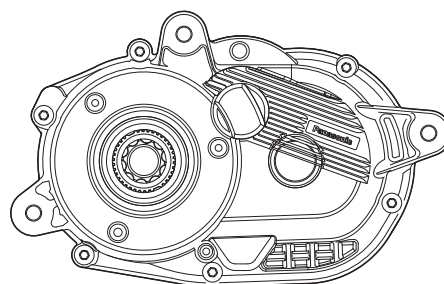
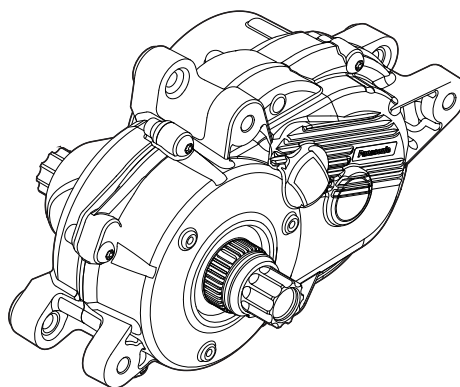


Operating Instructions

CENTER DRIVING UNIT GXM

Drive Unit



- Before operating this product, please read the instructions carefully and save this manual for future use.
- Before using this product, be sure to read “Read this first!”
- e-Bike (Electric Power Assisted Cycles) as used in this manual mean Pedelec.
- Speed pedelec as used in this manual means vehicles with a maximum design speed of more than 25km/h and up to 45 km/h.

Read this first!

For Your Safety

To reduce the risk of injury, loss of life, electric shock, fire, malfunction, and damage to equipment or property, always observe the following safety precautions.

Explanation of symbols

The following symbols are used to classify and describe the level of hazard, injury, and property damage caused when the warning is disregarded and improper use is performed.

	DANGER	Denotes a potential hazard that will result in serious injury or death.
	WARNING	Denotes a potential hazard that could result in serious injury or death.
	CAUTION	Denotes a hazard that could result in minor injury or damage to the unit or other equipment.

The following symbols are used to classify and describe the type of instructions to be observed.

	This symbol is used to alert users to a specific operating procedure that must not be performed.
	This symbol is used to alert users to a specific operating procedure that must be followed in order to operate the unit safely.

WARNING

	Do not modify or disassemble the drive unit. This may cause damage or overheating, which may lead to fire. Unauthorized opening of the drive unit will void any and all warranty claims.
	Use only a compatible battery This may cause damage or overheating, which may lead to fire. If you use any other battery, all compensation claims will become invalid.
	All components mounted to the drive unit and all other components mounted on the e-Bike (e.g. the chain wheel, crank, rear gear, derailleur, wheels, sprocket) should be replaced only with identical components or components that conform to the e-Bike. Use the drive unit only for the e-Bike. This may cause injury. Do not use the components for other purposes.
	- Be sure to attach waterproof caps on the panel mount sockets to which plugs are not connected. - The drive unit is designed with waterproof performance withstanding rain in rainy weather. Do not immerse the drive unit in water such as puddles. - Do not apply physical stresses, such as shock and drop caused by fall of the bicycle.
	Do not clean any of the parts including the drive unit with a steam cleaner or high-pressure cleaner.

CAUTION

	Since the stator section becomes hot, make sure that the high-temperature caution label can be seen. When the customer at the delivery destination decides to hide the label, attach the high-temperature caution label when necessary.
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Before starting use

Precautions when riding the e-Bike

- The e-Bike have to be used under each country's law.
 - Consult your dealer of purchase for assembling or adjusting the product.
 - The assist function works only by turning the pedals.
 - Drive unit output varies according to the pedalling force.
 - Changing the pedalling force also changes the strength (weakness) of the assist function. The strength (weakness) of the assist function changes according to the assist mode.
 - The drive unit stops automatically when the speed of the e-Bike exceeds 25 km/h*.
 - The drive unit is automatically reactivated when the speed of the e-Bike is less than 25 km/h*.
 - The drive unit outputs for the duration that the bicycle mark button (Walk assistance) is pressed until the speed of the e-Bike reaches 5 km/h* (or 6 km/h*), even if the pedals are not turned. (This differs with the settings of each company.)
 - The e-Bike can be ridden as a bicycle without an assist function in the following cases:
 - When the e-Bike Systems is turned off*¹
 - When the assist mode is set to [OFF]
 - When there is no remaining battery power*¹
- *¹ When a light is connected to the drive unit, the light does not light up. In some countries, road traffic laws are not satisfied.
- If you ride the e-Bike using an incorrect gear, overheating may occur.
- * For drive unit of Speed-pedelec
- The drive unit stops automatically when the speed of the vehicle exceeds 45 km/h.
- The drive unit is automatically reactivated when the speed of the vehicle is less than 45 km/h.
- The drive unit outputs for the duration that the bicycle mark button (Walk assistance) is pressed until the speed of the vehicle reaches 18km/h, even if the pedals are not turned.

Mutual effect of bicycle gears and e-Bike Systems

- Use gear shifting in the same way as you would on a regular bicycle.
- By selecting the appropriate gear, speed and distance can be increased by the same pedalling force.

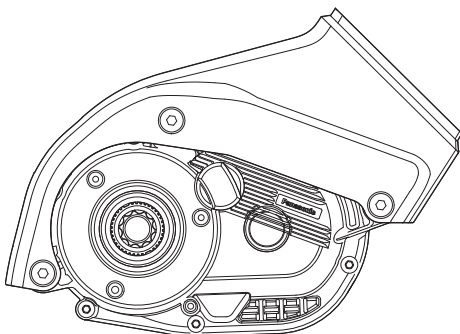
Daily care

The parts of the e-Bike Systems are precision parts and must be cared for daily.

- Prevent all parts of the e-Bike Systems from getting dirty. If parts are dirty, wipe off the dirt with a soft, moist cloth. (Battery terminals)
- Do not coat battery terminals and connectors with conductive grease since there is the risk of shorting the terminals.
- Consult only an authorized bicycle dealer for servicing or repair of the e-Bike.

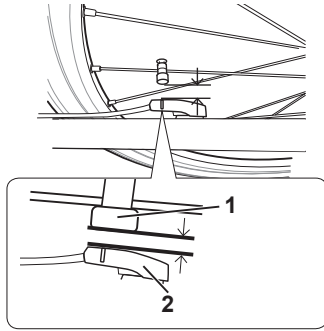
Specifications

The specifications are as follows.



	GXM105Mg	GXM100	GXM75
Rated continuous output	250 W		
Rated voltage	36 V DC		
Crank axle	ISIS		
Operating temperature* ¹	-10 °C to 45 °C		
Storage temperature* ¹	-15 °C to 50 °C		
Weight	Approx. 2.6 kg	Approx. 2.8 kg	Approx. 2.8 kg
Waterproofing level	IPX5		

*¹ The above shows environmental temperature specifications when a single drive unit is used. Note that the indicated values may differ from the values of environmental temperature specifications for the battery and other components used for e-Bike.



Spoke type Speed sensor

1:Magnet unit

2:Spoke type Speed sensor

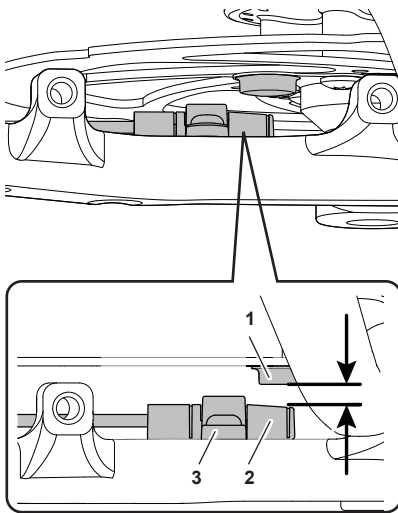
Before installing the speed sensor, check that the clearance between the speed sensor and the magnet unit will be within 1 to 15 mm. Within the specified reading range (1 mm to 15 mm) of the sensor used

Align the speed sensor and magnet unit as shown in the illustration.

Check that sensing is normally performed when the speed sensor and magnet unit are assembled.

Attention

When installing or removing the rear wheel, be careful not to hitch the speed sensor cable.



Slim type Speed sensor

1:Magnet unit

2:Slim type Speed sensor

3:Holder set (optional)

Align the speed sensor position with the magnet unit position as shown in the figure.

Before installing the speed sensor, make sure that the clearance between the speed sensor and magnet unit is 2 mm or more.

Guidelines of the clearance between the speed sensor and magnet unit are: 2 to 4 mm when a neodymium magnet unit with a thickness of 1 mm is used, and 2 to 8 mm when a neodymium magnet unit with a thickness of 2 mm is used.

Check that sensing is normally performed when the speed sensor and magnet unit are assembled.

Attention

When installing or removing the rear wheel, be careful not to allow a disc rotor, etc. to damage the speed sensor or holder set. Also, be careful not to hitch the speed sensor cable.

After-sales service

Check with an authorized e-Bike dealer if you have any questions about the e-Bike System and its components.

Information for Users on Collection and Disposal of Old Equipment and used Batteries



These symbols on the products, packaging, and/or accompanying documents mean that used electrical and electronic products and batteries should not be mixed with general household waste.

For proper treatment, recovery and recycling of old products and used batteries, please take them to applicable collection points, in accordance with your national legislation and the Directive 2012/19/EU and Regulation (EU) 2023/1542.

By disposing of them correctly, you will help to save valuable resources and prevent any potential negative effects on human health and the environment.

For more information about collection and recycling, please contact your local municipality.

Penalties may be applicable for incorrect disposal of this waste, in accordance with national legislation.



Generated data of Panasonic products

“EU Data Act” is an EU regulation which provides that fair access to data and use data between companies(BtoB) and between companies and consumers(BtoC) and will effective since 12 Sep 2025.

The purpose of EU Data Act is to distribute fairly interoperable data that is expected to enhance competitiveness and innovation and lead to sustainable economic growth.

In accordance with this regulation, the generated data of Panasonic products are disclosed to customers fairly.

The generated data of Panasonic products can be found at the following 2D code.



Manufactured by:

Panasonic Cycle Technology Co., Ltd.
13-13 Katayama-cho, Kashiwara City, Osaka 582-8501, Japan

Authorized Representative in Europe:

Panasonic Marketing Europe GmbH
Panasonic Testing Centre
Winsbergring 15, 22525 Hamburg, Germany

Imported by:

Panasonic Industry Europe GmbH
Caroline-Herschel- Strasse 100 85521 Ottobrunn, Germany

Dealer's Manual

CENTER DRIVING UNIT GXM

with Assembly Instructions

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

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 its e-Bike maker.
- Make sure to read all instruction manuals included with the product.



WARNING

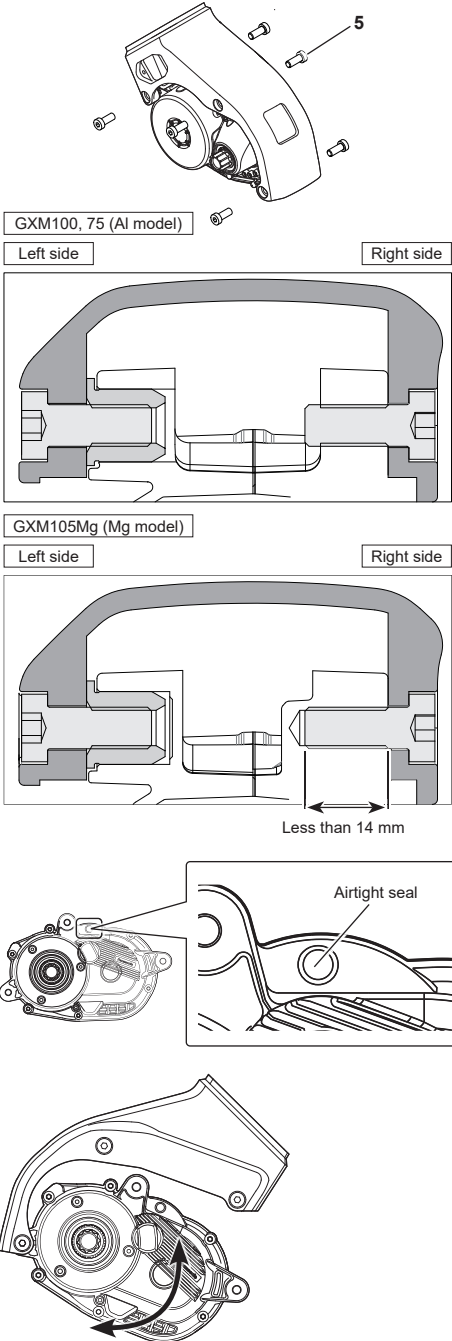
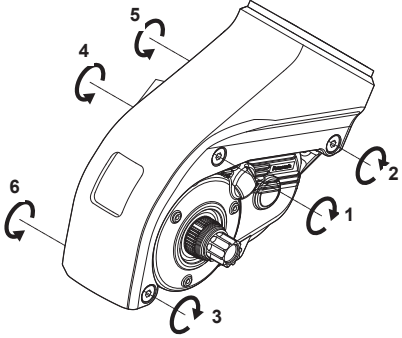
	Be sure to follow the instructions specified in the dealer's manual when assembling the product • This may cause injury or accident.
	When performing maintenance work, protect your eyes by wearing safety goggles, or something similar • This may cause injury.
	Remove the battery and battery charger before carrying out wiring to the bicycle or assembling the bicycle • This may cause electric shock.
	Contact the completed bicycle dealer in advance regarding the possibility of adding or replacing optional electronic devices such as lights and Gearsensor

Assembly

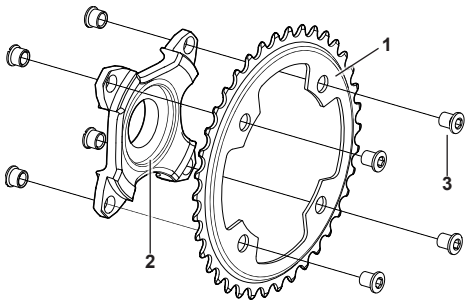
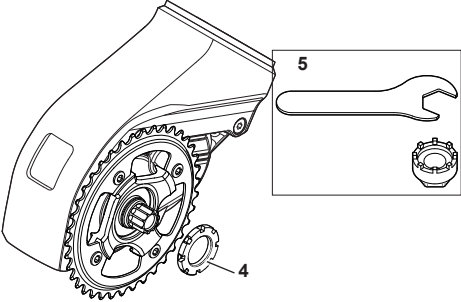
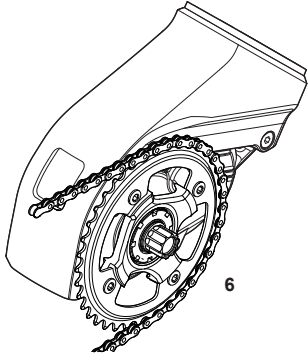
Drive unit

Install the drive unit after routing the connection cables beforehand.

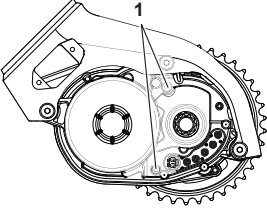
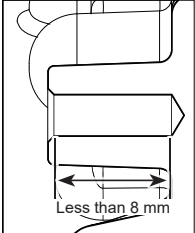
1	After connecting the relay cables at the bicycle side, align the drive unit with the three mounting holes on the right side and left side of the frame. (Make sure the cables are not pinched)		1. Drive unit 2. Sleeve (Factory assembled) 3. Relay cable 4. Mounting holes
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2	Install (temporarily tighten) the drive unit fixing bolts (M8) on the right side. Thereafter, install (temporarily tighten) the drive unit fixing bolts (M8) on the left side. Attention • M8×1.25, strength category 8.8 to 10.9, plating recommended • Left side: Insert 12 mm (10 screw ridges) or more. • Right side: Insert 12 mm (10 screw ridges) or more. • For NUA290F (Mg model), select a bolt length with which the bolt does not make contact with the bottom. Attention • When assembling the drive unit, be careful not to scratch or peel the airtight seal with a sharp object. • For Mg specification Due to the concern of corrosion unique to magnesium, carefully handle the drive unit, avoiding scratches or peeling-off of coating.	 GXM100, 75 (Al model) Left side Right side GXM105Mg (Mg model) Left side Right side Less than 14 mm Airtight seal	5. M8 Bolt (A) Front side (B) Rear side
3	Tighten the drive unit fixing bolts (M8), in a sequence, to the specified torque. (Right side: 1, 2, 3 -> Left side: 4, 5, 6)		Tightening torque: 23-25 N·m

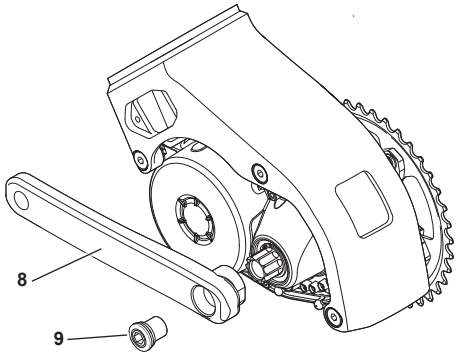
Spider arm (An example. Design varies by model)

1	Install the chain ring on the spider arm.		1.Chain ring 2.Spider arm 3.Fixing bolt Shimano TL-FC21 PEG wrench  Tightening torque: 12-14 N•m
2	Tighten the lock ring by using a dedicated lock ring tool (Shimano TL-UN96). (It has a left-handed thread)		4.Lock ring 5.Lock ring tool Shimano TL-UN96  Tightening torque: 35-45 N•m
3	Install the chain on the chain ring. Align and insert the wide part of the fixed portion of the front chain ring and the front chain ring notch.		6.Chain

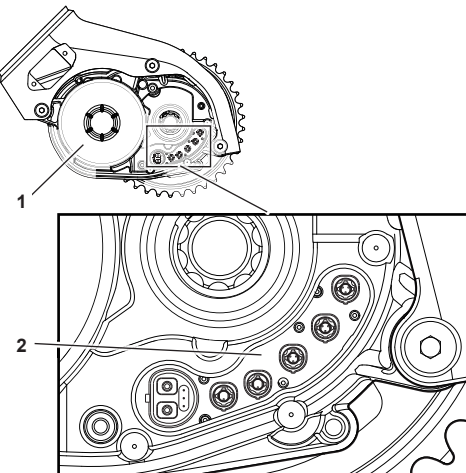
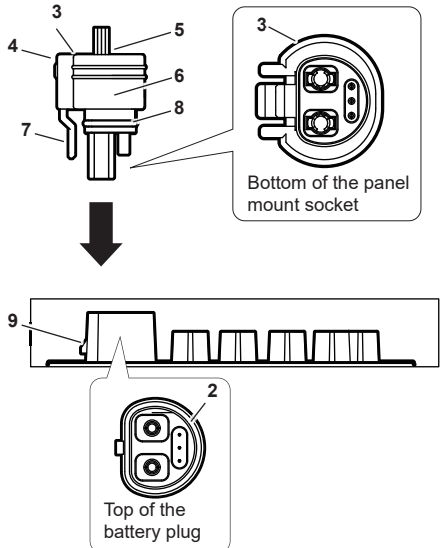
Drive unit left cover

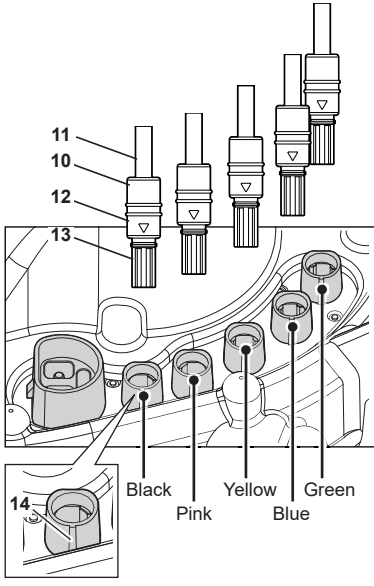
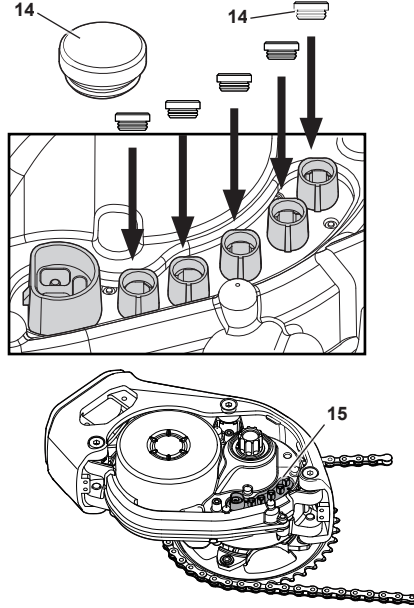
1	M4×0.7, plating recommended 4 mm (6 screw ridges) or more (less than 8 mm) Select a bolt length with which the bolt does not make contact with the bottom. For the Panasonic original cover specification, refer to P9 to 10. For the wiring around the panel, refer to P8 to 9. Caution: Be careful not to get the harness (wiring) caught.	 Mounting holes Drive unit  Less than 8 mm	1. M4 screws Mounting holes
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Crank

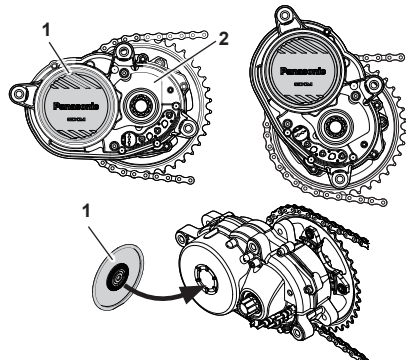
1	Set the right/left crank on the crank axle. Attention Follow the instructions regarding the tightening torque for the bolts used	 8. Left crank 9. Crank screw 8 mm Allen wrench Tightening torque: 35-45 N·m (reference)	
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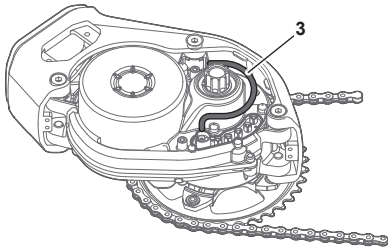
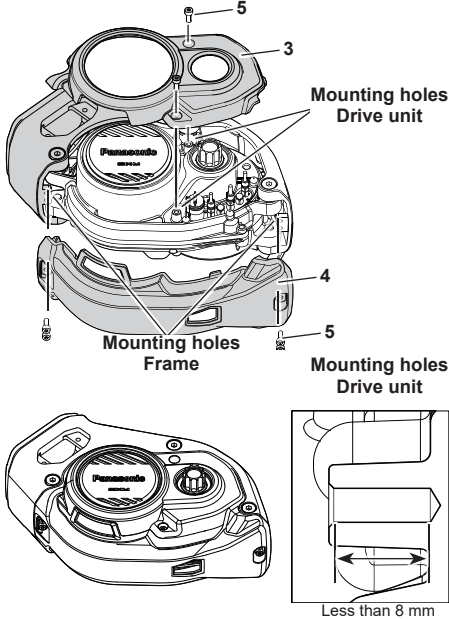
Plug Assembly

1	Attach the plug with the drive unit installed on the frame.	 1. Drive unit 2. Panel mount socket section of the drive unit	
2	Connection method for the battery plug cable - Make sure that the orientations of the battery plug and the plug insertion groove of the panel mount socket are correct. Hold the plug body and set it straight. - Hold the battery plug body, and insert it slowly until the claw of the battery plug is fixed. - Insert the battery plug until the tip of claw is locked. Attention Forcibly inserting the battery plug at an angle may damage the battery plug. Inserting the battery plug by holding the tip of claw may damage the battery plug. If the O-ring of the battery plug is misaligned by accidentally touching it, the battery plug may be damaged. Inserting the battery plug by holding the cable may damage the battery plug. When removing the battery plug, hold the plug body while pressing the release button, and then remove it slowly.	 2. Panel mount socket section of the drive unit 3. Battery plug 4. Battery plug release button 5. Battery plug cable 6. Battery plug body 7. Battery plug claw tip 8. Battery plug O-ring 9. Lock section of the panel mount socket section	

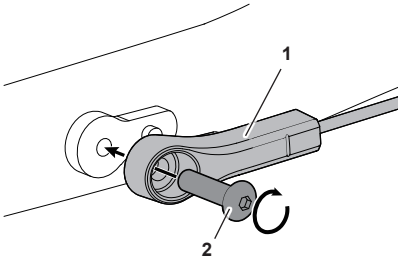
3	Connection method for the signal plug cable ① Align the △ mark of the signal plug with the convex position of the panel mount socket, and set the signal plug straight. ② Insert the signal plug to the plug insertion groove of the panel mount socket. ③ Hold the plug body, and insert it slowly until it clicks. * Connect the plug to the socket to which the O-ring color corresponds as shown in the figure. The number of plugs to be connected differ depending on the specification. Black : Speed sensor Pink : Rear light etc Yellow : Remote, Display Blue : External device Green : Front light etc When connecting external devices which aren't mentioned here, please ask e-Bike maker which port should be connected to them. Attention Forcibly inserting the signal plug at an angle may damage the signal plug. Attach the waterproof caps to the locations where signal plugs are not connected. Otherwise, damage may result. If the O-ring of the signal plug is misaligned by accidentally touching it, the signal plug may be damaged. Inserting the battery plug by holding the cable may damage the battery plug. Removing the signal plug by holding the cable may damage the signal plug.		10. Signal plug 11. Signal plug cable 12. Signal plug body 13. Signal plug O-ring 14. Convex of the panel mount socket section
4	Attaching the waterproof cap It is necessary to attach waterproof caps to the locations where signal plugs are not connected. Connection method ① Insert the waterproof cap to the plug insertion groove of the panel mount socket. ② Insert the waterproof cap slowly to the end while pushing the top of the cap. Caution: Attach the waterproof cap to the end in the correct direction. Otherwise, the cap may be damaged. It is necessary to attach waterproof caps to the locations where signal plugs are not connected. (15. Attached state of the plugs and waterproof caps)		14. Waterproof cap 15. Attached state of the plugs and waterproof caps

Drive unit cover (An example. Design varies by model)

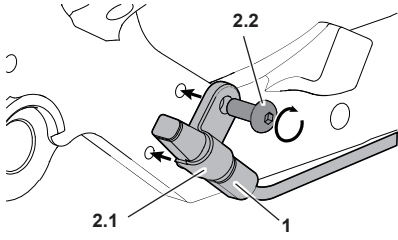
1	According to the drive unit mounting angle, attach the cover so that the cover is horizontal (within 10 degrees) to the bicycle body. The cover can be attached in increments of 10 degrees according to the guide of the cover and case.		1. Logo cover 2. Drive unit
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2	Process the wiring so it does not get caught when the cover is attached.		3. Harness (wiring)
3	Using the mounting holes, align the position of the left cover with the position of the under cover. Then, tighten the cover mounting bolt (M4) to the prescribed torque for assembly. Assembling order for the left cover and under cover does not matter. M4×0.7, black plating recommended 4 mm (6 screw ridges) or more (less than 8 mm) Select a bolt length with which the bolt does not make contact with the bottom.		3. Left cover 4. Under cover 5. M4 Screw Tightening torque: 0.9-1.4N·m

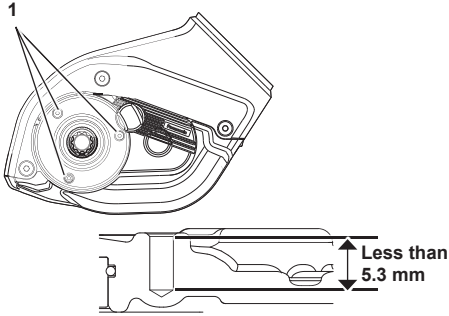
Spoke type speed sensor Assembly

1	Tighten the fixing bolt (M5) with prescribed torque.		1. Spoke type speed sensor 2. M5 hexagon socket head bolt Prescribed torque: 1.0-1.2N·m
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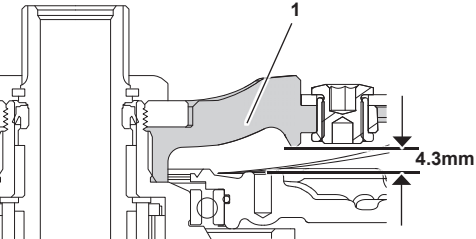
Slim type speed sensor Assembly

1	Install the slim type speed sensor to the holder. Align the rotation preventive boss of the holder with the rotation preventive hole of the frame, and attach the holder. Tighten the fixing bolt (M4) with prescribed torque.		1. Slim type speed sensor 2. Holder set 2.1. Holder 2.2. M4 hexagon socket head bolt Prescribed torque: 0.6-0.8N·m
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Chain case stay

	Install the chain case stay. M4×0.7, plating recommended 4 mm (6 screw ridges) or more (less than 5.3 mm) Select a bolt length with which the bolt does not make contact with the bottom.		1.M4 screw Mounting holes Tightening torque: Max 3N•m(Reference)
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When the Panasonic original spider arm is used

	Select a chain case stay (chain device, etc.) and bolt so that they can be set between the mounting hole and spider.		1.Spider arm
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