## Front derailleur

<table>
<thead>
<tr>
<th></th>
<th>ROAD</th>
<th>MTB</th>
<th>Trekking</th>
<th>City Touring/Comfort Bike</th>
<th>URBAN SPORT</th>
<th>E-BIKE</th>
</tr>
</thead>
<tbody>
<tr>
<td>XTR</td>
<td>FD-M9000</td>
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<td></td>
<td>FD-M9020</td>
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<td>FD-M9025</td>
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<tr>
<td>DEORE XT</td>
<td>FD-M8000</td>
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<td>FD-M8020</td>
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<td>FD-M8025</td>
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<tr>
<td>DEORE</td>
<td>FD-M612</td>
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<td>FD-M617</td>
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<td>FD-M618</td>
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<tr>
<td>SLX</td>
<td>FD-M672</td>
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<td></td>
<td>FD-M677</td>
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</tbody>
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This dealer's manual is intended primarily for use by professional bicycle mechanics. Users who are not professionally trained for bicycle assembly should not attempt to install the components themselves using the dealer's manuals. If any part of the information on the manual is unclear to you, do not proceed with the installation. Instead, contact your place of purchase or a local bicycle dealer for their assistance.

• Make sure to read all instruction manuals included with the product.
• Do not disassemble or modify the product other than as stated in the information contained in this dealer's manual.
• All dealer's manuals and instruction manuals can be viewed on-line on our website (http://si.shimano.com).
• Please observe the appropriate rules and regulations of the country, state or region in which you conduct your business as a dealer.

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

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

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

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

⚠️ CAUTION
Failure to follow the instructions could cause personal injury or physical damage to equipment and surroundings.
TO ENSURE SAFETY

**WARNING**

- Be sure to follow the instructions provided in the manuals when installing the product. It is recommended to use genuine Shimano parts only. If parts such as bolts and nuts become loose or damaged, the bicycle may suddenly fall over, which may cause serious injury.

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

- Be sure to wear safety glasses or goggles to protect your eyes while performing maintenance tasks such as replacing parts.

- After reading the dealer’s manual thoroughly, keep it in a safe place for later reference.

Be sure to also inform users of the following:

- 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 do not feel smooth, wash the derailleur and lubricate all moving parts.

- When the chain is in any of the positions shown in the illustration, 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.

<table>
<thead>
<tr>
<th>Figure 1</th>
<th>Figure 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image1.png" alt="Diagram" /></td>
<td><img src="image2.png" alt="Diagram" /></td>
</tr>
</tbody>
</table>

- **Front chainring**
  - Double (For 10-speed)
  - Double (For 11-speed)
  - Triple

- **Rear sprocket**
TO ENSURE SAFETY

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 outer casing [OT-SP41] and a cable guide (SM-SP17/SP18) for smooth operation.

• If the amount of looseness in the links is so great that adjustment is not possible, you should replace the derailleur.

• 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.

<table>
<thead>
<tr>
<th>Tool</th>
<th>Tool</th>
</tr>
</thead>
<tbody>
<tr>
<td><img src="image" alt="2 mm hexagon wrench" /></td>
<td>2 mm hexagon wrench</td>
</tr>
<tr>
<td><img src="image" alt="8 mm hexagon wrench" /></td>
<td>8 mm hexagon wrench</td>
</tr>
<tr>
<td><img src="image" alt="4 mm hexagon wrench" /></td>
<td>4 mm hexagon wrench</td>
</tr>
<tr>
<td><img src="image" alt="Hexalobular[#10]" /></td>
<td>Hexalobular[#10]</td>
</tr>
</tbody>
</table>
Installation of the front derailleur

NOTE
When installing components to a carbon frame/handlebar, check the tightening torque recommended by the carbon frame or component manufacturer to avoid carbon material damage due to excessive tightening or insufficient component holding force resulting from insufficient tightening torque.

Installation on rear suspension types

Bicycles with rear suspensions may be positioned differently when a rider is off the bicycle and on the bicycle. By referring to the illustration, perform installation and SIS adjustment while seated on the bicycle.

Installation of the front derailleur (Front triple)

Band type (FD-M9000/M8000/M672/M612)

Side swing

1. Temporarily attach the clamp bolt.

(A) Clamp bolt

(z) 4 mm hexagon wrench
Align the flat portion of the chain guide outer plate in parallel with the flat surface of the largest chainring. Make sure that distance [A-B] from the tip of the teeth of the largest chainring is 1 to 3 mm.

[A-B] 1 - 3 mm

**TECH TIPS**

- Check by holding a hexagon wrench against the flat surface of the largest chainring as shown in the illustration.

- When performing a readjustment etc., without a pro-set alignment block, align the flat surface of the largest chainring using the low adjustment bolt.

**Tightening torque**

<table>
<thead>
<tr>
<th></th>
<th>4 mm</th>
<th>5 - 7 N·m</th>
</tr>
</thead>
</table>

When adjustment is complete, tighten the clamp bolt.
Installation of the front derailleur (Front triple)

Direct mount type (FD-M9000/M8000/M672/M612)

Side swing

1. Temporarily attach the front derailleur to the frame.
   - 4 mm hexagon wrench

2. Align the flat portion of the chain guide outer plate in parallel with the flat surface of the largest chainring.
   Make sure that distance [A-B] from the tip of the teeth of the largest chainring is 1 to 3 mm.
   - [A-B] 1 - 3 mm

   - Chain guide outer plate
   - Largest chainring

TECH TIPS

When performing a readjustment etc., without a pro-set alignment block, align the flat surface of the largest chainring using the low adjustment bolt.

3. When adjustment is complete, secure the front derailleur to the frame.

   - 2 mm hexagon wrench

<table>
<thead>
<tr>
<th>Tightening torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 - 7 N·m</td>
</tr>
</tbody>
</table>
Installation of the front derailleur (Front triple)

Type E (FD-M9000/M8000/M672/M612)

Side swing

1. Install the front derailleur with bottom bracket mount fixing bolts.

   - **(A)** Bottom bracket mount fixing bolt
   - **(B)** Bottom bracket mount
   - **(C)** Bracket

   **NOTE**

   Shimano does not provide the bottom bracket mount fixing bolts.

   **TECH TIPS**

   Some models support up to 42T.

2. Align the flat portion of the chain guide outer plate in parallel with the flat surface of the largest chainring.

   Make sure that distance [A-B] from the tip of the teeth of the largest chainring is 1 to 3 mm after installing the front chainwheel.

   If the clearance does not fall within the range, adjust the fixing position with the elongated hole and fix the fixing bolt again.

   - **[A-B]** 1 - 3 mm

   **TECH TIPS**

   When performing a readjustment etc., without a pro-set alignment block, align the flat surface of the largest chainring using the low adjustment bolt.

   2 mm hexagon wrench
Installation of the front derailleur (Front double)

Band type (FD-M9020/M8020/M617/M677)

Side swing

1. Temporarily attach the clamp bolt.
   - (A) Clamp bolt
   - (z) 4 mm hexagon wrench

2. Adjust the low adjustment bolt and align the flat portion of the chain guide outer plate parallel to the flat surface of the largest chainring.
   - (A) Low adjustment bolt
   - (B) Chain guide outer plate
   - (C) Largest chainring
   - [B-C] 1 - 3 mm
   - (z) 2 mm hexagon wrench

NOTE
Make sure not to position the chain guide as shown in the illustration.

3. When adjustment is complete, tighten the clamp bolt.
   - Tightening torque
     - 5 - 7 N·m
INSTALLATION

Installation of the front derailleur (Front double)

**Band type (FD-M9025/M8025/M618)**

**Top swing/Down swing**

1. Temporarily attach the clamp bolt.
   - 4 mm hexagon wrench

(A) Clamp bolt
Adjust the low adjustment bolt and align the flat portion of the chain guide outer plate parallel to the flat surface of the largest chainring.

Make sure that distance [B-C] from the tip of the teeth of the largest chainring is 1 to 3 mm.

**NOTE**
Make sure not to position the chain guide as shown in the illustration.

**TECH TIPS**
Check by holding a hexagon wrench against the flat surface of the largest chainring as shown in the illustration.

When adjustment is complete, tighten the clamp bolt.

**Tightening torque**

| 4 mm | 5 - 7 N·m |
Side swing

**1**

Temporarily attach the front derailleur to the frame.

(y) Installation height

(z) 4 mm hexagon wrench

**NOTE**

Compatible chainrings vary depending on the installation height. Be sure to check the dimensions of the frame.

<table>
<thead>
<tr>
<th>Installation height</th>
<th>Largest compatible chainring</th>
</tr>
</thead>
<tbody>
<tr>
<td>155.5 mm</td>
<td>34T - 36T</td>
</tr>
<tr>
<td>159.5 mm</td>
<td>36T - 38T</td>
</tr>
</tbody>
</table>

**2**

Adjust the low adjustment bolt and align the flat portion of the chain guide outer plate parallel to the flat surface of the largest chainring.

Make sure that distance [A-B] from the tip of the teeth of the largest chainring is 1 to 3 mm.

[A-B] 1 - 3 mm

(z) 2 mm hexagon wrench

**NOTE**

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

**3**

When adjustment is complete, secure the front derailleur to the frame.

**Tightening torque**

<table>
<thead>
<tr>
<th></th>
<th>5 - 7 N·m</th>
</tr>
</thead>
<tbody>
<tr>
<td>4 mm</td>
<td></td>
</tr>
</tbody>
</table>
Installation of the front derailleur (Front double)

Direct mount type (FD-M9025/M8025/M618)

**Down swing**

1. Temporarily attach the front derailleur to the frame.
   - **Installation height**
   - **4 mm hexagon wrench**

2. Adjust the low adjustment bolt and align the flat portion of the chain guide outer plate parallel to the flat surface of the largest chainring. Make sure that distance [A-B] from the tip of the teeth of the largest chainring is 1 to 3 mm.
   - **[A-B] 1 - 3 mm**
   - **2 mm hexagon wrench**

3. When adjustment is complete, secure the front derailleur to the frame.

**NOTE**

Compatible chainrings vary depending on the installation height. Be sure to check the dimensions of the frame.

<table>
<thead>
<tr>
<th>Installation height</th>
<th>Largest compatible chainring</th>
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<tbody>
<tr>
<td>155.5 mm</td>
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</tr>
<tr>
<td>159.5 mm</td>
<td>36T - 38T</td>
</tr>
</tbody>
</table>

**NOTE**

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

**Tightening torque**

<table>
<thead>
<tr>
<th></th>
<th>5 - 7 N·m</th>
</tr>
</thead>
</table>
**Type E (FD-M9020/M8020/M617/M677)**

**Side swing**

<table>
<thead>
<tr>
<th>(A) Bottom bracket mount fixing bolt</th>
<th>(B) Bottom bracket mount</th>
<th>(C) Bracket</th>
</tr>
</thead>
</table>

Secure with bottom bracket mount fixing bolts. Fixing position varies depending on the number of gear teeth used. Refer to the illustration for fixing position.

**Fixing position**

<table>
<thead>
<tr>
<th>Fixing position</th>
<th>Largest chainring</th>
</tr>
</thead>
<tbody>
<tr>
<td>(x)</td>
<td>38T</td>
</tr>
<tr>
<td>(y)</td>
<td>36T</td>
</tr>
<tr>
<td>(z)</td>
<td>34T</td>
</tr>
</tbody>
</table>

Shimano does not provide the bottom bracket mount fixing bolts.
Adjust the low adjustment bolt and align the flat portion of the chain guide outer plate parallel to the flat surface of the largest chainring.

Make sure that distance [A-B] from the tip of the teeth of the largest chainring is 1 to 3 mm after installing the front chainwheel.

If the clearance does not fall within the range, adjust the fixing position with the elongated hole and fix the fixing bolt again.

[A-B] 1 - 3 mm

(z) 2 mm hexagon wrench

NOTE
Make sure not to position the chain guide as shown in the illustration.
Type E (FD-M9025/M8025/M618)

Top swing

Secure with bottom bracket mount fixing bolts. Fixing position varies depending on the number of gear teeth used. Refer to the illustration for fixing position.

(A) Bottom bracket mount fixing bolt
(B) Bottom bracket mount
(C) Bracket

NOTE

Shimano does not provide the bottom bracket mount fixing bolts.

Fixing position

Double: Largest chainring

(x) 38T
(y) 36T
(z) 34T
Adjust the low adjustment bolt and align the flat portion of the chain guide outer plate parallel to the flat surface of the largest chainring. Make sure that distance [A-B] from the tip of the teeth of the largest chainring is 1 to 3 mm after installing the front chainwheel. If the clearance does not fall within the range, adjust the fixing position with the elongated hole and fix the fixing bolt again.

**NOTE**

Make sure not to position the chain guide as shown in the illustration.
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 shifting operation (Front triple)

#### Position adjustment of the low side

1. Remove the Pro-Set alignment block.

   ![Diagram](A) Pro-Set alignment block

2. Adjust the chain position to the smallest chainring and the largest sprocket as shown in the illustration.

   - (w) Low
   - (x) Middle
   - (y) Top
   - (z) Cable index point

   ![Diagram](A) Smallest chainring
   ![Diagram](B) Largest sprocket
Adjust the position of the chain guide with the low adjustment bolt. Adjust the clearance [B-C] between the chain guide inner plate and the chain to be 0 to 0.5 mm.

[B-C] 0 - 0.5 mm

- (w) Top swing
- (x) Down swing
- (y) Side swing
- (z) 2 mm hexagon wrench

(A) Low adjustment bolt
(B) Chain guide inner plate
(C) Chain
Securing the cable

Side swing (FD-M9000/M8000/M672/M612)

1

(A) Inner cable
(B) Cable guide
(C) Sealed outer cap
(D) Outer casing

NOTE

- Replacing the cover with tongue is recommended when replacing the inner cable. Refer to "MAINTENANCE" for the replacement method. The cover with tongue is provided only with FD-M9000.

- Fuzz may be generated when the inner cable is installed or when the coating is damaged during use, but this will not affect its functions.

- If the outer casing moves to a large degree, such as in bicycles with suspension, it is recommended that you use an aluminum type sealed outer cap.

2

(A) Cable-fixing groove

NOTE

Be sure to run the inner cable along the cable-fixing groove as shown in the illustration.
3

Installing the cable and adjusting shifting operation (Front triple)

Fix the inner cable with a cable-fixing bolt.

**Adjustment of the cable tension**

Adjust the chain position to the middle chainring and the largest sprocket as shown in the illustration.

- **(w)** Low
- **(x)** Middle
- **(y)** Top
- **(z)** Cable index point

- **(A)** Middle chainring
- **(B)** Largest sprocket

**NOTE**

Adjust the lever after operating it from top to middle, not low to middle.
Adjustment

Installing the cable and adjusting shifting operation (Front triple)

2

Adjust the position with the cable adjuster.
Adjust the clearance [B-C] between the chain guide inner plate and the chain to be 0 to 0.5 mm.

[B-C] 0 - 0.5 mm

Top adjustment

Adjust the chain position to the largest chainring and the smallest sprocket as shown in the illustration.

Top adjustment

(A) Cable adjuster
(B) Chain guide inner plate
(C) Chain

TECH TIPS

After adjusting the position with the cable adjuster, operate the lever once and check the clearance again.

1

(w) Low
(x) Middle
(y) Top
(z) Cable index point

(A) Largest chainring
(B) Smallest sprocket
Adjust the position of the chain guide with the top adjustment bolt. Adjust the clearance [B-C] between the chain guide outer plate and the chain to be 0 to 0.5 mm.

[B-C] 0 - 0.5 mm

(w) Top swing
(x) Down swing
(y) Side swing
(z) 2 mm hexagon wrench

(A) Top adjustment bolt
(B) Chain
(C) Chain guide outer plate
Installing the cable and adjusting shifting operation (Front triple)

Checking gear shifting and minor adjustments

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.)

Use the table as a reference when adjusting the bolts. Turn the bolt by 1/8th turn for each adjustment.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the chain falls to the crank side.</td>
<td>Turn the top adjustment bolt clockwise.</td>
</tr>
<tr>
<td>If shifting is difficult from the middle chainring to the largest chainring.</td>
<td>Tighten the cable. If this does not improve the situation, turn the top adjustment bolt counterclockwise.</td>
</tr>
<tr>
<td>If shifting is difficult from the largest chainring to the middle chainring.</td>
<td>Loosen the cable.</td>
</tr>
<tr>
<td>If the chain falls to the bottom bracket side.</td>
<td>Turn the low adjustment bolt clockwise.</td>
</tr>
<tr>
<td>If the middle chainring is skipped when shifting from the largest chainring.</td>
<td>Tighten the cable.</td>
</tr>
<tr>
<td>If shifting is difficult from the middle chainring to the smallest chainring.</td>
<td>Turn the low adjustment bolt counterclockwise.</td>
</tr>
</tbody>
</table>
Installing the cable and adjusting shifting operation (Front double)

Note: Number of front chainring positions and lever position

The procedure for operating the shifting lever is as follows.

For double front chainrings

<table>
<thead>
<tr>
<th>(A) Smallest chainring</th>
<th>(B) Largest chainring</th>
</tr>
</thead>
<tbody>
<tr>
<td>(v) Front chainring position</td>
<td></td>
</tr>
<tr>
<td>(w) Shifting lever position</td>
<td></td>
</tr>
<tr>
<td>(x) Low</td>
<td></td>
</tr>
<tr>
<td>(y) Middle</td>
<td></td>
</tr>
<tr>
<td>(z) Top</td>
<td></td>
</tr>
</tbody>
</table>

Note: Using the mode converter

<table>
<thead>
<tr>
<th>(x) Converter in detail</th>
</tr>
</thead>
<tbody>
<tr>
<td>(y) Old</td>
</tr>
<tr>
<td>(z) New</td>
</tr>
</tbody>
</table>

Mode converter positions on the shifting lever
Position adjustment of the low side

1. Adjust the chain position to the smallest chainring and the largest sprocket as shown in the illustration.

   - (x) Low
   - (y) Top
   - (z) Cable index point

   - (A) Smallest chainring
   - (B) Largest sprocket

2. Adjust the position of the chain guide with the low adjustment bolt. Adjust the clearance [B-C] between the chain guide inner plate and the chain to be 0 to 0.5 mm.

   - [B-C] 0 - 0.5 mm
   - (w) Top swing
   - (x) Down swing
   - (y) Side swing
   - (z) 2 mm hexagon wrench

   - (A) Low adjustment bolt
   - (B) Chain guide inner plate
   - (C) Chain
Securing the cable

Side swing (FD-M9020/M8020/M617/M677)

1

Adjust the shifting lever to the low position.
Run the cable through the front derailleur.
Run the inner cable along the cable guide.

(A) Inner cable
(B) Cable guide
(C) Sealed outer cap
(D) Outer casing

NOTE

- Replacing the cover with tongue is recommended when replacing the inner cable. Refer to "MAINTENANCE" for the replacement method. The cover with tongue is provided only with FD-M9020.

- Fuzz may be generated when the inner cable is installed or when the coating is damaged during use, but this will not affect its functions.

- If the outer casing moves to a large degree, such as in bicycles with suspension, it is recommended that you use an aluminum type sealed outer cap.

2

Pass the inner cable through along the cable-fixing groove on the top of the fixing bolt.

(A) Cable-fixing groove

NOTE

Be sure to run the inner cable along the cable-fixing groove as shown in the illustration.
### ADJUSTMENT

<table>
<thead>
<tr>
<th>Installing the cable and adjusting shifting operation (Front double)</th>
</tr>
</thead>
</table>

#### 3

![Diagram of cable fixing bolt](image)

**Fix the inner cable with a cable-fixing bolt.**

<table>
<thead>
<tr>
<th>Tightening torque</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 - 7 N·m</td>
</tr>
</tbody>
</table>

#### Top swing (FD-M9025/M8025/M618)

Common to E Type and band type

![Diagram of top swing](image)

**Use a hexagon wrench to tighten the wire mounting bolt.**

- **(A) 4 mm hexagon wrench**
- **Tightening torque** 6 - 7 N·m

#### Down swing (FD-M9025/M8025/M618)

Band type

![Diagram of down swing](image)

**For down-pull types:**
Pass the inner cable through the cable guide.

**For top-pull types:**
Pass the inner cable through the wire mounting bolt.
A cable guide is not used.

- **(y) Down pull**
- **(z) Top pull**

- **(A) 4 mm hexagon wrench**
- **Tightening torque** 6 - 7 N·m

### NOTE

Run the cable through as shown in the illustration.
Direct mount type

**For down-pull types:**
Pass the inner cable through the cable guide.

**For top-pull types:**
Install the sealed outer cap and pass the inner cable through the wire mounting bolt.
A cable guide is not used.

(y) Down pull
(z) Top pull

(A) 4 mm hexagon wrench
(B) Sealed outer cap

<table>
<thead>
<tr>
<th>4 mm</th>
<th>6 - 7 N·m</th>
</tr>
</thead>
</table>

**Tightening torque**

**NOTE**

- Replacing the cover with tongue is recommended when replacing the inner cable. Refer to "MAINTENANCE" for the replacement method. The cover with tongue is provided only with FD-M9025.

- Fuzz may be generated when the inner cable is installed or when the coating is damaged during use, but this will not affect its functions.

- If the outer casing moves to a large degree, such as in bicycles with suspension, it is recommended that you use an aluminum type sealed outer cap.

- Run the cable through as shown in the illustration.
Adjustment of the cable tension

1. Adjust the chain position to the largest chainring and the largest sprocket as shown in the illustration.

2. Adjust the position with the cable adjuster. Adjust the clearance [B-C] between the chain guide inner plate and the chain to be 0 to 0.5 mm.

TECH TIPS
After adjusting the position with the cable adjuster, operate the lever once and check the clearance again.
Top adjustment

1. Adjust the chain position to the largest chainring and the smallest sprocket as shown in the illustration.

   (x) Low
   (y) Top
   (z) Cable index point

   (A) Largest chainring
   (B) Smallest sprocket

2. Adjust the position of the chain guide with the top adjustment bolt. Adjust the clearance [B-C] between the chain guide outer plate and the chain to be 0 to 0.5 mm.

   [B-C] 0 - 0.5 mm

   (w) Top swing
   (x) Down swing
   (y) Side swing
   (z) 2 mm hexagon wrench

   (A) Top adjustment bolt
   (B) Chain
   (C) Chain guide outer plate
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.) Use the table as a reference when adjusting the bolts. Turn the bolt by 1/8th turn for each adjustment.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Adjustment</th>
</tr>
</thead>
<tbody>
<tr>
<td>If the chain falls to the crank side.</td>
<td>Turn the top adjustment bolt clockwise.</td>
</tr>
<tr>
<td>If shifting is difficult from the smallest chainring to the largest chainring.</td>
<td>Tighten the cable. If this does not improve the situation, turn the top adjustment bolt counterclockwise.</td>
</tr>
<tr>
<td>If shifting is difficult from the largest chainring to the smallest chainring.</td>
<td>Loosen the cable.</td>
</tr>
<tr>
<td>If the chain falls to the bottom bracket side.</td>
<td>Tighten the cable. If this does not improve the situation, turn the low adjustment bolt clockwise.</td>
</tr>
</tbody>
</table>
MAINTENANCE

Replacing the chain catcher

Depending on the specifications, there are also models without a chain catcher.

Removal

![Diagram of fixing bolt removal]

Remove the fixing bolt.

- (A) Hexalobular[10]
- (B) Fixing bolt

Installation

![Diagram of chain catcher installation]

1. Temporarily attach the chain catcher to the chain guide.

- (A) Chain guide
- (B) Chain catcher
- (C) Arm of the chain catcher
2

Securely attach the arm of the chain catcher as shown in the illustration.

(A) Arm of the chain catcher

NOTE

• The shape of the chain catcher may differ depending on the model. Be sure to use a compatible chain catcher.

• In the case of a chain catcher such as shown in the illustration, take notice of the protrusion positions while carrying out replacement.

3

Fix the chain catcher to the chain guide inner plate.

(A) Hexalobular[#10]
(B) Fixing bolt
(C) Chain guide inner plate

Tightening torque

#10

1 - 2 N·m
Replacing rubber pad A

Depending on the specifications, there are also models without rubber pad A.

**Removal**

1. **Remove rubber pad A.**
   - Insert a small slotted screwdriver into the gap as shown in the illustration.

2. **Lift upward to remove it.**

**NOTE**

- When removing rubber pad A, do not apply excessive force. It may cause damage to the chain guide or unexpected injuries.
- Do not reuse rubber pads that have been removed. The rubber pad may become loose easily due to deformation etc.
Installation

1. Install rubber pad A. Fit the elongated hole to the arm of rubber pad A. Push in the arm of rubber pad A all the way.

2. Align the protrusion of rubber pad A with the chain guide hole. Lightly push in rubber pad A with an 8 mm hexagon wrench. Firmly insert rubber pad A.

(A) Arm of rubber pad A
(B) Elongated hole
Replacing rubber pad B

**Removal**

(Please refer to the image for visual instructions)

(A) Peel back rubber pad B from the reverse side of the chain guide and remove it.

**Installation**

(A) Align the rubber pad B mounting hole of the chain guide with the protrusion of rubber pad B. Push in the protrusion from the reverse side of rubber pad B. Make sure that the protrusion of rubber pad B is securely fitted on the chain guide.

(A) Rubber pad B mounting hole
Replacing the cover with tongue

**Removal**

Push the cover with tongue in the direction of the arrow, and then remove it from the bracket.

**Installation**

Insert the new cover with tongue into the bracket, and then push it in until the burred section springs out.