

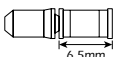
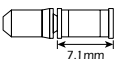


# Front Drive System

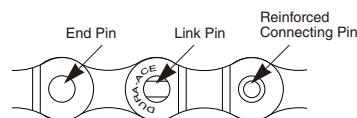
Before use, read these instructions carefully, and follow them for correct use.

## ⚠ 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-7700 / CN-HG92	 6.5mm Silver	TL-CN31/TL-CN22
8- / 7- / 6-speed narrow chain such as CN-HG50 / CN-IG51	 7.1mm 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.

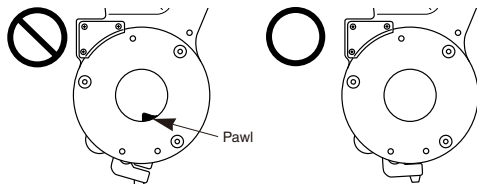
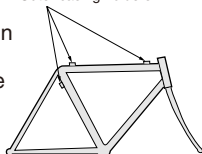


- Obtain, read and carefully service instructions when installing parts. A loose, worn, or damaged parts may cause injury to the rider. We strongly recommend that only genuine Shimano replacement parts be used.

## Note

- Apply grease to the bottom bracket before installing it.
- For smooth operation, use the specified SIS-SP outer casing.
- 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.
- Operation of the levers related to gear shifting should be made only when the front chainwheel is turning.
- When installing the front chainwheel, check that the pawl on the bracket of the front derailleur is not raised. If the pawl is raised, press one of the buttons (L or H) to lower it.

Outer casing holders



- 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.

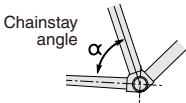
In order to realize the best performance,  
we recommend that the following combination be used.

Series	NEXAVE
Shifting lever	SL-C600-L
Outer casing	SP40
Front derailleur	FD-C600
Front chainwheel	FC-C600
Bottom bracket	BB-UN40-K
Chain	CN-HG72

## Specifications

### Front Derailleur

Model number	FD-C600
Applicable Bottom bracket	BB-UN40-K
Normal type	○
Top route type	○
Front chainwheel tooth difference	12T
Chainstay angle (α)	63° - 66° / 66° - 69°
Applicable chain line	52.5 mm



### Chainwheel

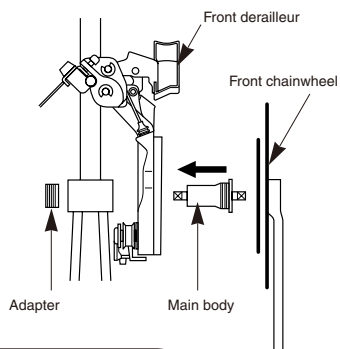
Model number	FC-C600
Chainwheel tooth combination	46T - 34T
Bolt circle diameter	112 mm
Crank arm length (mm)	170 mm, 175 mm
Pedal thread dimensions	BC 9/16" X 20 T.P.I.

### Bottom Bracket

Model number	BB-UN40-K
Applicable Front derailleur	FD-C600
Spindle length	117.5 mm
Chain line	52.5 mm
Thread dimensions	BC1.37" X 24 T.P.I. (68 mm)

## Installation of the Front Derailleur, Bottom Bracket and Front Chainwheel

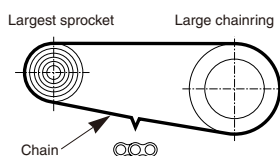
Install using the TL-UN74-S special tool. First install the main body, then the adapter. After this, use an 8 mm Allen key to install the front chainwheel.



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

## Chain length

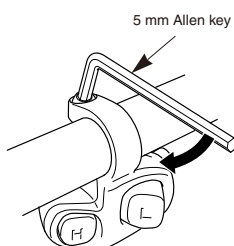
Add 2 links (with the chain on both the largest sprocket and the largest chainring)



## Installation of the lever

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

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.



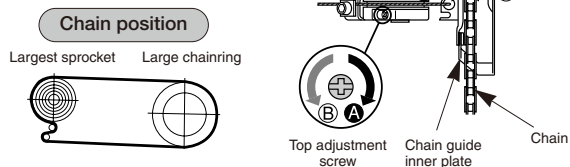
Allen key tightening torque:  
5 Nm{44 in. lbs.}

## SIS adjustment

Be sure to follow the sequence described below.

### 1. Top adjustment

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



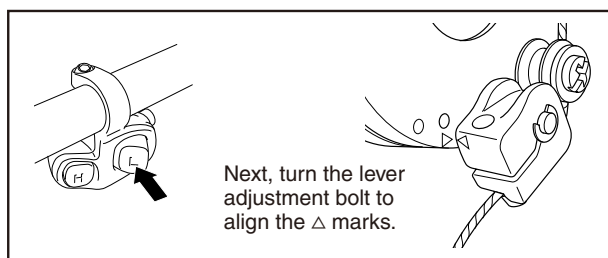
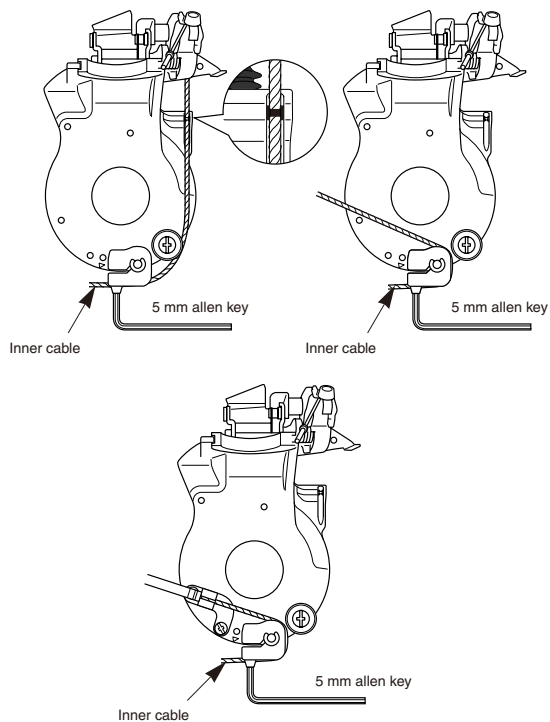
## 2. Connection and securing the inner cable

Press the H button to set the lever to the initial position.

While pulling the inner cable, tighten the wire fixing bolt with a 5 mm allen key to secure the cable.

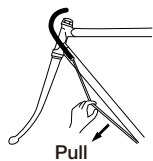
Pass the cable through as shown in the illustration.

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

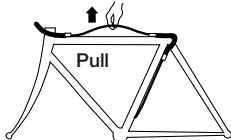


After taking up the initial slack in the cable, re-secure to the front derailleur as shown in the illustration.

Normal type



Top route type



### 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.

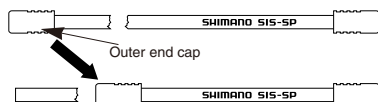


### Cutting the outer casing

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.



3. Troubleshooting chart

After completion of steps 1 - 2, move the shifting lever to check the shifting. (This also applies if shifting becomes difficult during use.)

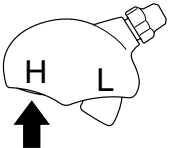
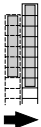
If shifting from the small chainring to the large chainring is difficult	Tighten the adjustment bolt by turning it about 1/2 a turn clockwise.
If shifting from the large chainring to the small chainring is difficult	Loosen the adjustment bolt by turning it about 1/2 a turn counterclockwise.
If the chain is on the large chainring and the front derailleur inner plate is obstructing the chain	Set the chain onto the large chainring and the largest sprocket, and then turn the adjustment bolt counterclockwise to adjust the clearance between the chain guide inner plate and the chain to 0--0.5 mm.
If the chain is on the large chainring and the front derailleur outer plate is obstructing the chain	Set the chain onto the large chainring and the smallest sprocket, and then turn the adjustment bolt clockwise to adjust the clearance between the chain guide inner plate and the chain to 0--0.5 mm.
If the chain guide does not move when shifting from the large chainring to the small chainring, or it moves to a position in between the chainrings	With the SL-C600-L set to the Low position, turn the outer adjustment bolt on the SL-C600-L counterclockwise so that the triangular marks on the bracket and the reel unit are aligned.
If the chain guide does not move when shifting from the small chainring to the large chainring, or it moves to a position in between the chainrings	With the SL-C600-L set to the Low position, turn the outer adjustment bolt on the SL-C600-L clockwise so that the triangular marks on the bracket and the reel unit are aligned.

### Gear shifting operation

When operating one of the buttons, always be sure to turn the crank arm at the same time.

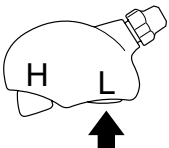
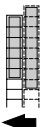
**To shift from a small chainring to a larger chainring**  
When button (H) is pressed once, there is a shift of one step from a small chainring to a larger chainring.

**Example:**  
from small chainring to large chainring.



**To shift from a large chainring to a smaller chainring**  
When button (L) is pressed once, there is a shift of one step from a large chainring to a smaller chainring.

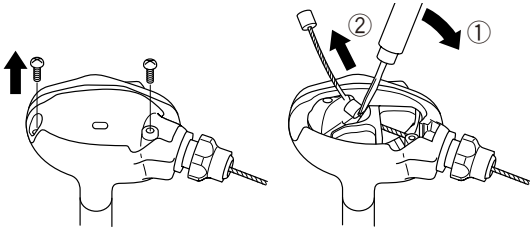
**Example:**  
from large chainring to small chainring.



## Replacing the inner cable

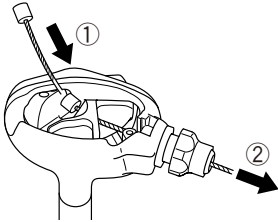
### Taking out the inner cable

- ① Press button L fully to lift up the inner end.
- ② Press button H fully and pull out the inner cable.



### Installing the inner cable

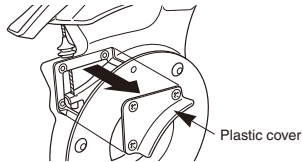
- ① Press button H fully and insert the inner cable part of the way in.
- ② Press button L fully and pass the end of the inner cable through the hole in the adjustment bolt and pull it out the other side.



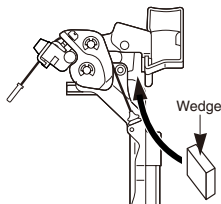
## Replacement of the left link cable

1. Operate the shifting lever to set the front derailleur to the low position, and fully loosen the top adjusting bolt. Then remove the front chainwheel.

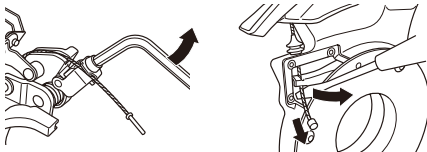
2. Remove the plastic cover from the front derailleur.



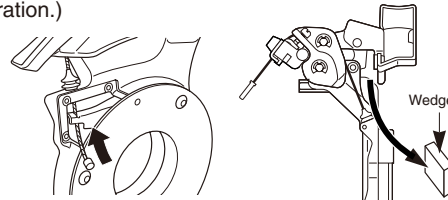
3. Insert a wedge in between the inner plate and the main unit as shown in the illustration in order to give some looseness to the cable.



4. Loosen the cable fixing bolt on the left link, and then remove the cable.



5. Install the new cable, and provisionally install it to the left link. After doing this, remove the wedge. (See illustration.)



6. Install the plastic cover, and then install the front chainwheel.
7. Operate the shifting levers to set the chain onto the largest chainring and the largest sprocket, and then adjust so that the gap between the chain guide inner plate and the chain is 0-0.5 mm.
8. Tighten the cable fixing bolt on the left link.

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

