



### **WARNING**

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-3S95A

# SL-3S95 Bell Crank III

Piano Touch Lever  
Bell Crank

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

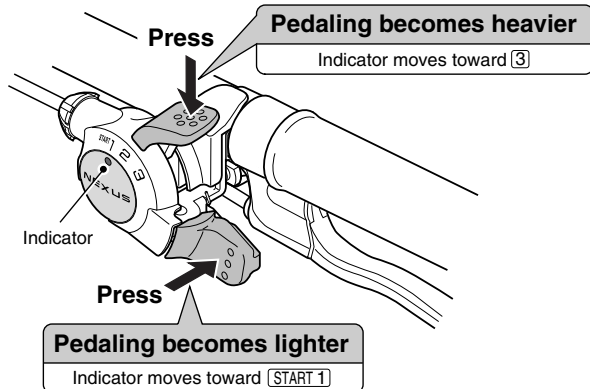
Be sure to read these service instructions in conjunction with the service instructions for the Inter-3 hub before use.

### **CAUTION**

- Be sure to shift the lever one gear at a time, and reduce the force being applied to the pedals during shifting. If you try to force operation of the shifting lever while the pedals are being turned strongly, your feet may come off the pedals and the bicycle may topple over, which could result in serious injury.
- Never place your foot on the bell crank. Doing so may cause problems with gear shifting.

## Operating the piano touch lever

Press to shift one step at a time.



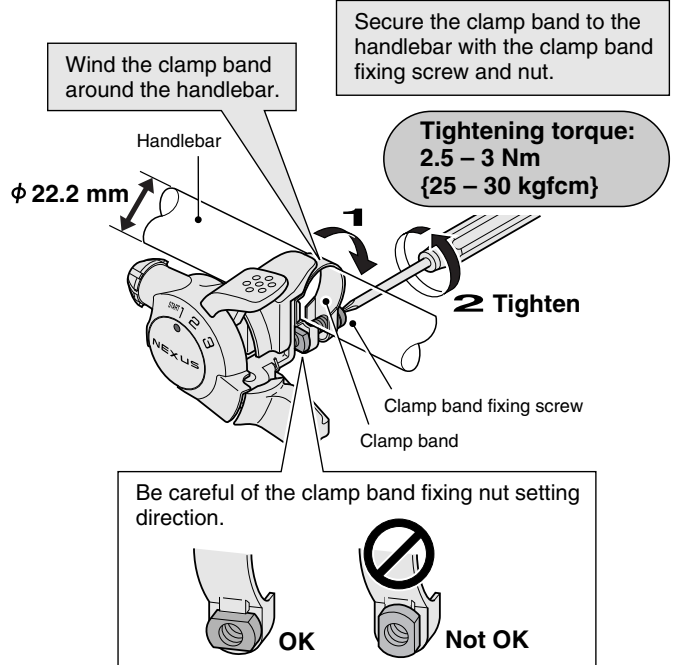
( START 1 ... Starting/Riding on sandy or rough road surfaces/  
Riding up slopes/Carrying heavy loads/  
Riding into head winds/When the light is illuminated

② .....Riding on flat road surfaces

③ .....Riding at high speeds

## Installation of the lever

Install the lever as shown in the illustration.



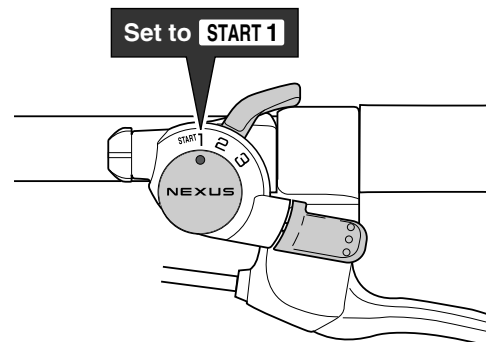
## Installation of the shifting cable

Use a cable with one inner cable drum as the shifting cable.

SIS-SP40 (4 mm dia.)

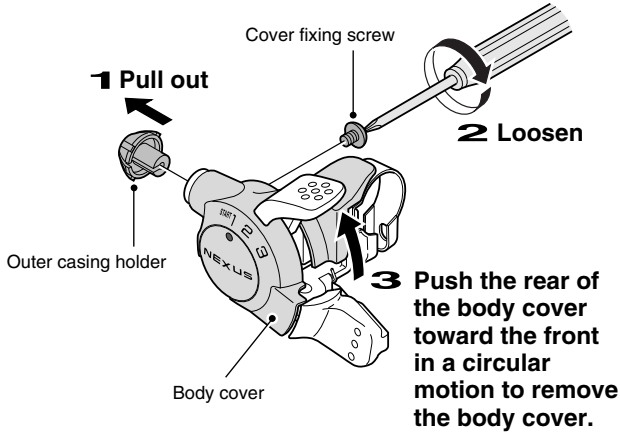


1. Set the piano touch lever to START 1.

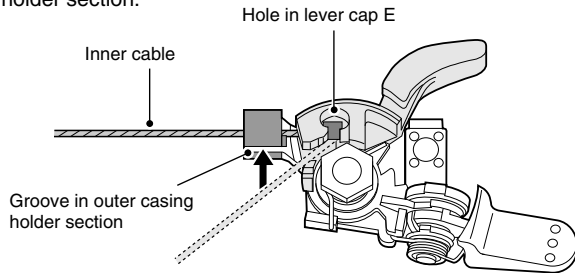


## ■ Piano touch lever side

- Remove the piano touch lever from the handlebar by following the procedure in "Installation of the lever" in reverse.
- Remove the body cover from the lever body.  
First pull the outer casing holder to pull it out of the lever body. Then loosen the cover fixing screw and remove the body cover.

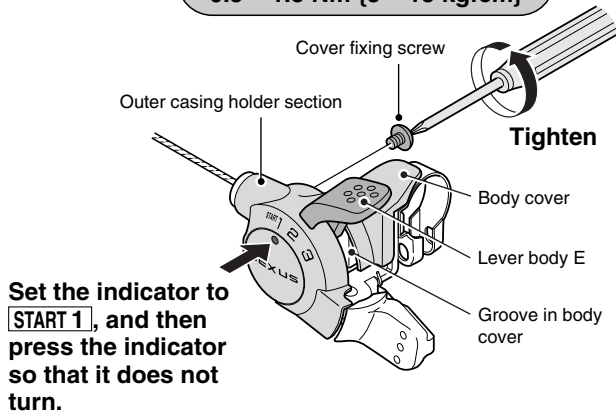


- Set the inner cable into lever cap E.  
First hook the inner cable drum into the hole in lever cap E, and then place the inner cable into the groove in the outer casing holder section.

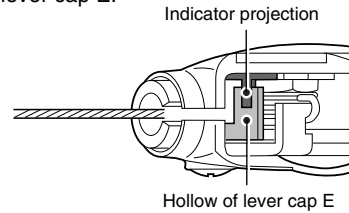


- Install the body cover to the lever body.  
First set the indicator to **START 1**, and then press the indicator with your thumb so that it cannot turn. While doing this, insert the outer casing holder section of the body cover into the outer casing holder section of the lever body, and then pass lever body E through the groove in the body cover. After this, secure the body cover by tightening the cover fixing screw.

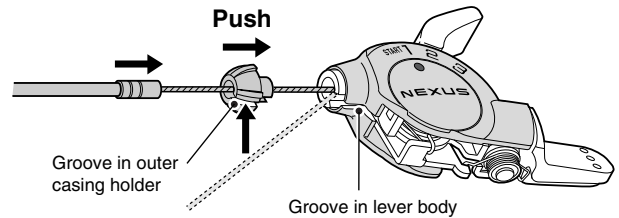
**Tightening torque:**  
0.5 – 1.5 Nm {5 – 15 kgfcm}



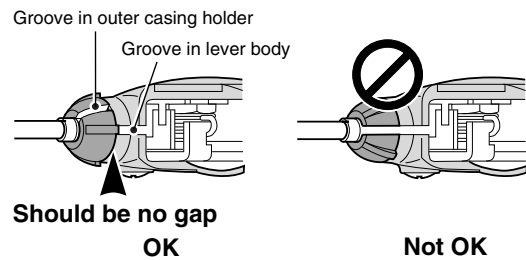
**Note:** After installing the body cover, check that the projection on the indicator is sitting in the hollow of lever cap E.



- Insert the inner cable into the groove in the outer casing holder and then push the outer casing holder into the lever body. At this time, make sure that the groove in the outer casing holder is not aligned with the groove in the lever body. After this, insert the outer casing into the outer casing holder.



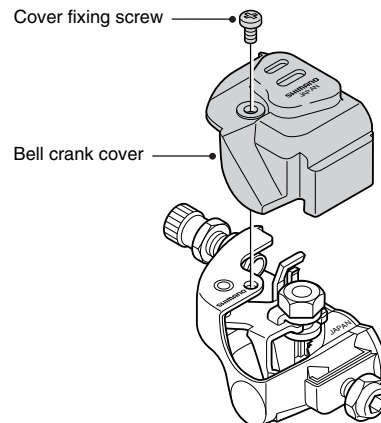
**Note:** After installing the outer casing holder, check that the groove in the outer casing holder is not aligned with the groove in the lever body, and that the outer casing holder is pushed in as far as the edge of the lever body.



- Install the piano touch lever to the handlebar. (Refer to "Installation of the lever".)

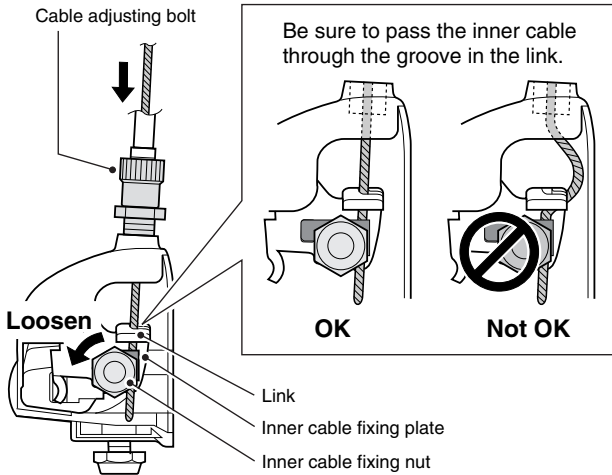
## ■ Bell crank III side

- Loosen the cover fixing screw, and then remove the bell crank cover.



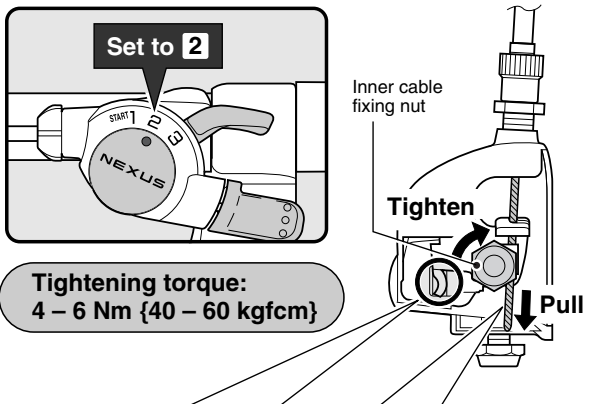
**9.** Set the inner cable into the link of the main bell crank unit.

- 1) Loosen the inner cable fixing nut on the main bell crank unit. Next, pass the inner cable from the cable adjusting bolt along the groove in the link and then in between the link and the inner cable fixing plate.

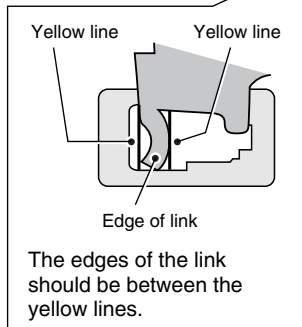


2) Set the piano touch lever to **2**.

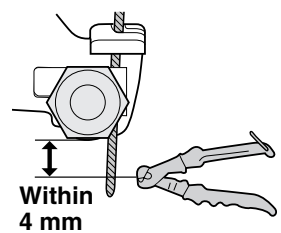
Next, pull the inner cable so that the edges of the link on the main bell crank unit are between the two yellow lines on the window, and then tighten the inner cable fixing nut at that position.



**Tightening torque:**  
4 – 6 Nm {40 – 60 kgfcm}

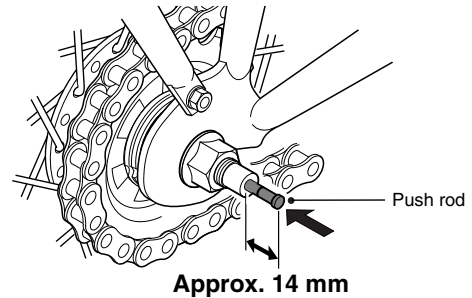


After tightening the inner cable fixing nut, cut off any excess inner cable.



## Installation of bell crank III

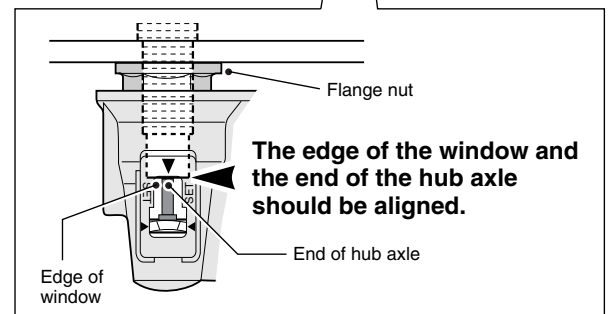
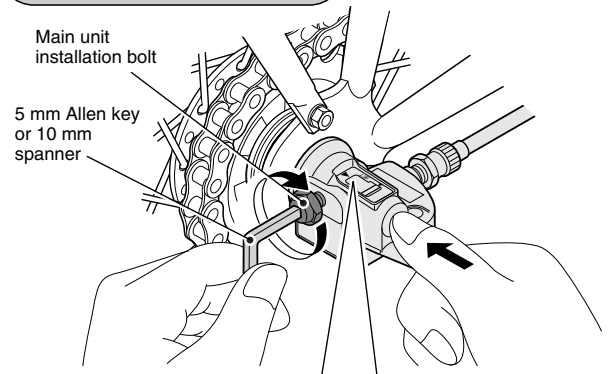
1. Insert the push rod into the hub axle.



The end of the push rod should project from the end of the hub axle by approximately 14 mm.

2. While pushing the main bell crank unit onto the hub axle, align the serrations inside the main bell crank unit with the flange nut, and then push the main bell crank unit on until it touches the end of the hub axle. In this position, tighten the main unit installation bolt onto the hub axle.

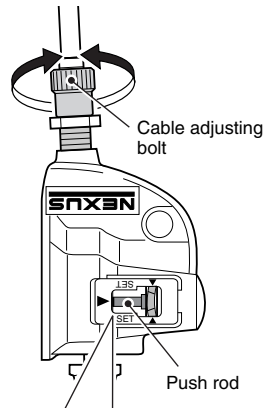
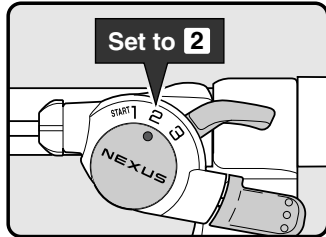
**Tightening torque:**  
3 – 5 Nm {30 – 50 kgfcm}



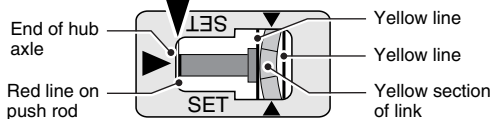
**10.** Replace the bell crank cover and tighten the cover fixing screw.

## Adjusting bell crank III

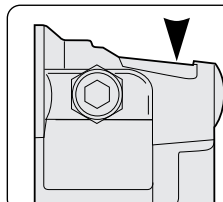
1. Set the piano touch lever to [2]. Next, turn the cable adjusting bolt until the red line on the push rod is aligned with the end of the hub axle.



The red line on the push rod and the end of the hub axle should be aligned.



If the red line on the push rod is not visible, adjust so that the yellow section of the link is between the two yellow lines on the window.

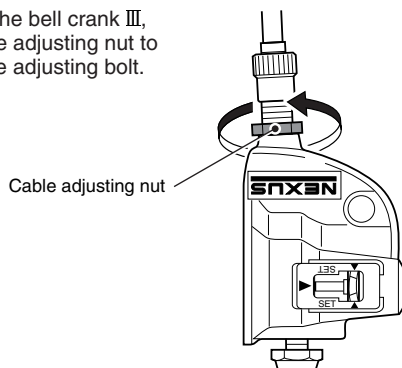


**Note:**  
Look at the two yellow lines from directly above during adjustment.

2. While turning the crank arm, move the piano touch lever from [3] to [START 1] and then from [START 1] back to [3] two or three times to check the gear shifting. Set the piano touch lever back to [2] and check that the red line on the push rod is aligned with the end of the hub axle.

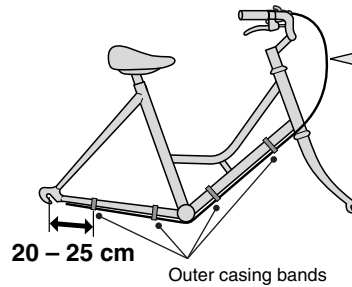
If they are not aligned, turn the cable adjusting bolt to make fine adjustments.

3. After adjusting the bell crank III, tighten the cable adjusting nut to secure the cable adjusting bolt.



## Securing the shifting cable to the frame

Secure the cable to the frame with the outer casing bands.



There should be enough slack so that the cable is not pulled too much when the handlebars are turned.

These service instructions explain 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.

Please note: Specifications are subject to change for improvement without notice. (English)

# SHIMANO®

These service instructions are printed on recycled paper and can be recycled again.

**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.**  
3-77 Oimatsucho, Sakai, Osaka, Japan Phone 0722-23-3243

© Aug. 1999 by Shimano Inc. PIT. SZK. Printed in Japan

