

Dealer's Manual

ROAD Rear Derailleur

RD-9000
RD-6800
RD-5800
RD-4700

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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:

- *Intervals between maintenance depend on the use and riding circumstances. Clean the chain with an appropriate chain cleaner regularly. Never use alkali based or acid based solvents, such as rust cleaners. If those solvents are used the chain might break and cause serious injury.*
- Check the chain for any damage (deformation or crack), 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.

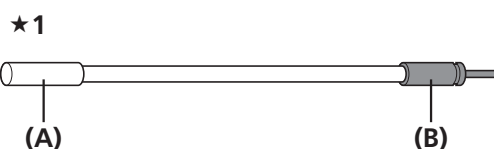
NOTE

Be sure to also inform users of the following:

- If gear shifting operations cannot be carried out smoothly, clean the derailleur and lubricate all moving parts.
- If looseness in the links is so great that gear shifting adjustments cannot be made, replace the derailleur.
- The gears should be periodically washed with a neutral detergent. In addition, cleaning the chain with neutral detergent and lubricating it can be an effective way of extending the life of the gears and the chain.
- 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:

- Use an OT-SP sealed outer casing and cable guide for smooth operation.
- Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly. Do not let dust adhere to the inner cable. If the grease on the inner cable is wiped off, the application of SIS SP41 grease (Y04180000) is recommended.
- The end of the outer casing which has the aluminum cap should be on the derailleur side.



★1 Derailleur side

- (A) Aluminum cap
- (B) Cap with long tongue








- If gear shifting adjustments cannot be carried out, check that the rear fork ends are aligned. Check whether the cable is lubricated and clean, and if the outer casing is too long or short.
- Periodically clean the derailleur and lubricate all moving parts (mechanism and pulleys).
- Some tension pulleys have an arrow on them to indicate the direction of rotation. In such cases, install the pulley so that the arrow is pointing clockwise when seen from 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

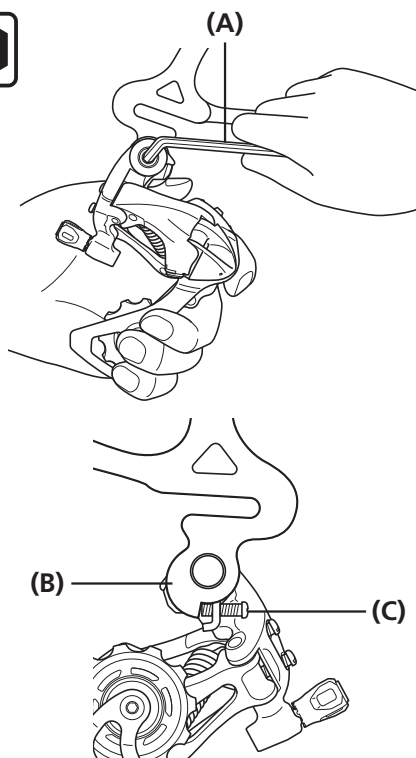
The following tools are needed for installation, adjustment, and maintenance purposes.

Tool		Tool		Tool	
	2mm hexagon wrench		5mm hexagon wrench		Snap ring pliers
	3mm hexagon wrench		Screwdriver[#2]		
	4mm hexagon wrench		Slotted screwdriver		

INSTALLATION

INSTALLATION

When installing, be careful that deformation is not caused by the B-tension adjust bolt coming into contact with the fork end tab.



- (A) 5mm hexagon wrench
- (B) Fork end tab
- (C) B-tension adjust bolt

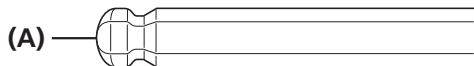
Tightening torque

5mm hexagon wrench

8 - 10 N·m

NOTE

- Make sure to insert the hexagon wrench all the way to the end of the bracket axle tool hole when tightening.
- Do not use a ball point hexagon wrench.



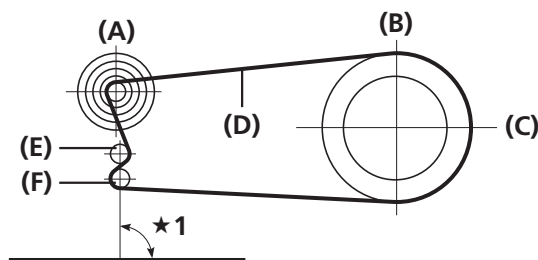
- (A) Ball point hexagon wrench

If tightening is performed incorrectly, the following phenomena may result:

- Deformation of the tool hole preventing installation or removal.
- Suboptimal gear shifting performance.

Chain length

■ Assemble with sprocket max 27T or less

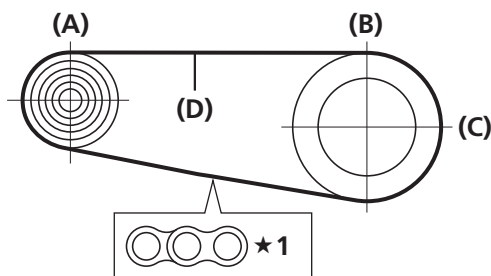


★1 Right angle to the ground (90°)

- (A) Smallest sprocket
- (B) Largest chainring
- (C) Front double
- (D) Chain
- (E) Guide pulley
- (F) Tension pulley

■ Assemble with sprocket max 28T or more

With the chain put on both the largest sprocket and the largest chainring, add 2 links to the “minimum number of links that can be connected”.

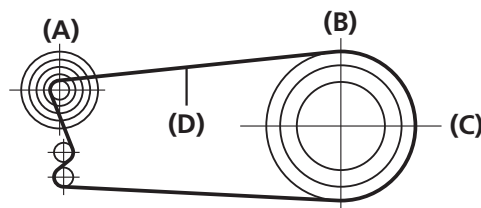


★1 +2 links

- (A) Largest sprocket
- (B) Largest chainring
- (C) Front double
- (D) Chain

■ For front triple, assemble with sprocket max 30T or less

When installing chain using, place chain in largest chainring and smallest sprocket.

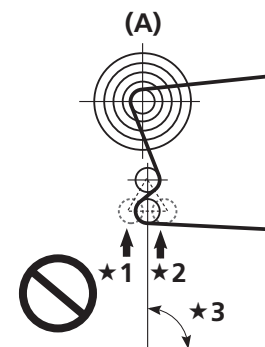


- (A) Smallest sprocket
- (B) Largest chainring
- (C) Front triple
- (D) Chain

TECH TIPS

Right angle to the ground

Set so that the line drawn through the guide pulley and tension pulley is 90° or greater to the ground.

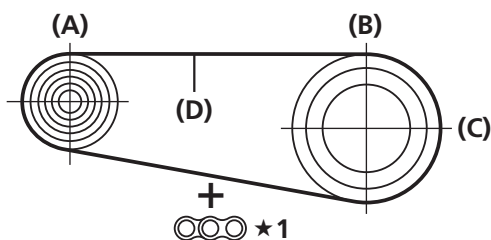


- ★1 Not OK
- ★2 OK
- ★3 90°

- (A) Smallest sprocket

■ For front triple, assemble with sprocket max 32T or more

With the chain put on both the largest sprocket and the largest chainring, add 2 links to the "minimum number of links that can be connected".



★1 +2 links

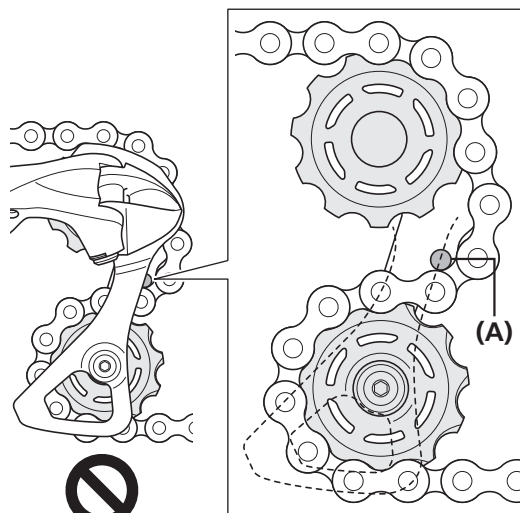
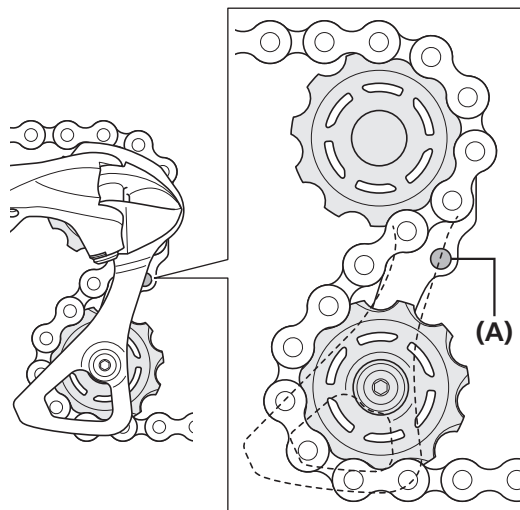
- (A) Largest sprocket
- (B) Largest chainring
- (C) Front triple
- (D) Chain

NOTE

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 to the rear derailleur body from the side of the pin/plate for preventing chain derailment 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.



(A) Pin/plate for preventing chain derailment

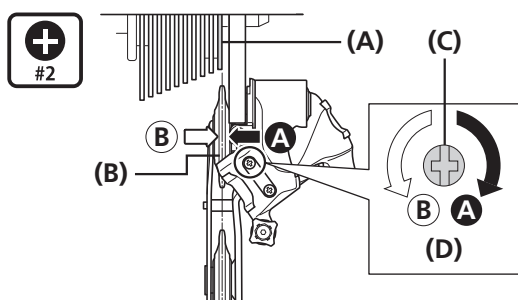
ADJUSTMENT

ADJUSTMENT

SIS adjustment

■ Top adjustment

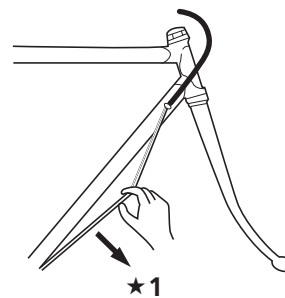
Turn the top adjustment screw to adjust so that the guide pulley is below the outer line of the smallest sprocket when viewed from the rear.



- (A) Smallest sprocket
- (B) Guide pulley
- (C) Screwdriver[#2]
- (D) Top adjustment bolt

■ Securing of inner cable

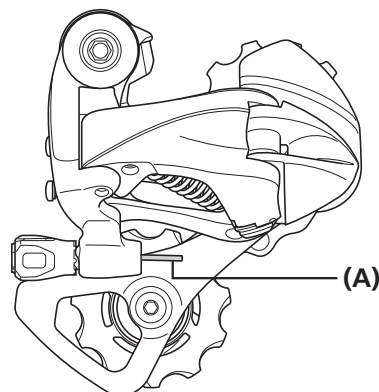
Connect the cable to the rear derailleur and, after taking up the initial slack in the cable, re-secure to the rear derailleur as shown in the illustration.



★1 Pull

NOTE

- Be sure that the cable is securely in the groove.
- Fuzz may be generated when the inner cable is installed or when the coating is damaged during use, but this will not affect its functions.
- Make sure to replace the Cover with tongue along with the inner cable.
- A cover with tongue is only attached to RD-9000, 6800 and 5800.

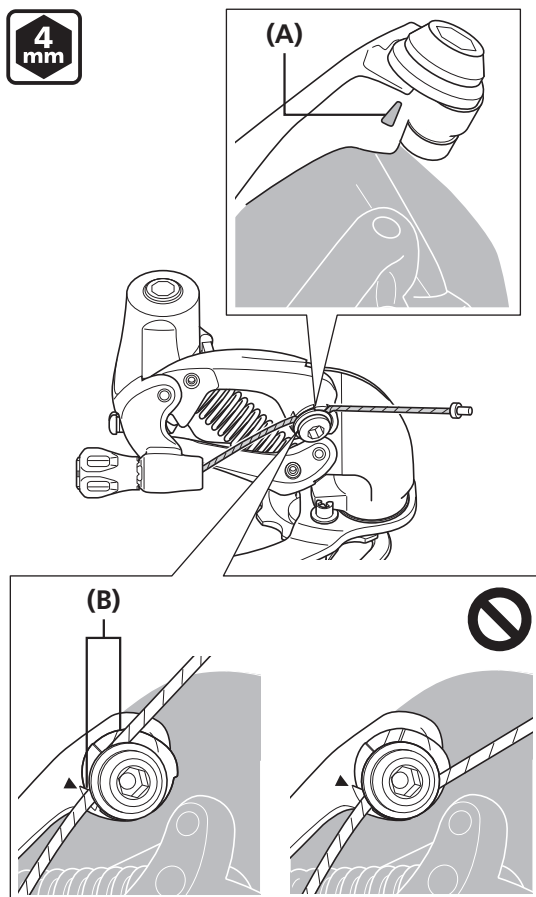


- (A) Cover with tongue

Where to route inner cable

In some cases there is an arrow to indicate the place for the inner cable to pass through. If there is an arrow, use it as a reference.

RD-9000/RD-6800-SS/RD-5800-SS/RD-5800-GS/
RD-4700-SS



- (A) Arrow
(B) Groove

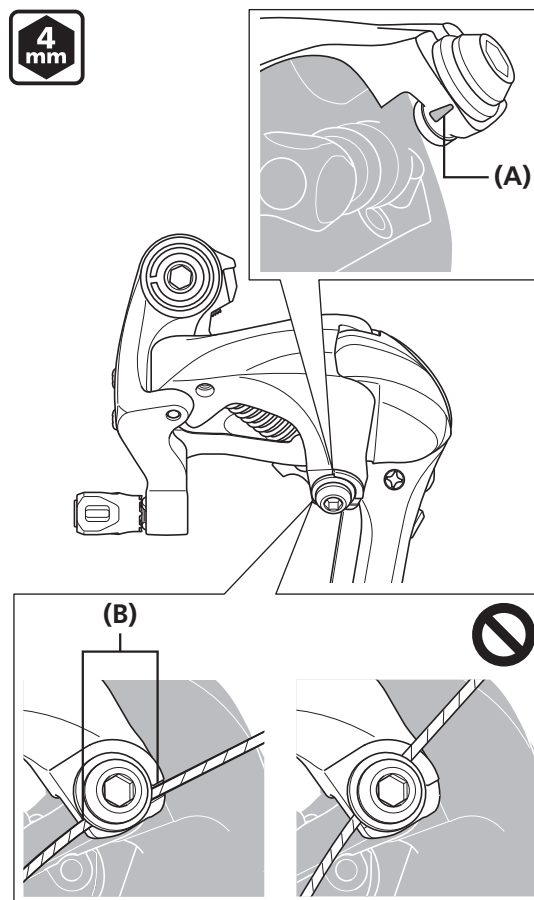
Tightening torque

4mm hexagon wrench

6 - 7 N·m

RD-6800-GS/RD-4700-GS

For RD-6800-GS/RD-4700-GS the position of the inner cable groove is different from that of RD-9000/RD-6800-SS/RD-5800-SS/RD-5800-GS.



- (A) Arrow
(B) Groove

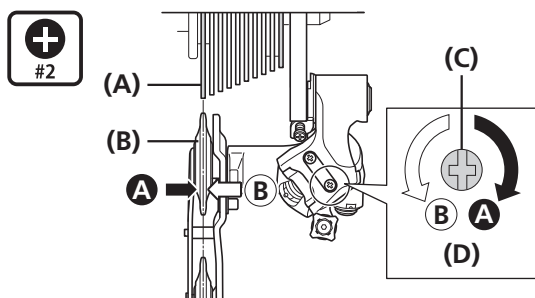
Tightening torque

4mm hexagon wrench

6 - 7 N·m

■ Low adjustment

Turn the low adjustment bolt so that the guide pulley moves to a position directly beneath the largest sprocket.



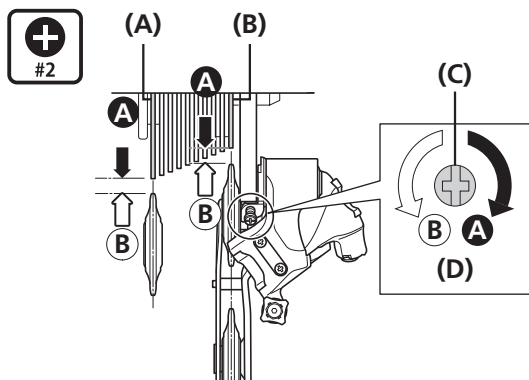
- (A) Largest sprocket
- (B) Guide pulley
- (C) Screwdriver[#2]
- (D) Low adjustment bolt

NOTE

If the wheel spokes are too close to the inner plate of the rear derailleur, turn the low adjustment screw in the direction of [A] to perform adjustment.

■ Adjusting the B-tension adjust bolt

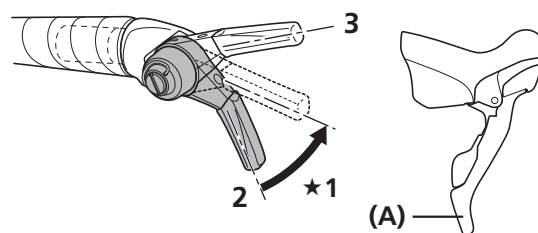
Mount the chain on the smallest chainring and the largest sprocket, and turn the crank arm backward. Turn the B-tension adjust bolt to adjust the guide pulley to be as close to the sprocket as possible but not so close that it touches. Next, set the chain to the smallest sprocket and repeat the above to make sure that the pulley does not touch the sprocket.



- (A) Largest sprocket
- (B) Smallest sprocket
- (C) Screwdriver[#2]
- (D) B-tension adjust bolt

■ SIS adjustment

1. Operate the shifting lever several times to move the chain to the 2nd sprocket. Then, while operating the lever just enough to close the gap in the lever, turn the crank arm.



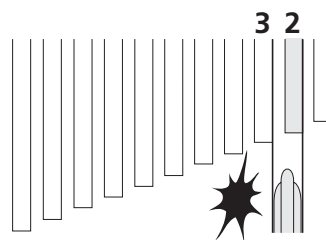
★1 Gap

(A) Lever

2. Adjust the positions of the gears by turning the cable adjustment barrel.

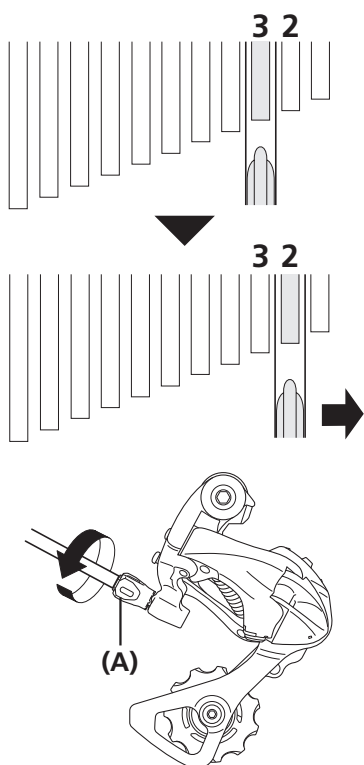
Best setting

The best setting is when the shifting lever is operated just enough to close the lever gap and the chain touches the 3rd sprocket and makes noise.



When shifting to 3rd

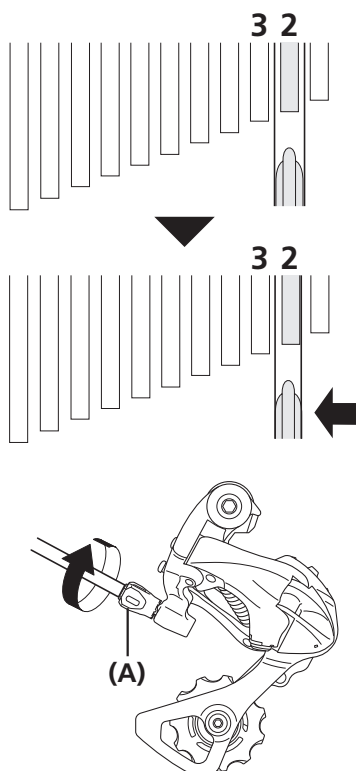
- Tighten the cable adjustment barrel until the chain returns to the 2nd sprocket. (Clockwise)



(A) Cable adjustment barrel

When no sound at all is generated

- Loosen the cable adjustment barrel until the chain touches the 3rd sprocket and makes noise. (Counter-clockwise)



(A) Cable adjustment barrel

3. Return the lever to its original position (the position where the lever is at the 2nd sprocket setting and it has been released) and then turn the crank arm clockwise. If the chain is touching the 3rd sprocket and making noise, turn the cable adjustment barrel clockwise slightly to tighten it just until the noise stops.
4. Operate lever to change gears, and check that no noise occurs in any of the gear positions.

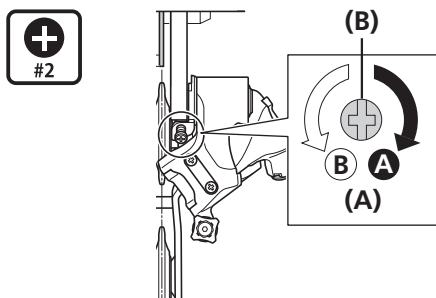
TECH TIPS

For the best SIS performance, periodically lubricate all power-transmission parts.

Advice on usage of junior teeth group

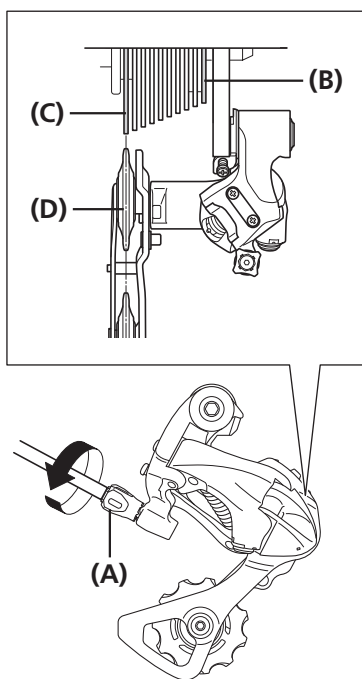
When performing CS-6800 14-28T adjustment, if shift shock caused by inward gear shifting is a problem, perform the adjustment described below.

1. Tighten the B-tension adjust bolt in the direction of [A].



- (A) B-tension adjust bolt
(B) Screwdriver[#2]

2. Turn the cable adjustment barrel clockwise (until the shift shock is alleviated), then move the guide pulley outwards.



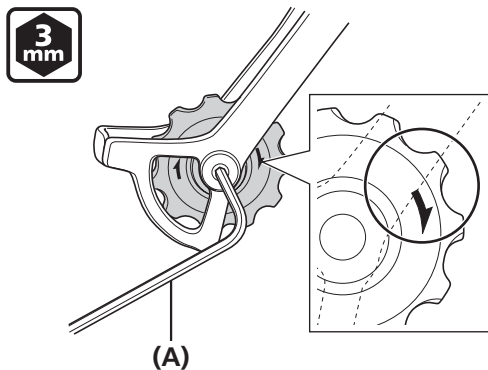
- (A) Cable adjustment barrel
(B) Smallest sprocket
(C) Largest sprocket
(D) Guide pulley

MAINTENANCE

MAINTENANCE

Replacement of the pulley

1. Replace pulleys using a 3mm hexagon wrench.



(A) 3mm hexagon wrench

NOTE

- For RD-9000, apply sufficient grease to the inside of the pulley cap.
- The RD-4700 pulley does not have an arrow.

Tightening torque

3mm hexagon wrench

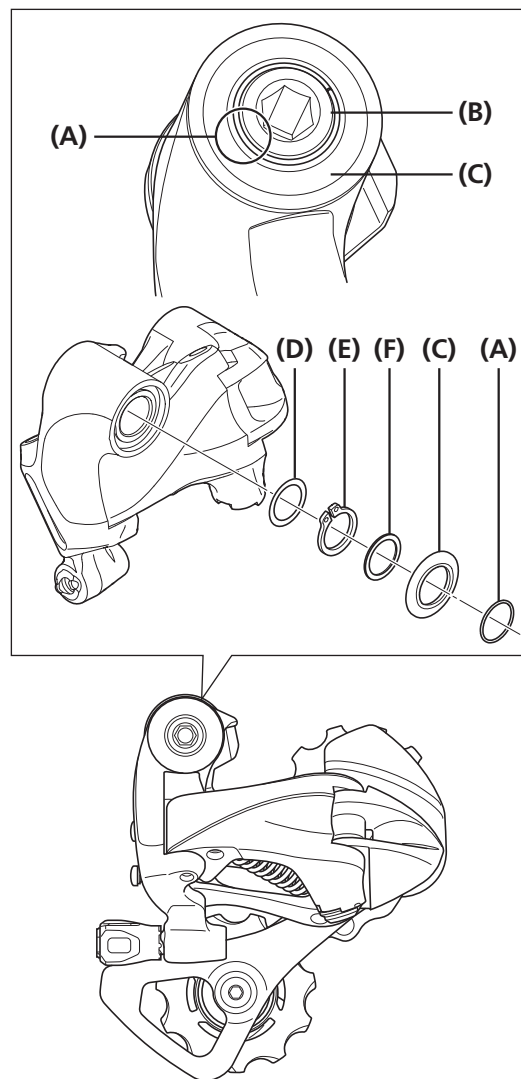
2.5 - 5 N·m

Installing the B axle and B axle cap

■ Removing the B axle cap

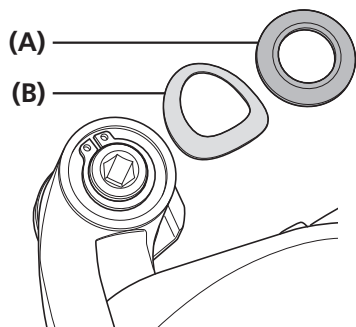
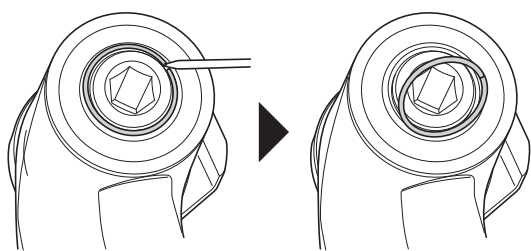
RD-9000

1. Hold down the B axle cap and the B axle cap C ring.



- (A) B axle cap C ring
- (B) Bracket axle
- (C) B axle cap
- (D) B axle washer
- (E) B axle stop ring
- (F) B axle bent washer

2. Widen the slit in the B axle cap C ring using a pointed tool, and then remove the B axle cap C ring, the B axle cap, and the B axle bent washer.



(A) B axle cap

(B) B axle bent washer

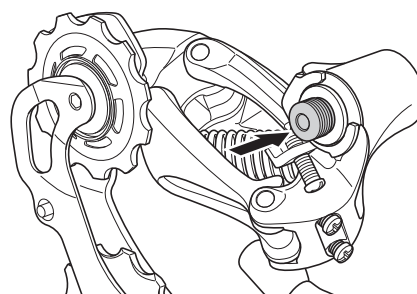
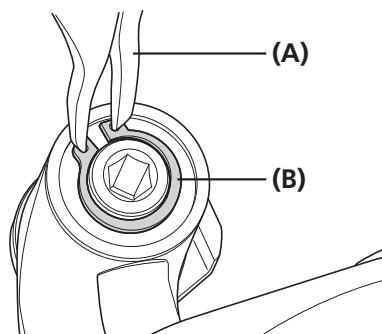
CAUTION

Be careful when working so that your fingers will not get injured by the pointed tool.

Removing the B axle

RD-9000

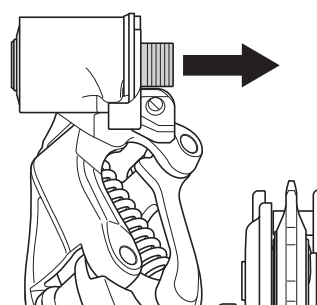
1. Widen the B axle stop ring using snap ring pliers, and then remove it from the B axle. While removing the B axle stop ring, press the B axle in the direction of the arrow.



(A) Snap ring pliers

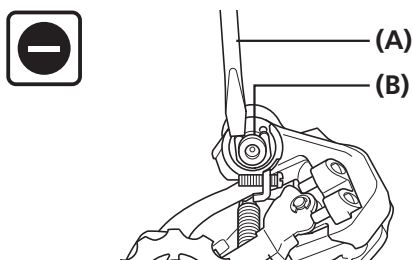
(B) B axle stop ring

2. Remove the B axle washer and remove the B axle from the bracket body in the direction of the arrow.



RD-6800/RD-5800/RD-4700

1. Remove the B axle stop ring using a slotted screwdriver.

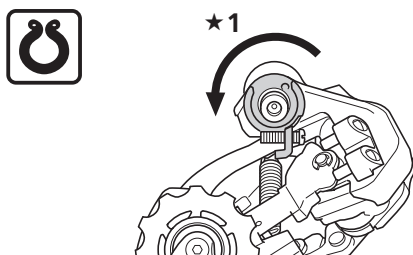


(A) Slotted screwdriver
(B) B axle stop ring

CAUTION

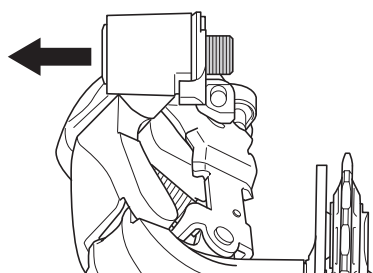
Be careful when removing the B axle stop ring as the stopper plate may pop out under spring force.

2. Use pliers to remove the stopper plate by moving it in the direction of the arrow.



★1 Snap ring pliers

3. Remove the B axle seal ring and the B tension spring, then remove the B axle in the direction of the arrow.

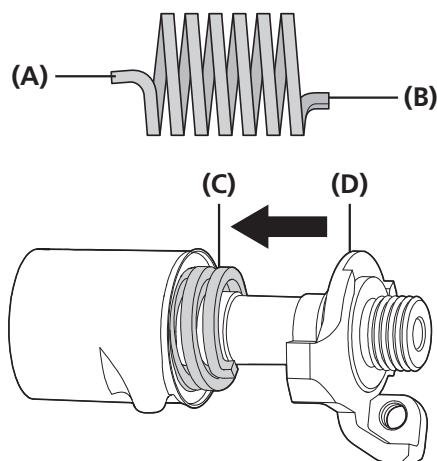


Mounting the B axle

NOTE

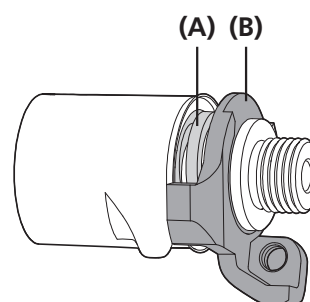
Apply sufficient grease on the sliding portions (B axle, B axle bearing, B axle washer, stopper plate) and the B tension spring.

1. When mounting the B tension spring, insert the longer end of the spring into the bracket body side and the shorter end of the spring into the hole on the stopper plate side.



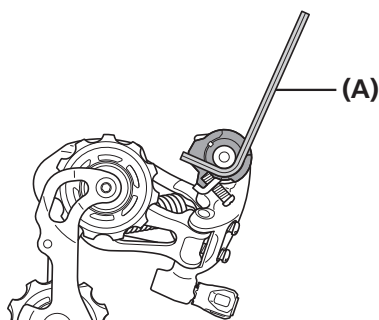
(A) Bracket body side
(B) Stopper plate side
(C) B tension spring
(D) Stopper plate

2. Temporarily assemble the B tension spring, B body seal ring, stopper plate (equipped with the B tension adjustment bolt) and B axle to the B body.



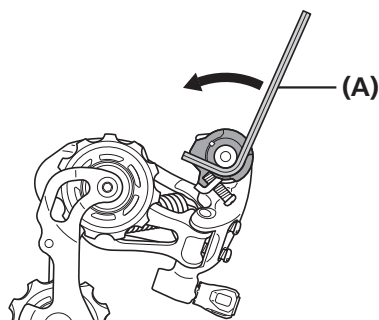
(A) B tension spring
(B) Stopper plate

3. Hook a 3mm hexagon wrench as in the illustration, and then turn the key counterclockwise.



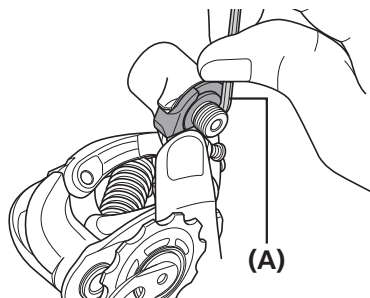
(A) 3mm hexagon wrench

4. Turn the hexagon wrench until the claw on the stopper plate crosses the claw on the B body.



(A) 3mm hexagon wrench

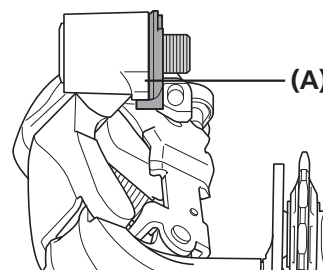
5. Insert the hexagon wrench. If it is difficult to insert the hexagon wrench, push it in by moving it slightly.



(A) 3mm hexagon wrench

6. Hook the stopper plate on the stopper claw on the bracket body.

RD-6800/RD-5800/RD-4700



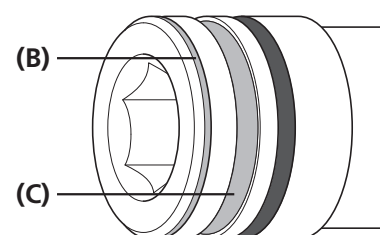
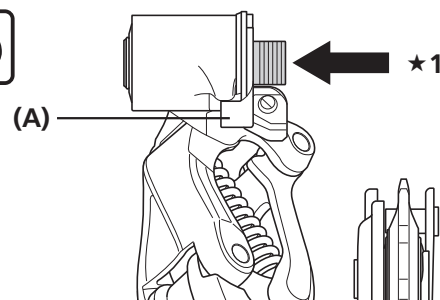
(A) Stopper claw

NOTE

Apply sufficient grease on the B axle washer before installation.

RD-9000

Hook the stopper plate onto the stopper claw on the bracket body, insert the B axle washer while applying pressure, and then insert the B axle stop ring using the pliers. Be careful not to be confused with the groove for the B axle cap C ring.



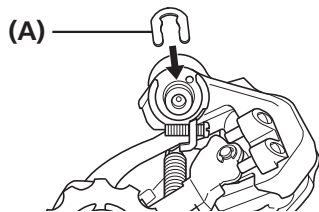
★1 Snap ring pliers

- (A) Stopper claw
- (B) Groove for the C ring
- (C) Groove for the stop ring

NOTE

Apply sufficient grease on the B axle washer before installation.

7. Mount the B axle stop ring.



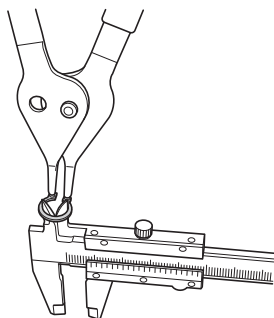
(A) B axle stop ring

CAUTION

Be careful not to deform the B axle stop ring and make it wider than the external diameter of the B axle. (If the inner diameter of the stop ring is widened to $\varnothing 10.15\text{mm}$ or larger during assembly, the stop ring is deformed.) Check that there is no gap between the stop ring and the diameter of the B axle after assembly.

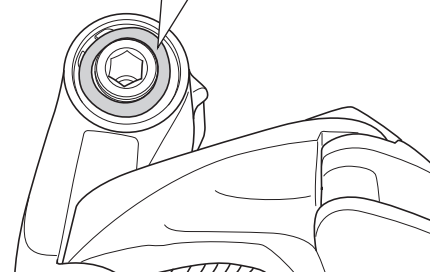
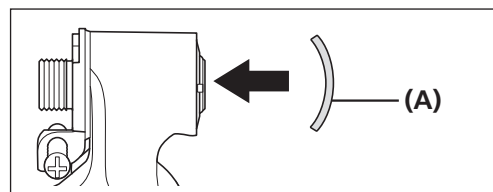
If there is any gap, the stop ring is deformed.

This may cause the B axle to come off and you may fall down. Replace the stop ring with a new one.



Mounting the B axle cap

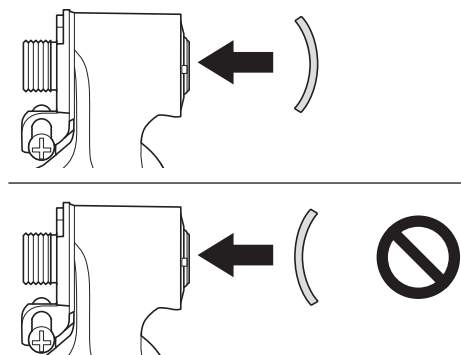
1. Mount the B axle bent washer to the bracket body.



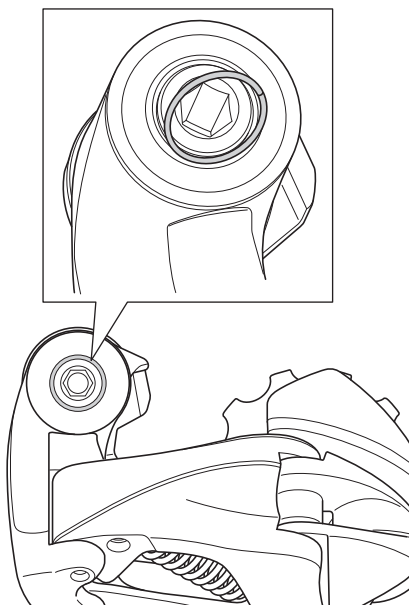
(A) B axle bent washer

NOTE

Pay attention to the direction when mounting the B axle bent washer onto the bracket body.

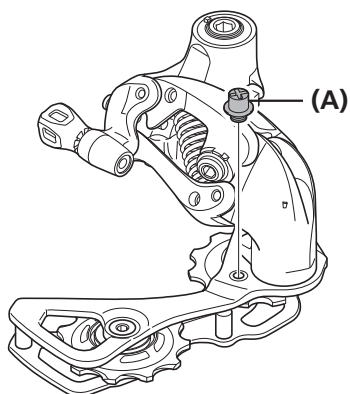


2. Mount the B axle cap and the B axle cap C ring. Check that the C ring is securely mounted to the groove on the B axle.



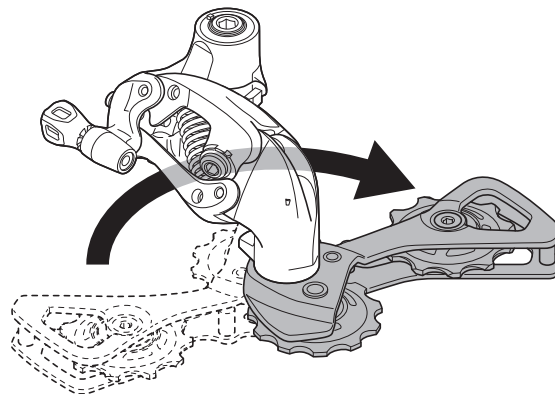
■ Removing the plate unit (RD-9000/ RD-6800)

1. Remove the plate stopper pin.

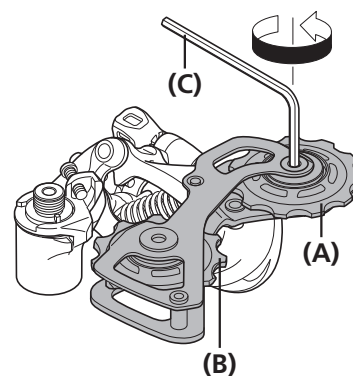


(A) Plate stopper pin

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

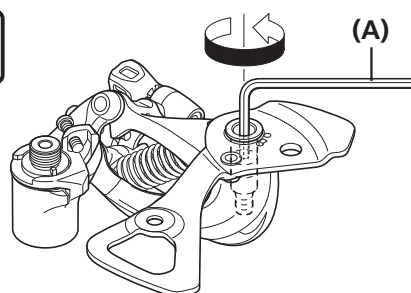


3. Remove the pulley with a 3mm hexagon wrench.



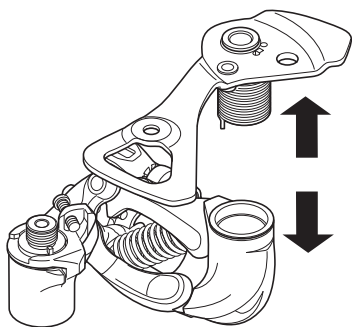
- (A) Guide pulley
- (B) Tension pulley
- (C) 3mm hexagon wrench

4. Loosen the plate axle with a 4mm hexagon wrench.



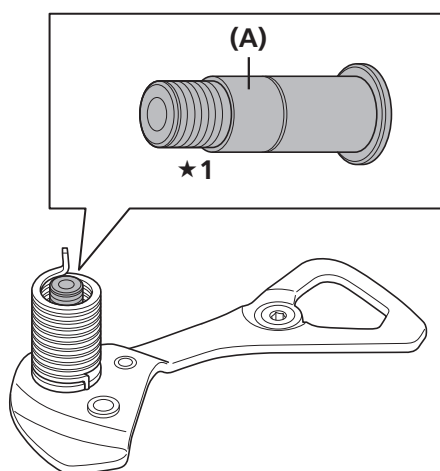
- (A) 4mm hexagon wrench

5. Detach the plate.



■ Installing the plate unit (RD-9000/RD-6800)

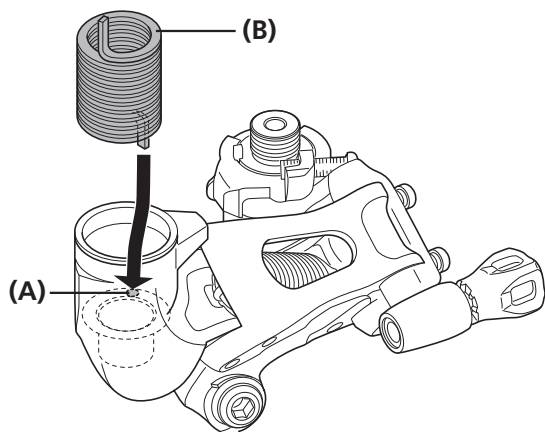
1. Apply grease to the plate axle.



★1 Apply grease.

(A) Plate axle

2. Insert the tip of the plate tension spring into the plate unit spring hole.

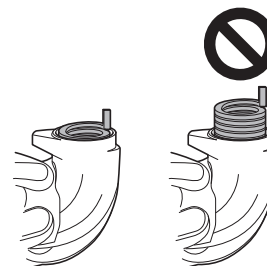


(A) Plate unit spring hole

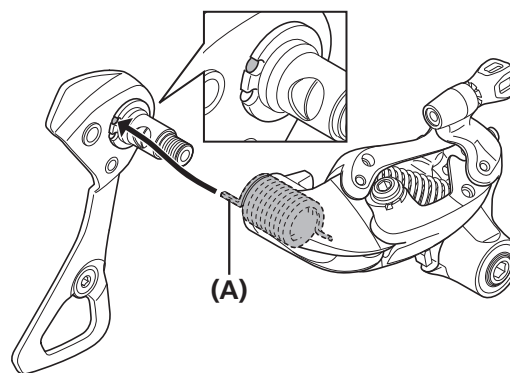
(B) Plate tension spring

NOTE

- Be sure to apply sufficient amount of grease to the plate tension spring.
- Plate tension spring insertion state

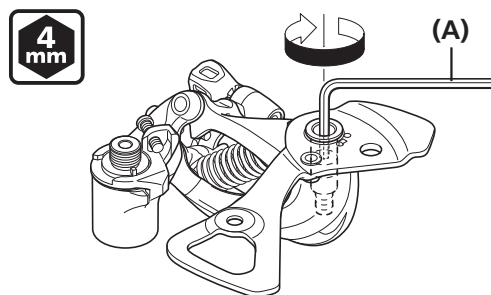


3. Insert the end of the plate tension spring into the groove of the plate.



(A) Plate tension spring

4. Tighten the plate axle with a 4mm hexagon wrench.



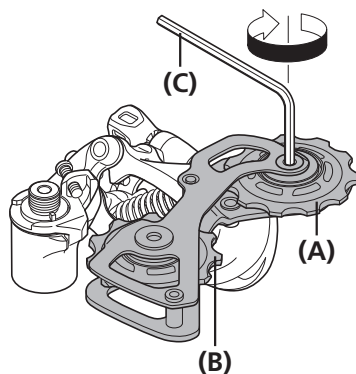
(A) 4mm hexagon wrench

Tightening torque

4mm hexagon wrench

8.8 - 10.8 N·m

5. Install the pulley with a 3mm hexagon wrench.



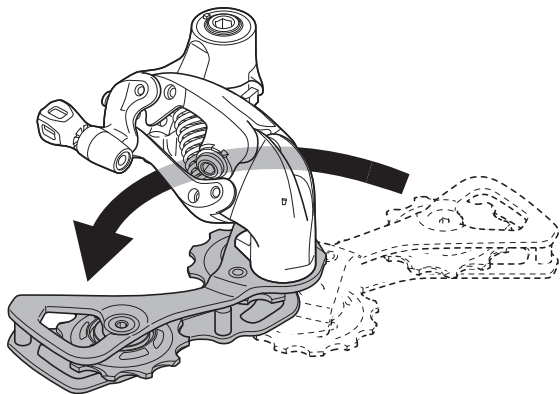
- (A) Guide pulley
(B) Tension pulley
(C) 3mm hexagon wrench

Tightening torque

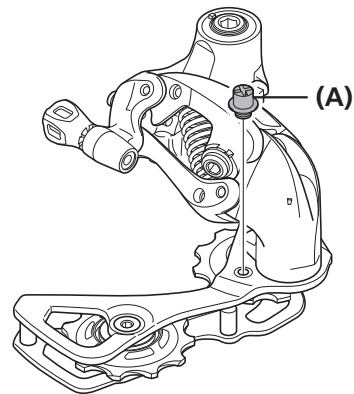
3mm hexagon wrench

2.5 - 5 N·m

6. Turn the plate in the direction indicated by arrow, tighten the plate tension spring so that it is not loose, and then insert the plate.



7. Install the plate stopper pin.



- (A) Plate stopper pin

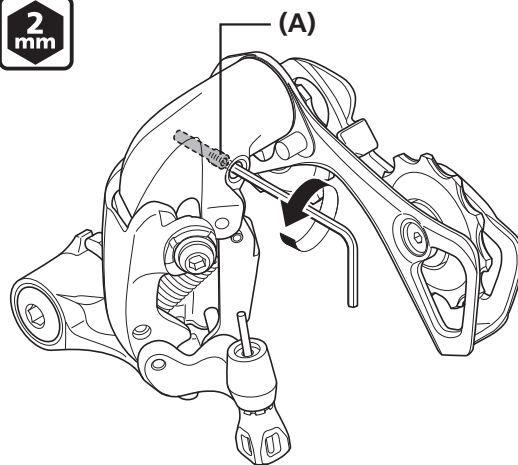
Tightening torque

Screwdriver[#2]

1 - 1.5 N·m

■ Removing the plate unit (RD-5800/RD-4700)

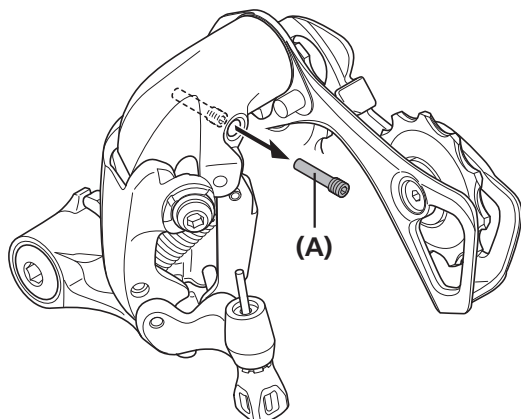
1. Loosen the stopper bolt with a 2mm hexagon wrench.



- (A) Stopper bolt

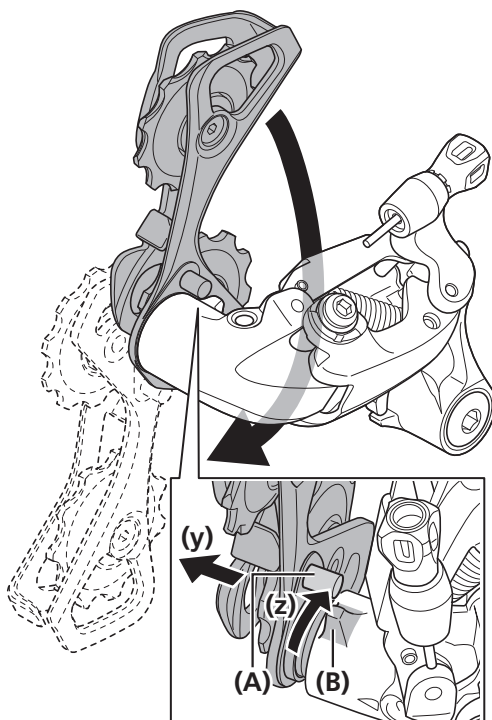
2. Remove the stopper bolt.

The tension of the plate tension spring could cause the plate to spring out, so press the plate firmly with your hand while removing the stopper bolt.



(A) Stopper bolt

3. Lift the plate (y), and then turn slowly until the plate stopper pin (A) surpasses the plate unit stopper (B).



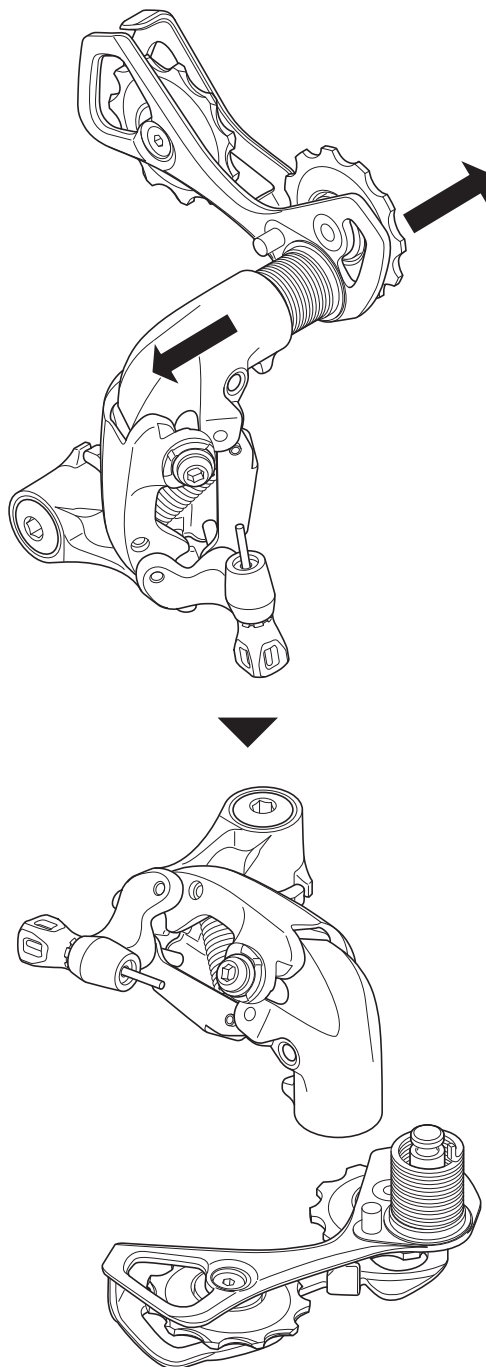
(A) Plate stopper pin

(B) Plate unit stopper

NOTE

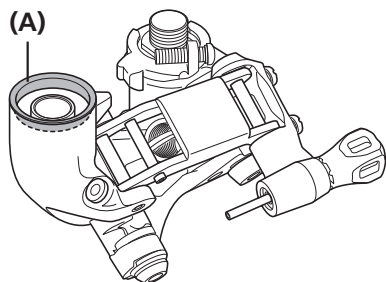
Hold the plate and rear derailleur body firmly when working, as there is tension applied to the plate.

4. Slowly remove the plate.



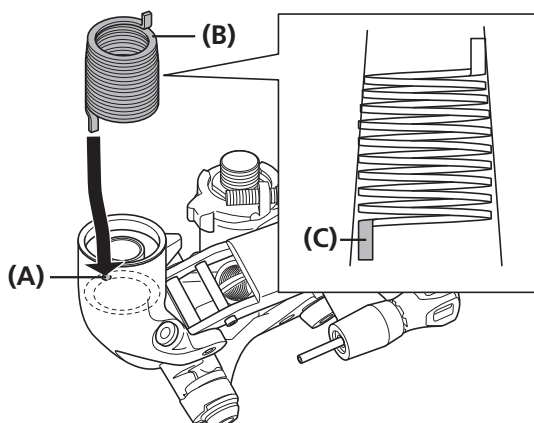
■ Installing the plate unit (RD-5800/RD-4700)

1. Make sure that the plate unit seal ring is fully inserted all the way to the rear.



(A) Plate unit seal ring

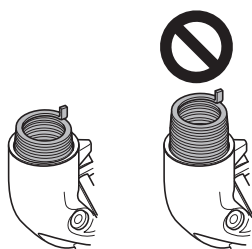
2. Insert the tip of the plate tension spring into the plate unit spring hole.
Insert the side of the plate tension spring with the larger outer diameter into the spring hole on the side of the plate unit. (If the outer diameter is the same on both sides, either side is fine.)



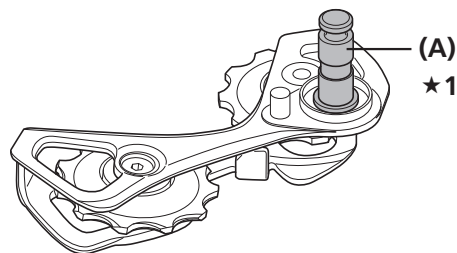
(A) Plate unit spring hole
(B) Plate tension spring
(C) Plate unit side

NOTE

- Be sure to apply sufficient amount of grease to the plate tension spring.
- Plate tension spring insertion state



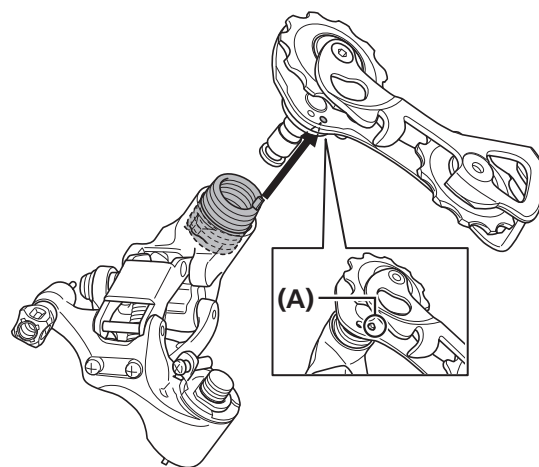
3. Apply grease to the plate axle.



★1 Apply grease.

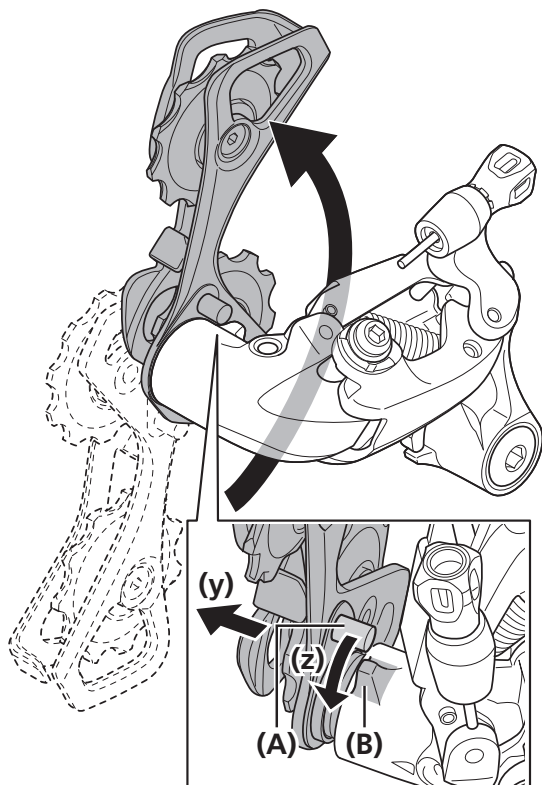
(A) Plate axle

4. Insert the tip of the plate tension spring into the plate hole.



(A) Plate hole

5. Turn the plate in the direction indicated by arrow, tighten the plate tension spring so that it is not loose, and then insert the plate. Turn the plate until the plate stopper pin draws near the plate unit stopper. Relax the force holding the plate in place then lift it (y), and then turn until the plate stopper pin surpasses the plate unit stopper (z).



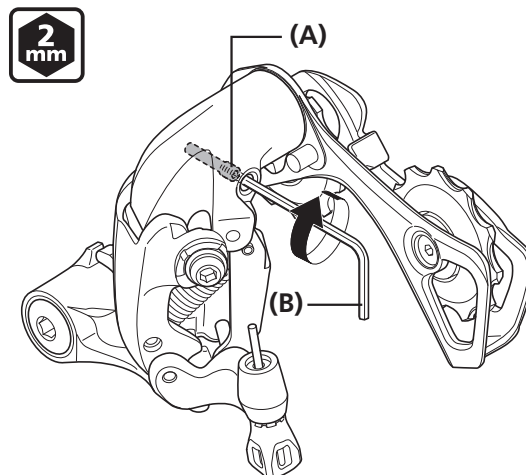
- (A) Plate stopper pin
(B) Plate unit stopper

NOTE

Be careful that the plate tension spring does not come off when relaxing the force holding the plate in place.

6. Press firmly so that the plate cannot be removed. Insert the stopper bolt, then tighten with a 2mm hexagon wrench.

Be sure to use a new stopper bolt.



- (A) Stopper bolt
(B) 2mm hexagon wrench

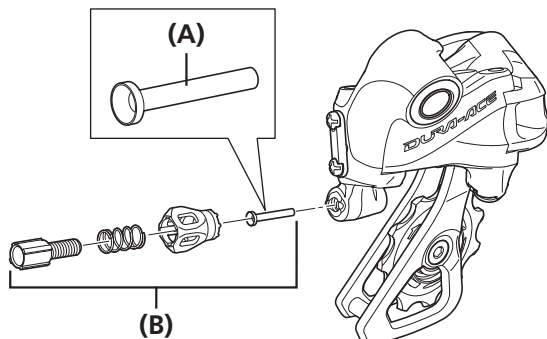
Tightening torque

2mm hexagon wrench

0.88 - 1.27 N·m

Replacing the cable

1. Remove the cable.
2. Remove the cable adjustment barrel and then remove the cover with tongue.



- (A) Cover with tongue
(B) Cable adjustment barrel

3. Attach a new cover with tongue.

TECH TIPS

A cover with tongue is supplied with an optional cable.

4. Screw the cable adjustment barrel down to the appropriate point.
5. Attach a new cable.

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

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