

ST-6400
ST-1055
ST-A550
ST-A416

Shimano
Total
Integration

For proper and safe performance, read and follow these instructions carefully.

STI
SHIMANO TOTAL INTEGRATION

Shimano Total Integration Features

Shimano Total Integration features a dual action control lever which actuates the brakes like a conventional brake lever, and shifts the gears when moved inward toward the center line of the bicycle. Gear shifting is now possible without ever taking your hands off the brake hoods or drops.

Operation of the levers related to gear shifting should be made only when the front chainwheel is turning.

For any questions regarding methods of handling or maintenance, please contact the place of purchase.

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

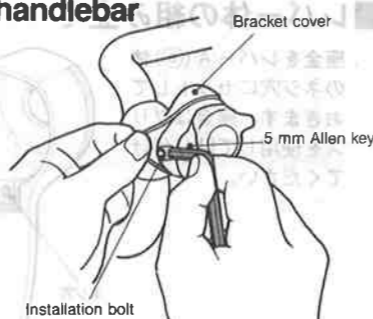
Series	6400	105-SC
Shifting lever	ST-6400	ST-1055
Outer casing	SIS SP40	SIS SP40
Gears	16	16
Front derailleur	FD-6401	FD-1056
Front chainwheel	FC-6400	FC-1056
Bottom bracket	BB-UN72	BB-UN52
Rear derailleur	RD-6401	RD-1056
Freehub	FH-6402	FH-1056
Cassette sprocket	CS-HG90-8	CS-HG70-8
Chain	CN-HG90	CN-HG70
Bottom bracket cable guide	SM-SP17	SM-SP17

Series	RX-100	RSX
Shifting lever	ST-A550	ST-A416
Outer casing	SIS SP40	SIS SP40
Gears	16	16
Front derailleur	FD-A551	FD-A416
Front chainwheel	FC-A551	FC-A416
Bottom bracket	BB-UN52	BB-LP27
Rear derailleur	RD-A551	RD-A416
Freehub	FH-A551	FH-A416
Cassette sprocket	CS-HG70-8	CS-HG70-8
Chain	CN-HG50	CN-HG50
Bottom bracket cable guide	SM-SP18	SM-SP18

Installation

Installation to the handlebar

Secure the assembly with the installation bolt on the outside of the bracket. Pull the bracket cover back and use a 5 mm Allen key to tighten the bolt.



Tightening torque:
5.88—7.84 Nm
(50—70 in.lbs.)

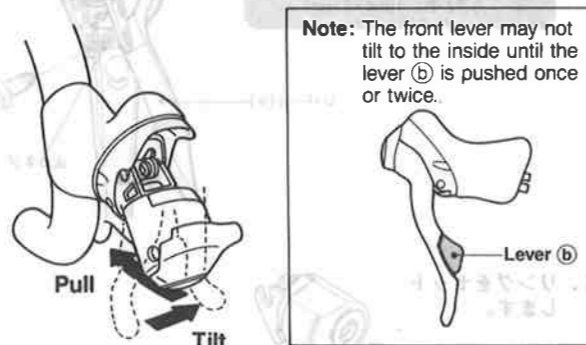
Installation of the brake cable

Cable used

- Inner cable.....
- SLR outer casing.....

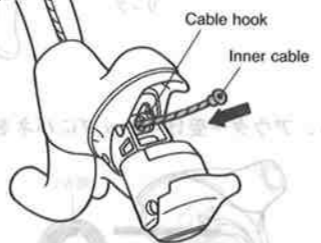
Be sure to leave some excess cable, even if cutting it to the full length of the handlebars.

1. Tilt the lever in (as when shifting) to make it easier to pass the cable through the cable hook.



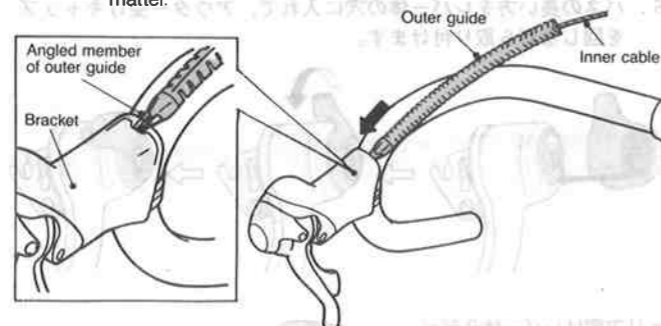
Note: The front lever may not tilt to the inside until the lever (B) is pushed once or twice.

2. Pass the inner cable through.



3. Fix the outer guide to the inner cable, and set the angled member in the bracket.

Note: Do not wipe off the grease on the inner cable. Also, be careful that the inner cable does not pick up dust and foreign matter.



4. Set the outer casing on the inner cable and into the bracket along the outer guide.

Installation of the shifting cable

Cable used

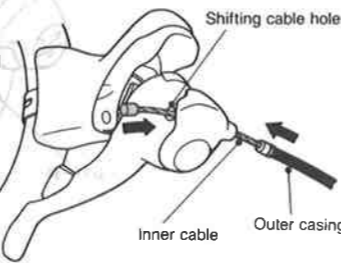
- Inner cable (stainless steel).....
- SIS sealed outer casing (1).....
- SIS-SP outer casing (2).....

Rear lever

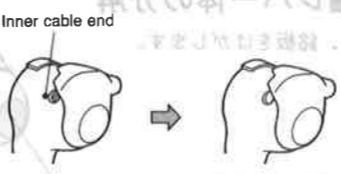
Push lever (B) at least seven times before installing to set the cable hook to the top gear position. Be sure to push lever (B) to the full stroke.



Pull the brake lever (as when braking) to reveal the shifting cable hole. Pass the inner cable through this hole and set it in the outer casing.



Note: Make sure that the inner cable end is firmly seated in the cable hook.

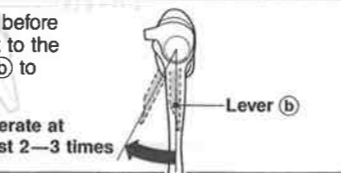


Note: Make sure that the inner end is firmly set inside the cable hook.

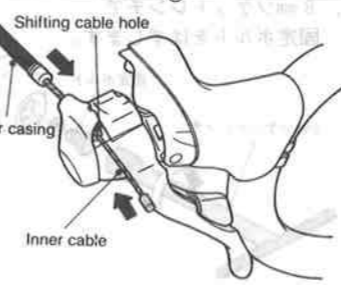


Front lever

Push lever (B) two-three times before installing to set the cable hook to the top gear position. Push lever (B) to the full stroke.

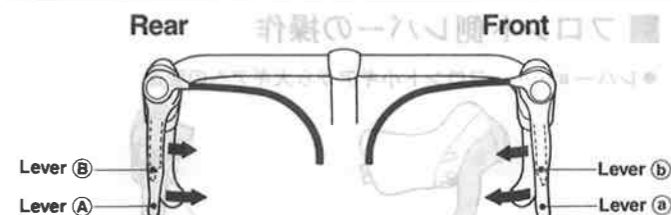


Pull the brake lever (as when braking) to pass the inner cable through the shifting cable hole, and set it in the outer casing.



Outer stopper

Operation

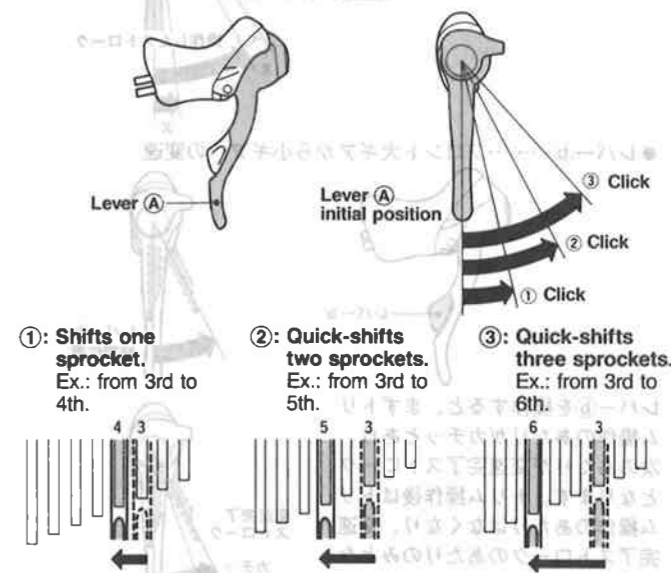


- Lever (A):** To shift from a small sprocket to a larger sprocket.
- Lever (B):** To shift from a large sprocket to a smaller sprocket.
- Lever (a):** To shift from a small chainring to a larger chainring.
- Lever (b):** To shift from a large chainring to a smaller chainring.

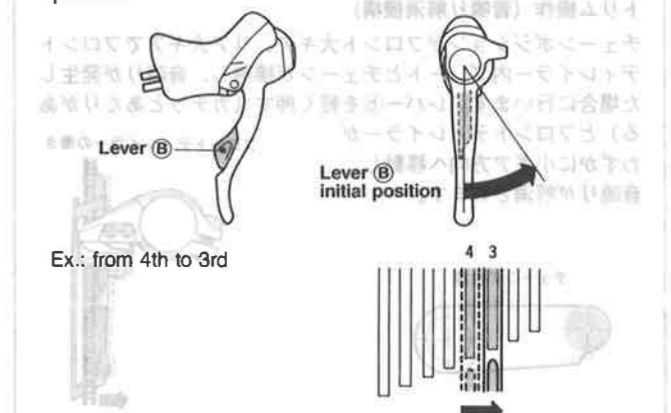
All levers return to the starting position when released.

Operation of rear derailleur levers

- **Lever (A):** To shift from a small sprocket to a larger sprocket. Lever (A) has click stops at positions ①, ②, and ③.



- **Lever (B):** To shift from a large sprocket to a smaller sprocket. Press lever (B) once to shift from a larger to one smaller sprocket.



Caution on operation

Lever (B) will also move when lever (A) is operated, but be careful not to apply pressure to lever (B). Similarly, be careful not to press lever (A) when operating lever (B). Gears will not shift when both levers are pressed simultaneously.

Adjustment

SIS adjustment

Operate lever (A) to set the chain to the 2nd sprocket.



Operation of front derailleur

- **Lever (a):** To shift from a small chainring to a larger chainring.



If operation of lever (a) does not complete the chainwheel shift stroke, operate lever (a) again for the distance (x') to complete that part of the lever stroke (x) which was short.

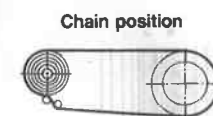
- **Lever (b):** To shift from a large chainring to a smaller chainring.



When lever (b) is operated, there is one click when trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is completed. After trimming, the next push will complete the gear shift stroke to the smaller chainring.

Trimming (noise prevention mechanism)

If the chain is on the large chainring, the chain will rub against the front chainring. When this happens, the point where it clicks is slightly towards the smaller chainring, thereby eliminating the noise.



Caution on operation

Lever (b) will also move when lever (a) is operated, but be careful not to apply pressure to lever (b). Similarly, be careful not to press lever (a) when operating lever (b). Gears will not shift when both levers are pressed simultaneously.

Front gear shift adjustment

1. Set the chain to the largest sprocket to the large chainring.



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

Series	6400	105-SC
Shifting lever	ST-6400	ST-1055
Outer casing	SIS SP40	SIS SP40
Gears	16	16
Front derailleur	FD-6401	FD-1056
Front chainwheel	FC-6400	FC-1056
Bottom bracket	BB-UN72	BB-UN52
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Freehub	FH-6402	FH-1056
Cassette sprocket	CS-HG90-8	CS-HG70-8
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Bottom bracket cable guide	SM-SP17	SM-SP17

Series	RX-100	RSX
Shifting lever	ST-A550	ST-A416
Outer casing	SIS SP40	SIS SP40
Gears	16	16
Front derailleur	FD-A551	FD-A416
Front chainwheel	FC-A551	FC-A416
Bottom bracket	BB-UN52	BB-LP27
Rear derailleur	RD-A551	RD-A416
Freehub	FH-A551	FH-A416
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SHIMANO®

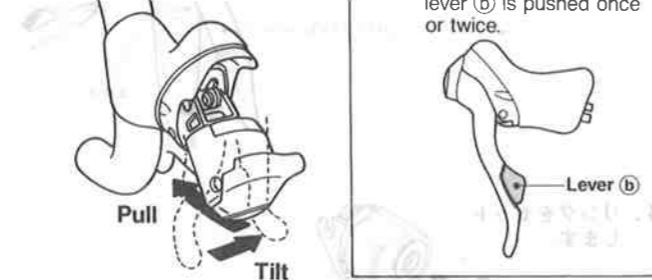
SHIMANO AMERICAN CORPORATION
One Holland Irvine CA 92618 U.S.A. Phone 714-951-5003

SHIMANO EUROPA
Industrieweg 24 NL-8071 CT Nunspeet Holland Phone 31-3412-72222

SHIMANO INC.
77 Oimatsu-cho 3-cho Sakai Osaka 590-8577 Japan Phone 0722-23-3243

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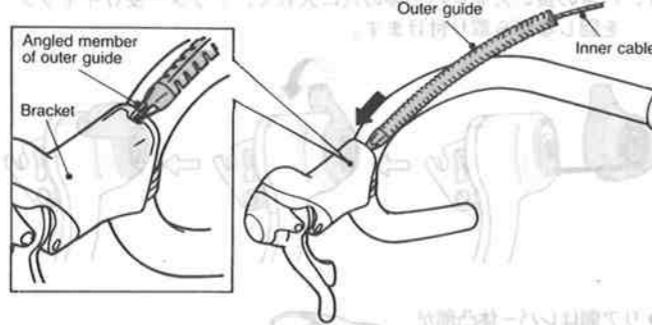


2. Pass the inner cable through.

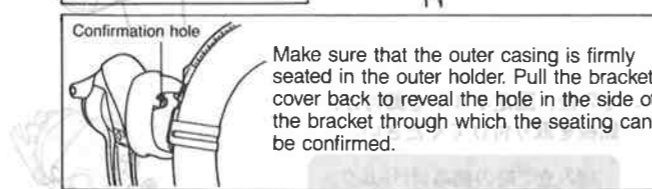
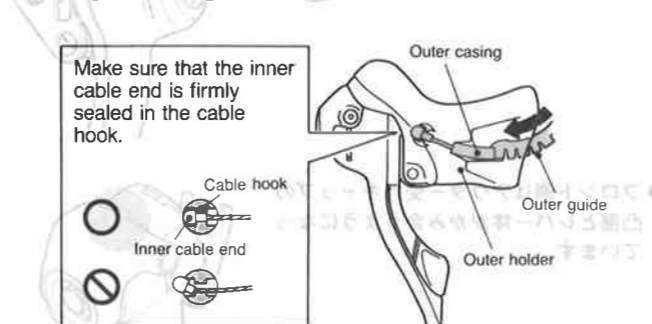


3. Fix the outer guide to the inner cable, and set the angled member in the bracket.

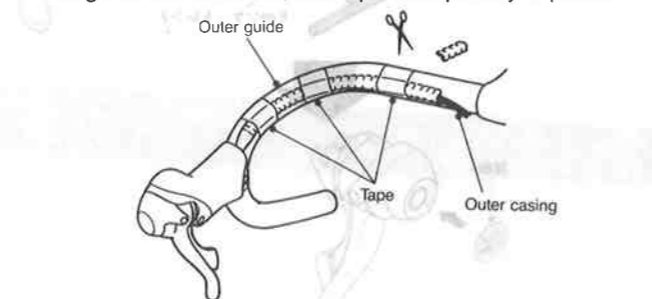
Note: Do not wipe off the grease on the inner cable. Also, be careful that the inner cable does not pick up dust and foreign matter.



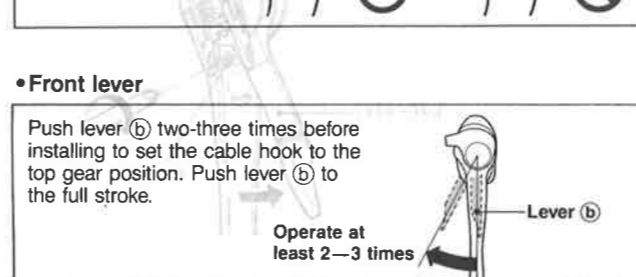
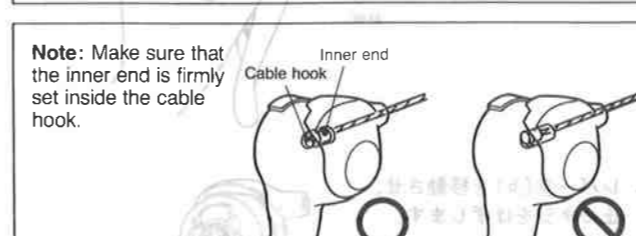
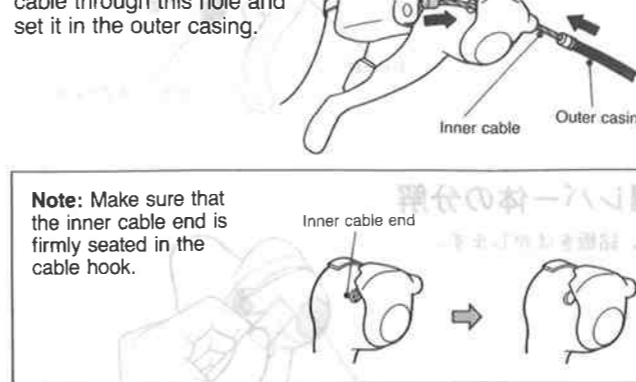
4. Set the outer casing on the inner cable and into the bracket along the outer guide.



5. Bring the outer casing along the front of the handlebar and cover it with the outer guide. Now cut the outer guide to the length of the handlebar, and tape it temporarily in place.



6. Finally, wrap the handlebar with the finish tape.

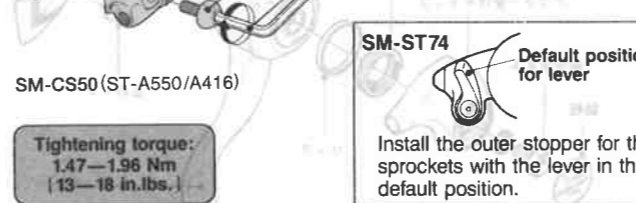
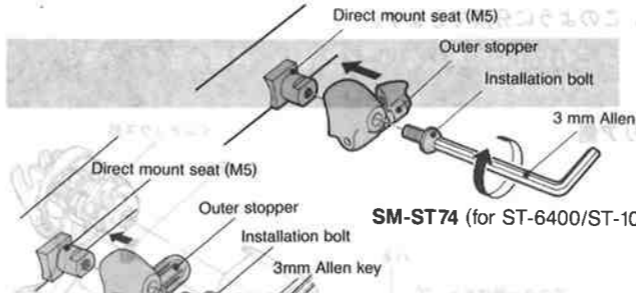


• Front lever



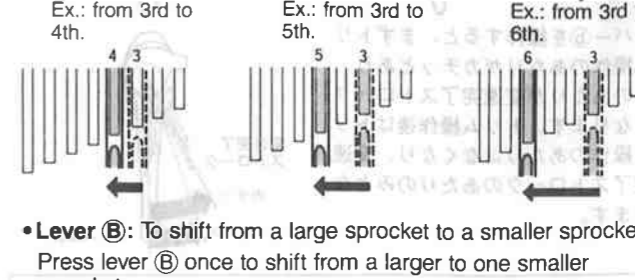
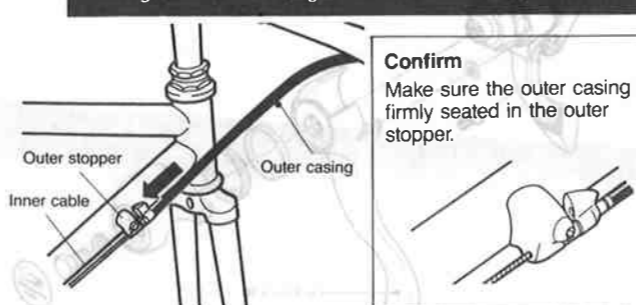
• Outer stopper

1. Install the outer stopper to the down tube.

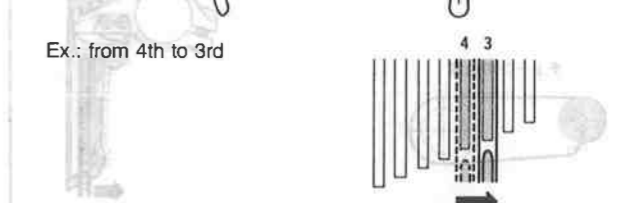


2. Pass the inner cable through, and set the outer casing.

Be sure to leave some slack in the outer casing, even if cutting it to the full length of the handlebars.



• Lever (B): To shift from a large sprocket to a smaller sprocket. Press lever (B) once to shift from a larger to one smaller sprocket.



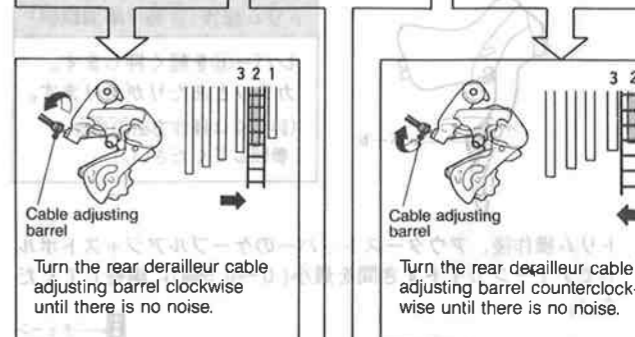
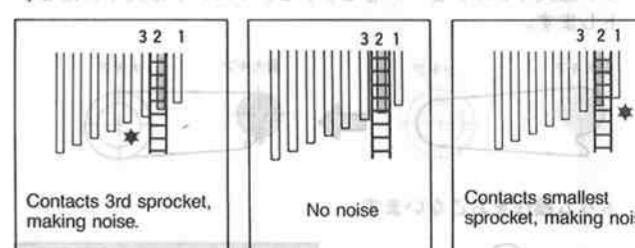
Caution on operation

Lever (B) will also move when lever (A) is operated, but be careful not to apply pressure to lever (B). Similarly, be careful not to press lever (A) when operating lever (B). Gears will not shift when both levers are pressed simultaneously.

Adjustment

SIS adjustment

Operate lever (A) to set the chain to the 2nd sprocket.



Best setting

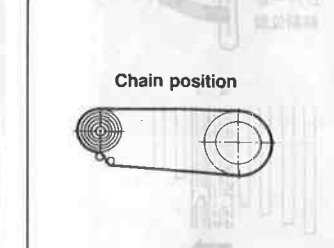
Turn the crank forward while turning the rear derailleur cable adjusting barrel slowly counter-clockwise. Stop just before noise is produced (the chain contacts the third sprocket).

• Adjustment with the outer casing stopper is also possible while riding. If the rear outer casing stopper lever is tilted, the same effect as turning the rear derailleur cable adjusting barrel counter-clockwise is achieved. However, SIS adjustment should basically be made with the cable adjusting barrel of the rear derailleur.

When lever (B) is operated, there is one click when trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is completed. After trimming, the next push will complete the gear shift stroke to the smaller chainring.

Trimming (noise prevention mechanism)

If the chain is on the large chainring, the chain will rub against the front sprocket, producing a characteristic noise. When this occurs, trim the chain by clicking the point where it clicks. This causes the chain to move slightly towards the smaller chainring, thereby eliminating the noise.

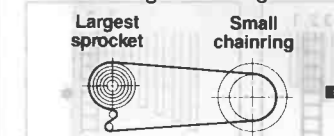


Caution on operation

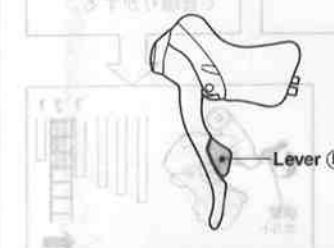
Lever (B) will also move when lever (A) is operated, but be careful not to apply pressure to lever (B). Similarly, be careful not to press lever (A) when operating lever (B). Gears will not shift when both levers are pressed simultaneously.

Front gear shift adjustment

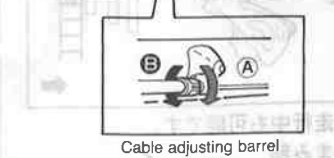
1. Set the chain to the largest sprocket to the large chainring.

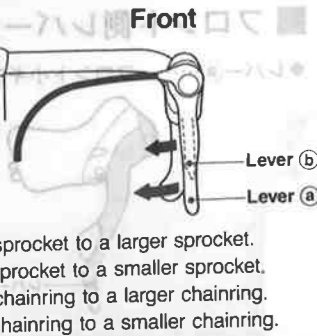


2. Complete the trimming operation.



3. After trimming, adjust the gear guide to the minimum setting of the cable adjusting barrel.

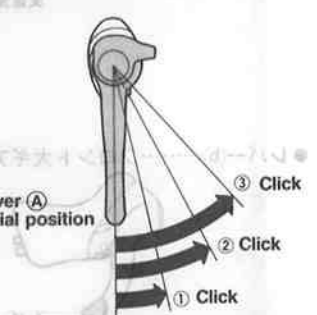




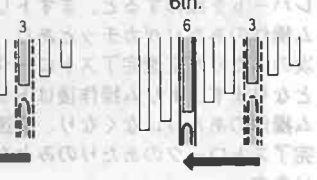
Front

Operation of front derailleur levers

• **Lever (a):** To shift from a small chainring to a larger chainring.

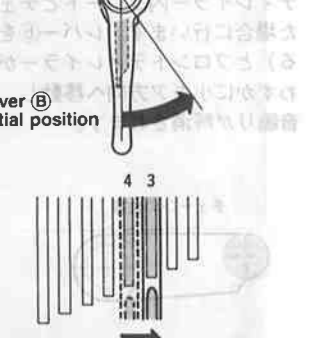


If operation of lever (a) does not complete the chainwheel shift stroke, operate lever (a) again for the distance (x') to complete that part of the lever stroke (x) which was short.



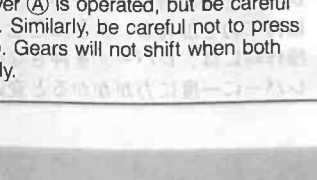
• **Lever (b):** To shift from a large chainring to a smaller chainring.

When lever (b) is operated, there is one click when trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is completed. After trimming, the next push will complete the gear shift stroke to the smaller chainring.

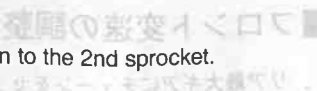


Front gear shift adjustment

1. Set the chain to the largest sprocket at the front, set the chain to the large chainring.



• **Lever (a):** To shift from a small chainring to a larger chainring.



When lever (b) is operated, there is one click when trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is completed. After trimming, the next push will complete the gear shift stroke to the smaller chainring.

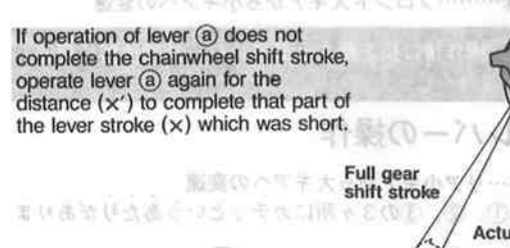


Bracket and lever disassembly

1. Loosen the lever stud set screw on the bottom of the bracket with a 2 mm Allen key.



2. Insert the Allen key or a similar tool to push the lever stud out. The bracket and lever will come apart.

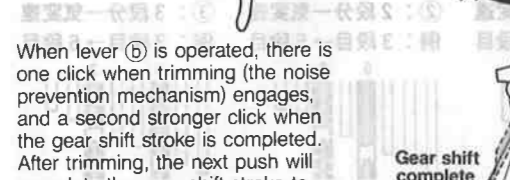


3. The return spring and cable hook can also be disassembled.

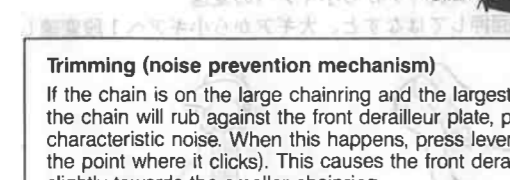


Lever disassembly

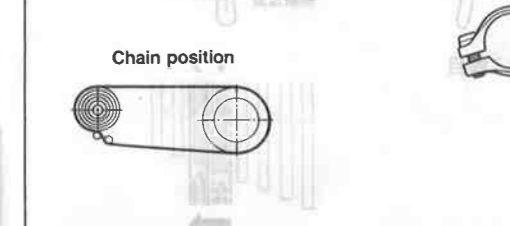
1. Remove the name plate.



2. Move lever (b) and remove the stopper screw.



3. Remove the fixing bolt with an 8 mm socket wrench.

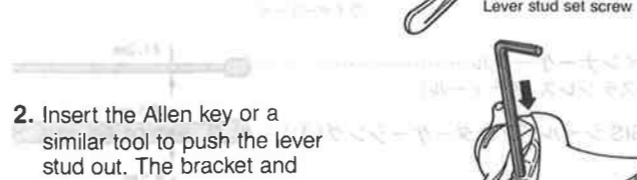


Lever reassembly

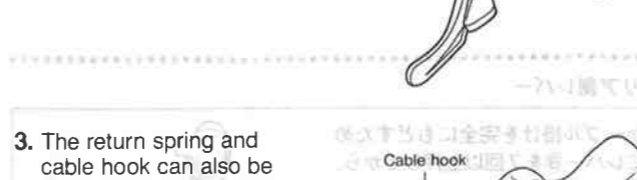
1. Set the washer into the screw hole on lever (a). Use grease to stick it on.



2. Attach the index unit.



3. Secure by tightening the stopper screw.



4. Attach the ring.



5. Attach the spring to the lever cap.



6. Insert the long end of the spring into the lever, and attach the lever by turning the lever cap.



• For the rear sprockets, attach so that the projecting part of the lever is aligned with the tab on the lever cap.



Assembling the bracket and lever

1. Put the cable hook into the bearing member, and set the return spring.



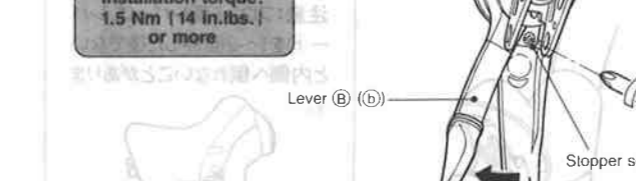
2. Set the special installation tool for the return spring.



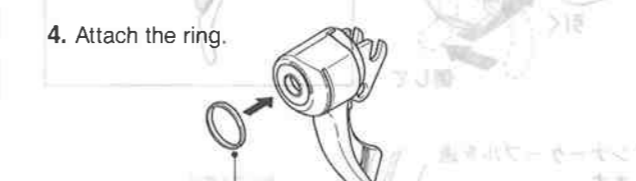
3. Assemble the bracket and lever. Be careful that the end of the return spring does not protrude from the hole in the bearing member at this time.



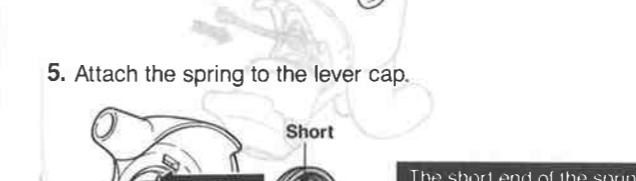
Make sure the spring is properly positioned.



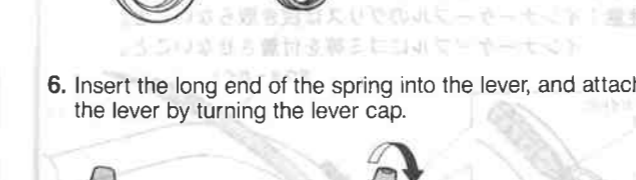
4. Align the stud holes, and insert the lever stud.



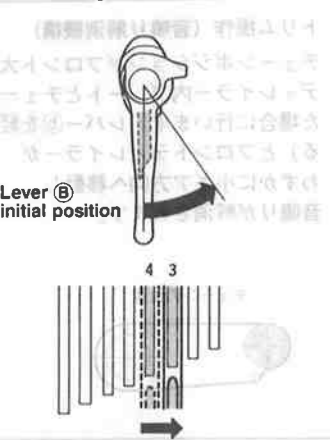
Make sure the lever stud is inserted in the proper direction. The narrow end of the stud should be at the position of the lever stud set screw.



5. Remove the return spring installation tool with pliers.

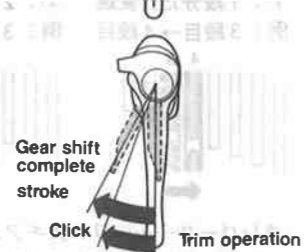


Ex.: from 3rd to 6th.
 Change sprocket to a smaller sprocket.
 from a larger to one smaller



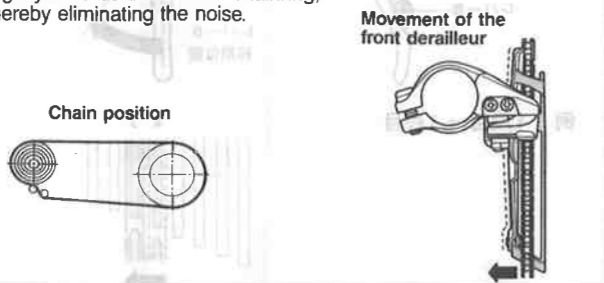
Lever (A) is operated, but be careful. Similarly, be careful not to press lever (B). Gears will not shift when both levers are pressed simultaneously.

When lever (B) is operated, there is one click when trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is completed. After trimming, the next push will complete the gear shift stroke to the smaller chainring.



Trimming (noise prevention mechanism)

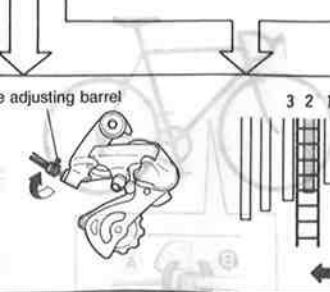
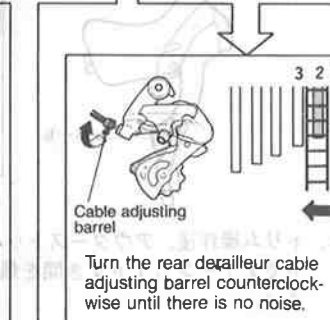
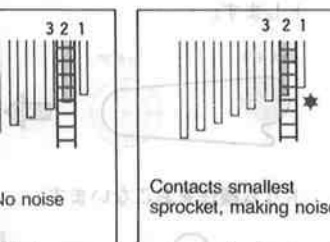
If the chain is on the large chainring and the largest sprocket, the chain will rub against the front derailleur plate, producing a characteristic noise. When this happens, press lever (B) lightly (to the point where it clicks). This causes the front derailleur to move slightly towards the smaller chainring, thereby eliminating the noise.



Caution on operation

Lever (B) will also move when lever (A) is operated, but be careful not to apply pressure to lever (B). Similarly, be careful not to press lever (A) when operating lever (B). Gears will not shift when both levers are pressed simultaneously.

Chain to the 2nd sprocket.



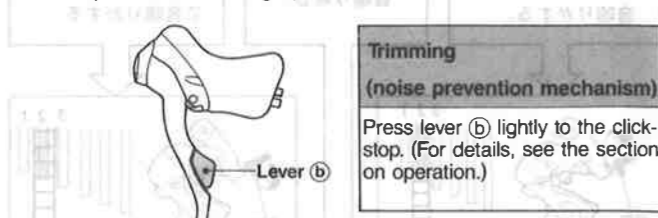
g ding. lever ing ng ved. d e illeur.

Front gear shift adjustment

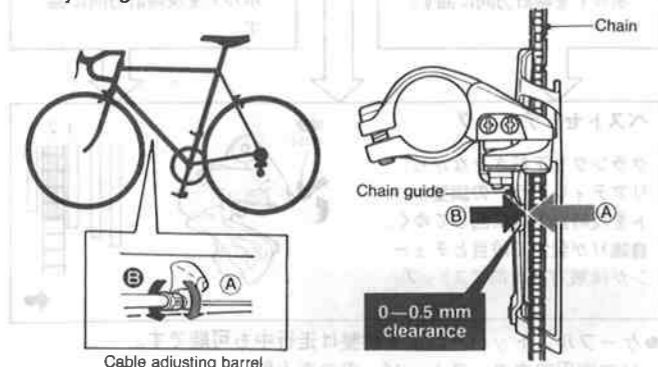
1. Set the chain to the largest sprocket at the front, set the chain to the large chainring.



2. Complete the trimming operation.

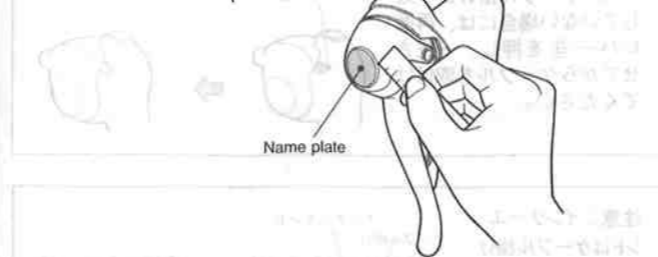


3. After trimming, adjust the gap between the chain and chain guide to the minimum setting (0—0.5 mm) using the cable adjusting barrel.

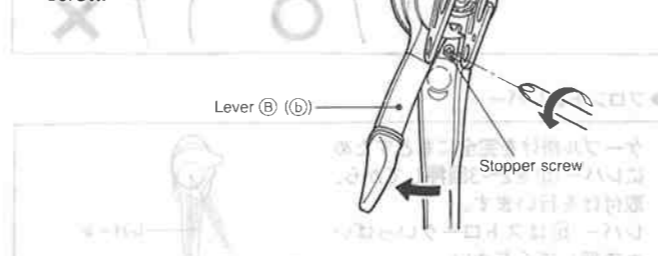


Lever disassembly

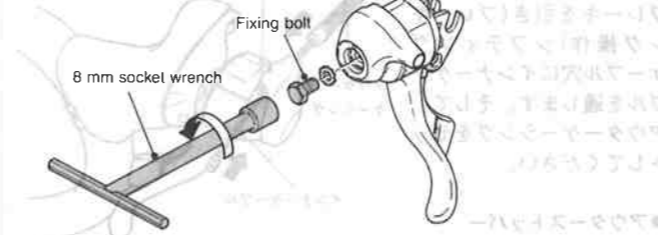
1. Remove the name plate.



2. Move lever (B) and remove the stopper screw.



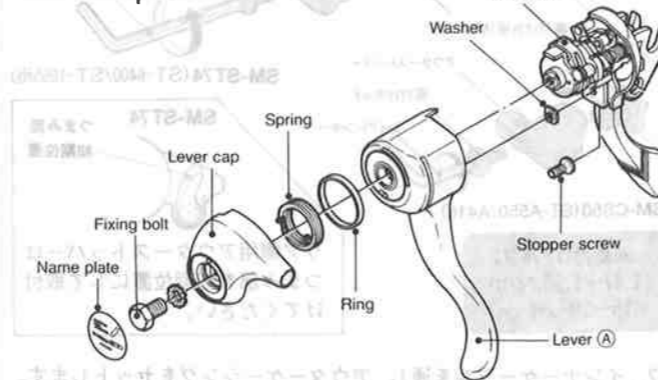
3. Remove the fixing bolt with an 8 mm socket wrench.



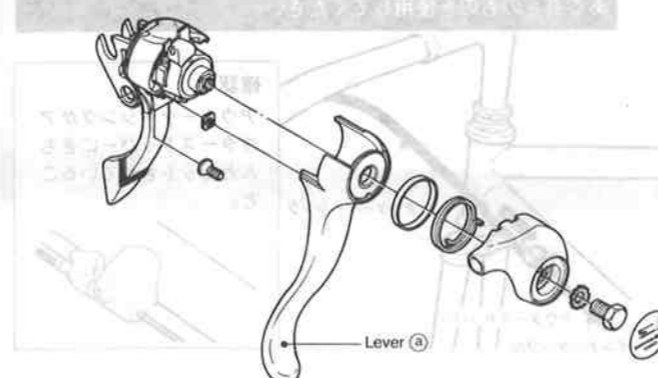
4. Disassembly is possible as shown below.

Do not disassemble any further as reassembly may not be possible.

•For rear sprockets



•For front chainwheel



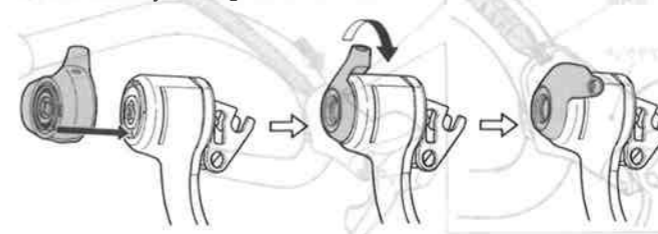
4. Attach the ring.



5. Attach the spring to the lever cap.



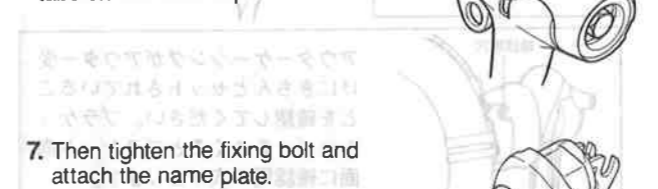
6. Insert the long end of the spring into the lever, and attach the lever by turning the lever cap.



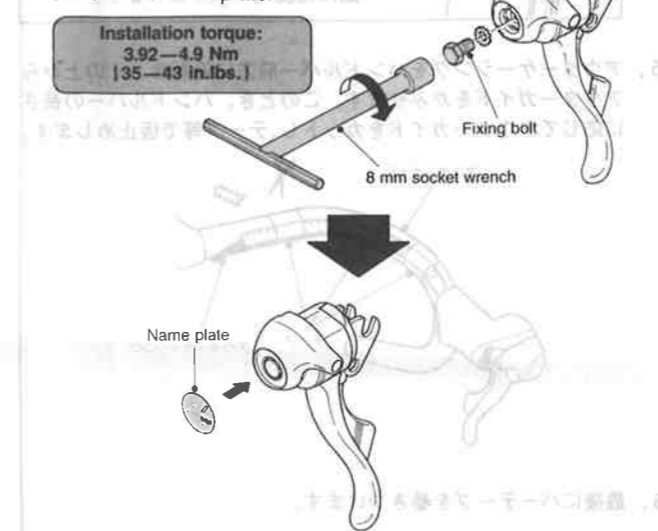
•For the rear sprockets, attach so that the projecting part of the lever is aligned with the tab on the lever cap.



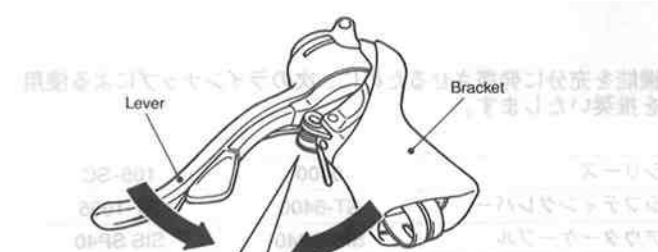
•For the front chainwheel, attach so that the projecting parts of the lever are interlocked with the tabs on the lever cap.



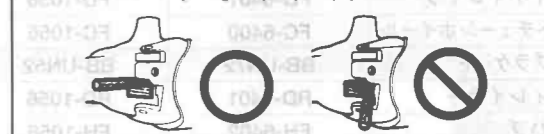
7. Then tighten the fixing bolt and attach the name plate.



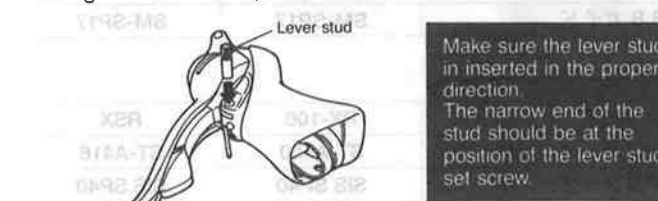
Installation torque:
 3.92—4.9 Nm
 [35—43 in.lbs.]



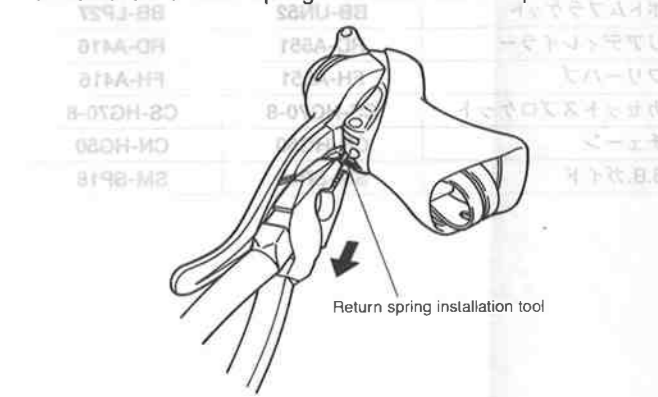
Make sure the spring is properly positioned.



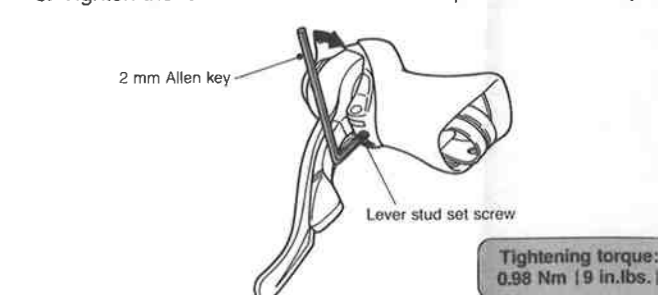
4. Align the stud holes, and insert the lever stud.



5. Remove the return spring installation tool with pliers.

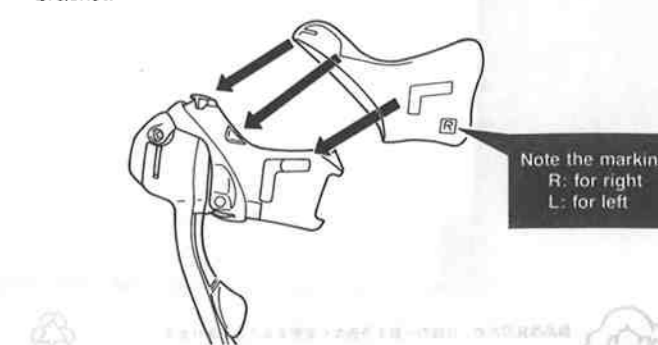


6. Tighten the lever stud set screw to complete the assembly.



Replacing the bracket cover

The tabs on the bracket cover each fit into a matching slot on the bracket.



Put a little rubbing alcohol inside the bracket cover to make installation easier.