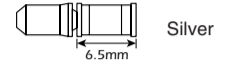
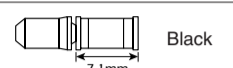


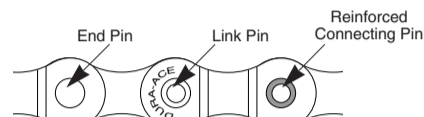
WARNING

- 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	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

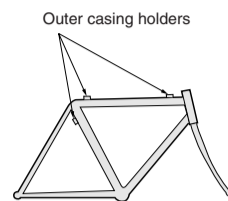
- If it is necessary to adjust the length of the chain due to a change in the number of sprocket teeth, make the cut at some other place than the place where the chain has been joined using a reinforced connecting pin or an end pin. The chain will be damaged if it is cut at a place where it has been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



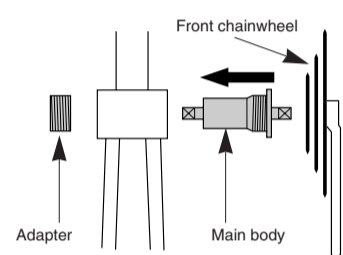
Note

- 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.
- For any questions regarding methods of installation, adjustment, maintenance or operation, please contact a professional bicycle dealer.
- Refer to the Rear Drive System Service Instructions for details on installing the CI-Deck.



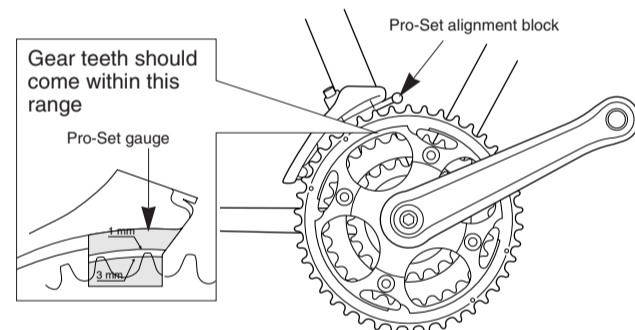
Installation of the Front Derailleur, Bottom Bracket and Front Chainwheel

Install using the TL-UN74-S special tool. First install the main body, then the adapter. After this, use an 8 mm Allen key to install the front chainwheel.

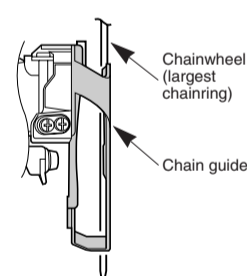


Adapter / bottom bracket tightening torque:
50 - 70 Nm (435 - 608 in. lbs.)
Front chainwheel tightening torque:
35 - 50 Nm (305 - 435 in. lbs.)

Adjust and then install the front derailleur as shown in the illustration. Do not remove the Pro-Set alignment block at this time.



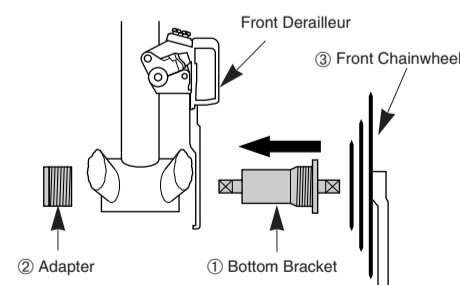
The level section of the chain guide outer plate should be directly above and parallel to the largest chainring. Secure using a 5 mm Allen key.



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

< FD-C201-E / FD-C101-E / 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.



Adapter / bottom bracket tightening torque:
50 - 70 Nm (435 - 608 in. lbs.)
Front chainwheel tightening torque:
35 - 50 Nm (305 - 435 in. lbs.)

SERVICE INSTRUCTIONS

SI-F910D

Front 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.

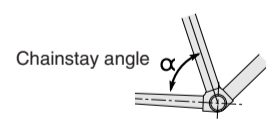
Series	C201	C101	Altus
CI-DECK	ID-C050-L	ID-C050	-
Gears	Right SIS 8-gears	SIS 8-gears	SIS 8-gears / SIS 7-gears
	Left SIS 3-gears	SIS 3-gears	SIS 3-gears
Rapidfire Plus	ST-C050-L / ST-C051-L	ST-C050-L / ST-C051-L	ST-EF29-L / ST-EF35-L
Outer casing	SIS	SIS	SIS
Front derailleur	FD-C201-E / FD-C202	FD-C101-E	FD-CT92-E
Front chainwheel	FC-C201 / FC-C203	FC-C101 / FC-C103	FC-CT93
Bottom bracket	BB-CT92	BB-CT92	BB-CT92
Chain	CN-HG50 / CN-UG50	CN-HG50 / CN-UG50	CN-HG50 / CN-UG50
Bottom bracket cable guide	SM-SP18 / SM-BT18	SM-SP18 / SM-BT18	SM-SP18 / SM-BT18

Specifications

Front Derailleur

Model number	FD-C201-E, FD-C101-E		FD-C202		FD-CT92-E	
Applicable bottom bracket	BB-CT92		BB-CT92		BB-CT92	
Applicable front chainwheel	FC-C201, FC-C101		FC-C203, FC-C103		FC-CT93	
Applicable to both normal type and top route type	○		○		○	
Top gear tooth	42T		48T		42T	
Front chainwheel tooth difference	18T		20T		18T	
Min. difference between top and intermediate	8T		10T		8T	
Front derailleur installation band diameter	S, M	L	S, M	S, M	L	S, M
Chainstay angle (α)	66° - 69°	66° - 69°	63° - 66°	66° - 69°	66° - 69°	63° - 66°
Applicable chain line	47.5 mm	50 mm	47.5 mm	47.5 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

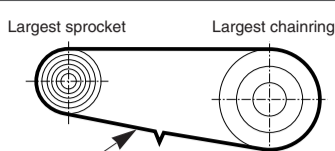
Model number	BB-CT92	BB-CT92
Stamped marking	YL116	ZL121
Spindle length	116mm	121 mm
Chain line	47.5 mm	50 mm
Applicable front chainwheel	FC-C201 / FC-C101 / FC-CT93	FC-C203 / FC-C102 / FC-CT93
Thread dimensions	BC 1.37 X 24 T.P.I. (68 mm) M36 X 24 T.P.I. (70 mm)	BC 1.37 X 24 T.P.I. (73 mm)

Chainwheel

Model number	FC-C201 / FC-C101	FC-C203 / FC-C103	FC-CT93
Chainwheel tooth combination	42-34-24T	48-38-28T	42-34-24T
Crank arm length	170 mm	170 mm	170 mm
Pedal thread dimensions	BC 9/16" x 20 T.P.I.	BC 9/16" x 20 T.P.I.	BC 9/16" x 20 T.P.I.

Chain length

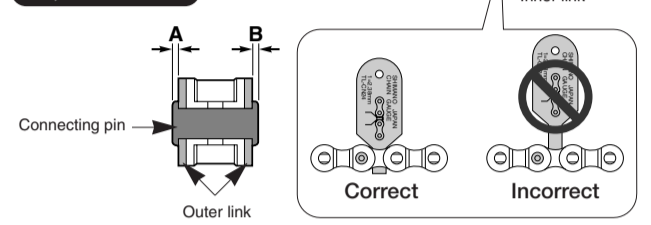
Add 2 links (with the chain on both the largest sprocket and the largest chainring)



Checking the chain connection

For 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.

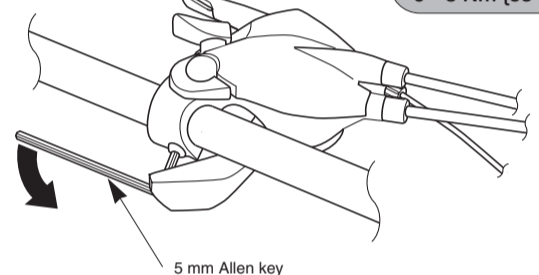
A, B ≥ 0.2mm



Mounting the shifting lever

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

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

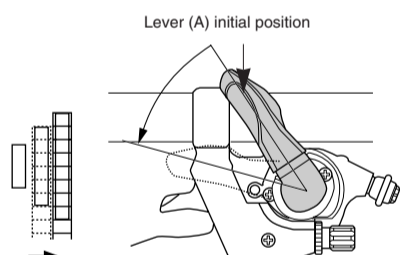


Gear shifting operation

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.

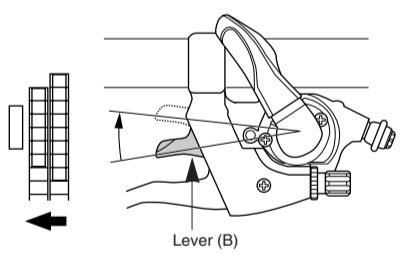
To shift from a small chainring to a larger chainring

When lever (A) is pressed once, there is a shift of one step from a small chainring to a larger chainring. Example: from intermediate chainring to largest chainring.



To shift from a large chainring to a smaller chainring

When lever (B) is pressed once, there is a shift of one step from a large chainring to a smaller chainring. Example: from largest chainring to intermediate chainring.

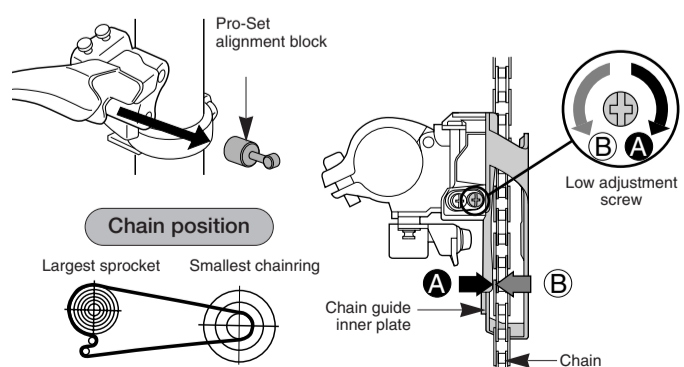


SIS adjustment

Be sure to follow the sequence described below.

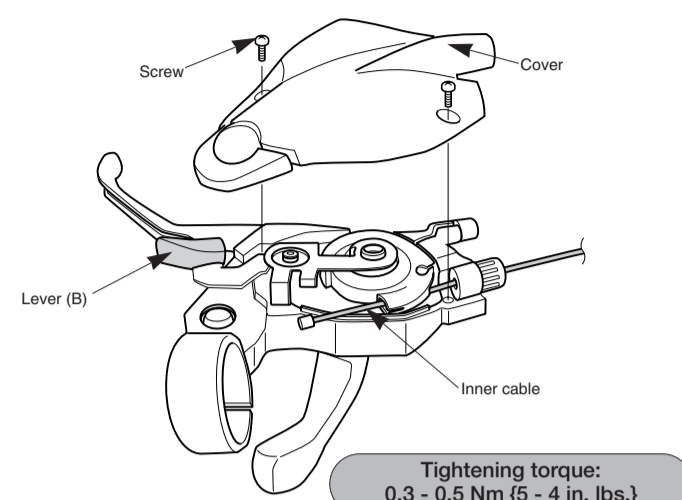
1. Low adjustment

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

Operate lever (B) two times or more to set the lever to the lowest position. Remove the screw, and then remove the cover. Pull out the inner cable as shown in Figure, and then install the new inner cable.



Tightening torque:
0.3 - 0.5 Nm (5 - 4 in. lbs.)

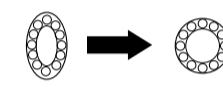
Inserting the inner cable

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.

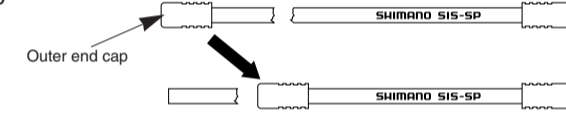


Cutting the outer casing

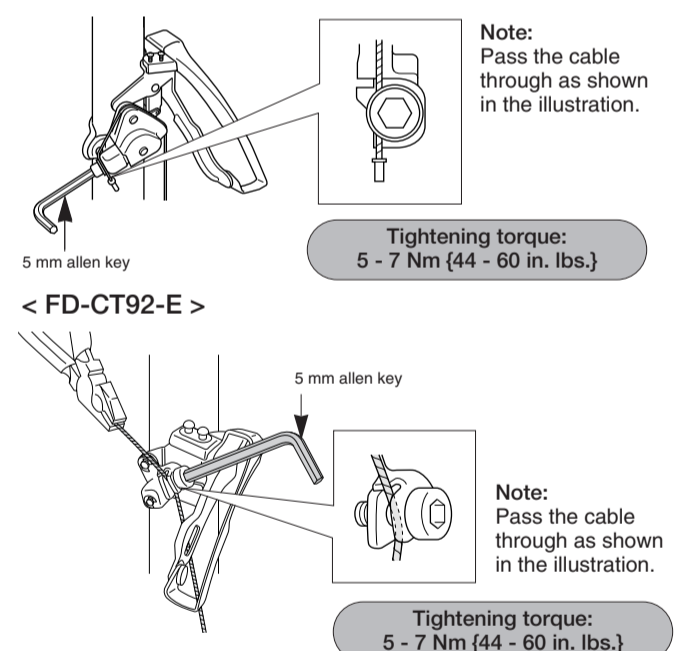
When cutting the outer casing, cut the opposite end to the end with the marking. After cutting the outer casing, make the end round so that the inside of the hole has a uniform diameter.



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



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



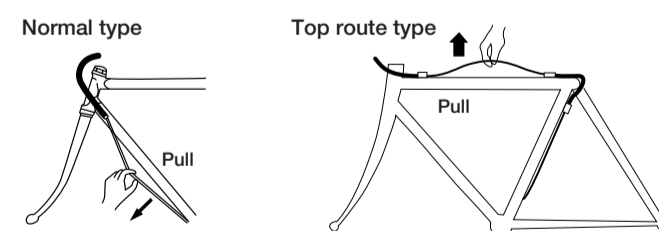
Note:
Pass the cable through as shown in the illustration.

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

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

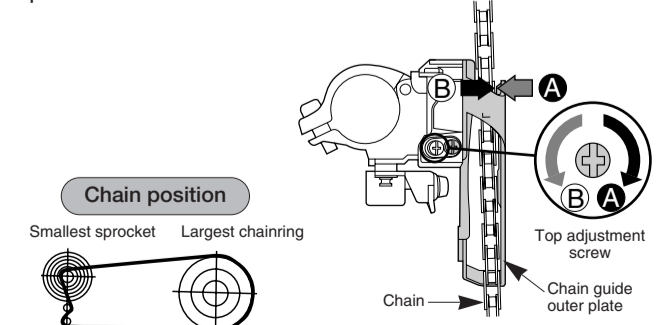
Tightening torque:
5 - 7 Nm (44 - 60 in. lbs.)

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



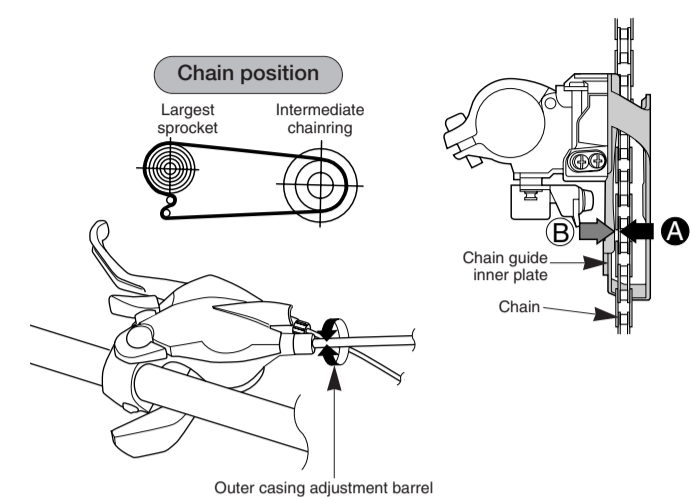
3. Top adjustment

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



4. Adjustment of the intermediate chaining

When carrying out adjustment, set the chain to the largest sprocket, and at the front, set the chain to the intermediate chaining. 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.



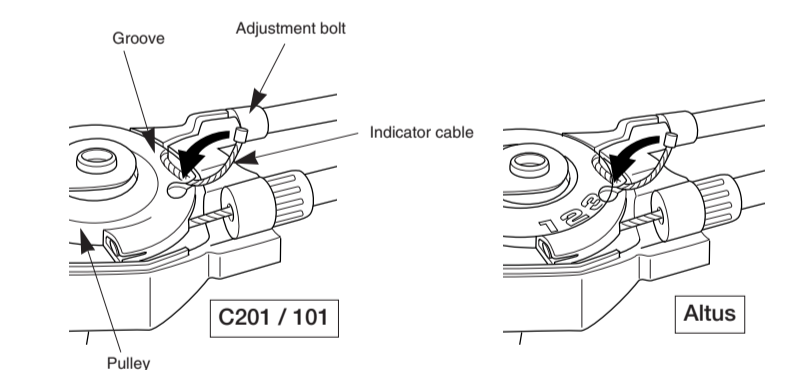
5. Troubleshooting chart

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 chaining to the largest chaining.	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If shifting is difficult from the intermediate chaining to the smallest chaining.	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 chaining.	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 chaining.	Loosen the top adjustment screw counterclockwise (about 1/8 turn).
If the intermediate chaining is skipped when shifting from the largest chaining.	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 chaining 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).

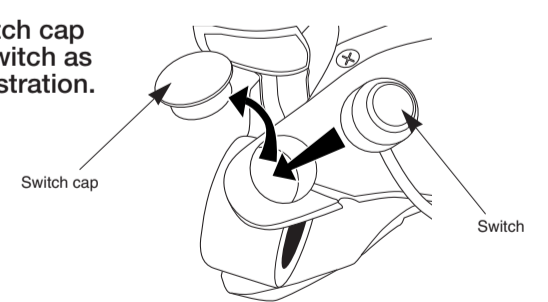
Replacement of the indicator cable

Operate lever (B) two times or more to set the lever to the lowest position. Remove the cover fixing screws, and then remove the cover as shown in the illustration. Pull the end of the new cable until it is positioned in the pulley as shown in the illustration. Check that the cable is securely in the groove at this time. Tighten the adjustment bolt, install the cover and secure it with the screws.



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-6511 CT Nieuwegein Holland Phone 31-341-27222

SHIMANO INC.
77 Omotesu-cho 3-chome Sakai Osaka 590-8577 Japan

Please note: specifications are subject to change for improvement without notice. (English)
© Feb. 2002 by Shimano Inc. XBC SZK Printed in Malaysia