

Dealer's Manual

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

URBAN SPORT Wheel Set

METREA
WH-U5000

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IMPORTANT NOTICE

- **This dealer's manual is intended primarily for use by professional bicycle mechanics.**
Users who are not professionally trained for bicycle assembly should not attempt to install the components themselves using the dealer's manuals. If any part of the information on the manual is unclear to you, do not proceed with the installation. Instead, contact your place of purchase or a local bicycle dealer for their assistance.
- Make sure to read all instruction manuals included with the product.
- Do not disassemble or modify the product other than as stated in the information contained in this dealer's manual.
- All dealer's manuals and instruction manuals can be viewed on-line on our website (<http://si.shimano.com>).
- Please observe the appropriate rules and regulations of the country, state or region in which you conduct your business as a dealer.

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.

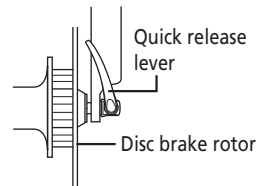
TO ENSURE SAFETY

⚠ WARNING

- **Be sure to follow the instructions provided in the manuals when installing the product.**
It is recommended to use genuine Shimano parts only. If parts such as bolts and nuts become loose or damaged, the bicycle may suddenly fall over, which may cause serious injury.
In addition, if adjustments are not carried out correctly, problems may occur, and the bicycle may suddenly fall over, which may cause serious injury.
-  Be sure to wear safety glasses or goggles to protect your eyes while performing maintenance tasks such as replacing parts.
- 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:

- **Check that the wheels are fastened securely before riding the bicycle. If the wheels are loose in any way, they may come off the bicycle and serious injury may result.**
- This wheel set is designed for recreational use. Do not use this wheel set for aggressive uses such as competition.
- Before use, check the wheels to make sure that there are no bent or loose spokes, dents, scratches or cracks on the rim surface; do not use the wheel if any of these problems are found. The wheel may break, and you may fall.
- If the quick release mechanism is not used correctly, the wheel may come off the bicycle and serious injury could result. Read the Service Instructions for the quick release mechanism thoroughly before use.
- These wheels are designed exclusively for use with disc brakes. Do not use these wheels with rim brakes.
- If the quick release lever is on the same side as the disc brake rotor, there is the danger that it may interfere with the disc brake rotor. Make sure that, even if the quick release lever is tightened as much as possible by hand, the quick release lever does not interfere with the disc brake rotor. If the lever interferes with the disc brake rotor, stop using the wheel and consult a dealer or an agency.



⚠ CAUTION

Be sure to also inform users of the following:

- Use rim tape which can withstand high pressure, otherwise the tires may suddenly puncture and come off, which may result in severe injury.
Furthermore, it is not recommended that you reuse rim tape after it has been removed from the wheel. If the tape is reused, the tires may suddenly puncture and come off, and severe injury may result.
- When you replace the rim tape, use the one that matches the rim size. If you use a rim tape that does not match the rim size, a sudden puncture may occur, and you may fall off the bicycle.
- The tires should be inflated to the pressure indicated on the tires before use.
- When using a puncture repair agent, consult a dealer or an agency.

■ Burn-in period

- Disc brakes have a burn-in period, and the braking force will gradually increase as the burn-in period progresses. Make sure that you are aware of any such increases in braking force when using the brakes during the burn-in period. The same thing will happen when the brake pads or disc brake rotor are replaced.

NOTE

Be sure to also inform users of the following:

- Do not lubricate the internal parts of the hub. Otherwise, grease will flow out.
- It is recommended that you ask a bicycle dealer to adjust the spoke tensions if there is any deviation in the spokes and after the first 1,000km of riding.
- Do not use detergent or other chemicals when wiping the wheel, otherwise the sticker on the rim or the paint may come off.
- 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.

For Installation to the Bicycle, and Maintenance:











- When replacing the E-THRU Axle, make sure that the replacement E-THRU Axle is of the same model as the current E-THRU Axle attached to the frame.
A different model may not be mounted properly onto the frame due to differences in axle length, screw size, housing diameter, etc.
- Use of genuine Shimano spokes and nipples is strongly recommended. Otherwise, the area where the spokes fit into the hub body may become damaged.
- If the wheel becomes stiff and difficult to turn, lubricate it with grease.
- For compatible reflectors and spoke protectors, check the specifications table (<http://si.shimano.com>).

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

LIST OF TOOLS TO BE USED

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

Tool		Tool		Tool	
	10mm hexagon wrench		17mm hub spanner		TL-LR15
	15mm hexagon wrench		20mm hub spanner		TL-SR23
	13mm hub spanner		Adjustable wrench		
	15mm hub spanner		Inner nipple wrench		

INSTALLATION

INSTALLATION

■ Tire size

The recommended tire sizes for installation to each wheel are as follows.

Model No.	Tire size
WH-U5000	(622) 25C-38C
WH-U5000-F12/R12	

■ Installation of cassette sprocket

1

Place each sprocket with the marked side facing outward.

Install them so that the wide groove in the freewheel is aligned with the wide protrusion on each sprocket.

- (A) Wide groove (freewheel)
- (B) Wide protrusion (sprocket)
- (C) Lock ring spacer
- (D) Lock ring



The illustration of the cassette sprocket is an example. For details, refer to the dealer's manual or user's manual of the cassette sprocket to be used.

2

Installation of the sprockets:
Tighten the lock ring with the Shimano original tool TL-LR15.

Replacement of the sprockets:
Remove the lock ring with the Shimano original tools TL-LR15 and TL-SR23.

(y) Assembly
(z) Disassembly

- (A) Lock ring
- (B) Adjustable wrench
- (C) TL-LR15
- (D) TL-SR23

Tightening torque



TL-LR15



30 - 50 N·m

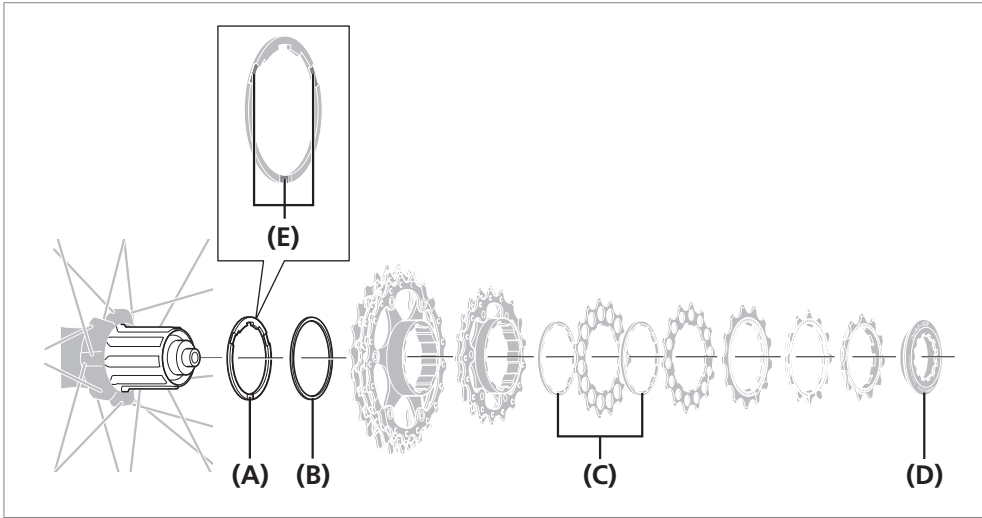
INSTALLATION

▶▶ Installation of the disc brake rotor

When installing a 10-speed cassette other than CS-4600

When installing a 10-speed cassette other than CS-4600, install the included 1.85mm low spacer and the 1.0mm spacer included with the cassette at the positions indicated in the illustration.

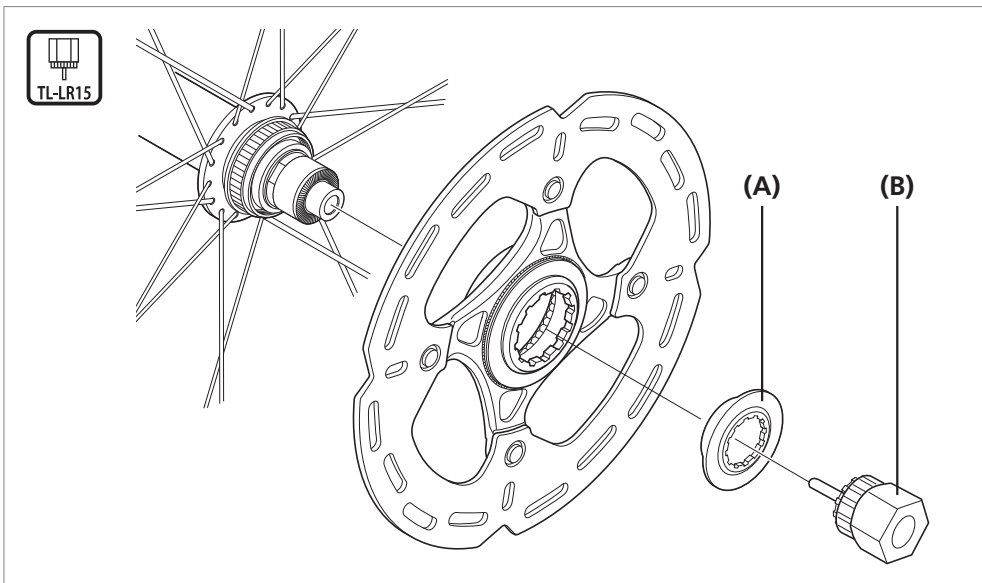
For CS-4600, install only the 1.85mm low spacer (1.0mm spacer is not necessary).



- (A) 1.85mm low spacer
- (B) 1.0mm spacer
(Not necessary for CS-4600)
- (C) Sprocket spacers
- (D) Lock ring
- (E) Grooves: Sprocket side
(Some 1.85mm low spacers do not have grooves.)

■ Installation of the disc brake rotor

For center lock type



- (A) Disc brake rotor fixing lock ring
- (B) TL-LR15

Tightening torque



40 - 50 N·m

MAINTENANCE

MAINTENANCE

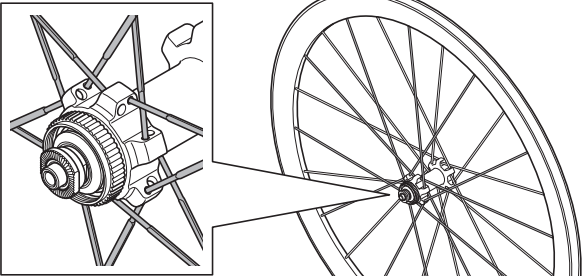
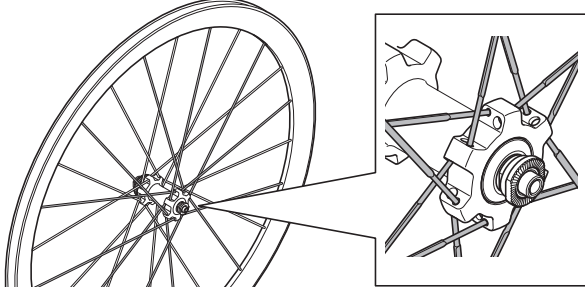
■ Spoke lacing

Lace the spokes as shown in the illustration. (Number of spokes: 24)

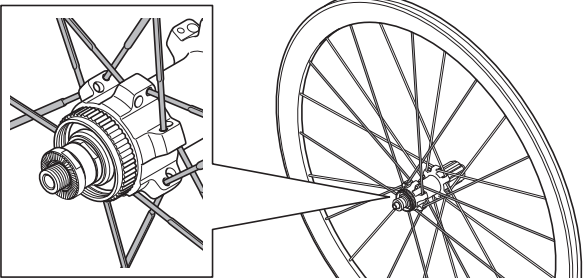
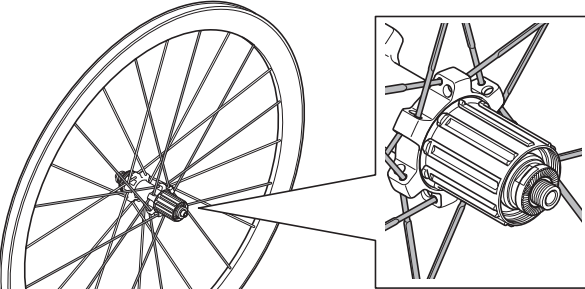
* The spokes are laced in the same way as the quick release type and the Thru type.

* The spoke tension values should be used as a guide only.

For front

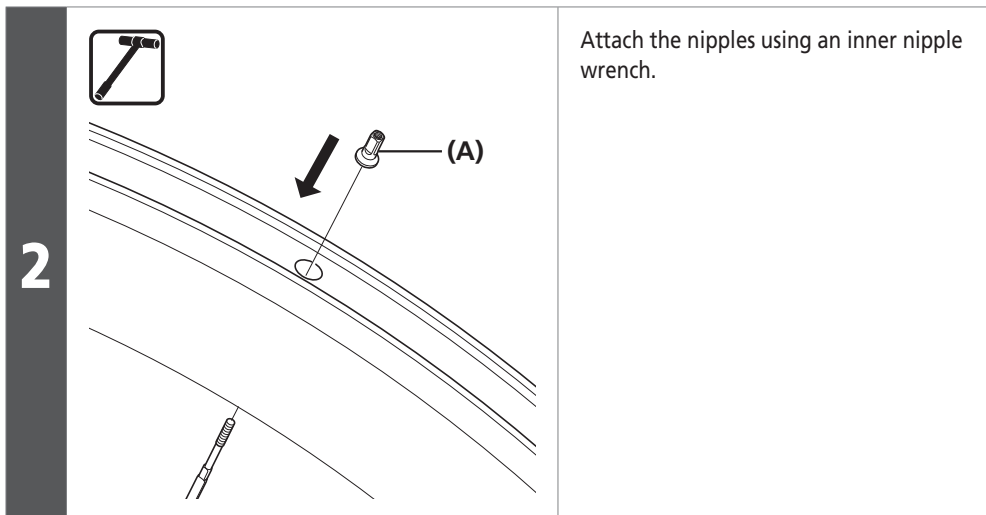
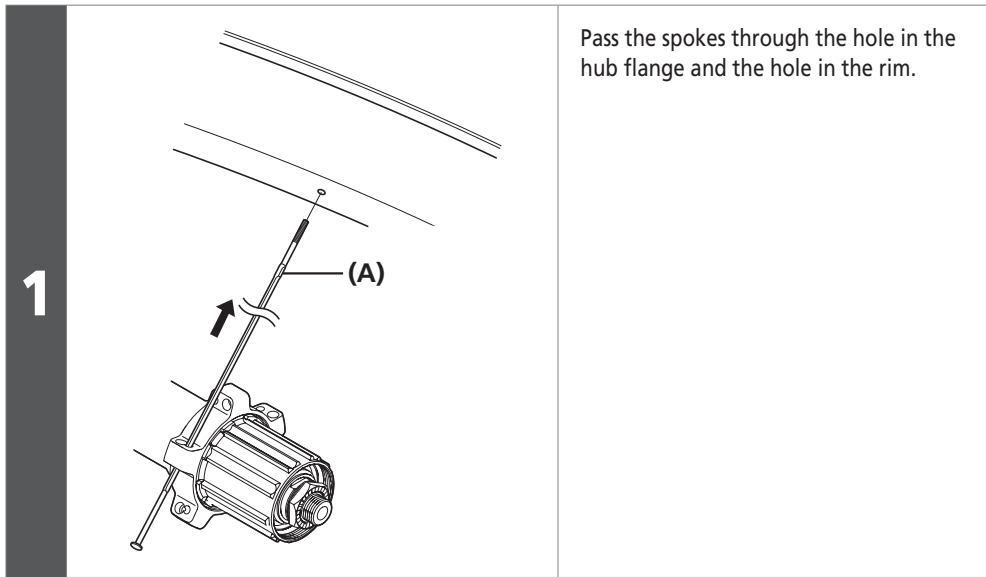
Left side (Disc brake rotor side)	Right side
 <div data-bbox="229 992 655 1126"> <p>Spoke tension value</p> <p>793 – 1,123 N (178 - 251 lbf)</p> </div>	 <div data-bbox="962 992 1388 1126"> <p>Spoke tension value</p> <p>600 – 850 N (135 - 190 lbf)</p> </div>

For rear

Left side (Disc brake rotor side)	Right side (Sprocket side)
 <div data-bbox="229 1731 655 1865"> <p>Spoke tension value</p> <p>600 – 850 N (135 - 190 lbf)</p> </div>	 <div data-bbox="962 1731 1388 1865"> <p>Spoke tension value</p> <p>984 – 1,350 N (221 - 302 lbf)</p> </div>

■ Replacement of the spokes

Install the spokes by inserting them through the hub as shown in the illustration.

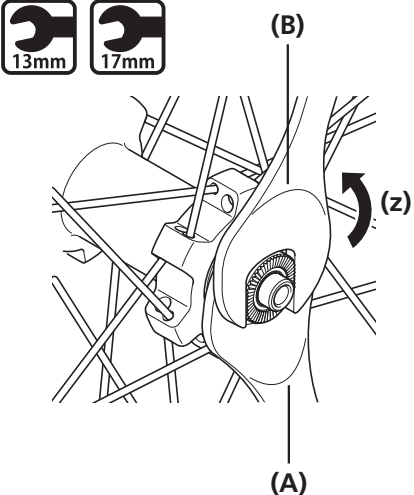


■ Pulling out the hub axle

For QR type

Front (Right side)



1



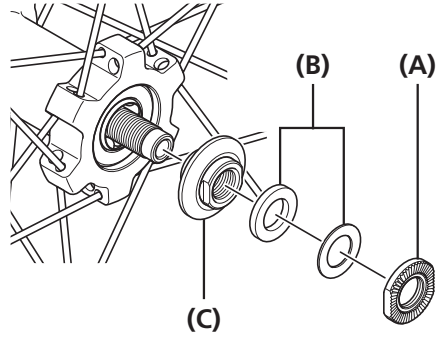
Use the hub spanners to loosen the lock nut on the double-lock section.

(z) Disassembly

- (A)** 13mm hub spanner
- (B)** 17mm hub spanner

Tightening torque	
 13mm	15 - 17 N·m
 17mm	

2



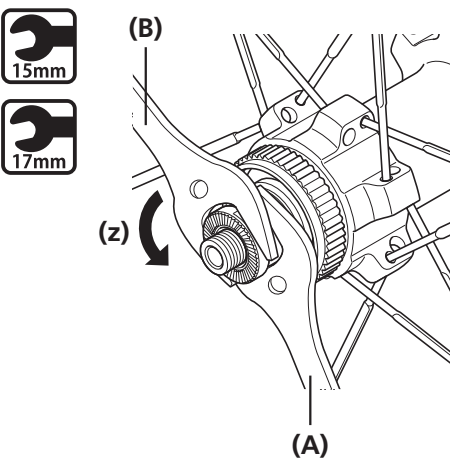
Remove as shown in the illustration.

- (A)** Lock nut
- (B)** Washer
- (C)** Cone

▶▶ Pulling out the hub axle

Rear (Left side)



1



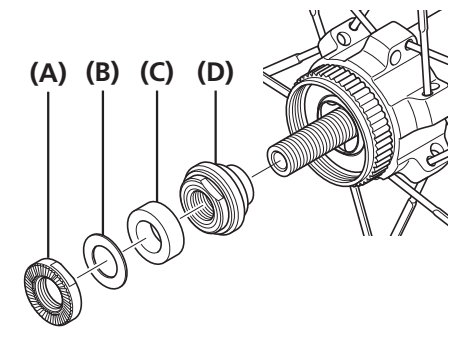
Use the hub spanners to loosen the lock nut on the double-lock section.

(z) Disassembly

- (A)** 15mm hub spanner
- (B)** 17mm hub spanner

Tightening torque	
	15 - 17 N·m
	

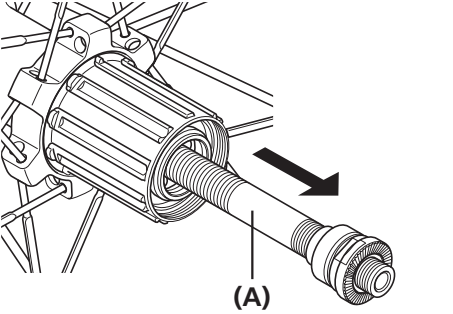
2



Remove as shown in the illustration.

- (A)** Lock nut
- (B)** Washer
- (C)** Axle spacer
- (D)** Cone

3



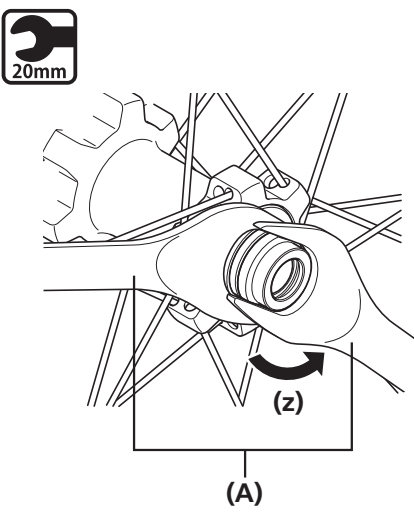
Pull out the hub axle from the freewheel body.

- (A)** Hub axle

For E-THRU type


Front (Right side)

1

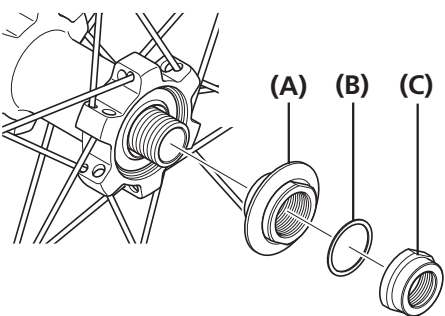


Use the spanner to loosen the lock nut on the double-lock section.

(z) Disassembly

(A) 20mm spanner	
Tightening torque	
	20 - 25 N·m

2



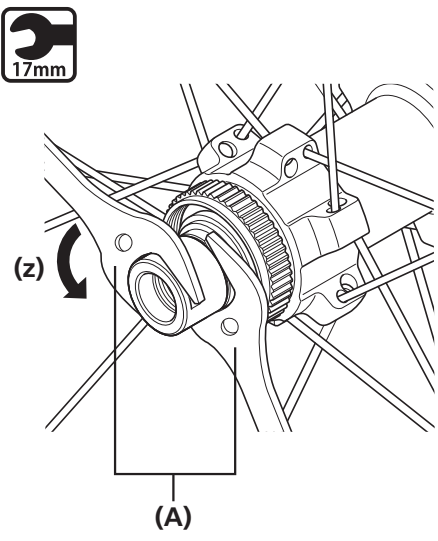
Remove as shown in the illustration.

- (A)** Right-hand dust cap
- (B)** Washer
- (C)** Lock nut

► Pulling out the hub axle

Rear (Left side)


1



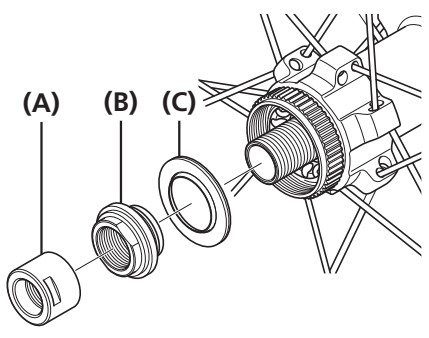
Use the spanner to loosen the lock nut on the double-lock section.

(z) Disassembly

(A) 17mm spanner

Tightening torque	
	15 - 17 N·m

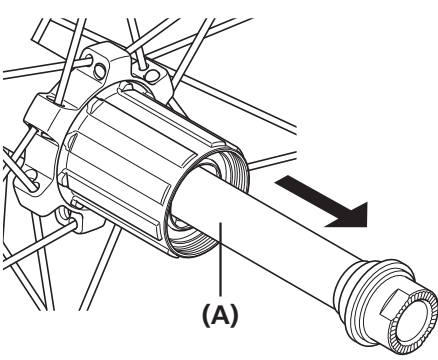
2



Remove as shown in the illustration.

- (A)** Lock nut
- (B)** Cone
- (C)** Seal ring

3

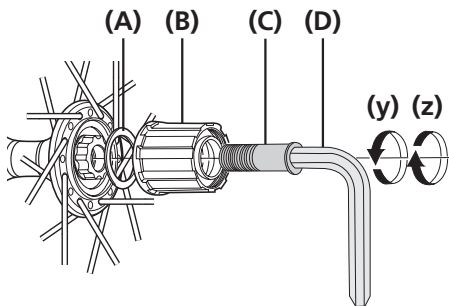


Pull out the hub axle from the freewheel body.

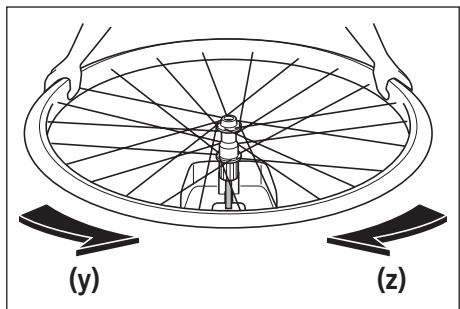
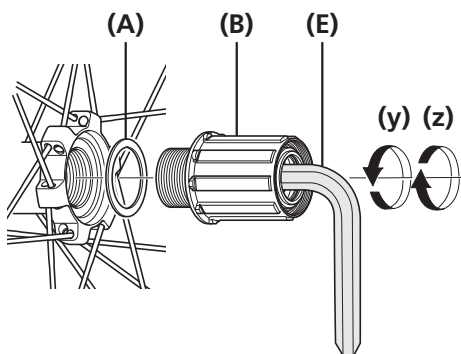
(A) Hub axle

Replacement of the freewheel body

QR type



E-THRU type



After removing the hub, remove the freewheel body fixing bolt (inside the freewheel body), and then replace the freewheel body.

(y) Disassembly

(z) Assembly

- (A) Freewheel body washer
- (B) Freewheel body
- (C) Freewheel body fixing bolt
- (D) 10mm hexagon wrench
- (E) 15mm hexagon wrench

Tightening torque for QR type



35 - 50 N·m

Tightening torque for E-THRU type



150 N·m

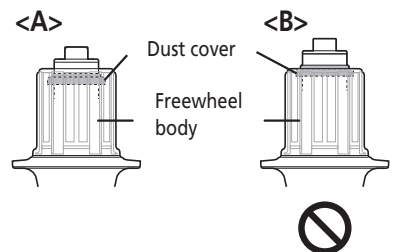
NOTE

Do not attempt to disassemble the freewheel body, because it may result in a malfunction.

E-THRU type

The correct position for the dust cover is when it is hidden in the freewheel body, as shown in illustration <A>.

If the dust cover is in the position shown in illustration , repeat the assembly process from the beginning.



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

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