

Dealer's Manual

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

FRONT DERAILLEUR

ALIVIO
FD-M3100
FD-M3120

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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 distributor for assistance.
- Make sure to read all manuals included with the product.
- Do not disassemble or modify the product other than as stated in the information contained in this dealer's manual.
- All manuals and technical documents are accessible online at <https://si.shimano.com>.
- For consumers who do not have easy access to the internet, please contact a SHIMANO distributor or any of the SHIMANO offices to obtain a hardcopy of the User's Manual.
- Please observe the appropriate rules and regulations of the country, state or region in which you conduct your business as a dealer.


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

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

| | |
|--|--|
|  DANGER | Failure to follow the instructions will result in death or serious injury. |
|  WARNING | Failure to follow the instructions could result in death or serious injury. |
|  CAUTION | Failure to follow the instructions could cause personal injury or physical damage to equipment and surroundings. |

TO ENSURE SAFETY

⚠ WARNING

- Be sure to follow the instructions provided in the manuals when installing the product. Use SHIMANO genuine parts only. Inappropriate assembly or adjustment of products and replacement parts may bring about product malfunctions which may cause the bicycle to fall over and lead to serious injury.
-  Wear approved eye protection while performing maintenance tasks such as replacing components.


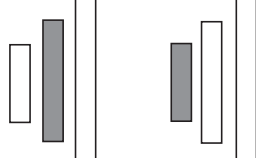
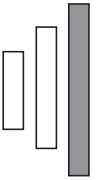
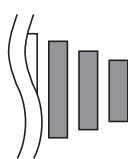
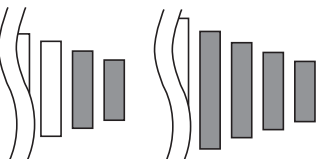
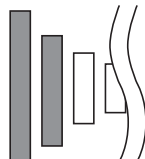
Be sure to also inform users of the following:

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

NOTICE

Be sure to also inform users of the following:

- If gear shifting operations do not feel smooth, wash the shifting unit and lubricate all moving parts.
- When the chain is in any of the positions shown in the figures, the chain may come into contact with the front chainring or front derailleur and generate noise. If noise is a problem, shift the chain onto the next largest rear sprocket or the one after if the chain is in the position shown in Figure 1. Shift the chain onto the next smallest sprocket or the one after if it is in the position shown in Figure 2.

| | Figure 1 | | Figure 2 |
|-----------------|---|--|---|
| Front chainring | <p>Double</p>  | <p>Triple</p>  |  |
| Rear sprocket |  |  |  |



For installation to the bicycle, and maintenance:

- A triple front derailleur cannot be used with a double crankset because the shifting points do not match. Similarly, a double front derailleur cannot be used with a triple crankset.
- For frames with suspension, the chainstay angle will vary depending on whether the bicycle is being ridden or not being ridden.
- When the bicycle is not being ridden and the chain is positioned on the largest chainring and on the smallest sprocket, the chain guide outer plate of the front derailleur may touch the chain.
- Use an OT-SP40 cable and a cable guide (SM-SP17/SP18) for smooth operation.
- If the amount of excess play in the links is so great that gear shifting adjustment is not possible, you should replace the shifting unit.
- 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.

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

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

| Tool | |
|---|-----------------------------|
|  | 5 mm hexagon wrench |
|  | Cross head screwdriver [#2] |

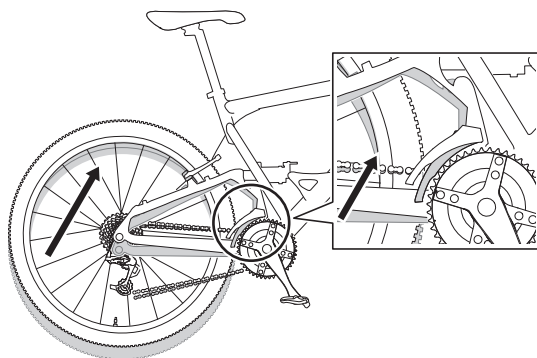
INSTALLATION/REMOVAL

NOTICE

- When installing parts on a carbon frame/handlebars, confirm the recommended tightening torque with the carbon frame or part manufacturer in order to prevent damage to the carbon material due to overtightening or inadequate securing of the parts due to insufficient tightening torque.

TECH TIPS

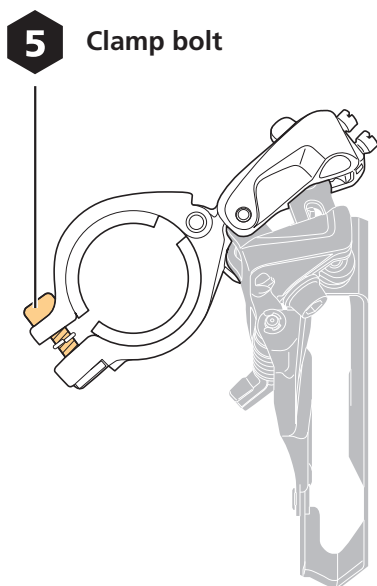
- The position of bicycles with rear suspension may differ depending on whether a rider is on or off the bicycle. For the installation and SIS adjustment procedures, refer to the figure and secure the bicycle in the state it is in when a rider is on the bicycle.



Installing the front derailleur (front triple)

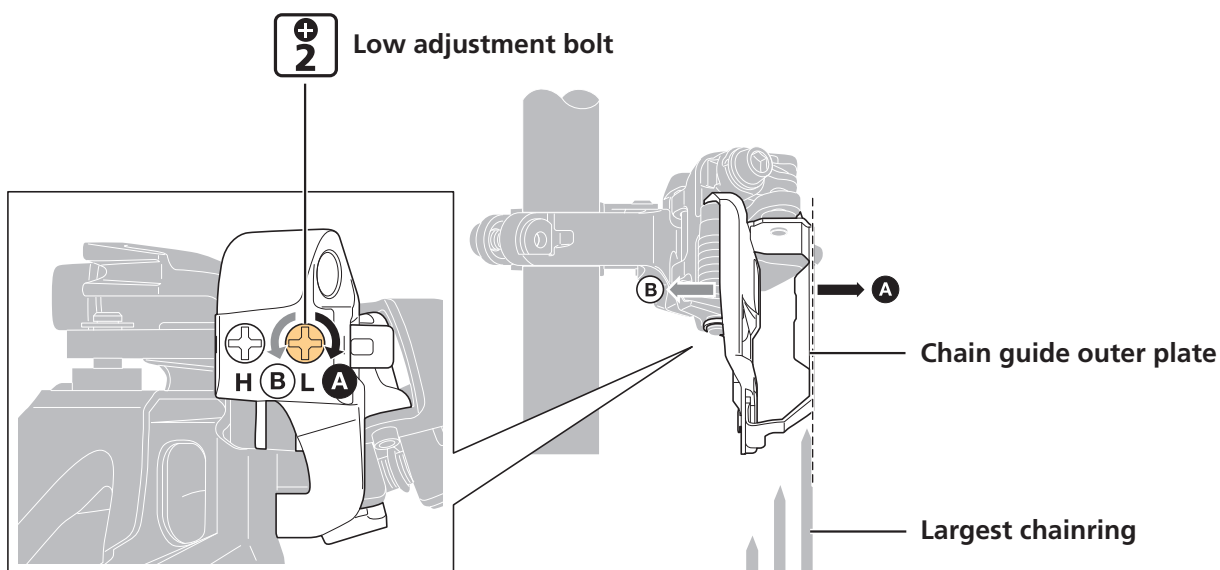
Band type

1. Temporarily attach the clamp bolt.



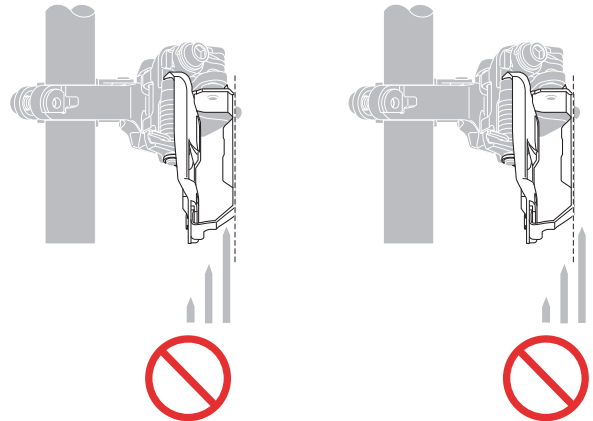
2. Adjust the position of the chain guide.

Use the low adjustment bolt to align the chain guide outer plate with the flat surface of the largest chainring.



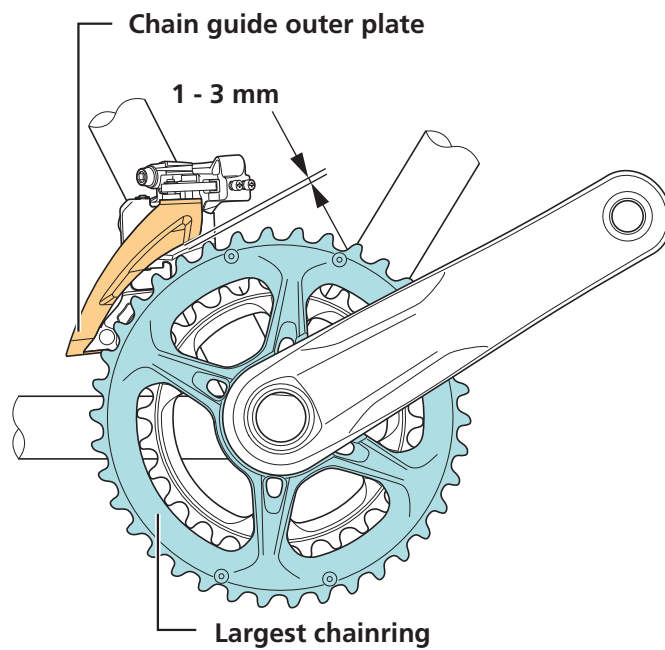
NOTICE

- Make sure not to position the chain guide as shown in the figure.



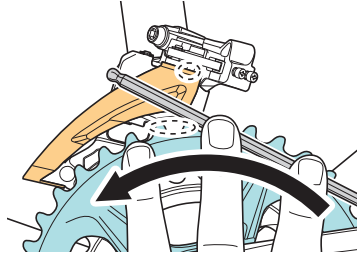
3. Adjust the height.

Adjust the installation height so that the distance from the tips of the teeth on the largest chainring is 1 - 3 mm.



4. Adjust the installation position.

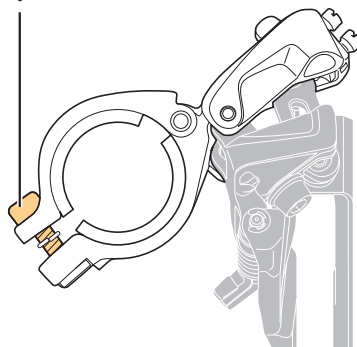
As shown in the figure, hold a tool such as a hexagon wrench against the flat surface of the largest chainring and make sure that the front derailleur is installed so that it is parallel with the front chainring.



5. Secure the clamp bolt.

Clamp bolt

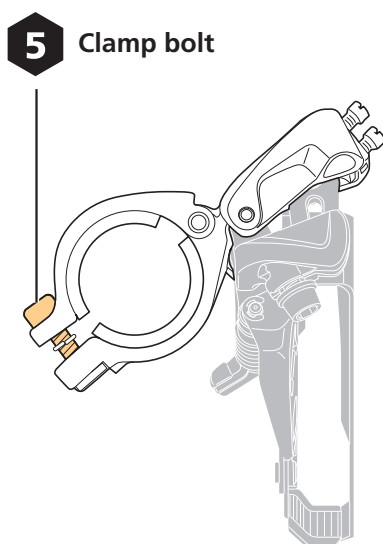
5 5 - 7 N·m



Installing the front derailleur (front double)

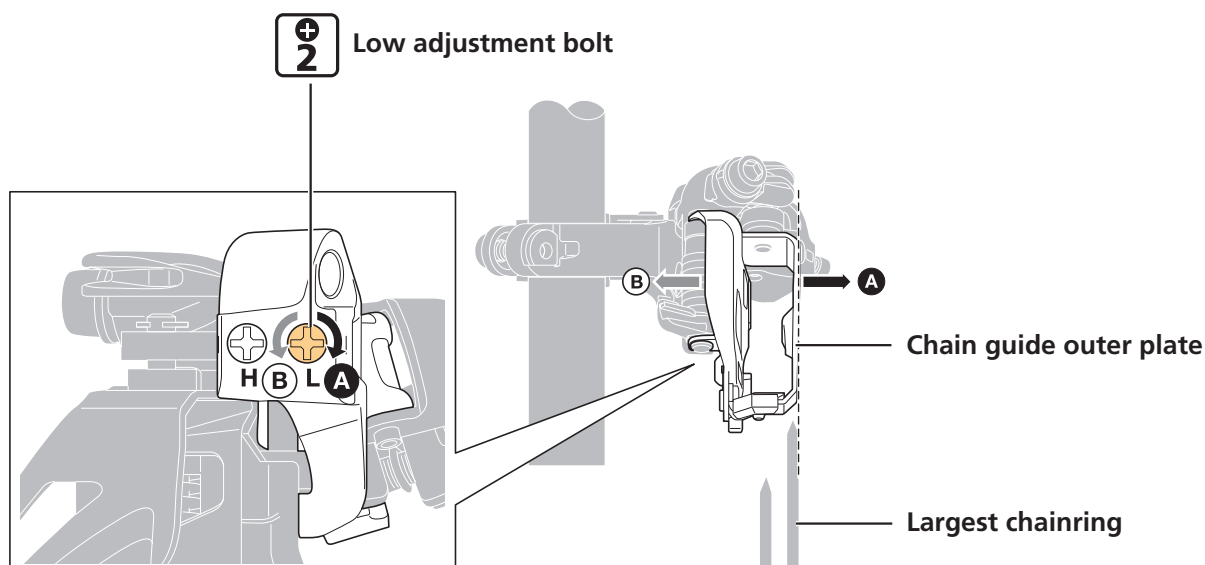
Band type

1. Temporarily attach the clamp bolt.



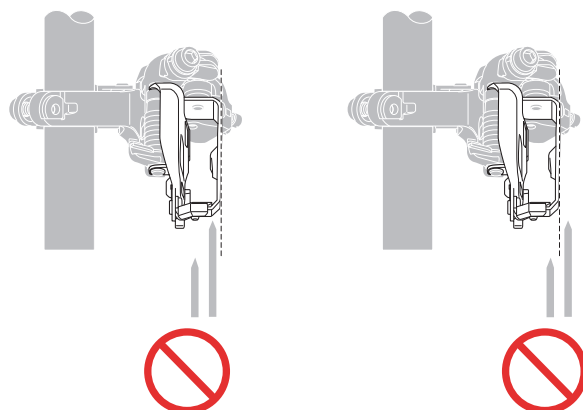
2. Adjust the position of the chain guide.

Use the low adjustment bolt to align the chain guide outer plate with the flat surface of the largest chainring.



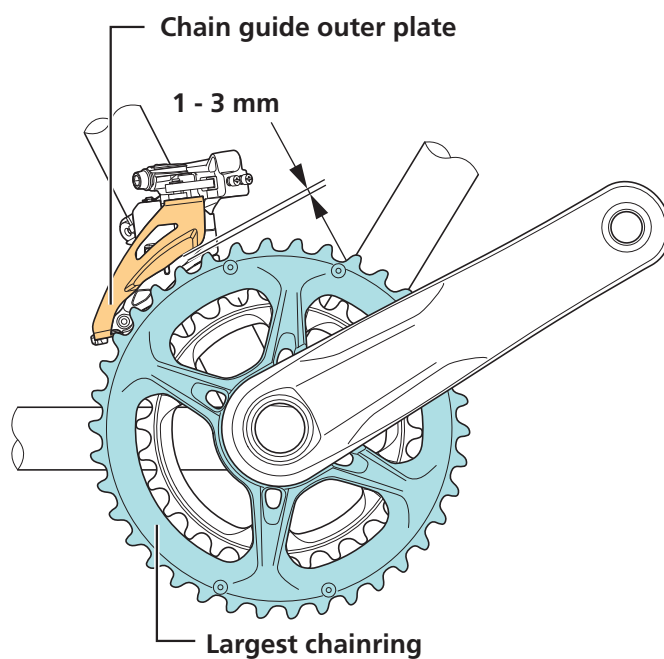
NOTICE

- Make sure not to position the chain guide as shown in the figure.



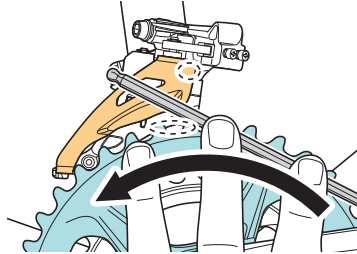
3. Adjust the height.

Adjust the installation height so that the distance from the tips of the teeth on the largest chainring is 1 - 3 mm.



4. Adjust the installation position.

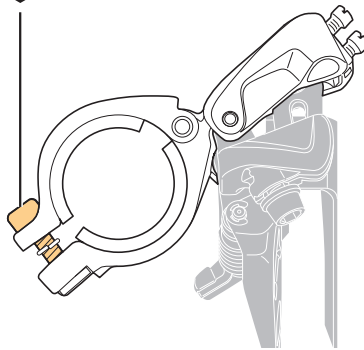
As shown in the figure, hold a tool such as a hexagon wrench against the flat surface of the largest chainring and make sure that the front derailleur is installed so that it is parallel with the front chainring.



5. Secure the clamp bolt.

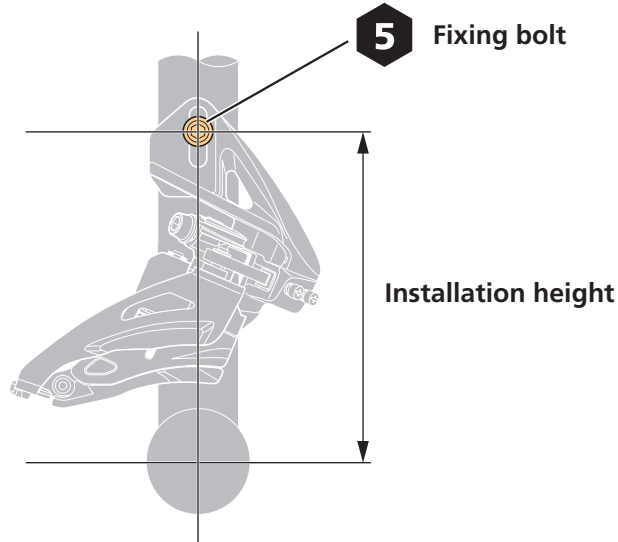
Clamp bolt

5 5 - 7 N·m



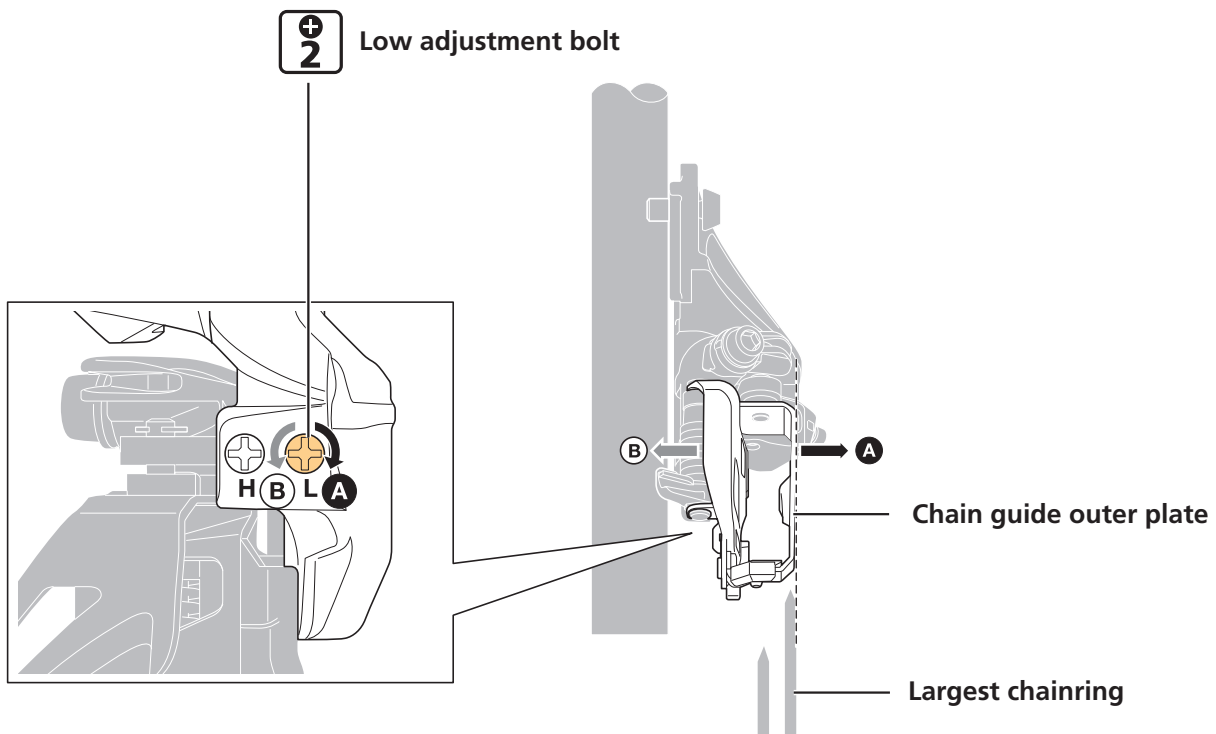
Direct mount type

1. Temporarily install the front derailleur to the frame.



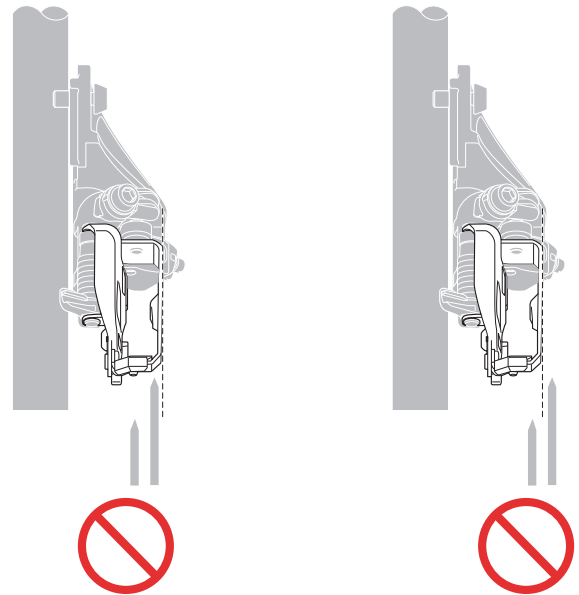
2. Adjust the position of the chain guide.

Use the low adjustment bolt to align the chain guide outer plate with the flat surface of the largest chainring.



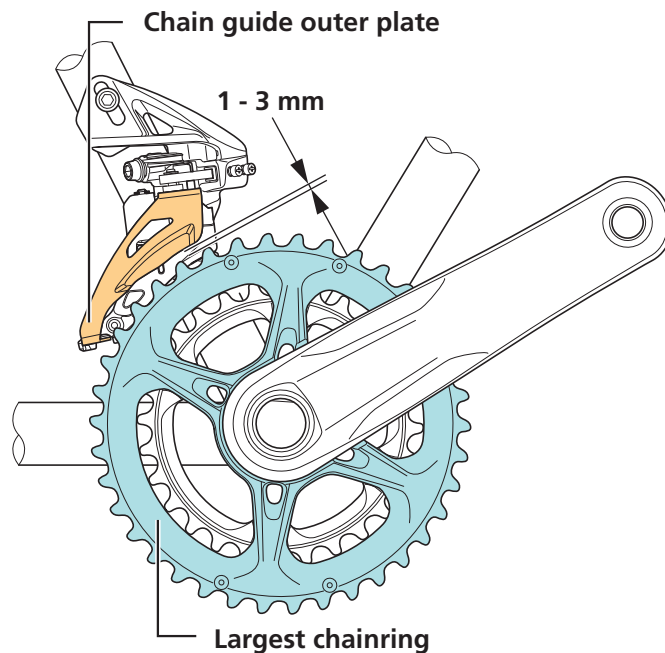
NOTICE

- Make sure not to position the chain guide as shown in the figure.

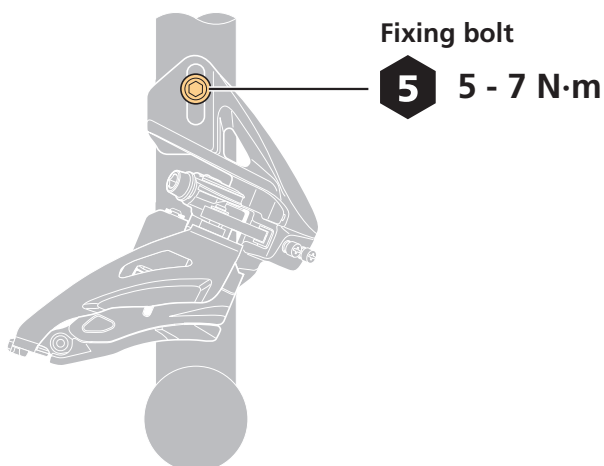


3. Adjust the height.

Adjust the installation height so that the distance from the tips of the teeth on the largest chainring is 1 - 3 mm.



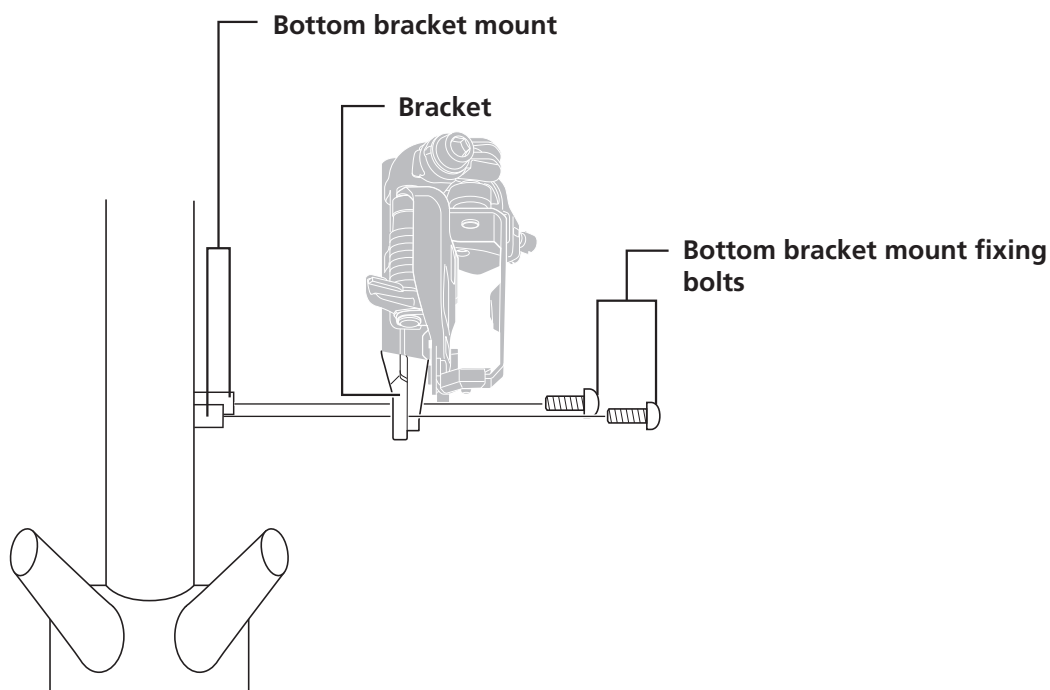
4. Secure the front derailleur to the frame.



E Type

1. Temporarily install the front derailleur to the frame.

Secure with the bottom bracket mount fixing bolts.

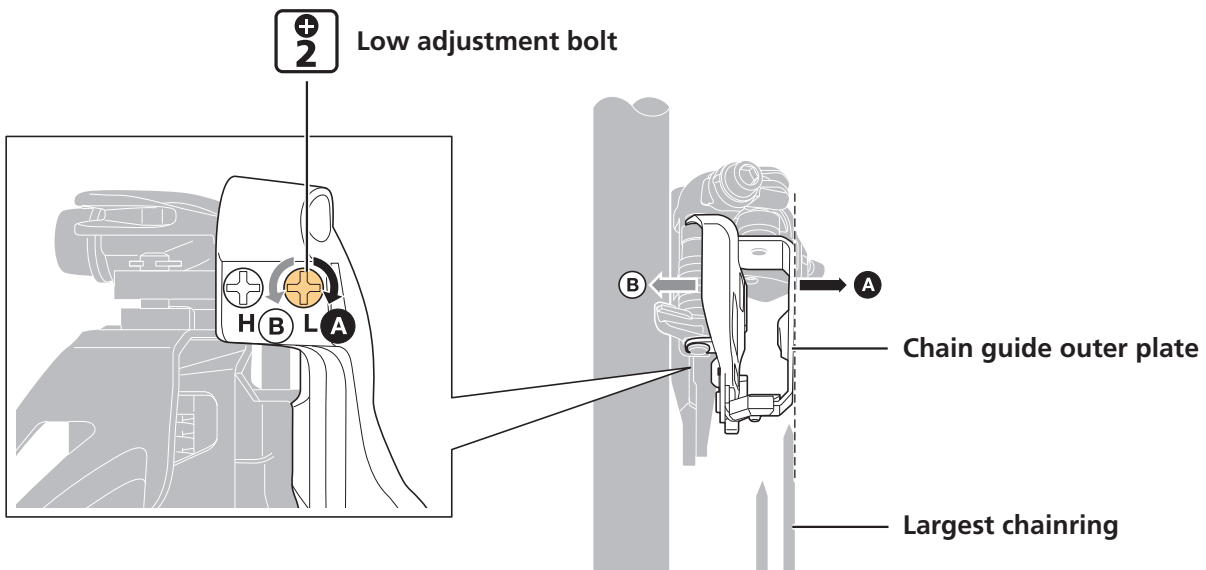


NOTICE

- The bottom bracket mount fixing bolts are not included with SHIMANO components.

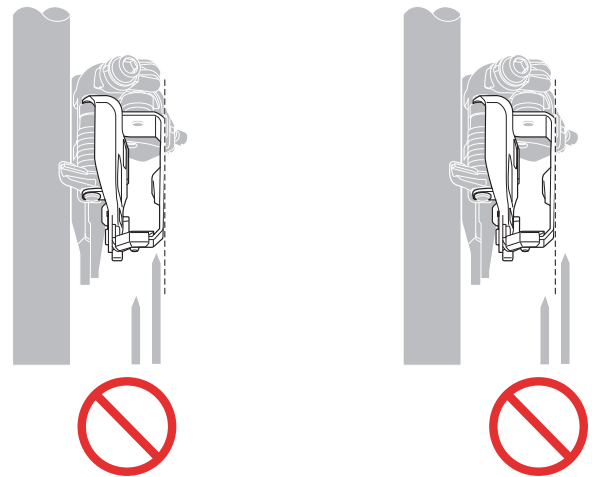
2. Adjust the position of the chain guide.

Use the low adjustment bolt to align the chain guide outer plate with the flat surface of the largest chainring.



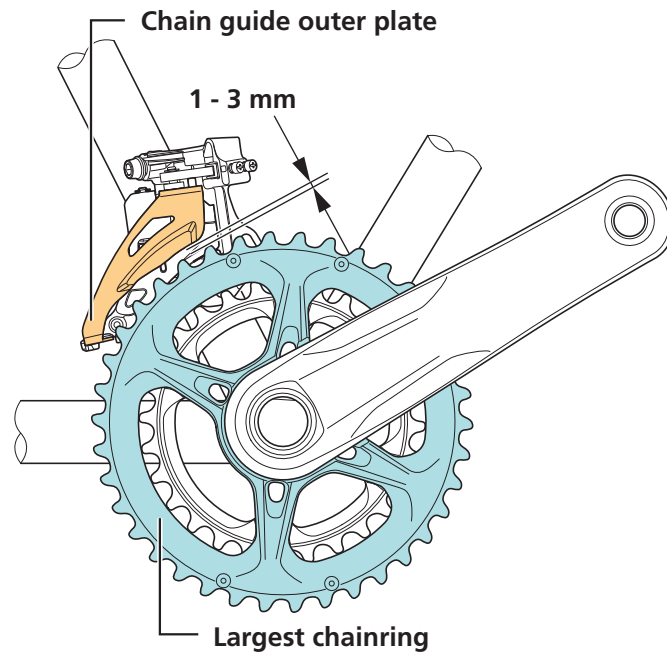
NOTICE

- Make sure not to position the chain guide as shown in the figure.



3. Adjust the height.

Adjust the installation height so that the distance from the tips of the teeth on the largest chainring is 1 - 3 mm.



4. Secure the front derailleur to the frame.

ADJUSTMENT

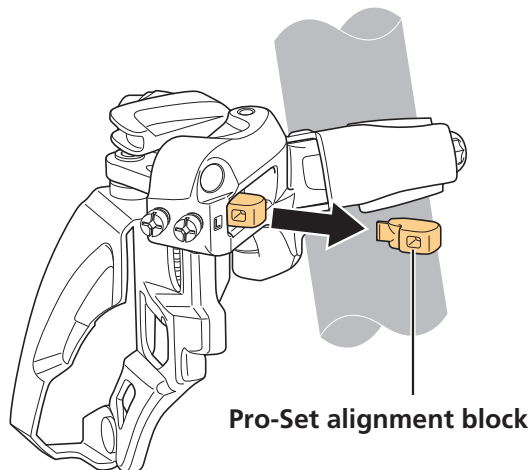
Adjustment procedures differ depending on whether the bicycle features front triples or front doubles.

Before making adjustments, check the specifications of the bicycle.

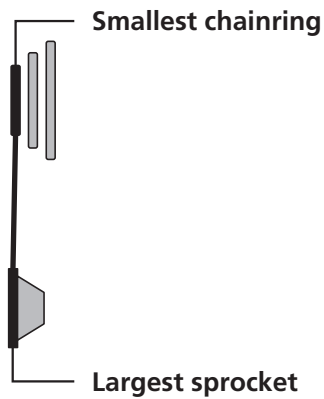
Installing the cable and adjusting gear shifting (front triple)

Adjusting the position of the low side

1. Remove the Pro-Set alignment block.

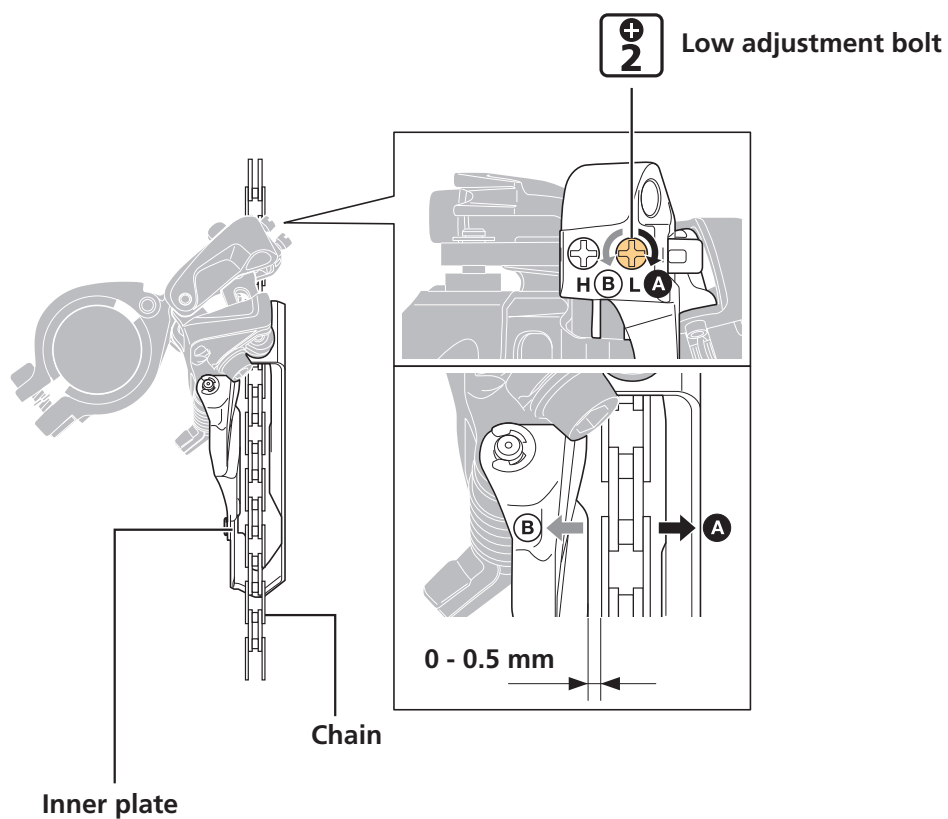


2. Adjust the chain to the smallest chainring and the largest sprocket.



3. Adjust the low position of the inner plate.

Adjust the gap between the inner plate and chain to 0 - 0.5 mm.

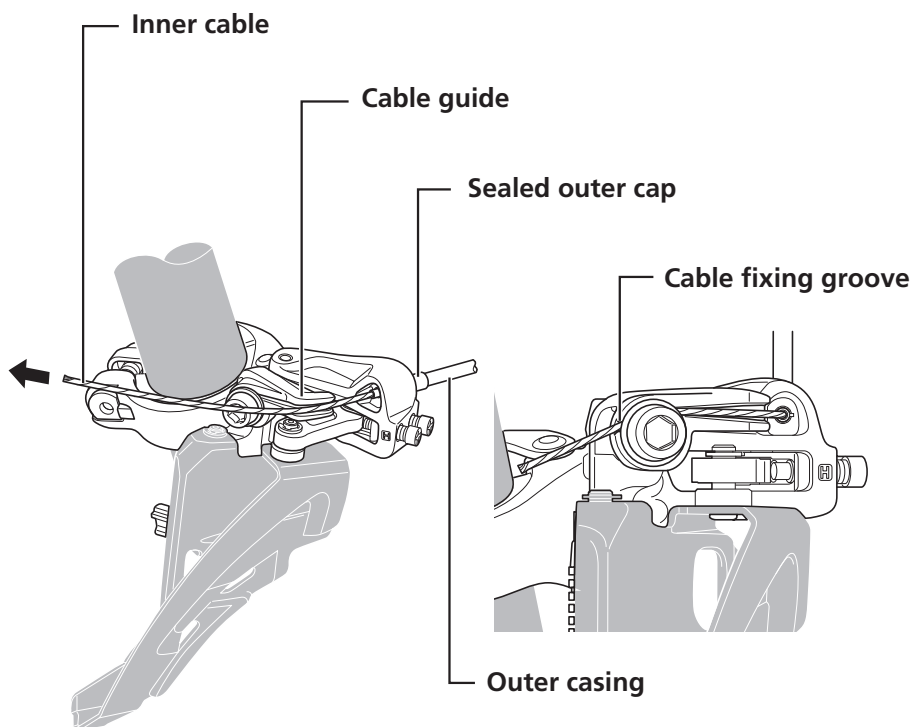


Connection and securing of the inner cable

1. Operate the release lever of the shifting lever and set it to the initial position (smallest chainring side).
2. Pass the inner cable through the front derailleur.

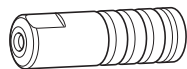
Pass the cable through the cable guide and along the cable fixing groove.

The cable fixing groove is located on the top side of the inner cable fixing bolt.



NOTICE

- Fuzz may be generated when the inner cable is assembled or when the coating is damaged during use; however, this will not affect performance.
- If the outer casing moves to a large degree, such as in bicycles with suspension frames, it is recommended that you use an aluminum type sealed outer cap.

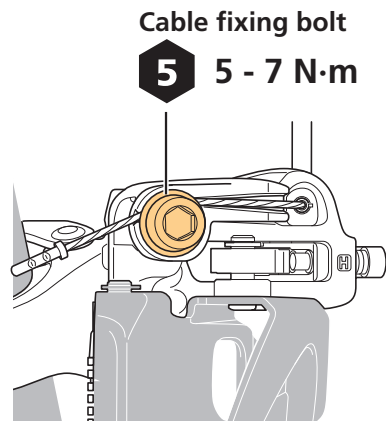


Sealed outer cap



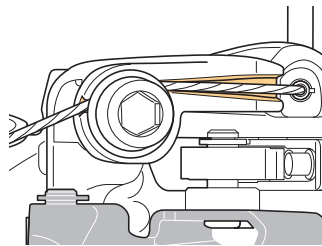
Sealed outer cap
(aluminum type)

3. Secure the inner cable.



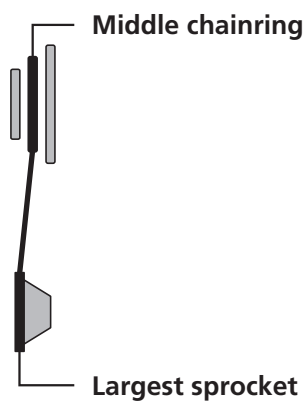
NOTICE

- Be sure to pass the inner cable along the cable fixing groove as shown in the figure. If the cable is not distributed along the groove, the gear shifting performance may become obstructed due to a reduction in the holding force, etc.



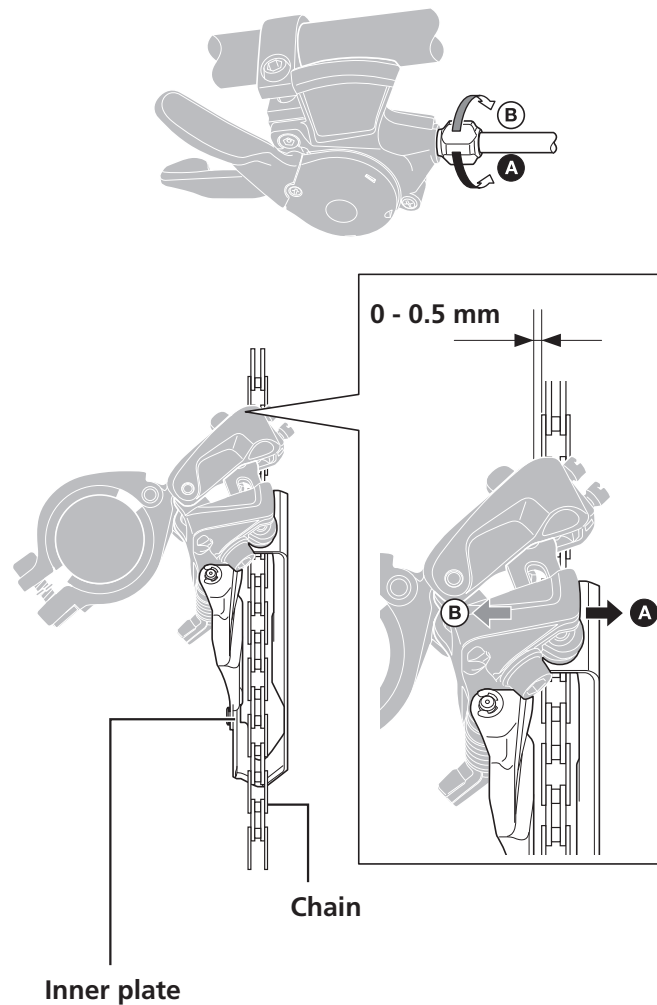
Adjusting the cable tension

1. Adjust the chain to the middle chainring and the largest sprocket.



2. Adjust the position of the inner plate.

Adjust the gap between the inner plate and the chain to 0 - 0.5 mm with the cable adjuster.

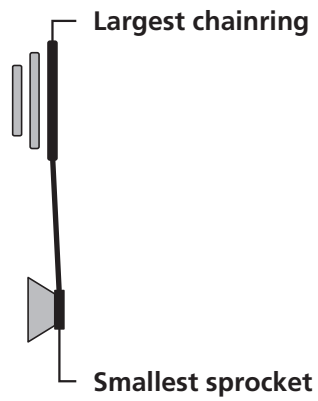


TECH TIPS

- Operate the lever once after adjusting with the cable adjuster and re-check the gap.

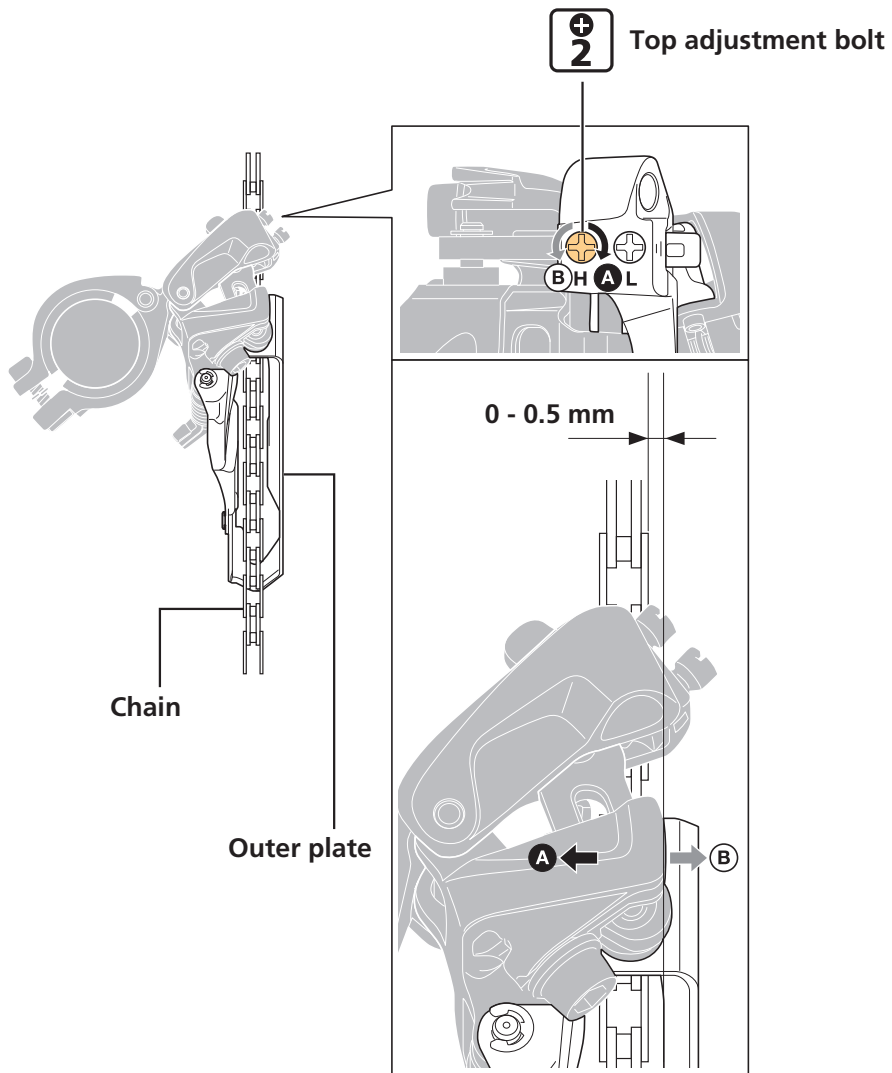
Adjusting the top side

1. Adjust the chain to the largest chainring and the smallest sprocket.



2. Adjust the position of the outer plate.

Adjust the gap between the outer plate and chain to 0 - 0.5 mm.



Checking gear shifting and fine tuning

After the cable is installed and adjusted, operate the shifting lever to check the gear shifting performance. (This also applies if shifting becomes difficult during use.)

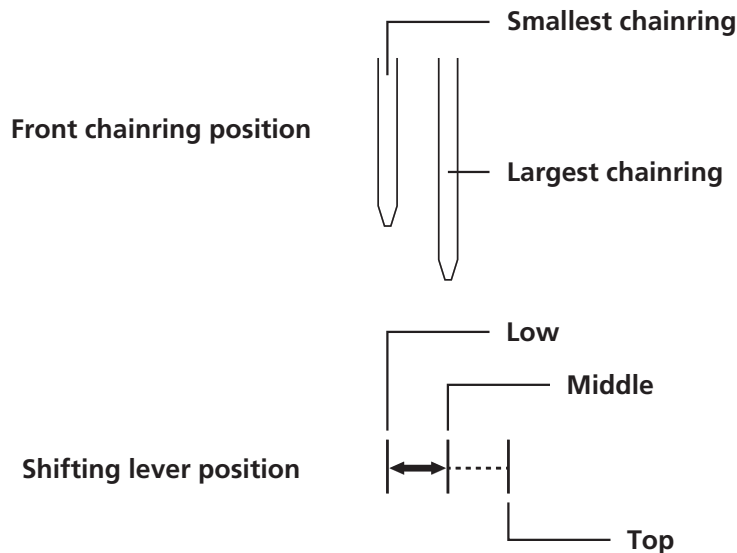
Refer to the table when fine tuning. Turn 1/8 of a turn for each adjustment.

| | |
|---|---|
| If the chain falls to the crank side | Turn the top adjustment bolt clockwise. |
| If shifting is difficult from the middle chainring to the largest chainring | Tighten the cable. If this does not improve the situation, turn the top adjustment bolt counterclockwise. |
| If shifting is difficult from the largest chainring to the middle chainring | Loosen the cable. |
| If the chain falls to the bottom bracket side | Turn the low adjustment bolt clockwise. |
| If the middle chainring is skipped when shifting from the largest chainring | Tighten the cable. |
| If shifting is difficult from the middle chainring to the smallest chainring | Turn the low adjustment bolt counterclockwise. |

Installing the cable and adjusting gear shifting (front double)

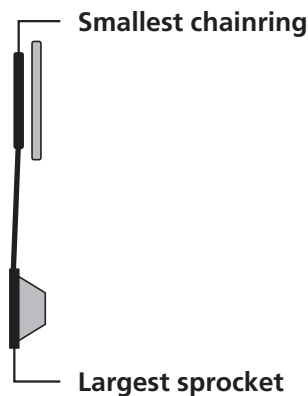
NOTICE

- When using a shifting lever that supports front triple, the shifter uses the lowest position and middle position. The top position is not used.



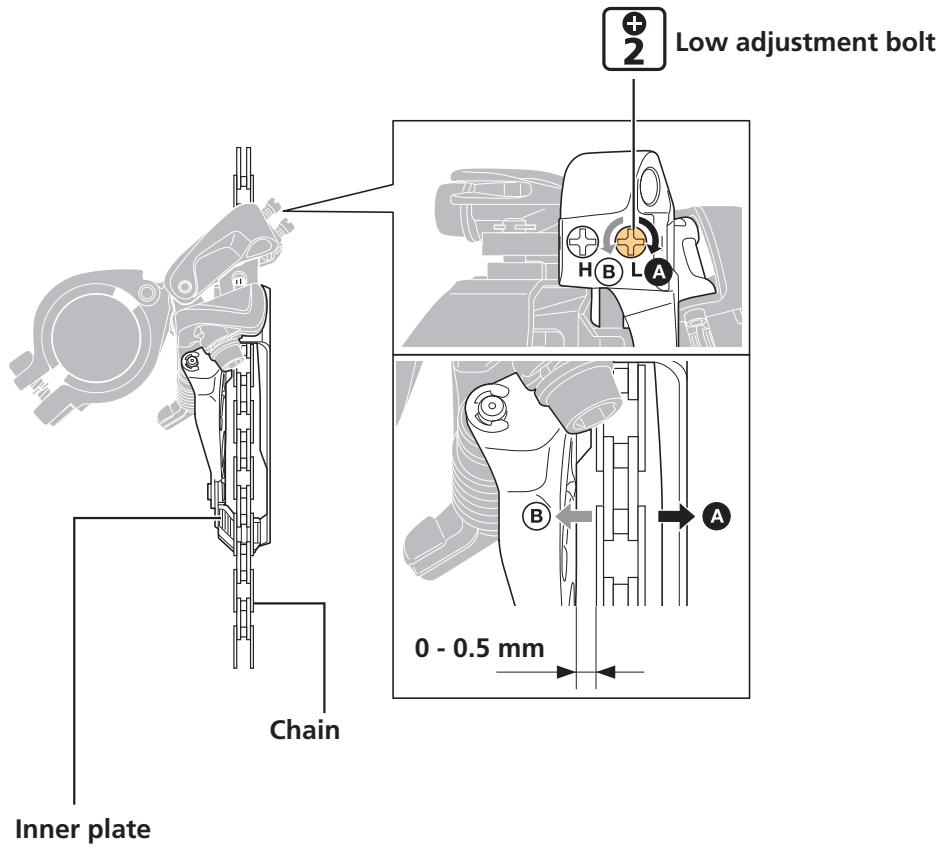
Adjusting the position of the low side

1. Adjust the chain to the smallest chainring and the largest sprocket.



2. Adjust the low position of the inner plate.

Adjust the gap between the inner plate and chain to 0 - 0.5 mm.

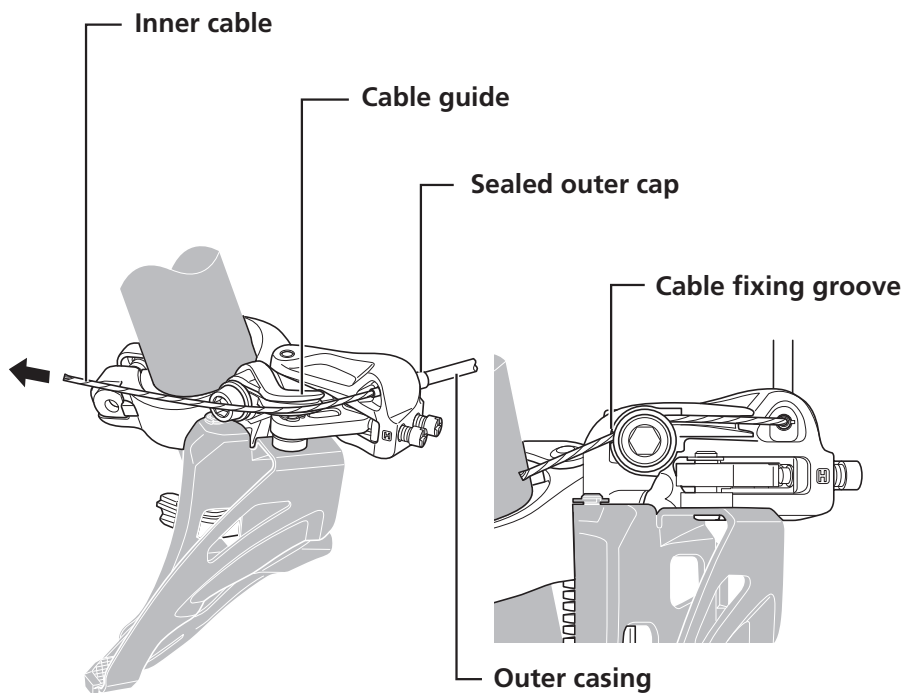


Connection and securing of the inner cable

1. Operate the release lever of the shifting lever and set it to the initial position (smallest chainring side).
2. Pass the inner cable through the front derailleur.

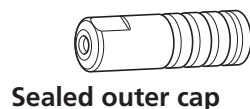
Pass the cable through the cable guide and along the cable fixing groove.

The cable fixing groove is located on the top side of the inner cable fixing bolt.



NOTICE

- Fuzz may be generated when the inner cable is assembled or when the coating is damaged during use; however, this will not affect performance.
- If the outer casing moves to a large degree, such as in bicycles with suspension frames, it is recommended that you use an aluminum type sealed outer cap.

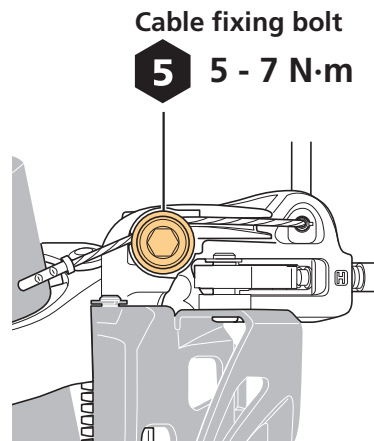


Sealed outer cap



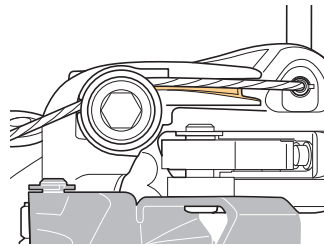
Sealed outer cap
(aluminum type)

3. Secure the inner cable.



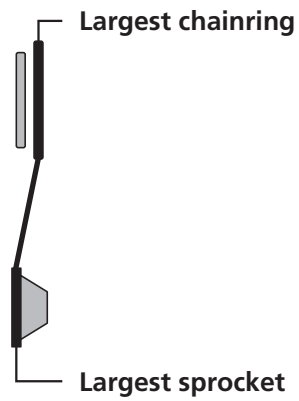
NOTICE

- Be sure to pass the inner cable along the cable fixing groove as shown in the figure. If the cable is not distributed along the groove, the gear shifting performance may become obstructed due to a reduction in the holding force, etc.



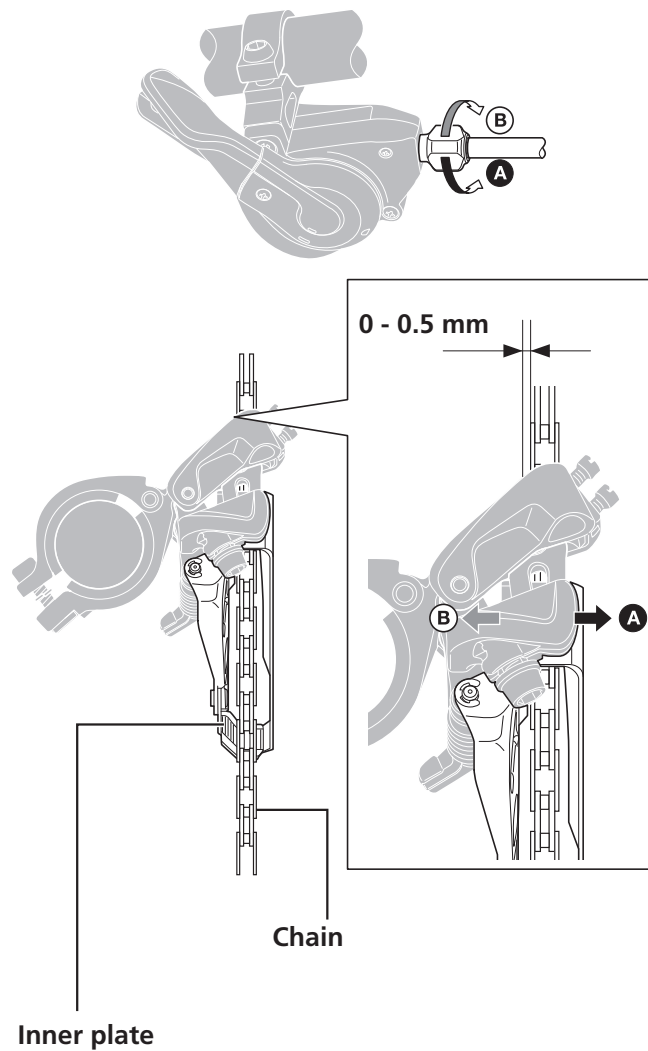
Adjusting the cable tension

1. Adjust the chain to the largest chainring and the largest sprocket.



2. Adjust the position of the inner plate.

Adjust the gap between the inner plate and the chain to 0 - 0.5 mm with the cable adjuster.

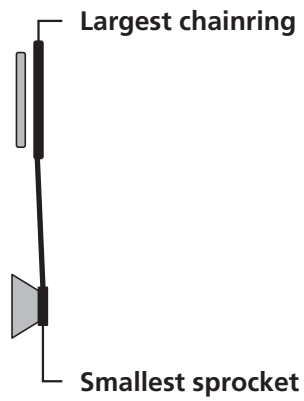


TECH TIPS

- Operate the lever once after adjusting with the cable adjuster and re-check the gap.

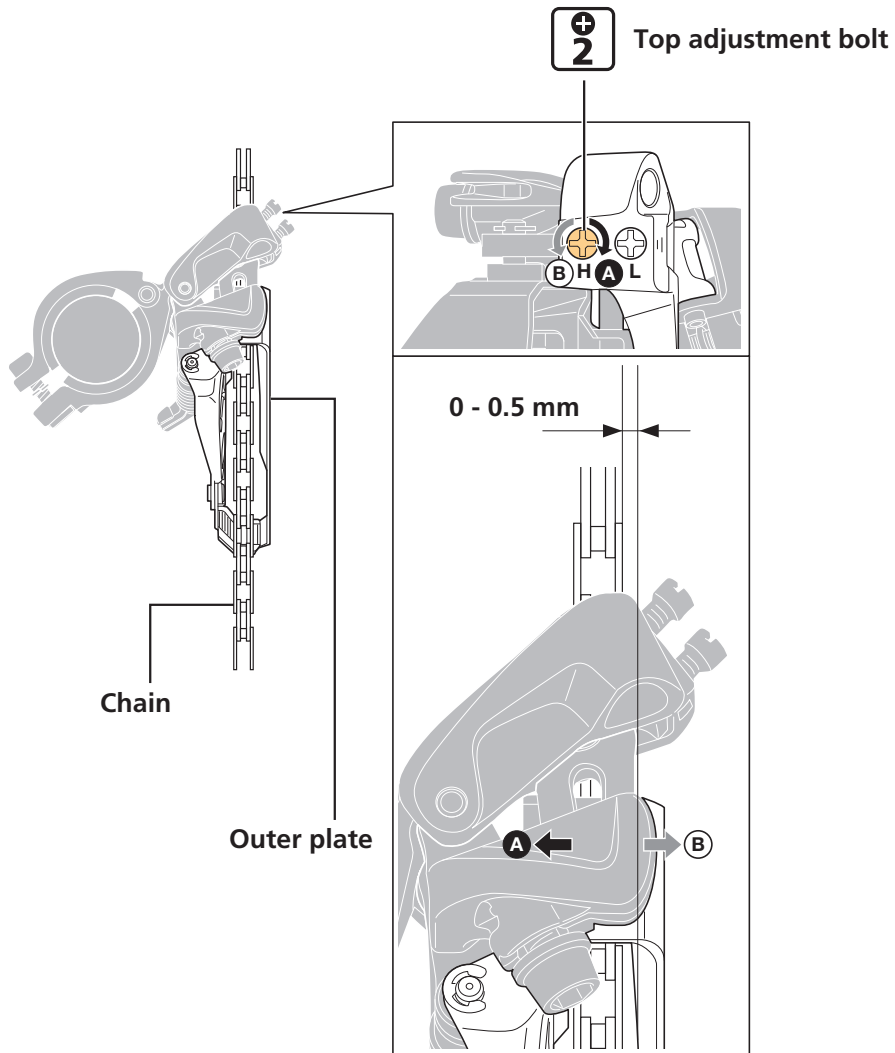
Adjusting the top side

1. Adjust the chain to the largest chainring and the smallest sprocket.



2. Adjust the position of the outer plate.

Adjust the gap between the outer plate and chain to 0 - 0.5 mm.



Checking gear shifting and fine tuning

After the cable is installed and adjusted, operate the shifting lever to check the gear shifting performance. (This also applies if shifting becomes difficult during use.)

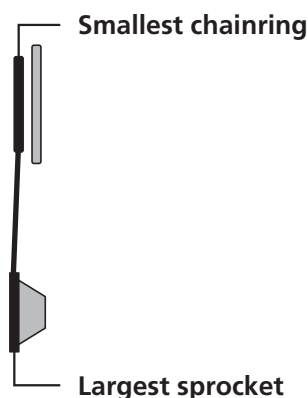
Refer to the table when fine tuning. Turn 1/8 of a turn for each adjustment.

| | |
|---|---|
| If the chain falls to the crank side | Turn the top adjustment bolt clockwise. |
| If shifting is difficult from the smallest chainring to the largest chainring | Tighten the cable. If this does not improve the situation, turn the top adjustment bolt counterclockwise. |
| If shifting is difficult from the largest chainring to the smallest chainring | Turn the low adjustment bolt counterclockwise. If this does not improve the situation, loosen the cable. |
| If the chain falls to the bottom bracket side | Turn the low adjustment bolt clockwise. |

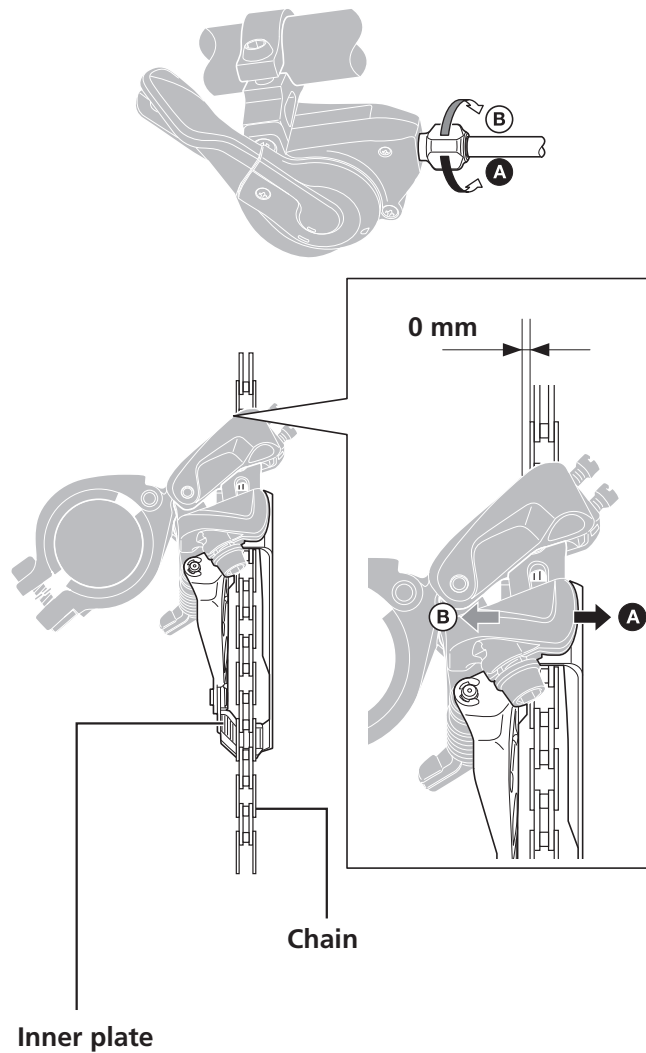
Fine tuning the contact of the chain and inner plate

After the cable is installed and adjusted, check whether the chain and inner plate are in contact.

- 1. Adjust the chain to the smallest chainring and the largest sprocket and check whether there is contact.**



2. If there is contact, adjust the position so that there is a gap of 0 mm between the chain and the inner plate.

**TECH TIPS**

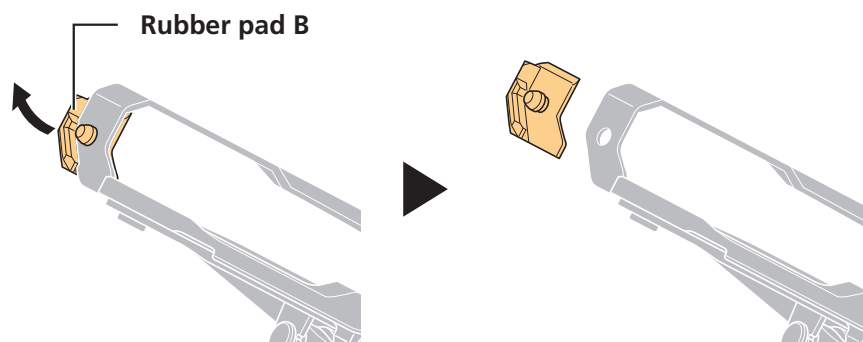
- Operate the lever once after adjusting with the cable adjuster and re-check the gap.

MAINTENANCE

Replacing rubber pad B

Removal

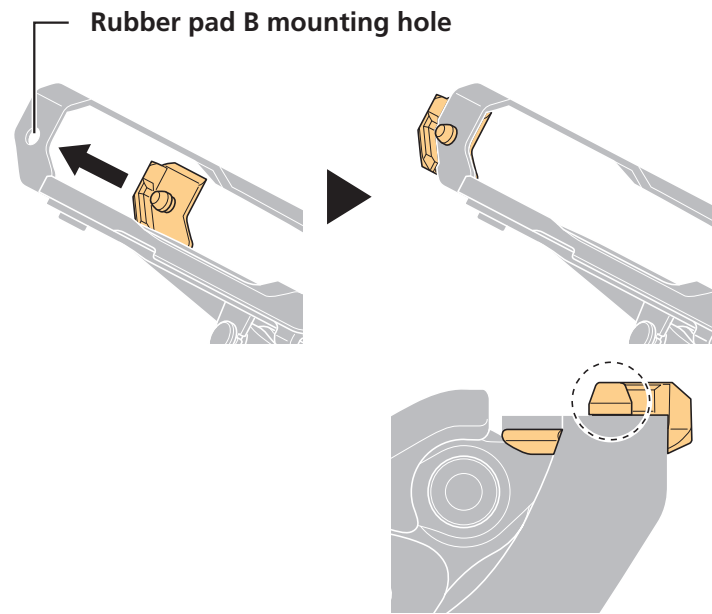
1. Peel back and remove rubber pad B from the inner side of the chain guide.



Installation

1. Align in the installation position as shown in the figure, and then push in rubber pad B to install it.

Make sure that the protrusion of rubber pad B fits securely into the chain guide.



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

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