ST-3300
ST-3304

Shimano Total Integration

SHIMANO TOTAL INTEGRATION

SHIMANO SORA

Shimano Total Integration Features

The Shimano Total Integration SORA series 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.

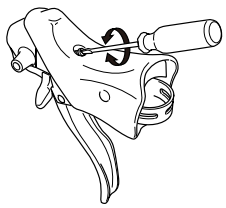
General Safety Information

⚠ WARNING

- Obtain and read the service instructions carefully prior to installing the parts. Loose, worn, or damaged parts may cause injury to the rider.
  We strongly recommend only using genuine Shimano replacement parts.
- Read these Technical Service Instructions carefully, and keep them in a safe place for later reference.

Note

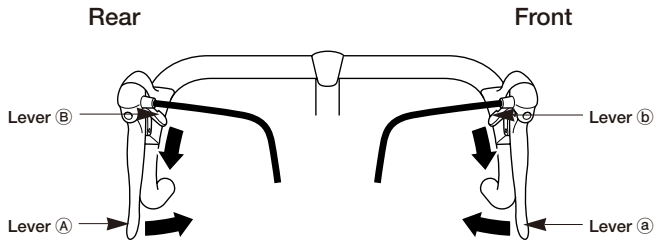
- Operation of the levers related to gear shifting should be made only when the front chainwheel is turning.
- For smooth operation, use the specified outer casing and the bottom bracket cable guide.
- Grease the inner cable and the inside of the outer casing before use to ensure that they slide properly.
- Use a frame with internal cable routing is strongly discouraged as it has tendencies to impair the SIS shifting function due to its high cable resistance.
- The cycle computer is compatible with the SM-6501. Be sure to read these Service Instructions together with the Service Instructions for the SM-6501.
- Turn the reach adjustment bolt with a flat-tipped screwdriver having a tip width of 3mm and a thickness of 0.5mm.
- Parts are not guaranteed against natural wear or deterioration resulting from normal use.
- 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		SORA	
Shifting lever	Front	ST-3300	ST-3304
	Rear	ST-3300	ST-3300
Outer casing		SIS-SP40	
Gears		16	24
Front derailleur		FD-3300	FD-3304
Front chainwheel		FC-3300	FC-3303
Bottom bracket		BB-UN52	
Rear derailleur		RD-3300-SS	RD-3300-GS
Freehub		FH-3300	
Cassette sprocket		CS-HG50-8	
Chain		CN-HG50	
Bottom bracket cable guide		SM-SP17	

Operation

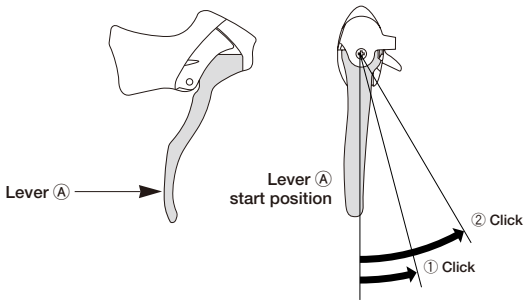


Lever Ⓐ : Shifts from smaller to larger rear sprocket.
Lever Ⓑ : Shifts from larger to smaller rear sprocket.
Lever ⓐ : Shifts from smaller to larger chainring.
Lever ⓑ : Shifts from larger to smaller chainring.

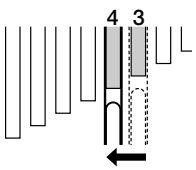
All levers return to the starting position when released.

Operation of rear derailleur lever

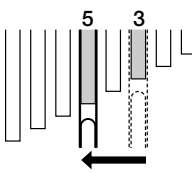
• **Lever Ⓐ** : Shifts from smaller to lager rear sprocket.
Lever Ⓐ has a click stop at positions ① and ②.



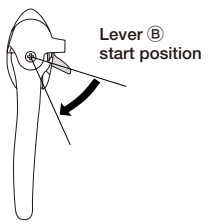
① : Shifts one sprocket
E.x. : from 3rd to 4th



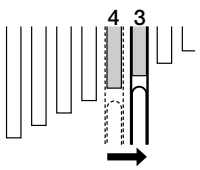
② : Quick-shifts two sprockets
E.x. : from 3rd to 5th



• Lever Ⓑ : Shifts from larger to smaller rear sprocket.
Press lever Ⓑ once to shift from a larger to one smaller sprocket.



E.x. : from 4th to 3rd



Caution on operation

Be careful not to apply pressure to lever Ⓑ when operating lever Ⓐ.
Similarly, be careful not to press lever Ⓐ when operating lever Ⓑ. Gears will not shift when both levers are pressed simultaneously.

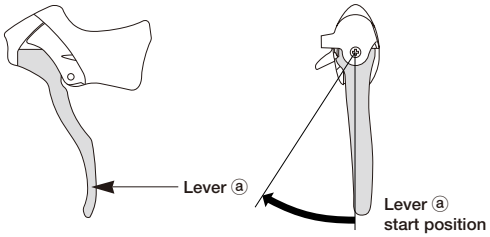
Be sure to read these service instructions in conjunction with the service instructions for the RD-3300-SS / RD-3300-GS before use.

ST-3300

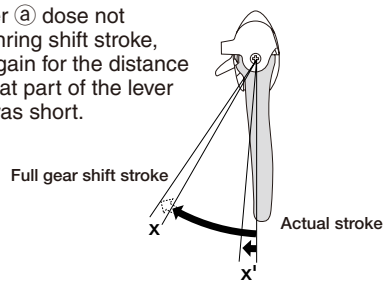
Operation of front derailleur levers

(FD-3300)

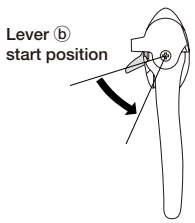
• Lever ⓐ : Shifts from smaller to larger front chainring.



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



• Lever ⓑ : Shifts from larger to smaller front chainring.



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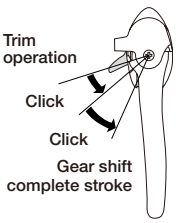
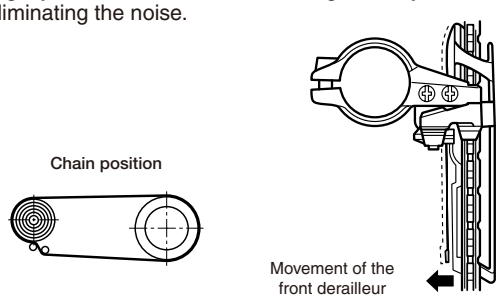
When lever ⓑ is operated, there is one click where trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is completed. After trimming, the next push will complete the gear shift stroke.



Trimming (noise prevention operation)

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

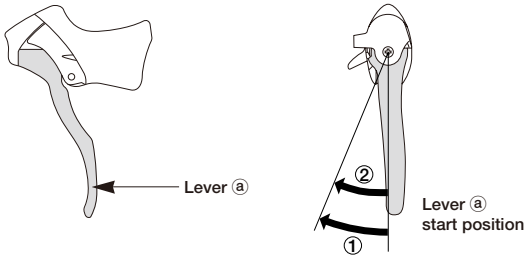


ST-3304

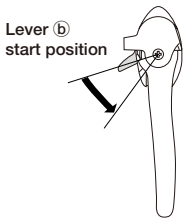
Operation of front derailleur levers

(FD-3304)

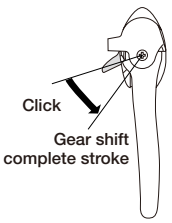
• Lever ⓐ : Shifts from smaller to larger front chainring.



• Lever ⓑ : Shifts from largest chainring to intermediate chainring.



• Lever ⓑ : Shifts from intermediate chainring to smallest chainring.



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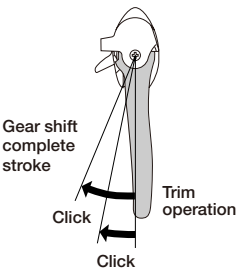
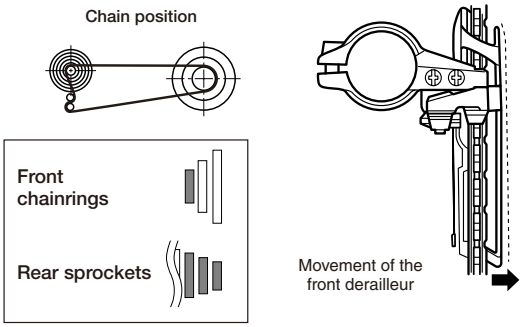
When lever ⓐ is operated, there is one click where trimming (the noise prevention mechanism) engages, and a second stronger click when the gear shift stroke is completed. After trimming, the next push will complete the gear shift stroke.



Trimming (noise prevention operation)

If the chain is on the smallest front chainring and a smaller rear sprocket, the chain will rub in the front derailleur plate, producing a characteristic noise. When this happens, press lever ⓐ lightly (to the point where it clicks); this causes the front derailleur to move slightly towards the larger chainring, thereby eliminating the noise.



Caution on operation (FD-3300/FD-3304)

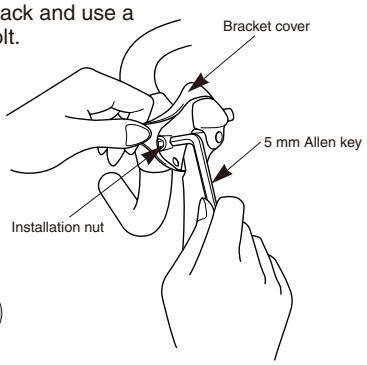
But be careful not to apply pressure to lever ⓑ when operating lever ⓐ. Similarly, be careful not to press lever ⓐ when operating lever ⓑ. Gears will not shift when both levers are pressed simultaneously.

Be sure to read these service instructions in conjunction with the service instructions for the FD-3300 / FD-3304 before use.

Installation

Installation to the handlebar

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



Tightening torque:
6 - 8 N·m {50 - 70 in. lbs.}

Installation of the brake cable

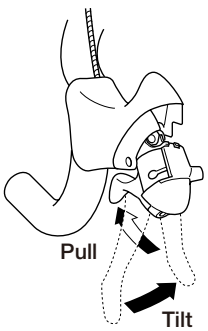
Cable used

• Inner cable (stainless steel) ····· 

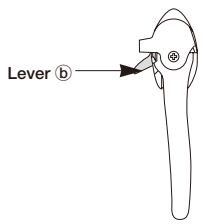
• SLR outer casing ····· 

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

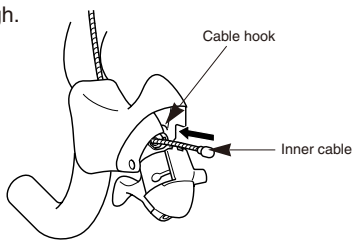
1. Tilt the lever in (as when shifting) to make it easier to pass the cable through the cable hook.



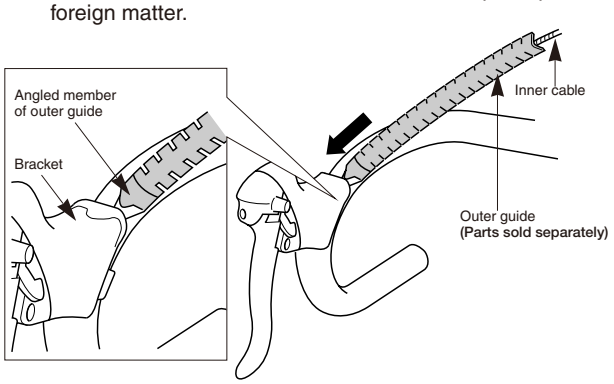
Note: The front lever cannot be tilted to the inside until lever ⓑ is pushed once or twice.



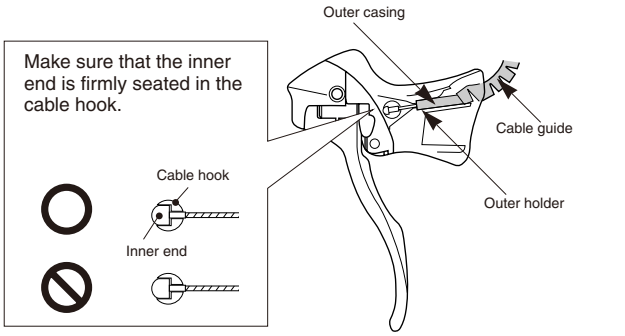
2. Pass the inner cable through.

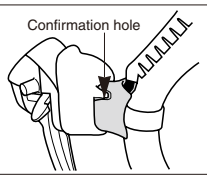


3. Fix the outer guide to the inner cable, and set the angled member in the bracket.
   Note: Do not wipe the grease on the inner cable off.
   Also, be careful that the inner cable does not pick up dust and foreign matter.



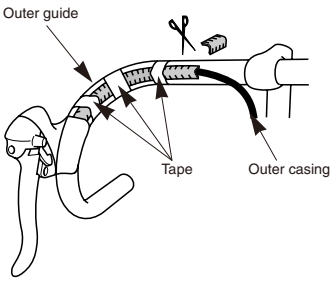
4. Set the outer casing on the inner cable, and in the bracket along the outer guide.





Make sure that the outer casing is firmly seated in the outer holder. Pull the bracket cover back to reveal the hole in the side of the bracket through which the seating can be confirmed.

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.

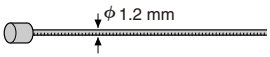


6. Finally, wrap the handlebar with the finish tape.

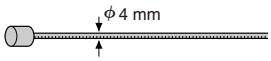
Installing the shifting cable

Cable used

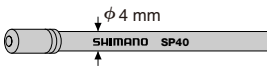
• Inner cable (stainless steel)

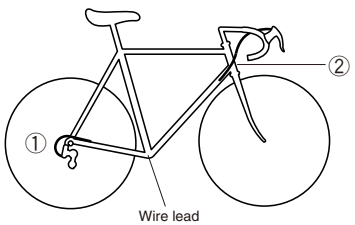


• SP40 sealed outer casing (①)



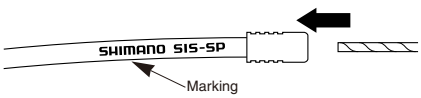
• SP40 outer casing (②)





Inserting the inner cable

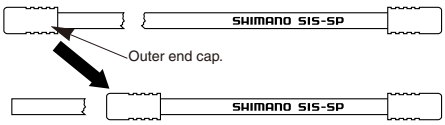
Insert the inner cable into the outer casing from the end with the marking on it. Apply grease from the end with the marking in order to maintain cable operating efficiency.



Cutting the outer casing

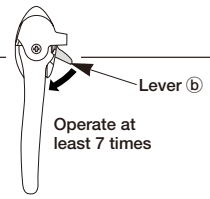
When cutting the outer casing, cut the opposite end to the end with the marking. After cutting the outer casing, make the end round so that the inside of the hole has a uniform diameter.

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

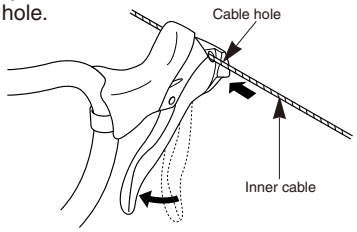


• Rear lever

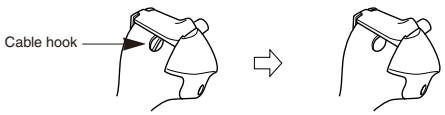
Push lever Ⓑ at least 7 times to make sure the mechanism is in top gear before installing.



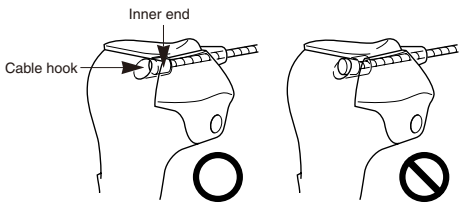
Depress the brake lever, and then pass the inner cable through the cable hole.



If the cable hook does not align with the shifting cable hole, press lever Ⓑ again until it does, and then install the cable.

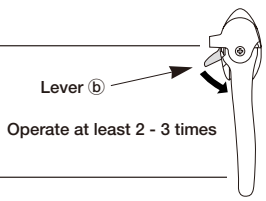


Make sure that the inner end is firmly seated in the cable hook.

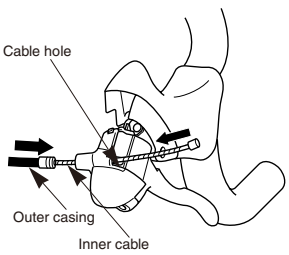


• Front lever

Push lever ⓑ at least two - three times before installing.

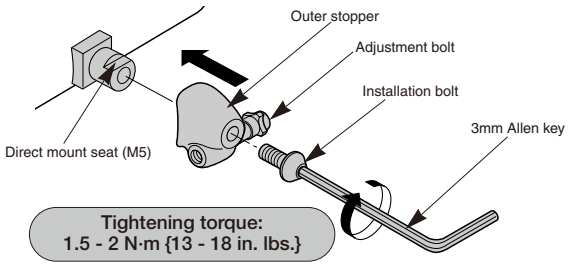


Depress the brake lever, and then pass the inner cable through the cable hole.



• Outer stopper

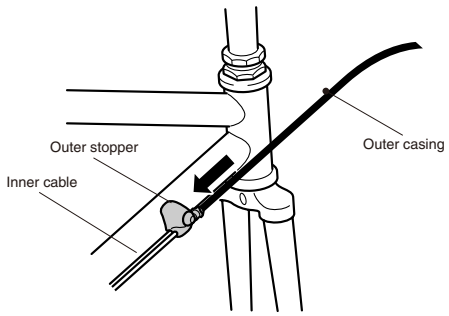
1. Install the outer stopper to the down tube.



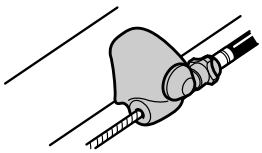
Install with the adjustment bolt tightened.
The adjustment range for the adjustment bolt is six full turns.

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

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

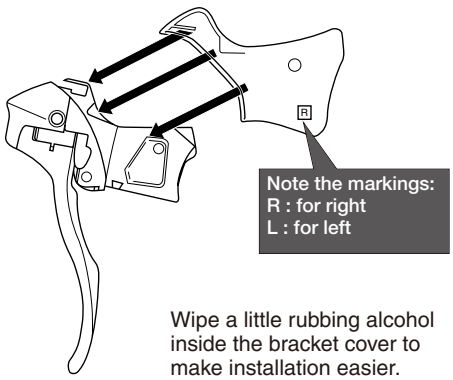


Confirm
Make sure the outer casing is firmly seated in the outer stopper.



Replacing the bracket cover

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



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