

## General Safety Information

### WARNING – To avoid serious injuries:

- It is important to completely understand the operation of your bicycle's brake system. Improper use of your bicycle's brake system may result in a loss of control or an accident, which could lead to severe injury. Because each bicycle may handle differently, be sure to learn the proper braking technique (including brake lever pressure and bicycle control characteristics) and operation of your bicycle. This can be done by consulting your professional bicycle dealer and the bicycle's owners manual, and by practicing your riding and braking technique.
- Obtain and read the service instructions carefully prior to installing the parts. Loose, worn, or damaged parts may cause serious injury to the rider. We strongly recommend only using genuine Shimano replacement parts.
- Check that the wheels are fastened securely before riding the bicycle. If the wheels are loose in any way, they may come off the bicycle and serious injury may result.
- Read these Technical Service Instructions carefully, and keep them in a safe place for later reference.

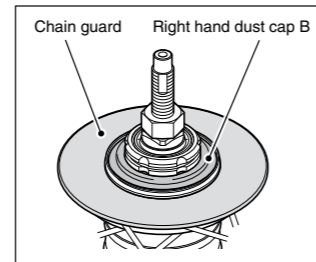
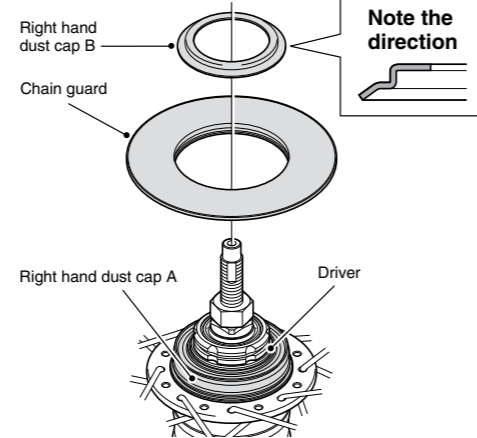
### NOTE:

- Use a wheel with 3x or 4x spoke lacing. Wheels with radial lacing cannot be used because the spokes and the wheel can be damaged when applying the brakes and brake noise can be generated.
- You can shift gears while pedaling, but on rare occasions the pawls and ratchet inside the hub may produce some noise afterwards as part of normal gear shifting operation.
- If using a chain tensioner, use the special CS-S500 18T or 20T sprocket with chain guard. Do not use any other types of sprockets, otherwise the chain may come off the sprockets.
- It is recommended that you use Shimano internal hub grease or the Shimano oil kit when carrying out maintenance. If you do not use the special grease, problems may occur such as the gear shifting mechanism not operating correctly.
- The internal hub is not fully waterproof. You should avoid using the hub in places where water might get inside it and avoid using high-pressure water for cleaning, otherwise it may cause the internal hub to rust.
- You should periodically wash the sprockets in a neutral detergent and then lubricate them again. In addition, cleaning the chain with neutral detergent and lubricating it can be an effective way of extending the useful life of the sprockets and the chain.
- If the chain keeps coming off the sprockets during use, replace the sprockets and the chain.
- 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 handling or adjustment, please contact the place of purchase.

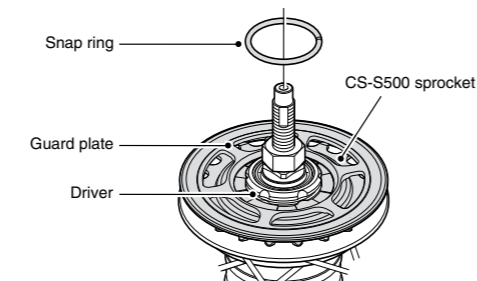
## Installation of the sprocket to the hub

### For the CS-S500 sprocket with chain guard

- Install the chain guard to right hand dust cap A of the hub body, and then install right hand dust cap B to the driver.

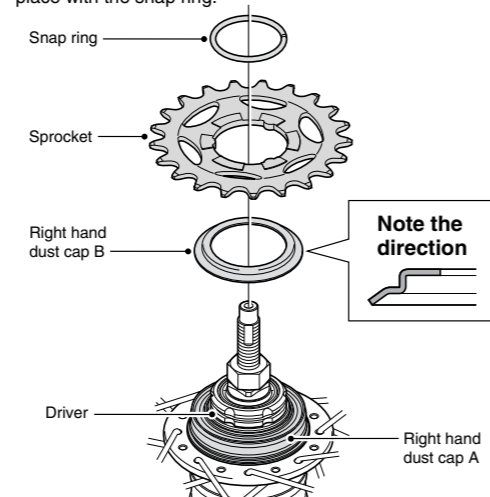


- Install the CS-S500 sprocket to the driver on the right side of the hub body with the guard plate facing outward, and secure it in place with the snap ring.



### Fogr the SM-GEAR

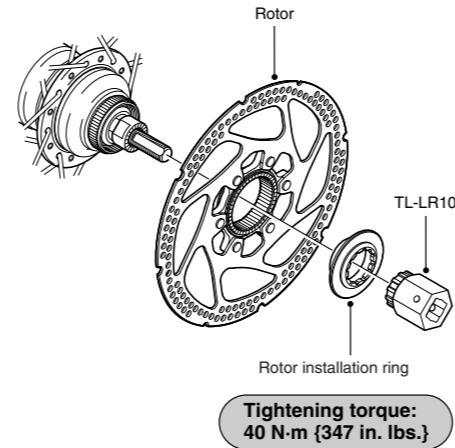
Place right hand dust cap B onto the driver on the right side of the hub body. Next, install the sprocket and secure it in place with the snap ring.



### Note:

If the sprocket is an inward assembling sprocket with 16T or less, right hand dust cap A will come into contact with the sprocket and so it should not be used.

## Installation of the rotor

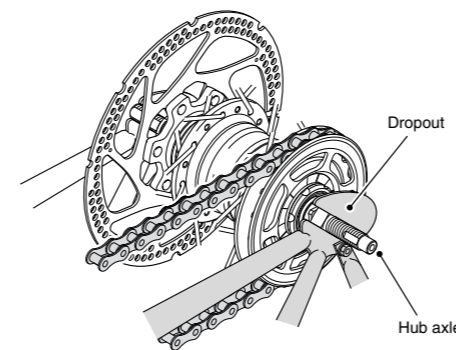


## Installation of the hub to the frame

The method of installing the hub to the frame is the same when the chain tensioner is being used and when it is not being used.

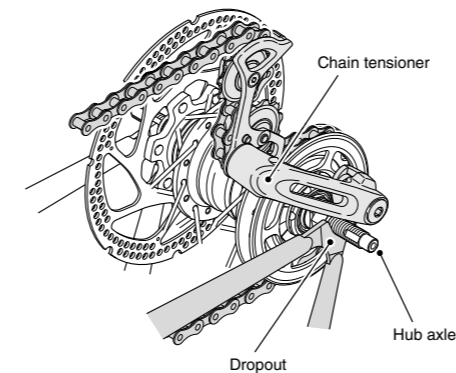
- Mount the chain on the sprocket, and then set the hub axle into the dropouts.

### When not using the chain tensioner



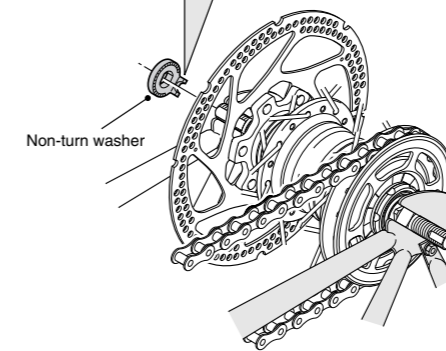
### When using the chain tensioner

When using the chain tensioner, be sure to read these service instructions in conjunction with the service instructions for the CT-S500 chain tensioner.



- Place the non-turn washer onto the outside of the left side of the hub axle. At this time, turn the hub axle so that the projection of the non-turn washer fits into the groove of the dropout.

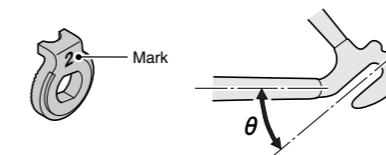
- The projecting part should be on the dropout side.
- Install the non-turn washer so that the projecting part is securely in the dropout groove on either side of the hub axle.



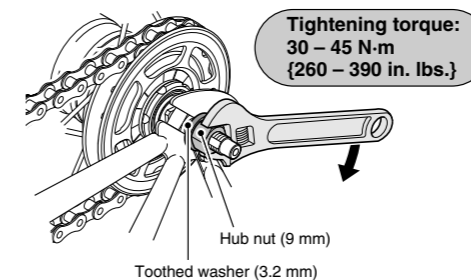
### Note:

Use whichever non-turn washers match the shape of the dropouts.

Dropouts	Non-turn washer (Left)	
	Mark/Color	Size
Standard		$\theta \leq 20^\circ$
		$\theta \leq 38^\circ$
Reversed	2/Yellow	$\theta = 0^\circ$
Reversed (full chain case)		$\theta = 0^\circ$
Vertical	8L/Green	$\theta = 60^\circ - 90^\circ$

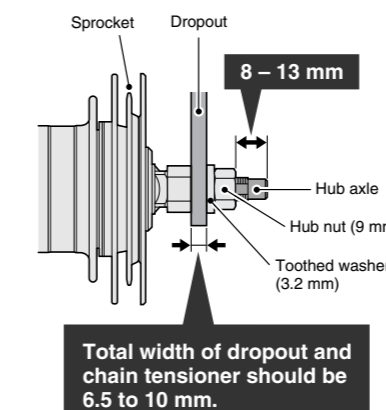


- Take up the slack in the chain and secure the wheel to the frame with the toothed washer (3.2 mm) and the hub nut (9 mm) at the right side of the hub axle, and with the cap nut at the left side of the hub axle.



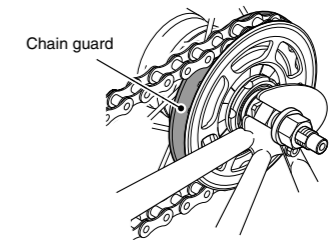
### Note:

Check that the distance from the edge of the hub nut to the right end of the hub axle is between 8 and 13 mm.



### Note:

When installing the hub to the frame, the chain guard may come off, so check that the chain guard is securely installed so that it will not come off. If it is not fully installed, noise may be generated.



SI-36U0A-001

**SG-3D55**  
**CS-S500**

Hub for Inter-3  
Disc Brake  
Sprocket with  
Chain Guard

## Technical Service Instructions

Be sure to read these service instructions in conjunction with the Technical Service Instructions for the brake and the Inter-3 shifting lever before use.

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.

These service instructions are printed on recycled paper.

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

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