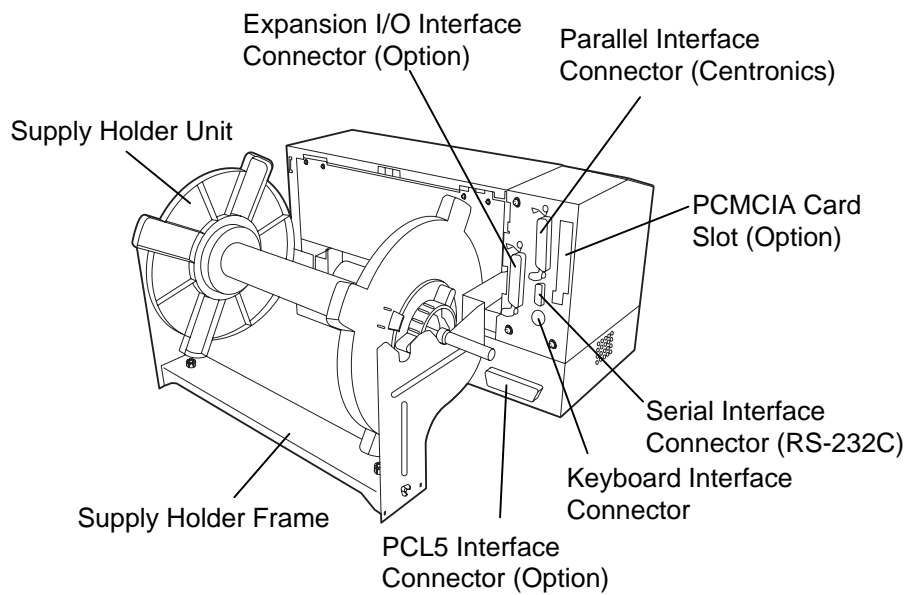


Dimensions in inches +(mm)

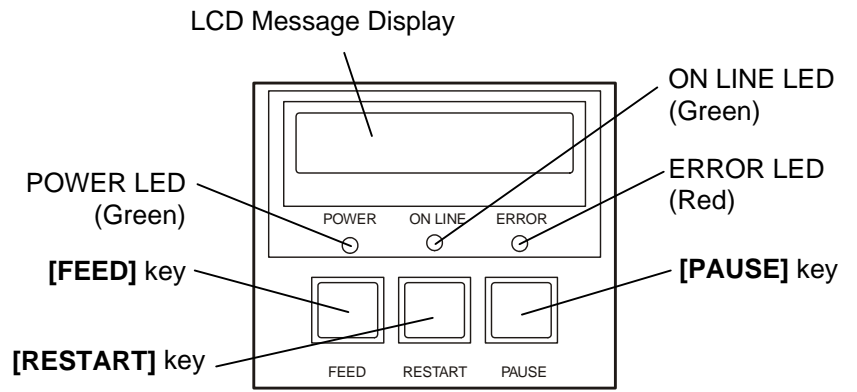
1.5.2 Front View



1.5.3 Rear View

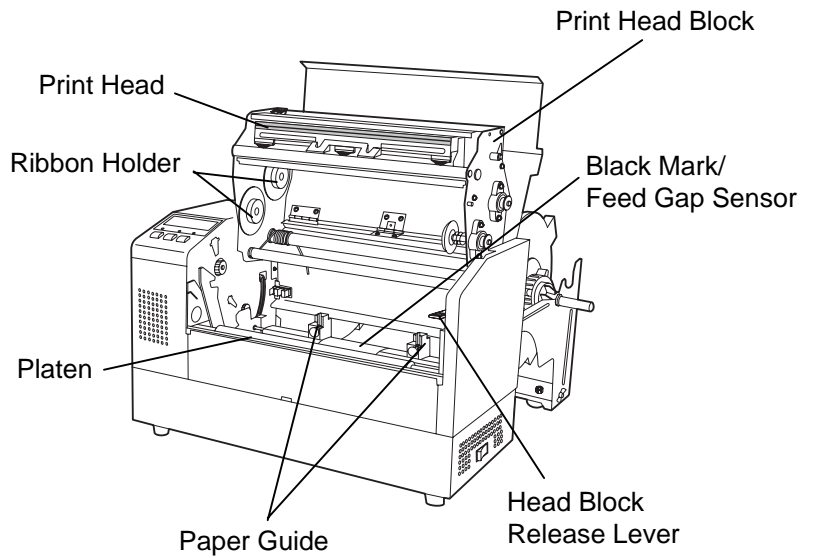


1.5.4 Operation Panel



Please see Section 4.1 for further information about the Operation Panel.

1.5.5 Interior



2. PRINTER SETUP

This section outlines the procedures to setup your B-852 printer prior to its operation. The section includes precautions, connecting cables, assembling accessories, loading media and ribbon, inserting the optional memory card, and performing a test print.

2.1 Precautions

To insure the best operating environment, and to assure the safety of the operator and the equipment, please observe the following precautions.

- Operate the printer on a stable, level, operating surface in a location free from excessive humidity, high temperature, dust, vibration or direct sunlight.
- Keep your work environment static free. Static discharge can cause damage to delicate internal components.
- Make sure that the printer is connected to a clean source of AC Power and that no other high voltage devices that may cause line noise interference are connected to the same mains.
- Assure that the printer is connected to the AC mains with a three-prong power cable that has the proper ground (earth) connection.
- Do not operate the printer with the cover open. Be careful not to allow fingers or articles of clothing to get caught into any of the moving parts of the printer especially the optional cutter mechanism.
- Make sure to turn off the printer power and to remove the power cord from the printer whenever working on the inside of the printer such as changing the ribbon or loading the media, or when cleaning the printer.
- For best results, and longer printer life, use only TOSHIBA TEC recommended media and ribbons.
- Store the media and ribbons in accordance with their specifications.
- This printer mechanism contains high voltage components; therefore you should never remove any of the covers of the machine as you may receive an electrical shock. Additionally, the printer contains many delicate components that may be damaged if accessed by unauthorised personnel.
- Clean the outside of the printer with a clean dry cloth or a clean cloth slightly dampened with a mild detergent solution.
- Use caution when cleaning the thermal print head as it may become very hot while printing. Wait until it has had time to cool before cleaning. Use only the TOSHIBA TEC recommended print head cleaner to clean the print head.
- Do not turn off the printer power or remove the power plug while the printer is printing or while the ON LINE lamp is blinking.

2.2 Procedure before Operation

NOTE:

To communicate with the host computer, either an RS-232C cable or Centronics cable is required.

- (1) RS-232C cable: 9 pins
- (2) Centronics cable: 36 pins
- (3) Expansion I/O cable: 24 pins (Option)

NOTE:

Use of Windows Driver allows you to issue media on the B-852 printer in place of a general laser printer from Windows application.

Installing the optional PCL5 interface board in the B-852 printer allows use of the drivers which support the PCL5.

The printer can also be controlled with its own programming commands.

Please contact your TOSHIBA TEC reseller for the Interface/Communication Manual.

This section describes the outline of the printer setup.

1. Unpack the accessories and printer from the box.
2. Refer to Safety Precautions and printer in this manual and set up the printer at a proper location.
3. Assemble the Supply Holder Frame and attach the assembled Supply Holder Frame to the rear of the printer. (Refer to Section 2.3.)
4. The host computer must have a serial port or Centronics parallel port. (Refer to Section 2.4.)
5. Be sure to insert the power cord plug into an AC outlet. (Refer to Section 2.5.)
6. Load the media roll onto the Supply Holder Unit and set it on the Supply Holder Frame. (Refer to Section 2.7.)
7. Adjust the position of the Feed Gap Sensor or Black Mark Sensor depending on the media being used. (Refer to Section 2.8.)
8. Load the ribbon into the Print Head Block. (Refer to Section 2.9.)
9. Turn the Power ON. (Refer to Section 2.6.)
10. Perform a test print. (Refer to Section 2.11.)
11. Install the Printer Drivers. (Refer to Section 3.)

2.3 Assembling the Accessories

The following procedure outlines the steps required to assemble the Supply Holder Frame and attach the frame to the B-852 printer in preparation for loading the media.

2.3.1 Assembling the Supply Holder Frame

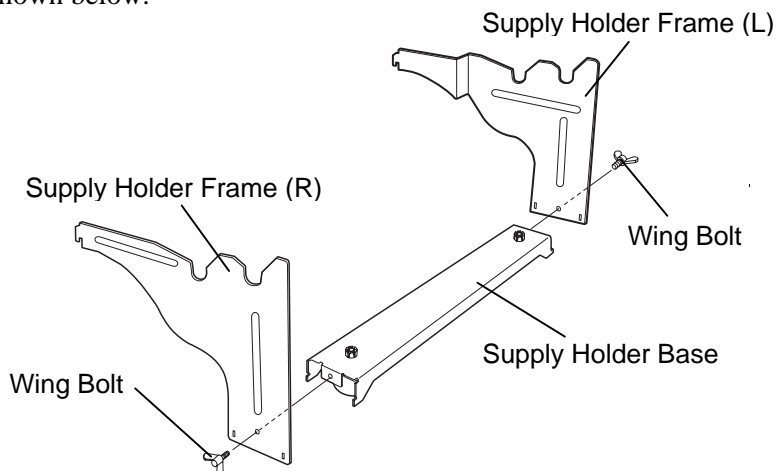
NOTE:

Make sure that the two small flanges at each end of the Supply Holder Base fit into the small rectangular holes at the bottom of the Supply Holder Frames before tightening the Wing Bolts.

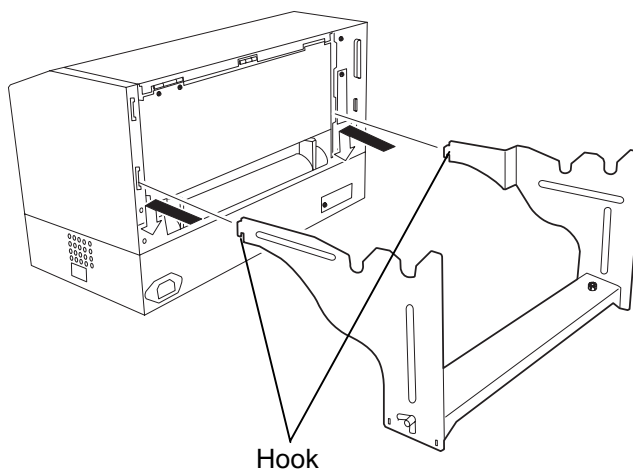
NOTE:

After attaching the supply holder frame to the printer, make sure that it is assembled firmly.

1. Assemble the Supply Holder Frame (L) and Supply Holder Frame (R) to the Supply Holder Base using the two M-4X6 Wing Bolts supplied, as shown below.



2. Attach the assembled Supply Holder Frame to the rear of the B-852 printer by inserting the hooks of the Frame into the two slots in the rear of the printer as shown in the figure below.

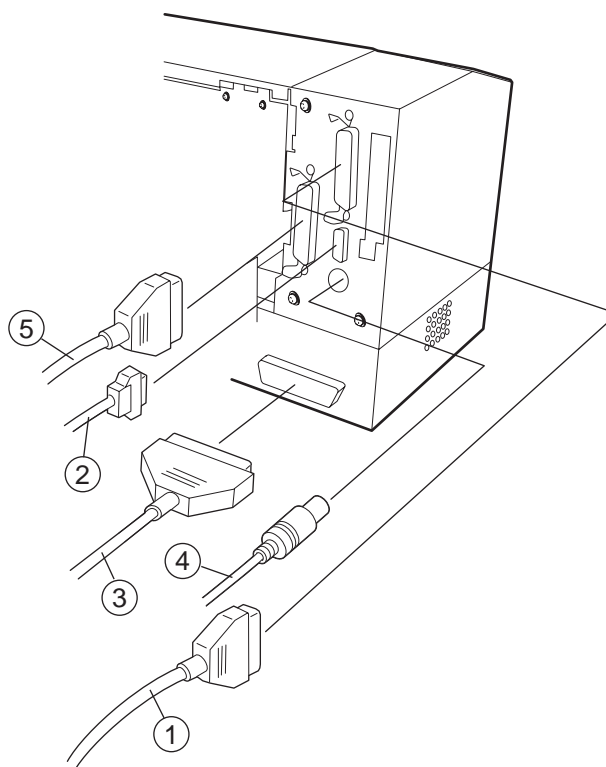


2.4 Connecting the Cables to Your Printer

The following paragraphs outlines how to connect the cables from the B-852 printer to your host computer, and will also show how to make cable connections to other devices such as the KB-80-QM keyboard, etc. Depending on the application software you use to print labels, there are three possibilities for connecting the printer to your host computer. These are:

- A serial cable connection between the printer's RS-232 serial connector and one of your host computer's COM ports. (Refer to APPENDIX 3.)
- A parallel cable connection between the printer's standard parallel connector and your host computer's parallel port (LPT).
- A parallel cable connection between the printer's optional PCL5 interface connector and your host computer's parallel port (LPT).


The diagram below shows all the possible cable connections to the current version of the B-852 printer.



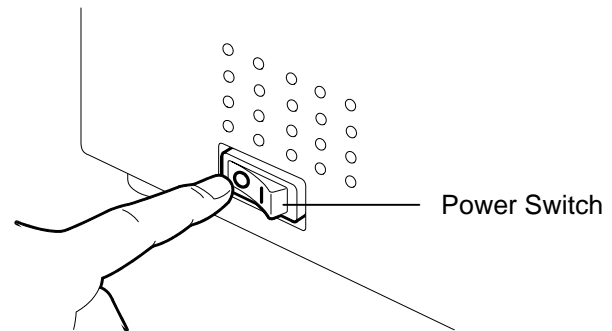
- ① Parallel Interface Cable (Centronics)
- ② Serial Interface Cable (RS-232C)
- ③ PCL5 Interface Cable (Option)
- ④ KB-80-QM Keyboard Interface Cable (Option)
- ⑤ Expansion I/O Interface Cable (Option)

2.5 Connecting the Power Cord

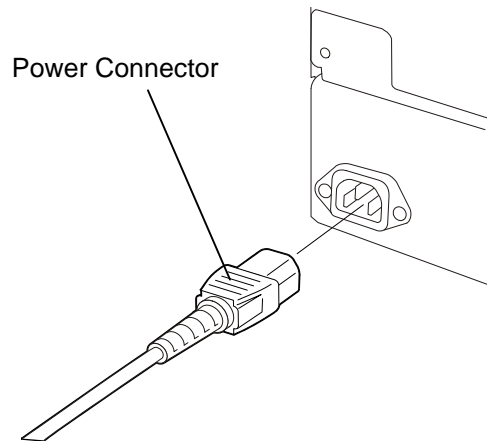
CAUTION!

1. Make sure that the printer power switch is turned to the off position  before connecting the power cord to prevent possible electric shock or damage to the printer.
2. Use only the power cord supplied with the printer. Use of any other cord may cause electric shock or fire.
3. Connect the power cord to a three-prong outlet only, with the third prong being a good ground (earth) connection.

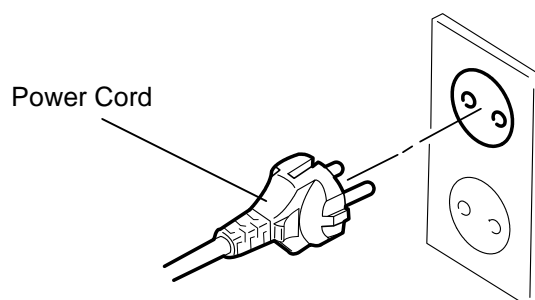
1. Make sure that the printer power switch is in the off position.



2. Connect the Power Cord to the printer as shown in the figure below.



3. Plug the other end of the Power Cord into a grounded outlet as shown in the figure below.



2.6 Turning the Printer ON/OFF

When the printer is connected to your host computer it is good practice to turn the printer ON before turning on your host computer and turn OFF your host computer before turning off the printer.

2.6.1 Turning ON the Printer

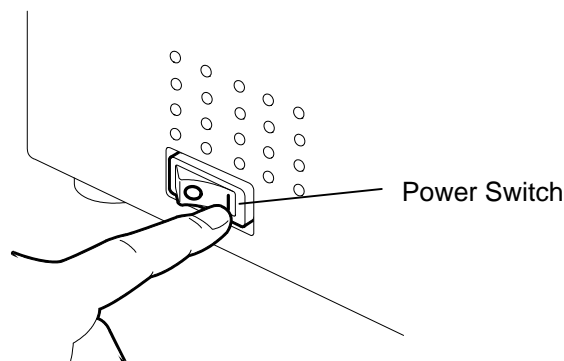
CAUTION!

Use the power switch to turn the printer On/Off. Plugging or unplugging the power cord to turn the printer On/Off may cause fire, an electric shock, or damage to the printer.

NOTE:

If an error message appears in the display instead of the ON LINE message or the ERROR LED lamp is illuminated, go to Chapter 6.1, Error Messages.

1. To turn ON the printer power, press the power switch as shown in the diagram below. Note that (I) is the power ON side of the switch.



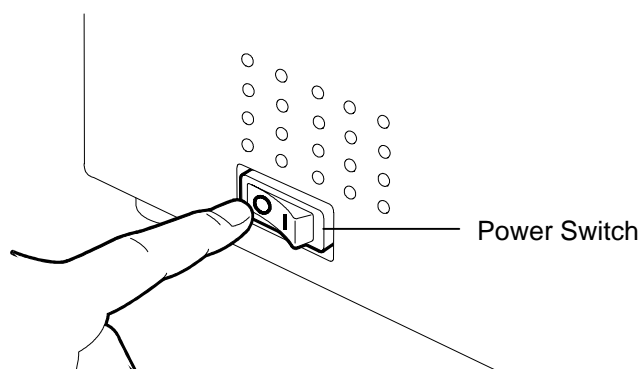
2. Check that the ON LINE message appears in the LCD Message Display and that the ON LINE and POWER LED lights are illuminated.

2.6.2 Turning OFF the Printer

CAUTION!

- Do not turn off the printer power while the media is being printed as this may cause a paper jam or damage to the printer.
- Do not turn off the printer power while the ON LINE light is blinking as this may cause damage to your computer.

1. Before turning off the printer power switch verify that the ON LINE message appears in the LCD Message Display and that the ON LINE LED light is on and is not flashing.
2. To turn OFF the printer power press the power switch as shown in the diagram below. Note that (O) is the power OFF side of the switch.

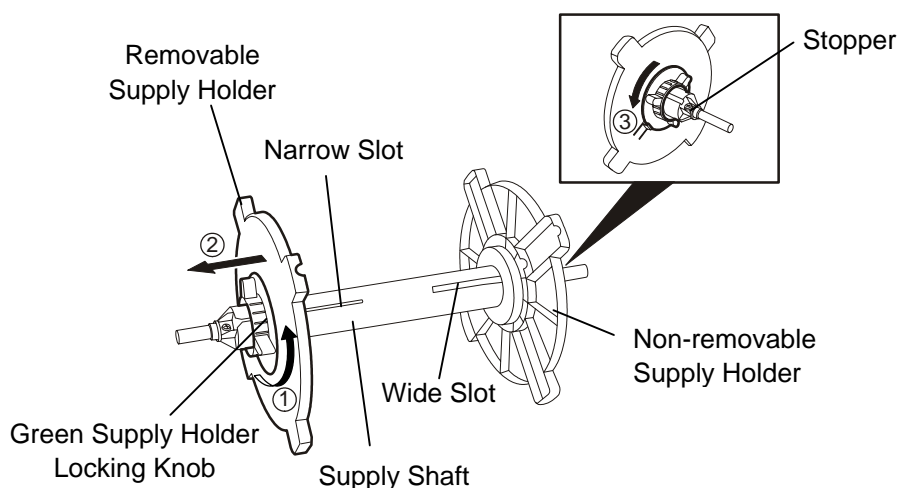


2.7 Loading the Media

The following procedure will outline the steps required to install the media onto the Supply Holder Unit and adjust its position in the Supply Holder Frame at the rear of the B-852 printer. The procedure will then show the steps to properly load the media into the printer so that it feeds straight and true through the printer.

2.7.1 Installing the Media onto the Supply Holder Unit

The figure below shows the assembled Supply Holder Unit and the paragraphs that follow show the step-by-step procedures to disassemble the Supply Holder Unit, install the media onto the Supply Shaft, then reassembling the Supply Holder Unit so that the auto centering mechanism will automatically center the media on the Supply Shaft.



NOTES:

1. The Non-removable Supply Holder is the one that slides in the wide slot while the Removable Supply Holder is the one that slides in the narrow slot.
2. Do not turn the Supply Holder Locking Knob anti-clockwise too far, or it may come off the Supply Holder.

Disassembling the Supply Holder Unit

1. Position the Supply Holder Unit as shown in the above diagram so that the Non-removable Supply Holder is at the right.
2. Rotate the Green Supply Holder Locking Knob in the direction of arrow ① (counterclockwise) to loosen the Removable Supply Holder.
3. Slide the Removable Supply Holder in the direction of arrow ② to remove it from the Supply Shaft.
4. Rotate the green Supply Holder Locking Knob in the direction of arrow ③ (counterclockwise) to loosen the Non-removable Supply Holder.
5. Slide the Non-removable Supply Holder all the way to the end of the Supply Shaft until it stops.

2.7.1 Installing the Media onto the Supply Holder Unit (Cont.)

WARNING!

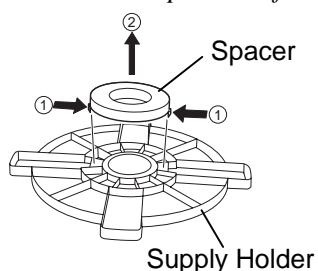
If you turn the Removable Supply Holder side down after loading the media, the media may drop by weight. You might be injured by the dropped media.

CAUTION!

When installing the media roll, do not push on the Non-removable Supply Holder as this will result in the media roll not being properly centred.

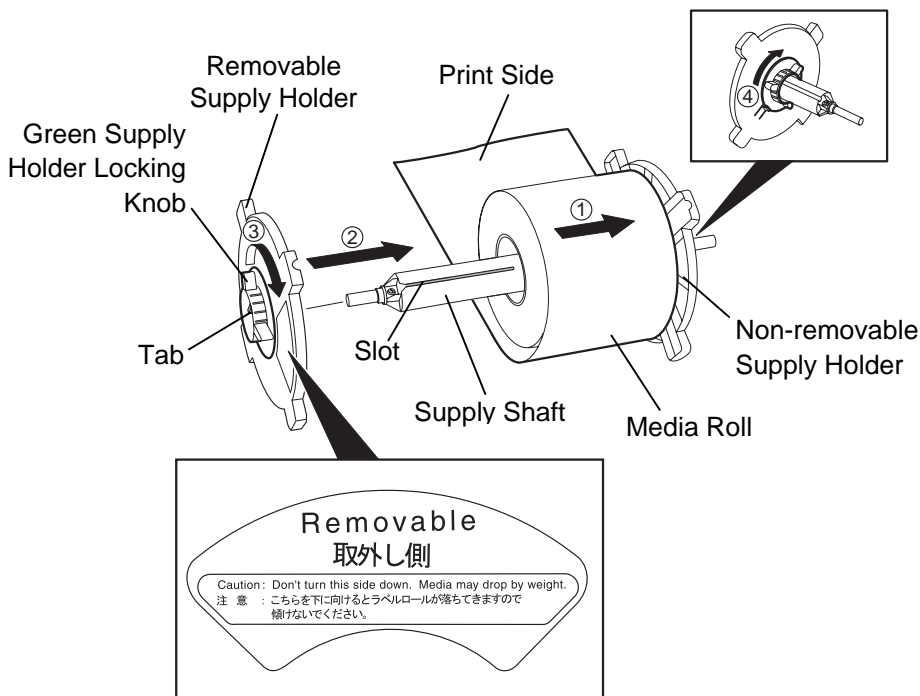
NOTES:

1. This Supply Holder accepts four sizes of media core: 38 mm, 40 mm, 42 mm and 76.2 mm.. When using a media roll of 38 mm, 40 mm, or 42 mm, remove the spacers from the Supply Holders by pushing both hooks of the Spacer. Keep the removed Spacers safe.



2. Use only inside wound label stock. Outside wound label stock may not feed properly. Use outside wound label stock at your own risk.
3. Do not over-tighten the green Supply Holder Locking Knob.

The diagram below, and the steps that follow, show the procedures for installing the Media onto the Supply Shaft and reassembling the Supply Holder Unit. Be sure to follow the step-by-step procedure exactly or the auto centering mechanism may not work properly.



Installing the Media and reassembling the Supply Holder

1. Place the media roll onto the Supply Shaft with the media feeding from the bottom as shown in the diagram above. ①
2. Align the tab of the Removable Supply Holder with the Slot in the Supply Shaft, then reinstall the Removable Supply Holder by sliding it onto the Supply Shaft as shown in the figure above.
3. Holding the reassembled Supply Holder Unit in your right hand, apply pressure only to the reinstalled Removable Supply Holder to push it in the direction of arrow ②, causing the auto centering mechanism to center the media on the Supply Shaft.
4. Tighten the green Supply Holder Locking Knob for the Removable Supply Holder by turning it in the direction of arrow ③.
5. Tighten the green Supply Holder Locking Knob for the Non-removable Supply Holder by turning it in the direction of arrow ④ .

2.7.2 Installing the Supply Holder Unit onto the Supply Holder Frame

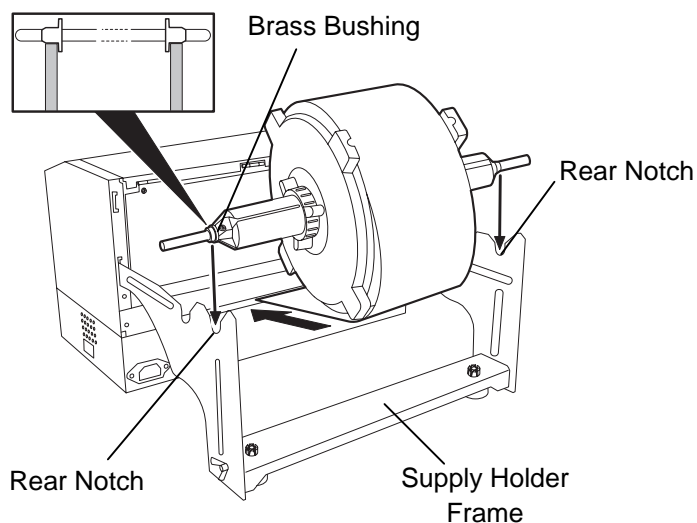
NOTE:

Make sure that the brass bushings of the Supply Shaft are seated into the notches so that the entire Supply Holder Unit rotates smoothly.

CAUTION!

The reassembled Supply Holder Unit and media roll may be quite heavy, so be careful not to pinch your fingers when installing the Supply Holder Unit onto the Supply Holder Frame.

1. Insert the assembled Supply Holder Unit into the rear notches of the Supply Holder Frame as shown in the diagram below.

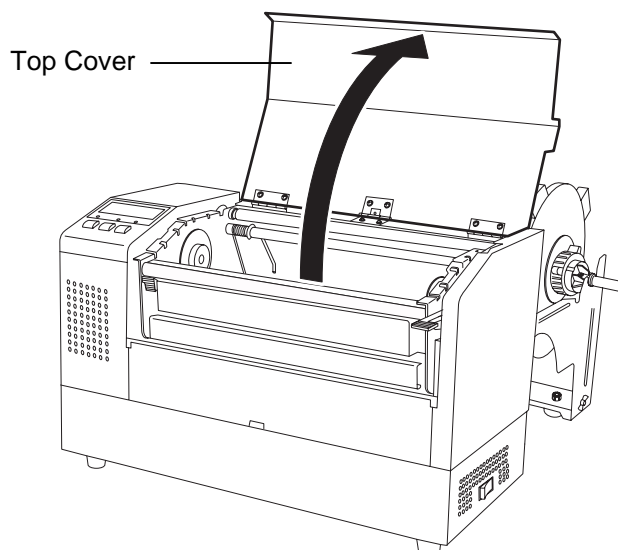


2. Now feed the media from the bottom of the media roll into the media slot at the rear of the printer as shown.

2.7.3 Loading Media into the Printer

The following paragraphs outlines how to properly install the media into the printer from the Supply Holder Unit that has been installed in the previous steps.

1. Raise the Top Cover as shown in the diagram below.



2.7.3 Loading Media into the Printer (Cont.)

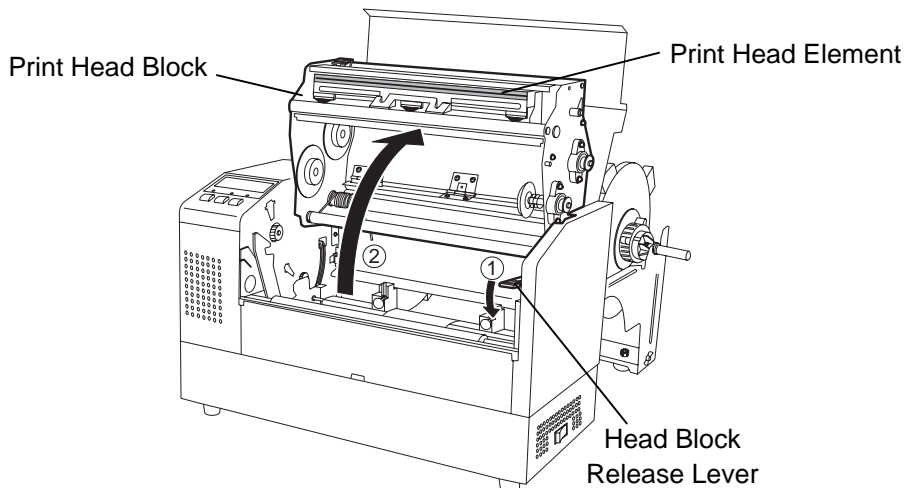
WARNING!

- The Print Head may become hot. Do not touch the Print Head.
- Risk of injuries. Do not touch moving parts. Disconnect the mains before maintenance of ribbon and media.

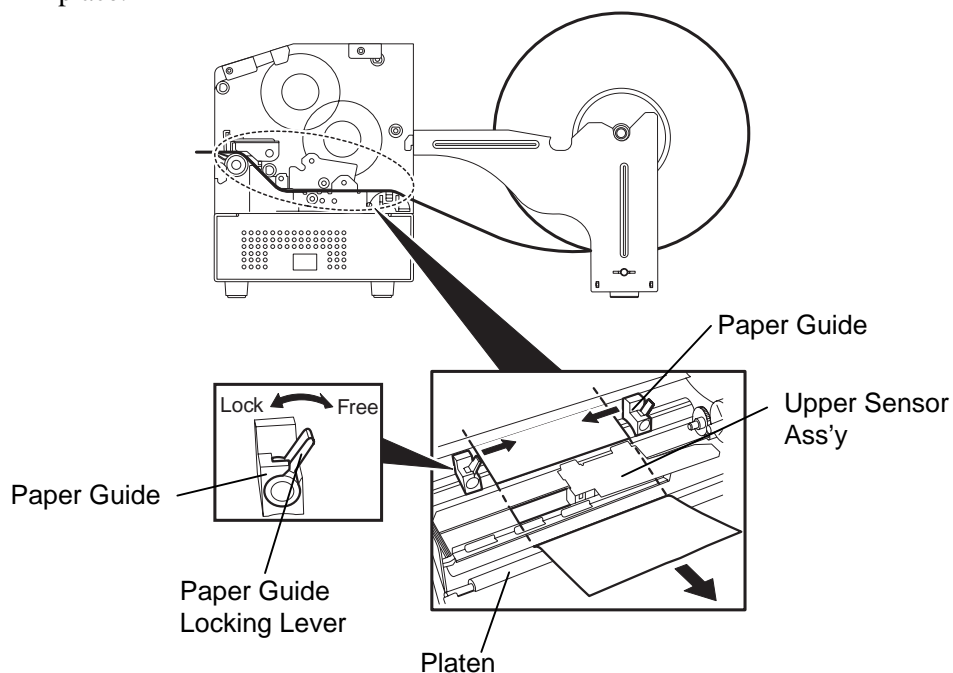
CAUTION!

Be careful not touch the Print Head Element when raising the Print Head Block. Failure to do this may cause missing dots by static electricity or other print quality problems.

2. Release the Print Head Block by pressing down on the Head Block Release Lever ① as shown below.
3. Raise the Print Head Block to its fully open position as shown by the arrow ② in the above diagram.

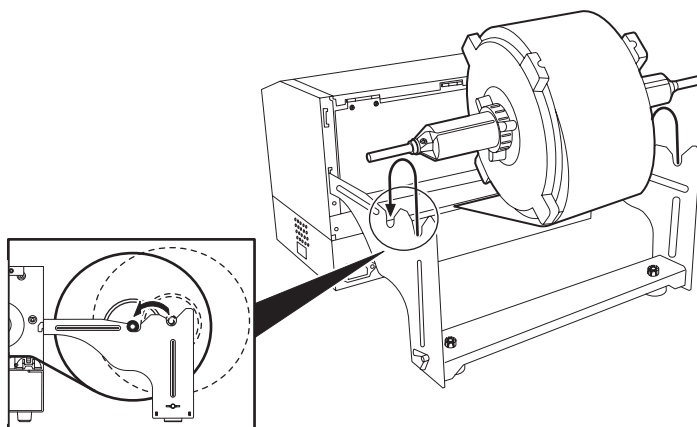


4. Release the locking levers on the two paper guides as shown in the figure below.
5. Grasp the right hand Paper Guide and move it to the right to open the Paper Guides wide enough to accept the media.
6. Feed the media between the two guides.
7. Feed the paper under the Upper Sensor Ass'y and pull the paper until it extends past the Platen. (until it extends past the cutter outlet when the optional cutter is attached.)
8. Grasp the right Paper Guide and move it to the left to close both Paper Guides and automatically center the media.
9. Press the Paper Guide Locking Levers to lock the Paper Guides in place.



2.7.3 Loading Media into the Printer (Cont.)

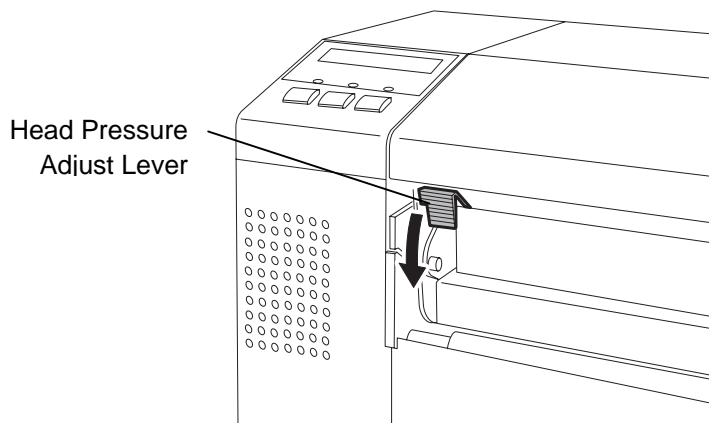
10. After loading the media, don't forget to move the Supply Holder Unit to the forward notch of the Supply Roll Frame as shown below.



NOTE:

The head pressure increases when the Head Pressure Adjust Lever is lowered. When using labels or thick tag paper, lower the Head Pressure Adjust Lever. If the print tone is light, lower the Head Pressure Adjust Lever even when using thin tag paper.

11. If you are using labels or thick tag paper, then it may be necessary to increase the head pressure by lowering the Head Pressure Adjust Lever in the figure below.



Head Pressure Adjust Lever Position

- UP:** Thin tag paper
- DOWN:** Label or Thick tag paper

WARNING!

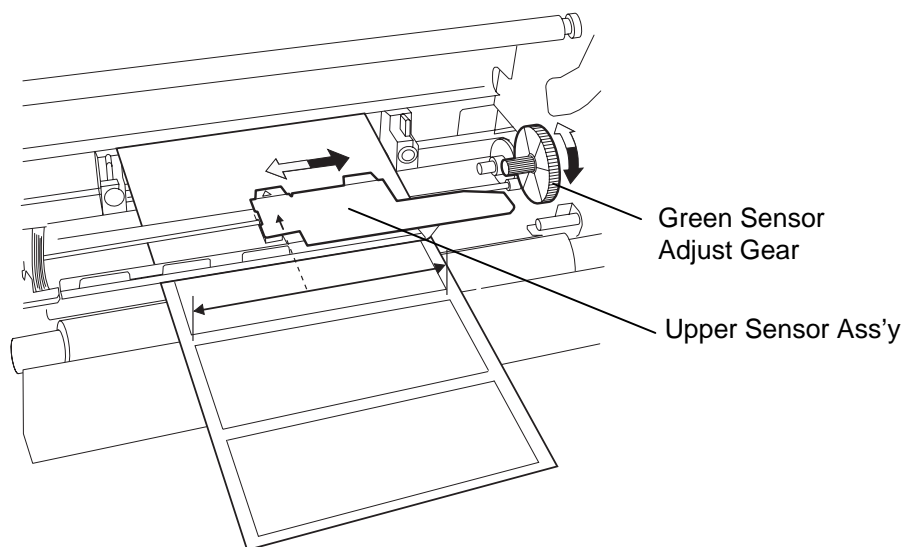
The Top Cover can be opened during the operation for control purposes only. It should be closed during normal operation.

2.8 Setting Sensor Positions

After loading the media, as outlined in the previous paragraphs, it will usually be necessary to set the Media Sensors used to detect the print start position for label or tag printing.

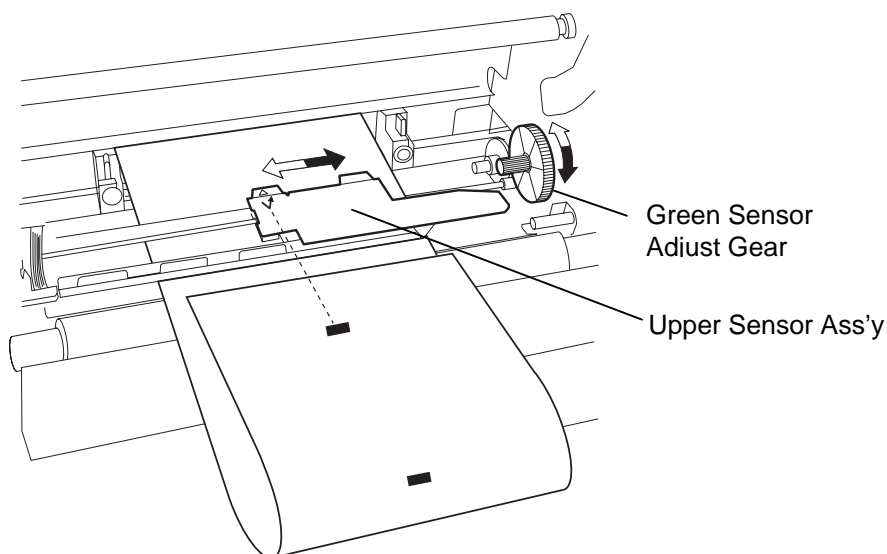
2.8.1 Setting the Feed Gap Sensor

1. With the Print Head Block raised as described in section 2.7.3, pass the labels under the Upper Sensor Ass'y as shown in the figure below.
2. Rotate the Green Sensor Adjust Gear to move the Sensor Ass'y to the left or right to center the arrow (↑) over the label.
3. With the sensor set to the center of the labels, it will be guaranteed to detect the gap between labels even if the labels are round.



2.8.2 Setting the Black Mark Sensor

1. If the Black Mark is printed on the top of the tag media then simply rotate the Green Sensor Adjust Gear to move the Sensor Ass'y so that the Black Mark Indicator (∨) is directly in line with the Black Mark on the top of the paper.
2. If the Black Mark is printed on the bottom of the tag media then fold the media back to be able to see the Black Mark and its relationship to the Sensor Ass'y as shown in the figure below.

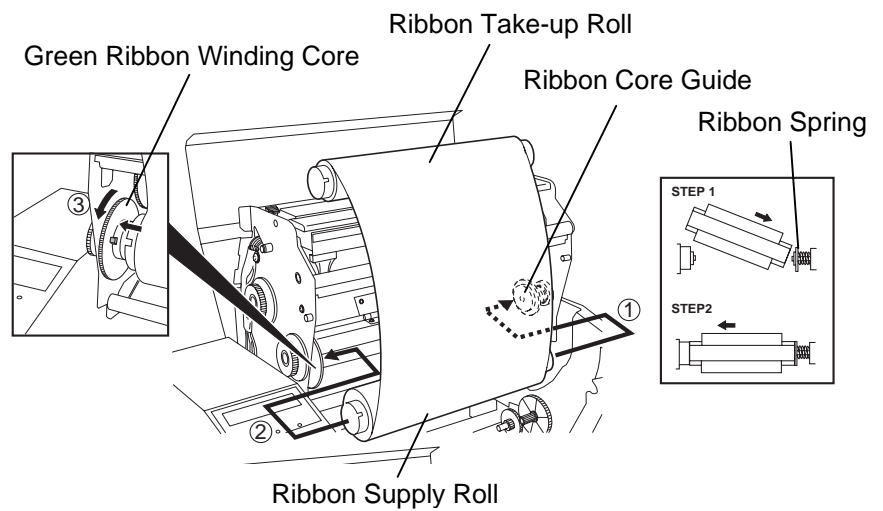


2.9 Loading the Ribbon

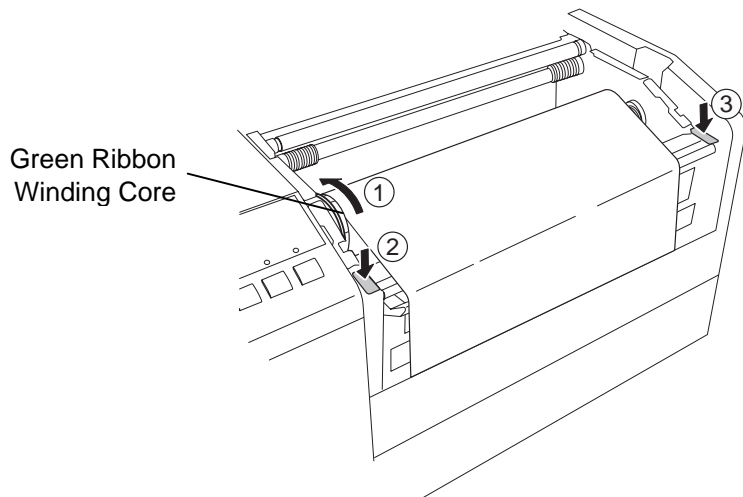
WARNING!

- *The Print Head may become hot. Do not touch the Print Head.*
- *The Top Cover can be opened during the operation for control purposes only. It should be closed during normal operation.*
- *Risk of injuries. Do not touch moving parts. Disconnect the mains before maintenance of ribbon and media.*

1. Raise the Top Cover and release and raise the Print Head Block as described in section 2.7.3, steps 1 and 2.
2. Hold the Ribbon Supply Roll in your left hand and the Ribbon Take up Roll in your right hand.
3. Install the Ribbon Supply Roll into the Print Head Block as shown in the figure below and described in the following paragraphs.
4. Step 1, engage the end of the Ribbon Supply Roll Core to the Ribbon Core Guide ① and push to compress the Ribbon Spring.
5. Step 2, engage the opposite end of the Ribbon Supply Roll Core to the Green Ribbon Winding Core ② releasing pressure to relax the Ribbon Spring.
6. Rotate the Green Ribbon Winding Core to lock the Ribbon Supply Roll into position. ③



7. Repeat steps 4 through 6 with the Ribbon Take up Roll, locking it in place also.
8. Take up any slack in the ribbon by rotating the green Core Winding Gear on the take up in the direction of arrow ①.
9. Close the Print Head Block and lock it in place by pressing at locations ② and ③ in the figure below.



NOTE:
Be sure to remove any slack in the ribbon. Printing with a wrinkled ribbon will lower the print quality

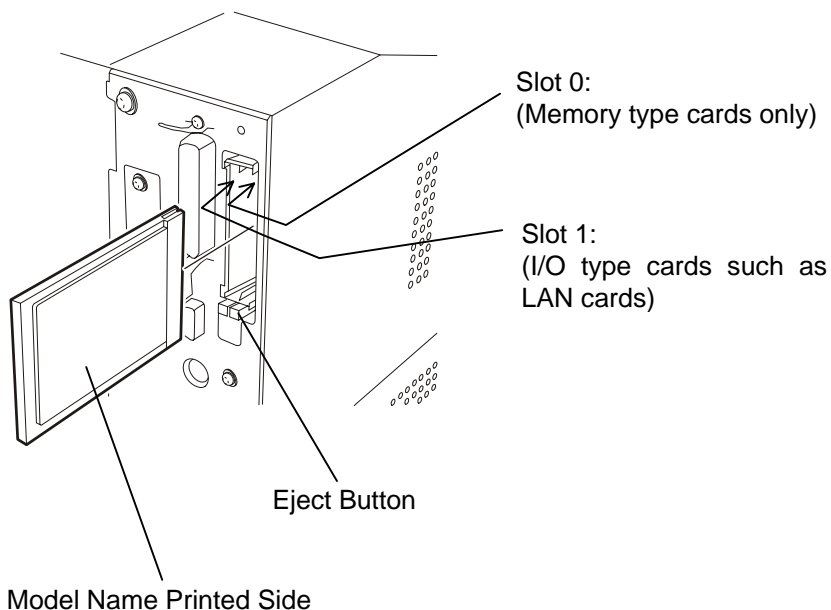
2.10 Inserting the Optional PCMCIA Cards

CAUTION!

1. To protect PC cards, discharge static electricity from your body by touching the metal cabinet of the printer before touching the card.
2. Before inserting or removing a PCMCIA card make sure that the printer's power is turned off.
3. Be sure to protect PCMCIA Cards when not in use by putting them into their protective covers.
4. Do not subject the card to any shocks or excessive force nor expose the card to extremes in temperature or humidity
5. The card may be inserted into the slot halfway even in the wrong orientation. However, the slot is safety designed so that the card will not be connected to the connector pins.

When the optional PCMCIA interface board is installed into the B-852 printer, there will be two PCMCIA slots available as shown in the figure below. This allows for the use of Flash Memory Type Cards or I/O type Cards such as LAN Cards. The following paragraphs outline how to insert PCMCIA cards.

1. Make sure that the printer's power switch is in the OFF position.
2. Hold the PCMCIA Card so that the model name printed side faces right. Insert the card into the proper slot until the Eject Button pops out.



3. The following PCMCIA cards can be used.

Type	Maker	Description	Remarks
ATA Card	San Disk Hitachi	A card conforming to the PC card ATA standard	-----
LAN Card	3 COM	Ether Link III 3C589D PC card	Install into the slot (1) only. (This card installed into the slot (0) will not work.)
Flash Memory Card (4 MB)	Maxell	EF-4M-TB CC	-----
		EF-4M-TB DC	

2.11 Test Print

The following test procedure allows you to perform a print test to verify that the printer is operating correctly. During the running of this test, the printer will first issue a blank label to allow the sensors to detect the Black Mark or Label Gap. Then it will print five labels of slanted lines followed by five labels of sample bar codes and finish by printing five labels containing characters of various sizes.

- Issue count = 5 of each kind of label
- Print method = Thermal Transfer (ribbon required)
- Print speed = 4" per second
- Sensor = Transmissive (Feed Gap Sensor) or Reflective (Black Mark sensor).
- Type of print = Batch (No cut)
- Print Length = 76 mm

The following paragraphs guide you through the diagnostic procedure for test label printing. Please follow the step-by-step procedures exactly for best results.

1. Use label stock for the test print. For best results, use labels that are 76 mm or longer in length.
2. Press and hold the **[FEED]** and **[PAUSE]** keys while turning on the printer power switch. The LCD Message Display will show the following message.

<1>DIAG. 1.0A

3. Press the **[FEED]** key three times to advance to the test print mode as indicated by the following message in the LCD Message Display.

<4>TEST PRINT

4. Press the **[PAUSE]** key and the LCD Message Display will display the following message.

PRINT CONDITION

5. Press the **[RESTART]** key and the LCD Message Display will change to show the following message.

AUTO PRINT (REFL)

6. When the media loaded is:
Tag paper utilizing the Black Mark Sensor (Reflective Sensor)
→ Continue on to the next step **7**.
Labels utilizing the Feed Gap Sensor (Transmissive Sensor)
→ Press the **[RESTART]** key again, and proceed to step **10**.

7. Press the **[PAUSE]** key and the printer will issue one blank label and will then print five labels of slant lines and the LCD Message Display will continue to display the following message.

AUTO PRINT (REFL)

2.11 Test Print (Cont.)

NOTE:

If an error occurs during the print test the printer will display an error message and stop printing. Refer to Chapter 6.1 for definition of error messages.

The error may be cleared by pressing the [PAUSE] key but the test print will not be resumed and the LCD message display will return to showing:

<1> DIAG. V1.0A

NOTE:

When the [PAUSE] key is pressed in Step 10, the printer will enter each print pattern detailed on the setting menu mode. To exit, press the [FEED] and [RESTART] keys at the same time.

8. Press the [PAUSE] key again and the printer will now print five labels of sample bar codes lines and the LCD Message Display will continue to display the following message.

AUTO PRINT (REFL)

9. Press the [PAUSE] key again and the printer will now print five labels of characters of various sizes and the LCD Message Display will return to showing the test print start message as shown below.

<4>TEST PRINT

10. Upon pressing the [RESTART] key for the second time in step 6, the LCD Message Display will change to that shown below.

AUTO PRINT (TRAN)

11. Press the [PAUSE] key and the printer will issue one blank label and will then print five labels of slant lines and the LCD Message Display will continue to display the following message.

AUTO PRINT (TRAN)

12. Press the [PAUSE] key again and the printer will now print five labels of sample bar codes lines and the LCD Message Display will continue to display the following message.

AUTO PRINT (TRAN)

13. Press the [PAUSE] key again and the printer will now print five labels of characters of various sizes and the LCD Message Display will return to showing the test print start message as shown below.

<4>TEST PRINT

14. If necessary, the print test may now be repeated from step 4.

3. PRINTER OPERATION

This section will provide a functional overview of how the printer receives print data from your host computer and how it will operate in the various operating modes

3.1 Overview

NOTES:

1. *Label design software package may require Windows Driver. If so, please obtain the Driver from the Web Site with the following URL:
<http://barcode.toshibatec.co.jp>*
2. *For the details of External Equipment Interface Manual, please contact your nearest TEC service representative.*

Labels will be created on the host Computer connected to your printer, using either a commercially available label creation program or using the TEC Command Program Language. Or if the optional PCL5 Interface Board has been installed, the printer will be able to print from any software using the HP-PCL5 Printer Command Language. The label information sent from your host computer will consist of a series of commands that inform the printer of the labels size, layout, orientation, and number of copies to print and will also contain the print data including scaleable text, graphics, and bar codes. The printer electronics will decode the commands and manipulate the data to create a bit graphic image of the label that will be stored in the printer's memory. The printer electronics will then transfer the image as a series of dots, one line at a time, to the thermal print head.

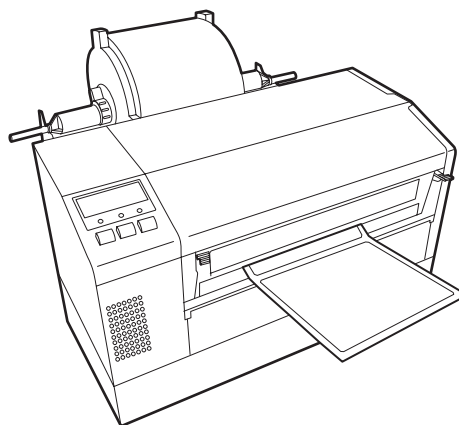
There are numerous label design software packages commercially available to operate with your PC and this printer, so please refer to the instructions included with the software you purchase. However, if you wish to create your own custom label programs you can do so using TEC's Command Language Program provided in TEC's External Equipment Interface Manual.

The thermal print head consists of a line of 2560 thermal elements with each element shaped like a tiny dot. The dot line is 216.8 mm (8.5 inches) in length resulting in a dot density of 300 DPI. As the paper is advanced through the printer by the paper feed mechanism, the thermal head continuously prints the image as a series of dot lines at a resolution of 300 dots per inch, horizontally and vertically.

Precision feeding and back feeding of the label or tag stock is accomplished through the use of specialised stepping motors and photo-sensors. The Feed Gap Sensor or the Black Mark Sensor tells the printer electronics when the label or tag stock is properly positioned under the head for printing.

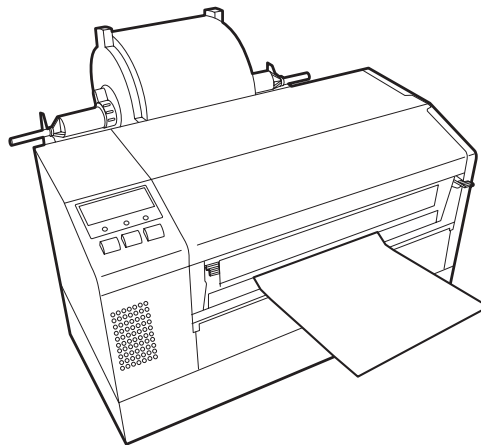
3.2 Operating Modes

1. **Tear Off Mode** – In this operation mode, when the media has stopped feeding after printing, the label should be in a position that the operator can simply pull the media downward against the Tear Off Bar to tear off the printed label.



3.2 Operating Modes (cont.)

2. **Continuous (or batch) mode** – In this mode, the labels will be continuously printed and fed until the number of labels specified in the label issue command has been printed. After the last label of the series has been printed the labels can be torn free from the supply roll in a similar manner as described in the tear off mode above.



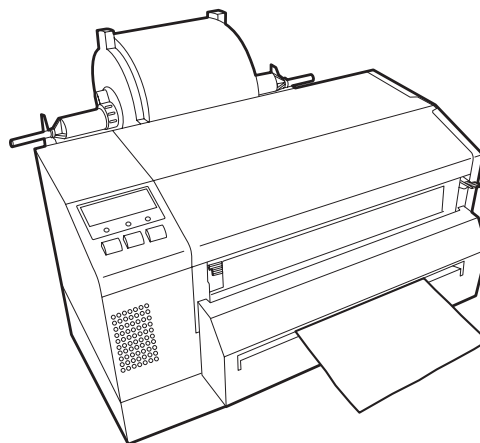
CAUTION!

- *Be sure to cut the backing paper of label. Cutting labels will cause the glue to stick to the cutter, which may affect the cutter quality and shorten the cutter life.*
- *Use of tag paper when the thickness exceeds the specified value may affect the cutter life.*

NOTE:

Cut mode is available only when the optional cutter module (B-7208-QM) is installed.

3. **Cut Mode** - In the cut mode, as each label is printed it is fed forward to the Cutter Mechanism where the swing cutter mechanism will precisely cut the label off from the supply roll. The feed mechanism will then backfeed the label or tag stock until it is properly positioned under the Print Head to print the next label in series. The issue command sent to the printer from the Host can inform the printer to cut each label or tag after each has been printed or to perform the cut only after a certain number of labels or tags have been printed and issued.



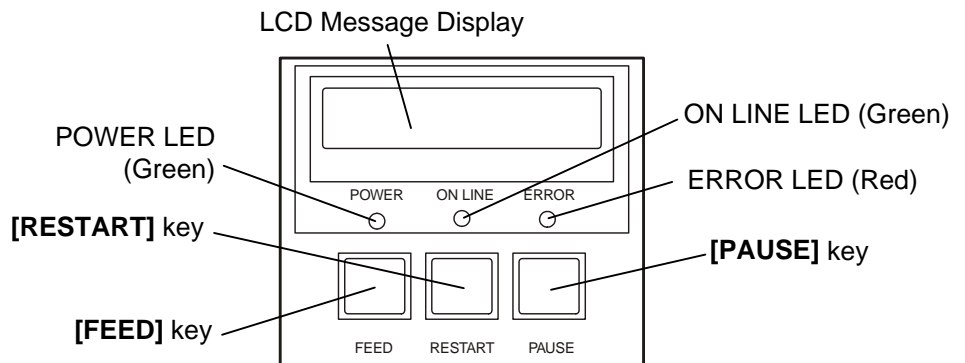
4. ON LINE MODE

This chapter describes usage and purpose of the keys on the Operation Panel in On Line Mode.

When the printer is in On Line Mode and connected to a host computer, normal operation of printing images on labels or tags can be accomplished.

4.1 Operation Panel

- The figure below illustrates the Operation Panel and key functions.



The LCD Message Display shows messages in alphanumeric characters and symbols to indicate the printer's status. Up to 16 characters can be displayed on one line.

There are three LED lights on the Operation Panel.

LED	Illuminates when...	Flashes when...
POWER	The printer is turned on.	-----
ON LINE	The printer is ready to print.	The printer is communicating with your computer.
ERROR	Any error occurs with the printer.	-----

NOTE:

Use the **[RESTART]** key to resume printing after a pause condition, or after clearing an error.

There are three keys on the Operation Panel.

PAUSE	Used to stop printing temporarily.
RESTART	Used to restart printing.
FEED	Used to feed the media.

4.2 Operation

When the printer is turned on, the "ON LINE" message appears on the LCD Message Display. It is shown during standby or normal printing.

1. The printer is turned on, standing by, or printing.

ON LINE

2. If any error occurs during printing, an error message appears. The printer stops printing automatically. (The number on the right column shows the number of unprinted media.)

NO PAPER 125

3. To clear the error, press the **[RESTART]** key. The printer resumes printing.

ON LINE

4. If the **[PAUSE]** key is pressed during printing, the printer stops printing temporarily. (The number on the right column shows the number of unprinted media.)

PAUSE 52

5. When the **[RESTART]** key is pressed, the printer resumes printing.

ON LINE

4.3 Reset

Reset operation clears the print data sent to the printer from the computer, and returns the printer to an idle condition.

1. The printer is turned on, standing by, or printing.

ON LINE

2. To stop printing, or clear the data sent from the computer, press the **[PAUSE]** key. The printer stops printing.

PAUSE 52

3. Press and hold the **[RESTART]** key for 3 seconds or longer.

<1>RESET

4. Press the **[PAUSE]** key. The data sent from the computer will be cleared, and the printer returns to an idle condition.

ON LINE

NOTE:

*If the **[RESTART]** key is held for less than 3 seconds when the printer is in an error or pause state, the printer restarts printing. However, when a communication error or command error occurs, the printer returns to an idle condition.*

4.4 Dump Mode

In Dump mode, any characters sent from the host computer will be printed. Received characters are expressed in hexadecimal values. This allows the user to verify programming commands and debug the program.

1. The printer is turned on, standing by, or printing.

ON LINE

2. Press the **[PAUSE]** key.

PAUSE 52

3. During the Pause state, press and hold the **[RESTART]** key for 3 seconds or more. The display shows “<1> RESET”.

<1>RESET

4. Press the **[FEED]** key. The display shows “<2>PARAMETER SET”.

<2>PARAMETER SET

5. Press the **[FEED]** key. The display shows “<3>ADJUST SET”.

<3>ADJUST SET

6. Press the **[FEED]** key. The display shows “<4>DUMP MODE”. Press the **[PAUSE]** key to enter the Dump Mode.

<4>DUMP MODE

7. Select the receive buffer to be dumped with the **[FEED]** or **[RESTART]** key

BUFFER RS-232C

[RESTART]

[FEED]

- RS-232C: RS-232C Receive Buffer
- CENTRO: Centronics Receive Buffer
- NETWORK: Network Interface Receive Buffer

8. Press the **[PAUSE]** key to start printing. The printer prints the data in the selected receive buffer.

NOW PRINTING...

9. After completing the printing, the display returns to “<4>DUMP MODE”.

<4>DUMP MODE

10. Reset the printer by turning the power off and on. The display shows “ON LINE”.

ON LINE

CAUTION!

Please do not select <2>PARAMETER SET and <3>ADJUST SET modes. They are selectable, however, the printer may malfunction if the values are not set correctly. For details, please refer to your nearest TOSHIBA TEC service representative.

NOTE:

If an error occurs during the receive buffer dump, the display will show an error message and the printer will stop printing. Clear the error by pressing the **[PAUSE]** key and the display will return to “<4>DUMP MODE”. Printing will not restart automatically.

5. MAINTENANCE

WARNING!

- Be sure to disconnect the Power Cord before performing maintenance. Failure to do this may cause an electric shock.
- To avoid injury, be careful not to pinch or jam your fingers while opening or closing the cover and Print Head Block.
- The Print Head may become hot. Do not touch the Print Head.
- Do not pour water directly onto the printer.

This chapter describes how to perform normal maintenance. To maintain the printer performance and quality print, please clean the printer regularly, or whenever media or ribbon is replaced.

5.1 Cleaning

The following sections describe periodic cleaning of the unit.

5.1.1 Print Head/Platen/Sensors

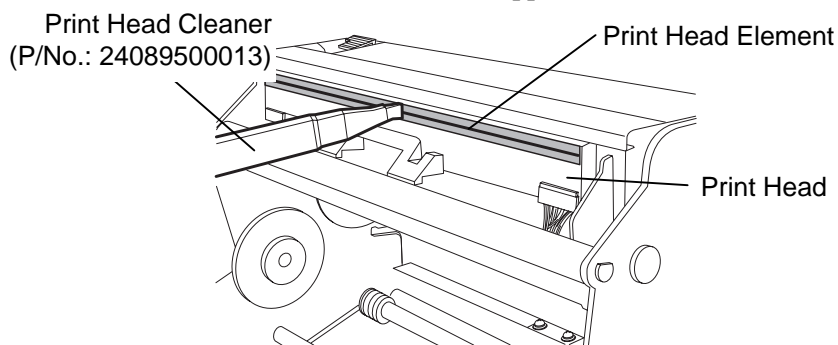
CAUTION!

- Do not allow any hard objects to touch the print head or platen, as this may cause damage to them.
- Do not use any volatile solvent including thinner and benzene, as this may cause discoloration to the cover, print failure, or breakdown of the printer.
- Do not touch the print head element with bare hands, as static may damage the print head.
- Be sure to use the print head cleaner enclosed with this printer. Failure to do this may shorten the print head life.

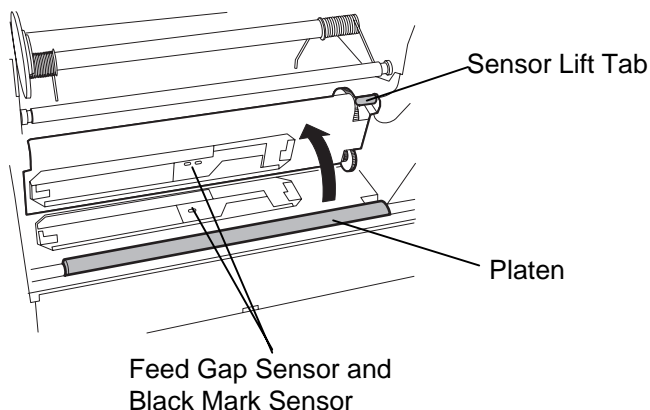
NOTE:

Please purchase the Print Head Cleaner from the authorised TOSHIBA TEC service representative.

1. Turn off the printer. Open the Top Cover.
2. Press the Head Block Release Lever to release the Print Head Block.
3. Raise the Print Head Block and remove the ribbon.
4. Clean the Print Head Element with the supplied Print Head Cleaner.



5. Hold the Sensor Lift Tab and lift the Upper Sensor Ass'y.
6. Wipe the Feed Gap Sensor and Black Mark Sensor with a dry soft cloth.
7. Wipe the Platen with a soft cloth slightly moistened with ethyl alcohol.

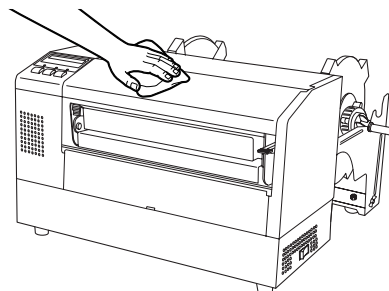


5.1.2 Covers and Panels

CAUTION!

Do not use any volatile solvent including thinner and benzene, as this may cause discoloration or distortion of the cover.

Wipe the Cover and Front Panel with a dry soft cloth. Wipe off dirt with a soft cloth slightly moistened with water.

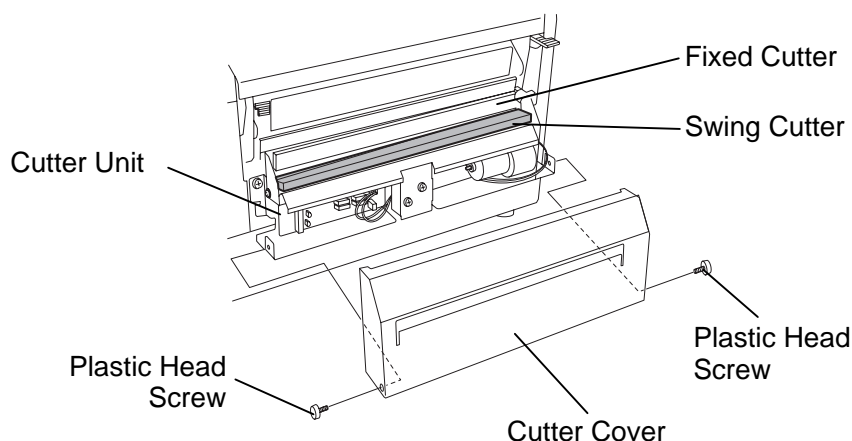


5.1.3 Optional Cutter Module

WARNING!

1. Be sure to turn the power off before cleaning the Cutter Module.
2. The Cutter is sharp, so care should be taken not to injure yourself when cleaning.

1. Remove the Plastic Head Screw and to detach the Cutter Cover.
2. Remove the jammed paper and trash, if any.
3. Clean the Cutter Blade with a dry cloth.



5.2 Care/Handling of the Media and Ribbon

CAUTION!

Be sure to read carefully and understand the Supply Manual. Use only media and ribbons which meet specified requirements. Use of non-specified media and ribbons may shorten the head life and result in problems with bar code readability or print quality. All media and ribbons should be handled with care to avoid any damage to the media, ribbons or printer. Read the guideline in this section carefully.

- Do not store the media and ribbon for longer than the manufacturer's recommended shelf life.
- Store media rolls on the flat end. Do not store them on the curved sides as this might flatten that side causing 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 and ribbon in a cool, dry place. Avoid areas where they would be exposed to direct sunlight, high temperature, high humidity, dust or gas.
- The thermal paper used for direct thermal printing must not have specifications which exceed Na^+ 800 ppm, K^+ 250 ppm and Cl^- 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_3) and kaolin ($\text{Al}_2\text{O}_3, 2\text{SiO}_2, 2\text{H}_2\text{O}$).

For further information, please contact your local distributor or your media and ribbon manufacturers.

6. TROUBLESHOOTING

This chapter lists the error messages and possible problems and their solutions.

WARNING!

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

6.1 Error Messages

NOTES:

- If an error is not cleared by pressing the **[RESTART]** key, turn the printer off and then on.
- After the printer is turned off, all print data in the printer is cleared.
- "****" indicates the number of unprinted media. Up to 9999 (in pieces).

Error Messages	Problems/Causes	Solutions
HEAD OPEN	The print head block is opened in Online Mode.	Close the print head block. Then press the [RESTART] key.
HEAD OPEN ****	Feed or printing has been attempted with the Print Head Block open.	Close the print head block. Then press the [RESTART] key.
COMMS ERROR	A communication error has occurred.	Make sure the interface cable is firmly connected to the computer, and the computer is turned on.
PAPER JAM ****	<ol style="list-style-type: none"> 1. The media is jammed at the media path. The media is not fed smoothly. 2. A wrong media sensor is selected for the media being loaded. 3. The Black Mark Sensor is not aligned to the Black Mark on the media. 4. Size of the loaded media is not consistent with the programmed size. 5. The Feed Gap Sensor cannot distinguish the print area from a label gap. 	<ol style="list-style-type: none"> 1. Remove the jammed media, and clean the Platen. Then reload the media properly. Finally press the [RESTART] key. 2. Turn the printer off and then on. Then select the media sensor supporting the media being loaded. Finally resend the print job. 3. Adjust the sensor position. Then press the [RESTART] key. 4. Turn the printer off and then on. Replace the loaded media with one which matches the programmed size, or select a programmed size that matches the loaded media. Finally resend the print job. 5. Refer to Section 6.4 to set the threshold. If this does not solve the problem, turn off the printer, and call an authorised service representative.
CUTTER ERROR **** (Only when the Cutter Module is installed on the printer.)	The media is jammed in the Cutter.	Remove the jammed media. Then press the [RESTART] key. If this does not solve the problem, turn off the printer, and call an authorised service representative.

6.1 Error Messages (Cont.)

Error Messages	Problems/Cause	Solutions
NO PAPER ****	<ol style="list-style-type: none"> The media has run out. The media is not loaded properly. The media is slack. 	<ol style="list-style-type: none"> Load new media. Then press the [RESTART] key. Load the media properly. Then press the [RESTART] key. Take up any slack in the media.
RIBBON ERROR ****	<ol style="list-style-type: none"> The ribbon is not fed properly. The ribbon has run out. 	<ol style="list-style-type: none"> Remove the ribbon, and check the status of the ribbon. Replace the ribbon, if necessary. If the problem is not solved, turn off the printer, and call an authorised service representative. Load a new ribbon. Then press the [RESTART] key.
EXCESS HEAD TEMP	The print head is overheated.	Turn off the printer, and allow it to cool down (about 3 minutes). If this does not solve the problem, call an authorised service representative.
HEAD ERROR	There is a problem with the Print Head.	Replace the Print Head. Then press the [RESTART] key.
Other error messages	Hardware or software problems may have occurred.	Turn the printer off and then on. If this does not solve the problem, turn off the printer again, and call a TOSHIBA TEC authorised service representative.

6.2 Possible Problems

This section describes problems that may occur when using the printer, and their causes and solutions.

Possible Problems	Causes	Solutions
The printer will not turn on.	<ol style="list-style-type: none"> The Power Cord is disconnected. The AC outlet is not functioning correctly. The fuse has blown, or the circuit breaker has tripped. 	<ol style="list-style-type: none"> Plug in the Power Cord. Make sure that the power is supplied using another electric appliance. Check the fuse or breaker.
The media is not fed.	<ol style="list-style-type: none"> The media is not loaded properly. The printer is in an error condition. 	<ol style="list-style-type: none"> Load the media properly. Solve the error in the Message Display. (See Section 6.1 for more detail.)
Nothing is printed on the media.	<ol style="list-style-type: none"> The media is not loaded properly. The ribbon is not loaded properly. A print head is not installed properly. The ribbon and media are not matched. 	<ol style="list-style-type: none"> Load the media properly. Load the ribbon properly. Install the Print Head properly. Close the Print Head Block. Select an appropriate ribbon for the media type being used.
The printed image is blurred.	<ol style="list-style-type: none"> The ribbon and media are not matched. The Print Head is not clean. 	<ol style="list-style-type: none"> Select an appropriate ribbon for the media type being used. Clean the print head using the supplied Print Head Cleaner.
The Cutter does not cut.	<ol style="list-style-type: none"> The media is jammed in the Cutter. The Cutter Blade is dirty. 	<ol style="list-style-type: none"> Remove the jammed paper. Clean the Cutter Blade.

6.3 Removing Jammed Media

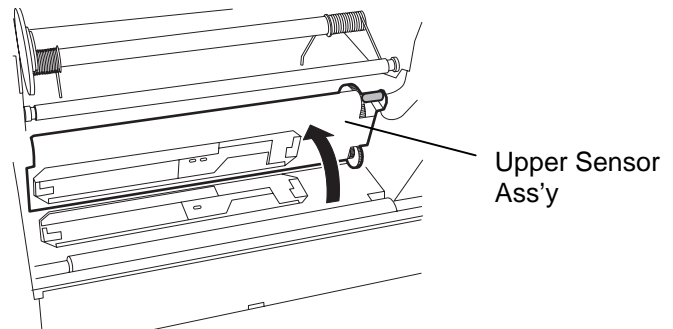
This section describes in detail how to remove jammed media from the printer.

CAUTION!

Do not scratch the Print Head or Platen using a sharp instrument, as this may cause media feed failure or damage to the printer.

Remove the jammed media from under the Upper Sensor Ass'y as follows:

1. Open the Top Cover.
2. Push the Head Block Release Lever to release and raise the Print Head Block.
3. Lift the Upper Sensor Ass'y, and remove the jammed media.



NOTE:

If you get frequent jams in the Cutter, contact a TOSHIBA TEC authorised service representative.

4. Clean the Platen and sensors as described in Section 5.1.1 .
5. Media jams in the Cutter Module can be caused by wear or residual glue from label stock on the Cutter Blade. Do not use non-specified media with the Cutter.

6.4 Threshold Setting

NOTES:

1. If the **[PAUSE]** key is released within 3 seconds whilst in pause state, paper will not feed.
2. Failure to feed more than 1.5 labels may result in an incorrect threshold setting.
3. While the Print Head Block is raised, the **[PAUSE]** key does not work.
4. Errors such as paper end and cutter error are not detected during paper feed.
5. Selecting the Transmissive Sensor (for pre-printed labels) within software commands allows the printer to detect the proper print start position correctly even when using pre-printed labels.
6. If the printer continued to print out of position after setting the threshold, adjust the Feed Gap Sensor in the system mode. Reset the threshold again. Make sure that the Transmissive Sensor (for pre-printed labels) is selected in the feed and issue commands.

To maintain a constant print position the printer uses the Transmissive Sensor to detect the gap between labels by measuring the amount of light passing through the media. When the media is pre-printed, the darker (or more dense) inks can interfere with this process causing paper jam errors. To get around this problem a minimum threshold can be set for the sensor in the following way.

■ Threshold setting procedure

1. Turn the power ON. The printer is in stand by mode.

ON LINE

2. Load a media roll.
3. Press the **[PAUSE]** key.

PAUSE

4. The printer enters the pause mode.
5. Press and hold the **[PAUSE]** key for at least 3 seconds in the pause state.

TRANSMISSIVE

6. The sensor type is displayed.
7. To select the Reflective Sensor (Black Mark Sensor), press the **[FEED]** key.

REFLECTIVE

8. To select the Transmissive Sensor (Feed Gap Sensor), press the **[FEED]** key again.

TRANSMISSIVE

9. Press and hold the **[PAUSE]** key until more than 1.5 labels (tags) have been advanced.
The media is advanced until the **[PAUSE]** key is released.
(Threshold setting is completed by this operation.)

PAUSE

10. Press the **[RESTART]** key.

ON LINE

11. The printer is in stand-by.

12. Send an issue command from the PC to the printer.

ON LINE

APPENDIX 1 SPECIFICATIONS

Appendix 1 describes the printer specifications and supplies for use on the B-852 printer.

A1.1 Printer

The following is the printer specifications.

Item	Model	B-852-TS12-QP
Supply voltage		AC220 – 240V, 50 Hz
Power consumption		1.1 A, 217 W maximum during a print job 0.1 A, 20 W maximum during standby
Operating temperature range		40°F to 104°F (5°C to 40°C)
Relative humidity		25% to 85% RH (no condensation)
Resolution		300 dpi (11.8 dots/mm)
Printing method		Thermal transfer or Thermal direct
Printing speed		2 inches/sec. (50.8 mm/sec.) 4 inches/sec. (101.6 mm/sec.)
Available media width (including backing paper)		3.9 inches to 9.5 inches (100 mm to 242 mm)
Effective print width (max.)		8.5" (216.8 mm)
Issue mode		Batch Cut (Cut mode is enabled only when the optional cutter module is installed.)
LCD Message display		16 characters/line
Dimension (W × D × H)		15.2" × 7.1"* × 9.6" (385 mm × 181 mm* × 243 mm) *: Depth is 16.8" (427 mm) when the supply holder is installed.
Weight		34.4 lb (15.6 kg) (Media and ribbon are not included.)
Available bar code types		JAN8, JAN13, EAN8, EAN8+2 digits, EAN8+5 digits, EAN13, EAN13+2 digits, EAN13+5 digits, UPC-E, UPC-E+2 digits, UPC-E+5 digits, UPC-A, UPC-A+2 digits, UPC-A+5 digits, MSI, ITF, NW-7, CODE39, CODE93, CODE128, EAN128, Industrial 2 to 5, Customer Bar Code, POSTNET, KIX CODE, RM4SCC (ROYAL MAIL 4STATE CUSTOMER CODE)
Available two-dimensional code		Data Matrix, PDF417, QR code, Maxi Code, Micro PDF417
Available bar font		Times Roman (6 sizes), Helvetica (6 sizes), Presentation (1 size), Letter Gothic (1 size), Prestige Elite (2 sizes), Courier (2 sizes), OCR (2 types), Outline font (4 types), Price font (3 types)
Rotations		0°, 90°, 180°, 270°
Standard interface		Serial interface (RS-232C) Parallel interface (Centronics)
Optional interface		PCL5 interface (B-7708-PCL-QM) PCMCIA interface (B-7708-PC-QM) Expansion I/O interface (B-8700-IO-QM)

NOTES:

- *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.

A1.2 Options

Option Name	Type	Description	Source
Cutter module	B-7208-QM	A stop and cut swing cutter.	See NOTE.
PCL5 interface board	B-7708-PCL-QM	These boards enable the B-852 printer to support the HP-PCL5.	See NOTE.
Expansion I/O interface board	B-8700-IO-QM	Installing this board in the printer allows a connection with an external device with the exclusive interface, such as the keyboard module.	See NOTE.
Keyboard module	KB-80-QM	This module is an external intelligent keyboard unit, including a 16 digit by 2 line LCD and 28 key switches.	See NOTE.
PCMCIA interface board	B-7708-PC-QM	This board enables the use of the following PCMCIA cards. LAN card: 3 COM EtherLink® III (recommended) ATA card: Conforming to PC card ATA standard Flash memory card: 4MB card (See page 2-14.)	See NOTE.

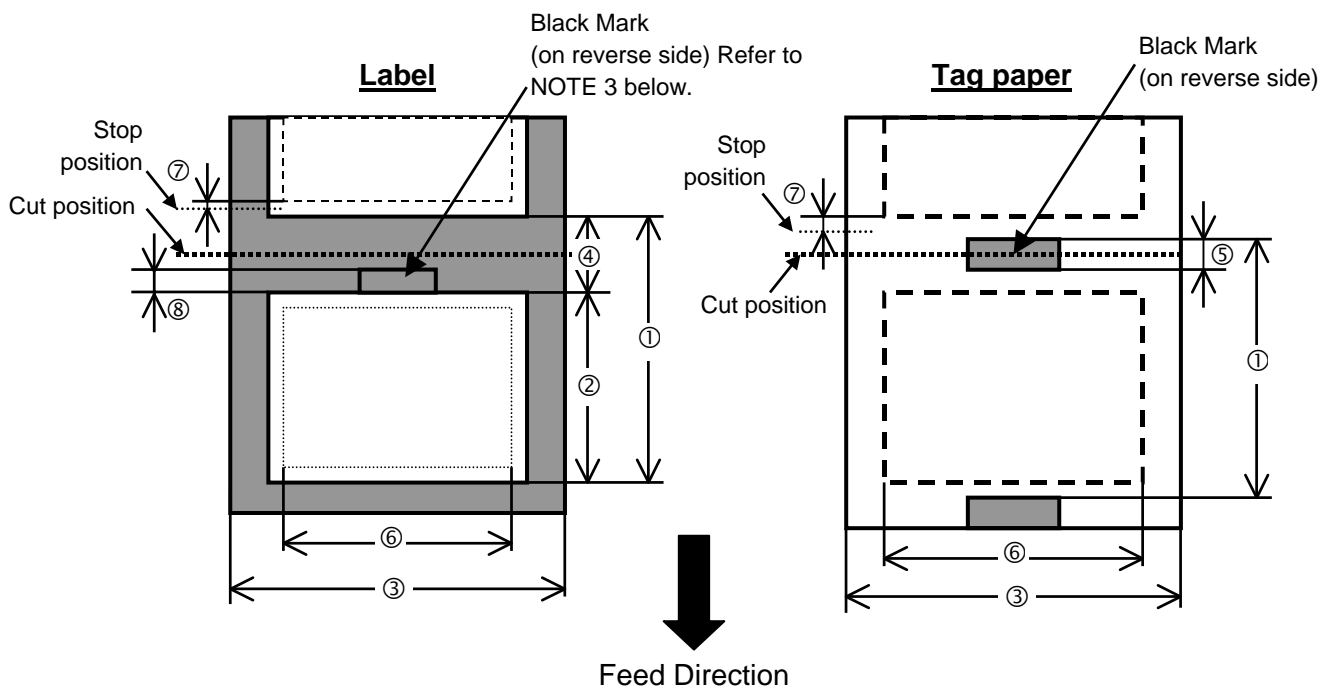
NOTE:
Available from your nearest TOSHIBA TEC representative or TOSHIBA TEC Head Quarters.

A1.3 Media

Please make sure that the media that will be used is approved by TOSHIBA TEC. The warranty does not apply when a problem is caused by using media that is not approved by TOSHIBA TEC. For information regarding TOSHIBA TEC approved media, please contact a TOSHIBA TEC authorised service representative.

A1.3.1 Media Type

Two types of media can be loaded for this thermal transfer and direct thermal printer label or tag. The table below shows size and shape of the media available for this printer.



A1.3.1 Media Type (Cont.)

[Unit: mm]

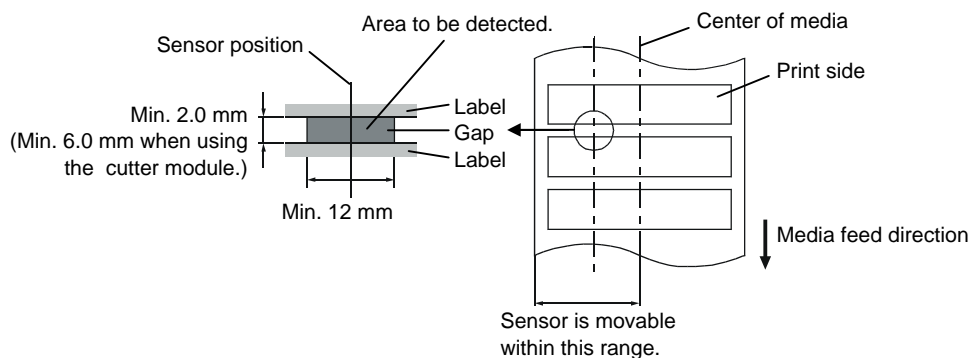
Label dispensing mode		Batch mode	Cut mode
Item			
① Minimum media pitch		15.0	Label: 38.0
			Tag: 25.4
② Label length		Min. 12.5	Min. 32.0
③ Width including backing paper		100.0- 242.0	100.0 – 235.0
④ Gap length		2.5 – 20.0	6.0 – 20.0
⑤ Black mark length (Tag paper)		2.0 – 10.0	
⑥ Effective print width		216.8±0.2	
⑦ Print speed up/slow down area		1.0	
⑧ Black mark length (Label)		Refer to NOTE 3 below.	
Max. print length		640.0	
Maximum effective length for on the fly issue		320.0	
Max. outer roll diameter		φ230	
Thickness	Label + backing paper	0.13 – 0.18	
	Tag	0.08 – 0.18	

NOTES:

1. To ensure print quality and print head life use only TOSHIBA TEC specified media.
2. When using the cutter ensure that label length ② plus inter-label gap length ④ exceeds 38 mm. (i.e. label pitch should be greater than 38 mm.)
3. When marking black marks on label rolls, the following requirements must be satisfied.
 When the gap length is less than 4 mm:
 The black mark length should be longer than the gap length.
 When the gap length is 4 mm or more:
 The black mark should not overlap the gap for more than 4 mm and the following label.
4. “On the fly issue” means that the printer can feed and print without stopping between labels.

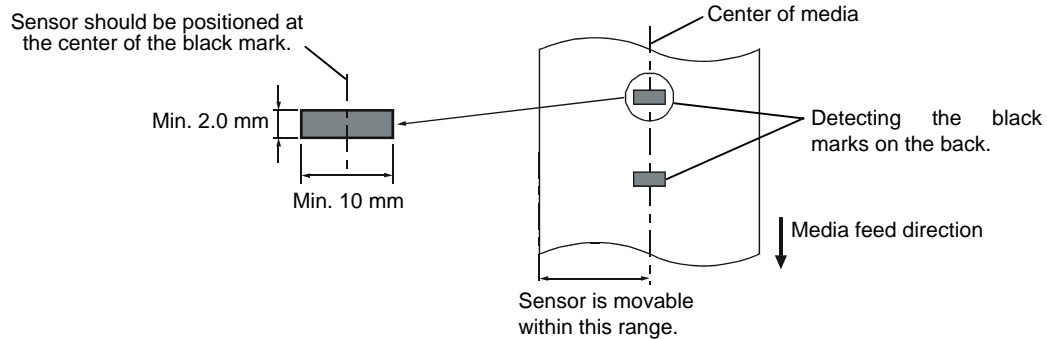
A1.3.2 Detection Area of the Transmissive Sensor

The transmissive sensor is movable from the center to the left edge of media.
 The transmissive sensor detects a gap between labels, as illustrated below.



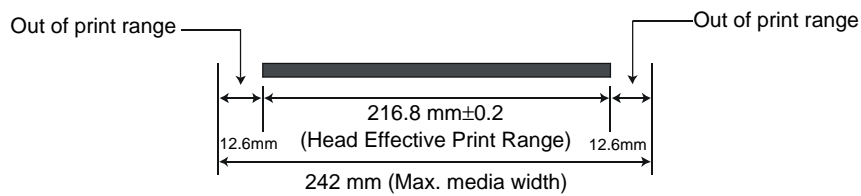
A1.3.3 Detection Area of the Reflective Sensor

The reflective sensor is movable from the center to the left edge of media.
 The reflection factor of the black mark must be 10% or lower with a waveform length of 950 nm.
 The reflective sensor should be aligned with the center of the black mark.

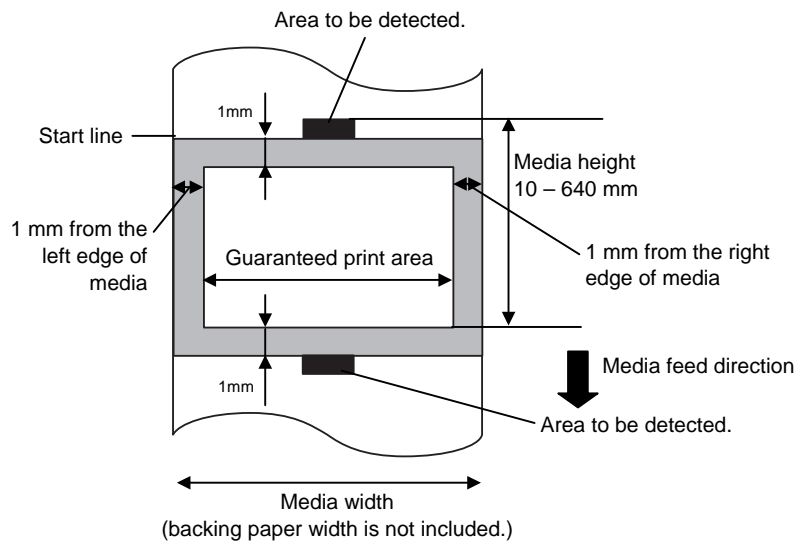


A1.3.4 Effective Print Area

The figure below illustrates the relation between the head effective print width and media width.



The figure below shows the effective print area on the media.



NOTES:

1. Be sure not to print on the 1-mm wide area from the media edges (shaded area in the above figure).
2. The center of media is positioned at the center of the print heads.

A1.4 Ribbon

Please make sure that the ribbon being used is approved by TOSHIBA TEC. The warranty does not apply to any problem caused by using non-approved ribbons.

For information regarding TOSHIBA TEC approved ribbon, please contact a sales representative.

Type	Spool type
Width	120 – 220 mm Recommended width is 120, 160 and 220 mm.
Length	300 m
Outside Diameter	φ72 mm (max.)

The table below shows the correlation between ribbon width and media width (backing paper is not included).

Ribbon width	Media width
120 mm	70 – 110 mm
160 mm	110 – 150 mm
220 mm	150 – 242 mm

NOTES:

1. To ensure print quality and print head life use only TOSHIBA TEC specified ribbons.
2. To avoid ribbon wrinkles use a ribbon that is wider than the media by 10 mm or more. However, too much difference in width between the two may cause wrinkles.
3. Be sure to use 220 mm-wide ribbon when using 210 to 242 mm wide media.

APPENDIX 2 MESSAGES AND LEDS

Appendix 4 describes the LCD messages displayed on the operation panel.

Symbols in the message

- 1: ○: The LED is illuminated. ◎: The LED is flashing. ●: The LED is unlit.
 2: ****: the number of unprinted media. Up to 9999 (in pieces)
 3: %%%: ATA Card's remaining memory 0 to 999999 (in K bytes)
 4: ###: Flash memory card remaining memory for PC save area: 0 to 895 (in K bytes)
 5: &&&: Remaining flash memory capacity for storing writable characters 0 to 3147 (in K bytes)

No.	LCD Message	LED Indication			Printer Status	Restoration by RESTART key Yes/No	Acceptance of Status Request Reset Command Yes/No
		POWER	ONLINE	ERROR			
1	ON LINE	○	○	●	In online mode	----	Yes
	ON LINE	○	◎	●	In online mode (The printer in communication)	----	Yes
2	HEAD OPEN	○	●	●	The print head block is opened in online mode.	----	Yes
3	PAUSE ****	○	●	●	The printer is paused.	Yes	Yes
4	COMMS ERROR	○	●	○	A parity, overrun, or framing error has occurred during communication through the RS-232C.	Yes	Yes
5	PAPER JAM ****	○	●	○	The media is jammed during paper feed.	Yes	Yes
6	CUTTER ERROR****	○	●	○	A problem has occurred with the cutter module.	Yes	Yes
7	NO PAPER ****	○	●	○	The media has run out, or the media is not loaded on the supply holder properly.	Yes	Yes
8	RIBBON ERROR****	○	●	○	The ribbon has run out, or has been torn. A problem has occurred with the sensor that determines the torque for the ribbon motor.	Yes	Yes
9	HEAD OPEN ****	○	●	○	Feed or printing was attempted with the print head block open.	Yes	Yes
10	EXCESS HEAD TEMP	○	●	○	The print head is overheated.	No	Yes
11	SAVING%%%%%%%% or SAVING ###&&&	○	○	●	In writable character or PC command save mode	----	Yes
12	FLASH WRITE ERR.	○	●	○	An error has occurred while writing to flash memory or ATA card.	No	Yes
13	FORMAT ERROR	○	●	○	An erase error has occurred in formatting the flash memory or ATA card.	No	Yes
14	FLASH CRD FULL	○	●	○	Data cannot be stored because the flash memory or ATA card is full.	No	Yes
15	HEAD ERROR	○	●	○	There is a problem with the print head.	Yes	Yes
16	Display of error message (See Notes.)	○	●	○	A command error has occurred in analyzing the command.	Yes	Yes

NOTES:

- If a command error is found in the command received, 16 bytes of the command error, starting from the command code, will be displayed. (However, [LF] and [NUL] will not be displayed.)

Example 1

[ESC] T20 E30 [LF] [NUL]
 └─── Command error

The following message appears.

T20E30

Example 2

[ESC] XR; 0200, 0300, 0450, 1200, 1, [LF] [NUL]
 └─── Command error

The following message appears.

XR;0200,0300,045

Example 3

[ESC] PC001; 0A00, 0300, 2, 2, A, 00, B [LF] [NUL]
 └─── Command error

The following message appears.

PC001;0A00,0300,

- When the error command is shown, "? (3FH)" appears for codes other than codes 20H to 7FH and A0H to DFH.

APPENDIX 3 INTERFACE

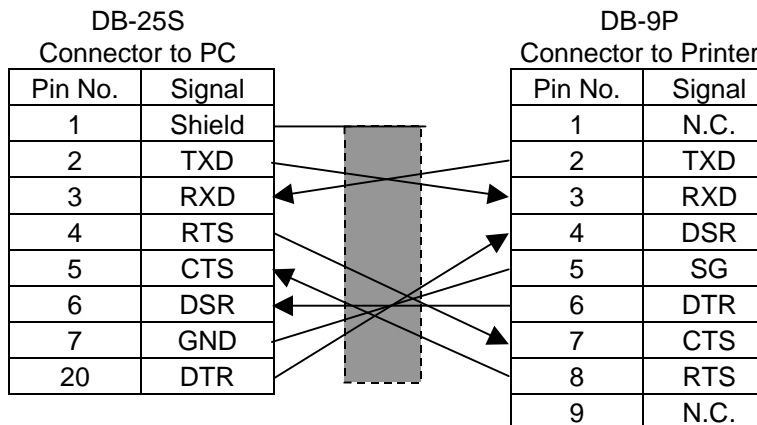
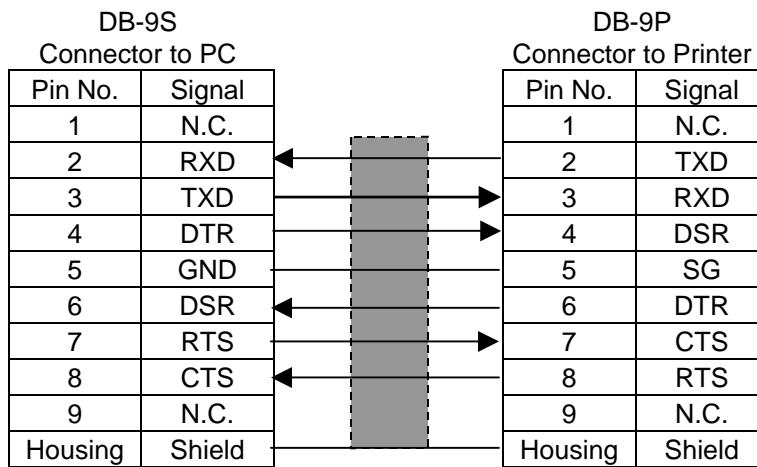
■ Interface Cables

To prevent radiation and reception of electrical noise, the interface cables must meet the following requirements:

- Fully shielded and fitted with metal or metallized connector housings.
- Keep as short as possible.
- Should not be bundled tightly with power cords.
- Should not be tied to power line conduits.

■ RS-232C Cable description

The serial data cable used to connect the printer to the host compute should be one of the following two types:



NOTE:

Use an RS-232C cable with inch type securing screws on the connector.

APPENDIX 4 PRINT SAMPLES

■ Font

<A>Times Roman medium:8point

Times Roman medium:10point

<C>Times Roman bold:10point

<D>Times Roman bold:12point

<E>Times Roman bold:14point

<F>Times Roman italic:12point

<G>Helvetica medium:8point

<H>Helvetica medium:10point

<I>Helvetica medium:12point

<J>Helvetica bold:12point

<K>Helvetica bold:14point

<L>Helvetica italic:12point

<M>PRESENTATION BOLD:18POINT

<N>Letter Gothic medium:9.5point

<O>Prestige Elite medium:7point

<P>Prestige Elite bold:10point

<Q>Courier medium:10point

<R>Courier bold:12point

<S>OCR-A:12point

<T>OCR-B:12point

<Outline Font:B>Helvetica bold

<Outline Font:B>Helvetica bold

APPENDIX 4 PRINT SAMPLES (Cont.)

■ Bar codes

0: JAN8, EAN8



1: MSI



2: Interleaved 2 of 5



3: CODE39 (Standard)



4: NW7



5: JAN13, EAN13



6: UPC-E



7: EAN13+2 digits



8: EAN13+5 digits



A: CODE128



B: CODE39 (Full ASCII)



C: CODE93



G: UPC-E+2 digits



H: UPC-E+5 digits



I: EAN8+2 digits



J: EAN8+5 digits



APPENDIX 4 PRINT SAMPLES (Cont.)

K: UPC-A



L: UPC-A+2 digits



M: UPC-A+5 digits



N: UCC/EAN128



O: Industrial 2 of 5



P: PDF417



Q: Data Matrix



R: Customer bar code



S: Customer bar code of high priority



T: QR code



U: POSTNET



V: RM4SCC



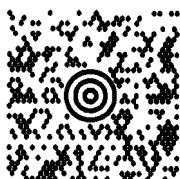
W: KIX Code



X: Micro PDF417



Z: MaxiCode



GLOSSARIES

Bar code

A code which represents alphanumeric characters by using a series of black and white stripes in different widths. Bar codes are used in various industrial fields: Manufacturing, Hospitals, Libraries, Retail, Transportation, Warehousing, etc. Reading bar codes is a fast and accurate means of capturing data while keyboard entry tends to be slow and inaccurate.

Batch mode

Issue mode that continuously prints media until the specified number of media has been printed.

Black mark

A mark printed on the media so that the printer can maintain a constant print position by detecting this mark.

Black mark sensor

A reflective sensor which detects the difference of potential between the black mark and print area to find the print start position.

Cut mode

Printer mode of operation where an optional cutter module is installed to automatically cut media from the supply roll after they are printed. The print command can specify to cut every media or to cut after a set number of media have been printed.

Cutter module

A device used to cut the media.

DPI

Dot Per Inch

The unit used to express print density.

Expansion I/O interface

An optional interface circuit that may be installed into the B-852 printer to allow the printer to be connected to an external device such as a wrapping machine and to receive feed, print start, and pause signals from the external device and to send back print, pause, and error status signals to the external device.

Feed gap sensor

A transmissive sensor which detects the difference of potential between the gap between labels and the label to find the print position of the label.

Font

A complete set of alphanumeric characters in one style of type. E.g. Helvetica, Courier, Times

Gap

Clearance between labels

IPS

Inch per second

The unit used to express print speed.

KB-80 keyboard interface

This interface is standard on the B-852 printer to allow the optional KB-80 keyboard to be attached to the printer allowing it to be operated in a standalone condition. Label programs may be stored in the KB-80 flash memory and labels printed through commands and data input through the keyboard instead of from a host computer.

LCD

Liquid Crystal Display

Installed on the operation panel and displays operation modes, error message and so on.

Label

A type of media with adhesive backing.

Media

Material on which data is printed by the printer. Label, tag paper, fanfold paper, perforated paper, etc.

PCMCIA interface

An optional interface circuit that may be installed into the B-852 printer to allow the use of the small credit card sized PC cards such as flash memory cards and LAN cards. PCMCIA is the acronym for Personal Computer Memory Card International Association.

Pre-printed media

A type of media on which characters, logos, and other designs have been already printed.

Print head element

The thermal print head consists of a single line of tiny resistive elements and when current is allowed to flow through each element it heats up causing a small dot to be burned onto thermal paper or a small dot of ink to be transferred from a thermal ribbon to ordinary paper.

Print speed

The speed at which printing occurs. This speed is expressed in units of ips (inches per second).

Reflective sensor

See Black mark sensor.

Resolution

The degree of detail to which an image can be duplicated. The minimum unit of divided image is called a pixel. As the resolution becomes higher, the number of pixels increased, resulting in more detailed image

Ribbon

An inked film used to transfer an image onto the media. In the thermal transfer printing, it is heated by the thermal print head, causing an image to be transferred onto the media

Supply

Media and ribbon

Supply holder

This unit holds a media roll at the rear of the printer so that the media is fed toward the print head.

Tag

A type of media having no adhesive backing but black marks to indicate the print area. Usually tags are made of cardboard or other durable material.

Tear off mode

Printer mode of operation where no cutter module is installed and the operation must manually tear off the printed media by forcing the media downward against a tear bar.

Thermal direct printing

A printing method using no ribbon, but thermal media which reacts to heat. The thermal print head heats the thermal media directly, causing print image to be printed on the media.

Thermal print head

A print head using thermal transfer or thermal direct printing method.

Thermal transfer printing

A printing method that the thermal print head heats an ink or resin coating on the ribbon against the media, causing the ink/resin to transfer onto the media.

Threshold setting

A sensor setting operation to have the printer maintain a constant print position of pre-printed media.

Transmissive sensor

See Feed gap sensor.

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