

Dealer's Manual

MTB Wheel Set

MTB

XTR

WH-M9000

WH-M9020

DEORE XT

WH-M8000

WH-M8020

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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

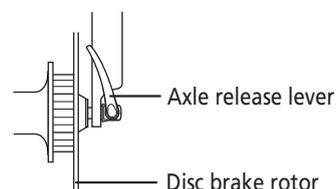
- **When installing components, be sure to follow the instructions that are given in the instruction manuals.**
It is recommended to use genuine Shimano parts only. If parts such as bolts and nuts become loose or damaged, the bicycle may suddenly fall over, which may cause serious injury.
In addition, 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 is not designed for downhill bicycle riding or freeriding. Do not use it for downhill riding, otherwise the wheel may become bent or otherwise damaged, and accidents may occur as a result.
- 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.
- 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.
- The disc brake calipers and disc brake rotor will become hot when the brakes are operated, so do not touch them while riding or immediately after dismounting from the bicycle. Otherwise you may get burned. Check that the brake components have cooled down sufficiently before attempting to adjust the brakes.
- Be sure to also carefully read the Service Instructions for the disc brakes.
- The tires should be inflated to the pressure indicated on the tires or rim before use. If the maximum pressure is prescribed on the tires and rim, be sure not to exceed the lower value shown.
- WH-M9000-TL: Maximum pressure = 2.8bar / 41psi / 280kPa
WH-M9020-TL: Maximum pressure = 2.6bar / 38psi / 260kPa
WH-M8000-TL: Maximum pressure = 3bar / 44psi / 300kPa
WH-M8020-TL: Maximum pressure = 3bar / 44psi / 300kPa
A higher pressure than indicated can cause a sudden puncture and / or sudden release of the tire, which can result in serious injury.

< F15 (Front 15 mm Axle), R12 (Rear 12 mm Axle) Wheel (Thru Axle) >

- This wheel is not designed for downhill bicycle riding or freeriding. Depending on the riding conditions, the hub axle could develop cracks which may result in failure of the hub axle. This can lead to an accident that could result in serious injury or even death. Before riding, carefully check the hubs to make sure that there are no cracks in the axles; if there is any sign of a crack, or another unusual condition, DO NOT use the bicycle.
- This wheel can be used in combination with the special front fork/frame and the fixed axle only. If it is used in combination with any other front fork/frame or fixed axle, it may cause the wheel to become detached from the bicycle while you are riding and result in serious bodily injury.
- If the axle release lever is on the same side as the disc brake rotor, there is a possibility they may interfere. Make sure that, even if the axle release lever is tightened as much as possible by hand, the axle 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.



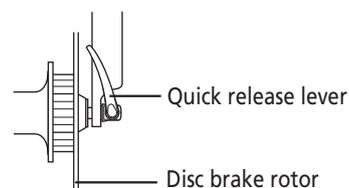
- If the axle release lever is not used correctly, the wheel may come off the bicycle and serious injury could result.

< F15 Wheel (Thru Axle) >

- The securing method and tightening torque for the front wheel both vary depending on the type of front suspension fork being used. When installing the front wheel to the front suspension fork, always be sure to follow the directions given in the Service Instructions for the front suspension fork. If the instructions are not followed, the front wheel may fall out of the front suspension fork and serious injury may occur.

<R (Rear) Wheel>

- 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.

**For Installation to the Bicycle, and Maintenance:**

- These wheels are designed exclusively for use with disc brakes. Do not use these wheels with rim brakes.

⚠ CAUTION**Be sure to also inform users of the following:**

- When using a puncture repair agent, consult a dealer or an agency.

< WH-M9000-TL/M9020-TL/M8000-TL/M8020-TL >

- Be sure to use tubeless tape when using these wheels.
- It is recommended to use genuine Shimano tubeless tape to prevent punctures and other possible damage.
- Do not use rim tape. Rim tape may make it difficult to remove and install the tire, and the tire or tube may become damaged or the tires may suddenly puncture, causing the bicycle to fall over.
- If you use a tire such as a Tubeless Ready tire that needs to be used with a sealant, use the sealant recommended by the tire manufacturer.

■ 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.

For Installation to the Bicycle, and Maintenance:

- When using the Shimano original tool (TL-FC36) to remove and install the rotor mounting ring, be careful not to touch the outside of the disc brake rotor with your hands. Wear gloves to protect your hands from getting cut.
- Refer to the tire size table in the Installation section when using tires. Also, read carefully all instruction manuals included with the tire.

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 1,000 km of riding.
- Special spoke wrenches are available as optional accessories.
- Do not use detergent or other chemicals when wiping the wheel, otherwise the sticker on the rim or the paint may come off.
- It is not recommended that you use general-purpose alkaline puncture repair agents, as they may cause the rims to corrode and allow air leaks to occur.
- 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:

- 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>).
- Use genuine Shimano spokes, nuts, spoke plugs and washers. Otherwise it may damage to the rim and hub unit.
- For information on how to install and remove the wheel, refer to the instruction manual accompanying the wheel.

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

INSTALLATION

INSTALLATION

■ Tire size

Series	Size	Quick release type	Thru axle type	Tire size
XTR	29	WH-M9000-TU-R-29	WH-M9000-TU-F15-29	29x1.90-2.10
			WH-M9000-TU-R12-29	29x1.90-2.10
		WH-M9000-TL-R-29	WH-M9000-TL-F15-29	29x1.90-2.25
			WH-M9000-TL-R12-29	29x1.90-2.25
	27.5	WH-M9000-TL-R-275	WH-M9020-TL-F15-29	29x2.10-2.35
			WH-M9020-TL-R12-29	29x2.10-2.35
		WH-M9000-TL-R-275	WH-M9000-TL-F15-275	27.5x1.90-2.25
			WH-M9000-TL-R12-275	27.5x1.90-2.25
DEORE XT	29	WH-M8000-TL-F-29	WH-M8000-TL-F15-29	29x1.90-2.25
			WH-M8000-TL-R12-29	29x1.90-2.25
		WH-M8000-TL-R-29	WH-M8020-TL-F15-29	29x2.10-2.35
			WH-M8020-TL-R12-29	29x2.10-2.35
	27.5	WH-M8000-TL-F-275	WH-M8000-TL-F15-275	27.5x1.90-2.25
			WH-M8000-TL-R12-275	27.5x1.90-2.25
		WH-M8000-TL-R-275	WH-M8020-TL-F15-275	27.5x2.10-2.40
			WH-M8020-TL-R12-275	27.5x2.10-2.40

■ List of tools to be used

The following tools are needed to assemble this product.

Tool		Tool	
	5 mm Allen key		15 mm Allen key
	17 mm hub spanner		20 mm hub spanner
	22 mm hub spanner		23 mm spanner
	TL-LR15		Adjustable wrench
	TL-FC36		TL-SR23
	Spoke plug wrench		TL-FH15
	14 mm Allen key		

■ Installing a 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) Freewheel (wide groove)
- (B) Sprocket (wide protrusion)
- (C) Lock ring



TECH TIPS

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.

<Replacement of the sprockets>
Remove the lock ring with the Shimano original tools.

- (C) Lock ring
- (D) TL-LR15
- (E) TL-SR23

Tightening torque

	30 - 50 N·m {263 - 437 in. lbs.}
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■ Installation of the disc brake rotor



First, attach the disc brake rotor to the hub.
Then, tighten the rotor lock ring with the Shimano original tool.

- (A) TL-FC36
- (B) Disc brake rotor fixing lock ring
- (C) Disc brake rotor

Tightening torque

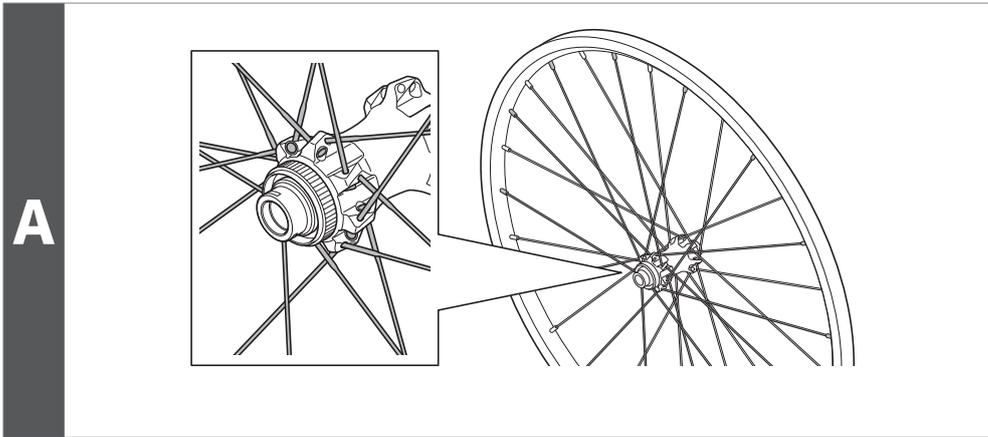
	40 N·m {350 in. lbs.}
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MAINTENANCE

MAINTENANCE

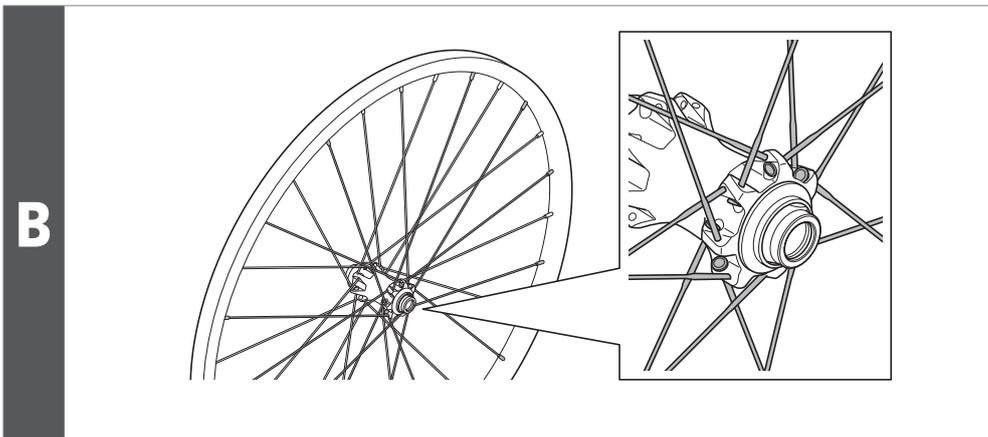
Spoke lacing

Lace the spokes as shown in the illustration. The spokes are laced in the same way as the quick release type and the Thru type.



(A) For front Left side

Spoke tension value	
WH-M9000-TU-F15	900 - 1,200 N (202 - 270 lbf)
WH-M9000-TL-F15	
WH-M9020-TL-F15	
WH-M8000-TL-F	
WH-M8000-TL-F15	
WH-M8020-TL-F15	

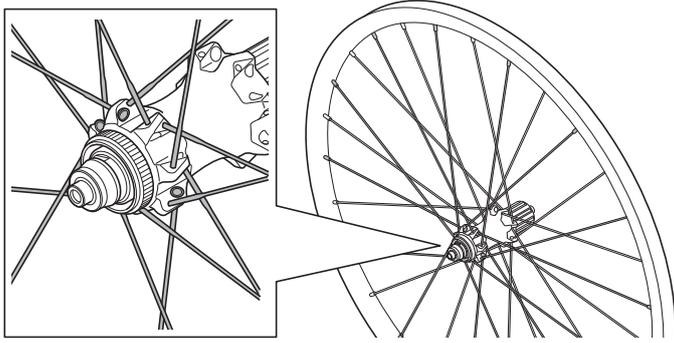


(B) For front Right side

Spoke tension value	
WH-M9000-TU-F15	800 - 1,050 N (180 - 236 lbf)
WH-M9000-TL-F15	850 - 1,200 N (191 - 270 lbf)
WH-M9020-TL-F15	
WH-M8000-TL-F	
WH-M8000-TL-F15	
WH-M8020-TL-F15	

* These values should be used as a guide only.

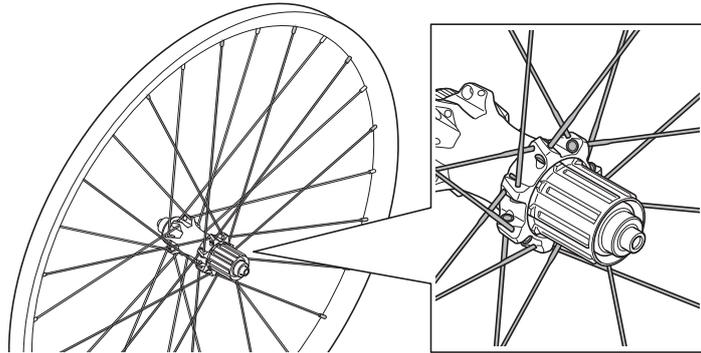
C



(C) For rear Left side

Spoke tension value	
WH-M9000-TU-R12	500 - 700 N (112 - 157 lbf)
WH-M9000-TL-R WH-M9000-TL-R12 WH-M9020-TL-R12 WH-M8000-TL-R WH-M8000-TL-R12 WH-M8020-TL-R12	650 - 900 N (146 - 202 lbf)

D



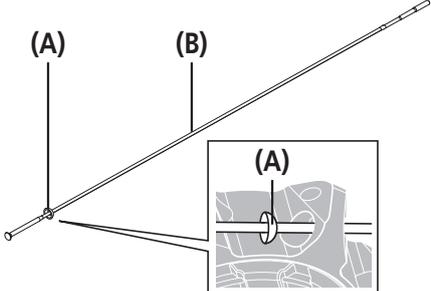
(D) For rear Right side

Spoke tension value	
WH-M9000-TU-R12	900 - 1,200 N (202 - 270 lbf)
WH-M9000-TL-R WH-M9000-TL-R12 WH-M9020-TL-R12 WH-M8000-TL-R WH-M8000-TL-R12 WH-M9020-TL-R12	1,000 - 1,300 N (224 - 290 lbf)

* These values should be used as a guide only.

■ Replacing the spokes

1



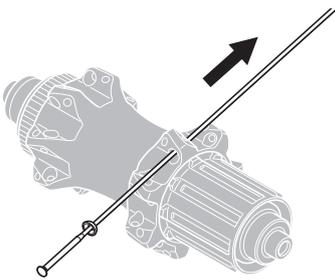
Pass the spoke through the washer.

- (A) Washer
- (B) Spoke

NOTE

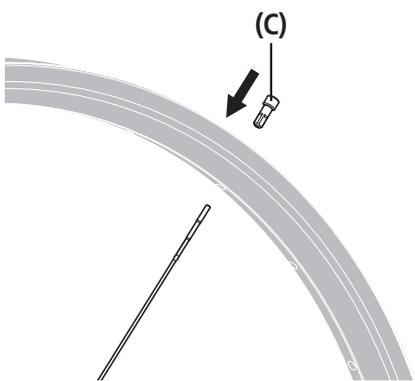
Direct the convex side of the washer toward the hole in the hub flange when passing the spoke through the washer.

2



Insert the spoke through the hole in the hub flange as shown in the illustration.

3

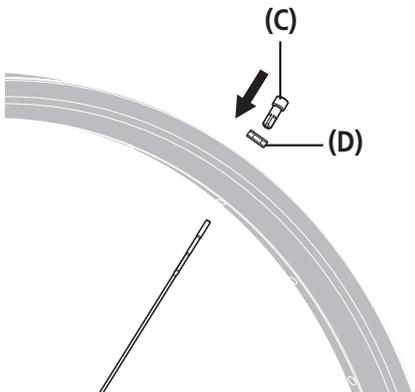


Attach the nipple and tighten the spoke with the specified tension.

- (C) Nipple

<For WH-M8000 / WH-M8020>

3



In the case of WH-M8000 / WH-M8020, install the nipple and washer as shown in the illustration.

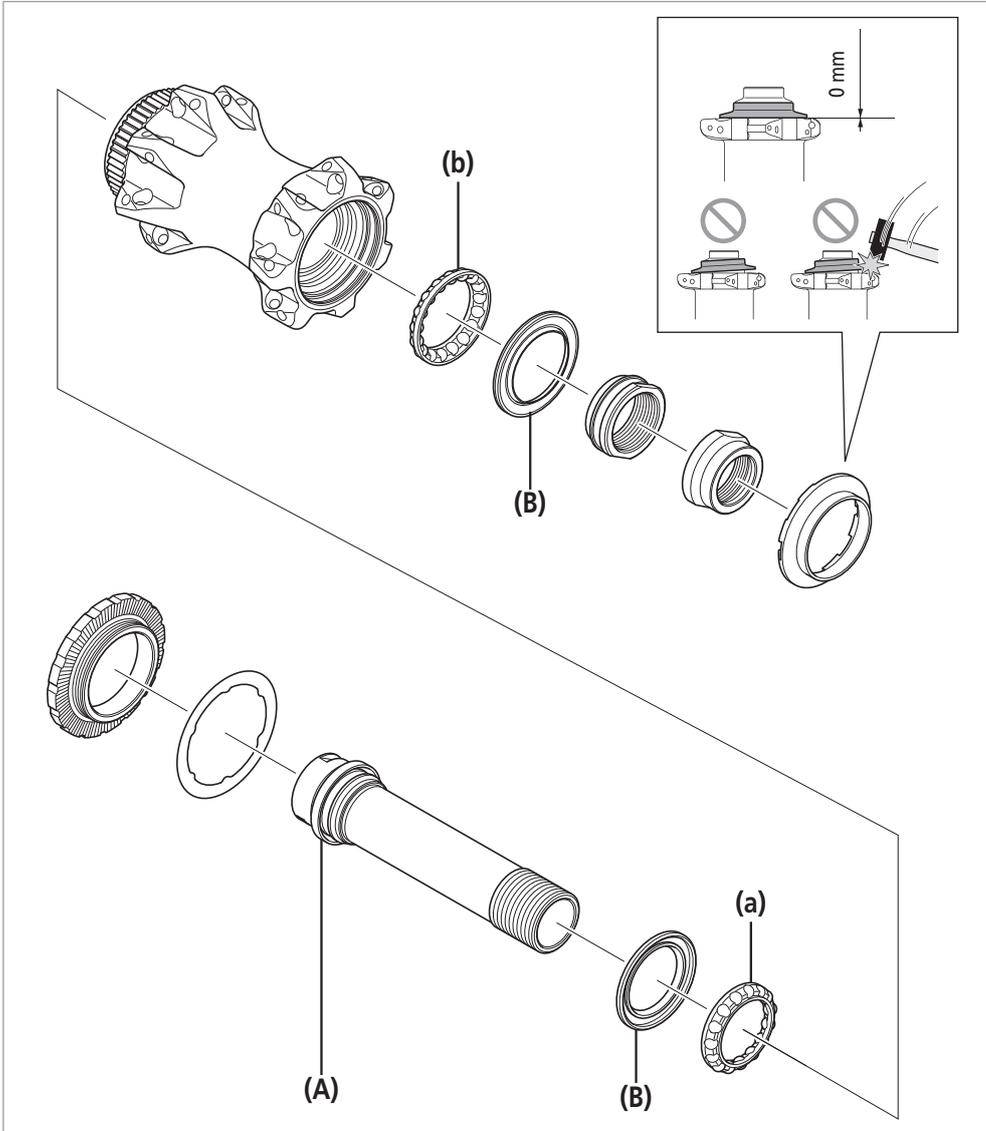
- (C) Nipple
- (D) Washer

Disassembly and Assembly

WH-M9000-TU-F15 / WH-M9000-TL-F15 / WH-M9020-TL-F15

< Disassembly >

The unit can be disassembled as shown in the illustration. Apply grease to the various parts at periodic intervals.



- (A) Dust cover
- (B) Seal (Lip is on the outside)

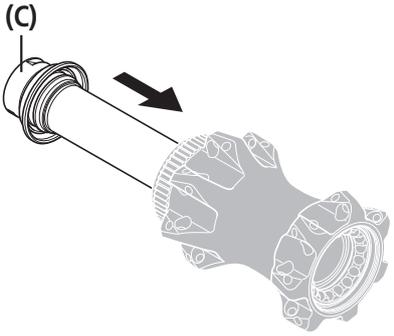
- (a) Applying grease:
Premium grease (Y-04110000)
Number of balls: 15, Ball size: 5/32"
- (b) Applying grease:
Premium grease (Y-04110000)
Number of balls: 17, Ball size: 5/32"

NOTE

- The hub cannot be disassembled from the left side of the hub unit (the rotor fixing serration side).
- When removing and installing the seal, do it very carefully so that the seal does not become bent. When reinstalling the seal, make sure that it is facing the right way, and insert it as far as it will go.
- Do not disassemble the dust cover which is crimped onto the axle pipe.

< Assembly >

1



(C)

Install the axle pipe as shown in the illustration.

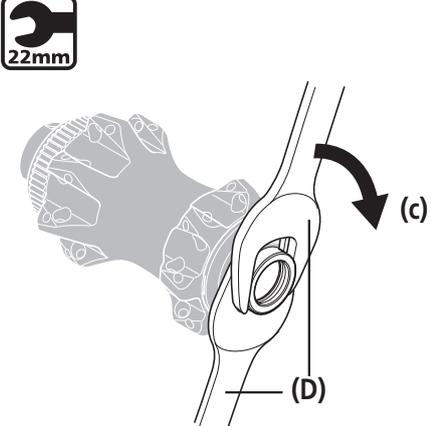
(C) Axle pipe



TECH TIPS

If using a hub spanner on the beveled parts of the left-hand axle cap, be careful not to apply excessive torque. Otherwise, it may be damaged.

2



22mm

(c) Tighten

(D)

Use the hub spanner to tighten the lock nut so as to double-lock the mechanism.

(D) Hub spanner (22 mm)

Tightening torque

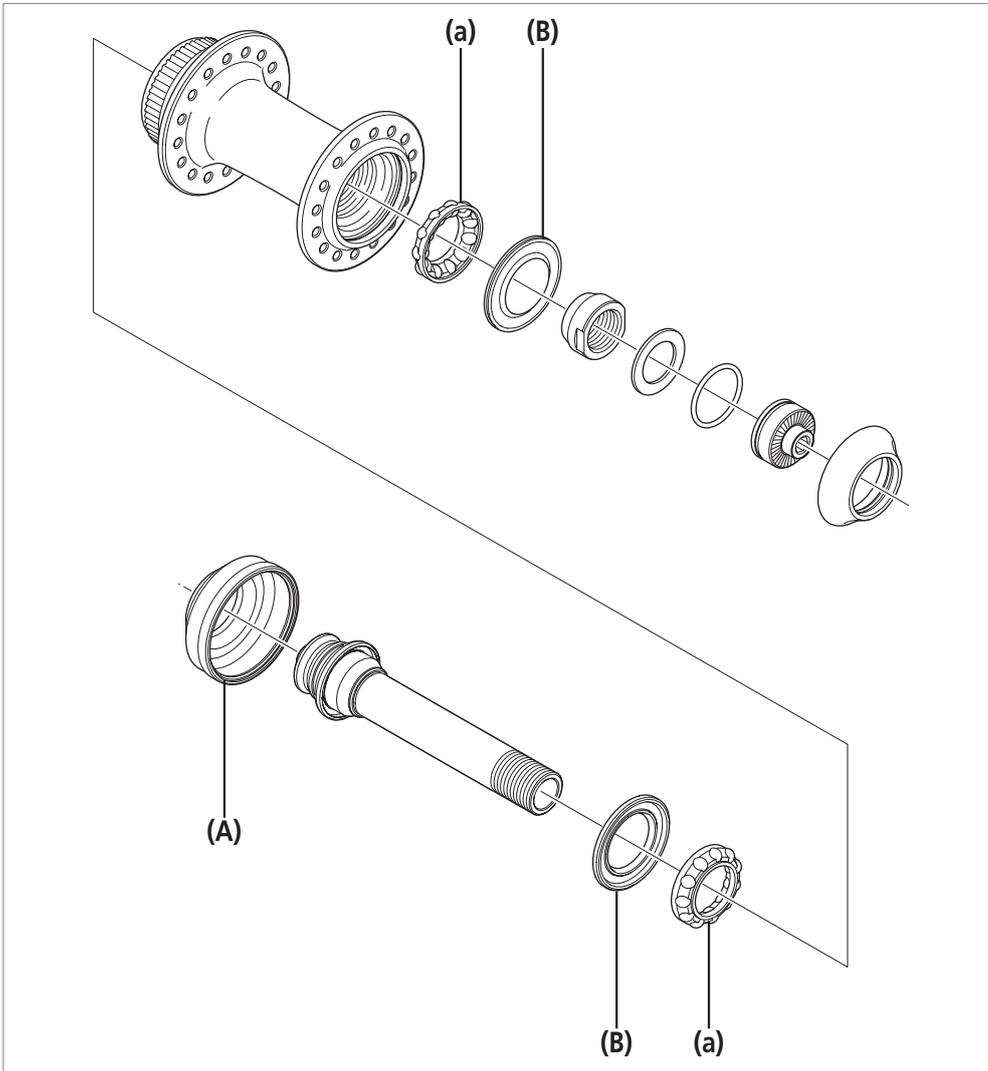


21 - 26 N·m
{184 - 227 in. lbs.}

WH-M8000-TL-F

< Disassembly >

The unit can be disassembled as shown in the illustration. Apply grease to the various parts at periodic intervals.



- (A) Dust cover
- (B) Seal (Lip is on the outside)

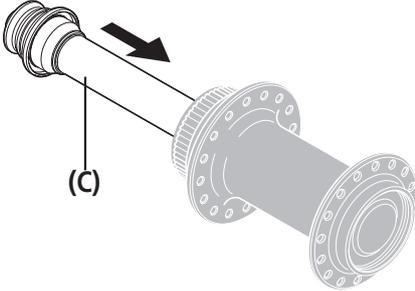
- (a) Applying grease:
Premium grease (Y-04110000)

NOTE

- The hub cannot be disassembled from the left side of the hub unit (the rotor fixing serration side).
- When removing and installing the seal, do it very carefully so that the seal does not become bent. When reinstalling the seal, make sure that it is facing the right way, and insert it as far as it will go.
- Do not disassemble the dust cover which is crimped onto the axle pipe.

< Assembly >

1



(C)

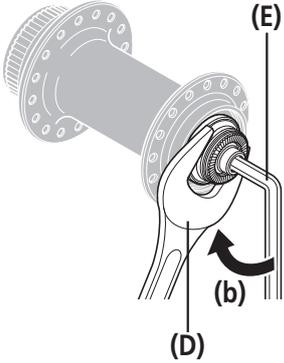
Install the axle pipe as shown in the illustration.

(C) Axle pipe

 **TECH TIPS**

If using a hub spanner on the beveled parts of the left-hand axle cap, be careful not to apply excessive torque. Otherwise, it may be damaged.

2



(E)

(b)

(D)

Use the hub spanner and an Allen key to tighten the lock nut so as to double-lock the mechanism.

(b) Tighten

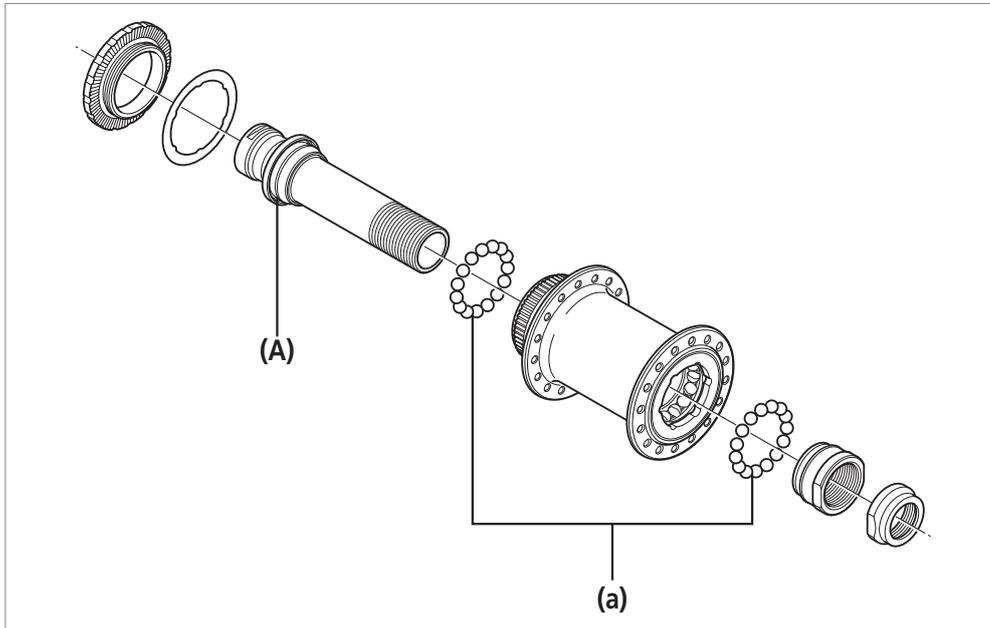
(D) Hub spanner (17 mm)
(E) 5 mm Allen key

Tightening torque	
 17mm	<p>15 - 17 N·m {132 - 148 in. lbs.}</p>
 5 mm	

WH-M8000-TL-F15 / WH-M8020-TL-F15

< Disassembly >

The unit can be disassembled as shown in the illustration. Apply grease to the various parts at periodic intervals.



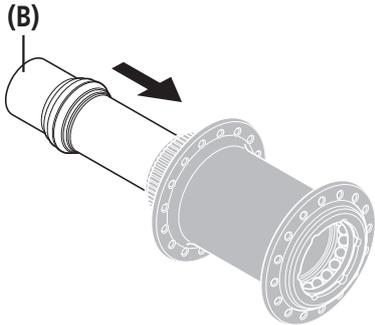
(A) Dust cover

(a) Applying grease:
Premium grease (Y-04110000)

NOTE

- The hub cannot be disassembled from the left side of the hub unit (the rotor fixing serration side).
- When removing and installing the seal, do it very carefully so that the seal does not become bent. When reinstalling the seal, make sure that it is facing the right way, and insert it as far as it will go.
- Do not disassemble the dust cover which is crimped onto the axle pipe.

< Assembly >

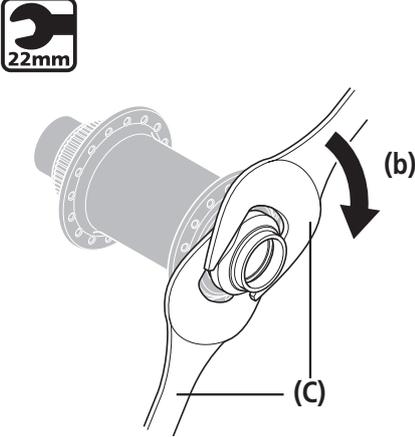
1		<p>Install the axle pipe as shown in the illustration.</p>
---	---	--

(B) Axle pipe



TECH TIPS

If using a hub spanner on the beveled parts of the left-hand axle cap, be careful not to apply excessive torque. Otherwise, it may be damaged.

2		<p>Use the hub spanner to tighten the lock nut so as to double-lock the mechanism.</p> <p>(b) Tighten</p>
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(C) Hub spanner (22 mm)

Tightening torque

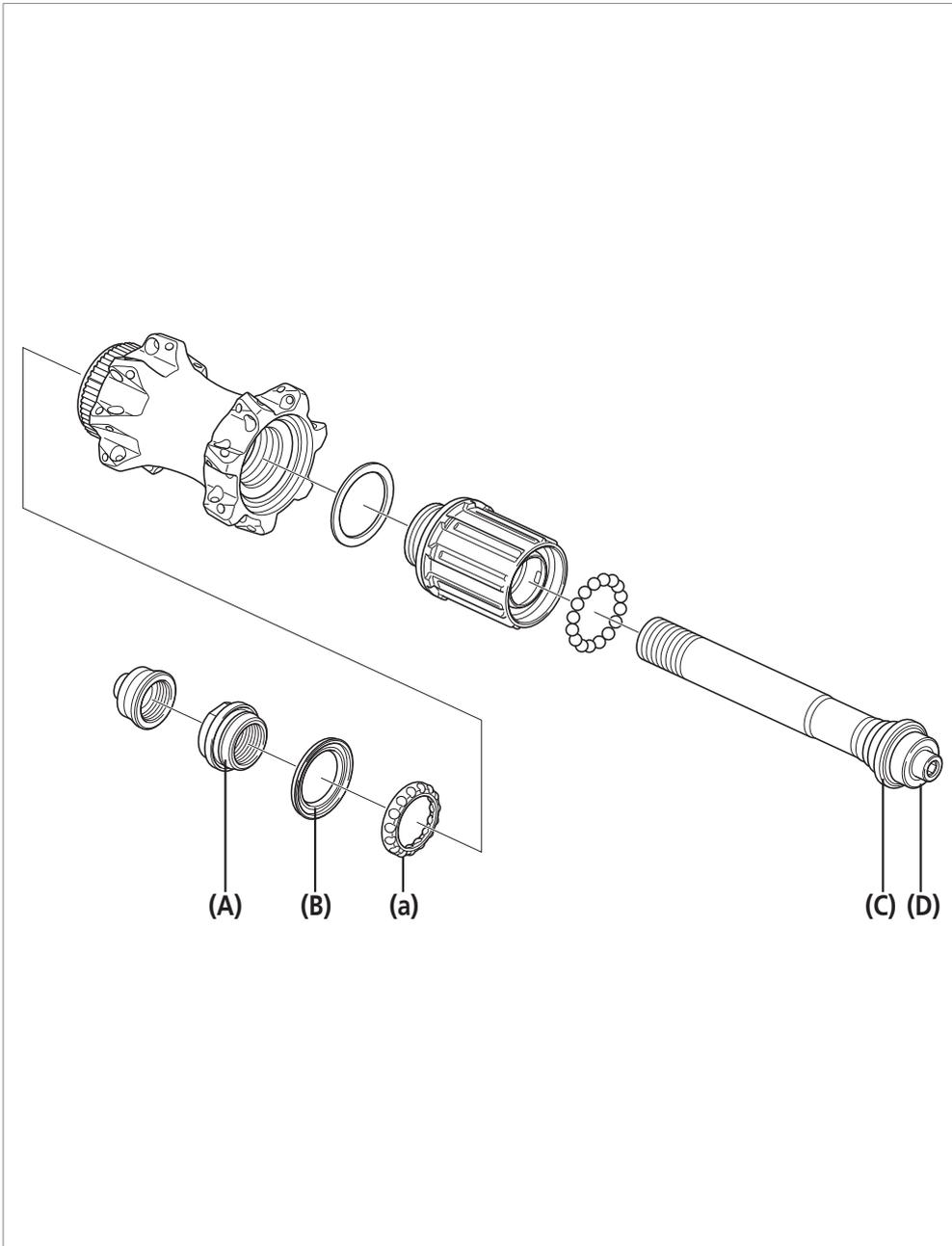


21 - 26 N·m
{184 - 227 in. lbs.}

WH-M9000-TU-R / WH-M9000-TL-R

< Disassembly >

The unit can be disassembled as shown in the illustration. Apply grease to the various parts at periodic intervals.



- (A) Cone with dust cover
(Cannot be disassembled)
- (B) Seal (Lip is on the outside)
- (C) Dust cover
(Cannot be disassembled)
- (D) Hub axle

- (a) Applying grease:
Premium grease (Y-04110000)

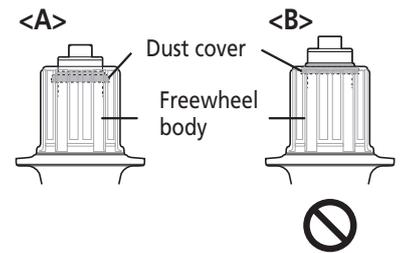
NOTE

- When removing and installing the seal, do it very carefully so that the seal does not become bent. When reinstalling the seal, make sure that it is facing the right way, and insert it as far as it will go.
- Do not disassemble the dust cover which is crimped onto the hub axle.
- Do not attempt to disassemble the freewheel body, because it may result in a malfunction.

NOTE

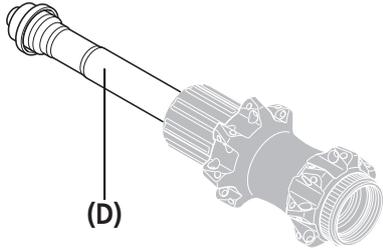
The correct position for the dust cover is when it is hidden in the freewheel body, as shown in illustration <A>.

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



< Assembly >

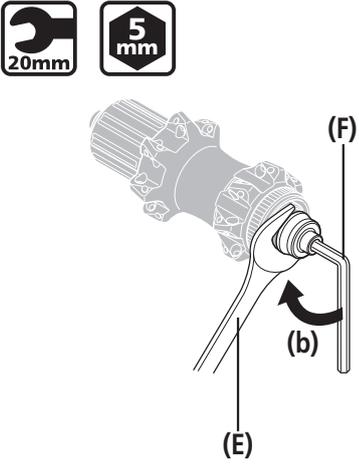
1



Install the hub axle as shown in the illustration.

(D) Hub axle

2



Use the hub spanner and an Allen key to tighten the lock nut so as to double-lock the mechanism.

(b) Tighten

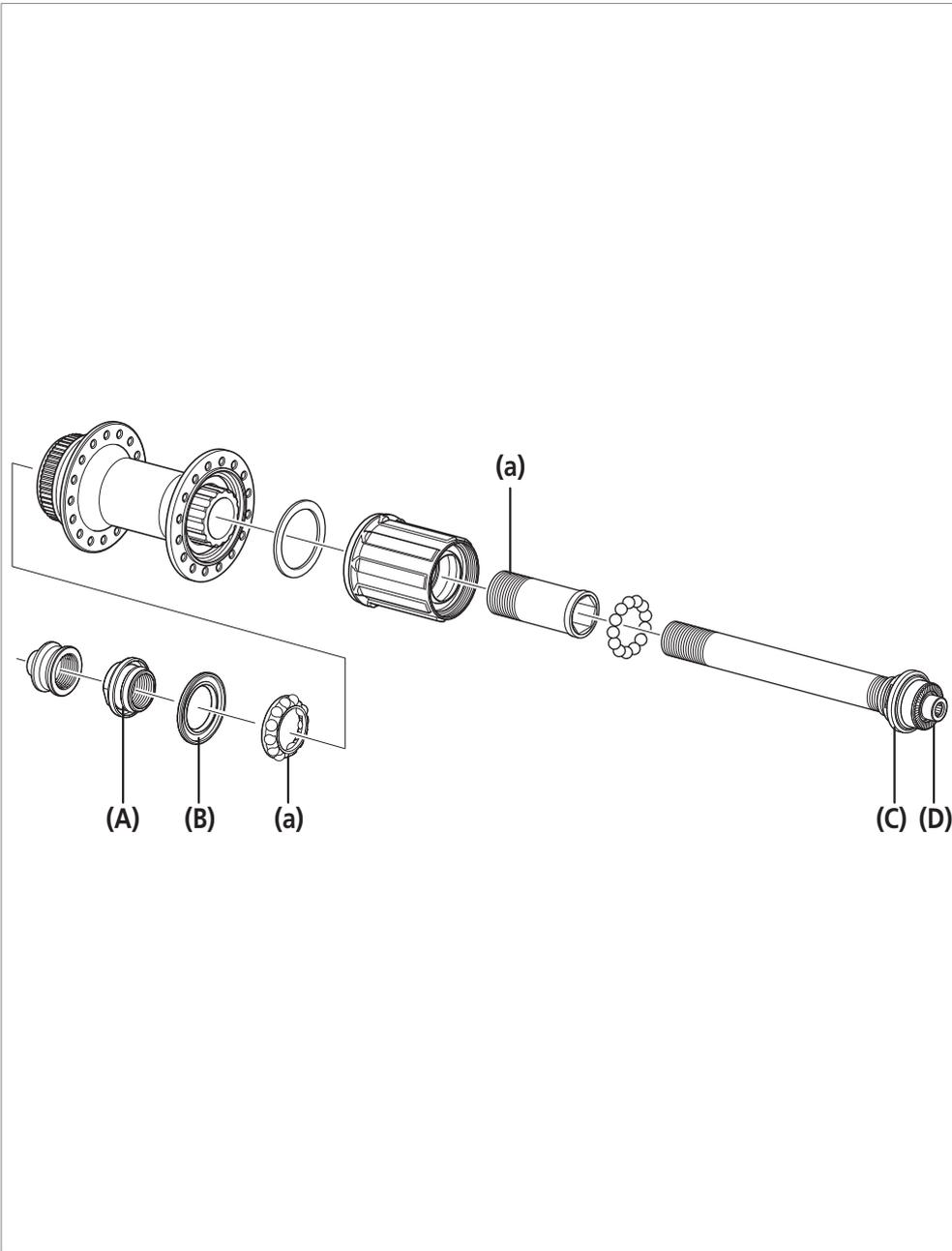
(E) Hub spanner (20 mm)
(F) 5 mm Allen key

Tightening torque	
 20mm	<p>17 - 22 N·m {149 - 192 in. lbs.}</p>
 5mm	

WH-M8000-TL-R

< Disassembly >

The unit can be disassembled as shown in the illustration. Apply grease to the various parts at periodic intervals.



- (A) Cone with dust cover
(Cannot be disassembled)
- (B) Seal (Lip is on the outside)
- (C) Dust cover
(Cannot be disassembled)
- (D) Hub axle

- (a) Applying grease:
Premium grease (Y-04110000)

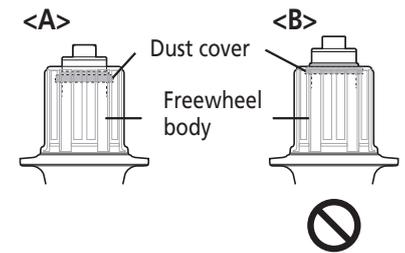
NOTE

- When removing and installing the seal, do it very carefully so that the seal does not become bent. When reinstalling the seal, make sure that it is facing the right way, and insert it as far as it will go.
- Do not disassemble the dust cover which is crimped onto the hub axle.
- Do not attempt to disassemble the freewheel body, because it may result in a malfunction.

NOTE

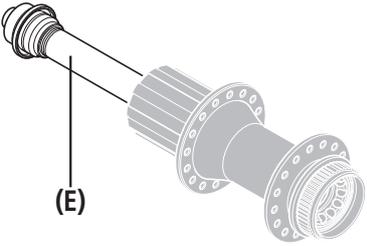
The correct position for the dust cover is when it is hidden in the freewheel body, as shown in illustration <A>.

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



< Assembly >

1

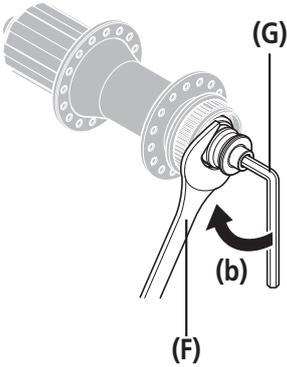


(E)

Install the hub axle as shown in the illustration.

(E) Hub axle

2



(F)

(b)

(G)

Use the hub spanner and an Allen key to tighten the lock nut so as to double-lock the mechanism.

(b) Tighten

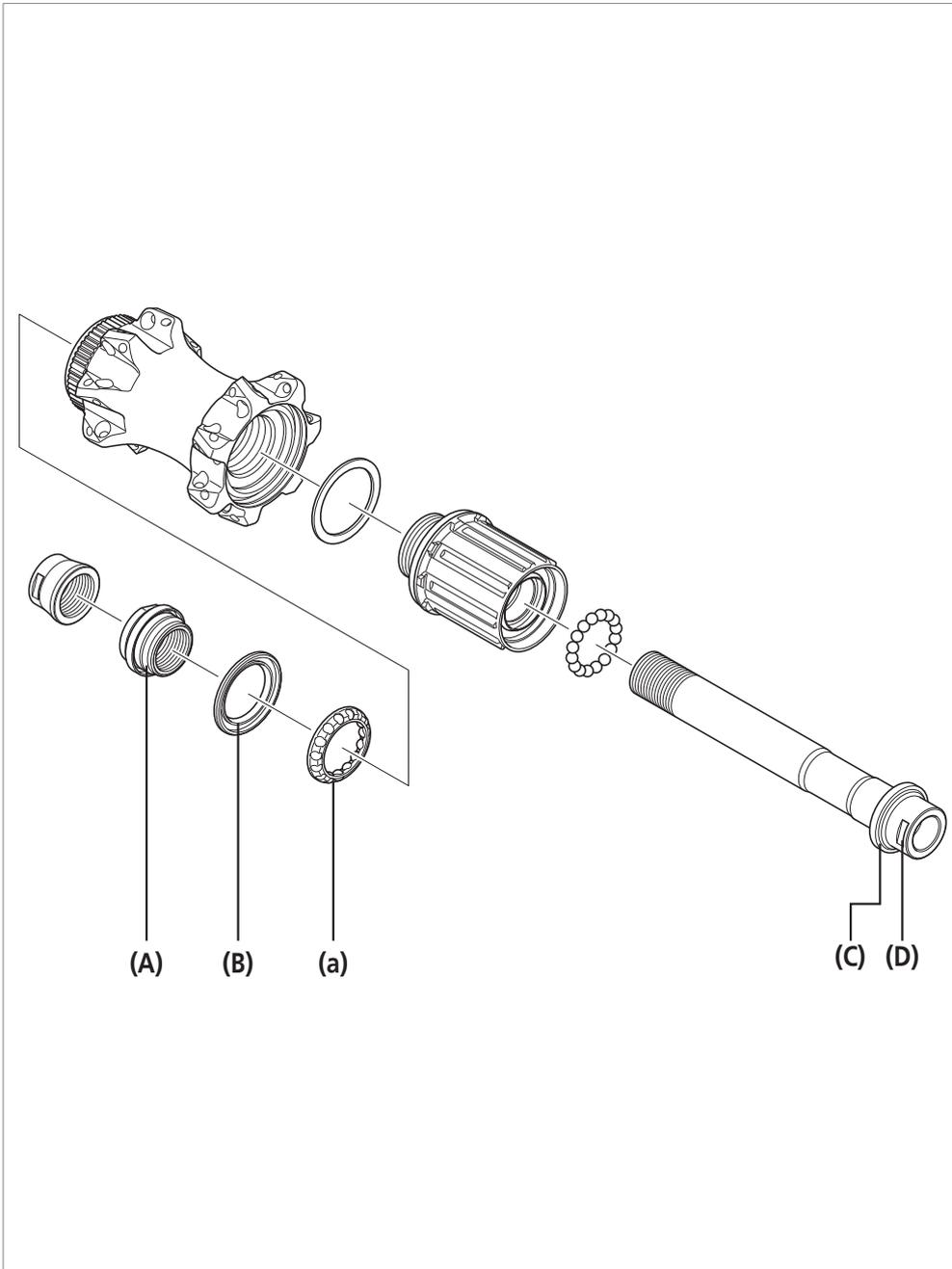
(F) Hub spanner (20 mm)
(G) 5 mm Allen key

Tightening torque	
	17 - 22 N·m {149 - 192 in. lbs.}
	

WH-M9000-TU-R12 / WH-M9000-TL-R12 / WH-M9020-TL-R12

< Disassembly >

The unit can be disassembled as shown in the illustration. Apply grease to the various parts at periodic intervals.



- (A) Cone with dust cover
(Cannot be disassembled)
- (B) Seal (Lip is on the outside)
- (C) Dust cover
(Cannot be disassembled)
- (D) Right nut

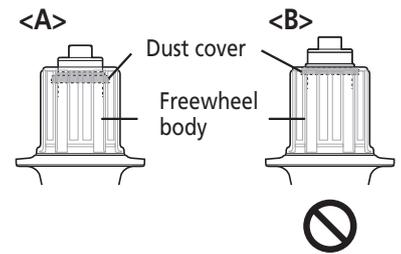
- (a) Applying grease:
Premium grease (Y-04110000)

NOTE

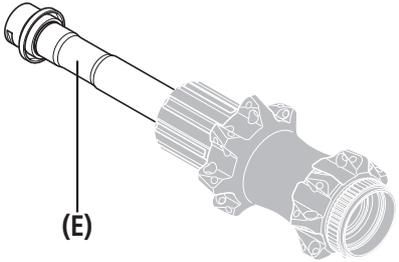
- When removing and installing the seal, do it very carefully so that the seal does not become bent. When reinstalling the seal, make sure that it is facing the right way, and insert it as far as it will go.
- Do not disassemble the dust covers which are crimped onto the axle, the right nut and the cone.
- Do not attempt to disassemble the freewheel body, because it may result in a malfunction.

NOTE

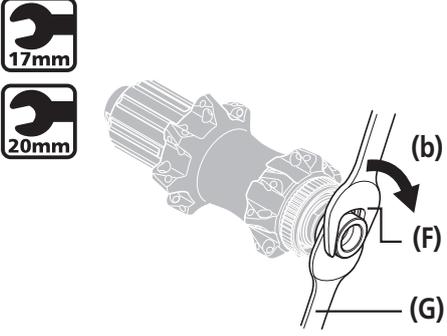
The correct position for the dust cover is when it is hidden in the freewheel body, as shown in illustration <A>. If the dust cover is in the position shown in illustration , repeat the assembly process from the beginning.



< Assembly >

1		<p>Install the axle pipe as shown in the illustration.</p>
----------	---	--

(E) Axle pipe

2		<p>Use the hub spanner to tighten the lock nut so as to double-lock the mechanism.</p> <p>(b) Tighten</p>
----------	---	--

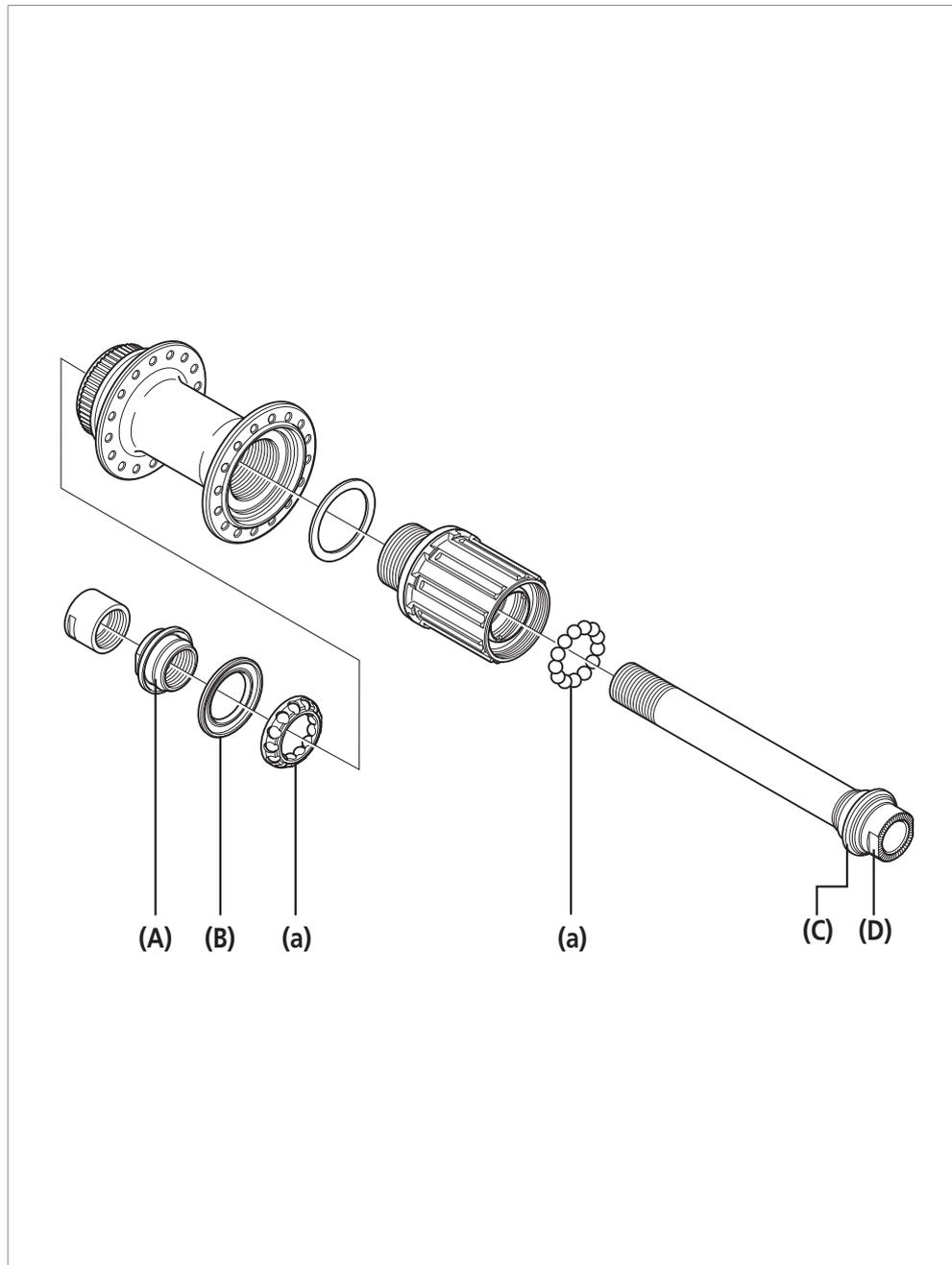
(F) Hub spanner (17 mm)
(G) Hub spanner (20 mm)

Tightening torque	
 17mm	<p>17 - 22 N·m {149 - 192 in. lbs.}</p>
 20mm	

WH-M8000-TL-R12 / WH-M8020-TL-R12

< Disassembly >

The unit can be disassembled as shown in the illustration. Apply grease to the various parts at periodic intervals.



- (A) Cone with dust cover
(Cannot be disassembled)
- (B) Seal (Lip is on the outside)
- (C) Dust cover
(Cannot be disassembled)
- (D) Right nut

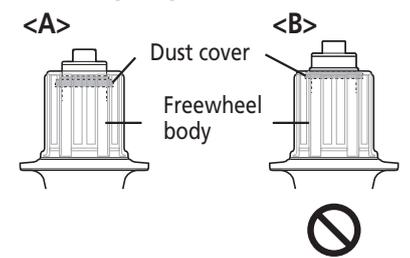
- (a) Applying grease:
Premium grease (Y-04110000)

NOTE

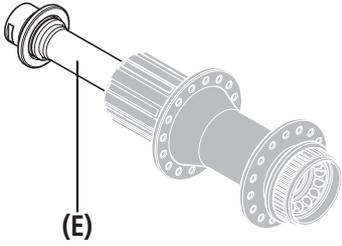
- When removing and installing the seal, do it very carefully so that the seal does not become bent. When reinstalling the seal, make sure that it is facing the right way, and insert it as far as it will go.
- Do not disassemble the dust covers which are crimped onto the axle, the right nut and the cone.
- Do not attempt to disassemble the freewheel body, because it may result in a malfunction.

NOTE

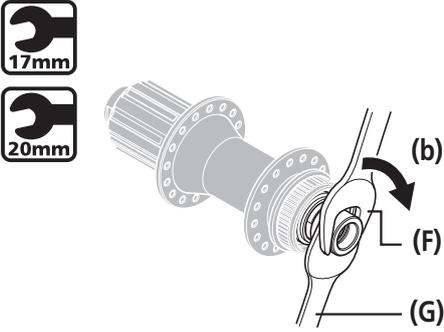
The correct position for the dust cover is when it is hidden in the freewheel body, as shown in illustration <A>. If the dust cover is in the position shown in illustration , repeat the assembly process from the beginning.



< Assembly >

1	 <p>(E)</p>	<p>Install the axle pipe as shown in the illustration.</p>
----------	--	--

(E) Axle pipe

2	 <p>(b) (F) (G)</p>	<p>Use the hub spanner to tighten the lock nut so as to double-lock the mechanism.</p> <p>(b) Tighten</p>
----------	--	---

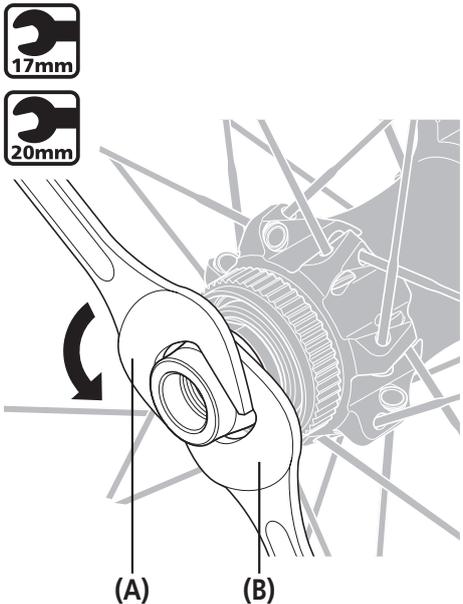
(F) Hub spanner (17 mm)
(G) Hub spanner (20 mm)

Tightening torque	
 17mm	<p>17 - 22 N·m {149 - 192 in. lbs.}</p>
 20mm	

■ Replacement of the freewheel body

For information on the replacement procedure, refer to "Thru Axle type". For quick release types, refer to the section "WH-M9000-TU-R / WH-M9000-TL-R".

1



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

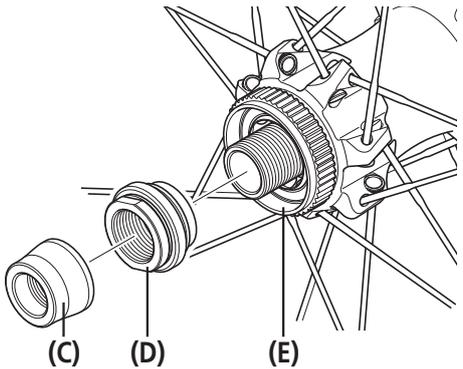
- (A) Hub spanner (17 mm)
- (B) Hub spanner (20 mm)
- <For WH-M9000-TU-R / WH-M9000-TL-R>
Hub spanner (20 mm)
- 5 mm Allen key

Tightening torque	
	17 - 22 N·m
	{149 - 192 in. lbs.}

NOTE

The double-lock section at the freewheel side cannot be disassembled.

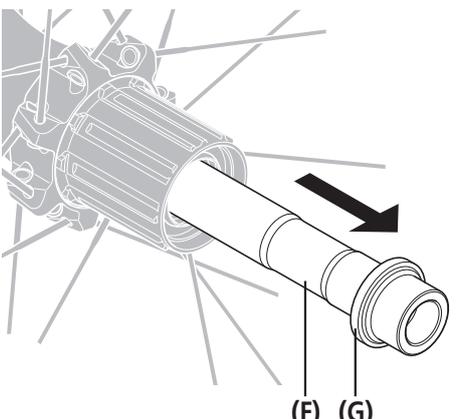
2



Remove the lock nut and cone with dust cover.

- (C) Lock nut
- (D) Cone with dust cover
(Cannot be disassembled)
- (E) Rotor fixing serrations

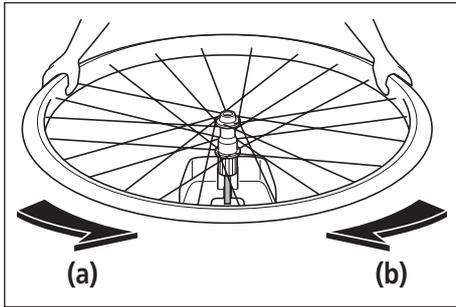
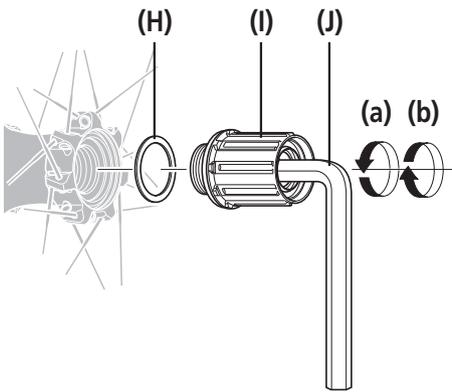
3



Pull out the hub axle from the freewheel body.

- (F) Hub axle
- (G) Dust cover
(Cannot be disassembled)

4



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

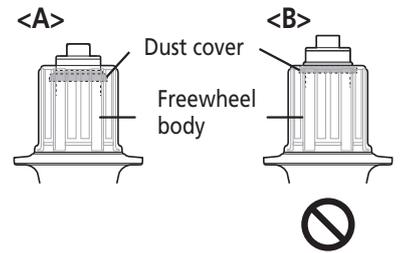
- (a) Disassembly
- (b) Assembly

- (H) Freewheel body washer
- (I) Freewheel body
- (J) TL-FH15

Tightening torque	
	150 N·m {1311 in. lbs.}

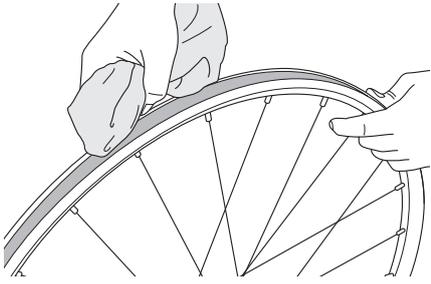
NOTE

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.



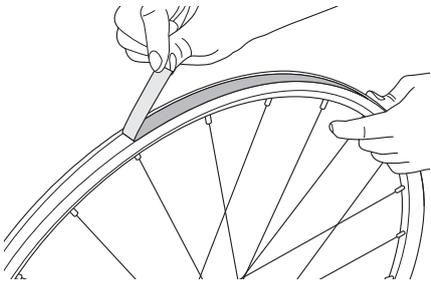
■ Replacing tubeless tape

1



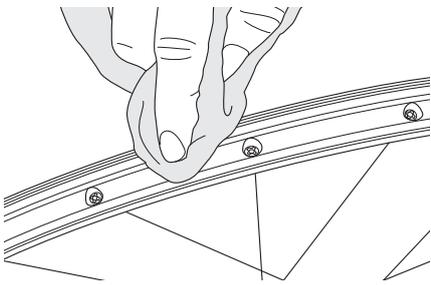
When using a sealant, wipe it off completely.

2



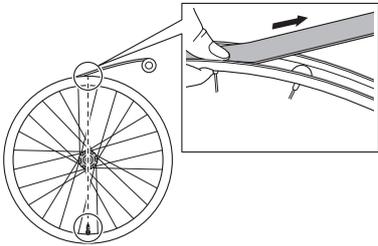
Remove the tubeless tape.

3



Clean the rim hole and the rim surface where the tape is affixed.

4

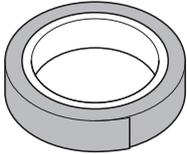


Affix a new tubeless tape. Start affixing the tape from the opposite side of the valve.

NOTE

The tubeless tape cannot be reused, so use a new one after replacing it.

- Use a tubeless tape matching the rim width.
- It is recommended that you use genuine Shimano tubeless tape to prevent punctures and other possible damages.



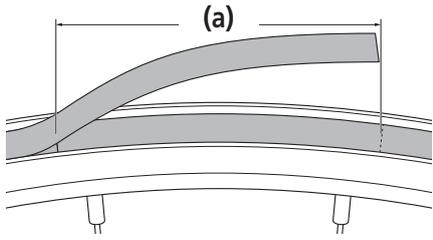
Tubeless tape

TECH TIPS

- Because the tape may tear, do not use a tool (use your hand) to affix the tape. Pull the tape with your hand to some extent when affixing it.
- Affix the tubeless tape in the middle of the rim, not off to one side, as shown in the following illustration.



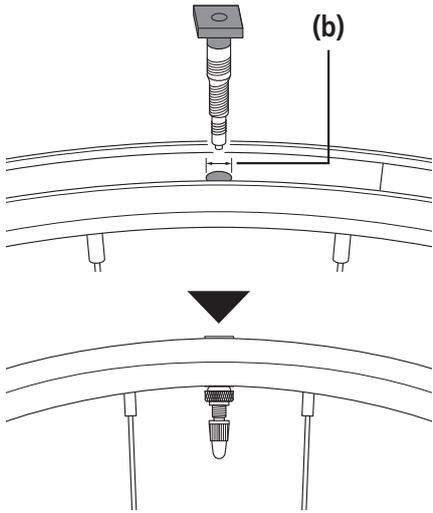
5



Overlap the ends of the tape by about 10 cm. Securely attach both ends of the tape to the rim.

(a) Overlapping section (about 10 cm)

6



Drill a pilot hole with a diameter of ϕ 3 mm in the valve hole section and then attach the valve.

(b) About ϕ 3 mm in diameter

■ Cautions on the use of tubular wheel rim

General Safety Information

WARNING

The Tubular Tire System is used widely in racing bicycles because of its lightweight design and smooth turning performance. However, a greater level of awareness in handling is required compared to clincher-type tires, and also a greater degree of care must be taken when carrying out maintenance work.

In addition, always inspect the wheels prior to use.

These precautions must be observed in order for the optimum performance features of this product to be obtained. If these precautions are not observed, the tires may come off the rims or damage to the tires may occur, and these could result in severe injury to the rider.

Make sure that you read and fully understand the following points on using tubular tires. Furthermore, if you are not confident that you have enough knowledge and experience in installing and removing the tires or carrying out maintenance, ask an authorized bicycle dealer or a professional bicycle technician for assistance.

Do not use these tubular tires if you are not confident that they have been installed by someone with an adequate level of knowledge and experience.

- A special adhesive designed exclusively for tubular tires is used to secure the tires to the wheel rims. If any other type of adhesive is used, it might not secure the tires in place with sufficient force, and it may also cause deterioration of the rim material.
- When cleaning the rim surfaces, use only a cleaning agent which is exclusively designed for tubular tires. If any other type of cleaning agent is used, it may cause deterioration of the rim material. If using carbon fiber rims, do not rub the surfaces of the rims vigorously with sandpaper or anything similar. Otherwise, the carbon fiber layer of the rims may peel off when replacing the tires.
- If the adhesive is not applied correctly to the rim surfaces, it may not hold the tires securely in place, and the tires may easily come off the rims. Particularly when using the rims for the first time, always be sure to clean the rim surfaces thoroughly with the correct cleaning agent to remove any traces of grease and other foreign materials. Then apply a thin layer of adhesive to the rim surface to create a secure bond between the rim and the wheel. When this has been done, apply more adhesive evenly to the rim at a thickness which is just sufficient to cover the roughness of the tire and no more, and then install the tire. When using rims which contain carbon fiber material, if the tires are not attached properly, or if the wrong type of adhesive or cleaning agent is used, it may be impossible to obtain the same adhesion force between the rim and the tire as for aluminum rims; this it may also reduce the strength of the carbon fiber rims.
- Depending on the type of adhesive used, there may be large differences in factors such as adhesion force, the time it takes to dry, durability, and the sensitivity to conditions such as temperature and humidity. Therefore, you should pay particular attention to the adhesion force when using the wheels.
- Always check the tires before use by applying force to the tires to make sure they are properly attached to the rims.
- The adhesion force of the tires may deteriorate after long periods of use, therefore it is best to re-apply the adhesive periodically. If using carbon fiber rims, use a rim cement cleaner or similar when replacing the tires to assist in peeling the tires off gently in order to avoid pulling away the carbon fiber layer.
- If you do not apply any adhesive to the adhesion surface of the tire when installing the tire to the rim, the adhesion force between the tire and the rim will be weaker. If you want the tires to adhere to the rims with greater force (such as when riding in criterium competition races and track races where hard turning and acceleration are required) you can use adhesive to adhere them more firmly.
- If the rims become hot as a result of continuous use of the brakes when riding down long declines, sudden loss of tire adhesion force may occur. If you think that this might happen at some stage, pay particular attention to selecting and re-applying the adhesive at some point. Loss of adhesion force can still occur even if measures are taken to prevent it, so if it still occurs, replace the wheels and discontinue using the tubular type of tires.
- Also check the tires before use. If there are large cracks in the tires, they may burst during use, and so they should be replaced beforehand. In addition, the seam covers may come off the tires after long periods of use, and so check the tires before use.
- If you feel that there are any malfunctions or problems with the system, stop riding the bicycle and contact an authorized bicycle dealer or a professional bicycle technician for advice.
- For any questions regarding methods of installation, adjustment, maintenance or operation, please contact an authorized bicycle dealer.

NOTE

- If any glue gets on the painting surface of the rim, use a cloth to wipe it off before it dries. Do not use cleaning solvents or chemicals, such as rim cement removers, as they may remove the paint.

■ Installing and removing tubeless tires

General Safety Information

⚠ WARNING

- Read these Technical Service Instructions carefully, and keep them in a safe place for later reference.

⚠ CAUTION

- Do not use rim tape if using an inner tube. Rim tape may make it difficult to remove and install the tire, and the tire or tube may become damaged or the tires may suddenly puncture, causing the bicycle to fall over.

⚠ CAUTION

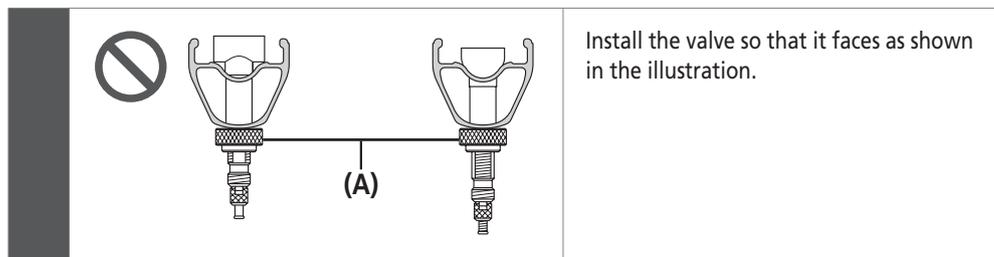
- The tires should always be installed and removed by hand. Never use tools such as tire levers, as they can damage the seal between the tires and the rims and cause air to leak out from the tires.
- Do not tighten the valve nut too much, otherwise the valve seal may become warped and air leaks may occur.

NOTE

- If the tires are difficult to fit, use tap water or soapy water to help them slide more easily.
- Products are not guaranteed against natural wear and deterioration from normal use and aging.

HOW TO USE

< Installing tubeless tire valves >



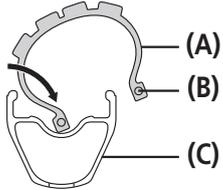
Install the valve so that it faces as shown in the illustration.

(A) Valve nut

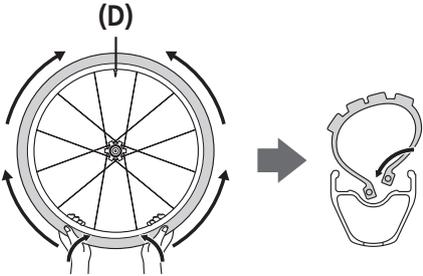
NOTE

When tightening the valve nut, make sure that the valve does not turn together with the nut.

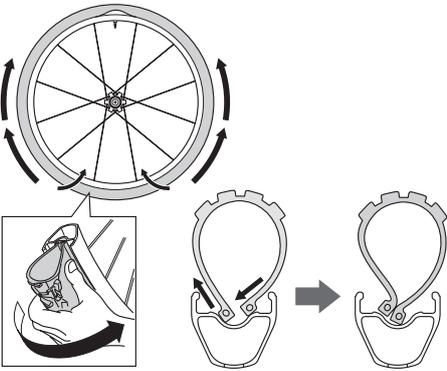
< Installing the tires >

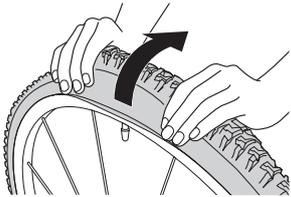
1		<p>Insert the bead on one side of the tire as shown in the illustration. Check that there are no foreign particles in the tire bead, rim and valve.</p>
---	---	---

- (A) Tire
- (B) Bead
- (C) Rim

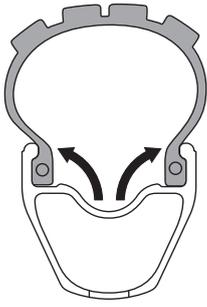
2		<p>Insert the bead on the other side of the tire starting from the point opposite the air valve.</p>
---	---	--

- (D) Air valve

3		<p>It will become more difficult to insert the bead at the side of the air valve. In such cases, lift up the bead by hand starting from the opposite side of the tire, and work your way around to the location of the air valve.</p>
---	--	---

4		<p>Lastly, grip the tire with both hands as shown in the illustration and insert the tire into the rim.</p>
---	---	---

5



Inflate with air to lock the beads of the tires into the rim as shown in the illustration.
 After this, deflate the tire and check that the bead is locked into the rim. Then re-inflate the tire to the standard air pressure for use.
 If the bead is not locked into the rim, the bead may separate from the rim when the tire is deflated.

WARNING

- The tires should be inflated to the pressure indicated on the tires or rim before use. If the maximum pressure is prescribed on the tires and rim, be sure not to exceed the lower value shown.

<WH-M9000-TL>

Maximum pressure

2.8bar / 41psi / 280kPa

<WH-M9020-TL>

Maximum pressure

2.6bar / 38psi / 260kPa

<WH-M8000-TL/WH-M8020-TL>

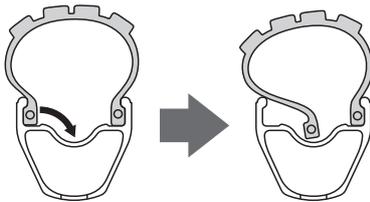
Maximum pressure

3bar / 44psi / 300kPa

- A higher pressure than indicated can cause a sudden puncture and / or sudden release of the tire, which can result in serious injury.

< Removing the tires >

1



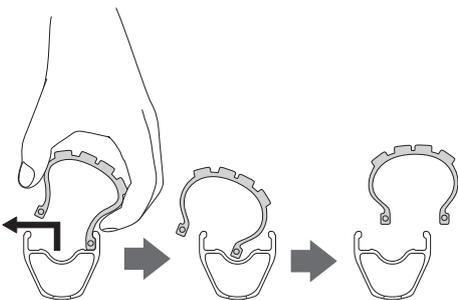
To remove a tire, deflate it and push the bead on one side of the tire into the gorge of the rim as shown in the illustration.



TECH TIPS

Be sure to only push in the bead on one side of the tire.
 If you push the beads in on both sides, the tires will be difficult to remove. If you accidentally seat both beads, inflate the tire once more to lock the beads; to remove the tire, restart the procedure from the beginning.

2



Remove the bead on one side of the tire starting from the point closest to the air valve, and then remove the bead on the other side of the tire.

< Notes when using inner tubes >

1 Loosen the locking ring of the air valve and remove the air valve.

2		Insert the bead on one side of the tire as shown in the illustration.
----------	---	---

3 Liberally moisten the outer edges of the rim and the tire beads, and place the slightly-inflated inner tube inside the tire so that it can slide smoothly.

4 Insert the bead on one side of the tire starting from the side of the rim opposite the air valve. Be careful not to pinch the tube at this time. If necessary, use soapy water.

5 Inflate the inner tube until the tire locks into place.

NOTE

- Check that the inner tube air valve is appropriate for use with the rim.
- Contact your dealer for the specifications of inner tubes that can be used.

NOTE

Do not use rim tape if using an inner tube. Rim tape may make it difficult to remove and install the tire, and the tire or tube may become damaged or the tires may suddenly puncture, causing the bicycle to fall over.

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

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