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# TM-T20

## User's Manual

M00028000EN

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# Standards and Approvals

The following standards are applied only to the printers that are so labeled. (EMC is tested using the Epson power supplies.)

Europe: CE marking

North America: FCC/ICES-003 Class A

Oceania: AS/NZS CISPR22 Class A

**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.

The connection of a non-shielded printer interface cable to this printer will invalidate the EMC standards of this device. You are cautioned that changes or modifications not expressly approved by Seiko Epson Corporation could void your authority to operate the equipment.

## CE Marking

The printer conforms to the following Directives and Norms:

Directive 2004/108/EC

EN 55022 Class A
IEC61000-3-2
IEC61000-3-3

EN 55024

| | |
|---|---|
| IEC 61000-4-2 | IEC 61000-4-5 |
| IEC 61000-4-3 | IEC 61000-4-6 |
| IEC 61000-4-4 | IEC 61000-4-11 |

Directive 2006/95/EC
Safety Standard EN 60950-1

## FCC Compliance Statement For American Users

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.

Operation 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.

## For Canadian Users

This Class A digital apparatus complies with Canadian ICES-003.

# Important Safety Information

This section presents important information intended to ensure safe and effective use of this product. Read this section carefully and store it in an accessible location.

## Key to Symbols

The symbols in this manual are identified by their level of importance, as defined below. Read the following carefully before handling the product.

**⚠ WARNING:**
*Warnings must be followed carefully to avoid serious bodily injury.*

**⚠ CAUTION:**
*Cautions must be observed to avoid minor injury to yourself, damage to your equipment, or loss of data.*

**✎ Note:**
*Notes have important information and useful tips on the operation of your equipment.*

## Safety Precautions

**⚠ WARNING:**

*Shut down your equipment immediately if it produces smoke, a strange odor, or unusual noise. Continued use may lead to fire or shock. Immediately unplug the equipment and contact your dealer or a Seiko Epson service center for advice.*

*Never attempt to repair this product yourself. Improper repair work can be dangerous.*

*Never disassemble or modify this product. Tampering with this product may result in injury, fire, or shock.*

*Be sure to use the specified power source. Connection to an improper power source may cause fire.*

*Never insert or disconnect the power plug with wet hands. Doing so may result in severe shock.*

*Do not place multiple loads on the power outlet (wall outlet). Overloading the outlet may lead to fire.*

*Be sure your power cord meets the relevant safety standards and includes a power-system ground terminal (PE terminal). Otherwise shock may result.*

*Handle the cables with care. Improper handling may lead to fire or shock.*

- *Do not use the cables if it they are damaged.*
- *Do not modify or attempt to repair the cables.*
- *Do not place any object on top of the cables.*
- *Avoid excessive bending, twisting, and pulling of the cables.*
- *Do not place cables near heating equipment.*
- *Check that the plug is clean before plugging it in.*
- *Check that the AC inlet is clean before plugging the power connector in it.*
- *Be sure to push the prongs and power connector all the way in.*

*Use the provided power cable only. Do not use the provided power cable with any other devices than the specified one. Doing so may lead to fire or shock.*

*Never glue the AC inlet and the power cable together.*

*Regularly remove the power plug from the outlet and clean the base of the prongs and between the prongs. If you leave the power plug in the outlet for a long time, dust may collect on the base of the prongs, causing a short and fire.*

*Regularly confirm that the plug and AC inlet are not wet with liquid such as water.*

*Do not allow foreign matter to fall into the equipment. Penetration by foreign objects may lead to fire.*

*If water or other liquid spills into this equipment, unplug the power cord immediately, and then contact your dealer or a Seiko Epson service center for advice. Continued usage may lead to fire.*

*Do not use aerosol sprayers containing flammable gas inside or around this product. Doing so may cause fire.*

*Do not connect a telephone line to the drawer kick-out connector; otherwise the printer and the telephone line may be damaged.*

***⚠ CAUTION:***

*Do not connect cables in ways other than those mentioned in this manual. Different connections may cause equipment damage and burning.*

*Be sure to set this equipment on a firm, stable, horizontal surface. The product may break or cause injury if it falls.*

*Do not use in locations subject to high humidity or dust levels. Excessive humidity and dust may cause equipment damage or fire.*

*Do not place heavy objects on top of this product. Never stand or lean on this product. Equipment may fall or collapse, causing breakage and possible injury.*

*Take care not to injure your fingers on the manual cutter*

- *When you remove printed paper*
- *When you perform other operations such as loading/replacing roll paper*

*To ensure safety, unplug this product before leaving it unused for an extended period.*

## Caution Labels

The caution labels on the product indicate the following precautions.

***⚠ CAUTION:***

*Do not touch the thermal head because it can be very hot after printing.*

## Restriction of Use

When this product is used for applications requiring high reliability/safety, such as transportation devices related to aviation, rail, marine, automotive, etc.; disaster prevention devices; various safety devices, etc.; or functional/precision devices, etc.; you should use this product only after giving consideration to including fail-safes and redundancies into your design to maintain safety and total system reliability. Because this product was not intended for use in applications requiring extremely high reliability/safety, such as aerospace equipment, main communication equipment, nuclear power control equipment, or medical equipment related to direct medical care, etc., please make your own judgment on this product's suitability after a full evaluation.

## Downloading Drivers, Utilities, and Manuals

The latest versions of drivers, utilities, and manuals can be downloaded from one of the following URLs.

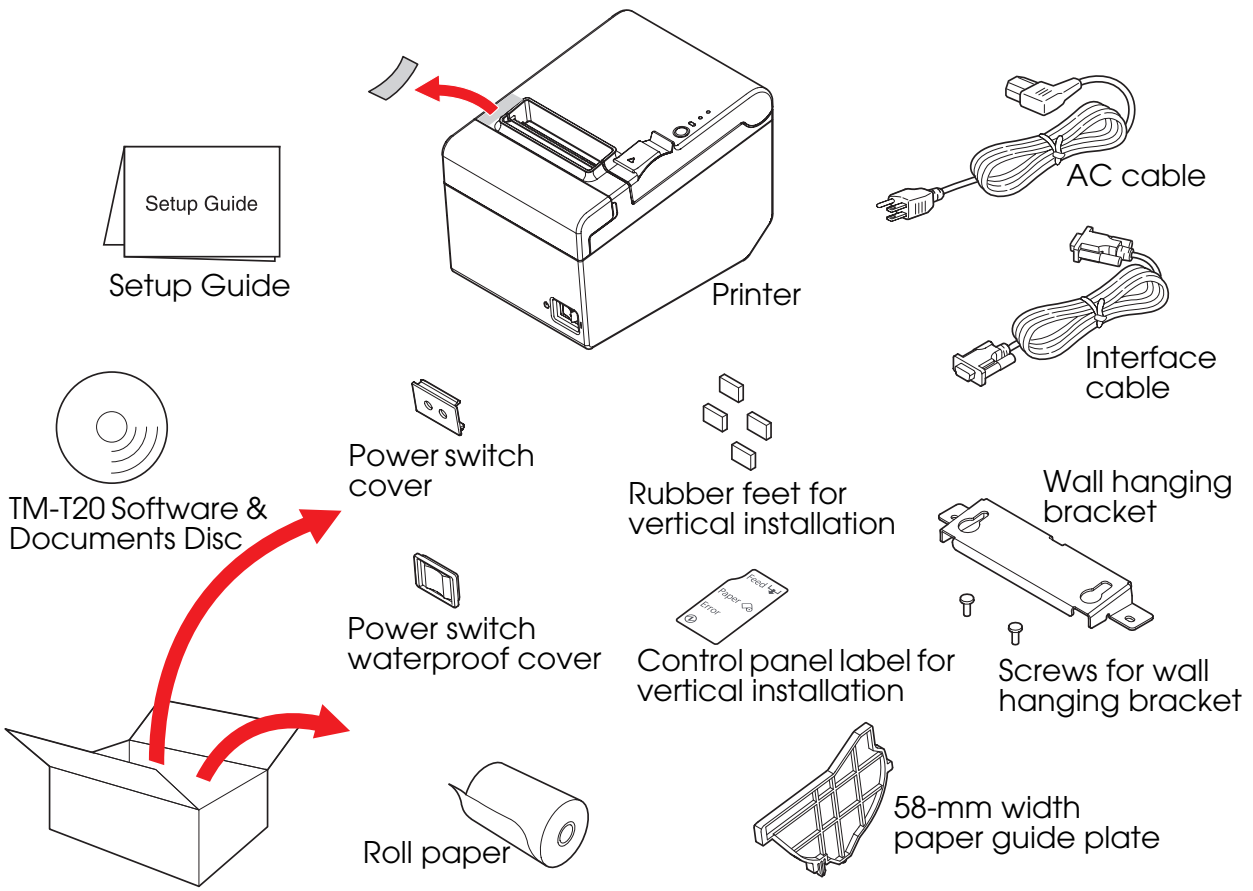
For customers in North America, go to the following web site:
http://www.epsonexpert.com/ and follow the on-screen instructions.

For customers in other countries, go to the following web site:
http://www.epson-pos.com/

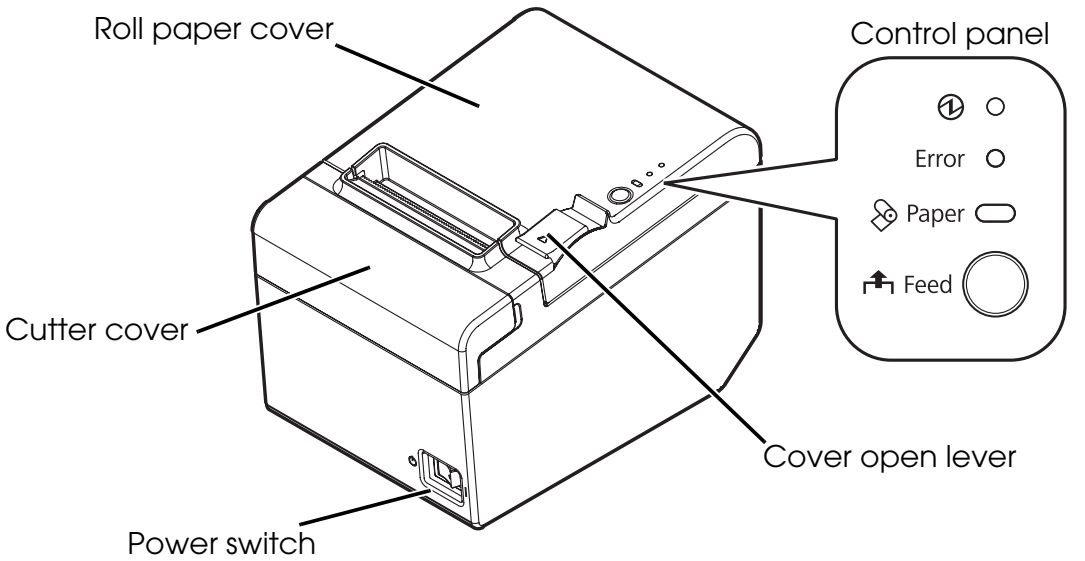
## Unpacking

The following items are included with the standard specification printer.
If any item is damaged, contact your dealer.

***Note:***
*The shape of accessories varies between models and areas.*



## Part Names




## Control Panel

### (Power) LED

This LED is on when the printer is on.

### Error LED

This indicates an error.

### Paper LED

On indicates a paper out. Flashing indicates standby.

### Feed button

This button feeds paper.

## Connecting the Cables

**⚠ CAUTION:**

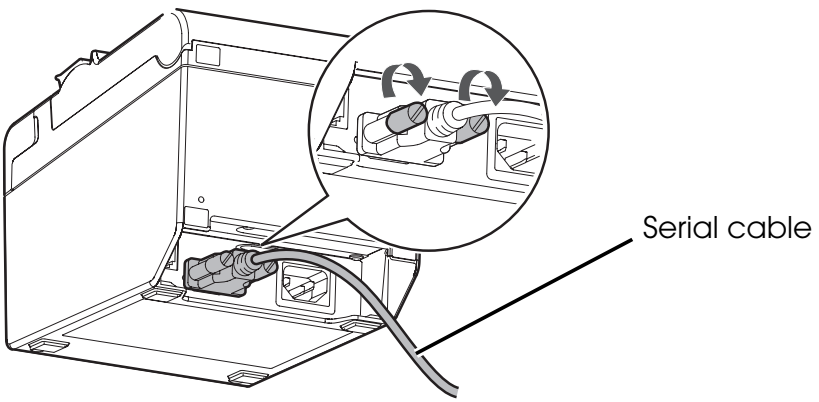
*For a serial interface, use a null modem cable.*

*Always supply power directly from a standard power outlet.*

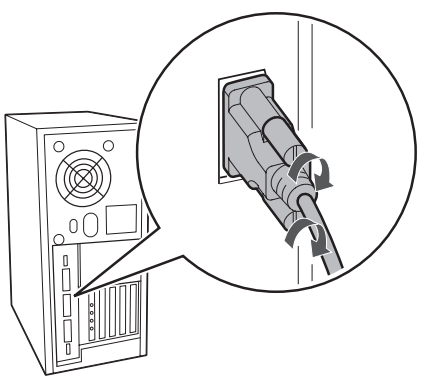
*Do not connect to electrical outlets close to devices that generate voltage fluctuations or electrical noise. In particular, stay clear of devices that use large electric motors.*

*Never attempt to stretch the cables to enable a connection. The power cable must have adequate slack at all times during use.*

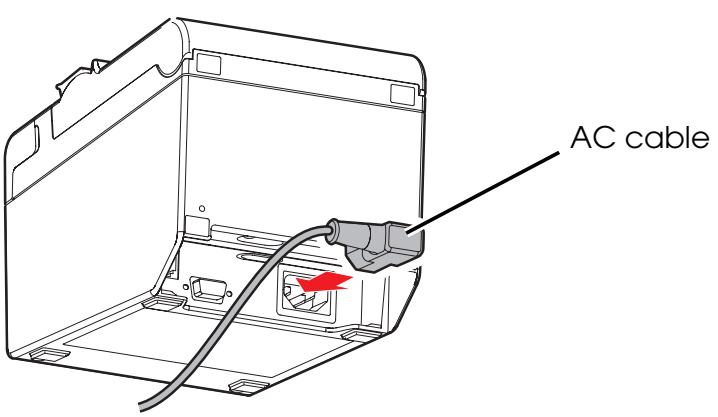
1. Make sure the printer is turned off.
2. Connect the serial cable to the printer.



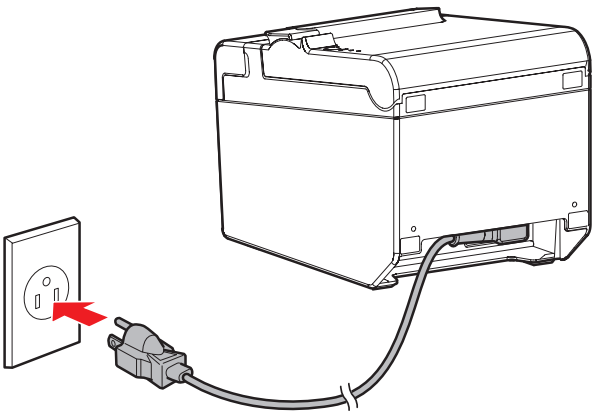

3. Connect the other end of the serial cable to the computer.



4. Connect the AC cable to the printer.



5. Insert the AC plug into a socket.



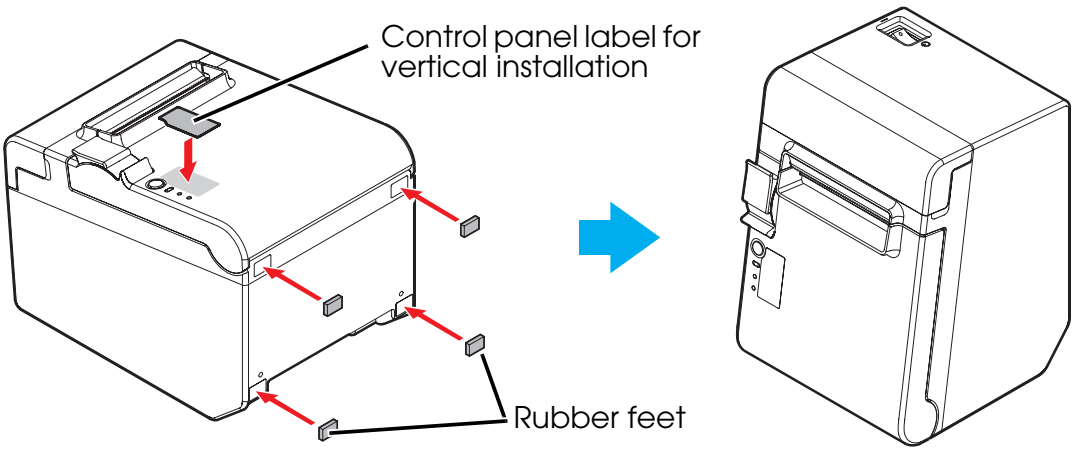
## Installing the Printer

You can install the printer horizontally on a flat surface (with the paper exit on top) or vertically (with the paper exit at the front). Also, you can hang it on a wall using the included accessories.

**⚠ CAUTION:**
*Take measures to prevent the printer from moving by vibration during paper cutting and when using a drawer. Affixing tape is provided as an option.*

### Installing the Printer Vertically

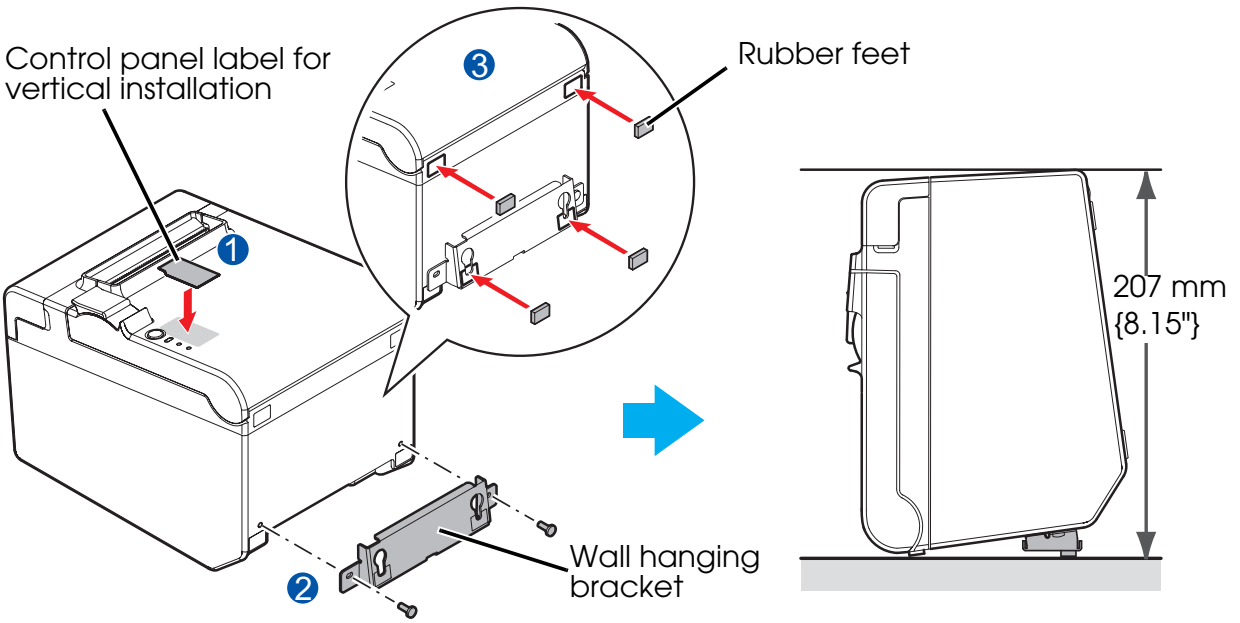
When installing the printer vertically, be sure to attach the included control panel label for vertical installation on the roll paper cover, and attach 4 rubber feet in the rectangular indents in the printer case, as shown in the illustration below.



***Note:***

*You can install the printer so that the roll paper cover is upright to the mounting surface using the included wall hanging bracket.*

1. *Attach the control panel label for vertical installation on the roll paper cover.*
2. *Install the wall hanging bracket on the printer, and fix it using 2 included screws.*
3. *Attach 2 rubber feet in the rectangular indents in the printer case, and attach 2 rubber feet within the scribed line on the hanging bracket.*
4. *Place the printer with the wall-hanging-bracket-side down.*



## *Hanging the Printer on a Wall*

To hang the printer on the wall, follow the steps below.

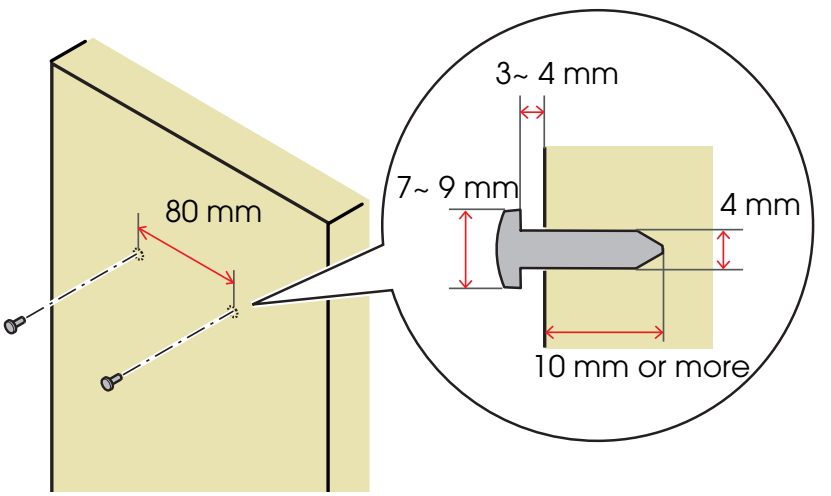
***⚠ CAUTION:***

*To fix the printer securely, install the wall hanging bracket on a wall made of wood, concrete, or metal. The thickness of the wall should be 10 mm {0.4"} or more.*

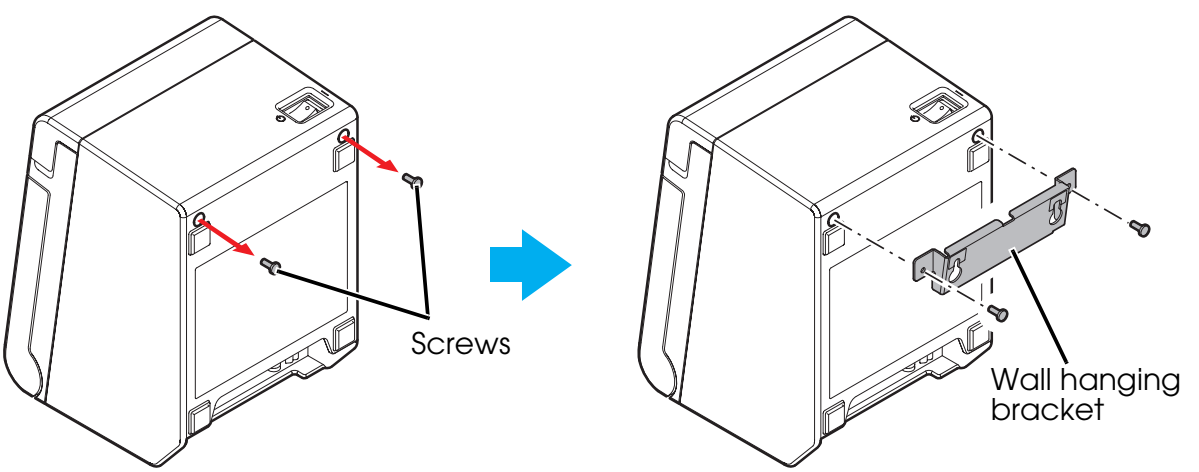
*Be sure to use metallic screws.*

*The screws on the wall side must have a pull-out strength of 150 N (15.3 kgf) or more.*

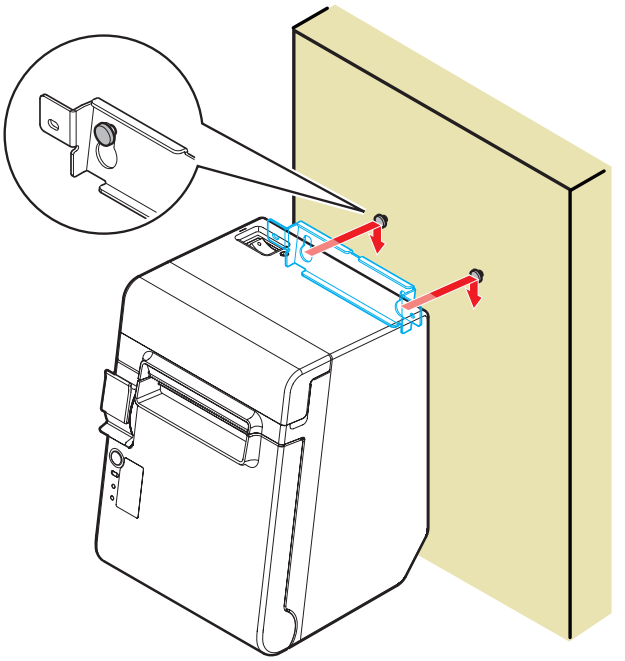
1. Install 2 screws (screw diameter: 4 mm {0.16"}, head diameter: 7 to 9 mm {0.28 to 0.35"}) in the wall at an interval of 80 mm {3.15"}. Make sure the length of the screw's body in the wall is 10 mm {0.39"} or more, and the length outside the wall is 3 to 4 mm {0.12 to 0.16"}.




2. Remove the installed 2 screws from the printer, as shown in the illustration below.
3. Install the wall hanging bracket on the printer, and fix it using the screws removed in Step 2.



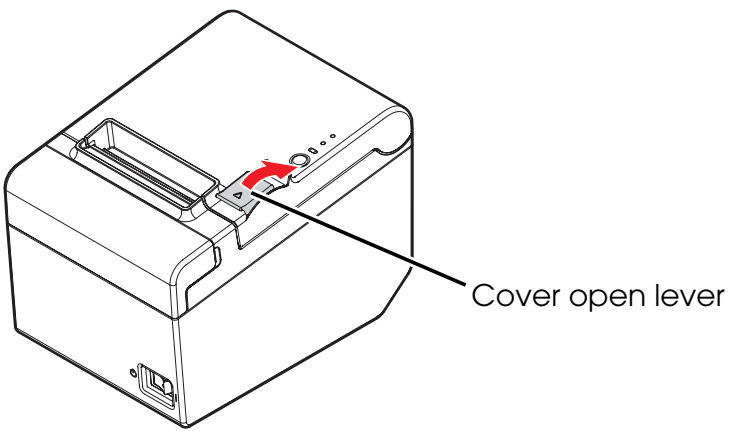
4. Align the holes in the wall hanging bracket with the screws on the wall, and hook it securely.



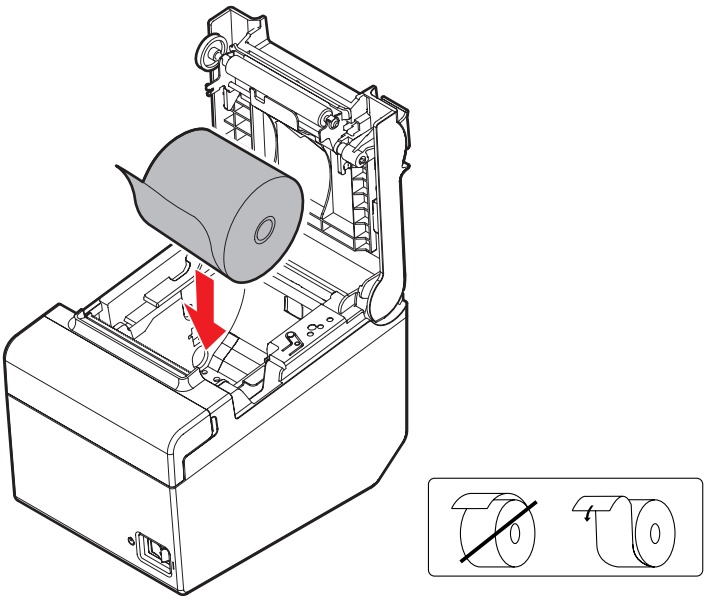
## Installing Roll Paper

Follow the steps below to install the roll paper.

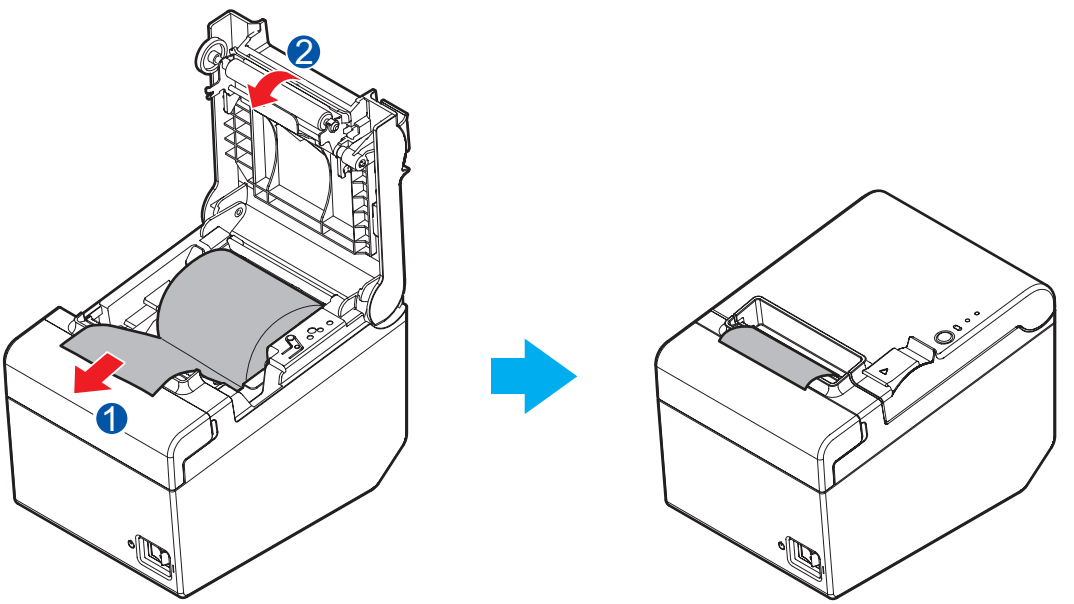
1. Use the cover open lever to open the roll paper cover.



2. Remove the used roll paper core if any, and insert the roll paper. The correct direction of the paper is shown in the illustration below.



3. Pull out some paper, and close the roll paper cover.
When the printer power is on, the roll paper is automatically cut.



## Changing the Paper Width

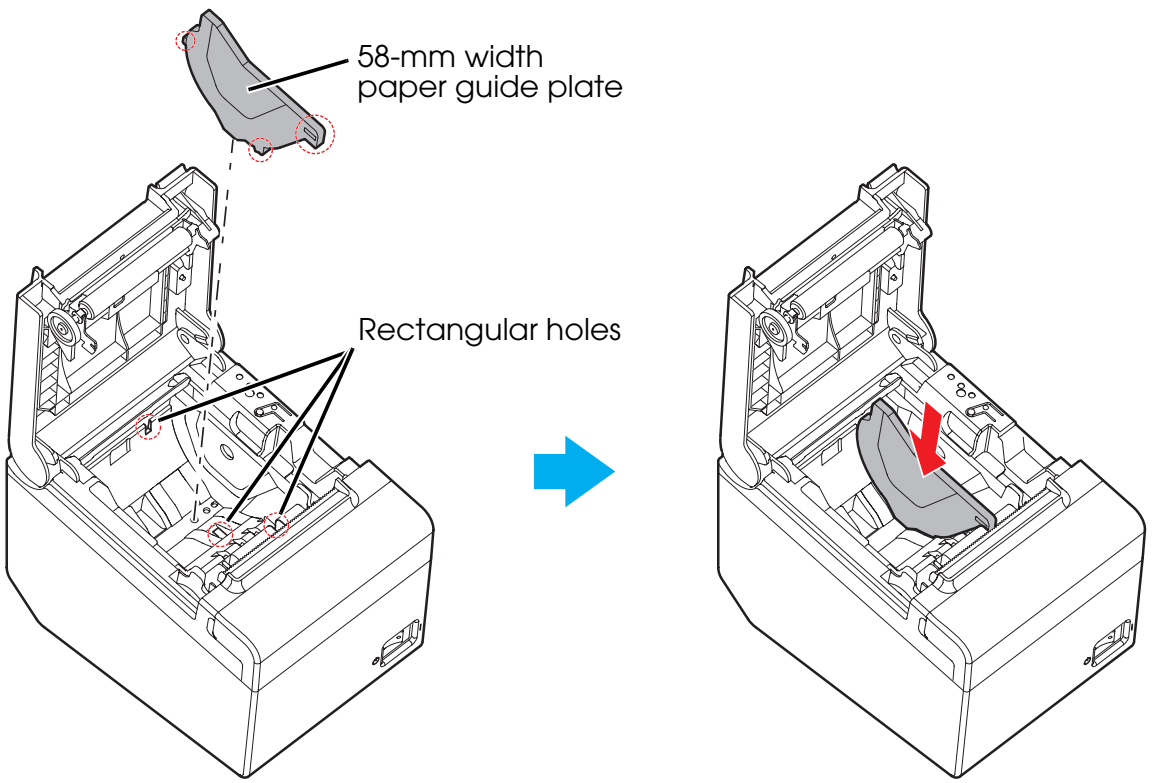
You can change the paper width from 80 to 58 mm by installing the included 58-mm width paper guide plate. Follow the steps below to change the paper width.

**⚠ CAUTION:**

*Once you change the paper width from 80 to 58 mm, you cannot change it back to 80 mm.*

*When changing the paper width, be sure to make the setting for the paper width with the utility software for the TM-T20.*

1. Open the roll paper cover.
2. Align 3 projections on the 58-mm width paper guide plate with the rectangular holes in the printer, and push it downwards.




3. Install the roll paper.
4. Close the roll paper cover.

## Attaching Cover on the Power Switch

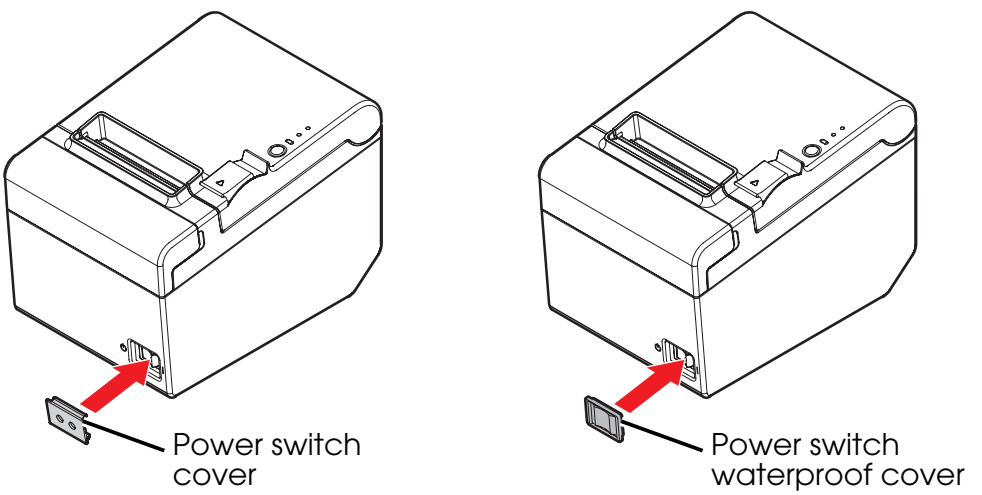
The enclosed power switch cover ensures that the power switch is not pressed accidentally.

You can turn the power switch on and off by inserting a sharp-pointed object in the holes in the power switch cover. To detach the cover, also use a sharp-pointed object.

A waterproof cover for the power switch is also included.

To use these covers, install them as shown in the illustration below.

⚠ ***WARNING:***
*If an accident occurs with the power switch cover attached, unplug the power cord immediately. Continued use may cause fire or shock.*




## Troubleshooting

### No lights on the control panel

Check whether the power supply cable is correctly connected to the printer and the socket.

### Error LED on with no printing

- ❏ Check whether the roll paper cover is closed. If it is open, close it.
- ❏ If the Paper LED is **on**, check whether the roll paper is correctly installed and any roll paper remains.

### Error LED flashing with no printing

- ❏ Check whether a paper jam has occurred. If paper is jammed, remove the jammed paper referring to the description below and install the roll paper correctly.
- ❏ Printing stops if the head overheats and resumes automatically when it cools.
- ❏ For other cases, turn the printer off, and after 10 seconds, back on.

## When a paper jam occurs

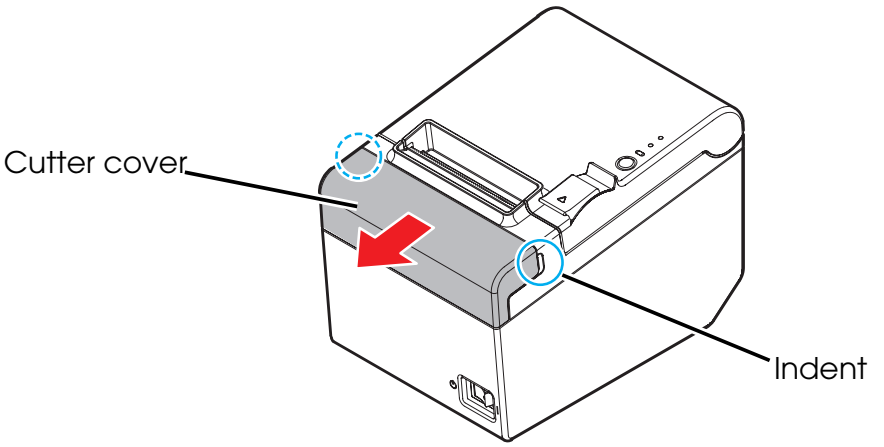
When a paper jam occurs, never pull out the paper forcibly. Open the roll paper cover and remove the jammed paper.

***CAUTION:***

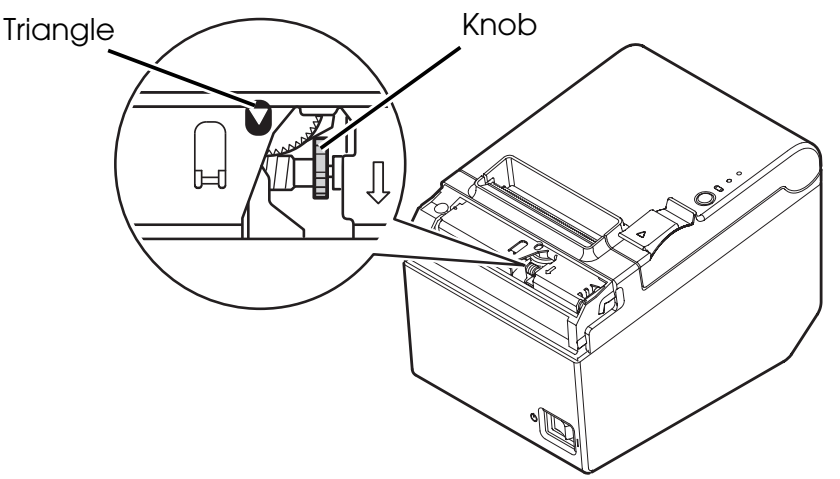
*Do not touch the thermal head, because it can be very hot after printing.*

If the roll paper cover does not open, follow the steps below.

1. Turn off the printer.
2. Put the fingers in the indents in both sides of the cutter cover, and slide it toward the arrow in the illustration below to remove it.




3. Turn the knob until you see a triangle in the opening. This returns the cutter blade to the normal position. See the operating instructions on the back of the cutter cover.




4. Install the cutter cover.
5. Open the roll paper cover and remove the jammed paper.

# Cleaning

## Cleaning the Printer Case

Be sure to turn off the printer, and wipe the dirt off the printer case with a dry cloth or a damp cloth.

**⚠ CAUTION:**
*Never clean the product with alcohol, benzine, thinner, or other such solvents. Doing so may damage or break the parts made of plastic and rubber.*

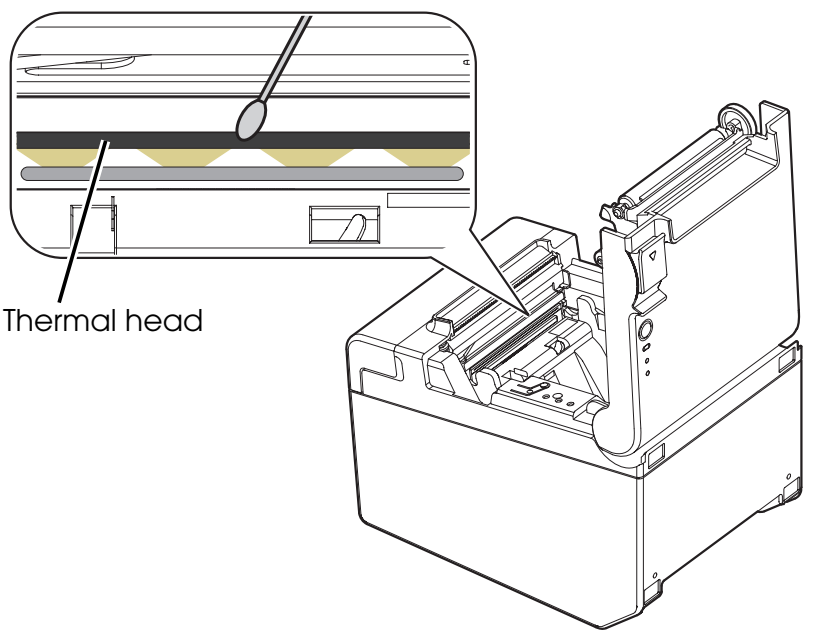
## Cleaning the Thermal Head

**⚠ CAUTION:**
*After printing, the thermal head can be very hot. Be careful not to touch it and to let it cool before you clean it.*

*Do not damage the thermal head by touching it with your fingers or any hard object.*

Turn off the printer, open the roll paper cover, and clean the thermal elements of the thermal head with a cotton swab moistened with an alcohol solvent (ethanol or IPA).

Epson recommends cleaning the thermal head periodically (generally every 3 months) to maintain receipt print quality.



# Specifications

| | | 80 mm paper width | 58 mm paper width[*1] |
|---|---|---|---|
| **Printing method** | | Thermal line printing | |
| **Dot density** | | 203 dpi × 203 dpi (dots per 25.4 mm {1"}) | |
| **Printing direction** | | Unidirectional with friction feed | |
| **Printing width** | **Default** | 72.1 mm {2.84"}, 576 dot positions | 52.6 mm {2.07"}, 420 dot positions |
| | **42 column mode[*2]** | 68.3 mm {2.69"}, 546 dot positions | 47.3 mm {1.86"}, 378 dot positions |
| **Characters per line** | **Default** | Font A: 48; Font B: 64 | Font A: 35; Font B: 46 |
| | **42 column mode[*2]** | Font A: 42; Font B: 60 | Font A: 42; Font B: 31 |
| **Character spacing** | **Default** | Font A, Font B: 0.25 mm {.01"} (2 dots) | |
| | **42 column mode[*2]** | Font A: 0.38 mm {.01"} (3 dots)<br>Font B: 0.25 mm {.01"} (2 dots) | Font A, Font B: 0.25 mm {.01"} (2 dots) |
| **Character sizes** Standard/ Double-height/ Double-width/ Double-width/ Double-height | **Default** | Font A: 1.25 × 3.00/1.25 × 6.00/2.50 × 3.00/2.50 × 6.00 mm<br>Font B: 0.88 × 2.13/0.88 × 4.26/1.76 × 2.13/1.76 × 4.26 mm | |
| | **42 column mode[*2]** | Font A:<br>1.25 × 3.00/1.25 × 6.00/2.50 × 3.00/ 2.50 × 6.00 mm<br>Font B:<br>0.88 × 2.13/0.88 × 4.26/1.76 × 2.13/ 1.76 × 4.26 mm | Font A:<br>0.88 × 2.13/0.88 × 4.26/1.76 × 2.13/ 1.76 × 4.26 mm<br>Font B:<br>1.25 × 3.00/1.25 × 6.00/2.50 × 3.00/ 2.50 × 6.00 mm |
| **Character structure** | **Default** | Font A: 12 × 24 (including 2-dot horizontal spacing)<br>Font B: 9 × 17 (including 2-dot horizontal spacing) | |
| | **42 column mode[*2]** | Font A: 13 × 24 (including 3-dot horizontal spacing)<br>Font B: 9 × 17 (including 2-dot horizontal spacing) | Font A: 9 × 17 (including 2-dot horizontal spacing)<br>Font B: 12 × 24 (including 2-dot horizontal spacing) |
| **Number of characters** | | Alphanumeric characters: 95; International character sets: 18 sets<br>Extended graphics: 128 × 43 pages (including user defined page) | |
| **Printing speed** | | 150 mm/s {5.91"/s} max.; 40 lps (3.75 mm {0.15"} feed)<br>Ladder bar code and 2D symbol: 100 mm/s {2.4"/s} | |
| | | The above speed values are approximate.<br>The values are when the printer prints with density "Normal" at 25°C {77°F}.<br>Speed is adjusted automatically depending on the voltage applied and head temperature. | |
| **Paper feed speed** | | Approx. 150 mm/s {approx. 5.91"/s}<br>(continuous paper feed with the Feed button.) | |
| **Line spacing (default)** | | 3.75 mm {0.15"} | |
| **Roll paper (single-ply)** | **Width** | 79.5 mm ± 0.5 mm {3.13" ± 0.02"} | 57.5 mm ± 0.5 mm {2.26" ± 0.02"} |
| | **Diameter** | Maximum outside diameter: 83 mm {3.27"} | |
| | **Spool** | Spool diameter: Inside: 12 mm {0.47"}; Outside: 18 mm {0.71"} | |
| **Thermal paper type** | | NTP080-80 | NTP058-80 |
| **Interface** | | Serial (RS-232) | |
| **Receive buffer** | | 4KB/45 bytes | |
| **Cash drawer function** | | 2 drives | |
| **Power supply** | | Supply voltage: AC100-240V 50/60Hz, Rated current: 1.0 A | |

| | 80 mm paper width | 58 mm paper width*1 |
|---|---|---|
| **Temperature** | Operating: 5 to 45°C {41 to 113°F}<br>Storage: –10 to 50°C {14 to 122°F}, except for paper | |
| **Humidity** | Operating: 10 to 90% RH<br>Storage: 10 to 90% RH, except for paper | |
| **Overall dimensions** | 146 × 140 × 199 mm {5.75 × 5.51 × 7.83"} (H × W × D) | |
| **Weight (mass)** | Approx. 1.7 kg {3.74 lb} | |

lps: lines per second dpi: dots per 25.4 mm (dots per inch)

*1: The values are those when the paper width is changed to 58 mm by installing the 58-mm width paper guide plate and making the paper width setting with utility software for the TM-T20.
For how to install the 58-mm width paper guide plate, see "Changing the Paper Width" on page 13.

*2: 42 column mode can be set using the utility software for the TM-T20.