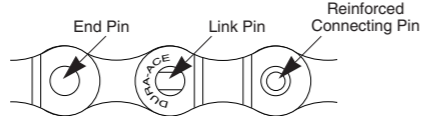


**WARNING**

- Use neutral detergent to clean the chain. Do not use alkali-based or acid based detergent such as rust cleaners as it may result in damage and/or failure of the chain.
- Use the reinforced connecting pin only for connecting the narrow type of chain.
- There are two different types of reinforced connecting pin available. Be sure to check the table below before selecting which pin to use. If connecting pins other than reinforced connecting pins are used, or if a reinforced connecting pin or tool which is not suitable for the type of chain is used, sufficient connection force may not be obtained, which could cause the chain to break or fall off.

Chain	Reinforced connecting pin	Chain tool
9-speed super narrow chain such as CN-7700 / CN-HG92	Silver 6.5mm	TL-CN31/TL-CN22
8- /7- /6-speed narrow chain such as CN-HG50 / CN-IG51	Black 7.1mm	TL-CN31/TL-CN22 and TL-CN30/TL-CN21

- If it is necessary to adjust the length of the chain due to a change in the number of sprocket teeth, make the cut at some other place than the place where the chain has been joined using a reinforced connecting pin or an end pin. The chain will be damaged if it is cut at a place where it has been joined with a reinforced connecting pin or an end pin.



- Obtain, read and carefully service instructions when installing parts. A loose, worn, or damaged parts may cause injury to the rider. We strongly recommend that only genuine Shimano replacement parts be used.

**SERVICE INSTRUCTIONS**

SI-R650D

# 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 M9	ST-M750 / SL-M750	ST-M570 / SL-M570
Outer casing	SP40 sealed	SP40 sealed
Rear derailleur	RD-M750	RD-M570
Type	SGS / GS	SGS
Freehub	FH-M750	FH-M570
Gears	9	9
Cassette sprocket	CS-M750	CS-HG70-9
Chain	CN-HG92	CN-HG72
Bottom bracket guide	SM-SP17	SM-SP17

## Specifications

### Rear Derailleur

Model number	RD-M750		RD-M570
Type	SGS	GS	
Gears	9		9
Total capacity	43T	33T	43T
Largest sprocket	34T	34T	34T
Smallest sprocket	11T	11T	11T
Front chainwheel tooth difference	22T	22T	22T

### Cassette sprocket tooth combination

Model number	Group name	Gears	Tooth combination
CS-M750	as	9	11, 13, 15, 17, 20, 23, 26, 30, 34T
CS-M750	aq	9	11, 12, 14, 16, 18, 21, 24, 28, 32T
CS-M750	ap	9	12, 14, 16, 18, 20, 23, 26, 30, 34T
CS-HG70-9	ar	9	11, 12, 14, 16, 18, 21, 24, 28, 32T

### Shifting lever

Model number	ST-M750 / SL-M750	ST-M570 / SL-M570
Gears	9	9

### Freehub

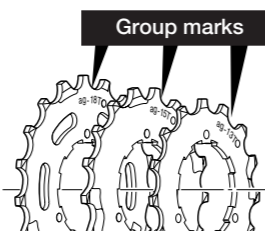
Model number	FH-M750	FH-M570
Gears	9	9
No. of spoke holes	36 / 32	36 / 32

**CAUTION**

- Use a front chainwheel which is compatible with 9-speed chains in conjunction with Shimano CN-7700, CN-HG92 and CN-HG72 chains. If a chainwheel for an 8-speed chain or less is used, front chainwheel gear shifting problems may occur, or the chain pins might fall out, causing the chain to break.

### Note

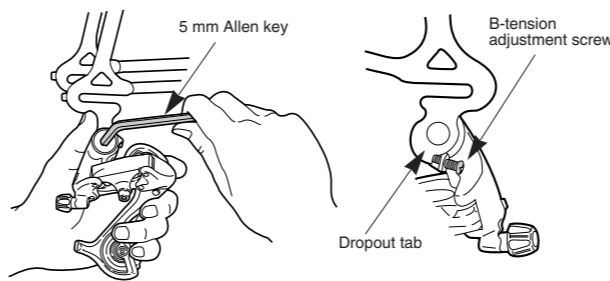
- Because the high cable resistance of a frame with internal cable routing would impair the SIS function, this type of frame should not be used.
- Always be sure to use the HG/IG sprocket set bearing the same group marks. Never use in combination with a sprocket bearing a different group mark.
- Use an outer casing which still has some length to spare even when the handlebars are turned all the way to both sides. Furthermore, check that the shifting lever does not touch the bicycle frame when the handlebars are turned all the way.
- Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly.
- For smooth operation, use the specified outer casing and the bottom bracket cable guide.
- If the brake fluid used in the oil disc brakes is of a type which tends to adhere to the plastic parts of the shifting lever, this may cause the plastic parts to crack or become discolored. Therefore, you should make sure that the brake fluid does not adhere to these plastic parts.
- The mineral oil which is used in SHIMANO disc brakes does not cause cracking or discoloration if it adheres to plastic parts, but such parts should be cleaned with alcohol beforehand to prevent foreign particles from adhering.
- For maximum performance we highly recommend Shimano lubricants and maintenance products
- 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.)



## Installation of the sprockets

For each sprocket, the surface that has the group mark should face outward and be positioned so that the wider part of each sprocket and the A part (where the groove with wide) of the freewheel body are aligned.

CS-M750 (as)

CS-M750 (aq)

CS-M750 (ap)

CS-HG70-9

Lock ring spacer, Lock ring, Sprocket spacers (2.56 mm), Wide part, Disassembly, TL-HG16, Tool (TL-SR20)

Tightening torque : 30 - 50 Nm (261 - 434 in. lbs.)

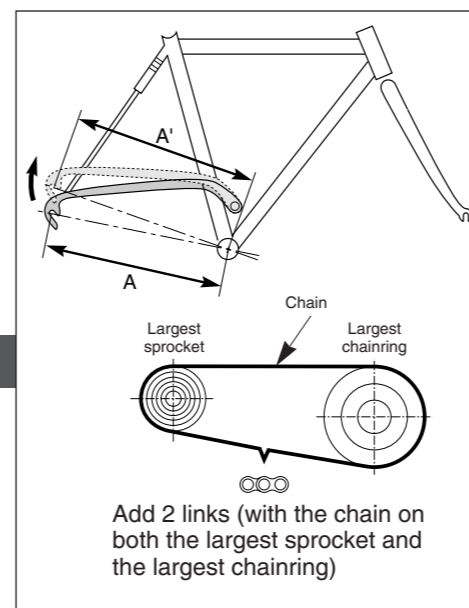
Tightening torque : 35 - 50 Nm (305 - 434 in. lbs.)

For installation of sprockets, use the special tool (TL-HG16) to tighten the lock ring.

To replace sprockets, use the special tool (TL-HG16) and TL-SR20 to remove the lock ring.

## Chain length on bicycles with rear suspension

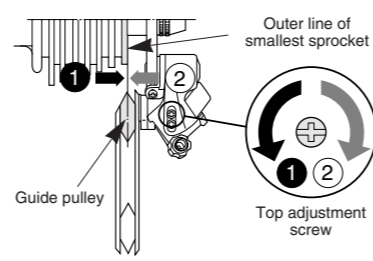
The length of A will vary depending on the movement of the rear suspension. Because of this, an excessive load may be placed on the drive system if the chain length is too short. Set the length of the chain by adding two links to the chain when the rear suspension is at a position where dimension "A" 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.



## SIS 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.



Note regarding the sealed cap with tongue, rubber shield and outer casing adjustment barrel cover

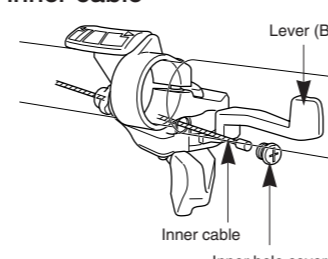
1. The sealed cap with tongue and the rubber shield should be installed to the outer casing stopper of the frame.

Be careful not to bend

Outer casing adjustment barrel cover, Rubber shield, Sealed cap with tongue

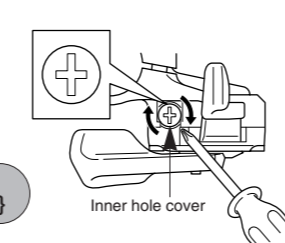
### 2. Connecting and securing the inner cable

Operate lever (B) eight times or more, and check on the indicator that the lever is at the highest position. Then remove the inner hole cover and connect the inner cable.



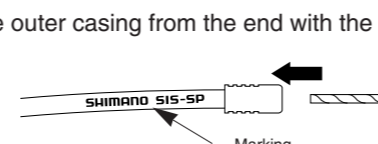
Tightening torque : 5 - 7 Nm (44 - 60 in. lbs.)

Install the inner hole cover by turning it as shown in the illustration until it stops. Do not turn it any further than this, otherwise it may damage the screw thread.



### 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.

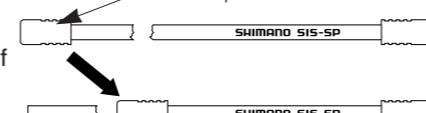


### Cutting the outer casing

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.



## Installation of the brake lever

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

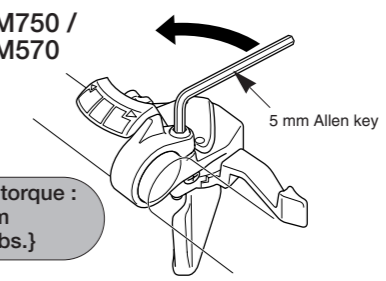
SL-M750 / SL-M570

ST-M750 / ST-M570

### SL-M750 / SL-M570

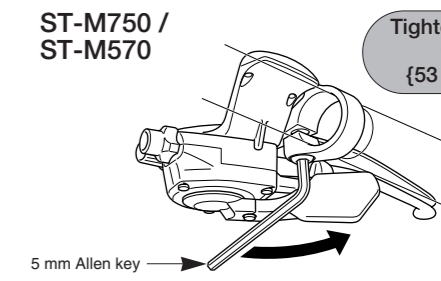
Install the brake lever in a position where it will not obstruct brake operation. Do not use in a combination which causes brake operation to be obstructed.

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



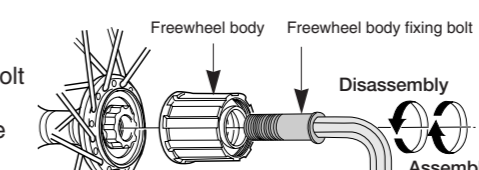
### ST-M750 / ST-M570

Tightening torque : 6 - 8 Nm (53 - 69 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.)

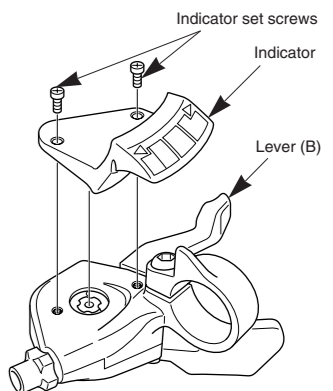
## Replacement of the shifting lever unit and indicator

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.)

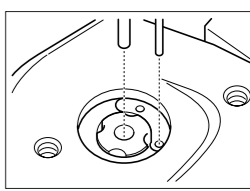


2. Remove the indicator unit as shown in the illustration.

3. Operate lever (B) at least eight times to set the lever to the highest position.

4. After checking that the indicator needle is at the left edge, install the indicator as shown in the illustration.

5. Check the operation of the indicator. If it does not operate correctly, re-install the indicator while taking particular note of steps 3. to 4.

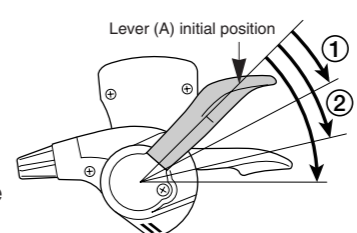


## Gear shifting operation

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.

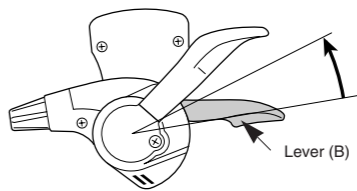
### To shift from a small sprocket to a larger sprocket

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



### To shift from a large sprocket to a smaller sprocket

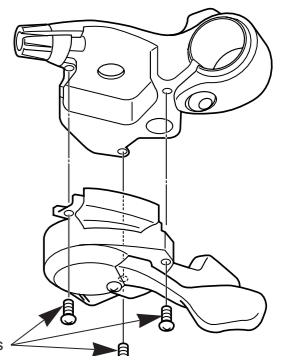
Press lever (B) once to shift one step from a larger to a smaller sprocket.



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

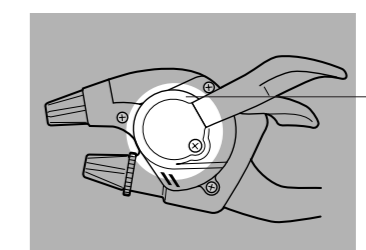
## Replacement of the shifting lever unit

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 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 and then secure the shifting lever mounting screws.
5. Carry out steps 3 - 4 for replacement of the indicator.



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

This service instruction explains how to use and maintain the Shimano bicycle parts which have been used on your new bicycle. For any questions regarding your bicycle or other matters which are not related to Shimano parts, please contact the place of purchase or the bicycle manufacturer.

## SHIMANO

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