Dealer's Manual

ROAD	
	E-BIKE

SHIMANO STOPS E8000 Series

SC-E8000 SW-E8000-L SW-M9050-R SW-M8050-R RD-M9050 RD-M8050 FC-E8000 FC-E8050 SM-CRE80 SM-CRE80-B SM-CDE80 DU-E8000 SM-DUE10 SM-DUE11 SM-DUE80-A SM-DUE80-B BT-E8010 BT-E8020 BM-E8010 BM-E8020 TL-FC39 **RT-EM800 RT-EM900**

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IMPORTANT NOTICE

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

Users who are not professionally trained for bicycle assembly should not attempt to install the components themselves using the dealer's manuals. If any part of the information on the manual is unclear to you, do not proceed with the installation. Instead, contact your place of purchase or a local 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 (http://si.shimano.com).
- Please observe the appropriate rules and regulations of the country, state or region in which you conduct your business as a dealer.
- The Bluetooth[®] word mark and logos are registered trademarks owned by the Bluetooth SIG, Inc. and any use of such marks by SHIMANO INC. is under license. Other trademarks and trade names are those of 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.



Failure to follow the instructions will result in death or serious injury.



Failure to follow the instructions could result in death or serious injury.



Failure to follow the instructions could cause personal injury or physical damage to equipment and surroundings.

TO ENSURE SAFETY

A 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 of the battery.
- Do not leave the battery near sources of heat such as heaters. Do not heat the battery or throw it into a fire. Doing so may cause bursting or ignition of the battery.
- Do not subject the battery to strong shocks or throw it. If this is not observed, overheating, bursting, or fire may occur.
- 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 of the battery.
- Use the Shimano specified charger and observe the specified charging conditions when charging the specified battery. Not doing so may cause overheating, bursting, or ignition of the battery.

A WARNING

- Be sure to follow the instructions provided in the manuals when installing the product. It is recommended that you use only genuine Shimano parts. 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 abruptly and have an accident.
- Make sure that the light is on during night riding.
- Do not disassemble the product. Disassembling it may cause injury to persons.
- When charging the battery while it is installed on the bicycle, do not move the bicycle. The battery charger's power plug may not be completely inserted into the outlet, which may lead to fire.

TO ENSURE SAFETY

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 advice immediately. If this is not done, the battery liquid may damage your eyes.
- Do not recharge the battery in very humid places or the outdoors. If this is not observed, electric shocks may result.
- Do not insert or remove the plug while it is wet. If this is not observed, electric shocks may result. If there is water leaking out of the plug, dry it thoroughly before inserting it.
- If the battery does not become fully charged after 6 hours of charging, immediately unplug the battery from the outlet and contact the place of purchase. Not doing so may cause overheating, bursting, or ignition of the battery.
- Do not use the battery if it has any noticeable scratches or other external damage. Doing so may cause bursting, overheating or problems with operation.
- The operating temperature ranges for the battery are given below. Do not use the battery in temperatures outside these ranges. If the battery is used or stored in temperatures 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

Items related to installation to and maintenance of the bicycle

- Be sure to remove the battery and charger before wiring or attaching parts to the bicycle. Otherwise, an electric shock may result.
- Be sure to follow the instructions provided in the manuals when installing the product. It is recommended that you use only genuine Shimano parts. If bolts and nuts become loose or the product is damaged, the bicycle may suddenly fall over, resulting in a serious injury.
- Maintenance interval depends on the usage and riding circumstances. Clean regularly the chain with an appropriate chain cleaner. Never use alkali based or acid based solvents such as rust cleaners. If those solvent be used chain might break and cause serious injury.

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 under the direction of a safety supervisor or the directions for use. Do not allow physically, sensory, or mentally impaired persons, inexperienced persons, or persons with no required knowledge including children to use this instrument.
- Do not allow children to play near the product.
- If any malfunction or trouble occurs, consult the dealer nearest you.
- Never modify the system. 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. Otherwise, the leaked fluid may damage your skin.
- Store the battery in a safe place out of the reach of infants and pets.

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 units are designed to be fully waterproof to withstand wet weather riding conditions. However, do not deliberately place them into water.
- Do not clean the bicycle with a high-pressure washer. If water gets into any of the components, operating problems or rusting may result.
- Handle the components carefully, and avoid subjecting them to any strong shocks.
- Do not place the bicycle upside down. Doing so may damage the cycle computer or shift switch.
- Although the bicycle still functions as a normal bicycle even when the battery is removed, the light does 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 buildup of water or dirt in the connector where the battery will be connected.
- When charging the battery while it is mounted on the bicycle, be careful of the following:
- When charging, make sure there is no water on the charging port or the charger plug.
- Check that the battery mount is locked before charging.
- Do not remove the battery from the battery mount while charging.
- Do not ride the bicycle with the battery charger mounted on.
- Close the charging port cap when not charging.
- Stabilize the bicycle to ensure that it does not collapse during charging.
- The use of a genuine Shimano battery is recommended. If using a battery from another manufacturer, make sure to carefully read the instruction manual for the battery before use.
- Some of the important information in this dealer's manual can also be found on the device labels.
- The number found on the battery key is necessary when purchasing spare keys. Store it carefully.
- Use a damp cloth, with the water well wrung out, when cleaning the battery and plastic cover.
- If you have any questions about the use and maintenance of the product, consult the dealer where you made the purchase.
- Contact the place of purchase for updates of 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

A PC linkage device can be used to connect a PC to the bicycle (system or components), and E-TUBE PROJECT can be used to carry out tasks such as customizing single components or the whole system and updating firmware.

- PC linkage device: SM-PCE1
- E-TUBE PROJECT: PC application
- Firmware: software inside each component

Connection and communication with smartphone or tablet

It is possible to customize single components or the system, and update firmware, using E-TUBE PROJECT for smartphones/tablets after connecting the bicycle (system or components) to a smartphone or tablet via Bluetooth LE.

- E-TUBE PROJECT: app for smartphones/tablets
- Firmware: software inside each component

Lithium Ion Battery



Disposal information for countries outside the European Union This symbol is only valid within the European Union. Follow local regulations when disposing of used batteries. If you are not sure, consult the place of purchase or a bicycle dealer.

■ Items related to installation to and maintenance of the bicycle

- Do not use thinner or other solvents to clean any of the components. Such substances may damage the surfaces.
- You should periodically wash the chainrings in a neutral detergent. In addition, cleaning the chain with neutral detergent and lubricating it can be an effective way of extending the useful life of the chainrings and the chain.

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

Chapter1 LIST OF TOOLS TO BE USED

LIST OF TOOLS TO BE USED

Component	Where to use		Tool
Cycle computers	Clamp bolt	3mm	3 mm hexagon wrench
	Unit fixing bolt	ß	3 mm hexagon wrench
Assist switch	Lever fixing bolt	2	2 mm hexagon wrench
Electric wire	Connector	TL-EW02	TL-EW02
	Mount lower case		3 mm hexagon wrench / 8 mm spanner
Battery mount (BM-E8010)	Key unit	3	3 mm hexagon wrench
	Key unit cover		2.5 mm hexagon wrench
	Mount upper case		2.5 mm hexagon wrench
	Mount lower case	5	5 mm hexagon wrench
	Mount upper case	(Screwdriver [#2]
Battery mount (BM-E8020)	Key cylinder	2	2 mm hexagon wrench
	Key unit	5	5 mm hexagon wrench
	Key unit cover	1	Screwdriver [#2]
Speed sensor (SM-DUE10)	Speed sensor fixing bolt		4 mm hexagon wrench
Speed sensor (SM-DUE11)	Speed sensor fixing bolt	1	Hexalobular [#10]

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

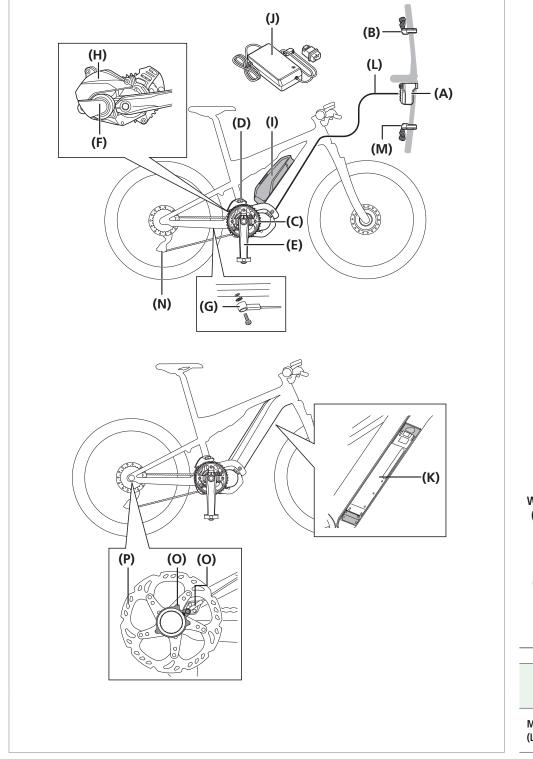
Component	Where to use	ТооІ
Magnet unit	Fixing bolt	Screwdriver [#2]
Light cable	Mounting bolt	Screwdriver [#2]
Drive unit	Drive unit fixing bolt (M8)	
Drive unit	Cover fixing bolt (M3)	Screwdriver [#2]
Crank arm	Сар	TL-FC16/TL-FC18
	Stopper plate	5 mm hexagon wrench
Chain device	Guide fixing bolt (M5)	4 mm hexagon wrench
Chain device	Back plate fixing bolt (M6)	3 mm hexagon wrench
Front chainring	Lock ring	TL-FC39 TL-FC39+TL-FC36

Chapter2 INSTALLATION

Names of parts

INSTALLATION

Names of parts



- (A) Cycle computer: SC-E8000 **(B)** Assist switch: SW-E8000-L **(C)** Front chainring: SM-CRE80/SM-CRE80-B (D) Chain device: SM-CDE80 (E) Crank arm: FC-E8000/FC-E8050 (F) Drive unit: DU-E8000 (G) Speed sensor: SM-DUE10 (H) Drive unit cover: SM-DUE80-A (type that covers drive unit ports) SM-DUE80-B (type that covers drive unit ports and the frame installation bolts) (I) Battery (external type)/ Battery mount (external type): BT-E8010/BM-E8010 (J) Battery charger: EC-E6000 (K) Battery (built-in type)/ Battery mount (built-in type): BT-E8020/BM-E8020 (L) E-TUBE (EW-SD50) When using electronic gear shifting **(M)** Shifting switch: SW-M9050-R/SW-M8050-R (N) Rear derailleur (DI2): RD-M9050/RD-M8050 (O) Speed sensor:
- SM-DUE11 (P) Disc brake rotor:
- RT-EM800/RT-EM900



Maximum cable length (EW-SD50) (L) \leq 1,600 mm

Product specifications

Product specifications

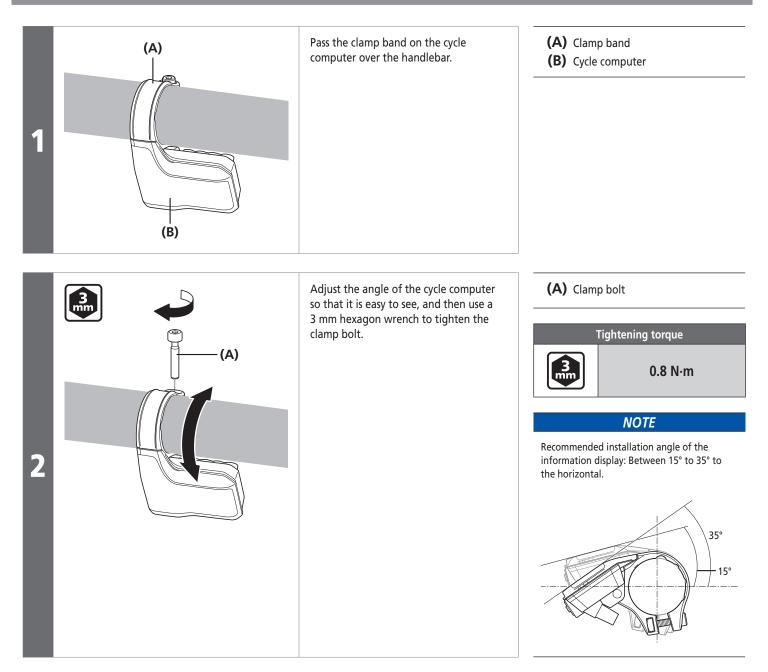
Operating temperature range: During discharge	-10 – 50°C	Battery type	Lithium Ion Battery
Operating temperature range: During charging	0 – 40°C	Nominal capacity	Refer to the user's manual for the battery "UM-70F0A". For the latest information on manuals, see the website (http://si.shimano.com).
Storage 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	Brush-less DC
Charging time	Refer to the user's manual for the battery "UM-70F0A". For the latest information on manuals, see the website (http://si.shimano.com).	Rated drive unit power	250 W

* The maximum speed up to which power assistance is provided is set by the manufacturer and is conditional on where the bicycle is to be used.

Installing the cycle computer

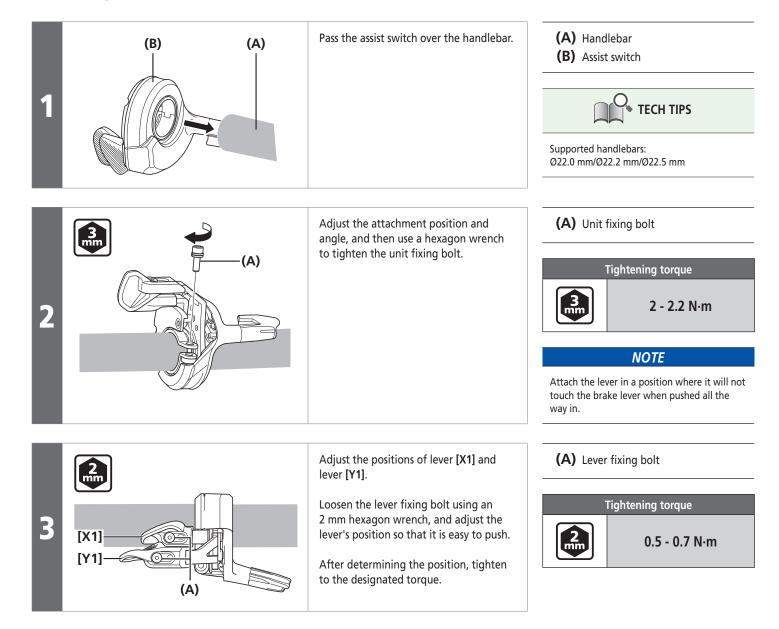
Installing the cycle computer

Installing to the handlebar



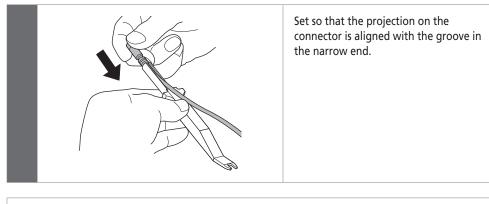
Installing the assist switch

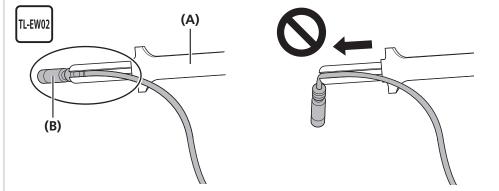
Installing the assist switch



Connecting the electric wire

Connecting the electric wire



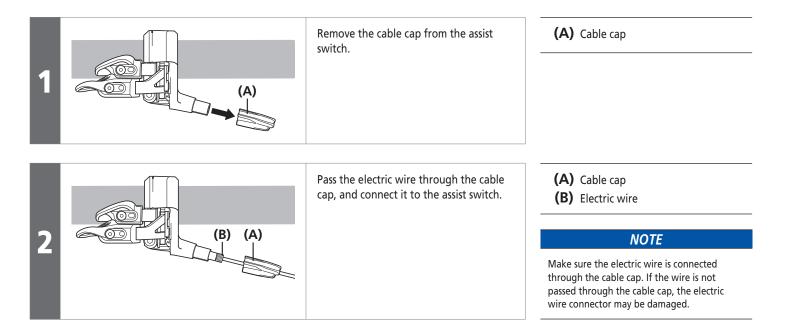


(A) TL-EW02(B) Plug

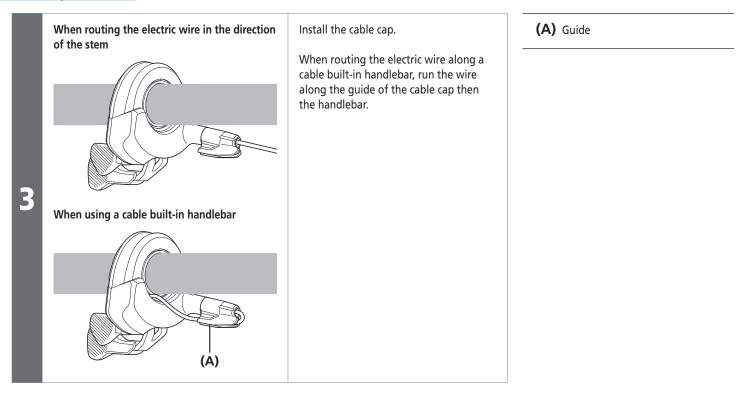
NOTE ano original tool for in

Use the Shimano original tool for installation and removal of the electric wire. When installing the electric wire, do not forcibly bend the plug. It may result in a poor contact. When connecting the electric wire, push it in until it clicks in place.

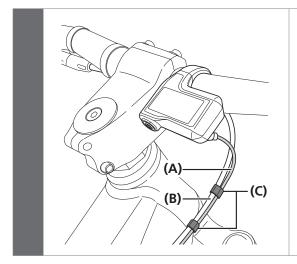
Connect the electric wire to the assist switch



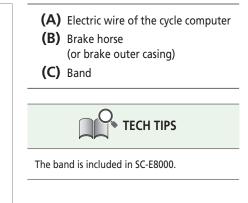
Connecting the electric wire



Securing the electric wire (SC-E8000)

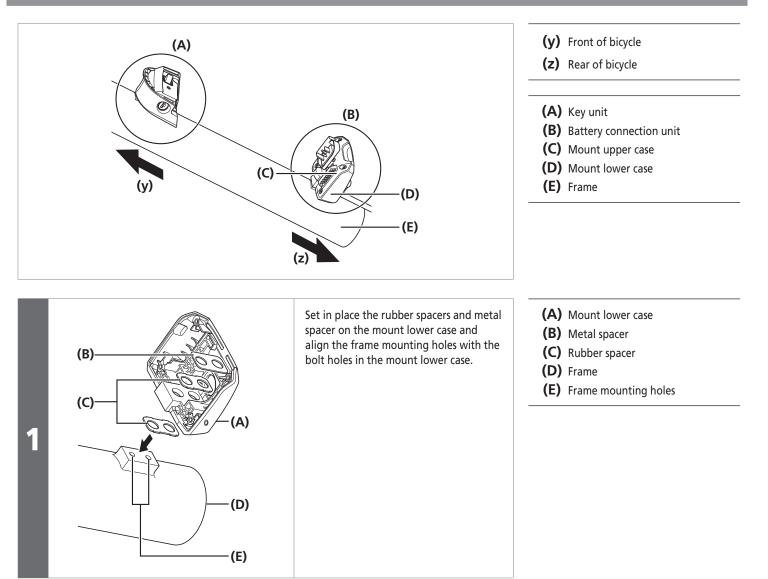


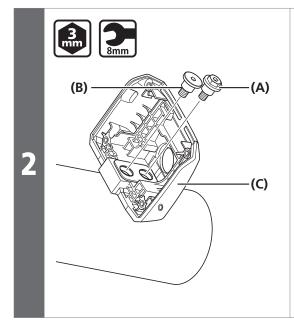
Bind the brake horse (or brake outer casing) to the electric wire connecting the cycle computer and drive unit, using the band, as shown in the illustration.



Installing the battery mount

BM-E8010





Secure the mount lower case by tightening the two types of mount fixing bolt (M5).

Tighten the mount fixing bolt (M5) (low head type) first.

Temporarily attach the key unit with the key unit fixing bolts (M5).

3

Adjust the position of the key unit so that the distance between section (A) of the key unit and section (B) of the mount lower case is 224.4 mm and then fully

tighten the key unit fixing bolts.

 Tightening torque

 Image: State of the state of the

(A) Mount fixing bolt (M5)

(B) Mount fixing bolt (M5) (low head type):

the mount fixing bolt.

fixing bolt.

(C) Mount lower case

(A) Key unit:

(C) Washer

(hexagon bolt type):

Use a 3 mm hexagon wrench or 8 mm spanner on the mount

Use a 3 mm hexagon wrench on

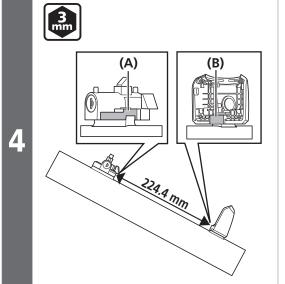
Tightening torque

Key unit is not included with

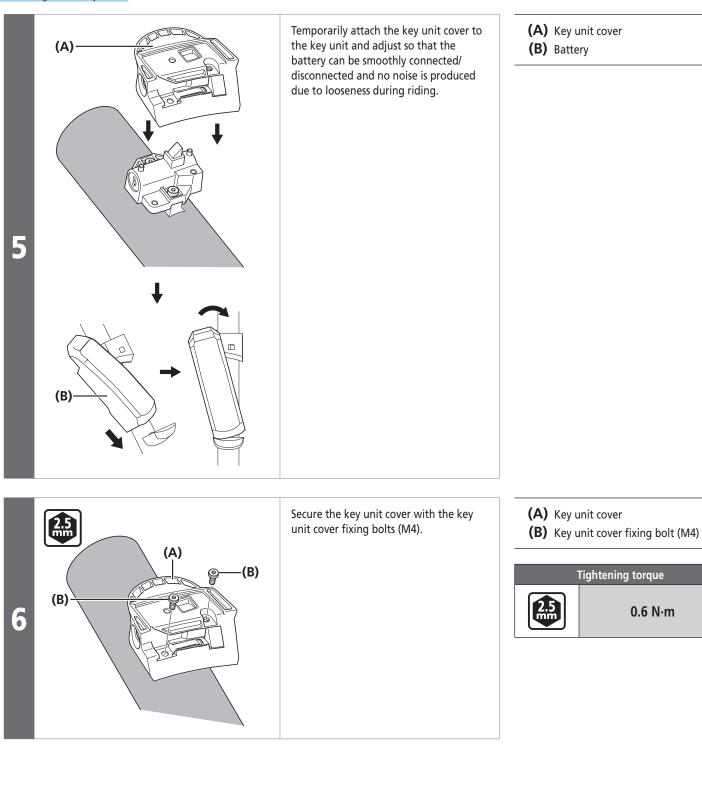
Shimano products.

(B) Key unit fixing bolt (M5)

3 N·m

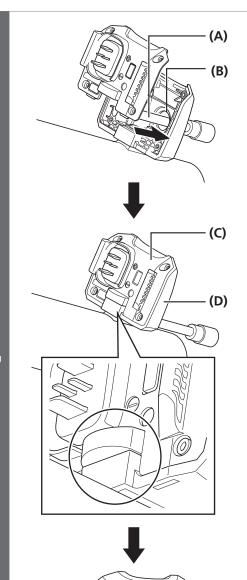


To be continued on next page



7

Installing the battery mount



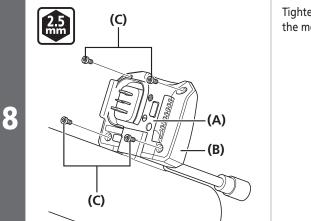
Route the power cord through the cable routing hole.

Align the protruding parts of the mount upper case and mount lower case.

Pull the power cord until the rubber bush is implanted in the cable routing hole.

(A) Power cord

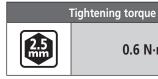
- (B) Cable routing hole
- (C) Mount upper case
- (D) Mount lower case
- (E) Rubber bush



(E)

Tighten on the mount upper case using the mount upper case fixing bolts (M3).

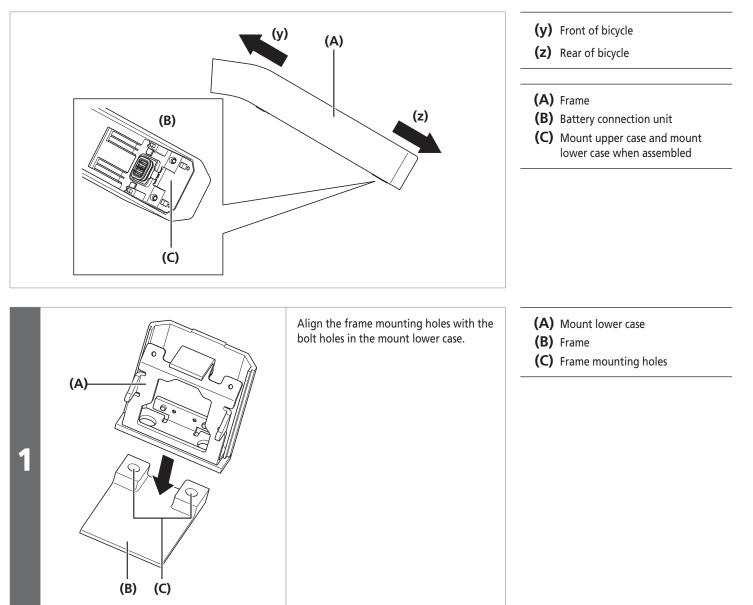
- (A) Mount upper case
- (B) Mount lower case
- (C) Mount upper case fixing bolt (M3)

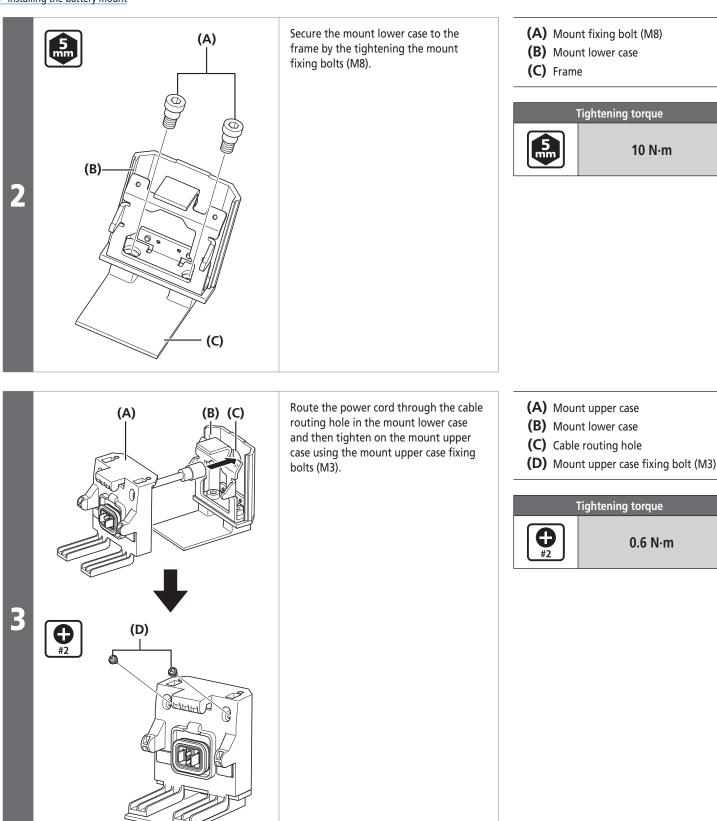


0.6 N·m

BM-E8020

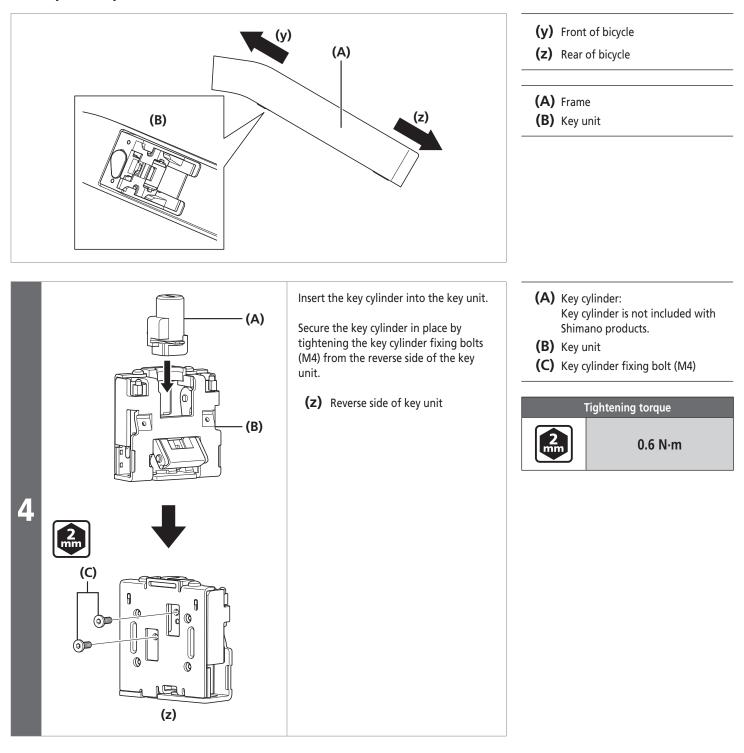
Assembly of the battery connection unit





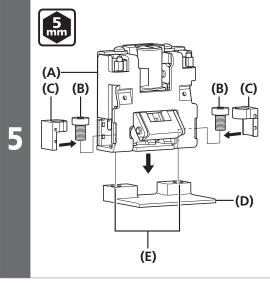
10 N·m

Assembly of the key unit



Chapter2 INSTALLATION

Installing the battery mount



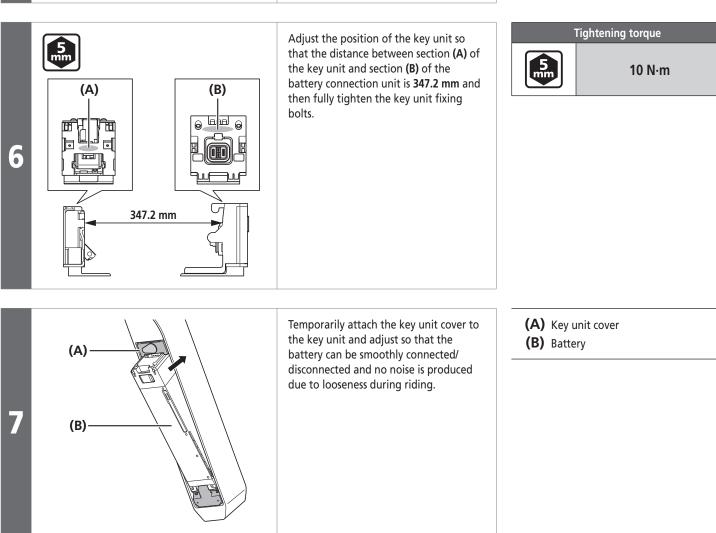
Align the fixing bolt holes in the key unit with the frame mounting holes.

Temporarily attach the key unit to the frame with the key unit fixing bolts (M8).

Attach the bolt dropout prevention rubbers.

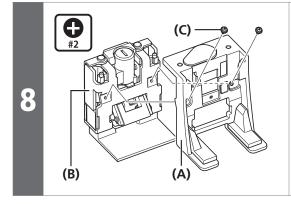
(A) Key unit

- (B) Key unit fixing bolt (M8)
- (C) Bolt dropout prevention rubber
- (D) Frame
- (E) Frame mounting holes



Chapter2 INSTALLATION

Installing the battery mount



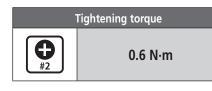
Attach the key unit cover to the key unit.

Secure in place the key unit with the key unit fixing bolts (M3).

(A) Key unit cover

(B) Key unit

(C) Key unit cover fixing bolt (M3)

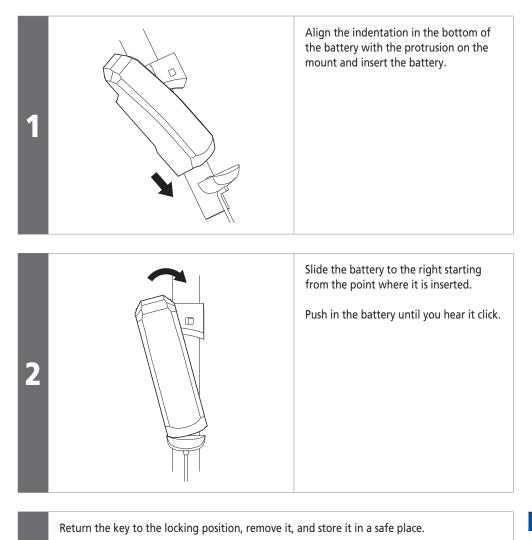


Installing / removing the battery

Installation of the battery

BT-E8010

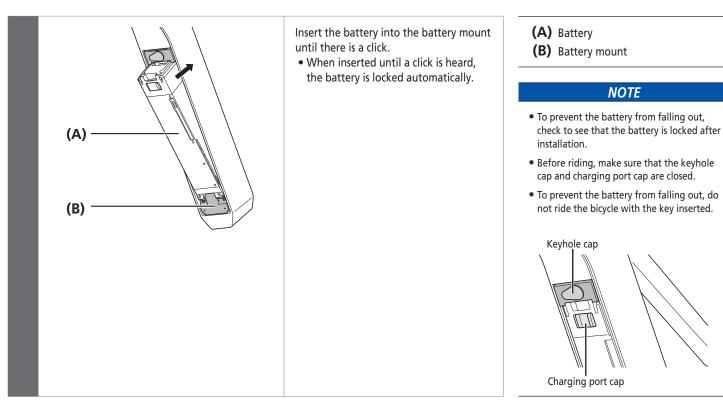
3



NOTE

- To prevent the battery from falling out, check to see that the battery is locked after installation.
- Before riding, make sure that the charging port cap is closed.
- To prevent the battery from falling out, do not ride the bicycle with the key inserted.

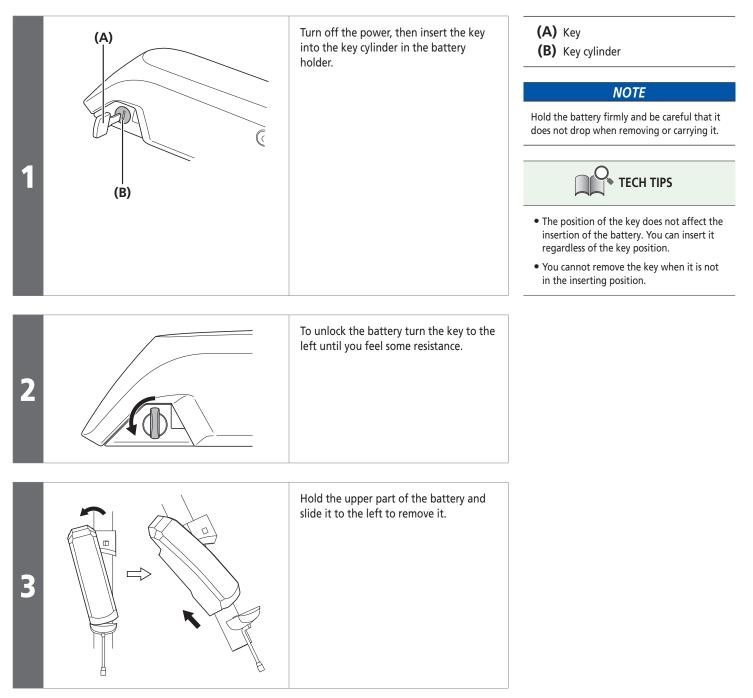
BT-E8020



Removing the battery

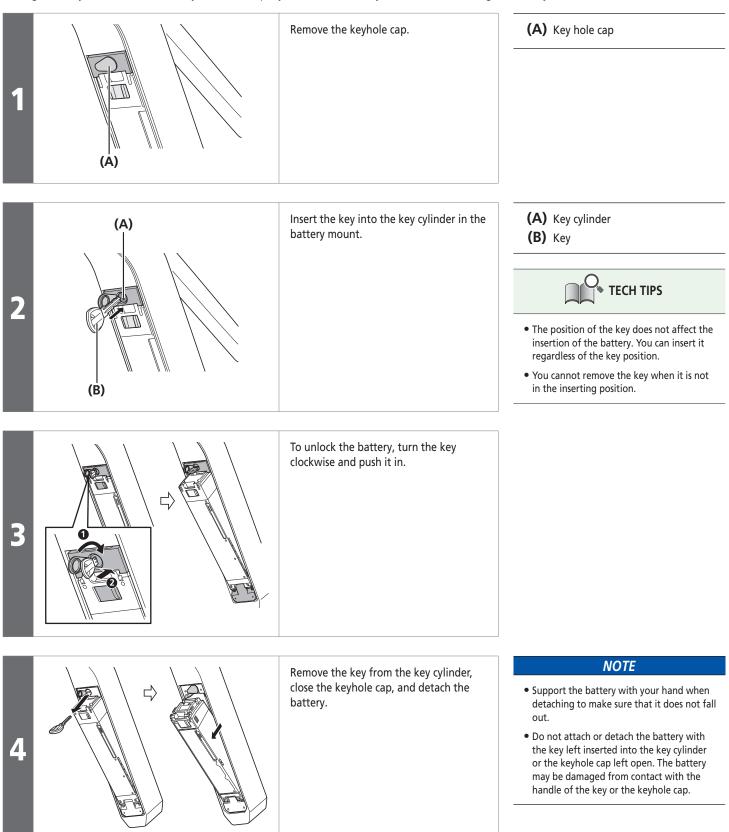
The following description may not be applicable as different types of keys are available.

BT-E8010



BT-E8020

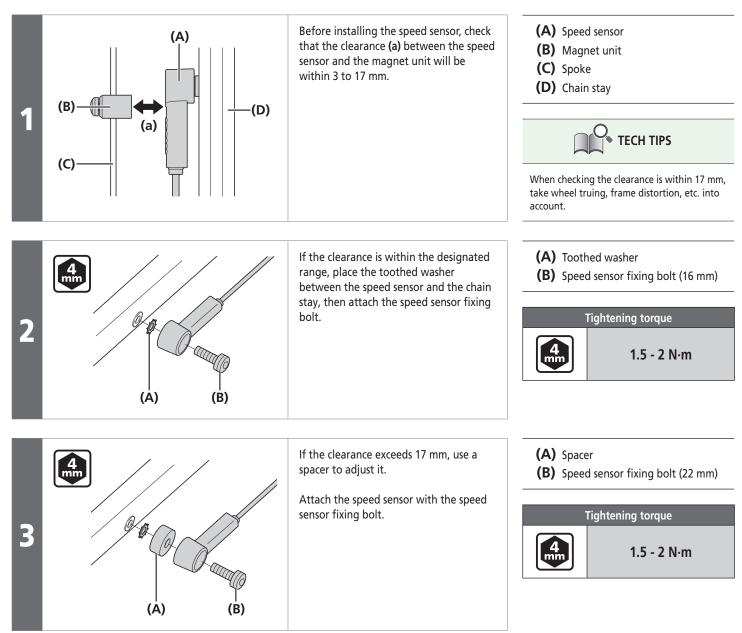
If using a battery cover manufactured by another company, remove the battery cover before removing the battery.



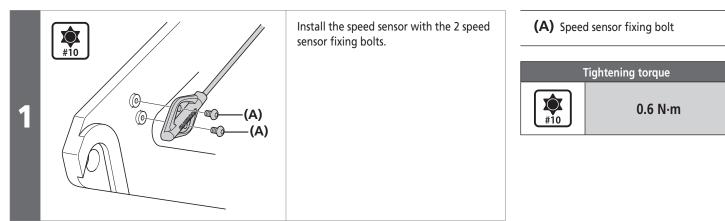
Installing the speed sensor

■ Installing the speed sensor

SM-DUE10



SM-DUE11

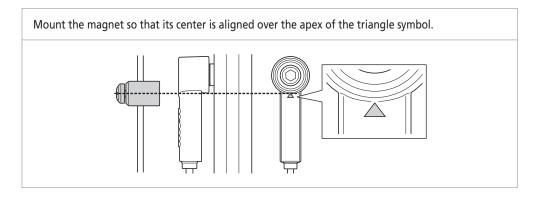


Mounting the magnet

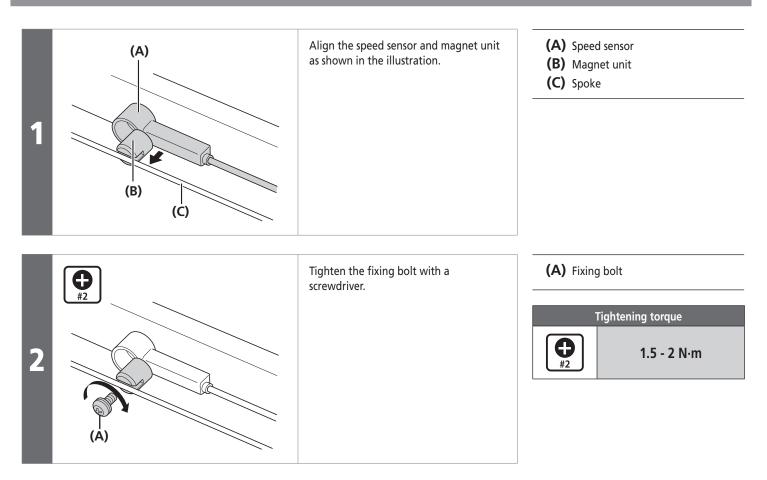
Mounting the magnet

SM-DUE10

Magnet mounting position



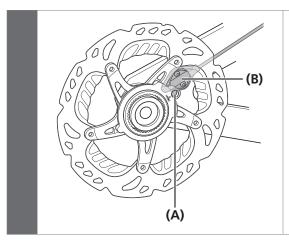
How to mount the magnet



Chapter2 INSTALLATION

Mounting the magnet

SM-DUE11



Use the special magnet model for the disc brake rotor.

(A) Magnet unit

(B) Speed sensor

NOTE

Refer to General Operations for installation of the disc brake rotor.

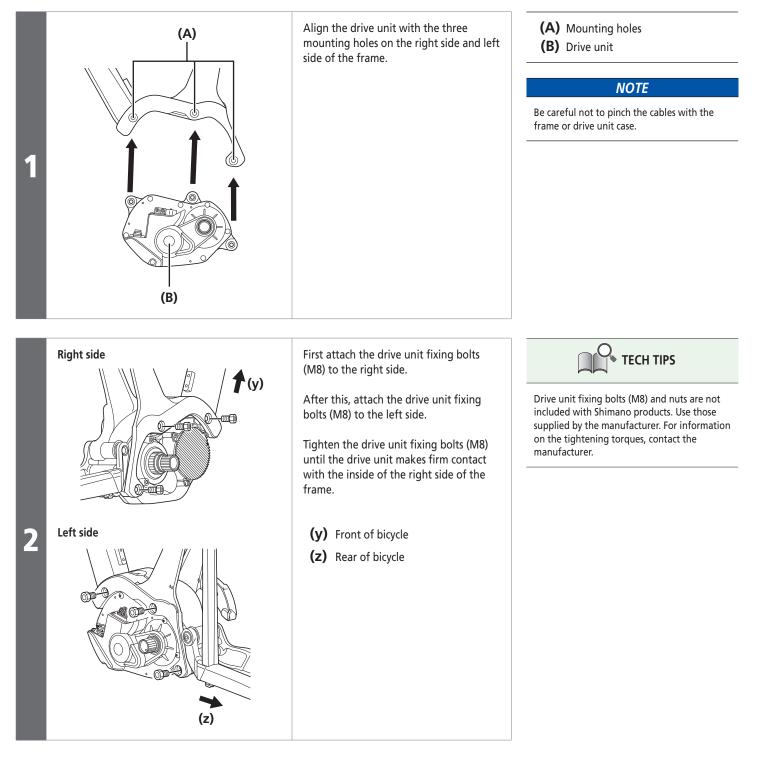
Chapter3 INSTALLING AND WIRING THE DRIVE UNIT

Installing the drive unit

INSTALLING AND WIRING THE DRIVE UNIT

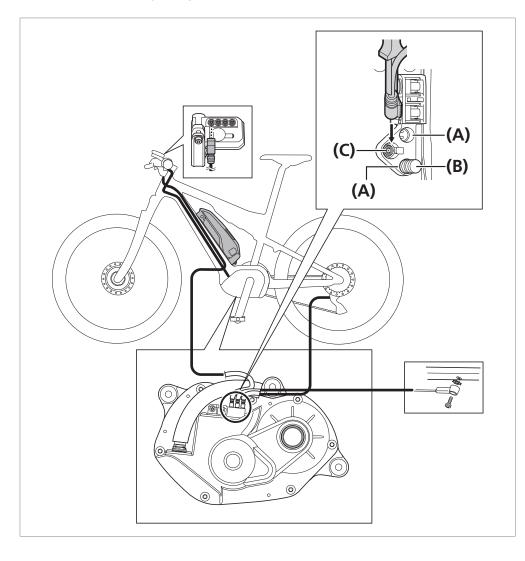
Installing the drive unit

Route the cables before installing the drive unit.



Drive unit wiring diagram

Drive unit wiring diagram



- (A) Cycle computer port/ Rear derailleur port/E-TUBE port
- **(B)** Dummy plug
- (C) Speed sensor port

NOTE

Be sure to attach dummy plugs to any unused ports.

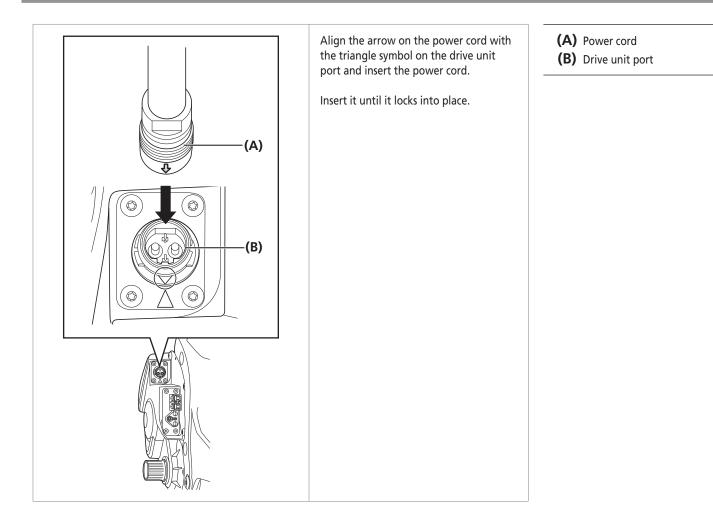


The cycle computer/rear derailleur ports can be used to connect the cycle computer or rear derailleur.

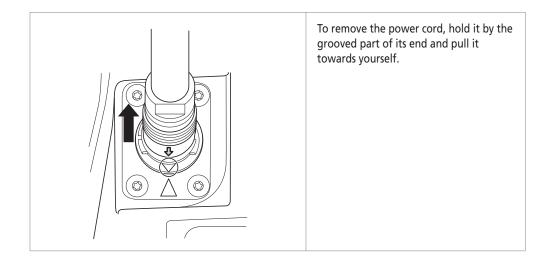
Connecting the power cord

Connecting the power cord

Connecting to the drive unit

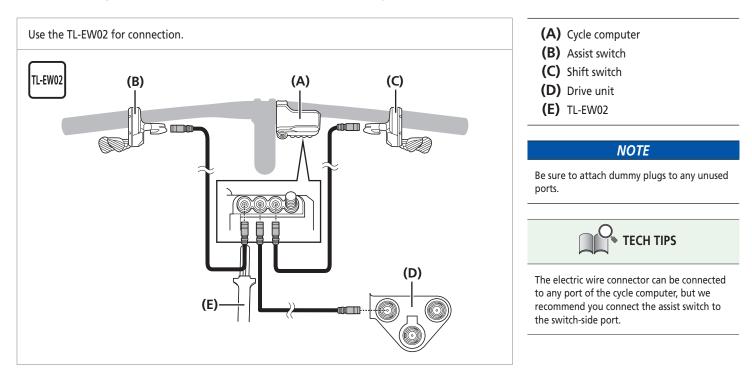


Disconnecting from the drive unit

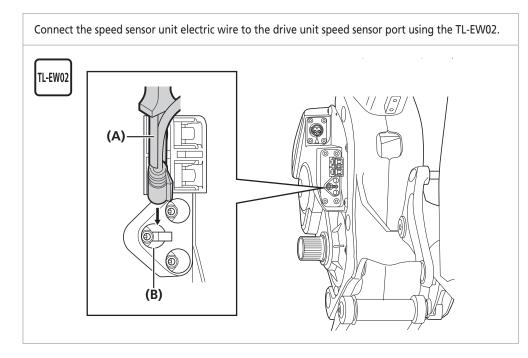


Connecting switches and the drive unit to the cycle computer

Connecting switches and the drive unit to the cycle computer



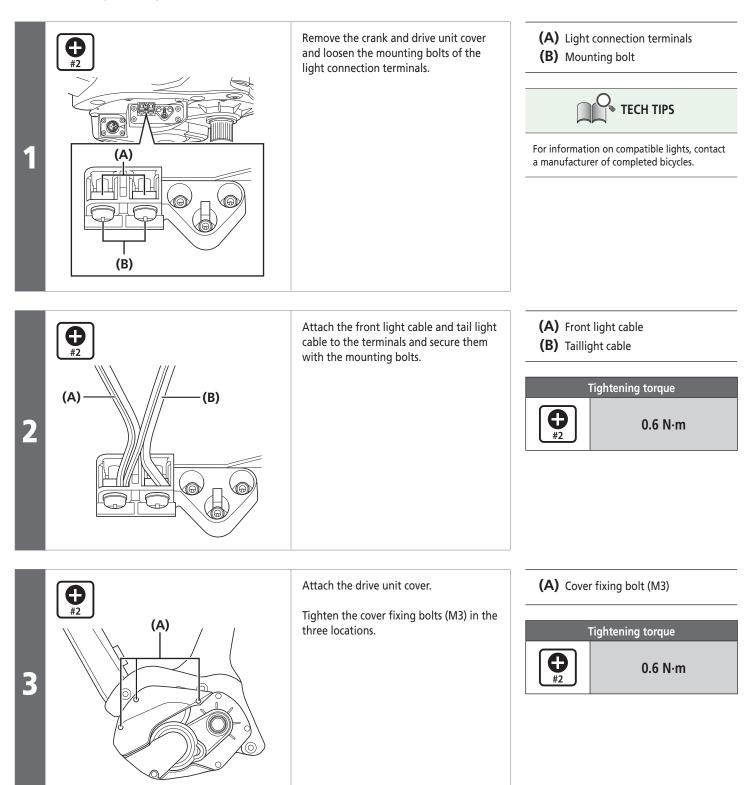
Connecting the speed sensor to the drive unit



- **(A)** TL-EW02
- (B) Speed sensor port

Connecting the light cable to the drive unit

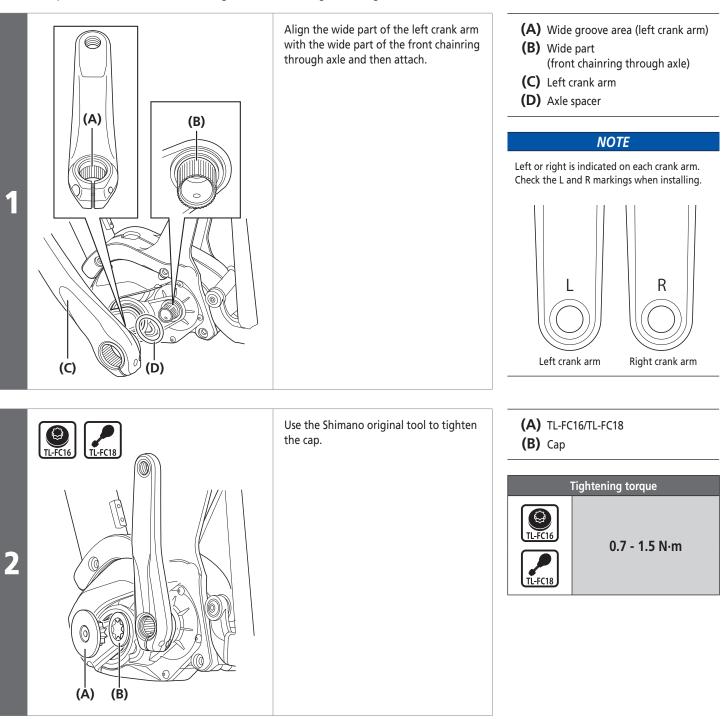
Connecting the light cable to the drive unit



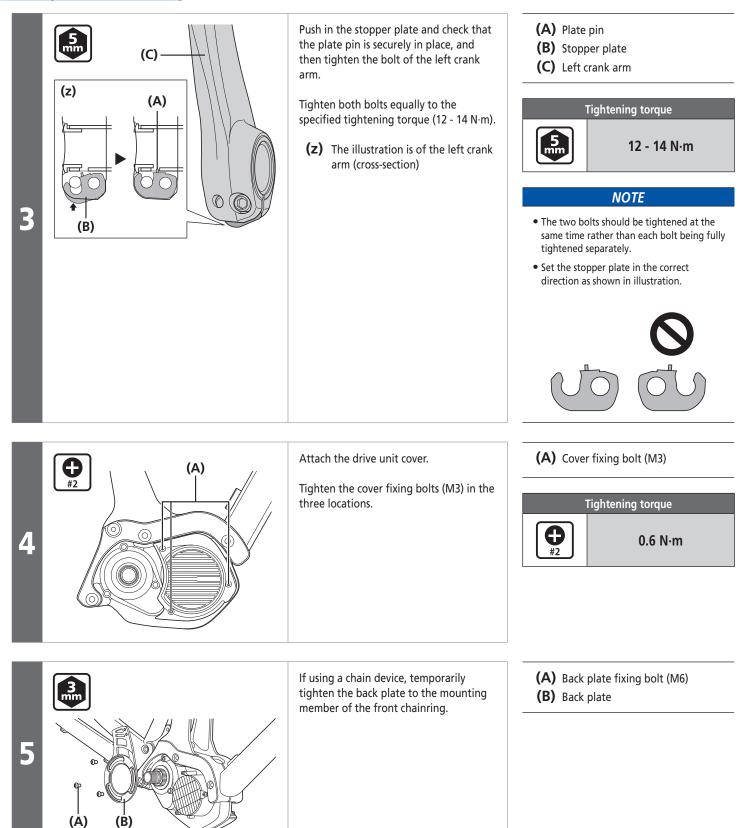
Installing the crank and front chainring

Installing the crank and front chainring

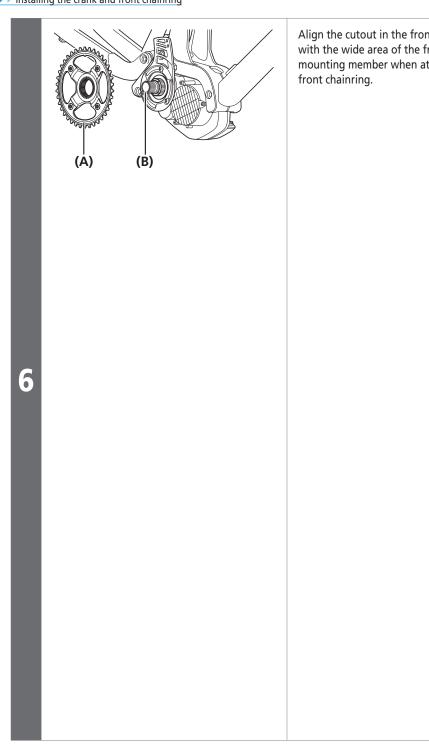
Perform the procedure below for all models, regardless of whether gear shifting is electrical or mechanical.



Installing the crank and front chainring



Installing the crank and front chainring



7 (A)

Align the cutout in the front chainring with the wide area of the front chainring mounting member when attaching the

(A) Front chainring (SM-CRE80-B)

(B) Chainring mounting member

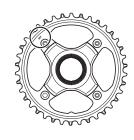
NOTE

• Use the front chainring and chain device combinations specified in the table.

Front chainring	Chain device
SM-CRE80 (34T/38T CL: 50 mm)	Frame mount type
SM-CRE80 (44T CL: 50 mm Double chain guard)	-
SM-CRE80-B (34T/38T CL: 53 mm)	Drive unit mount type

• Note the difference between the front and back of the chainring. The front has a gear size (tooth number) marking.

Front



Back



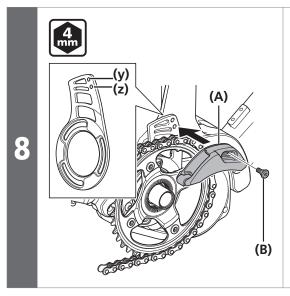
(A) Chain

NOTE

When mounting the chain, make sure to match chainring tooth thickness (thick/thin) and chain inner width (wide/narrow).

Mount the chain on the chainring.

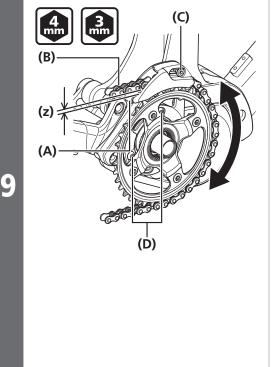
Installing the crank and front chainring



Determine the position of the guide according to the number of teeth on the crank.

Install the guide by temporarily tightening the guide fixing bolt (M5)

- **(y)** 38T
- **(z)** 34T



If using a chain device, after attaching the chain, rotate the back plate so that the clearance between the chain and the rubber band is 0-1 mm.

Adjustment should be performed under the following conditions.

- Chain is engaging the smallest sprocket
- Rear suspension is fully extended

After adjustment, fully tighten the back plate and guide.

(z) 0 - 1 mm

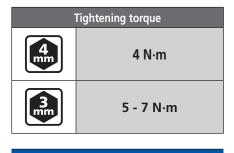


(B) Guide fixing bolt (M5)

- (A) Rubber band
- (B) Chain

(C) Guide fixing bolt (M5) (4 mm hexagon wrench)

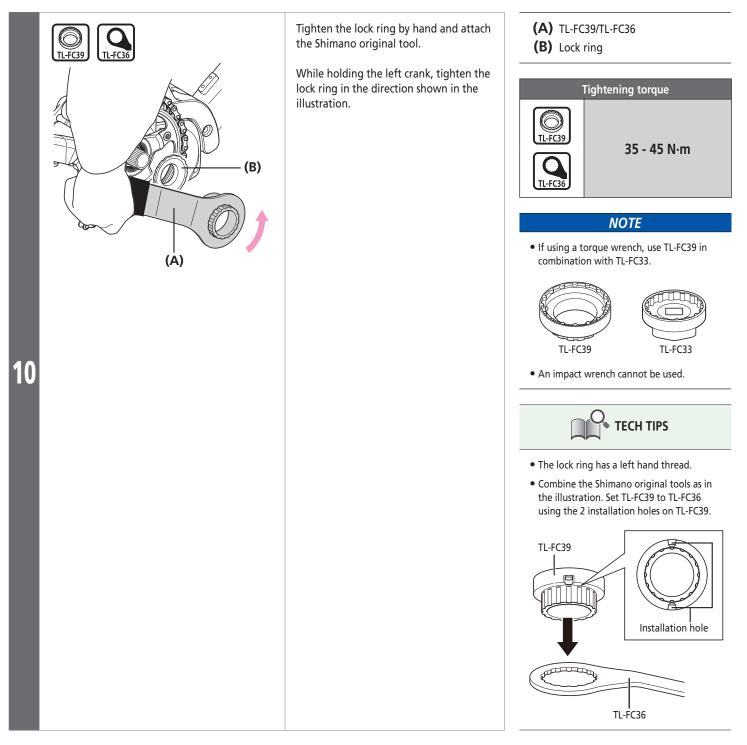
(D) Back plate fixing bolt (M6) (3 mm hexagon wrench)



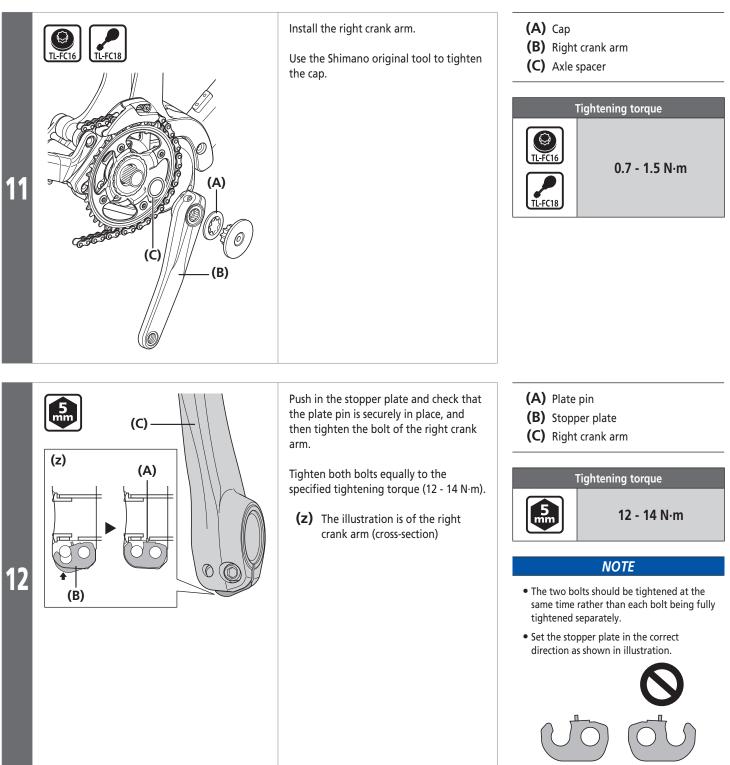
NOTE

If the chain and chain device interfere with each other when SM-CDE80 is used on a bicycle with Rear suspension at sag position, please adjust angle the chain device not to touch chain in the position of Low gear.

Installing the crank and front chainring



Installing the crank and front chainring



Chapter4 CHARGING THE BATTERY

CHARGING THE BATTERY

The battery cannot be used immediately after purchase as it will be in deep sleep mode. Charging the battery with the dedicated battery charger will release the battery from deep sleep mode, allowing the battery to be used.

The battery can be used when the LED on it turns on.

The battery can also be released from deep sleep mode by connecting to E-TUBE PROJECT when the bicycle is fitted with all components.

Proper use of the battery

Charging can be carried out at any time regardless of the amount of charge remaining, but you should fully charge the battery in the following cases. Be sure to use the dedicated charger to charge the battery.

• The battery is uncharged at the time of shipment. Before riding, be sure to charge the battery until it is fully charged.

If the battery has become completely discharged, charge it as soon as possible. If you leave the battery uncharged, the battery may deteriorate.

- If the bicycle will not be ridden for a long period of time, store it away with approximately 70% battery capacity remaining. In addition, take care not to let the battery become completely empty by charging it every 6 months.
- Do not connect to E-TUBE PROJECT while the battery is being charged.

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

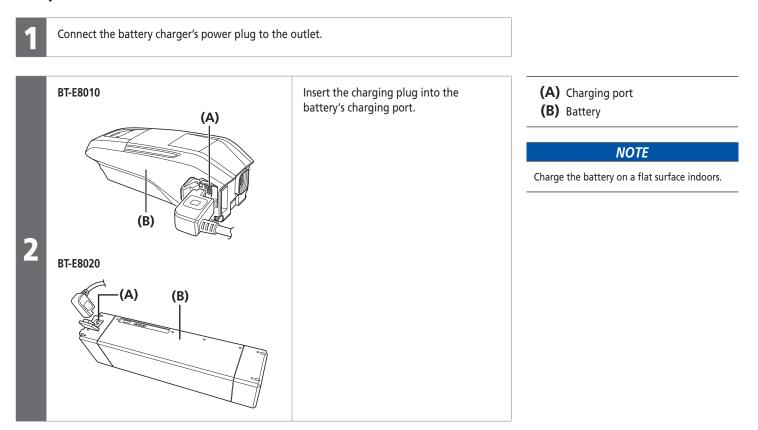
• Connect to E-TUBE PROJECT and click [Connection check] to confirm whether the battery in use is a genuine Shimano battery or another brand.

Charging the battery

Charging the battery

When charging the battery alone

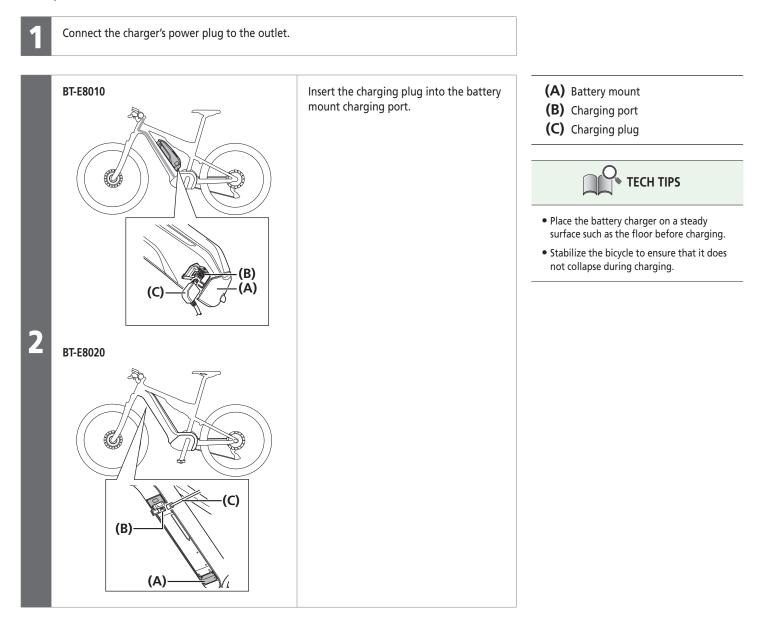
Battery charger: EC-E6000 Battery: BT-E8010/BT-E8020



Charging the battery

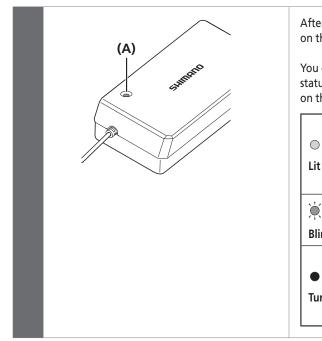
When charging the battery while it is mounted on the bicycle

Battery charger: EC-E6000 Battery: BT-E8010/BT-E8020



About the charger LED lamp

About the charger LED lamp



After charging has started, the LED lamp on the charger lights up.

You can check the current charging status on the battery level lamp located on the battery.

O Lit up	Charging (Within 1 hour after the completion of	
	charging)	
) Blinking	Charging error	
	Battery disconnected	
	(1 hour or more after	
Turned off	the completion of	
	charging)	

(A) Charger LED lamp

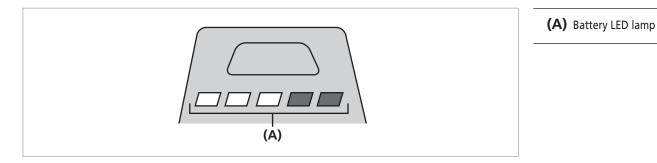
A DANGER

Use the battery and charger combination specified by the company for charging and follow the charging conditions specified by the company. Not doing so may cause overheating, bursting, or ignition of the battery.

NOTE

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, it starts to deteriorate slightly.

About the battery LED lamps



Charging-in-progress indication

Battery level indication *1	Battery level
ii 	0% - 20%
	21% - 40%
	41% - 60%
	61% - 80%
	81% - 99%
	100%

* 1 🛲 : No light 👝 : Lit up 📺 : Blinking

About the battery LED lamps

Battery level indication

The current battery level can be checked by pressing the battery's power button.

Battery level indication *1	Battery level
	100% - 81%
	80% - 61%
	60% - 41%
	40% - 21%
	20% - 1%
	0% (When battery is not installed on bicycle)
	0%, Power off / Shutdown (When battery is installed on bicycle)
	* 1 🛲 : No light 👘 : Lit up 🚔 : Blinking

NOTE

When remaining battery capacity is low, system functions begin to shut off in the following order. 1. Power assistance (Assist mode automatically switches to [ECO] and then assistance shuts off. The

switch to [ECO] occurs earlier if a battery-powered light is connected.)

2. Gear shifting

3. Light

About the battery LED lamps

Error indication

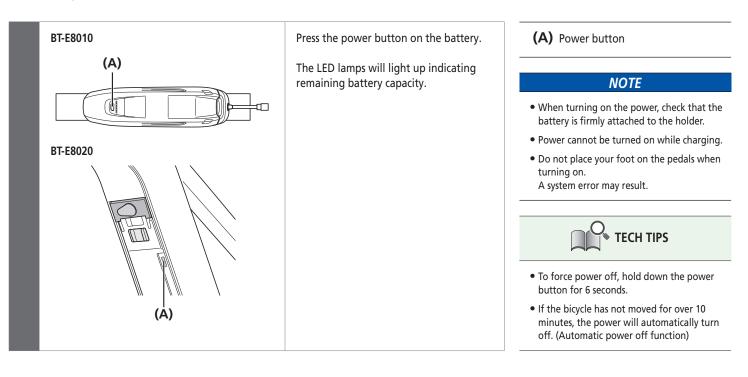
System errors and similar warnings are indicated by the battery LED lamps through various lighting patterns.

Error indication type	Indication condition	Lighting pattern *1	Recovery
System error	Communication error with the bicycle system	ii 	Make sure that the cable is not loose or improperly connected. If the situation does not improve, contact an agency.
Temperature protection	If the temperature exceeds the guaranteed operating range, the battery output is turned off.		Leave the battery in a cool place away from direct sunlight until the internal temperature of the battery decreases sufficiently. If the situation does not improve, contact an agency.
Security authentication error	This is displayed if a genuine drive unit is not connected. This is displayed if any of the cables are disconnected.		Connect a genuine battery and drive unit. Check the condition of the cables. If the situation does not improve, contact an agency.
Charging error	This is displayed if an error occurs during charging.		Remove the connector between the battery and charger, and press the power switch with only the battery connected. If an error appears with only the battery connected, contact an agency.
Battery malfunction	Electrical failure inside the battery	i i	Connect the charger to the battery and then remove the charger. Press the power switch with only the battery connected. If an error appears with only the battery connected, contact an agency.

* 1 📺 : No light 📺 : Lit up 🚞 : Blinking

Turning the power ON / OFF

■ Turning the power ON / OFF



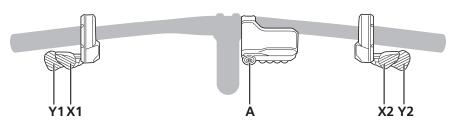
Chapter5 HOW TO OPERATE

About the functions of the assist switches and shift switches

HOW TO OPERATE

About the functions of the assist switches and shift switches

The following explains the operation procedure for cases where the switch settings are set to the default values.

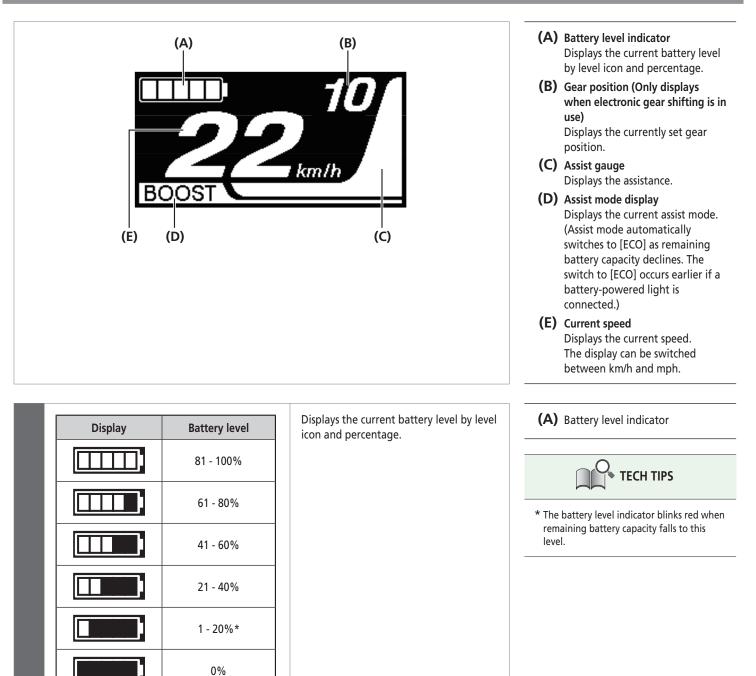


SW-E8000-L		SW-M8050-R (SW-M9050-R)	
X1	Switching assist modes: the level of assistance becomes stronger	X2	Shifting gears: pedaling becomes heavier
Y1	Switching assist modes: the level of assistance becomes weaker	Y2	Shifting gears: pedaling becomes lighter
Α	Changing the cycle computer display		

Cycle computer display and setting

Cycle computer display and setting

Basic screen display of the cycle computer

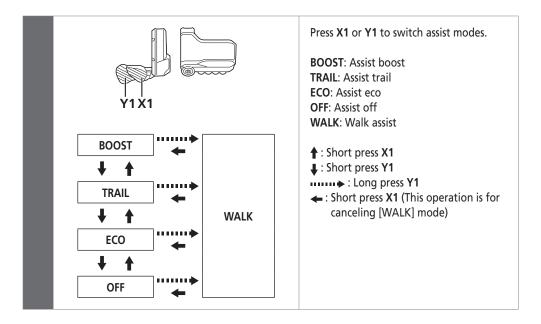


Assist mode

Assist mode



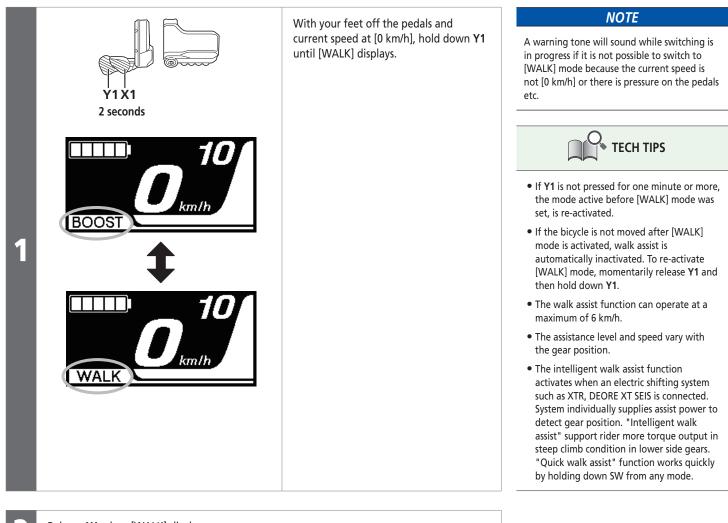
Changing assist mode



(A) Assist mode display

Assist mode

Switching to [WALK] mode (walk assist mode)



```
2
```

Release Y1 when [WALK] displays.

2

Hold down Y1 again to activate walk assist.

• Walk assist remains active provided Y1 is being held down.

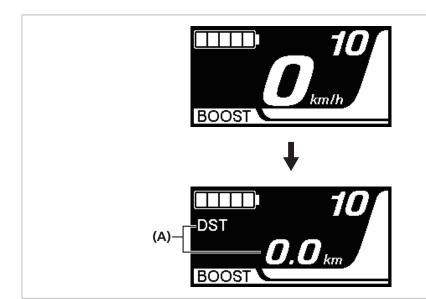
Δ

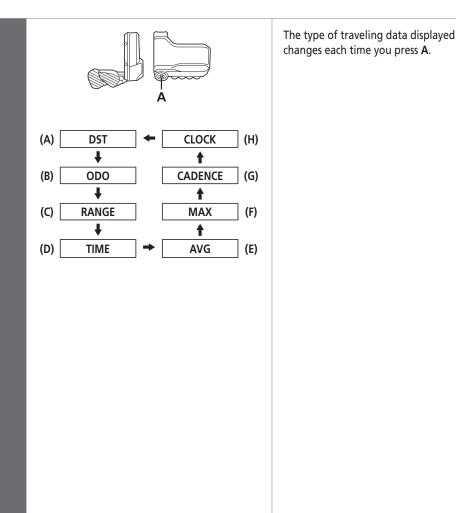
To cancel [WALK] mode, release Y1 and press X1.

• When [WALK] mode is canceled, the mode active before [WALK] mode was set, is re-activated.

Switching between displayed traveling data

Switching between displayed traveling data





(A) Traveling distance
(B) Cumulative distance
(C) Maximum traveling distance *1, 3
(D) Traveling time (optional) *2

(A) Traveling data display

- (E) Average speed (optional) *2
- (F) Maximum speed (optional) *2
- (G) Number of crank rotations *2
- (H) Current time
- *1 When [RANGE] is displayed, the battery level is not displayed. The traveling range should be used as a reference only.
- *2 Optional item: You can configure the display settings in E-TUBE PROJECT. For details, refer to "CONNECTION AND COMMUNICATION WITH DEVICES"-"Settings customizable in E-TUBE PROJECT".
- *3 When walk assistance is functioning, the on screen display [RANGE] changes to [RANGE ---].

NOTE

When traveling data is displayed, the screen returns to speed display after 60 seconds. When speed data is displayed, pressing A changes the traveling data displayed starting with [DST].



Holding down A when DST is displayed clears all traveling data.

Switching between displayed traveling data

Clearing the traveling distance

You can clear the traveling distance in the main screen.



2

Change the traveling data display to [DST] and press A for 2 seconds.

Release the finger when the [DST] indication starts blinking.

In this state, pressing A again clears the traveling distance.

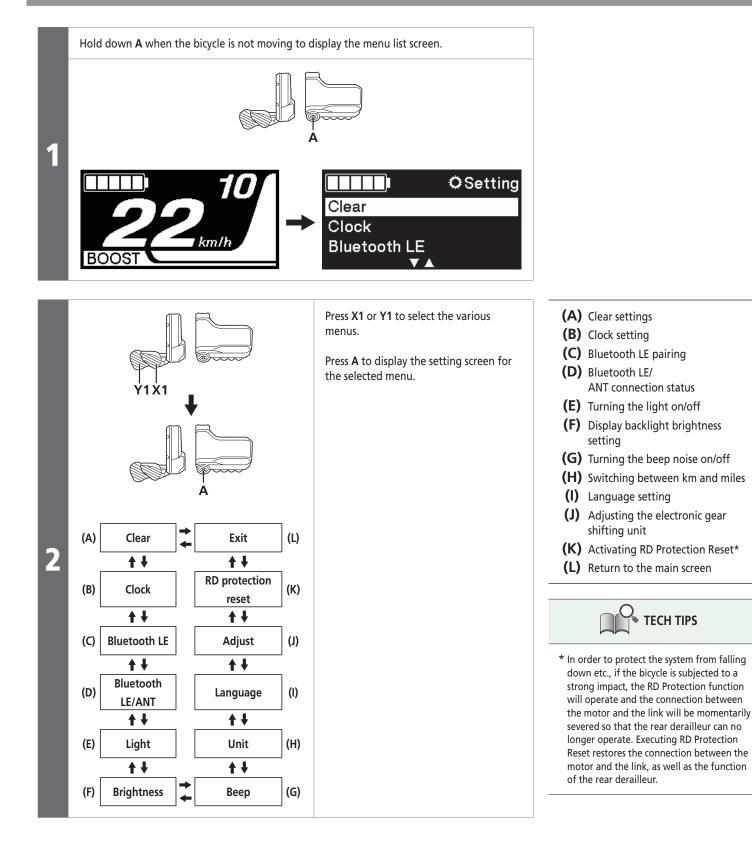


• The [DST] indicator light stops blinking and the screen takes you back to the basic screen after leaving it alone for 5 seconds.

• When the traveling distance is cleared, [TIME], [AVG] and [MAX] are also cleared.

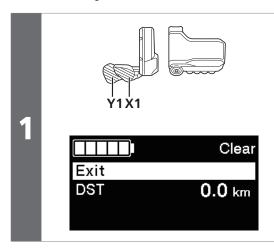
About the setting menus

Accessing the setting menu

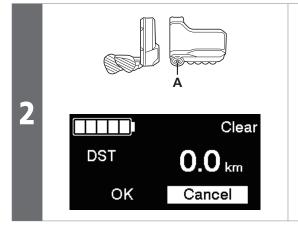


Clear

Reset the traveling distance to default.



Press X1 or Y1 to select [DST].		
ltem	Details	
Exit	Return to the Setting menu screen	
DST	Clearing the traveling distance	



To reset traveling distance, select [OK] using X1 or Y1 and press A to confirm.

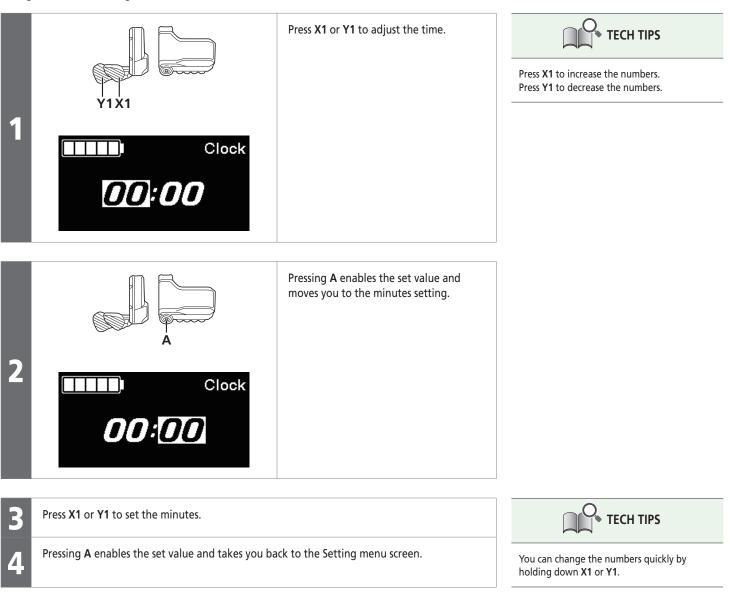
After resetting, the screen will automatically return to the menu list screen.



When the traveling distance is cleared, [TIME], [AVG] and [MAX] are also cleared.

Clock

Configure the Clock setting.



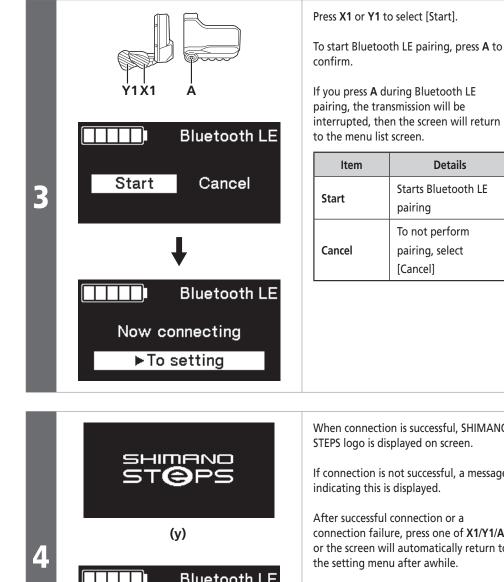
Bluetooth LE

E-TUBE PROJECT for smartphones/tablets may be used if a Bluetooth LE connection is established with a smartphone/tablet.

Before setting up a connection, turn on Bluetooth LE on the smartphone/tablet.



Open E-TUBE PROJECT and set it to listen for Bluetooth LE signals.





Details

Generally, Bluetooth LE transmission will begin automatically when the cycle computer is turned on, however, pairing can be started by selecting [Start] from the [Bluetooth LE] menu when connectivity is poor.

4	SHIMANO ST O PS	When connection is successful, SHIMANO STEPS logo is displayed on screen. If connection is not successful, a message indicating this is displayed.
	(y)	After successful connection or a connection failure, press one of X1/Y1/A or the screen will automatically return to the setting menu after awhile. (y) Connection successful
	Connect failure	(z) Connection failed
	(z)	



6

When connection is successful, the unit name will display in E-TUBE PROJECT.

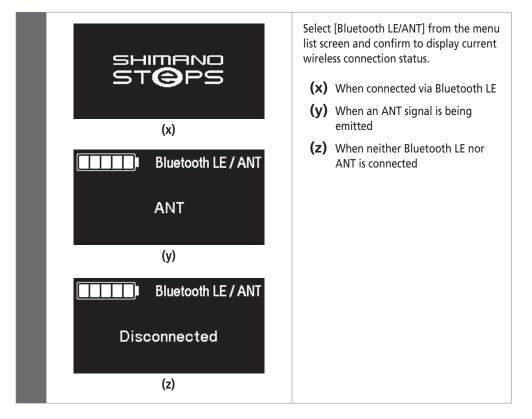
Select the unit name displayed on screen.

To disconnect, cancel the Bluetooth LE connection from the smartphone/tablet. (The cycle computer will exit connection mode and return to regular operation mode.)

Bluetooth LE/ANT

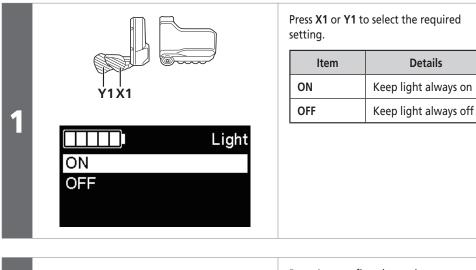
Current status of wireless connections can be displayed on screen.

For details on ANT connection, refer to "ANT connection" in the section "About wireless functions".



Light

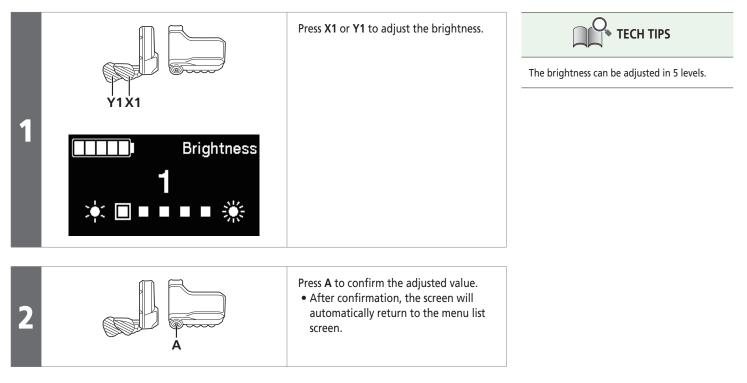
Configure the battery-powered light setting.





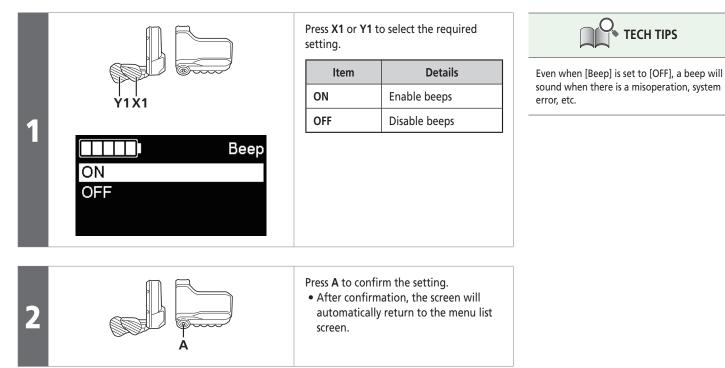
Brightness

The brightness of the backlight can be adjusted as needed.



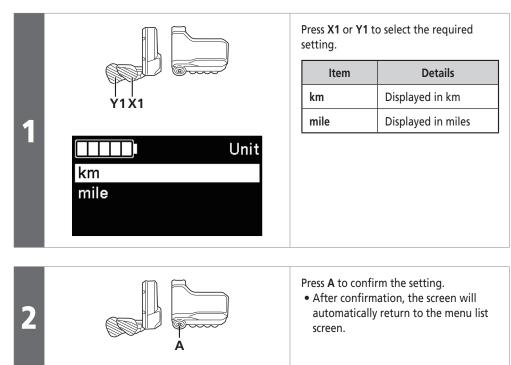
Веер

The beep noise can be turned on/off.



Unit

Distance units (km/miles) can be switched.

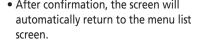


Language

2

Configure the language setting.

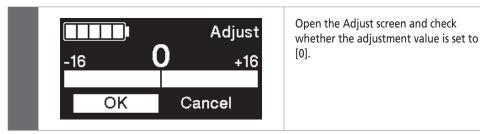
		Press X1 or Y1 to select the required setting.
1	Y1X1	Language
		English
		French
		German
	English	Dutch
	Français	Italian
	Deutsch 🗸 🔺	Spanish
		Press A to confirm the setting.



Adjust

Gear shifting adjustment is performed with the electronic gear shifting unit.

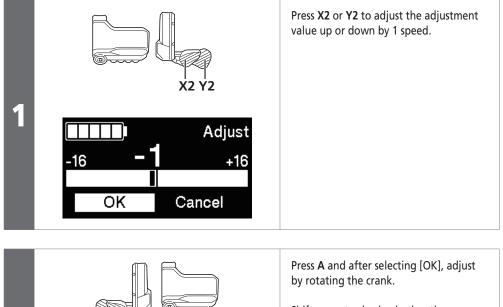
- Improperly large adjustment may cause free spinning of the pedals during pedaling, resulting in an accidental fall.
- Perform adjustment only when gear shifting feels unusual. Under normal conditions, performing unnecessary adjustment may worsen gear shifting performance.





- Gear shifting adjustment can only be performed when an electronic gear shifting unit is connected.
- The settings have a range of -16 to 16.

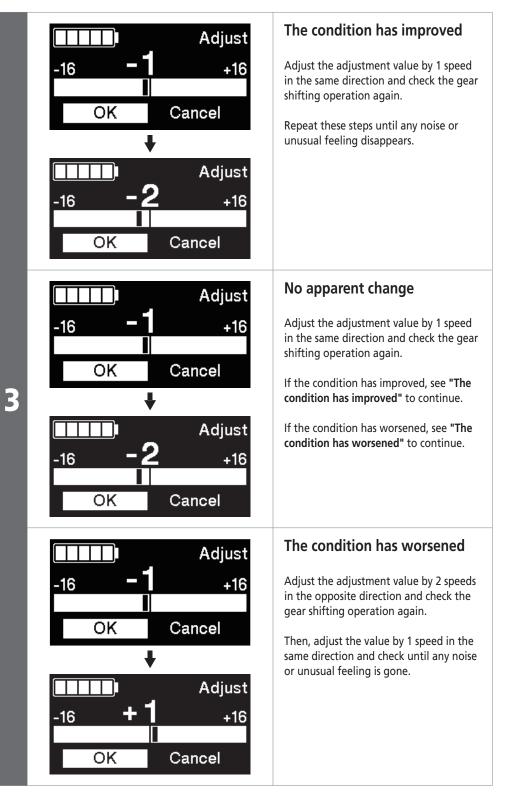
If the adjustment value is [0]



Adjust

Shift gears to check whether the condition has improved.

2



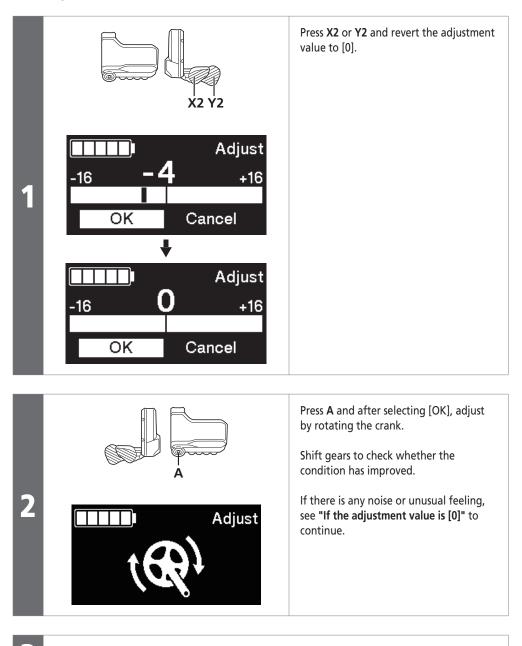
4

Finally, go for an actual ride and check for any noise or unusual feeling.

Chapter5 HOW TO OPERATE

About the setting menus

If the adjustment value is not [0]

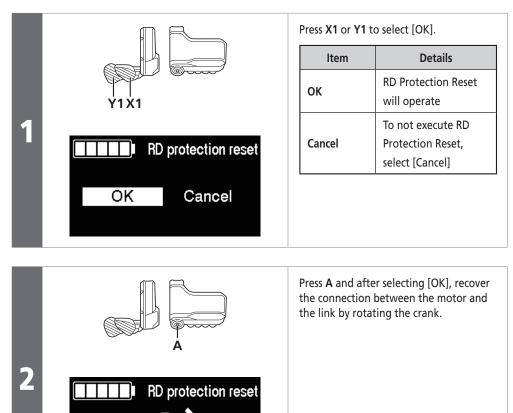


3

Finally, go for an actual ride and check for any noise or unusual feeling.

RD protection reset

In order to protect the system from falls etc., if the bicycle is subjected to a strong impact, the RD Protection function will operate and the connection between the motor and the link will be momentarily severed so that the rear derailleur can no longer operate. Executing RD Protection Reset restores the connection between the motor and the link, as well as the function of the rear derailleur.



Exit

Closes the menu list screen and returns to the basic screen.



Press X1 or Y1 to select [Exit] on the menu list screen.



Press A to confirm. After confirmation, the screen will return to the basic screen.

About the setting menus

Update confirmation window for the drive unit settings backup data

The cycle computer has a function to automatically back up drive unit settings.

In the following cases, when the cycle computer power is turned on, a window confirming whether to update the backup data is displayed:

- Reinstalling the cycle computer on a bicycle with different settings
- If the drive unit settings have been changed via E-TUBE PROJECT



If the settings cannot be accessed due to a drive unit malfunction, they can be accessed using E-TUBE PROJECT.

Error messages on the cycle computer

Error messages on the cycle computer

Warnings



This disappears if the error is fixed.

List of warnings

Code	Display preconditions	Operational restrictions while warning is displayed	Remedy
W010	Temperature of the drive unit is higher than it is during times of normal operation.	Power assistance may be lower than usual.	Stop using the assist function until the temperature of the drive unit drops. If the situation does not improve, consult an agency.
W011	The traveling speed cannot be detected.	The maximum speed up to which power assistance is provided may be lower than usual.	Check that the speed sensor is properly installed. If the situation does not improve, consult an agency.
W013	Initialization of torque sensor was not completed successfully.	Power assistance may be lower than usual.	With your foot off the pedal, press the battery power button and turn on the power again. If the situation does not improve, contact the place of purchase.
W032	An electronic derailleur may have been installed in place of a mechanical derailleur.	Power assistance provided in [WALK] mode may be lower than usual.	Reinstall the derailleur for which the system is configured to support. If the situation does not improve, contact the place of purchase.

Error messages on the cycle computer

Errors



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

- Press the power switch of the battery.
- Remove the battery from the mount.

NOTE

If resetting does not solve the problem or the same problem occurs frequently, consult an agency.

List of errors

Code	Display preconditions	Operational restriction when an error is being displayed	Remedy
E010	A system error was detected.	Power assistance is not provided during riding.	Press the power switch of the battery to turn on the power again. If the situation does not improve, consult an agency.
E011	An error occurred in system operation.	Power assistance is not provided during riding.	Turn on the power again.
E013	An error was detected in the drive unit's firmware.	Power assistance is not provided during riding.	Contact your place of purchase or a local bicycle dealer for assistance.
E014	The speed sensor may have been installed in the wrong position.	Power assistance is not provided during riding.	Contact your place of purchase or a local bicycle dealer for assistance.
E020	A communication error between the battery and drive unit was detected.	Power assistance is not provided during riding.	Check that the cable between the drive unit and battery is properly connected. If the situation does not improve, consult an agency.
E021	Battery connected to drive unit conforms with system standards but is not supported.	Power assistance is not provided during riding.	Press the power switch of the battery to turn on the power again. If the situation still does not improve, consult an agency.
E022	Battery connected to drive unit does not conform with system standards.	All system functions shutdown.	Press the power button of the battery to turn it on again. If the situation does not improve, contact the place of purchase.
E043	The cycle computer's firmware may be partially corrupt.	Power assistance is not provided during riding.	Contact your place of purchase or a local bicycle dealer for assistance.

Chapter6 CONNECTION AND COMMUNICATION WITH DEVICES

About wireless functions

CONNECTION AND COMMUNICATION WITH DEVICES

The system can be configured and firmware can be updated when the bicycle is connected to a device.

You need E-TUBE PROJECT to configure SHIMANO STEPS and 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 E-TUBE support website.

- NOTE
- You need SM-PCE1 and SM-JC40/JC41 to connect SHIMANO STEPS to a PC. They are not required if there is an available port.
- Firmware is subject to change without notice.
- PC connection and communication are not possible during charging.
- Connecting to devices is not possible while charging.

About wireless functions

Functions

ANT connection

The wireless unit transmits the following information to the cycle computer. • Battery level

• Front and rear derailleur gear positions

• Adjustment value



The latest functions can be checked by updating the software via E-TUBE PROJECT. For details, consult the place of purchase.

Bluetooth® LE connection

E-TUBE PROJECT for smartphones/tablets may be used if a Bluetooth LE connection is established with a smartphone/tablet.

2.4 GHz digital wireless system

How to make connections

ANT connection

ANT transmission will begin automatically when the cycle computer is turned on. To confirm whether connection was successful, check the [Bluetooth LE/ ANT] menu.

Bluetooth[®] LE connection

Generally, Bluetooth LE transmission will begin automatically when the cycle computer is turned on, however, pairing can be started by [Bluetooth LE] menu when connectivity is poor.

2.4 GHz digital wireless system

2.4 GHz-frequency digital wireless technology, which is the same technology used for wireless LAN. However, on very rare occasions, objects and places may generate strong electromagnetic, waves and interference, which may result in incorrect measurement.

- Television, PC, radios, motors/engines, or in car and trains.
- Railroad crossings and near railway tracks, around television transmitting stations and radar bases.
- Other wireless computers or digitally controlled light.

Drive unit setting backup function for the cycle computer

To check the drive unit settings backed up to the cycle computer, export the PDF report from the E-TUBE PROJECT [Unit log acquisition] menu. When exchanging the drive unit, send the report along with the unit to your place of purchase or a local bicycle dealer.

Settings customizable in E-TUBE PROJECT

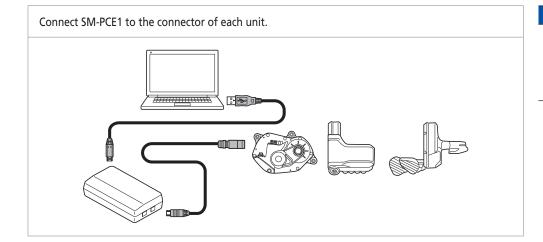
Settings customizable in E-TUBE PROJECT

Drive unit setting	Light connection	Sets whether to use a light.	
	Display units	Switches the display unit between km and mile.	
	Display switchover	You can select whether to display the items Traveling time, Average speed, Maximum speed, Cadence (Number of crank rotations) and Range overview.	
Display monitor	Time setting	Sets the time.	
settings	Beep setting	Switches the beep sound on or off.	
	Backlight brightness setting	The backlight's brightness can be adjusted.	
	Display language	You can choose from English, French, German, Dutch, Spanish, and Italian.	
		• Error check	
		Update firmware	
Other functions		• Preset	
		• Unit log acquisition	
		* For details, download E-TUBE PROJECT and refer to the manual provided.	

Connecting to the PC

Connecting to the PC

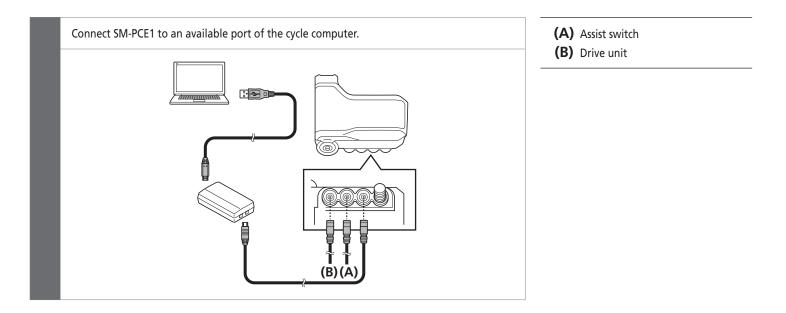
When connecting only individual units



NOTE

- When connecting only SW-E8000-L, you need SM-JC40/41.
- Individual units cannot be connected via wireless connection.

Connecting to the bicycle



Connecting to the PC

When using electronic gear shifting

First, connect SM-JC40/JC41 to SM-PCE1. Then, disconnect EW-SD50 from the center port of the cycle computer and connect it to SM-JC40/JC41.

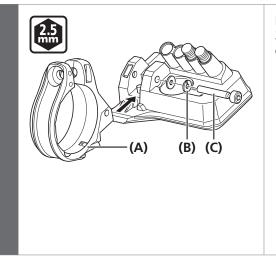
- (A) Assist switch
- (B) Drive unit
- (C) Shift switch

Chapter7 MAINTENANCE

Replacing the clamp band

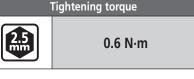
MAINTENANCE

Replacing the clamp band



Remove the case fixing bolt with a 2.5 mm hexagon wrench and replace the clamp band.





NOTE

If using a handlebar with a thick diameter, reinstall it using the included Ø35 mm clamp band.

Replacing the front chainring

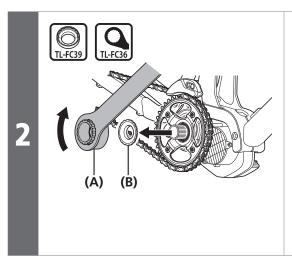
Replacing the front chainring

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Perform procedures with the chain installed to the rear wheel.

Attach the left and right crank arms using TL-FC16.



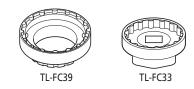
While holding the wheel, use the Shimano original tool to loosen the lock ring in the direction shown in the illustration.

(A) TL-FC39/TL-FC36

(B) Lock ring

NOTE

• If using a torque wrench, use TL-FC39 in combination with TL-FC33.

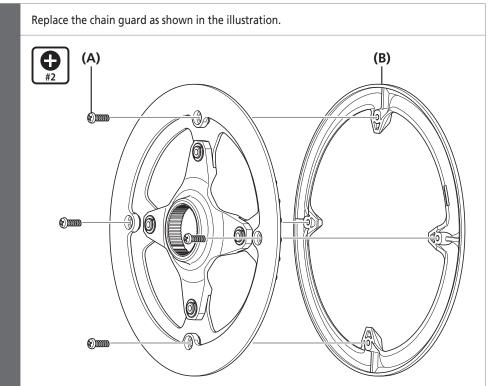


• An impact wrench cannot be used.

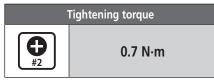
Remove and then replace the front chainring.

To install a front chainring, refer to "INSTALLING AND WIRING THE DRIVE UNIT" and "Installing the crank and front chainring".

Replacing the chain guard (SM-CRE80 44T Double chain guard)

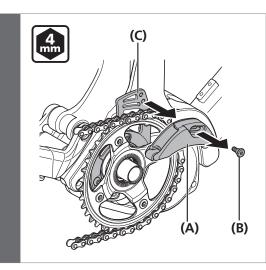


(A) Chain guard fixing bolt(B) Chain guard



Replacing the guide of the chain device

Replacing the guide of the chain device



Loosen the guide fixing bolt (M5) to remove the guide from the back plate, and then replace it.

(A) Guide

- (B) Guide fixing bolt (M5)
- (C) Back plate

NOTE

A chain device cannot be used with SM-CRE80 (44T CL: 50 mm Double chain guard).



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Please note: specifications are subject to change for improvement without notice. (English) \circledast Jun. 2017 by Shimano Inc. ITP