

Rear Drive System

Before use, read these instructions carefully, and follow them for correct use.

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

Series		DEORE XT		DEORE LX	
Rapidfire		ST-M739		ST-M008	ST-M567
Outer casing	Shifting lever side	SIS-SP40 sealed outer casing			
	Rear derailleur side	SIS-SP40 sealed outer casing/Rubber shield			
Rear derailleur		RD-M737-SGS		RD-M565-SGS	
Freehub		FH-M737		FH-M565	
Sprockets		8		8	
Cassette sprocket		CS-M737-I		CS-HG70-I	
Chain		CN-IG90 / CN-IG70			
Bottom bracket guide		SM-SP17 / SM-BT17			

Specifications

Rear Derailleur		Cassette Sprocket Tooth Combination		
Type	SGS	Group name	Sprockets	Tooth combination
Total capacity	38T or less	R	8	11, 12, 14, 16,
Largest sprocket	32T	ah		18, 21, 24, 28T
Smallest sprocket	11T			
Front chainwheel tooth difference	20T			
Rapidfire		Freehub		
Model number	Sprockets	Model number	Sprockets	No. of spoke holes
ST-M739	8	FH-M737	8	36 / 32
ST-M567		FH-M565		
ST-M008				

**CAUTION**

- Be sure to use only the Shimano IG chain with IG sprockets. The HG or UG type of chain cannot be used.

**Note**

- Always be sure to use the IG sprocket set bearing the same group marks. Never use in combination with a sprocket bearing a different group mark.
- Because the high cable resistance of a frame with internal cable routing would impair the SIS function, this type of frame should not be used.
- Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly.
- For any questions regarding methods of installation, adjustment, maintenance or operation, please contact a professional bicycle dealer.

Installation of the rear derailleur

When installing, be careful that deformation is not caused by the B-tension adjustment screw coming into contact with the dropout tab.

Bracket spindle tightening torque: 8 - 10 Nm (70 - 86 in. lbs.)



Replacement of the freewheel body

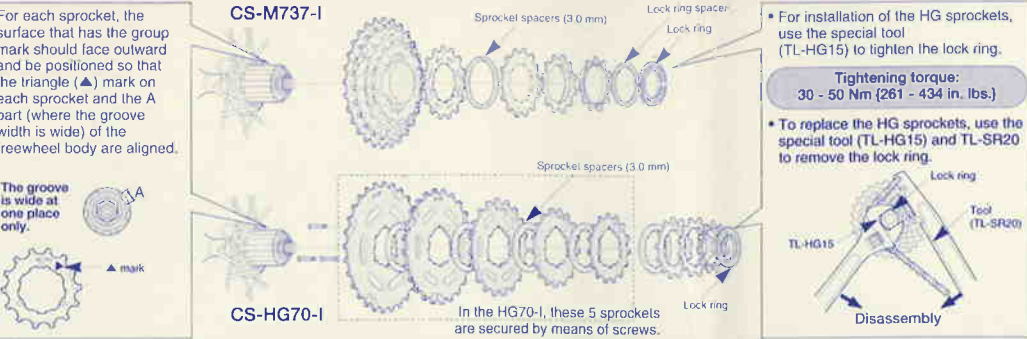
After removing the hub axle, remove the freewheel body fixing bolt (inside the freewheel body), and then replace the freewheel body.

**Note:** Do not attempt to disassemble the freewheel body, because it may result in a malfunction.



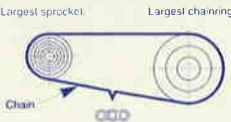
Tightening torque: 35 - 50 Nm (305 - 434 in. lbs.)

Installation of the HG sprockets



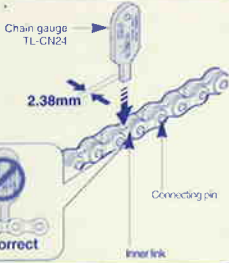
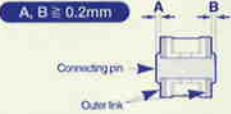
Chain length

Add 2 links (with the chain on both the largest sprocket and the largest chainring)



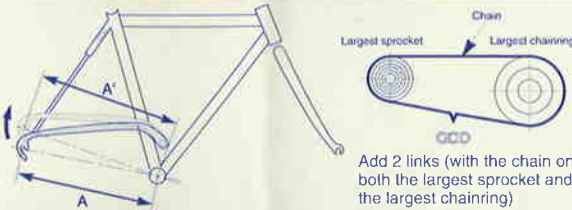
Checking the chain connection

For IG chains, insert the chain gauge (TL-CN24) into the inner link which is next to the chain connecting pin to check that the inner link width is correct. Check that the connecting pin protrudes past the outer link by the same amount on both sides, and that the amount of protrusion is 0.2 mm or more.



Chain length on bicycles with rear suspension

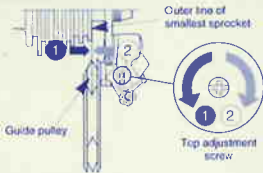
The length of A will vary depending on the movement of the rear suspension. Because of this, an excessive load may be placed on the drive system if the chain length is too short. Set the length of the chain by adding two links to the chain when the rear suspension is at a position where dimension "A" is longest and the chain is on the largest sprocket and the largest chainring. If the amount of movement of the rear suspension is large, the slack in the chain may not be taken up properly when the chain is on the smallest chainring and smallest sprocket.



Adjustment

1. Top adjustment

Turn the top adjustment screw to adjust so that the guide pulley is in line with the outer line of the smallest sprocket when looking from the rear.



2. Connection and securing of the inner cable

Operate lever (B) seven times or more. After checking on the indicator that the lever is at the highest position, turn the cable adjusting barrel until the slit is on the same side as the handlebar. Open the wire end hooking cover as shown in the illustration, and then pull the wire end hook toward you (if lever (A) is moved as shown in the illustration to take up the play, the wire end hook will be easier to pull out), and then insert the inner cable from the bottom. Place the inner cable into the slit and then close the wire end hooking cover.

**Note:** The wire end hook may get hooked inside the lever mechanism, which will stop the lever from moving back to the proper position. If the lever does not return, use the end of the inner cable to unhook the wire end hook.

Tightening torque: 5 - 7 Nm (44 - 60 in. lbs.)



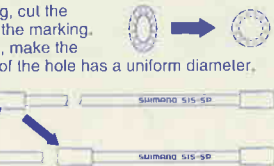
Inserting the inner cable

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

Cutting the outer casing

When cutting the outer casing, cut the opposite end to the end with the marking. After cutting the outer casing, make the end round so that the inside of the hole has a uniform diameter.

Attach the same outer end cap to the cut end of the outer casing.



**Note regarding the sealed cap with tongue and rubber shield**

The sealed cap with tongue and the rubber shield should be installed to the outer casing stopper of the frame.



Connect the cable to the rear derailleur and, after taking up the initial slack in the cable, re-secure to the front derailleur as shown in the illustration.

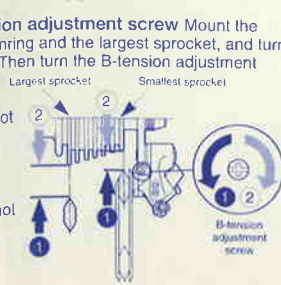


3. Low adjustment

Turn the low adjustment screw so that the guide pulley moves to a position directly in line with the largest sprocket.



**4. How to use the B-tension adjustment screw** Mount the chain on the smallest chainring and the largest sprocket, and turn the crank arm backward. Then turn the B-tension adjustment screw to adjust the guide pulley as close to the sprocket as possible but not so close that it touches. Next, set the chain to the smallest sprocket and repeat the above to make sure that the pulley does not touch the sprocket.



Installation of the brake lever

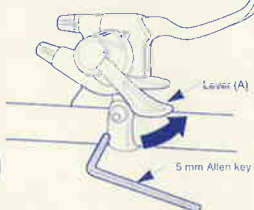
< ST-M739 / ST-M567 >

Move lever (A) so that the installation bolt can be seen, and then use a 5 mm Allen key to install.

**Note:** If the brake lever is installed to the handlebar before the inner cable is installed, the handlebars will obstruct the wire end hooking cover and it will become more difficult to install the inner cable. Install the brake lever after installing the inner cable.

Use a handlebar grip with a maximum outer diameter of 32 mm.

tightening torque: 6 - 8 Nm (53 - 69 in. lbs.)



< ST-M008 >

Install the brake lever in a position where it will not obstruct brake operation. Do not use in a combination which causes brake operation to be obstructed.

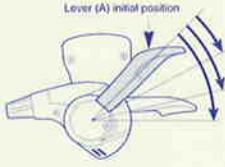
tightening torque: 5 Nm (44 in. lbs.)

Gear shifting operation

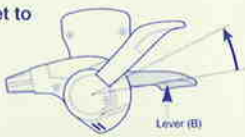
Both lever (A) and lever (B) always return to the initial position when they are released after shifting. When operating one of the levers, always be sure to turn the crank arm at the same time.

**To shift from a small sprocket to a larger sprocket**

To shift one step only, press lever (A) to the (1) position. To shift two steps at one time, press to the (2) position. With the ST-M739 and ST-M567, a maximum three-step shift can be made in this manner.

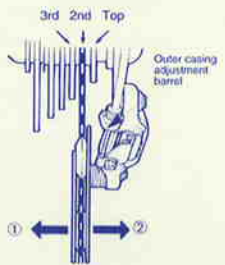


**To shift from a large sprocket to a smaller sprocket** Press lever (B) once to shift one step from a larger to a smaller sprocket.

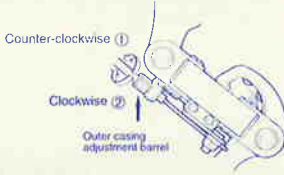


5. SIS Adjustment

(1) Operate the shifting lever to move the chain from the top gear to the 2nd gear.  
• If the chain will not move to the 2nd gear, turn the outer casing adjustment barrel to increase the tension----(1) (counter clockwise)  
• If the chain moves past the 2nd gear, decrease the tension---(2) (clockwise)



(2) Next with the chain on the 2nd gear, increase the inner cable tension (1) while turning the crank arm forward. Stop turning the outer casing adjustment barrel just before the chain makes noise against the 3rd gear. This completes the adjustment.



For the best SIS performance, periodically lubricate all power-transmission parts.

Replacement of the shifting lever unit and indicator

Disassembly and reassembly should only be carried out when replacing the indicator.

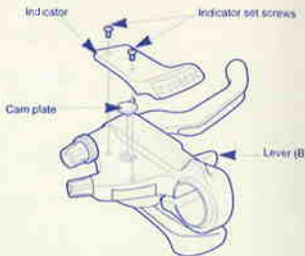
Removal of the indicator

1. Remove the two indicator set screws which are securing the indicator.

Tightening torque : 0.3 - 0.5 Nm (3 - 4 in. lbs.)

2. Remove the indicator unit and cam plate as shown in the illustration.

3. Operate lever (B) at least two times to set the lever to the highest position. At this time, check that the lever returns to the proper position without the wire end hook becoming hooked inside the lever. If the lever does not return, use the end of the inner cable to unhook the wire end hook.



4. Push the cam plate onto the hexagonal end of the shaft so that the plate is in the position shown in the illustration. **Note:** Do not deliberately turn this hexagonal shaft with any tools, as this will damage the internal mechanism.



5. After checking that the indicator needle is at the left edge, set the indicator so that it is directly above the cam plate, and then secure it with the two indicator set screws.

6. Check the operation of the indicator. If it does not operate correctly, re-install the indicator while taking particular note of steps 3. to 5.

Disassembly and reassembly should only be carried out when replacing the shifting lever unit.

Replacement of the shifting lever unit

1. Loosen the cable fixing bolt (nut) of the rear derailleur, and then pull the inner cable out of the shifting lever unit in the same way as when installing the inner cable.

2. Carry out steps 1 - 2 for replacement of the indicator.

3. Remove the three shifting lever mounting screws, and then remove the shifting lever unit and wire end hooking cover as shown in the illustration.

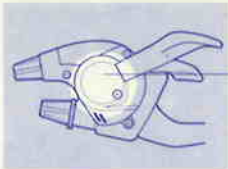


Tightening torque : 0.5 - 0.8 Nm (4 - 7 in. lbs.)

4. To assemble, align the shifting lever unit and the brake lever bracket, install the wire end hooking cover while being careful that the pins at both ends go into their respective holes, and then secure the shifting lever mounting screws.



5. Carry out steps 3 - 5 for replacement of the indicator.



Do not disassemble the indicator and shifting lever unit, as this may damage them or cause mis-operation.