

## 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.
- A special grease is used for the gear shifting cable (SIS-SP41). Do not use DURA-ACE grease or other types of grease, otherwise they may cause deterioration in gear shifting performance.
- Please refer to the Service Instructions for the ST-4500 for details on installation and maintenance.
- Be sure to read these service instructions in conjunction with the service instructions for the FD-4503 before use.
- 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.

## Technical Service Instructions SI-0033A

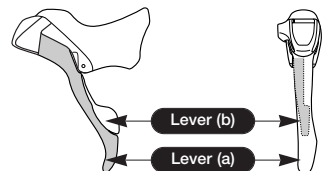
### ST-4500

Front  
DUAL CONTROL  
Lever

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

Series	TIAGRA
Shifting lever	ST-4500
Outer casing	SP41
Gears	27
Front derailleur	FD-4503
Front chainwheel	FC-4503
Rear derailleur	RD-4500-GS
Freehub	FH-4500
Cassette sprocket	CS-HG50-9
Chain	CN-HG53
Bottom bracket cable guide	SM-SP17

## Gear shifting operations



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.

Type of shifting	Lever operation
Smallest chainring → Intermediate chainring 	Operate lever (a) until gear shifting is complete. 
Intermediate chainring → Largest chainring 	Operate lever (a) until gear shifting is complete. 
Largest chainring → Intermediate chainring 	Operate lever (b) until gear shifting is complete. 
Intermediate chainring → Smallest chainring 	Operate lever (b) until gear shifting is complete. 

## Trimming (noise prevention mechanism) operation

Depending on the position of the chain after shifting, the chain may rub against the chain guide outer plate or the chain guide inner plate of the front derailleur, producing a characteristic noise. If this sort of thing happens, you can press lever (a) or lever (b) slightly to move the front derailleur a little way so that it does not touch the chain. This operation is called "trimming". Trimming can be carried out whether the chain is on the largest, intermediate or smallest chainring. If noise occurs when the chain is in one of the positions shown below, carry out trimming to eliminate the noise.

Chain position	Symptom	Trimming operation	
		Lever operation	Front derailleur movement
Largest chainring 	Chain contacts outer plate 	Operate lever (a) until gear shifting is complete. 	Trimming operation: Before trimming → After trimming 
Intermediate chainring 	Chain contacts inner plate 	Operate lever (b) until gear shifting is complete. 	Trimming operation: Before trimming → After trimming 
Smallest chainring 	Chain contacts inner plate 	Operate lever (b) until gear shifting is complete. 	Trimming operation: Before trimming → After trimming 
Largest chainring 	Chain contacts inner plate 	Operate lever (b) until gear shifting is complete. 	Trimming operation: Before trimming → After trimming 
Intermediate chainring 	Chain contacts inner plate 	Operate lever (b) until gear shifting is complete. 	Trimming operation: Before trimming → After trimming 
Smallest chainring 	Chain contacts inner plate 	Operate lever (b) until gear shifting is complete. 	Trimming operation: Before trimming → After trimming 

**SHIMANO**

SHIMANO AMERICAN CORPORATION  
One Holland, Irvine, California 92618, U.S.A. Phone: +1-949-951-5003

SHIMANO EUROPE B.V.  
Industrieweg 24, 8071 CT Nunspeet, The Netherlands Phone: +31-341-272222

SHIMANO INC.  
3-77 Oimatsu-cho Sakai-ku, Osaka 590-8577, Japan