SR SUNTOUR

SERVICE MANUAL

Rear drive system

Thank you for choosing SR SUNTOUR products. In order to maximize the shifting performance, please kindly read this instruction sheet carefully before starting to use the SR Suntour drive train.

Key features

- Direct cable routing rear derailleur.
- Multi-compatible rear derailleur.
- Cable saver system Twist shifter.

Rear derailleur/shiftlever specifications

Front derailleur	Spring system	Compatible speed	Compatible shift lever
RD-NRX850	Top normal type	PFS-18S	DSC-NRX850 / DSC-NRX800
RD-XCR750		27S	DSM-XCR-DR / TS-NCX600-R9 / Shimano / ESP
RD-XCR650			
RD-XCC550		PFS-16S / 24S	DSC-NRX700 / TS-NCX500-R8 / Shimano / ESP
RD-XR180-GXB(Z)		21S	Shimano
RD-XR180-SSB(Z)		7S	Shimano
RD-CR800	Reverse spring type	PFS-18S	DSC-NRX850 / DSC-NRX800
RD-CR400		27S	TS-CR600-R9
RD-CR300		PFS-16S / 24S	DSC-NRX700 / TS-CR500-R8

Rear derailleur installation

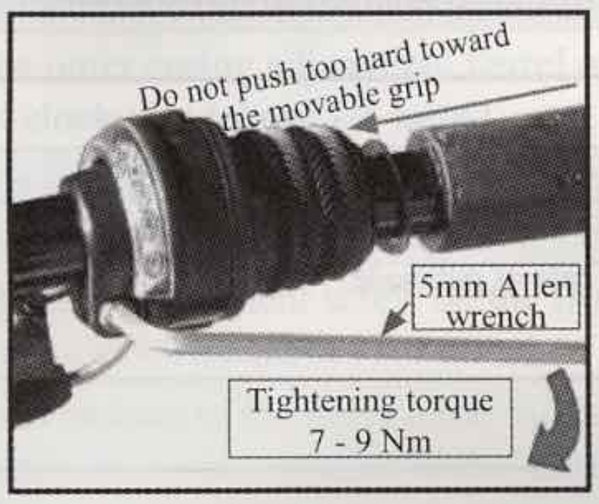
Tighten the mounting bolt of the rear derailleur with a 5mm allen wrench. Sugested tightening torque is 8 - 10Nm.
At this time, please be sure that the stopper screw of the rear derailleur to be put on the dropout derailleur stopper tab.





Control installation

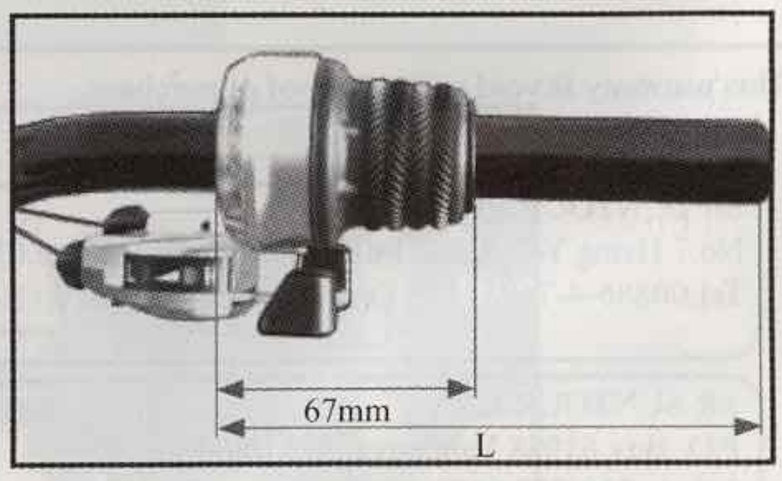
Before installing grips, be sure to put the 0.5mm slide washers between the controls and grips. After installing grips, adjust the position of the controls, making sure not to push them too hard against grips. Otherwise it may affect the shifting function and make the operation heavier.



Handlebar dimension

When using the SR SUNTOUR Control, it is necessary to maintain straight section „L“ at the handlebar ends as shown below. Please select handlebars according to the dimensions shown here.

	Straight section on „L“
DSC type	67mm + Grip length
TS type	72mm + Grip length



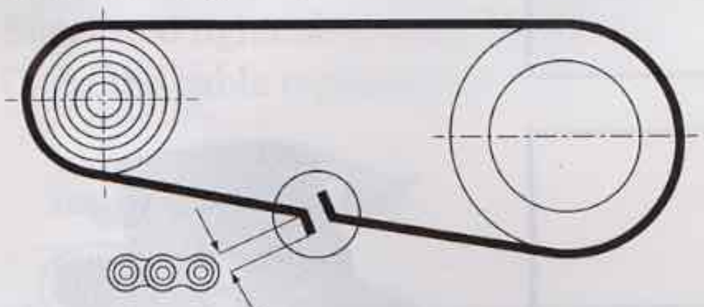
Chain length

In order to get maximum shifting performance, please follow the points below to determine the proper chain length.

Chainwheel: 42T, 44T, 46T or 48T outer ring

Rear largest sprocket: 30T or 32T

Add 2 links after putting the chain on the front and rear largest sprockets.

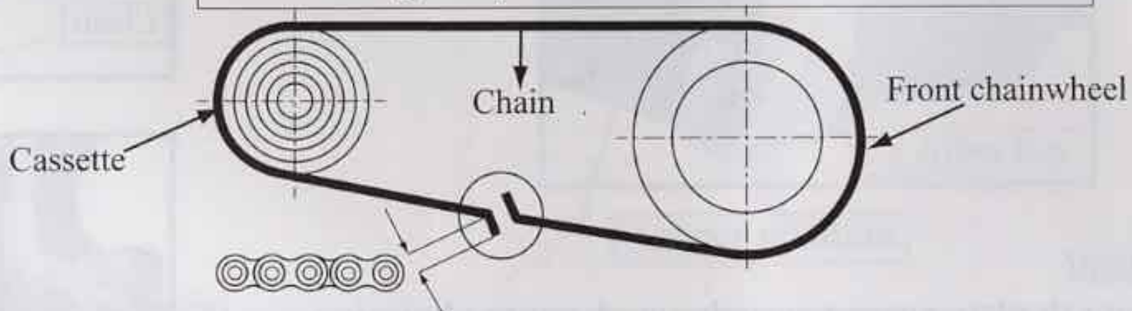


Add 2 links (with chain tightened)

Chainwheel: 42T, 44T, 46T or 48T outer ring

Rear largest sprocket: 34T

Add 4 links after putting the chain on the front and rear largest sprockets.



Add 4 links (with chain tightened)

Inner cable connection

1. Setting the control to the stopper position as shown below.
2. After taking up the initial slack of cable, connect the inner cable to the rear derailleur.
4. Tighten the inner cable fixing bolt with a 5mm allen wrench. Suggested tightening torque: 5-7 Nm.

Control stopper position

Shimano

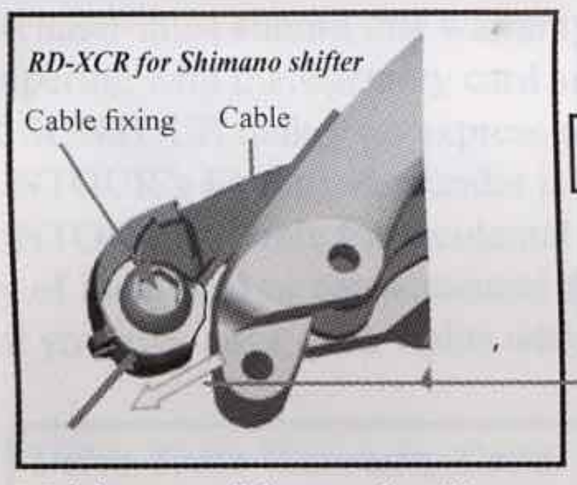
Please refer to the instruction sheet of the manufacturer

TS-NCX type

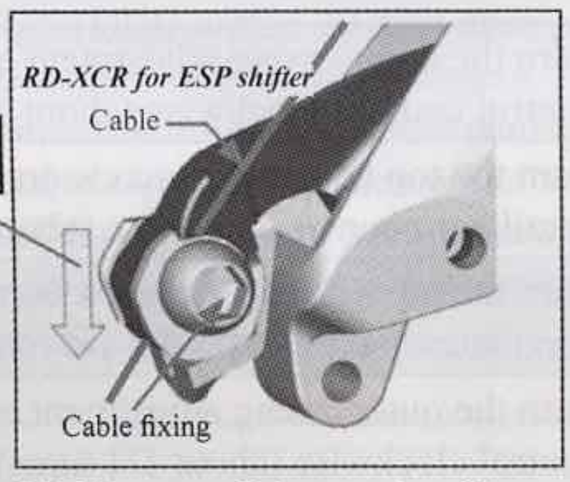


TS-CR type

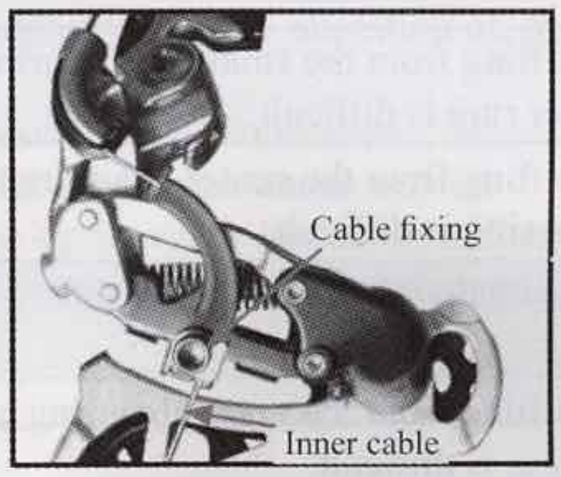




Multi compatible rear derailleur
Top normal type (Shimano stroke)



Multi compatible rear derailleur
Top normal type (ESP stroke)



Reverse spring type

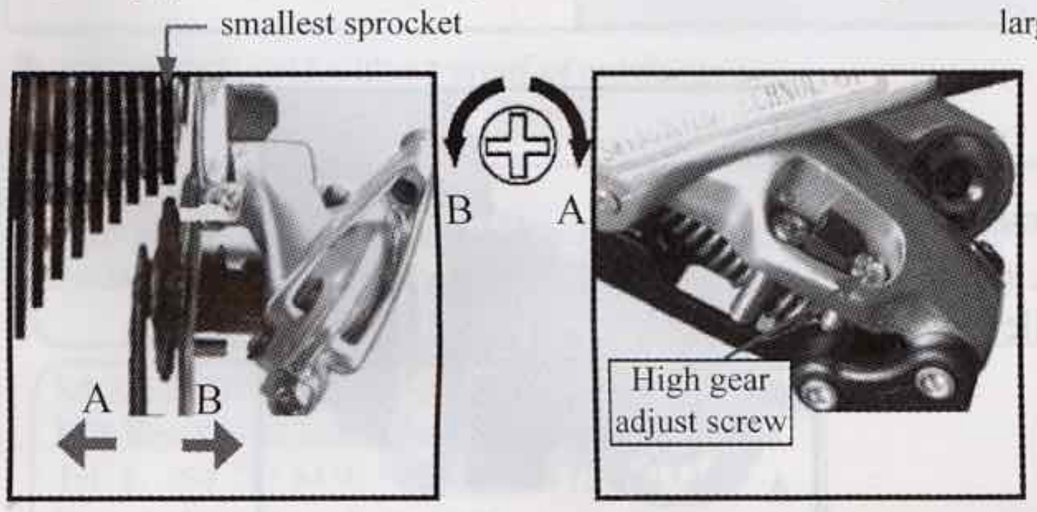
Index adjustment

● Top normal type

1. Shifting range

Top side adjustment

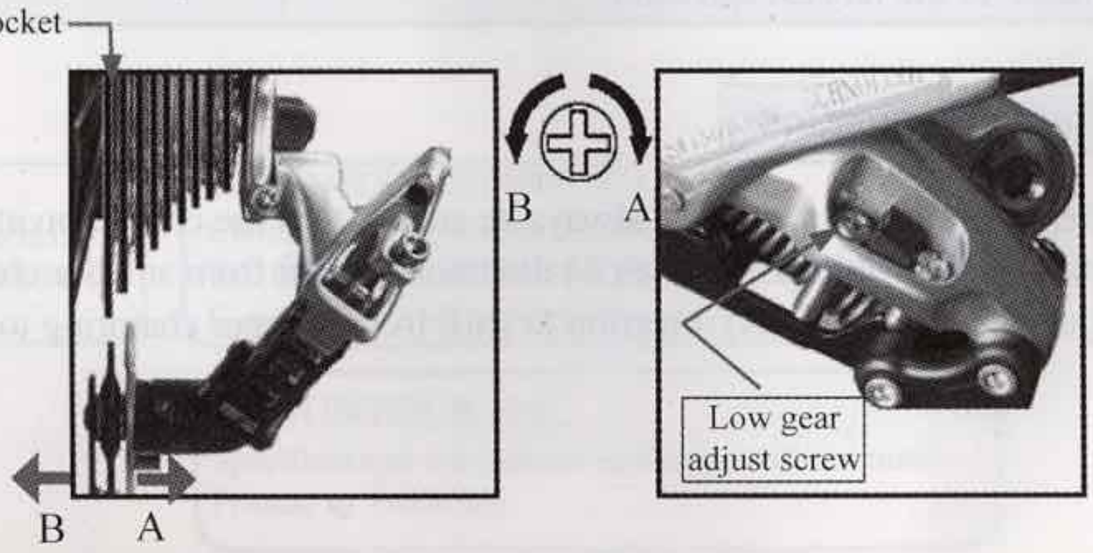
Turn the high gear adjust screw (right side) so that the guide pulley positioned directly beneath the smallest sprocket.



1. Shifting range

Low side adjustment

Turn the low gear adjust screw (left side) so that the guide pulley positioned directly beneath the largest sprocket.

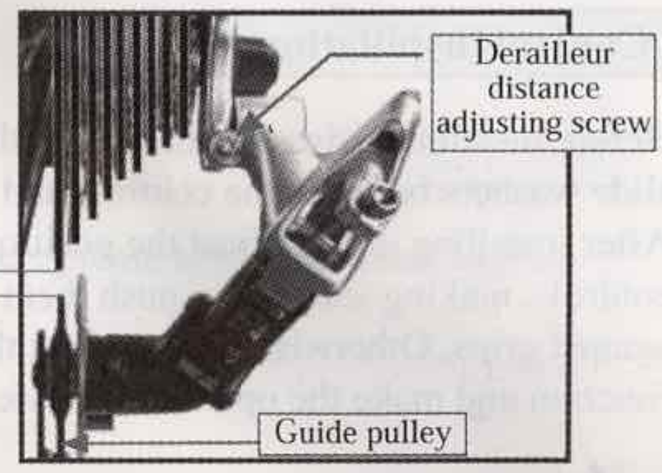


2. Angle adjustment

After setting to the largest sprocket, turn the derailleur adjusting screw so that the clearance between the guide pulley and the largest sprocket is 6-8mm

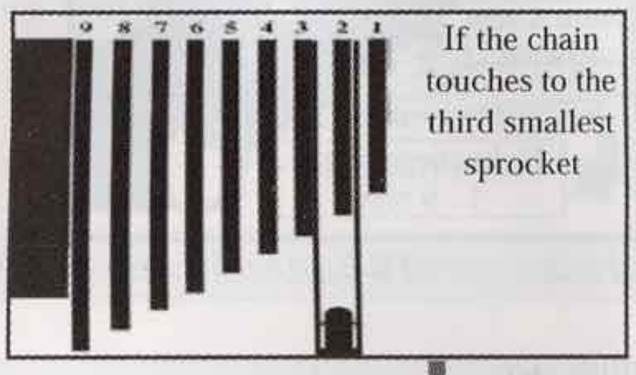
3. Index adjustment

Set the control to move the chain from the smallest to the second smallest sprocket.

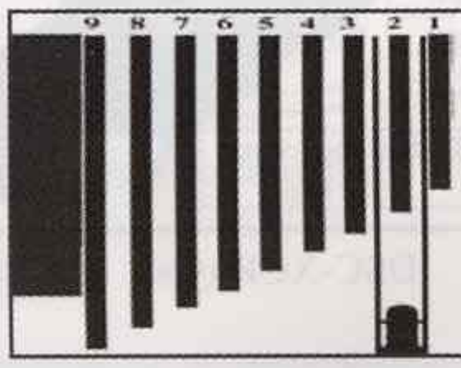


**** Warning !***

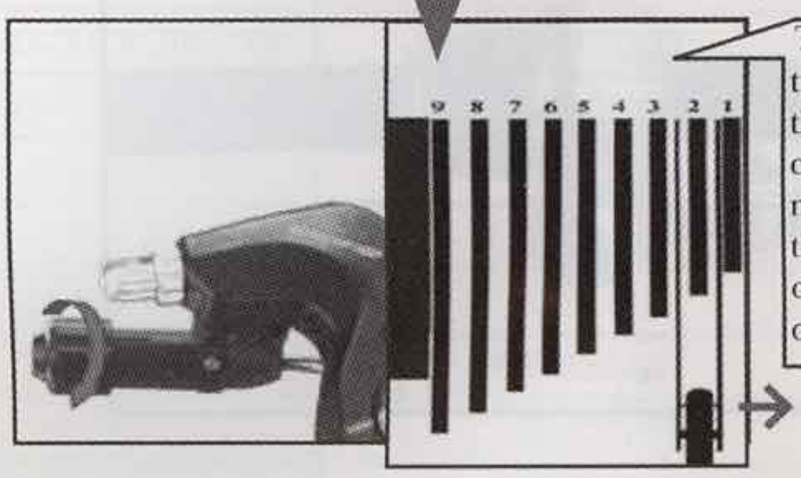
Be sure to adjust the low gear screw to avoid the derailleur's contacting the rear wheel spokes, which may cause problems.



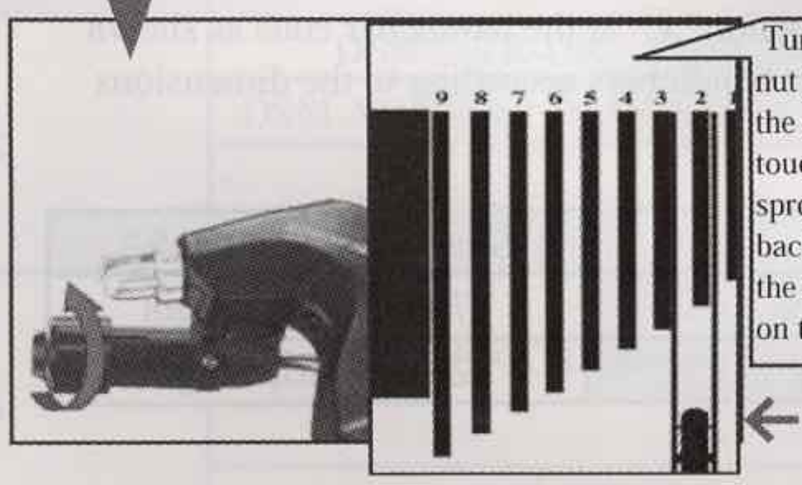
If the chain touches to the third smallest sprocket



In case of no chain contact



Turn the cable adjusting nut clockwise on the control, until the chain doesn't make any noise and doesn't touch the 3rd smallest sprocket and runs smoothly on the 2nd. sprocket.



Turn the cable adjusting nut counter-clockwise on the control, until the chain touches the 3rd smallest sprocket and then turn back about 1/4 turn and the chain runs smoothly on the 2nd. sprocket.

Best setting

When the chain is on the 2nd smallest sprocket, increase the inner cable tension while turning the crank forward.
Stop turning the cable adjusting screw when the chain makes noise against the 3rd smallest sprocket and turn back by about 1/4 turn.

Index adjustment

● Reverse spring type

1. Shifting range

Top side adjustment

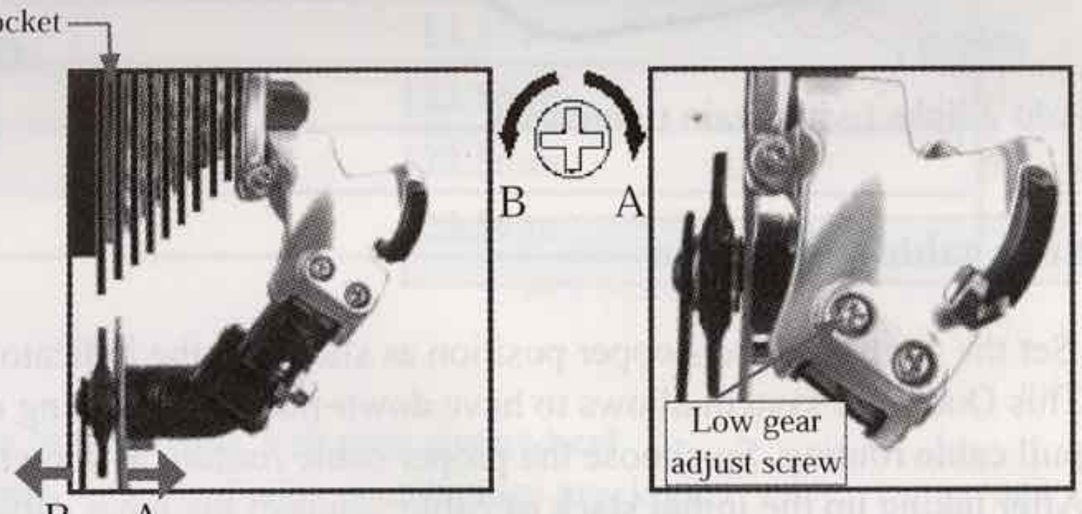
Turn the high gear adjust screw (right side) so that the guide pulley positioned directly beneath the smallest sprocket.



1. Shifting range

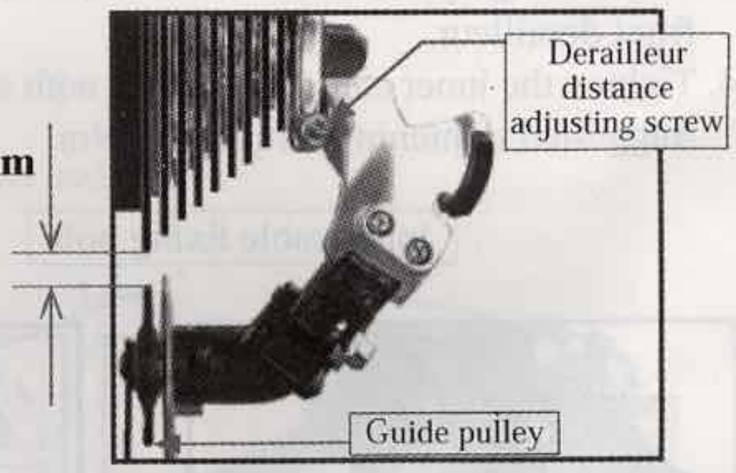
Low side adjustment

Turn the low gear adjust screw (left side) so that the guide pulley positioned directly beneath the largest sprocket.



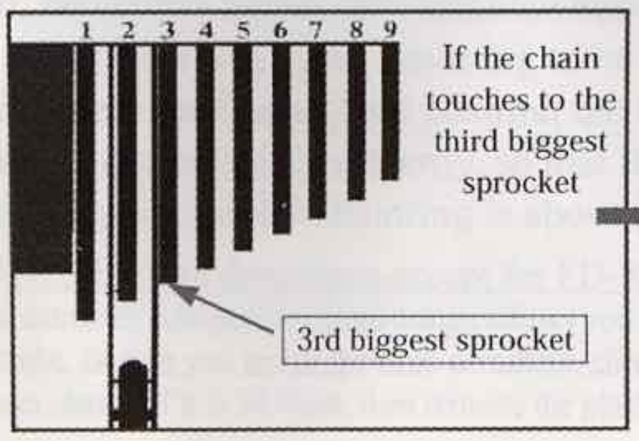
2. Angle adjustment

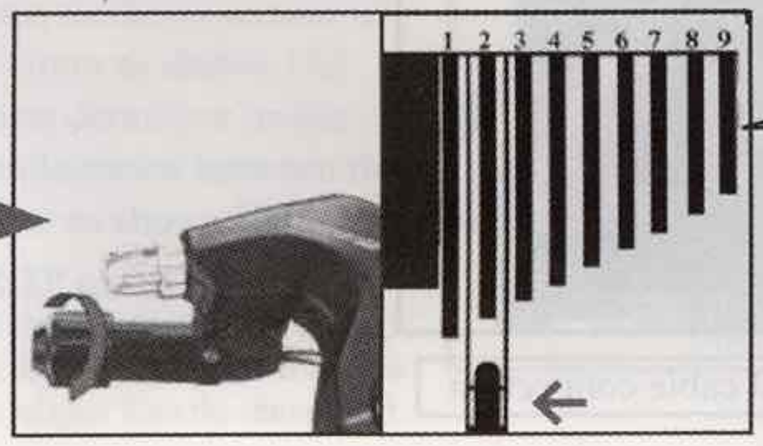
After setting to the largest sprocket, turn the derailleur adjusting screw so that the clearance between the guide pulley and the largest sprocket is 6-8mm.



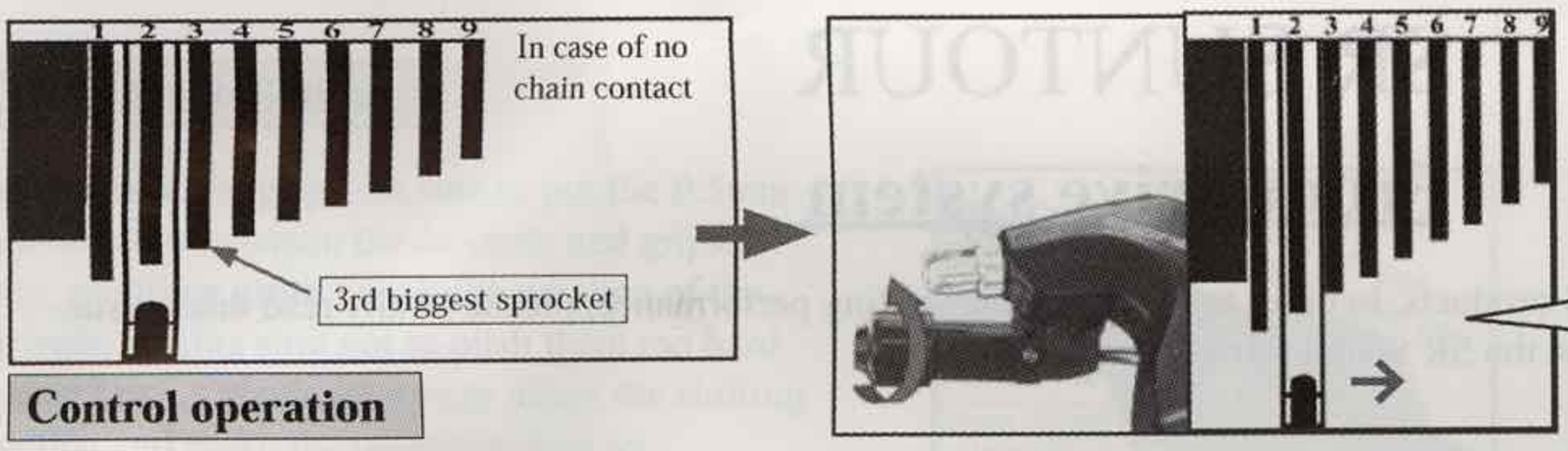
3. Index adjustment

Set the control to move the chain from the biggest to the second biggest sprocket.





Turn the cable adjusting nut clockwise on the control, until the chain doesn't make any noise and doesn't touch the 3rd biggest sprocket and runs smoothly on the 2nd. biggest sprocket.



Control operation

When operating the controls, always be sure to turn the crank arm at the same time.

TS-NCX series

Rotate the movable grip to the (A) direction to shift from smaller sprocket to a larger sprocket and to the (B) direction to shift from a larger sprocket to a smaller sprocket.

TS-CR series

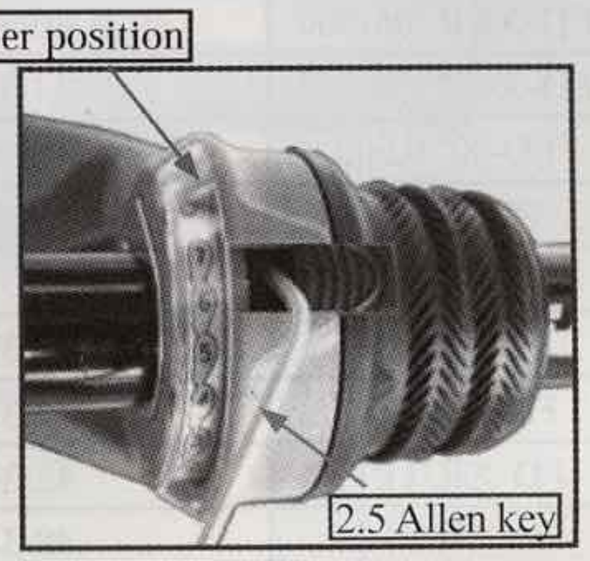
Rotate the movable grip to the (B) direction to shift from smaller sprocket to a larger sprocket and to the (A) direction to shift from a larger sprocket to a smaller sprocket.



TS-NCX series

Replacing the inner cable

1, Return the control to stopper position (where the cable has no more tension).
2. Open the cable replacement port, by moving the cap towards the handlebar grip.
3. Loosen the cap screw counter-clockwise with a 2.5mm Allen wrench.
4. Push out the old inner cable, and install the new inner cable.
   At this time, check to see if the twist shifter is at the stopper position.
5. Tighten the cap screw clockwise with a 2.5mm Allen wrench.
   Suggested tightening torque is 0.5Nm.
6. Close the cable replacement port.



LIMITED WARRANTY

SR SUNTOUR warrants the drive train to be free from defects in materials and workmanship under normal use for a period of two years from the date of purchase. In no event shall this limited warranty apply to any defect of the drive train caused by: improper installation, disassembly, reassembly, intentional breakage or damage, alterations or modi cations to the drive train by the user or other party or any unreasonable use or abuse of the product or any use for which this product was not intended.
The obligation of this limited warranty shall be limited to repairing or replacing the drive train or any part for which there is a defect in materials or workmanship during the two years following the date of purchase. To validate this limited warranty the purchaser must submit this warranty card to SR SUNTOUR within 30 days after purchase of the drive train. Any alteration of, or tampering with the warranty card automatically terminates this limited warranty.
SR SUNTOUR makes no express or implied warranties of tness or merchatability of any kind, except as set forth above. SR SUNTOUR's liability hereunder is expressly limited to repair or replacement of the product. Under no circumstances will SR SUNTOUR be liable for incidental or consequential damages. Some jurisdictions do not allow the exclusion or limitation of liability of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you speci c rights and you may have other rights which vary from jurisdiction to jurisdiction.

Drive Train Warranty Card:

Date of purchase: _____ Model name _____

Term of limited warranty: Two years from the date of purchase

Dealer Name: _____ Phone#: _____

Address: _____

Purchaser Name: _____ Phone#: _____

Address: _____

This warranty is void without proof of purchase.

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SERVICE MANUAL

SR SUNTOUR

Front drive system

Thank you for choosing SR SUNTOUR products. In order to maximize the shifting performance, please kindly read this instruction sheet carefully before starting to use the SR Suntour drive train.

Key features

- Double action front derailleur.
- Cable saver system Twist shifter.
- PowerFlo Front index shifting design chainwheel.

Front derailleur/shiftlever specifications

Front	Compatible ring	Compatible speed	Compatible shift lever
FD-XCR706/506	46/32/22T	27S	DSM-XCR-DR / TS-NCX600-L3
FD-XCR704/504	44/32/22T		DSM-XCR-DR / TS-NCX600-L3 / Shimano
FD-XCR502	42/32/22T		TS-NCX/CR600-L3 / Shimano
FD-CR318	48/38/28T		
FD-CR312	42/32/22T	24S	TS-NCX/CR500-L3 / Shimano
FD-CR208	48/38/28T		
FD-XCC202	42/32/22T		Shimano
FD-XR/TP17	42/34/24T		
FD-XR/TP05	48/38/28T		

Chainwheel specifications

Chainwheel	Ring combination	Compatible BB
Durolux series	46/32/22T / 44/32/22T	ISIS (BB-DRL-113) or OCTALINK
XCR series	46/32/22T / 44/32/22T	ISIS (BB-XCR-113) or OCTALINK or Square MM110
XCC300 series	48/38/28T / 44/32/22T / 42/32/22T	MM110
NCX series	44/32/22T / 42/32/22T	LL113
CR series	48/38/28T	LL113
NEX series	48/38/28T	122.5mm
XCC150 / XR series	42/34/24T	122.5mm
XCC100 series	48/38/28T	122.5mm

Chainwheel installation

Using the 8mm Allen wrench, install the chainwheel onto the bottom bracket axle. For such chainwheel models as NEX, XCC150/100 and XR series, please use the fixing bolts furnished with your bottom brackets.
Suggested tightening torque: Nut type: 50 - 60 Nm (500 - 600 kgf/cm)
Bolt type: 40 - 50 Nm (400 - 500 kgf/cm)
Chainline tolerance is ±1.5mm.
Note: Above dimensions are subject to change according to the amount of grease on the B.B. axle taper.

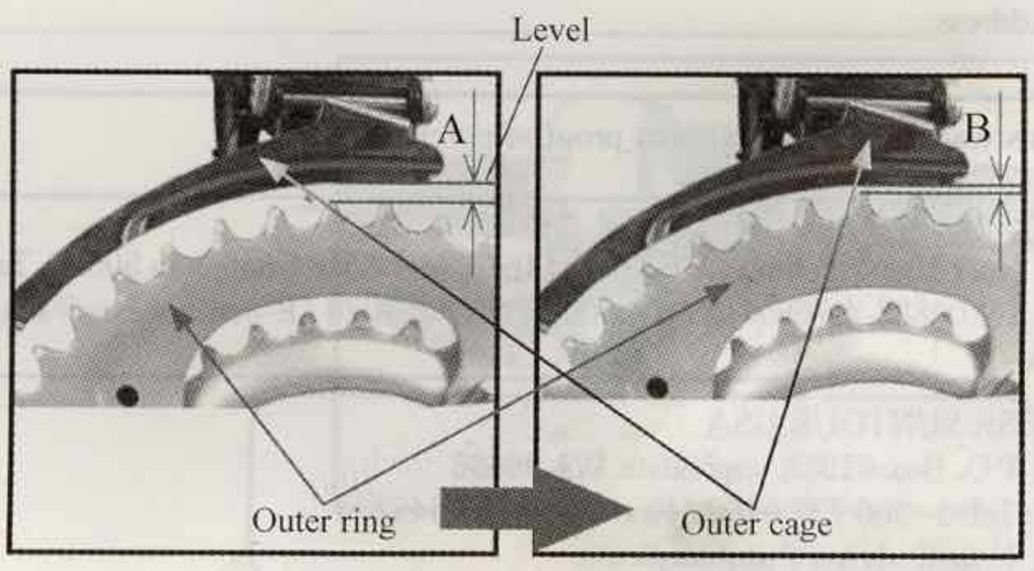
Front derailleur installation

Front derailleur position

With the outer cage directly over and parallel to the outer chainring, be sure to adjust the clearance between the level section of the outer cage and outer chainring to be 1-3mm as shown [A]. For easier installation, first position the front derailleur on the smallest chainring temporarily, so that the clearance between the outer cage and outer chainring is about 1mm as shown [B].

NOTE (all Front derailleurs except for FD-XR/TP series)

Dual diameter compatible clamp design allows you to choose either 31.8 or 34.9mm seat tube. Before you install the front derailleur, check the seat tube diameter to have correct clamp. If it is 34.9mm, then remove the plastic adaptor from the clamp band.

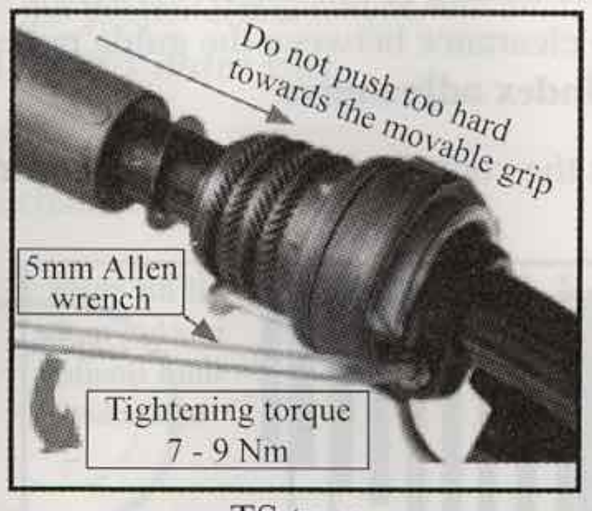


Control installation

Before installing grips, be sure to put the 0.5mm slide washers between the controls and grips. After installing grips, adjust the position of the controls, making sure not to push them too hard against grips. Otherwise it may affect the shifting function and make the operation heavier.



DSC-XCR type

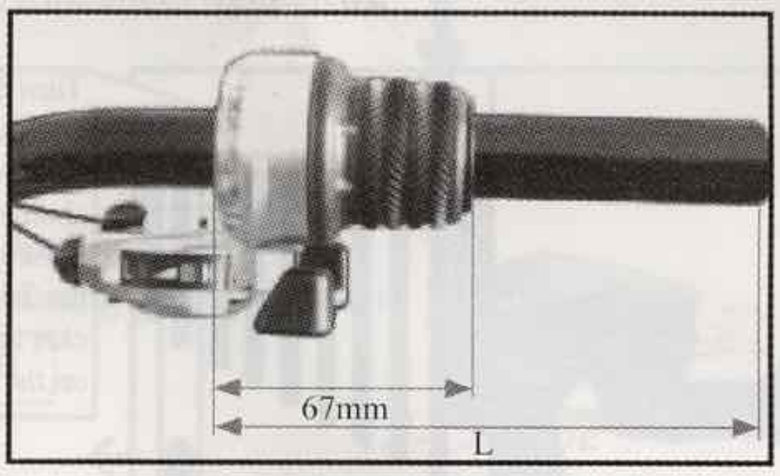


TS type

Handlebar dimension

When using the SR SUNTOUR Control, it is necessary to maintain straight section „L" at the handlebar ends as shown below. Please select handlebars according to the dimensions shown here.

	Straight section on „L"
DSC type	67mm + Grip length
TS type	72mm + Grip length



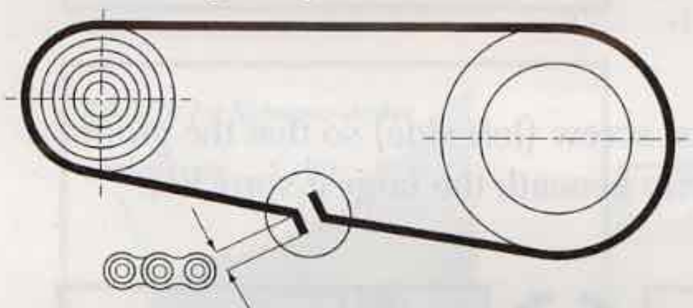
Chain length

In order to get maximum shifting performance, please follow the points below to determine the proper chain length.

Chainwheel: 42T, 44T, 46T or 48T outer ring

Rear largest sprocket: 30T or 32T

Add 2 links after putting the chain on the front and rear largest sprockets.

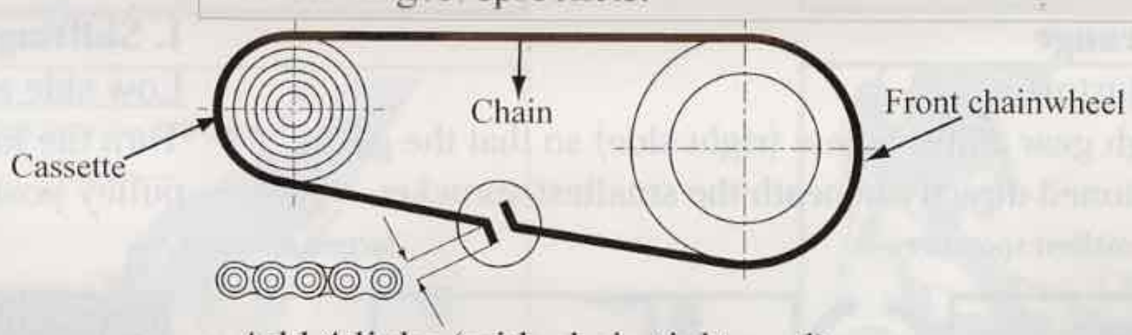


Add 2 links (with chain tightened)

Chainwheel: 42T, 44T, 46T or 48T outer ring

Rear largest sprocket: 34T

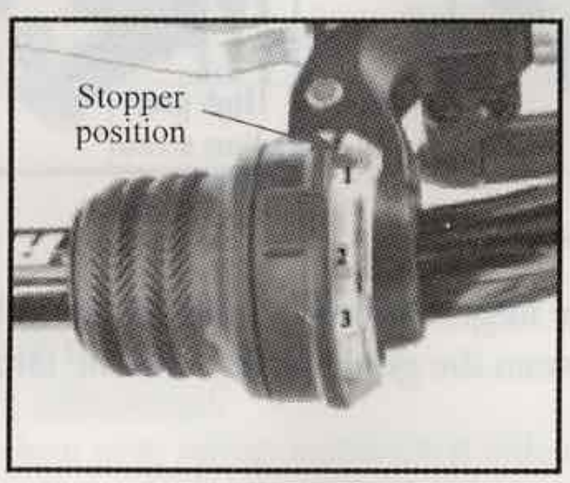
Add 4 links after putting the chain on the front and rear largest sprockets.



Add 4 links (with chain tightened)

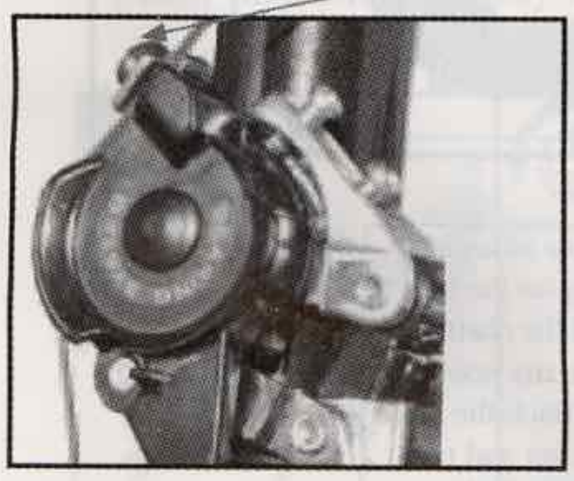
Inner cable connection

1. Set the control to the stopper position as shown in the indicator [1].
2. This Dual-pull system allows to have down-pull cable routing or top-pull cable routing. So choose the proper cable routing as shown here.
3. After taking up the initial slack of cable, connect the inner cable to the front derailleur.
4. Tighten the inner cable fixing bolt with a 5mm allen wrench. Suggested tightening torque: 5-7 Nm.

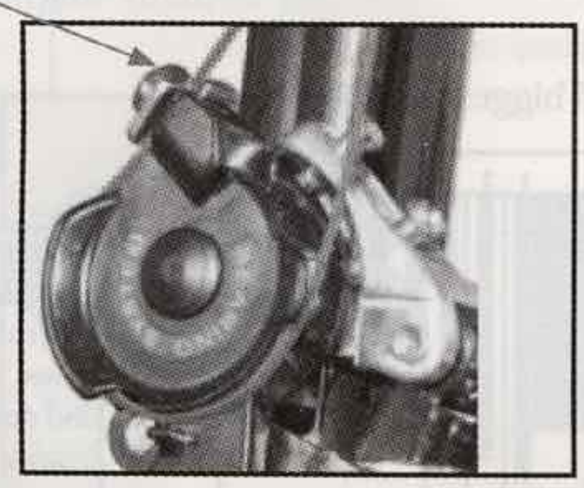


Front derailleur control at stopper positon.

Inner cable fixing bolt



Down-pull cable connection



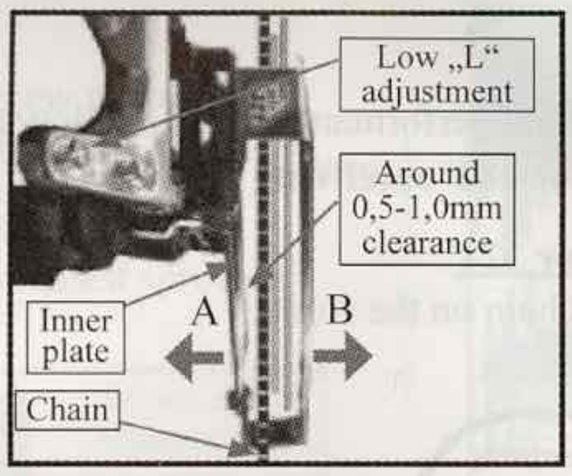
Top-pull cable connection

Index adjustment

1. Shifting range

Low adjustment

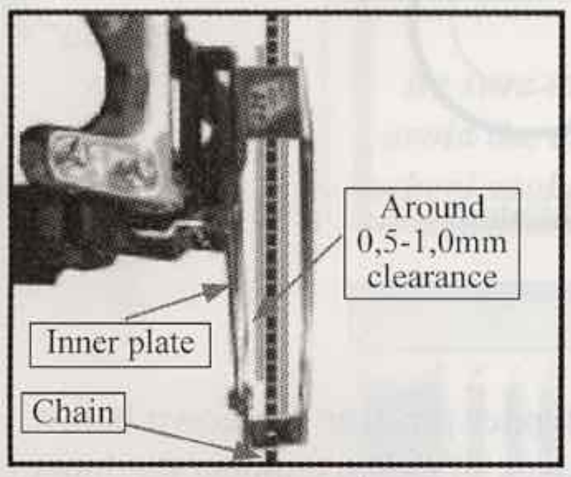
Turn the Low adjustment screw so that the clearance between the Inner plate and the chain is at 0.5-1.0mm.

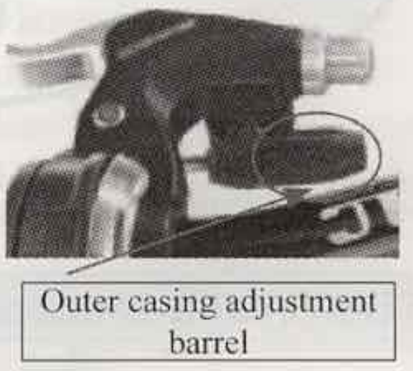




Center adjustment

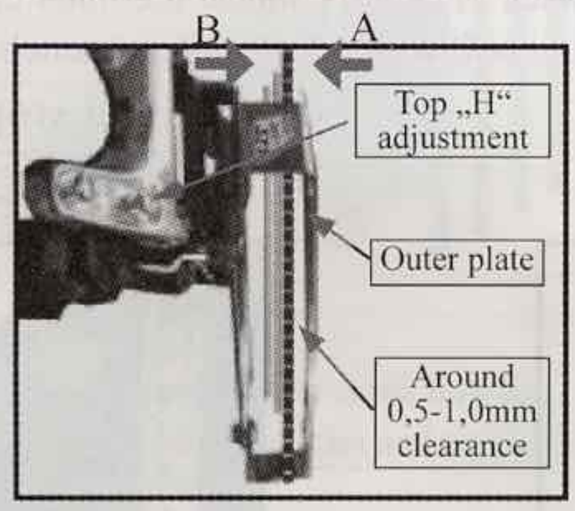
Set the chain onto the largest rear sprocket and center chainring. Adjust the position of the front derailleur, using the outer casing adjustment barrel on the control, so that the clerance between the Inner plate and the chain to be at around 0.5-1.0mm.





Top adjustment

Turn the Top adjustment screw so that the clearance between the Outer plate and the chain to be at 0.5-1.0mm.





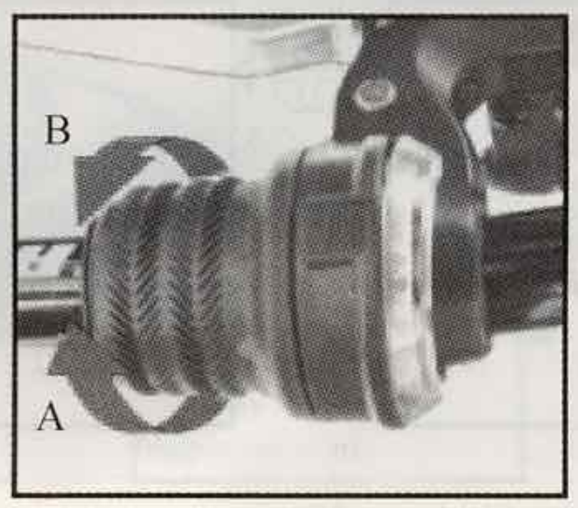
2. Troubleshooting of the adjustment

10. After completing the above steps, move the shift lever to see the shifting performance.

If shifting from the smallest chainring to the center ring is difficult.	Turn the outer casing adjustment barrel on the control counter-clockwise (about 1/4 turns).
If shifting from the center chainring to the outer ring is difficult.	Turn the top adjustment screw on the front derailleur counter-clockwise (about 1/4 turns).
If the chain falls to the crank side.	Turn the top adjustment screw on the front derailleur clockwise (about 1/4 turns).
If shifting from the outer chainring to the center ring is difficult.	Turn the outer casing adjustment barrel on the control clockwise (about 1/4 turns).
If shifting from the center chainring to the smallest ring is difficult.	Turn the low adjustment screw on the front derailleur counter-clockwise (about 1/4 turns).
If the chain falls to the bottom bracket side.	Turn the low adjustment screw on the front derailleur clockwise (about 1/4 turns).
When the chain is on the center chainring, if there is interference between the chain and front derailleur outer plate when shifted to the smallest sprocket and interference between the chain and front derailleur inner plate when shifted to the largest sprocket.	The level section of the outer plate should be directly above and parallel to the largest chainring.

Control operation

When operating the controls, always be sure to turn the crank arm at the same time. Rotate the movable grip to the (A) direction to shift from smaller chainring to a larger ring and to the (B) direction to shift from a larger chainring to a smaller ring.



Replacing the inner cable

1, Return the control to stopper position.
2. Open the cable replacement port, by moving the cap towards the handlebar grip.
3. Loosen the cap screw counter-clockwise with a 2.5mm Allen wrench.
4. Push out the old inner cable, and install the new inner cable.
   At this time, check to see if the twist shifter is at the stopper position.
5. Tighten the cap screw clockwise with a 2.5mm Allen wrench.
   Suggested tightening torque is 0.5Nm.
6. Close the cable replacement port.



Model	Speeds	Sprocket range	Model	Speeds	Sprocket range
FW-PF200-N7	7 Speeds	13,14,16,18,21,24,32T	CS-PF48-C8	8 Speeds	11,13,15,18,21,24,28,34T
FW-PF220-N8	8 Speeds	13,14,16,18,21,24,28,32T	CS-PF57-C9	9 Speeds	11,12,14,16,18,21,24,28,32T
CS-PF302-C7	7 Speeds	12,14,16,18,21,24,32T	CS-PF58-C9	9 Speeds	11,12,14,16,18,21,24,28,34T
CS-PF30-C7	7 Speeds	12,14,16,18,21,24,28T	CS-SPF70-S9	9 Speeds	11,12,14,16,18,21,24,28,32T
CS-PF31-C7	7 Speeds	11,13,15,18,21,24,28T	CS-SPF75-S9	9 Speeds	11,12,14,16,18,21,24,28,34T
CS-PF32-C7	7 Speeds	11,13,15,18,21,24,30T	CS-DUROLUX-90	9 Speeds	11,12,14,16,18,21,24,28,32T
CS-PF36-C8	8 Speeds	11,12,14,16,18,21,24,28T	CS-DUROLUX-90	9 Speeds	11,12,14,16,18,21,24,28,34T
CS-PF41-C8	8 Speeds	11,12,14,16,18,21,24,30T	CS-AXON-S9	9 Speeds	11,12,14,16,18,21,(24,28,32T)
CS-PF44-C8	8 Speeds	11,13,15,18,21,24,28,32T			

LIMITED WARRANTY

SR SUNTOUR warrants the drive train to be free from defects in materials and workmanship under normal use for a period of two years from the date of purchase. In no event shall this limited warranty apply to any defect of the drive train caused by: improper installation, disassembly, reassembly, intentional breakage or damage, alterations or modifications to the drive train by the user or other party or any unreasonable use or abuse of the product or any use for which this product was not intended.
The obligation of this limited warranty shall be limited to repairing or replacing the drive train or any part for which there is a defect in materials or workmanship during the two years following the date of purchase. To validate this limited warranty the purchaser must submit this warranty card to SR SUNTOUR within 30 days after purchase of the drive train. Any alteration of, or tampering with the warranty card automatically terminates this limited warranty.
SR SUNTOUR makes no express or implied warranties of fitness or merchatability of any kind, except as set forth above. SR SUNTOUR's liability hereunder is expressly limited to repair or replacement of the product. Under no circumstances will SR SUNTOUR be liable for incidental or consequential damages. Some jurisdictions do not allow the exclusion or limitation of liability of incidental or consequential damages, so the above exclusion may not apply to you. This warranty gives you specific rights and you may have other rights which vary from jurisdiction to jurisdiction.

Drive Train Warranty Card:

Date of purchase: _____ Model name _____

Term of limited warranty: Two years from the date of purchase

Dealer Name: _____ Phone#: _____

Address: _____

Purchaser Name: _____ Phone#: _____

Address: _____

This warranty is void without proof of purchase.

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