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	**NEXAVE**
Shifting lever	**ST-T300**
Outer casing	**SP40 sealed / Rubber shield**
Rear derailleur	**RD-T300**
Type	**MGS**
Freehub	**FH-T300**
Gears	**7**
Cassette sprocket	**CS-HG50-I**
Chain	**CN-HG50**
Bottom bracket cable guide	**SM-SP18 / SM-BT18**

Specifications

Rear Derailleur

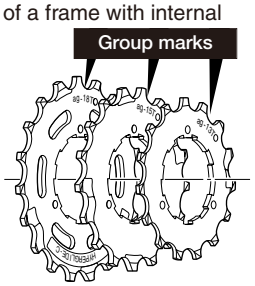
Model number	RD-T300
Type	MGS
Gears	7
Total capacity	43T
Largest sprocket	34T
Smallest sprocket	11T
Front chainwheel tooth difference	20T
Applicable front chainwheel (chainring tooth configuration)	FC-T300 (42T-34T-22T) FC-T301 (48T-38T-28T)

Cassette sprocket tooth combination

Type	Gears	Group name	Tooth combination
HG	7	**at**	11, 13, 15, 18, 22, 26, 34,T

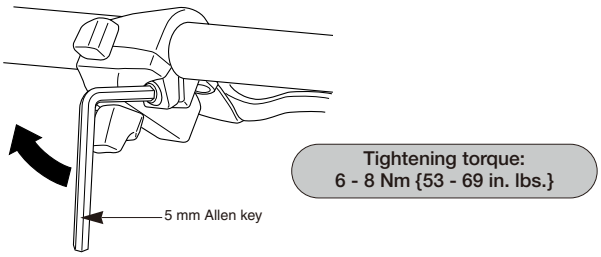
Note

* Adjust the RD-T300 Rapid Rise rear derailleur (reverse spring type) from the low side.
* Always be sure to use the 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.
* 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 any questions regarding methods of installation, adjustment, maintenance or operation, please contact a professional bicycle dealer.



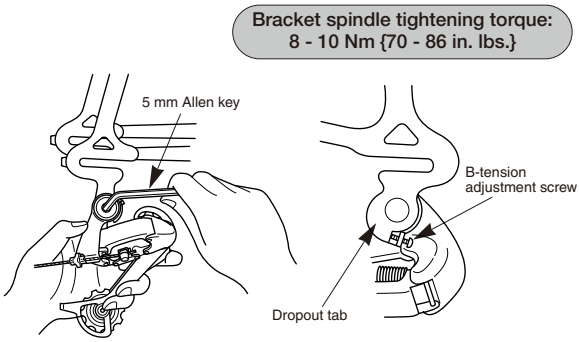
Installation of the brake lever

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



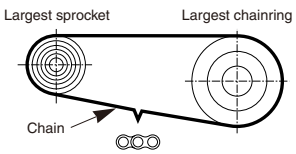
Installation of the rear derailleur

When installing, be careful that deformation is not caused by the B-tension adjustment screw coming into contact with the dropout tab.
Do not remove the Pro-Set alignment block at this time.



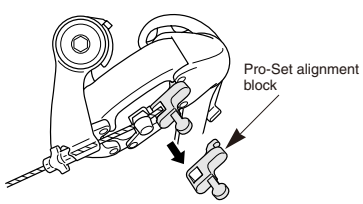
Chain length

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



Installation of the chain

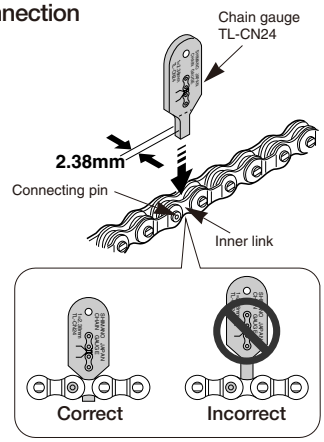
1. Install the chain with the Pro-Set alignment block still attached. After installing, remove the Pro-Set alignment block.



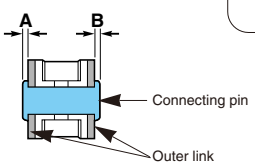
2. Turn the crank arm to set the derailleur to the low position.

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 pro-trudes past the outer link by the same amount on both sides, and that the amount of protrusion is 0.2 mm or more.

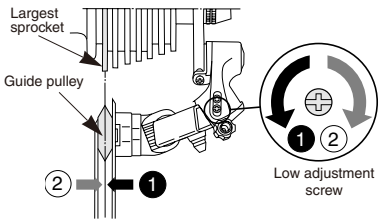


A, B ≧ 0.2mm

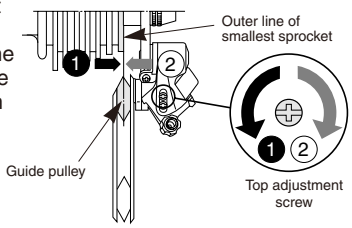


Adjustment

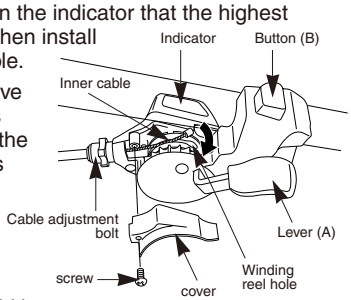
1. Low adjustment
Turn the low adjustment screw so that the guide pulley moves to a position directly in line with the largest sprocket.



2. Top adjustment
Turn the crank arm while pulling the derailleur with your hand to move the derailleur to the top position, and then 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.
Turn the crank arm to set the derailleur to the low position.



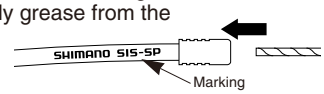
3. Installation and securing of the outer casing and inner cable
Press button (B) 7 or more times to set the lever to the lowest position, check on the indicator that the highest position is correct, and then install and adjust the inner cable.
Loosen the screw, remove the cover and then pass the inner cable through the cable adjustment bolt as shown in the illustration.
Run the cable along the slit in the winding reel and hook it into the hole in the winding reel.
The inner end cap should be pressed into the hole in the winding reel as far as it will go.



Tightening torque:
5 - 7 Nm {44 - 60 in. lbs.}

Inserting the inner cable

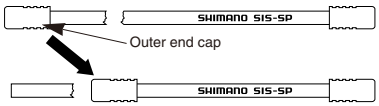
Insert the inner cable into the outer casing from the end with the marking on it. Apply grease from the end with the marking in order to maintain cable operating efficiency.



Cutting the outer casing

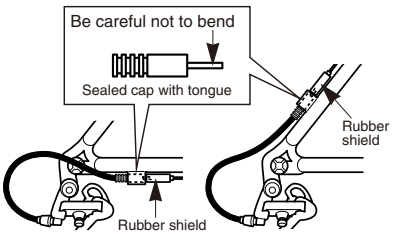
When cutting the outer casing, cut the opposite end to the end with the marking. After cutting the outer casing, make the end round so that the inside of the hole has a uniform diameter.

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

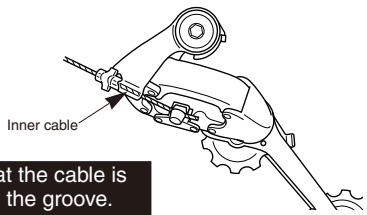


Note regarding the sealed cap with tongue and rubber shield

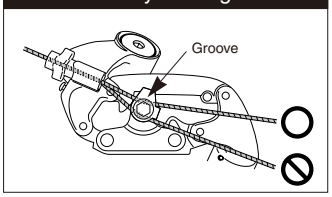
The sealed cap with tongue and the rubber shield should be installed to the outer casing stopper of the frame.



Connect the inner cable to the derailleur as shown in the illustration.

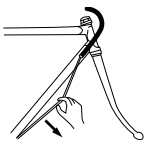


Note: Be sure that the cable is securely in the groove.



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

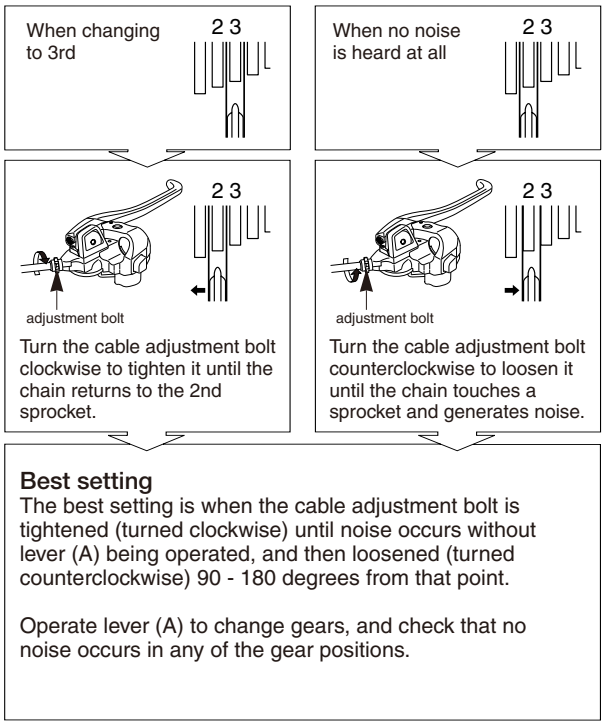
Tightening torque:
5 - 7 Nm {44 - 60 in. lbs.}



Pull

4. SIS adjustment

Push button (B) while turning the crank arm to move the derailleur to the largest sprocket. Then operate lever (A) once to move the derailleur to the 2nd-gear sprocket. After this, operate lever (A) just as far as the extent of play, and then turn the crank arm.



Best setting

The best setting is when the cable adjustment bolt is tightened (turned clockwise) until noise occurs without lever (A) being operated, and then loosened (turned counterclockwise) 90 - 180 degrees from that point.

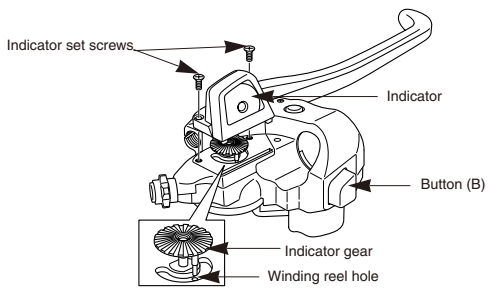
Operate lever (A) to change gears, and check that no noise occurs in any of the gear positions.

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

Replacing the indicator

1. Press button (B) to set the lever to the lowest position.
2. Insert the pin of the indicator gear into the hole of the winding reel.
3. Move the indicator needle to the [1] position.
4. In the condition in step 3., place the indicator on top of the brake lever bracket. Be careful not to let the indicator needle move at this time.
5. Secure the indicator with the two indicator set screws.

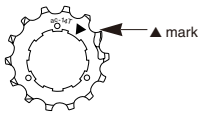
Tightening torque:
0.4 Nm {4 in. lbs.}

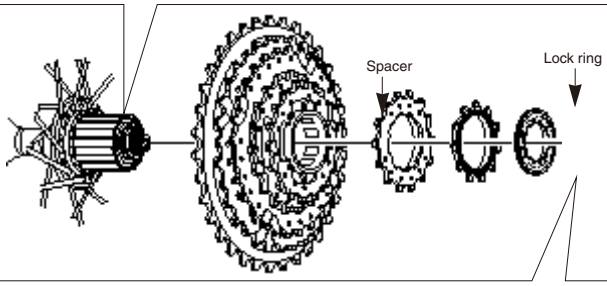


Installation of the sprockets

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

The groove is wide at one place only.

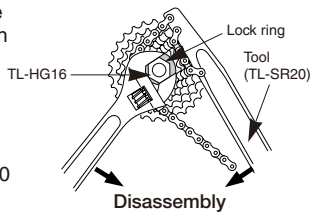




- For installation of the sprockets, use the special tool (TL-HG16) to tighten the lock ring.

Tightening torque:
30 - 50 Nm {261 - 434 in. lbs.}

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

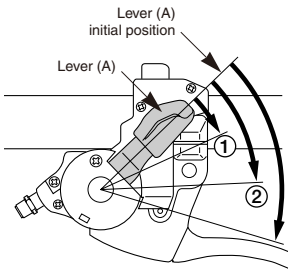


Gear shifting operation

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

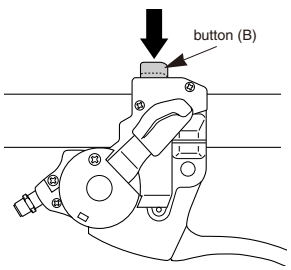
To shift from a larger sprocket to a smaller sprocket [lever (A)]

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 smaller sprocket to a larger sprocket [button (B)]

Press button (B) once and then release it to shift one step from a smaller to a larger sprocket.

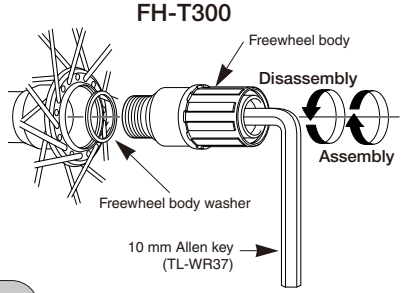


Replacement of the freewheel body

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.
Special grease is used inside the freewheel body. Do not lubricate the freewheel body with ordinary grease or oil, as this may cause problems with the operation of the clutch mechanism.

FH-T300



Tightening torque:
150 Nm {1300 in. lbs.}