

Dealer's Manual

ROAD	MTB	Trekking
City Touring/ Comfort Bike	URBAN SPORT	E-BIKE



SHIMANO STEPS SPECIAL BATTERY AND PARTS

BT-E6000

EW-SW100

BT-E6001

EW-CP100

BT-E6010

BT-E8010

BT-E8014

BT-E8020

BT-E8035

EC-E6000

EC-E6002

EC-E8004

BM-E6000

BM-E6010

BM-E8010

BM-E8020

BM-E8030-A

BM-E8030-B

BM-E8031-A

BM-E8031-B

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IMPORTANT NOTICE

- **This dealer's manual is intended primarily for use by professional bicycle mechanics.**

Users who are not professionally trained for bicycle assembly should not attempt to install the components themselves using the dealer's manuals.

If any part of the information on the manual is unclear to you, do not proceed with the installation. Instead, contact your place of purchase or a bicycle dealer for their assistance.

- Make sure to read all owner's manuals included with the product.
- Do not disassemble or modify the product other than as stated in the information contained in this dealer's manual.
- All manuals and technical documents are accessible online at <https://si.shimano.com>.
- For consumers who do not have easy access to the internet, please contact a SHIMANO distributor or any of the SHIMANO offices to obtain a hardcopy of the User's Manual.
- Please observe the appropriate rules and regulations of the country, state or region in which you conduct your business as a dealer.

For safety, be sure to read this dealer's manual thoroughly before use, and follow it for correct use.

The following instructions must be observed at all times in order to prevent personal injury and physical damage to equipment and surroundings.

The instructions are classified according to the degree of danger or damage which may occur if the product is used incorrectly.

 DANGER	Failure to follow the instructions will result in death or serious injury.
 WARNING	Failure to follow the instructions could result in death or serious injury.
 CAUTION	Failure to follow the instructions could cause personal injury or physical damage to equipment and surroundings.

TO ENSURE SAFETY



Be sure to also inform users of the following:

■ Handling the battery

- Use the specified battery charger for charging and observe the specified charging conditions.
Doing otherwise may cause overheating, bursting, or ignition.
- Do not leave the battery near sources of heat such as heaters.
Doing so may cause it to burst or ignite.
- Do not heat the battery or throw it into a fire.
Doing so may cause it to burst or ignite.
- Do not deform, modify, disassemble or apply solder directly to the battery.
Doing so may cause it to leak, overheat, burst, or ignite.
- Do not connect the terminals with metallic objects.
Doing so may cause them to short circuit or overheat, and result in burns or injury.
- Do not carry or store the battery together with metallic objects such as necklaces or hairpins.
Doing so may cause them to short circuit or overheat, and result in burns or injury.
- Do not place the battery into fresh water or sea water, and do not allow the battery terminals to get wet.
Doing so may cause overheating, bursting, or ignition.
- Do not throw or subject the battery to strong shock.
Doing otherwise may cause overheating, bursting, or ignition.

■ Handling the battery charger

- Do not allow the battery charger to get wet.
If it is wet or water is allowed inside, it could cause a fire, ignition, overheating, or electric shock.
- Do not use it while it is wet, and do not touch or hold it with wet hands.
An electric shock may occur

- Do not use the battery charger when it is covered with a cloth or other material.
Doing otherwise may cause the heat to build up and the case may become deformed, or fire, ignition, or overheating may occur.
- Do not disassemble or modify the battery charger.
If this is not observed, electric shocks or injury may occur.
- Use the battery charger at the specified power supply voltage only.
If a power supply voltage other than that specified is used, fire, destruction, smoke, overheating, electric shocks or burns may occur.
- Use the specified battery and charger combination for charging and observe the specified charging conditions.
Doing otherwise may cause overheating, bursting, or ignition.

WARNING

- **Be sure to follow the instructions provided in the manuals when installing the product.**
Use SHIMANO genuine parts only. Inappropriate assembly or adjustment of products and replacement parts may bring about product malfunctions which may cause the bicycle to fall over and lead to serious injury.
-  Be sure to wear eye protection while performing maintenance tasks such as replacing parts.
- For information on products not explained in this manual, refer to the manuals provided with each product.

Be sure to also inform users of the following:

- Do not insert or remove the plug while it is wet.
Doing so may result in electric shock. If there is water leaking out of the plug, dry it thoroughly before inserting it.
- Do not recharge the battery in wet or very humid places, or outdoors.
A fire, ignition, overheating, or electric shock may occur.
- If the battery does not become fully charged even two hours after the designated charging time, immediately unplug the battery from the electrical outlet and contact the place of purchase.
Doing otherwise may cause overheating, bursting, or ignition.
Refer to "Charging time" in "Charging the Battery" for the designated charging time of the battery.

■ Handling the battery

- If any liquid leaking from the battery gets into your eyes, immediately wash the affected area thoroughly with clean water such as tap water without rubbing your eyes, and seek medical advice immediately.

If this is not done, the battery liquid may damage your eyes.

- Do not use it outside of the operating temperature range of the battery.

If the battery is used or stored in temperatures which are outside these ranges, fire, injury or problems with operation may occur.

1. During discharge: -10°C - 50°C
2. During charging: 0°C - 40°C

- Do not use the battery if it has any noticeable scratches or other external damage.

If this is not observed, bursting, overheating or problems with operation may occur.

- Do not use the battery if leakages, discoloration, deformation or any other abnormalities occur.

If this is not observed, bursting, overheating or problems with operation may occur.

■ Handling the battery charger

- Hold the power plug when connecting or disconnecting the plug.

Failure to do so may cause a fire or electric shock. If the following occurs, stop using the device and contact your place of purchase. A fire or electric shock may occur.

- * If heat or acrid-smelling smoke is coming out from the power plug.
- * There is a bad connection inside the power plug.

- Do not touch the metallic parts of the device or the power plug on the AC adapter or other parts if there is a lightning storm.

If lightning strikes, electric shocks may occur.

- Do not overload the electrical outlet with appliances beyond its rated capacity, and use only a 100 - 240 V AC electrical outlet.

If the electrical outlet is overloaded by connecting too many appliances using adapters, overheating resulting in fire may occur.

- Do not damage the power cord or power plug. (Do not damage, modify, let near hot objects, bend, twist or pull them; do not place heavy objects on top or bundle them tightly.)

If they are used while damaged, fire, electric shocks or short-circuits may occur.

- Do not use the battery charger with commercially-available electrical transformers designed for overseas use (travel converters).

They may damage the battery charger.

- Always be sure to insert the power plug as far as it will go.
If this is not observed, fire may occur.
- When charging the battery while it is installed on the bicycle, do not move the bicycle.
The battery charger's power plug may come loose and not be fully inserted into the electrical outlet, resulting in risk of fire.

■ For installation to the bicycle, and maintenance:

- Be sure to remove the battery and charging cable before wiring or attaching parts to the bicycle.
Otherwise, an electric shock may result.

CAUTION

Be sure to also inform users of the following:

■ Handling the battery

- Do not leave the battery in a place exposed to direct sunlight, inside a vehicle on a hot day, or other hot places.
This may result in battery leakage.
- If any leaked fluid gets on your skin or clothes, wash it off immediately with clean water.
The leaked fluid may damage your skin.
- Store the battery in a safe place out of the reach of pets and infants.
- Handle components with both hands.
Failure to do so may cause the components to fall and break or cause injury.
- If an error occurs during the battery discharge or charge operation, immediately stop using it and check the user's manual.
If you are not sure, consult the place of purchase or distributor.

■ Handling the battery charger

- When performing cleaning, disconnect the power plug from the electrical outlet and the charging plug from the battery.
If this is not observed an electric shock may occur.
- Do not let the battery touch the same area of skin for an extended period of time while it is charging.
The temperature of components may reach 40 to 70°C, which can cause low-temperature burns.

- Periodically check the battery charger and adapter, particularly the cord, plug, and case, for any damage.

If the battery charger or adapter is broken, do not use it until it has been repaired by the place of purchase or distributor.

- Use the product under the supervision of someone responsible for safety and upon receiving usage instructions.

Do not allow physically, sensory, or mentally impaired persons, inexperienced persons, or persons with no required knowledge, including children, to use the product. Do not allow children to play near the product.

NOTICE

Be sure to also inform users of the following:

- Be sure to attach dummy plugs to any unused ports.
- For installation and adjustment of the product, consult a place of purchase.
- The components are designed to be fully waterproofed to withstand wet weather riding conditions; however, do not deliberately place them into water.
- Handle the components carefully, and avoid subjecting them to strong shock.
- Before connecting the battery, make sure that there is no water collecting in the area where the battery will be connected (connector), and that it is not dirty.
- The use of a SHIMANO genuine battery is recommended. If using a battery from another manufacturer, make sure to carefully read the manual thoroughly before use.
- Some of the important information in this dealer's manual can also be found on the device labels.

Charging can be carried out at any time, regardless of the remaining battery, but please fully charge the battery in the following cases:

- The battery cannot be used at the time of purchase. Before riding, be sure to fully charge the battery.
- If the battery has become completely empty, charge it as soon as possible. If you leave the battery without charging it, the battery will deteriorate and may become unable to be used.

■ Handling the battery

- If the screen of the cycle computer is not displayed, fully charge the battery. The battery level may affect the display.
- Press the battery power button and if the LED display does not light up, the protective circuit is operating. Connect the battery charger to deactivate the protection circuit.
- If the battery is charged in a low-temperature environment of 5°C or lower, the traveling distance of a full charge will be shorter. Also, if the battery is used in a low-temperature environment of 5°C or lower, the battery consumption will become quicker. This is due to the characteristics of the battery, and the battery will return to normal when at a normal temperature.

■ Handling the battery charger

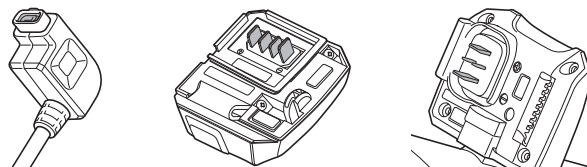
- The battery can be charged at temperatures between 0°C and 40°C. The battery charger will not operate at temperatures outside the range. It will display an error. (The battery charger LED lamp flashes.)
- Do not use outdoors or in environments with high humidity.
- Charge the battery indoors to avoid exposure to rain or wind.
- Do not place the battery charger on dusty floors when using it.
- Place the battery charger on a stable surface such as a table when using it.
- Do not place any objects on top of the battery charger or its cable. Also, do not cover them with the cover.
- Do not bundle the cables.
- Do not hold the battery charger by the cables when carrying it.
- Do not apply excessive tension to the cable and charging plug.
- In order to prevent the cable from being damaged, avoid wrapping it around the main body during storage.
- Do not wash the battery charger or wipe it using detergents.
- Do not allow children to play near the product.
- When charging with the battery installed to a bicycle, take care that your legs, etc. do not get caught in the battery charger cord. Doing so may cause injury or cause the bicycle to fall over and break the components.

- When charging the battery while it is mounted on the bicycle, be careful of the following:
 - Before charging, check that there is no water on the charging port of the charging plug.
 - Check that the battery mount is locked before charging.
 - Do not remove the battery from the battery mount while charging.
 - Do not ride with the battery charger mounted.
 - Close the cap on the charging port when not charging.
 - Fix the bicycle in place when charging, so that it does not tip over.
- Make sure to close the charge socket cap after charging is complete. If foreign material such as dirt or dust is attached to the charge socket, the charging plug may become unable to be inserted.
- Using the battery outside the operating temperature range may cause problems with operation or performance degradation.
- The charging time is longer when the battery temperature is high.

■ Cleaning

- The number written on the key of the battery mount is necessary when purchasing a spare key. Store it carefully.
- Do not use thinner or other solvents to clean any of the components. Such substances may damage the surface.
- When there is dirt on the terminals of the battery mount and battery charger, remove the battery, remove the power plug from the electrical outlet, and then clean them with a clean rag or cotton bud dampened with ethanol, etc. If you repeatedly install and remove the battery while they are still dirty, it may cause wear on the terminals and make them unable to be used.

Terminal example



- Keep the surface where the battery contacts the battery mount clean. If the battery is connected with foreign material such as dirt or dust attached, the battery may become unable to be removed.



- Use a damp, well wrung out cloth, when cleaning the battery and plastic cover.
- For any questions regarding methods of installation and maintenance, please contact your place of purchase.
- Contact the place of purchase for updates of the component software. The most up-to-date information is available on the SHIMANO website.
- Products are not guaranteed against natural wear and deterioration from normal use and aging.
- For maximum performance we highly recommend SHIMANO lubricants and maintenance products.

The actual product may differ from the illustration because this manual is intended mainly to explain the procedures for using the product.

LIST OF TOOLS TO BE USED

The following tools are needed for installation/removal, adjustment, and maintenance purposes.

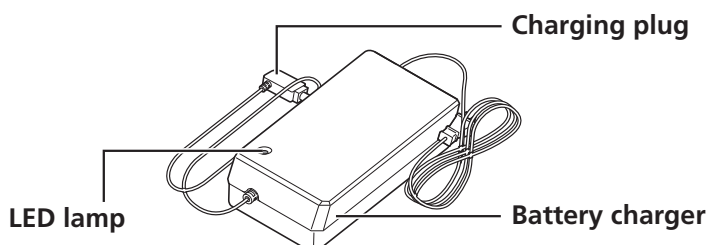
Component	Location used/bolt type	Tool	
Electric wire	Plug		TL-EW02
Battery mount (BM-E6000)	Key unit		Screwdriver [#2]
			Slotted screwdriver (6.4 mm)
	Lower case		Screwdriver [#2]
	Upper case		Hexalobular [#10]
Battery mount (BM-E6010)	Lower case Key unit		3 mm hexagon wrench
	Key unit (adjust installation location)		TL-BME01
	Key unit cover Upper case		Screwdriver [#1]
Battery mount (BM-E8010)	Lower case		3 mm hexagon wrench
			8 mm spanner
	Key unit		3 mm hexagon wrench
	Key unit (adjust installation location)		TL-BME02
	Key unit cover Upper case		2.5 mm hexagon wrench

Component	Location used/bolt type	Tool	
Battery mount (BM-E8020)	Lower case Key unit		5 mm hexagon wrench
	Key unit (adjust installation location)		TL-BME03
	Upper case		Screwdriver [#2]
	Key cylinder		2 mm hexagon wrench
	Key unit cover		Screwdriver [#2]
Battery mount (BM-E8030/BM-E8031)	Upper bracket		4 mm hexagon wrench
	Spring unit		1.5 mm hexagon wrench
	Upper latch base/key cylinder/lower bracket/connector unit		3 mm hexagon wrench
			TL-BME04
Satellite charging port (EW-CP100)	Mounting screw		2 mm hexagon wrench
Satellite power button (EW-SW100)	Mounting screw		2 mm hexagon wrench

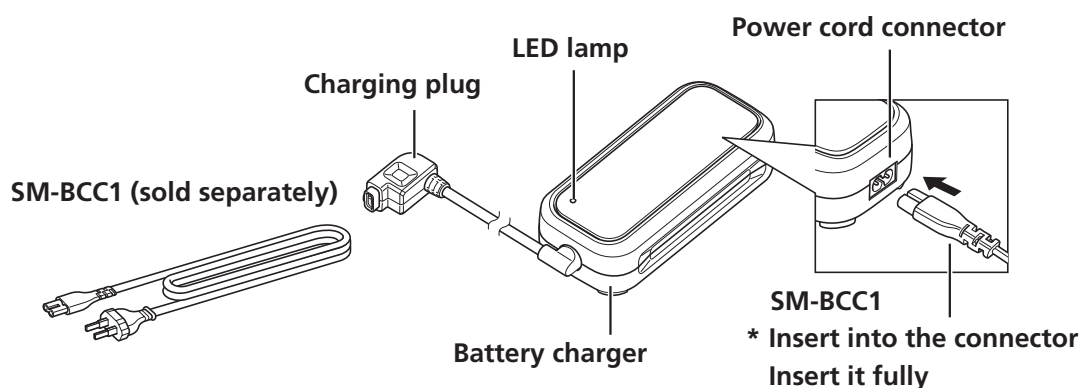
INSTALLING ELECTRICAL PARTS

Names of parts

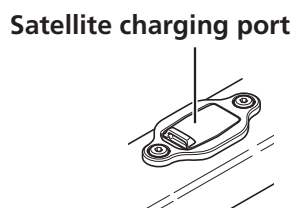
EC-E6000



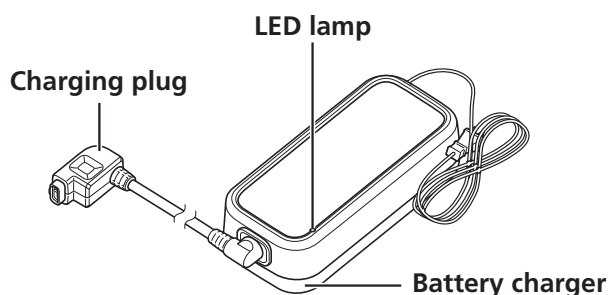
EC-E6002



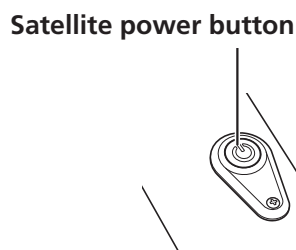
EW-CP100 *1



EC-E8004



EW-SW100 *1



Adapter (sold separately)

SM-BTE60

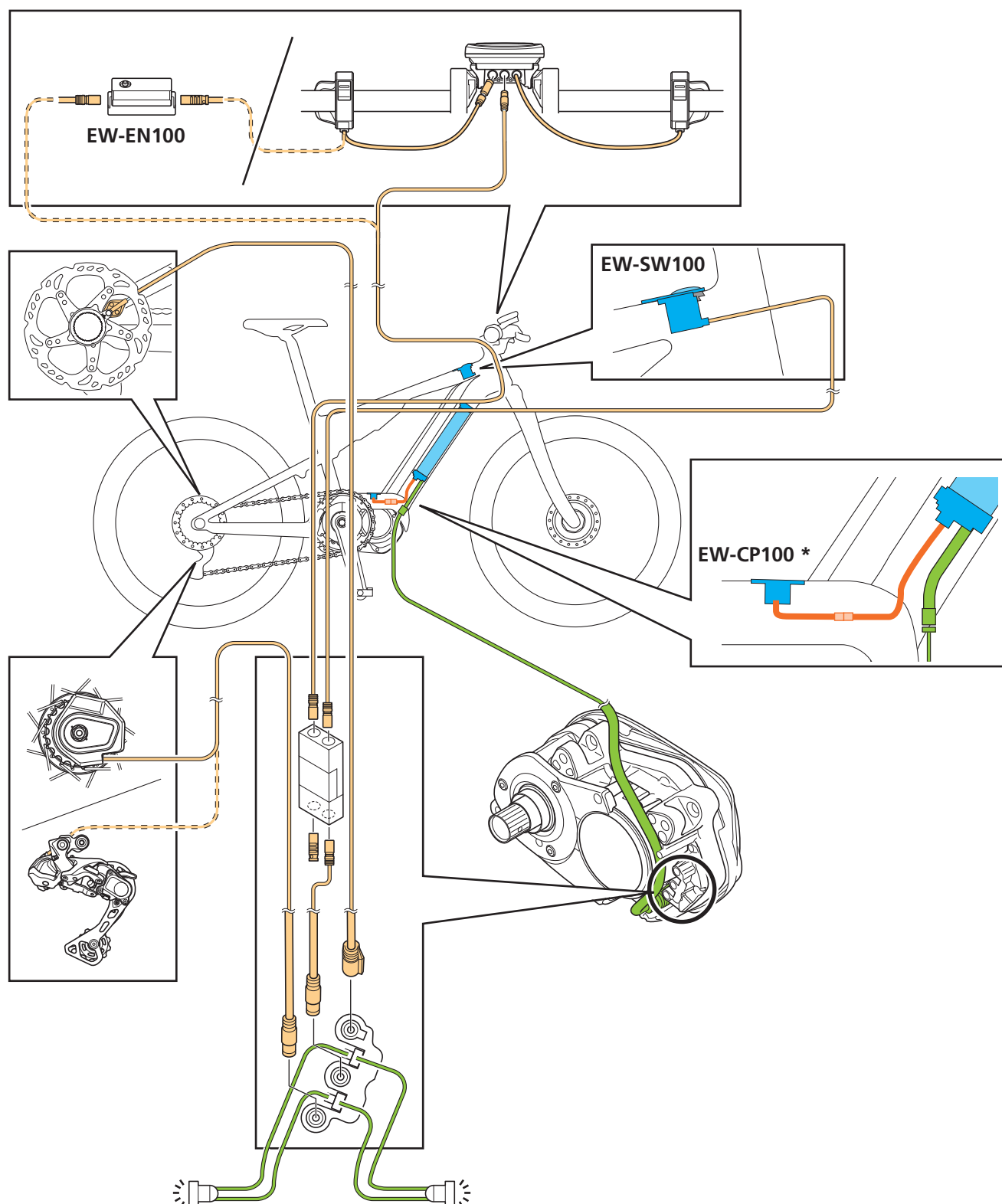


SM-BTE80



*1 The installation location differs depending on the frame design.

Overall Wiring Diagram (Example)



* EW-CP100 is compatible with BM-E8030-A and BM-E8031-A only. For details, refer to the compatibility information at <https://productinfo.shimano.com>.

TECH TIPS

- The maximum cable length of the electric wire (EW-SD50) is 1,600 mm.

Specifications

Operating temperature range: Discharging	-10 - 50°C	Charging time	Refer to "Charging time" in "Charging the battery".
Operating temperature range: Charging	0 - 40°C	Battery type	Lithium-ion battery
Storage temperature	-20 - 70°C	Nominal capacity	Refer to the battery user's manual.
Storage temperature (Battery)	-20 - 60°C	Rated voltage	36 V DC
Charging voltage	100 - 240 V AC		

TECH TIPS

- The latest manual information can be accessed on our website (<https://si.shimano.com>).

Handling Electric Wires

Be sure to use the SHIMANO original tool to remove and insert electric wires.

NOTICE

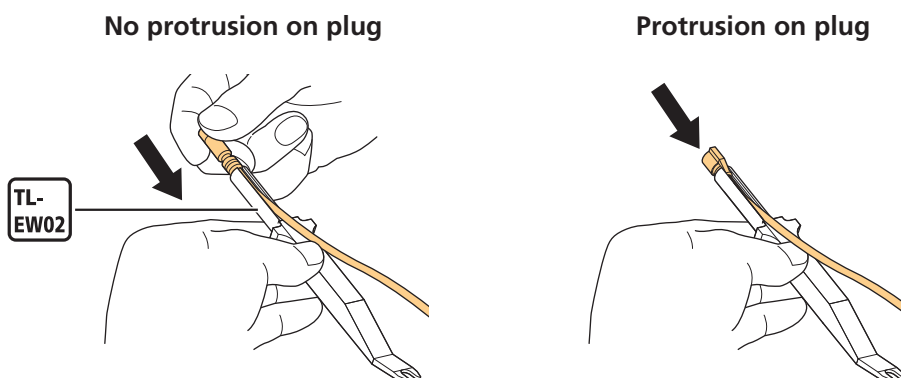
- When connecting and disconnecting electric wires, do not forcibly bend the plug part. It may result in a poor connection.

Connecting the electric wire

Connect the electric wire to the E-TUBE port.

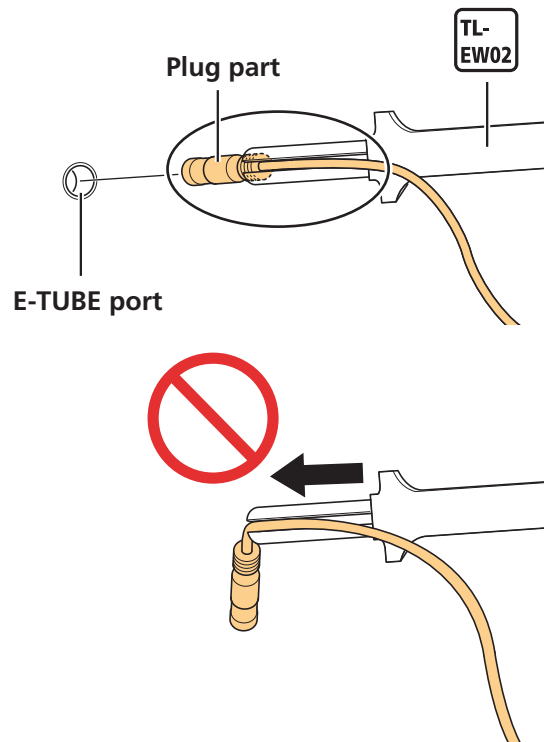
1. Set the plug part of the electric wire to the SHIMANO original tool.

If there is a protrusion on the plug part of the electric wire, set it aligned with the groove on the SHIMANO original tool.



2. Insert the plug part on the electric wire into the E-TUBE port.

Push it straight in until you feel it click into place.



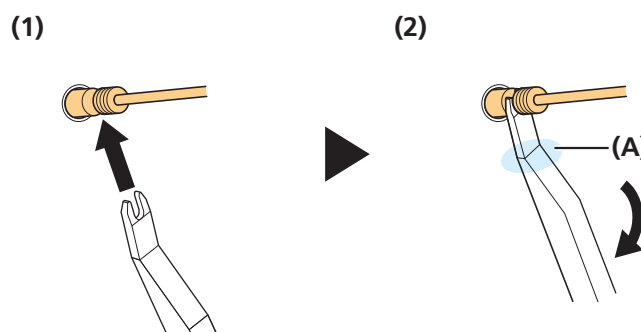
Disconnecting the electric wire

1. Disconnect the electric wire.

(1) Insert the SHIMANO original tool into the groove on the plug part of the electric wire.

(2) Disconnect the electric wire from the E-TUBE port.

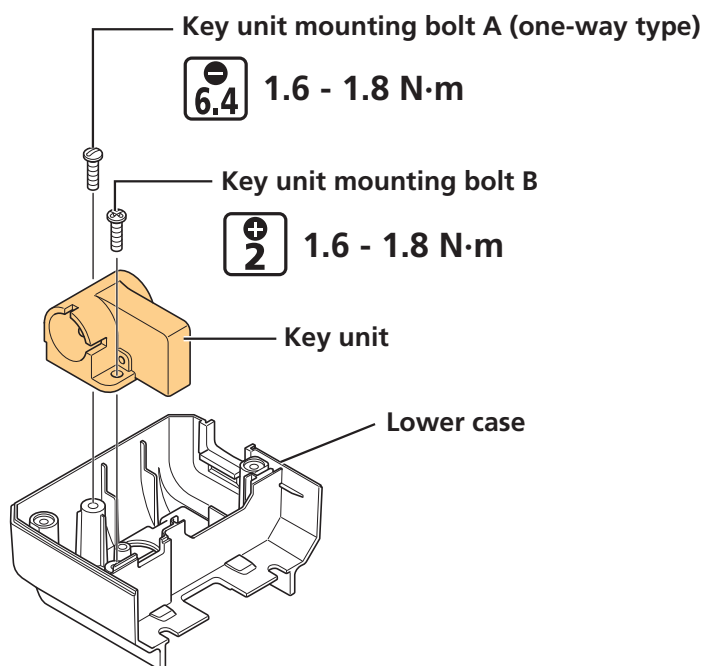
* As shown in the figure, use part (A) of the SHIMANO original tool as an axle and move it like a lever, and then disconnect it. If there is limited space to insert the tool, lift the SHIMANO original tool straight up and disconnect the electric wire.



Installing the Battery Mount

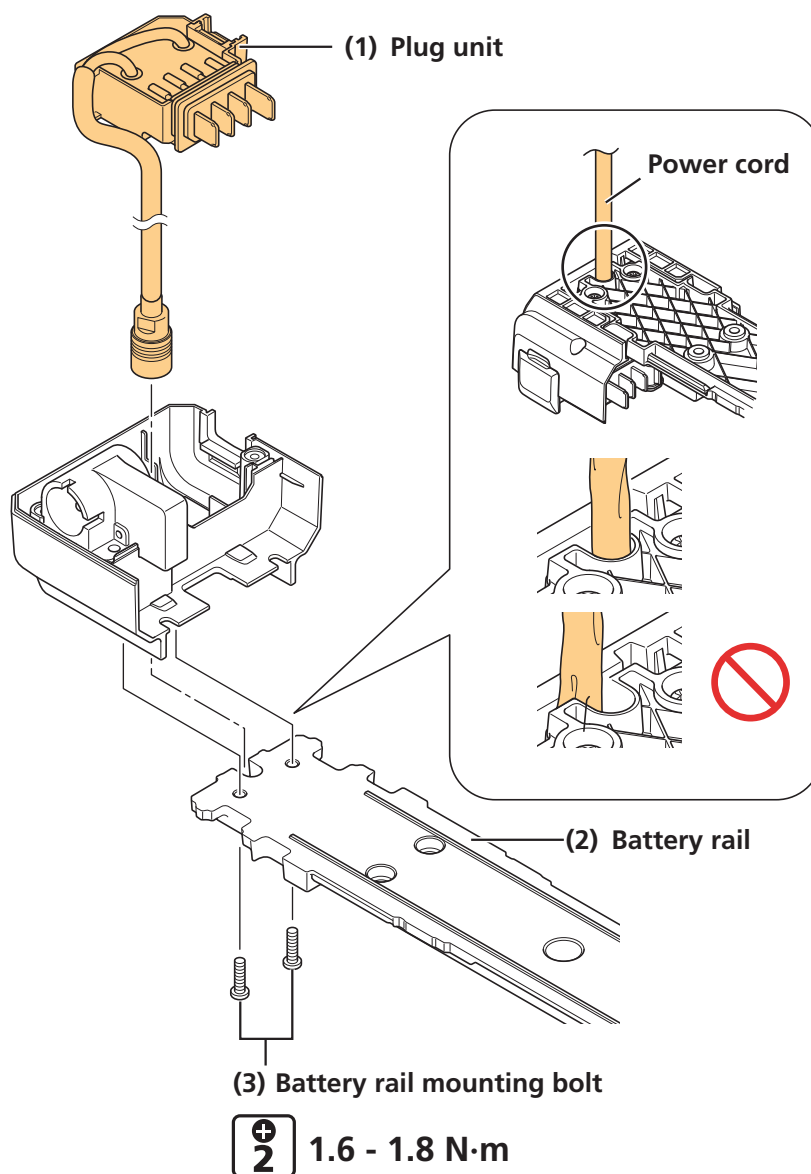
BM-E6000

1. Install the key unit to the lower case.

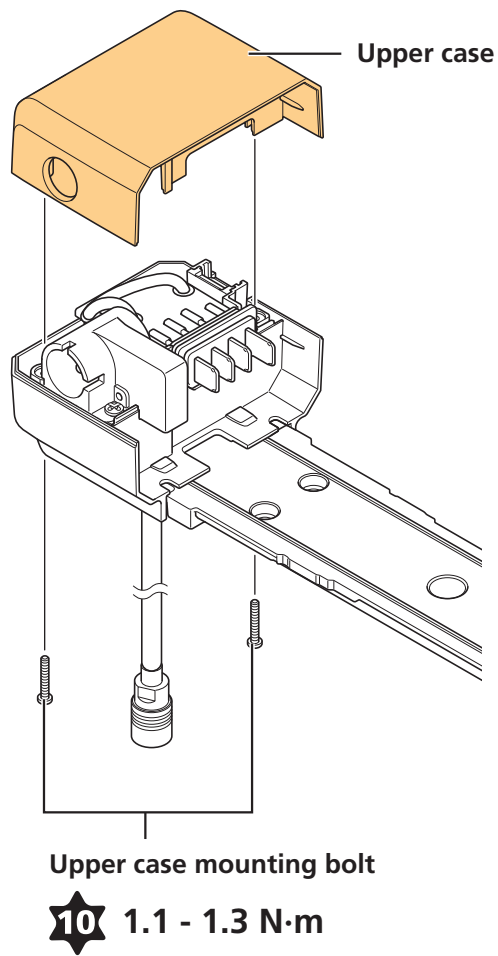


2. Set the plug unit to the lower case, and install it to the battery rail.

- (1) Set the plug unit to the lower case.
- (2) Set the battery rail to the lower case. Be careful not to pinch the power cord between the lower case and battery rail.
- (3) Secure the battery rail.

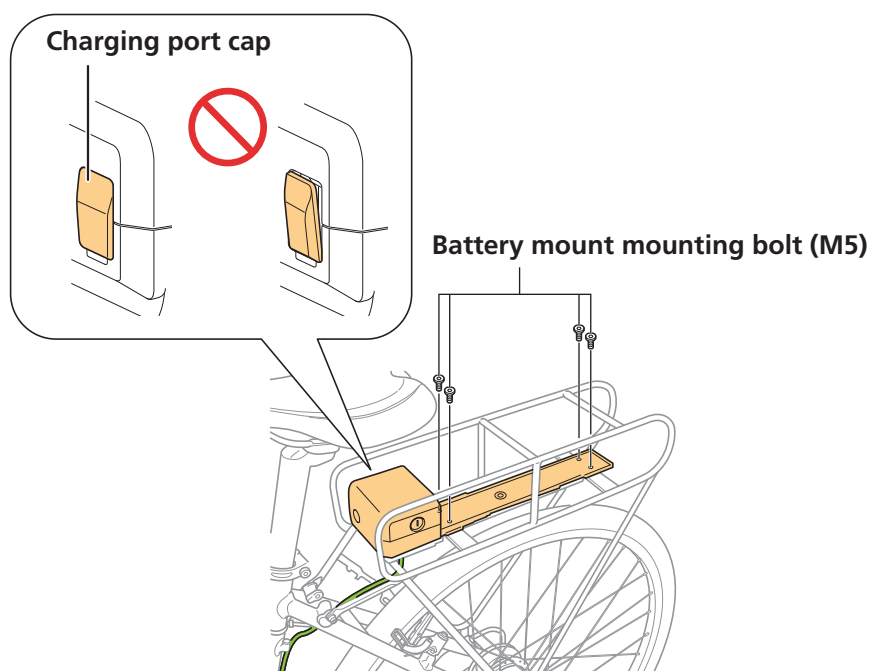


3. Install the upper case.



4. Install the battery mount to the rear carrier.

- (1) Set the battery mount aligned with the mounting hole on the rear carrier.
- (2) Secure the battery mount. Use the bicycle manufacturer's standard tightening torque.
- (3) After installing the battery mount, perform the following.
 - Firmly close the charging port cap.
 - Pass the power cord through the frame and leave it hanging over the drive unit installation area.



NOTICE

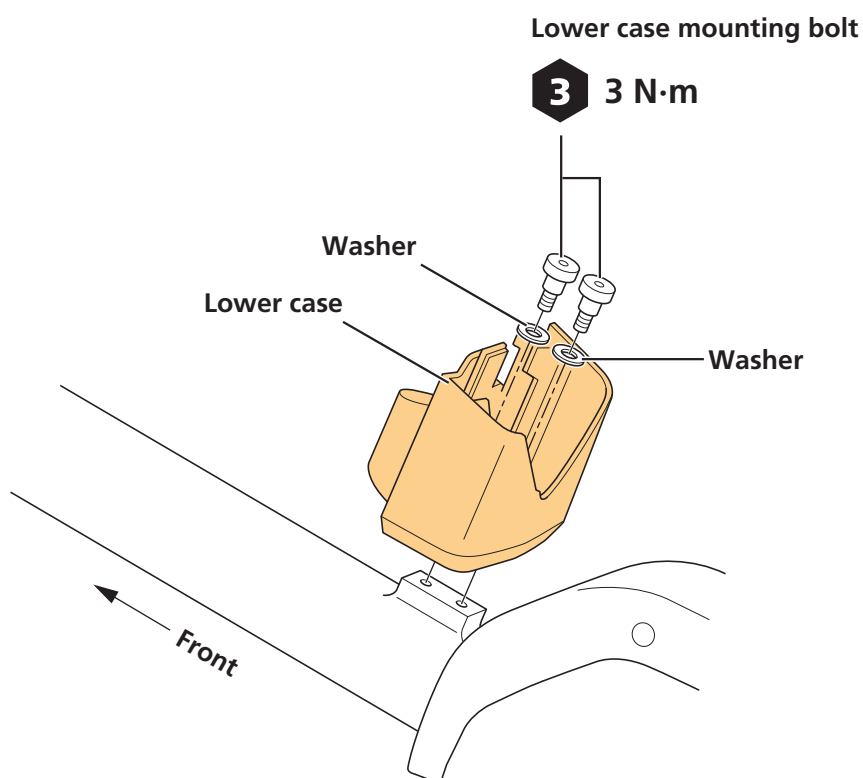
- Battery mount mounting bolts (M5) are not included with SHIMANO products. Use the bolts supplied by the bicycle manufacturer. Contact the bicycle manufacturer for the tightening torque.

BM-E6010

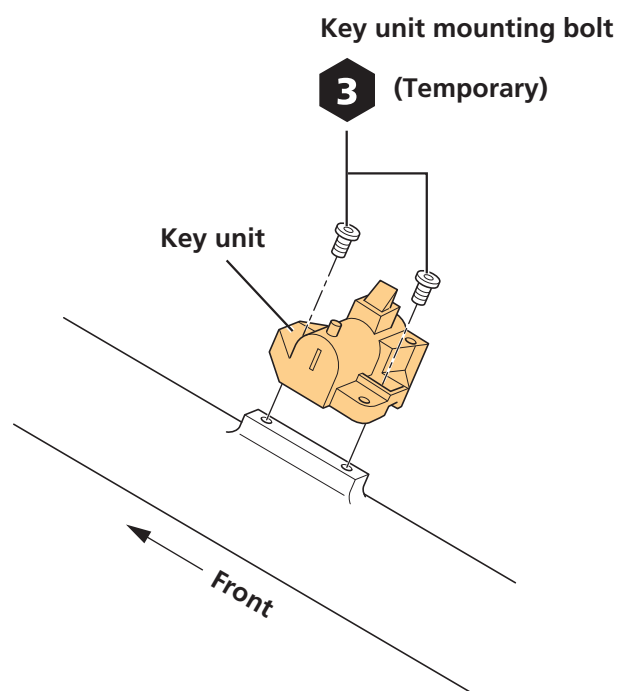
The SHIMANO original tool TL-BME01 can be used to easily determine the installation location for the key unit.

1. Install the lower case.

Secure the lower case on the lower side of the down tube.

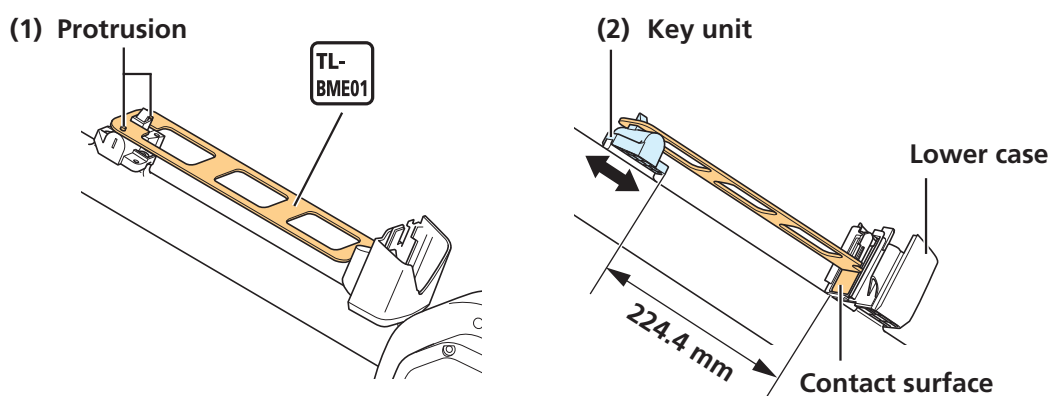


2. Temporarily install the key unit.



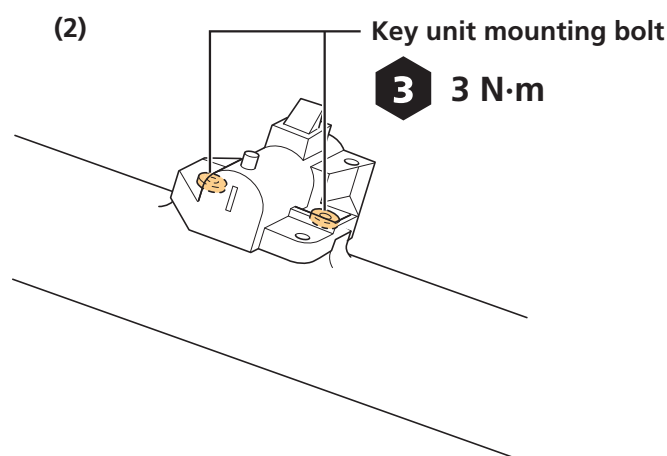
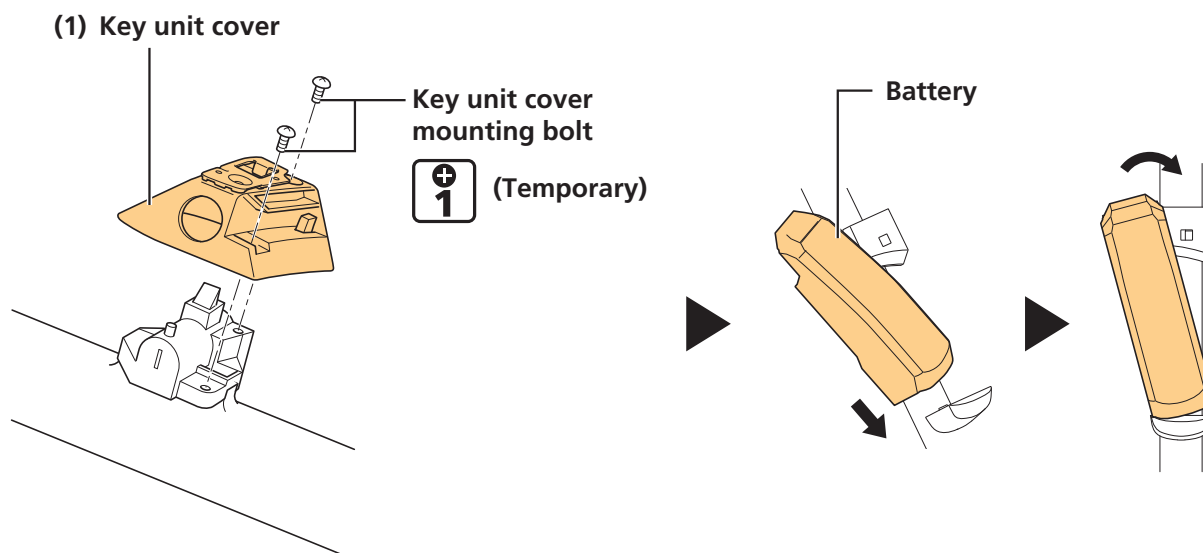
3. Use TL-BME01 to determine the location for the key unit.

- (1) Align the two protrusions on the key unit with the holes in TL-BME01.
- (2) Adjust the location of the key unit so that the contact surface of TL-BME01 will be pushed against the lower case as shown in the figure.
- (3) Remove TL-BME01.

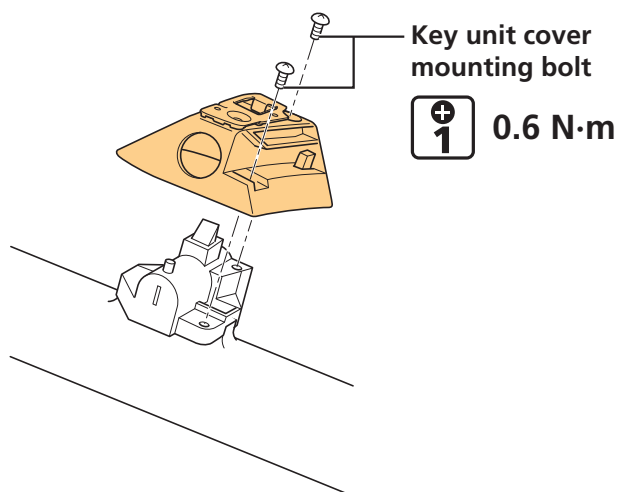


4. Secure the key unit.

- (1) Temporarily install the key unit cover, and then check the following.
 - The battery can be smoothly attached and removed
 - There is no rattling in the key unit cover or battery that could result in abnormal noise when riding
- (2) Remove the key unit cover, and then secure the key unit.

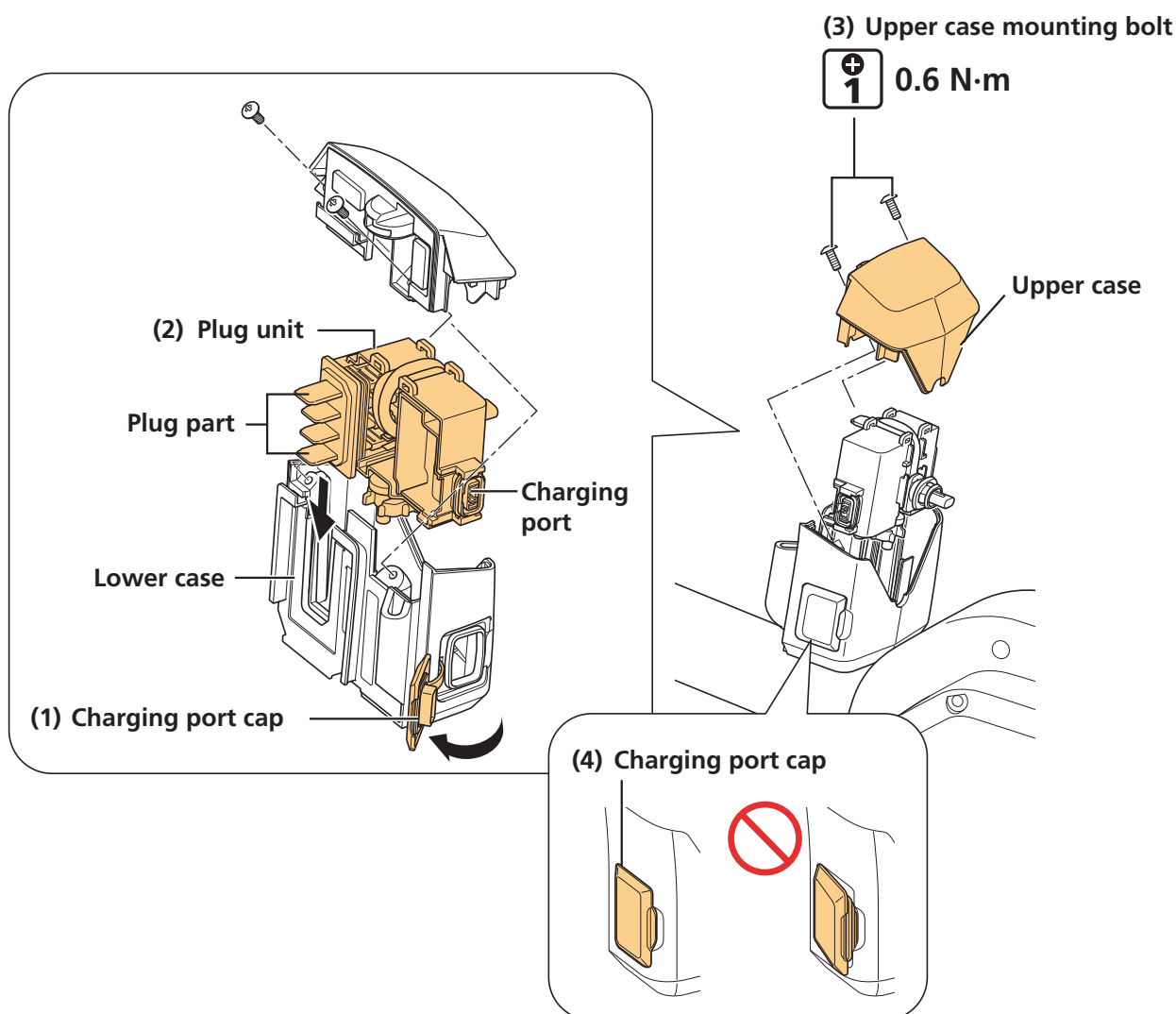


5. Install the key unit cover.



6. Install the upper case.

- (1) Open the charging port cap and pull it out fully.
- (2) Insert the plug unit into the lower case. Make sure that the plug part of the plug unit and the charging port are sufficiently exposed from the lower case.
- (3) Align the two bolt holes on the upper case with the lower case, and then tighten the upper case mounting bolts.
- (4) After installing, perform the following.
 - Firmly close the charging port cap.
 - Pass the power cord through the frame and leave it hanging over the drive unit installation area.



NOTICE

- Check that the power cord is not twisted between the upper case and lower case, or otherwise routed in a forced manner.

BM-E8010

The SHIMANO original tool TL-BME02 can be used to easily determine the installation location for the key unit.

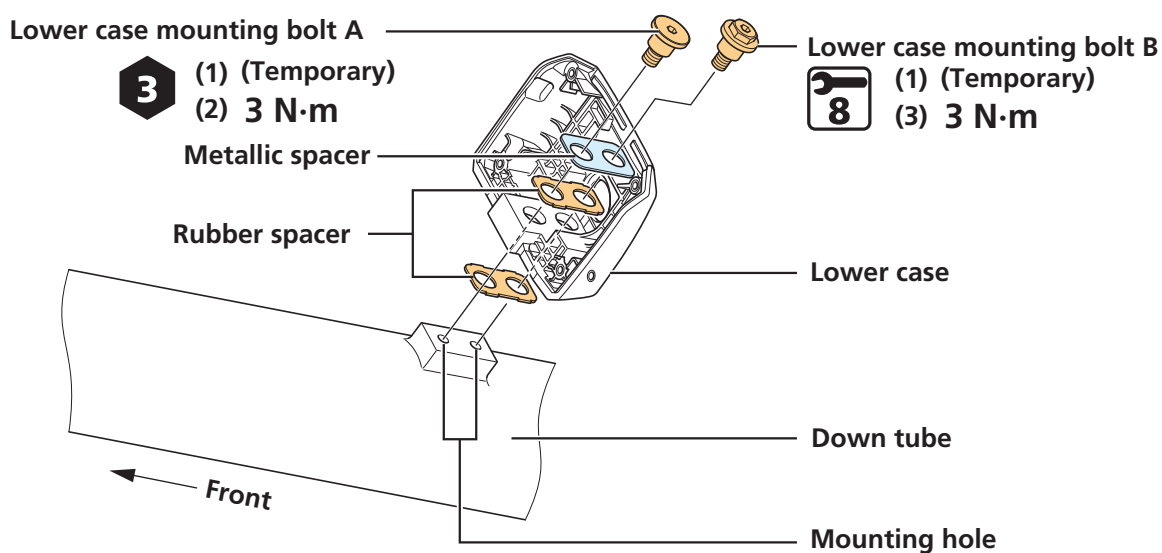
1. Install the lower case.

- (1) Set the lower case on the lower side of the down tube, and then temporarily install the mounting bolts.

* Temporarily install the two types of bolts as shown in the figure.

- (2) Tighten lower case mounting bolt A.

- (3) Tighten lower case mounting bolt B.

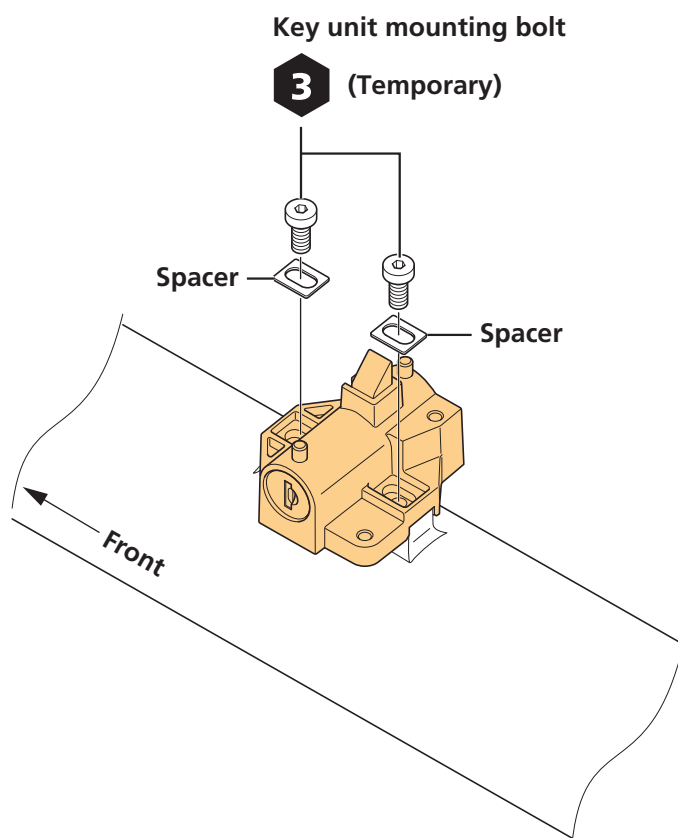


NOTICE

- The rubber spacer may be attached to the lower case.

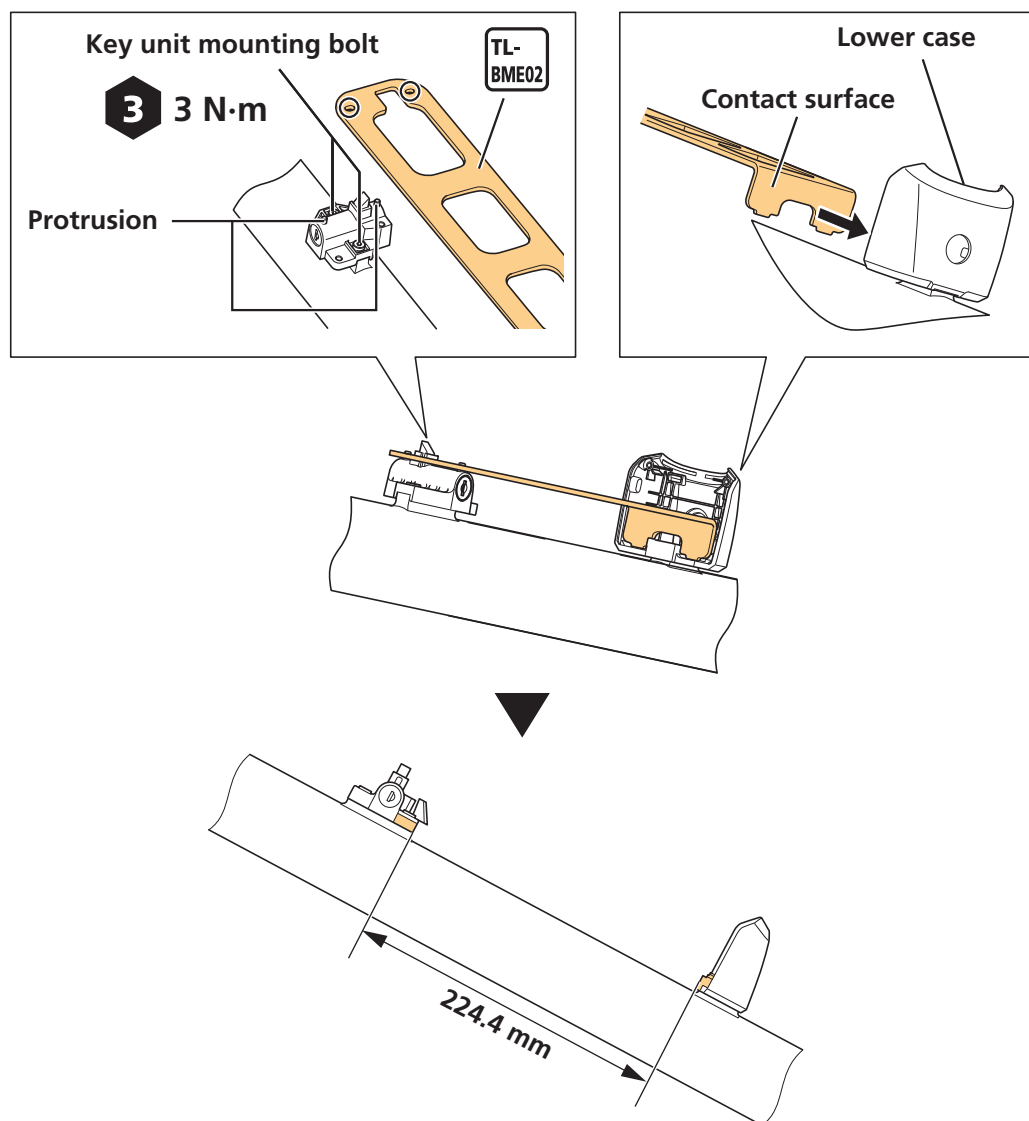
2. Temporarily install the key unit.

Key units are not included with SHIMANO products.



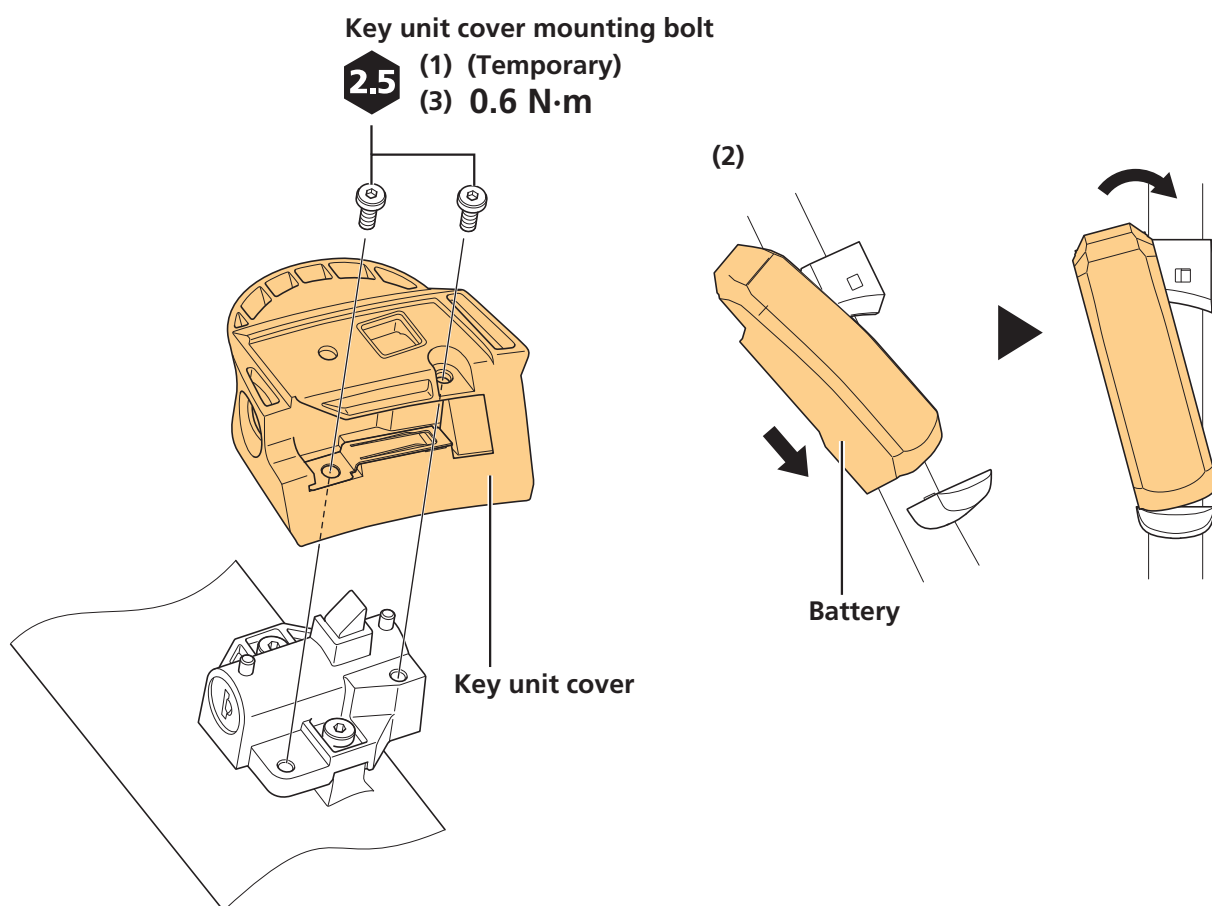
3. Use TL-BME02 to determine the location for the key unit.

- (1) Align the two protrusions on the key unit with the holes in TL-BME02.
- (2) Adjust the location of the key unit so that the contact surface of TL-BME02 will be pushed against the lower case as shown in the figure.
- (3) Tighten the key unit mounting bolts.
- (4) Remove TL-BME02.



4. Install the key unit cover.

- (1) Temporarily install the key unit cover.
- (2) Try attaching and removing the battery, and check the following.
 - The battery can be smoothly attached and removed
 - There is no rattling in the key unit cover or battery that could result in abnormal noise when riding
- (3) Secure the key unit cover.

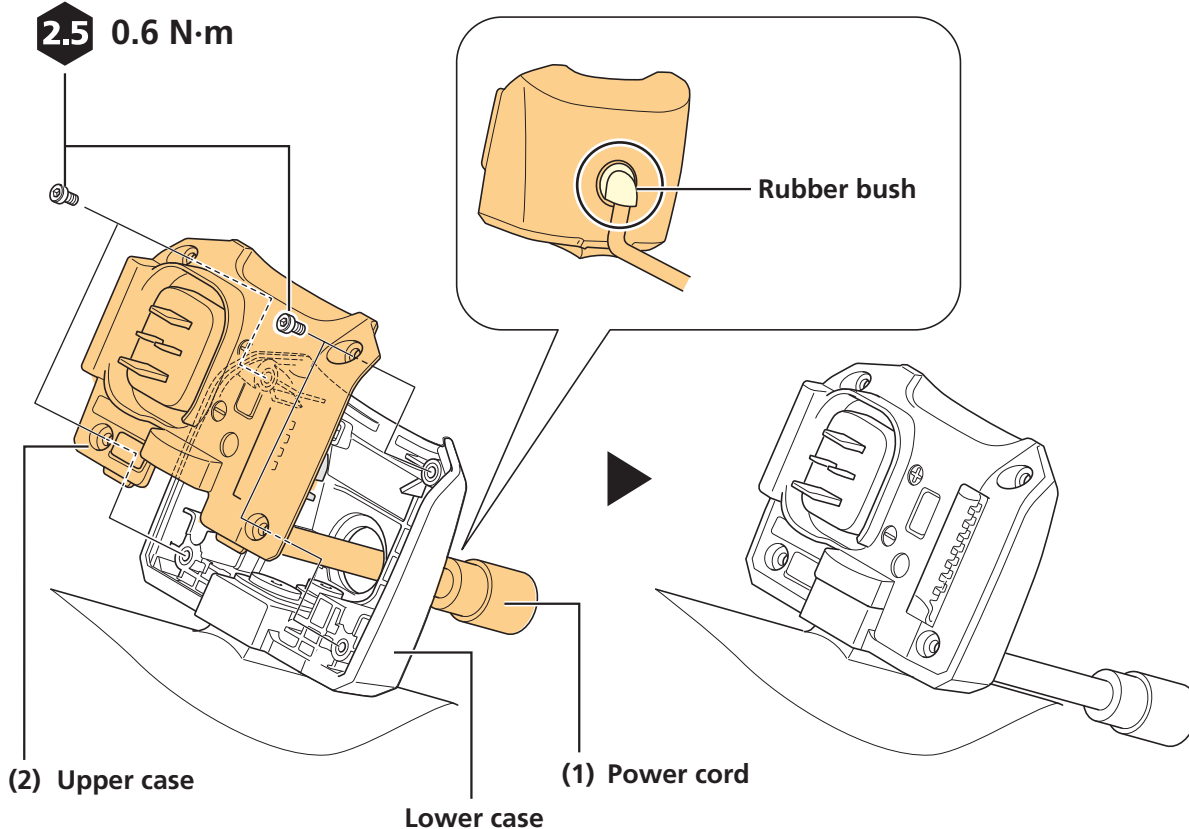


5. Install the upper case.

- (1) Pass the power cord from the upper case through the hole in the lower case.
- (2) Set the upper case to the lower case.
 - * Make sure that the rubber bush on the base of the power cord is exposed from below the lower case.
- (3) Secure the upper case.
- (4) Pass the power cord through the frame and leave it hanging over the drive unit installation area.

(3) Upper case mounting bolt

2.5 0.6 N·m



BM-E8020

If the following cables will be placed inside, pass them through first before installing BM-E8020.

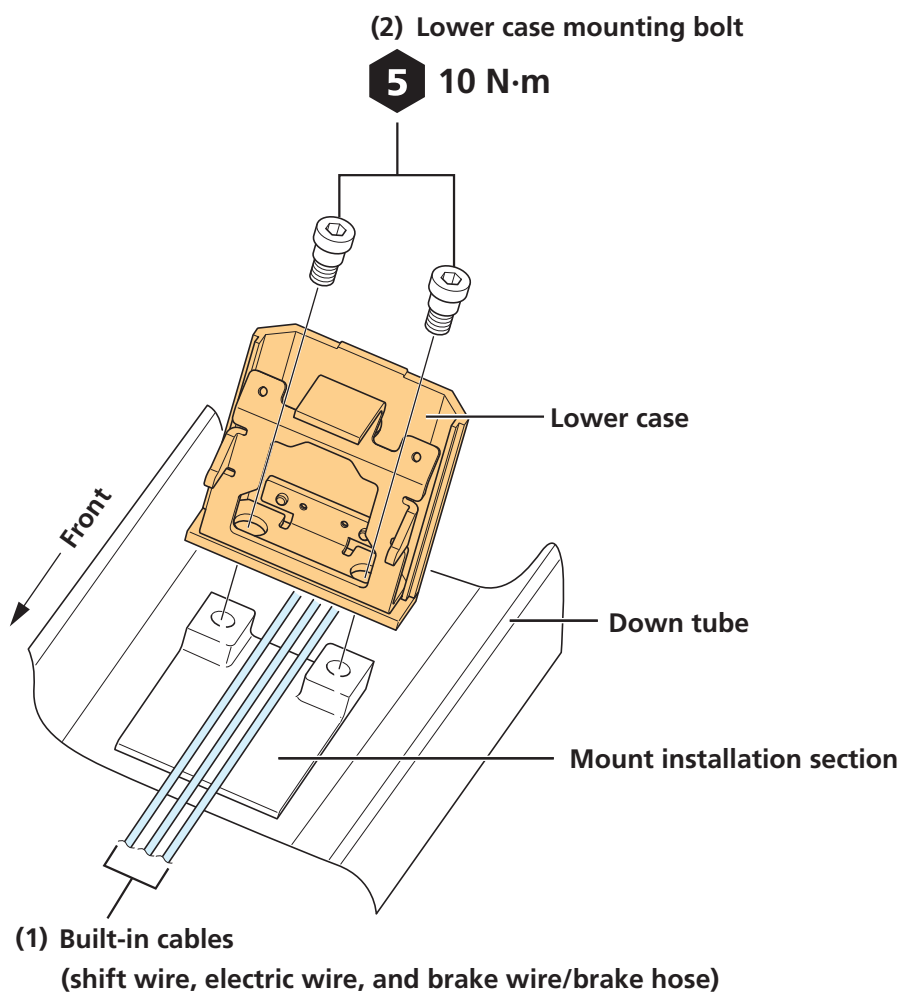
- Electric wire
- Brake hose, brake cable, and shift cable

When installing BM-E8020 inside the frame, be careful that the cables listed above are not pinched.

The SHIMANO original tool TL-BME03 can be used to easily determine the installation location for the key unit.

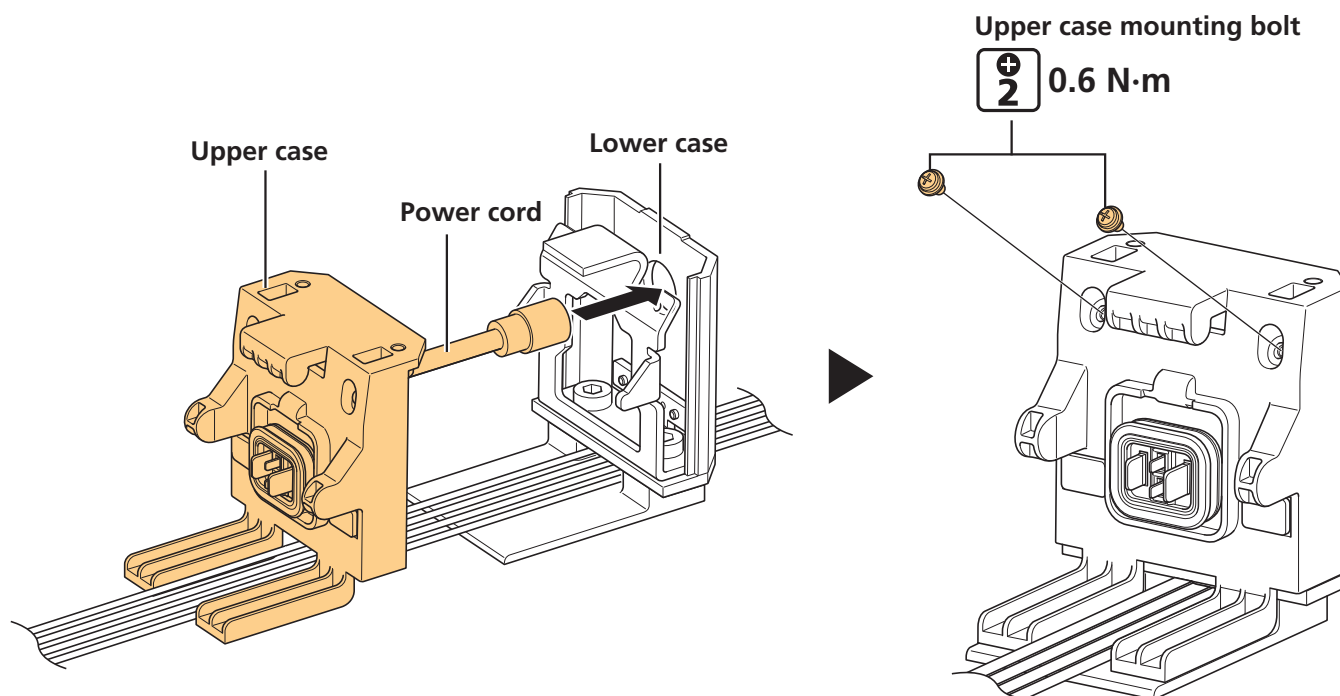
1. Install the lower case to the frame.

- (1) Set so that any cables built into the down tube pass between the mount installation area on the frame.
- (2) Install the lower case on the lower side of the down tube.



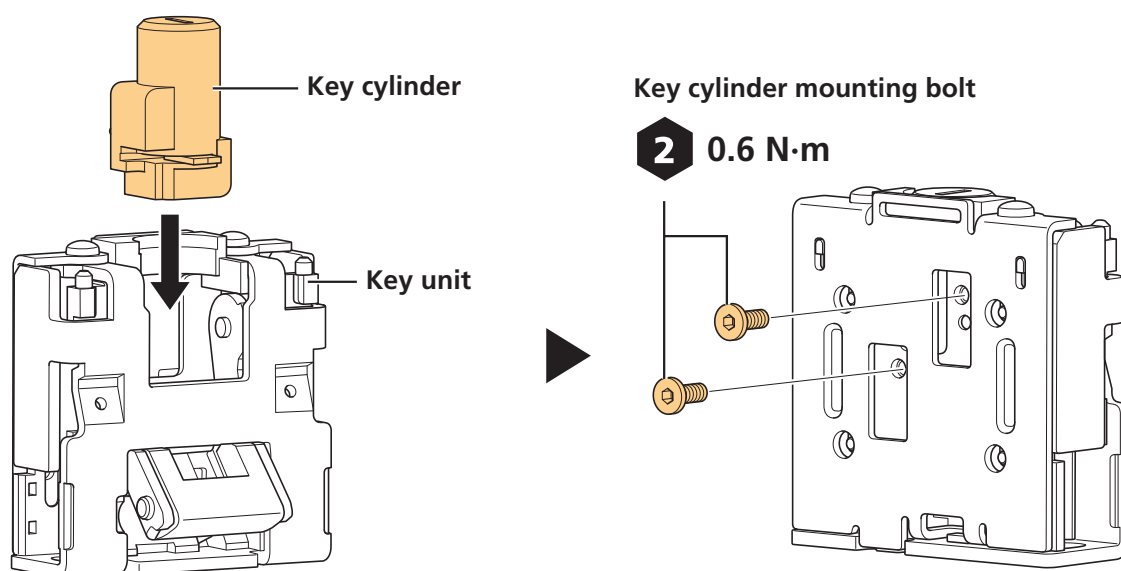
2. Install the upper case.

- (1) Pass the power cord from the upper case through the hole in the lower case.
- (2) Install the upper case to the lower case.



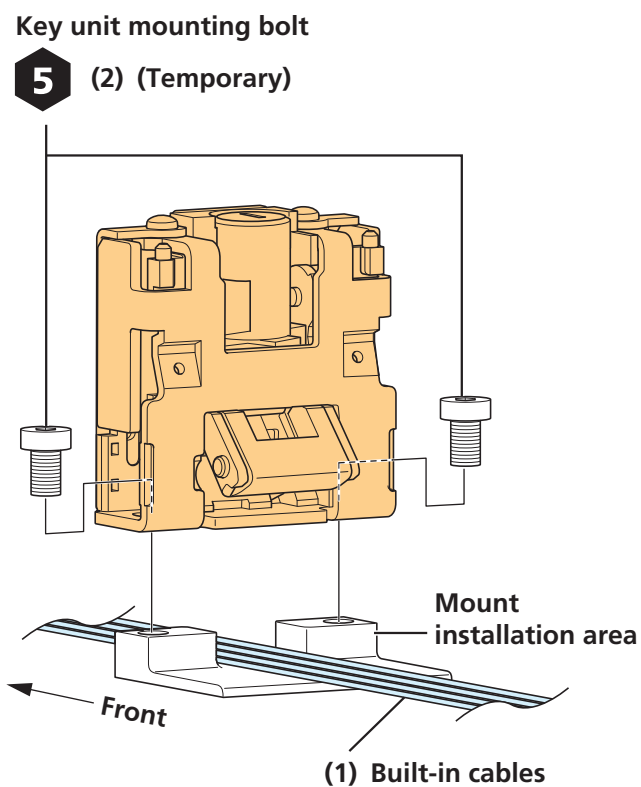
3. Install the cylinder to the key unit.

Key cylinders are not included with SHIMANO products.



4. Temporarily install the key unit.

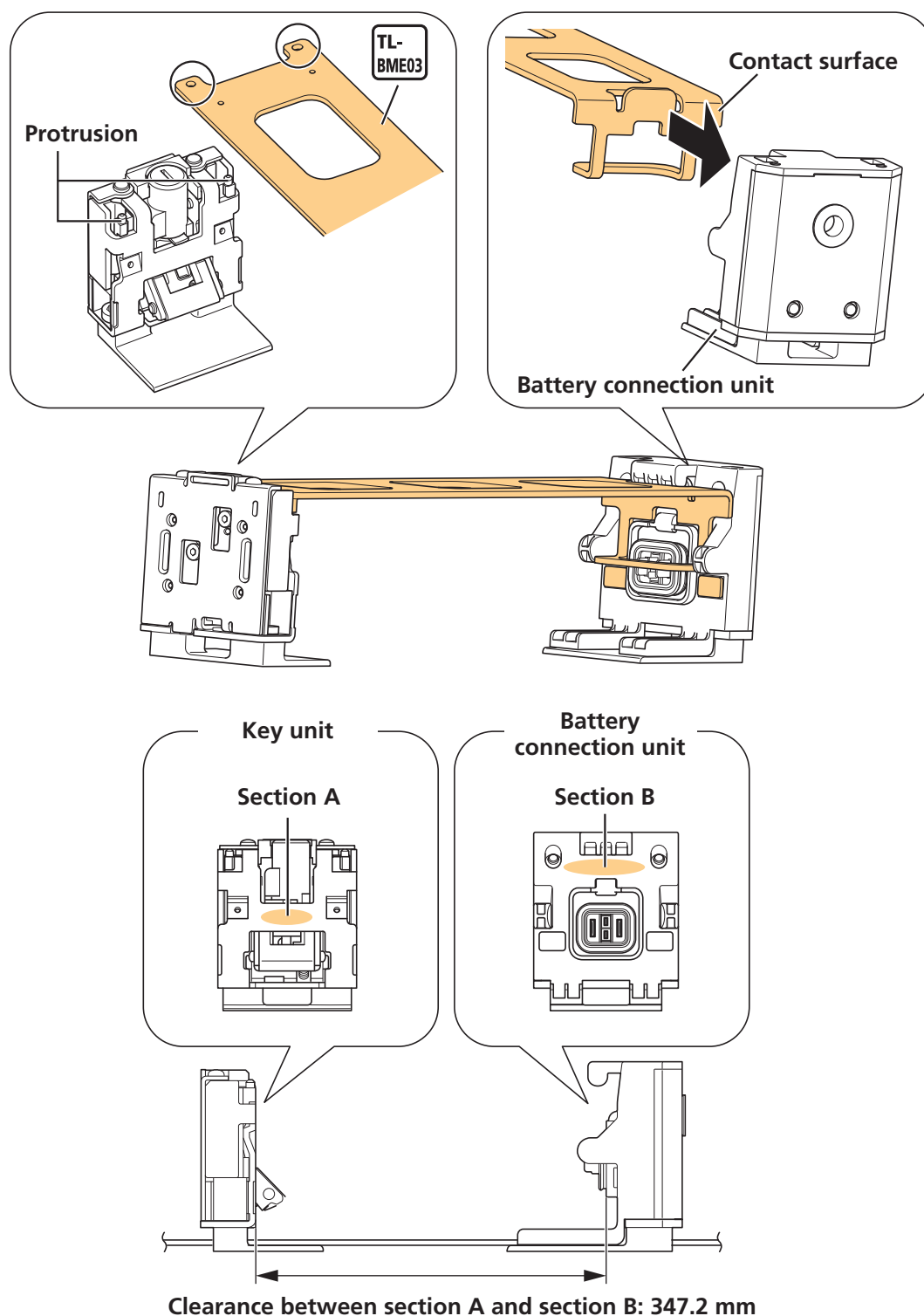
- (1) Make sure that any cables built into the down tube pass between the mount installation area on the frame.
- (2) Temporarily install the key unit on the upper side of the down tube.



5. Use TL-BME03 to determine the location for the key unit.

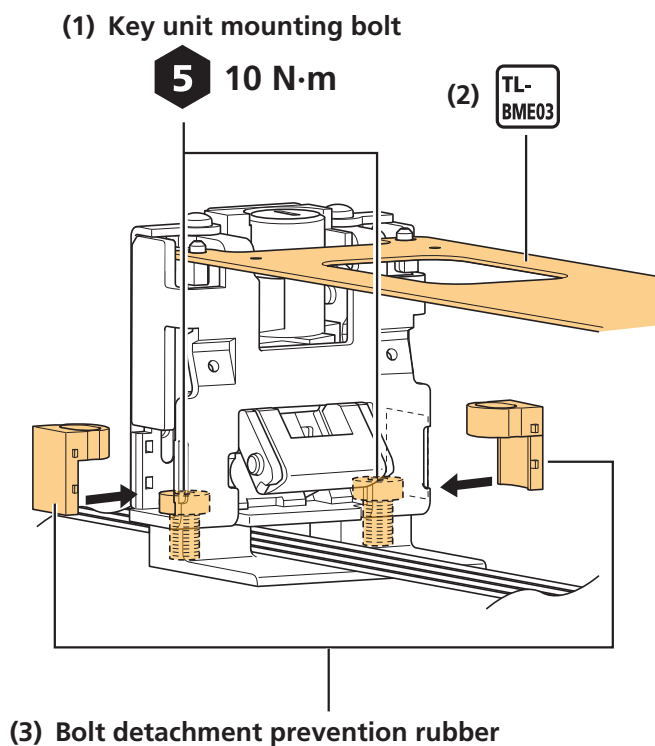
- (1) Align the two protrusions on the key unit with the holes in TL-BME03.
- (2) Adjust the location of the key unit so that the contact surface of TL-BME03 will be pushed against the lower case as shown in the figure.

* Be careful not to apply excessive force.



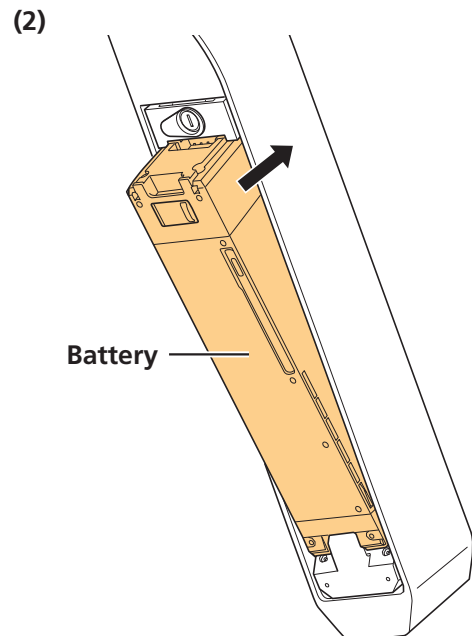
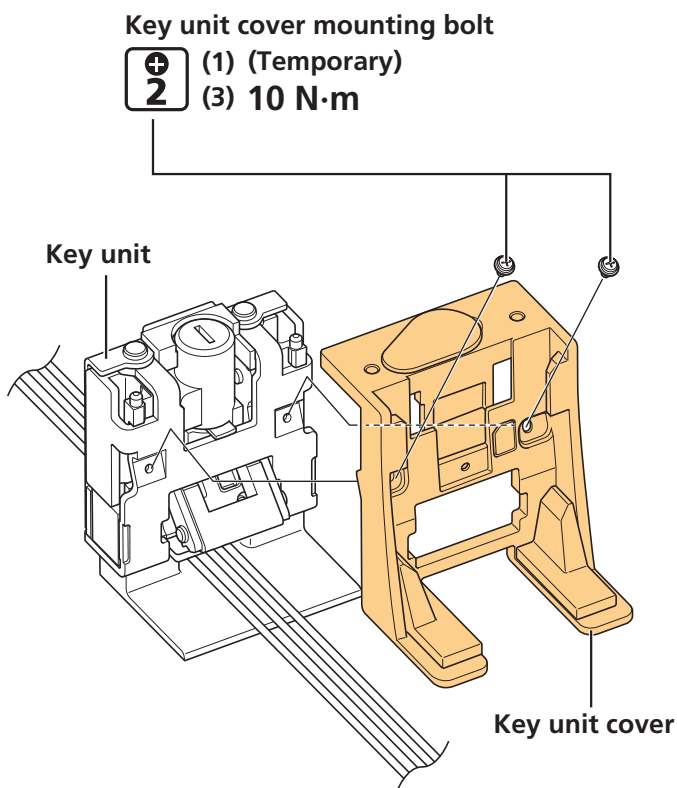
6. Tighten the key unit mounting bolts.

- (1) Tighten the key unit mounting bolts.
- (2) Remove TL-BME03.
- (3) Install the bolt detachment prevention rubber.



7. Install the key unit cover.

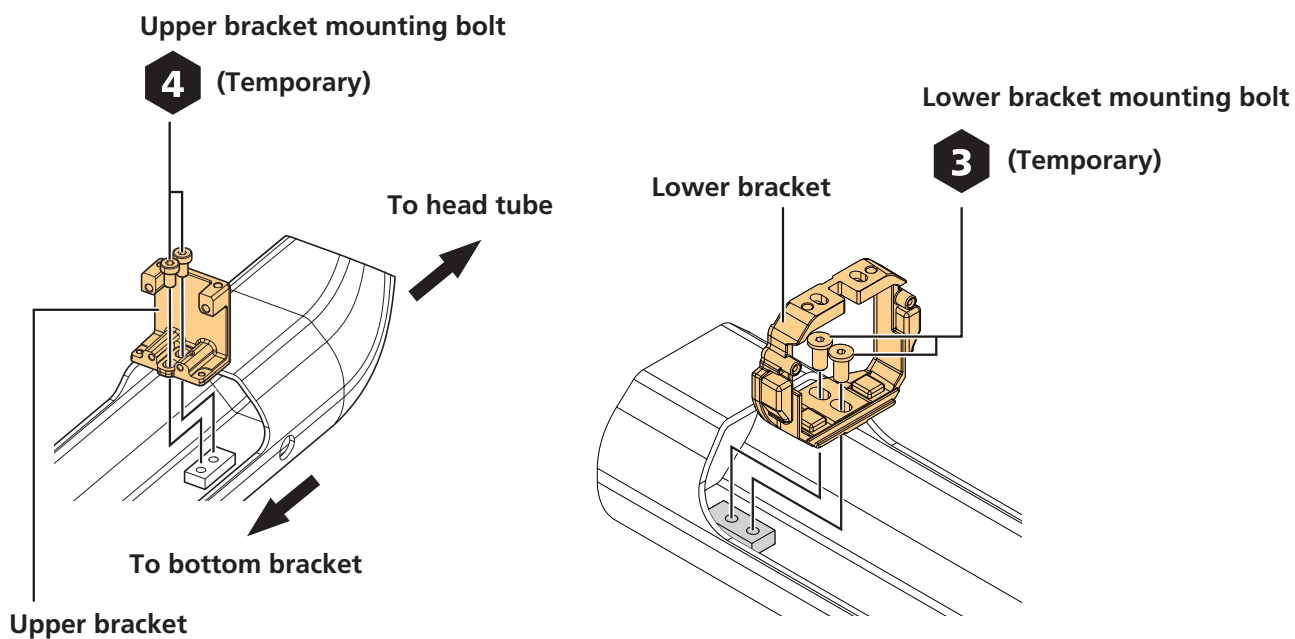
- (1) Temporarily install the key unit cover.
- (2) Try attaching and removing the battery, and check the following.
 - The battery can be smoothly attached and removed
 - There is no rattling in the key unit cover or battery that could result in abnormal noise when riding
- (3) Secure the key unit cover.
- (4) Pass the power cord through the frame and leave it hanging over the drive unit installation area.



BM-E8030/BM-E8031

The SHIMANO original tool TL-BME04 can be used to easily determine the installation location for the key unit. TL-BME04 is composed of TL-BME04-L and TL-BME04-S.

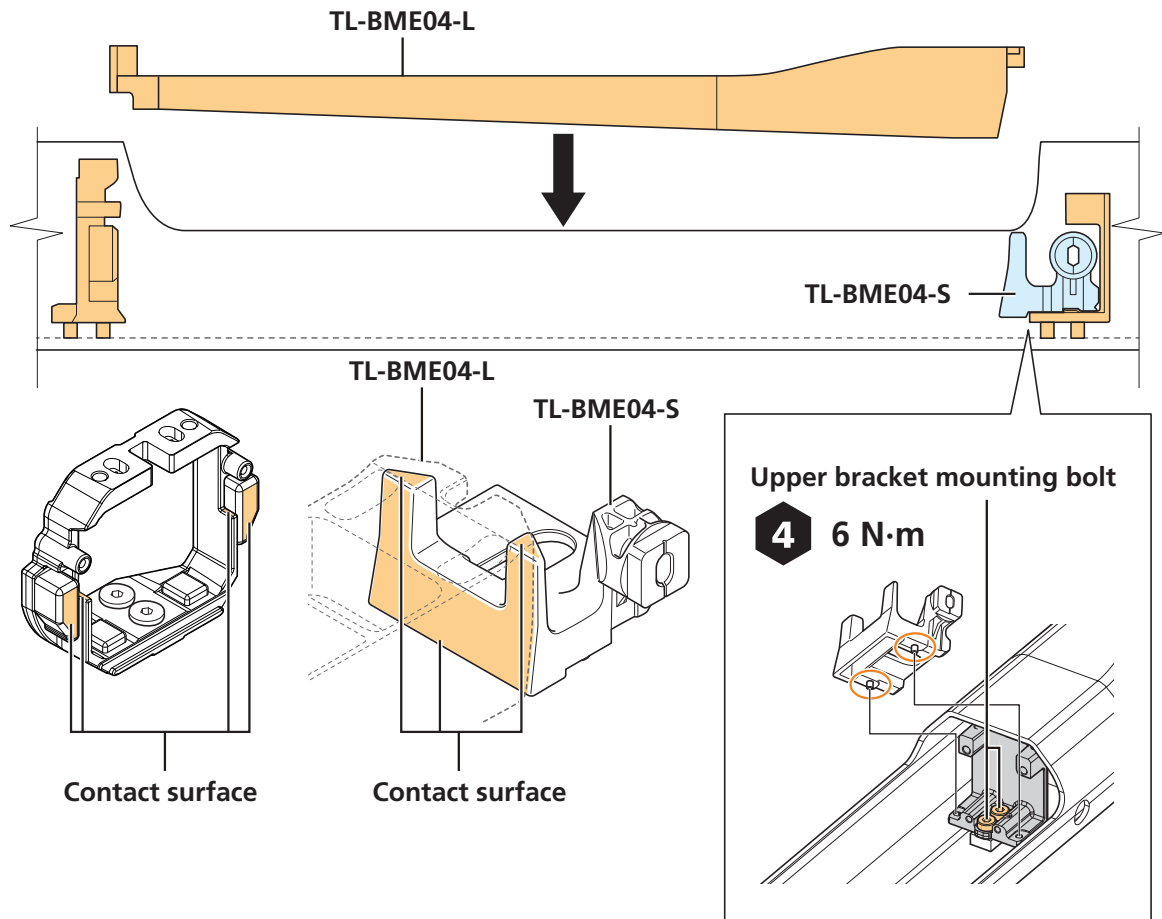
1. Temporarily install the upper bracket and lower bracket.



2. Install the upper bracket.

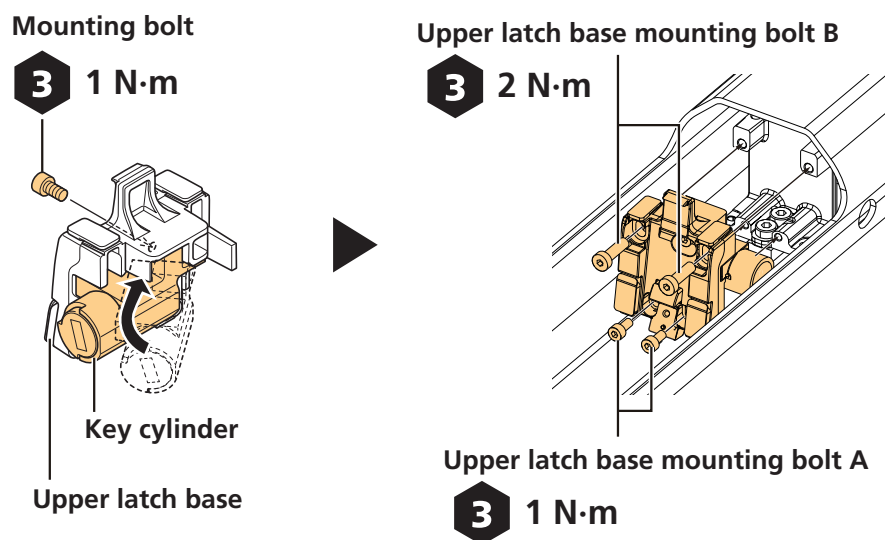
For BM-E8030, use the TL-BME04-S to adjust the location of the keyhole and then install the upper bracket.

- (1) Set TL-BME04-L and TL-BME04-S as shown in the figure.
- (2) Check that TL-BME04-L is making firm contact with the contact surface, and then fully tighten the upper bracket.



3. Install the upper latch base.

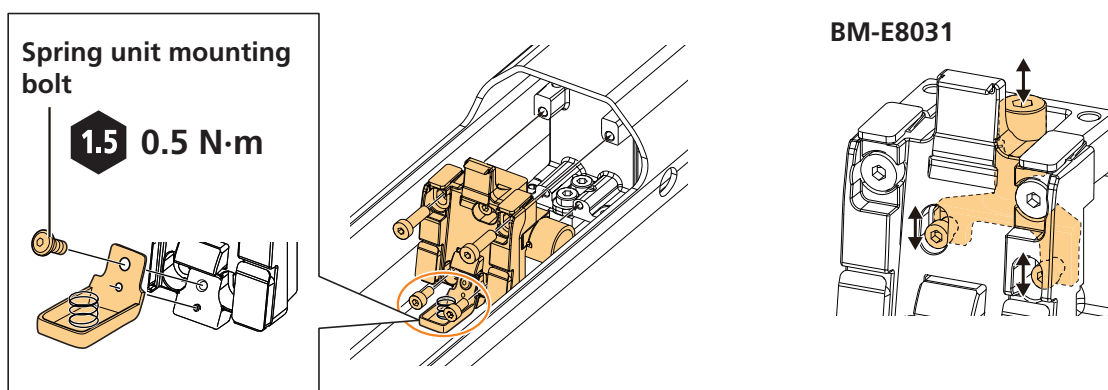
For BM-E8030, first install the key cylinder to the upper latch base. Key cylinders are not included with SHIMANO products.



4. Install the spring unit.

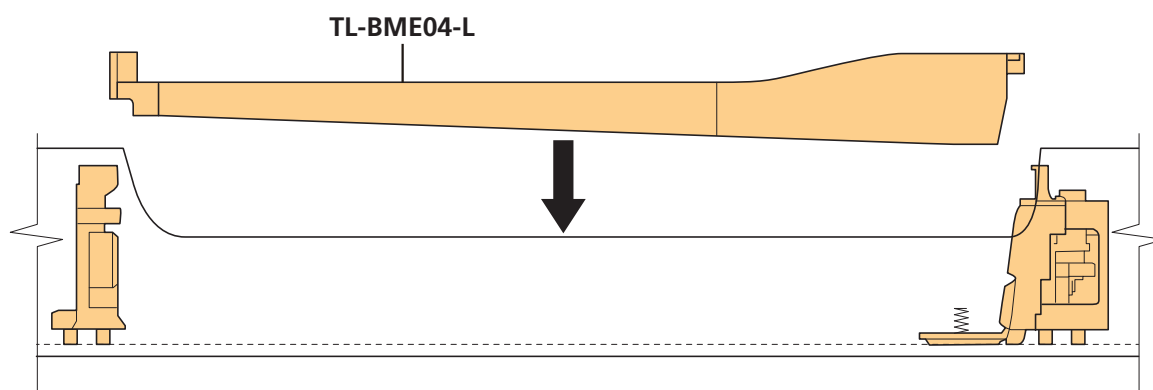
Press the spring unit when installing it, so that it does not turn.

The height of the unlock pin unit can be adjusted for BM-E8031.



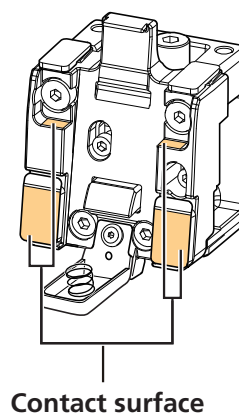
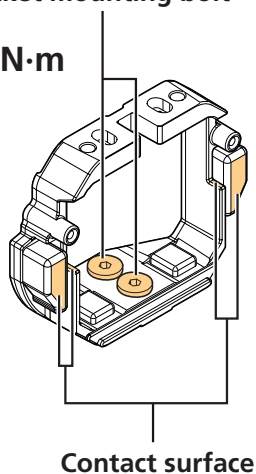
5. Install the lower bracket.

- (1) Set TL-BME04-L as shown in the figure.
- (2) Check that TL-BME04-L is making firm contact with the contact surface, and then fully tighten the lower bracket.



Lower bracket mounting bolt

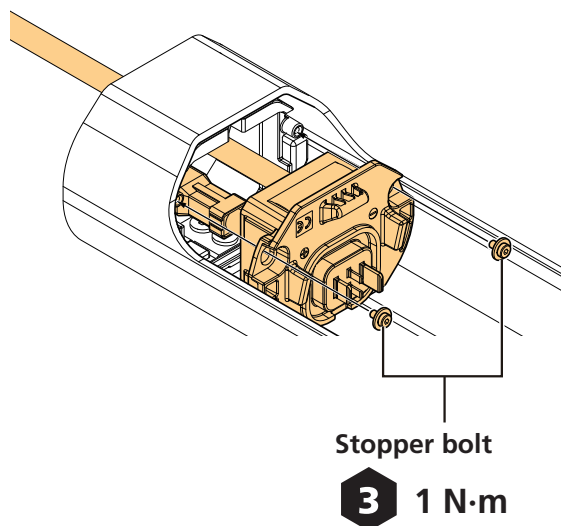
3 4.5 N·m



6. Install the connector unit.

The cables may need to be connected prior to installing the connector unit, depending on the frame design.

- (1) Push the connector unit into the lower bracket.
- (2) Use the stopper bolt to secure the connector unit.



Installing the satellite charging port

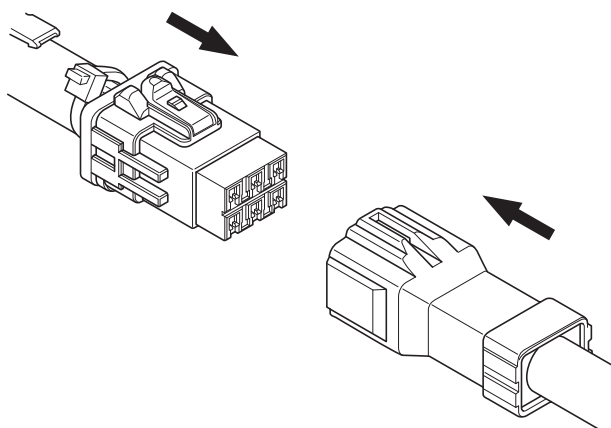
EW-CP100

NOTICE

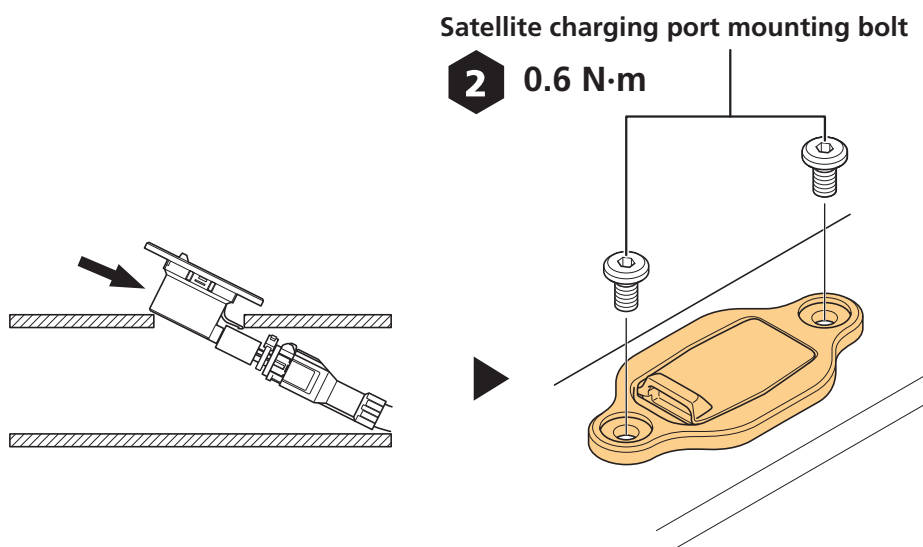
- The work procedure and tightening torque may vary depending on the design of the frame. Contact the distributor for details.

1. Install the connection cable.

The connection cable may need to be connected after installing the satellite charging port, depending on the design of the frame.



2. Install the satellite charging port.



Installing the satellite power button

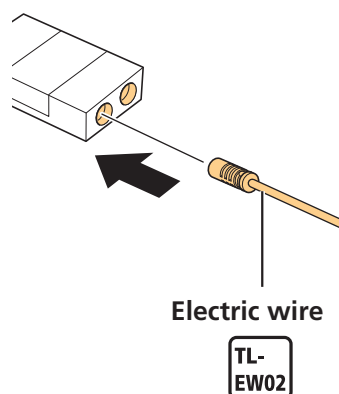
EW-SW100

NOTICE

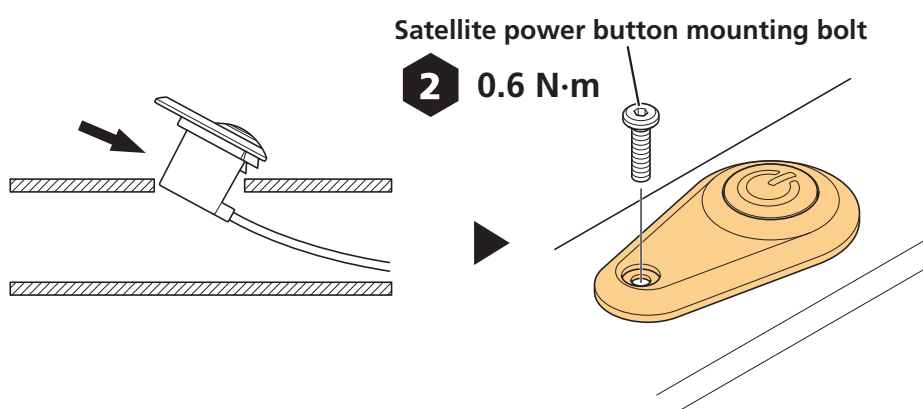
- The work procedure and tightening torque may vary depending on the design of the frame. Contact the distributor for details.

1. Connect the electric wire of the satellite power button.

The electric wire may need to be connected after installing the satellite power button, depending on the design of the frame.

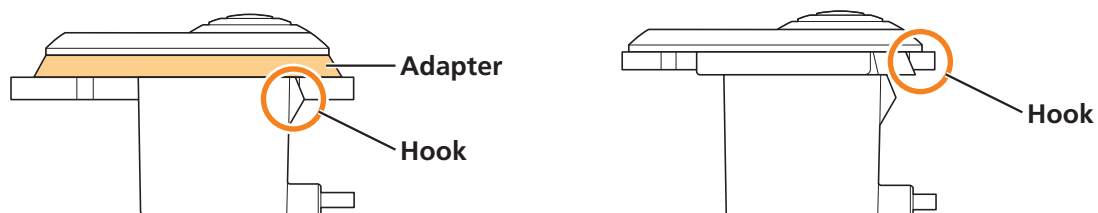


2. Install the satellite power button.



NOTICE

- This may vary depending on the design of the frame. For example, there may or may not be an adapter, or the hook may differ. Contact the distributor for details.



HANDLING THE BATTERY

Installing the battery

The battery is secured to the battery mount with a key. There are several types of keys, so there may be differences with the explanation below.

⚠ CAUTION

- Firmly hold the battery during installation, being careful not to drop it. Failure to do so may cause the components to fall and break or cause injury.
- Keep the following in mind to prevent the battery from dropping while riding.
 - Check that the battery is locked firmly with the battery mount.
 - Do not ride with the key inserted.

NOTICE

- Check that the charging port cap is closed before riding the bicycle.

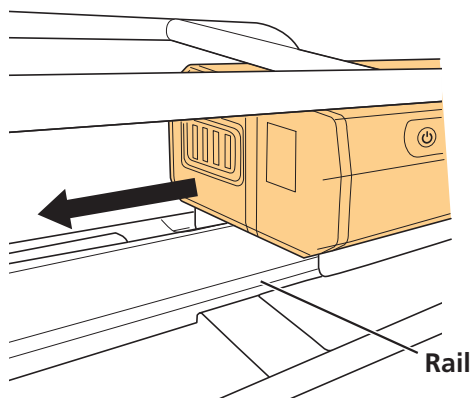
TECH TIPS

- The battery can be inserted without turning the key.

Rear carrier mount type

1. Insert the battery into the rail from the rear of the bicycle.

Slide the battery to the front and push it in firmly.



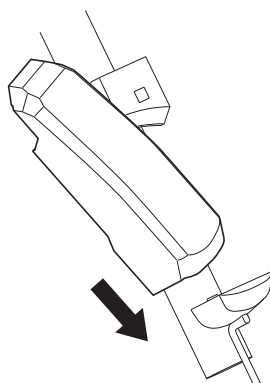
2. Remove the key.

Return the key to the locked position, and then remove it.

Down tube mount type

1. Insert the battery from below.

Align the concave section on the bottom of the battery with the convex section on the battery mount, and then insert the battery.



2. Slide the battery.

Push it in firmly until you hear it click into place.



3. Remove the key.

Return the key to the locked position, and then remove it.

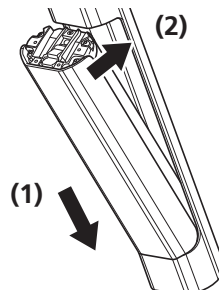
Built-in type

The following procedure uses a type of frame where the battery is installed/removed from the lower side of the down tube as an example.

Refer to the user's manual for details.

1. Use the following procedure to insert from the lower side of the battery.

- (1) Insert from the lower side of the battery.
- (2) Slide the battery. Push it in firmly until you hear it click into place.



NOTICE

- After pushing the battery in, pull the battery to confirm that it is locked securely.

Removing the Battery

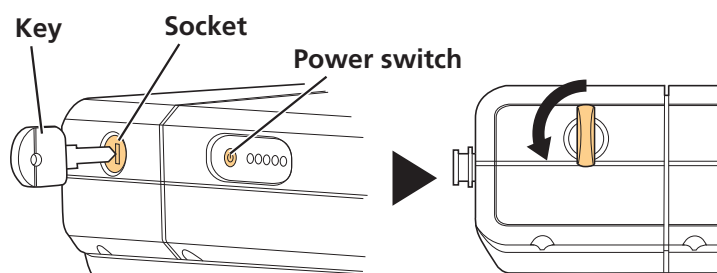
⚠ CAUTION

- Firmly hold the battery during removal or transport, being careful not to drop it. Failure to do so may cause the components to fall and break or cause injury.

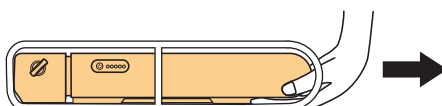
Rear carrier mount type

1. Insert the key and release the lock.

- (1) Press the power switch to turn the power OFF, and then insert the key into the socket on the battery mount.
- (2) Turn the key until you feel it make contact.



2. Carefully remove the battery.



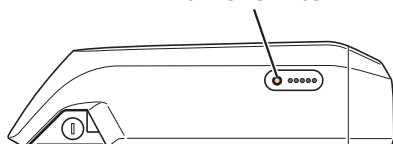
Down tube mount type

1. Insert the key.

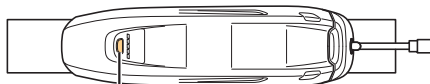
Press the power switch to turn the power OFF, and then insert the key into the socket on the battery mount.

<BT-E6010>

Power switch

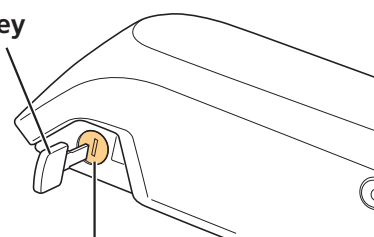


<BT-E8010/BT-E8014>



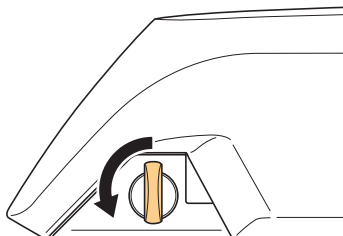
Key

Socket

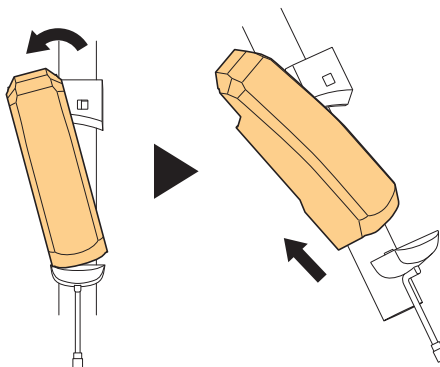


2. Release the battery lock.

Turn the key until you feel it make contact.



3. Slide and carefully remove the battery.



Built-in type

If a battery cover from another company is installed, remove the battery cover first. The following procedure uses a type of frame where the battery is installed/removed from the lower side of the down tube as an example.

Refer to the user's manual for details.

1. Open the socket cap.

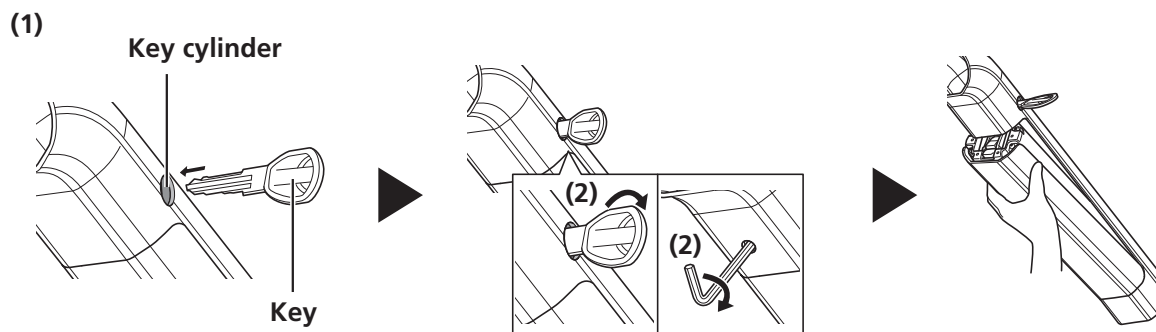
Press the power switch to turn the power OFF, and then open the socket cap.

2. Release the battery lock.

- (1) Insert the key or hexagon wrench into the key cylinder of the battery mount.
- (2) Support the battery with your hand, and turn the key or hexagon wrench clockwise.

The battery is unlocked. The double latch plate retains the battery in the designated position and prevents it from falling out.

If the battery does not go down into the designated position, pull out the battery with your hand while turning the key or hexagon wrench.

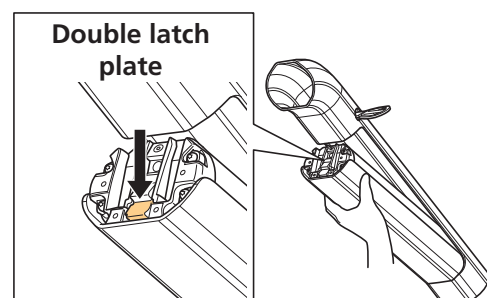


NOTICE

- If the battery is retained with a double latch plate, the double latch plate could deform if struck by a strong external force, causing the battery to drop.

3. Remove the battery.

Carefully remove the battery while supporting it with your hand and pushing the double latch plate.



Charging the Battery

Deep sleep mode

The battery will be in deep sleep mode immediately after shipment, so it cannot be used right away. Charging the battery using the designated battery charger will cancel deep sleep mode, allowing the battery to be used. The battery can be used when the LED on it turns on.

TECH TIPS

- You can also cancel deep sleep mode with a completed bicycle (i.e. a bicycle to which all components have been assembled) by operating the power from the cycle computer or satellite power button, or by connecting to E-TUBE PROJECT.

NOTICE

Although the battery can be charged regardless of the battery level, fully charge the battery in the following situation. Use the designated battery charger to charge the battery.

- The battery is not fully charged at the time of shipment. Before riding, be sure to fully charge the battery.

If the battery has become completely empty, charge it as soon as possible. Leaving the battery discharged could cause it to deteriorate.

- If the bicycle will not be ridden for a long period, store with the battery level around 70%. Charge the battery every six months to prevent the battery from fully discharging.
- Do not connect to E-TUBE PROJECT while the battery is being charged.

The use of a SHIMANO genuine battery is recommended. If using a battery from another manufacturer, make sure to carefully read the manual thoroughly before use.

- You can check whether a battery is a SHIMANO genuine battery or a battery from another company by connecting to E-TUBE PROJECT and running the [Connection check] menu.

⚠ CAUTION

- When charging a battery attached to the bicycle, be careful not to pull the charging cable. Doing so could cause injury, or could cause the bicycle to tip over, damaging components.

NOTICE

- When removing the battery charger's power plug from the electrical outlet or removing the charging plug from the battery, do not pull while holding the cord. Doing so may cause damage.
- If the bicycle is stored for an extended period of time immediately after purchase, you will need to charge the battery before using the bicycle. Once the battery is charged, the charging capacity starts to deteriorate slightly.

Charging time

The charging time will vary depending on the maximum capacity of the battery, the battery level, and the battery charger being used.

► Designated charging time

The charging time from a battery level of 0% is as shown below.

Battery	Designated charging time			
	Battery charger: EC-E6002	Battery charger: EC-E6000	Battery charger: EC-E8004	
			100 - 127 V AC	220 - 240 V AC
BT-E6000/BT-E6010/BT-E8014	Approximately 6.5 hours	Approximately 4 hours	Approximately 3.5 hours	Approximately 3 hours
BT-E6001/BT-E8010/BT-E8020/BT-E8035	Approximately 7.5 hours	Approximately 5 hours	Approximately 4.5 hours	Approximately 4 hours

Charging the battery removed from the bicycle

Charge the battery placed on a level surface indoors.

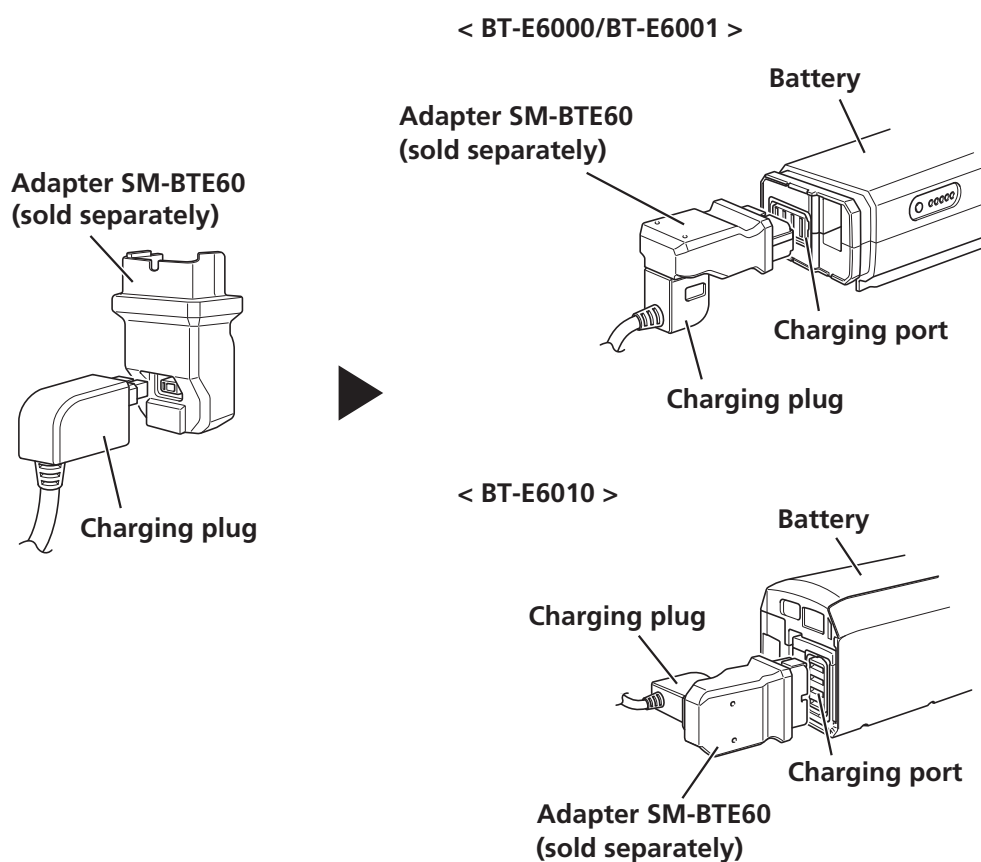
► BT-E6000/BT-E6001/BT-E6010

An adapter (SM-BTE60: sold separately) is required to charge BT-E6000/BT-E6001/BT-E6010, while it is removed from the bicycle.

1. Open the socket cap.
2. Install the adapter to the charging plug.

3. Connect the battery charger's power plug to the electrical outlet.

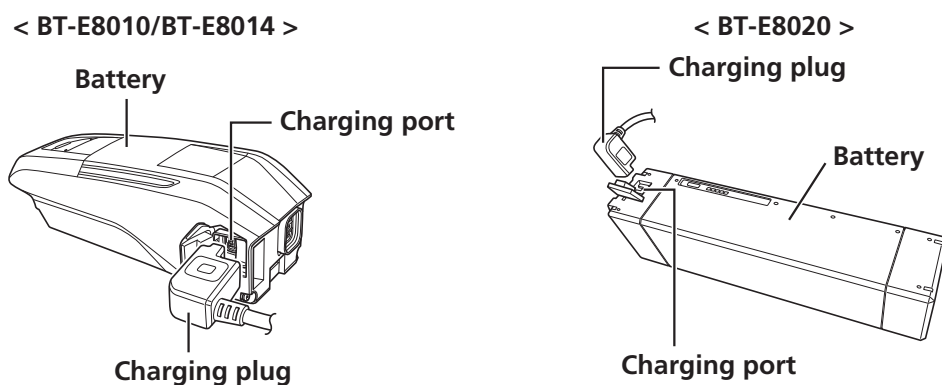
4. Install the adapter to the battery's charging port.



▶ BT-E8010/BT-E8014/BT-E8020

1. Connect the battery charger's power plug to the electrical outlet.

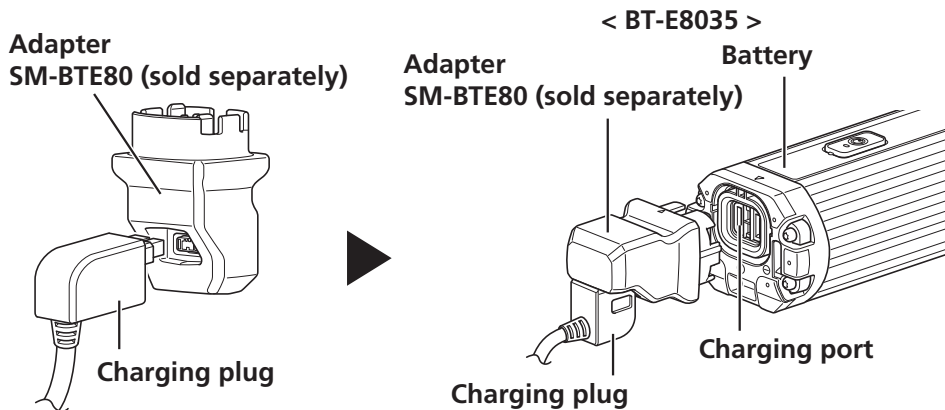
2. Install the charging plug to the battery's charging port.



▶ BT-E8035

An adapter (SM-BTE80: sold separately) is required to charge BT-E8035, while it is removed from the bicycle.

1. Attach the adapter to the battery charger's charging plug.
2. Connect the battery charger's power plug to the electrical outlet.
3. Attach the adapter to the battery's charge socket.



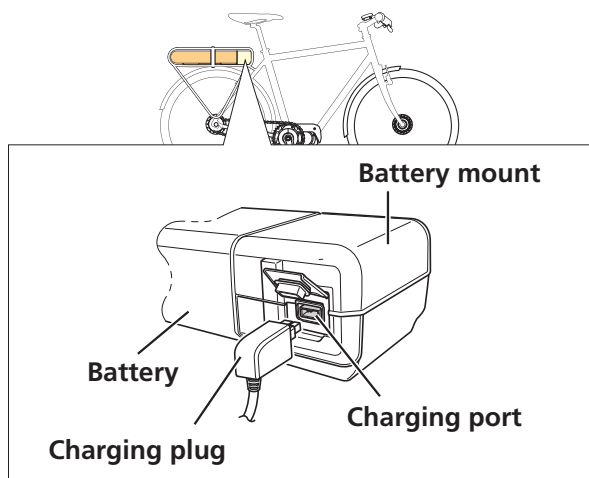
Charging the battery attached to the bicycle

Charge the battery with the battery charger placed on the floor or some other stable surface. Fix the bicycle in place when charging, so that it does not tip over.

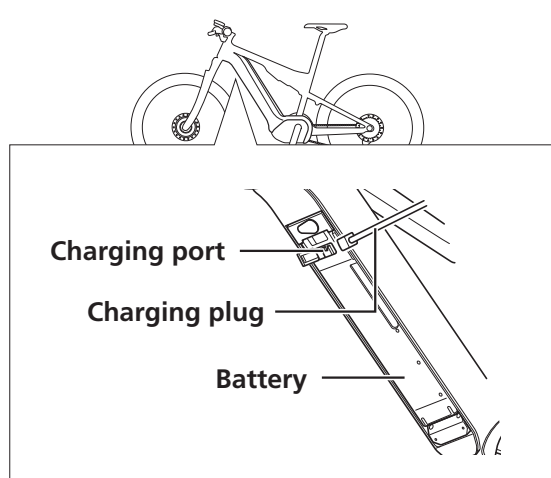
1. Connect the battery charger's power plug to the electrical outlet.

2. Insert the charging plug into the charging port on the battery mount or battery.

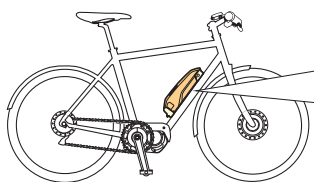
<BT-E6000/BT-E6001>



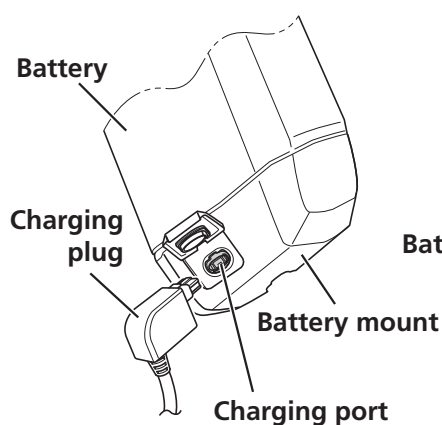
<BT-E8020>



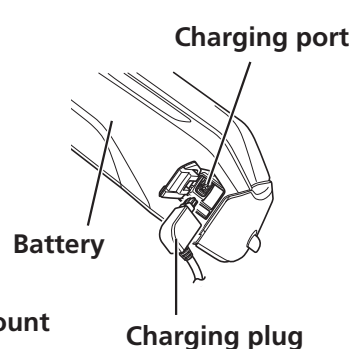
<BT-E6010/BT-E8010/BT-E8014>



<BT-E6010>

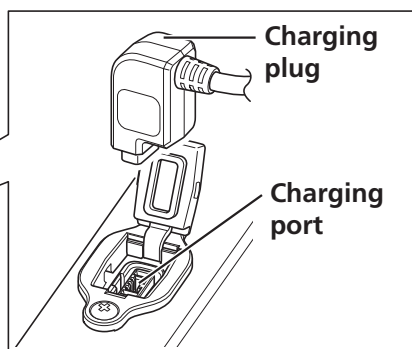
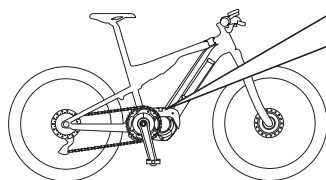


<BT-E8010/BT-E8014>

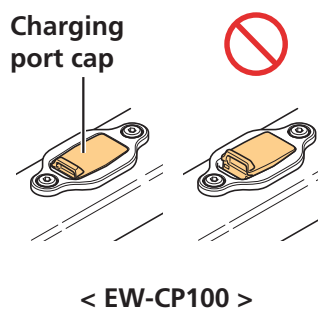
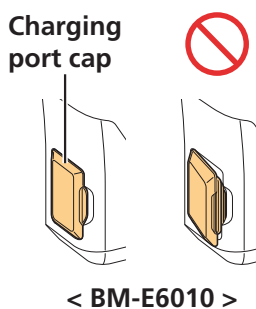
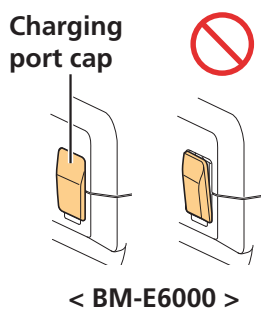


< BT-E8035 >

- The position of the satellite charging port differs depending on the frame design.

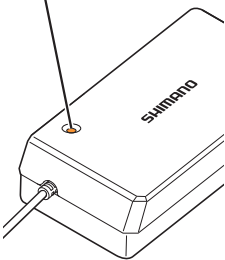
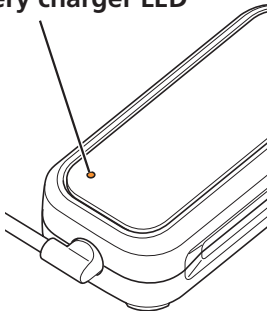
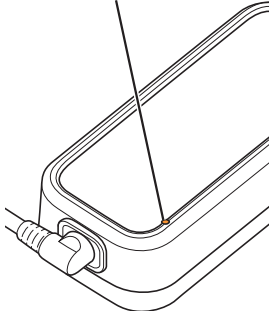


3. After charging, firmly close the charging port cap.



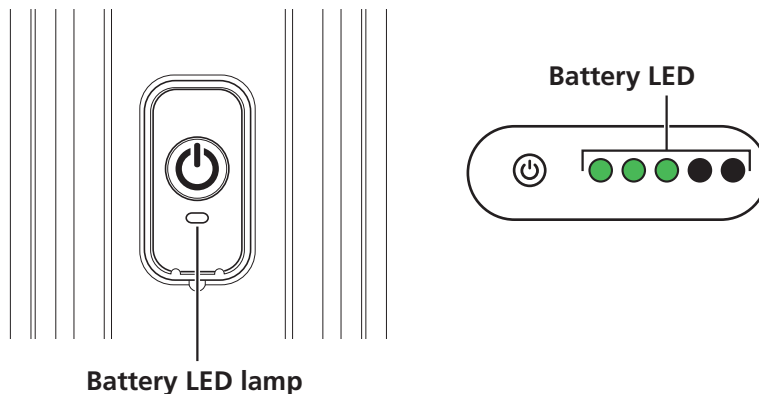
Battery charger LED indication

Once charging has started, the LED on the battery charger lights up.

	Charging	< EC-E6000 > Battery charger LED  < EC-E6002 > Battery charger LED  < EC-E8004 > Charger LED lamp 
	Charge error	
	Charging complete	

Battery LED indication

The LED on the battery can be used to check the charging status of the battery and the battery level. The shape of the LED differs depending on the model number.



▶ Display while charging

When charging, the battery LED will light up as follows.

Battery LED lamp x 5

LED indication*1	Charging status
	0 - 20%
	21 - 40%
	41 - 60%
	61 - 80%
	81 - 99%
	100%

*1 ● Off ● Lit Flashing

Battery LED lamp x 1

LED indication*1	Charging status
 (Repeatedly flashes green 1 time)	0 - 20%
 (Repeatedly flashes green 2 times)	21 - 40%
 (Repeatedly flashes green 3 times)	41 - 60%
 (Repeatedly flashes green 4 times)	61 - 80%
 (Repeatedly flashes green 5 times)	81 - 99%
 / 	100%*2

*1  Off  Lit  Flashing

*2 Turns off one hour after fully charged.

► Battery level display

When the battery power button is used to turn the power from OFF to ON, the LED indication can be used to check the current battery level.

Battery LED lamp x 5

LED indication*1	Charging status
	100 - 81%
	80 - 61%
	60 - 41%
	40 - 21%
	20 - 1%
	0% * If the battery is not attached to the bicycle
	0% * If the battery is attached to the bicycle * If the power is OFF

*1  Off  Lit  Flashing

Battery LED lamp x 1

- The LED lights up when the battery is attached to the bicycle. (Unless the battery level is at 0%)

LED indication*1	Charging status
 (Repeatedly flashes green 5 times)	100 - 81%
 (Repeatedly flashes green 4 times)	80 - 61%
 (Repeatedly flashes green 3 times)	60 - 41%
 (Repeatedly flashes green 2 times)	40 - 21%
 (Repeatedly flashes green 1 time)	20 - 1%
	0% * If the battery is attached to the bicycle

*1  Off  Flashing

TECH TIPS

- When the battery level is low, system functions will be shut off in the following order.

(1) Power assist

- * The assist mode will automatically switch to [ECO], and then assist will be shut off. If using a light connected to the drive unit, the mode will switch more quickly to [ECO].

(2) Electronic gear shifting

(3) Lights

Battery LED error indications

The battery LEDs are used to notify the user of system malfunctions, etc.

Battery LED lamp x 5

Error indication type	Indication conditions	LED indication*1	Remedies
System malfunction	Communication error with the bicycle system		Check that the electric wire is not loose and that it is appropriately connected. If the situation does not improve, contact a distributor.
Temperature protection	If the temperature exceeds the guaranteed operating range, the battery output is turned off.		Leave the battery in a cool place away from direct sunlight until the internal temperature of the battery decreases sufficiently. If the situation does not improve, contact a distributor.
Security authentication error	•Genuine drive unit not connected •Cable disconnected		Connect a genuine drive unit and battery. Check the status of the electric wire. If the situation does not improve, contact a distributor.
Charge error	An error occurred during charging		Detach the connector between the battery and battery charger, and press the power switch with only the battery connected. If an error appears with only the battery connected, contact a distributor.
Battery malfunction	Electrical failure inside the battery		Temporarily connect the battery to the battery charger, remove it, and then press the power switch with only the battery connected. If an error appears with only the battery connected, contact a distributor.

*1 ● Off ● Lit  Flashing

Battery LED lamp x 1

Error indication type	Indication conditions	LED indication*1	Remedies
Battery malfunction	Electrical failure inside the battery	 (Repeatedly flashes red 5 times)	Remove the battery charger after connecting it to the battery. Make sure to press the power switch with the battery connected. If an error is displayed on the battery alone or error E023 is displayed on the cycle computer, contact a distributor.
System malfunction	Communication error with the bicycle system	 (Repeatedly flashes red 4 times)	Make sure that the cable is not loose or improperly connected. If the situation does not improve, contact a distributor.
Charge error	This is displayed if an error occurs during charging.		Remove the battery charger from the battery and press the power switch. If an error is displayed, contact the distributor.
Temperature protection	If the temperature exceeds the guaranteed operating range, the battery output is turned off.	 (Repeatedly flashes red 3 times)	If it has exceeded the temperature in which discharge is possible, leave the battery in a cool place away from direct sunlight until the internal temperature of the battery decreases sufficiently. If it is below the temperature in which discharge is possible, leave the battery indoors, etc. until its internal temperature is at a suitable temperature. If the situation does not improve, contact a distributor.
Security authentication error	This is displayed when a genuine drive unit is not connected. This is displayed if any of the cables are disconnected.	 (Repeatedly flashes red 1 time)	Connect a genuine battery and drive unit. Check the condition of the cables. If the situation does not improve, contact a distributor.

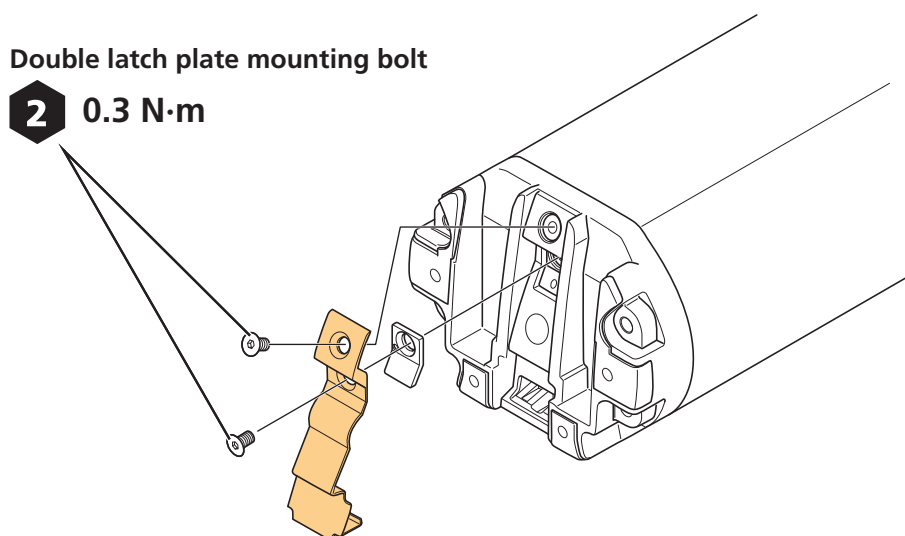
*1  Flashing

MAINTENANCE

Replacing the double latch plate

The double latch plate can be replaced if it becomes deformed.

1. Remove the double latch plate.
2. Install a new double latch plate.

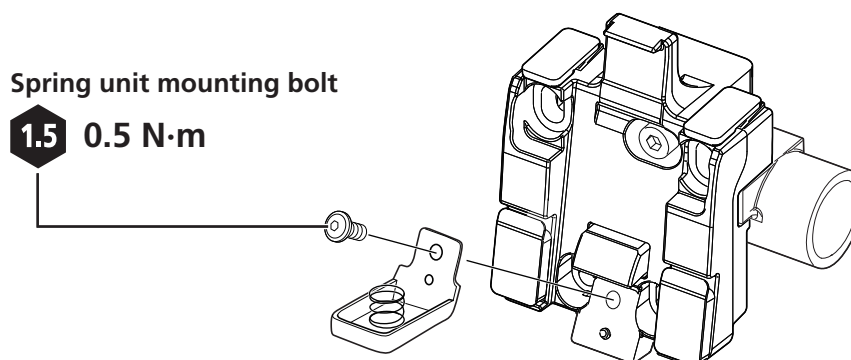


Replacing the spring unit

The spring unit can be replaced if it becomes deformed.

Refer to "Installing the Battery Mount" for detailed instructions.

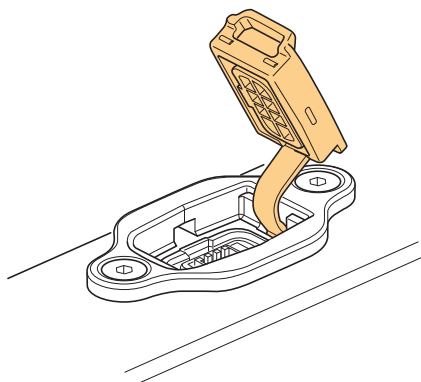
1. Remove the spring unit and replace it with a new spring unit.



Replacing the charging port cap (EW-CP100)

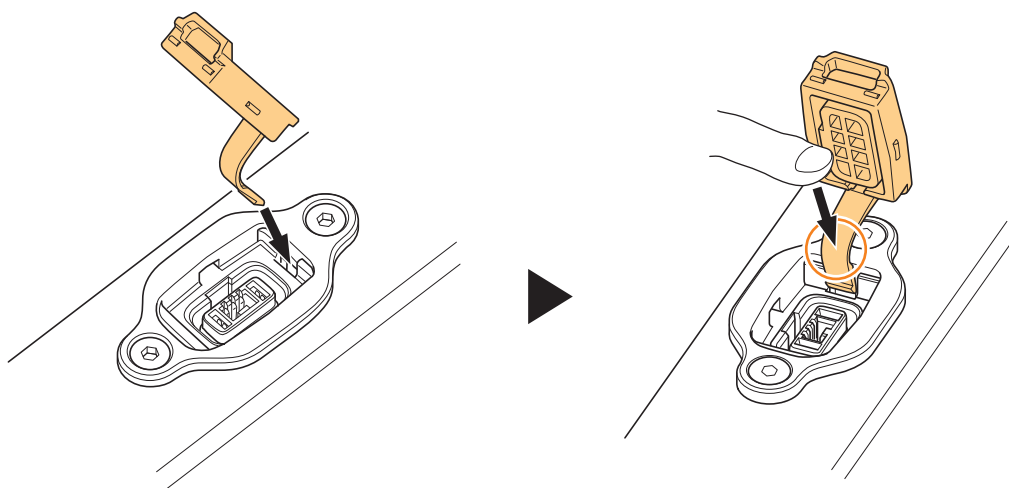
The charging port cap on EW-CP100 can be replaced if it is damaged.

1. Remove the charging port cap.



2. Replace with a new charging port cap.

As shown in the figure, push it in with your fingers.





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Please note: specifications are subject to change for improvement without notice. (English)

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