Specifications

Front Derailleur

<table>
<thead>
<tr>
<th>Model number</th>
<th>FD-M311</th>
<th>FD-M310-3</th>
<th>FD-M310A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chain position</td>
<td>S, M, L</td>
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</tr>
<tr>
<td>Screw</td>
<td>M5 x 15 mm</td>
<td>M5 x 15 mm</td>
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</tr>
<tr>
<td>Chainline</td>
<td>47.5/50 mm</td>
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<td>Chain length</td>
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</tr>
<tr>
<td>Bottom Bracket</td>
<td>BB-UN26(-K)</td>
<td>BB-UN26(-K)</td>
<td>BB-UN26(-K)</td>
</tr>
<tr>
<td>Applicable chain</td>
<td>CN-HG50/CN-HG40/CN-HG93</td>
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Chain guide

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<tr>
<th>Model number</th>
<th>FC-M310</th>
<th>FC-M311</th>
<th>FD-M311-8</th>
<th>FD-M310-3</th>
<th>FD-M310A</th>
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</tbody>
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Chain length

Add 2 links (with the chain on both the largest sprocket and the largest chainring) to obtain a chain length within the specified range.

Chain length within this range: 175 - 186 mm (7-5/8 - 7-5/8 in.)

Mounting the shifting lever

Use a handwheel grip with a maximum outer diameter of 12 mm.

SI adjustment

Be sure to follow the sequence described below.

1. Low adjustment
   - First adjust the Pro-Set alignment block. Next, set so that the clearance between the chain guide inner plate and the chain is 0.0 mm.

2. Securing the inner cable
   - Operate lever (B) two times or more to set the lever to the lowest position.
   - Remove the screw, and then remove the cover. Pull out the inner cable as shown in Figure, and then install the new inner cable.

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

Adjustment of the intermediate chainring

When performing adjustment, use the chain in the largest sprocket, and at the front, set the chain to the intermediate chainring. Adjust using the inner cable casing as shown in Figure 3. Confirm the clearance between the guide inner plate and the chain is 0.0 mm.

Technical Service Instructions

SI-8MNF2-004

Front Drive System

In order to realize the best performance, we recommend that the following combination be used.

Gears

<table>
<thead>
<tr>
<th>Set</th>
<th>Right</th>
<th>Left</th>
<th>SIS 8-gears</th>
<th>SIS 7-gears</th>
</tr>
</thead>
</table>

This service instruction explains how to use and maintain the Shimano bicycle parts which have been used on your bike in the past. If you have any questions about the bike or other matters which are not related to Shimano parts, please contact the seller of your bicycle or the bicycle manufacturer.

Shimano

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General Safety Information

WARNING

Maintenance interval depends on the usage and riding conditions. Clean regularly the chain with an appropriate chain lubricant. Never use alkali based or acid based substances as rust cleaners. If those solvents may cause rust and cause serious injury.

CAUTION

It is necessary to adjust the length of the chain due to a change in the number of sprocket teeth, make the cut at such a place where the chain edge is not connected pin on or pin end. The chain will be damaged if it is cut at a place where it has been joined with a reinforced connecting pin or pin end. If cutting pins other than reinforced connecting pins are used, or a reinforced connecting pin or tool which is not suitable for the type of chain in use, sufficient connection force may not be obtained, which could cause the chain to break or fall off.

Note

In addition, if pedaling performance does not feel normal, check this once more.

Front derailleur

Check that there is no play or looseness in the connection. Also, be sure to tighten the crank arm and pedal bolts firmly and securely.

Check that the nuts or bolts are tight, otherwise the guide outer plate should be replaced. If any cracks, the crank arm may break and may cause you to fall off the bicycle.

The finish of the external hex drive is being slightly worn, otherwise the chain may not run smoothly.

Note

• For any questions regarding methods of installation, adjustment, maintenance or operation, please contact a Shimano service department.
• Parts are not guaranteed against natural wear or deterioration resulting from normal use.
• For smooth operation, use the specified outer casing and the bottom bracket barrel guide.
• If you feel any looseness in the bottom bracket axle, the bottom bracket should be replaced.
• If there are any cracks in the crank arms before riding the bicycle. If there are any cracks, the crank arm may break and you may cause you to fall off the bicycle.
• Be careful not to let the cuffs of your clothes get caught in the chain while riding.

Obtain and read the service instructions carefully prior to installing the parts. If adjustments are not carried out correctly, the chain may come off or the chain may cause you to fall off the bicycle which could result in serious injury.

Read these Technical Service Instructions carefully, and keep them in a safe place for later reference.

CAUTION

• If the chain is on the smallest or intermediate chainring, there is the danger of injury from the tips of the teeth on the largest chainring.

Installation of the Front Derailleur, Bottom Bracket and Front Chainwheel

Use the special tools (TL-CN65-8 and TL-KRH65-S) to install the bottom bracket (4) and the front derailleur so that they face each other.

After taking up the initial slack in the cable, re-secure to the front derailleur as shown in the illustration.

5. Troubleshooting chart

   After completion of steps 1 - 4, move the shifting lever to check the shifting.
   - When the chain refuses to move, adjust the shifting lever becomes difficult due to the wear of the inner cable.
   - If shifting is difficult from the smallest sprocket to the largest chainring, adjust using the inner cable casing as shown in Figure 3. Confirm the clearance between the guide inner plate and the chain is 0.0 mm.

   - Inserting the inner cable
     - Insert the inner cable into the outer casing from the end with the marking on it. Apply grease from the end with the marking on it to maintain cable operating efficiency.

   - Cutting the outer casing
     - When shifting the outer casing, cut the opposite end and then close the remaining portion of the outer casing. Make the end round so that the inside of the hole has a uniform diameter.

   - Attach the outer end cap to close the cut end of the outer casing.