Dealer's Manual

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

SHIMANO STEPS

Cycle Computer and Switch Unit Parts

SC-EM800
SC-E8000
SC-E7000
SC-E6100
SC-E5000
SC-E5003
EW-EN100
SW-EM800-L
SW-E8000-L
SW-E7000
SW-E6010
SW-E6000

Contents

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

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

⚠ WARNING

- **Be sure to follow the instructions provided in the manuals when installing the product.** Only use SHIMANO genuine parts. If a component or replacement part is incorrectly assembled or adjusted, it can lead to component failure and cause the rider to lose control and crash.
-  Wear approved eye protection while performing maintenance tasks such as replacing components.
- For information on products not explained in this manual, refer to the manuals for each product.

Be sure to also inform users of the following:

- Do not to pay excessive attention to the cycle computer display while riding. Otherwise, you may fall off the bicycle.
- Ensure that head and tail lights can turn on before riding the bicycle.
- Do not disassemble the product. Disassembling may cause injury.
- Do not leave the cycle computer in an extremely high temperature surrounding environment such as in a closed vehicle on a hot day, or near a heater. If a battery is incorporated, that can result in an explosion of the built-in battery or the leakage of flammable liquid or gas from it.
- Do not expose the cycle computer to excessively low pressures. If a battery is incorporated, that can result in an explosion of the built-in battery or the leakage of flammable liquid or gas from it. Transporting this product by air is not a problem.

■ For installation to the bicycle, and maintenance:

- Be sure to remove the battery and charging cable before wiring or attaching parts to the bicycle. Failure to do so may cause an electric shock.

■ Disposal precautions

- Observe all federal, state and local environmental regulations when disposing of a cycle computer that incorporates a battery. Disposal of this product into fire or a hot oven, or mechanically crushing or cutting of it, can result in an explosion of the built-in battery.

⚠ CAUTION

Be sure to also inform users of the following:

- Observe the instructions in the manual for the bicycle in order to ride safely.
- Use the product under the supervision of someone responsible for safety, and only as instructed. Do not allow anyone (including children) with reduced physical, sensual, or mental capacity, or those without experience or knowledge, to use the 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. Doing so may cause a system error.

NOTICE

Be sure to also inform users of the following:

- Be sure to attach dummy plugs to any unused E-TUBE ports.
- For installation and adjustment of the product, consult the place of purchase.
- The components are designed to be fully waterproofed to withstand wet weather riding conditions. However, do not deliberately place them into water.
- Do not clean the bicycle with a high-pressure washer. If water gets into any of the components, operating problems or corrosion 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 switch unit.
- 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.
- Some of the important information in this dealer's manual can also be found on the device labels.
- For any questions regarding methods of installation and maintenance, please contact your 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 / SM-PCE02
- E-TUBE PROJECT: PC application
- Firmware: Software inside each component

■ Connection and communication with smartphones or tablets (supported models only)

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 system, or updating firmware.

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

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

Booklet structure

■ User's manual

SHIMANO STEPS series user's manuals are split among several booklets, as described below.

The latest manuals are available on our website (https://si.shimano.com).

Name	Details
SHIMANO STEPS User's Manual	This is the basic manual for the SHIMANO STEPS series. It contains the following content. •SHIMANO STEPS quick guide •Basic operations when riding •How to operate assist bicycles that use flat handlebars, such as city, trekking, or MTB type bicycles •General troubleshooting

Name	Details
SHIMANO STEPS User's Manual for Drop Handlebar Bicycles (separate booklet)	This booklet describes how to operate assist bicycles that use a drop handlebar and are controlled using dual control levers. This should be read along with the SHIMANO STEPS User's Manual.
SHIMANO STEPS Special Battery and Parts User's Manual (separate booklet)	It contains the following content. •How to charge and handle the SHIMANO STEPS special battery •How to attach and remove the SHIMANO STEPS special battery to the bicycle •How to use the satellite system ON/OFF switch and satellite charging port •How to read the battery LEDs when charging or during an error, and how to handle errors
SHIMANO STEPS Cycle Computer User's Manual	It contains the following content. •Method for configuring settings via the main body buttons and switch unit •Wireless communication method •Problems and errors/warnings and remedies
Switch Unit User's Manual	This is the assist switch and shifting switch user's manual. It describes switch unit handling and operations only.

■ Dealer's Manual

SHIMANO STEPS series dealer's manuals are split among several booklets, as described below.

The latest manuals are available on our website (https://si.shimano.com).

Name	Details
SHIMANO STEPS Dealer's Manual	This is the basic manual for the SHIMANO STEPS series. •Overall wiring diagram •Overall flow of operations for installing the SHIMANO STEPS components to an assist bicycle •Installation/removal and maintenance of the drive unit area •Installation/removal of the speed sensor
SHIMANO STEPS Dealer's Manual for Drop Handlebar Bicycles (separate booklet)	It specializes in the following information regarding assist bicycles that use a drop handlebar and are controlled using dual control levers. This should be read along with the SHIMANO STEPS Dealer's Manual. •Overall wiring diagram •Cautions to follow when installing the drive unit

Name	Details
SHIMANO STEPS Special Battery and Parts Dealer's Manual (separate booklet)	It contains the following content. •How to install the battery mount •How to install the satellite system ON/OFF switch and satellite charging port
SHIMANO STEPS cycle computer and switch unit parts dealer's manual (this manual)	It contains the following content. •Installation and maintenance of the SHIMANO STEPS special cycle computer, special junction [A] and switch unit •How to connect to the PC version of E-TUBE PROJECT
SHIMANO STEPS Chain Device Dealer's Manual	This manual describes the installation and maintenance of the SHIMANO STEPS special chain device.

List of tools to be used

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

Tool	
	TL-EW02
	TL-EW300
	Cross head screwdriver [#2]
	2 mm hexagon wrench
	2.5 mm hexagon wrench
	3 mm hexagon wrench

Installation/removal

Electric wires

There are two types of electric wire: the EW-SD300 and the EW-SD50. The supported electric wire differs according to the model. Check the component specifications on the SHIMANO product website in advance (https://productinfo.shimano.com/).

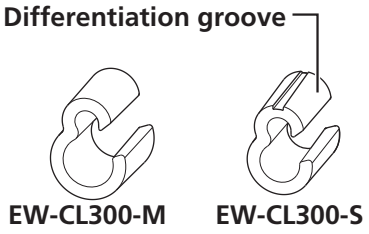
Supported products

The following products support each type of electric wire.

Product name	Intended purpose	EW-SD300 type	EW-SD50 type
SHIMANO original tool	Connecting / disconnecting the electric wire	TL-EW300	TL-EW02
Dummy plug	Blocking empty ports	Y7HE30000	Y6VE15000
Cord clip	Binding the wiring and the brake outer casing / brake hose together	EW-CL300-S (for shift outer casing) EW-CL300-M (for brake outer casing and brake hose)	Y70H98040
Cord cover	Supporting / protecting the electric wire (external wiring)	EW-CC300	SM-EWC2
Grommets	Installing to the wire insertion hole of a frame that supports internal wiring	EW-GM300-S EW-GM300-M	SM-GM01 SM-GM02
Cord band	Supporting the electric wire (flat handlebar external wiring)	EW-CB300-S EW-CB300-M EW-CB300-L	SM-EWE1
Junction [A] (for DI2)	Gathering the wiring around the cockpit. Also has functions for changing the shift mode, etc.	-	EW-RS910 SM-EW90-A SM-EW90-B
Junction [B]	Branching / gathering the wiring inside and outside the frame	EW-JC304 EW-JC302	SM-JC41 SM-JC40 EW-JC200 EW-JC130
Conversion adapter	Refer to “Conversion adapter.”	EW-AD305	EW-AD305

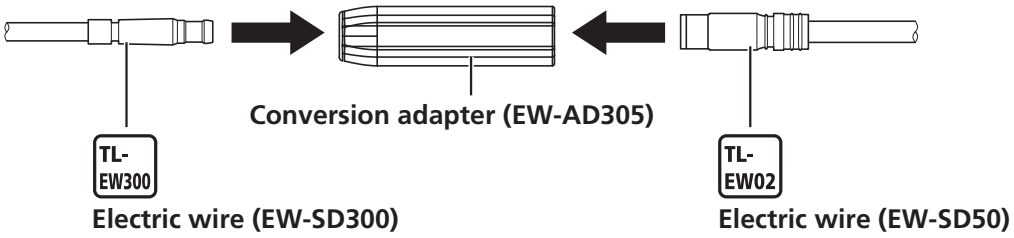
NOTICE

- The SHIMANO original tool used for installation/removal and the accessories used for wiring differ for the EW-SD300 and EW-SD50. Be sure to use a compatible product.
- EW-CL300-S is marked with a groove in order to differentiate it from EW-CL300-M.



Conversion adapter

A conversion adapter (EW-AD305) is required to connect the EW-SD50 to a component with an E-TUBE port for the EW-SD300.



Connecting / disconnecting the electric wire

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.

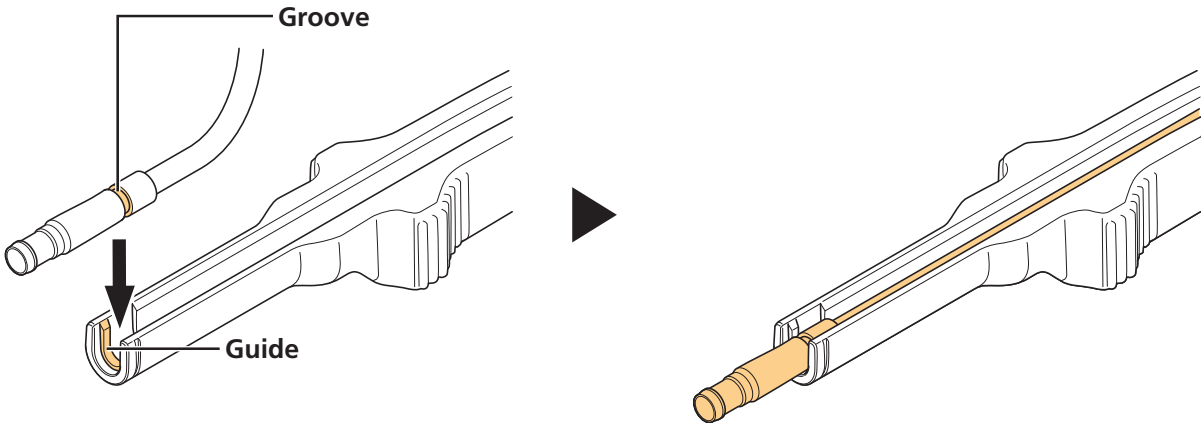
Connecting the electric wire (EW-SD300)

Connect the electric wire to the E-TUBE port.

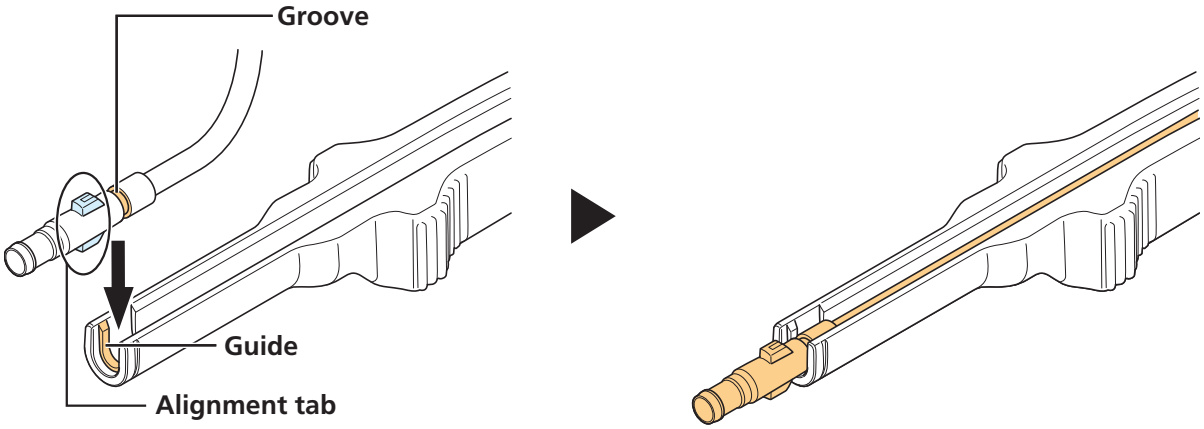
1. Set the plug of the electric wire to the TL-EW300.

If there is an alignment tab on the plug of the electric wire, check the shape of the E-TUBE port you are trying to connect to, and set it aligned with the alignment tab.

Without alignment tab on plug

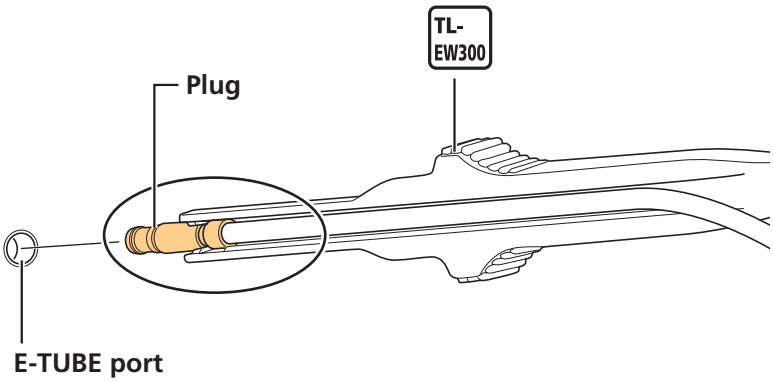


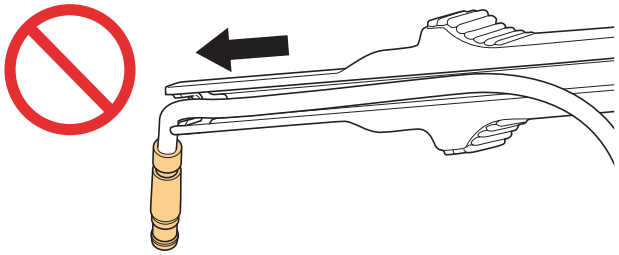
With alignment tab on plug



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

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





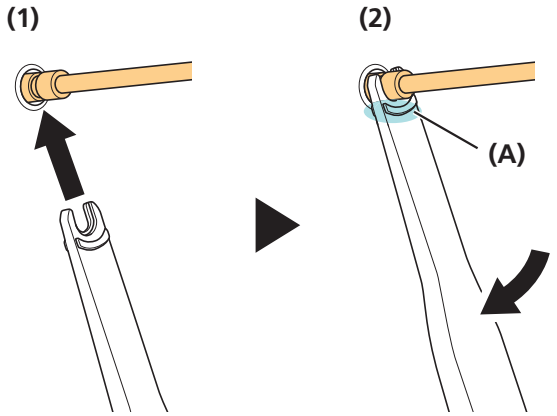
Removing the electric wire (EW-SD300)

1. Remove the electric wire.

(1) Insert the TL-EW300 into the groove on the plug part of the electric wire.

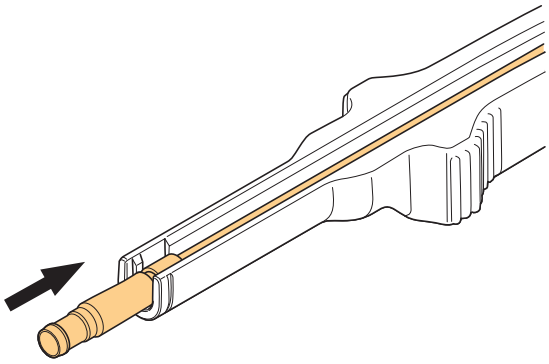
(2) Disconnect the electric wire from the E-TUBE port.

* As shown in the figure, use part (A) of the TL-EW300 as a fulcrum, move the tool like a lever, then disconnect the plug part.



TECH TIPS

- If there is limited space to insert the tool, you can use the TL-EW300 as indicated in the figure to disconnect the electric wire.



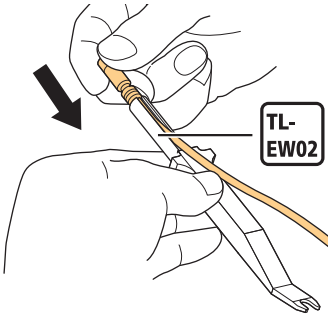
Connecting the electric wire (EW-SD50)

Connect the electric wire to the E-TUBE port.

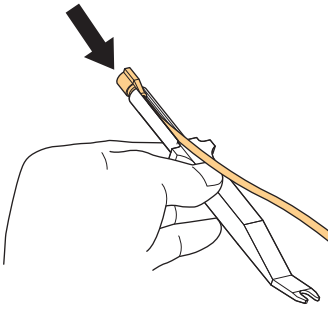
1. Set the plug of the electric wire to the TL-EW02.

If there is an alignment tab on the plug of the electric wire, set it aligned with the groove on the SHIMANO original tool.

Without alignment tab on plug

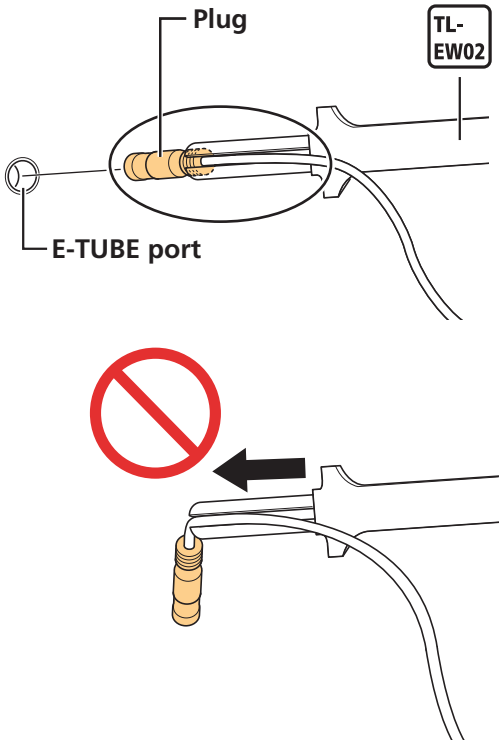


With alignment tab on plug



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

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



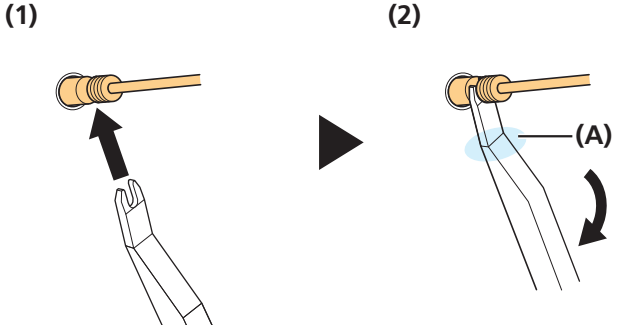
Removing the electric wire (EW-SD50)

1. Remove the electric wire.

(1) Insert the TL-EW02 into the groove on the plug of the electric wire.

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

* As shown in the figure, use part (A) of the TL-EW02 as a fulcrum, move the tool like a lever, then disconnect the plug part. If there is limited space to insert the tool, lift the TL-EW02 straight up and disconnect the electric wire.



Installing the cycle computer/junction [A]

Clamp band type / switch unit integrated type cycle computer

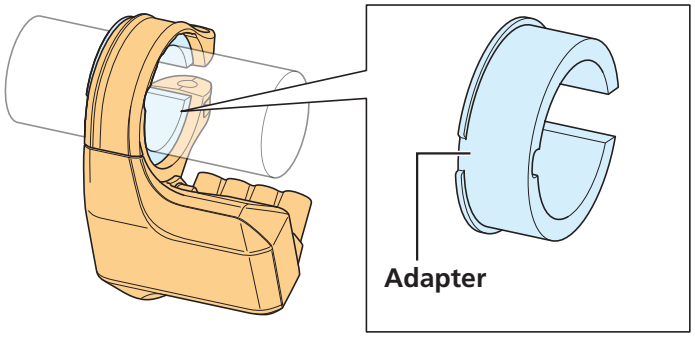
For models: SC-EM800, SC-E8000, SC-E7000, SC-E5000, SC-E5003

The compatible handlebar diameters are indicated below.

- Clamp band type: Ø35.0, Ø31.8
- Switch unit integrated type: Ø22.2

TECH TIPS

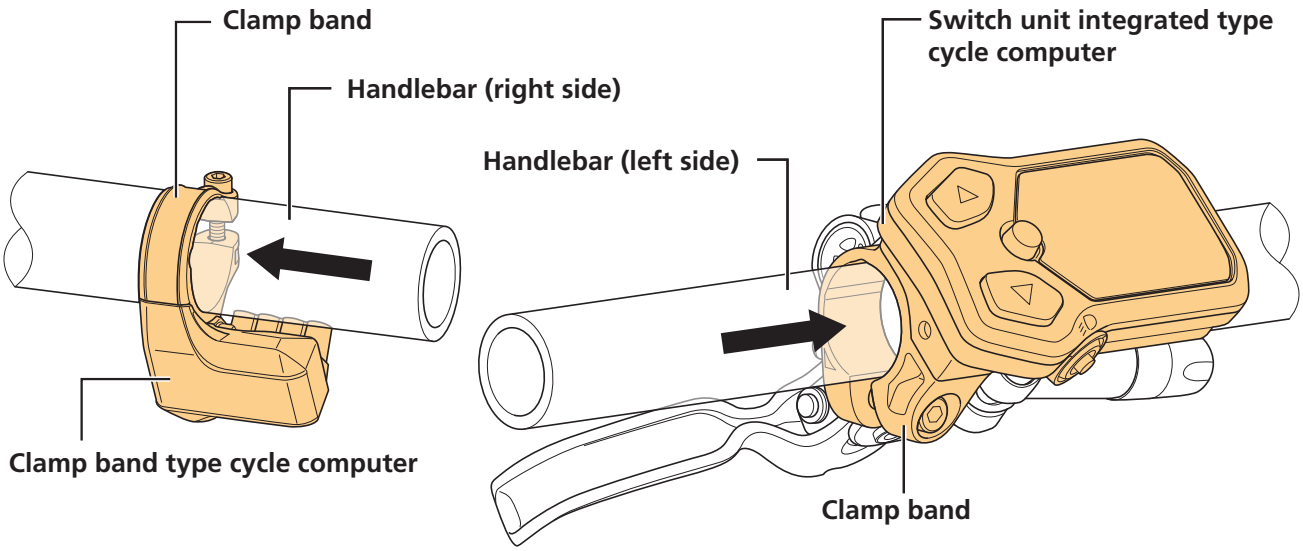
- A clamp band type cycle computer may be able to be installed to a Ø25.4 handlebar using an adapter, depending on the model.



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

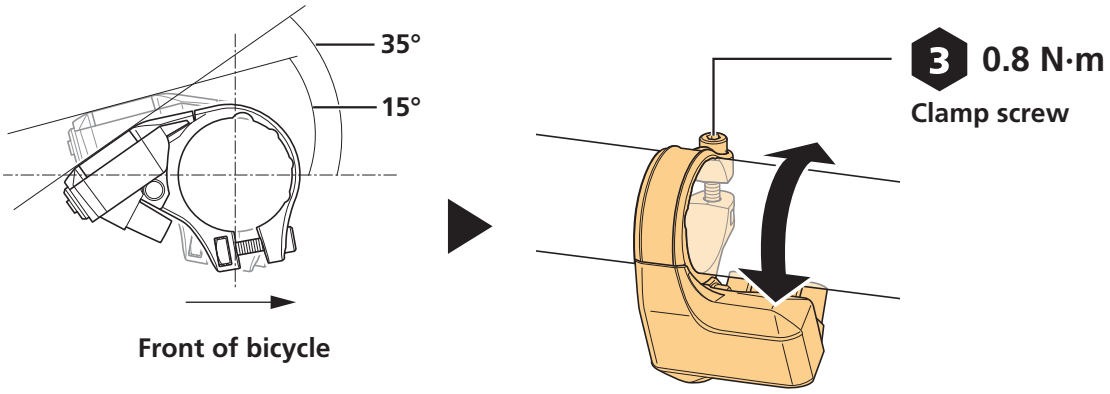
- Insert a clamp band type cycle computer from the right side of the handlebar and install it near the right side of the stem.

- Insert a switch unit integrated type cycle computer from the left side of the handlebar and install it near the handle grip to enable easy operations of the switch part.

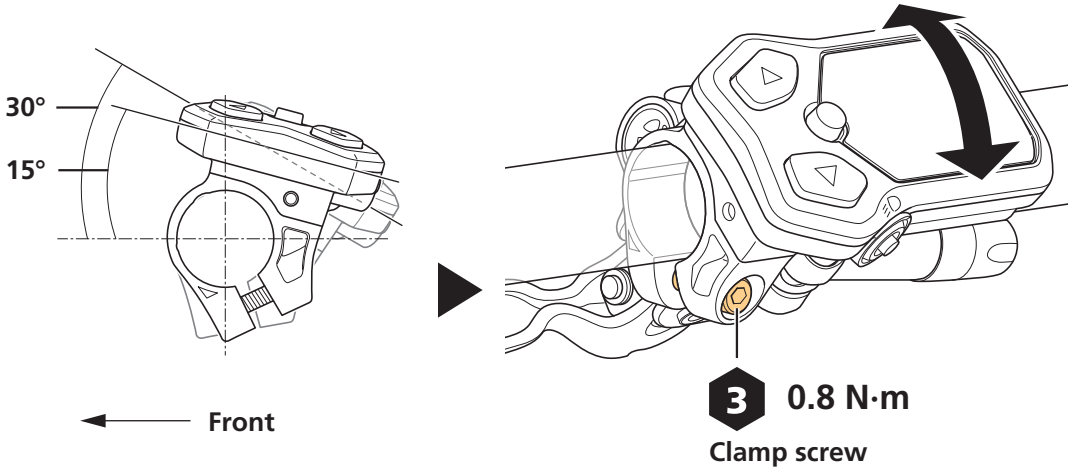


2. Adjust the installation angle, and secure the cycle computer to the handlebar.

Clamp band type cycle computer



Switch unit integrated type cycle computer



Bracket installation type cycle computer

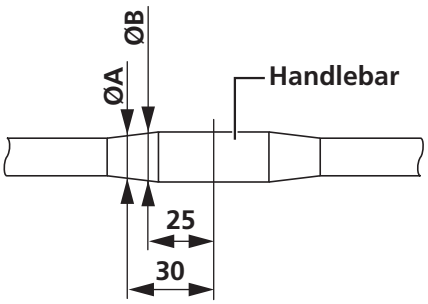
For models: SC-E6100

The bracket used to secure the cycle computer to the handlebar, and the cycle computer itself are separate parts.

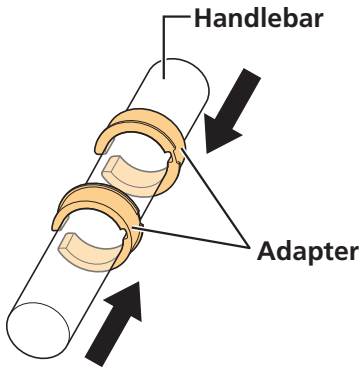
Installing the bracket and cycle computer

1. Check the diameter of the handlebar to determine whether an adapter is needed, then select the clamp screw.

ØA	ØB-ØA	Bracket	Clamp screw
23.4 - 24	0 - 1.1	Required	Length: 15.5 mm
24 - 25.5	0 - 1.1	Required	Length: 20 mm
31.3 - 31.9	0 - 0.6	Not necessary	Length: 20 mm



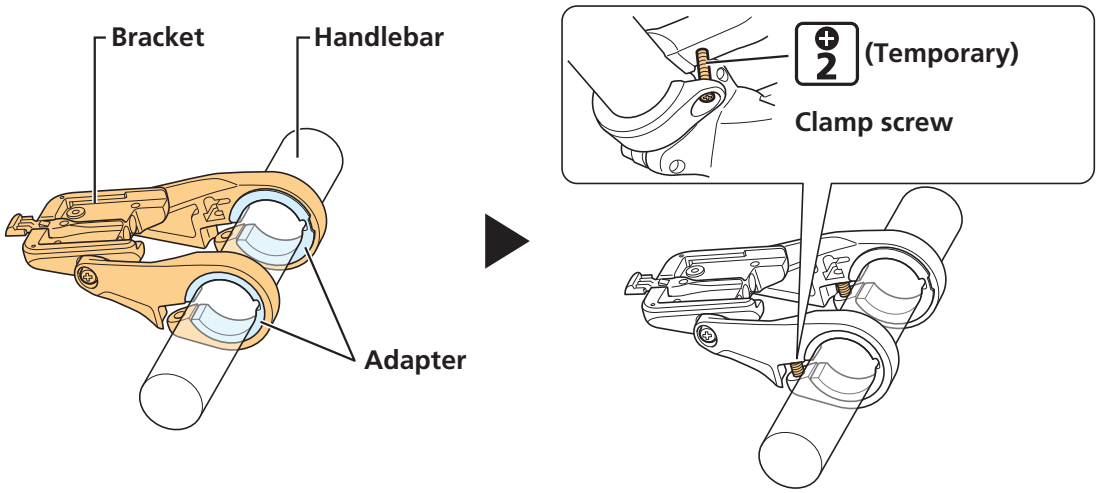
2. If adapters are required, push them along to the center of the handlebar.



3. Temporarily install the bracket.

(1) Push the clamp area open, then install the bracket to the center of the handlebar.

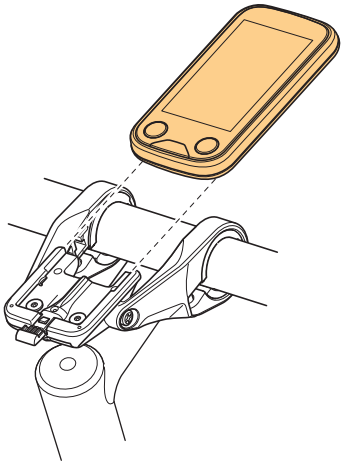
(2) Temporarily install the clamp screw of the length selected in step 1.

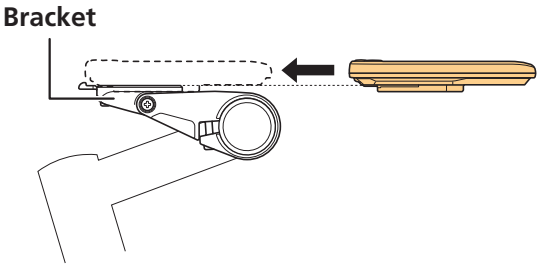


4. Install the cycle computer to the bracket.

Slide the cycle computer and install it to the bracket.

Insert it firmly until you hear it click.





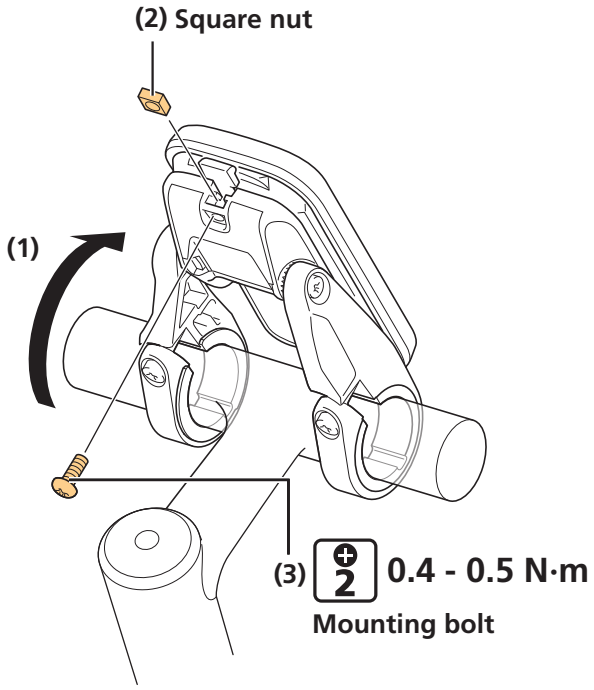
5. Secure the cycle computer to the bracket if necessary.

If the cycle computer will not be secured to the bracket, this step is not necessary.

(1) Stand the cycle computer and bracket up on the stem (as though you are turning the cycle computer around).

(2) Insert the square nut into the bracket.

(3) Tighten the mounting bolts.



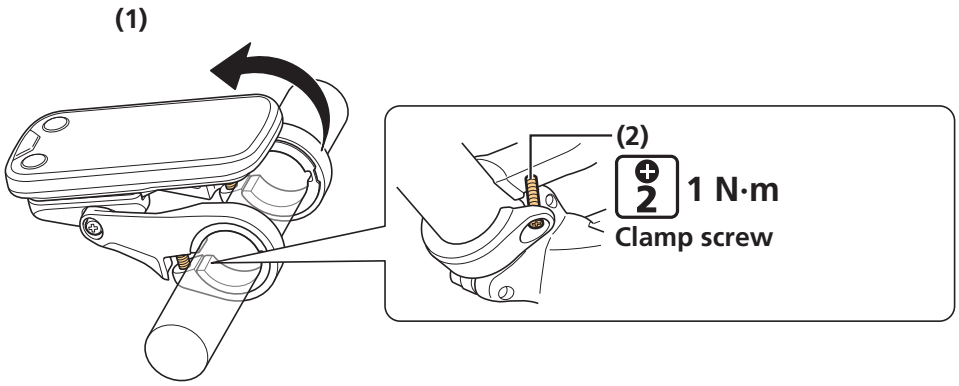
TECH TIPS

- This procedure is used to secure the cycle computer to the bracket, so that it cannot be easily removed. This is useful for displaying the product on a sales floor.
- Ask the customer if they will secure the cycle computer when the product is delivered. If necessary, explain how to do so (as described above).

6. Secure the bracket to the handlebar.

(1) Return the cycle computer to its installation position if the cycle computer was stood up on the stem in step 5.

(2) Secure the bracket.

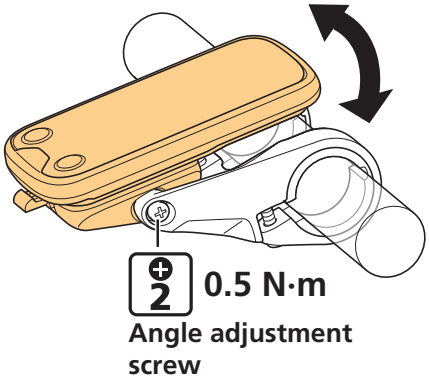


Adjusting the installation angle

1. Adjust the installation angle of the cycle computer.

(1) Loosen the angle adjustment screw.

(2) After adjusting the angle of the cycle computer to make it easier to see while riding, tighten the angle adjustment screw.



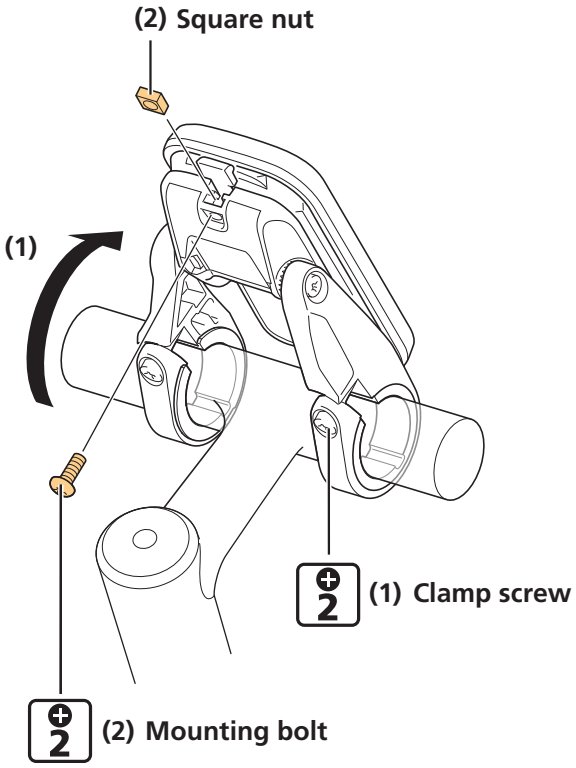
Removing the cycle computer

1. Remove the mounting bolt on the bottom side of the bracket.

If the cycle computer was not secured, this procedure is not necessary. Skip to step 2.

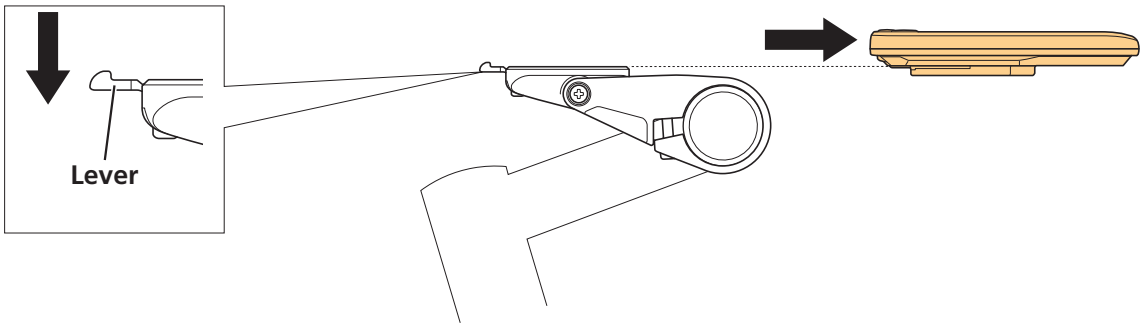
(1) Loosen the clamp screw, then stand the cycle computer and bracket up on the stem (as though you are turning the cycle computer around).

(2) Remove the mounting bolt and square nut.



2. Remove the cycle computer from the bracket.

Slide the cycle computer to the front while pushing the bracket lever down to remove it.



Junction [A]

For models: EW-EN100

The junction [A] that can be used with SHIMANO STEPS functions instead of a cycle computer and has simple operation/display functions.

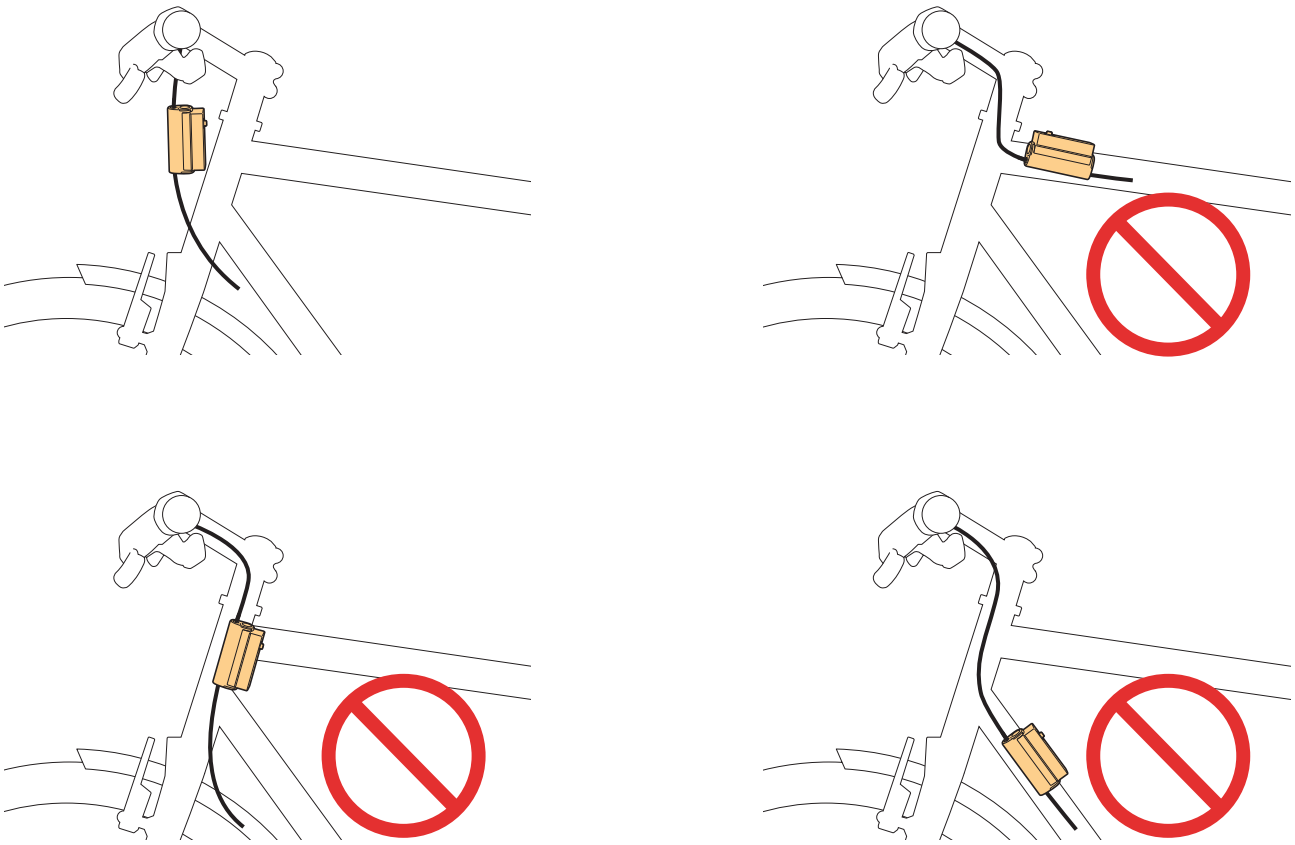
Install junction [A] in a location around the cockpit from which the LED can be seen while riding.

TECH TIPS

- To remove the EW-EN100, reverse the following procedure.

NOTICE

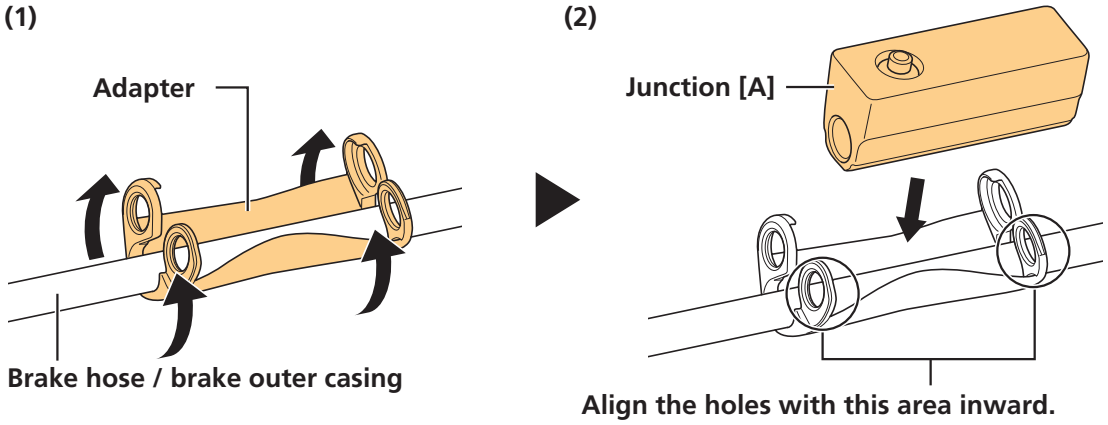
- As shown in the figure, install junction [A] so that it does not reach the side of the frame. Otherwise, it could be damaged if the bicycle tips over and it is pinched between the frame and curb.



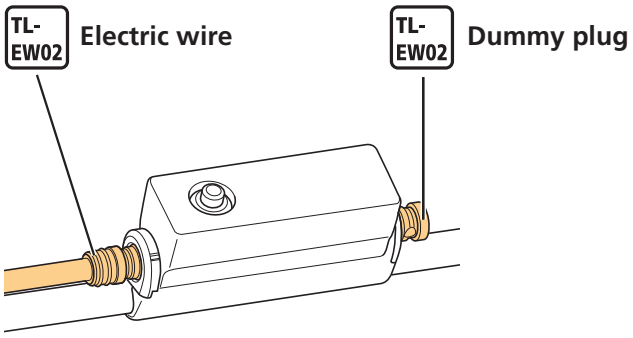
1. Determine the junction [A] installation location, then set the adapter.

(1) Open up the adapter and set it to the brake hose / brake outer casing.

(2) Bend the adapter along the brake hose / brake outer casing.



2. Connect the electric wire or dummy plug.



NOTICE

- Be sure to connect either an electric wire or a dummy plug to the E-TUBE ports. This secures junction [A] to the brake hose / brake outer casing.

Installing the switch unit

Install the assist switch and shifting switch (for electronic gear shifting) to the handlebar.

TECH TIPS

- To remove the switch unit, reverse the following procedure.

MTB type switch unit

For models: SW-E8000-L

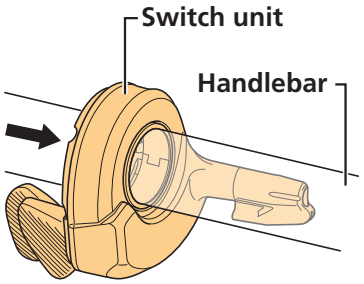
- The MTB type switch unit can be installed to Ø22.2 to Ø22.5 handlebars.

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.

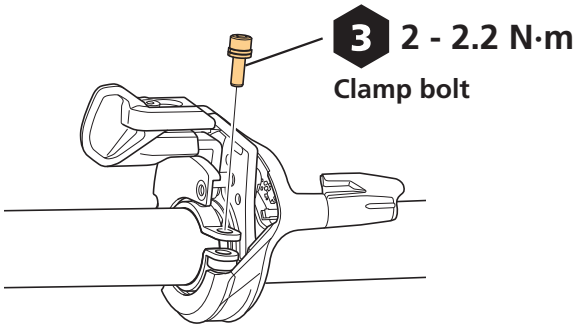
If running the electric wire internally through the handlebar, make sure the electric wire is tucked into the groove of the handlebar so the switch unit can slide over it.



3. Secure the switch unit.

(1) Adjust the installation location and angle of the switch unit.

(2) Tighten the clamp bolt.

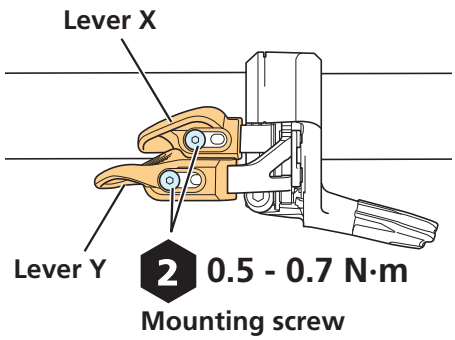


4. Adjust the locations of lever X and lever Y.

(1) Loosen the mounting screws.

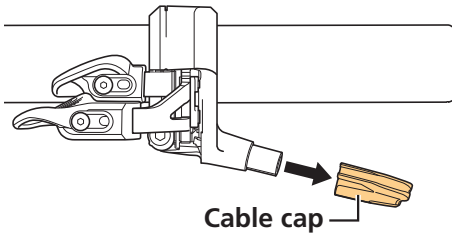
(2) Adjust the locations of lever X and lever Y to the preferred positions.

(3) Tighten the mounting screws.



Connecting the electric wire

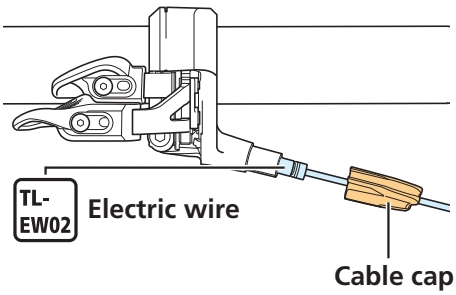
1. Remove the cable cap.



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.



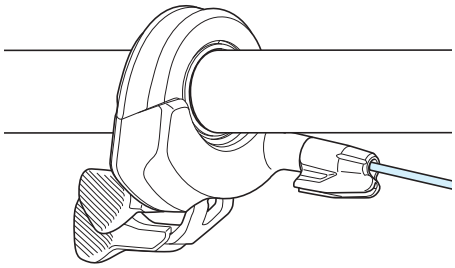
NOTICE

- 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.
- Make sure that the cable cap does not interfere with the brake lever. If the cable cap is pushed against the brake lever, 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.

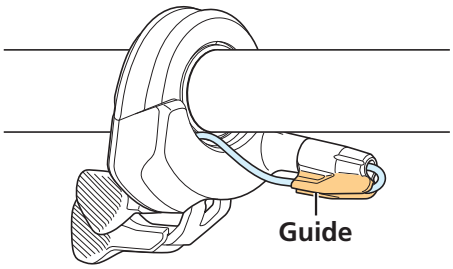


When routing the electric wire internally towards the end of the handlebar

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) Pull the opposite end of the electric wire to draw the excess length of wire into the handlebar.



2-switch/3-switch type switch unit

For models: SW-EM800-L, SW-E7000, SW-E6010, SW-E6000

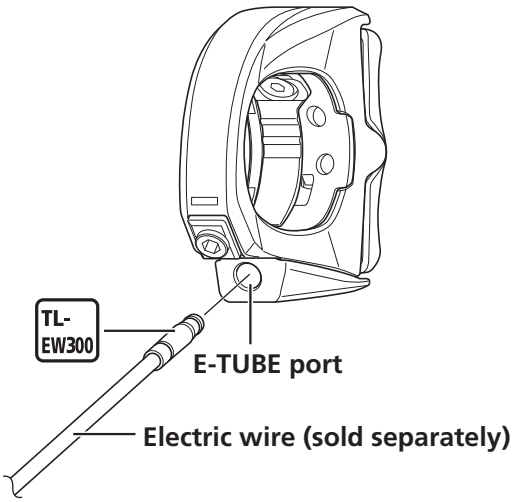
The 2-switch/3-switch type switch unit can be installed to a Ø22.2 handlebar. This section explains the installation method when wiring from the switch unit along the handlebar on the outside.

TECH TIPS

- The electric wire may be fixed to the main body, or may be detachable and sold separately, depending on the model of the switch unit.
- Cord bands may be included or may be sold separately, depending on the model of the switch unit.

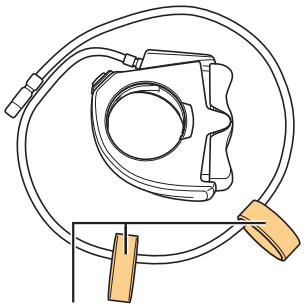
1. Connect the electric wires.

* Only for models without a permanently affixed electric wire



2. Slide the cord bands over the electric wire.

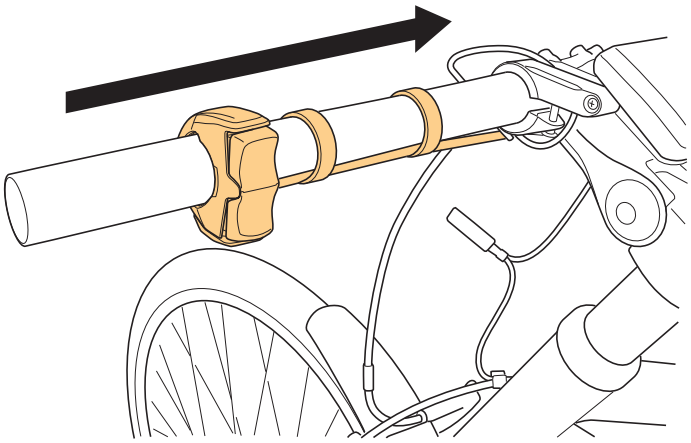
Adjust the number of cord bands according to the length of the handlebar.



Cord band
SM-EWE1 (EW-SD50 type)
EW-CB300 (EW-SD300 type)

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

Make sure the electric wire of the switch unit is facing downward.

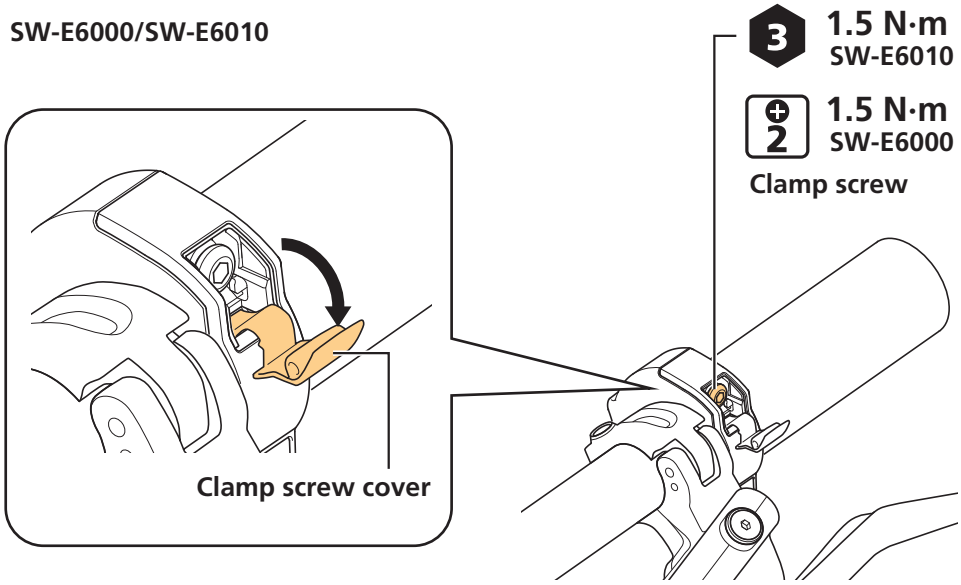


4. Confirm the location of the clamp screw, and secure the switch unit to the handlebar.

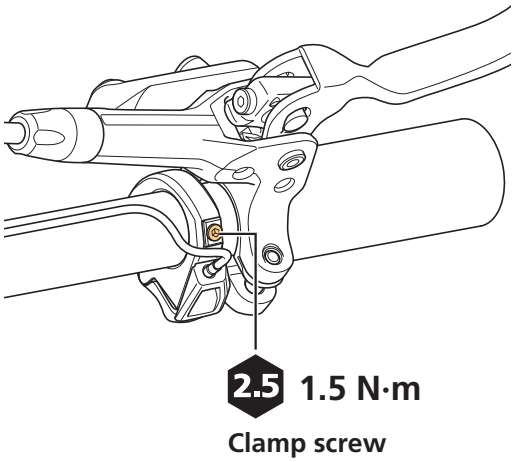
- The location of the clamp screw differs depending on the model.

• A cover may be attached to the clamp screw, depending on the model.

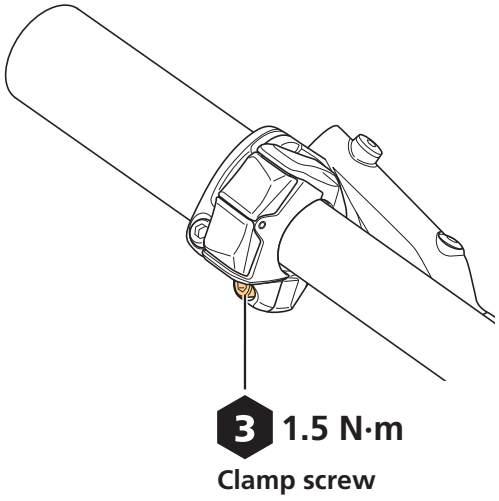
SW-E6000/SW-E6010



SW-EM800-L



SW-E7000



Wiring around the cockpit (clamp band type cycle computer)

For models: SC-EM800, SC-E8000, SC-E7000

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.

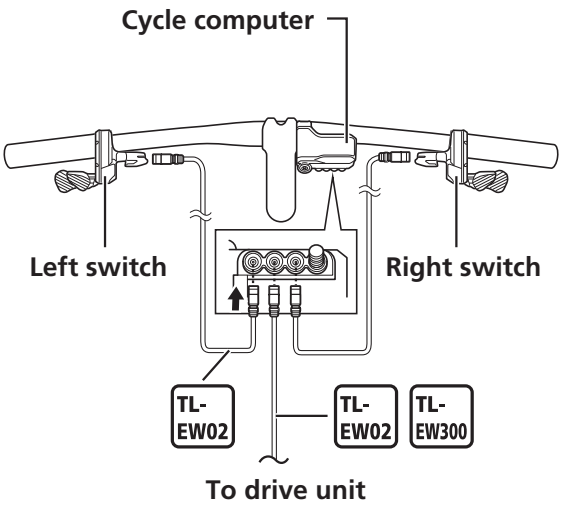
TECH TIPS

- Configurations without a switch unit are possible, depending on the cycle computer.

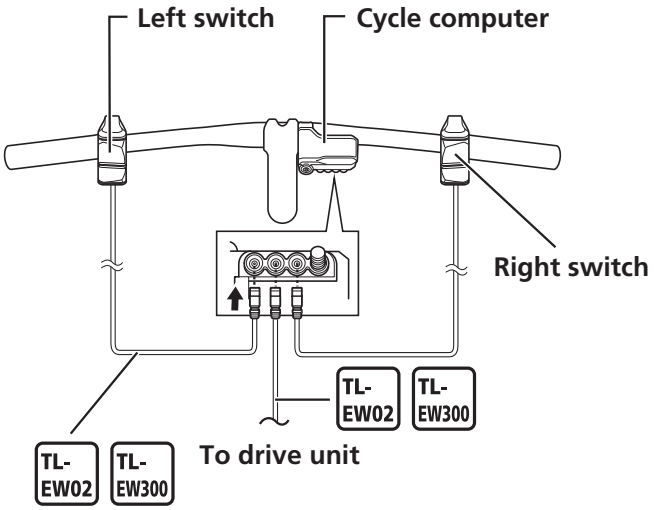
1. Wire around the cockpit.

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

MTB type switch unit



2-switch/3-switch type switch unit



2. Prepare to wire to the drive unit.

Refer to the “SHIMANO STEPS Dealer's Manual.”

Example: Routing the electric wire

Use cord bands and a cord clip to organize the wiring around the cockpit.

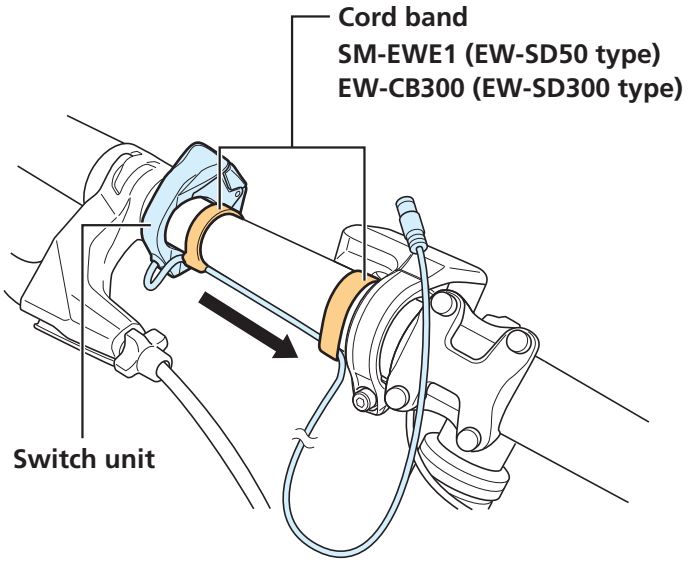
TECH TIPS

- A cord clip may be included with the cycle computer or may be sold separately.

When using cord bands

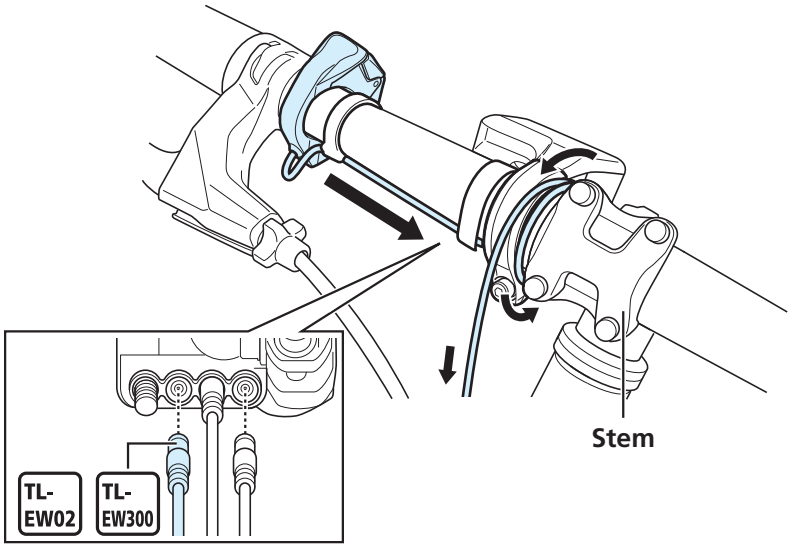
1. Secure the switch unit's electric wire.

Determine the locations of the cord bands, 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.

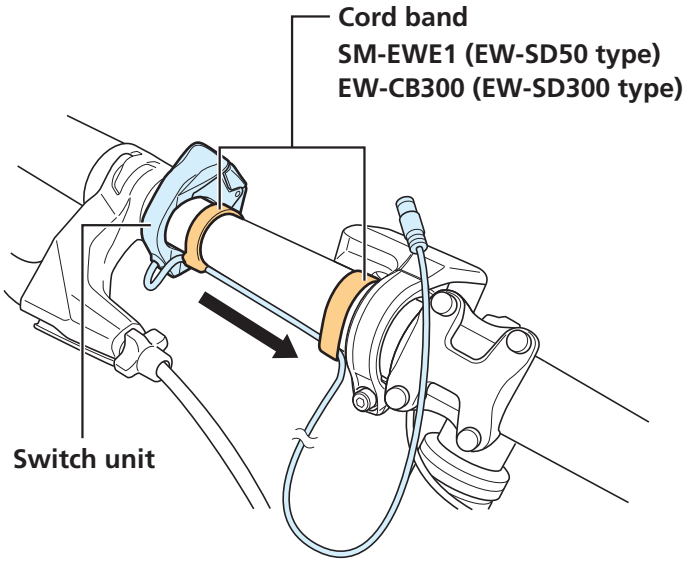
Wrap any slack around the portion of the handlebar between the cycle computer and stem prior to connecting.



When using cord bands and a cord clip

1. Secure the switch unit's electric wire.

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

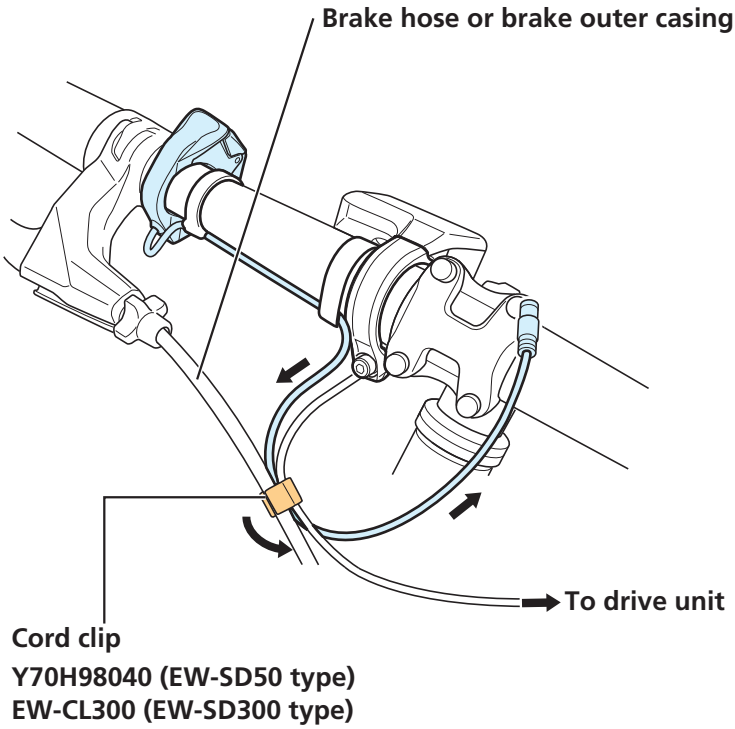


2. Bind the electric wires and the brake outer casing or brake hose together with a cord clip.

Use a cord clip to bind the brake outer casing or brake hose and the following electric wires:

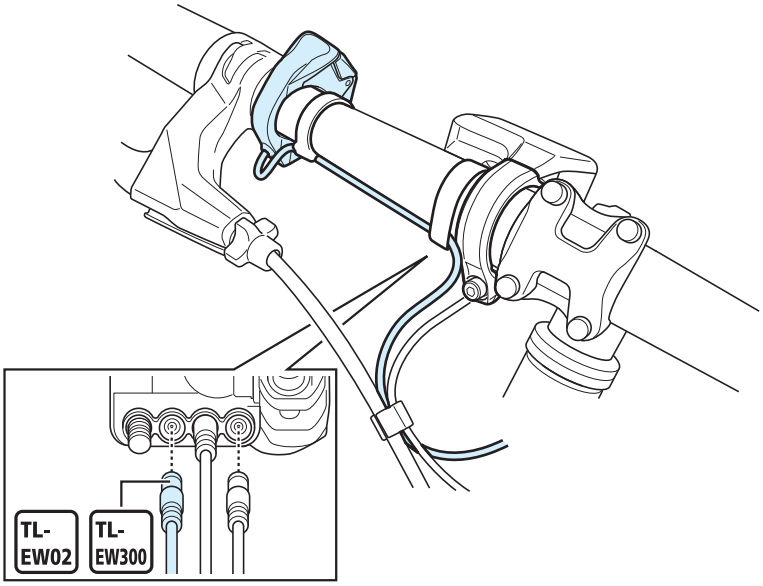
- Switch unit's electric wire

• Electric wire to connect the cycle computer and drive unit



3. Connect the electric wire to the E-TUBE port of the cycle computer.

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



Wiring around the cockpit (switch unit integrated type cycle computer)

For models: SC-E5000, SC-E5003

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

NOTICE

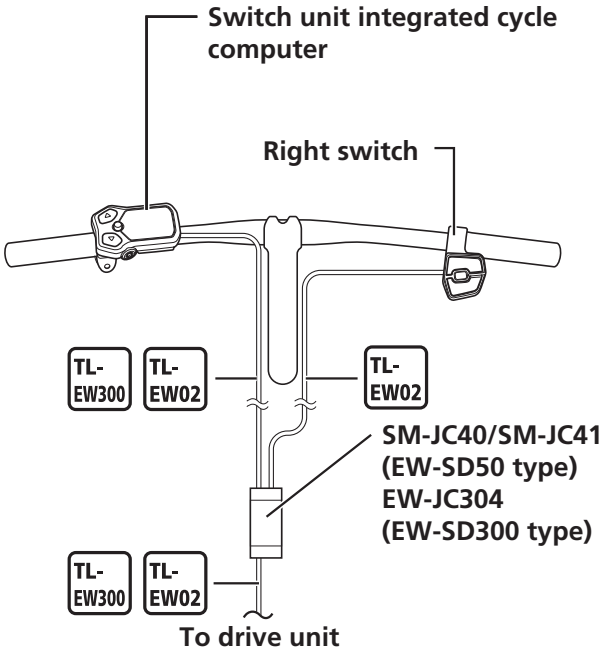
- Be sure to attach dummy plugs to any unused E-TUBE ports.

TECH TIPS

- Configurations without a switch unit are possible, depending on the cycle computer.

1. Wire around the cockpit.

- Connect the cycle computer and the switch units using the electric wires.

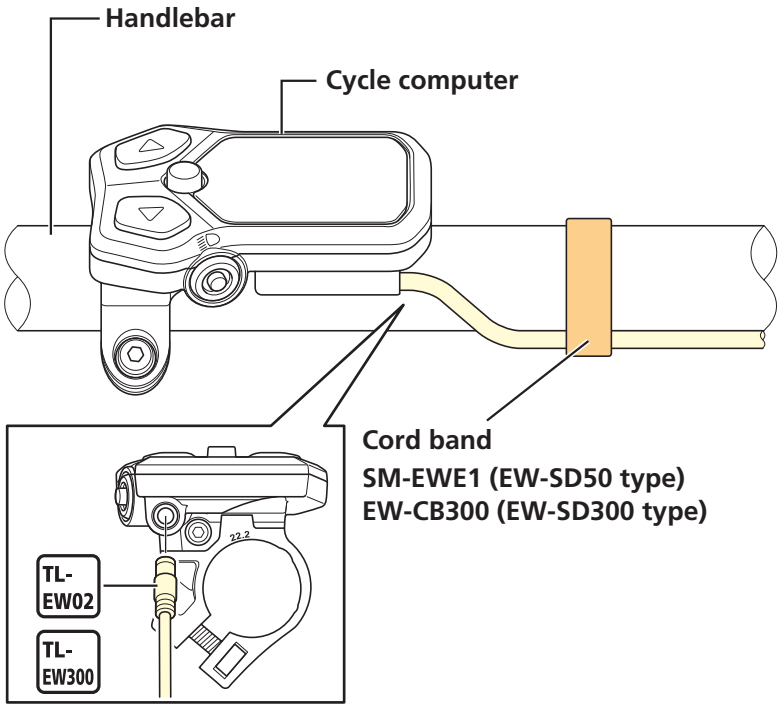


2. Prepare to wire to the drive unit.

Refer to the “SHIMANO STEPS Dealer's Manual.”

Example: Routing the electric wire

When using cord bands, the electric wire connected to the cycle computer can be secured along the handlebar. The same applies when connecting the switch unit to the right side of the handlebar.



Wiring around the cockpit (bracket installation type cycle computer)

For models: SC-E6100

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.

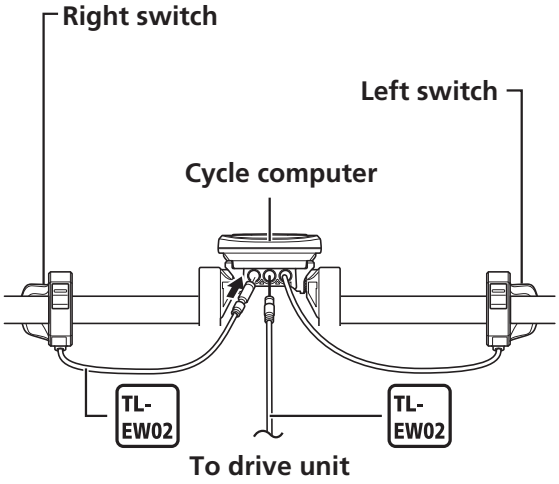
TECH TIPS

- Configurations without a switch unit are possible, depending on the cycle computer.

1. Wire around the cockpit.

- Connect the cycle computer and the switch units using the electric wires.

- Switch units and drive units can be connected to any of the E-TUBE ports on the cycle computer. However, it is recommended to connect the left and right ports to each switch unit, and the center port to the cycle computer (as shown in the figure).



2. Prepare to wire to the drive unit.

Refer to the “SHIMANO STEPS Dealer's Manual.”

Example: Routing the electric wire

Use cord bands and a cord clip to organize the wiring around the cockpit.

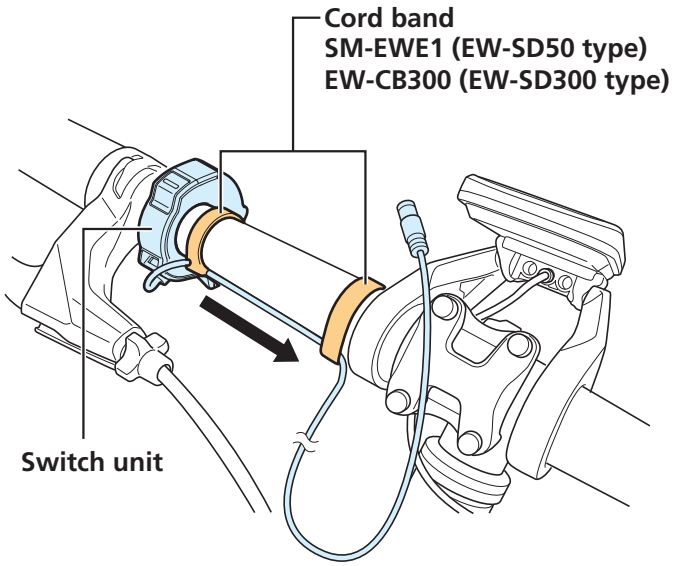
TECH TIPS

- A cord clip may be included with the cycle computer or may be sold separately.

When using cord bands

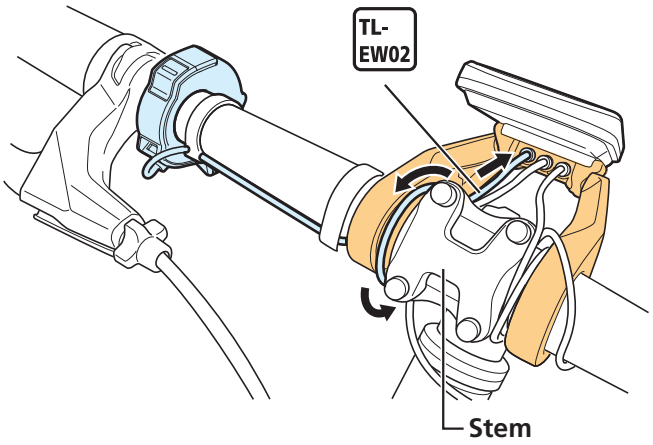
1. Secure the switch unit's electric wire.

Determine the locations of the cord bands, 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 the bracket.

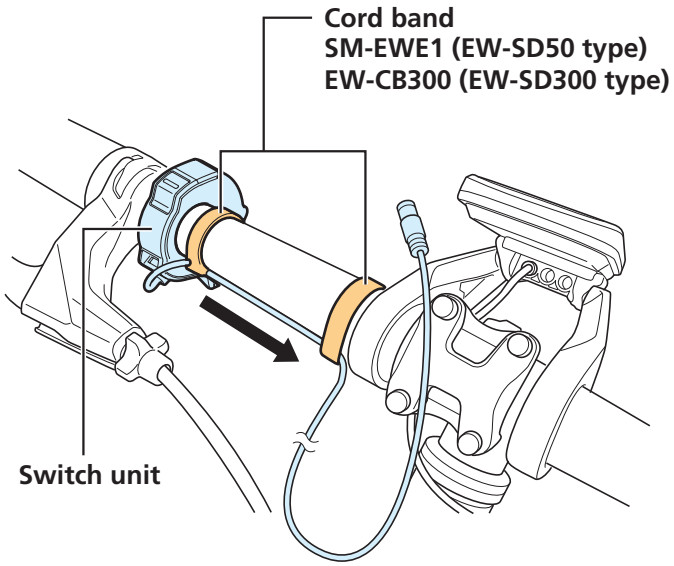
Wrap any slack around the portion of the handlebar between the cycle computer and stem prior to connecting.



When using cord bands and a cord clip

1. Secure the switch unit's electric wire.

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

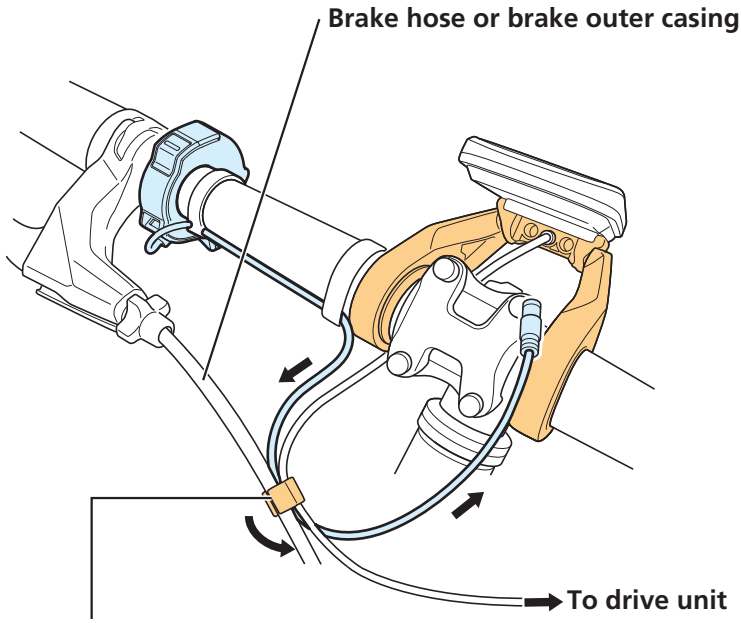


2. Bind the electric wires and the brake outer casing or brake hose together with a cord clip.

Use a cord clip to bind the brake outer casing or brake hose and the following electric wires:

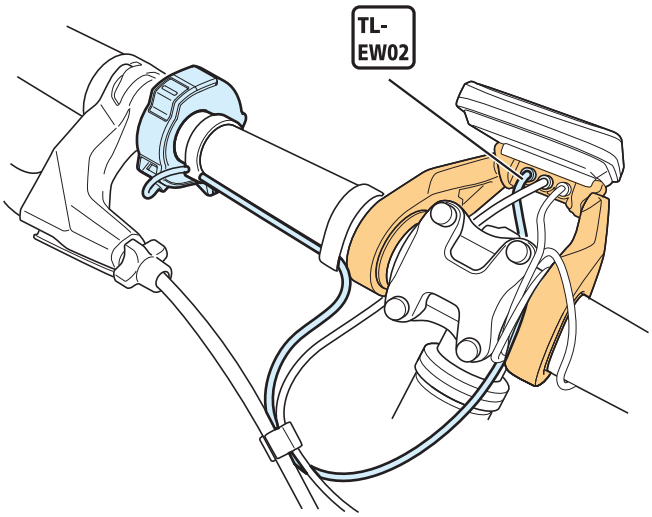
- Switch unit's electric wire

• Electric wire to connect the cycle computer and drive unit



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

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



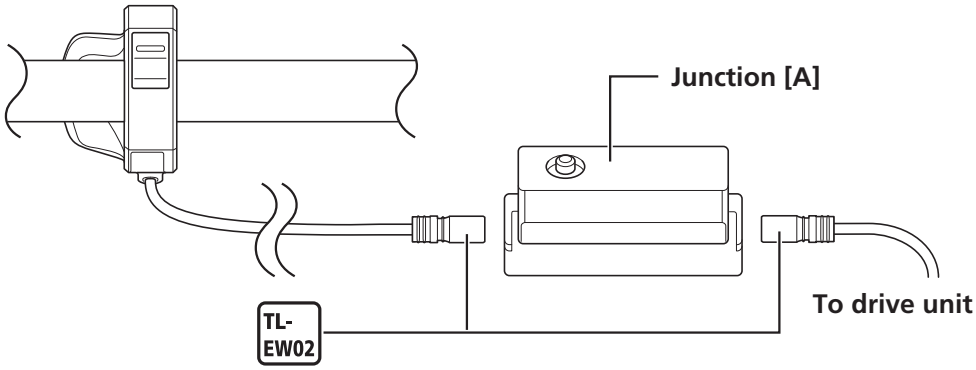
Wiring around the cockpit (junction [A])

For models: EW-EN100

As an example, this section explains how to connect a switch unit to junction [A].

1. Wire around the cockpit.

To connect the switch unit, use the electric wire to connect junction [A] and the switch unit.



2. Prepare to wire to the drive unit.

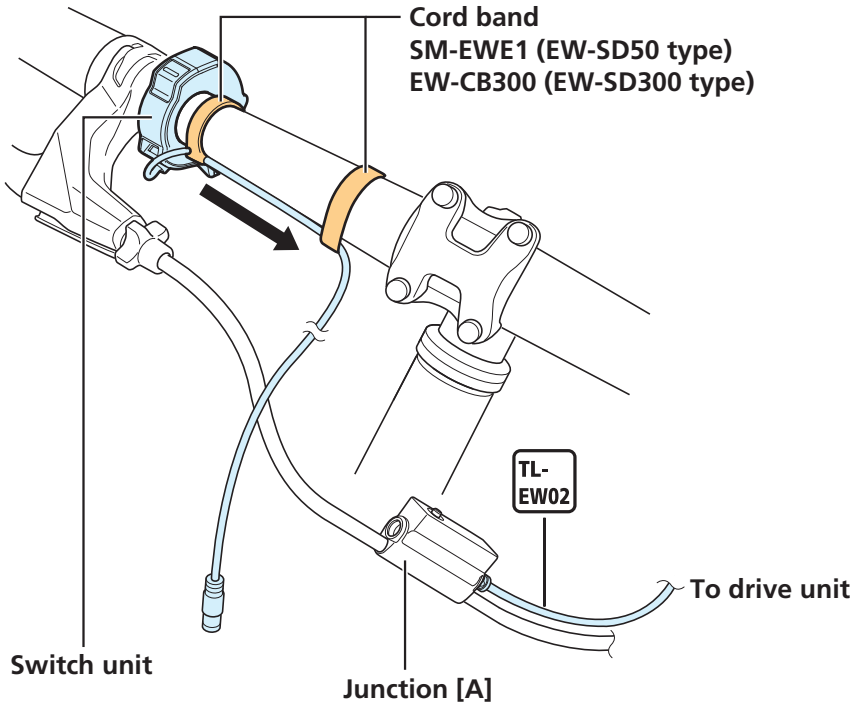
Refer to the “SHIMANO STEPS Dealer's Manual.”

Example: Routing the electric wire

Use cord bands and a cord clip to organize the wiring around the cockpit.

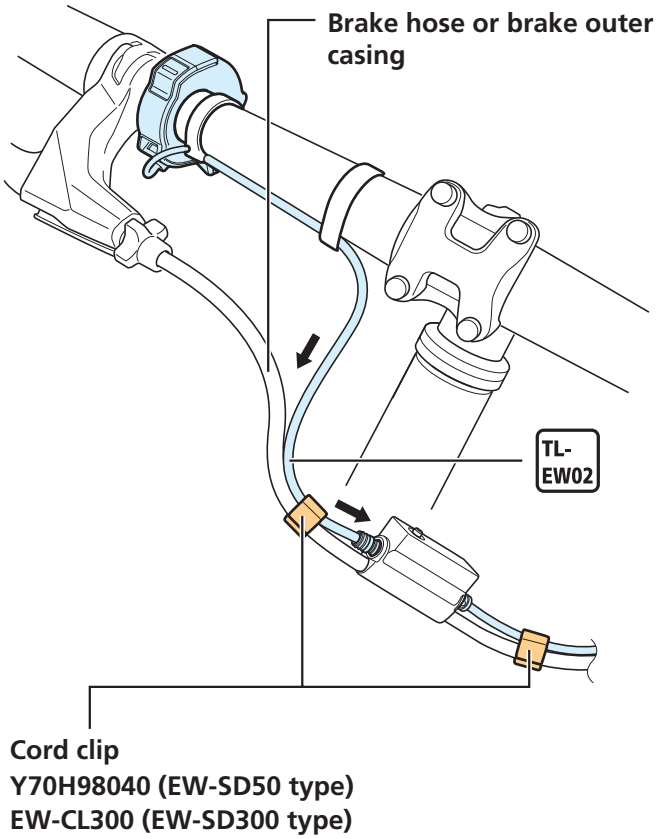
1. Secure the switch unit's electric wire.

Determine the locations of the cord bands, 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 of junction [A].

If necessary, secure the electric wire connecting the switch unit and EW-EN100 to either the brake hose or brake outer casing, using a cord clip.



Connection and communication with devices

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

E-TUBE PROJECT is needed to change the setting of the SHIMANO STEPS and to update firmware.

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

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

This manual describes how to connect to the PC version of E-TUBE PROJECT. Wireless connections may also be possible, depending on the model. Refer to the user's manual.

TECH TIPS

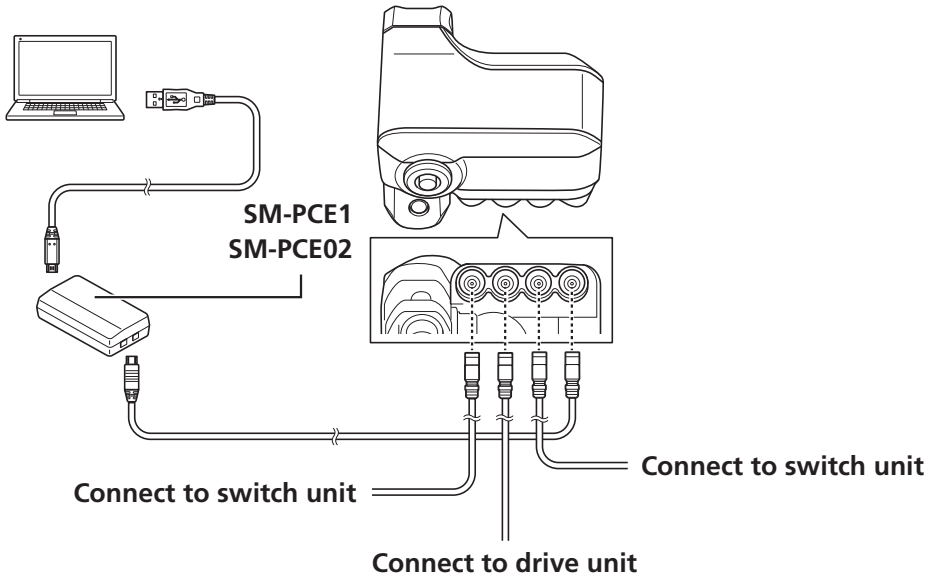
- When a connection is established between E-TUBE PROJECT and the cycle computer or all STEPS components, the STEPS logo or E-TUBE is displayed on the screen of the cycle computer.
- The PC linkage device is needed to connect SHIMANO STEPS to a PC. Junction [B] will be needed in the following situations:
  - When there are no free E-TUBE ports on the cycle computer (for example, if using an electronic gear shifter)
  - When connecting the switch unit by itself to the PC
- When connecting a device compatible with the EW-SD300 to the PC linkage device, use a conversion adapter (EW-AD305) to connect the wire to the EW-SD50.
- 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.

Connection with all SHIMANO STEPS components

To connect all SHIMANO STEPS components installed to the assist bicycle, connect the cycle computer or junction [A] to the PC.

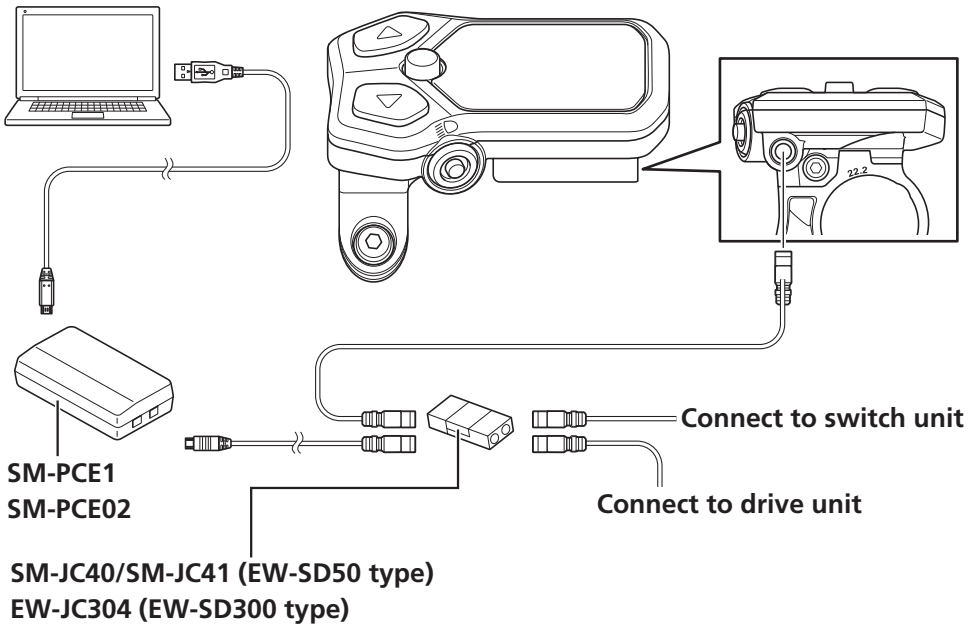
Clamp band type cycle computer

Refer to the figure when connecting.



Switch unit integrated type cycle computer

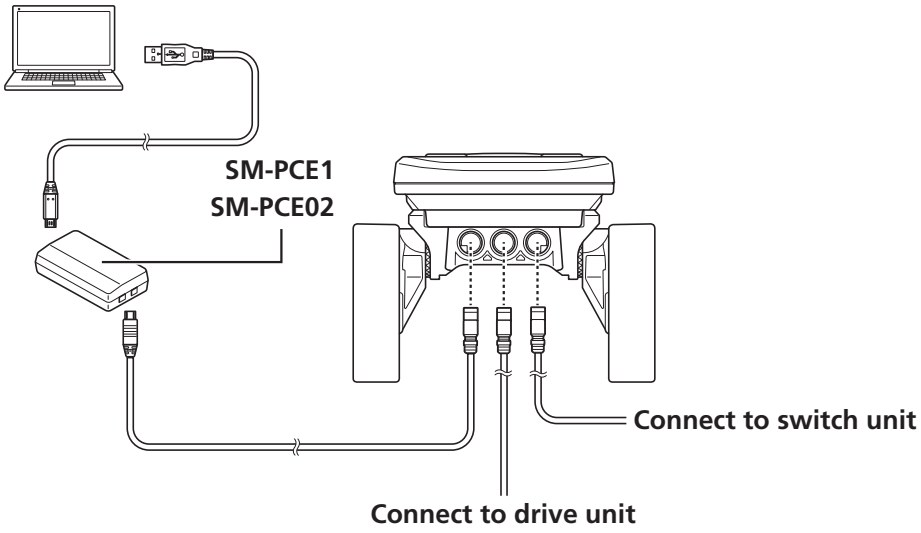
Refer to the figure when connecting.



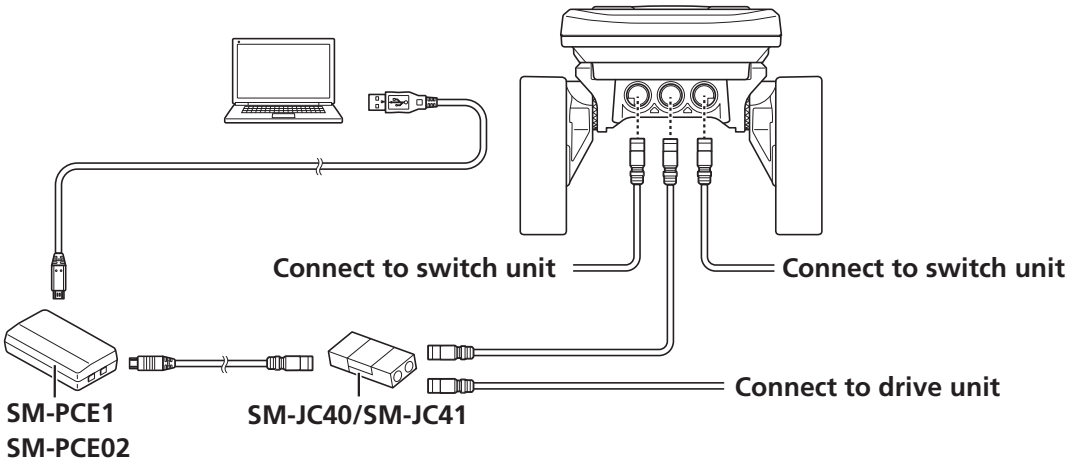
Bracket installation type cycle computer

Refer to the figure when connecting.

With free port

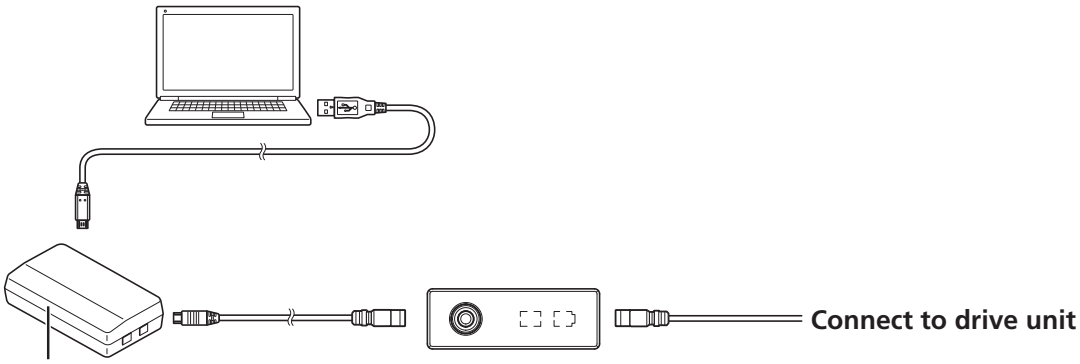


Without free port

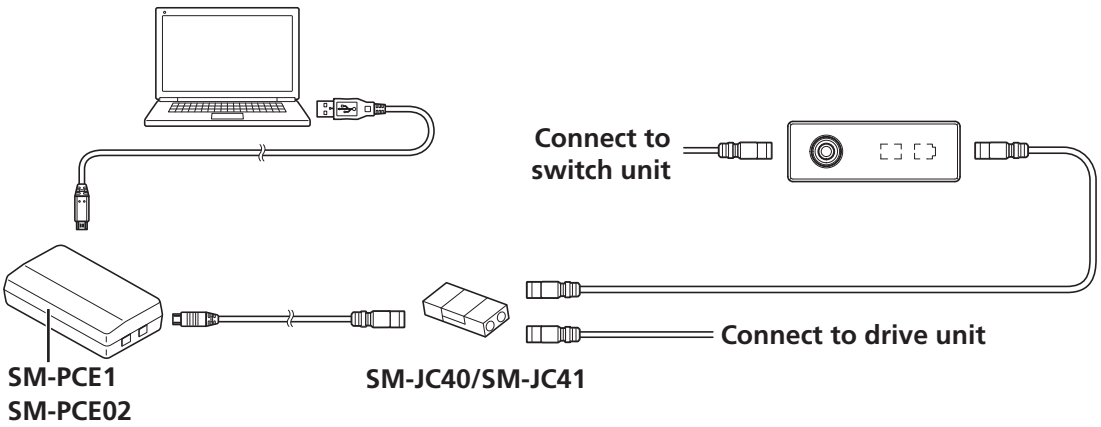


Junction [A]

With free port

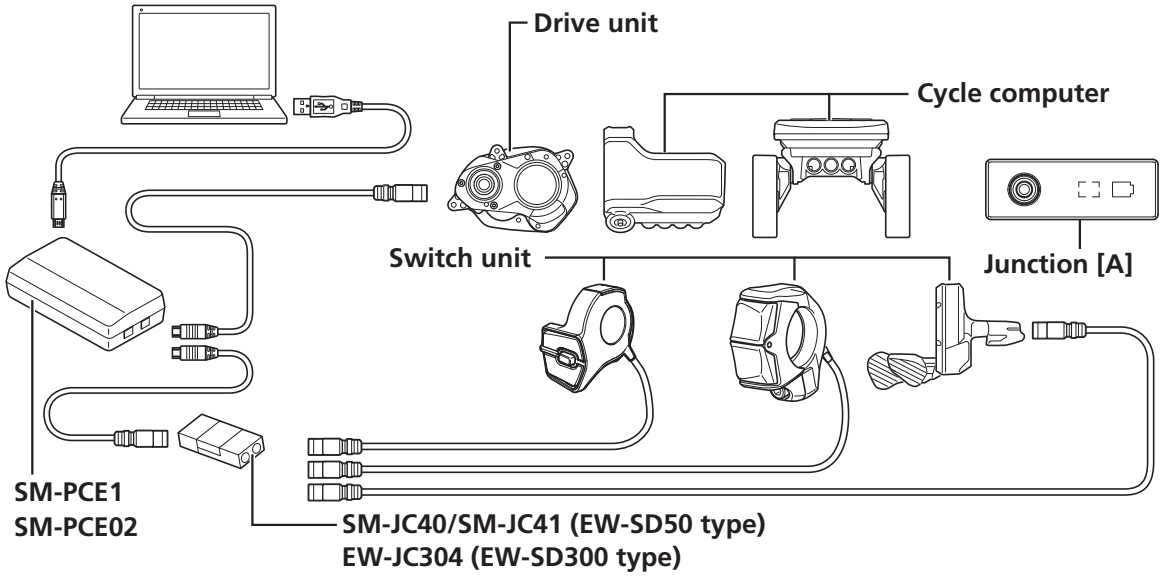


Without free port



Single component connection

Disconnect the wires of each component from the E-TUBE port, and connect to the PC via the PC linkage device.



NOTICE

- Junction [B] is required to connect a single switch unit to a PC.
- When connecting a device compatible with the EW-SD300 to the PC linkage device, use a conversion adapter (EW-AD305) to connect the wire to the EW-SD50.

TECH TIPS

- Refer to the SHIMANO STEPS dealer's manual for information on the E-TUBE ports of the drive unit.

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.

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 for this setting. For details, refer to the user's manual for E-TUBE PROJECT.

Maintenance

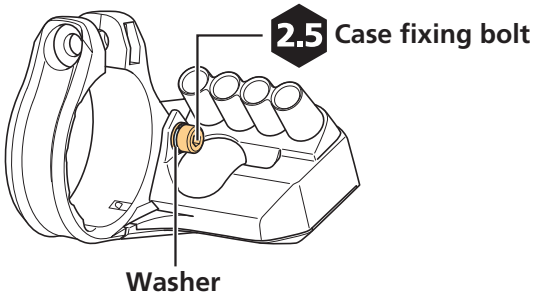
Replacing the clamp band

For models: SC-EM800, SC-E8000, SC-E7000, SC-E5000, SC-E5003

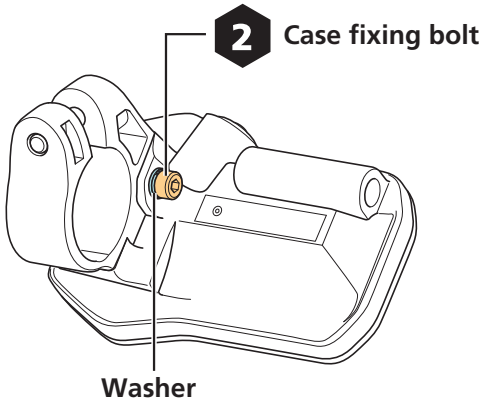
Replace the clamp band of a clamp band type or switch unit integrated type cycle computer.

1. Remove the case fixing bolt.

Clamp band type cycle computer



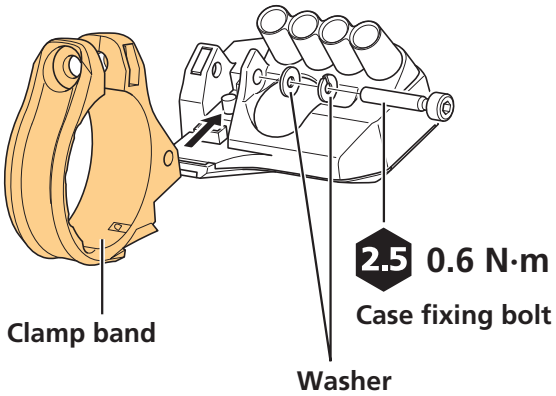
Switch unit integrated type cycle computer



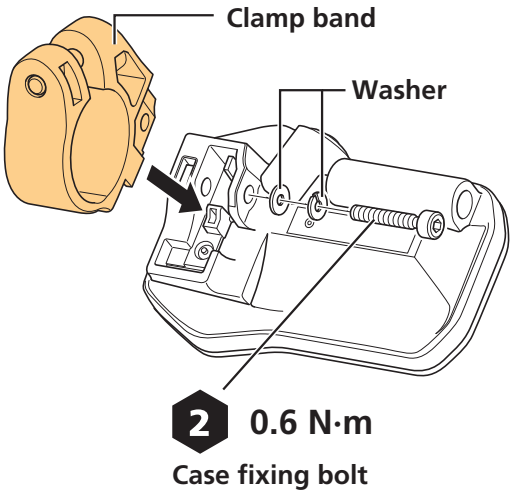
2. Replace the clamp band.

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

Clamp band type cycle computer



Switch unit integrated type cycle computer



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

Gear shifting adjustment for the electronic shifting unit is performed from the cycle computer. Screens of the SC-E7000, SC-E6100, and SC-E5000 are used here as an example. The same screens and operations apply for other cycle computers.

⚠ CAUTION

- Refer to the dealer's manual of the shifting unit first to confirm whether adjustment is required before adjusting. Under normal conditions, performing unnecessary adjustment may worsen gear shifting performance. 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.

TECH TIPS

- The adjustment range varies for rear derailleur (-16 to +16) and internal geared hub (motor unit) (-4 to +4). This section uses screens from a rear derailleur model for explanation.

Notation method for operations

Subsequent operations using the main body button of the cycle computer and switch unit are indicated using the following notation. Refer to each user's manual for information on the main body button of the cycle computer and switches of the switch unit.

Notation	Operation
<F>	Indicates an operation for pressing the function button.
<↑>	Indicates an operation for pressing the switch-X of the assist switch or switch unit integrated type cycle computer.
<↓>	Indicates an operation for pressing the switch-Y of the assist switch or switch unit integrated type cycle computer.
<▲>	Indicates an operation for pressing the switch-X of the shifting switch.
<▼>	Indicates an operation for pressing the switch-Y of the shifting switch.

Notation	Operation
[Adjust] (Example) Gear shifting adjustment for the electronic shifting unit	Items displayed on the cycle computer screen are enclosed in square brackets in this manual. When this notation is used in a procedure, it indicates an operation for selecting a display on the screen and pressing the function button or the switch-A of the assist switch to switch the screen or confirm the setting.
<A>	Indicates an operation for pressing the switch-A of the assist switch or switch unit integrated type cycle computer.

TECH TIPS

- Operations indicated with <F> may be performed with <A> instead.

Checking the setting value

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

Refer to the user's manual for each cycle computer for information on the method for displaying the setting menu screen.

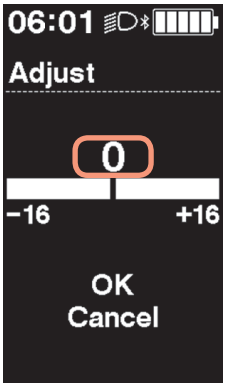
1. Setting menu ⇒ [Adjust] ⇒ check the current setting value

* Switch unit integrated type: With [GEAR] displayed, hold down <A> on the cycle computer until the display switches to [ADJUST].

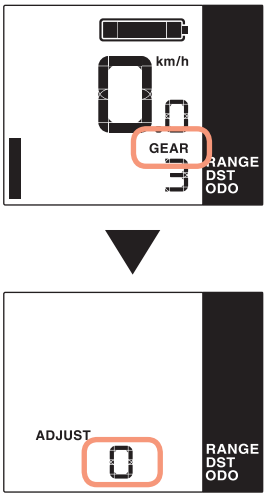
- Value is [0]: Proceed to “Adjusting when the setting value is [0].”
- Value is not [0]: Proceed to “Adjusting when the setting value is not [0].”

Clamp band type cycle computer example (SC-E7000)

Bracket installation type cycle computer example (SC-E6100)



Switch unit integrated type cycle computer example (SC-E5000)

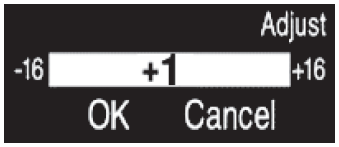


Adjusting when the setting value is [0]

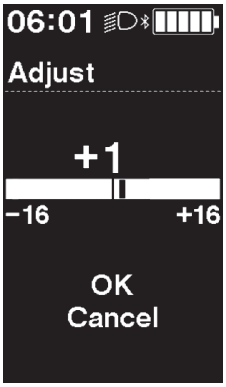
Adjust the setting value one step at a time with [0] as the reference value.

1. <▲><▼> (adjust the setting value by one step)

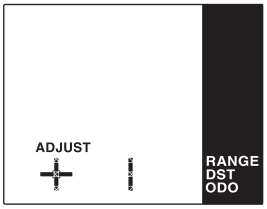
Clamp band type cycle computer example (SC-E7000)



Bracket installation type cycle computer example (SC-E6100)



Switch unit integrated type cycle computer example (SC-E5000)

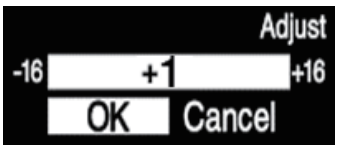


2. <↑><↓> (select [OK]) ⇒ <F>

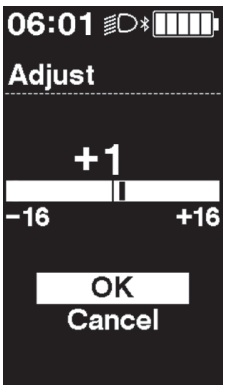
* Switch unit integrated type: <A>

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

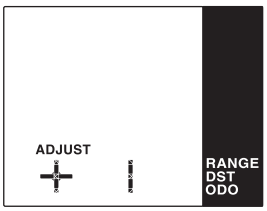
Clamp band type cycle computer example (SC-E7000)



Bracket installation type cycle computer example (SC-E6100)



Switch unit integrated type cycle computer example (SC-E5000)



3. Try gear shifting operations.

Press <▲><▼> while turning the crank to perform gear shifting, and confirm that the adjustment has changed.

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

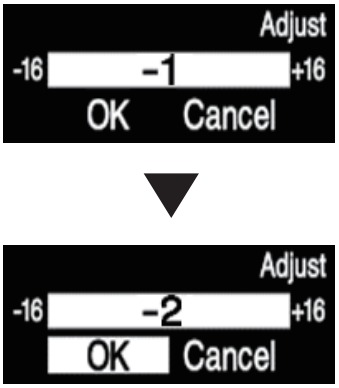
Change the adjustment value according to the symptom, and repeat the following until the abnormal noise or unusual feel is resolved.

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

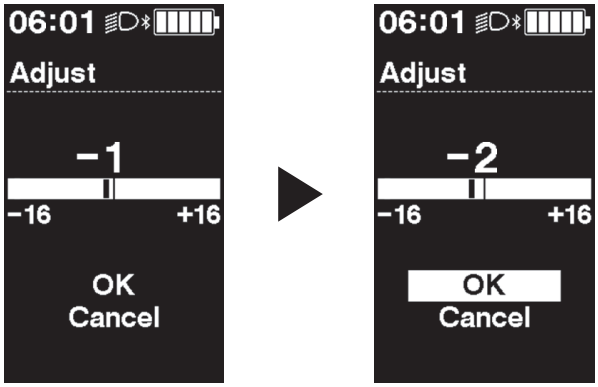
(1) Change the adjustment value another step in the same direction (positive or negative) as the change that was just made.

(2) Return to the basic screen, and once again shift gears to check the symptom.

Clamp band type cycle computer example (SC-E7000)



Bracket installation type cycle computer example (SC-E6100)



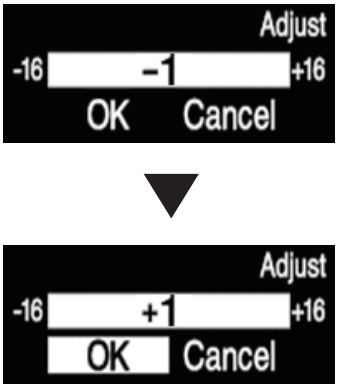
Switch unit integrated type cycle computer example (SC-E5000)

If the symptom is worse

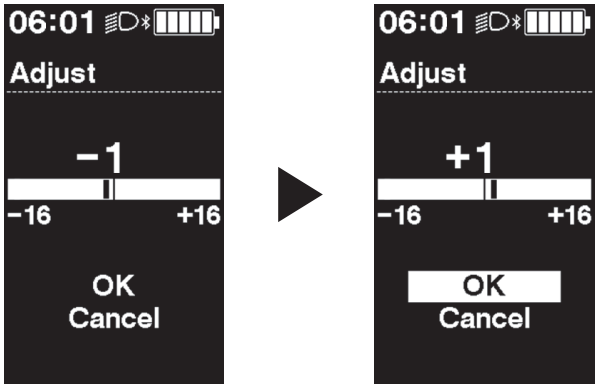
(1) Change the adjustment value two steps in the opposite direction (positive or negative) as the change that was just made.

(2) Return to the basic screen, and once again shift gears to check the symptom.

Clamp band type cycle computer example (SC-E7000)



Bracket installation type cycle computer example (SC-E6100)



Switch unit integrated type cycle computer example (SC-E5000)

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

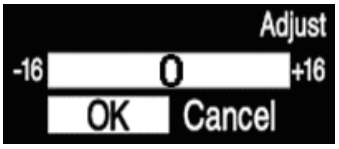
Adjusting when the setting value is not [0]

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

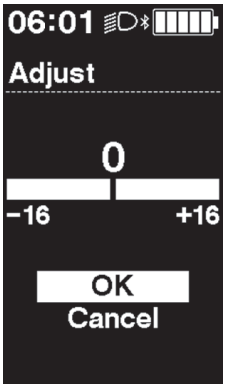
1. <▲><▼> (return the setting value to [0]) ⇒ < ↑ >< ↓ > (select [OK]) ⇒ <F>

* Switch unit integrated type: <▲><▼> (return the setting value to [0]) ⇒ <A>

Clamp band type cycle computer example (SC-E7000)



Bracket installation type cycle computer example (SC-E6100)



Switch unit integrated type cycle computer example (SC-E5000)

2. Try gear shifting operations.

Press <▲><▼> while turning the crank to perform gear shifting, and confirm that the adjustment has changed. Refer to step 4 in “Adjusting when the setting value is [0]” and adjust according to the symptom.

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

Gear shifting adjustment when using junction [A]

Switch the junction [A] to the adjustment setting mode, and adjust gear shifting for the electronic gear shifting rear derailleur.

- A switch unit configured as a shifting switch is required to set this.
- For internal electronic gear shifting, gear shifting can be adjusted from E-TUBE PROJECT. For details, refer to the user's manual for E-TUBE PROJECT.
- For the procedure for operating the main power, refer to the “SHIMANO STEPS user's manual.”
- Operations using the junction [A] button and switch unit are indicated using the following notation. Refer to the user's manual for details on the switches of the switch unit.

Notation	Operation
<B>	Indicates an operation for pressing a button.

Notation	Operation
<▲>	Indicates an operation for pressing the switch-X of the shifting switch.
<▼>	Indicates an operation for pressing the switch-Y of the shifting switch.

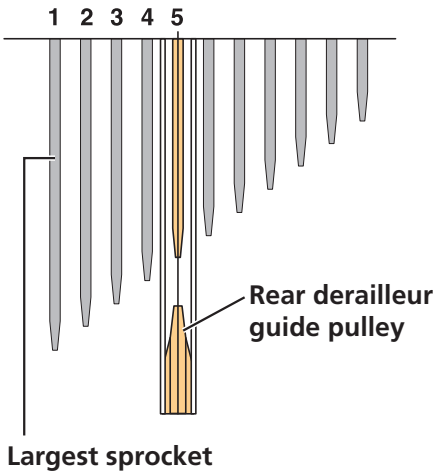
⚠ CAUTION

- Refer to the dealer's manual of the shifting unit first to confirm whether adjustment is required before adjusting. Under normal conditions, performing unnecessary adjustment may worsen gear shifting performance. Improper adjustment may cause gear engagement skipping, resulting in an accidental fall.

NOTICE

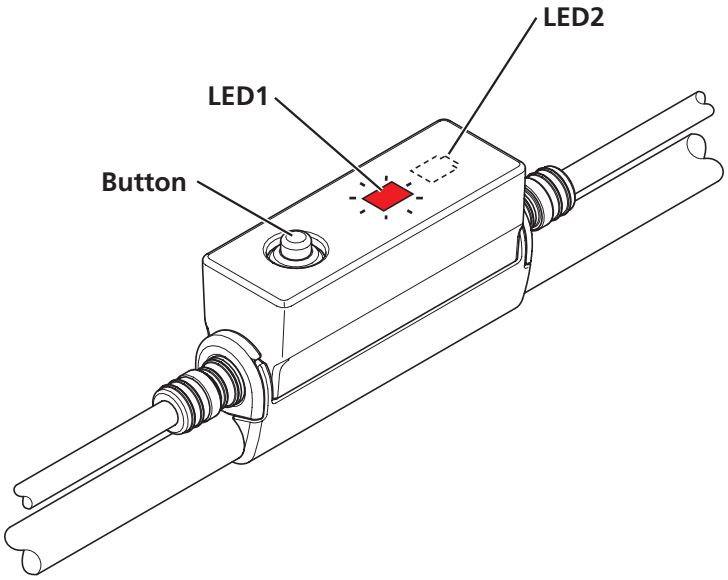
- Mount the bicycle to a maintenance stand or otherwise secure it in place so that the rear wheel can be spun freely.

1. <▲><▼> (shift to the fifth gear position from the largest sprocket)



2. <B> (hold the button down for approximately five seconds until LED1 lights up red)

Once LED1 lights up, release the button. When only LED1 is lit up red, the system is in the adjustment setting mode.

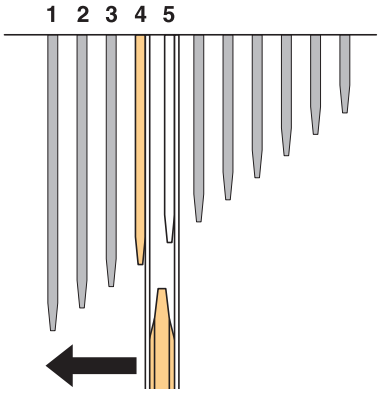


NOTICE

- If you keep pressing the button after LED1 lights up red, LED1 will flash red and RD Protection Reset will start. Press the button again to switch back to normal mode and start over.

3. <▼> while turning the crank.

With the above procedure, the guide pulley moves to the largest sprocket side. Move it to the position where the chain makes contact with the fourth gear and a subtle noise is heard.

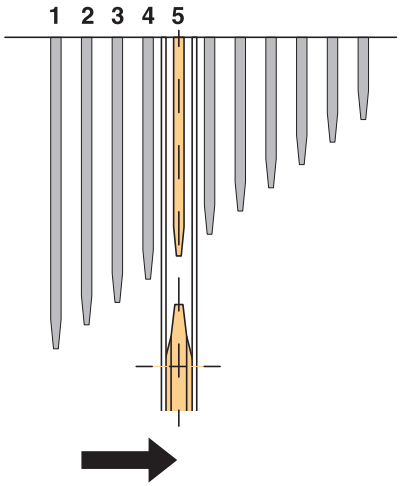


TECH TIPS

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

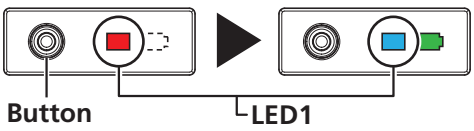
4. <▲> (press 5 times)

The guide pulley moves five steps to the smallest sprocket side. This position is the standard for adjustment.



5. <B> (press 1 time)

The adjustment change is finalized and the system returns to the normal mode.



6. Try gear shifting operations.

Press <▲><▼> while turning the crank to perform gear shifting, and confirm that the adjustment has changed. If fine adjustment is required, repeat the procedure from the start.

Time settings

Some cycle computers do not have a function for displaying the current time or setting the time. However, such models have an internal clock and their current time can be set from E-TUBE PROJECT. For details, refer to the user's manual for E-TUBE PROJECT.

The time of the internal clock is used for determining when to notify the user of maintenance alerts, for unit logs, etc. To accurately understand the state of SHIMANO STEPS system, please check the current time setting as part of the maintenance procedure.

Troubleshooting

The cycle computer and junction [A] have an error indication. Refer to the user's manual. If the error persists, contact a distributor. Other troubleshooting is included in the user's manual.

SHIMANO

SHIMANO NORTH AMERICA BICYCLE, INC.
One Holland, Irvine, California 92618, U.S.A. Phone: +1-949-951-5003

SHIMANO EUROPE B.V.
High Tech Campus 92, 5656 AG Eindhoven, The Netherlands Phone: +31-402-612222

SHIMANO INC.
3-77 Oimatsu-cho, Sakai-ku, Sakai City, Osaka 590-8577, Japan