

Dealer's Manual

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

SHIMANO STEPS

Dealer's Manual

for Drop Handlebar Bicycles

This dealer's manual is for SHIMANO STEPS drop handlebar bicycles. It describes configurations for drop handlebar type bicycles, how to operate the dual control lever, and other information.

Refer to the dealer's manual for your series for details on the following:

- Installing electrical parts, the drive unit, and peripheral parts
- How to handle the battery
- Assist mode and cycle computer settings and error messages
- Connecting and communicating with devices

Refer to the dealer's manual for your component for details on the dual control lever, rear derailleur, and brakes.

Dealer's manuals for each series or component can be seen at the following link:
<https://si.shimano.com>

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IMPORTANT NOTICE

- **This dealer’s manual is intended primarily for use by professional bicycle mechanics.**
Users who are not professionally trained for bicycle assembly should not attempt to install the components themselves using the dealer’s manuals.
If any of the information in this manual is unclear to you, do not proceed with the installation. Instead, contact your place of purchase or a bicycle dealer for their assistance.
- Make sure to read all instruction manuals included with the product.
- Do not disassemble or modify the product other than as stated in the information contained in this dealer’s manual.
- All dealer’s manuals and instruction manuals can be viewed on-line on our website (<https://si.shimano.com>).
- For consumers who do not have easy access to the internet, please contact a SHIMANO distributor or any of the SHIMANO offices to obtain a hardcopy of the User’s Manual.
- Please observe the appropriate rules and regulations of the country, state, or region in which you conduct your business as a dealer.
- The Bluetooth®-compatible wordmark and logo are registered trademarks owned by Bluetooth SIG, Inc., and are used under agreement by SHIMANO INC. Other trademarks and product names belong to their respective owners.

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

The following instructions must be observed at all times in order to prevent personal injury and physical damage to equipment and surroundings. The instructions are classified according to the degree of danger or damage which may occur if the product is used incorrectly.

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

TO ENSURE SAFETY

DANGER

Be sure to also inform users of the following:

■ Handling the battery


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

■ Handling the battery charger

- Do not allow the battery charger to get wet. If it is wet or water is allowed inside, it could cause a fire, ignition, overheating, or electric shock.
- Do not use it while it is wet, and do not touch or hold it with wet hands. An electric shock may occur.
- Do not cover the battery charger with a cloth while it is in use. Doing otherwise may cause the heat to build up and the case may become deformed, or fire, ignition, or overheating may occur.
- Do not disassemble or modify the battery charger. If this is not observed, electric shocks or injury may occur.

- Use the battery charger at the specified power supply voltage only. If a power supply voltage other than that specified is used, fire, explosions, smoke, overheating, electric shocks or burns may occur.
- Use the specified battery and charger combination for charging and observe the specified charging conditions.
Doing otherwise may cause overheating, bursting, or ignition.

WARNING

- **Be sure to follow the instructions provided in the manuals when installing the product.**
It is recommended to use SHIMANO genuine parts only. If parts such as bolts and nuts become loose or damaged, the bicycle may suddenly fall over, which may cause serious injury.
In addition, if adjustments are not carried out correctly, problems may occur, and the bicycle may suddenly fall over, which may cause serious injury.
-  Be sure to wear safety glasses or goggles while performing maintenance tasks such as replacing parts.
Otherwise, parts may come flying off and damage your eyes.
- For information on products not explained in this manual, refer to the manuals provided with each product.
- After reading the dealer's manual thoroughly, keep it in a safe place for later reference.

Be sure to also inform users of the following:

- Be careful not to let yourself be distracted by the cycle computer display while riding the bicycle.
Otherwise, you may fall off the bicycle.
- Before riding, check that the wheels are secured.
Otherwise, you may fall off the bicycle and be seriously injured.
- Be sufficiently familiar with how to start the power assisted bicycle before riding on busy streets. Otherwise, you may start the bicycle unexpectedly, which may result in an accident.
- Make sure that the light is on when riding at night.
- Do not disassemble the product.
Disassembling may cause injury.
- Do not insert or remove the plug while it is wet. Doing so may result in electric shock. If there is water leaking out of the plug, dry it thoroughly before inserting it.

- Do not recharge the battery in wet or very humid places, or outdoors. A fire, ignition, overheating, or electric shock may occur.
- **If the battery does not become fully charged even two hours after the designated charging time, immediately unplug the battery from the electrical outlet and contact the place of purchase.**
Doing otherwise may cause overheating, bursting, or ignition.
Refer to "Battery charger LED indication" in "Charging the Battery" for the designated charging time of the battery.

■ Handling the battery

- If any liquid leaking from the battery gets into your eyes, immediately wash the affected area thoroughly with clean water such as tap water without rubbing your eyes, and seek medical advice immediately. If this is not done, the battery liquid may damage your eyes.
- Do not use it outside of the operating temperature range of the battery.
If the battery is used or stored in temperatures which are outside these ranges, fire, damage to the battery or problems with operation may occur.
 1. During discharge: -10°C - 50°C
 2. During charging: 0°C - 40°C
- Do not use the battery if it has any noticeable scratches or other external damage. If this is not observed, bursting, overheating or problems with operation may occur.
- Do not use the battery if leakages, discoloration, deformation or any other abnormalities occur. If this is not observed, bursting, overheating or problems with operation may occur.

■ Handling the battery charger

- Hold the power plug when connecting or disconnecting the plug. Failure to do so may cause a fire or electric shock. If the following occurs, stop using the device and contact your place of purchase. A fire or electric shock may occur.
 - * If heat or acrid-smelling smoke is coming out from the power plug.
 - * There is a bad connection inside the power plug.
- Do not touch metallic parts of the power plug or the AC adapter if there is a lightning storm. If lightning strikes, electric shocks may occur.
- Do not overload the electrical outlet with appliances beyond its rated capacity, and use only a 100 - 240 V AC electrical outlet. If the electrical outlet is overloaded by connecting too many appliances using adapters, overheating resulting in fire may occur.
- Do not damage the power cord or power plug. (Do not damage, modify, let near hot objects, bend, twist or pull them; do not place heavy objects on top or bundle them tightly.) If they are used while damaged, fire, electric shocks or short-circuits may occur.

- Do not use the battery charger with commercially-available electrical transformers designed for overseas use (travel converters). They may damage the battery charger.
- Always be sure to insert the power plug as far as it will go. If this is not observed, fire may occur.
- When charging the battery while it is installed on the bicycle, do not move the bicycle. The battery charger's power plug may come loose and not be fully inserted into the electrical outlet, resulting in risk of fire.

■ **Bicycle installation and maintenance:**

- Be sure to remove the battery and charging cable before wiring or attaching parts to the bicycle. Otherwise, an electric shock may result.
- Intervals between maintenance depend on the use and riding circumstances. Clean the chain with an appropriate chain cleaner regularly. Never use alkali based or acid based solvents, such as rust cleaners. If those solvents are used the chain might break and cause serious injury.



CAUTION

Be sure to also inform users of the following:

■ **Handling the battery**

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

■ **Handling the battery charger**

- When performing cleaning, disconnect the power plug from the electrical outlet and the charging plug from the battery. If this is not observed an electric shock may occur.

- Do not let the battery touch the same area of skin for an extended period of time while it is charging. The temperature of components may reach 40 to 70°C, which can cause low-temperature burns.
- Periodically check the battery charger and adapter, particularly the cord, plug, and case, for any damage. If the charger or adapter is broken, do not use it until it has been repaired by the place of purchase or distributor.
- Use the product under the supervision of someone responsible for safety and upon receiving usage instructions. Do not allow physically, sensory, or mentally impaired persons, inexperienced persons, or persons with no required knowledge, including children, to use the product. Do not allow children to play near the product.

NOTICE

Be sure to also inform users of the following:

- Be sure to attach dummy plugs to any unused ports.
- For installation and adjustment of the product, consult a dealer.
- The components are designed to be fully waterproof and withstand wet weather riding conditions; however, do not deliberately place them into water.
- Do not clean the bicycle with a high-pressure wash. If water gets into any of the components, operating problems or rusting may result.
- Handle the components carefully, and avoid subjecting them to strong shock.
- Do not turn the bicycle upside down. There is a risk of damage to the cycle computer and shift switches.
- Although the bicycle still functions as a normal bicycle even when the battery is removed, the light will not turn on if it is connected to the electric power system. Be aware that using the bicycle under these conditions will be considered non-observance of the road traffic laws in Germany.
- When carrying the bicycle in a car, remove the battery from the bicycle and place it on a stable surface in the car.
- Before connecting the battery, make sure that there is no water collecting in the area where the battery will be connected (connector), and that it is not dirty.
- It is recommended to use a SHIMANO genuine battery. If using a battery from another company, be sure to read the product manual thoroughly prior to use.
- Some of the important information in this dealer's manual can also be found on the device labels.

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

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

■ Handling the battery

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

■ Handling the battery charger

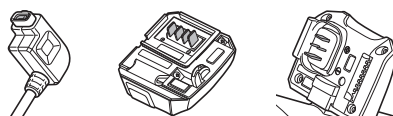
- The battery can be charged at temperatures between 0°C and 40°C. The battery charger will not operate at temperatures outside the range. It will display an error. (The battery charger LED lamp flashes.)
- Do not use outdoors or in environments with high humidity.
- Charge the battery indoors to avoid exposure to rain or wind.
- Do not place the battery charger on dusty floors when using it.
- Place the battery charger on a stable surface such as a table when using it.
- Do not place any objects on top of the battery charger or its cable. Also, do not remove the cover.
- Do not bundle the cables.
- Do not hold the battery charger by the cables when carrying it.
- Do not apply excessive tension to the cable and charging plug.
- In order to prevent the cable from being damaged, avoid wrapping it around the main body during storage.

- Do not wash the battery charger or wipe it using detergents.
- Do not allow children to play near the product.
- When charging with the battery installed to a bicycle, take care that your legs, etc. do not get caught in the battery charger cord. Doing so may cause injury or cause the bicycle to fall over and break the components.
- When charging the battery while it is mounted on the bicycle, be careful of the following:
 - Before charging, check that there is no water on the charging port of the charging plug.
 - Check that the battery mount is locked before charging.
 - Do not remove the battery from the battery mount while charging.
 - Do not ride with the charger mounted.
 - Close the cap on the charging port when not charging.
 - Fix the bicycle in place when charging, so that it does not tip over.
- Make sure to close the charge socket cap after charging is complete. If foreign material such as dirt or dust is attached to the charge socket, the charging plug may become unable to be inserted.
- Using the battery outside the operating temperature range may cause problems with operation or performance degradation.
- The charging time is longer when the battery temperature is high.

■ Cleaning

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

Terminal example



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



- Use a damp, well wrung out cloth when cleaning the battery and plastic cover.
- If you have any questions about the use and maintenance of the product, consult the place of purchase.
- Contact the place of purchase for updates to the component software. The most up-to-date information is available on the SHIMANO website. For details, refer to the "CONNECTION AND COMMUNICATION WITH DEVICES" section.
- Products are not guaranteed against natural wear and deterioration from normal use and aging.
- For maximum performance we highly recommend SHIMANO lubricants and maintenance products.

■ Connection and communication with PC

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

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

■ Connection and communication with smartphone or tablet

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

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

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

The actual product may differ from illustrations, as this manual is intended mainly to explain the procedures for using the product.

Dealer's Manuals

Instructions on how to handle SHIMANO STEPS for drop handlebars are spread across two documents: your "**SHIMANO STEPS dealer's manual for your series**" and the "**Dealer's Manual for Drop Handlebar Bicycles**" (this document).

Be sure to read this document along with the dealer's manual for your series.

User's manuals for each series can be seen at the following website:

<https://si.shimano.com>

Dealer's Manual for Drop Handlebar Bicycles (this document)

This describes SHIMANO STEPS configurations for drop handlebar bicycles, how to operate the switches on the dual control lever, and other information.

SHIMANO STEPS dealer's manuals for each series

These describe the following topics not included in the User's Manual for Drop Handlebar Bicycles:

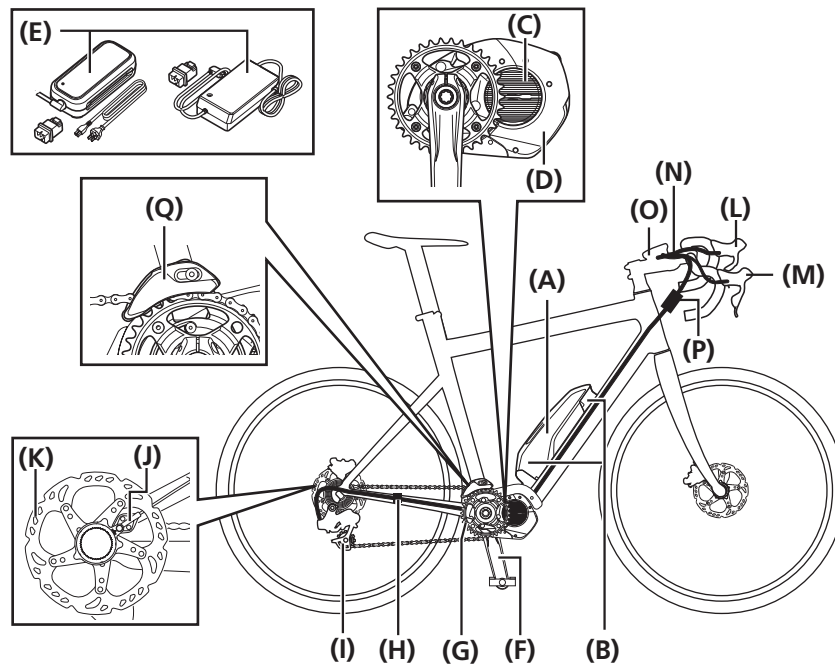
- How to install electrical parts, the drive unit, and peripheral parts
- How to handle the battery
- Assist mode and cycle computer settings and error displays
- Connecting and communicating with devices
- Maintenance

Component configuration and operation

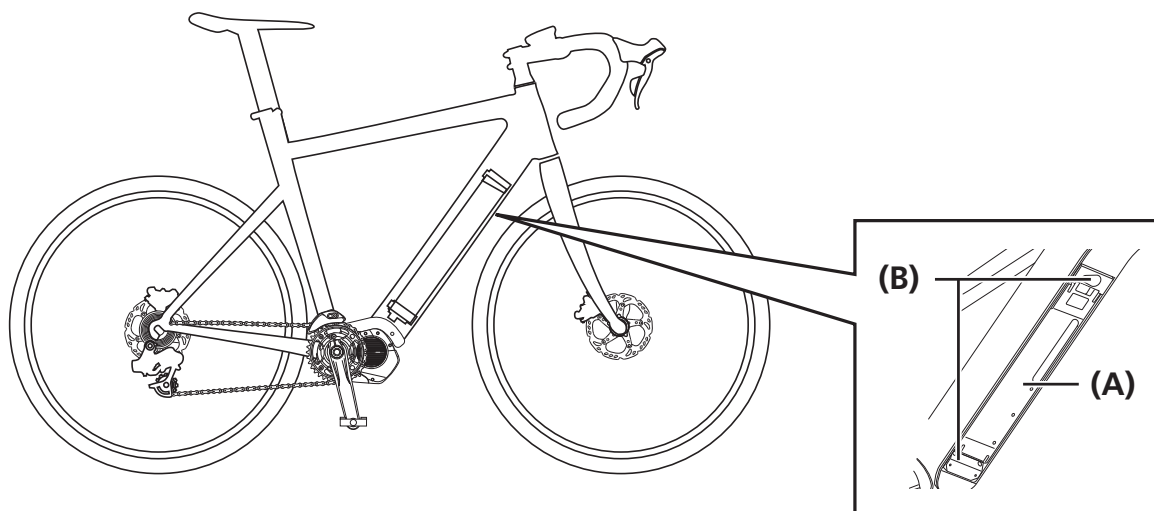
Names of Parts

The figure below shows one example of a combination of components. Refer to the line-up chart (<https://productinfo.shimano.com/#/lc/>) for details.

Down tube mount type



Built-in type



(A)*1	Battery	(B)*1	Battery mount
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(C)*1	Drive unit	(D)*1	Drive unit cover
(E)*1	Battery charger	(F)	Crank arm: FC-E8050 / FC-M8050 / FC-E8000 / FC-E6100 / FC-E5000 / FC-E5010
(G)	Front chainring: SM-CRE80-R / SM-CRE50	(H)*2	Speed sensor: SM-DUE10
(I)*3	Rear derailleur (DI2): RD-R8050 / RD-RX815 / RD-RX817	(J)*2	Speed sensor: SM-DUE11
(K)	Disc brake rotor: RT-EM910 / RT-EM810 / RT-EM600 / RT- EM300	(L)	Dual control lever (DI2) (default: assist switch): ST-R8070-L / ST-RX815-L
(M)*3	Dual control lever (DI2) (default: shift switch): ST-R8070-R / ST-RX815-R	(N)	Electric wire: EW-SD50
(O)*4	Cycle computer: SC-E7000 / SC-E6100	(P)*4	Junction [A] (wireless unit): EW-EN100
(Q)*5	Chain device: SM-CDE80		

*1 Refer to the dealer's manual for your series for information on drive units and batteries/battery chargers.

*2 Use either (H) or (J). (J) is only when (K) disc brake is mounted.

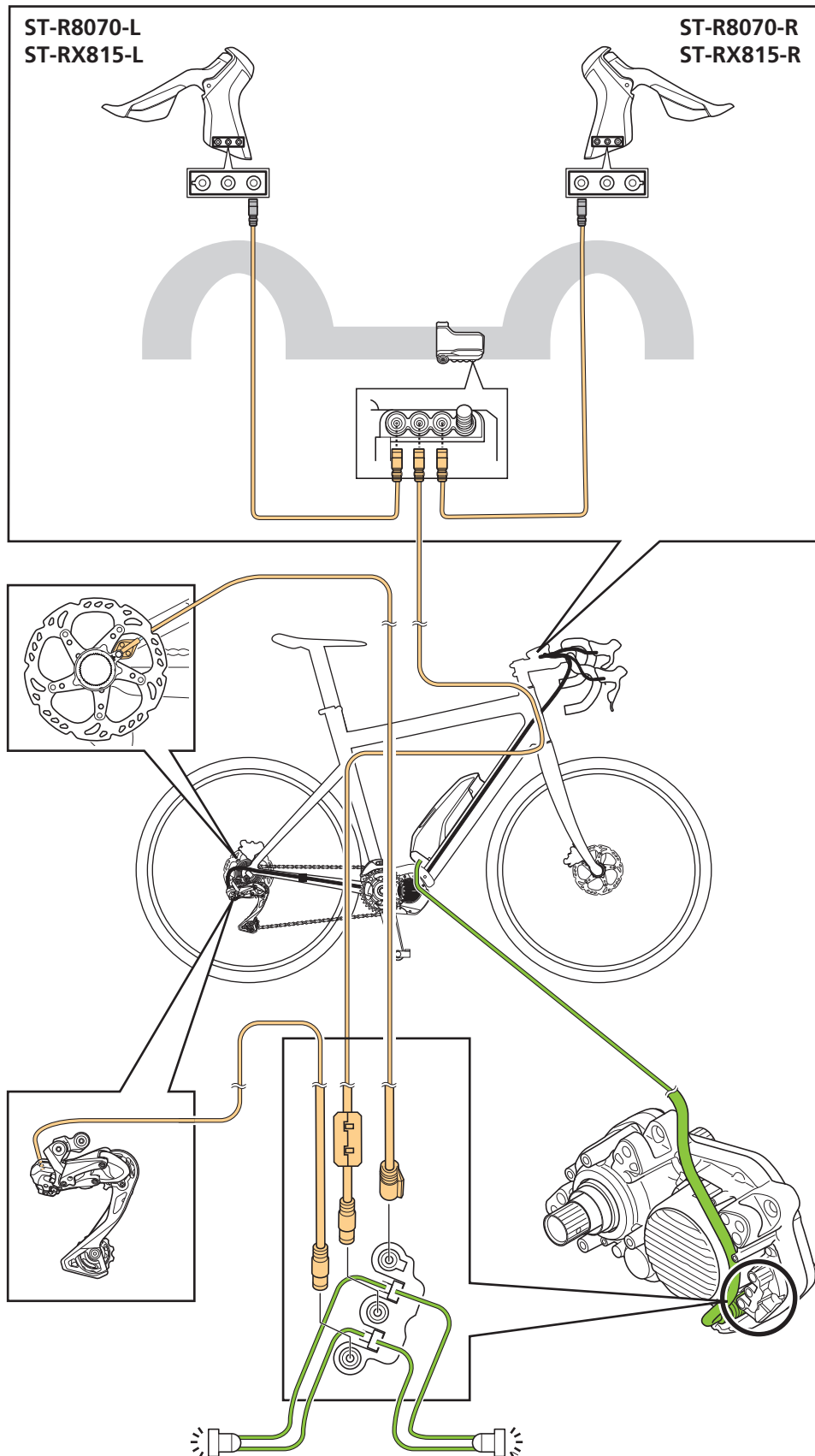
*3 Electronic gear shifting only.

*4 Use either (O) or (P).

*5 Refer to compatibility information (<https://productinfo.shimano.com>) for information on front chainring and chain device combinations.

Overall Wiring Diagram

* The figure below shows SC-E7000 used with DU-E7000/down tube mount type.

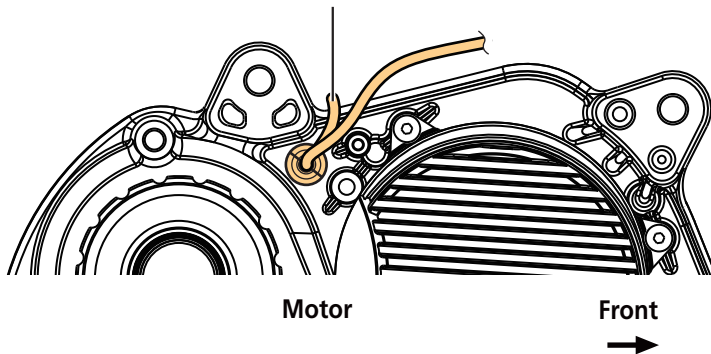


NOTICE

- To connect a cycle computer or junction with a drive unit, use an electric wire with a ferrite core (EW-SD50). Refer to the figure below for information on how to route the electric wire.

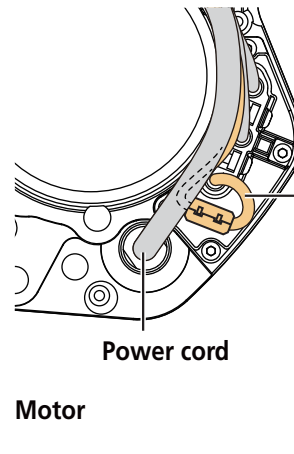
DU-E8000/DU-E8080

EW-SD50 with ferrite core for cycle computer/junction (wire from non drive side)



DU-E6100/DU-E6180/DU-E7000

EW-SD50 with ferrite core for cycle computer/junction



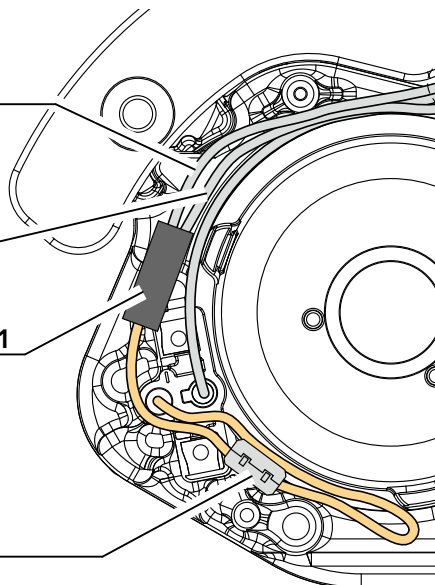
DU-E5000/DU-5080

EW-SD50 for cycle computer/junction

EW-SD50 for rear derailleur

SM-JC41

EW-SD50 with ferrite core



TECH TIPS

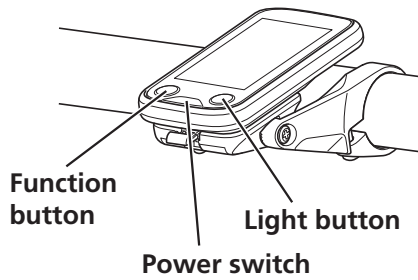
- The maximum cable length of the electric wire (EW-SD50) is 1,600 mm.

Basic Operation

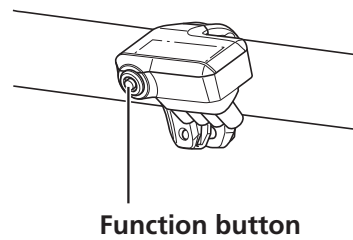
This manual uses default settings for all explanations. The functions assigned to switches when riding can be changed from those described here, by connecting to E-TUBE PROJECT.

Cycle computer and dual control lever

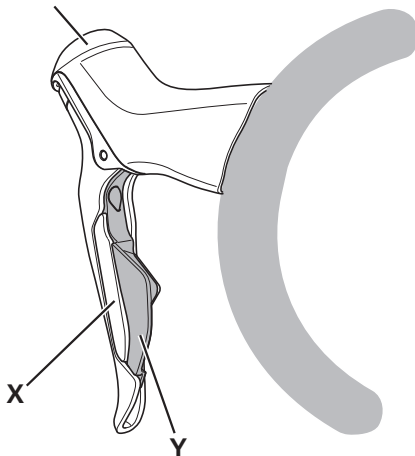
SC-E6100



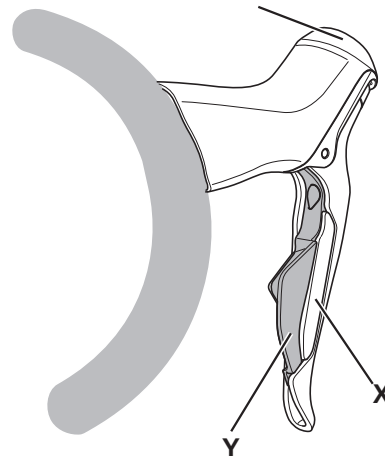
SC-E7000



ST-R8070-L / ST-RX815-L
Remote switch



ST-R8070-R / ST-RX815-R
Remote switch



Dual control lever (left) (default: assist)		Dual control lever (right) (default: electronic gear shifting)	
Assist-X	When riding: Increase assistance When setting: Move cursor or change setting	Shift-X	When riding: Shift down
Assist-Y	When riding: Decrease assistance When setting: Move cursor or change setting	Shift-Y	When riding: Shift up
Remote switch	When riding: Switch traveling data displayed on the cycle computer.		

Cycle computer (SC-E6100)			
Function button	When riding: Switch traveling data displayed on cycle computer When setting: Switch cycle computer screen or confirm setting changes	Light button	Light ON/OFF
		Power switch	Main power ON/OFF

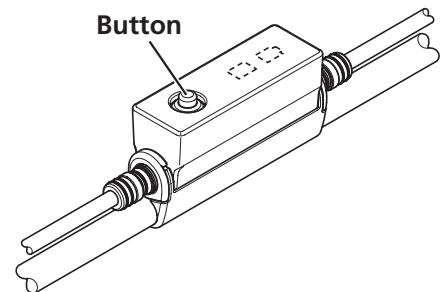
Cycle computer (SC-E7000)	
Function button	When riding: Switch traveling data displayed on cycle computer When setting: Switch cycle computer screen or confirm setting changes

NOTICE

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

Junction [A] (EW-EN100)

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



Junction [A]	
Button	Press: Change assist mode (each time button is pressed). Hold (less than five seconds): Light ON/OFF. Hold (from five seconds to less than eight seconds): Adjust mode. Hold (eight seconds or longer): RD Protection Reset function.

NOTICE

- Do not operate the button while riding the bicycle. Select the assist mode before riding the bicycle.
- The RD Protection Reset function can only be used if the rear derailleur is an electronic gear shifting unit.

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

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

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