

## Dealer's Manual

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

# Dual Pivot Caliper Brake/ DUAL CONTROL LEVER

### DURA-ACE

ST-R9100  
BR-R9100  
BR-R9110

### ULTEGRA

ST-R8000  
BR-R8000  
BR-R8010

### 105

ST-R7000  
BR-R7000  
BR-R7010

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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.



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



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



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:**


- Each bicycle may handle slightly differently depending on the model. Therefore, be sure to learn the proper braking technique (including brake lever pressure and bicycle control characteristics) and operation of your bicycle.  
Improper use of your bicycle's brake system may result in a loss of control or a fall, which could lead to severe injury.  
For proper operation, consult a professional bicycle dealer or the bicycle's owner's manual. It is also important to practice riding and braking, etc.
- If the front brake is applied too strongly, the wheel may lock and the bicycle may fall forward, and serious injury may result.
- Always make sure that the front and rear brakes are working correctly before riding the bicycle.
- The required braking distance will be longer during wet weather. Reduce your speed and apply the brakes early and gently.
- If the road surface is wet, the tires will skid more easily. If the tires skid, you may fall off the bicycle; therefore, to avoid this, reduce your speed and apply the brakes early and gently.
- Be careful not to allow any oil or grease to get onto the brake shoes. If any oil or grease does get on the brake shoes, contact the place of purchase or a bicycle dealer. Otherwise the brakes may not work correctly.
- Check the brake cable for rust, fraying, and cracks, and contact the place of purchase or a bicycle dealer if any such problems are found. If the brakes do not work correctly, it is dangerous.
- Because of the characteristics of the carbon fiber material, the lever should never be altered. Otherwise, the lever may break preventing braking operation.
- Check before riding that there is no damage such as carbon peeling or cracking. If there is any damage, stop using the bicycle and consult a dealer or an agency. Otherwise, the lever may break preventing braking operation.


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

- Use the dual control lever or brake lever in the combinations specified in the following table. Do not use the combinations with the "NO!" indication in the table.

The brakes may be excessively effective, and you may fall.

(For details on a dual control lever or brake lever listed in the table, refer to the dealer's manual for the respective model.)

Caliper brakes	Combinations	Dual control lever	Brake lever
BR-R9100 BR-R9110 BR-R8000 BR-R8010 BR-R7000 BR-R7010	OK	ST-R9100	
		ST-R9150	
		ST-R9160	
		ST-R8000	
		ST-R7000	
		ST-9070	
		ST-9071	
		ST-9001	
		ST-9000	BL-4700
		ST-6870	BL-4600
		ST-6871	BL-R3000
		ST-6800	BL-3500
		ST-6770	BL-R2000
		ST-6700	BL-R780
		ST-5800	BL-2400
		ST-5700	BL-TT79
		ST-4700	
		ST-4600	
		ST-R3000	
		ST-3500	
ST-2400			
ST-R460			
ST-R353			
ST-R350			
		Dual control levers not included above	Brake levers not included above

 : The "NO!" symbols indicate combinations that should not be used under any circumstances.

- The cable adjustment nut and the quick release lever are not equipped on BR-R9110-R/R8010-R/R7010-R; be sure to use SM-CB90 (cable adjuster). When the brake shoes are worn down, it becomes impossible to adjust the shoe clearance by hand.
- Securely tighten the caliper brake mounting nuts to the specified tightening torque.
- Use lock nuts with nylon inserts (self-locking nuts) for nut-type brakes.
- For sunken nut type brakes, use sunken nuts of the appropriate length which can be turned six times or more; when re-installing, apply sealant (locking adhesive) to the nut threads.
- If the nuts become loose and the brakes fall off, they may get caught up in the bicycle and the bicycle may fall over. In particular, if this happens with the front wheel, the bicycle may be thrown forward and serious injury could result.
- Brakes designed for use as rear brakes should not be used as front brakes.
- Always use the dedicated brake shoes in the shoe holders of BR-R9110-F/R9110-R/R8010-F/R8010-R/R7010-F/R-R7010-R.

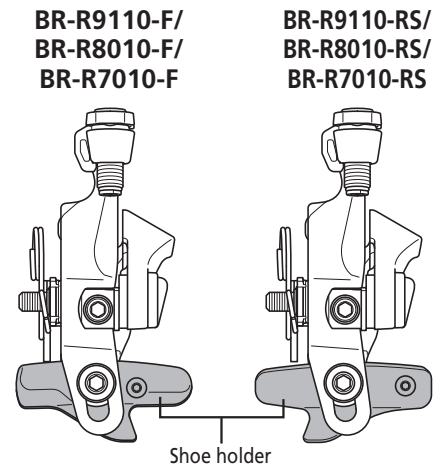
**Dedicated brake shoes**

R55C4/R55C4 (for carbon rim)/R55C4-A (for carbon rim)/R55CT4

Conventional brake shoes have different fixing positions preventing the mounting bolts from being tightened, which will cause the brake shoes to come off and disable braking.

■ **BR-R9110-RS/BR-R8010-RS/BR-R7010-RS**

BR-R9110-RS/BR-R8010-RS/BR-R7010-RS is a rear brake. It cannot be used as a front brake. BR-R9110-F/BR-R8010-F/BR-R7010-F (front brake) and BR-R9110-RS/BR-R8010-RS/BR-R7010-RS use different shoe holders and internal parts.



■ **BC-9000/R680**

BC-9000/R680 (polymer coating brake cable) is designed to have low frictional resistance; therefore, be sure to observe the following instructions. If not observed, the holding force of the brake cable will not be sufficient causing the brake cable to slacken, a loss of brake control and possibly severe injury.

- Use in combination with a brake in the BR-R9100/BR-R8000/BR-R7000 series.
- Use the designated cable grease (Y04180000) for BC-9000/BC-R680.
- When the inner cable is passed through the outer casing, grease may adhere to the inner cable fixing section; therefore, be sure to wipe off the grease with a cloth before fixing the inner cable.

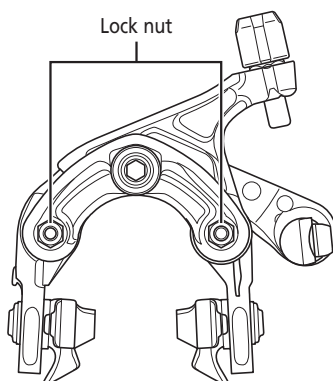
## NOTICE

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

- In the case of carbon levers, wash them with a soft cloth using a neutral detergent. Otherwise, the material may break down and be damaged.
- Avoid leaving the carbon levers in areas of high temperature. Also keep them well away from fire.
- Be sure to keep turning the crank during gear shifting.
- When combined with a ceramic rim, SHIMANO road brake shoes wear down more quickly.
- If the brake shoes have worn down until the grooves are no longer visible, consult a dealer or an agency.
- Different brake shoes have their own characteristics. Ask the dealer or the agency for details when purchasing the brake shoes.
- 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 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.
- 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.
- A special grease is used for the gear shifting cable. Do not use premium grease or other types of grease, otherwise they may cause deterioration in gear shifting performance.
- If gear shifting adjustments cannot be carried out, check that the rear dropouts are aligned, whether the cable is lubricated and that the outer casing is not too long or short.
- The clamp band, clamp bolt, and clamp nut are not compatible with other products. Do not use with components that are used in other products.
- For BR-R7000, the looseness of the brake arm itself cannot be adjusted, so do not adjust the lock nut.












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		Screwdriver[#1]		Plastic mallet
	4 mm hexagon wrench		Screwdriver[#2]		SHIMANO original E-ring removal tool
	5 mm hexagon wrench		Slotted screwdriver Blade width: 4.0 - 5.0 mm Blade thickness: 0.5 - 0.6 mm		TL-CT12

### NOTICE

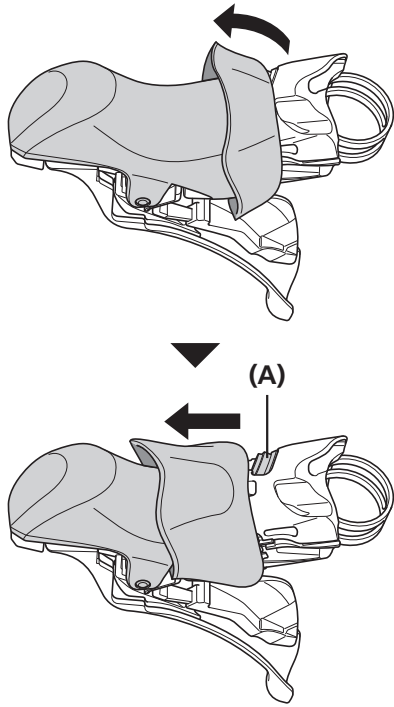
Even with the recommended tightening torque, there is a possibility that the carbon handlebars may become damaged and insufficiently tightened. Confirm the appropriate torque with the bicycle manufacturer or the handlebar manufacturer.

# INSTALLATION

# INSTALLATION

## ■ Installation to the handlebar

1



Turn over the bracket cover from the back side.

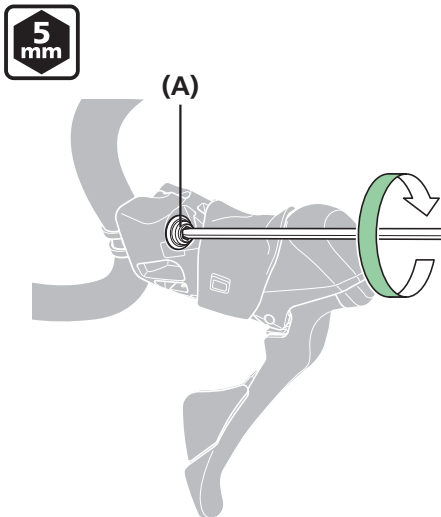
Gently turn over the ends of the bracket cover with both hands and slowly push them down.

(A) Clamp bolt

**NOTICE**

Forcibly pulling it may cause damage to the bracket cover because of its material properties.

2



Use a 5 mm hexagon wrench to tighten the clamp bolt at the top of the bracket.

(A) Clamp bolt

Tightening torque



6 - 8 N·m

**NOTICE**

The clamp band, clamp bolt, and clamp nut are not compatible with other products. Do not use with components that are used in other products.

## INSTALLATION

### Installation of the brake cable

## Installation of the brake cable

A lubricant appropriate for this product is used for the brake cable and it is shipped in a properly lubricated state.

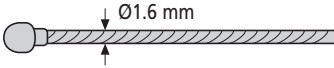

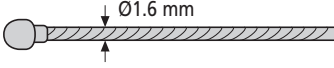

### WARNING

When passing the inner cable through an outer casing, if grease adheres on the inner cable fixing section, wipe it off with a cloth before fixing the inner cable. If grease adheres on the fixing section, a sufficient holding force of the brake cable cannot be delivered. This may cause the brake cable to get loose and lose brake control, resulting in severe injury.

### NOTICE

- Be careful not let the BC-9000/R680 inner cable come into contact with the shifting lever or the metal section (adjustment section) of the caliper brake. If the coating is damaged when the inner cable is installed, the coating may become fluffy; however, function will not be affected.
- Use a cable which still has some length to spare even when the handlebars are turned all the way to both sides.

### Cable to be used

BC-9000/BC-R680 Inner cable	Outer casing
	
BC-1051 Inner cable	SLR Outer casing
	

**Cutting the outer casing**

**NOTICE**

Be careful not to injure your hand with the TL-CT12 needle section.

**1**

TL-CT12

(y) (z)

(A)

Use the cable cutter (TL-CT12) or an equivalent tool to cut the cable so that the coil does not tip over inward.

(y) Bad example: Coil tipping over inward

(z) Good example: Coil not tipping over inward

(A) TL-CT12

**2**

TL-CT12

(z)

(A) (B)

After cutting, expand the tip of the liner (Ø2.2 mm or more) with TL-CT12 or another narrow tool.

Arrange the cut end into a perfect circle, as shown in the illustration.

(z) Cut end

(A) TL-CT12

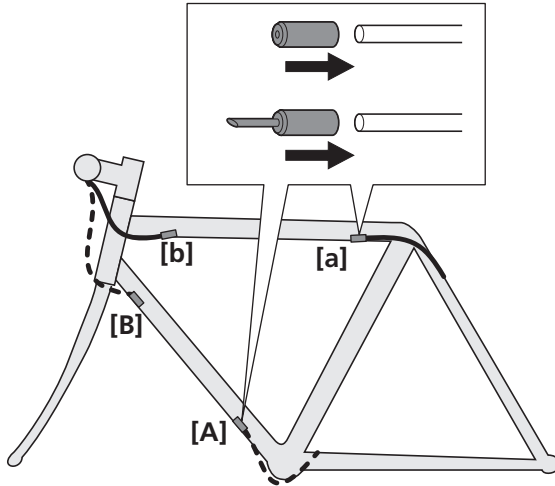
(B) TL-CT12 needle

## INSTALLATION

### Installation of the brake cable

#### Rear brake cable/outer cap with tongue installation position

Install the cap with tongue at the positions ([a], [b]/[A], [B]) specified in the illustration.



BR-R9100/R9110-RS

— BR-R8000/R8010-RS

BR-R7000/R7010-RS

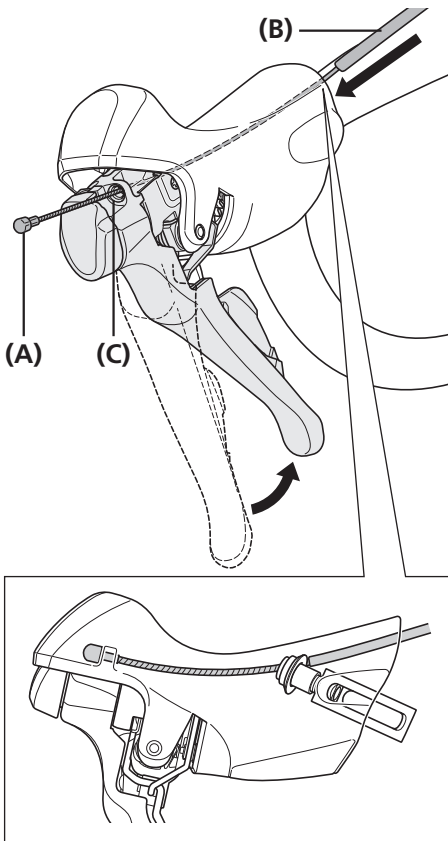
--- BR-R9110-R/R8010-R/  
R7010-R

#### NOTICE

If using the inner cable BC-1051, use ordinary outer caps not outer caps with tongue.

**Installing the brake cable**

**1**

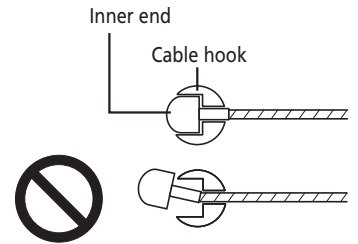


Depress the lever as if to brake and pass the brake cable through.

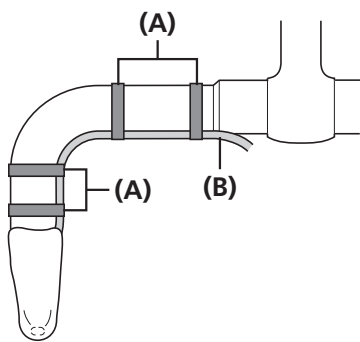
- (A) Inner end
- (B) Outer casing
- (C) Cable hook

**NOTICE**

Make sure that the inner end is firmly set in the cable hook.



**2**



Temporarily secure the outer casing to the handlebar (by using tape or a similar material).

- (A) Tape
- (B) Outer casing



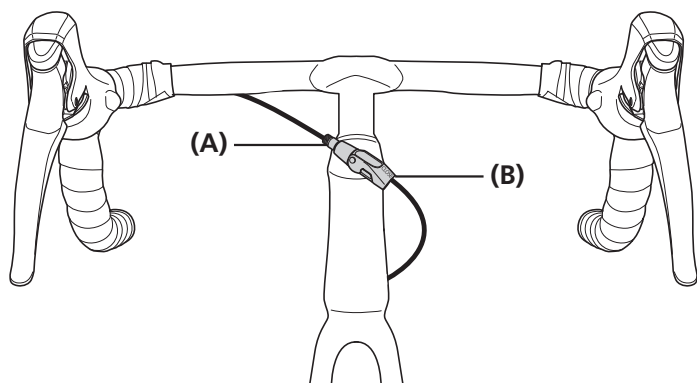
■ Installing SM-CB90

**⚠ WARNING**

The cable adjustment nut and the quick release lever are not equipped on BR-R9110-R/BR-R8010-R/BR-R7010-R; be sure to use SM-CB90 (cable adjuster). When the brake shoes are worn down, it becomes impossible to adjust the shoe clearance by hand.

**Installation position**

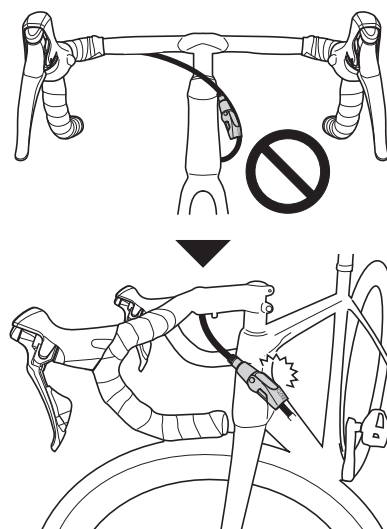
Install at the position specified in the illustration.



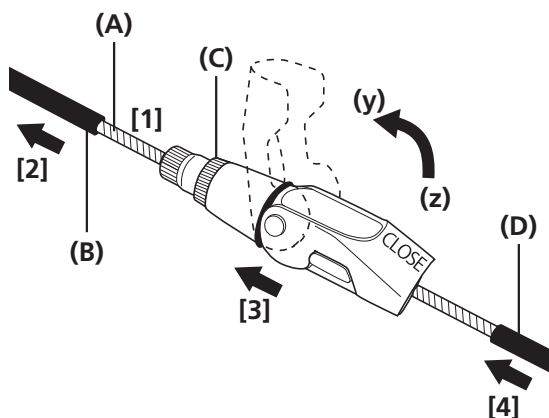
- (A) Cable adjustment barrel
- (B) Outer insertion opening on the brake side

**NOTICE**

Do not install where it will get entangled with the top tube when the handle is turned.



**Installation procedures**



- (y) OPEN
- (z) CLOSE

- (A) Inner cable
- (B) Outer casing on the brake lever side
- (C) Self-locking nut
- (D) Outer casing on the brake caliper side

## INSTALLATION

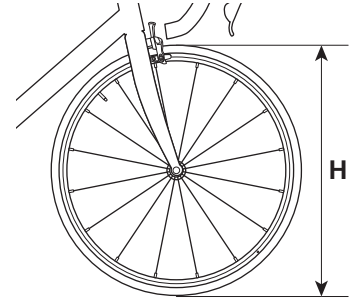
▶ Installation of the brake caliper (BR-R9100/R8000/R7000)

### ■ Installation of the brake caliper (BR-R9100/R8000/R7000)

#### Recommended tire size/rim width/brake shoes

##### Recommended tire sizes

Caliper brakes	Thickness	Tire outer diameter (H)
BR-R9100 BR-R8000 BR-R7000	Ø28 mm or less	Ø684 mm or less



##### Recommended rim width/brake shoes

Caliper brakes	Rim	Rim width	Brake shoe
BR-R9100 BR-R8000 BR-R7000	Aluminum rim	20.8 - 24 mm	WH-R9100-C60-CL
			WH-R9100-C40-CL
			WH-R9100-C24-CL
			WH-9000-C50-CL
			WH-9000-C35-CL
			WH-9000-C24-CL
			WH-9000-C24-TL
	Carbon rim	20.8 - 24 mm	WH-9000-C75-TU
			WH-9000-C50-TU
			WH-9000-C35-TU
			WH-9000-C24-TU
		24 - 28 mm	WH-R9100-C60-TU
			WH-R9100-C40-TU
			R55C4 (for carbon rims)
			R55C4-A (for carbon rims)

#### NOTICE

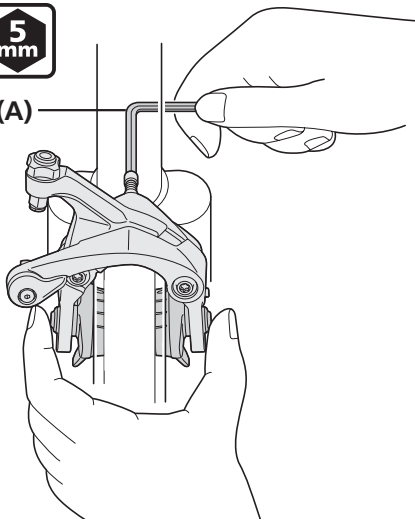
- Use brake shoes that are appropriate for the rim type and rim width.
- Front brakes cannot be installed as rear brakes and vice versa.

**Installation procedures**

**1**



(A)



Compress the arch, and attach the brakes while the shoes are firmly pushed against the rim.

(A) 5 mm hexagon wrench

**Tightening torque**



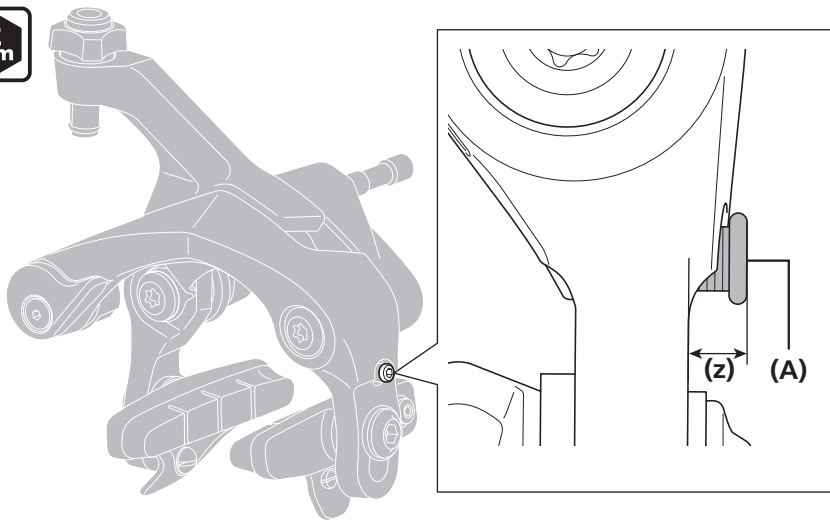
**8 - 10 N·m**

**2**



Check that the centering adjustment bolt is in the standard position.

It is standard for the centering adjustment bolt to protrude by the length of (z), as shown in the illustration.



(z) BR-R9100: 3.2 mm  
BR-R8000: 2.8 mm  
BR-R7000: 2.8 mm

(A) Centering adjustment bolt

## INSTALLATION

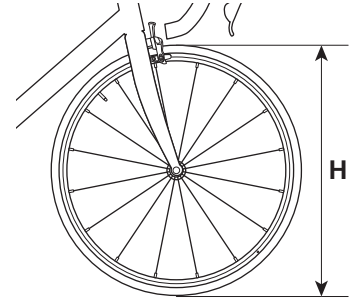
▶▶ Installation of the brake caliper (BR-R9110/R8010/R7010)

### ■ Installation of the brake caliper (BR-R9110/R8010/R7010)

#### Recommended tire size/rim width/brake shoe

##### Recommended tire size

Caliper brakes	Thickness	Tire outer diameter (H)
BR-R9110 BR-R8010 BR-R7010	Ø28 mm or less	Ø684 mm or less

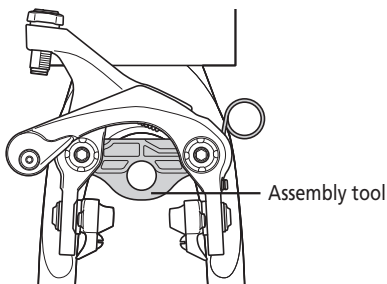


##### Recommended rim width/brake shoes

Caliper brakes	Rim	Rim width	Brake shoe	
BR-R9110 BR-R8010 BR-R7010	Aluminum rim	20.8 - 24 mm	WH-R9100-C60-CL	R55C4
			WH-R9100-C40-CL	
			WH-R9100-C24-CL	
			WH-9000-C50-CL	
			WH-9000-C35-CL	
			WH-9000-C24-CL	
			WH-9000-C24-TL	
	Carbon rim	20.8 - 24 mm	WH-9000-C75-TU	R55C4 (for carbon rims)
			WH-9000-C50-TU	
			WH-9000-C35-TU	
			WH-9000-C24-TU	
		24 - 28 mm	WH-R9100-C60-TU	R55C4-A (for carbon rims)
			WH-R9100-C40-TU	

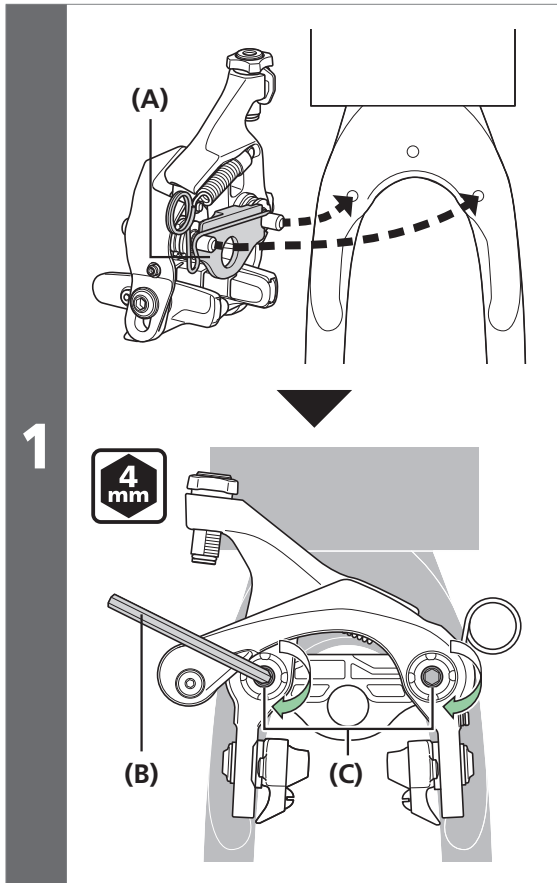
#### NOTICE

- Do not remove the assembly tool until installation is finished. The brake caliper may be scratched.




- Use brake shoes that are appropriate for the rim type and rim width.

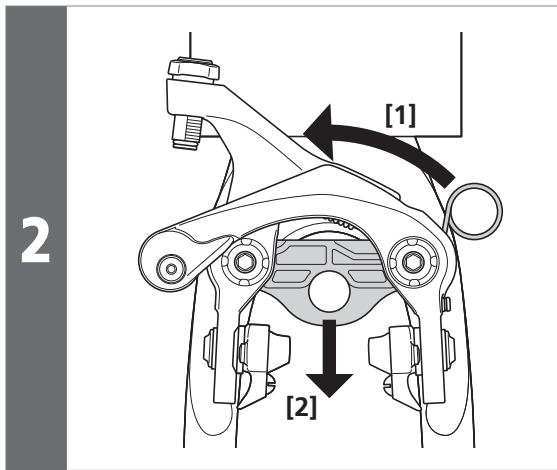
**Installation of the front brake caliper**



Temporarily attach to the frame base together with the assembly tool.

- (A)** Assembly tool
- (B)** 4 mm hexagon wrench
- (C)** Brake mounting bolt

Tightening torque	
	0.5 N·m

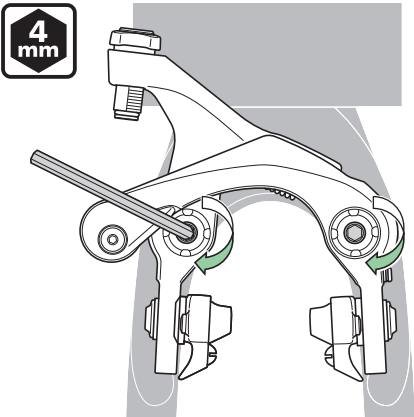


Pull out the assembly tool in the direction of [2] while also pulling it in the direction of [1].


## INSTALLATION

### Installation of the brake caliper (BR-R9110/R8010/R7010)

**3**



Fully tighten the brake mounting bolt.

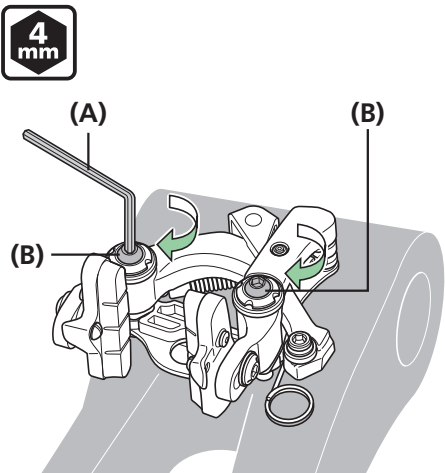
Tightening torque	
	5 - 7 N·m

**4** Finally, remove the protection sheet.

## Installation of the rear brake caliper


### BR-R9110-R/R8010-R/R7010-R

**1**

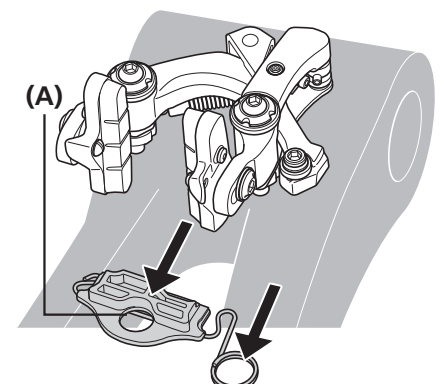


Temporarily attach to the frame base together with the assembly tool.

- (A) 4 mm hexagon wrench
- (B) Brake mounting bolt

Tightening torque	
	0.5 N·m

**2**

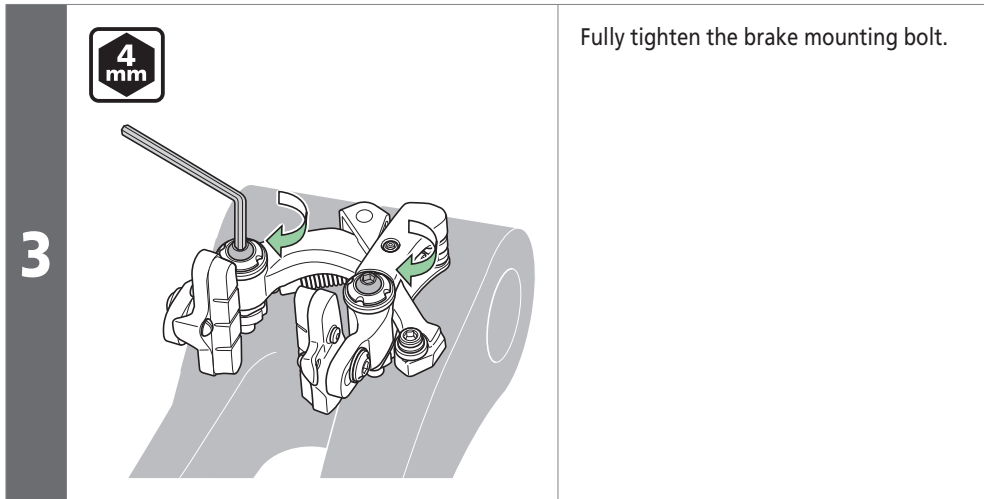


Pull out the assembly tool in the direction of the arrow.

- (A) Assembly tool

## INSTALLATION

### Installation of the brake caliper (BR-R9110/R8010/R7010)



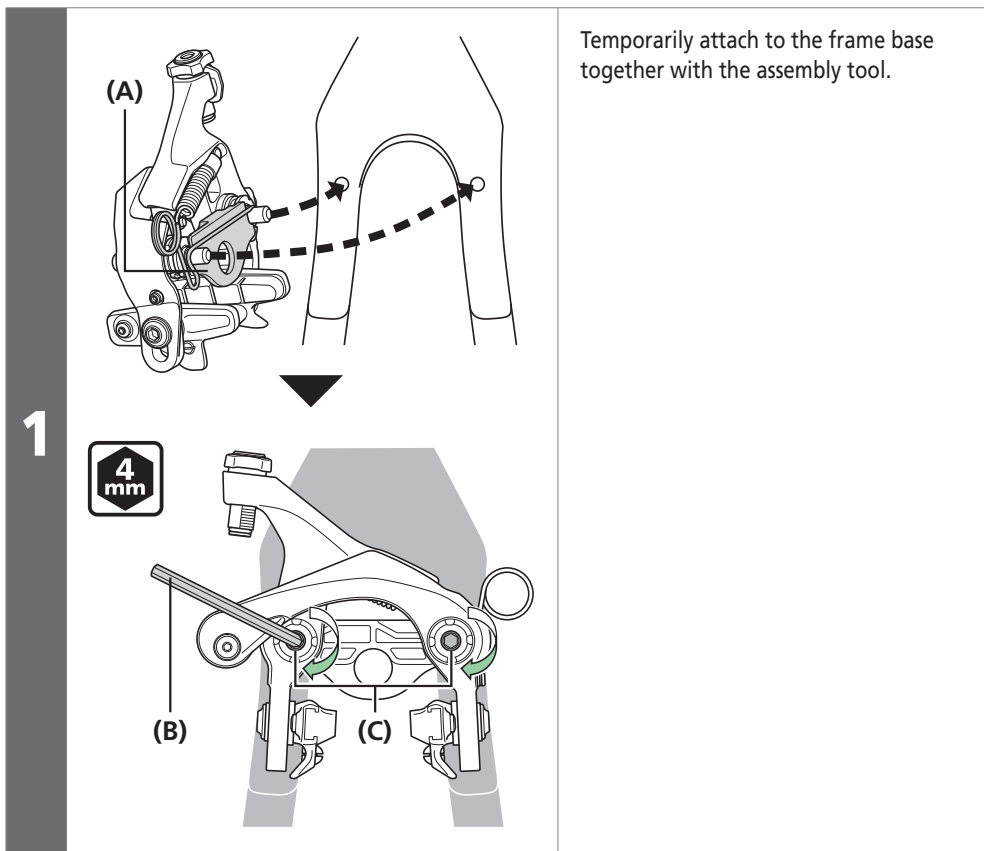
Tightening torque	
4 mm	5 - 7 N·m



### BR-R9110-RS/R8010-RS/R7010-RS

## NOTICE

BR-R9110-RS/R8010-RS/R7010-RS is a rear brake. They cannot be used as front brakes.

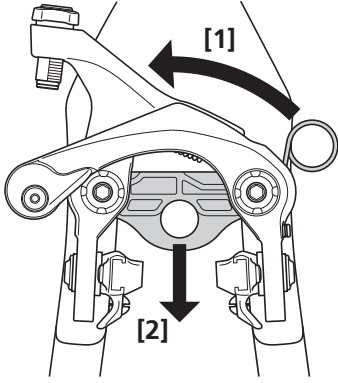


Tightening torque	
4 mm	0.5 N·m

## INSTALLATION

### Installation of the brake caliper (BR-R9110/R8010/R7010)

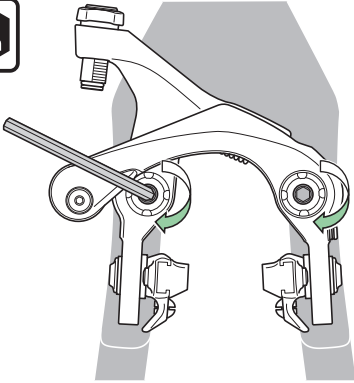
2



Pull out the assembly tool in the direction of [2] while also pulling it in the direction of [1].

3

4 mm



Fully tighten the brake mounting bolt.

Tightening torque

4 mm

5 - 7 N·m

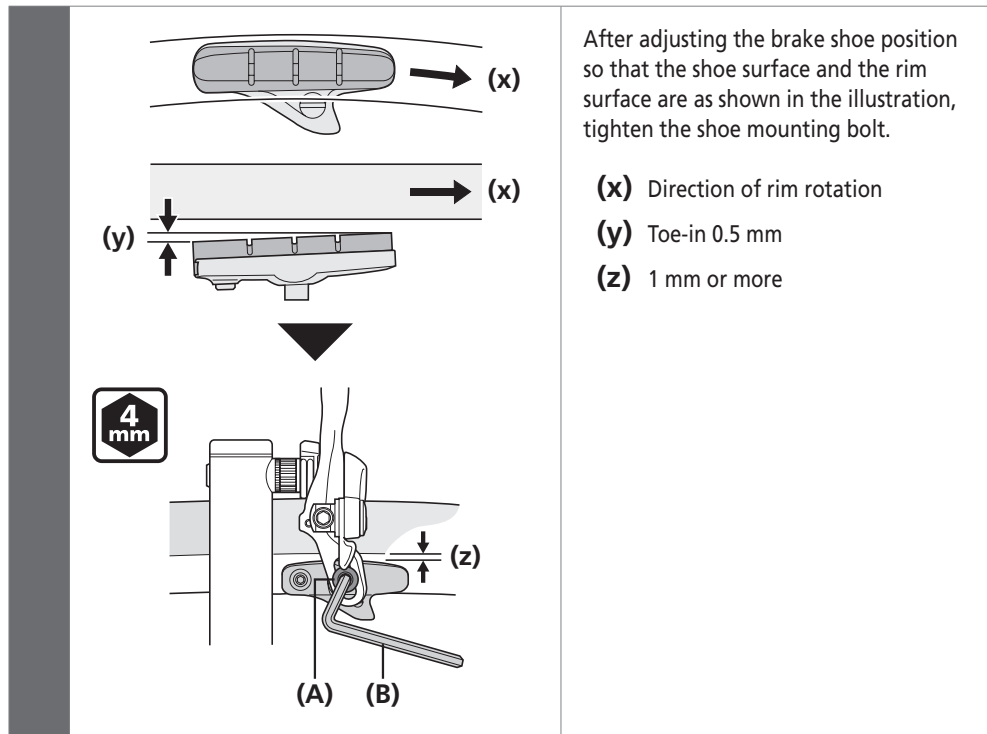
4

Finally, remove the protection sheet.




## ■ Brake shoe setting position

The contact angle (toe-in) of the shoe against the rim can be adjusted. Setting toe-in enables smooth braking operation.



- (A) Shoe fixing bolt
- (B) 4 mm hexagon wrench

Tightening torque	
	5 - 7 N·m

### NOTICE

Use brake shoes that are appropriate for the rim type and rim width. For details refer to the section "Recommended tire size/rim width/brake shoes".

■ **Fixing the BC-9000/BC-R680 cable**

**⚠ WARNING**

When passing the inner cable through an outer casing, if grease adheres on the inner cable fixing section, wipe it off with a cloth before fixing the inner cable. If grease adheres on the fixing section, a sufficient holding force of the brake cable cannot be delivered. This may cause the brake cable to get loose and lose brake control, resulting in severe injury.

**NOTICE**

Be careful not let the BC-9000/R680 cable come into contact with the shifting lever or the metal section (adjustment section) of the caliper brake. If the coating is damaged when the inner cable is installed, the coating may become fluffy; however, function will not be affected.

Move the quick release lever to the "Close" position.

BR-R9100/R9110-F/R9110-RS  
 BR-R8000/R8010-F/R8010-RS  
 BR-R7000/R7010-F/R7010-RS

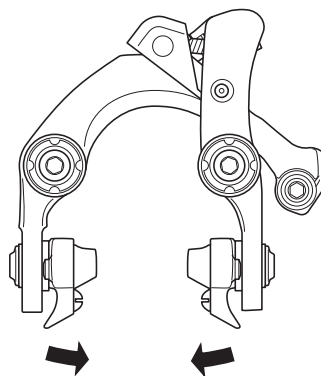
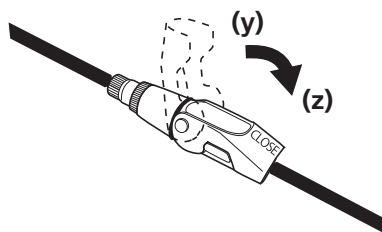
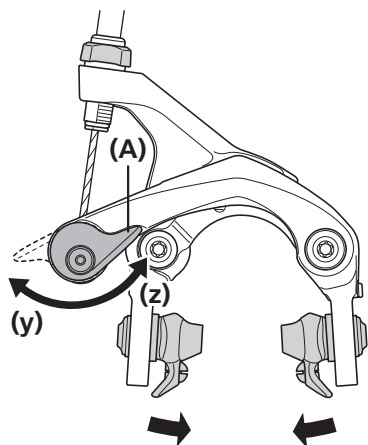
BR-R9110-R  
 BR-R8010-R  
 BR-R7010-R

**(y)** Open

**(z)** Close

**(A)** Quick release lever

**1**



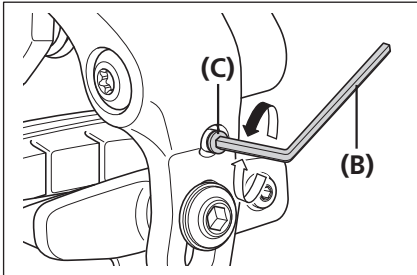
Wipe off any grease or other lubricants on the inner cable fixing section.

After that, fix the inner cable while adjusting shoe clearance.

BR-R9100/R9110-F/R9110-RS

BR-R8000/R8010-F/R8010-RS

BR-R7000/R7010-F/R7010-RS



(A)

(z)

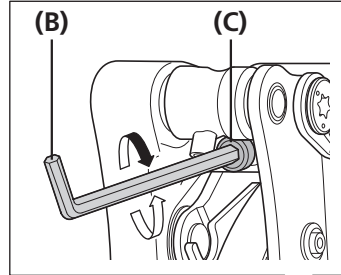
(B)

(C)

BR-R9110-R

BR-R8010-R

BR-R7010-R



(B)

(C)

(z)

(A)

(z) 1.5 - 2 mm  
(Adjust so that the shoe clearances on the left and right are the same)

(A) 4 mm hexagon wrench  
(B) 2 mm hexagon wrench  
(C) Centering adjustment bolt

Tightening torque



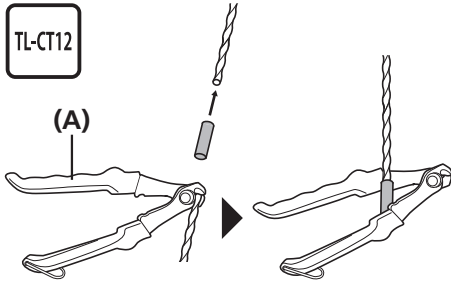
6 - 8 N·m

2

3

TL-CT12

(A)



Cut off any excess inner cable.

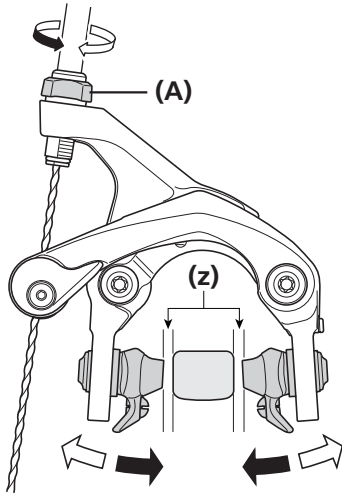
Finally, attach the inner end cap.

(A) TL-CT12

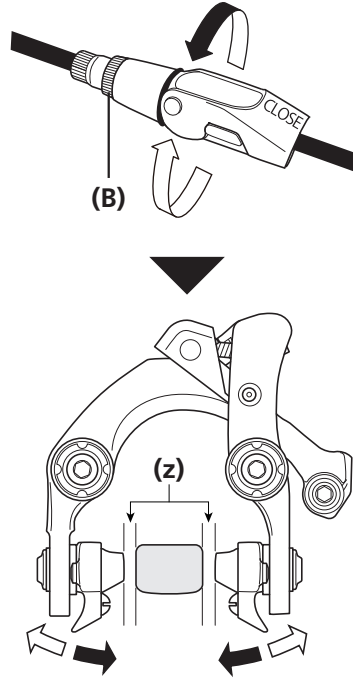
**4**

Turn the cable adjustment nut to readjust shoe clearance.

BR-R9100/R9110-F/R9110-RS  
 BR-R8000/R8010-F/R8010-RS  
 BR-R7000/R7010-F/R7010-RS



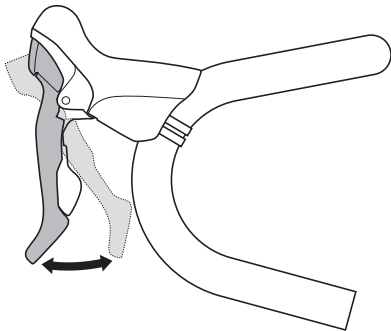
BR-R9110-R  
 BR-R8010-R  
 BR-R7010-R



**(z)** 1.5 - 2 mm  
 (Adjust so that the shoe clearances on the left and right are the same)

**(A)** Cable adjustment nut  
**(B)** Self-locking nut

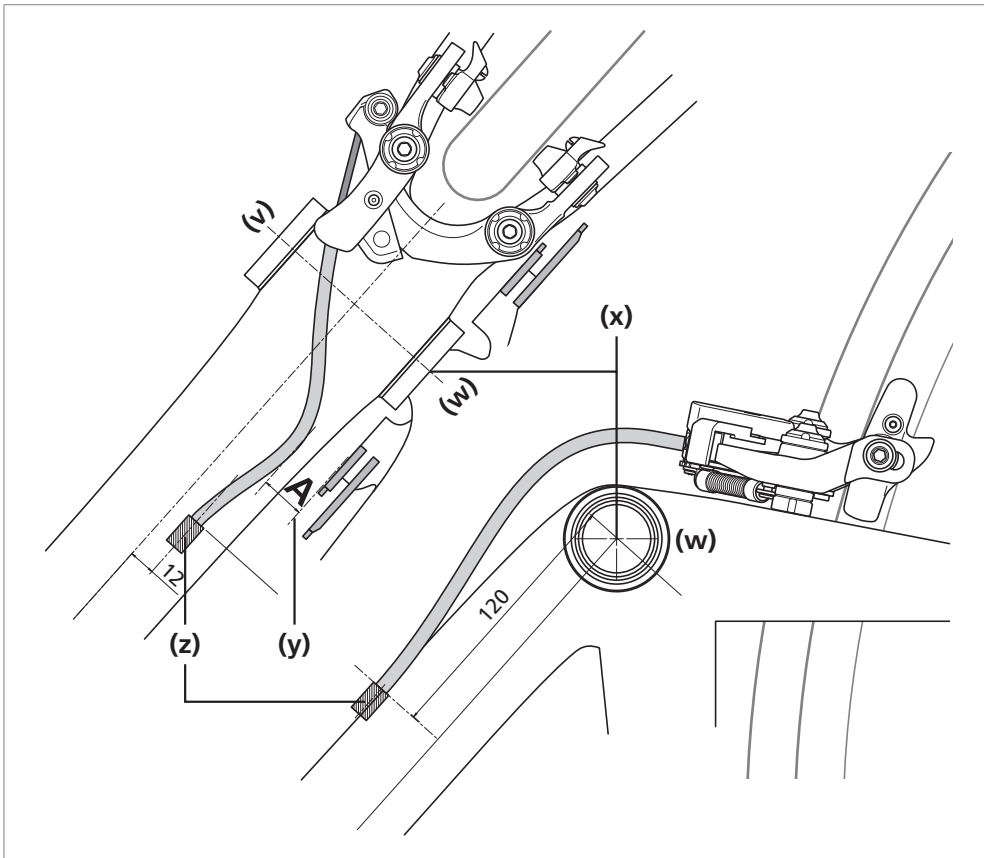
**5**



Before use, depress the brake lever until it touches the grip about ten times to re-check shoe clearance and each component for any abnormalities.

Cable outer stopper position for BR-R9110-R/R8010-R/R7010-R and Appropriate outer casing length

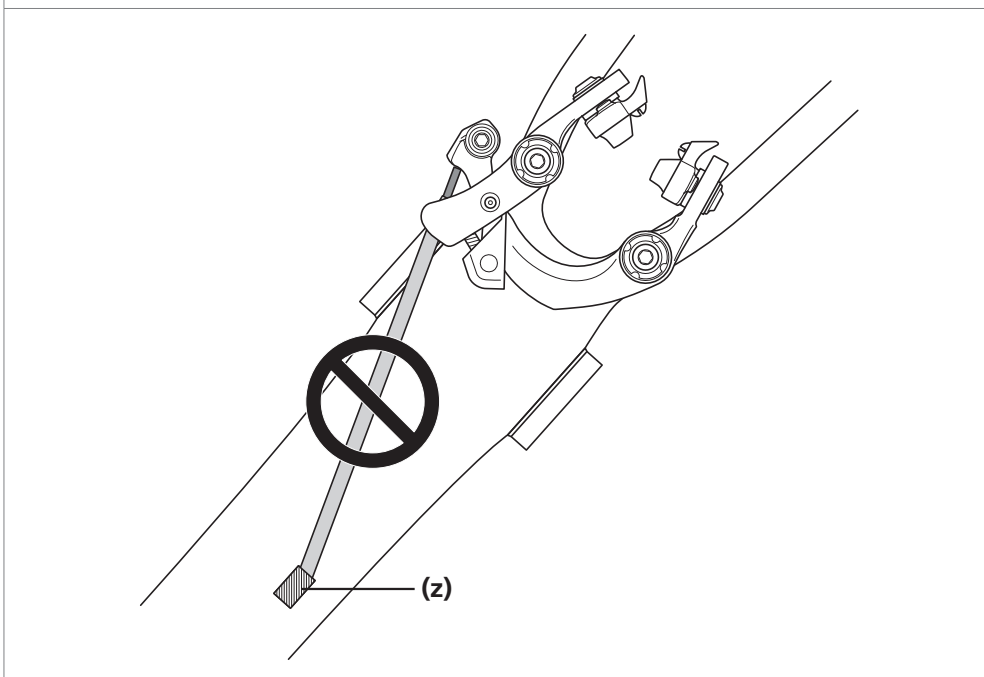
When caliper brake is open ...  $A \geq 15$  mm



- (v) Non-drive side
- (w) Drive side
- (x) BB center
- (y) Low gear line (FC-R9100)
- (z) Cable outer stopper

When caliper brake is fully closed

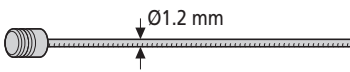
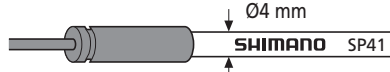
When the caliper is fully closed without a rear wheel, the brake outer casing should be long enough to reach from the cable outer stopper to the caliper.



- (z) Cable outer stopper

**■ Installation of the shifting cable**

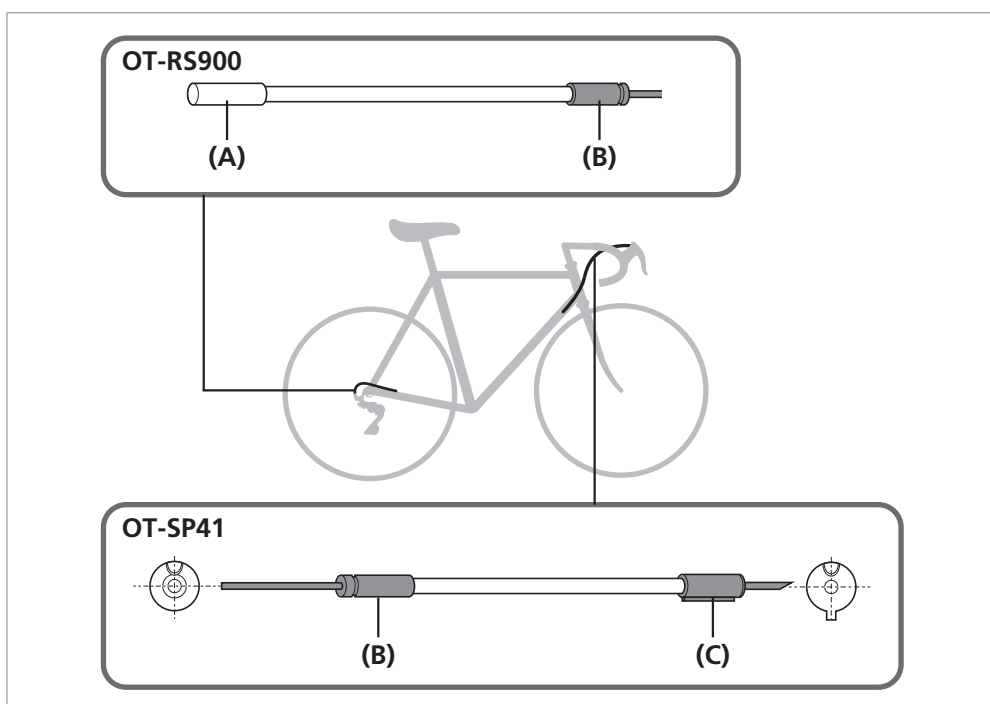
**Cable to be used**

Designated inner cable	Outer cap with tongue/ SP41 outer casing
 <p>Ø1.2 mm</p>	 <p>Ø4 mm SHIMANO SP41</p>

**NOTICE**

Do not let dust adhere on the inner cable. If the grease on the inner cable is wiped off, the application of SIS SP41 grease (Y04180000) is recommended.

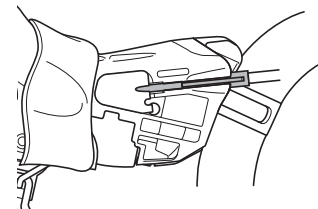
**Outer cap with tongue installation position**



- (A)** Sealed outer cap (aluminum type) (derailleur side)
- (B)** Cap with long tongue
- (C)** Cap with short tongue (shifting lever side)

 **TECH TIPS**

Be sure to insert the convex shape on the cap with short tongue into the groove in the bracket.



## Cutting the outer casing

**1**

TL-CT12

(A) (B)

Use the cable cutter (TL-CT12) or an equivalent tool to cut the side opposite of the inscription.

After cutting, remove the outer cap with tongue.

- (A) TL-CT12  
(B) Outer cap with tongue

**NOTICE**

- Use a cable which still has some length to spare even when the handlebars are turned all the way to both sides.
- Be careful not to injure your hand with the TL-CT12 needle section.

**2**

TL-CT12

(z)

(A) (B)

After cutting, expand the tip of the liner (Ø2.2 mm or more) with TL-CT12 or another narrow tool.

Arrange the cut end into a perfect circle, as shown in the illustration.

(z) Cut end

- (A) TL-CT12  
(B) TL-CT12 needle

**3**

(A) (B)

Attach the outer cap with tongue.

Insert the outer casing until it closely contacts with the seating surface of the outer cap with tongue.

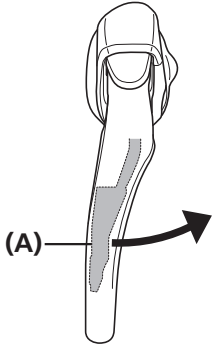
- (A) Outer casing  
(B) Outer cap with tongue

**NOTICE**

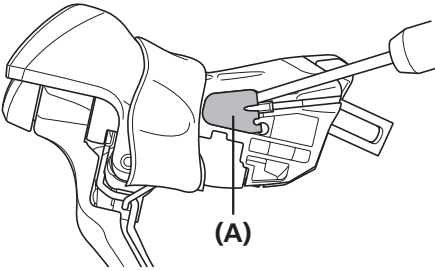
Be careful not to crush the tip of the convex part of the outer cap with tongue when inserting the outer casing.

**Passing through the shifting inner cable**

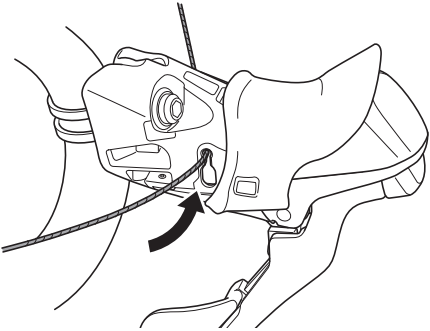
The illustration is of the right hand lever.

1		<p>Operate the release lever 10 or more times and set the lever to the top position.</p>
---	---	--

**(A)** Release lever

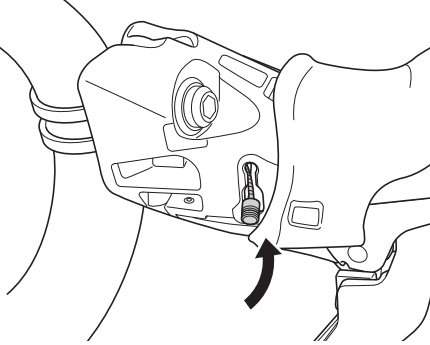
2		<p>Remove the cable cover from the bracket using a screwdriver.</p>
---	--	---

**(A)** Cable cover

3		<p>Put the inner cable through as shown in illustration.</p>
---	---	--

**NOTICE**

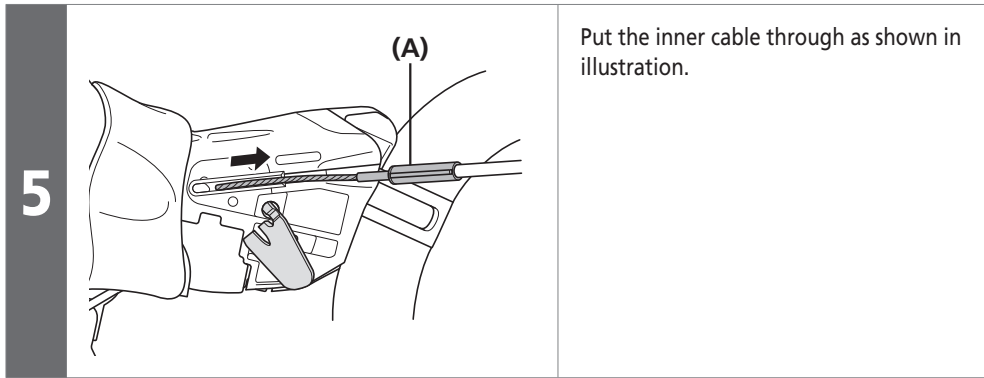
Insert the cable while being careful not to damage the coating.

4		<p>Insert the cable in such a manner that the inner end is attached to the unit.</p>
---	---	--

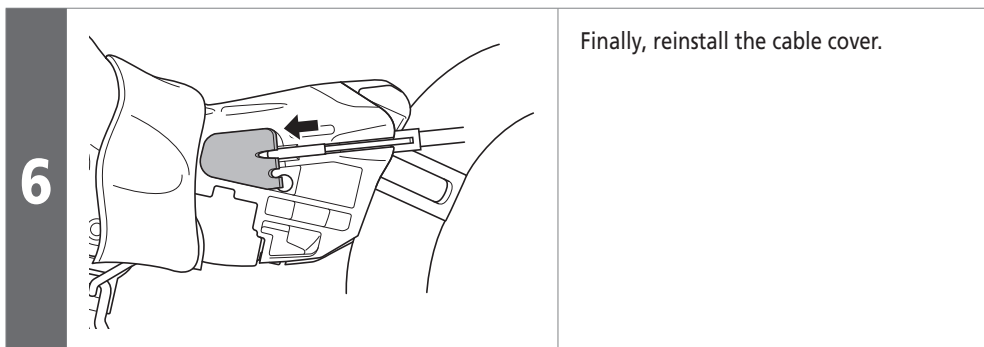


## INSTALLATION

### Installation of the shifting cable

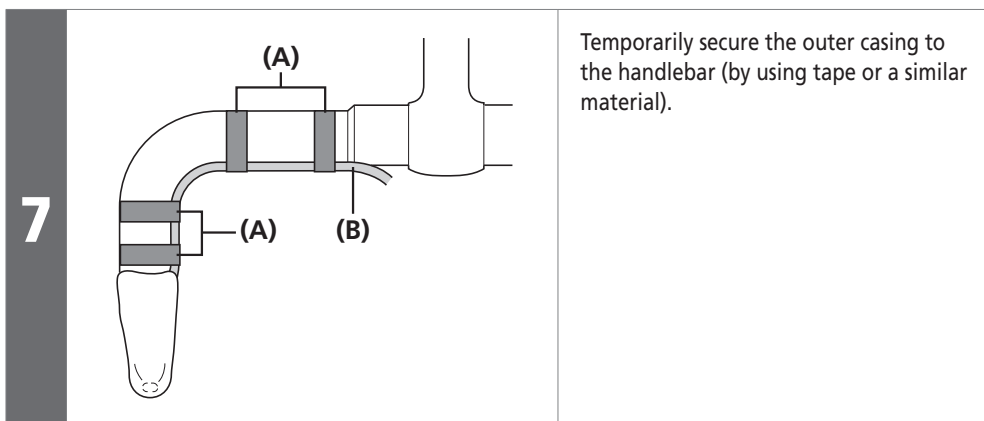


**(A)** Cap with short tongue



#### TECH TIPS

When the inner cable is installed, coating may be damaged and become fluffy; however, it will not affect function.



**(A)** Tape

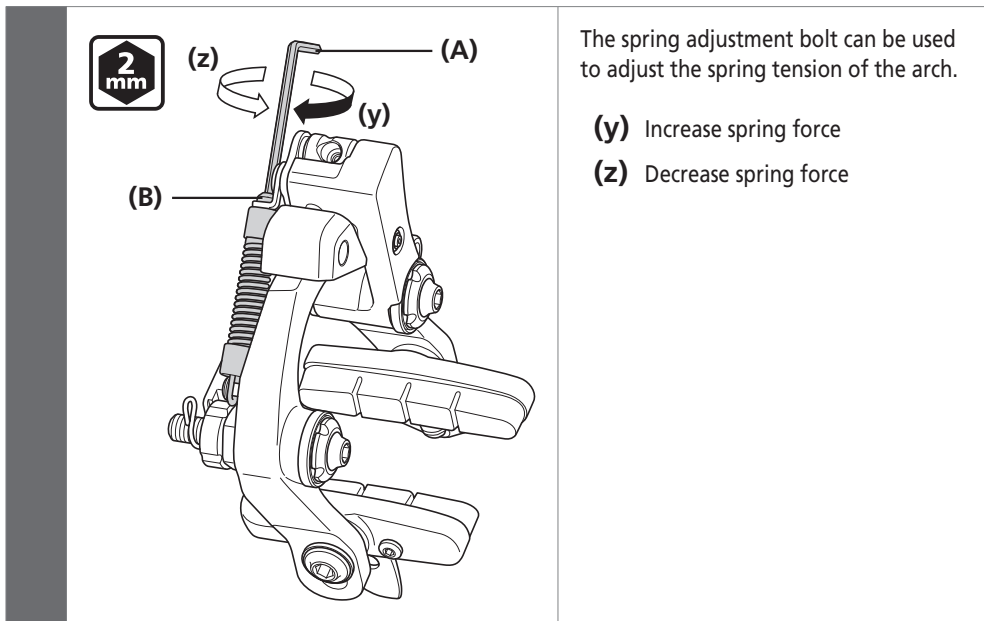
**(B)** Outer casing



# ADJUSTMENT

## ADJUSTMENT

### ■ Arch spring tension adjustment (BR-R9110-R)



The spring adjustment bolt can be used to adjust the spring tension of the arch.

- (y) Increase spring force
- (z) Decrease spring force

- (A) 2 mm hexagon wrench
- (B) Spring adjustment bolt



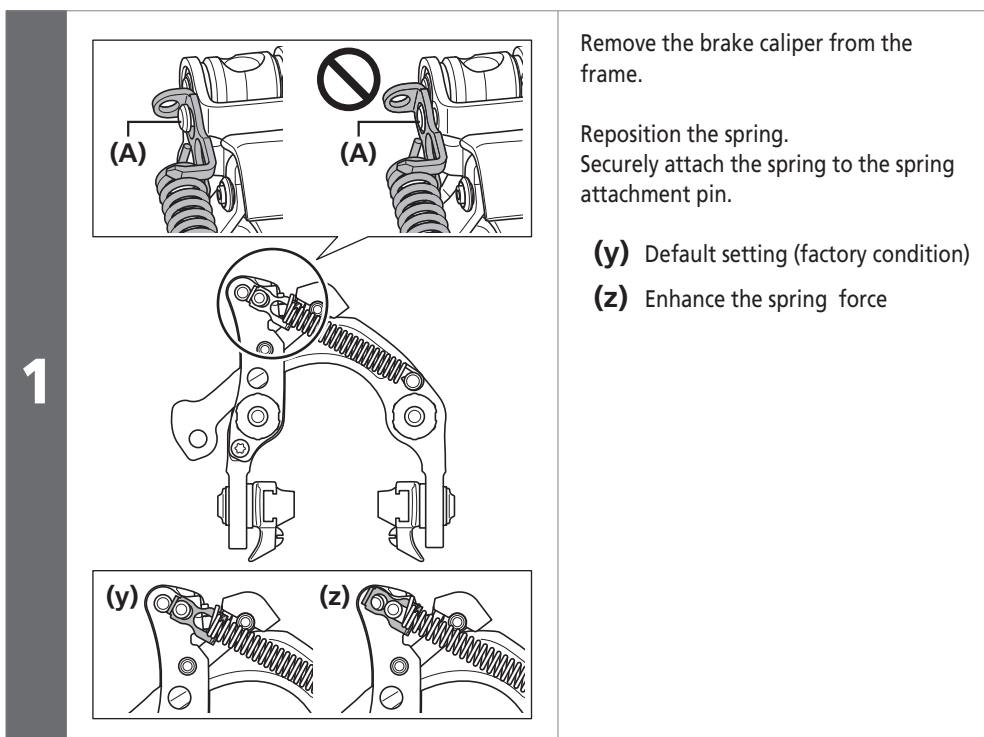
Arch spring tension adjustment cannot be carried out for BR-R9100/BR-R9110-F/BR-R9110-RS/BR-R8000/BR-R8010-F/BR-R8010-RS/BR-R7000/BR-R7010-F/BR-R7010-RS

### ■ Arch spring tension adjustment (BR-R8010-R/R7010-R)

When the brake lever does not return smoothly, adjust the fixing position of the spring. Perform this work by removing the brake caliper from the frame.

#### When using the assembly tool

The use of the assembly tool (Y8L398040) facilitates the repositioning of the spring.



Remove the brake caliper from the frame.

Reposition the spring. Securely attach the spring to the spring attachment pin.

- (y) Default setting (factory condition)
- (z) Enhance the spring force

- (A) Spring attachment pin


1

**ADJUSTMENT**


▶ Arch spring tension adjustment (BR-R8010-R/R7010-R)


**2** Install the assembly tool to the brake caliper.

**(A)** Assembly tool


**3**  Temporarily fix the assembly tool together on the frame base. Pull out the assembly tool in the direction of the arrow.

**(A)** Brake fixing bolt  
**(B)** 4 mm hexagon wrench

Tightening torque	
	0.5 N·m

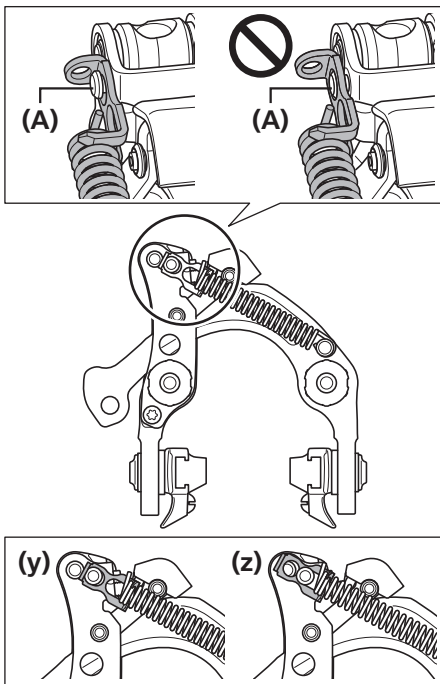
**4**  Fully tighten the brake fixing bolt.

**(A)** Brake fixing bolt  
**(B)** 4 mm hexagon wrench

Tightening torque	
	5 - 7 N·m

When not using the assembly tool

1



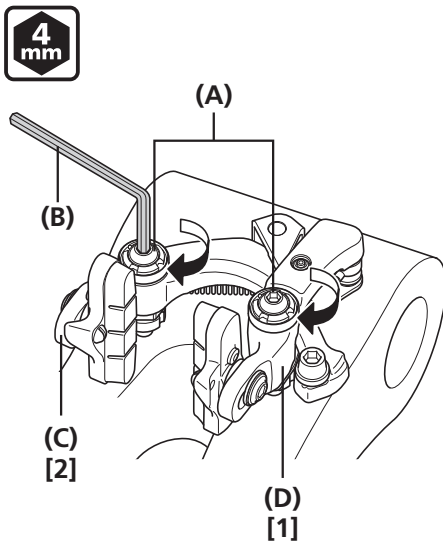
Remove the brake caliper from the frame.

Reposition the spring.  
Securely attach the spring to the spring attachment pin.

- (y) Default setting (factory condition)
- (z) Enhance the spring force

(A) Spring attachment pin

2



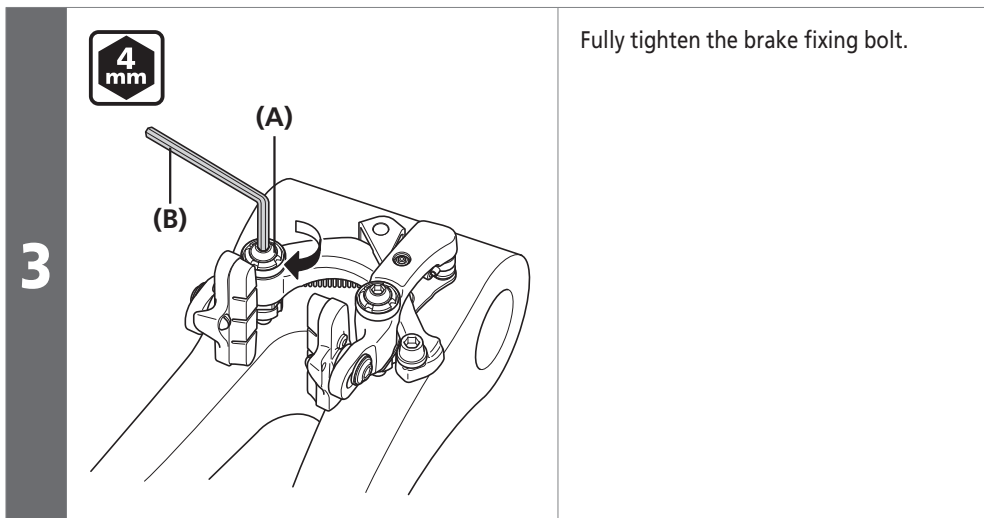
Half-tighten the Y arm onto the frame.

Tighten the C arm onto the frame.

- (A) Brake fixing bolt
- (B) 4 mm hexagon wrench
- (C) C arm
- (D) Y arm

## ADJUSTMENT

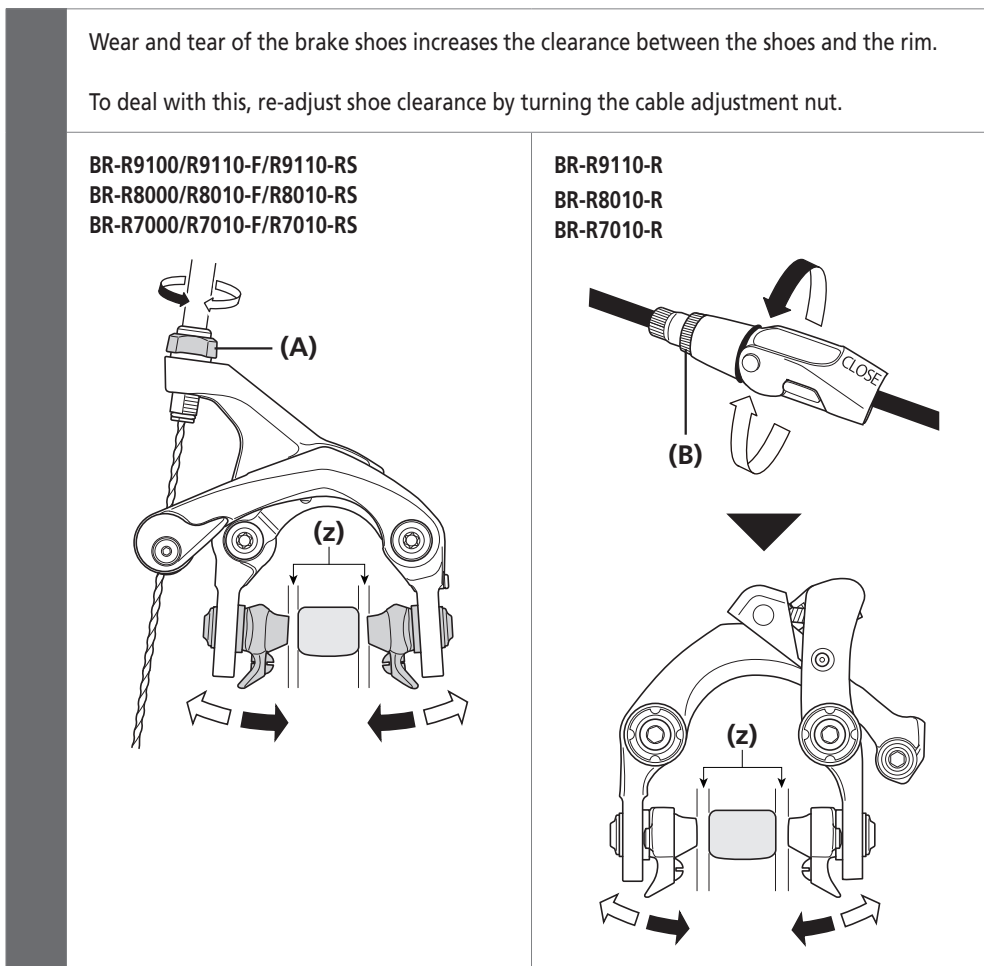
### ▶ Readjustment of shoe clearance (When brake shoes are worn)



- (A)** Brake fixing bolt
- (B)** 4 mm hexagon wrench

Tightening torque	
	5 - 7 N·m

### ■ Readjustment of shoe clearance (When brake shoes are worn)



- (z)** 1.5 - 2 mm  
(Adjust so that the shoe clearances on the left and right are the same)

- (A)** Cable adjustment nut
- (B)** Self-locking nut

**TECH TIPS**

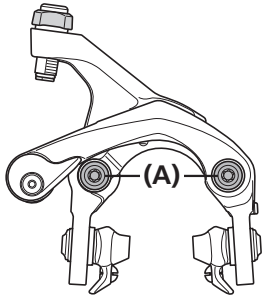
- When the grooves of a brake shoe are worn away, replace the brake shoe.

**ADJUSTMENT**

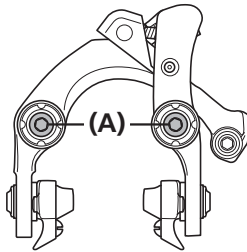
▶ Readjustment of shoe clearance (When brake shoes are worn)

Adjusting the brake mounting bolt/lock nut does not adjust the looseness of the brake arm itself.

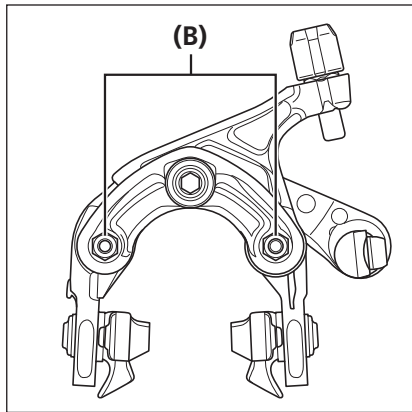
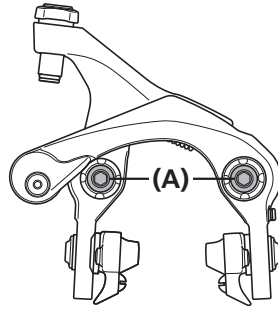
BR-R9100  
BR-R8000  
BR-R7000



BR-R9110-R  
BR-R8010-R  
BR-R7010-R



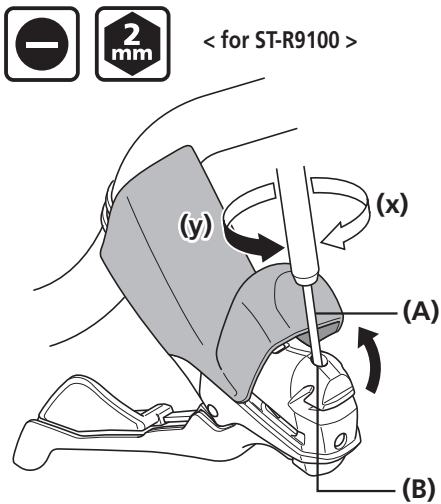
BR-R9110-F/R9110-RS  
BR-R8010-F/R8010-RS  
BR-R7010-F/R7010-RS



**(A)** Brake mounting bolt

**(B)** Lock nut

■ Reach adjustment



< for ST-R9100 >

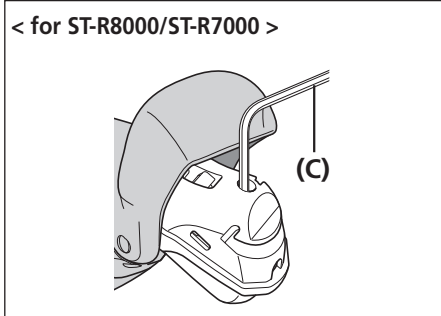
Adjust the lever stroke using a slotted screwdriver or a 2 mm hexagon wrench.

- (x) Clockwise: Decreases the reach.
- (y) Counterclockwise: Increases the reach.
- (z) Reach

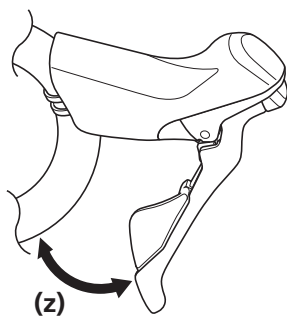
- (A) Slotted screwdriver  
Blade width: 4.0 - 5.0 mm  
Blade thickness: 0.5 - 0.6 mm
- (B) Reach adjustment bolt
- (C) 2 mm hexagon wrench

**NOTICE**

Make sure that braking operates properly after the adjustment.



< for ST-R8000/ST-R7000 >

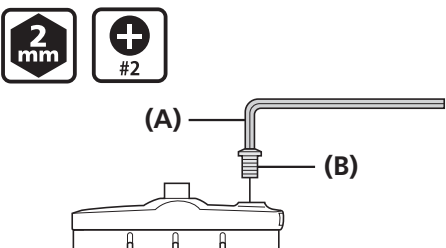
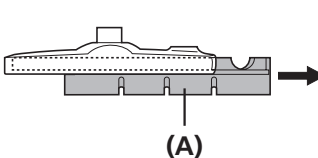
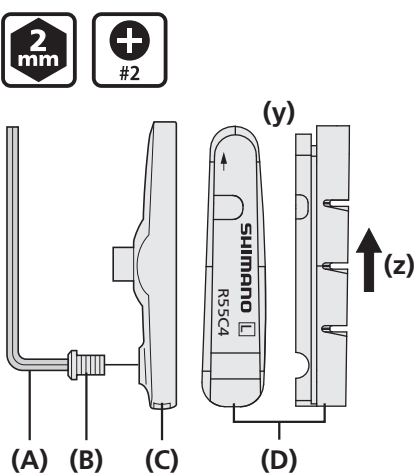
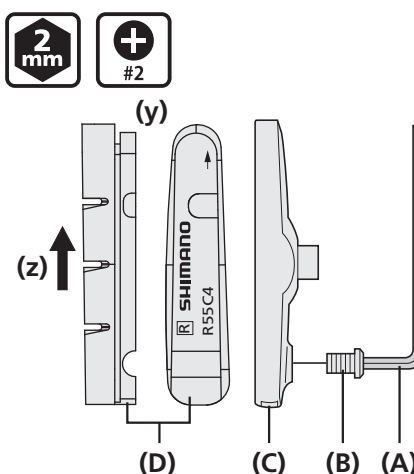






# MAINTENANCE

# MAINTENANCE

## ■ Replacement of cartridge shoe (BR-R9100/R9110-RS/R8000/R8010-RS/R7000/R7010-RS)

<b>1</b>		<p>Remove the mounting bolt.</p>	<p><b>(A)</b> 2 mm hexagon wrench (For BR-R7000/R7010-RS, use screwdriver[#2])</p> <p><b>(B)</b> Mounting bolt</p>
<b>2</b>		<p>Remove the shoe by sliding it along the groove of the shoe holder.</p>	<p><b>(A)</b> Shoe</p>
<b>3</b>	<p>There are two different types of shoe and shoe holder for the left and right respectively.</p> <p>Slide the new shoes into the grooves on the shoe holders while taking note of the correct directions and bolt hole positions.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p>For left (same for front and rear)</p>  </div> <div style="text-align: center;"> <p>For right (same for front and rear)</p>  </div> </div>	<p>Slide the new shoes into the grooves on the shoe holders while taking note of the correct directions and bolt hole positions.</p>	<p><b>(y)</b> Front</p> <p><b>(z)</b> Shoe insertion direction</p> <p><b>(A)</b> 2 mm hexagon wrench (For BR-R7000/R7010-RS, use screwdriver[#2])</p> <p><b>(B)</b> Mounting bolt</p> <p><b>(C)</b> Shoe holder</p> <p><b>(D)</b> Shoe</p>
<b>4</b>	<p>Tighten the mounting bolt.</p>	<p>Tightening torque</p> <div style="display: flex; align-items: center; justify-content: center;">  <div style="margin: 0 20px;"> <p><b>1 - 1.5 N·m</b></p> </div>  </div>	

## ■ Replacement of cartridge shoe (BR-R9110-F/R9110-R/R8010-F/R8010-R/R7010-F/R7010-R)

**1**

Remove the mounting bolt.

- (A) 2 mm hexagon wrench  
(For BR-R7010-F/R7010-R, use screwdriver[#2])
- (B) Mounting bolt

**2**

Remove the shoe by sliding it along the groove of the shoe holder.

- (A) Shoe

There are two different types of shoe and shoe holder for the left and right respectively.

Slide the new shoes into the grooves on the shoe holders while taking note of the correct directions and bolt hole positions.

**3**

For left

For right

- (y) Front
- (z) Shoe insertion direction
- (A) 2 mm hexagon wrench  
(For BR-R7010-F/R7010-R, use screwdriver[#2])
- (B) Mounting bolt
- (C) Shoe holder
- (D) Shoe

**⚠ WARNING**

Always use the dedicated brake shoes in the shoe holders of BR-R9110-F/R9110-R/R8010-F/R8010-R/R7010-F/R7010-R.

**Dedicated brake shoes**  
 R55C4  
 R55C4 (for carbon rim)  
 R55C4-A (for carbon rim)  
 R55CT4

Conventional brake shoes have different fixing positions preventing the mounting bolts from being tightened, which will cause the brake shoes to come off and disable braking.

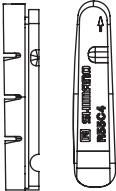
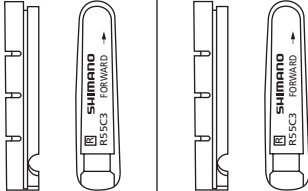
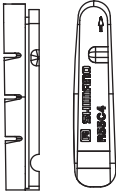
**4**


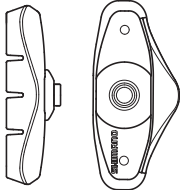
Tighten the mounting bolt.

Tightening torque	
 	<p>1 - 1.5 N·m</p>

## ■ Brake shoe characteristics

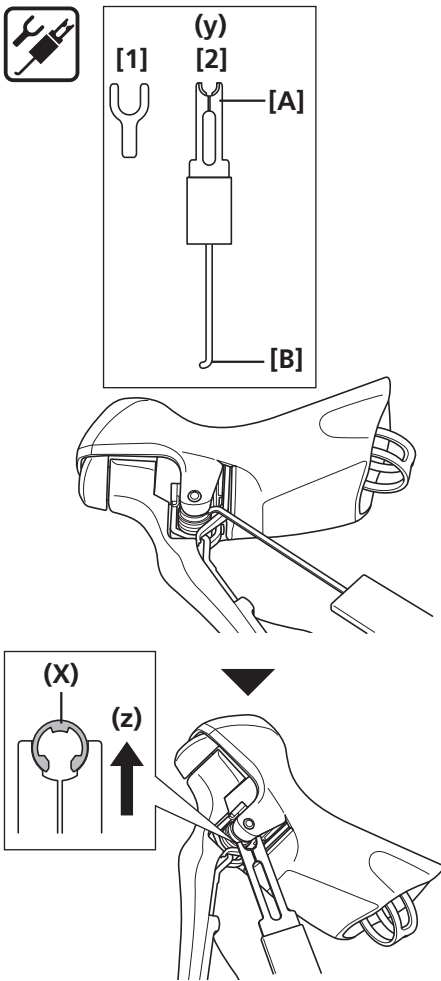
Brake shoe specifications in the table are subject to change due to product improvement.

Model No.	R55C4	R55C4 for carbon rim	R55C4-A for carbon rim	R55C3	R55C+1	R55CT4	
Brake shoe shape							
Cartridge type	x	x	x	x	x	x	
Recommended rim	Aluminum	Carbon	Carbon	Aluminum	Aluminum	Aluminum	
Characteristics	DRY Power	★★★★★	★★★★☆	★★★★☆	★★★★★	★★★★☆	★★★★☆
	WET Power	★★☆☆☆	★★☆☆☆	★★☆☆☆	★★☆☆☆	★★☆☆☆	★★☆☆☆
	Silence	★★★★☆	★★★☆☆	★★★☆☆	★★★★☆	★★★★☆	★★★★☆
	Anti-fading	★★★★★	★★★★★	★★★★★	★★★★★	★★★★★	★★★★☆
	Durability (on road)	★★★★★	★★★★★	★★★★☆	★★★★★	★★★★☆	★★★★☆
	Durability (muddy conditions)	★★★★★	★★★★★	★★★★☆	★★★★★	★★★☆☆	★★★☆☆
	Anti-rim attack	★★★★☆	★★★★☆	★★★★☆	★★★★☆	★★★★★	★★★☆☆

Model No.	M50T	R50T	R50T2	R50T4
Brake shoe shape				
Cartridge type	-	-	-	-
Recommended rim	Aluminum	Aluminum	Aluminum	Aluminum
Characteristics	DRY Power	★★★★☆	★★★★☆	★★★★☆
	WET Power	★★★★☆	★★☆☆☆	★★☆☆☆
	Silence	★★★★★	★★★★☆	★★★★☆
	Anti-fading	★★☆☆☆	★★★★★	★★★★★
	Durability (on road)	★★★★☆	★★★★☆	★★★★☆
	Durability (muddy conditions)	★★☆☆☆	★★★☆☆	★★★☆☆
	Anti-rim attack	★★☆☆☆	★★★★★	★★★★★

## ■ Disassembling the bracket body and lever body

1



First use the SHIMANO original tool (sold separately) to remove the E-ring.

Use part [B] of the SHIMANO original E-ring removal tool [2] to align the E-ring with the direction of removal.

Next, set part [A] against the E-ring and remove the E-ring.

- (y) SHIMANO original E-ring removal tool:  
[1] Y6RT66000  
[2] Y6RT68000

- (z) E-ring removal direction

(X) E-ring

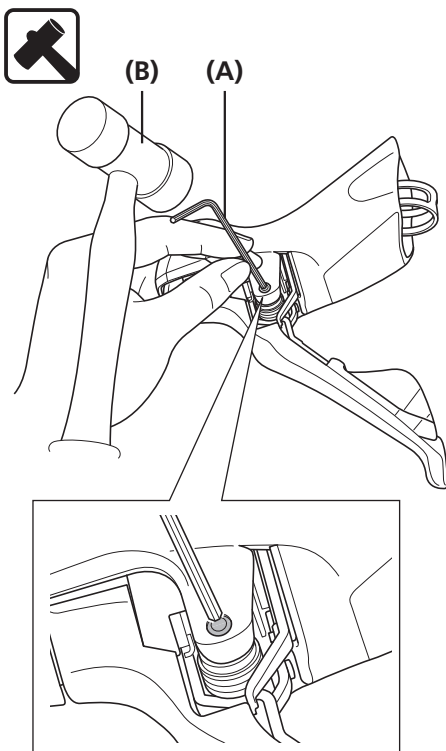
### ⚠ CAUTION

When you remove the E-ring, it may pop out; wear protective glasses while removing it. Check that there is no one and nothing around you before starting the removal.

### 📖 TECH TIPS

The illustration is of the right-hand lever.

2



Insert a hexagon wrench or similar tool into the lever axle hole, tap it gently with a plastic mallet to push out the lever axle, which disassembles it into the bracket body and the lever body.

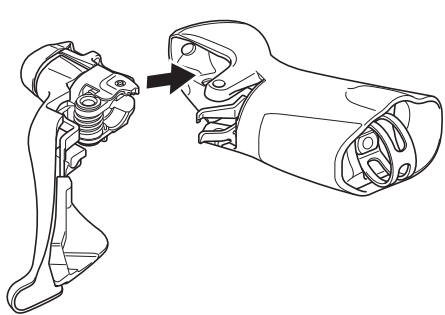
- (A) Hexagon wrench
- (B) Plastic mallet

### NOTICE

Always be sure to remove the lever axle in this direction. If it is removed in the opposite direction, it may damage the bracket body.

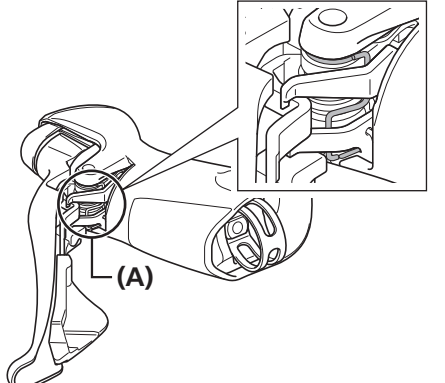
## ■ Assembling the bracket body and lever body

1



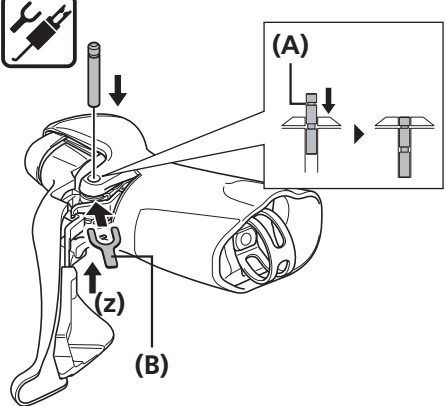
Insert the lever into the bracket.

2



Insert the end of the return spring into the notch.

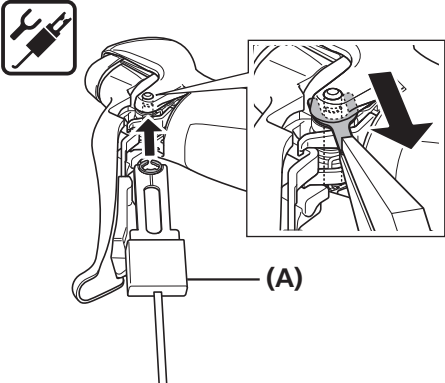
3



Align the axle holes, set the SHIMANO original E-ring removal tool [1] in the position shown in the illustration, and then press-fit the lever axle.

**(z)** Do not press-fit the lever axle from this direction. Otherwise, it may damage the bracket body.

4



Remove the SHIMANO original E-ring removal tool [1], and then use the SHIMANO original E-ring removal tool [2] to install the E-ring.

**(A)** Return spring

**(A)** E-ring groove  
**(B)** SHIMANO original E-ring removal tool [1]

 **TECH TIPS**

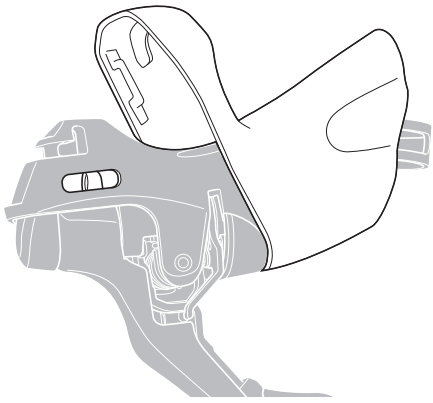
- The correct direction for the lever axle is for the E-ring groove to face up.
- Check that the surface of the bracket body and the top end of the lever axle are flush with each other so that the E-ring will fit into the groove.

**(A)** SHIMANO original E-ring removal tool [2]

NOTICE

Do not use the removed E-ring again. Be sure to use a new E-ring.

## ■ Replacing the bracket cover

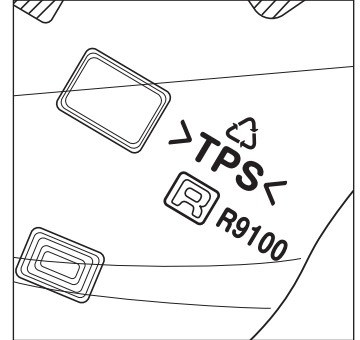


Insert the protrusions on the bracket cover into the hollows in the bracket body when fitting on the bracket cover.

### NOTICE

Note the markings

- A label is engraved in the bracket cover.  
R: for right  
L: for left

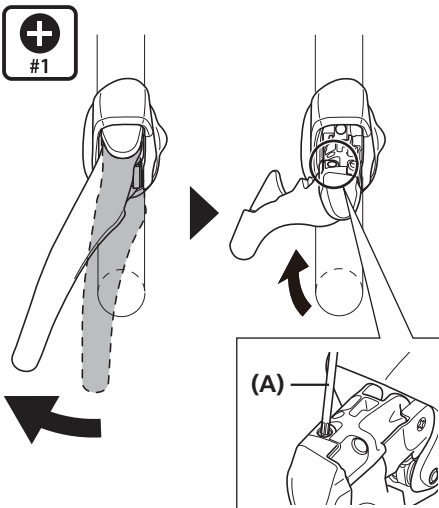


- Always replace the bracket cover with the lever removed from the bicycle as shown in the illustration.



Wipe a little rubbing alcohol inside the bracket cover to make installation easier.

## ■ Replacing the name plate



Operating the shifting lever while operating the brake lever exposes the screws. Remove the screws and then replace the name plate.

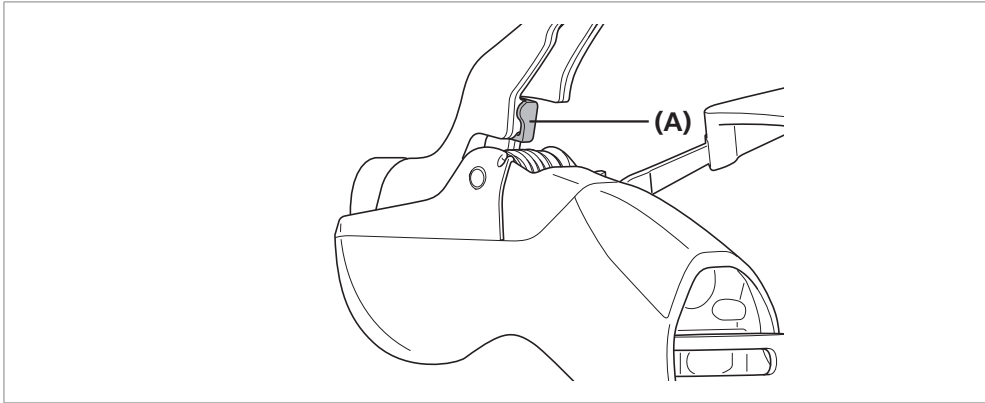
(A) Screwdriver[#1]

### Tightening torque

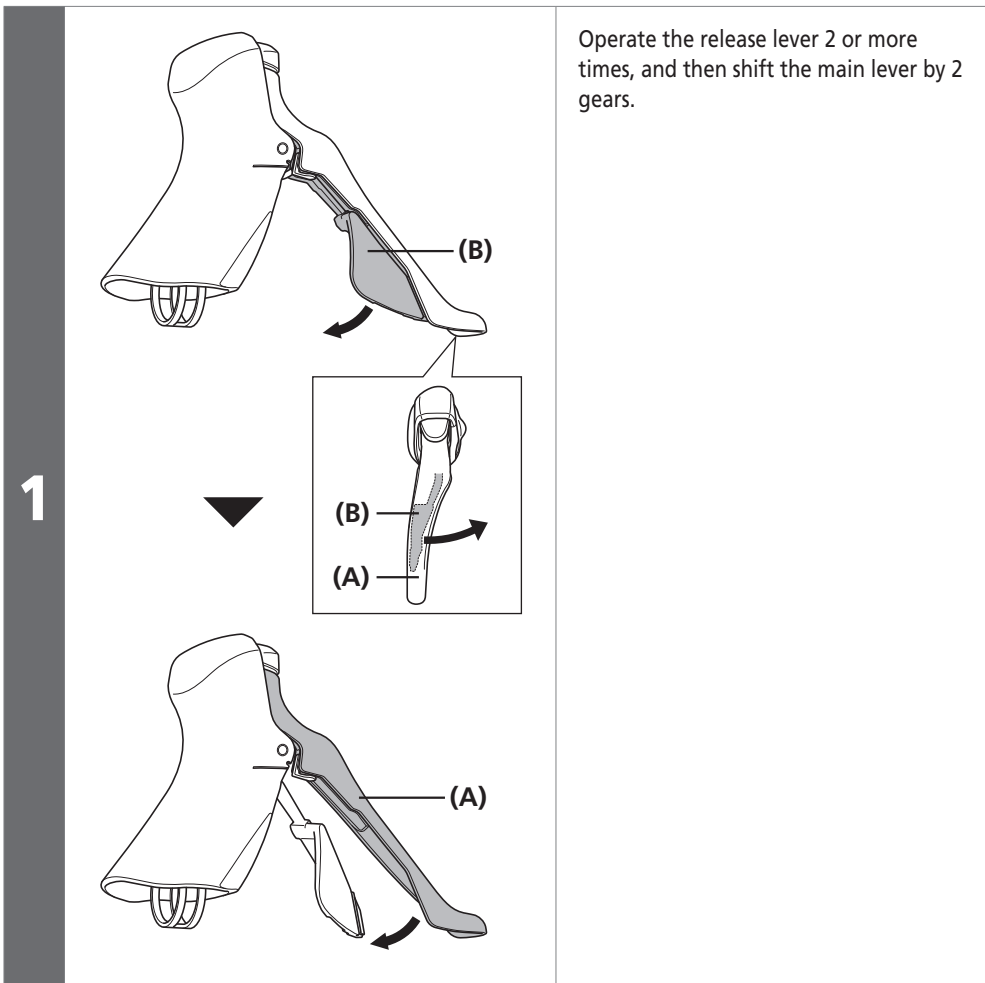


0.15 - 0.2 N·m

## ■ Replacing the main lever support



(A) Main lever support



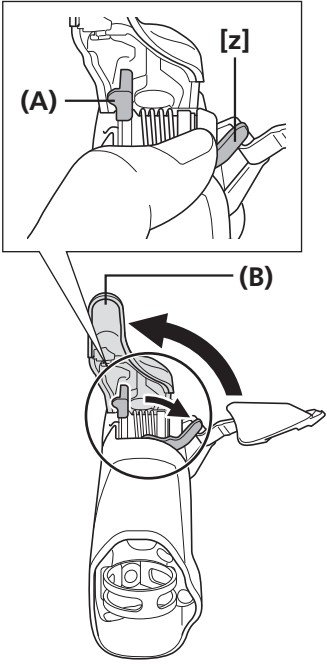
Operate the release lever 2 or more times, and then shift the main lever by 2 gears.

(A) Main lever  
(B) Release lever



▶ Replacing the main lever support

**2**

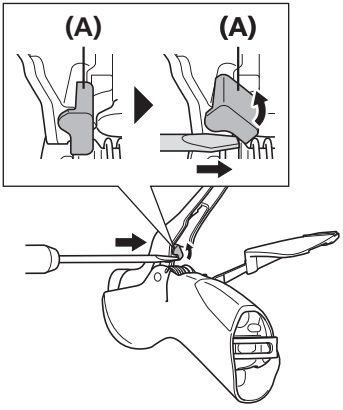


Hold the component [z] at the base of the main lever with the hands and then return only the main lever to the original position.

**(A)** Main lever support

**(B)** Main lever

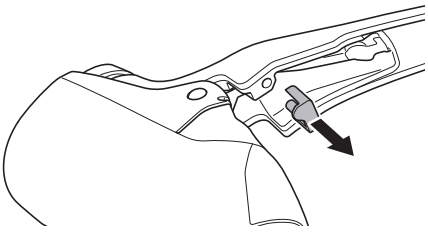
**3**



Rotate the main lever support in the direction of the arrow with a slotted screwdriver or an equivalent tool, and then remove the stopper.

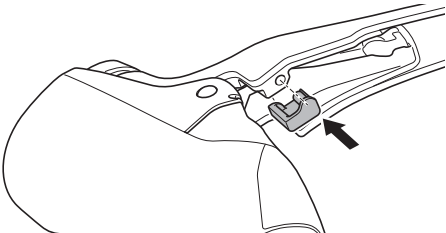
**(A)** Main lever support

**4**



Pull out the main lever support.

**5**

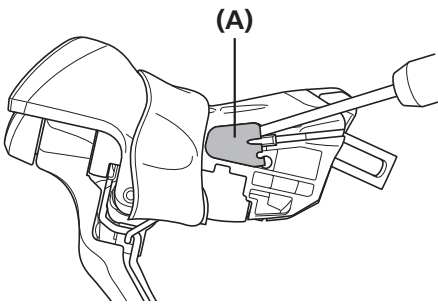


Insert a new main lever support.

## ■ Replacing the SL cable guide

**1** Remove the lever from the handle, and then remove the bracket cover.

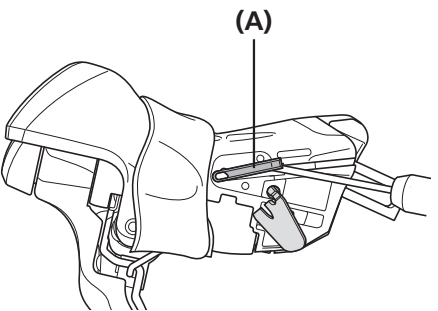
**2**



Remove the cable cover.

**(A)** Cable cover

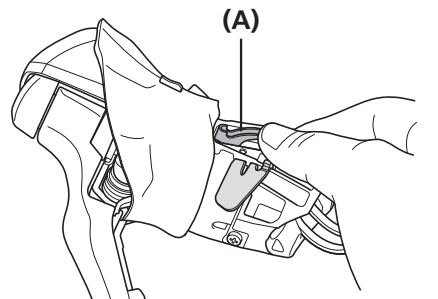
**3**



Use a pointed tool to pry out the SL cable guide.

**(A)** SL cable guide

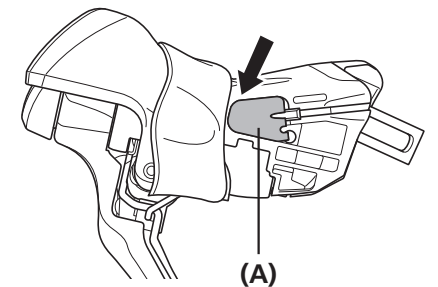
**4**



Push in the new SL cable guide with hands.

**(A)** SL cable guide

**5**

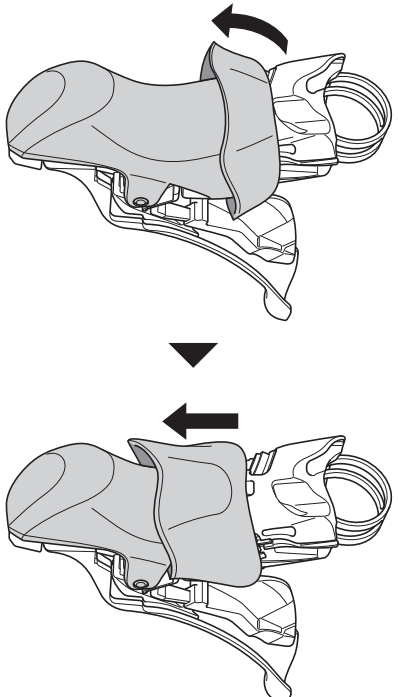


Install the cable cover.

**(A)** Cable cover

## ■ Replacing the cable cover

**1**



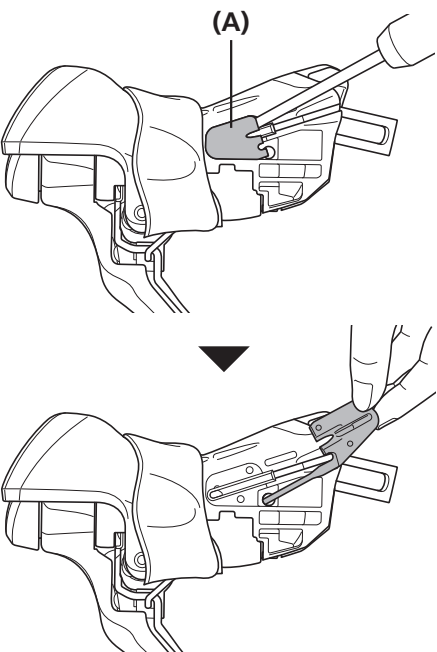
Turn over the bracket cover from the back side.

Gently turn over the ends of the bracket cover with both hands and slowly push them down.

### NOTICE

Forcibly pulling it may cause damage to the bracket cover because of its material properties.

**2**

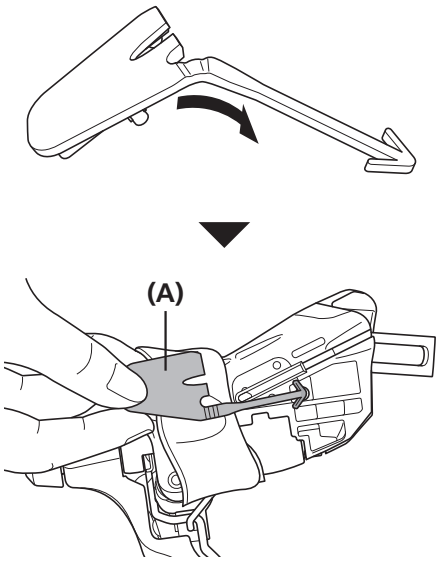


Remove the cable cover from the bracket using a screwdriver and pull the cable out with your hand.

**(A)** Cable cover

▶▶ Replacing the cable cover

3



Before installing a new cable cover, make a slight crease on it and insert it into the hole in the bracket.

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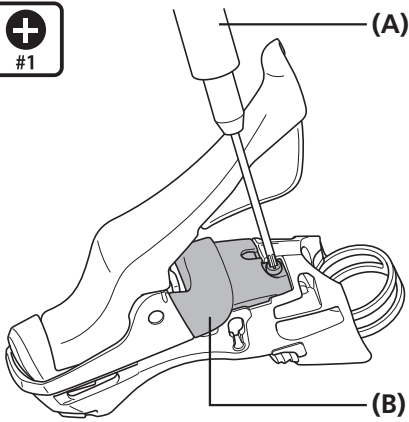
**(A)** Cable cover

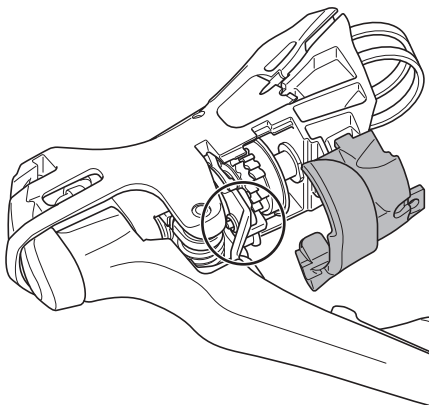
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## ■ How to pull out a disconnected inner end (shifting cable)

If it is hard to pull out the inner end, follow the procedure below.

**1** Remove the lever from the handle, and then remove the bracket cover.

**2**   (A) Remove the screws located at the bottom of the bracket, and then remove the unit cover.

**3**  Pull out the inner end on the cable hook of the winding body.

**4** Reattach the unit cover and then tighten the screws.

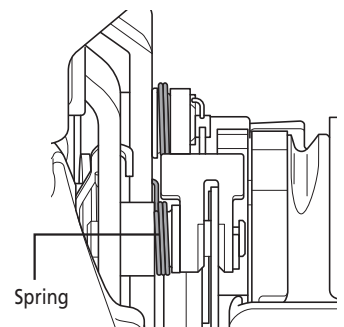
 **TECH TIPS**

Should the inner cable break, it is recommended that you also replace the cable guide together with the inner cable in order to maintain smooth shifting.


- (A) Screwdriver[#1]
- (B) Unit cover

**NOTICE**

At this point, be careful not to touch the spring accidentally. Doing so could cause a malfunction.



**Tightening torque**

 0.2 - 0.25 N·m

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

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