



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	TL-CN31/TL-CN22
8-/7-/6-speed narrow chain such as CN-HG50 / CN-IG51	 Black	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-5US0B

RD-A416

Rear Derailleur

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	RSX	
Shifting lever	ST-A416	ST-A417
Outer casing	SIS SP40	SIS SP40
Gears	16	24
Front derailleur	FD-A416	FD-A417
Front chainwheel	FC-A416	FC-A417
Bottom bracket	BB-LP27	BB-LP27
Rear derailleur	RD-A416	RD-A416-GS
Freehub	FH-A416	FH-A416
Cassette sprocket	CS-HG50-8	CS-HG50-8
Chain	CN-HG50	CN-HG50
Bottom bracket cable guide	SM-SP17	SM-SP17

Specifications

Rear Derailleur

Model number	RD-A416	RD-A416-GS
Type	SS	GS
Gears	8	8
Total capacity	28T	36T
Largest sprocket	28T	30T
Smallest sprocket	11T	11T
Front chainwheel tooth difference	14T	22T

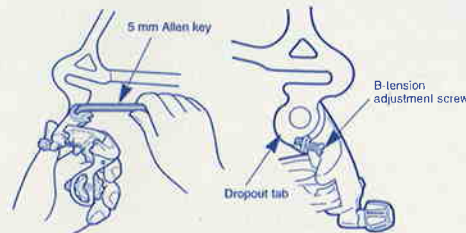
Note

- For smooth operation, use the specified outer casing and the bottom bracket cable guide.
- Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly.
- 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.
- For any questions regarding methods of installation, adjustment, maintenance or operation, please contact a professional bicycle dealer.

Installation of the rear derailleur

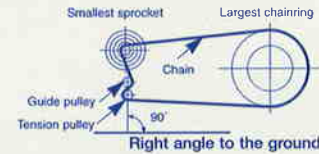
When installing, be careful that deformation is not caused by the B-tension adjustment screw coming into contact with the dropout tab.

Bracket spindle tightening torque:
8 - 10 Nm (70 - 85 in. lbs.)



Chain length

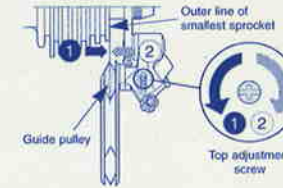
GS type, SS type



Stroke adjustment and cable securing

1. Top adjustment

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



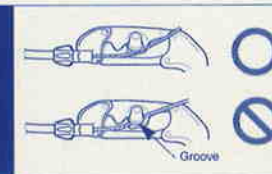
2. Connection and securing of the cable

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.



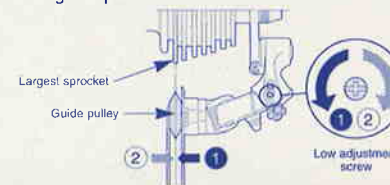
Tightening torque: 5 - 7 Nm
{44 - 60 in. lbs.}

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



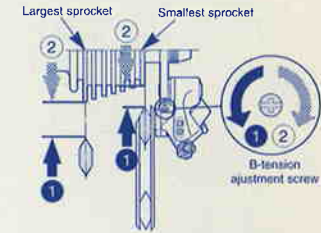
3. Low adjustment

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.

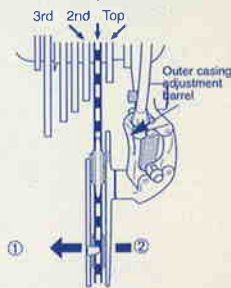


5. SIS Adjustment

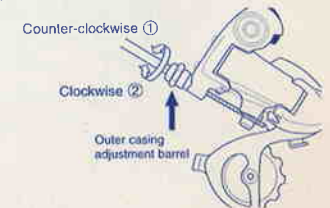
(1) Operate the shifting lever to move the chain from the top gear to the 2nd gear.

* 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.

SHIMANO

SHIMANO AMERICAN CORPORATION
One Holland Irvine CA 92618 U.S.A. Phone 949-951-5003

SHIMANO EUROPA
Industrieweg 24 NL-8071 CT Nurspeet Holland Phone 31-341-272222

SHIMANO INC.
77 Omatsu-cho 3-cho Sakai Osaka 590-8577 Japan Phone 072-23-3243

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