

Dealer's Manual

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

SHIMANO STEPS

E7000 Series

SC-E7000
 EW-EN100
 SW-E7000-L
 SW-E8000-L
 SW-M8050-L
 SW-E7000-R
 SW-M8050-R
 RD-M8050
 FC-E8000
 FC-E8050
 FC-M8050
 SM-CRE70
 SM-CRE70-B
 SM-CRE70-12
 SM-CRE70-12-B
 SM-CDE70
 DU-E7000
 SM-DUE10
 SM-DUE11
 SM-DUE70-A
 SM-DUE70-B
 SM-DUE70-C
 BT-E8010

BT-E8014
 BT-E8020
 BM-E8010
 BM-E8020
 TL-FC39
 TL-FC36
 TL-LR15
 RT-EM300
 RT-EM600
 RT-EM800
 RT-EM810
 RT-EM900
 RT-EM910

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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 of the information in this 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 instruction 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 dealer’s manuals and instruction manuals can be viewed on-line on our website (<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.
- The Bluetooth®-compatible wordmark and logo are registered trademarks owned by Bluetooth SIG, Inc., and are used under agreement by SHIMANO INC. Other trademarks and product names belong to their respective owners.

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

DANGER

Be sure to also inform users of the following:

■ Handling the battery


- Do not deform, modify, disassemble, or apply solder directly to the battery. Doing so may cause leakage, overheating, bursting, or ignition.
- Do not leave the battery near sources of heat such as heaters, and do not heat the battery or throw it into a fire. Doing so may cause bursting or ignition.
- Do not throw or subject the battery to strong shock. Doing so may cause it to overheat, burst, or ignite.
- 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.
- Use the specified battery charger when charging and observe the specified charging conditions. Doing otherwise may cause it to overheat, burst, or ignite.

WARNING

- **Be sure to follow the instructions provided in the manuals when installing the product.**

It is recommended to use genuine SHIMANO parts only. If parts such as bolts and nuts become loose or damaged, the bicycle may suddenly fall over, which may cause serious injury.

In addition, if adjustments are not carried out correctly, problems may occur, and the bicycle may suddenly fall over, which may cause serious injury.

-  Be sure to wear safety glasses or goggles to protect your eyes 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.
- After reading the dealer's manual thoroughly, keep it in a safe place for later reference.

Be sure to also inform users of the following:

- Be careful not to let yourself be distracted by the cycle computer display while riding the bicycle. Otherwise, you may fall off the bicycle.

- Before riding, check that the wheels are secured. Otherwise, you may fall off the bicycle and be seriously injured.
- Be sufficiently familiar with how to start the power assisted bicycle before riding on busy streets. Otherwise, you may start the bicycle unexpectedly, which may result in an accident.
- Make sure that the light is on when riding at night.
- Do not disassemble the product. Disassembling may cause injury.
- When charging the battery while it is installed on the bicycle, do not move the bicycle. The charger's power plug may come loose and not be fully inserted into the electrical outlet, resulting in risk of fire.
- Do not inadvertently touch the drive unit when it has been continuously used for a long period of time. The surface of the drive unit becomes hot and could cause burns.

■ Lithium ion 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 attention immediately. If this is not done, the battery liquid may damage your eyes.
- Do not recharge the battery in very humid places or outdoors. Doing so may result in electric shock.
- Do not insert or remove the plug while it is wet. Doing so may result in electric shock. If the inside of the plug is wet, dry it thoroughly before inserting it.
- If the battery does not become fully charged after 2 hours of charging, immediately unplug the battery from the outlet and contact the place of purchase. Doing otherwise may cause overheating, bursting, or ignition of the battery.
- 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.
- The operating temperature ranges for the battery are given below. Do not use it in temperatures outside these ranges. If it 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

■ Bicycle installation 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.

- Intervals between maintenance depend on the use and riding circumstances. Clean the chain with an appropriate chain cleaner regularly. Never use alkali based or acid based solvents, such as rust cleaners. If these solvents are used the chain might break and cause serious injury.

CAUTION

Be sure to also inform users of the following:

- Observe the instructions in the user's manual for the bicycle in order to ride safely.
- Periodically check the battery charger and adapter—particularly the cord, plug, and case—for any damage. If the charger or adapter is broken, do not use it until it has been repaired.
- Use the product according to the directions for use or those of a safety supervisor. Do not allow physically, sensory, or mentally impaired persons, inexperienced persons, or persons without required knowledge, including children, to use this product.
- Do not allow children to play near the product.
- If any malfunction or trouble occurs, consult the place of purchase.
- Never modify the system as this may cause a malfunction in the system.

■ Lithium ion 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 away from the reach of infants and pets.

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 dealer.
- The components are designed to be fully waterproof and withstand wet weather riding conditions; however, do not deliberately place them into water.
- Do not clean the bicycle with a high-pressure wash. If water gets into any of the components, operating problems or rusting may result.

- Handle the components carefully, and avoid subjecting them to strong shock.
- Do not turn the bicycle upside down. There is a risk of damage to the cycle computer and shift switches.
- Although the bicycle still functions as a normal bicycle even when the battery is removed, the light will not turn on if it is connected to the electric power system. Be aware that using the bicycle under these conditions will be considered non-observance of the road traffic laws in Germany.
- When carrying the bicycle in a car, remove the battery from the bicycle and place it on a stable surface in the car.
- 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.
- 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 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.
- It is recommended to use a SHIMANO genuine battery. If using a battery from another company, be sure to read the product manual thoroughly prior to use.
- Some of the important information in this dealer's manual can also be found on the device labels.
- The number written on the battery is necessary when purchasing spare keys for the battery lock. Store it carefully.
- Use a damp, well wrung out cloth when cleaning the battery and plastic cover.
- If you have any questions about the use and maintenance of the product, consult the place of purchase.
- Contact the place of purchase for updates to the component software. The most up-to-date information is available on the SHIMANO website. For details, refer to the "CONNECTION AND COMMUNICATION WITH DEVICES" section.
- 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.

■ Connection and communication with PC


Using a PC linkage device to connect a PC to your bicycle (system or component) allows you to use E-TUBE PROJECT to perform a range of tasks, such as customizing individual components or the entire system, or updating firmware.

- PC linkage device: SM-PCE1/PCE02
- E-TUBE PROJECT: PC application
- Firmware: Software inside each component

■ Connection and communication with smartphone or tablet

Connecting your bicycle (system or component) over Bluetooth® LE to a smartphone or tablet allows you to use the smartphone/tablet version of E-TUBE PROJECT to perform a range of tasks, such as customizing individual components or the entire system, or updating firmware.

















- E-TUBE PROJECT: Application for smartphones/tablets
- Firmware: Software inside each component

	<p>Disposal information for countries outside the European Union</p> <p>This symbol is only valid within the European Union.</p> <p>Follow local regulations when disposing of used batteries. If you are not sure, consult the place of purchase or distributor.</p>
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The actual product may differ from illustrations, as 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
Cycle Computer	Clamp bolt		3 mm hexagon wrench
	Case fixing bolt		2.5 mm hexagon wrench
Switch unit	Clamp bolt		3 mm hexagon wrench
Battery mount (BM-E8010)	Mount lower case		3 mm hexagon wrench
			8 mm spanner
	Key unit		3 mm hexagon wrench
	Key unit cover Mount upper case		2.5 mm hexagon wrench
Battery mount (BM-E8020)	Mount lower case Key unit		5 mm hexagon wrench
	Mount upper case		Screwdriver [#2]
	Key cylinder		2 mm hexagon wrench
	Key unit cover		Screwdriver [#2]
Speed sensor (SM-DUE10)	Speed sensor mounting bolt		4 mm hexagon wrench
			Hexalobular [#25]
	Magnet unit mounting bolt		Screwdriver [#2]
Speed sensor (SM-DUE11)	Speed sensor mounting bolt		Hexalobular [#10]

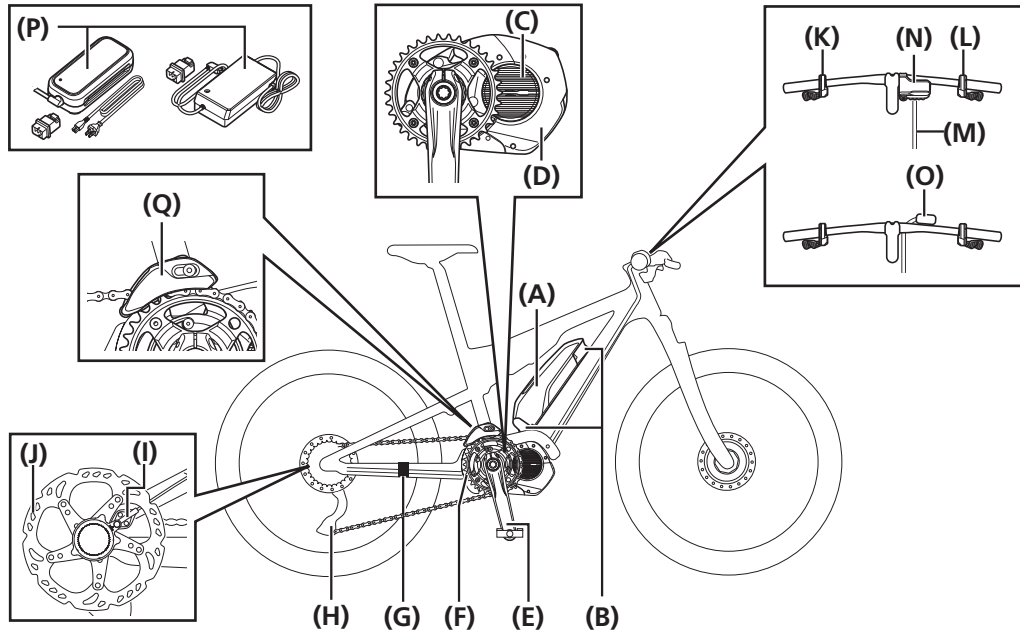
LIST OF TOOLS TO BE USED

Disc brake rotor (Listed in this manual as rotor from here on out)	Lock ring	 + 	TL-LR15 + adjustable wrench
Drive Unit	Drive unit mounting bolt	-	Contact the bicycle manufacturer.
	Drive unit cover		Screwdriver [#2]
Light cable	Light cable mounting bolt		Screwdriver [#2]
Crank arm	Cap	 / 	TL-FC16 / TL-FC18
	Clamp bolt		5 mm hexagon wrench
Chain device	Back plate fixing bolt		3 mm hexagon wrench
	Guide fixing bolt		4 mm hexagon wrench
Chainring	Lock ring	 + 	TL-FC39 + TL-FC33
		 + 	TL-FC39 + TL-FC36
	Chain guard Arm cover		Screwdriver [#2]

INSTALLING ELECTRICAL PARTS

Names of Parts

Down tube mount type



(A)	Battery: BT-E8010 / BT-E8014	(B)	Battery mount: BM-E8010
(C)	Drive unit: DU-E7000	(D)	Drive unit cover: SM-DUE70-A / SM-DUE70-B / SM-DUE70-C
(E)	Crank arm: FC-E8000 / FC-E8050 / FC-M8050	(F)	Front chainring: SM-CRE70 / SM-CRE70-B / SM-CRE70-12-B*4
(G)*1	Speed sensor: SM-DUE10	(H)*2	Rear derailleur (DI2): RD-M8050
(I)*1	Speed sensor: SM-DUE11	(J)	Rotor: RT-EM300 / RT-EM600 / RT-EM800 / RT-EM810 / RT-EM900 / RT-EM910
(K)	Switch unit (default: assist switch): SW-M8050-L / SW-E8000-L / SW-E7000-L	(L)*2	Switch unit (default: shift switch): SW-M8050-R / SW-E7000-R
(M)	Electric wire: EW-SD50	(N)*3	Cycle computer: SC-E7000
(O)*3	Junction [A] (wireless unit): EW-EN100	(P)	Battery charger: EC-E6000 / EC-E6002+SM-BCC1

(Q)	Chain device: SM-CDE70
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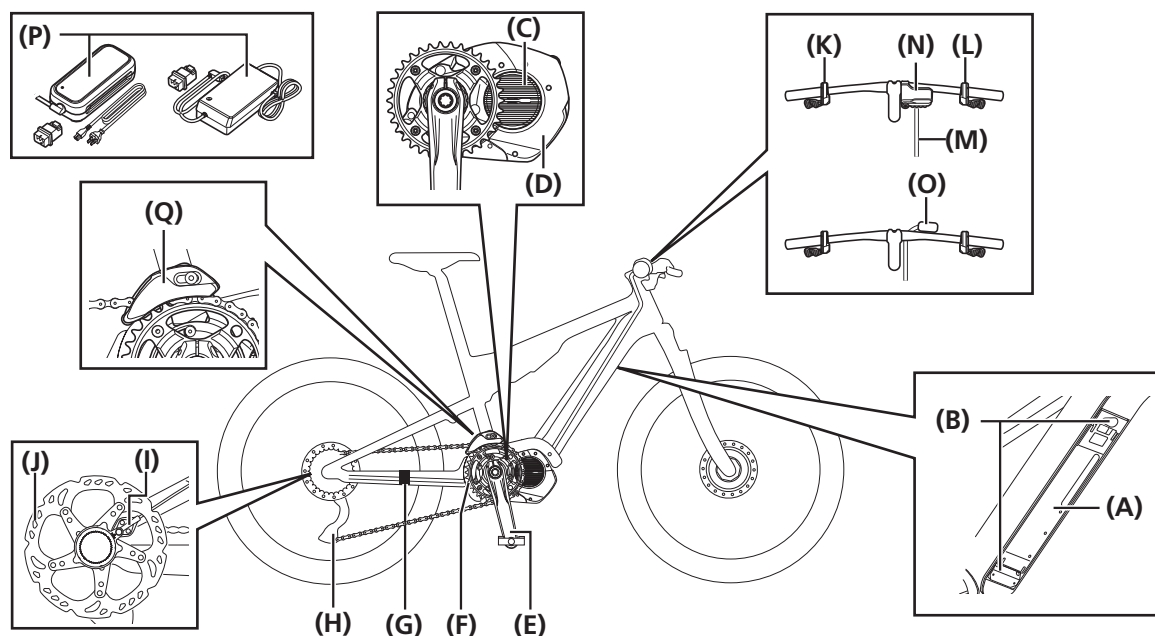
*1 Use either (G) or (I). (I) is only when (J) disc brake is mounted.

*2 Electronic gear shifting only.

*3 Use either (N) or (O).

*4 Mechanical gear shifting (12-speed) only.

Built-in type



(A)	Battery: BT-E8020	(B)	Battery mount: BM-E8020
(C)	Drive unit: DU-E7000	(D)	Drive unit cover: SM-DUE70-A / SM-DUE70-B / SM-DUE70-C
(E)	Crank arm: FC-E8000 / FC-E8050 / FC-M8050	(F)	Front chainring: SM-CRE70 / SM-CRE70-B / SM-CRE70-12 / SM-CRE70-12-B*4
(G)*1	Speed sensor: SM-DUE10	(H)*2	Rear derailleur (DI2): RD-M8050
(I)*1	Speed sensor: SM-DUE11	(J)	Rotor: RT-EM300 / RT-EM600 / RT-EM800 / RT-EM810 / RT-EM900 / RT-EM910
(K)	Switch unit (default: assist switch): SW-M8050-L / SW-E8000-L / SW-E7000-L	(L)*2	Switch unit (default: shift switch): SW-M8050-R / SW-E7000-R
(M)	Electric wire: EW-SD50	(N)*3	Cycle computer: SC-E7000

(O)*3	Junction [A] (wireless unit): EW-EN100	(P)	Battery charger: EC-E6000 / EC-E6002+SM-BCC1
(Q)	Chain device: SM-CDE70		

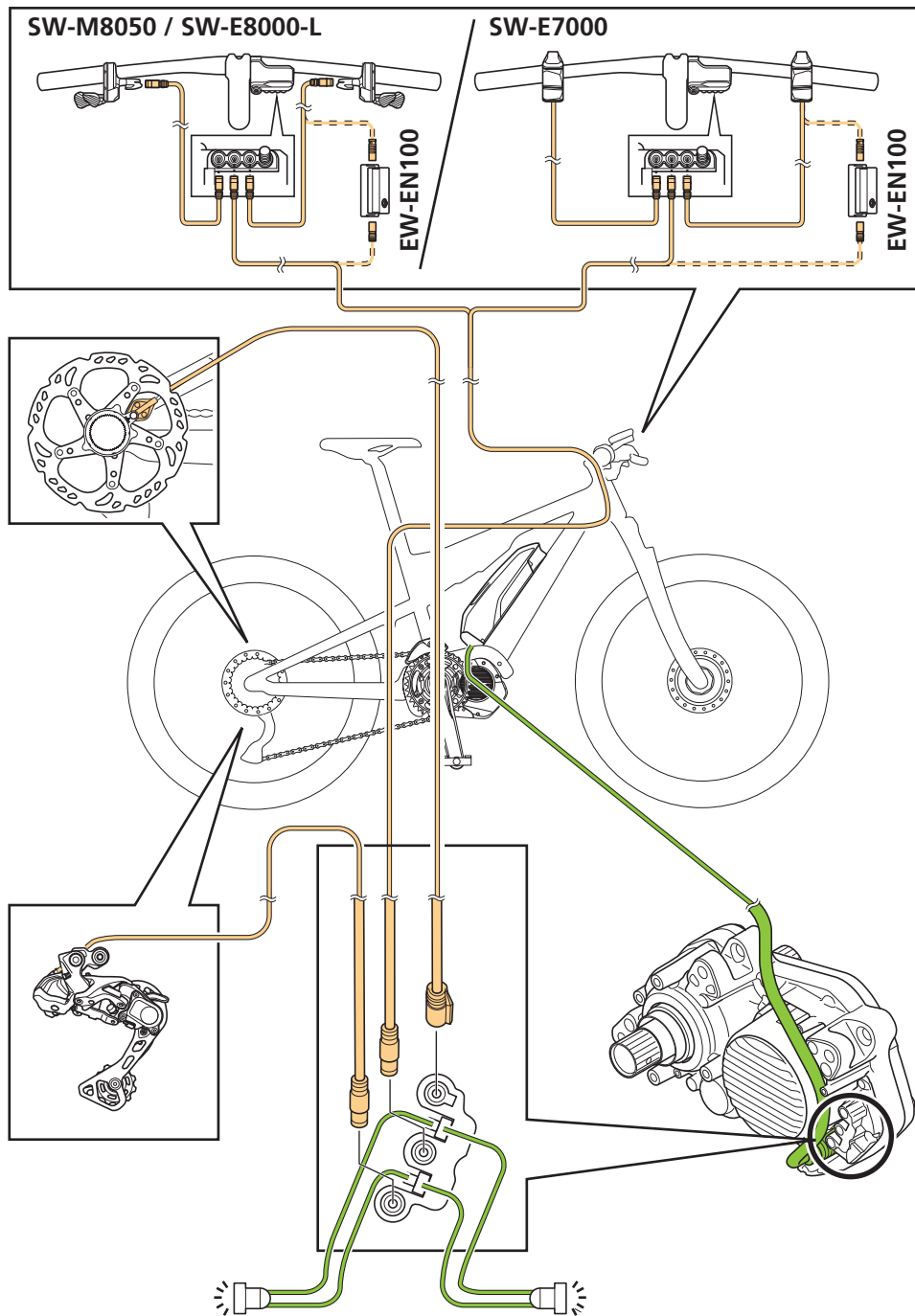
*1 Use either (G) or (I). (I) is only when (J) disc brake is mounted.

*2 Electronic gear shifting only.

*3 Use either (N) or (O).

*4 Mechanical gear shifting (12-speed) only.

Overall Wiring Diagram



TECH TIPS

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

Specifications

Operating temperature range: Discharging	-10 - 50°C	Battery type	Lithium ion battery
Operating temperature range: Charging	0 - 40°C	Nominal capacity	Refer to the battery user's manual.
Storage temperature	-20 - 70°C	Rated voltage	36 V DC
Storage temperature (battery)	-20 - 60°C	Drive unit type	Midship
Charging voltage	100 - 240 V AC	Motor type	Brushless DC
Charging time	Refer to the battery charger user's manual.	Rated drive unit power	250 W

TECH TIPS

- The maximum speed provided by assist is set by the manufacturer, but may vary depending on the conditions under which the bicycle is used.
- 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

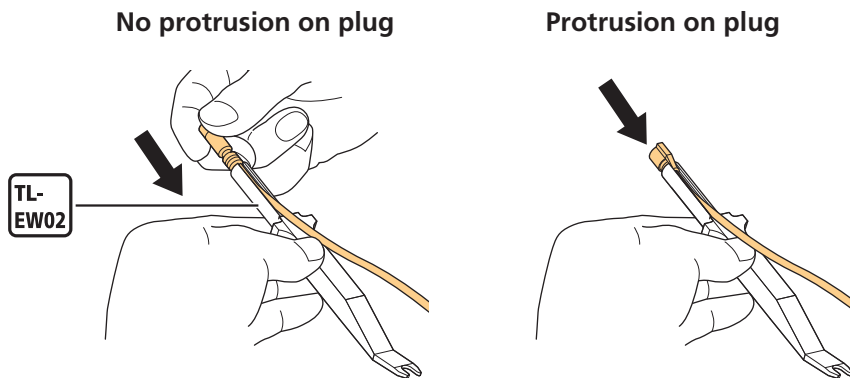
- When connecting and disconnecting electric wires, do not forcibly bend the plug part. It may result in a poor connection.

Connecting the electric wire

Connect the electric wire to the E-TUBE port.

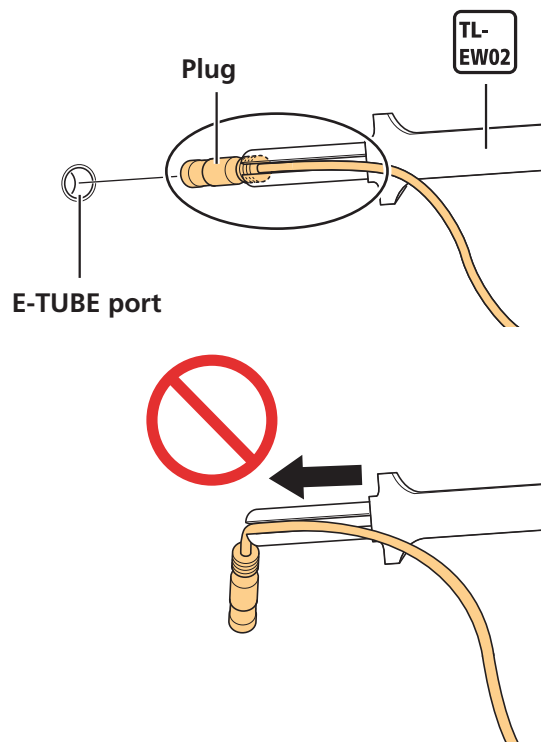
1. Set the plug part of the electric wire to the SHIMANO original tool.

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.

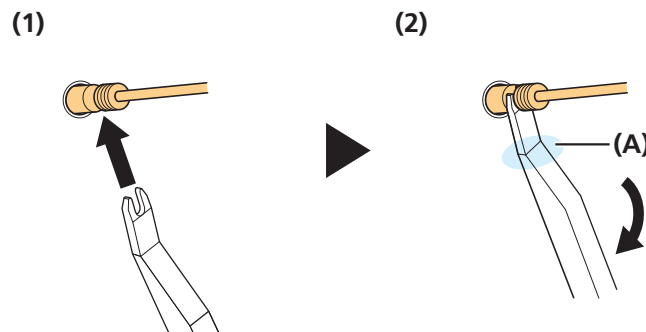
Push it straight in until you feel it click into place.



Disconnecting the electric wire

1. Disconnect the electric wire.

- (1) Insert the SHIMANO original tool into the plug part of the electric wire.
 - (2) Disconnect the electric wire from the E-TUBE port.
- * As shown in the figure, move the SHIMANO original tool like a lever with part (A) as the axis to disconnect. If there is limited space to insert the tool, lift the SHIMANO original tool straight up and disconnect the electric wire.

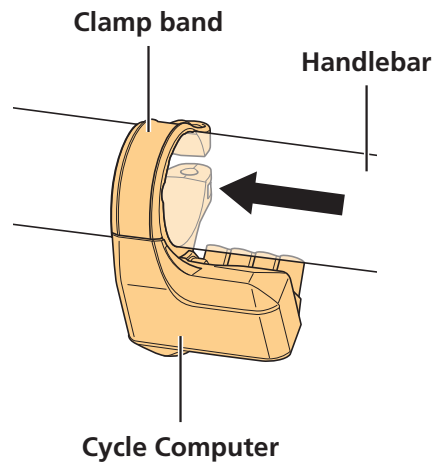


Installing the Cycle Computer/Junction [A]

SC-E7000

▶ Installing the cycle computer

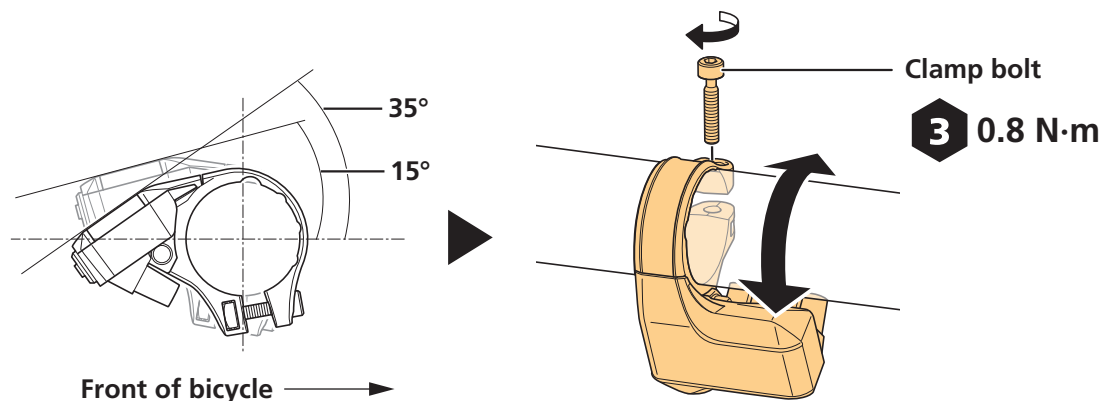
1. Pass the cycle computer's clamp band around the handlebar.



2. Adjust the installation angle of the cycle computer.

As shown in the figure, adjust the cycle computer to an angle that is visible when riding, and then tighten the clamp bolt to secure it in place.

* A display angle between 15° and 35° from the horizontal surface is recommended.



EW-EN100

EW-EN100 is junction [A] with simple operation/display functionality.

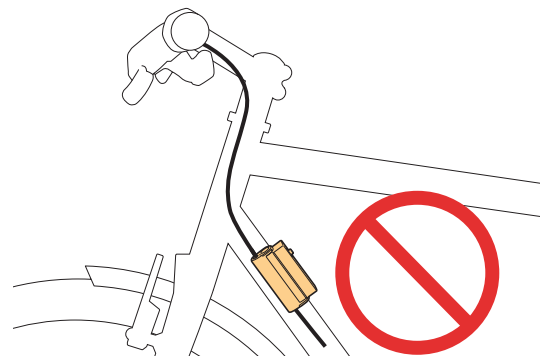
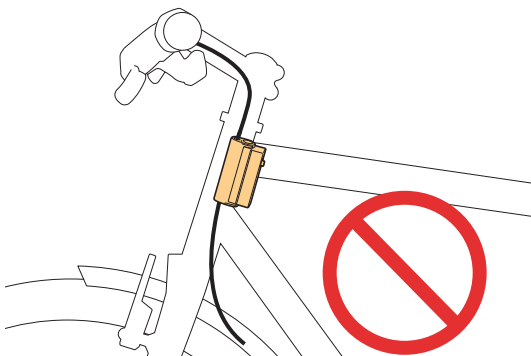
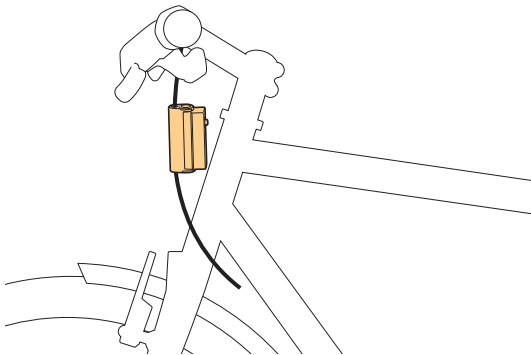
Instead of a cycle computer, install it in a location around the cockpit from which the LED can be seen while riding.

This section explains how to install it to the brake hose. It can be installed to the brake outer casing using the same procedure.

NOTICE

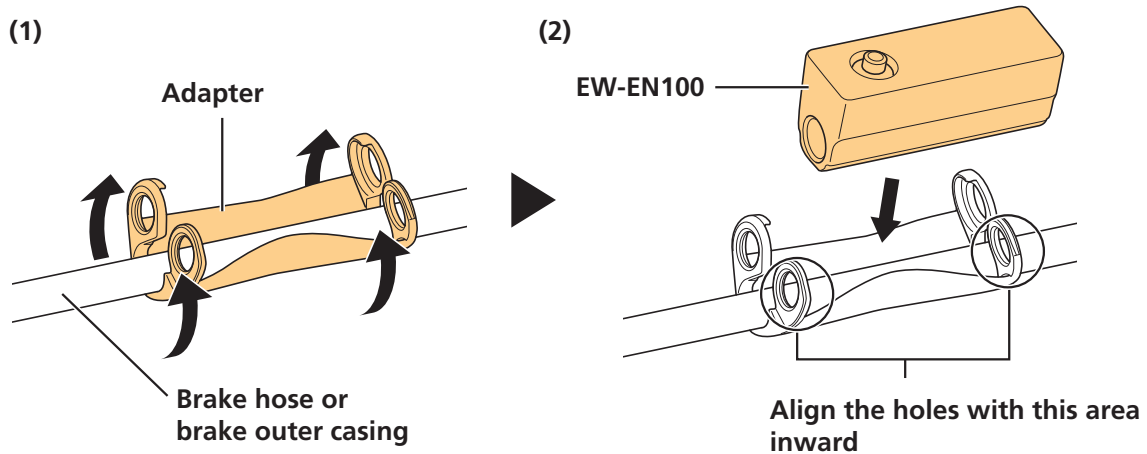
EW-EN100 Installation location

- As shown in the figure, install EW-EN100 so that it does not reach the side of the frame. Otherwise, it could be damaged if the bicycle tips over and it is pinched between the frame and curb.

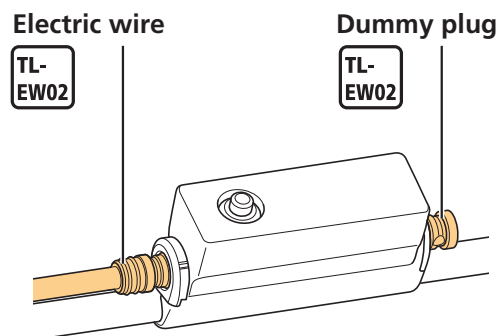


1. Determine the EW-EN100 installation location, and then set the adapter.

- (1) Open up the adapter and set it to the brake hose.
- (2) Bend the adapter along the brake hose.



2. As shown in the figure, set EW-EN100 and then connect the electric wire or dummy plug.



NOTICE

- Be sure to connect either an electric wire or a dummy plug to the two E-TUBE ports on EW-EN100. Connecting both will secure EW-EN100 to the brake hose or brake outer casing.

TECH TIPS

- When removing it, reverse the procedure.

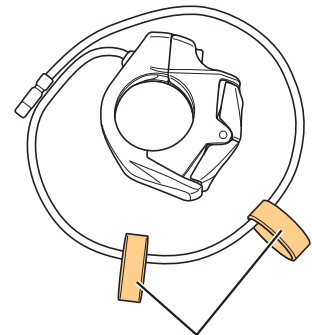
Installing the Switch Unit (SW-E7000)

- Install the assist switch and shift switch (for electronic gear shifting) to the handlebar.
- Install SW-E7000-L to the left side of the handlebar (the assist side by default) and SW-E7000-R to the right side (the shift side by default).
- SW-E7000 can be installed to Ø22.0 to Ø22.4 handlebars.

1. Temporarily attach the cord bands.

Cord bands are included with the switch unit.

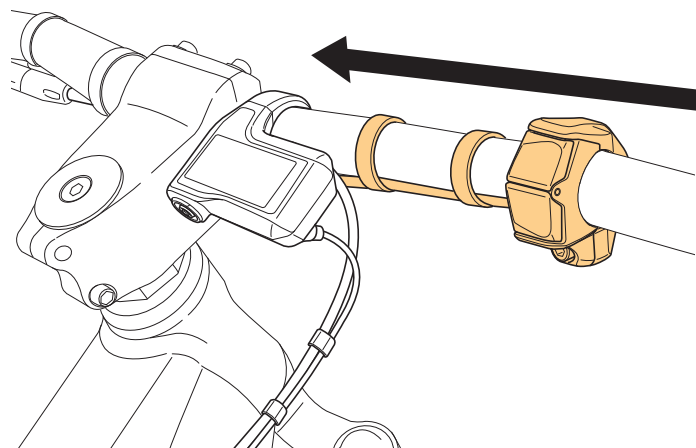
- Temporarily attach the cord bands to the switch unit cable.
- Adjust the number of cord bands according to the length of the handlebar.



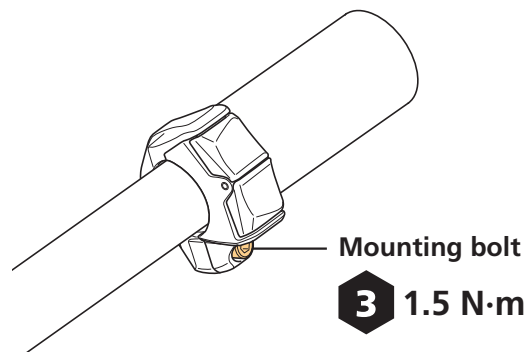
Cord band

2. Push the cord bands and switch unit along from the edge of the handlebar.

For the switch unit, the electric wire must be facing downward.



3. Tighten the mounting bolt.



TECH TIPS

- When removing it, reverse the procedure.

Installing the Switch Unit (SW-M8050 / SW-E8000-L)

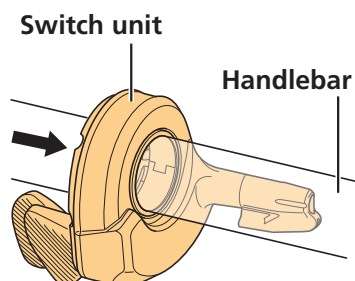
- Install the assist switch and shift switch (for electronic gear shifting) to the handlebar.
- Install SW-M8050-L / SW-E8000-L to the left side of the handlebar (the assist side by default) and SW-M8050-R to the right side (the shift side by default).
- SW-M8050 / SW-E8000-L can be installed to Ø22.2 to Ø22.5 handlebars.

1. Confirm the wiring method for the handlebar.

If the electric wire to the switch unit will be inside the handlebar, wire it ahead of time.

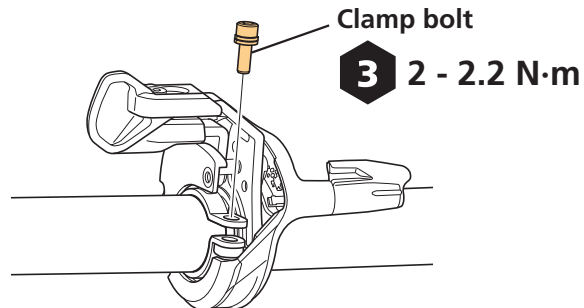
2. Push the switch unit along the handlebar.

To place the electric wire inside the handlebar, pass the electric wire between the switch unit and handlebar.



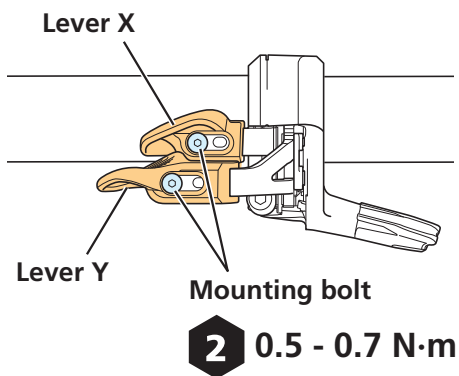
3. Secure the switch unit.

- (1) Adjust the installation location and angle of the switch unit.
- (2) Tighten the clamp bolt.



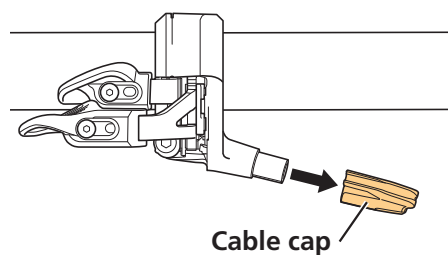
4. Adjust the locations of lever X and lever Y.

- (1) Loosen the mounting bolts.
- (2) Adjust the locations of lever X and lever Y so that they are easy to operate.
- (3) Tighten the mounting bolts.



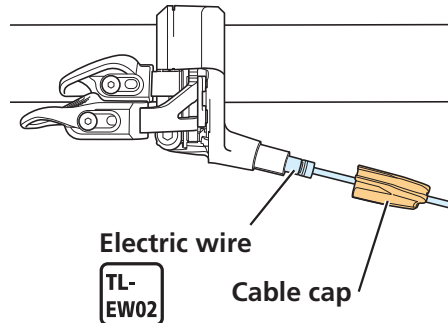
Connecting the electric wire

1. Remove the cable cap.



2. Connect the electric wire to the switch unit.

- (1) Pass the electric wire through the cable cap.
- (2) Connect the electric wire to the switch unit.

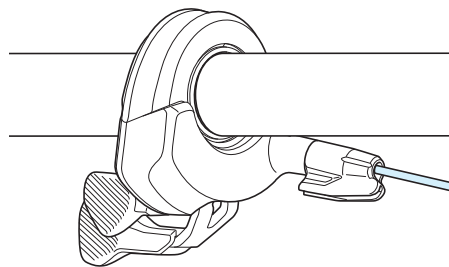


NOTICE

- If the electric wire is connected to the switch unit without passing it through the cable cap, the plug part of the electric wire may be damaged.

3. Install the cable cap.

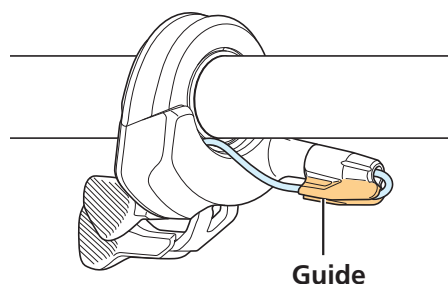
When routing the electric wire in the direction of the stem
Install as shown in the figure.



When routing the electric wire in the direction of the tip of the handlebar and placing it inside

Route the electric wire as shown below.

- (1) After installing the cable cap, route the electric wire along the guide on the cable cap.
- (2) Draw the electric wire into the handlebar.



Wiring around the Cockpit (SC-E7000)

There are four E-TUBE ports in the SC-E7000 bracket. One E-TUBE port must be connected to the drive unit. At least one of the remaining three E-TUBE ports must be connected to the switch unit. As an example, this section explains how to connect two switch units.

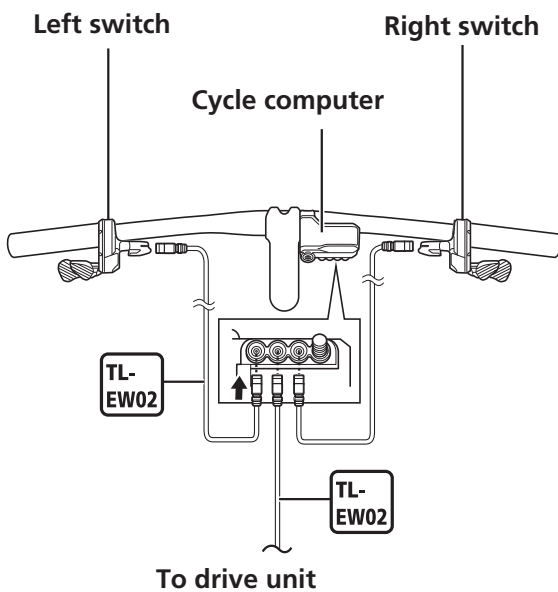
NOTICE

- Be sure to attach dummy plugs to any unused E-TUBE ports.

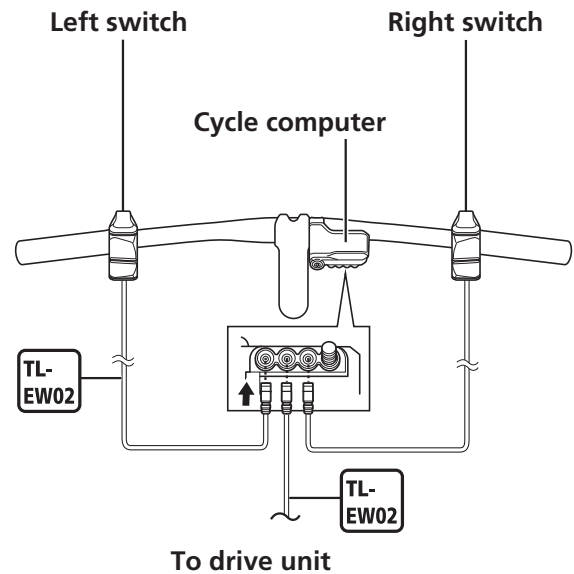
1. Wire around the cockpit.

- Connect the electric wires between SC-E7000 and the switch units.
- Switch units and drive units can be connected to any of the E-TUBE ports on SC-E7000. However, it is recommended to connect as shown in the figure.

SW-M8050 / SW-E8000-L



SW-E7000



2. Prepare to wire to the drive unit.

Pass the following wires through the frame, and leave them hanging from the drive unit installation section on the frame.

- Electric wire to connect SC-E7000 and the drive unit
- Electric wire to connect the light and drive unit if installing a light that will use the main battery as the power source

Example: Routing the electric wire

This section presents an example of routing an electric wire around the cockpit when using an SW-E7000 switch unit.

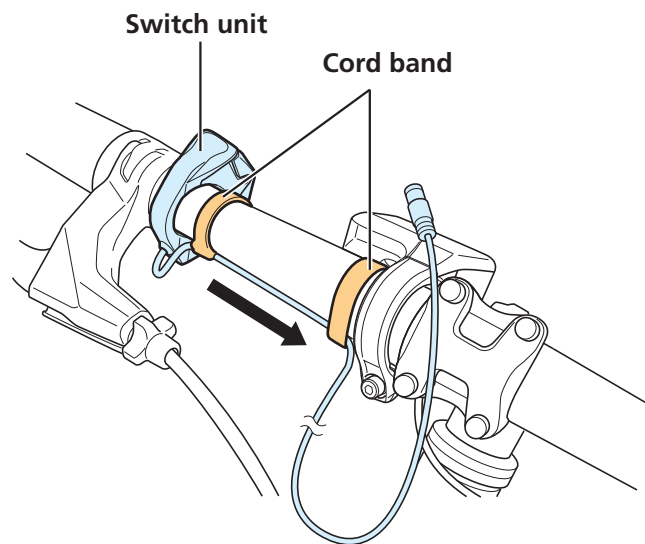
TECH TIPS

- Cord bands are included with SW-E7000.
- Cable bands are included with SC-E7000.

▶ When using cord bands

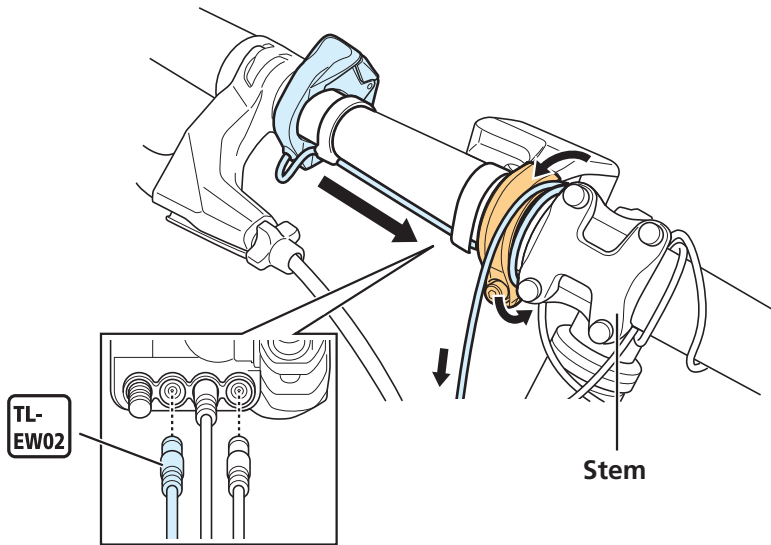
1. Secure the switch unit's electric wire.

Determine the locations of the cord bands, and then secure the electric wire in place along the handlebar so that there is no slack.



2. Connect the electric wire to the E-TUBE port.

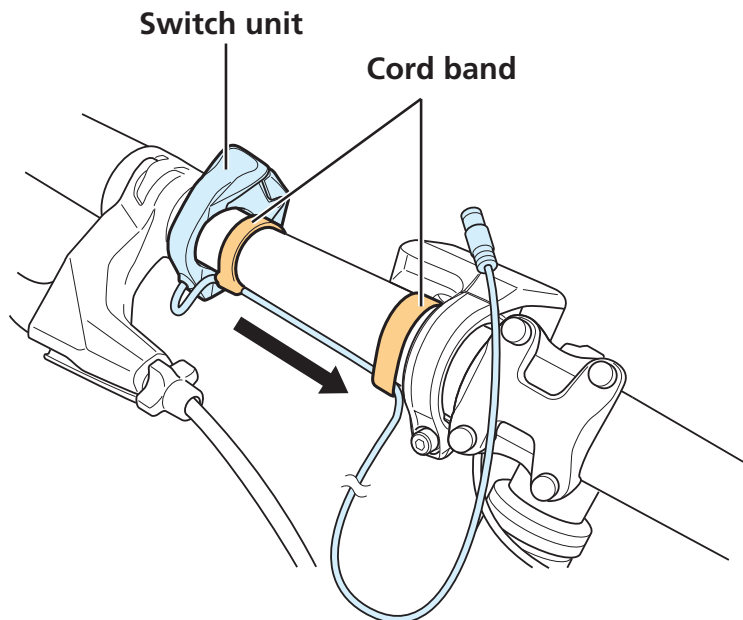
Wrap any slack around the portion of the handlebar between the cycle computer and stem prior to connecting.



▶ When using cord bands and cable bands

1. Secure the switch unit's electric wire.

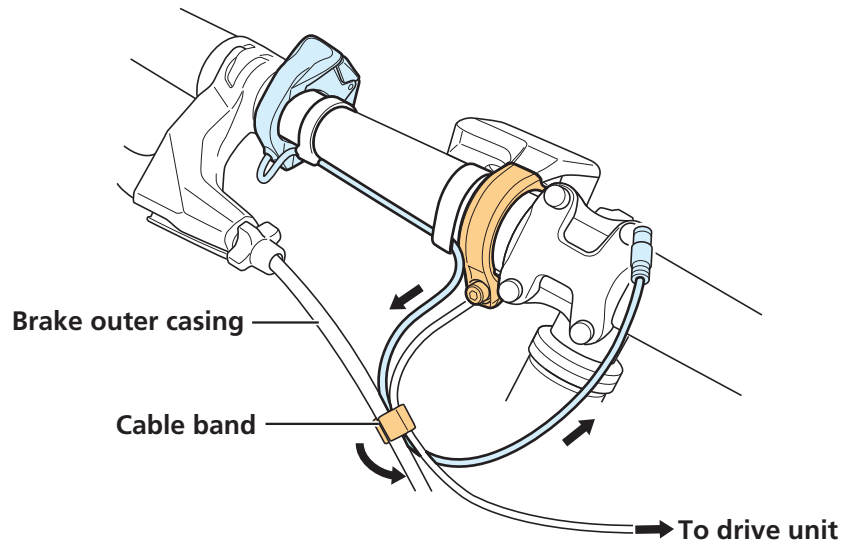
Determine the locations of the cord bands, and then secure the electric wire in place along the handlebar so that there is no slack.



2. Use the cable band to bind the brake outer casing and electric wires together.

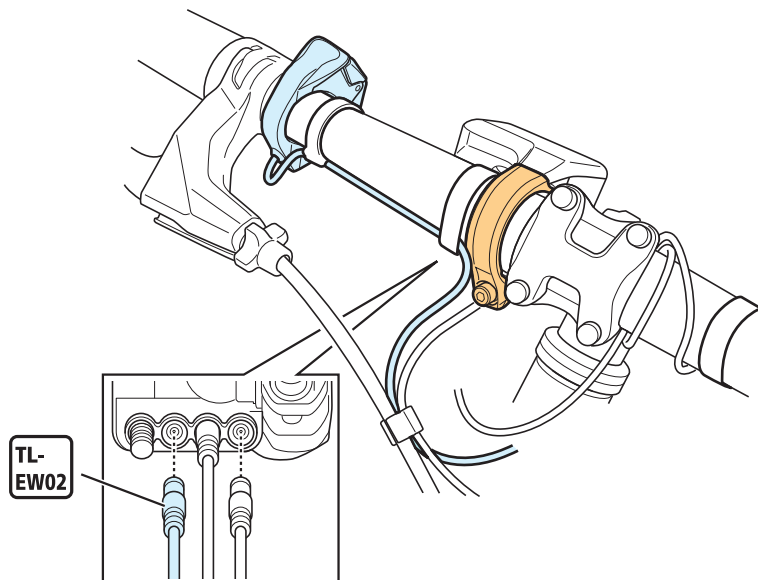
Use the cable band to bind the brake outer casing and following electric wires.

- Switch unit's electric wire
- Electric wire to connect the cycle computer and drive unit



3. Connect the electric wire to the E-TUBE port.

Wrap any slack around the portion of the handlebar between the cycle computer and stem prior to connecting.

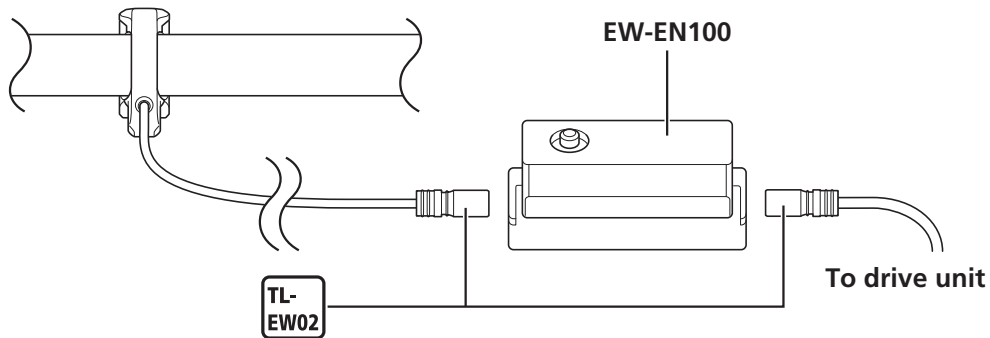


Wiring around the Cockpit (EW-EN100)

As an example, this section explains how to connect a switch unit to EW-EN100.

1. Wire around the cockpit.

To connect the switch unit, use the electric wire to connect EW-EN100 and the switch unit.



2. Prepare to wire to the drive unit.

Pass the following wires through the frame, and leave them hanging from the drive unit installation section on the frame.

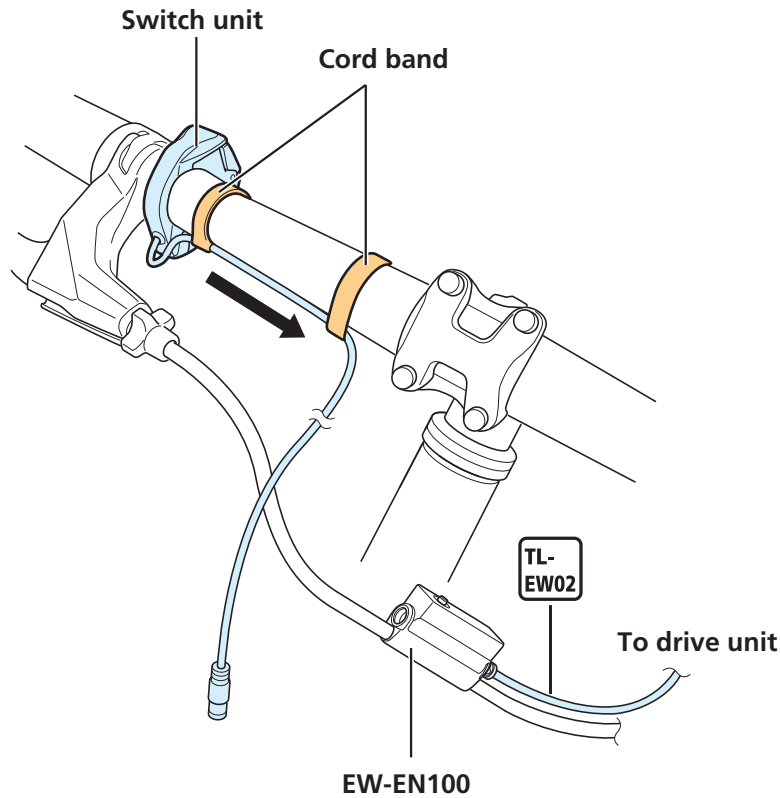
- Electric wire connecting EW-EN100 and the drive unit
- Electric wire to connect the light and drive unit if installing a light that will use the main battery as the power source

Example: Routing the electric wire

This section presents an example of routing an electric wire around the cockpit when using an SW-E7000 switch unit.

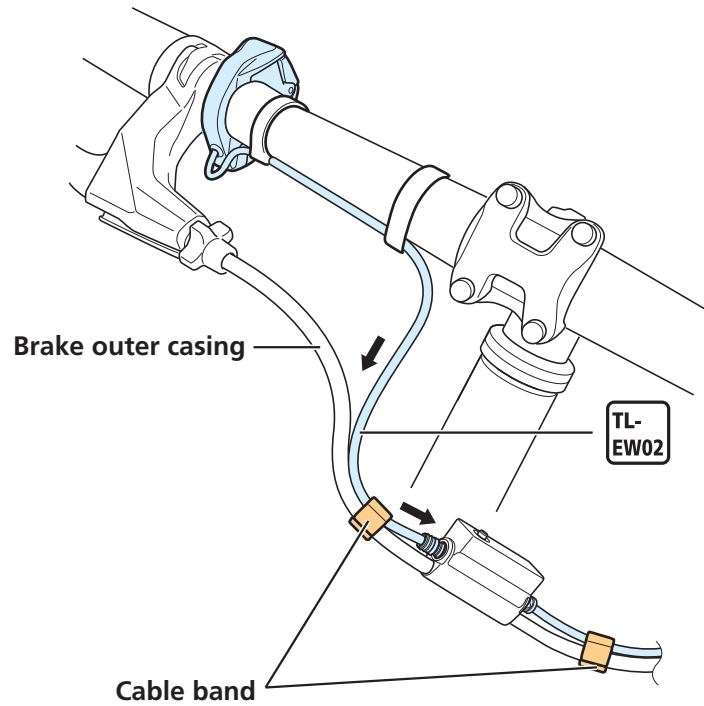
1. Secure the switch unit's electric wire.

Determine the locations of the cord bands, and then secure the electric wire in place along the handlebar so that there is no slack.



2. Connect the electric wire to the E-TUBE port on EW-EN100.

If necessary, use cable bands to secure the electric wire connecting the switch unit and EW-EN100 to either the brake hose or brake outer casing.



Installing the Battery Mount

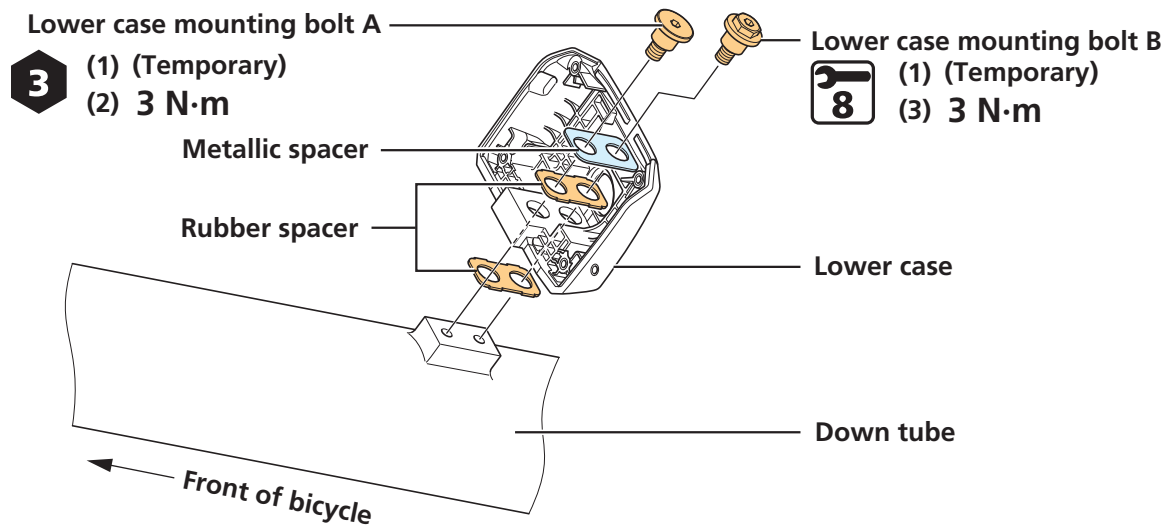
BM-E8010

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.

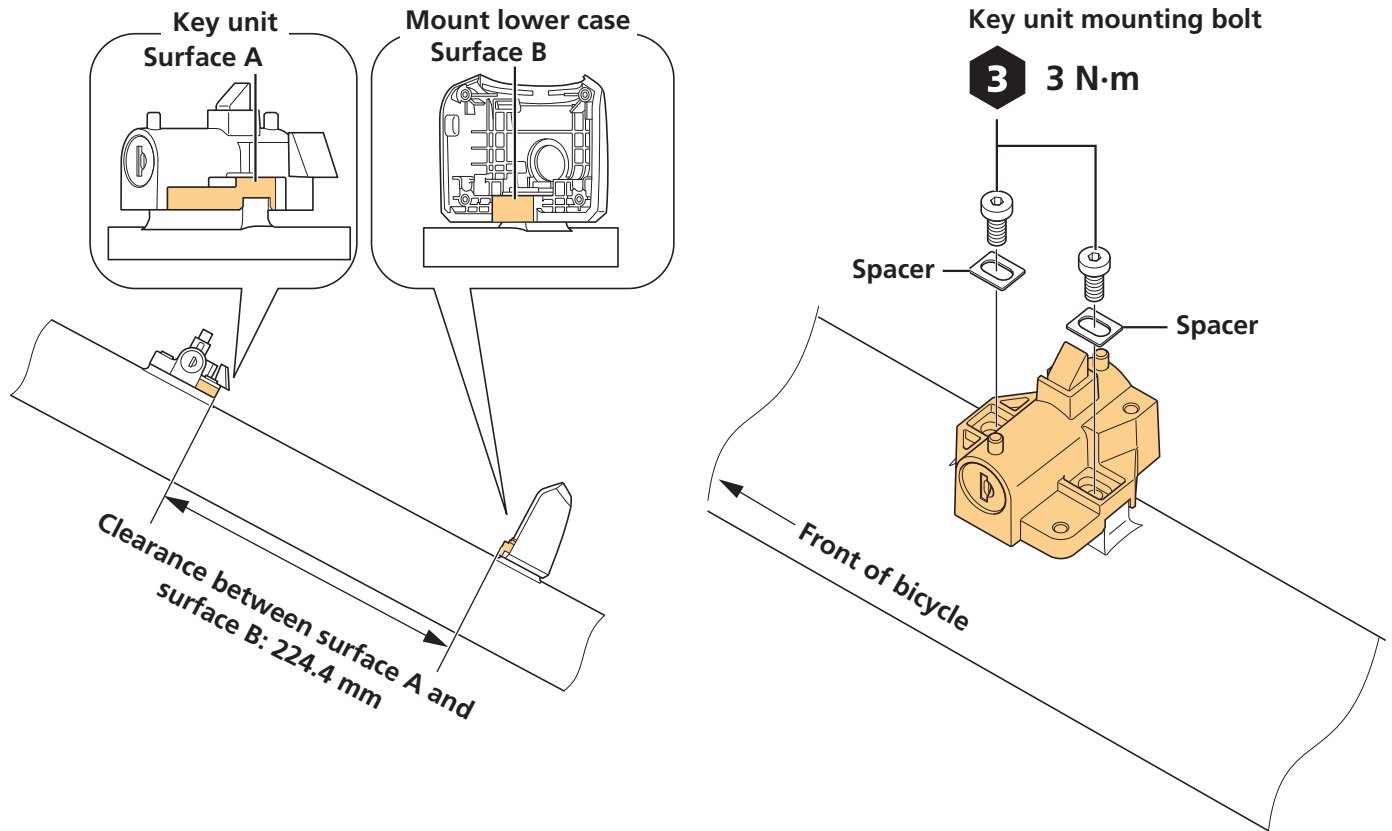
- (2) Tighten mount lower case mounting bolt A.
- (3) Tighten mount lower case mounting bolt B.



2. Install the key unit.

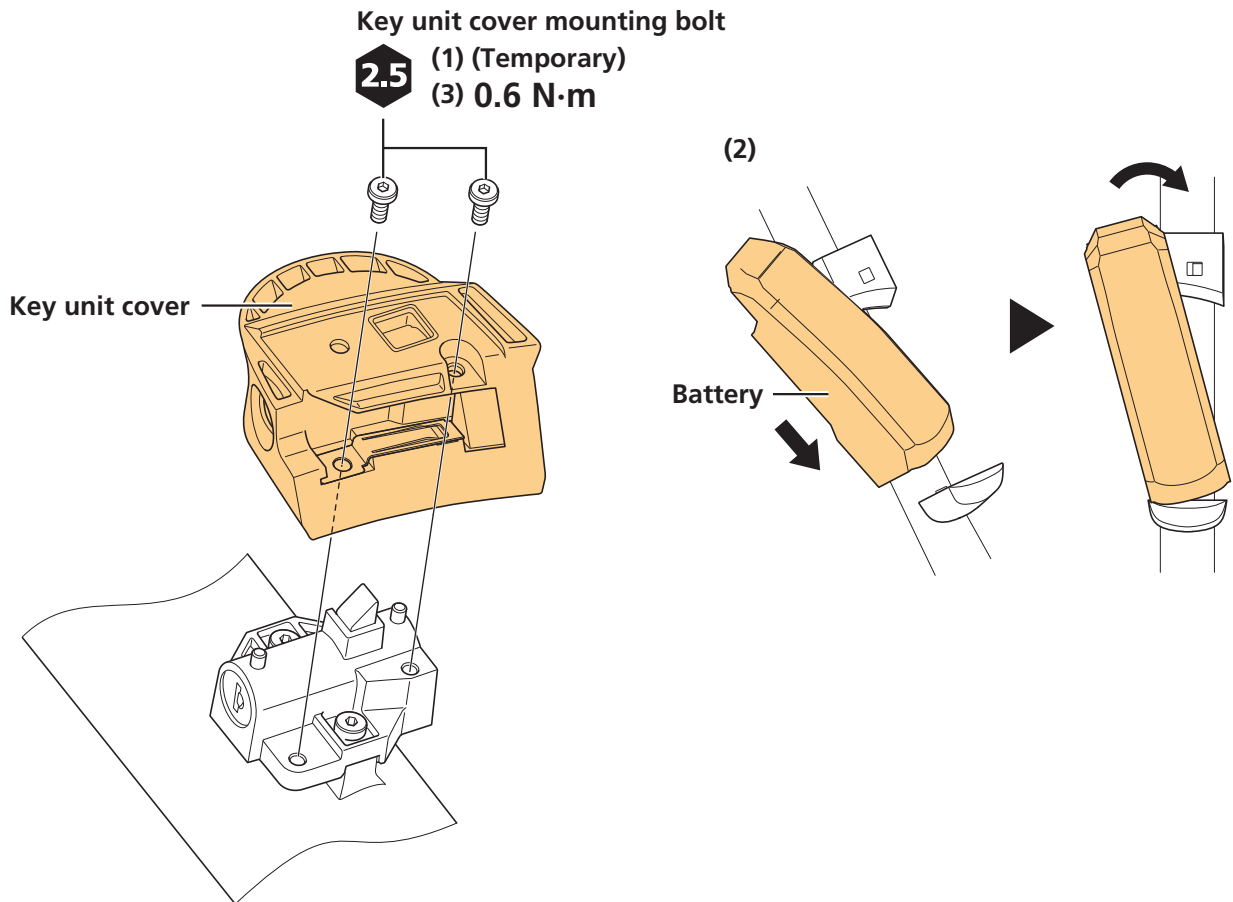
Install the key unit to the location shown in the figure.

Key units are not included with SHIMANO products.



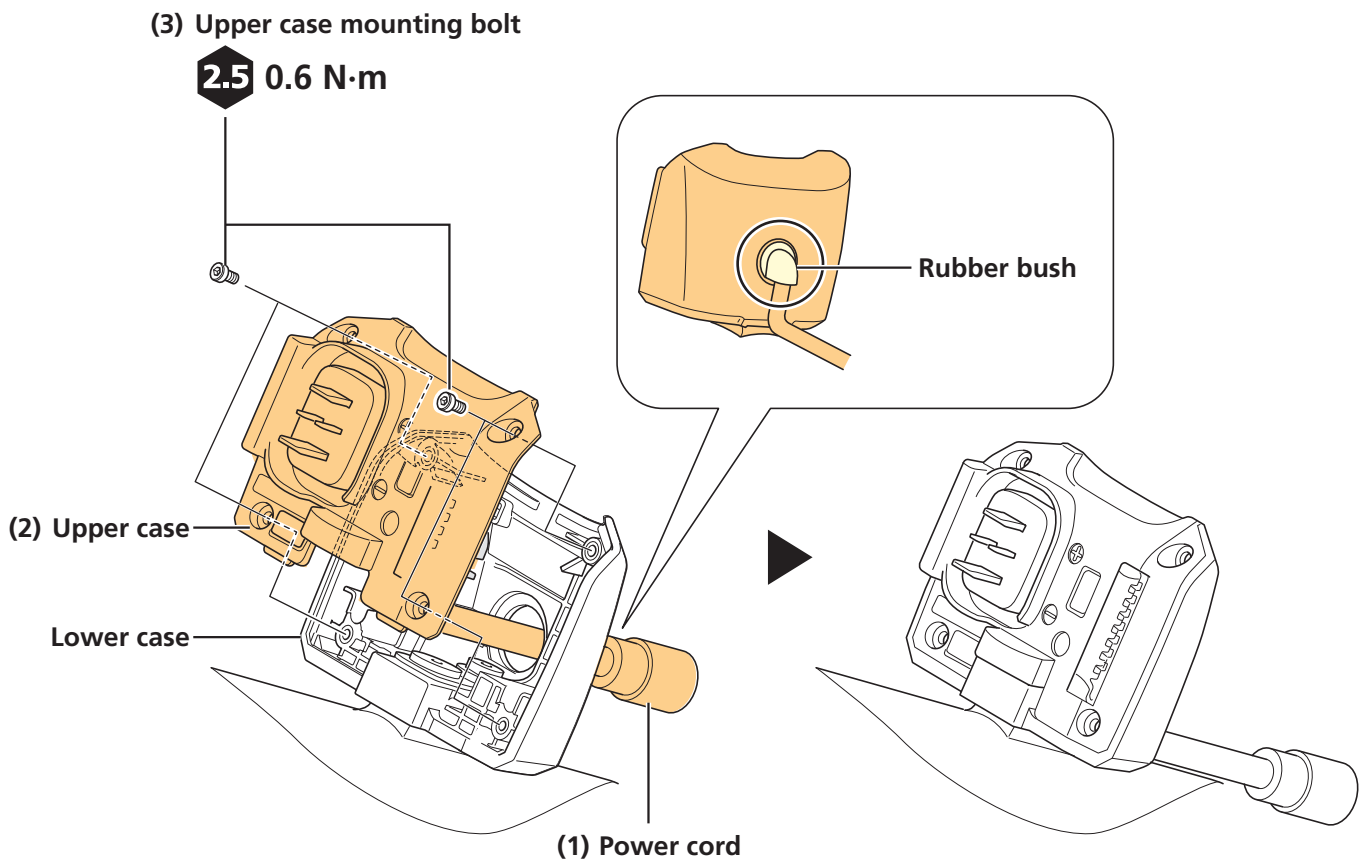
3. Install the key unit cover.

- (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. 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.



BM-E8020

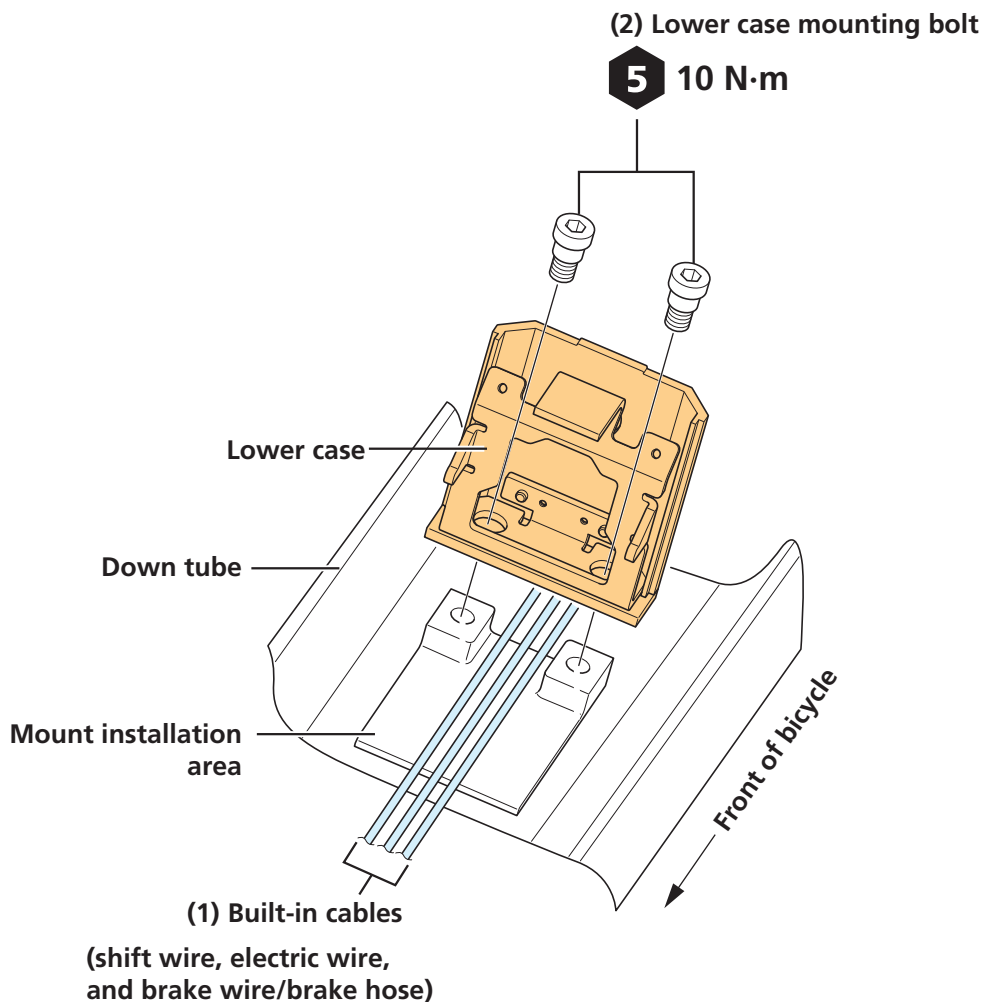
If the following cables will be placed inside, pass them through first before installing BM-E8020.

- 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.

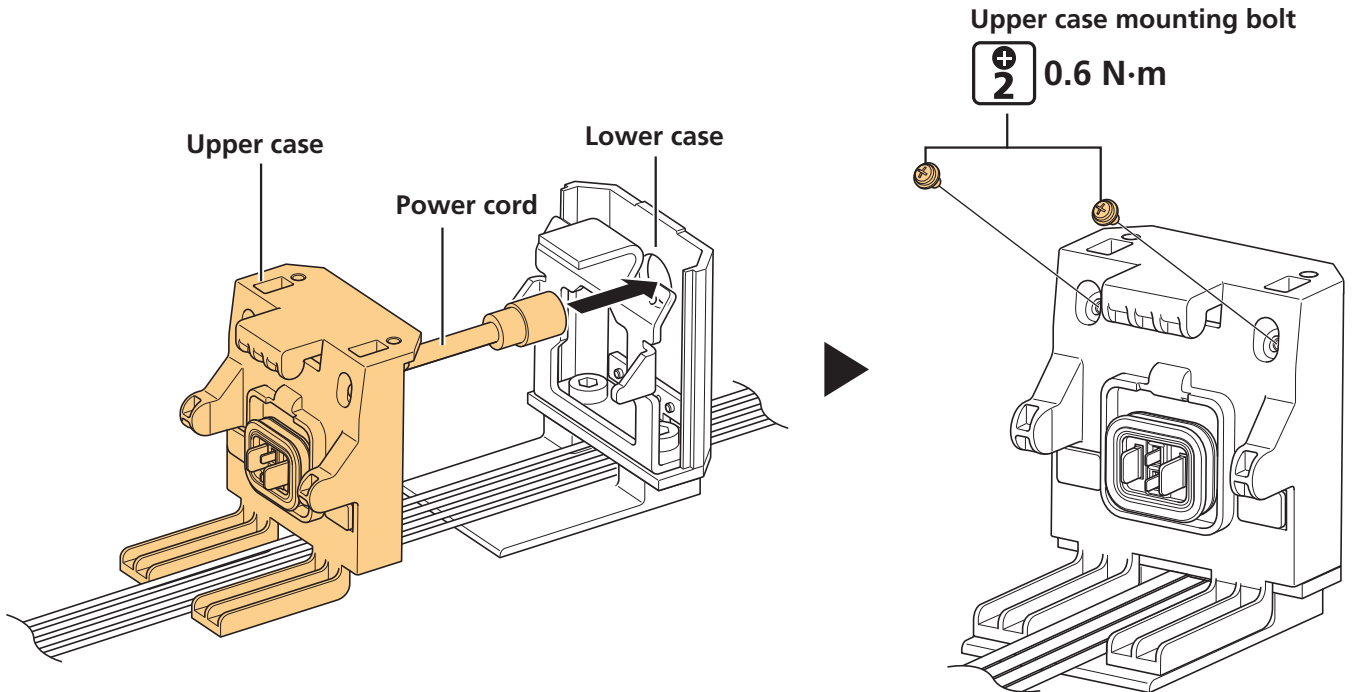
1. Install the lower case to the frame.

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



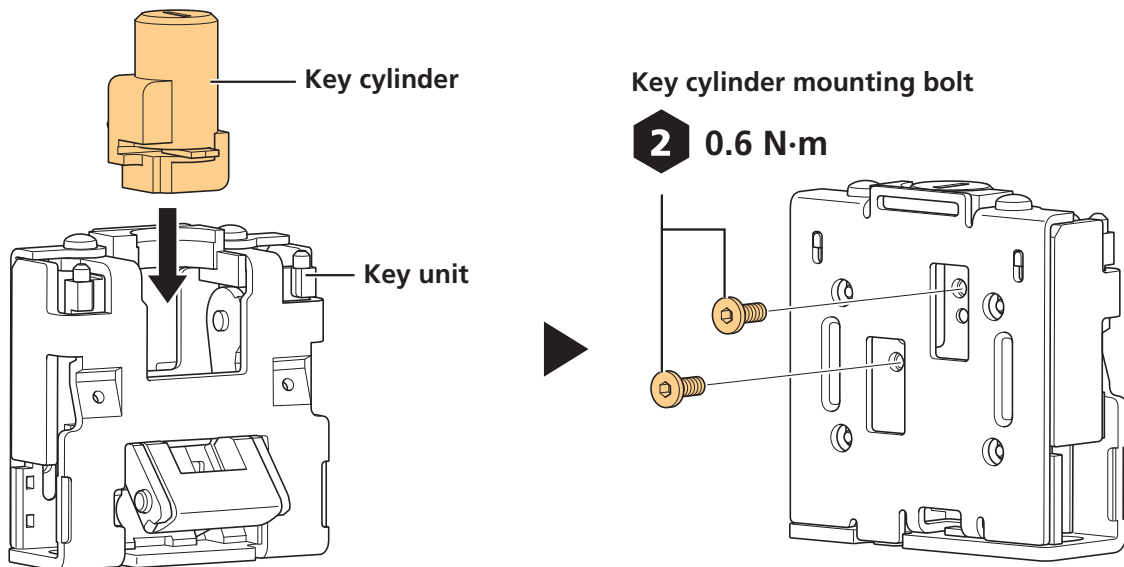
2. Install the upper case.

- (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.



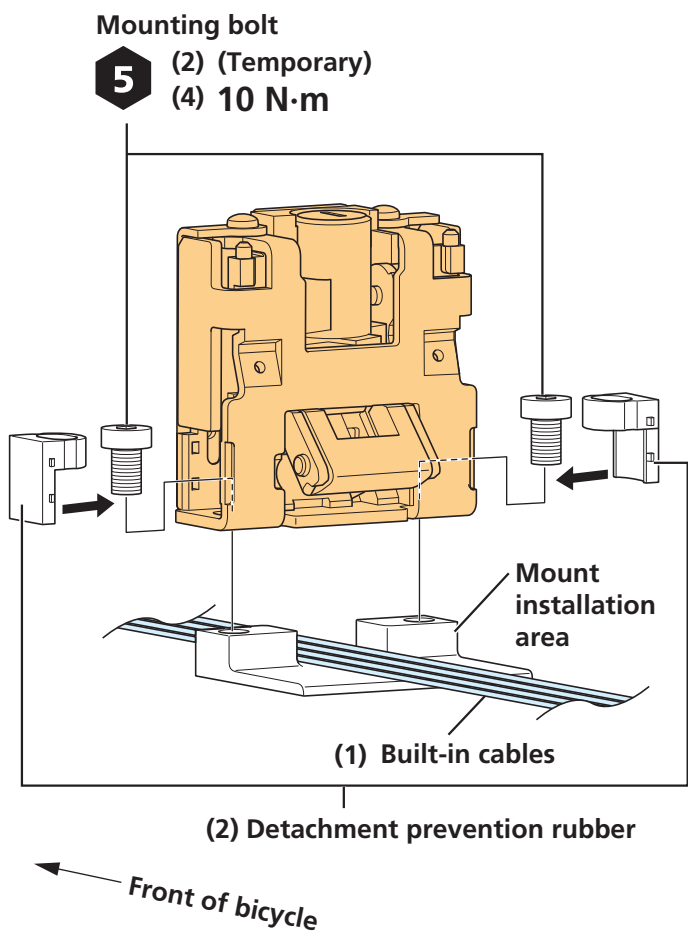
3. Install the cylinder to the key unit.

Key cylinders are not included with SHIMANO products.

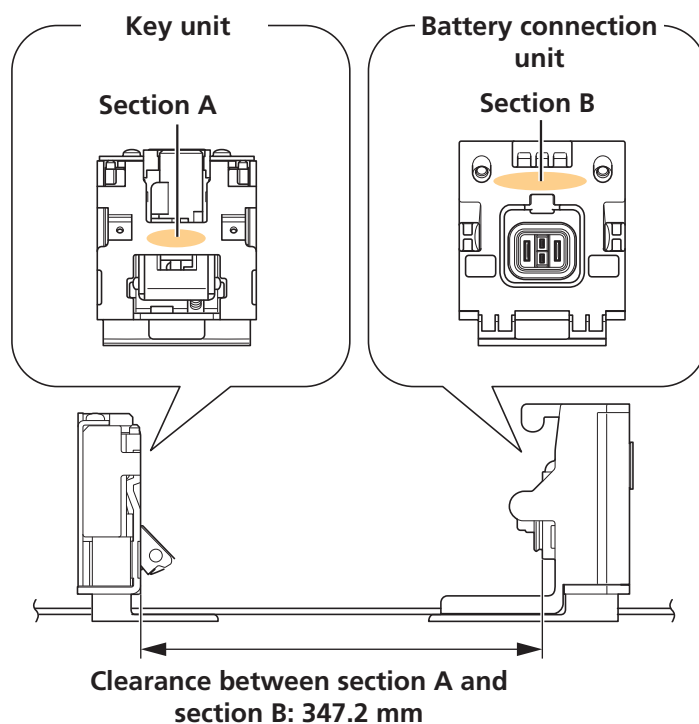


4. Install the key unit.

- (1) Make sure that any cables built into the down tube pass through the mount installation area on the frame.
- (2) Temporarily install the key unit on the upper side of the down tube, and then install the detachment prevention rubber.
- (3) Adjust the installation location of the key unit.
- (4) Tighten the mounting bolt.

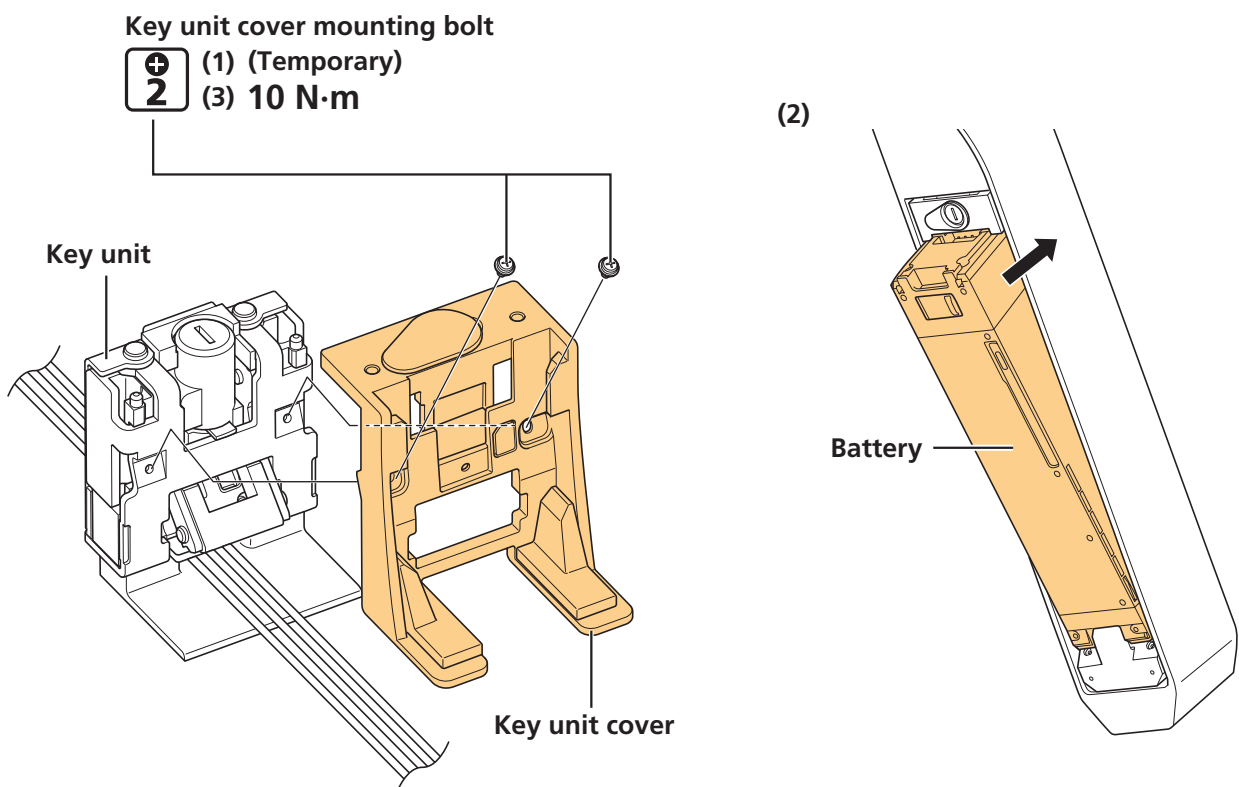


(3) Installation position adjustment



5. 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.



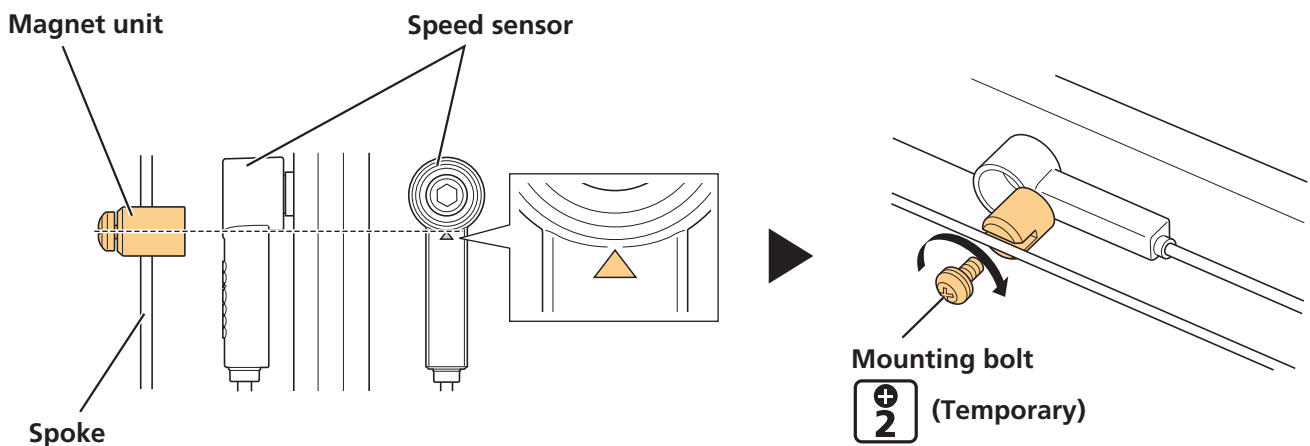
Installing the Speed Sensor and Magnet Unit

SM-DUE10

If using SM-DUE10 as the speed sensor, set the magnet unit on a spoke on the rear wheel. The SM-DUE10 installation location is on the inner side of the left side chainstay.

1. Temporarily install the magnet unit to the spoke.

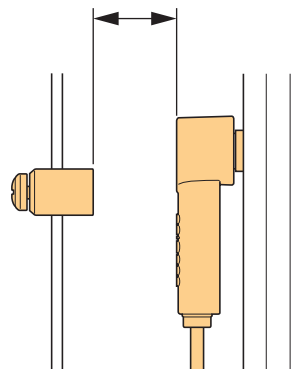
- (1) Try pressing the speed sensor to the installation location on the frame, and determine the installation location of the magnet so that the center of the magnet is aligned over the tip of the triangle symbol.
- (2) Temporarily install the mounting bolt.



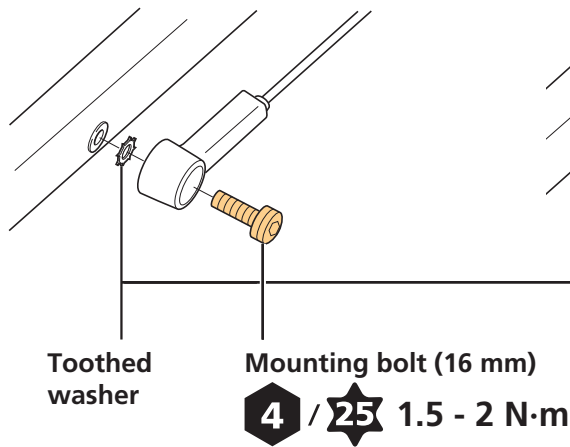
2. Install the speed sensor.

Check that the clearance between the speed sensor and magnet unit is from 3 to 17 mm.

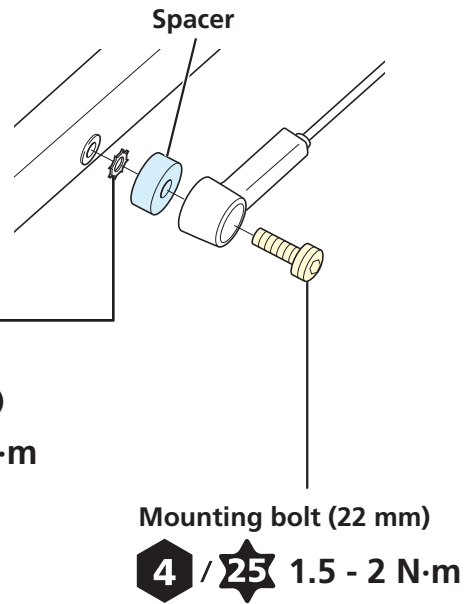
Clearance between speed sensor and magnet unit



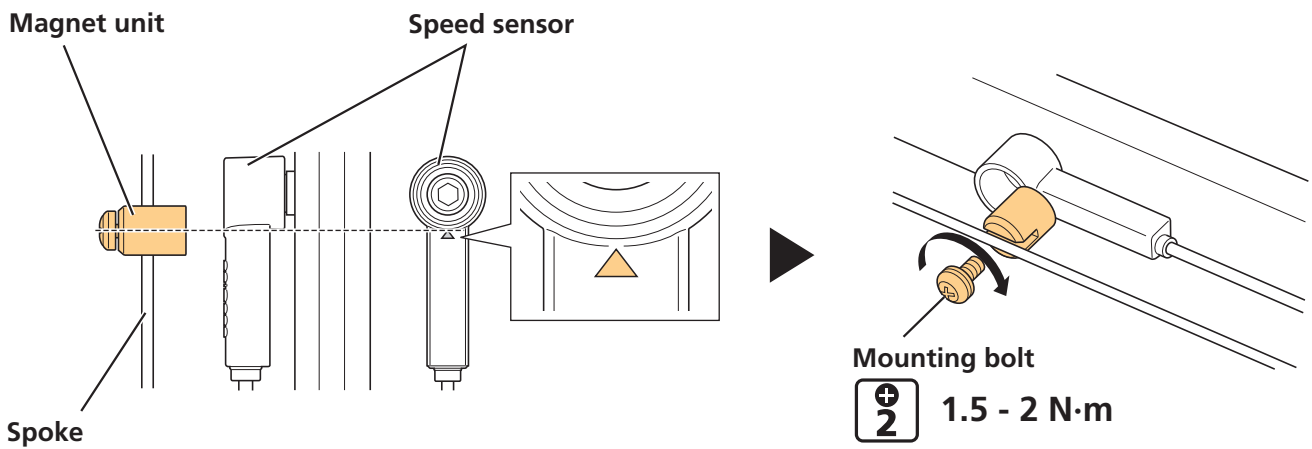
Clearance between speed sensor and magnet unit is 3 to 17 mm



Clearance between speed sensor and magnet unit exceeds 17 mm



3. Secure the magnet unit.



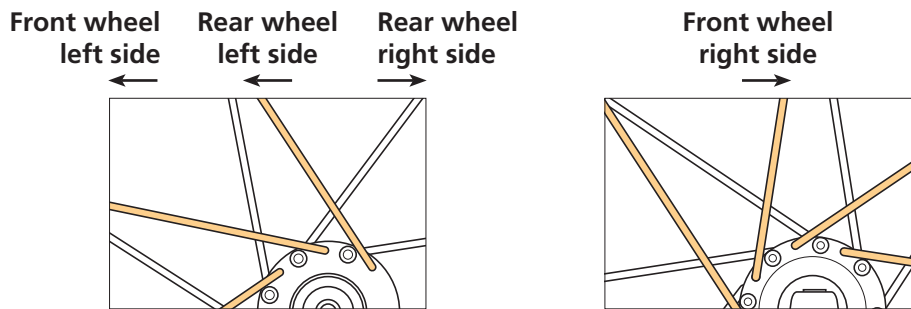
4. Set the electric wire from the speed sensor along the chainstay to the frame, and wire it to the drive unit.

SM-DUE11

If using SM-DUE11 as the speed sensor, a special rotor with a built-in magnet must be installed to the rear wheel. The SM-DUE11 installation location is near the rear wheel axle on the inside of the left side chainstay.

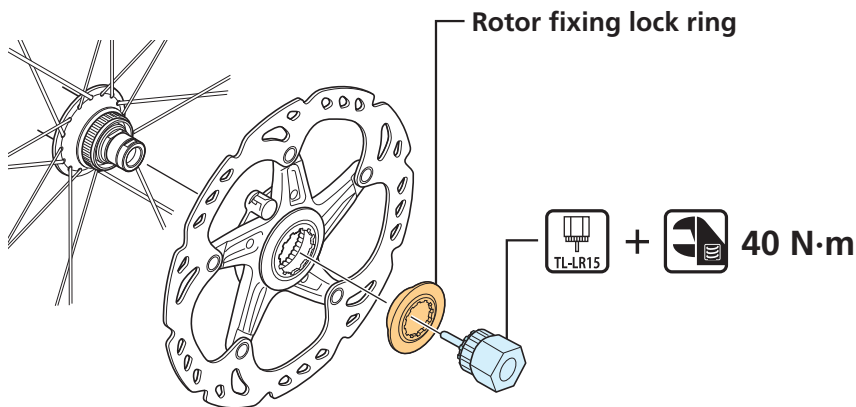
1. Check that the spokes on the wheel have been laced as shown in the figure.

The rotor cannot be installed to a wheel with radial lacing.

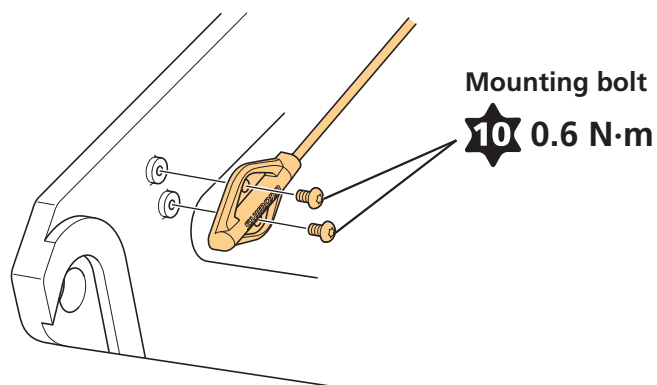


2. Install the rotor.

- (1) Set the rotor to the hub on the wheel.
- (2) Tighten the rotor fixing lock ring.



3. Install the speed sensor to the frame.



4. Set the electric wire from the speed sensor along the chainstay to the frame, and wire it to the drive unit.

5. Set the wheel to the frame.

INSTALLING THE DRIVE UNIT AND PERIPHERAL PARTS

Use the following procedure to install the drive unit and peripheral parts.

- (1) Install the drive unit
- (2) Wire to the drive unit
- (3) Install the drive unit cover
- (4) Install the chainrings and crank arms

TECH TIPS

- To check the wiring of the drive unit on a completed bicycle, you will need to first remove the drive unit cover. Remove the right cover (front side) to access the power cord and terminal block.

Installing the Drive Unit

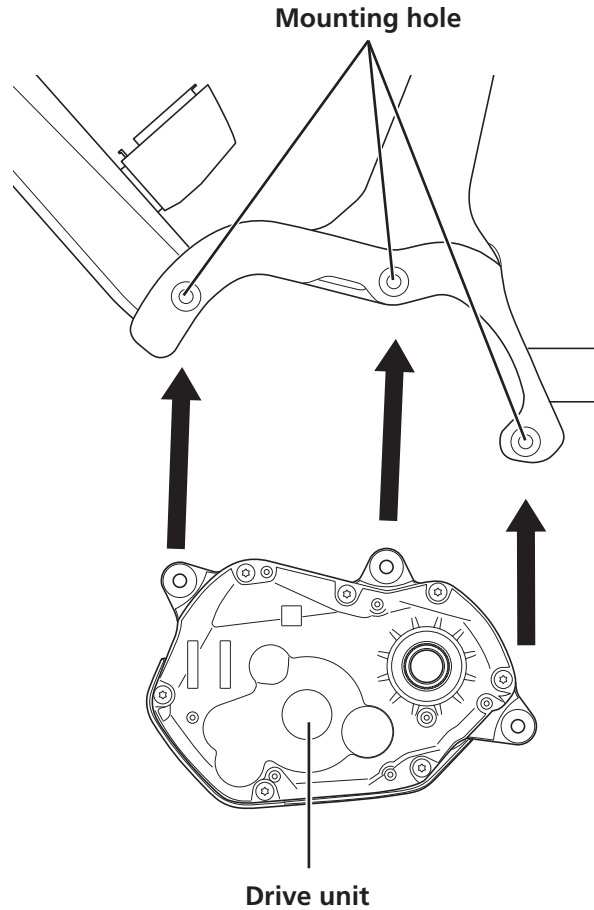
Before installing the drive unit to the frame, first check that all electric wires and cables to connect to the drive unit have been routed to the installation area of the drive unit of the frame.

TECH TIPS

- The drive unit's (DU-E7000) terminal block and power port are located on the right side of the drive unit.

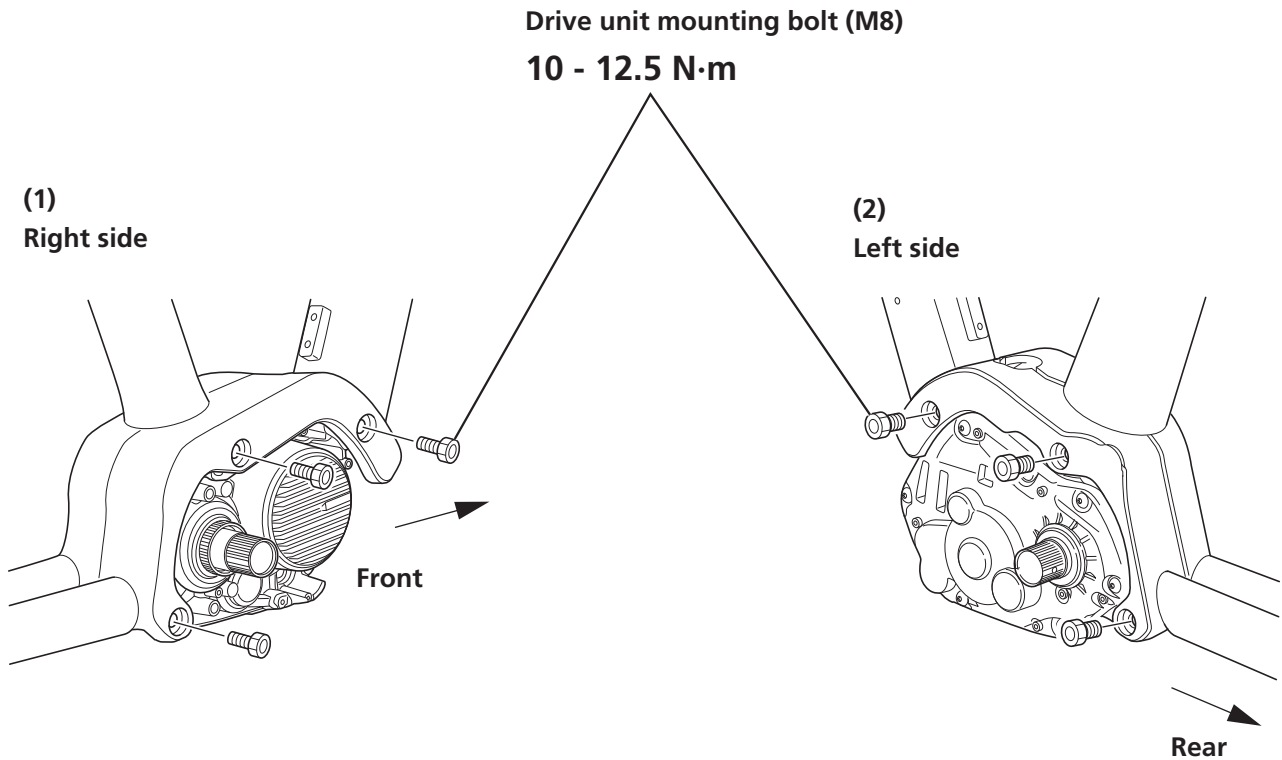
1. Check the three mounting holes on the left and right of the frame, and then secure the drive unit.

Be careful not to pinch electric wires or cables between the frame and drive unit, or to forcefully bend them.



2. Secure the drive unit to the frame.

- (1) Tighten the mounting bolts on the right side so that the drive unit makes firm contact with the inner surface on the right side of the frame.
- (2) Tighten the mounting bolts on the left side of the frame.



TECH TIPS

- Drive unit mounting bolts (M8) are not included with SHIMANO products. Use the bolts supplied by the bicycle manufacturer.

Connecting the Power Cord

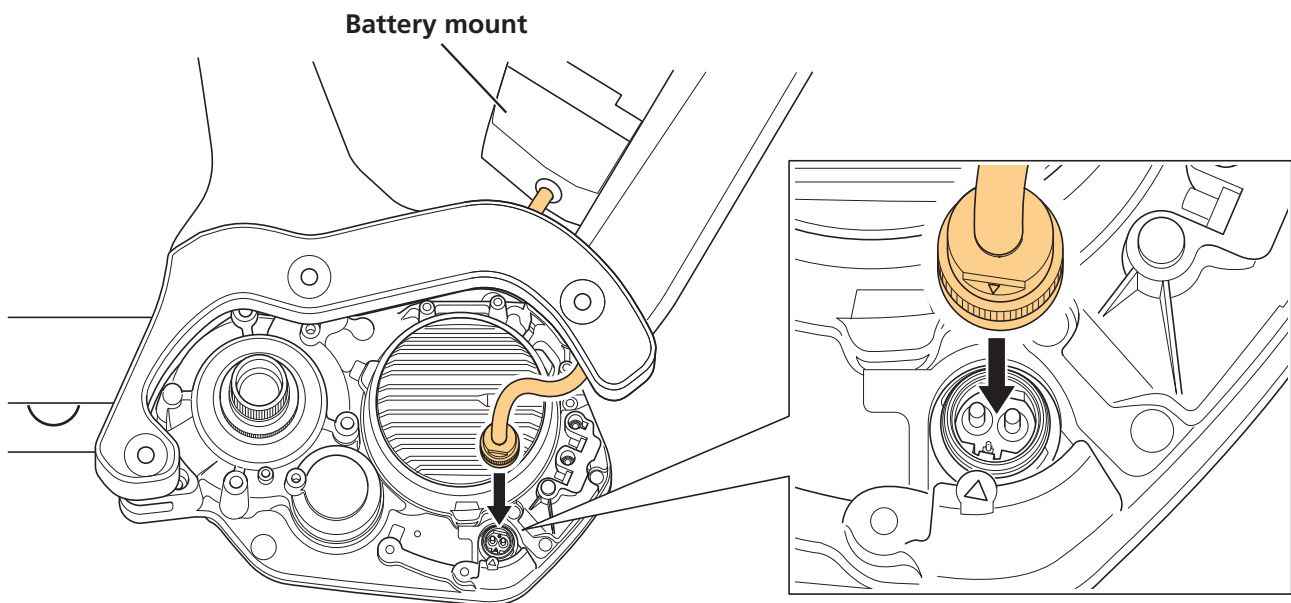
The power port is located on the right side of the drive unit.

Connection method

1. Connect the power cord.

Align the triangle marking on the drive unit's power port with the arrow marking on the tip of the power cord, and then insert the power cord.

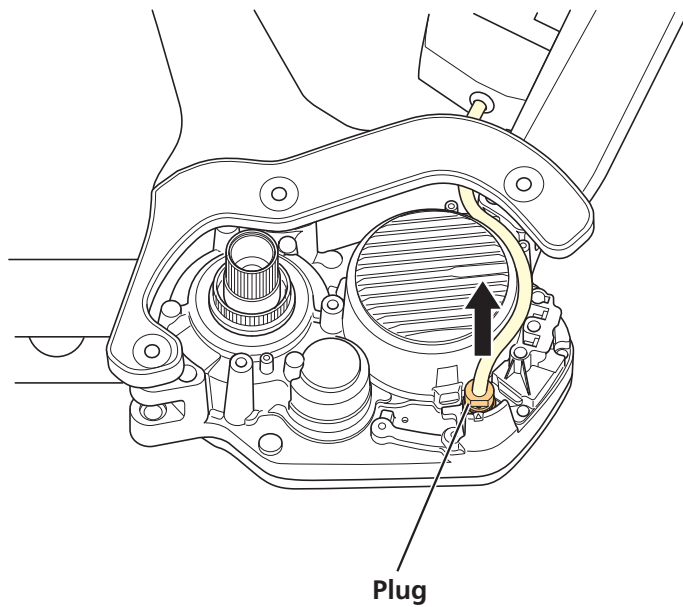
* Check that it is securely connected.



Removal method

1. Remove the power cord.

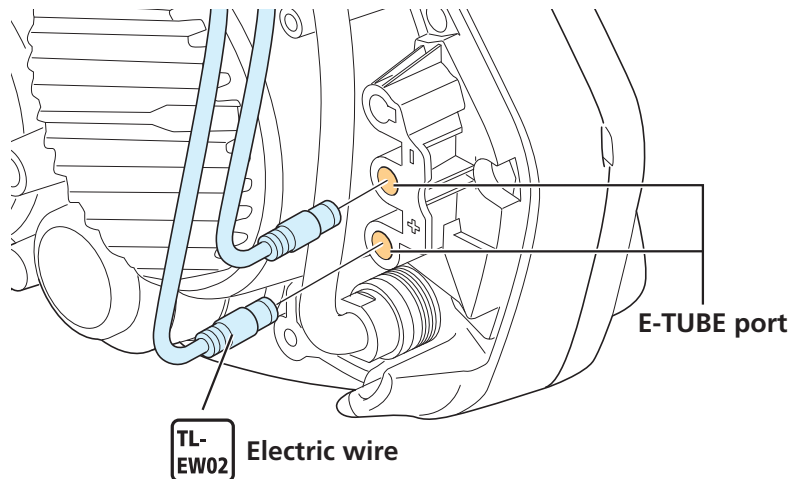
Grab the plug part of the power cord, and pull it toward you to remove it.



Connecting Cockpit Peripheral Parts and Electronic Gear Shifting Components

Connect wires from the cockpit peripheral parts (such as the cycle computer and junction [A]) and wires from electronic gear shifting components to the drive unit's terminal block.

1. Connect the electric wires to the drive unit's E-TUBE ports.



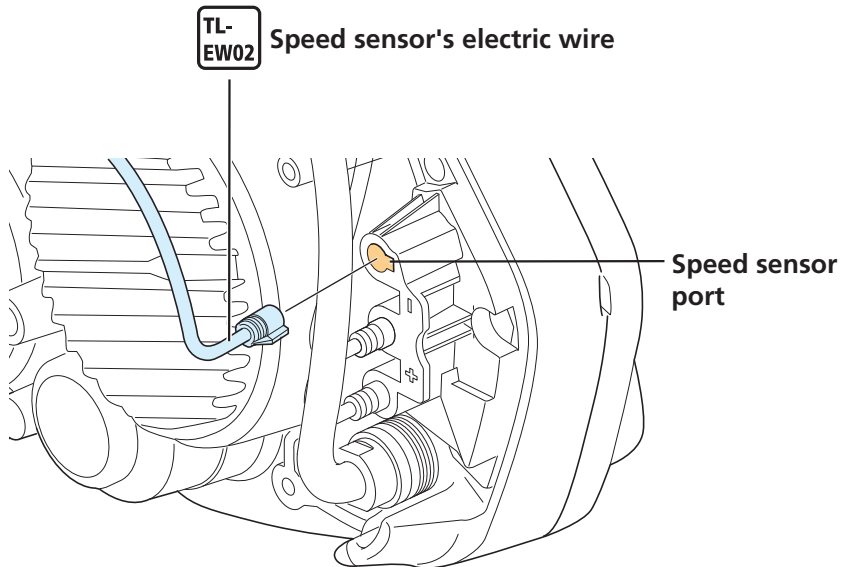
NOTICE

- Be sure to attach dummy plugs to any unused E-TUBE ports.

Connecting the Speed Sensor

Connect the speed sensor's electric wire to the drive unit's terminal block.

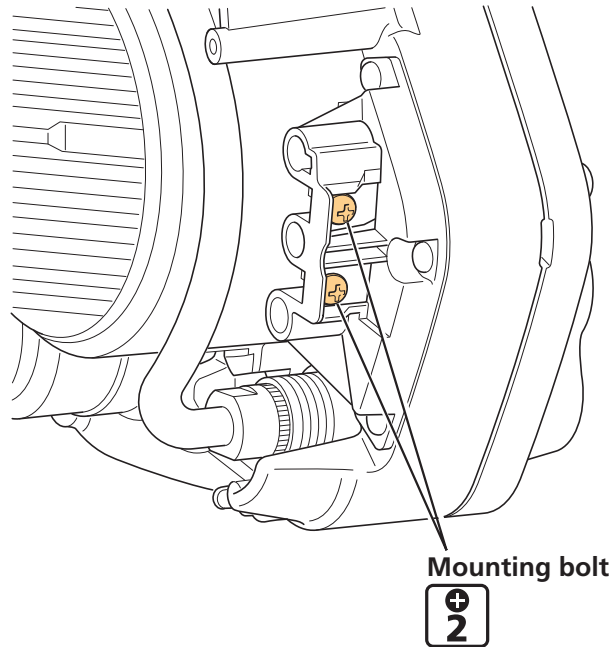
- 1. Connect the electric wire to the drive unit's speed sensor port.**



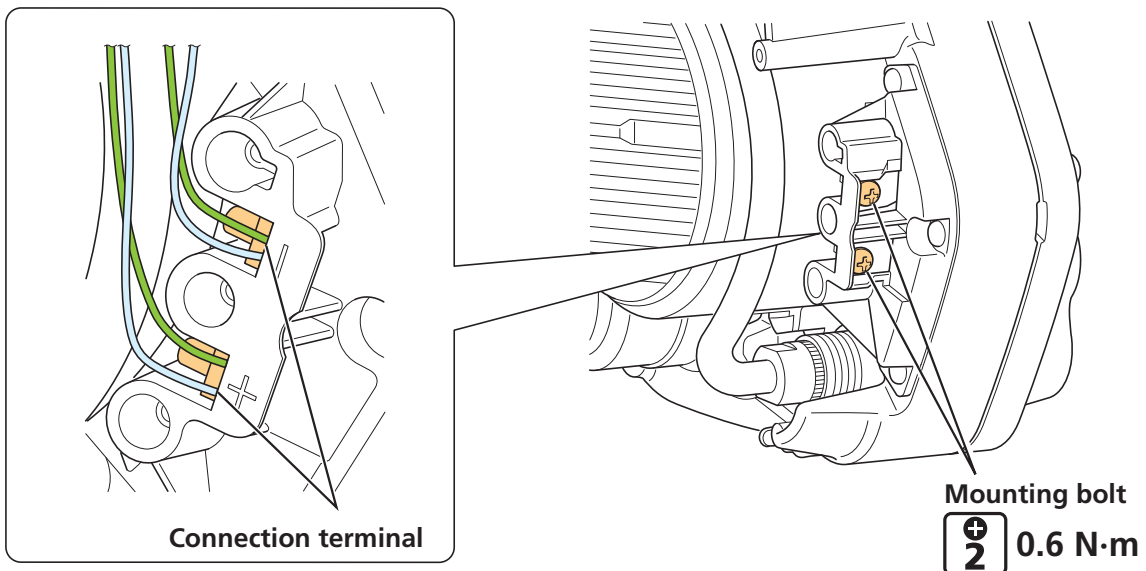
Connecting the Light Cables

The drive unit contains terminals to supply power for the front and rear lights. Connect the wires connected to the front and rear lights to the drive unit.

1. Loosen the mounting bolts.



2. Connect the light cables to the connection terminals, and then tighten the mounting bolts.



Installing the Drive Unit Cover

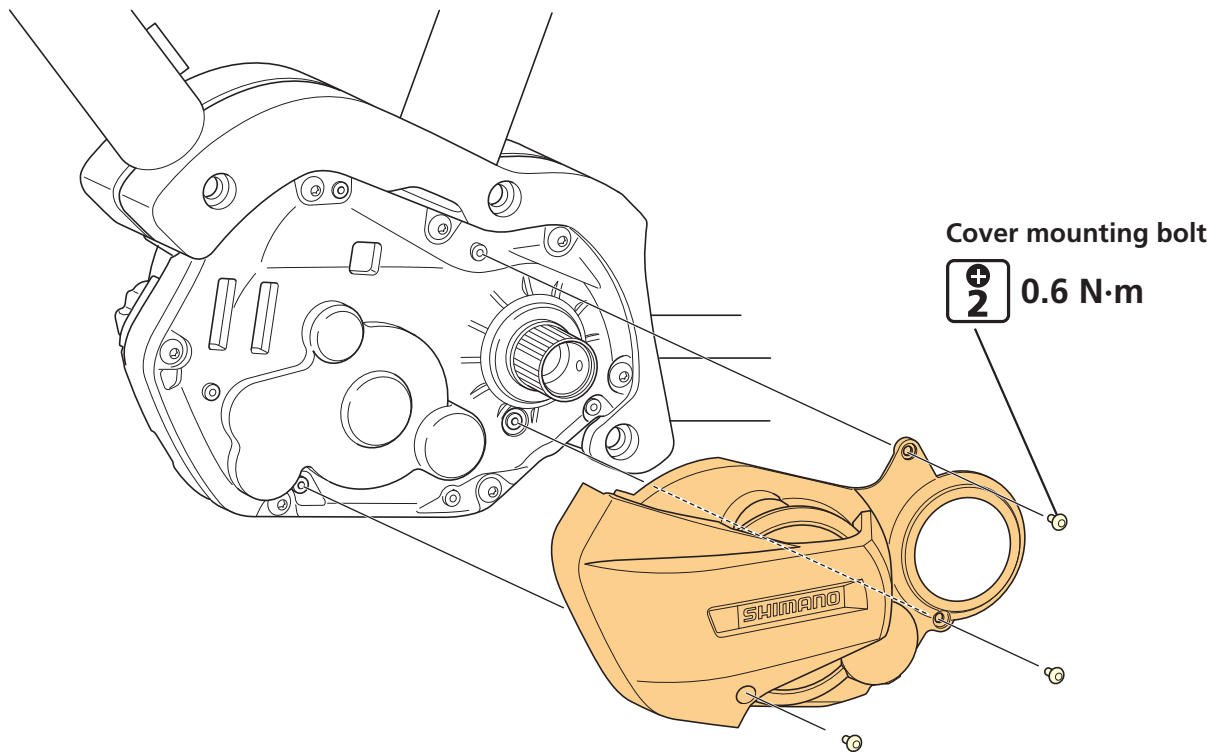
This can involve either the single use of a SHIMANO drive unit cover or combined with a drive unit cover from another company.

SHIMANO drive unit cover only

This section explains how to install SM-DUE70-A or SM-DUE70-B. Although the appearance varies by model, the example shown here is for SM-DUE70-A.

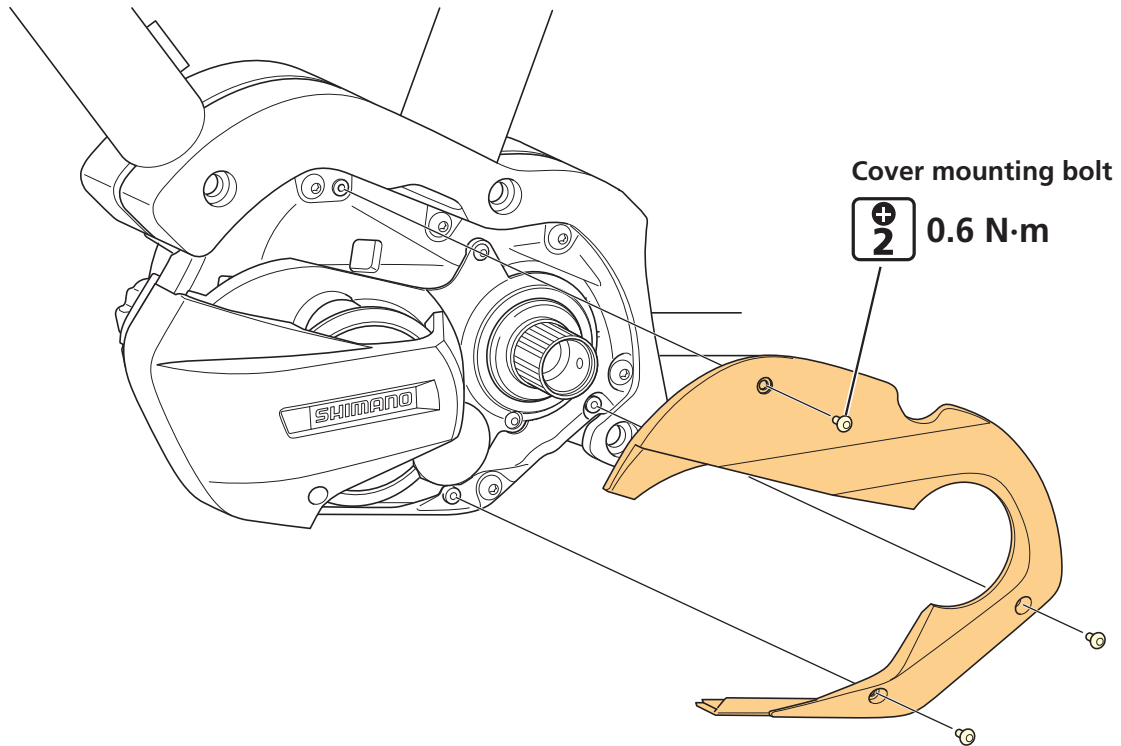
1. Install the left cover (front side).

Secure the left cover using the three cover mounting bolts.



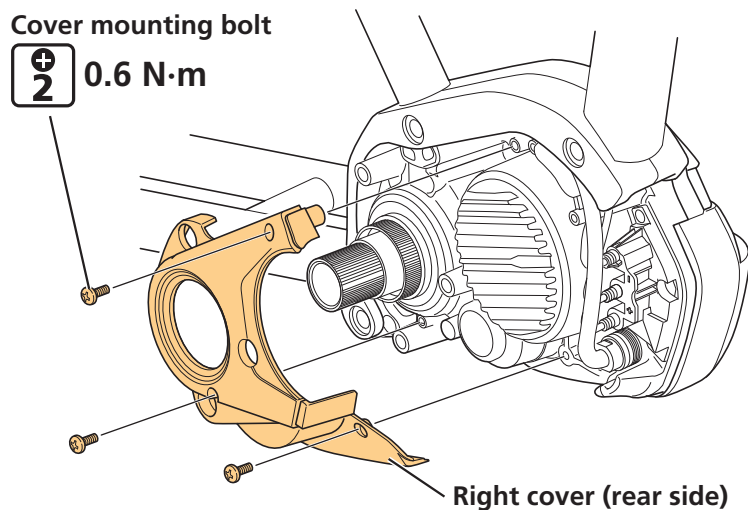
2. Install the left cover (rear side).

- (1) Set the left cover (rear side) to the drive unit from below the bicycle.
- (2) Secure the left cover (rear side) using the three cover mounting bolts.



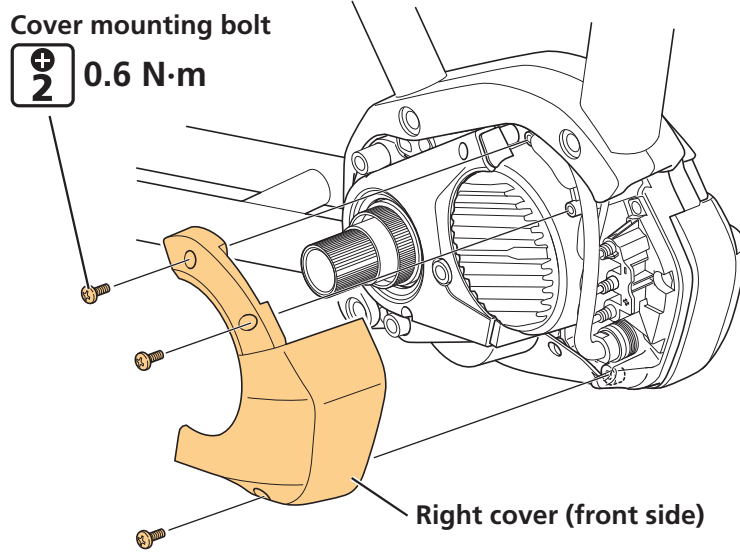
3. Install the right cover (rear side).

Secure the right cover (rear side) using the three cover mounting bolts.



4. Install the right cover (front side).

Secure the right cover (front side) using the three cover mounting bolts.

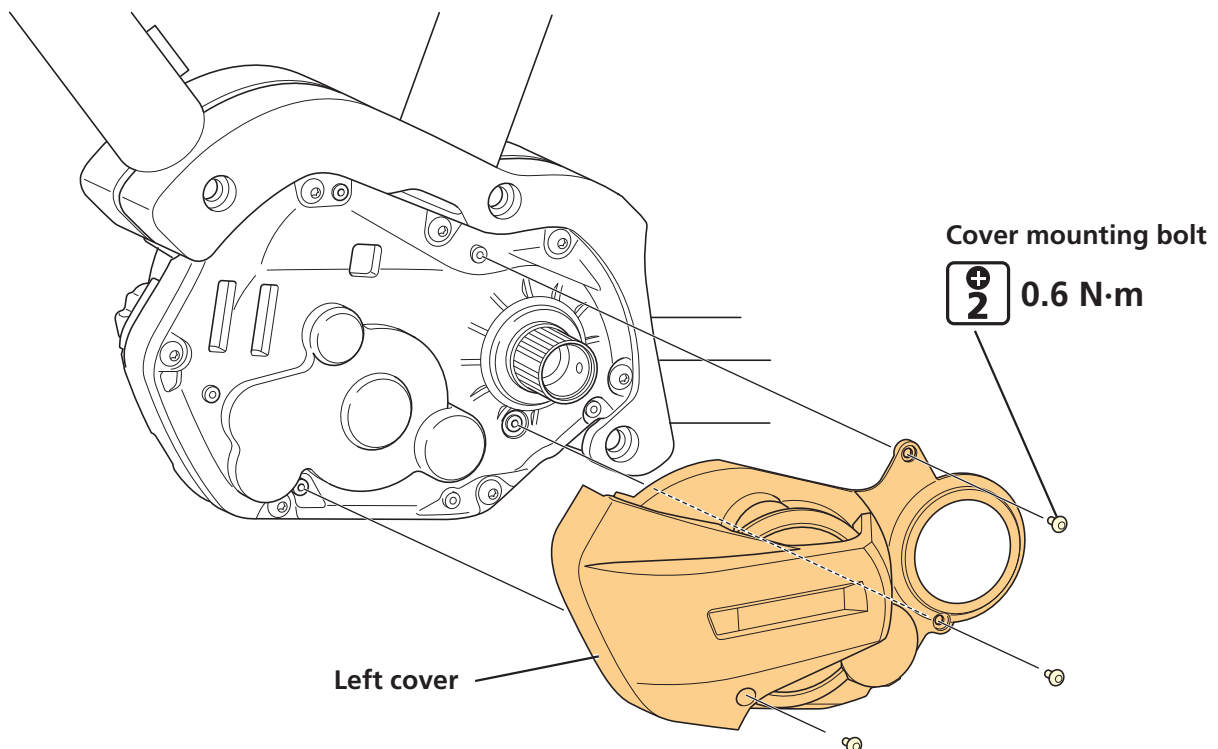


Used with drive unit cover from another company

This section explains how to install SM-DUE70-C.

Always install the drive unit cover from another company after installing the SHIMANO drive unit cover.

1. Install the left cover.

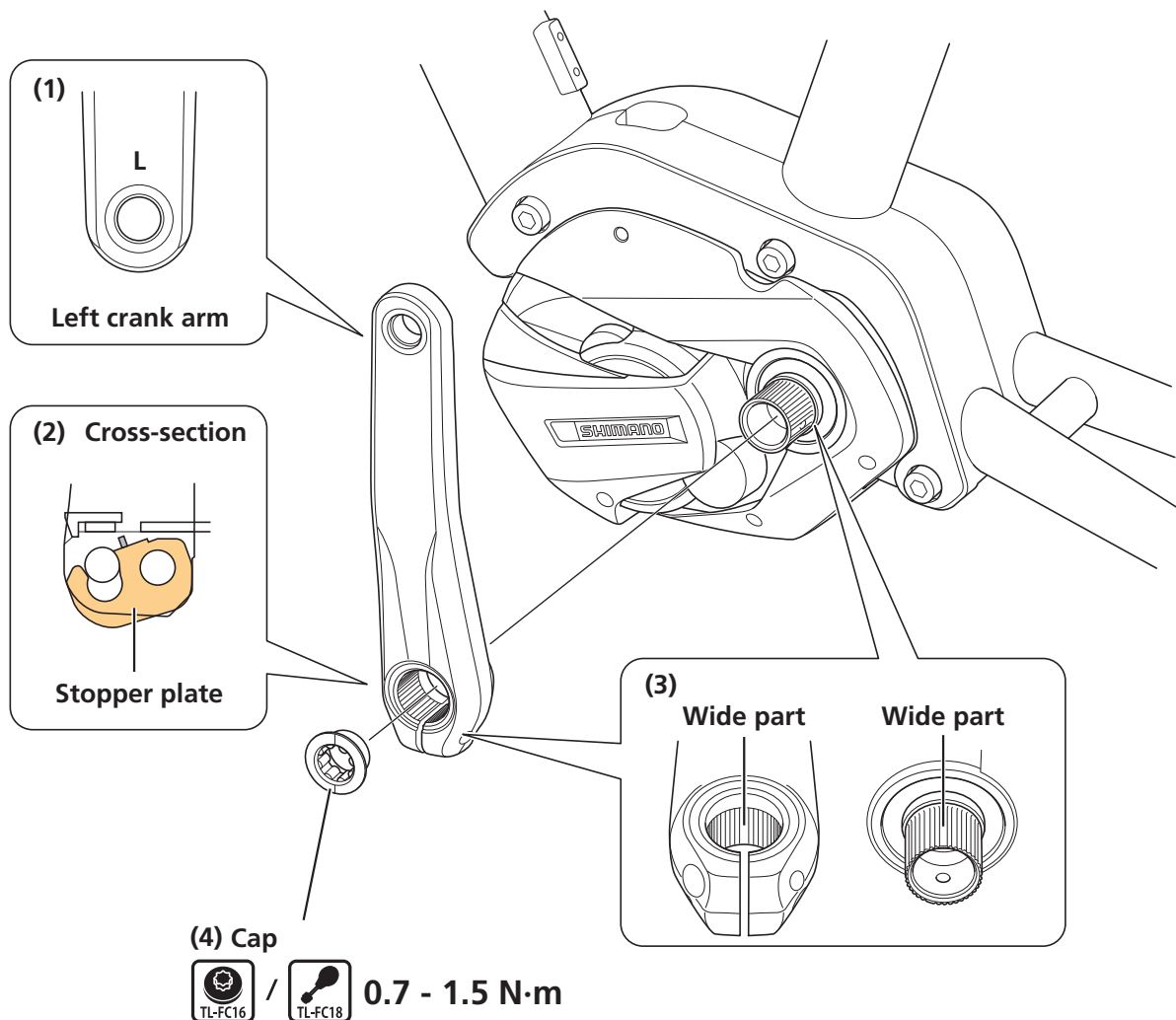


Installing the Front Chainring and Crank Arms

In SHIMANO STEPS, there is a crank axle in the drive unit. Because of this, the front chainring and left/right crank arms should be installed individually to the drive unit. Set the rear wheel to the bicycle prior to performing the following procedure.

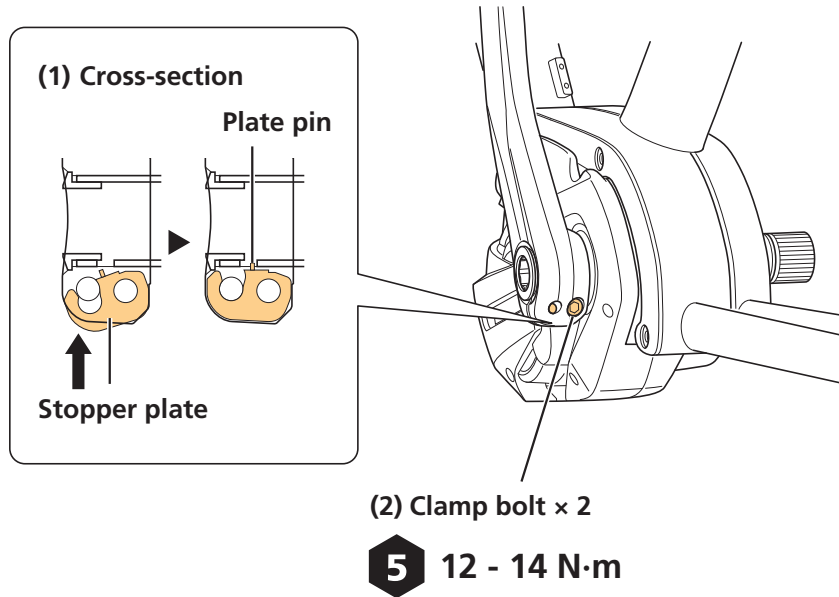
1. Set the left crank arm.

- (1) The left crank arm has an "L" marking on one end (the side where the pedal is installed).
- (2) Check that the stopper plate on the left crank arm is sticking out.
- (3) Set the left crank arm with the wide part of the spline on the left crank arm aligned with the wide part of the spline on the crank axle.
- (4) Tighten the cap.



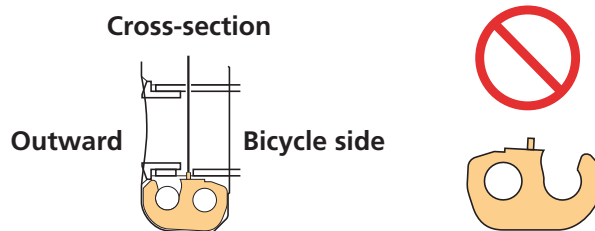
2. Secure the left crank arm.

- (1) Press the stopper plate in.
 - * Check that the plate pin is firmly set.
- (2) Tighten the two clamp bolts alternately.

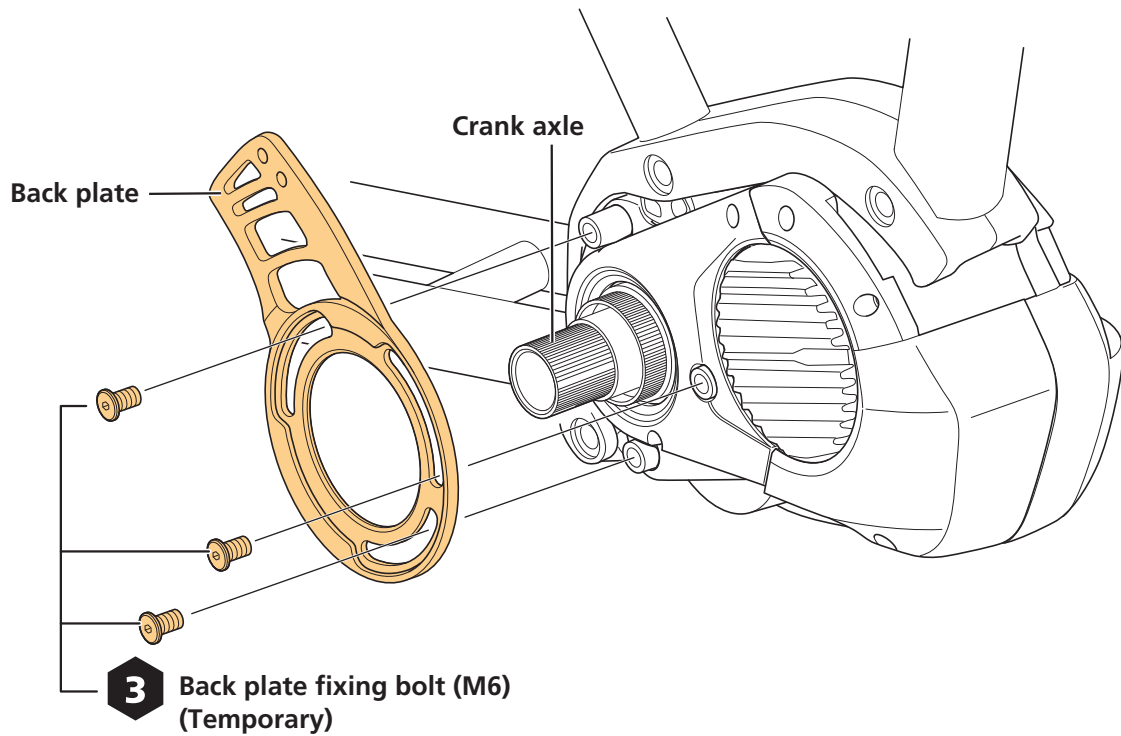


NOTICE

- Set the stopper plate in the correct direction as shown in illustration. For the left crank arm, the figure depicts the part as looking from the back of the bicycle.



3. Temporarily install the chain device's back plate.

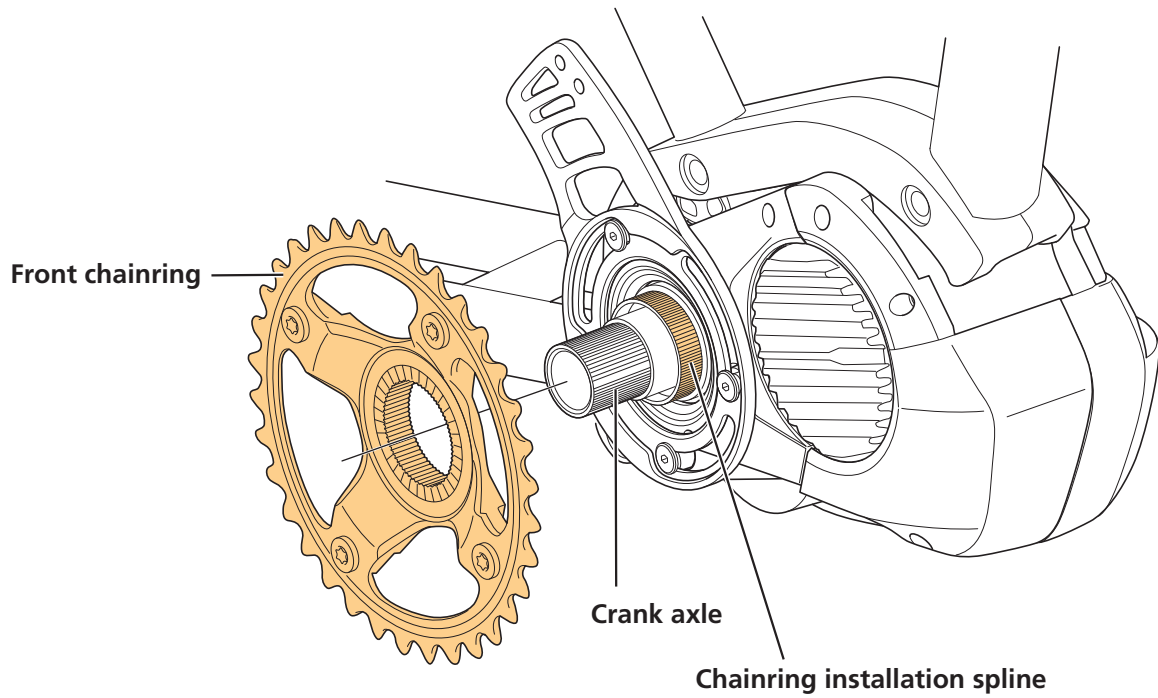


NOTICE

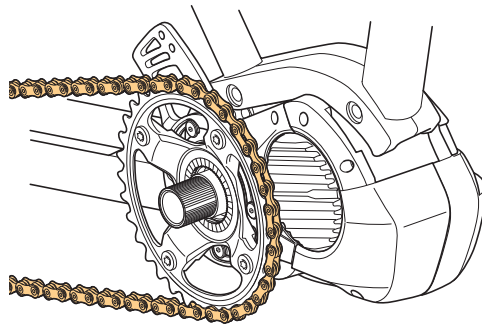
- For details on the compatibility of the chain device and chainring, refer to compatibility information (<https://productinfo.shimano.com/>).

4. Set the chainring.

Set with the spline on the chainring aligned with the chainring installation spline on the crank axle.

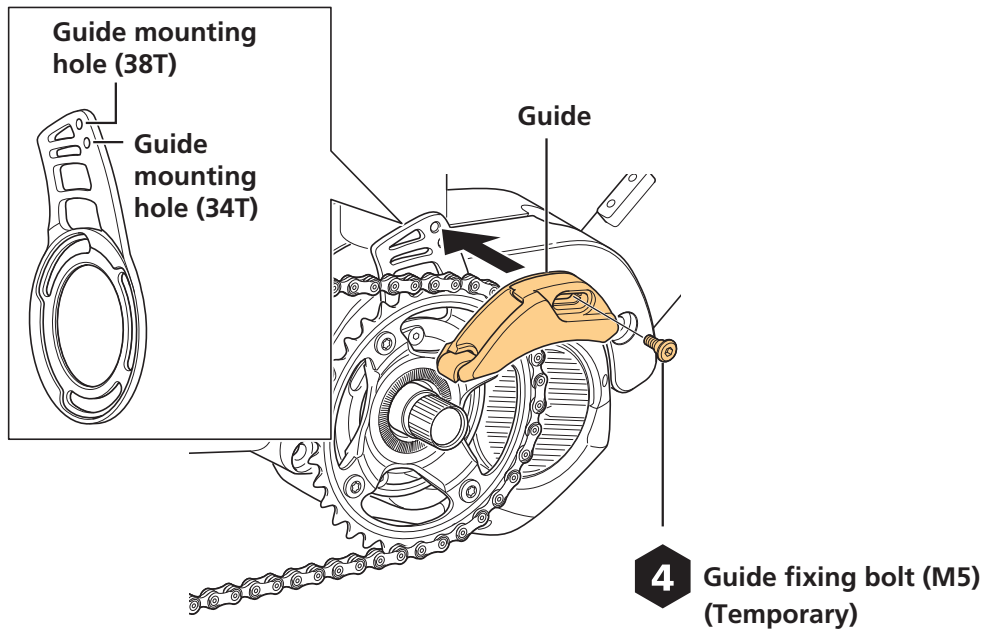


5. Set the chain.



6. Install the guide.

- Set the guide to the guide mounting hole on the back plate, and tighten the guide fixing bolt (M5) to temporarily install the guide.
- If a back plate is not installed, temporarily install the guide to the installation location specified by the bicycle manufacturer.

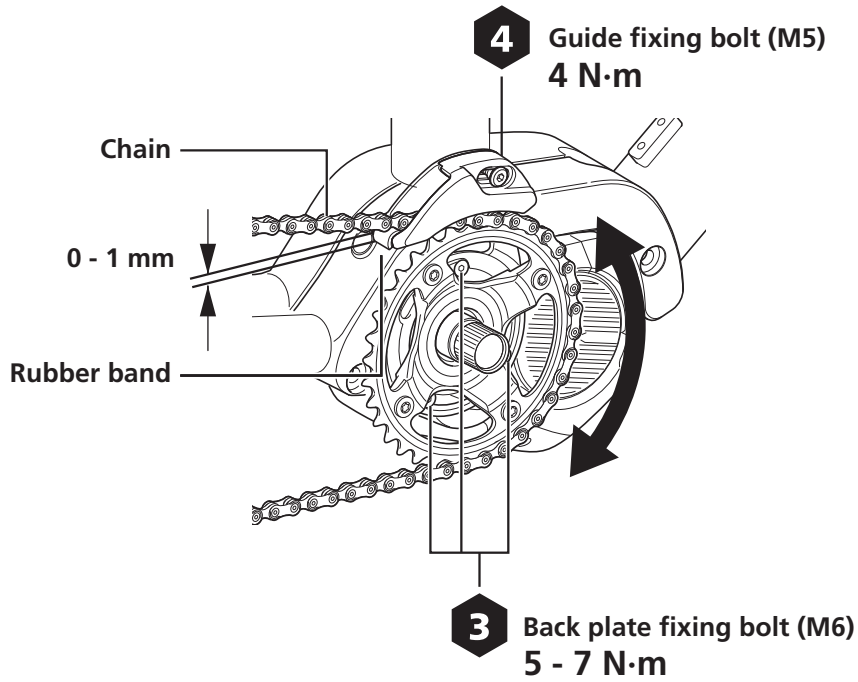


7. Adjust the positioning of the guide and chain.

- (1) Align the position of the chain with the smallest sprocket.
- (2) Adjust so that there is a clearance of 0 to 1 mm between the chain and the rubber band.
 - If a back plate is installed, rotate the back plate as shown in the figure below, and then adjust.
 - If the guide is installed directly to the frame, move the guide along the elongated hole in the installation area, and then adjust.
- (3) After adjusting, tighten the back plate and guide.

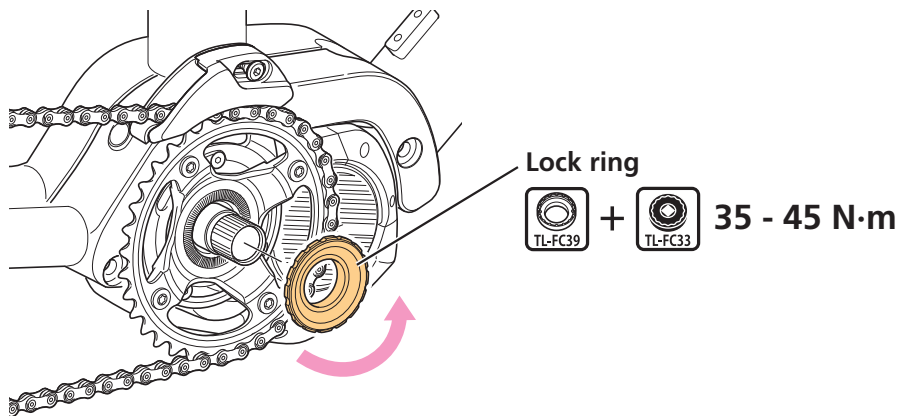
NOTICE

- On bicycles with rear suspension, if the chain and guide make contact at the rear suspension sag position, adjust the clearance between the chain and rubber band with the chain aligned to the largest sprocket.



8. Secure the chainring.

- (1) Install the lock ring (left screw) by hand.
- (2) Tighten the lock ring while firmly pressing the left crank.

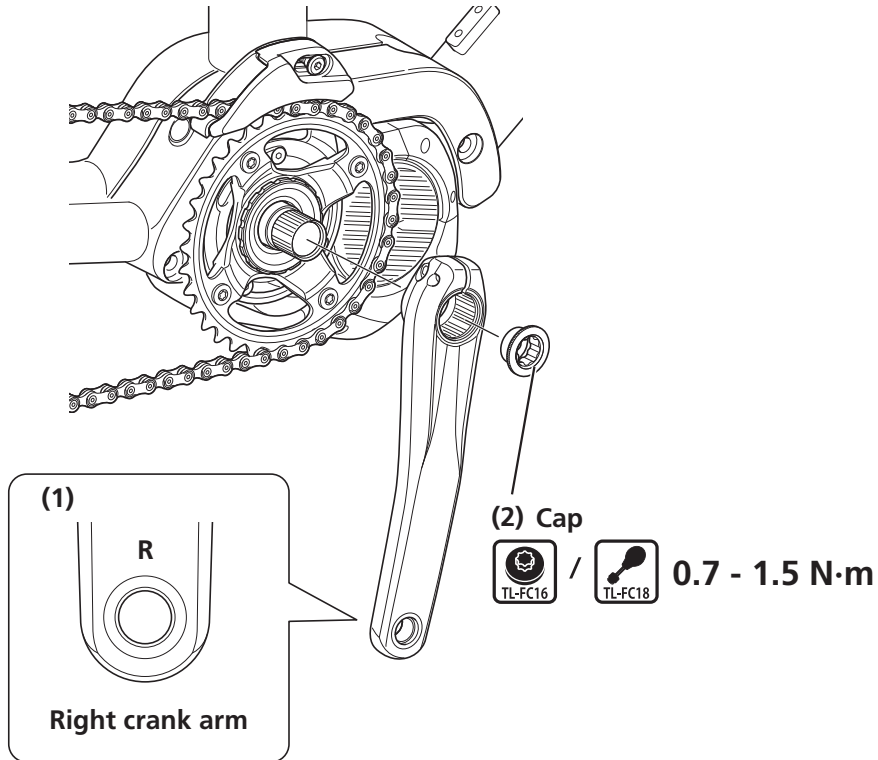


TECH TIPS

- An impact wrench cannot be used.

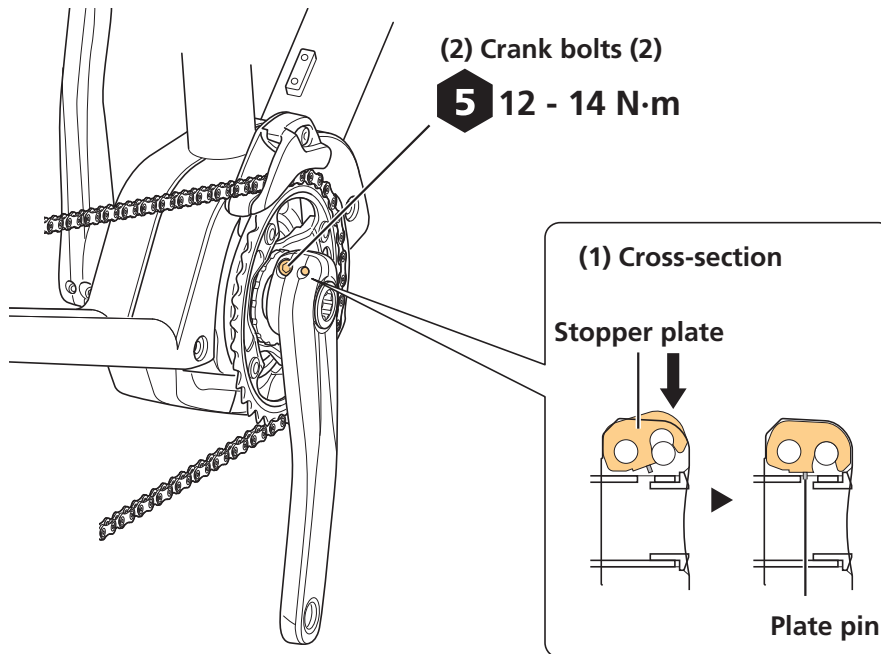
9. Set the right crank arm.

- (1) The right crank arm has an "R" marking on one end (the side where the pedal is installed).
- (2) As with the left crank arm, set the right crank arm and tighten the cap.



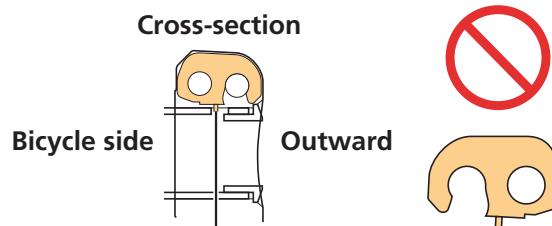
10. Secure the right crank arm.

- (1) Press the stopper plate in.
 - * Check that the plate pin is firmly set.
- (2) Tighten the clamp bolt.



NOTICE

- Set the stopper plate in the correct direction as shown in the illustration.



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.
- 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.

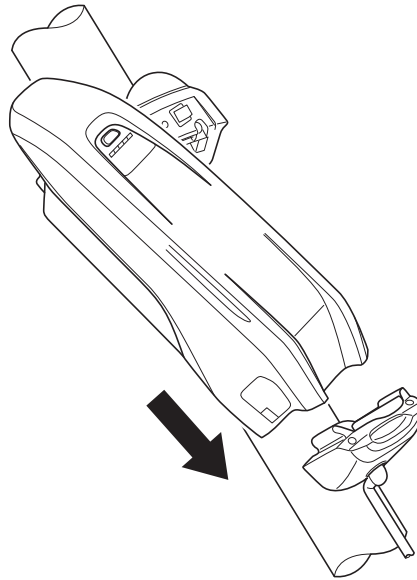
TECH TIPS

- The battery can be inserted without turning the key.

Down tube mount type

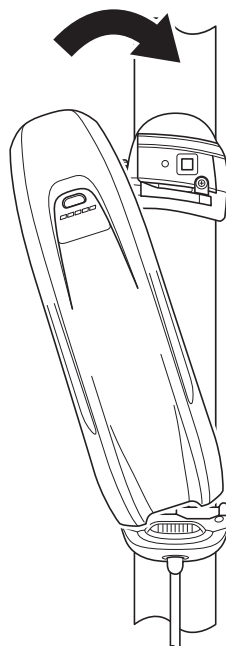
1. Insert the battery from below.

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.

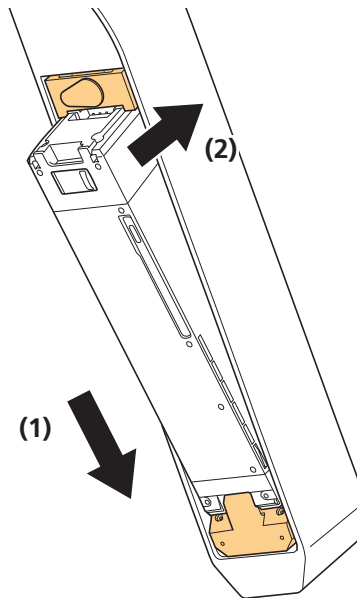
Return the key to the locked position, and then remove it.

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.

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.



Removing the Battery

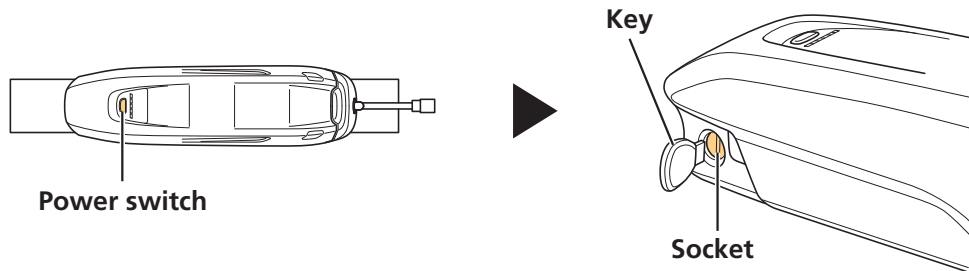
⚠ CAUTION

- Firmly hold the battery during removal or transport, being careful not to drop it.

Down tube mount type

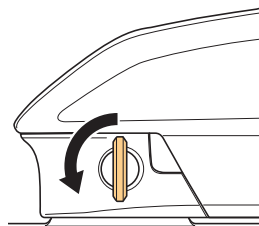
1. Insert the key.

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

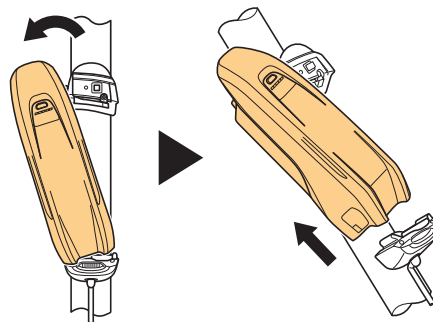


2. Release the battery lock.

Turn the key until you feel it make contact.



3. Slide and carefully remove the battery.

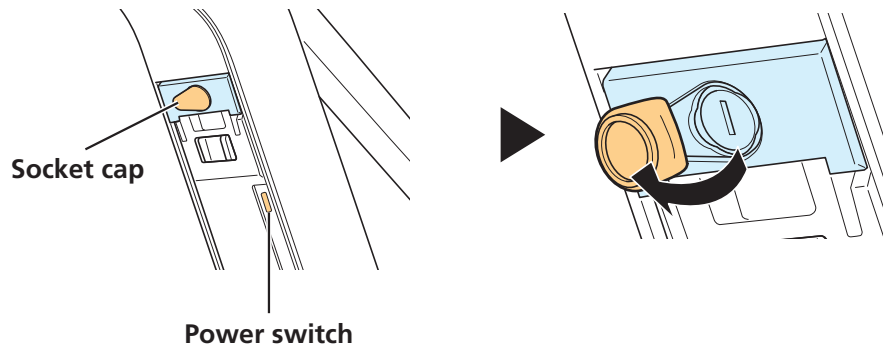


Built-in type

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.

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.

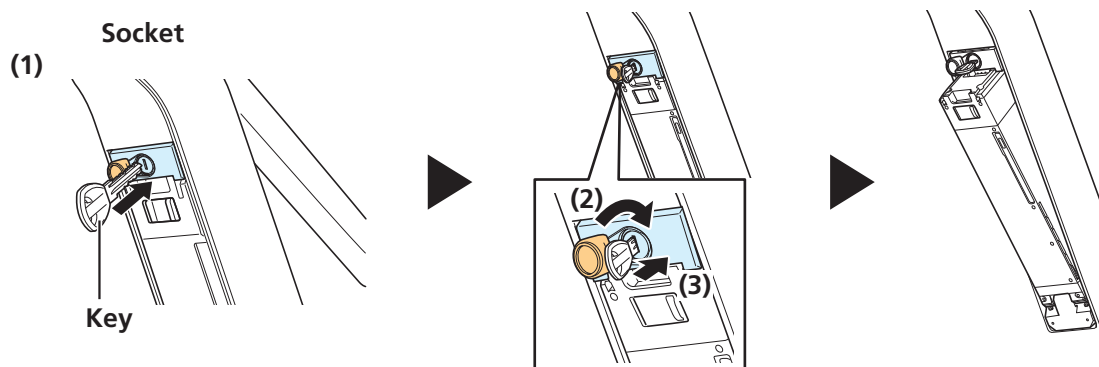
(1) Insert the key into the socket on the battery mount.

(2) Turn the key.

* The plate spring will hold the battery and prevent it from dropping.

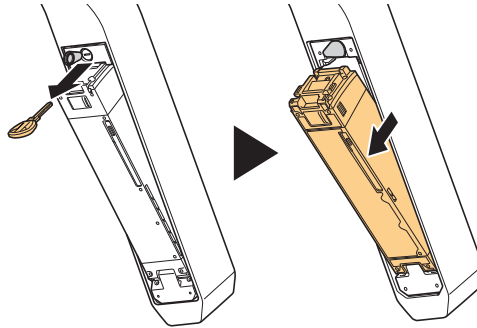
(3) Push the key in to release the lock.

* The battery lock will be released, so be sure to hold it firmly.



3. Remove the battery.

- (1) Remove the key, and then close the socket cap.
- (2) Carefully remove the battery.



NOTICE

- Do not install or remove the battery with the key inserted or the socket cap left open. The battery could make contact with the handle on the key or the socket cap, damaging it.

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 by connecting a completed bicycle (i.e. a bicycle to which all components have been assembled) 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 ready for use 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 time, store with the battery level at around 70%. Charge the battery every six months to prevent it from fully discharging.
- Do not connect to E-TUBE PROJECT while the battery is being charged.

It is recommended to use a SHIMANO genuine battery. If using a battery from another company, be sure to read the product manual thoroughly prior to 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.

DANGER

- Use the specified battery and battery charger combination for charging and observe the specified charging conditions. Doing otherwise may cause overheating, bursting, or ignition.

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 power 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
BT-E8014	About 6.5 hours	About 4 hours
BT-E8010 / BT-E8020	About 7.5 hours	About 5 hours

⚠ WARNING

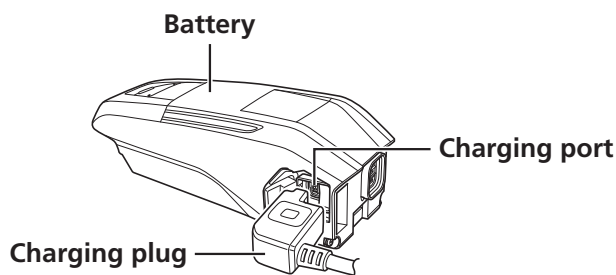
- If the battery does not become fully charged even two hours after the designated charging time, immediately unplug the battery from the electrical outlet and contact the place of purchase. Doing otherwise may cause overheating, bursting, or ignition.

Charging the battery removed from the bicycle

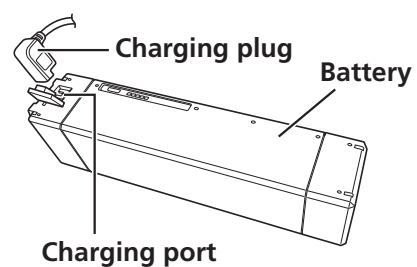
Charge the battery placed on a level surface indoors.

1. Connect the battery charger's power plug to the electrical outlet.
2. Install the charging plug to the battery's charging port.

< BT-E8010/BT-E8014 >



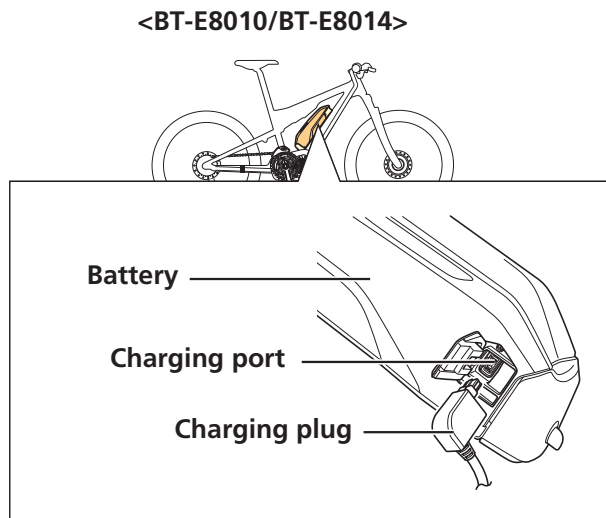
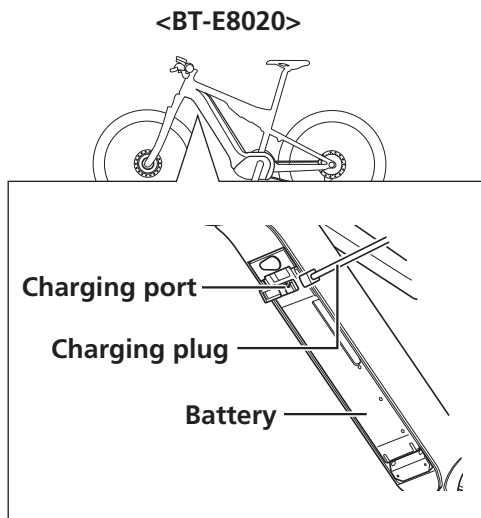
< BT-E8020 >



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.



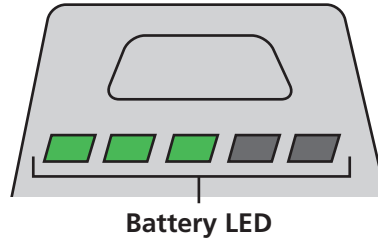
Battery charger LED indication

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

● Lit up	Charging	<div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><EC-E6000></p> <p>Battery charger LED</p> </div> <div style="text-align: center;"> <p><EC-E6002></p> <p>Battery charger LED</p> </div> </div>
● Flashing	Charge error	
● Off	Charging complete	

Battery LED indication

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



▶ Display while charging








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

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

*1 Off Lit Flashing

▶ 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.

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

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

OPERATION AND SETTING

Turning Power ON/OFF

The main power can be turned ON/OFF using the battery power button.

NOTICE

- Check the following prior to turning the power ON.
 - The battery is firmly attached to the battery mount
 - The cycle computer is firmly attached to the bracket
- Do not place your foot on the pedal when operating the power. Doing so could cause a system error.

TECH TIPS

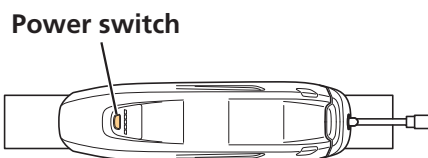
- When the main power is turned ON, all components connected to the drive unit are also turned ON (such as assist driving, cycle computer power, the electronic gear shifting mechanism, and the lights).
- The power cannot be turned ON while charging.
- If the bicycle is left unused for 10 minutes after turning the power ON, the power automatically turns OFF. (This is the automatic power OFF function.)

Operating power

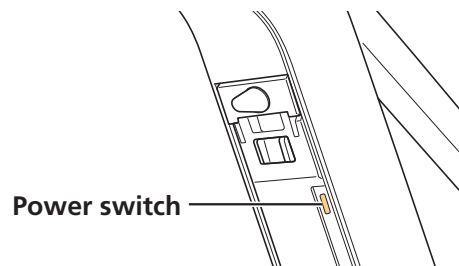
1. Press the battery power button.

The LED lights up and the battery level is displayed.

<BT-E8010/BT-E8014>



<BT-E8020>



NOTICE

- Use the same procedure to the turn the power OFF.
Do not step on the pedal when turning the power ON/OFF.

TECH TIPS

- Pressing the battery power button on a BT-E8010/BT-E8020 battery for around six seconds will force the power OFF for emergencies.

Screen display when power is ON

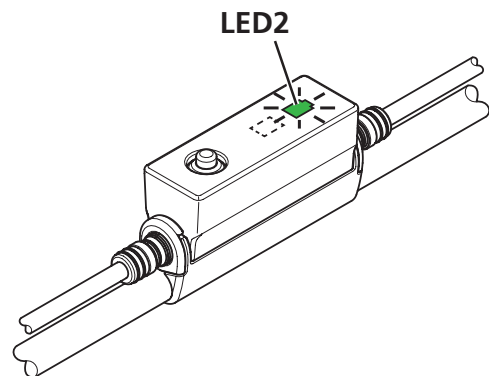
▶ SC-E7000

When the main power is turned ON, a screen similar to that shown below is displayed, and then switches to the basic screen.



▶ EW-EN100

When the main power is turned ON, LED2 lights up.

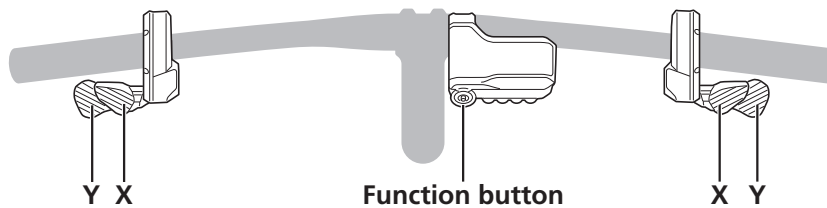


Basic Operation

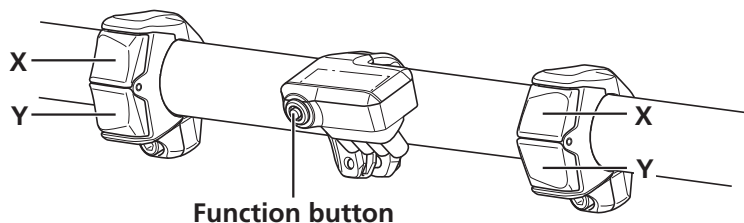
This manual uses default settings for all explanations. The functions assigned to switches when riding can be changed from those described here, by connecting to E-TUBE PROJECT.

Cycle computer and switch unit

SC-E7000/SW-M8050



SC-E7000/SW-E7000



Left switch (default: assist)		Right switch (default: electronic gear shifting)	
Assist-X	When riding: Increase assistance When setting: Move cursor or change setting	Shift-X	When riding: Shift up
Assist-Y	When riding: Decrease assistance When setting: Move cursor or change setting	Shift-Y	When riding: Shift down

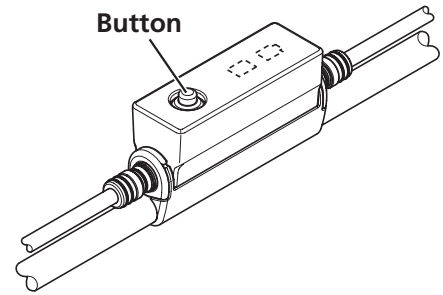
Cycle computer (SC-E7000)	
Function button	When riding: Switch traveling data displayed on cycle computer When setting: Switch cycle computer screen or confirm setting changes

NOTICE

- Be sure to keep turning the crank during gear shifting.

Junction [A] (EW-EN100)

EW-EN100, which can be used instead of a cycle computer, has functionality to change the assist mode.



Junction [A]

Button

Press: Change assist mode (each time button is pressed)
Hold (around two seconds): Light ON/OFF

NOTICE

- It is not recommended to operate the button on EW-EN100 while riding. Select your preferred assist mode prior to riding.

TECH TIPS

- A switch unit connection is required to change to walk assist mode.
- Functionality to switch to the setting mode is also assigned to a button. Refer to "Setting Mode (EW-EN100)" in "OPERATION AND SETTING."

Light ON/OFF (EW-EN100)

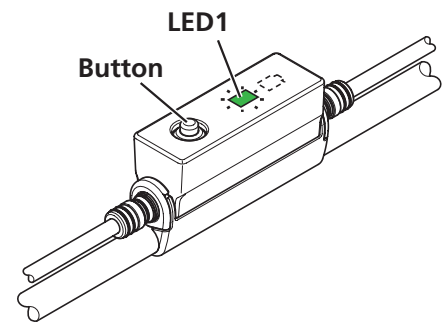
If a light is connected to the drive unit, the cycle computer or junction [A] can be used to operate the light. This section describes how to operate the light using EW-EN100.

TECH TIPS

- The light turns OFF when the main power is turned OFF. The light will not turn ON when the main power is OFF.
- The light cannot be turned OFF by pressing the button while riding.

1. Hold the button down until the light turns ON (around two seconds).

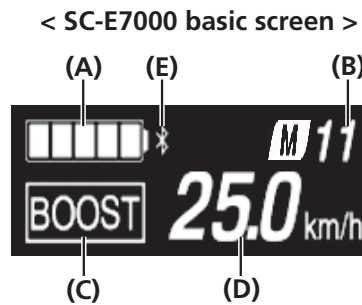
When the light turns ON, LED1 will flash.



Basic Status Display

SC-E7000

This displays the status of the bicycle and traveling data. The gear position is only displayed for electronic gear shifting.



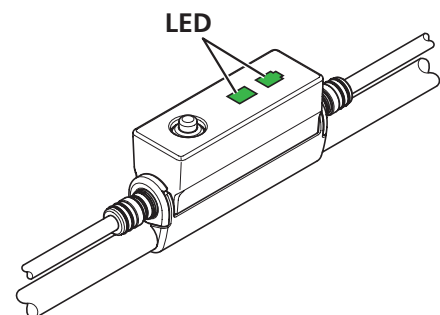
(A)	Battery level indicator	(D)	Current speed
(B)	Gear position display	(E)	Bluetooth® LE icon Only displayed when an external device is connected over Bluetooth® LE.
(C)	Current assist mode		

EW-EN100

The LEDs indicate the following statuses.

- Current battery level
- Current assist mode

Refer to "Battery level indicator" (next section) in "OPERATION AND SETTING" and "Switching the Assist Mode" in "OPERATION AND SETTING."









Battery level indicator

This allows you to check the battery level while riding.

▶ SC-E7000


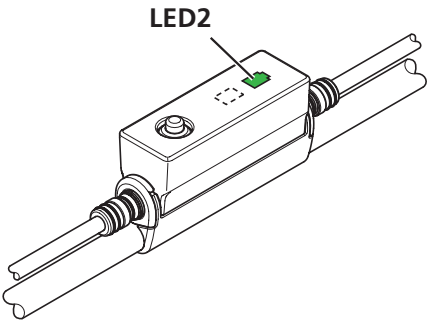


The battery level is shown as an icon.

Display	Battery level
	100 - 81%
	80 - 61%
	60 - 41%
	40 - 21%
	20 - 1%*
	0%

* The battery level indicator will flash when the battery level is low.

▶ EW-EN100

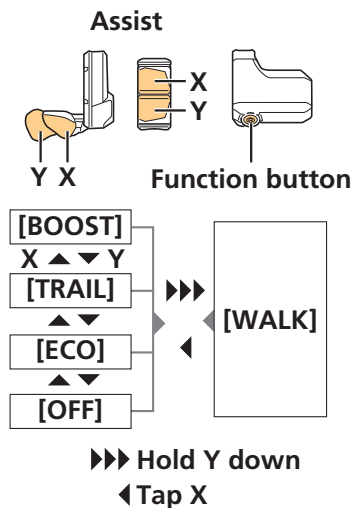
LED2 shows the battery level when the power is ON.

LED2 display	Battery level	
 (lit up)	100 - 21%	
 (lit up)	20% or less	
 (flashing)	Nearly empty	

Switching the Assist Mode

Switching the assist mode with the switch unit

1. Press Assist-X or Assist-Y.



< SC-E7000 >



TECH TIPS

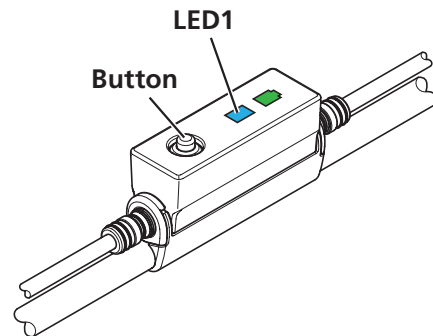
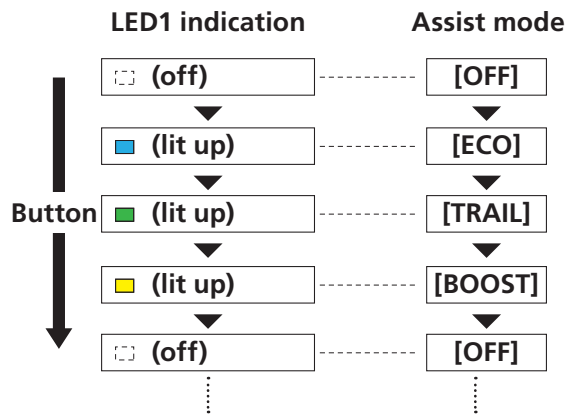
- If no assist switch is connected, you can also hold down the function button to switch to assist mode. However, it cannot be switched to [WALK] mode.
- If a switch unit is connected to EW-EN100, the LED will indicate the assist mode (as shown in the next section).

Switching the assist mode with EW-EN100

Explain to the customer that it is not recommended to operate the device while riding.

1. Press the button.

The assist mode switches each time the button is pressed. LED1 display switches each time the assist mode is switched.



Walk Assist Mode

- The use of the walk assist mode function is prohibited by law in some regions.
- The walk assist function operates at a maximum of 6 km/h. During electronic gear shifting, the assist level and speed are controlled by the gear position.
- Switching to walk assist mode requires a switch unit that has been assigned the change assist mode function.
- The intelligent walk assist function activates when an electronic gear shifting system (such as XTR or DEORE XT SEIS) is connected.

The system provides assistance according to the detected gear position.

"Intelligent walk assist" generates higher torque when ascending a sudden slope at low speed.

The "quick walk assist" function can be started immediately by pressing the switch when in any mode.

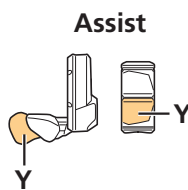
Switching to walk assist mode

1. Stop the bicycle.

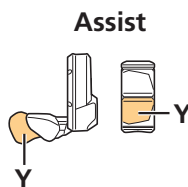
Release your feet from the pedals.

2. Hold down Assist-Y until it reaches the following state (around two seconds).

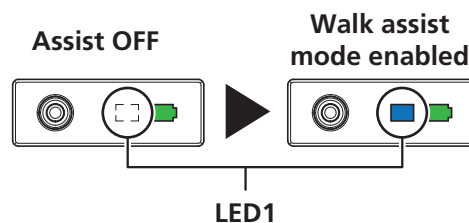
- SC-E7000: The assist mode shown on the display switches to [WALK].
- EW-EN100: LED1 lights up blue.



< SC-E7000 >



< EW-EN100 >



NOTICE

- If it is impossible to switch to walk assist mode for any reason (the bicycle is not stopped, there is pressure applied to the pedals, etc.), a warning sound will be played.

TECH TIPS

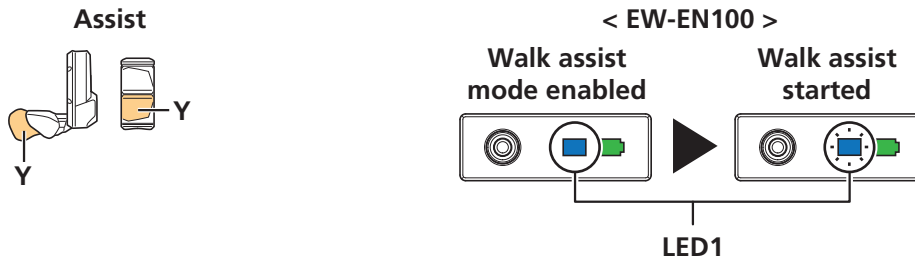
- If nothing is done for one minute after switching to walk assist mode, it will switch back to the assist mode that was selected before switching to walk assist mode.

Walk assist mode operation

Prior to operation, firmly grip the handlebar and note your surroundings. When walk assist begins, the bicycle will be driven by the drive unit.

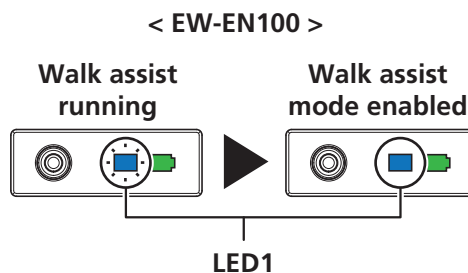
1. Continue to press Assist-Y while in walk assist mode.

- Walk assist will function only while Assist-Y is pressed.
- If a switch unit is connected to EW-EN100, LED1 will flash blue when walk assist starts.



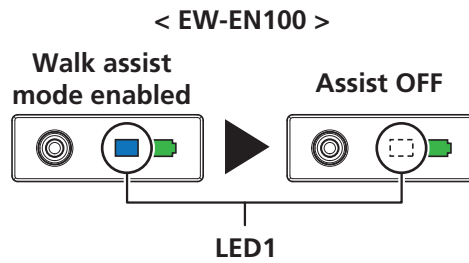
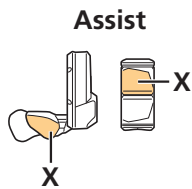
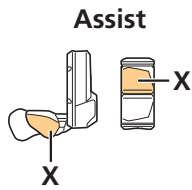
2. Carefully push the bicycle together with walk assist.

3. Removing your finger from Assist-Y will stop walk assist.



4. Press Assist-X to exit walk assist mode.

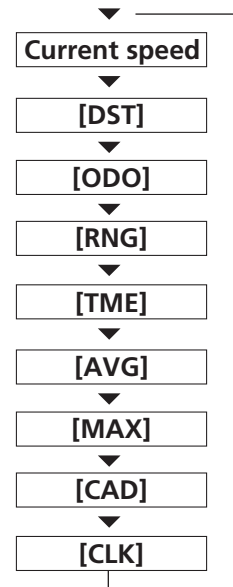
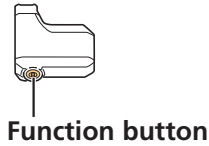
- [WALK] mode is canceled, and the system restarts in the mode it was in prior to setting [WALK] mode.



Switching Traveling Data Display (SC-E7000)

1. Press the function button.

The traveling data display will switch each time it is pressed.



Display item	Explanation
-	Current speed
[DST]	Traveling distance
[ODO]	Cumulative distance
[RNG]	Maximum traveling distance*1*2
[TME]	Traveling time*3
[AVG]	Average speed*3
[MAX]	Maximum speed*3
[CAD]	Crank rotation speed*3*4
[CLK]	Current time*3

*1 The battery level is not displayed while displaying [RNG]. The traveling range should be used as a reference only.

*2 When walk assistance is functioning, the [RNG] screen display changes to [RNG ---].

*3 This item is optional. Whether to show this or not can be set by connecting E-TUBE PROJECT. Refer to "Items Configurable in E-TUBE PROJECT" in "CONNECTION AND COMMUNICATION WITH DEVICES."

*4 Electronic gear shifting only.

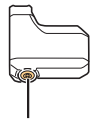
TECH TIPS

- The screen will switch back to displaying the speed once 60 seconds have passed after displaying the traveling data.
- Pressing the function button with the speed information displayed will switch the displayed traveling data in sequence from [DST].

Resetting the traveling distance

Reset the traveling distance displayed on the basic screen. When the traveling distance is reset, [TME] (traveling time), [AVG] (average speed), and [MAX] (maximum speed) will also be reset.

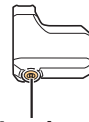
1. Press the function button to switch the traveling data display to [DST].



Function button



2. Continue to hold the function button until the number displayed for [DST] flashes.



Function button

3. Press the function button.

- The traveling data is cleared.

TECH TIPS

- If nothing is done for five seconds after the number for [DST] begins flashing, it will stop flashing and the screen will return to the basic screen.

Setting Menu (SC-E7000)

Startup

Display the SC-E7000 setting menu.

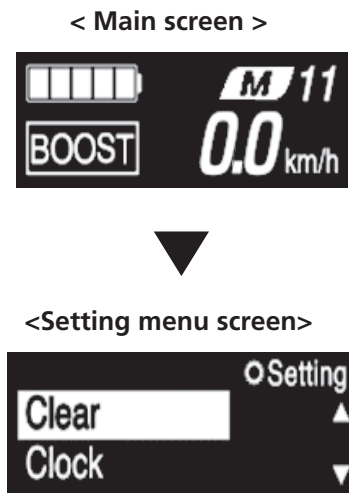
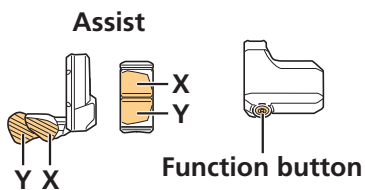
NOTICE

- If assist switch is not connected, the setting menu cannot be displayed.

1. Stop the bicycle.

2. Perform the following to switch to the setting menu.

- Hold down the function button until the screen switches to the setting menu.
- Hold down Assist-X and Assist-Y together until the screen switches to the setting menu.

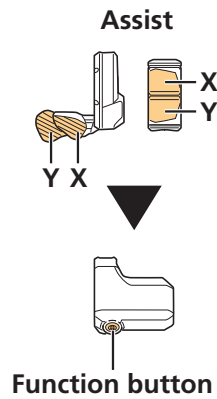


3. Select a menu item.

(1) Press Assist-X or Assist-Y to move the cursor.

(2) Press the function button.

* The display switches to the screen for the selected item.



Selectable items	Explanation
[Clear]	Resets the traveling distance and display settings.
[Clock]	Sets the current time.
[Start mode] *1	Automatically shifts to the set gear position when the bicycle starts from a stop.
[Light]	Turns the light connected to the drive unit ON/OFF.
[Beep]	Turns the operation sound ON/OFF.
[Unit]	Switches the display unit between km and mile.
[Language]	Sets the display language.
[Font color]	Switches the font color between black and white.
[Adjust] *1	Adjusts gear shifting for the electronic gear shifter.
[Shift timing] *1	Not used.
[RD protection reset] *2	Performs RD protection reset.
[Display speed]	Adjusts the displayed speed when there is a difference between the speed displayed on the cycle computer and other devices.
[Exit]	Returns to the basic screen.

*1 Electronic gear shifting only.

*2 Electronic gear shifting rear derailleur models only.

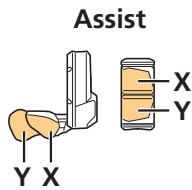
[Clear] Setting reset

Resets the traveling distance.

1. Display the [Clear] menu.

- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Clear], and then press the function button.

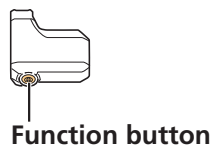
2. Press Assist-X or Assist-Y to select the item to reset.



Selectable items	Explanation
[Exit]	Returns to the setting menu.
[DST]	Resets the traveling distance. When the traveling distance is reset, [TME] (traveling time), [AVG] (average speed), and [MAX] (maximum speed) will also be reset.

3. Press the function button to reset the selected item.

The display will automatically return to the setting menu.



[Clock] Time setting

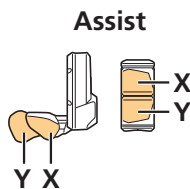
Sets the current time. First set the "Hour" and then the "Minute." When setting numbers in steps 2 and 4, you can hold Assist-X or Assist-Y to quickly change numbers.

1. Display the [Clock] menu.

- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Clock], and then press the function button.

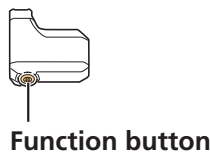
2. Press Assist-X or Assist-Y to change the "Hour" number.

- Press Assist-X to increase the number.
- Press Assist-Y to decrease the number.



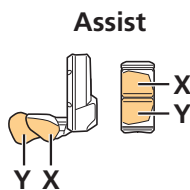
3. Press the function button to finalize the setting.

The cursor moves to the "Minute" number.



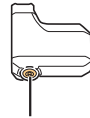
4. Press Assist-X or Assist-Y to change the "Minute" number.

- Press Assist-X to increase the number.
- Press Assist-Y to decrease the number.



5. Press the function button to finalize the setting.

The display will automatically return to the setting menu.



Function button

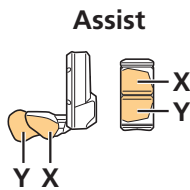
[Light] Light ON/OFF

Turns the light connected to the drive unit ON/OFF.

1. Display the [Light] menu.

- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Light], and then press the function button.

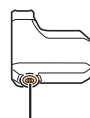
2. Press Assist-X or Assist-Y to select the item to set.



Configurable items	Explanation
[ON]	Sets the light to always be ON.
[OFF]	Sets the light to always be OFF.

3. Press the function button to finalize the setting.

The display will automatically return to the setting menu.



Function button

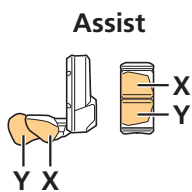
[Beep] Beep setting

Turns the operation sound ON/OFF. Even if the operation sound is set to [OFF], a beep will sound when there is an incorrect operation, system malfunction, etc.

1. Display the [Beep] menu.

- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Beep], and then press the function button.

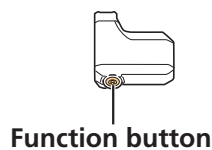
2. Press Assist-X or Assist-Y to select the item to set.



Selectable items	Explanation
[ON]	Turns the operation sound ON.
[OFF]	Turns the operation sound OFF.

3. Press the function button to finalize the selected setting.

The display will automatically return to the setting menu.



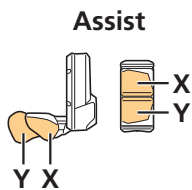
[Unit] km/mile switch

Switches the display unit between km and mile.

1. Display the [Unit] menu.

- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Unit], and then press the function button.

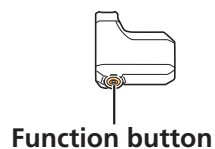
2. Press Assist-X or Assist-Y to select the item to set.



Selectable items	Explanation
[km]	Display in km.
[mile]	Display in miles.

3. Press the function button to finalize the selected setting.

The display will automatically return to the setting menu.



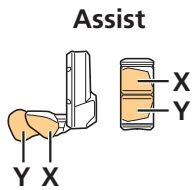
[Language] Language setting

Sets the display language.

1. Display the [Language] menu.

- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Language], and then press the function button.

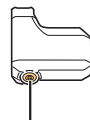
2. Press Assist-X or Assist-Y to select the item to set.



Selectable items	Explanation
[English]	English
[Français]	French
[Deutsch]	German
[Nederlands]	Dutch
[Italiano]	Italian
[Español]	Spanish

3. Press the function button to finalize the selected setting.

The display will automatically return to the setting menu.



Function button

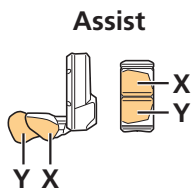
[Font color] Font color setting

Switches the font color between black and white.

1. Display the [Font color] menu.

- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Font color], and then press the function button.

2. Press Assist-X or Assist-Y to select the item to set.



[White]



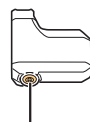
[Black]



Selectable items	Explanation
[White]	Displays white text on a black background.
[Black]	Displays black text on a white background.

3. Press the function button to finalize the selected setting.

The display will automatically return to the setting menu.



Function button

[Adjust] Gear shifting adjustment with the electronic gear shifting unit

Adjusts gear shifting for the electronic gear shifter.

⚠ CAUTION

- Improper adjustment may cause gear engagement skipping, resulting in an accidental fall.

NOTICE

- Mount the bicycle to a maintenance stand or otherwise secure it in place so that the rear wheel can be spun freely.
- Perform adjustment only when gear shifting feels unusual. Under normal conditions, performing unnecessary adjustment may worsen gear shifting performance.

TECH TIPS

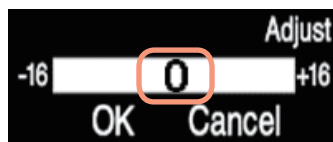
- The adjustable range is from -16 to +16.

▶ Checking the setting

First check whether the [Adjust] setting is [0].

1. Display the [Adjust] menu to check the current setting.

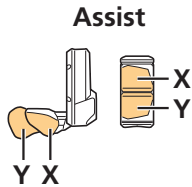
- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Adjust], and then press the function button.
- (3) Check the number in the center of the screen in the [Adjust] menu.
 - Number is [0]: Proceed to "Adjusting when the setting value is [0]."
 - Number is not [0]: Proceed to "Adjusting when the setting value is not [0]."



▶ Adjusting when the setting value is [0]

If the setting value is [0], adjust the setting value one step at a time with [0] as the reference value.

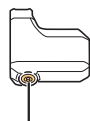
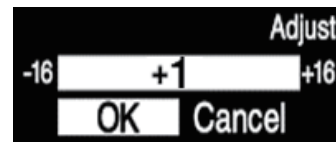
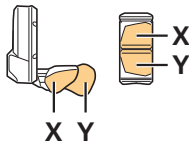
1. Press Assist-X or Assist-Y to adjust the setting value one step in the positive or negative direction.



2. Press Shift-X or Shift-Y, select [OK], and then press the function button.

The adjusted value is set and the screen returns to the basic screen.

Gear shifting

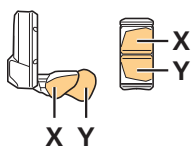


Function button

3. Press Shift-X and Shift-Y while turning the crank, and try shifting gears.

Check the symptom compared with the value prior to adjustment.

Gear shifting



4. Proceed to adjust according to the symptom, as shown below.

Change the adjustment value according to the symptom, and repeat the following until the abnormal noise or unusual feel is resolved.

If the symptom is improved, or there is no noticeable change

- (1) Refer to "Checking the setting" and return to the [Adjust] menu.
- (2) Change the adjustment value another step in the same direction (positive or negative) as the change that was just made.
- (3) Return to the basic screen, and once again shift gears to check the symptom.



If the symptom is worse

- (1) Refer to "Checking the setting" and return to the [Adjust] menu.
- (2) Change the adjustment value two steps in the opposite direction (positive or negative) as the change that was just made.
- (3) Return to the basic screen, and once again shift gears to check the symptom.

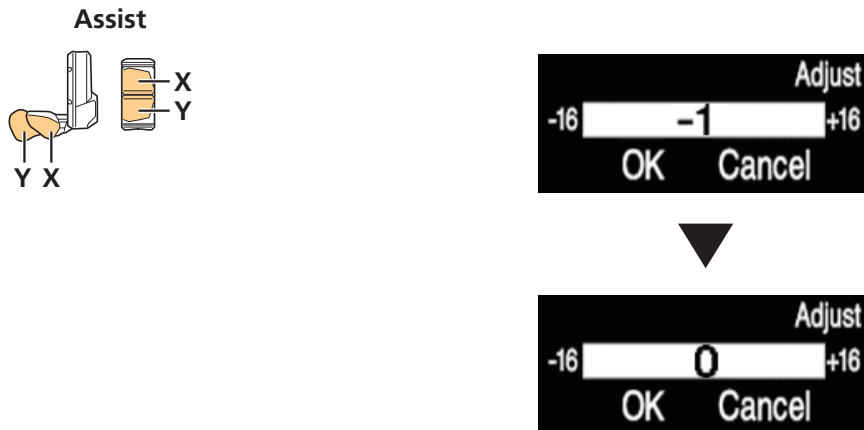


5. Finally, ride the bicycle and try shifting gears to check that the abnormal noise or unusual feel has been resolved.

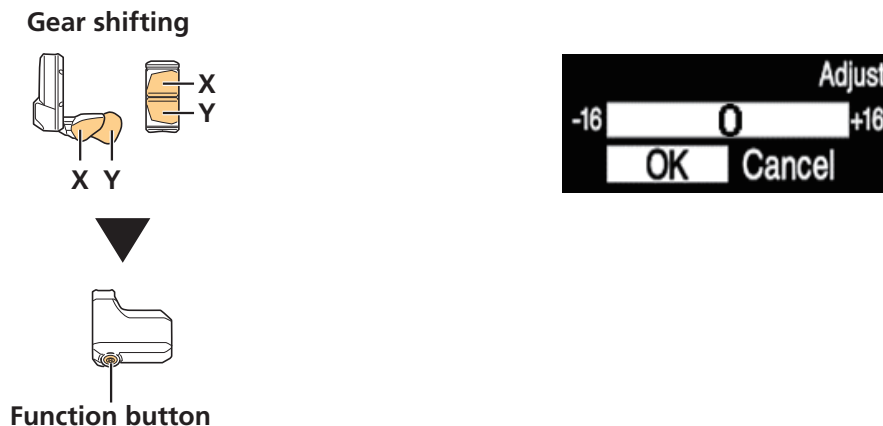
▶ Adjusting when the setting value is not [0]

If the setting value is not [0], set the setting value to [0] prior to adjusting.

1. Press Assist-X or Assist-Y to set the number back to [0].



2. Press Shift-X or Shift-Y, select [OK], and then press the function button.



3. Press Shift-X and Shift-Y while turning the crank, and try shifting gears.

Check the symptom compared with the value prior to adjustment. Refer to step 4 in "Adjusting when the setting value is [0]" and adjust according to the symptom.



4. Finally, ride the bicycle and try shifting gears to check that the abnormal noise or unusual feel has been resolved.

[RD protection reset] Reset RD protection

In order to protect the system from falls etc., the RD protection function will operate when the rear derailleur is subjected to a strong impact. The connection between the motor and the link will be momentarily severed so that the rear derailleur can no longer operate. When RD protection reset is run, it will restore the connection between the motor and the link, and recover the rear derailleur from the RD protection state.

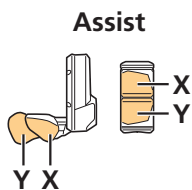
NOTICE

- Mount the bicycle to a maintenance stand or otherwise secure it in place so that the rear wheel can be spun freely.

1. Display the [RD protection reset] menu.

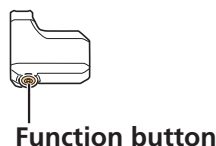
- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [RD protection reset], and then press the function button.

2. Press Assist-X or Assist-Y and select [OK].



Selectable items	Explanation
[OK]	Performs RD protection reset.
[Cancel]	Returns to the setting menu.

3. Press the function button.



4. Turn the crank.

The rear derailleur moves, and the connection between the motor and link is restored.

[Display speed] Adjusting the display speed

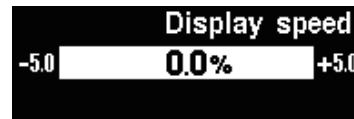
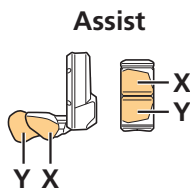
Adjusts the displayed speed when there is a difference between the speed displayed on the cycle computer and other devices.

1. Display the [Display speed] menu.

- (1) Display the setting menu.
- (2) Press Assist-X or Assist-Y, select [Display speed], and then press the function button.

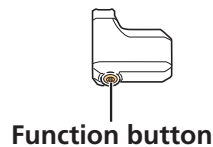
2. Press Assist-X or Assist-Y to adjust the number.

- Press Assist-X to increase the number. The number displayed for the speed increases.
- Press Assist-Y to decrease the number. The number displayed for the speed decreases.



3. Press the function button to finalize the setting.

The display will automatically return to the setting menu.



NOTICE

- If the display on the cycle computer is adjusted, the actual speed may be higher than the displayed speed. Keep this in mind if riding in an area with a speed limit.

[Exit] Close setting menu screen

Returns to the basic screen.

- 1. On the setting menu screen, press Assist-X or Assist-Y, select [Exit], and then press the function button.**

Updating drive unit backup data

The cycle computer has a function to automatically back up drive unit settings. Settings can be recalled by connecting the cycle computer to E-TUBE PROJECT, even if the drive unit is malfunctioning.

Setting Mode (EW-EN100)

It is impossible to switch to the setting mode when riding the bicycle.

RD protection reset

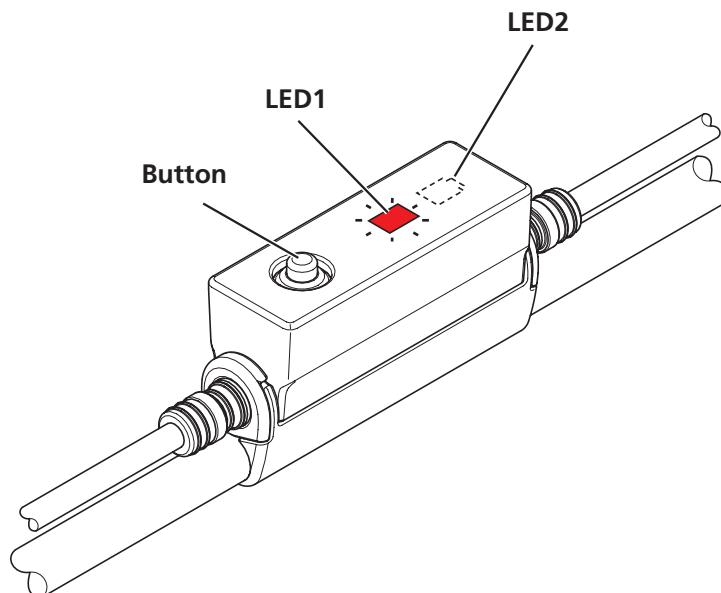
In order to protect the system from falls etc., the RD protection function will operate when the rear derailleur is subjected to a strong impact. The connection between the motor and the link will be momentarily severed so that the rear derailleur can no longer operate. When RD protection reset is run, it will restore the connection between the motor and the link, and recover the rear derailleur from the RD protection state.

NOTICE

- Mount the bicycle to a maintenance stand or otherwise secure it in place so that the rear wheel can be spun freely.

1. Hold the button down (for roughly eight seconds) until LED1 flashes red.

Once LED1 is flashing, release the button. When only LED1 is flashing red, the system is in the RD protection reset mode.



2. Turn the crank arm.

The rear derailleur moves, and the connection between the motor and link is restored.

Adjust

Adjust gear shifting for the electronic gear shifting rear derailleur.

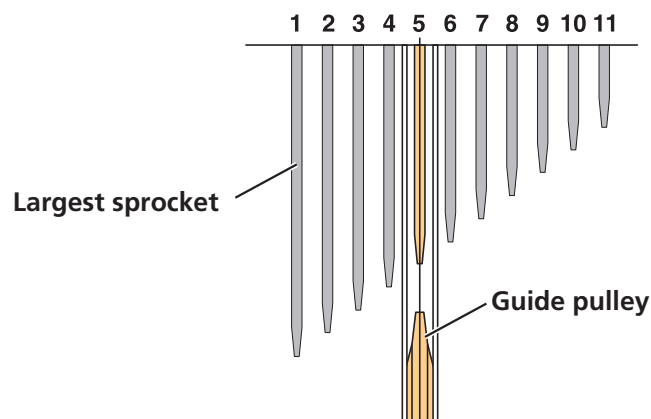
- A switch unit configured as a shifting switch is required to set this.

NOTICE

- Mount the bicycle to a maintenance stand or otherwise secure it in place so that the rear wheel can be spun freely.
- Perform adjustment only when gear shifting feels unusual. Under normal conditions, performing unnecessary adjustment may worsen gear shifting performance.

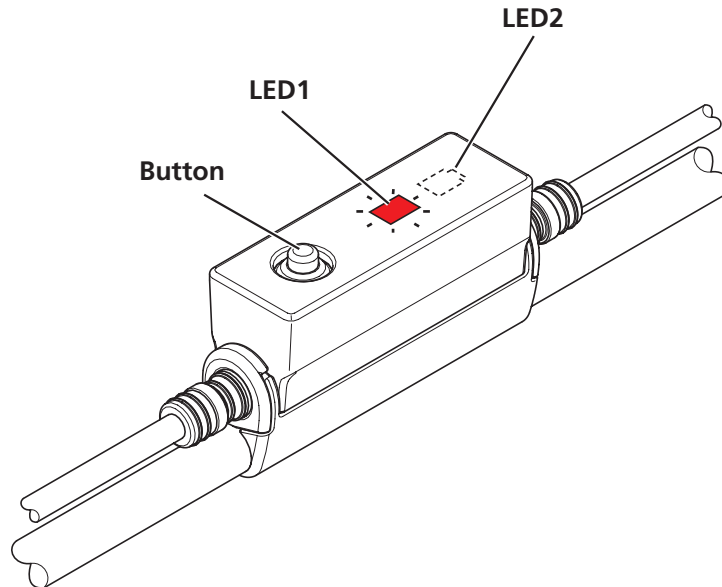
1. Turn the main power ON.

2. Shift the rear derailleur to the fifth gear position from the largest sprocket.



3. Hold the button down (for roughly five seconds) until LED1 lights up red.

Once LED1 is flashing, release the button. When only LED1 is flashing red, the system is in the adjust mode.



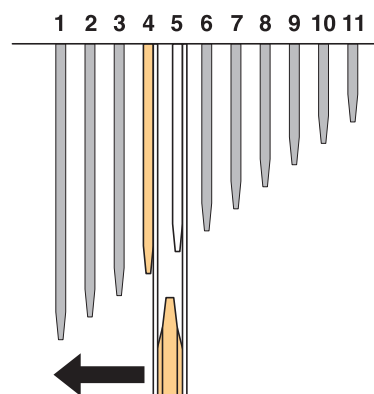
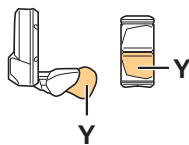
NOTICE

- Note that if you keep pressing the button after LED1 lights up red, LED1 will flash red and RD protection reset will start.

4. Press Shift-Y while turning the crank, and move the guide pulley toward the largest sprocket.

Move it to the position where the chain makes contact with the fourth gear and a subtle noise is heard.

Gear shifting

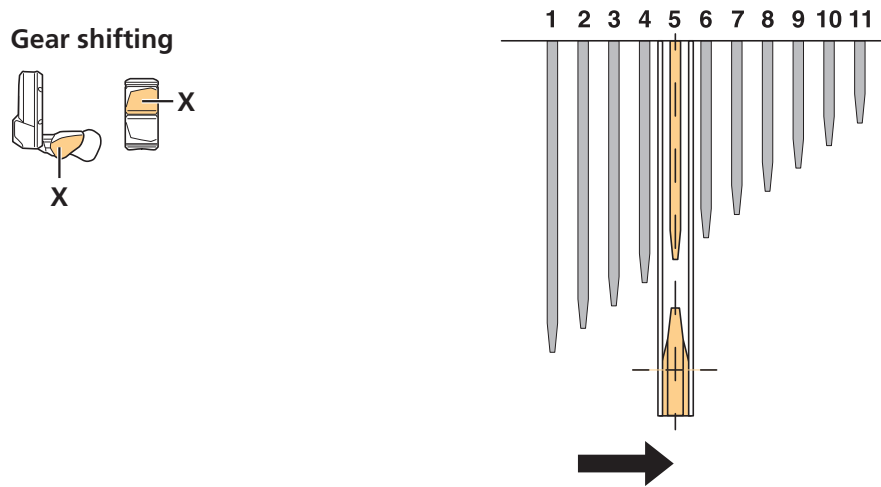


TECH TIPS

- The guide pulley can move 16 steps inward and 16 steps outward from the initial position, for a total of 33 positions.

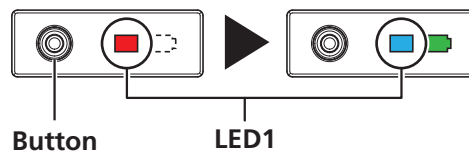
5. Press Shift-X five times to move the guide pulley five steps toward the smallest sprocket.

This position will serve as the target for adjustment.



6. Press the EW-EN100 button.

The adjustment change is finalized and the system exits adjust mode.






7. Press Shift-X and Shift-Y while turning the crank, and try shifting gears.

If fine adjustment is required, return to step 3 and repeat the rear derailleur adjustment process.

Battery LED Error Indications

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

Error indication type	Indication condition	LED indication*1	Remedy
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 is not improved, 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 is not improved, contact a distributor.
Security authentication error	<ul style="list-style-type: none"> Genuine drive unit not connected Cable disconnected 		Connect a genuine drive unit and battery. Check the status of the electric wire. If the situation is not improved, contact a distributor.
Charge error	An error occurred during charging		Detach the connector between the battery and the 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		Use the battery power button to turn the power OFF, and then turn the power back ON. If the situation is not improved, contact a distributor.

*1  Off  Lit  Flashing

Cycle Computer Error Messages

Warnings

If the situation is resolved, this indication will disappear. If the situation does not improve, consult a distributor.



Code	Indication condition	Operational restrictions while displayed	Remedy
W011	The traveling speed cannot be detected.	The maximum speed up to which assist is provided will be lower than normal.	<p>Check the following:</p> <ul style="list-style-type: none"> • Whether the speed sensor is installed in the correct position. • Whether the magnet included with the rotor has not come off. <p>Refer to the Disc Brake section of General Operations for steps on reattaching the magnet.</p>
W013	Initialization did not complete normally for the torque sensor.	Assistance will be lower than normal.	Press the battery power button without stepping on the pedal to turn the power ON again.
W020	If the temperature exceeds the guaranteed operating range, the battery output is turned OFF.	No system functions will start.	<p>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.</p> <p>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.</p>

W032	A powered derailleur may be installed instead of a mechanical derailleur.	Assistance will be lower than normal in [WALK] mode. * The walk assist mode function may not be able to be used in certain regions.	Switch the installed derailleur for a derailleur that is configured in the system. Or, confirm the current system status on E-TUBE PROJECT.
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Errors

If an error message is displayed on the entire screen, follow one of the procedures below to reset the display.

- Press the battery power switch to turn the power OFF.
- Remove the battery from the mount.

If the situation does not improve even after turning the power back ON, consult with a distributor.



Code	Indication condition	Operational restrictions while displayed	Remedy
E010	A system error was detected.	Assist will not be provided when riding.	Use the battery power button to turn the power OFF, and then turn the power back ON.
E013	An error was detected in the drive unit's firmware.	Assist will not be provided when riding.	Consult with a distributor.
E014	The speed sensor may be installed in the wrong position.	Assist will not be provided when riding.	Check whether the speed sensor is installed in the correct position. If the speed sensor is not in the correct position, the error will be resolved by installing it in the correct position and riding the bicycle for a little while.
E020	A communication error between the battery and drive unit was detected.	Assist will not be provided when riding.	Check that the cable between the drive unit and battery is properly connected.

E021	The battery connected to the drive unit is compliant with system standards, but is not compatible.	Assist will not be provided when riding.	Use the battery power button to turn the power OFF, and then turn the power back ON.
E022	The battery connected to the drive unit is not compliant with system standards.	No system functions will start.	Use the battery power button to turn the power OFF, and then turn the power back ON.
E023	Electrical failure inside the battery.	No system functions will start.	Use the battery power button to turn the power OFF, and then turn the power back ON.
E024	Communication error with the bicycle system.	No system functions will start.	Make sure that the cable is not loose or improperly connected.
E025	This is displayed when a genuine drive unit is not connected. This is displayed if any of the cables are disconnected.	No system functions will start.	Connect a genuine battery and drive unit. Check the condition of the cables.
E033	The current firmware is not compatible with this system.	Assist will not be provided when riding.	Connect to E-TUBE PROJECT and update all units for the assist bicycle to their latest firmware versions.
E043	The cycle computer's firmware may be partially corrupt.	Assist will not be provided when riding.	Consult with a distributor.

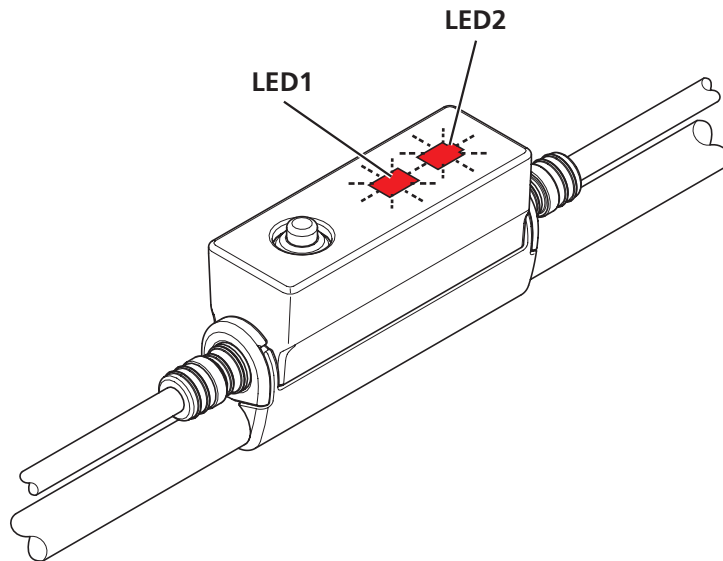
Maintenance alert

This notifies the user that the bicycle requires maintenance. An icon is displayed on the cycle computer screen when the bicycle reaches the set odometer or date. You must connect to E-TUBE PROJECT to configure this setting. Refer to the help manual for E-TUBE PROJECT for details.



EW-EN100 Error Indication

When an error occurs, the two LEDs on EW-EN100 will quickly flash red at the same time.



If this occurs, follow one of the procedures below to reset the indication.

- Press the battery power switch to turn the power OFF.
- Remove the battery from the mount.

If the situation does not improve even after turning the power back ON, consult with a distributor.

CONNECTION AND COMMUNICATION WITH DEVICES

E-TUBE PROJECT

Connecting the bicycle to a device allows you to configure the system, update firmware, and more.

E-TUBE PROJECT is needed to change SHIMANO STEPS settings and to update firmware.

Download E-TUBE PROJECT from our support website (<http://e-tubeproject.shimano.com>).

For information on how to install E-TUBE PROJECT, check the support website.

TECH TIPS

- SM-PCE1/PCE02 is needed to connect SHIMANO STEPS to a PC. SM-JC40/JC41 will be needed in the following situations.
 - If there are no free E-TUBE ports on the cycle computer
 - If connecting the switch unit by itself to the PC
- Firmware is subject to change without notice.
- PC connection and communication are not possible when charging the battery. Do not connect to a device while the battery is being charged.

Drive unit setting backup function

To check the drive unit settings backed up to the cycle computer, export a PDF report from the E-TUBE PROJECT [Unit log acquisition] menu. When exchanging the drive unit, send the report along with the drive unit to the distributor from which the unit was purchased.

Wireless Function

SHIMANO STEPS cycle computers and junction [A] are both able to communicate wirelessly.

Functions

You can check the latest functions by using E-TUBE PROJECT to update the software.

▶ ANT connection

The wireless unit can send all information displayed on the basic screen of the cycle computer to an external device.

▶ Bluetooth® LE connection

E-TUBE PROJECT for smartphones/tablets may be used if a Bluetooth® LE connection is established with a smartphone/tablet. A special connectivity app can be used to check traveling data on a smartphone connected over Bluetooth® LE, even when using EW-EN100.

Connection method

To connect an external device wirelessly to SC-E7000 or EW-EN100, the device needs to be in connection mode. For information on how to set external devices to connection mode, refer to the user's manual for the external device.

▶ ANT connection

When the main power is turned ON for SHIMANO STEPS, communication can be received at any time. Switch the external device to connection mode and then connect it.

▶ Bluetooth® LE connection

Communication can only be received under the following conditions. Switch the external device to connection mode in advance.

- Within 15 seconds of the main power for SHIMANO STEPS turning ON
- Within 15 seconds of operating any button other than the SHIMANO STEPS power switch

▶ 2.4 GHz digital wireless systems

2.4 GHz frequency digital wireless technology is the same thing as a wireless LAN. In rare instances, strong electromagnetic waves or electromagnetic interference due to the following locations or devices may impact communication.

- TVs, PCs, radios, motors/engines, or inside vehicles or trains
- Near railroad crossings and tracks, television transmitter stations, and radar stations
- Other wireless computers or digital control lights

Items Configurable in E-TUBE PROJECT

Refer to the help manual for E-TUBE PROJECT for details.

Switch function setting		Assigns functions to each operation switch on the switch unit.
Drive unit settings	Light connection	Sets whether a light is connected to the drive unit.
	Riding characteristics	Selects the output characteristics of the drive unit.
	Maximum assist speed	Assist is provided up to the set speed. The maximum assist speed is determined by law, depending on the country of use.
	Maintenance alert	Notifies the user when maintenance is required by displaying an icon on the cycle computer when the set odometer or date is reached.
Display settings (SC-E7000)	Display units	Switches between displaying km or miles.
	Time setting	Sets the time displayed on the cycle computer.
	Beep setting	Turns the operation sound ON/OFF.
	Display language	Sets the display language.
	Font color setting	Switches the font color between black and white.
	Traveling data display	Sets whether to display each item (traveling time, average speed, maximum speed, cadence (crank rotation speed), and maximum traveling distance) on the cycle computer.
Multi shift mode setting *1		When a switch unit is used as a shifting switch, this sets the maximum number of gears that can be shifted by holding the switch down.
Other functions		<ul style="list-style-type: none"> • Error log • Update firmware • Preset • Acquire unit log

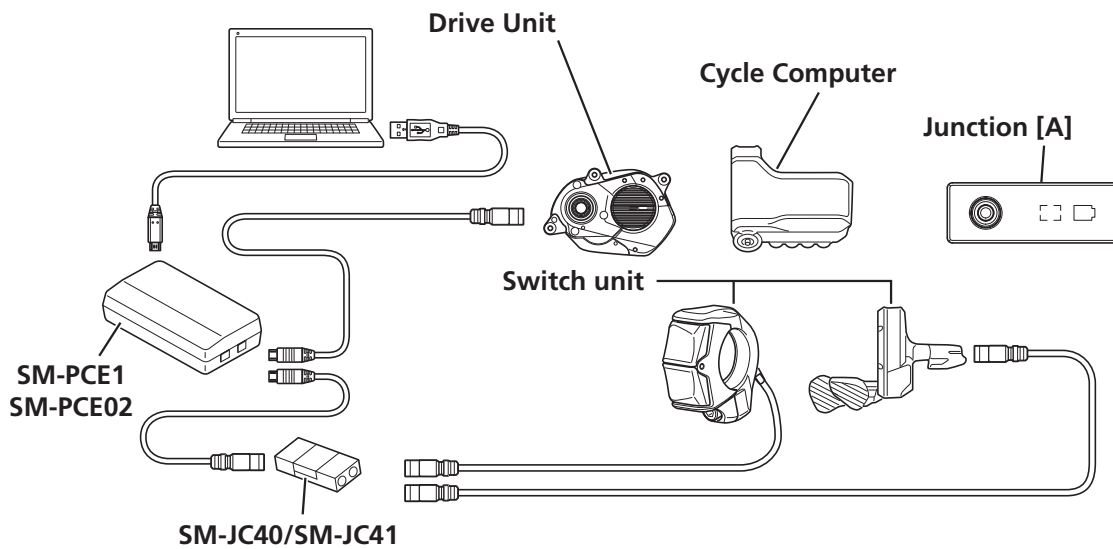
*1 Only for electronic gear shifting.

Connecting to a PC

Connect the PC to SHIMANO STEPS. You can either connect a single SHIMANO STEPS component unit, or connect all SHIMANO STEPS components installed on the bicycle at the same time.

Connection with a single unit

1. Connect the unit's E-TUBE port and the PC using the PC linkage device.



NOTICE

- SM-JC40 or SM-JC41 is required to connect a single switch unit to a PC.

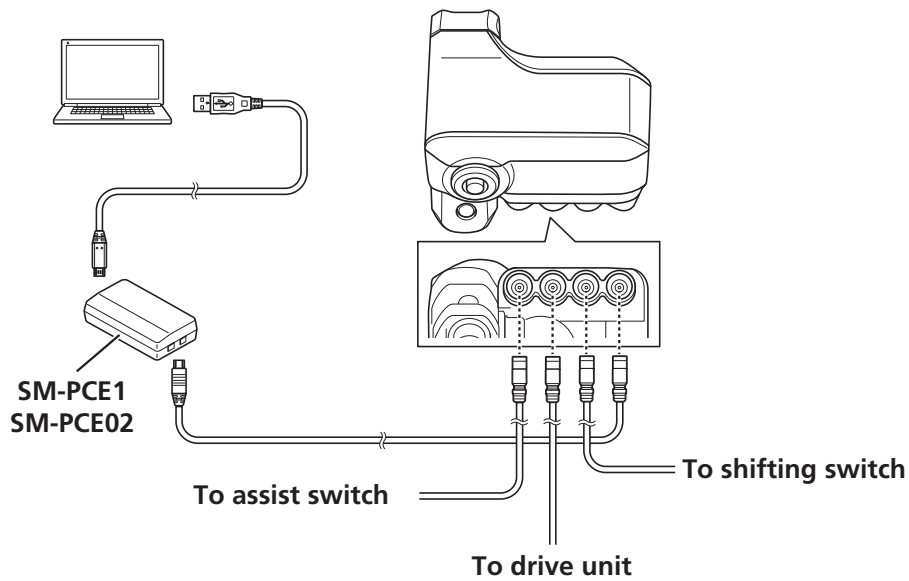
Connection with all SHIMANO STEPS components

To connect all SHIMANO STEPS components installed to the bicycle, connect the cycle computer or junction [A] to the PC. If there are no free E-TUBE ports, use either SM-JC40 or SM-JC41.

▶ SC-E7000

1. Connect the PC linkage device to a free port on the cycle computer.

- (1) Remove the dummy plug from a free port on the cycle computer.
- (2) Connect the free port on the cycle computer and the PC linkage device.

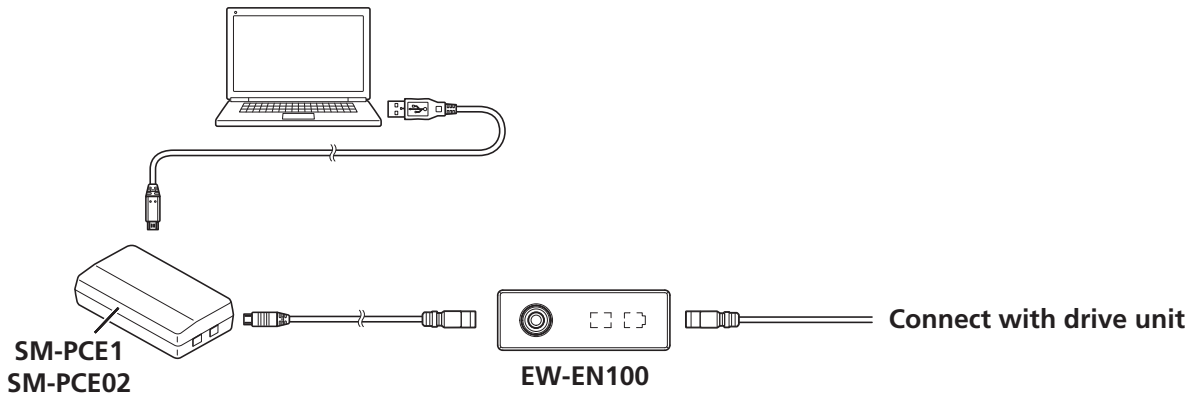


▶ EW-EN100 (with free port)

Connect as follows if EW-EN100 is not connected to anything other than a drive unit.

1. Connect the PC linkage device to a free port on EW-EN100.

- (1) Remove the dummy plug from a free port on EW-EN100.
- (2) Connect the free port on EW-EN100 with the PC linkage device.

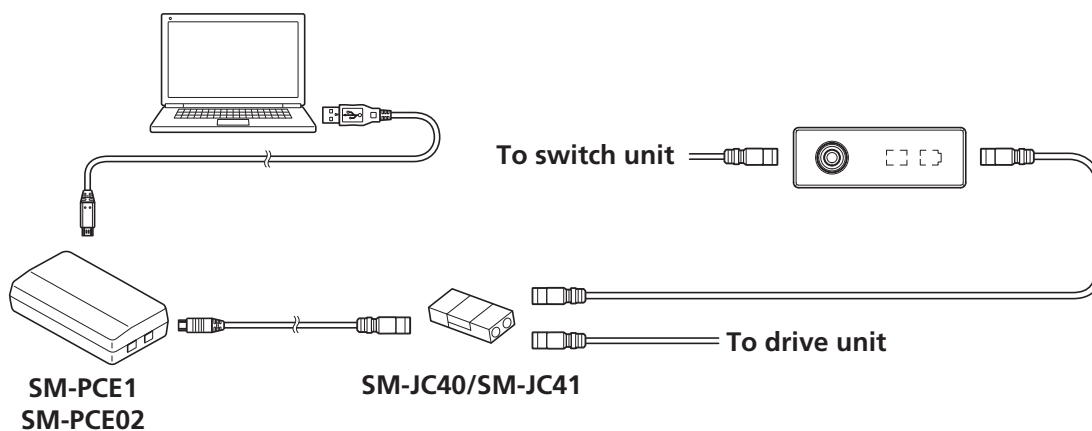


▶ EW-EN100 (without free port)

Connect as follows if a switch unit is connected and there are no free E-TUBE ports on EW-EN100.

1. Reconnect the wires from EW-EN100 to the PC as follows.

- (1) Connect SM-JC40/SM-JC41 to the PC linkage device.
- (2) Disconnect the electric wire connected to the drive unit from EW-EN100, and connect it to SM-JC40/SM-JC41.
- (3) Connect a free port on EW-EN100 and SM-JC40/SM-JC41 using an electric wire.

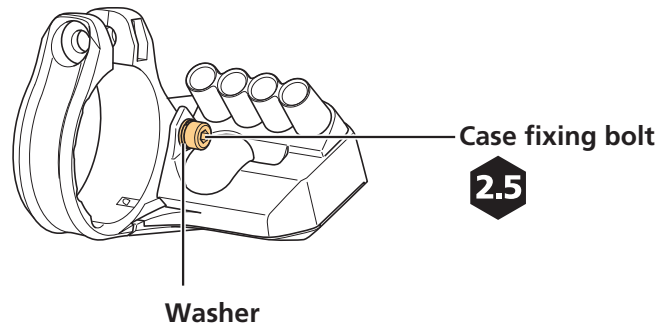


MAINTENANCE

Replacing the Clamp Band

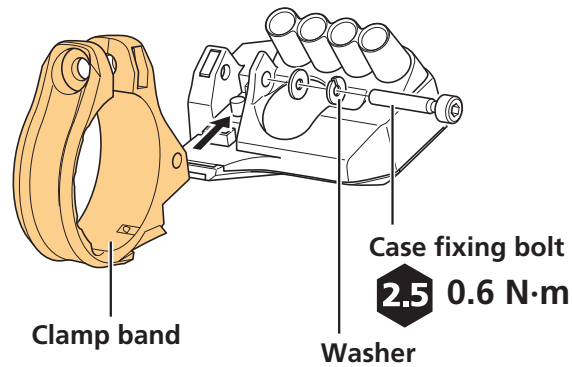
When replacing the clamp band, install a new clamp band.

1. Remove the case fixing bolt.



2. Replace the clamp band.

Remove the clamp band, and install a new clamp band.



Replacing the Front Chainring

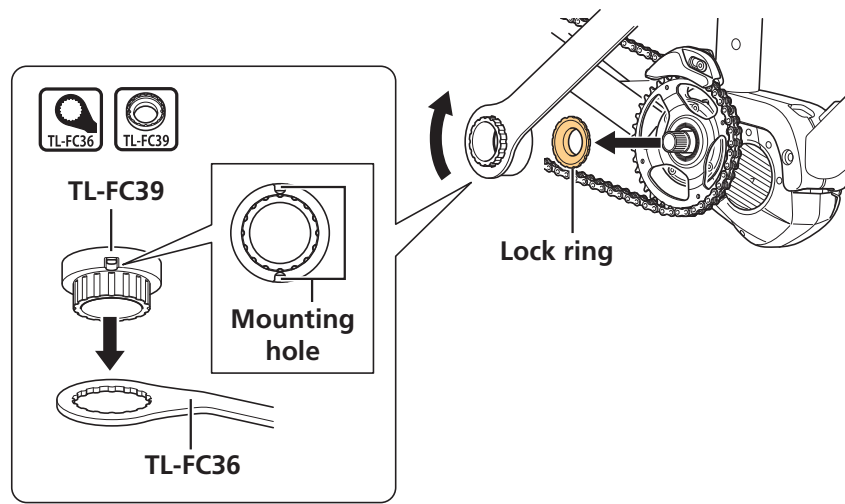
When replacing the front chainring, make sure that the chain is attached.

Refer to "Installing the Front Chainring and Crank Arms" for detailed instructions.

1. Remove the left and right crank arms.

2. Remove the lock ring (left screw).

Remove the lock ring, with the rear wheel held firmly so that it does not move.



3. Replace the front chainring.

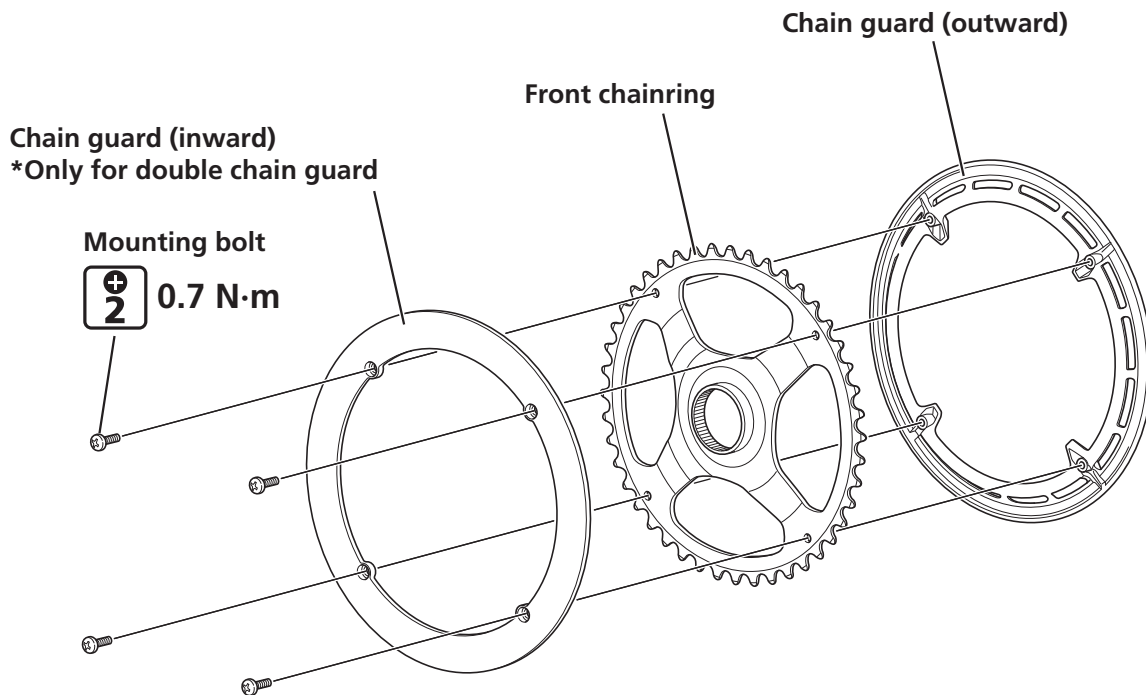
Remove front chainring, and then install a new front chainring.

Replacing the Chain Guard

To replace the chain guard, first remove the chainring from the bicycle.

Refer to the previous section, "Replacing the front chainring," for information on how to remove the chainring.

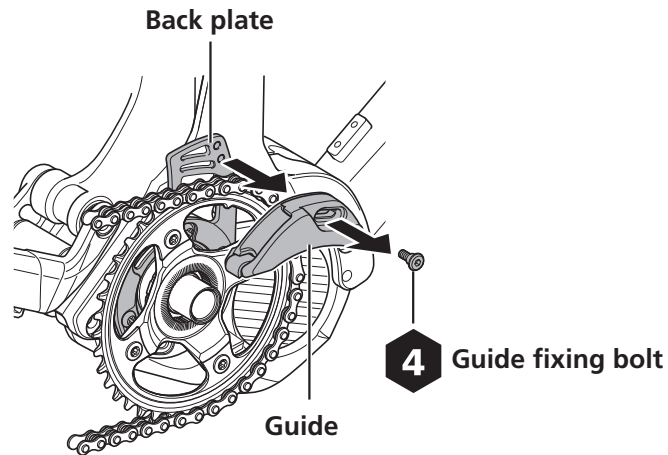
1. Remove the chainring.
2. Remove the chain guard and then replace it with a new chain guard.



Replacing the Chain Device Guide

The chain device guide can be replaced with the chainring attached to the drive unit. Refer to "Installing the Front Chainring and Crank Arms" for detailed instructions.

1. Remove the guide fixing bolt (M5).



2. Remove the guide and replace it with a new guide.

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

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