

## Dealer's Manual

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

# Rear Derailleur

### SLX

RD-M7000

### DEORE

RD-M6000

RD-M5120

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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 manuals and technical documents are accessible online at <https://si.shimano.com>.
- For consumers who do not have easy access to the internet, please contact a SHIMANO distributor or any of the SHIMANO offices to obtain a hardcopy of the User's Manual.
- Please observe the appropriate rules and regulations of the country, state or region in which you conduct your business as a dealer.

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

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

 **DANGER**

Failure to follow the instructions will result in death or serious injury.

 **WARNING**


Failure to follow the instructions could result in death or serious injury.

 **CAUTION**

Failure to follow the instructions could cause personal injury or physical damage to equipment and surroundings.

## TO ENSURE SAFETY

### WARNING

- **Be sure to follow the instructions provided in the manuals when installing the product.**  
Only use SHIMANO genuine parts. If a component or replacement part is incorrectly assembled or adjusted, it can lead to component failure and cause the rider to lose control and crash.
-  Wear approved eye protection while performing maintenance tasks such as replacing components.

#### Be sure to also inform users of the following:

- Clean the chain and QUICK-LINK with an appropriate chain cleaner regularly. Intervals between maintenance depend on the use and riding circumstances. Never use alkali based or acid based solvents such as rust cleaners. If those solvents are used the chain or QUICK-LINK might break and cause serious injury.
- Check the chain for any damage (deformation or cracking), skipping, or other abnormalities such as unintended gear shifting. If any problems are found, consult a dealer or an agency. The chain may break, and you may fall.
- Use only with cassette sprockets with compatible tooth combinations. 11-42T is the only cassette sprocket compatible with RD-M6000-GS. Cassette sprockets with other tooth combinations cannot be used. If a product with an incompatible tooth combination is used, the chain could become derailed from the outside of the smallest sprocket and the user could fall off.

#### ■ When using TL-CT12

- Be careful not to get injured by the blade or needle while working.
- Be careful not to get your fingers pinched by the tool while working.
- Keep the tool out of the reach of small children.

### NOTICE

#### Be sure to also inform users of the following:

- For SHADOW RD+, be sure to check that the plate unit cover is installed before riding the bicycle.
- If gear shifting operation does not feel smooth, consult the place of purchase for assistance.
- The gears should be periodically washed with a neutral detergent then lubricated. In addition, cleaning the chain and QUICK-LINK with a neutral detergent and lubricating them can be an effective way of extending the life of the chain and QUICK-LINK.
- 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:









- Depending on the shape of the frame, the rear derailleur may interfere with the chainstay. Use the B-screw to adjust so that the rear derailleur does not interfere with the chainstay.
- Grease with SIS SP41 grease (Y04180000) the inner cable and the sliding portions of the outer casing before use to ensure that they slide properly. Do not let dust adhere to the inner cable.
- To ensure smooth operation, use OT-SP41 outer casing and a cable guide.
- Use an outer casing which still has some length to spare even when the handlebars are turned all the way to both sides. Furthermore, check that the shifting lever does not touch the bicycle frame when the handlebars are turned all the way.
- If gear shifting adjustments cannot be carried out, check the alignment of the dropout and check if the cable is lubricated or if the outer casing is too long or too short.
- Periodically clean the derailleur and lubricate all moving parts (mechanism and pulleys).
- Depending on the model, the guide pulley has arrows on it to indicate the direction of rotation. Install the guide pulley so that the arrows are pointing counterclockwise when looking at the outer side of the derailleur.
- If you hear abnormal noise as a result of looseness in a pulley, you should replace the pulley.

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

## LIST OF TOOLS TO BE USED

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

Tool		Tool		Tool	
	2 mm hexagon wrench		5 mm hexagon wrench		Cross head screwdriver [#2]
	3 mm hexagon wrench		5.5 mm spanner		Hexalobular [#30]
	4 mm hexagon wrench		TL-CT12		

# INSTALLATION



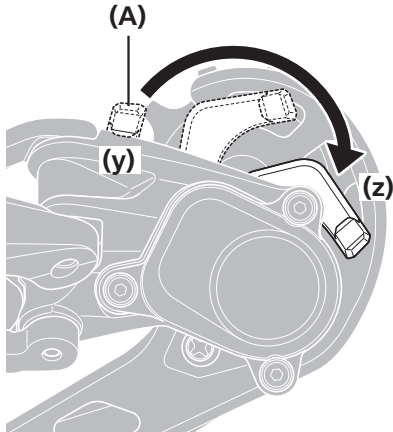
# INSTALLATION

## Installation of the rear derailleur

### Standard type

#### Lever switch setting

1



Make sure that the lever switch is in the OFF position.

If the lever switch is in the ON position, be sure to move it to the OFF position.

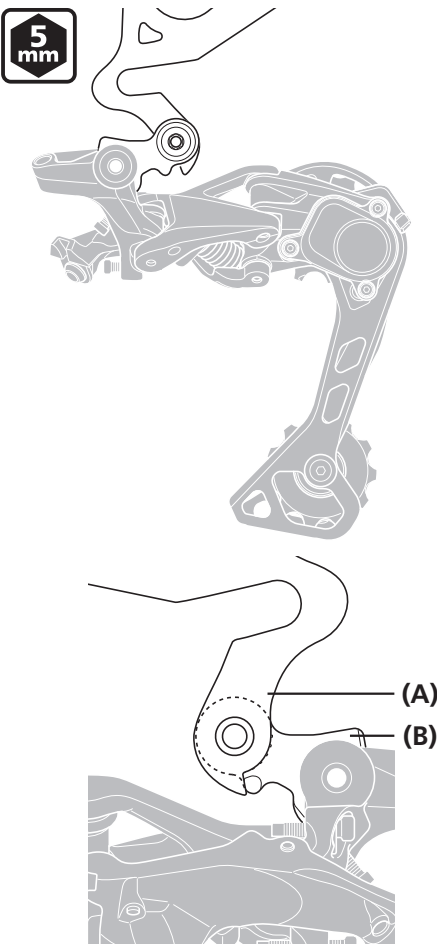
(y) ON  
(z) OFF

(A) Lever switch



The shape differs depending on the model.

2



Install the rear derailleur.

(A) Derailleur hanger  
(B) Bracket

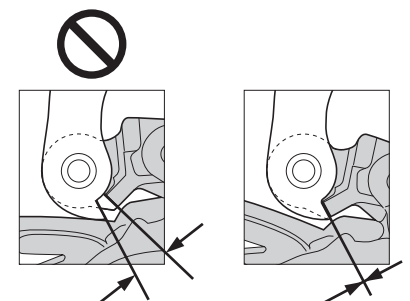
#### Tightening torque



8 - 10 N·m

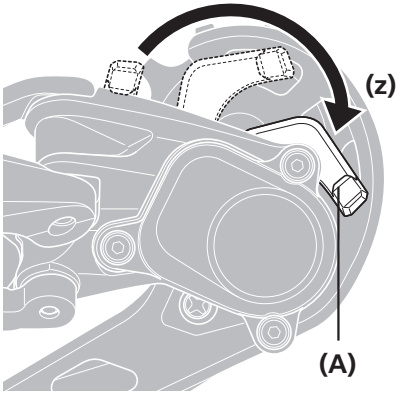
#### NOTICE

Periodically check that there is no gap between the B-tension stop and the bracket as shown in the illustration. If there is a gap between these two parts, problems with gear shifting performance may occur.



## Direct mount type

### Lever switch setting



Make sure that the lever switch is in the OFF position.

If the lever switch is in the ON position, be sure to move it to the OFF position.

**(z)** OFF position

**(A)** Lever switch

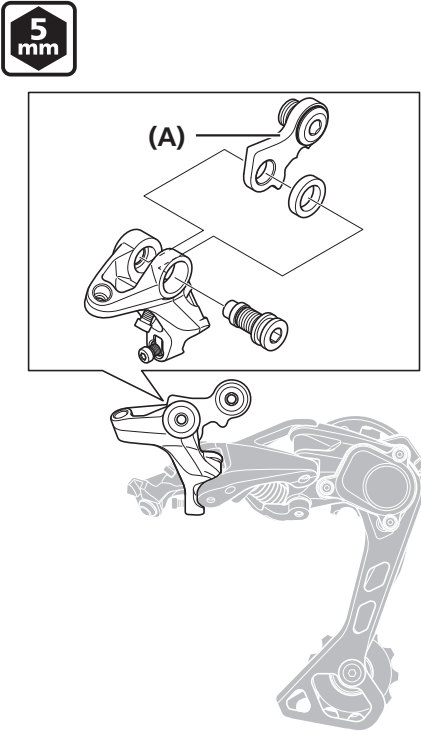
**(A)** Lever switch



TECH TIPS

The shape differs depending on the model.

### Replacing with direct mount type



**5 mm**

**1**

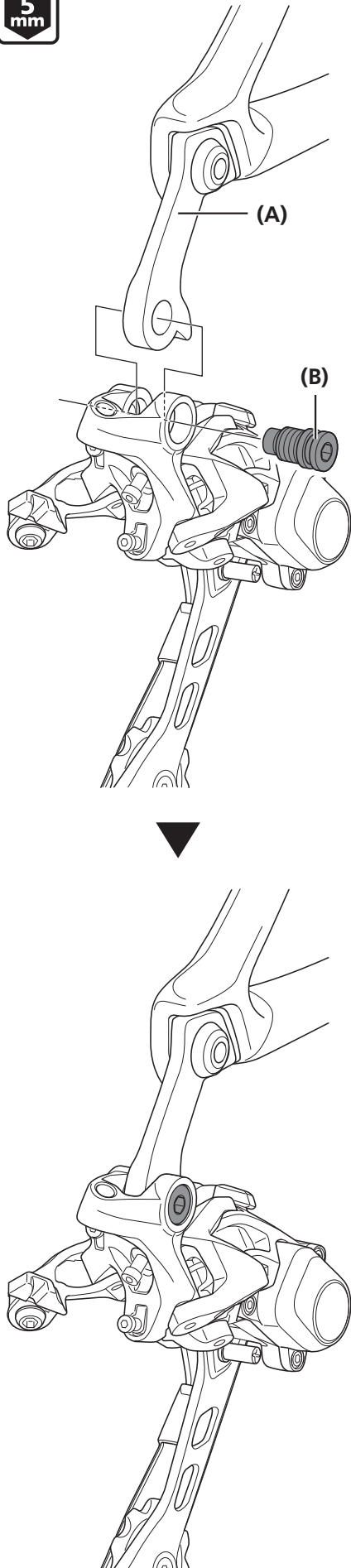
Remove the bracket axle plate.

**(A)** Bracket axle plate

**(A)** Bracket axle plate



2



Install the rear derailleur.

Insert the derailleur hanger into the installation part for direct mount of the rear derailleur.

Install the rear derailleur with the B-axle2.

(A) Derailleur hanger

(B) B-axle2

Tightening torque



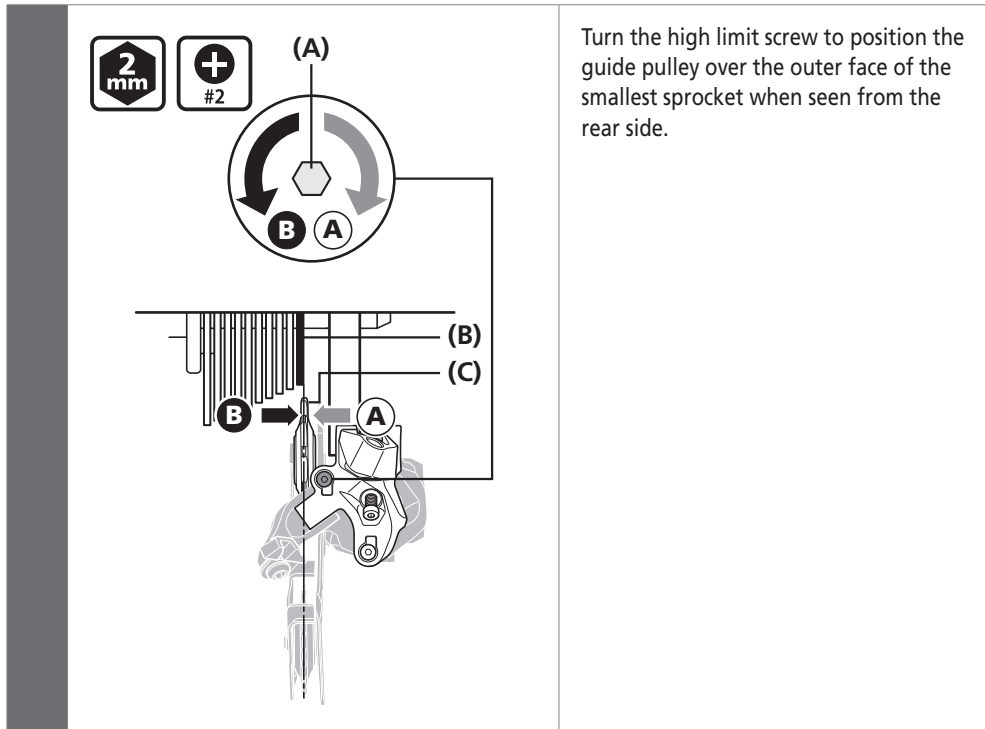
8 - 10 N·m

# ADJUSTMENT

# ADJUSTMENT

## ■ Stroke adjustment

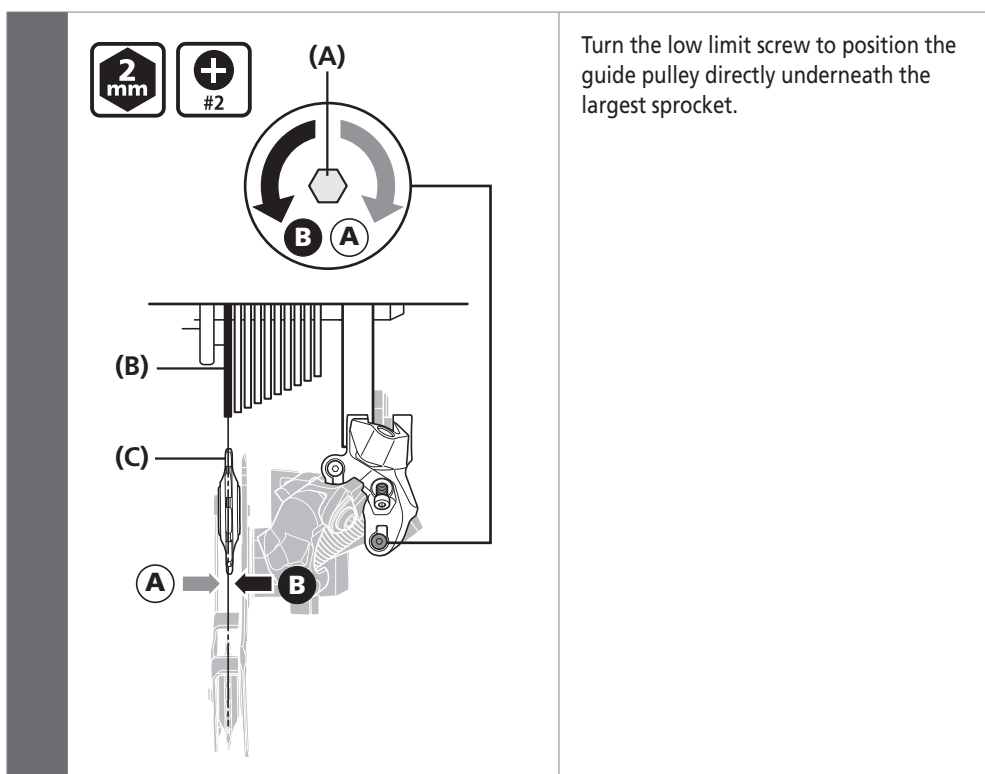
### Top adjustment



Turn the high limit screw to position the guide pulley over the outer face of the smallest sprocket when seen from the rear side.

- (A) High limit screw
- (B) Smallest sprocket
- (C) Guide pulley

### Low adjustment



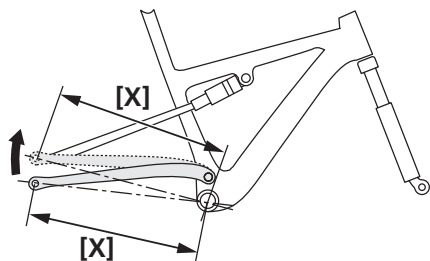
Turn the low limit screw to position the guide pulley directly underneath the largest sprocket.

- (A) Low limit screw
- (B) Largest sprocket
- (C) Guide pulley

## ■ Installing the chain

### Chain length

1

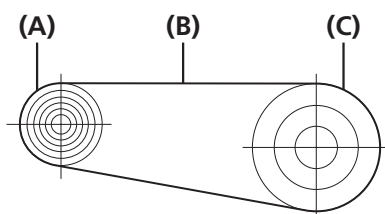


The length of dimension **[X]** will vary depending on the movement of the rear suspension.

Consequently, if the chain length is too short, drivetrain components may be damaged due to excessive load on the drivetrain.

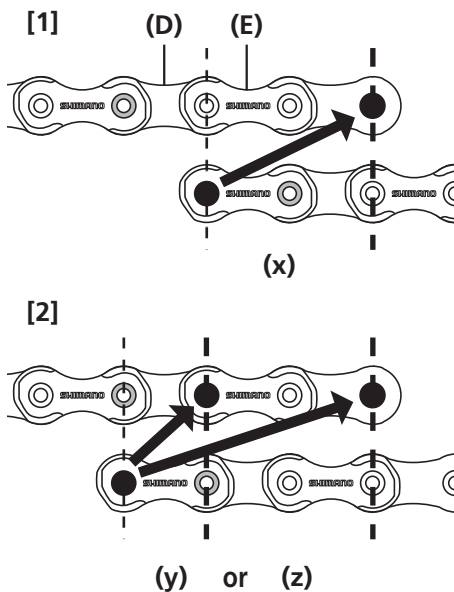
Be sure to set the chain length at the point in the suspension travel where dimension **[X]** is the greatest.

2



Mount the chain on to the largest sprocket and the largest chainring.

Next, add 1-3 links to set the length of the chain.



When mounting the chain, if the inner links and outer links match (as in **[1]**), set it to a length with 2 links added.

If the inner links match together and the outer links match together (as in **[2]**), set it to a length with 1 or 3 links added. When setting to the length with 1 link added (in **[2]**), if you are concerned about drive wandering after mounting the chain on the largest sprocket and largest chainring, set it to a length with another 2 links added.

**(x)** +2 links

**(y)** +1 link

**(z)** +3 links

- (A)** Largest sprocket
- (B)** Chain
- (C)** Largest chainring
- (D)** Inner link
- (E)** Outer link

#### NOTICE

If the rear suspension creates a large amount of growth in the chainstay length through the travel, the chain may fall slack when in the smallest chainring and smallest sprocket, especially without suspension sag from rider weight. Regardless of this, be sure to use the described method for setting chain length with the suspension at the point in its travel where the chain stay length is the longest.

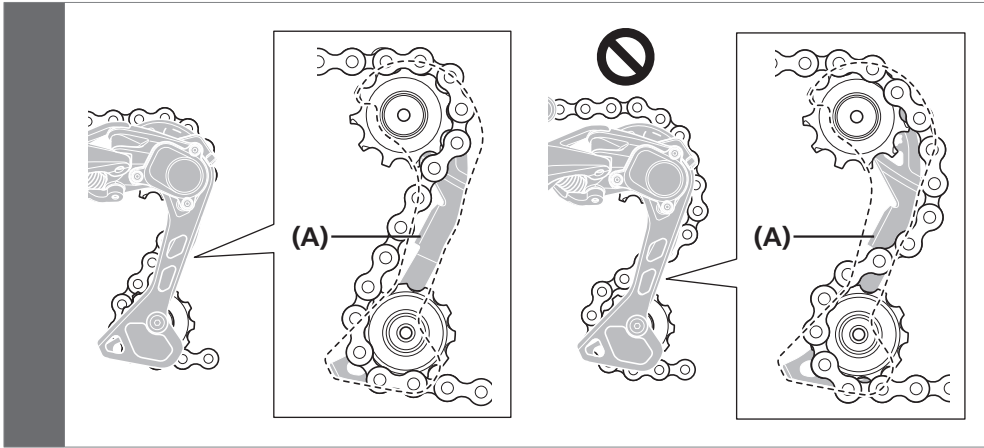


#### TECH TIPS

The same chain length checking method applies to the triple front gear, the double front gear, and the single front gear.

## ADJUSTMENT

### ▶▶ Installing the chain



(A) Chain derailerment prevention plate

### NOTICE

The rear derailleur plate assembly is equipped with a pin or plate that prevents the chain from derailing.


When passing the chain through the rear derailleur, pass it through the rear derailleur body from the side of the chain derailerment prevention plate as shown in the illustration. If the chain is not passed through the correct position, damage may be caused to the chain or rear derailleur.

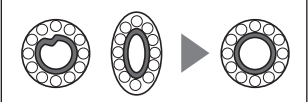
## ■ Securing the cable

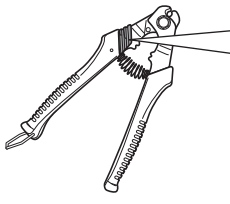
### Cutting the outer casing

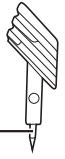
1

TL-CT12









(A)

When cutting the outer casing, cut the end opposite to the end with the marking.

After cutting the outer casing, make the end round using a TL-CT12 needle or other narrow tool so that the inside of the hole has a uniform diameter.

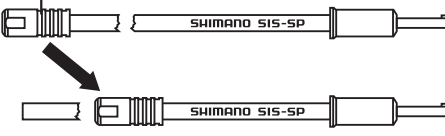
(A) TL-CT12 needle

#### NOTICE

Be careful not to hurt your hands with the TL-CT12 needle.

2

(A)

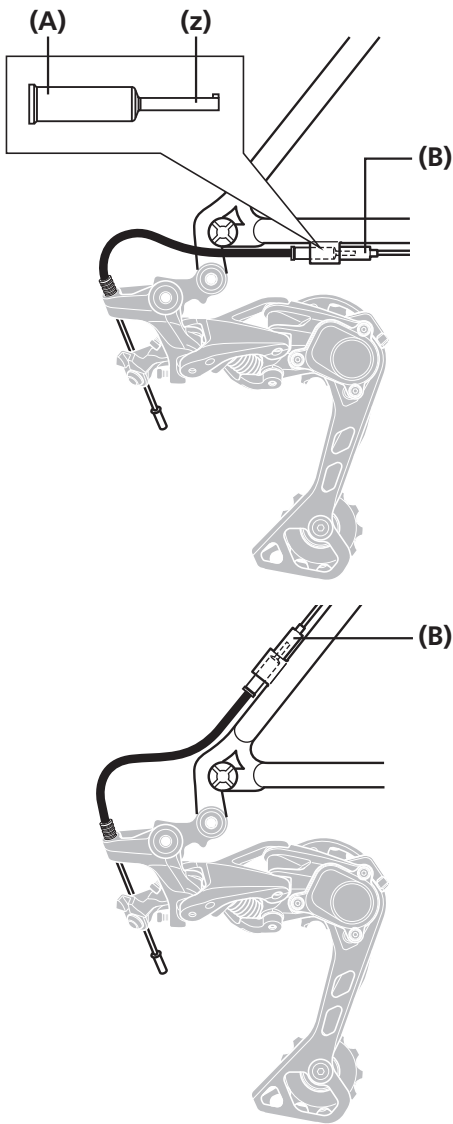


After cutting, attach the same sealed outer cap to the end.

(A) Sealed outer cap



3



Install the sealed outer cap with tongue and the rubber shield onto the outer casing stopper of the frame.

For bikes with full length outer casing, this step is not necessary.

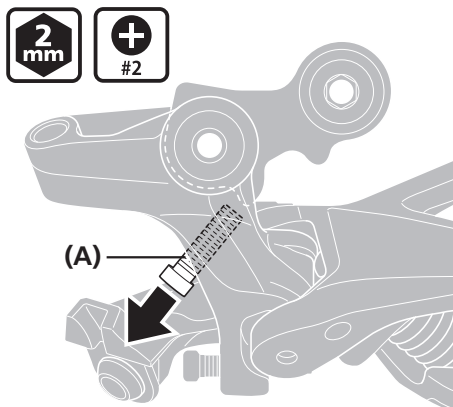
**(z)** Be careful not to bend this section.

**(A)** Sealed outer cap with tongue

**(B)** Rubber shield

Outer casing length

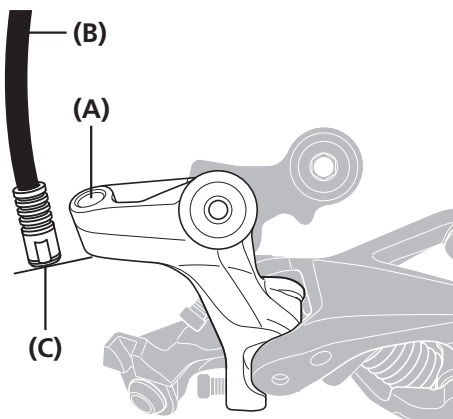
1



Loosen the B-screw until it reaches a position where the tip does not contact the B-tension stop.

(A) B-screw

2



Check that there is enough slack in the outer casing.

Fit a sealed outer cap to the end of the outer casing. Align the end of the outer cap to the bottom edge of the outer casing holder on the rear derailleur.

Cut off any excess outer casing with the cable cutter.

(A) Outer casing holder  
(B) Outer casing  
(C) Sealed outer cap

**NOTICE**

The distance between the outer stopper to the outer casing holder of the rear derailleur may change when the rear suspension moves, so determine the length of the outer casing at the point where this length is at its greatest.

**TECH TIPS**

If the motion of the rear derailleur is extreme, such as in a rear suspension bicycle, replacing it with the aluminum type sealed outer cap provided is recommended.



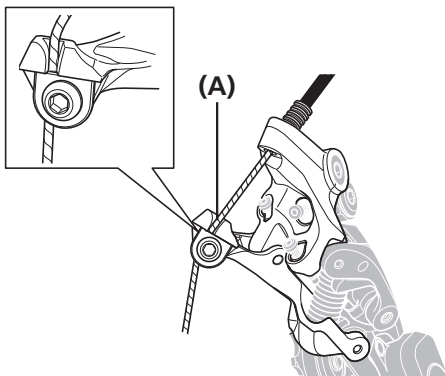
Sealed outer cap



Sealed outer cap (aluminum type)

## Connecting and securing the cable

**1** Operate the release lever 10 times or more to set the shifting lever to its initial position.



Connect the inner cable to the rear derailleur.

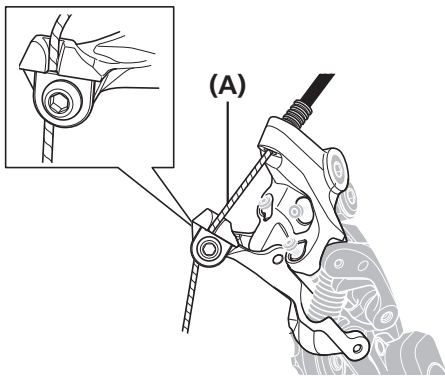
(A) Inner cable

### NOTICE

Cables with a polymer coating may develop a fuzzy appearance or texture through natural wear when used. However, if the cables are installed with care according to the procedures outlined in this manual, this is strictly cosmetic and performance will not be affected where the inner cables are housed by outer casing.

**2** Remove the initial slack from the inner cable.

**3** Hold the rear derailleur so that it won't move under load from the shift cable. Operate the shifting lever several times in order to tension the shift cable assembly and fully seat all the shift cable components.



Reconnect the inner cable to the rear derailleur.

Be sure that the inner cable is securely in the cable fixing groove.

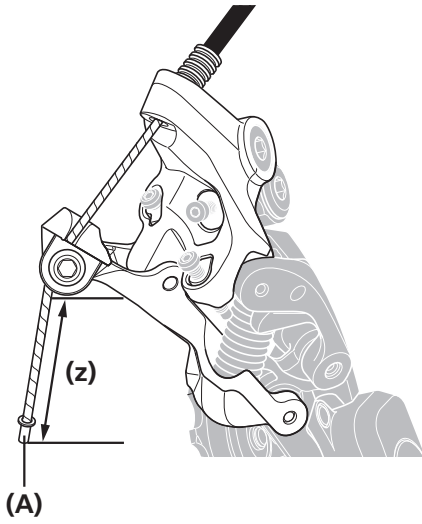
(A) Inner cable

### Tightening torque



6 - 7 N·m

5



Cut the inner cable so that the protruding length is approximately 30 mm.

Install the inner end cap.

**(z)** 30 mm or less

**(A)** Inner end cap

**NOTICE**

Check that the inner cable does not interfere with the wheel spokes.  
Stop the wheel from turning while carrying out this step.

## ■ Using the B-screw

### Adjusting the B-screw

Shift the chain to the smallest chainring and the largest sprocket.

Turn the crank arm in reverse and use the B-screw to bring the guide pulley as close to the largest sprocket as possible without any turbulence between the pulley and sprocket.

Next, set the chain on the smallest sprocket and repeat the above procedure to make sure that the pulley does not come into contact with the sprockets.

- (A) Largest sprocket
- (B) Smallest sprocket
- (C) B-screw

### Checking the distance between the largest sprocket and the guide pulley

Set the rear derailleur on the largest sprocket, and with the wheel stopped, make sure that the clearance between the tip of the guide pulley and the tip of the largest sprocket is within the range (z).

(z) 5 - 6 mm  
(When largest sprocket is a 42T sprocket or smaller)  
8 - 9 mm  
(When largest sprocket is a 46T sprocket)

- (A) Largest sprocket
- (B) Guide pulley

#### NOTICE

Check the distance between the largest sprocket and the guide pulley with the rear suspension at its greatest extension.

# SIS adjustment

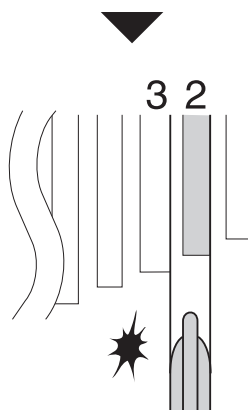
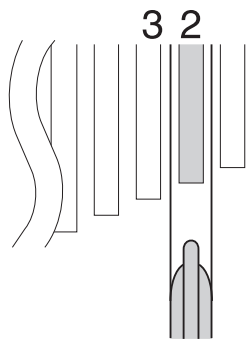
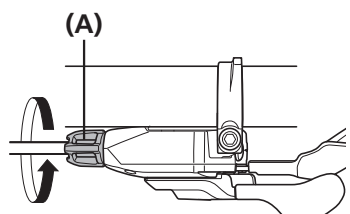
## SIS adjustment

**1** Move the lever switch to the OFF position.

**2** Operate the shifting lever once to move the chain from the smallest sprocket to the 2nd sprocket.

**3** Shift to the 2nd from the smallest sprocket. If using a 2x system, also shift to the largest chainring.

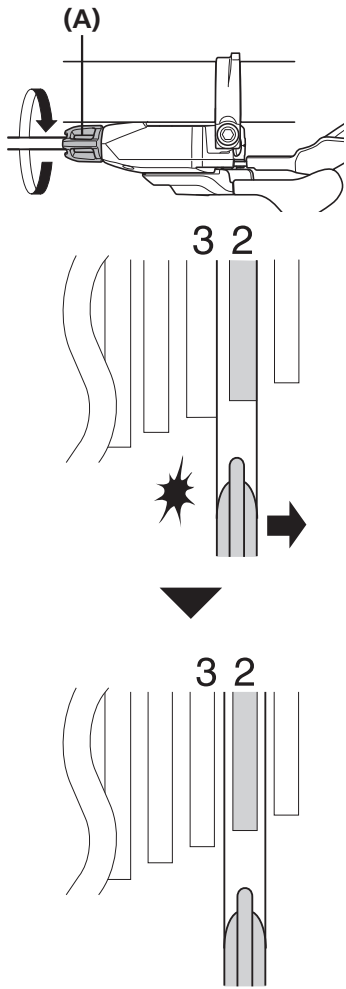
**4**



Turn the cable adjustment barrel counterclockwise to add cable tension until you can hear noise from the chain rubbing the 3rd smallest sprocket.

**(A)** Cable adjustment barrel

**5**



Turn the cable adjustment barrel clockwise to reduce cable tension until no noise is heard from the chain rubbing the sprocket.

**(A)** Cable adjustment barrel

**6** Operate lever to change gears, and check that no noise occurs in any of the gear positions.

**7** Set the switch lever in the ON position and check that the gear shifting is smooth, consistent, and that there is no noise in any of the gear positions while riding the bicycle.

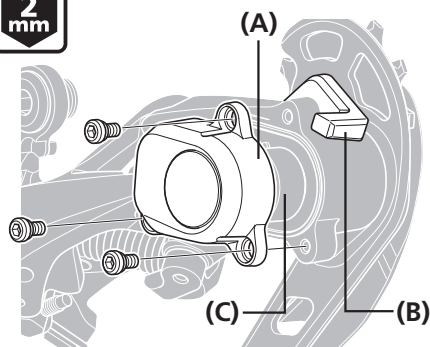
## ■ Adjusting friction

The level of friction can be adjusted as desired. Furthermore, the friction can also be adjusted when it changes during use.

### Friction adjustment

**1** Move the lever switch to the OFF position.

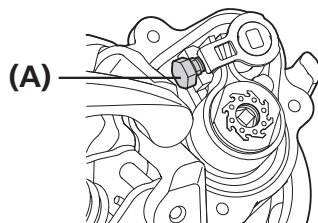
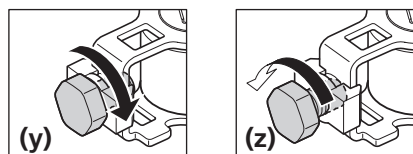
**2**



Using a 2 mm hexagon wrench, remove the plate unit cover.

- (A) Plate unit cover
- (B) Lever switch
- (C) Plate unit

**3**

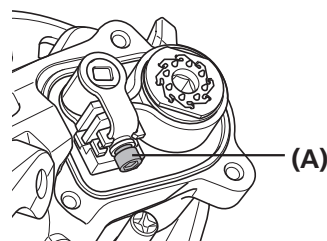
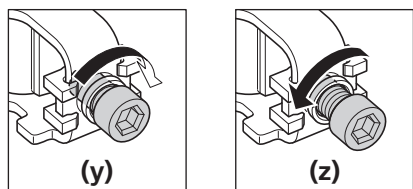


RD-M7000-10-SGS  
RD-M6000-SGS

Using a 5.5 mm spanner, turn the friction adjustment screw to adjust the friction.

- (y) Friction increases
- (z) Friction decreases

- (A) Friction adjustment screw

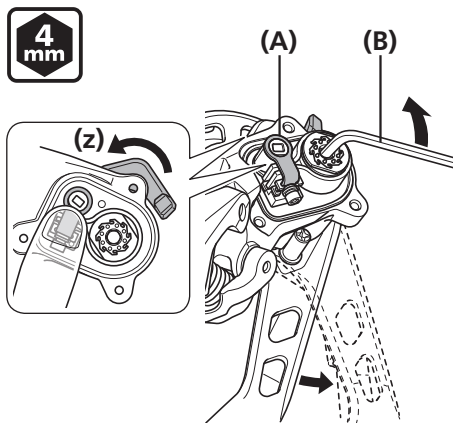


RD-M7000-11-GS  
RD-M6000-GS  
RD-M5120-SGS

Using a 2 mm hexagon wrench, turn the friction adjustment screw to adjust the friction.

- (y) Friction increases
- (z) Friction decreases





Check the friction torque.

While pressing the cam unit with your finger as shown in the illustration, set the lever switch to the ON position and check the friction torque.

(z) ON

- (A) Cam unit
- (B) 4 mm hexagon wrench

Friction torque



3.5 - 5.4 N·m

NOTICE

If adjusting the friction once more, be sure to set the lever switch to the OFF position while pressing the cam unit with your finger before making the adjustment.



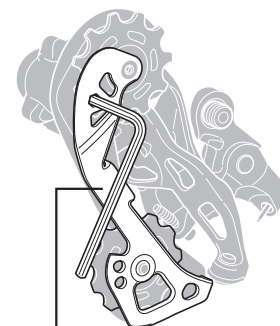
TECH TIPS

RD-M7000-11-GS

RD-M6000-GS

RD-M5120-SGS

Friction torque may also be checked by inserting a hexagon wrench or hexalobular wrench into the left plate.

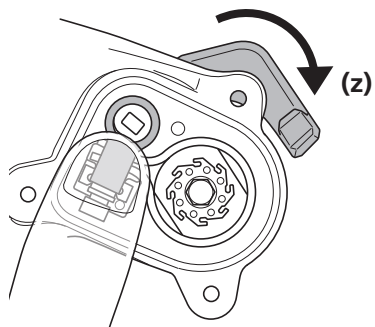


Left plate

## ADJUSTMENT

### ▶ Adjusting friction

5



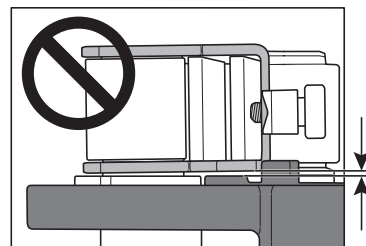
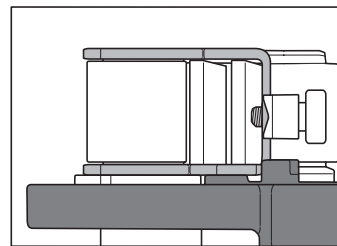
While pressing the cam unit with your finger, set the lever switch to the OFF position.

At that time, make sure that the cam unit is in contact with the bottom of the plate unit.

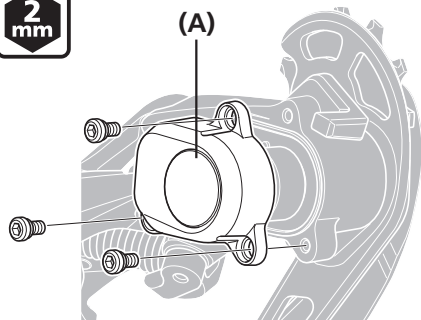
**(z)** OFF

## NOTICE

Do not install the plate unit cover if the plate unit is not fully seated against the switch base. This may result in insufficient sealing, which can lead to corrosion and malfunction of the chain stabilizer assembly.



6



Install the plate unit cover.

**(A)** Plate unit cover

### Tightening torque



1 - 1.5 N·m

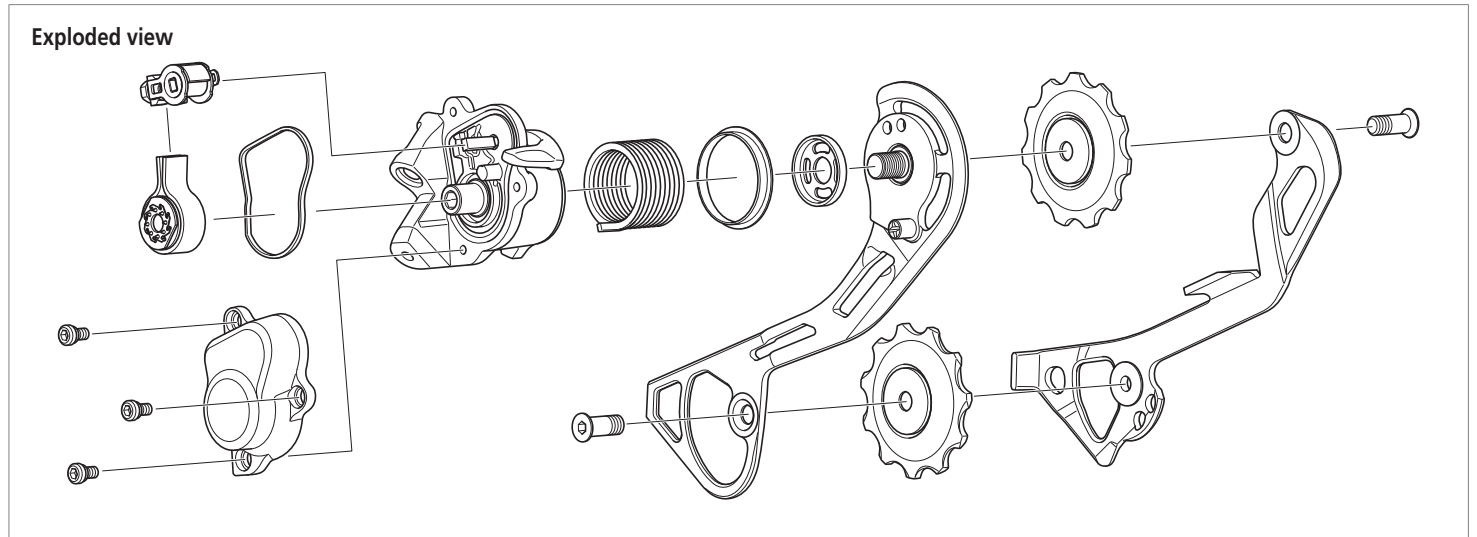
# MAINTENANCE

# MAINTENANCE

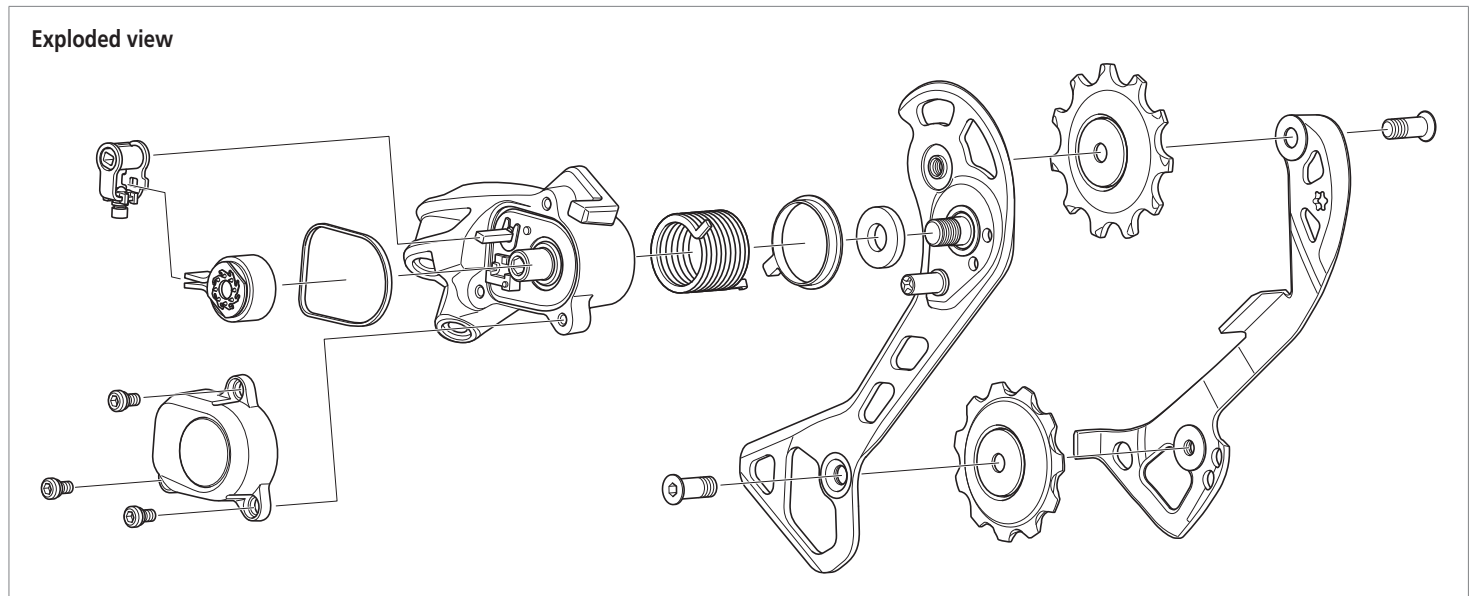
## ■ Replacing the plate and the plate tension spring

### Removal

RD-M7000-10-SGS/RD-M6000-SGS

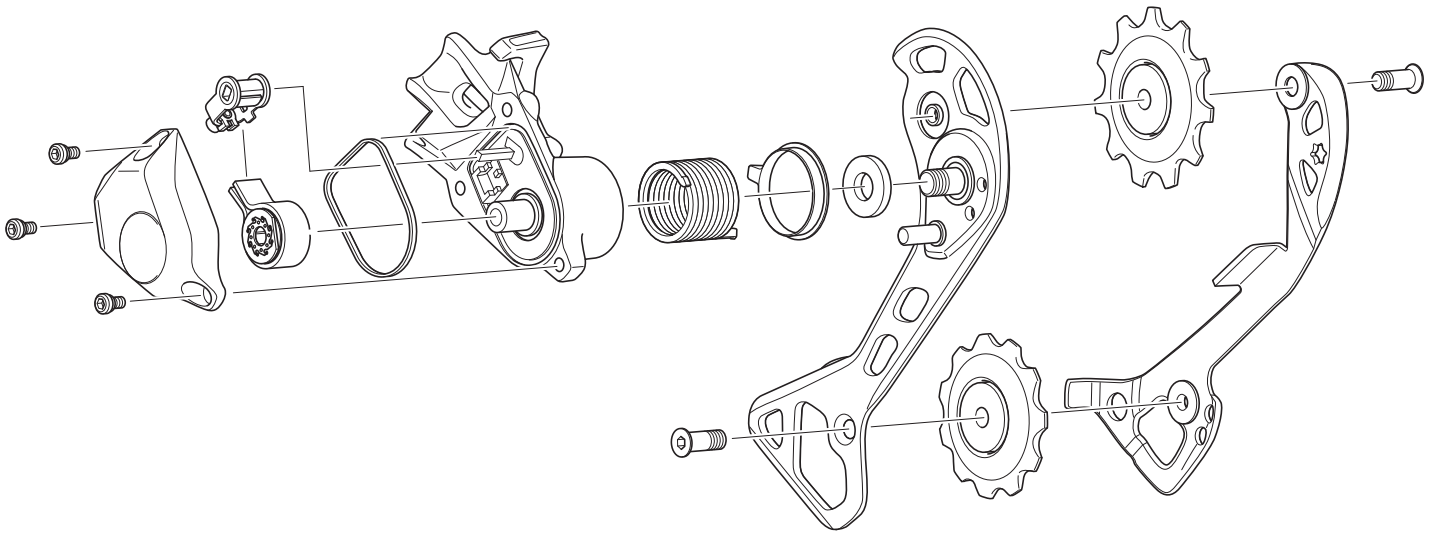


RD-M7000-11-GS



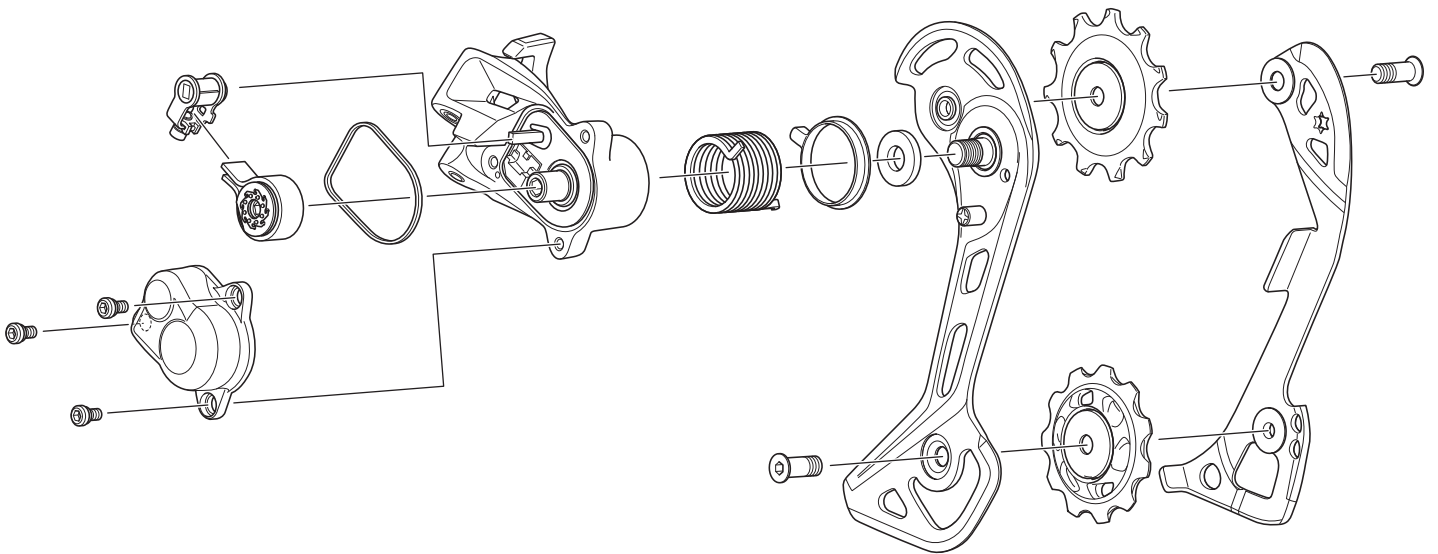
RD-M6000-GS

Exploded view



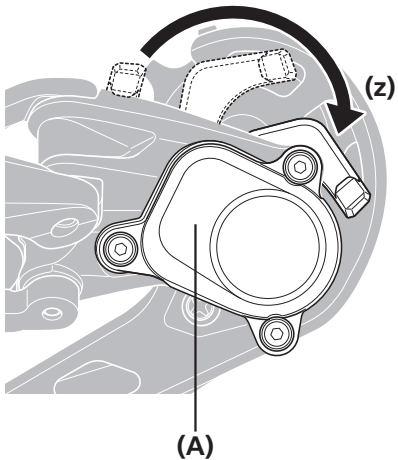
RD-M5120-SGS

Exploded view



▶ Replacing the plate and the plate tension spring

**1**



Make sure that the lever switch is in the OFF position.

If the lever switch is in the ON position, be sure to move it to the OFF position.

**(z)** OFF position

**(A)** Cam unit

**(A)** Cam unit

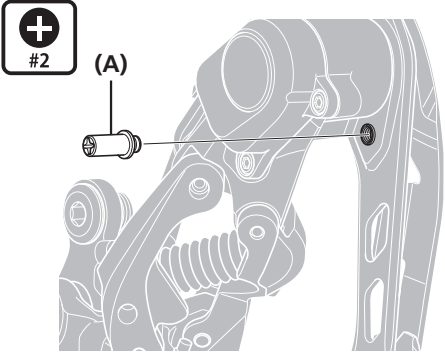
---

**NOTICE**

If operating the lever switch while the plate unit cover is removed, press the cam unit with your finger so that it does not slide out.

---

**2**



Remove the plate stopper pin with a cross head screwdriver.

**(A)** Plate stopper pin

**(A)** Plate stopper pin

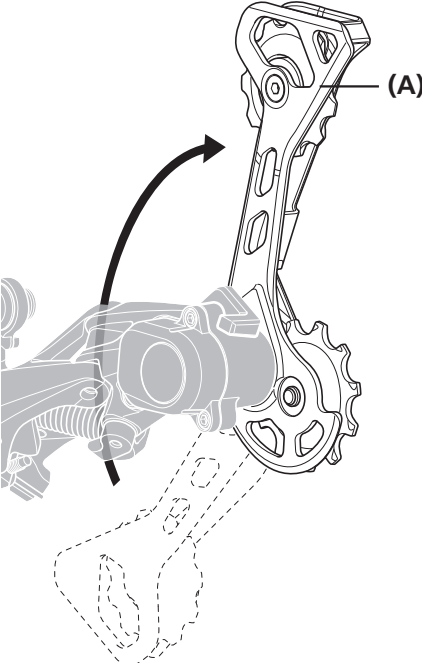
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**NOTICE**

Hold the plate and rear derailleur body firmly when working, as there is spring tension applied to the plate.

---

**3**



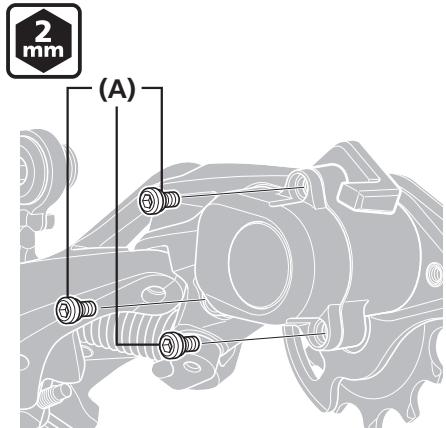
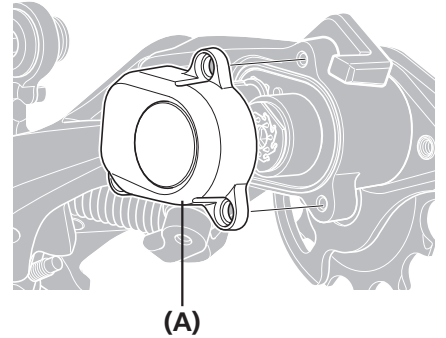
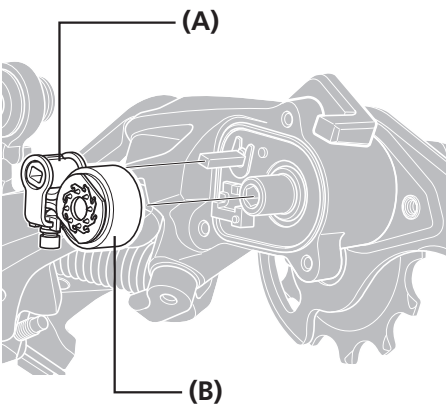
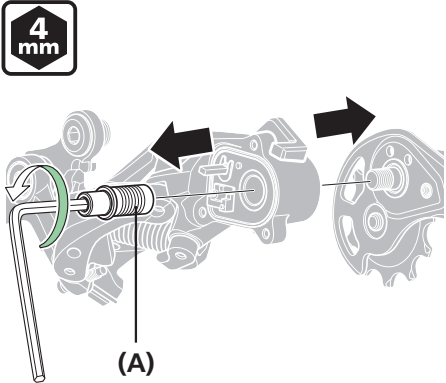
Turn the plate to loosen the plate tension spring as shown in the illustration.

**(A)** Plate

**(A)** Plate

---

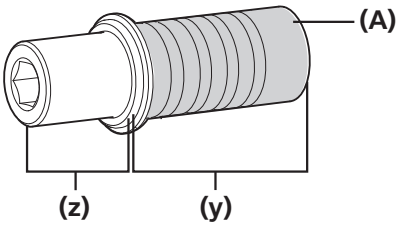
▶ Replacing the plate and the plate tension spring

<p>4</p>	 <p>2 mm</p> <p>(A)</p>	<p>Remove the plate unit cover screws.</p>	<p>(A) Plate unit cover screws</p>
<p>5</p>	 <p>(A)</p>	<p>Remove the plate unit cover.</p>	<p>(A) Plate unit cover</p>
<p>6</p>	 <p>(A)</p> <p>(B)</p>	<p>Remove the cam unit and the chain stabilizer.</p>	<p>(A) Cam unit (B) Chain stabilizer</p>
<p>7</p>	 <p>4 mm</p> <p>(A)</p>	<p>Remove the plate axle.</p>	<p>(A) Plate axle</p>

## Reassembly

Carry out the removal procedure in reverse.

1



Apply grease to the plate axle.

**(y)** Grease application area  
Grease number:  
Premium Grease (Y04110000)

**(z)** Do not apply grease

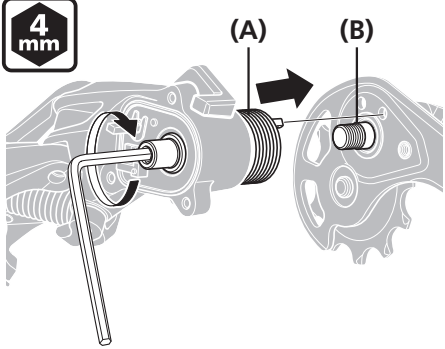
**(A)** Plate axle

---

NOTICE

Do not apply grease to section **(z)**.  
If grease is applied here, it will get inside the roller clutch and friction will be lost.

2



Insert the plate axle, then fit the tip of the plate tension spring in the hole of the plate.

**(A)** Plate tension spring  
**(B)** Plate

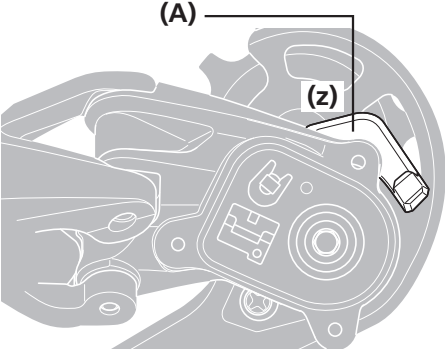
---

Tightening torque

4  
mm

8 - 10 N·m

3



Make sure that the lever switch is in the OFF position.

If the lever switch is in the ON position, be sure to move it to the OFF position.

**(z)** OFF position

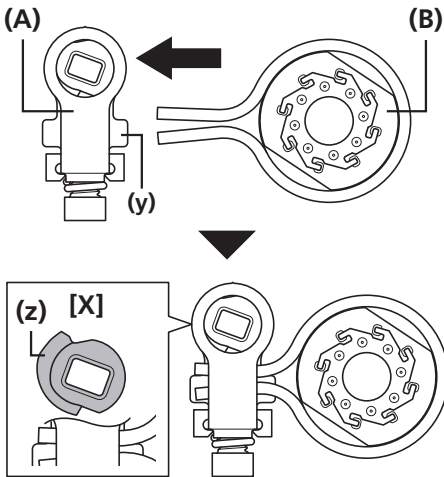
**(A)** Lever switch



▶▶ Replacing the plate and the plate tension spring

4

RD-M7000/RD-M6000

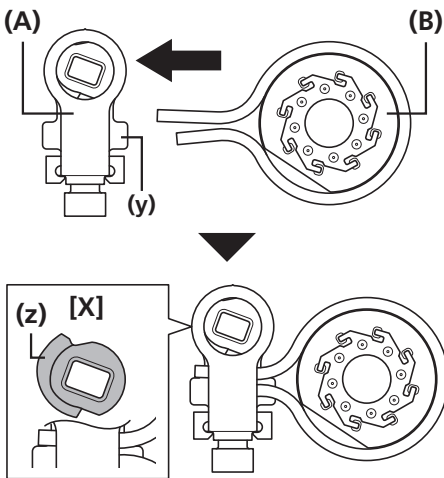


Set the chain stabilizer into the cam unit as shown in the illustration.

Make sure that the cam lobe of the cam unit is positioned as in [X] at this time.

- (y) The side of the cam unit with protrusions in the side plates is the side that sits against the derailleur body.
- (z) Cam lobe

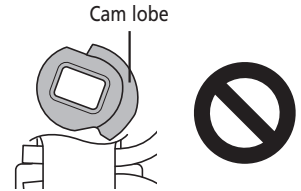
RD-M5120



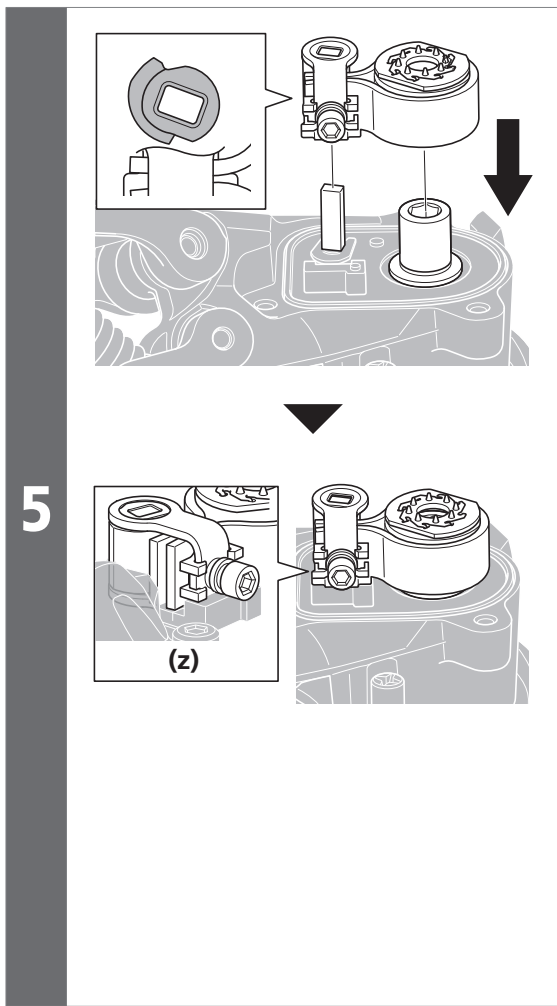
- (A) Cam unit
- (B) Chain stabilizer

**NOTICE**

Make sure the cam unit is not set as shown in the illustration.



▶ Replacing the plate and the plate tension spring



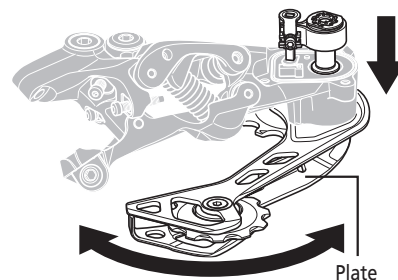
Align the holes in the cam unit and chain stabilizer with the projections on the plate unit and attach as in the illustration.

Pay attention to the positioning of the cam lobe of the cam unit when installing.

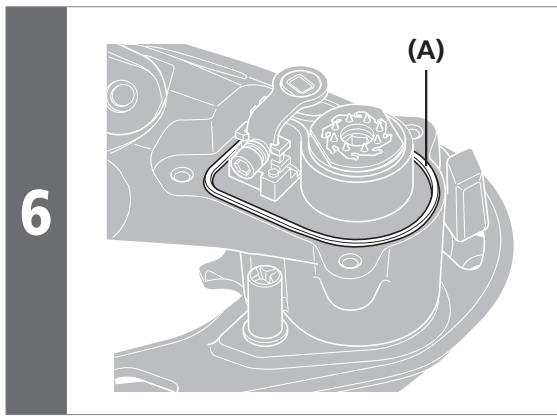
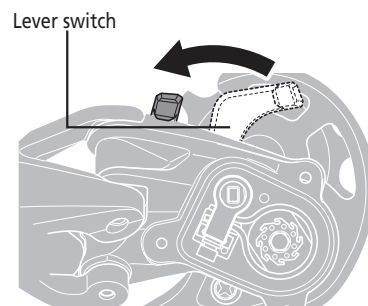
**(z)** Components when attached correctly

 **TECH TIPS**

- It helps to move the plate while holding down the cam unit and chain stabilizer when attaching.

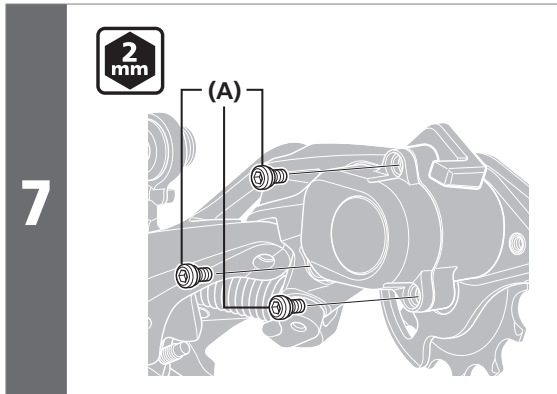


- If there is resistance when moving the lever switch to the ON position, the components are attached correctly. If there is no resistance, check the position of the cam lobe of the cam unit and then reinstall the components.




Make sure the plate unit cover gasket is installed along the groove in the plate unit.

**(A)** Plate unit cover gasket



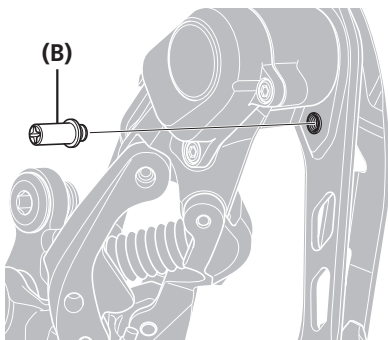
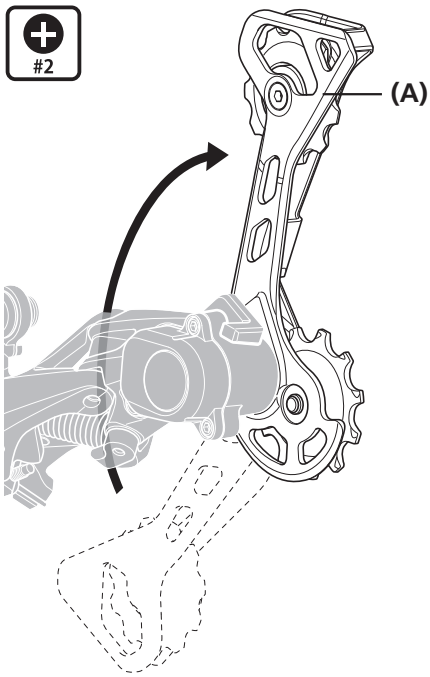
Install the plate unit cover screws.

**(A)** Plate unit cover screws

Tightening torque	
	1 - 1.5 N·m

▶ Replacing the plate and the plate tension spring

8



Twist the plate, install the plate stopper pin.

- (A) Plate
- (B) Plate stopper pin

Tightening torque	
	1 N·m

**NOTICE**

Hold the plate and rear derailleur body firmly when working, as there is spring tension applied to the plate.

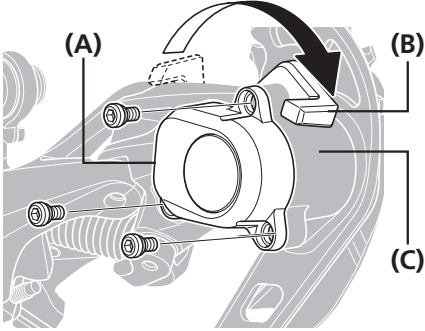
## ■ Applying grease to the chain stabilizer

If there is a noticeable change in friction in the chain stabilizer assembly, or if it starts to make noise, you may need to add grease to the chain stabilizer.

\* Reassemble by carrying out the disassembly procedure in reverse.

**1** Move the lever switch to the OFF position.

**2**



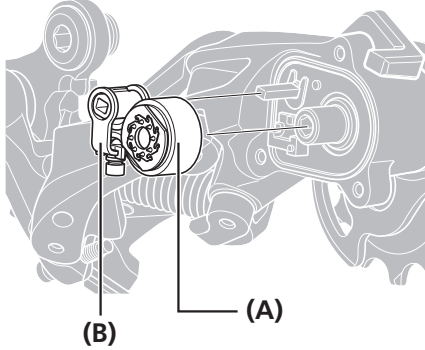
Remove the plate unit cover.

**(A)** Plate unit cover

**(B)** Lever switch

**(C)** Plate unit

**3**

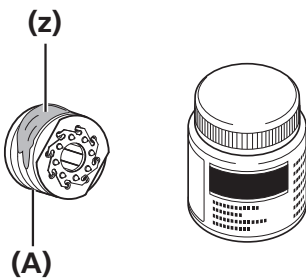


Remove the chain stabilizer and cam unit together.

**(A)** Cam unit

**(B)** Chain stabilizer

**4**



Apply grease to the clutch.

**(z)** SHADOW RD+ Grease number:

Y04121000 (50 g)

NEXUS Grease number:

Y04120800 (100 g)

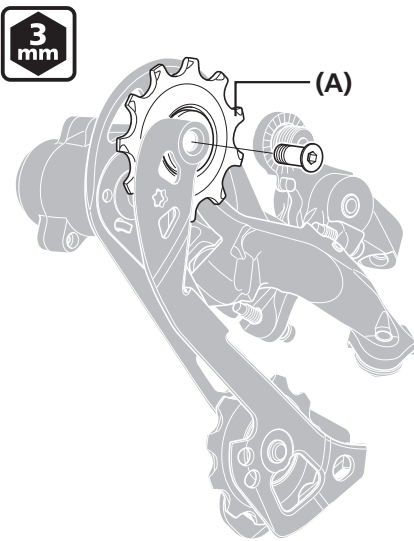
**(A)** Roller clutch

### NOTICE

Be careful not to get grease inside the roller clutch. Otherwise, the clutch could stick, slip, or otherwise malfunction.


## ■ Replacing the pulley

### Guide pulley



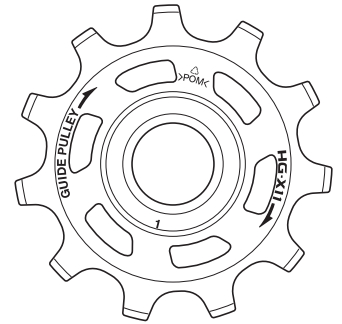
Replace the guide pulley.

**(A)** Guide pulley

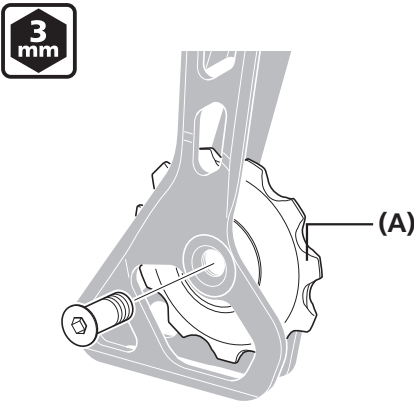
Tightening torque	
	2.5 - 5 N·m

**NOTICE**

An arrow may be printed on the pulley. Check the direction before installing.




### Tension pulley



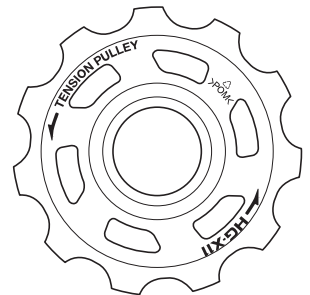
Replace the tension pulley.

**(A)** Tension pulley

Tightening torque	
	2.5 - 5 N·m

**NOTICE**

An arrow may be printed on the pulley. Check the direction before installing.



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

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