



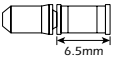
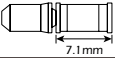
SL-RS41-8R

Shifting lever

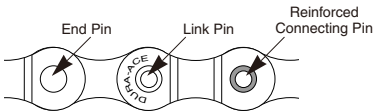
Before use, read these instructions carefully, and follow them for correct use.

⚠ 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-7701 / CN-HG93	 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

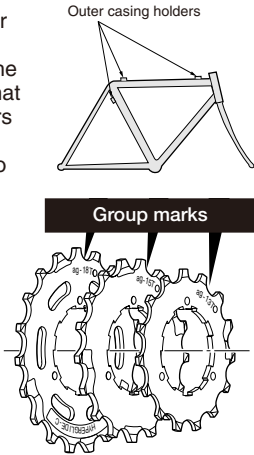
- If it is necessary to adjust the length of the chain due to a change in the number of sprocket teeth, make the cut at some other place than the place where the chain has been joined using a reinforced connecting pin or an end pin. The chain will be damaged if it is cut at a place where it has been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

Note

- Apply grease to the bottom bracket before installing it.
- For smooth operation, use the specified outer casing and bottom bracket cable guide.
- This front derailleur is for triple front chainwheel use only. It cannot be used with the double front chainwheel, as the shifting points do not match.
- When installing the top route type, choose a frame that has three outer casing holders as shown in the illustration at right.
- 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.
- 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.
- Operation of the levers related to gear shifting should be made only when the front chainwheel is turning.
- The ID-C050 gear indicator, SC-C050 speedometer, SC-C051 odometer and SC-C052 clock and stopwatch are available as separate items. Please ask your bicycle dealer for further details.
- 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.



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

Series		Altus
Gears	Right	SIS 8-gears
	Left	SIS 3-gears
Shifting lever		Right : SL-RS41-8R / Left : SL-RS41-L
Outer casing		SIS
Front derailleur		FD-CT92-E
Front chainwheel		FC-CT93
Bottom bracket		BB-CT92
Rear derailleur		RD-CT95
Type		Smart Cage
Freehub		FH-CT91
Cassette sprocket		CS-HG50-8I / CS-HG40-8I
Chain		CN-HG50 / CN-UG50
Bottom bracket cable guide		SM-SP18 / SM-BT18

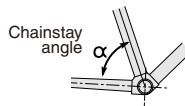
Specifications

Front Derailleur

Model number	FD-CT92-E		
Applicable bottom bracket	BB-CT92		
Applicable front chainwheel	FC-CT93		
Applicable to both normal type and top route type	○		
Top gear tooth	42T		
Front chainwheel tooth difference	18T		
Min. difference between top and intermediate	8T		
Front derailleur installation band diameter	S, M	L	S, M
Chainstay angle (α)	66° - 69°	66° - 69°	63° - 66°
Applicable chain line	47.5 mm 50 mm	50 mm	47.5 mm 50 mm

Installation band diameters:

S [28,6 mm],
M [31,8 mm],
L [34,9 mm]
(Use the adapter for
S and M sizes.)



Bottom Bracket

Model number	BB-CT92	BB-CT92
Stamped marking	YL116	ZL121
Spindle length	116mm	121 mm
Chain line	47.5 mm	50 mm
Applicable front chainwheel	FC-CT93	FC-CT93
Thread dimensions	BC 1.37 X 24 T.P.I. (68 mm) M36 X 24 T.P.I. (70 mm)	BC 1.37 X 24 T.P.I. (73 mm)

Chainwheel

Model number	FC-CT93
Chainwheel tooth combination	42-34-24T
Crank arm length	170 mm
Pedal thread dimensions	BC 9/16" x 20 T.P.I.

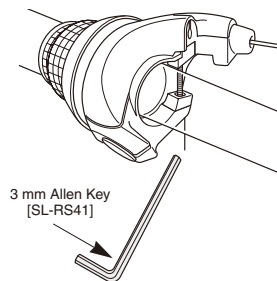
Rear Derailleur

Model number	RD-CT95
Type	Smart Cage
Total capacity	43T
Largest sprocket	34T
Smallest sprocket	11T
Front chainwheel tooth difference	20T
Applicable front chainwheel (chaining tooth configuration)	FC-CT93 (42-34-24T)

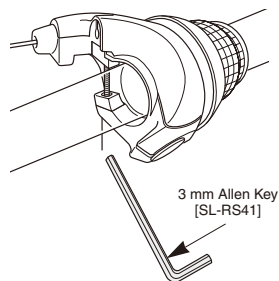
Cassette sprocket tooth combination

Model number	Sprockets	Group name	Tooth combination
CS-HG50-8I	8	an	11, 13, 15, 17, 20, 23, 26, 30T
CS-HG40-8I	8	ao	11, 13, 15, 17, 20, 23, 26, 34T

Mounting the shifting lever



3 mm Allen Key
[SL-RS41]

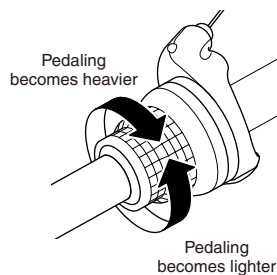


3 mm Allen Key
[SL-RS41]

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.

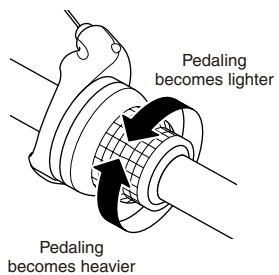
Tightening torque:
2Nm {18 in. lbs.}

Gear shifting operation



Pedaling
becomes heavier

Pedaling
becomes lighter



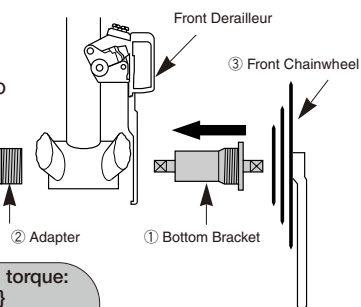
Pedaling
becomes lighter

Pedaling
becomes heavier

Installation of the Front Derailleur, Bottom Bracket and Front Chainwheel

< FD-CT92-E >

Use the special tools (TL-UN65 and TL-UN74-S) to install the bottom bracket ① and the front derailleur so that they face as shown in the illustration. Install the adapter ②, and then use the cotterless crank extractor (TL-FC10) to install the front chainwheel.



② Adapter

① Bottom Bracket

Adapter / bottom bracket tightening torque:

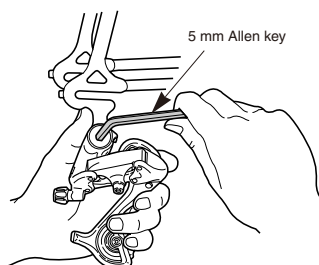
50 - 70 Nm {435 - 608 in. lbs.}

Front chainwheel tightening torque:

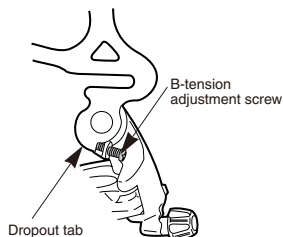
35 - 50 Nm {305 - 435 in. lbs.}

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.



5 mm Allen key



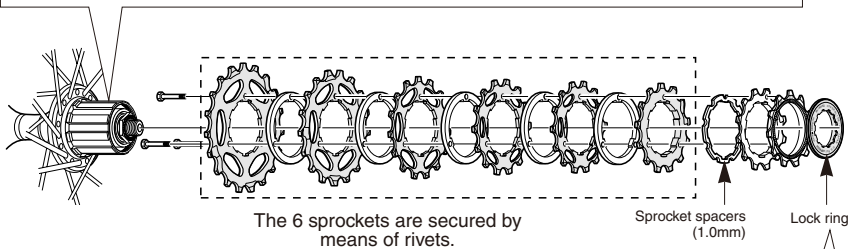
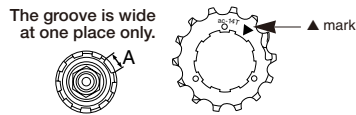
B-tension
adjustment screw

Dropout tab

Bracket spindle tightening torque:
8 - 10 Nm {70 - 86 in. lbs.}

Installation of the sprockets

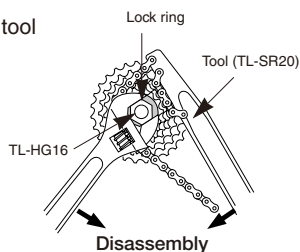
For each sprocket, the surface that has the group mark should face outward and be positioned so that the triangle (▲) mark on each sprocket and the A part (where the groove width is wide) of the freewheel body are aligned.



- 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.



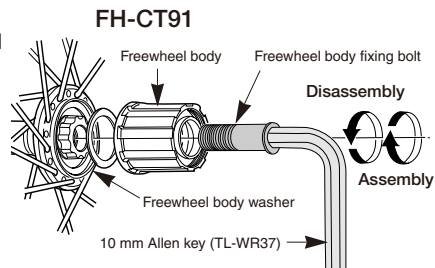
Replacement of the freewheel body

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

Note:

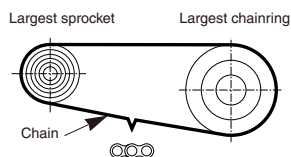
Do not attempt to disassemble the freewheel body, because it may result in a malfunction.

Tightening torque:
35 - 50 Nm {305 - 434 in. lbs.}



Chain length

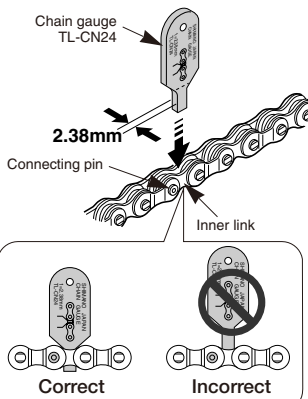
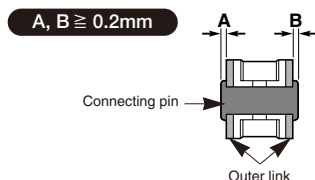
Add 2 links (with the chain on both the largest sprocket and the largest chainring)



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.



Adjustment

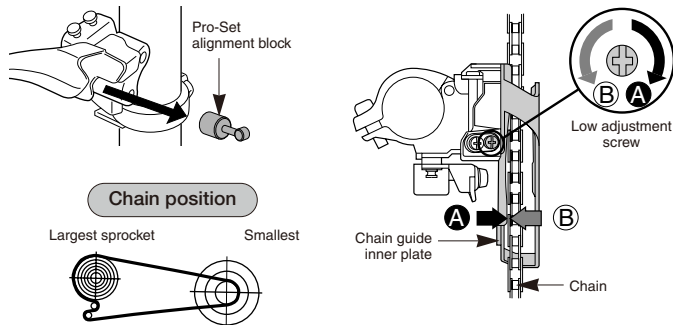
Be sure to follow the sequence described below.

< Front >

1. Low adjustment

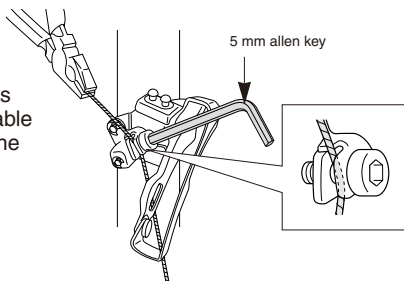
First remove the Pro-Set alignment block.

Next, set so that the clearance between the chain guide inner plate and the chain is 0-0.5 mm.



2. Securing the inner cable

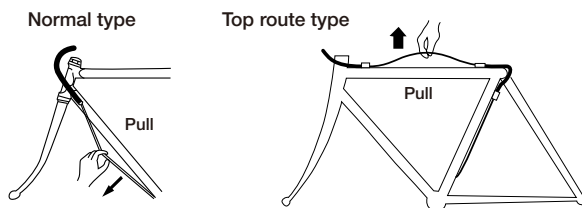
Cut off the excess length of inner cable and then install the inner end cap.



Note:
Pass the cable through as shown in the illustration.

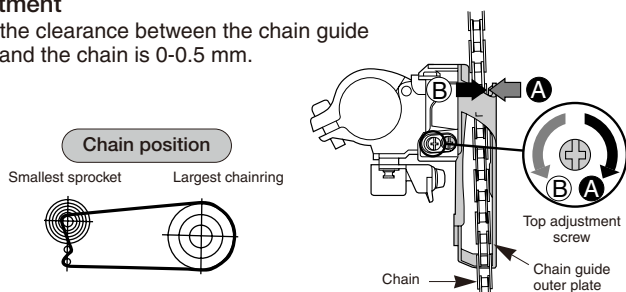
Tightening torque:
5 - 7 Nm
{44 - 60 in. lbs.}

After taking up the initial slack in the cable, re-secure to the front derailleur as shown in the illustration.



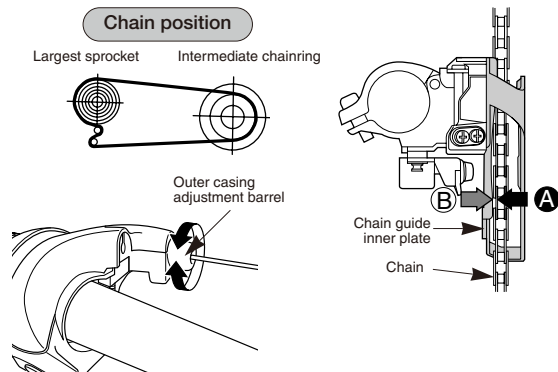
3. Top adjustment

Set so that the clearance between the chain guide outer plate and the chain is 0-0.5 mm.



4. Adjustment of the intermediate chainring

When carrying out adjustment, set the chain to the largest sprocket, and at the front, set the chain to the intermediate chainring. Adjust using the outer casing adjustment barrel so that the clearance between the chain guide inner plate and the chain is 0-0.5 mm.



5. Troubleshooting chart

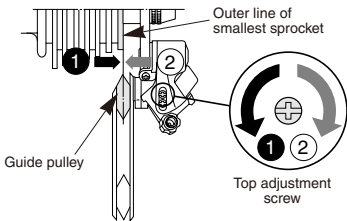
After completion of steps 1 - 4, move the shifting lever to check the shifting.
(This also applies if shifting becomes difficult during use.)

If the chain falls to the crank side.	Tighten the top adjustment screw clockwise (about 1/4 turn).
If shifting is difficult from the intermediate chainring to the largest chainring.	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If shifting is difficult from the intermediate chainring to the smallest chainring.	Loosen the low adjustment screw counterclockwise (about 1/4 turn).
If there is interference between the chain and the front derailleur inner plate at the largest chainring.	Tighten the top adjustment screw clockwise (about 1/8 turn).
If there is interference between the chain and the front derailleur outer plate at the largest chainring.	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If the intermediate chainring is skipped when shifting from the largest chainring.	Loosen the outer casing adjustment barrel counterclockwise (1 or 2 turns).
If there is interference between the chain and front derailleur inner plate when the rear sprocket is shifted to the largest sprocket when the chainwheel is at the intermediate chainring position.	Tighten the outer casing adjustment barrel clockwise (1 or 2 turns).
If the chain falls to the bottom bracket side.	Tighten the low adjustment screw clockwise (about 1/2 turn).

< Rear > _____

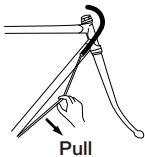
1. Top adjustment

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.
After this, install the chain.

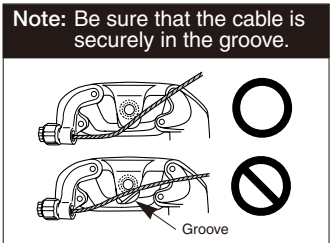


2. Securing the inner cable

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.



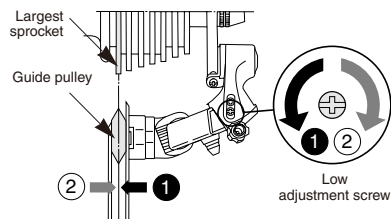
Tightening torque:
5 - 7 Nm {44 - 60 in. lbs.}



3. Low adjustment

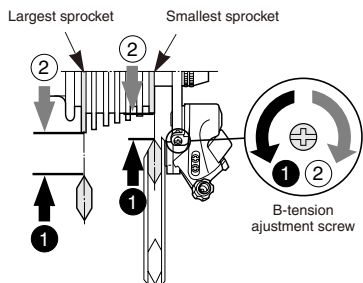
While turning the front chainwheel, operate the lever to shift to the lowest gear.

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.

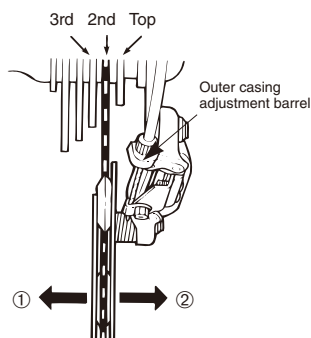


5. SIS Adjustment

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

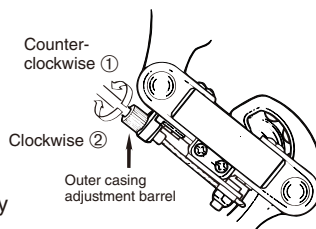
* If the chain will not move to the 2nd gear, turn the outer casing adjustment barrel to increase the tension ----- ① (counter clockwise)

* 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.

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.

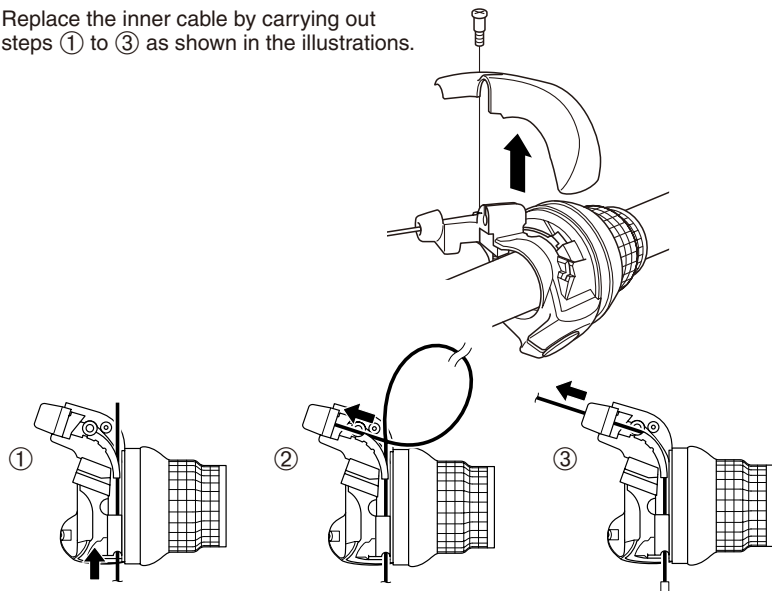
The diagram shows a side view of the outer casing. An arrow points from the left end to the right end, indicating the direction of rounding.

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

The diagram shows a side view of the Shimano SIS-SP cable. A label 'SHIMANO SIS-SP' points to the cable. A label 'Outer end cap' points to the cap.

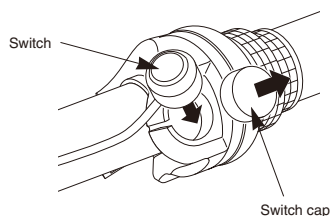
Replacing the inner cable

Replace the inner cable by carrying out steps ① to ③ as shown in the illustrations.



Installation of the switch

Remove the switch cap and install the switch as shown in the illustration.



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®

SHIMANO AMERICAN CORPORATION

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

SHIMANO EUROPA

Industrieweg 24 NL-8071 CT Nunspeet Holland Phone 31-341-272222

SHIMANO INC.

77 Oimatsu-cho 3-cho Sakai Osaka 590-8577 Japan

Please note: specifications are subject to change for improvement without notice. (English)
©Jul. 2001 by Shimano Inc. XBC SZK Printed in Malaysia

