

## **Dealer's Manual**

# **Front derailleur**

FD-9000

FD-6800

FD-5800

FD-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.



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

- When installing components, be sure to follow the instructions that are given in the instruction manuals.

It is recommended to use genuine Shimano parts only. If parts such as bolts and nuts become loose or damaged, the bicycle may suddenly fall over, which may cause serious injury.

In addition, if adjustments are not carried out correctly, problems may occur, and the bicycle may suddenly fall over, which may cause serious injury.

-  Be sure to wear safety glasses or goggles to protect your eyes while performing maintenance tasks such as replacing parts.
- After reading the dealer's manual thoroughly, keep it in a safe place for later reference.


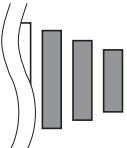
### Be sure to also inform users of the following:

- Be careful not to let the hemming of your clothes get caught in the chain while riding. Otherwise you may fall off the bicycle.

## 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.
- When the chain is in the position shown in the illustration, the chain may contact the front chainrings or front derailleur and generate noise. If the noise is a problem, shift the chain onto the next-largest rear sprocket or the one after.

	Double
Front chainrings	
Rear sprockets	

- 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 cable and cable guide for smooth operation.
- If the amount of looseness in the links is so great that adjustment is not possible, you should replace the derailleur.

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

# INSTALLATION

## List of tools to be used

The following tools are required to assemble the product.

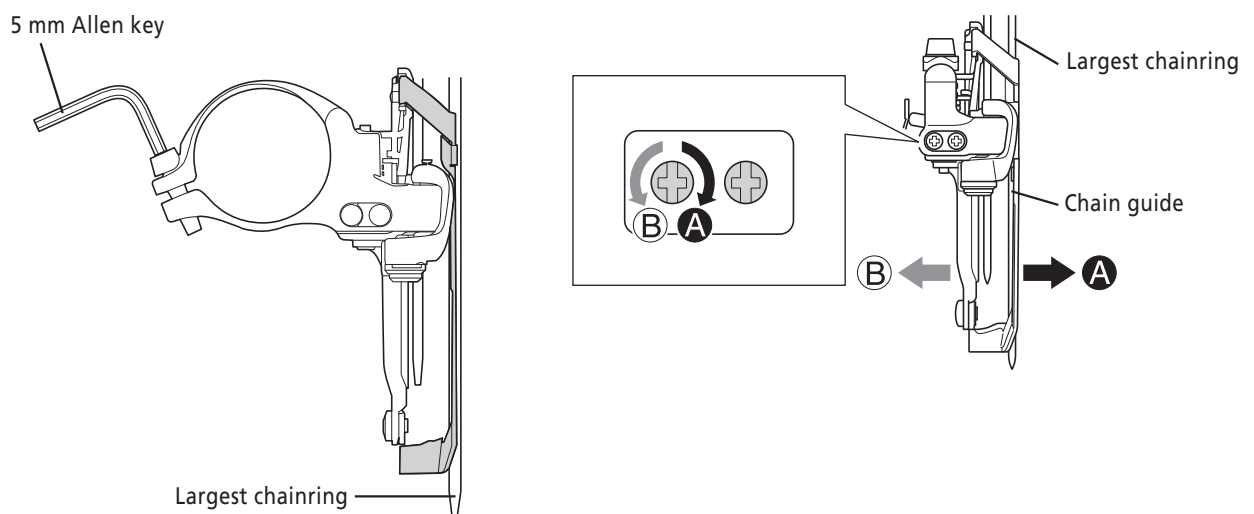
Tool
5 mm Allen key
2 mm Allen key
4 mm Allen key
Screwdriver #2
TL-FD90
TL-FD68
TL-CT12

## Note:

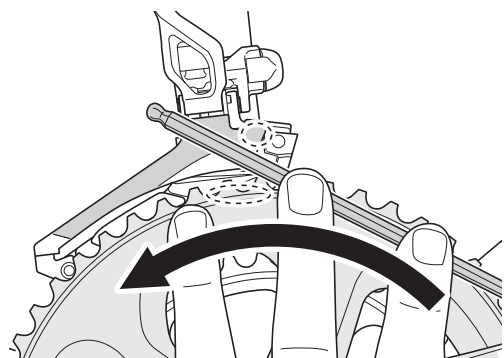
Even with the recommended tightening torque, there is a possibility that the carbon handlebars may become damaged and insufficiently tightened. Confirm the appropriate torque with the bicycle manufacturer or the handlebar manufacturer.

## ■ Band type

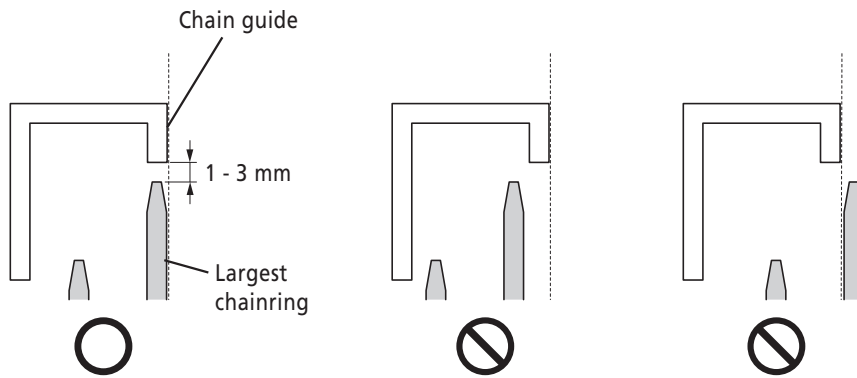
1. After tentatively tightening the clamp bolt, adjust the low adjustment screw and align the flat portion of the chain guide outer plate parallel to the surface of the largest chainring.



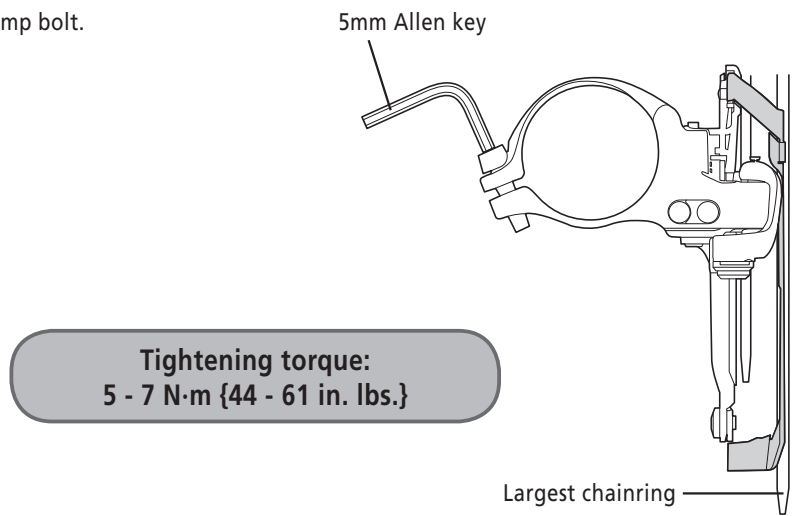
\* Check by holding an Allen key against the flat surface of the largest chainring as shown in the illustration.



**2.** Adjust so that there is a clearance of 1 – 3 mm between the chain guide outer plate and the largest chainring.



**3.** When the adjustment is complete, tighten the clamp bolt.

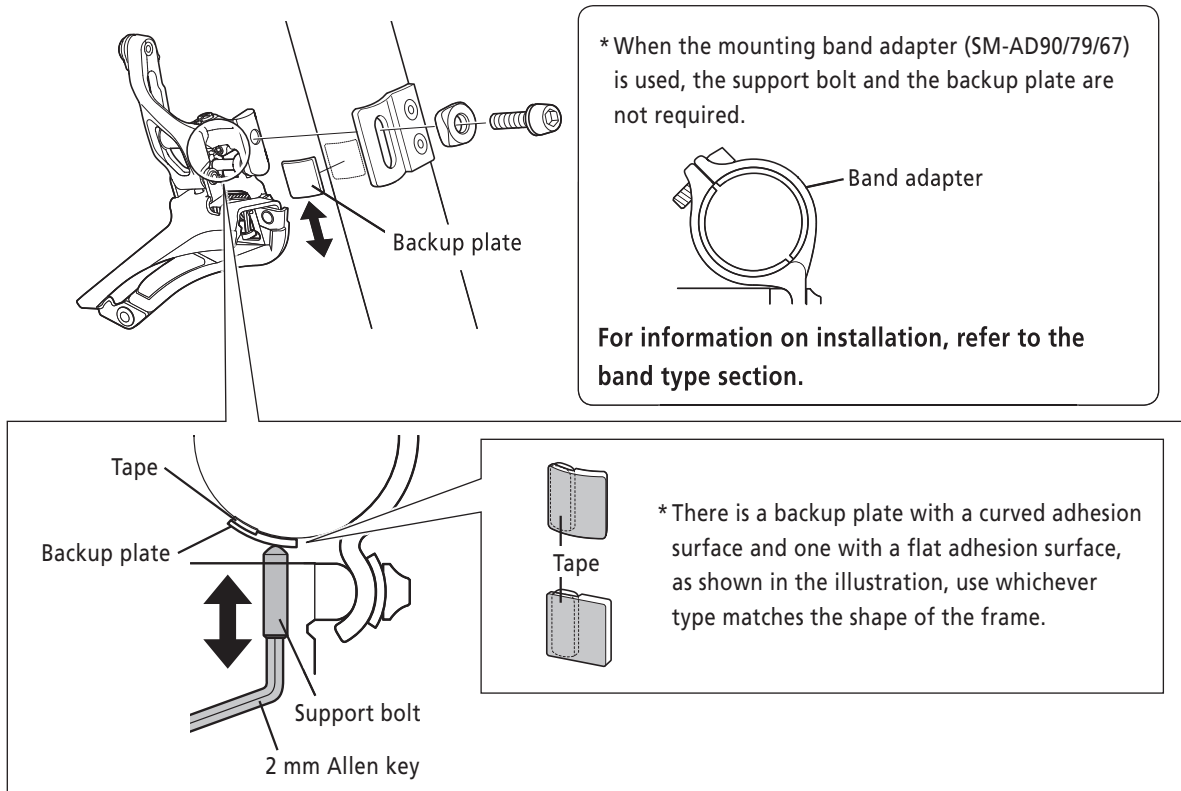


## ■ Brazed-on type

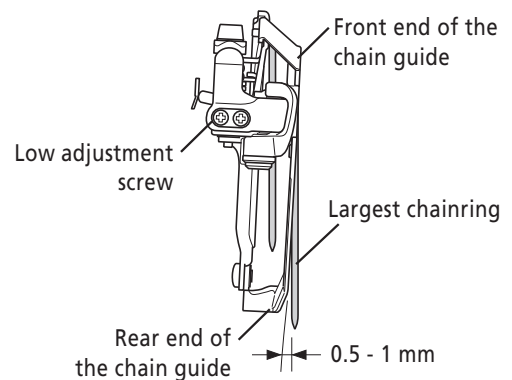
If installing the front derailleur to a brazed-on type frame, a backup plate must be attached to the seat tube. Always be sure to install the backup plate in order to prevent damage to the frame from the pressure applied by the support bolt of the front derailleur.

### Installation of the backup plate

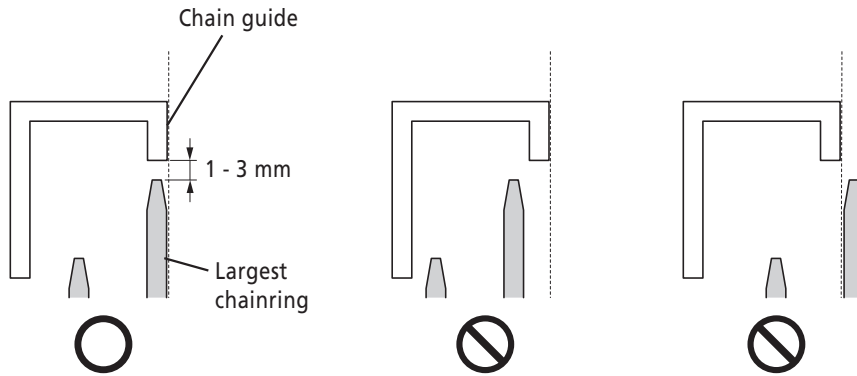
Check the position where the support bolt directly touches the frame when the support bolt of the front derailleur is being adjusted, and attach the backup plate in that position. In addition, avoid positioning the tape that attaches the backup plate to the seat tube in the location where the support bolt directly touches the frame.



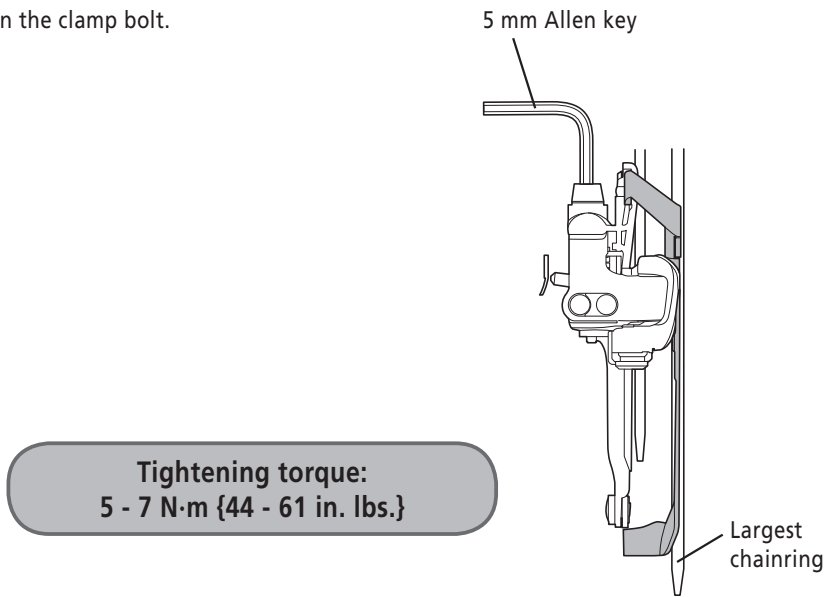
1. After tentatively tightening the clamp bolt, adjust the low adjustment screw and align the front end of the outer plate of the chain guide parallel to the surface of the largest chainring. At this point, adjust the chain guide so that its rear end is 0.5 – 1.0 mm inside.



**2.** Adjust so that there is a clearance of 1 – 3 mm between the chain guide outer plate and the largest chainring.

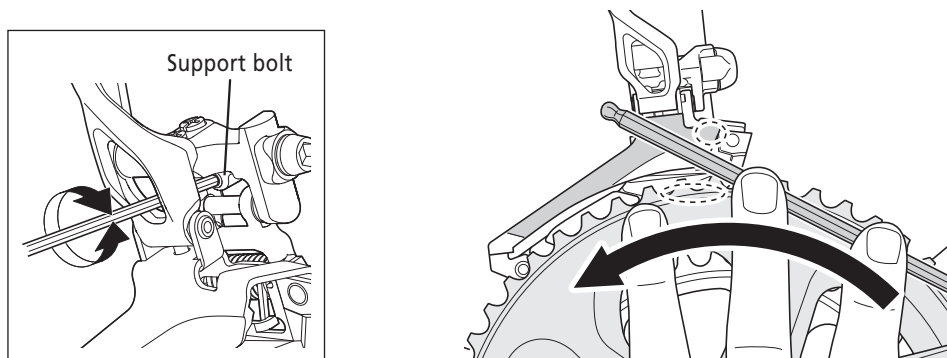


**3.** When the adjustment is complete, tighten the clamp bolt.



**4.** Adjust the support bolt so that the flat portion of the outer plate of the chain guide is parallel to the surface of the largest chainring.

\* Check by holding an Allen key against the flat surface of the largest chainring.



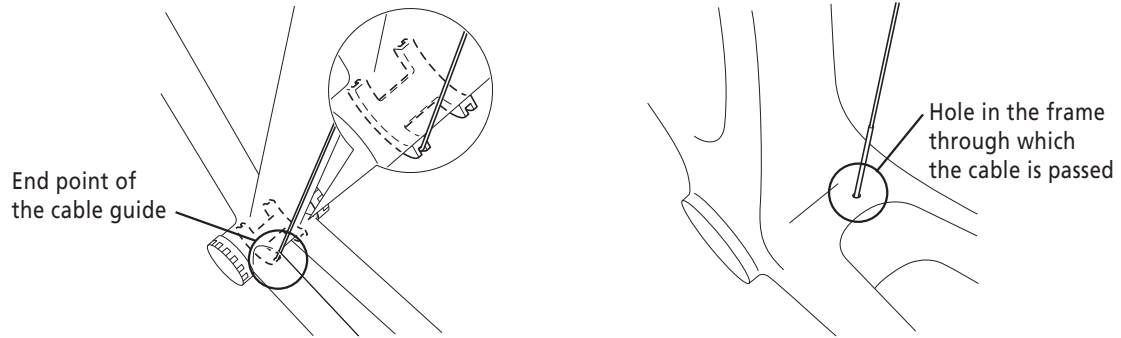


# ADJUSTMENT

## ■ Connection and securing of inner cable

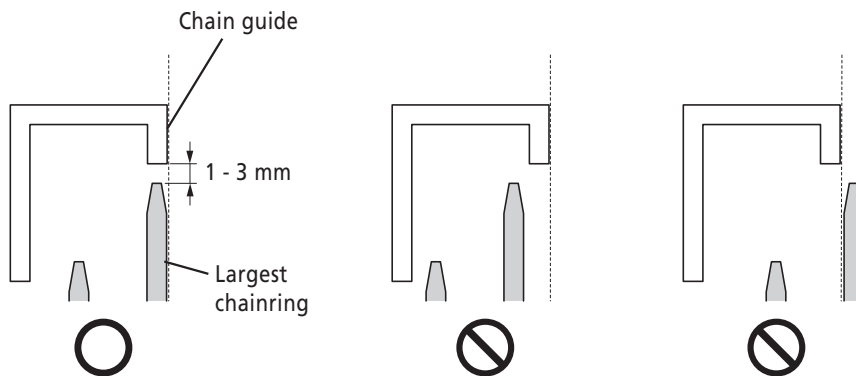
### Adjusting the cable route

The distance of the movement of the front derailleur varies according to the end point of the cable guide or the position of the hole in the frame through which the cable is passed. Adjust the distance of the movement by turning ON/OFF the converter.



Use the cable converter judgment tool to (TL-FD90 or TL-FD68 for FD-9000, TL-FD68 for FD-6800 / FD-5800 / FD-4700) select the direction of the converter.

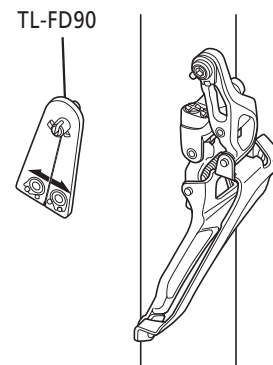
Before using the converter judgment tool, align the chain guide outer plate parallel to the surface of the largest chainring.



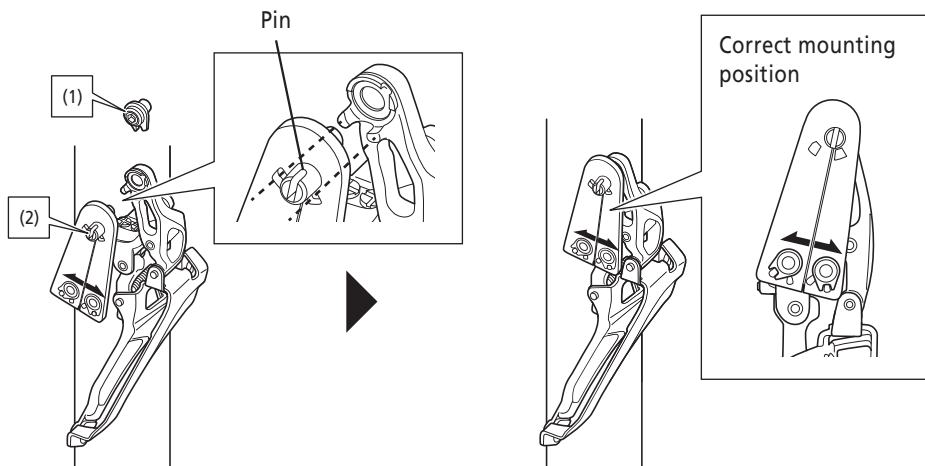
<FD-9000>

Refer to the following illustration for this step.

(1) Remove the fixing bolt.

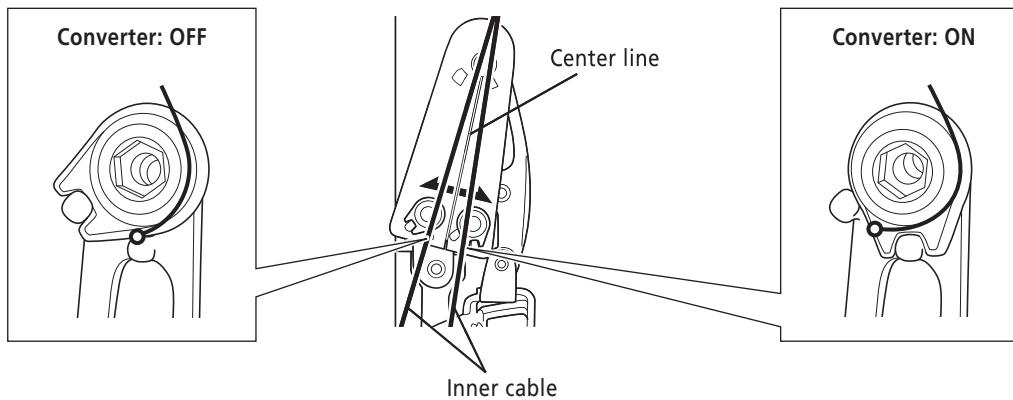


(2) Insert the pin in alignment with the protrusion on the outer link.



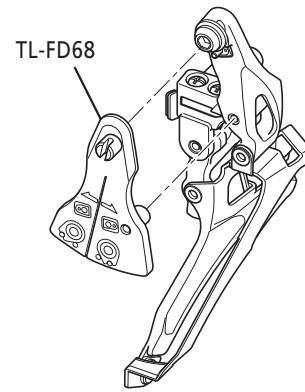
(3) Pass the cable through the slit in the tool and pull the cable. Check which side of the center line the cable is on when looking at the tool. (Either ON or OFF can be selected if the cable is on the center line.)

\* At this point, make sure that the outer plate of the chain guide is parallel to the surface of the largest chainring.



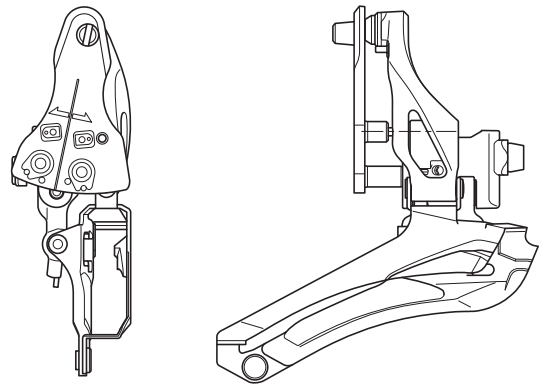
<FD-6800 / FD-5800 / FD-4700>

(1) Insert the pin in alignment with the hole in the shaft of the right-side link and the hexagonal hole in the fixing bolt.



(2) Pass the cable through the slit in the tool and pull the cable. Check which side of the center line the cable is on when looking at the tool.

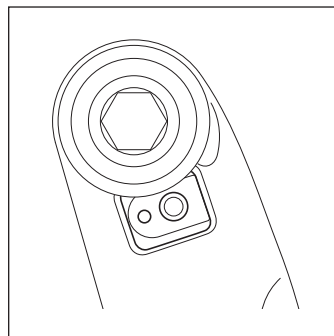
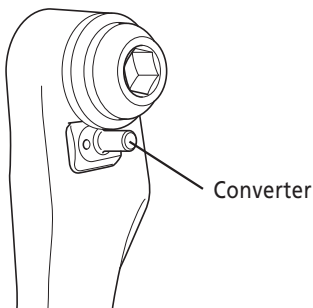
\* At this point, make sure that the outer plate of the chain guide is parallel to the surface of the largest chainring.



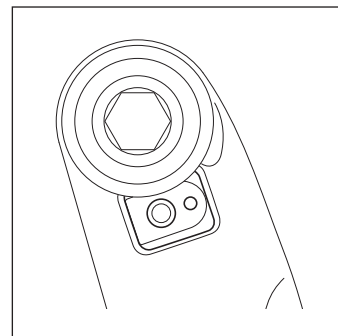
**How to turn ON/OFF the converter**

The protrusion on the converter and the dent beside it serve as a guide.

- The protrusion is on the outer side of the bicycle: OFF
  - The protrusion is on the inner side of the bicycle: ON
- (Either ON or OFF can be selected if the cable is on the center line.)

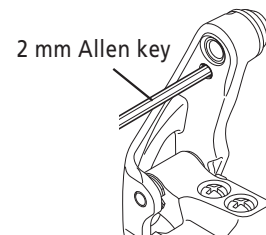


**Converter: OFF**



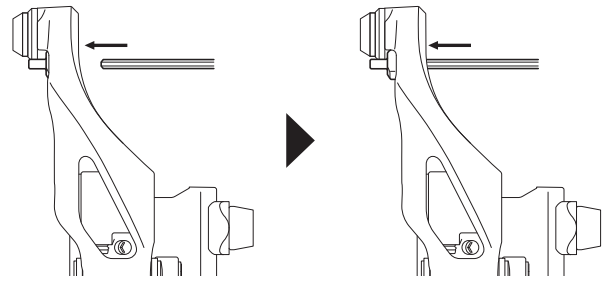
**Converter: ON**

Switch between ON and OFF using a 2 mm Allen key with the fixing bolt fully tightened so that the correct mounting position can be obtained.

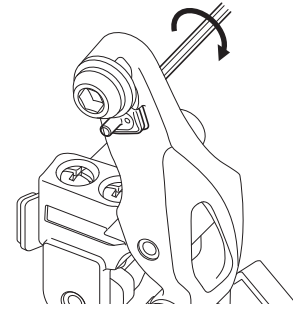


## Switching from OFF to ON

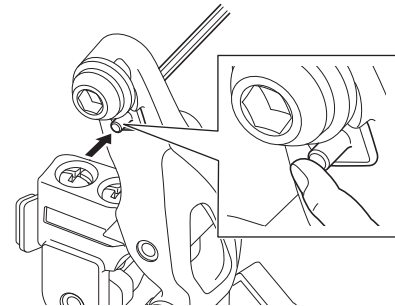
- (1) Insert a 2 mm Allen key into the converter and push out the converter until it comes into contact with the fixing plate.  
(The fixing bolt does not need to be loosened.)



- (2) Turn the converter 180 degrees counterclockwise.



- (3) Push the pin of the converter back with your finger into the right-side link.



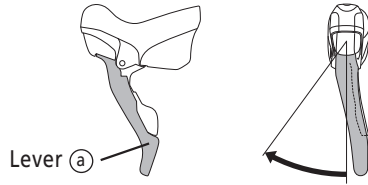
## Securing the cable

Remove the tool and attach the fixing bolt.

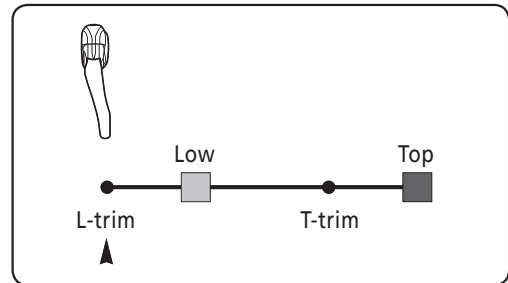
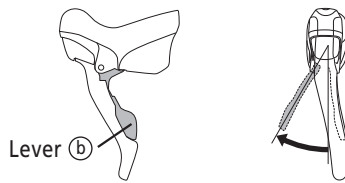
(Either ON or OFF can be selected if the cable is on the center line.)

Check that the lever (b) is released to the L-trim position by operating it 3 or more times before fixing the cable.

- Lever (a) : Shifts from smallest to largest front chaining.



- Lever (b) : Shifts from largest to smallest front chaining.

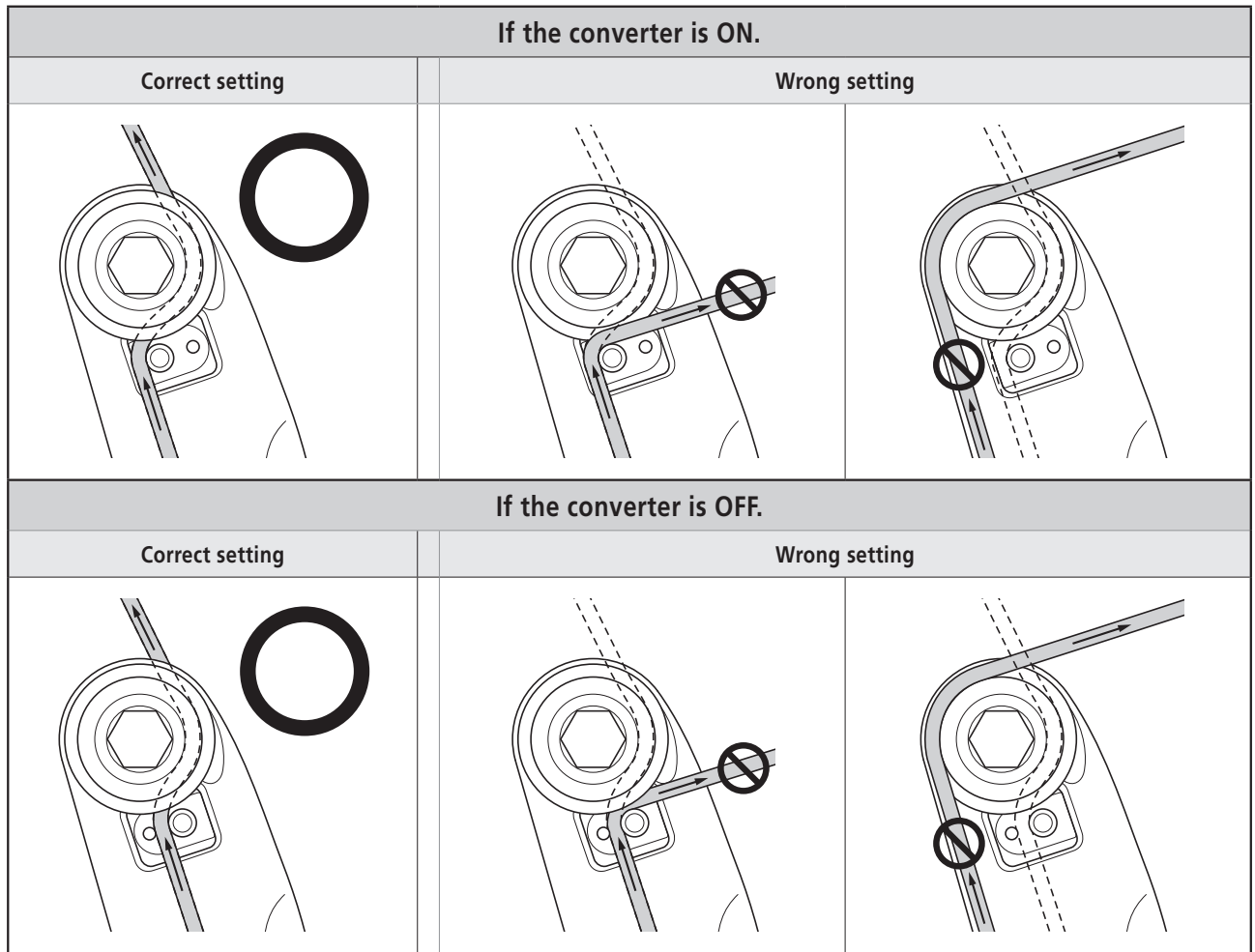


▲ : Cable index point

Install the cable properly referring to the following illustration.

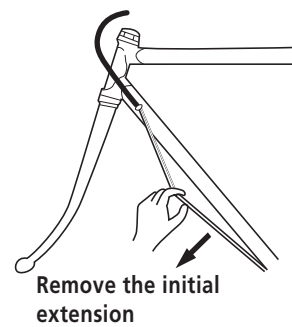
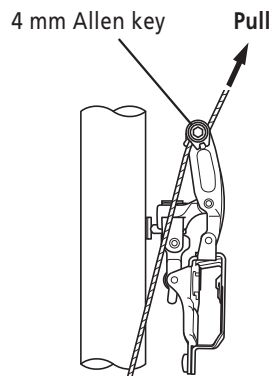
<FD-9000>

If the converter is ON.		
Correct setting	Wrong setting	
If the converter is OFF.		
Correct setting	Wrong setting	

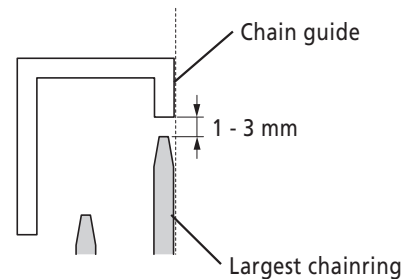


Fix the inner cable and remove the initial extension from the cable. After that, fix the cable again while pulling it.

**Tightening torque:  
6 - 7 N·m {53 - 61 in. lbs.}**

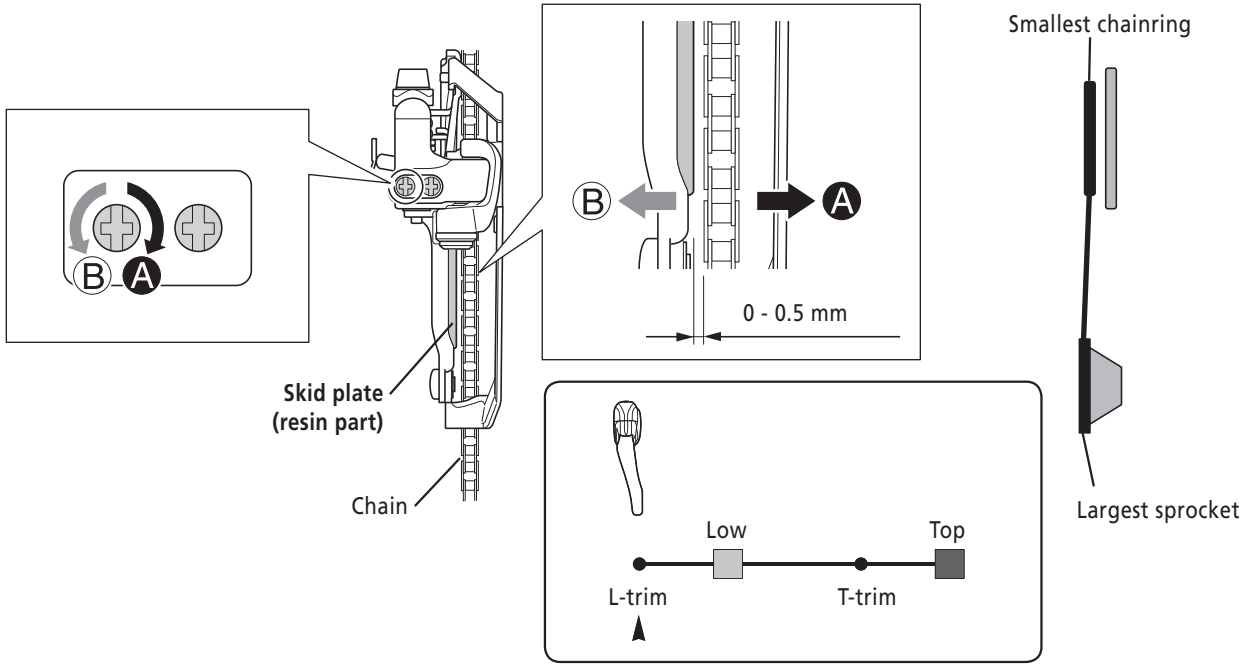


Fixing the cable with the chain guide outer plate and the surface of the largest chainring aligned, allows you to decrease the amount of cable tension adjustment when adjusting gear shifting.



## ■ Low adjustment

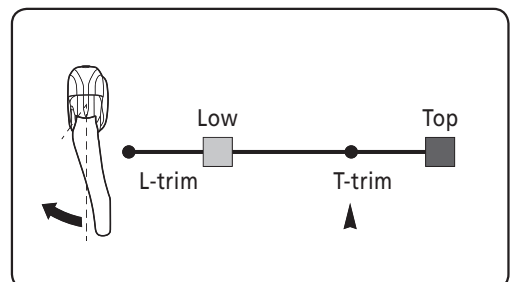
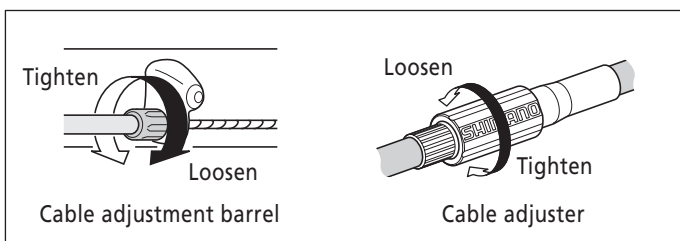
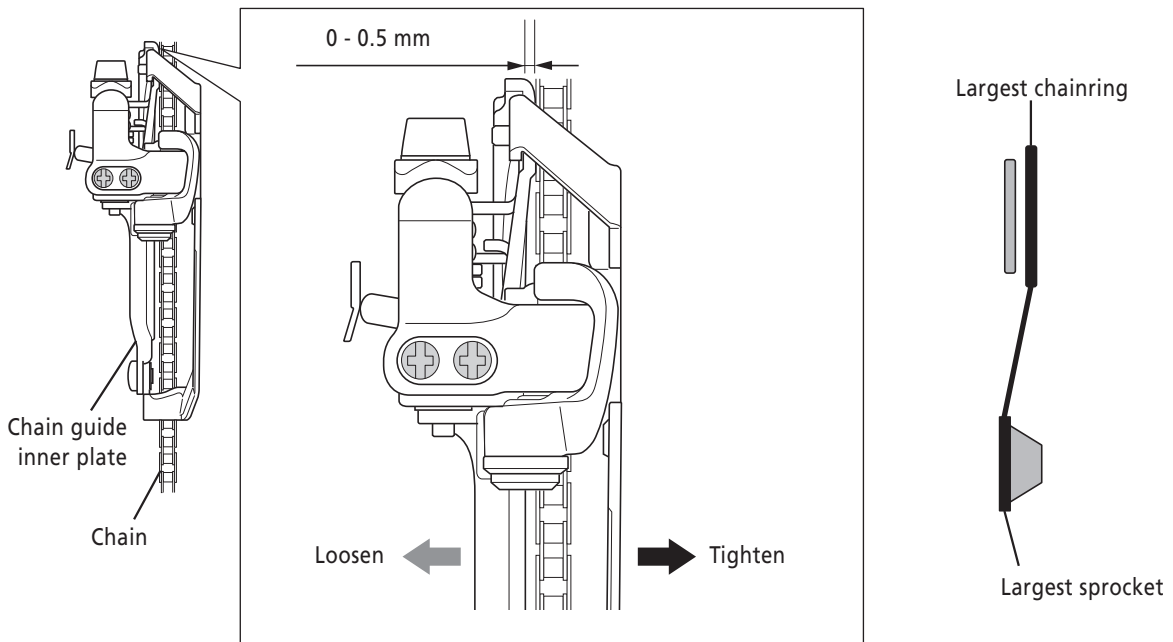
Adjust the clearance to 0 to 0.5 mm between the skid plate of the chain guide and the chain.



## ■ Adjustment of the cable tension

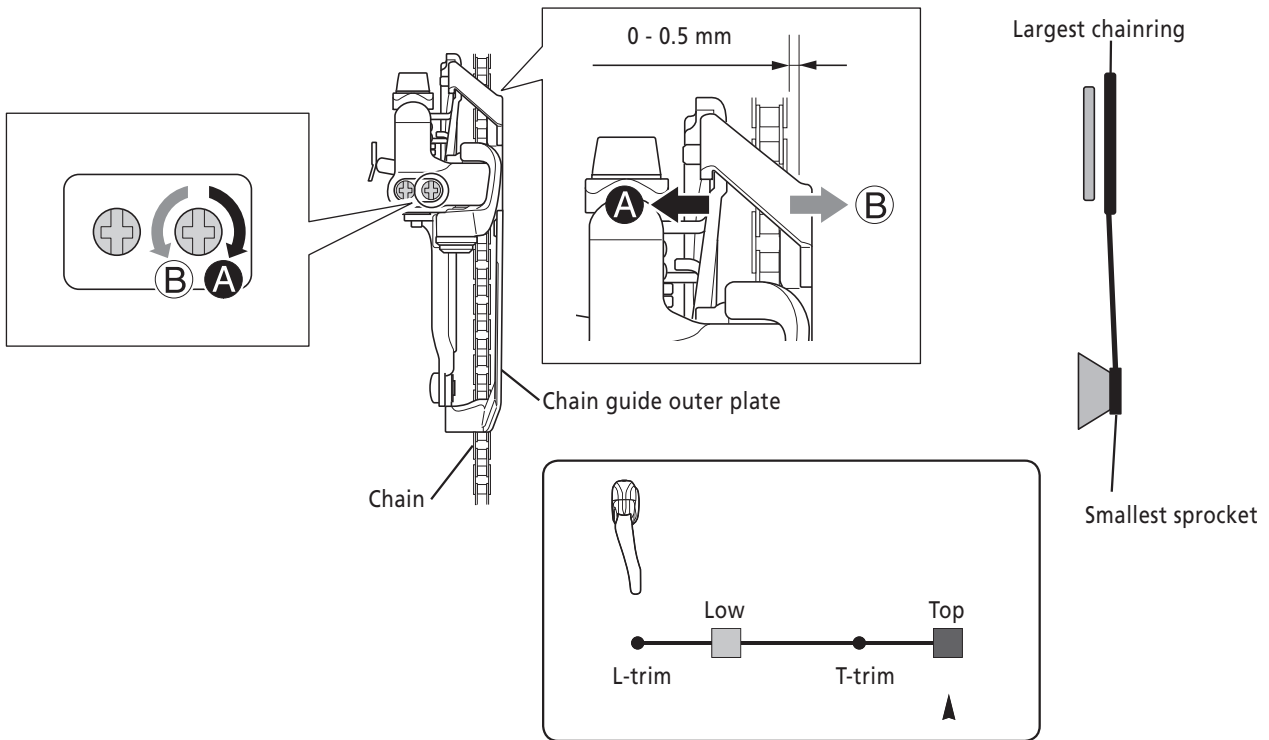
The gear where the lever is released from the top position to the T-trim position is the tension adjustment position.

Adjust the clearance between the chain and the inner plate of the chain guide to the minimum (0 to 0.5 mm) using the cable adjustment bolt or cable adjuster.



## ■ Top adjustment

Set so that the clearance between the chain guide outer plate and the chain is 0 - 0.5 mm.



## ■ Troubleshooting chart

After the cable is installed and adjusted, check the gear-shift by operating the shifting lever.

(This also applies if shifting becomes difficult during use.)

\* Turn the bolt by 1/8th turn for each adjustment.

If the chain falls to the crank side	Turn the top adjustment screw clockwise.
If shifting is difficult from the smallest chainring to the largest chainring.	Tighten the cable. If this does not improve the condition, turn the top adjustment screw counterclockwise. Turn the top adjustment screw clockwise.
If shifting is difficult from the largest chainring to the smallest chainring.	Loosen the cable.
If the chain falls to the bottom bracket side	Tighten the cable. If this does not improve the condition, turn the top adjustment screw counterclockwise.

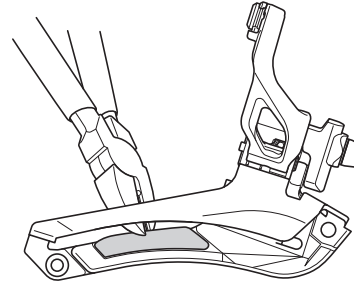


# MAINTENANCE

## ■ How to replace the skid plate

### Removing the skid plate

Make a slit in the skid plate at the position illustrated in the figure using pliers, and then remove the skid plate.

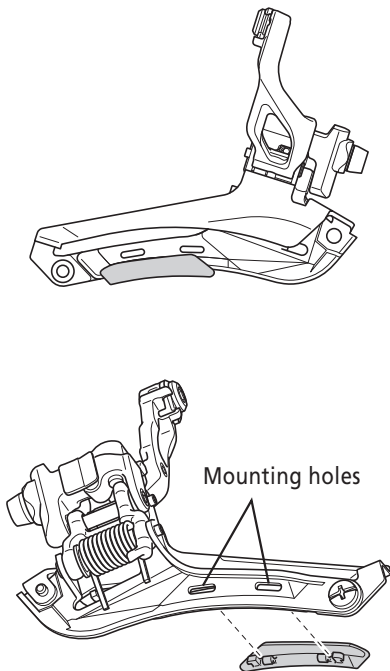


### Mounting the skid plate

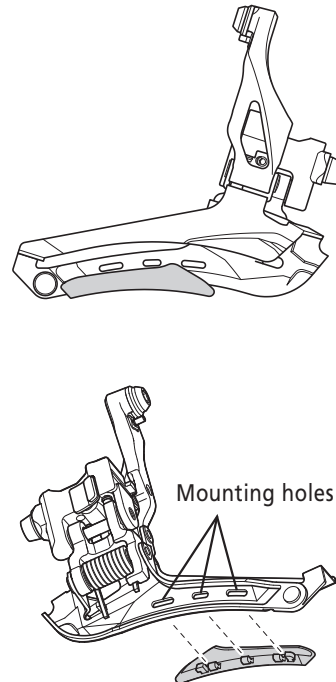
Insert the skid plate into the mounting holes.

After insertion, check that the claws of the skid plate are engaged properly on the back side.

<FD-9000>



<FD-6800 / FD-5800 / FD-4700>



# SHIMANO

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

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