SHIMANO Nexus


# INTER5 E

## SERVICE MANUAL

**SG-C7000-5V**
**SG-C7000-5R**
**SG-C7000-5C**
**SG-C7000-5D**

**SG-C7050-5V**
**SG-C7050-5R**
**SG-C7050-5C**
**SG-C7050-5D**

Ver.1.5

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SHIMANO Nexus INTER 5 E

# E-BIKE Dedicated Internal Geared Hub

E-BIKE DESIGN

The NEXUS Inter-5E is a revolutionary internal geared hub designed specifically for the unique demands of E-BIKE riding. It can withstand much higher pedaling forces, even while shifting (+180% compare with SG-C6000 series) by optimizing shift pattern design.

It also offers a gear range with optional automatic shifting.* Automatic shifting offers a stress-free ride, eliminating the need for the rider to worry about whether they're in the right gear or have to change gears after an abrupt stop.

*Only when used on E-BIKE

## 5-SPEED MECHANICAL SHIFTING


**SG-C7000-5V**
*For Rim Brake (5-speed)*

**SG-C7000-5R**
*For Roller Brake (5-speed)*

**SG-C7000-5C**
*For Coaster Brake (5-speed)*

**SG-C7000-5D**
*For Disc Brake (5-speed)*

**SM-C7000-5**
*Small Parts Set for SG-C7000-5*

## 5-SPEED ELECTRIC SHIFTING

SYNCHRONIC Di2


**SG-C7050-5V**
*For Rim Brake (5-speed)*

**SG-C7050-5R**
*For Roller Brake (5-speed)*

**SG-C7050-5C**
*For Coaster Brake (5-speed)*

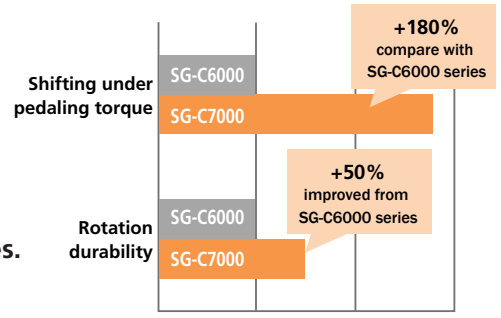
**SG-C7050-5D**
*For Disc Brake (5-speed)*

**SM-C7050-5**
*Small Parts Set for SG-C7050*

## SPECIFICATION

- **Gear ratio : 263%**
- **O.L.D. : 135mm**
- **Color options : Black, Silver**
- **Compatible with GATES belt drive**

*Except coaster brake spec.
*The Belt Drive specification is designed to not interfere with the belt drive.



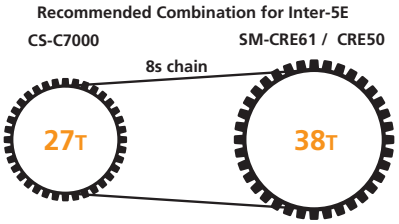

## FEATURES

- **Shifting under pedaling torque: +180% compare with SG-C6000 series.**
- **Rotation durability: +50% improved from SG-C6000 series.**

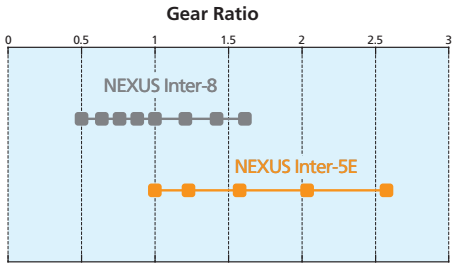
# SUITABLE GEAR RANGE & GEAR RATIOS FOR E-BIKE

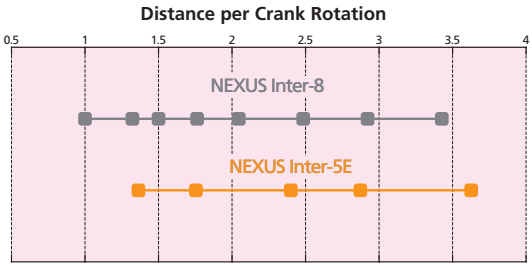
This provides the same wide gear range as NEXUS Inter-8. Use of 38T for the front and 27T for the rear is recommended.

* The overall gear ratio of a bicycle (distance per crank rotation) with an internal geared hub is obtained by multiplying the internal geared hub gear ratio by the sprocket ratio.




**1.3-1.5 sprocket ratio is recommended in combination with E-BIKE.**



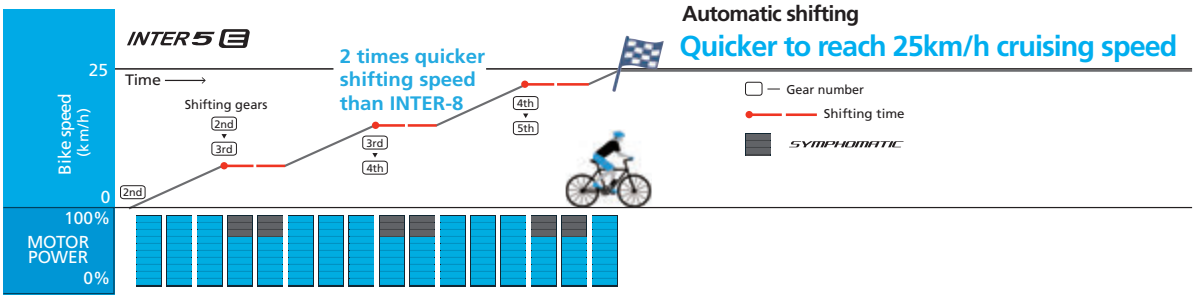

*When tire sizes are 28 inch, sprocket ratio is 2.1 (Inter-8) / 1.4 (Inter-5E).

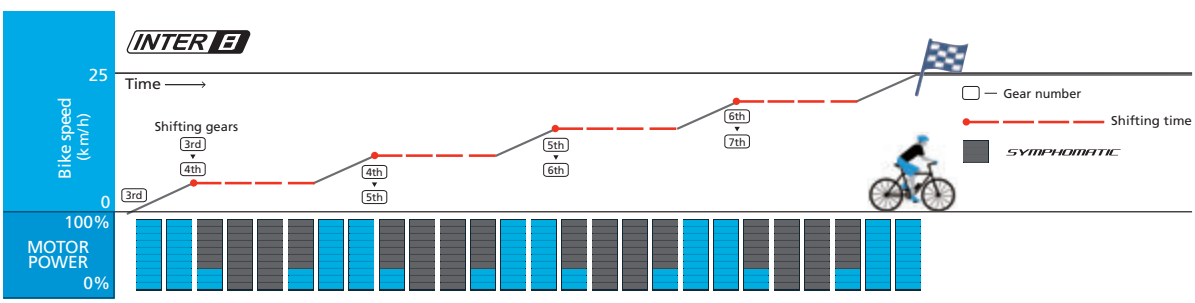
# AUTOMATIC SHIFT

DI2 compatible Inter-5E with SHIMANO STEPS E6100 series and E5000 series offer full automatic shifting. The SHIMANO STEPS system automatically selects and shifts into the optimum gear, based on the number of crank rotations and speed.
Also, riders can always manually shift into the gear they want, even in auto mode. When they do, the SHIMANO STEPS system uses **a learning function** to recognize the manual shift operation and automatically fine-tunes future automatic shift timing to the rider's liking. This offers a stress-free ride, eliminating the need for the rider to worry about whether they're in the right gear or have to change gears after an abrupt stop.

## SYNCHRONIZED SHIFT

SHIMANO STEPS computer-assisted shifting system provides a more responsive and stable shifting performance. This innovative system monitors rider's motion and determines the optimal timing to momentarily decrease power to the pedal-assist motor. The temporary reduction of chain tension allows the gear movement of drive train to function smoothly and unimpeded.



INTER 5 E

# Dealer's Manual

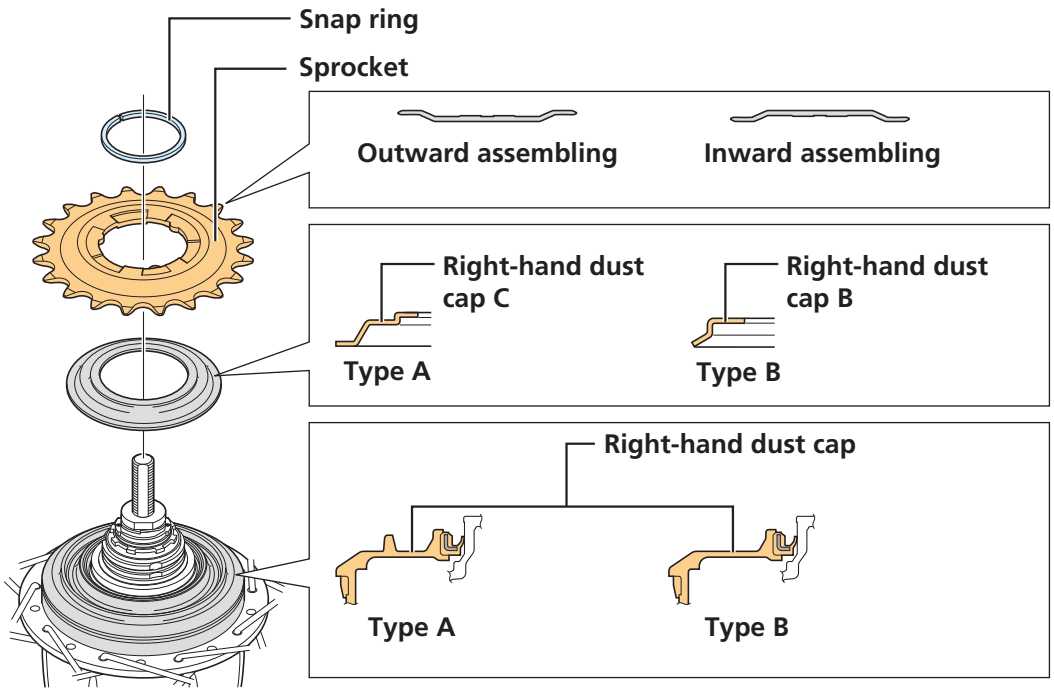
**SG-C7000-5V**
**SG-C7000-5R**
**SG-C7000-5C**
**SG-C7000-5D**

# Installation/removal

## Installing the sprocket (without chain guard)

### 1. Install the right-hand dust cap, then secure the sprocket with the snap ring.

Check the type, and note the orientation of the right-hand dust cap and sprocket when installing them.



**NOTICE**

• Note the orientation of the sprocket and right-hand dust cap.

| Type | Applicable sprockets | |
|---|---|---|
| | Outward assembling | Inward assembling |
| A | 16T-23T | 20T-23T |
| B | 16T-23T | |
| INTER-5E | 24T, 27T, 30T | 24T, 27T, 30T |

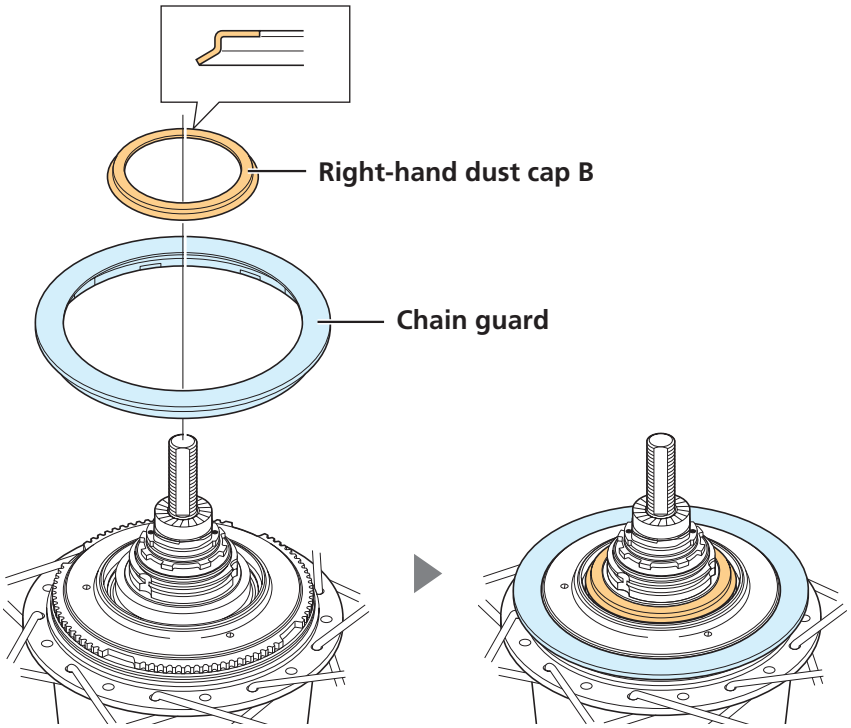
**Type A**
If the sprocket is an inward assembling sprocket with 19T or fewer or for belt drive type, right-hand dust cap A will come into contact with the chain or pulley so type B should be used instead.

**Type B**
If the sprocket is an inward assembling sprocket with 16T and 3 mm teeth or for belt drive type, remove right-hand dust cap B before use.

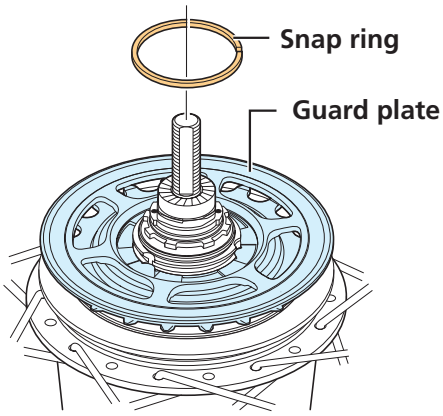
# Installing the sprocket (with chain guard)

## 1. Install the chain guard and right-hand dust cap.

Note the orientation of the right-hand dust cap when installing it.



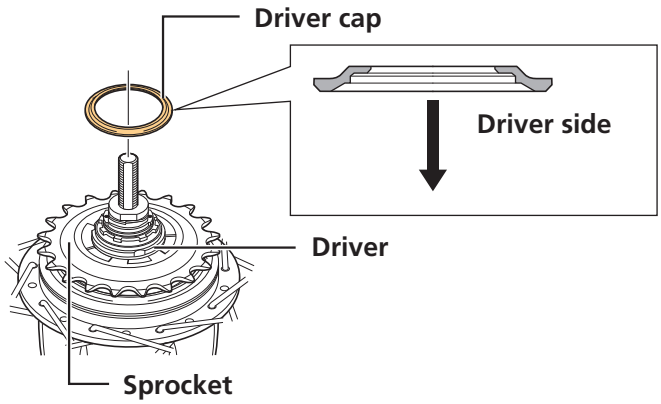
**2.** **Install the sprocket with the guard plate facing outward, and secure it in place with the snap ring.**

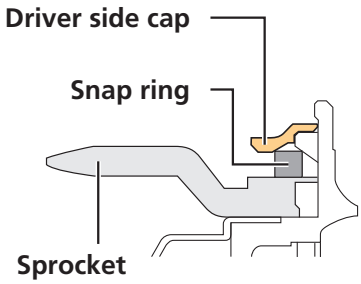



# Installation of the cassette joint to the hub

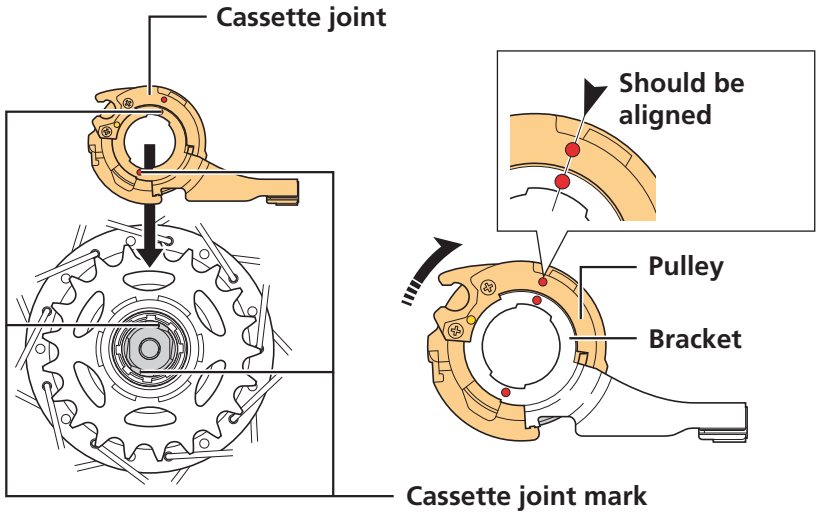
**1.** **Install the driver cap.**

Note the orientation of the driver cap.

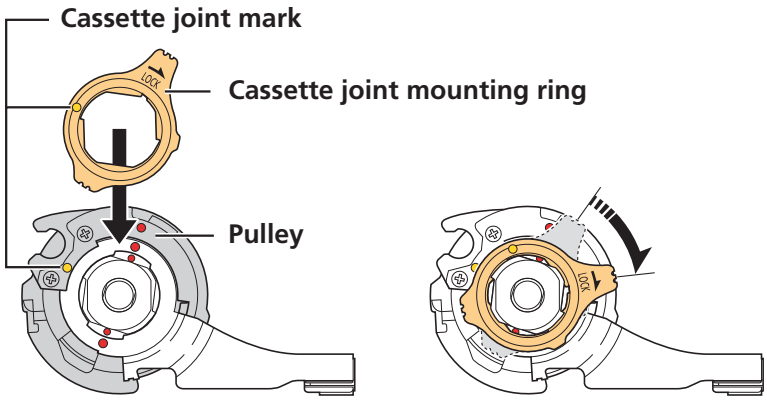


## 2. Turn the pulley to align the mark (red or yellow) of the cassette joint, and install to the hub body.




## 3. Turn the cassette joint mounting ring 45° clockwise to secure it.




**NOTICE**

- Hold down the cassette joint bracket securely when performing work.

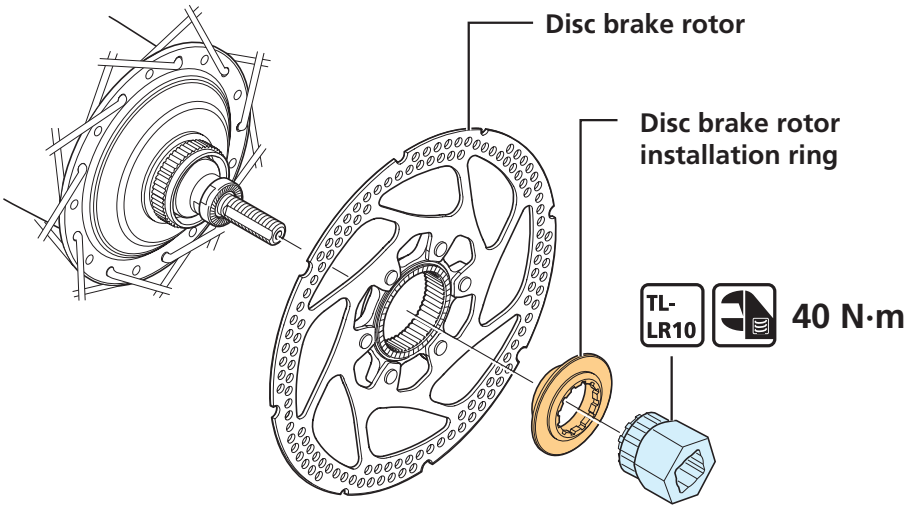
# Installing the disc brake rotor

**⚠ CAUTION**

- Wear gloves when handling the disc brake rotor. Failure to do so may result in cuts to your hands.

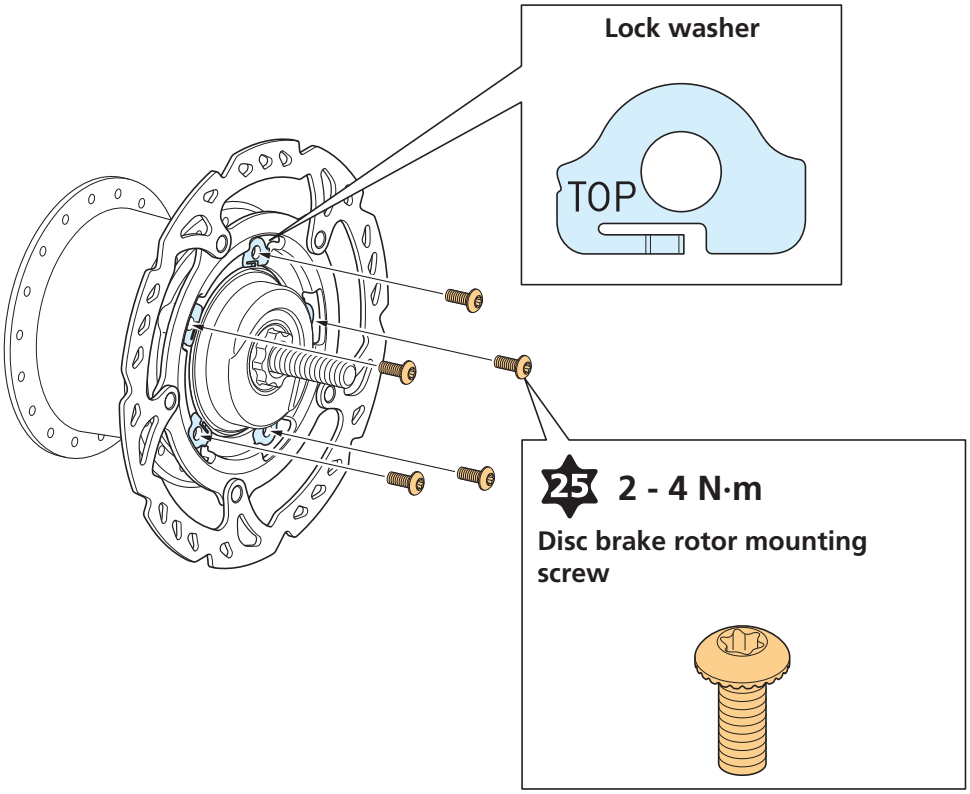
## CENTER LOCK type

### 1. Secure the disc brake rotor as shown in the figure.



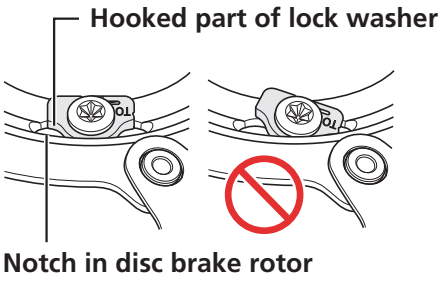

## 5 screw type (with lock washers)

### 1. Temporarily secure the disc brake rotor and the disc brake rotor lock washers to the hub as shown in the figure.



**NOTICE**

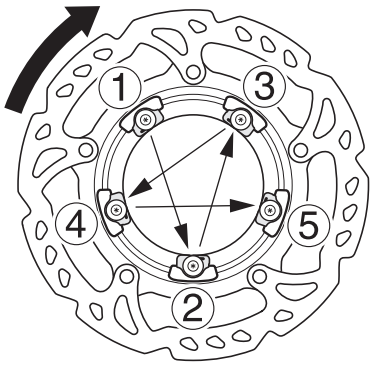
- Fit the lock washers so that the marking "TOP" is visible.
- Ensure that the hooked part of the lock washer is securely caught on the notch in the disc brake rotor, then tighten on the lock washer with the disc brake rotor mounting screw. If tightened while the hooked parts are against the surface of the disc brake rotor, the lock washers and its hooked parts will become deformed.




- The lock washers are not reusable. Always use new lock washers when installing the disc brake rotor.
- Use the dedicated disc brake rotor mounting screws.

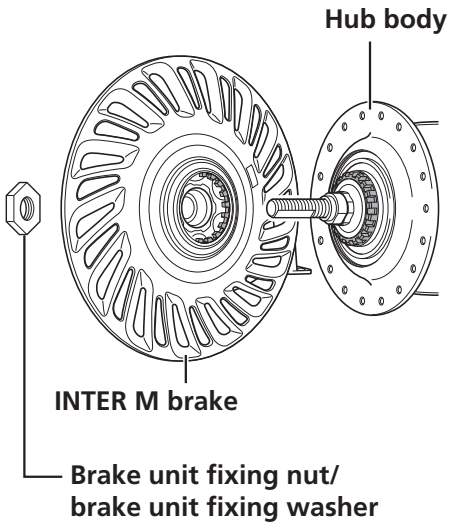
## 2. Secure the disc brake rotor with force applied in the clockwise direction.

Tighten the disc brake rotor mounting screws in the order shown in the figure.



# Installing the INTER M brake to the hub body

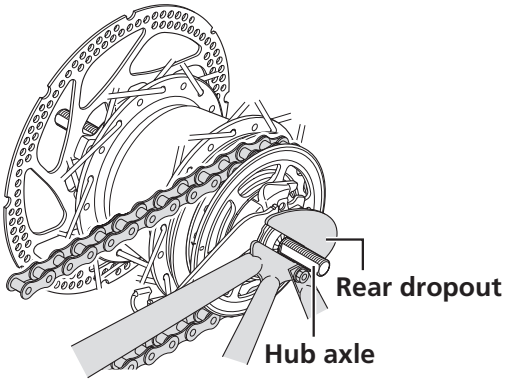
1. Engage the splines on the hub body with the splines on the INTER M brake, then temporarily tighten with the brake unit fixing nut or the brake unit fixing washer.



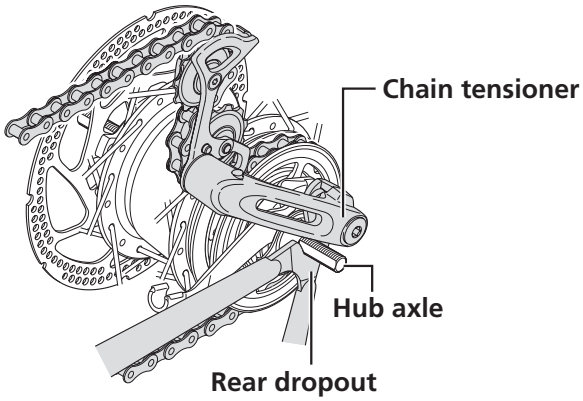

# Installation of the hub to the frame

1. Mount the chain on the sprocket, then set the hub axle into the rear dropout.

When not using chain tensioner



### When using chain tensioner

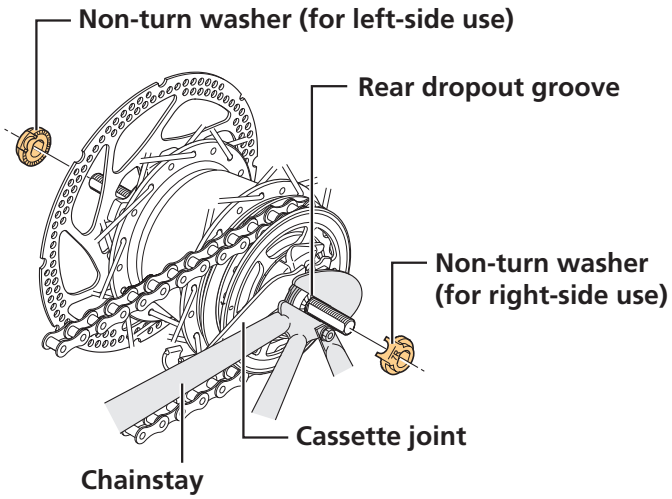



**TECH TIPS**

- When using the chain tensioner, be sure to read the attached instruction manual for the CT-S500 chain tensioner.

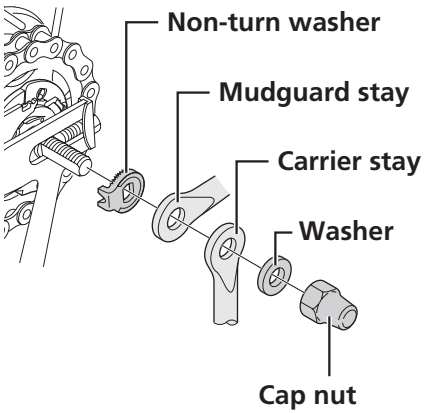
## 2. Place non-turn washers onto the right and left of the hub axle.

Turn the cassette joint so that the protrusions of the non-turn washers fit into the grooves in the rear dropouts and align the joint to be installed almost parallel to the chainstay.

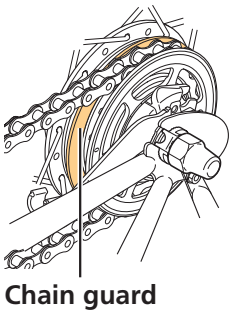


**NOTICE**

- When installing parts such as a mudguard stay to the hub axle, install them in the order shown in the figure.




- When installing the hub to the frame, the chain guard may come off. Make sure that the chain guard is securely installed. If not properly installed, noise may be generated.



**TECH TIPS**

- Use a non-turn washer that matches the shape of the rear dropout. Different non-turn washers are used for the left and right sides.


| Rear dropout | Non-turn washer | | |
|---|---|---|---|
| | Mark / Color | | Size |
| | For right | For left | |
| Standard | 5R / Yellow | 5L / Brown | $\theta \leq 20°$ |
| | 7R / Black | 7L / Gray | $20° \leq \theta \leq 38°$ |
| Reversed | 6R / Silver | 6L / White | $\theta = 0°$ |
| Reversed (full chain case) | 5R / Yellow | 5L / Brown | $\theta = 0°$ |
| Vertical | 8R / Blue | 8L / Green | $\theta = 60° - 90°$ |

* Vertical: Does not include the coaster type.

- If the hub nuts are cap nuts, use a frame with rear dropouts that are at least 7 mm thick.

## 3. Secure with the cap nut.

**In the case of INTER M brake type (brake unit fixing washer)**

(1) Check that the INTER M brake is securely installed with the brake unit fixing washer.

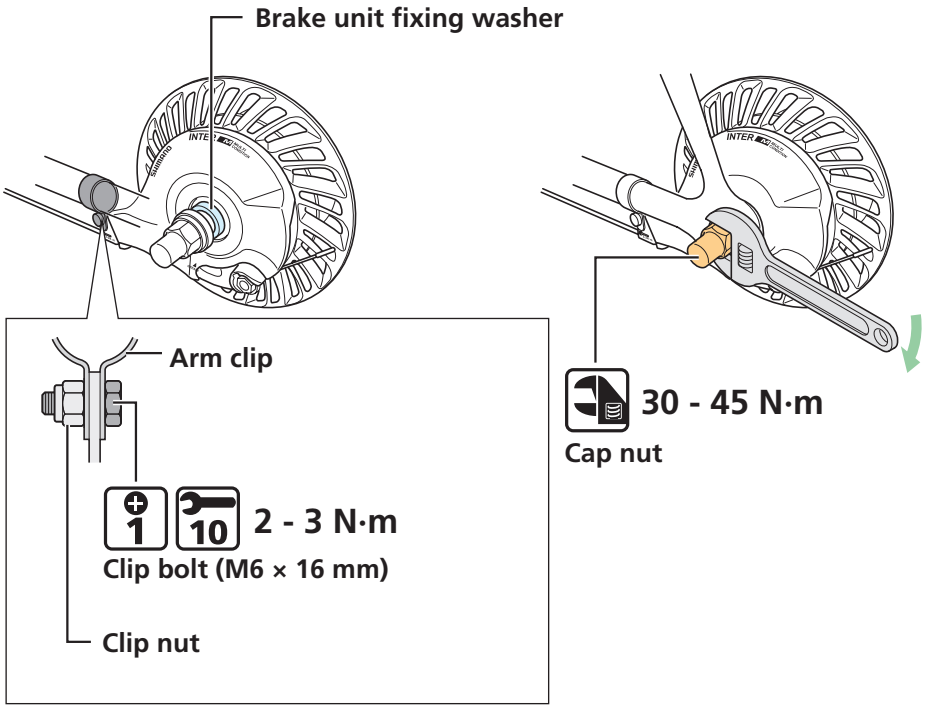
(2) Attach the brake arm to the chainstay with the arm clip.

(3) Temporarily fix the clip bolt and clip nut by lightly tightening them.

(4) Take up slack in the chain and secure the wheel to the frame with the cap nut.

(5) Attach the brake arm with the arm clip.

(6) Securely install with the cap nut.




**In the case of INTER M brake type (brake unit fixing nut)**

(1) Attach the brake arm to the chainstay with the arm clip.

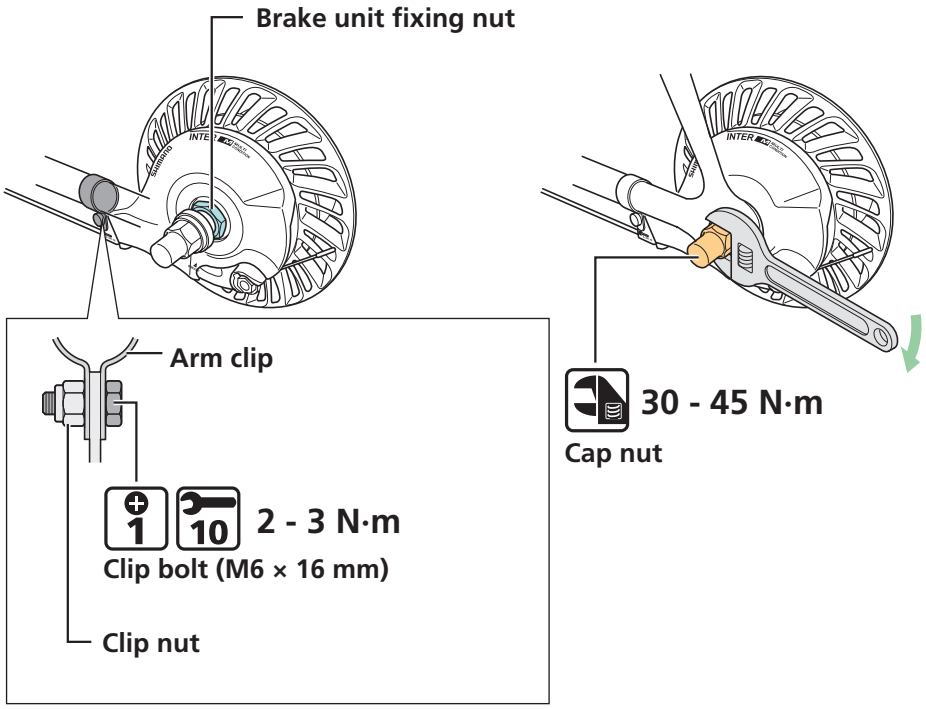
(2) Temporarily fix the clip bolt and clip nut by lightly tightening them.

(3) Take up slack in the chain, align the wheel with the frame center, and temporarily secure it with the cap nut.

(4) Slightly loosen the cap nut, and fully tighten the brake unit fixing nut.

(5) Take up slack in the chain, align the wheel with the frame center, and secure it with the cap nut.

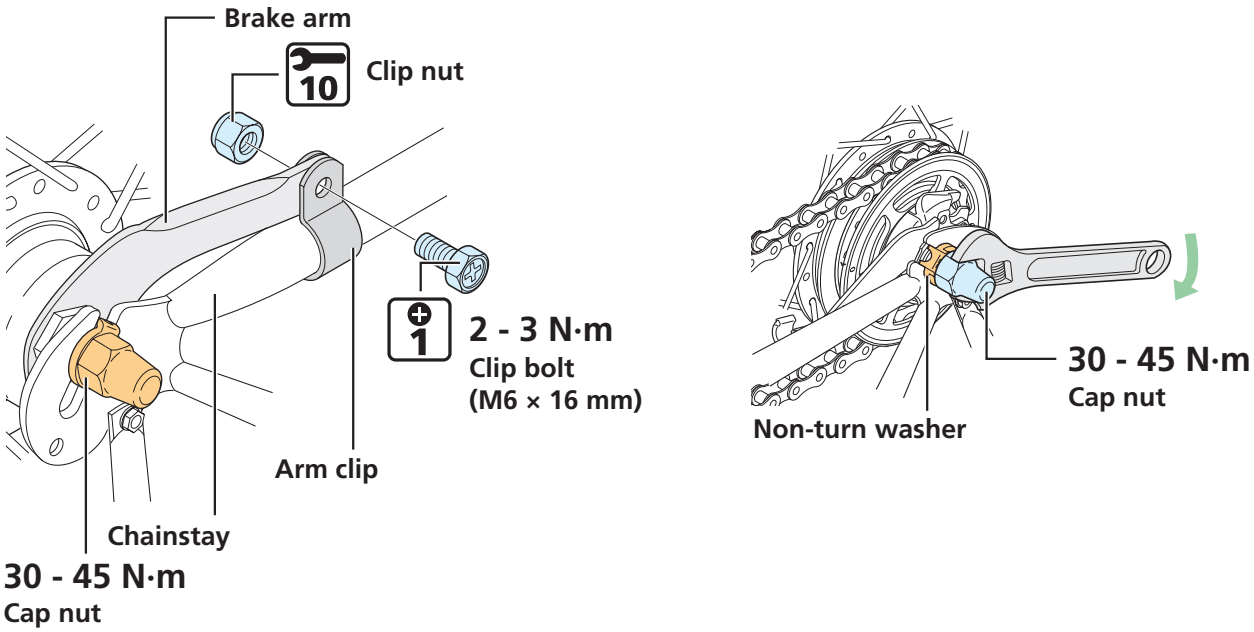
(6) Attach the brake arm with the arm clip.




**In the case of coaster brake type**

(1) Secure the brake arm with the arm clip.

(2) Take up slack in the chain and firmly secure the wheel to the frame with the cap nut.

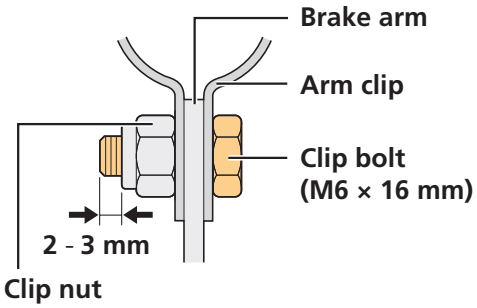


**⚠ WARNING**

- When securing the brake arm to the frame, be sure to use an arm clip that matches the size of the chainstay, and securely tighten them with the clip bolt and clip nut to the specified tightening torque.
  Use a lock nut with nylon insert (self-locking nut) as the clip nut. It is recommended that SHIMANO made clip bolts, clip nuts, and arm clips be used.
  If the clip nut comes off the brake arm, or if the clip bolt or arm clip becomes damaged, the brake arm may rotate on the chainstay and cause the handlebars to jerk suddenly, or the bicycle wheel may lock and result in serious injury due to a fall or collision.

***NOTICE***

- If it is not installed correctly, braking performance will suffer. Be very careful when installing it.
- If excessive force is applied to the brake arm to secure it, a problem such as noise will occur and the wheel will become difficult to turn.
- After installing the arm clip, check that the clip bolt protrudes approximately 2 - 3 mm from the end face of the clip nut.




Before using the bicycle, check that the brake works properly and that the wheel turns smoothly.

# Installation of the shifting cable

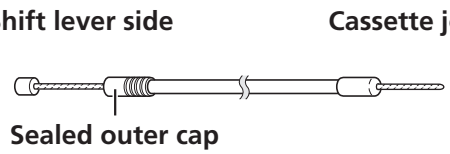
## Shift lever side

### 1. Install the inner cable and outer casing aligned with the shift lever.

Refer to the dealer's manual of the shift lever for details.

**NOTICE**

- Make sure that the sealed outer cap is at the shift lever end.




## Cassette joint side

### 1. Operate the shift lever and set to the specified gear position.

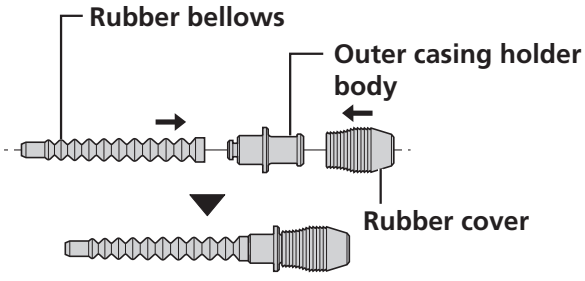
SG-S7001 (internal 11-speed): 11-speed

SG-S7001 (internal 8-speed): 8-speed

SG-C6001 / SG-C6011 (internal 8-speed): 1-speed

SG-C7000 / SG-C7002 (internal 5-speed): 5-speed

### 2. Install the rubber cover and rubber bellows to the outer casing holder body.



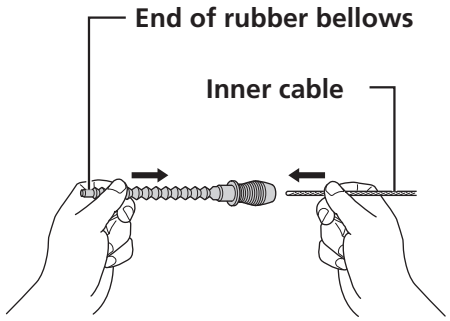
**TECH TIPS**

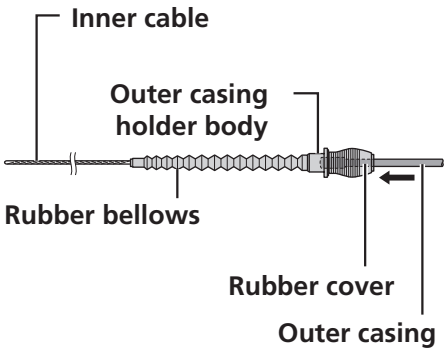
- This operation is not required if there is no rubber cover or rubber bellows.

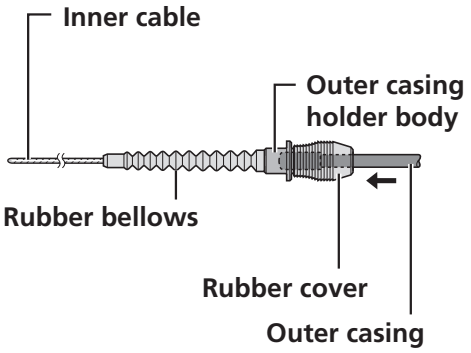
## 3. Pass the inner cable through.

(1) Wipe away any grease which may be on the inner cable and, while holding the end of the rubber bellows, pass the inner cable through.

(2) Insert the outer casing into the rubber cover and set it into the outer casing holder body. Push the outer casing so that it securely touches the outer casing holder body.




**NOTICE**

- Use a new inner cable; do not use a cable which has had its end cut off. Pay attention to the end of the inner cable.

## 4. Install the inner cable fixing bolt unit.

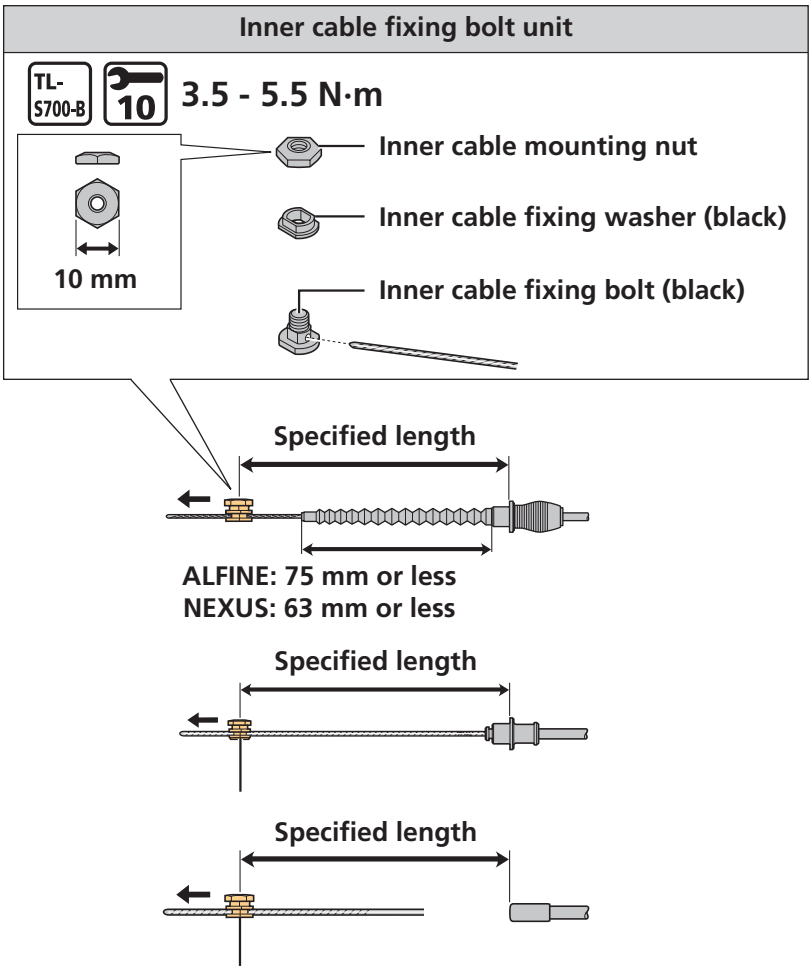
After checking that the end of the outer casing is securely set in the cable adjustment barrel of the shift lever, secure the unit at the specified length while pulling the inner cable.

SG-S7001 (internal 11-speed): 184 mm

SG-S7001 (internal 8-speed): 145 mm

SG-C6001 / SG-C6011 (internal 8-speed): 101 mm

SG-C7000 / SG-C7002 (internal 5-speed): 145 mm



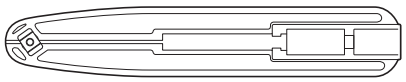

**NOTICE**

- Use the special inner cable fixing bolt unit.

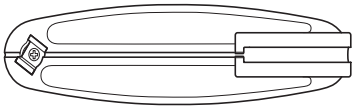
**TECH TIPS**

- When installing the inner cable fixing bolt unit, use the setting tool TL-S700-B / TL-CJ40.

TL-S700-B (145 mm / 184 mm)



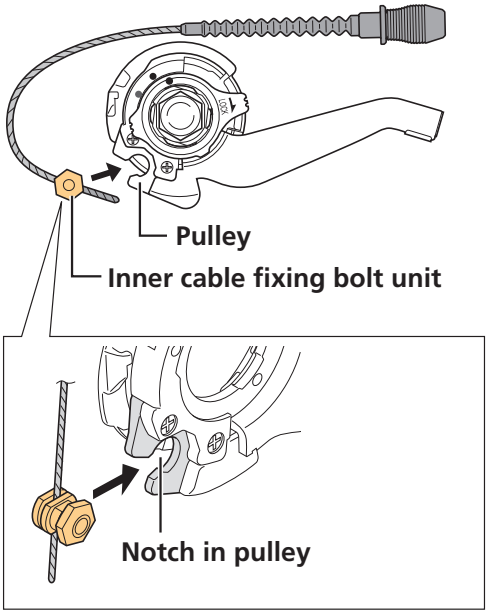
TL-CJ40 (101 mm / 127 mm)

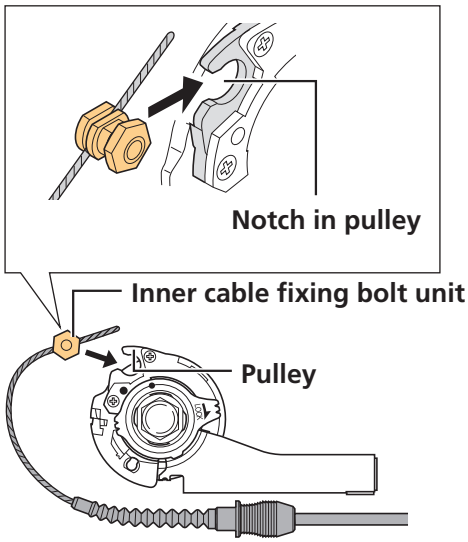


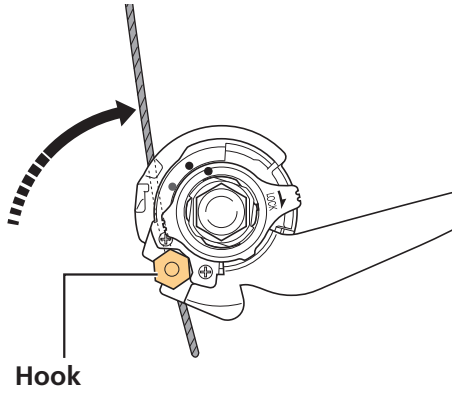
## 5. Set the inner cable fixing bolt unit.

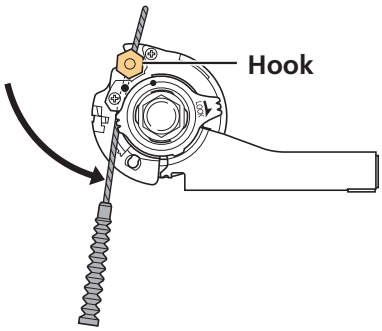
(1) Fit the inner cable fixing bolt unit into the notch in the pulley.

(2) Turn the cable 60° clockwise or counterclockwise and attach it to the hook.



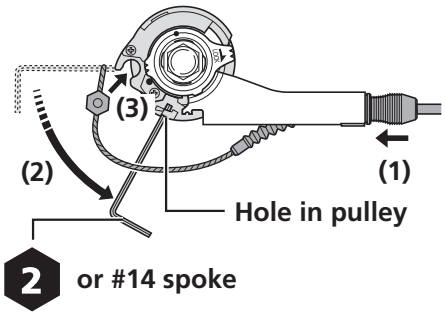



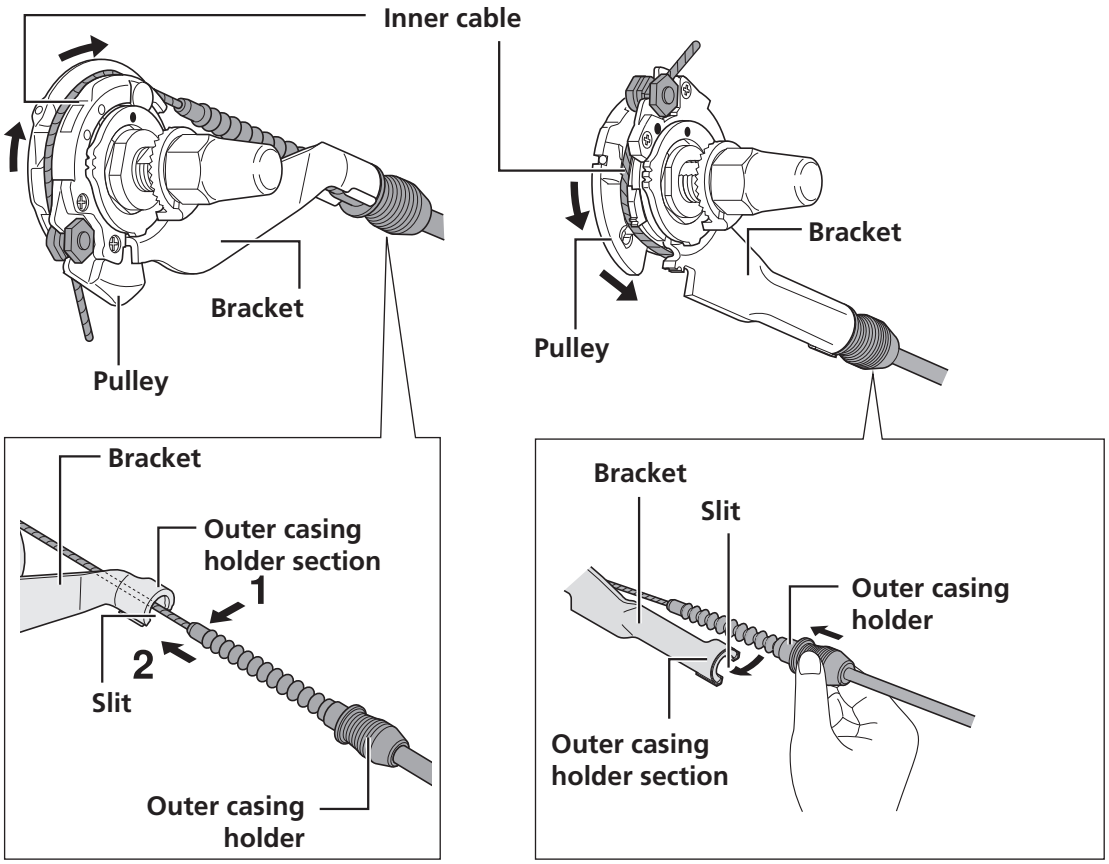
**TECH TIPS**

- Some models enable the outer casing holder of the cassette joint to be installed first by turning the pulley of the cassette joint.



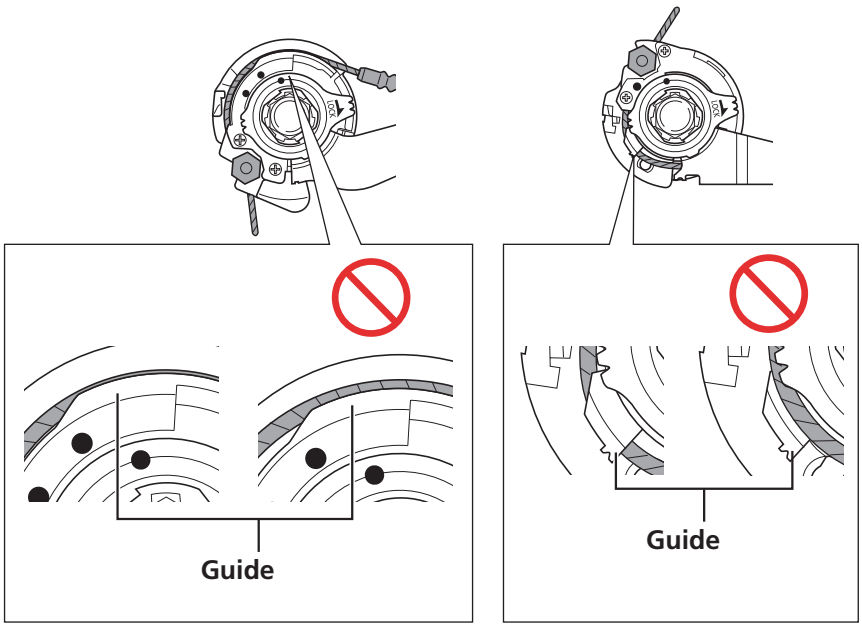

## 6. Set the inner cable and outer casing.

Set the inner cable in the pulley as shown in the figure, insert the inner cable into the slit in the cassette joint bracket, then securely set the outer casing holder into the outer casing holder section of the cassette joint.

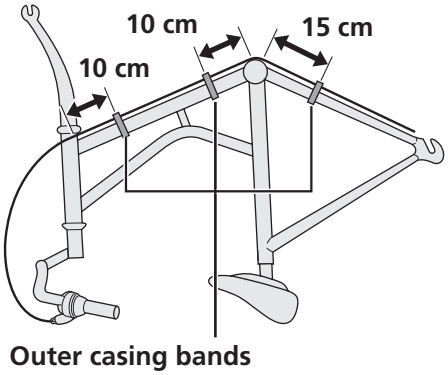


**NOTICE**

- Check that the inner cable is correctly seated inside the pulley guide.




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



# ADJUSTMENT

## Adjusting the cassette joint

### 1. Operate the shifting lever and set to the specified gear position.

SG-S7001 (internal 11-speed): 11-speed to 6-speed

SG-S7001 (internal 8-speed): 8-speed to 4-speed

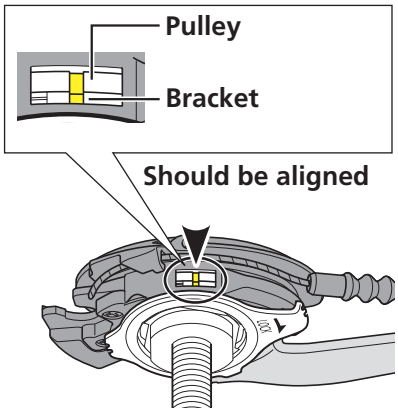
SG-C6001 / SG-C6011 (internal 8-speed): 1-speed to 4-speed

SG-C7000 / SG-C7002 (internal 5-speed): 5-speed to 3-speed

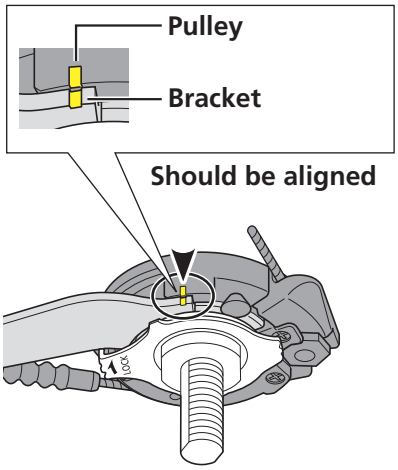
### 2. Turn the cable adjustment barrel and align the setting lines.

Check that the yellow setting lines on the cassette joint bracket and pulley are aligned with each other. The yellow setting lines on the cassette joint are located in two places.

When the bicycle is upright

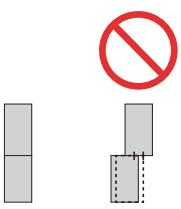



When the bicycle is upside down




**NOTICE**

- If the overlapping area falls short of two thirds of each setting line, the gears may not be properly engaged during pedaling, resulting in abnormal noise or free spinning of the pedals.



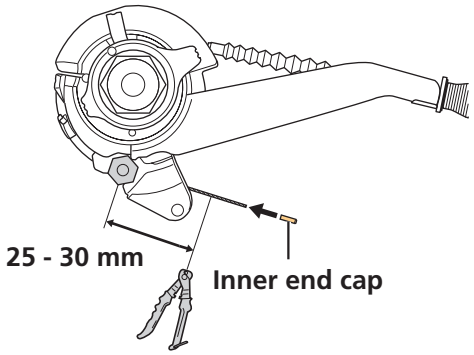
## 3. Operate the shifting lever and recheck that the yellow setting lines are aligned.

Operate the shifting lever again from step 1 to check.

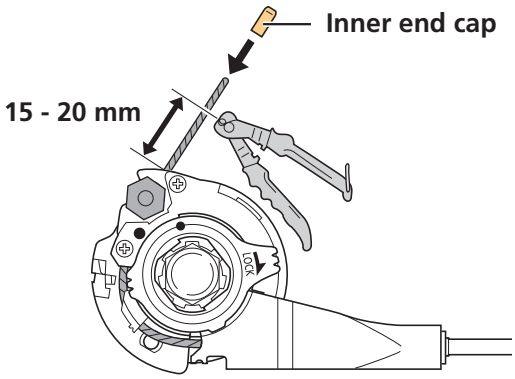
## 4. Cut off the excess length of inner cable and then install the inner end cap.

For 11-speed, after installing the inner end cap, slightly bend the inner cable outward (toward the dropout) so that it does not touch the chain.

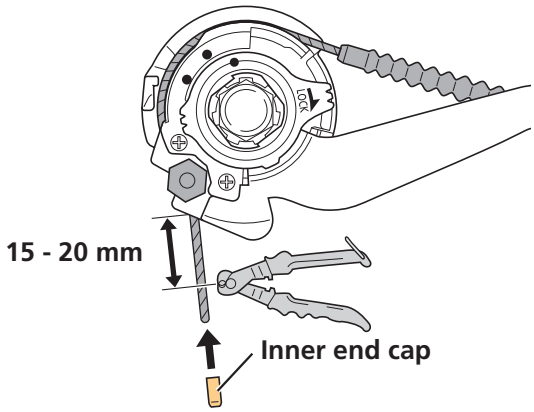
**11-speed**




**8-speed**




**5-speed**



# MAINTENANCE

## Disconnecting the shifting cable when removing the rear wheel from the frame

### 1. Set the shifting lever to the specified gear.

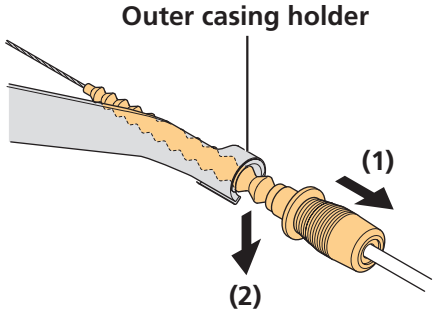
SG-S7001 (internal 11-speed): 11-speed

SG-S7001 (internal 8-speed): 8-speed

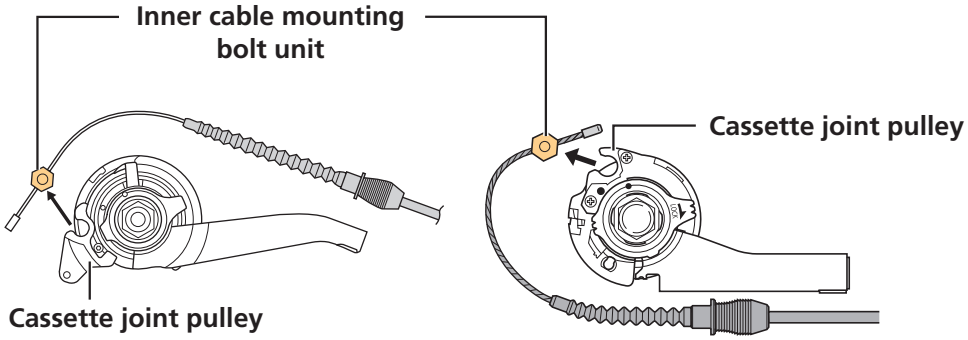
SG-C6001 / SG-C6011 (internal 8-speed): 1-speed

SG-C7000 / SG-C7002 (internal 5-speed): 5-speed

### 2. Pull the outer casing out from the outer casing holder.

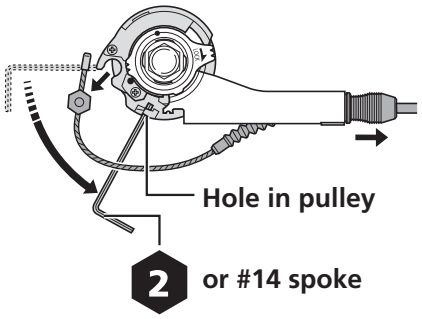



### 3. Remove the inner cable from the pulley guide, and remove the inner cable mounting bolt unit.



## TECH TIPS

- If it is difficult to remove the gear shifting cable, some models enable the outer casing holder to be pulled out from the outer casing holder section of the cassette joint by turning the pulley of the cassette joint.



## ■ Oil maintenance of the internal assembly

The work performed here will be the same as in SG-C7050-5.
Refer to "Oil maintenance of the internal assembly (oil maintenance kit: Y00298010)" (P.44).

INTER 5 E

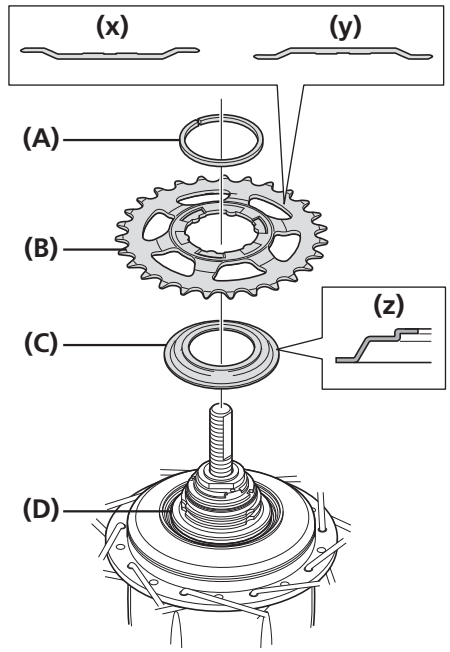
# Dealer's Manual

**SG-C7050-5V**
**SG-C7050-5R**
**SG-C7050-5C**
**SG-C7050-5D**

# INSTALLATION

Refer to the internal geared hub-compatible SHIMANO STEPS dealer's manual for information on installing parts not listed in this document.

## Installation of sprocket to the hub




Place right-hand dust cap onto the driver on the right side of the hub body.

Next, install the sprocket and secure it in place with the snap ring.

**(x)** Outward assembling: MU-UR510 only

**(y)** Inward assembling: Compatible with all motor units

**(z)** Note the direction

**(A)** Snap ring
**(B)** Sprocket
**(C)** Right-hand dust cap C
**(D)** Driver

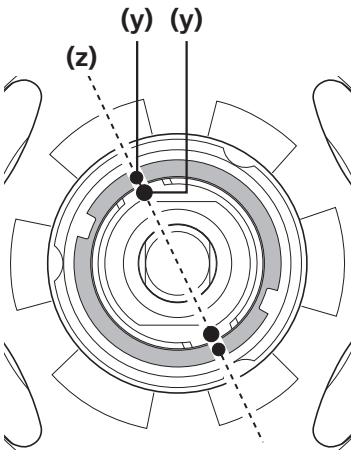
***NOTICE***

- Only SM-C7050 and CS-C7000 can be used with SG-C7050.
- If using the MU-UR510 motor unit, outward assembling of the sprocket is possible.

# ■ Installation of the motor unit to the hub

Unless otherwise noted, MU-UR500 is used as an example for this explanation.

**1**



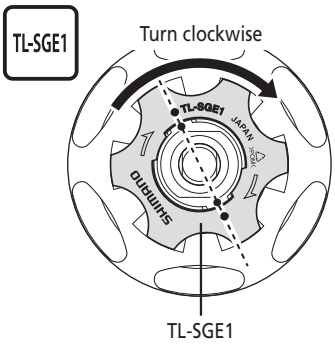

Check that the two • marks (red) on the right side of the hub body are aligned.

**(y)** • mark (red)

**(z)** Should be aligned

**TECH TIPS**

If the two • marks (red) are not aligned, use the TL-SGE1 to align the two • marks (red).

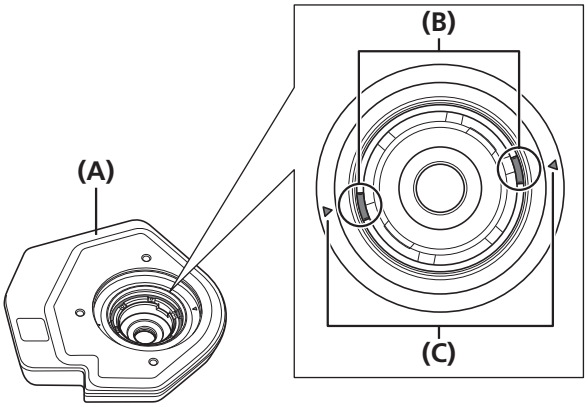


## 2

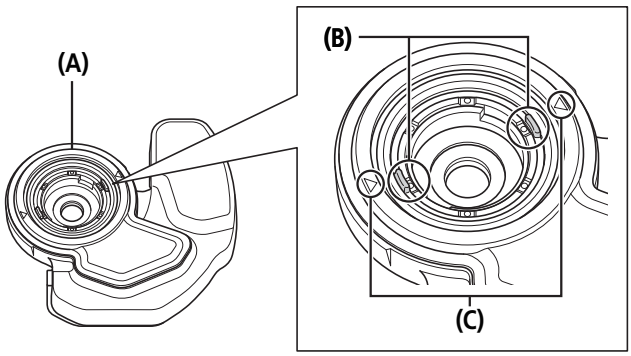
Make sure that the two protrusions on the inside of the motor unit are at the initial positions.

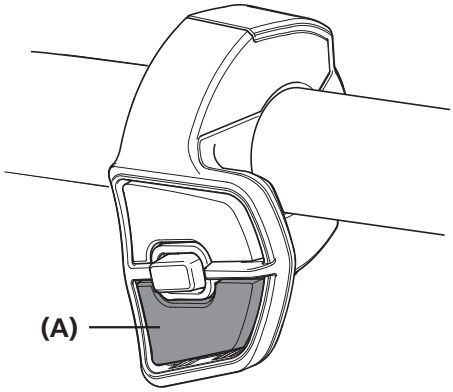
• Confirm that the marks and protrusions are aligned.

**MU-UR500**




**MU-UR510**



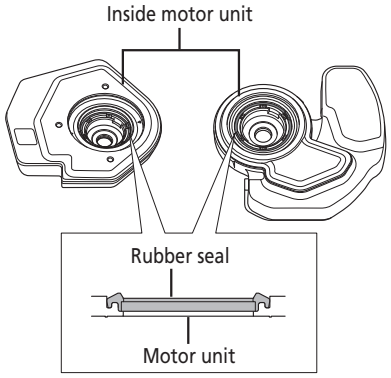




**(A)** Inside motor unit
**(B)** Protrusion
**(C)** Mark

### NOTICE

Check that the rubber seal is attached. If the rubber seal is not attached, attach as shown in the illustration.

**MU-UR500** **MU-UR510**

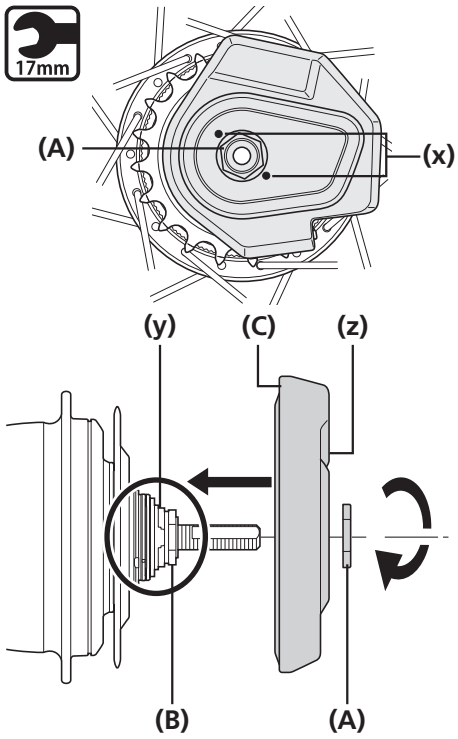



**(A)** Shifting switch

### NOTICE

The motor unit is set at the initial position when it is shipped; therefore, install it without changing the position. If the motor unit may not be at the initial position, push the shifting switch ten or more times to move the protrusions on the motor unit counterclockwise (check from the inside of the motor unit). (Check the shifting up and down of the shifting switch in advance as it may have been switched by customization.) If the motor unit is installed off the initial position, some gears may become unavailable and the hub or the motor unit may be damaged.

## 3




Install the motor unit to the hub so that the • mark **(x)** on the motor unit is aligned with the • mark **(y)** on the hub lock spacer.

After this, gently push the motor unit while turning it slowly to set it correctly until it stops turning on the hub axle.

Next, secure the motor unit by tightening the L lock nut.

**(x)** motor unit • mark (silver)

**(y)** hub lock spacer • mark (red)
This is the mark for which the position was aligned in step 1.

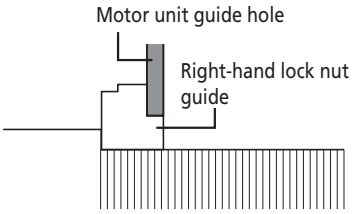
**(z)** Outer side

**(A)** L lock nut
**(B)** Right-hand lock nut
**(C)** Motor unit

| Tightening torque | |
|---|---|
| 17mm | 6 - 10 N·m |

### NOTICE

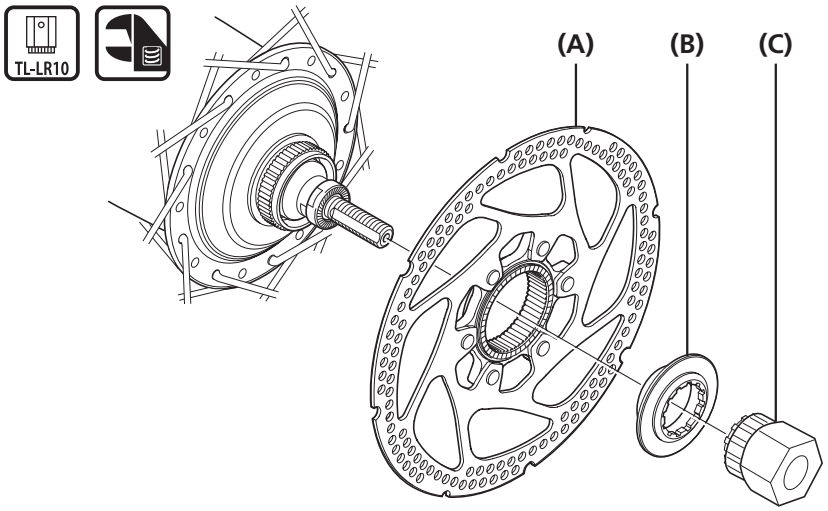
Check that the guide of right-hand lock nut is seated securely in the guide hole on the front of the motor unit.



## ■ Installation of the disc brake rotor

Install the disc brake rotor as shown in the illustration.

**Center lock type**



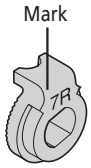

**(A)** Disc brake rotor
**(B)** Disc brake rotor installation ring
**(C)** TL-LR10

| Tightening torque | |
|---|---|
| TL-LR10 | 40 N·m |

## ■ Installation of the hub to the frame

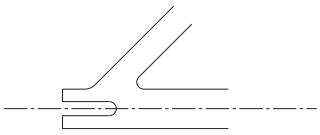
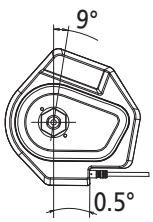
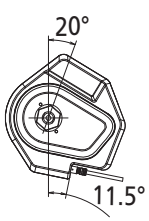
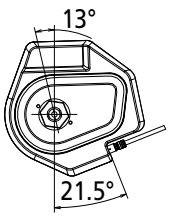
### Non-turn washer

Use non-turn washers to secure the internal geared hub and motor unit to the frame.
Non-turn washers are classified with a mark and main body color for easy identification. There are left and right types, and the right type is normally used on the chain side.
Refer to the following to select the non-turn washer based on the shape of the motor unit and rear dropout to use.

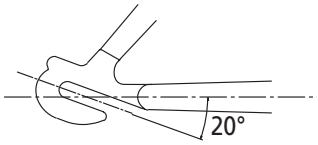
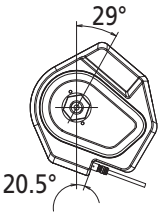
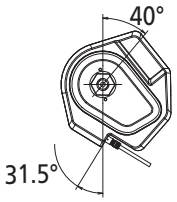
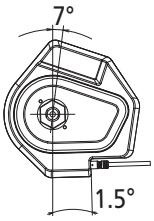
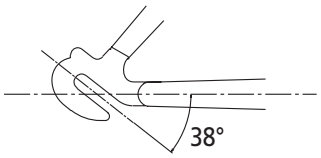
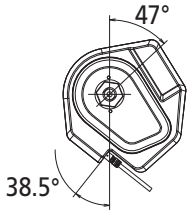
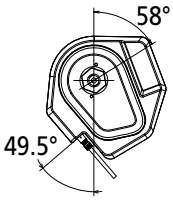
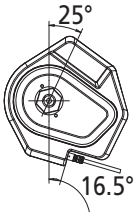



**MU-UR500**

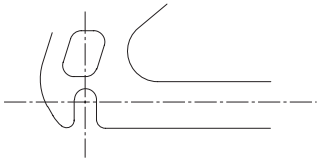
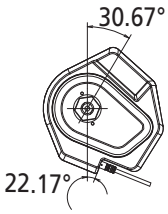
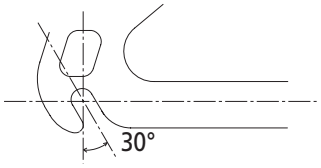
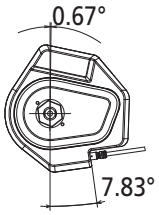
• When the rear dropout is the reversed type

| Rear dropout | Installation angle of non-turn washer and motor unit | | |
|---|---|---|---|
| | 5R (yellow) / 5L (brown) | 6R (silver) / 6L (white) | 7R (black) / 7L (gray) |
|  |  |  |  |

• When the rear dropout is the standard type

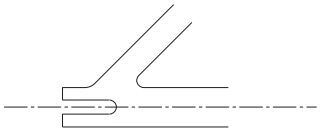
| Rear dropout | Installation angle of non-turn washer and motor unit | | |
|---|---|---|---|
| | 5R (yellow) / 5L (brown) | 6R (silver) / 6L (white) | 7R (black) / 7L (gray) |
|  |  |  |  |
|  |  |  |  |

• When the rear dropout is the straight drop type

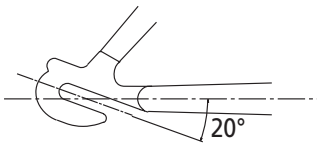
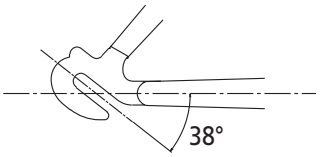
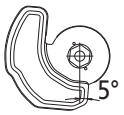
| Rear dropout | Installation angle of non-turn washer and motor unit |
|---|---|
| | 8R (blue) / 8L (green) |
|  |  |
|  |  |

**MU-UR510**

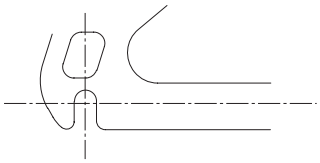
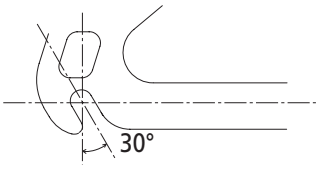
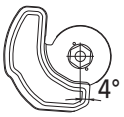
• When the rear dropout is the standard type

| Rear dropout | Installation angle of non-turn washer and motor unit |
|---|---|
| | 6R (silver) / 6L (white) |
|  |  |

• When the rear dropout is the reversed type

| Rear dropout | Installation angle of non-turn washer and motor unit<br>5R (yellow) /<br>5L (brown) | Rear dropout shape | Installation angle of non-turn washer and motor unit<br>7R (black) /<br>7L (gray) |
|---|---|---|---|
|  |  |  |  |

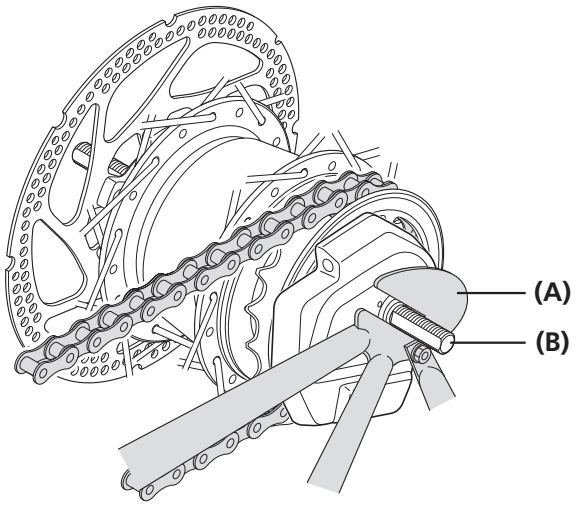
• When the rear dropout is the straight drop type

| Rear dropout | Installation angle of non-turn washer and motor unit<br>8R (blue) /<br>8L (green) | Rear dropout shape | Installation angle of non-turn washer and motor unit<br>9R (light brown) /<br>9L (light green) |
|---|---|---|---|
|  |  |  |  |

## Installation methods

**1**

Mount the chain on the sprocket, then set the hub axle into the rear dropout.

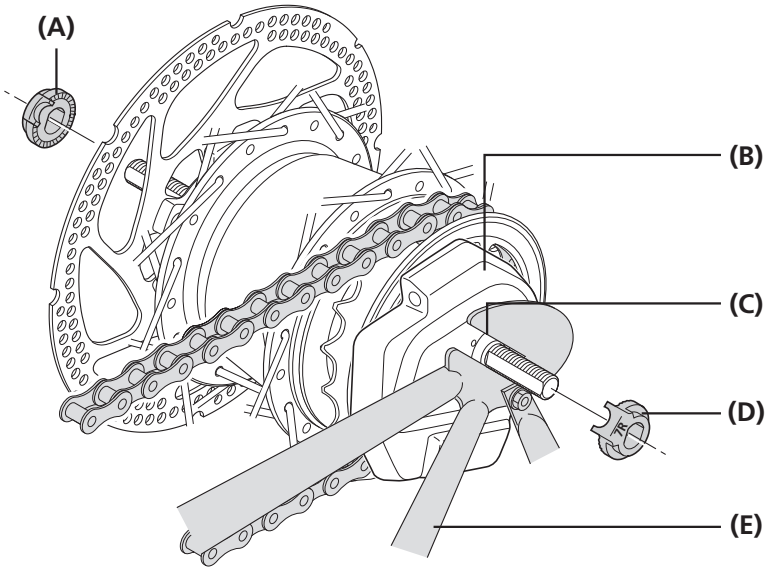



**(A)** Rear dropout
**(B)** Hub axle

## 2

Place non-turn washers and onto the right and left sides of the hub axle.

At this time, turn the motor unit so that the protrusion of the non-turn washers fit into the grooves of the rear dropouts and align the washers to be almost parallel to the chainstay.



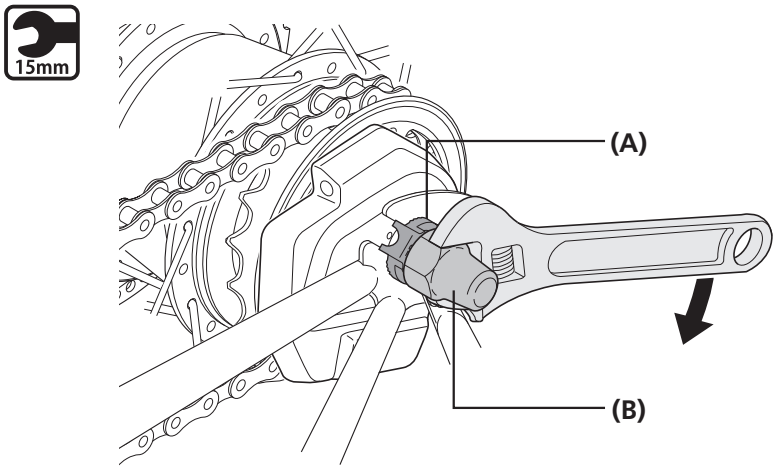

**(A)** Non-turn washer (for left-side use)
**(B)** Motor unit
**(C)** Rear dropout shape
**(D)** Non-turn washer (for right-side use)
**(E)** Chainstay

### TECH TIPS

- Install the non-turn washer with its protrusion part aligned with the straight part of the rear dropout.
- Install the non-turn washer so that the protrusion fits securely in the rear dropout groove at the front and back sides of the hub axle.

## 3

Take up slack in the chain and secure the wheel to the frame with the hub nut.

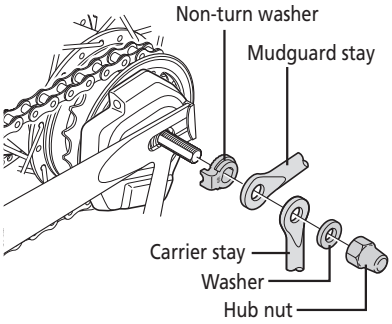



**(A)** Non-turn washer
**(B)** Hub nut

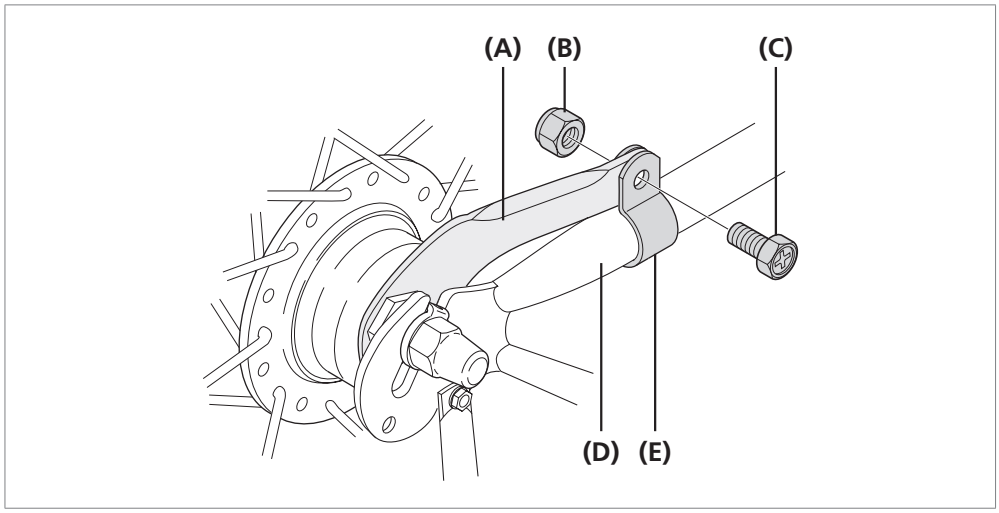
| Tightening torque | |
|---|---|
| 15mm | 30 - 45 N·m |

### NOTICE

- When installing parts such as a mudguard stay to the hub axle, install them in the order shown in the figure.



## For coaster brakes




**(A)** Brake arm
**(B)** Clip nut
**(C)** Clip bolt
**(D)** Chainstay
**(E)** Arm clip

# CONNECTION OF THE ELECTRIC WIRES

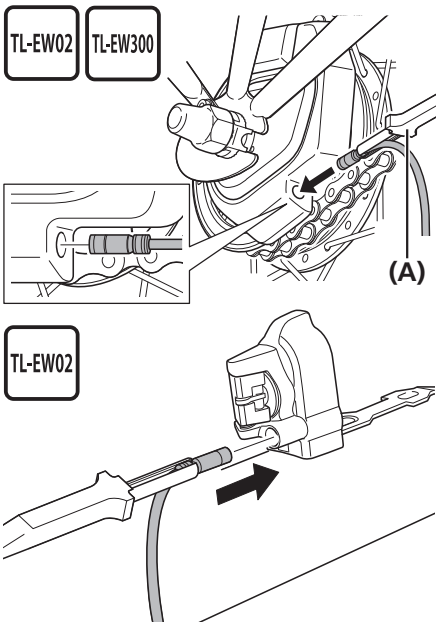
Refer to the internal geared hub-compatible SHIMANO STEPS dealer's manual when connecting electric wires to parts not listed in this document.

**NOTICE**

Information on the electric wire and the SHIMANO original tool is described in "NOTICE" in "TO ENSURE SAFETY". Be sure to refer to it before starting the work.

## ■ Connection to motor unit

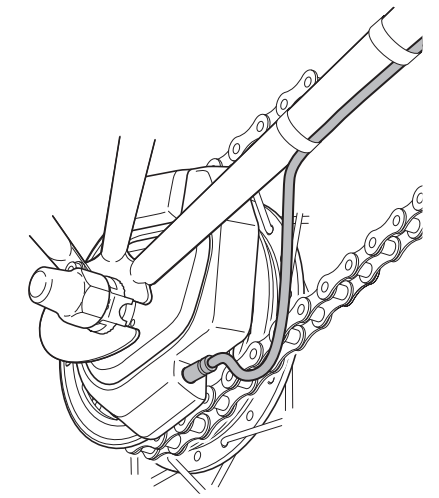
1




Connect the electric wires to the motor unit and the battery mount.

**(A)** TL-EW02 (MU-UR500)
TL-EW300 (MU-UR510)

2

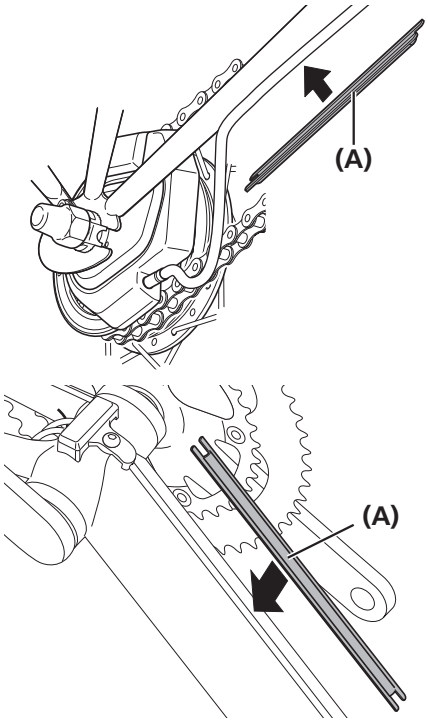


Temporarily secure the electric wire along the frame with tape, and connect it to junction [B].

**NOTICE**

- When routing the electric wire to the motor unit, be sure to install it to the bottom of the chainstay to avoid any interference between the cable and the chain.
- If the motor unit is the MU-UR510 (EW-SD300 type), use the conversion adapter (EW-AD305) to connect the EW-SD50 and EW-SD300, and connect them to junction [B].

## 3




Install the electric wire cover/cord cover onto the frame.

In order to make sure that the electric wire cover/cord cover is securely attached, clean the frame with alcohol or some other cleaning agent to remove any grease or other substances before installing the cover.

Place the electric wire cover/cord cover over the electric wires, then attach it to the frame.

**(A)** Electric wire cover (EW-SD50 type)
SM-EWC2
Cord cover (EW-SD300 type)
EW-CC300

## 4

After connecting the electric wires to all of the components, install the battery and check the operation.

Check that gear-shifting of the rear can be performed properly by operating the shifting switch.

## Disconnection of the electric wires

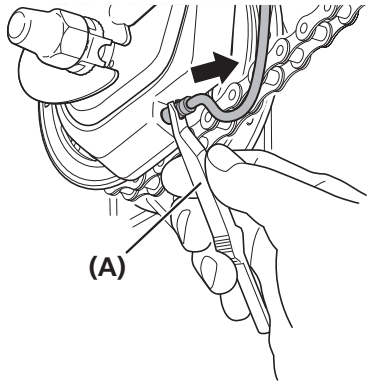
**NOTICE**

Do not keep connecting and disconnecting the small waterproof connector. The waterproof section or the connecting section may become worn or deformed, and the function may be affected.

**Motor unit**

TL-EW02

TL-EW300




Use the wide end of the TL-EW02 SHIMANO original tool to disconnect the electric wires.

**(A)** TL-EW02 (MU-UR500)
TL-EW300 (MU-UR510)

# MAINTENANCE

## ■ Adjusting the motor unit (connection and communication with PC)

For the latest information on E-TUBE PROJECT Professional, check https://bike.shimano.com/e-tube/project.html.

**⚠ CAUTION**

- Improper adjustment may cause gear engagement skipping, resulting in an accidental fall.
- Perform adjustment only when you have an unusual feel during shifting. If there is no problem with shifting, unnecessary adjustment may worsen shifting performance.

**1** Download the latest version of E-TUBE PROJECT Professional from the support website.
(**https://bike.shimano.com/e-tube/project.html**)

**2** Use the SM-PCE02 to connect the bicycle (system or component) to the PC.

**3** Perform adjustment in E-TUBE PROJECT Professional.
For the adjustment procedure, refer to the user's manual for E-TUBE PROJECT Professional.

**4** Finally, ride the bicycle to check whether there is no problem.

# ■ Adjusting the motor unit (Connection and communication with smartphone)

For the latest information on E-TUBE PROJECT Professional, check https://bike.shimano.com/e-tube/project.html.

**⚠ CAUTION**

- Improper adjustment may cause gear engagement skipping, resulting in an accidental fall.
- Perform adjustment only when you have an unusual feel during shifting. If there is no problem with shifting, unnecessary adjustment may worsen shifting performance.

| | |
|---|---|
| 1 | Download E-TUBE PROJECT Cyclist. |
| 2 | Connect with the smartphone via Bluetooth® LE. |
| 3 | Perform adjustment in E-TUBE PROJECT Cyclist.<br>For the adjustment procedure, refer to the user's manual for E-TUBE PROJECT Cyclist. |
| 4 | Finally, ride the bicycle to check whether there is no problem. |

# ■ Oil maintenance of the internal assembly (oil maintenance kit: Y00298010)

Content of kit: WB maintenance oil, Container

## General Safety Information

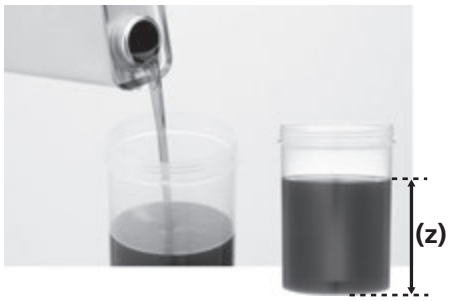
**⚠ WARNING**

- When lubricating the internal unit, be careful that no oil gets on the disc brake rotor, pads, on the rim when using rim brakes, etc.
  If oil gets on any of these parts, there is a danger that brake performance may be reduced.
  Take care of this problem according to the procedures in the brake instruction manual.
- Since there is a risk of explosion or fire, do not smoke, eat, or drink while using this oil. In addition, keep it away from ignition sources such as heat, sparks, open flames, or high temperatures and prevent it from catching fire due to static electricity sparks or other sparks.
- Use only outdoors or in a well-ventilated area. Inhalation of oil mist or vapors may cause nausea. Be careful to provide ventilation and use a respirator type mask.
  If mist or vapor is inhaled, go immediately to an area with fresh air. Cover up with a blanket. Stay warm and stable and seek professional medical advice.

**Cautions regarding handling of WB maintenance oil:**

- Use appropriate eye protection when handling, and avoid contact with eyes. In the event of eye contact, flush with fresh water and seek medical assistance immediately. Contact with eyes may result in irritation.
- Use gloves when handling. In the event of skin contact, wash well with soapy water. Contact with skin may cause a rash and discomfort.
- Do not drink. If it is drunk by mistake, do not induce vomiting; make the affected person drink 1 to 2 cups of water and seek medical assistance immediately.
  If the affected person loses consciousness, do not give the person anything by their mouth. If vomiting occurs naturally, tilt the body to prevent inhalation.
- After use, be sure to wash hands thoroughly.
- Keep the container sealed to prevent foreign objects and moisture from getting inside, and store it in a cool, dark area away from direct sunlight.
- Keep out of reach of children.
- Dispose of used oil, old oil, or oil used for cleaning in accordance with the method stipulated by the law.
- To maintain the product in good working order, lubricate the internal unit after the first 1,000 km from the start of use of the product, and once every year thereafter (after every 2,000 km if bicycle is ridden frequently).
- Do not use oil other than WB maintenance oil. Problems such as an oil leakage and gear shifting malfunction may occur.
- Disposal of used oil: Follow local county and/or state codes for disposal. Use caution when preparing the oil for disposal.
- Read this manual carefully, and keep it in a safe place for later reference.
- For the latest product safety data sheets, check the website https://si.shimano.com.

**1**




Fill the container with maintenance oil to a height of 95 mm.

**(z)** 95 mm

**2**


Immerse the internal unit in the oil from the left side until the oil reaches up to ring gear unit 1, as shown in the illustration.

**(z)** Ring gear unit 1

**3**

Keep the internal unit immersed for approximately 90 seconds.

**4**

Remove the internal unit from the oil.

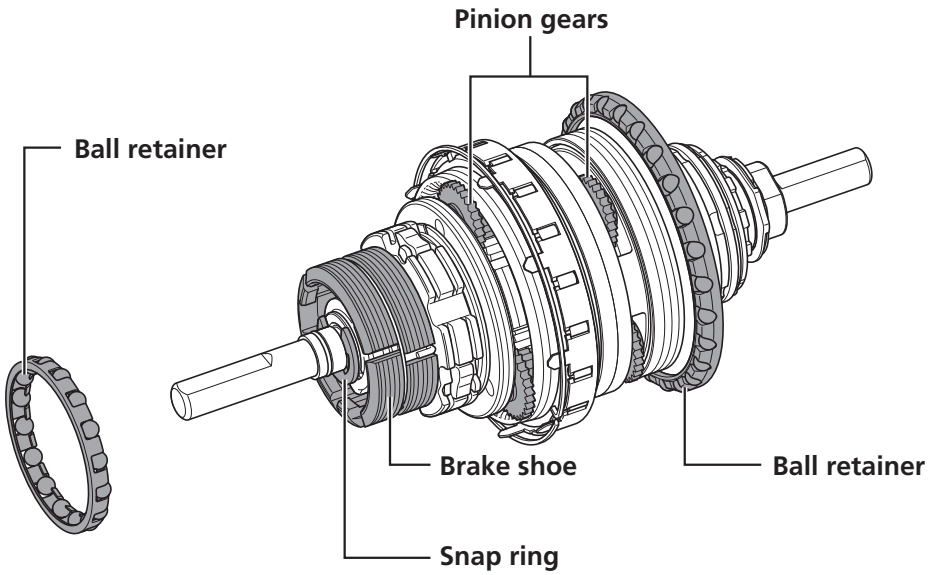
**5**

Let excess oil drain off for approximately 60 seconds.

| | | |
|---|---|---|
| 6 |  | Reassemble the hub. |

## NOTICE

After oil maintenance, it is recommended that you apply Grease (Y04130100) to the ball retainers, snap ring, brake shoe, and pinion gears.




The illustration shows an example.

# Troubleshooting

# Troubleshooting

## Check the following prior to performing adjustment or maintenance.

• All of the following occurrences are due to the internal gear-shifting structure and are not the failure of the internal components.

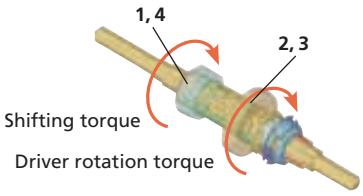
| Phenomenon | Type of hub | | Gear positions where phenomenon might occur |
|---|---|---|---|
| | For coaster brakes | For roller brakes/ V-BRAKE | |
| Noise occurs when the pedals rotate. | X | - | All gear positions except 1st |
| Noise occurs when the bicycle is pushed backward. | X | X | All gear positions except 1st |
| The hub has a built-in mechanism that supports gear shifting* and when the mechanism operates during gear shifting, noise and vibrations occur. | X | X | All gear positions |
| Depending on gear position, gear-shifting may feel different. | X | X | All gear positions |
| Noise occurs when pedal rotation is stopped during riding. | X | - | All gear positions |

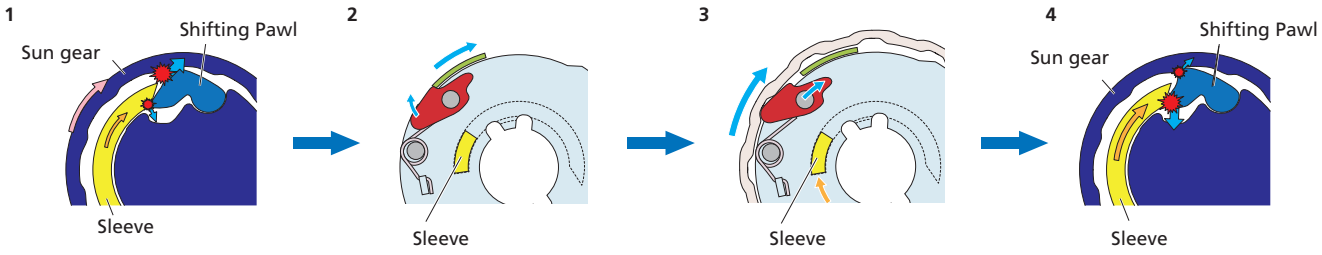
### *Gear Change Support

SHIMANO gear change support mechanism utilizes some portion of pedaling force at down shifting. The result is a quick and precise downshift with very light feeling on both mechanical and DI2 version of the hub.

### 40% less shifting force required

Pedaling force is applied against the sleeve to help overcome sleeve return pressure and execute the shift.




**NOTICE**

• If you cannot determine a definite cause for the malfunction, it is recommended to replace the internal assembly. (Refer to p.53 )

## Troubleshooting

| | Symptom/cause | | | | Solution | Reference page |
|---|---|---|---|---|---|---|
| Gear shifting | Gear shifting is poor. | The cable has been routed inappropriately. | | | Check for any areas where the curvature of the cable is too tight. When using a SHIMANO genuine outer casing, the recommended minimum curvature is R30 mm. | – |
| | | Cable performance is poor. | | | Using a SHIMANO genuine cable/outer casing may improve this. | – |
| | | The cassette joint was adjusted while over-shifted. | | | Set the gear to 3rd from 5th. Adjust the cassette joint again. To avoid over-shifting the shifting lever, change the setting gradually and with minimal force. | P.24 |
| | Gear shifting is impossible. | The cable was not adjusted properly. | | | Turn the cable adjustment barrel on the REVOSHIFT lever and align the bracket on the cassette joint with the setting line on the pulley. | P.24 |
| | | Check whether gear shifting is possible with the wheel removed from the frame. | Possible | The wheel was not installed properly to the frame. | Recheck the procedure for installing the hub to the frame. | P.11 |
| | | | Not possible | There is a malfunction in the shifting lever. | Replace the lever with a new one. | P.18 |
| | | | | There is a malfunction in the hub. | If something is broken inside, replace the broken part or unit. If nothing is broken or if you are unsure, replace the internal assembly. | P.53 |
| Abnormal noise | There is an abnormal noise. | The cable was not adjusted properly. | | | Set the gear to 3rd from 5th. Turn the cable adjustment barrel on the REVOSHIFT lever and align the bracket on the cassette joint with the setting line on the pulley. | P.24 |
| | The abnormal noise does not stop even after adjusting the cable. | During gear shifting. | | | Replace the internal assembly. | P.53 |
| | | When pedaling. | | | If something is broken inside, replace the broken part or unit. If nothing is broken or if you are unsure, replace the internal assembly. | P.53 |
| When riding | The display on the indicator on the lever differs from the gear position of the hub. | The cable was not adjusted properly. | | | Set the gear to 3rd from 5th. Turn the cable adjustment barrel on the REVOSHIFT lever and align the bracket on the cassette joint with the setting line on the pulley. | P.24 |
| | | Internal unit failure. | | | If something is broken inside, replace the broken part or unit. If nothing is broken or if you are unsure, replace the entire internal unit. | P.53 |
| | The hub is difficult to rotate, or does not rotate smoothly. | The cone is too tight. | | | Adjust the stop nut so that the hub shell can be turned smoothly without any gap. After adjusting, secure the stop nut with the locknut. | P.71 |
| | | Internal unit failure. | | | If something is broken inside, replace the broken part or unit. If nothing is broken or if you are unsure, replace the entire internal unit. | P.53 |
| | There is rattling when pedaling. | The area around the cone is damaged. | | | Replace the right hand cone and driver unit. | P.61 |
| When not riding | Free rotation is not smooth while not pedaling. | | | | Replace the shell, ball retainer and driver unit. | P.54,58,61 |

Troubleshooting

## The following items are for coaster brake models.

| | Symptoms | Solution | Reference page |
|---|---|---|---|
| Brakes | The brakes are too sensitive. | Apply grease or replace the brake shoe unit | P.56 |
| | The brakes are weak. | Replace the brake shoe unit.<br>If this does not resolve the issue, replace the internal assembly. | P.53,56 |
| | The pedal rotation angle is too large until the brakes are applied. | Replace the brake shoe unit.<br>If this does not resolve the issue, replace the internal assembly. | P.53,56 |
| | The wheels lock when the bicycle is pushed backward. | If something is broken inside, replace the broken part or unit.<br>If nothing is broken or if you are unsure, replace the internal assembly. | P.53 |
| | Applying the brakes causes an abnormal noise. | Apply grease or replace the brake shoe unit. | P.56 |
| | Rotation feels heavy during free rotation. | Replace the brake shoe unit. | P.56 |

# Disassembly & Assembly

# Required Tools & Parts

**A: Hammer**
**B: TL-C7001**
**C: TL-S702**
**D: Slotted Screwdriver**
**E: TL-7S20** Hub spanners 17 mm×22 mm (2 pcs.)
**F: Cassette joint** CJ-C7000


## NOTICE

- For internal assembly replacement, only tool "e" is necessary.
- For disassembling/assembling the internal assembly, all tools ("a" through "f") are necessary.
- When assembling or disassembling the internal unit, use a new E-ring. The E-ring is not reusable once removed.
- When disassembling/assembling the internal assembly, work will be easier if a shifting lever compatible with the cassette joint is connected.

# Replacing the Internal Assembly

Refer to the part breakdown (p. 76) for the names of parts.

**1. Hold the two beveled surfaces of the hub axle on the brake arm side in a vise and remove the dust cap.**


**NOTICE**

- Forcibly pulling it may cause damage to the bracket cover because of its material properties.
- Do not damage the threads of the hub axle.

**2. Remove the lock nut and stop nut.**

(1) Secure the hub back into place with the drive side downward.
(2) Use TL-7S20 to remove the nut.


Locknut 17mm (Y-35P 28000)

Stop Nut 22mm (Y-35P 22000)

**3. Remove the brake arm unit and ball retainer from the hub axle.**


**4.** **Remove the hub shell.**


**5.** **The internal assembly can be replaced.**

# Disassembling the Internal Assembly

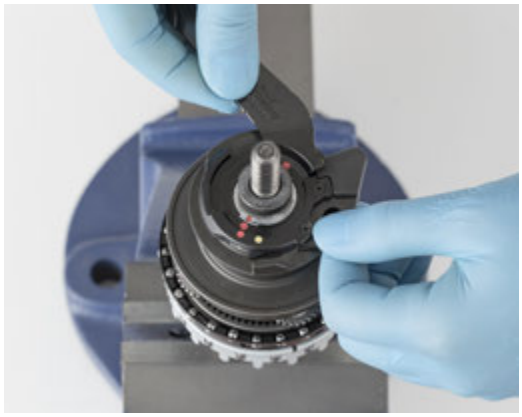
## Installing the cassette joint

**With the brake arm facing downward, pinch the flat portion of the axle with a vise, and secure the internal assembly in place.**

### 1. Set the cassette joint.

(1) Turn the cassette joint pulley in the direction of the arrow to align the red● marks on the pulley and the bracket.

(2) Install it with the red● marks on the cassette joint aligned with the red● marks on the right side of the hub body.



### 2. When installing the cassette joint mounting ring, align the yellow ● mark with the yellow ● mark on the pulley of the cassette joint.

### 3. Turn the cassette joint mounting ring 45° clockwise.

Hold down the bracket securely when performing work.

# Disassembling the Internal Assembly

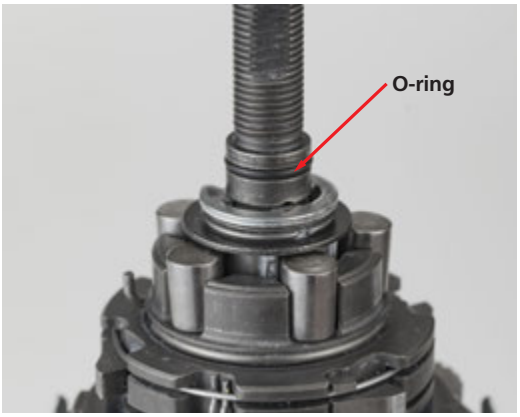
**When disassembling or assembling the internal assembly, turn the cassette joint until it makes contact and ensure that the unit is in 1st gear (the tabs on the hub axle are folded down) before working. It will be easier to keep the unit in 1st gear if you connect a compatible shifting lever.**

## 1. Remove the brake shoe unit.

With the drive side facing downward, use a vise to secure the internal assembly in place.

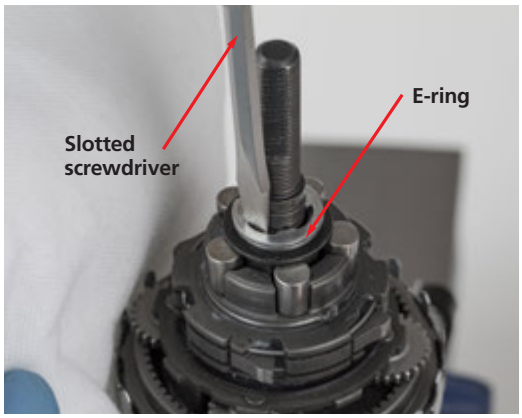

## 2. Remove the O-ring.

Later steps may still be performed even if the O-ring is not removed.



## Disassembling the Internal Assembly

### 3. Carefully remove the E-ring with a slotted screwdriver.




**NOTICE**

- The E-ring detaches with some force, so be careful not to lose it.
- Do not reuse an E-ring that has been removed.

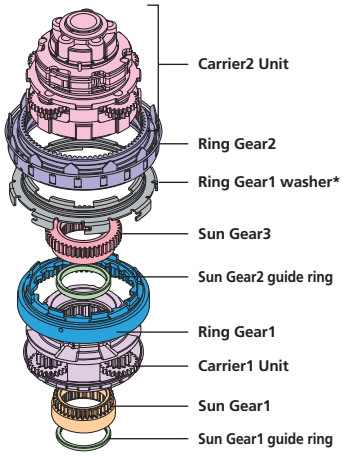
**Perform steps 5 through 7 with the cassette joint turned until it makes contact.**

### 4. Lift the entire carrier unit straight up and remove it.

The carrier unit is structured from several parts.

**NOTICE**

- The carrier unit is structured from the following parts.



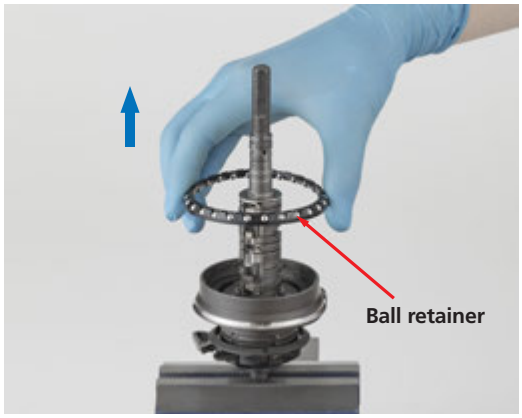

* The Ring Gear1 washer is included only when the first two letters stamped on the hub axle are "RE - RL, SA - SL, or TA - TL". When reassembling the product, ensure that the part configuration at the time of disassembly is maintained.

### 5. Remove Sun Gear1.

## Disassembling the Internal Assembly

**6.** **Remove the Sun Gear1 guide ring.**

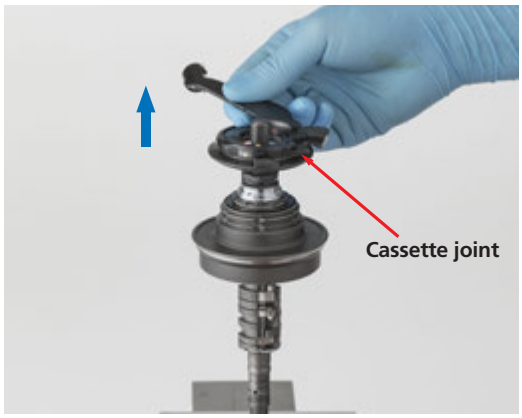

**7.** **Remove the ball retainer.**




**8.** **Reverse axle unit in vise to access the drive side cone assembly.**

## 9. Remove the cassette joint.

Follow the reverse procedure from "Installing the cassette joint."



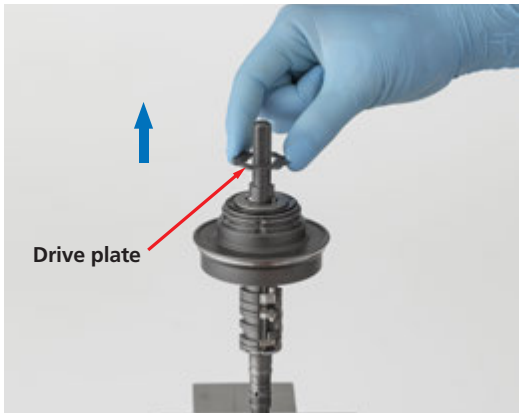

## 10. Remove the right-hand lock nut.


## 11. Remove the stop washer.

Disassembling the Internal Assembly

**12.** **Remove the lock washer.**


**13.** **Remove the drive plate.**



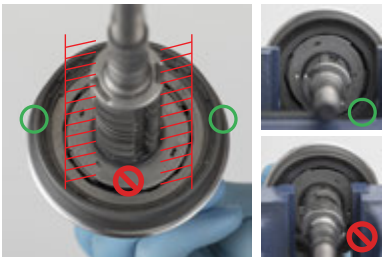
## Disassembling the Internal Assembly

### 14. Remove the hub axle.

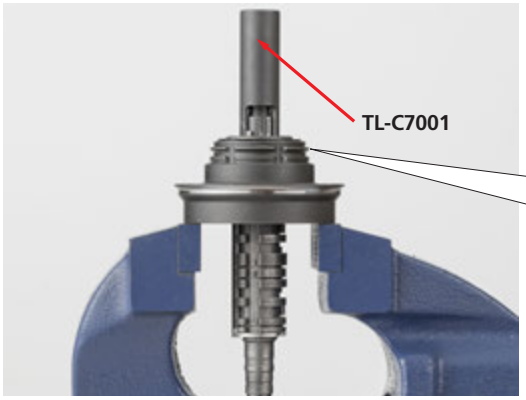
(1) Place the driver on the vise.

**NOTICE**

- Make sure to place it so that the vise is outside the washers inside. Otherwise, the washers could detach and you will be unable to reattach them.

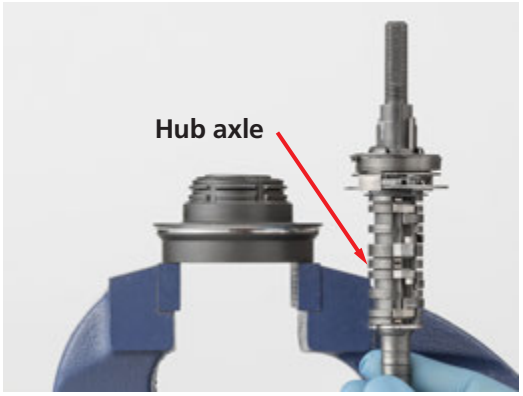


(2) Insert TL-C7001 aligned with the position of the groove on the hub axle.



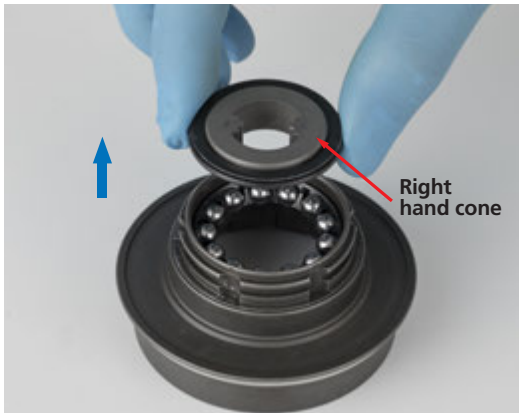

(3) Use a hammer to strike TL-C7001.
- Use your hand to support the hub axle while you strike it.

(4) The hub axle detaches.



## Disassembling the Internal Assembly

**15.** **Remove the right-hand cone from the driver unit.**




**16.** **Remove ball retainer A from the driver unit.**


**NOTICE**

- The unit is disassembled as shown below.

# Assembling the Internal Assembly

Apply internal geared hub grease to the parts indicated with the following icon.

**NOTICE**

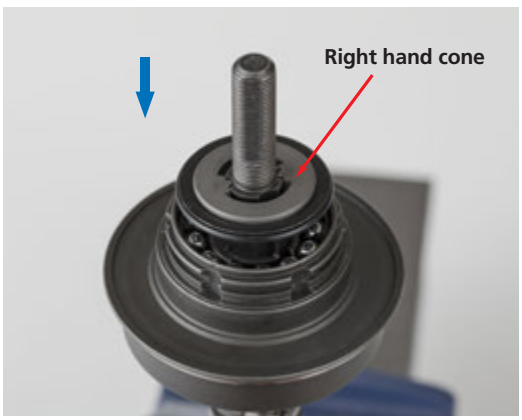
- Although there is white-colored and black-colored grease, the two types can be mixed during use.

GREASE (Y04130100)

**1.** Install the driver unit.


**2.** Install the ball retainer A.


**3.** When installing the right hand cone, align the two serrations with the grooves in the axle, as shown.



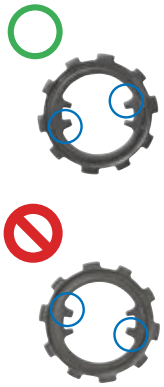
## Assembling the Internal Assembly

**4. Set the cone installation tool (TL-S702) and strike it until it comes to a stop.**

**NOTICE**

- Make sure the right hand cone is completely seated, as shown and the seal is installed equally.

**5. Install the driver plate. Be careful of the setting direction as shown in the picture.**

**6. Install the lock washer.**

Install so that the protrusions on the rear of the lock washer align with the indentations on the cone.


**7. When installing the stop washer, align the two teeth with the two grooves of the lock washer.**


**8. Tighten the right-hand lock nut.**


**NOTICE**

- If either the lock washer or driver plate rotates during this step, return to assembly step 3 and make sure that the cone is correctly seated.

**9. Install the cassette joint.**

Refer to "Installing the cassette joint."

## 10. Reverse the axle unit in the vise to complete assembly.


## 11. Install the ball retainer.


**NOTICE**

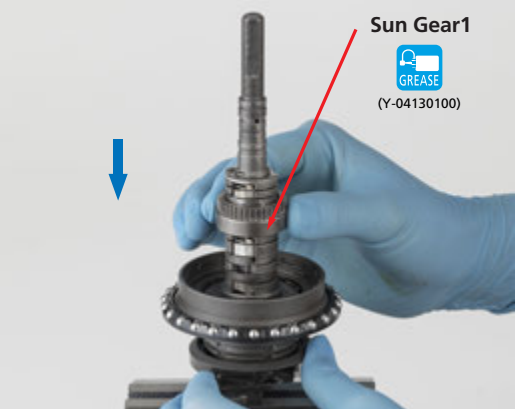
- Be careful, as the balls can easily fall from the retainer.
- Keep the vertical direction of the ball retainer in mind as you set it.

## 12. Install the Sun Gear1 guide ring.

Do this while turning the cassette joint until it makes contact.
If a shifting lever is connected, do this with the unit in 1st gear.

## 13. Install Sun Gear1.

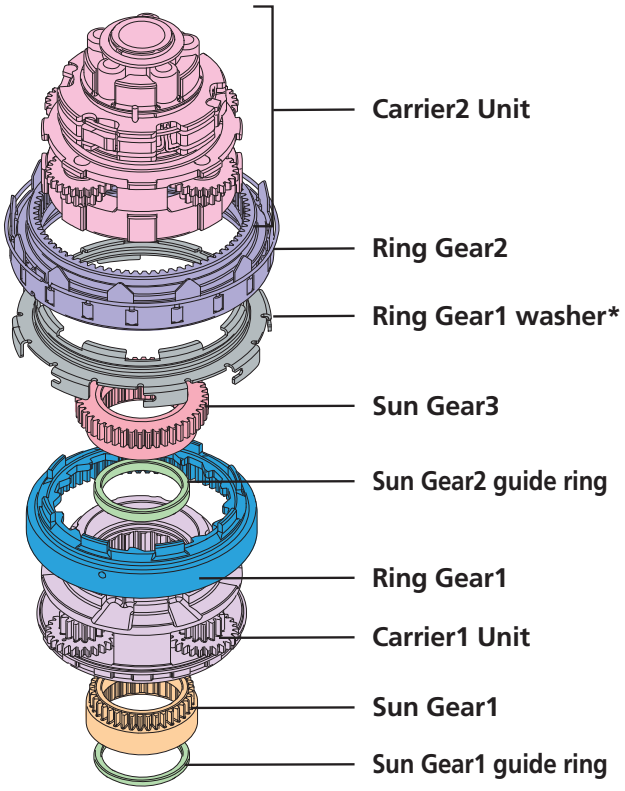
Do this while turning the cassette joint until it makes contact.
If a shifting lever is connected, do this with the unit in 1st gear.




## 14. Install the carrier unit.

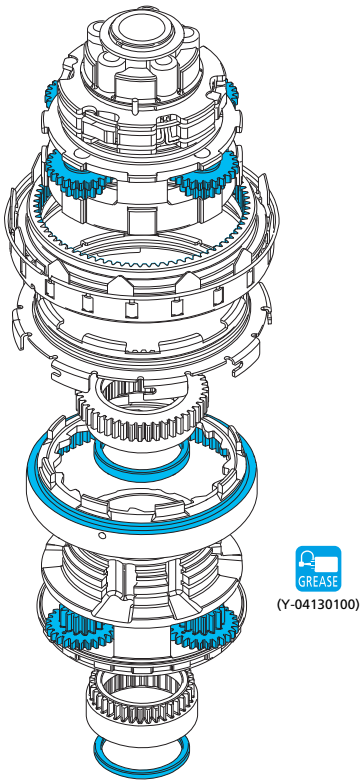
**NOTICE**

- The carrier unit is structured from the following parts.




* The Ring Gear1 washer is included only when the first two letters stamped on the hub axle are "RE - RL, SA - SL, or TA - TL". When reassembling the product, ensure that the part configuration at the time of disassembly is maintained.

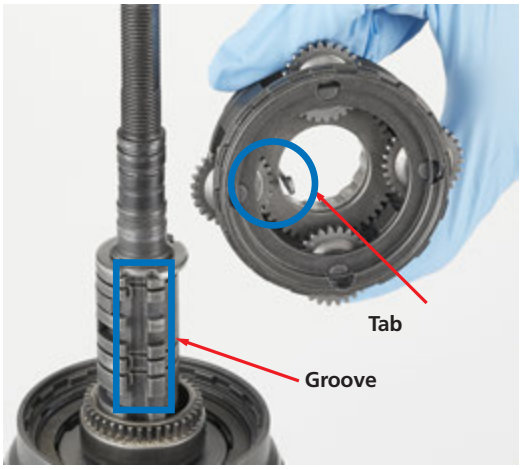
- Apply grease to the areas indicated in the figure.

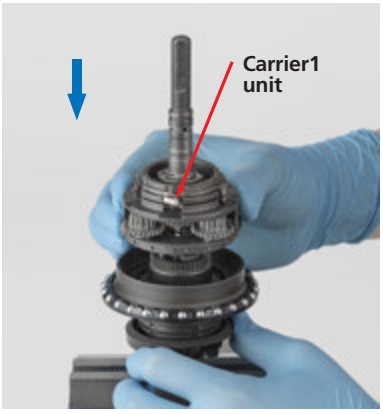


## 14. Install the carrier unit.

(1) Install the Carrier1unit

*Do this while pushing the cassette joint until it makes contact.
If a shifting lever is connected, do this with the unit in 1st gear.

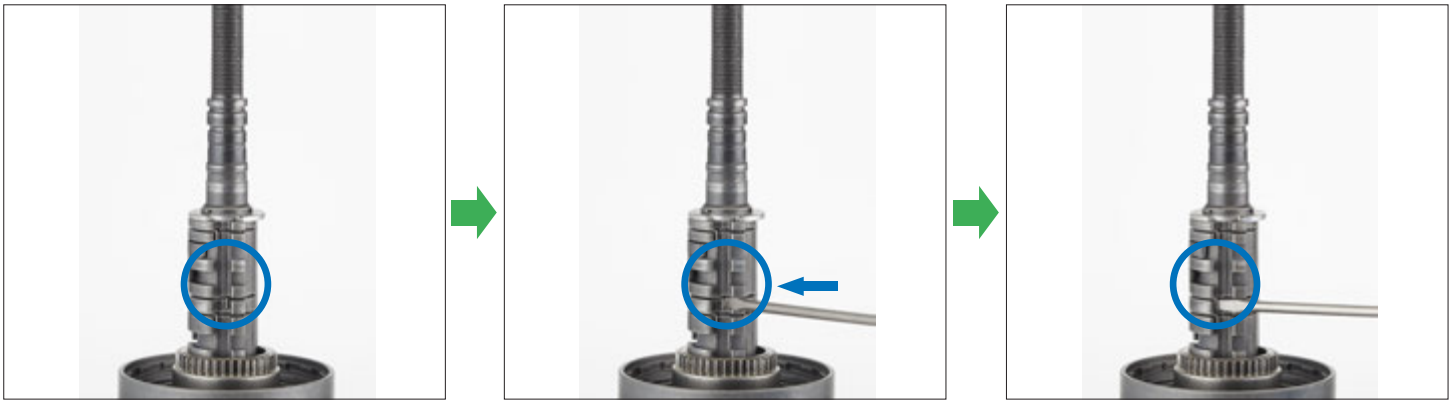



When installing, ensure that the tab on the Carrier 1 unit is inserted into the groove on the axle unit.

**NOTICE**

- If the metal fitting of the axle unit groove has come out as shown in the figures, use a slotted screwdriver to push it in before installing the Carrier 1 unit.



(2) Install up to Ring Gear1.

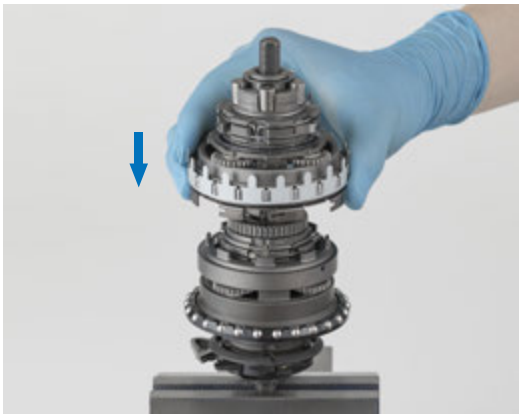
*Do this while pushing the cassette joint until it makes contact.
If a shifting lever is connected, do this with the unit in 1st gear.

(3) Combine the Carrier2 Unit, Ring Gear2, and Ring Gear1 washer.

*The Ring Gear1 washer is included only when the first two letters stamped on the hub axle are “RE - RL, SA - SL, or TA - TL”. When reassembling the product, ensure that the part configuration at the time of disassembly is maintained.

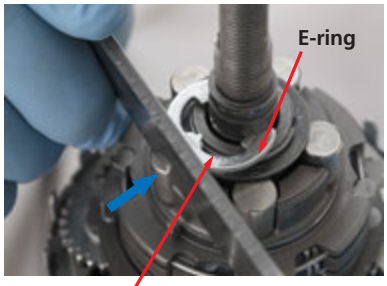
(4) Install the combined unit.

*Keep your hands away from the cassette joint while doing this.
If a shifting lever is connected, do this with the unit in 5th gear.
*If installation is difficult, install while slighting turning the driver.



## 15. Install a new E-ring.

Install so that the protrusion in the center of the E-ring fits into the hole in the hub axle.




GREASE (Y-04130100) Contact point of E-ring and Carrier Unit

**NOTICE**

- If you cannot see the hole in the hub axle, the carrier unit might not be installed properly. Return to step 12 and reinstall it.

## Assembling the Internal Assembly

### 16. Install the O-ring.


**NOTICE**

- It is recommended that you wrap the threads with tape before installing the O-ring to prevent damage to the O-ring contacting the axle threads.

### 17. Install the brake shoe unit.

Install so that the end of the slide spring on the hub fits into the gap in the brake shoe.


**NOTICE**

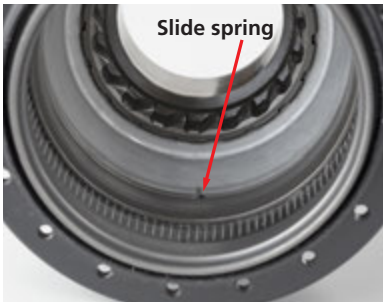
- Keep the vertical direction of the brake shoe unit in mind as you install it.

Upper side

Lower side

### 18. Install the hub shell.

Be careful that the slide spring inside the hub shell does not touch the convex section of the internal assembly.

## Assembling the Internal Assembly

**19.** **Place ball retainer onto the hub shell.**

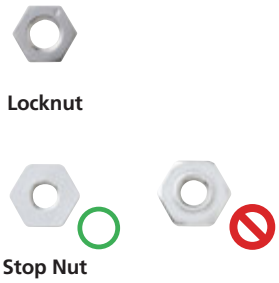

**NOTICE**

- Be careful of the setting direction.

**20.** **Place the brake arm unit onto the hub axle and turn it to the left and right so that the serrations of the brake shoe and brake arm unit engage with each other.**



**21.** **Screw the stop nut to adjust so that the hub shell can be turned smoothly without any play. After adjusting, secure the stop nut with the locknut.**

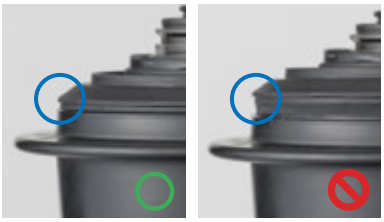


## 22. Turn the unit over, secure it back in the vise, and then remove the cassette joint.

Follow the reverse procedure from "Installing the cassette joint."


## 23. Install the dust cap.

Install so that there is a 1 to 1.5 mm gap with the dust cap.

## 24. Assembly is now complete.

# Service Parts & Tools

# Service Parts and Tools

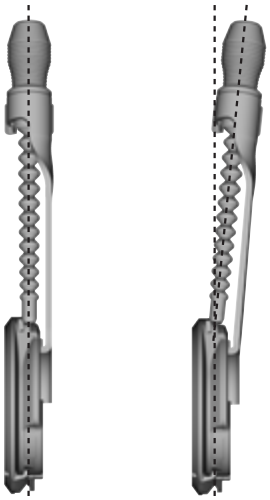
## Cassette Joint

**CJ-C7000-5**

**CJ-C7000-5BD**
**for Belt Drive Spec.**

The Belt Drive specification is designed to not interfere with the belt drive.

**CJ-C7000-5** **CJ-C7000-5BD**



## Measurement Tool

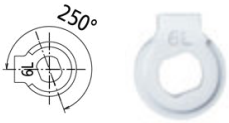
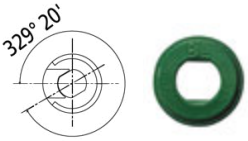
**TL-S700-B**

## Motor unit

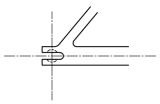
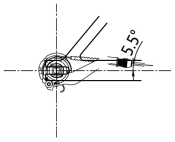
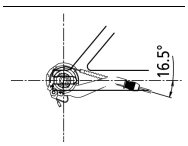
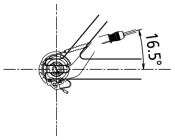
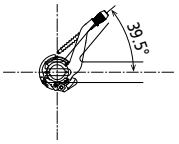
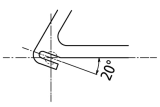
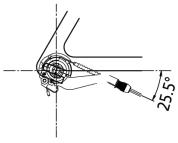
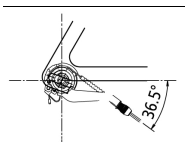
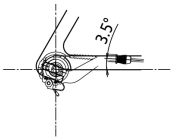
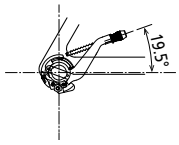
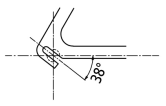
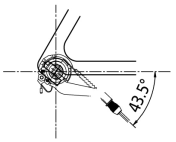
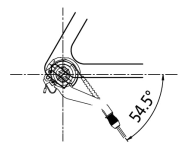
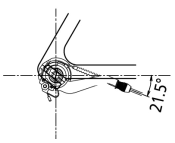
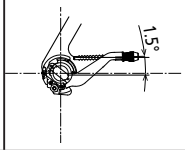
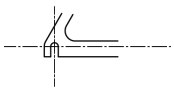
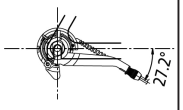
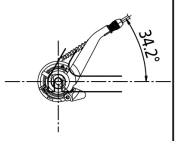
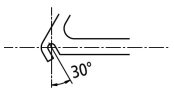
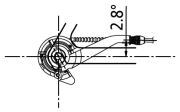
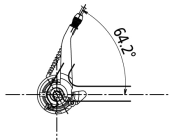
**MU-UR500**

# NEXUS non-turn washers

The shape of the dropout determines which NTW to choose. In the illustration below, you can see the result for various frame dropouts in combination with the chosen NTW.

| | 5R/L | 6R/L | 7R/L | 8R/L | 9R/L |
|---|---|---|---|---|---|
| For right hand side |  5R: Yellow |  6R: Silver |  7R: Black |  8R: Dark blue |  9R:Light brown |
| For left hand side |  5L: Brown |  6L: White |  7L: Gray |  8L: Dark green |  9L:Light green |

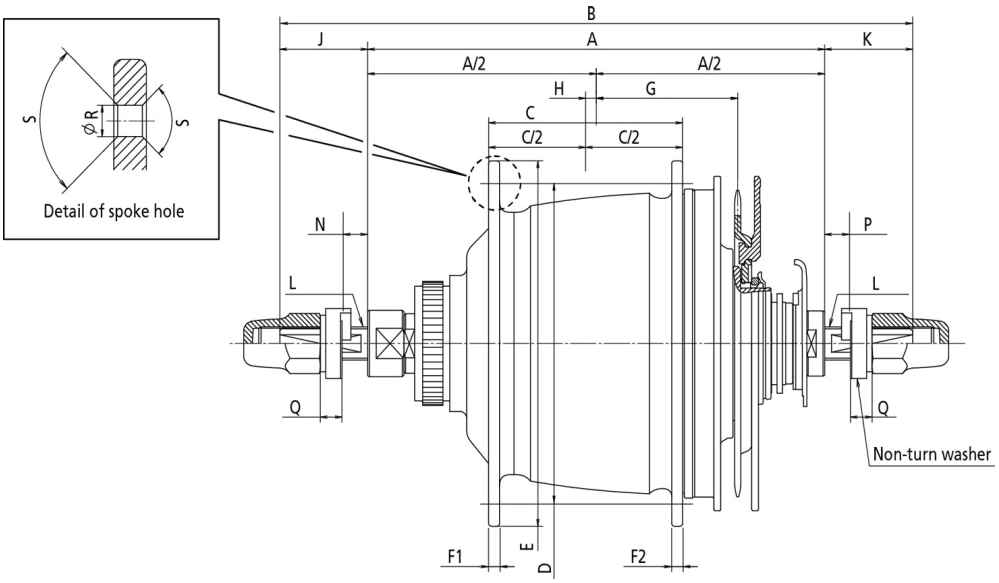
*see Technical Information for the latest information

| | | 5R/L | 6R/L | 7R/L | 8R | 8L | 9R/L |
|---|---|---|---|---|---|---|---|
| Reversed type rear dropout |  |  |  |  | – | – |  |
| Standard type rear dropout |  |  |  |  | – | – |  |
| |  |  |  |  | – | – |  |
| Vertical type rear dropout |  | – | – | – |  |  | – |
| |  | – | – | – |  |  | – |

# Hub dimensions
## (Over Locknut Dimensions and Axle)

# Hub dimensions (Over Locknut Dimensions and Axle)

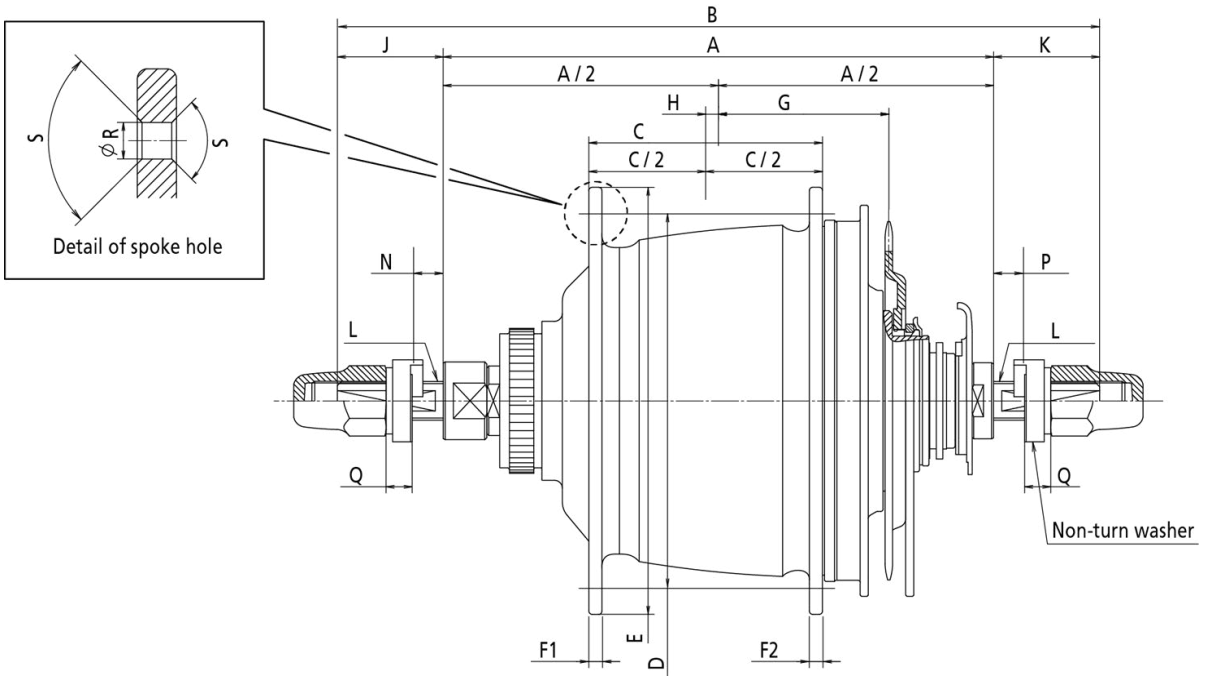
## SG-C7000-5V / SG-C7000-5R / SG-C7000-5C / SG-C7000-5D




| | Series | NEXUS | |
|---|---|---|---|
| | Function name | INTER-5E | |
| | Model No. | SG-C7000-5D | SG-C7000-5R<br>SG-C7000-5V<br>SG-C7000-5C |
| | Speed | 5 | |
| | Gear ratio: Total | 263% | |
| | Spoke size | #13 / #14 | |
| A | Over locknut dim. / O.L.D. (mm) | 135 | |
| B | Axle length (mm) | 187 | |
| C | Flange distance (mm) | 57.3 | 58.3 |
| D | Spoke hole P.C.D. (mm) | 92.6 | |
| E | Flange diameter (mm) | 105.2 | |
| F | Flange width (mm): F1 (left) | 3.2 | |
| | Flange width (mm): F2 (right) | 3.2 | |
| G | Chain line (mm): G1 (outward assembly) | 47.2 | |
| | Chain line (mm): G2 (inward assembly) | 42.2 | |
| H | Offset (mm) | 3.2 | 3.2 / 3.7 (-5C spec.) |
| J | Axle length from hub (left) | 26 | |
| K | Axle length from hub (right) | 26 | |
| L | Axle size | BC3 / 8 TPI 26 | |
| N | Rear dropout mounting width (left, includes stay etc.) | 5-9 | |
| P | Rear dropout mounting width (right, includes stay etc.) | 5-9 | |
| Q | Non-turn washer width | 6.4 | |
| R | Spoke hole diameter (mm) | 2.9 | |
| S | Spoke hole chamfer | 90° | |

Hub dimensions

## SG-C7050-5V / SG-C7050-5R / SG-C7050-5C / SG-C7050-5D

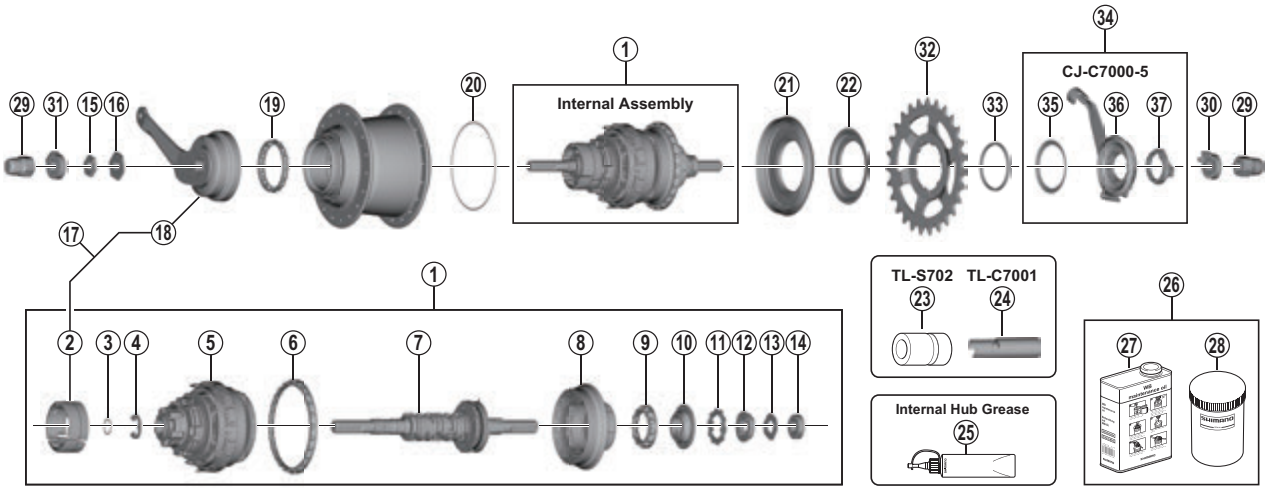



| | Series | NEXUS | |
|---|---|---|---|
| | Function name | INTER-5E | |
| | Model No. | SG-C7050-5D | SG-C7050-5R<br>SG-C7050-5C<br>SG-C7050-5V |
| | Speed | 5 | |
| | Gear ratio: Total | 263% | |
| A | Over locknut dim. / O.L.D. (mm) | 135 | |
| B | Axle length (mm) | 187 | |
| C | Flange distance (mm) | 57.3 | 58.3 |
| D | Spoke hole P.C.D. (mm) | 92.6 | |
| E | Flange diameter (mm) | 105.2 | |
| F | Flange width (mm): F1 (left) | 3.2 | |
| | Flange width (mm): F2 (right) | | |
| G | Chain line (mm): (inward assembly) | 42.2 | |
| H | Offset (mm) | 3.2 | 3.7 |
| J | Axle length from hub (left) | 26 | |
| K | Axle length from hub (right) | | |
| L | Axle size | BC3 / 8 TPI 26 | |
| N | Rear dropout mounting width (left, includes stay etc.) | 5-9 | |
| P | Rear dropout mounting width (right, includes stay etc.) | | |
| Q | Non-turn washer width | 6.4 | |
| R | Spoke hole diameter (mm) | 2.9 | |
| S | Spoke hole chamfer | 90° | |

# EV / Spare Parts List

# Spare parts list

## NEXUS 5-speed Internal Hub w/Coaster Brake
## SG-C7000-5C



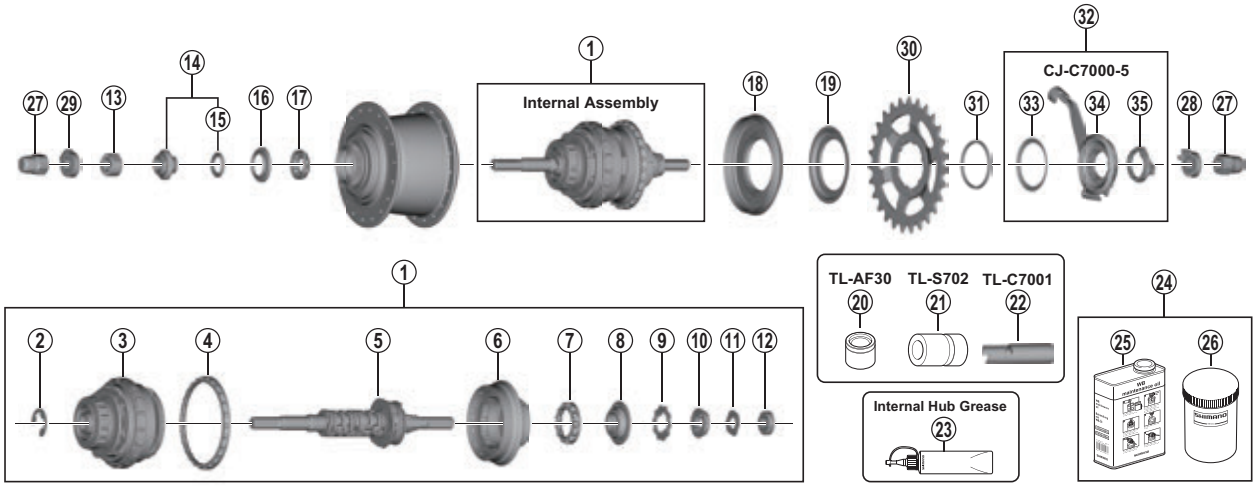

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 1 | Y3FH98010 | Internal Assembly (Axle Length 187 mm) |
| 2 | Y37G98020 | Brake Shoe Unit (3 pcs.) |
| 3 | Y37E08000 | O-Ring |
| 4 | Y3FE10000 | E-Ring (D9.6) |
| 5 | Y3FE98020 | Carrier Unit |
| 6 | Y38X98050 | Ball Retainer O (3/16" x 26) |
| 7 | Y3FH98020 | Hub Axle Unit (Axle Length 187 mm) |
| 8 | Y3FF98040 | Driver Unit |
| 9 | Y3FF98050 | Ball Retainer A (7/32" x 13) |
| 10 | Y3FJ98030 | Right Hand Cone w/Seal |
| 11 | Y31L04000 | Drive Plate |
| 12 | Y31L98030 | Lock Washer |
| 13 | Y34R09000 | Joint Nut Stop Washer |
| 14 | Y35Z11000 | Right Hand Serrated Lock Nut (5.4 mm) |
| 15 | Y35P28000 | Left Hand Lock Nut (3 mm) |
| 16 | Y35P22000 | Stop Nut |
| 17 | Y31N98060 | Brake Shoe Unit & Brake Arm Unit |
| 18 | Y31N98050 | Brake Arm Unit (3 Serration) |
| 19 | Y38R98190 | Ball Retainer B (3/16" x 16) |
| 20 | Y35J11100 | Hub Shell Slide Spring |
| 21 | Y37G98080 | Right Hand Dust Cap A w/Seal |
| 22 | Y3FF47000 | Right Hand Dust Cap C |
| 23 | Y13098022 | TL-S702 Right Hand Cone Installation Tool |
| 24 | Y70821000 | TL-C7001 Right Hand Cone Removal Tool |

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 25 | Y04130100 | Internal Hub Grease (Net. 100g) |
| 26 | Y00298010 | WB maintenance oil set |
| 27 | Y00201000 | WB maintenance oil (1L) |
| 28 | Y00201100 | Bottle |
| 29 | Y31414010 | Cap Nut (3/8") |
| 30 | Y33Z20500 | Non-turn Washer 5R (Yellow) |
| | Y33M39600 | Non-turn Washer 6R (Silver) |
| | Y33M39700 | Non-turn Washer 7R (Black) |
| | Y34R85010 | Non-turn Washer 8R (Dark Blue) |
| 31 | Y33M39510 | Non-turn Washer 5L (Brown) |
| | Y33M39610 | Non-turn Washer 6L (White) |
| | Y33M39710 | Non-turn Washer 7L (Gray) |
| | Y34R85000 | Non-turn Washer 8L (Dark Green) |
| 32 | Y0FM24000 | Sprocket Wheel 24T (CS-C7000) |
| | Y0FM01000 | Sprocket Wheel 27T (CS-C7000) |
| | Y0FM30000 | Sprocket Wheel 30T (CS-C7000) |
| 33 | Y7ZP04000 | Snap Ring |
| 34 | Y7ZP98010 | CJ-C7000-5 Cassette Joint Unit |
| | Y7ZP98030 | CJ-C7000-5 Cassette Joint Unit for Belt drive system |
| 35 | Y7ZP05000 | Driver Cap |
| 36 | Y7ZP98020 | CJ-C7000-5 Cassette Joint |
| | Y7ZP98040 | CJ-C7000-5 Cassette Joint for Belt drive system |
| 37 | Y33Z98020 | Cassette Joint Fixing Ring |

Spare parts list

## NEXUS 5-speed Internal Hub

# SG-C7000-5D



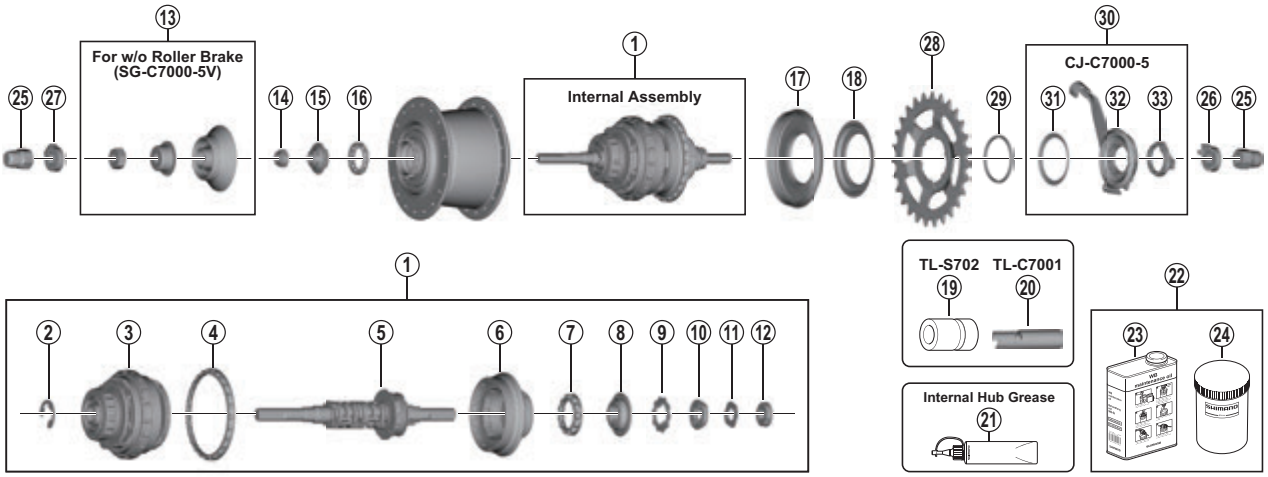

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 1 | Y3FJ98010 | Internal Assembly (Axle Length 187 mm) |
| 2 | Y3FF49000 | Stop Ring Diameter (12 mm / 1.3 mm) |
| 3 | Y3FF98020 | Carrier Unit |
| 4 | Y38X98050 | Ball Retainer O (3/16" x 26) |
| 5 | Y3FJ98020 | Hub Axle Unit (Axle Length 187 mm) |
| 6 | Y3FF98040 | Driver Unit |
| 7 | Y3FF98050 | Ball Retainer A (7/32" x 13) |
| 8 | Y3FJ98030 | Right Hand Cone w/Seal |
| 9 | Y31L04000 | Drive Plate |
| 10 | Y31L98030 | Lock Washer |
| 11 | Y34R09000 | Joint Nut Stop Washer |
| 12 | Y35Z11000 | Right Hand Serrated Lock Nut (5.4 mm) |
| 13 | Y35Z19000 | Left Hand Serrated Lock Nut (10.7 mm) |
| 14 | Y31L98040 | Left Hand Cone w/Dust Cap & Seal Ring |
| 15 | Y37710000 | Seal Ring |
| 16 | Y32T08100 | Left Hand Inner Dust Cap |
| 17 | Y36U98030 | Ball Retainer (7/32" x 9) |
| 18 | Y37G98080 | Right Hand Dust Cap A w/Seal |
| 19 | Y3FF47000 | Right Hand Dust Cap C |
| 20 | Y70811000 | TL-AF30 Left Hand Inner Dust Cap Installation Tool |
| 21 | Y13098022 | TL-S702 Right Hand Cone Installation Tool |
| 22 | Y70821000 | TL-C7001 Right Hand Cone Removal Tool |
| 23 | Y04130100 | Internal Hub Grease (Net. 100g) |

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 24 | Y00298010 | WB maintenance oil set |
| 25 | Y00201000 | WB maintenance oil (1L) |
| 26 | Y00201100 | Bottle |
| 27 | Y31414010 | Cap Nut (3/8") |
| 28 | Y33Z20500 | Non-turn Washer 5R (Yellow) |
| | Y33M39600 | Non-turn Washer 6R (Silver) |
| | Y33M39700 | Non-turn Washer 7R (Black) |
| | Y34R85010 | Non-turn Washer 8R (Dark Blue) |
| 29 | Y33M39510 | Non-turn Washer 5L (Brown) |
| | Y33M39610 | Non-turn Washer 6L (White) |
| | Y33M39710 | Non-turn Washer 7L (Gray) |
| | Y34R85000 | Non-turn Washer 8L (Dark Green) |
| 30 | Y0FM24000 | Sprocket Wheel 24T (CS-C7000) |
| | Y0FM01000 | Sprocket Wheel 27T (CS-C7000) |
| | Y0FM30000 | Sprocket Wheel 30T (CS-C7000) |
| 31 | Y7ZP04000 | Snap Ring |
| 32 | Y7ZP98010 | CJ-C7000-5 Cassette Joint Unit |
| | Y7ZP98030 | CJ-C7000-5 Cassette Joint Unit for Belt drive system |
| 33 | Y7ZP05000 | Driver Cap |
| 34 | Y7ZP98020 | CJ-C7000-5 Cassette Joint |
| | Y7ZP98040 | CJ-C7000-5 Cassette Joint for Belt drive system |
| 35 | Y33Z98020 | Cassette Joint Fixing Ring |

Spare parts list

## NEXUS 5-speed Internal Hub

# SG-C7000-5R / 5V



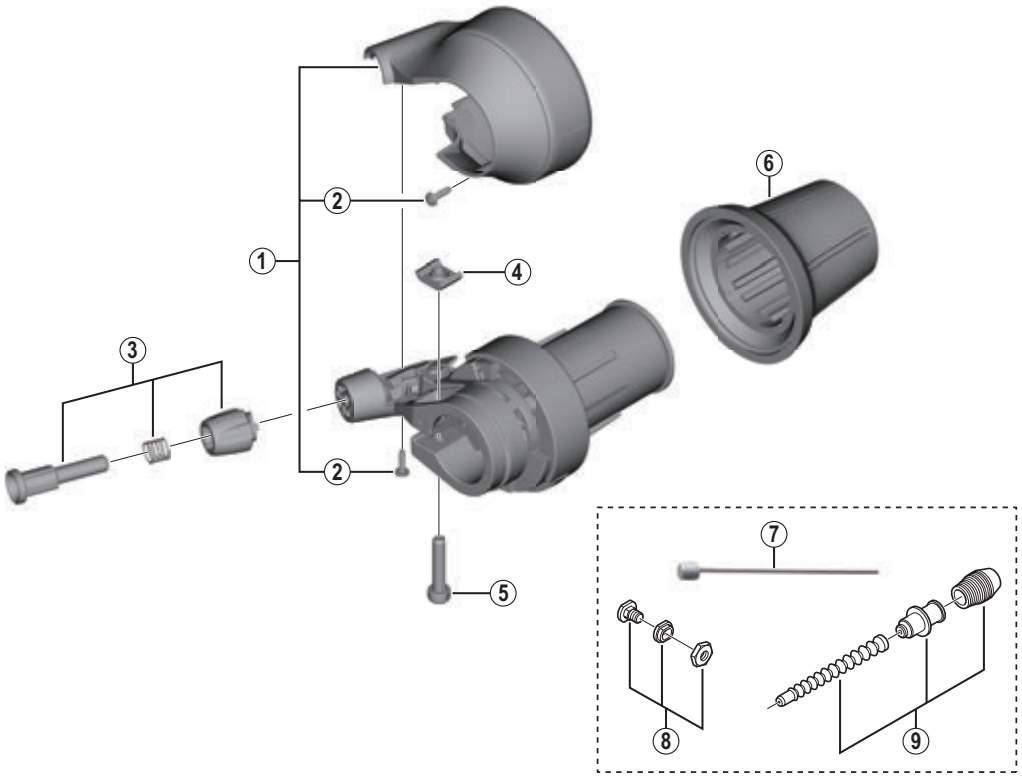

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 1 | Y3FG98010 | Internal Assembly (Axle Length 187 mm) |
| 2 | Y3FF49000 | Stop Ring Diameter (12 mm / 1.3 mm) |
| 3 | Y3FF98020 | Carrier Unit |
| 4 | Y38X98050 | Ball Retainer O (3/16" x 26) |
| 5 | Y3FG98020 | Hub Axle Unit (Axle Length 187 mm) |
| 6 | Y3FF98040 | Driver Unit |
| 7 | Y3FF98050 | Ball Retainer A (7/32" x 13) |
| 8 | Y3FJ98030 | Right Hand Cone w/Seal |
| 9 | Y31L04000 | Drive Plate |
| 10 | Y31L98030 | Lock Washer |
| 11 | Y34R09000 | Joint Nut Stop Washer |
| 12 | Y35Z11000 | Right Hand Serated Lock Nut (5.4 mm) |
| 13 | Y34R98100 | Left Hand Dust Cap Unit |
| 14 | Y31Z06030 | Lock Nut for Left Hand Cone |
| 15 | Y35J90000 | Left Hand Cone w/Dust Cap |
| 16 | Y34R98070 | Ball Retainer P (3/16" x 13) |
| 17 | Y37G98080 | Right Hand Dust Cap A w/Seal |
| 18 | Y3FF47000 | Right Hand Dust Cap C |
| 19 | Y13098022 | TL-S702 Right Hand Cone Installation Tool |
| 20 | Y70821000 | TL-C7001 Right Hand Cone Removal Tool |
| 21 | Y04130100 | Internal Hub Grease (Net. 100g) |
| 22 | Y00298010 | WB maintenance oil set |

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 23 | Y00201000 | WB maintenance oil (1L) |
| 24 | Y00201100 | Bottle |
| 25 | Y31414010 | Cap Nut (3/8") |
| 26 | Y33Z20500 | Non-turn Washer 5R (Yellow) |
| | Y33M39600 | Non-turn Washer 6R (Silver) |
| | Y33M39700 | Non-turn Washer 7R (Black) |
| | Y34R85010 | Non-turn Washer 8R (Dark Blue) |
| 27 | Y33M39510 | Non-turn Washer 5L (Brown) |
| | Y33M39610 | Non-turn Washer 6L (White) |
| | Y33M39710 | Non-turn Washer 7L (Gray) |
| | Y34R85000 | Non-turn Washer 8L (Dark Green) |
| 28 | Y0FM24000 | Sprocket Wheel 24T (CS-C7000) |
| | Y0FM01000 | Sprocket Wheel 27T (CS-C7000) |
| | Y0FM30000 | Sprocket Wheel 30T (CS-C7000) |
| 29 | Y7ZP04000 | Snap Ring |
| 30 | Y7ZP98010 | CJ-C7000-5 Cassette Joint Unit |
| | Y7ZP98030 | CJ-C7000-5 Cassette Joint Unit for Belt drive system |
| 31 | Y7ZP05000 | Driver Cap |
| 32 | Y7ZP98020 | CJ-C7000-5 Cassette Joint |
| | Y7ZP98040 | CJ-C7000-5 Cassette Joint for Belt drive system |
| 33 | Y33Z98020 | Cassette Joint Fixing Ring |

Spare parts list

## NEXUS REVOSHIFT Shifter

# SL-C7000-5 5-speed

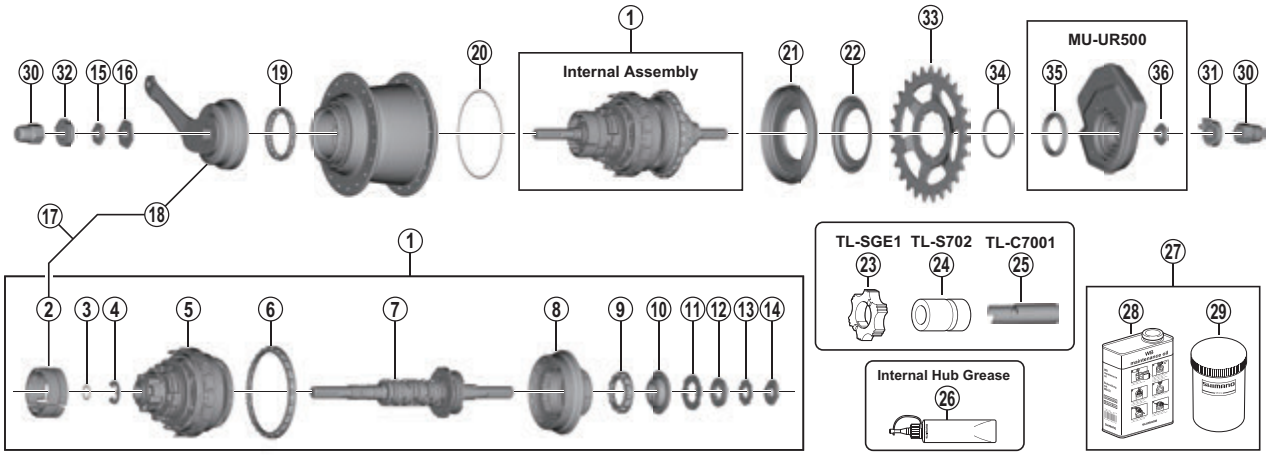



| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 1 | Y0FL98010 | Indicator Cover (Silver) & Fixing Screws |
| | Y0FL98020 | Indicator Cover (Black) & Fixing Screws |
| 2 | Y6F004100 | Cover Fixing Screw |
| 3 | Y01A98010 | Cable Adjusting Bolt Unit |
| 4 | Y6NA08000 | Clamp Nut |
| 5 | Y6F409100 | Clamp Screw (M4 x 18.7) |
| 6 | Y0FL00080 | Grip |
| 7 | Y60098911 | "Shift inner cable stainless steel<br>• Stainless steel inner cable<br>• Diameter 1.2 mm x 2100 mm incl. inner end cap" |
| 8 | Y6TV98070 | Inner Cable Fixing Bolt Unit |
| 9 | Y74Y98160 | Outer Casing Holder Unit |

Spare parts list

## NEXUS 5-speed Internal Hub w/Coaster Brake

# SG-C7050-5C



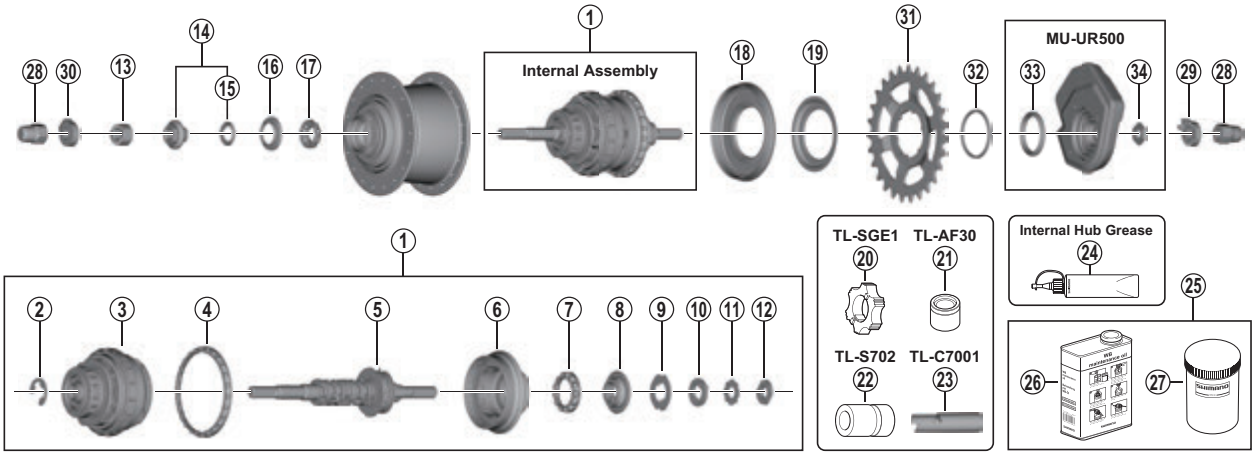

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 1 | Y3FE98010 | Internal Assembly (Axle Length 187 mm) |
| 2 | Y37G98020 | Brake Shoe Unit (3 pcs.) |
| 3 | Y37E08000 | O-Ring |
| 4 | Y3FE10000 | E-Ring (D9.6) |
| 5 | Y3FE98020 | Carrier Unit |
| 6 | Y38X98050 | Ball Retainer O (3/16" x 26) |
| 7 | Y3FE98030 | Hub Axle Unit (Axle Length 187 mm) |
| 8 | Y3FF98040 | Driver Unit |
| 9 | Y3FF98050 | Ball Retainer A (7/32" x 13) |
| 10 | Y3FF98060 | Right Hand Cone w/Seal |
| 11 | Y37S07000 | Drive Plate |
| 12 | Y37S98050 | Lock Washer |
| 13 | Y38F17000 | Right Hand Lock Nut Washer |
| 14 | Y38F16000 | Right Hand Lock Nut (3.7 mm) |
| 15 | Y35P28000 | Left Hand Lock Nut (3 mm) |
| 16 | Y35P22000 | Stop Nut |
| 17 | Y31N98060 | Brake Shoe Unit & Brake Arm Unit |
| 18 | Y31N98050 | Brake Arm Unit (3 Serration) |
| 19 | Y38R98190 | Ball Retainer B (3/16" x 16) |
| 20 | Y35J11100 | Hub Shell Slide Spring |
| 21 | Y37G98080 | Right Hand Dust Cap A w/Seal |
| 22 | Y3FF47000 | Right Hand Dust Cap C |

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 23 | Y20W10000 | TL-SGE1 1st Gear Set Tool |
| 24 | Y13098022 | TL-S702 Right Hand Cone Installation Tool |
| 25 | Y70821000 | TL-C7001 Right Hand Cone Removal Tool |
| 26 | Y04130100 | Internal Hub Grease (Net. 100g) |
| 27 | Y00298010 | WB maintenance oil set |
| 28 | Y00201000 | WB maintenance oil (1L) |
| 29 | Y00201100 | Bottle |
| 30 | Y31414010 | Cap Nut (3/8") |
| 31 | Y33Z20500 | Non-turn Washer 5R (Yellow) |
| | Y33M39600 | Non-turn Washer 6R (Silver) |
| | Y33M39700 | Non-turn Washer 7R (Black) |
| | Y34R85010 | Non-turn Washer 8R (Dark Blue) |
| 32 | Y33M39510 | Non-turn Washer 5L (Brown) |
| | Y33M39610 | Non-turn Washer 6L (White) |
| | Y33M39710 | Non-turn Washer 7L (Gray) |
| | Y34R85000 | Non-turn Washer 8L (Dark Green) |
| 33 | Y0FM24000 | Sprocket Wheel 24T (CS-C7000) |
| | Y0FM01000 | Sprocket Wheel 27T (CS-C7000) |
| | Y0FM30000 | Sprocket Wheel 30T (CS-C7000) |
| 34 | Y7ZP04000 | Snap Ring |
| 35 | Y78U00022 | Motor Unit Seal |
| 36 | Y707000Y0 | Lock Nut |

Spare parts list

## NEXUS 5-speed Internal Hub

# SG-C7050-5D



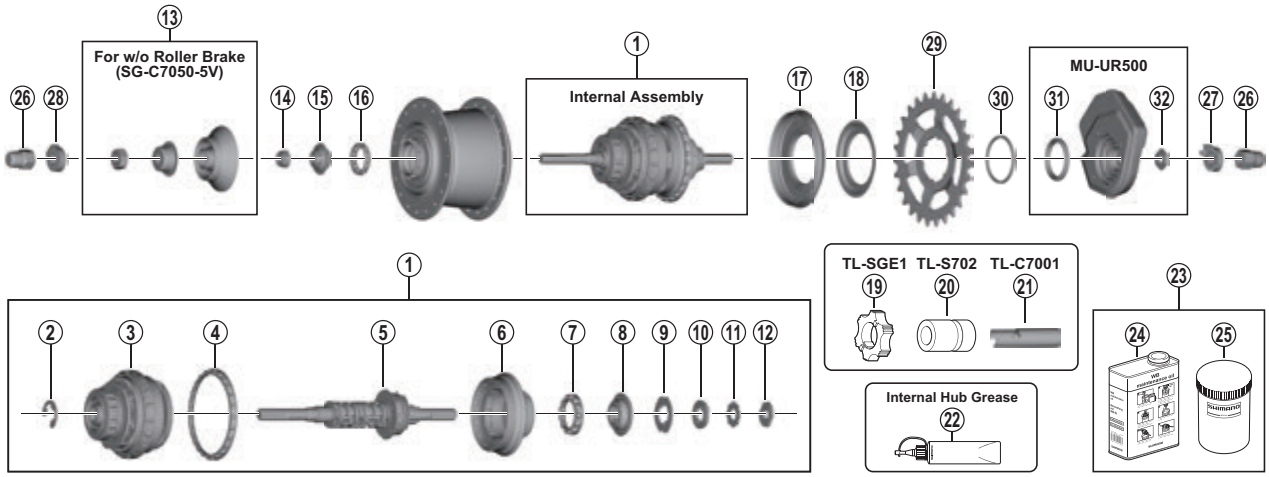

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 1 | Y3FF98010 | Internal Assembly (Axle Length 187 mm) |
| 2 | Y3FF49000 | Stop Ring Diameter (12 mm / 1.3 mm) |
| 3 | Y3FF98020 | Carrier Unit |
| 4 | Y38X98050 | Ball Retainer O (3/16" x 26) |
| 5 | Y3FF98030 | Hub Axle Unit (Axle Length 187 mm) |
| 6 | Y3FF98040 | Driver Unit |
| 7 | Y3FF98050 | Ball Retainer A (7/32" x 13) |
| 8 | Y3FF98060 | Right Hand Cone w/Seal |
| 9 | Y37S07000 | Drive Plate |
| 10 | Y37S98050 | Lock Washer |
| 11 | Y38F17000 | Right Hand Lock Nut Washer |
| 12 | Y38F16000 | Right Hand Lock Nut (3.7 mm) |
| 13 | Y35Z19000 | Left Hand Serrated Lock Nut (10.7 mm) |
| 14 | Y31L98040 | Left Hand Cone w/Dust Cap & Seal Ring |
| 15 | Y37710000 | Seal Ring |
| 16 | Y32T08100 | Left Hand Inner Dust Cap |
| 17 | Y36U98030 | Ball Retainer (7/32" x 9) |
| 18 | Y37G98080 | Right Hand Dust Cap A w/Seal |
| 19 | Y3FF47000 | Right Hand Dust Cap C |
| 20 | Y20W10000 | TL-SGE1 1st Gear Set Tool |
| 21 | Y70811000 | TL-AF30 Left Hand Inner Dust Cap Installation Tool |

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 22 | Y13098022 | TL-S702 Right Hand Cone Installation Tool |
| 23 | Y70821000 | TL-C7001 Right Hand Cone Removal Tool |
| 24 | Y04130100 | Internal Hub Grease (Net. 100g) |
| 25 | Y00298010 | WB maintenance oil set |
| 26 | Y00201000 | WB maintenance oil (1L) |
| 27 | Y00201100 | Bottle |
| 28 | Y31414010 | Cap Nut (3/8") |
| 29 | Y33Z20500 | Non-turn Washer 5R (Yellow) |
| | Y33M39600 | Non-turn Washer 6R (Silver) |
| | Y33M39700 | Non-turn Washer 7R (Black) |
| | Y34R85010 | Non-turn Washer 8R (Dark Blue) |
| 30 | Y33M39510 | Non-turn Washer 5L (Brown) |
| | Y33M39610 | Non-turn Washer 6L (White) |
| | Y33M39710 | Non-turn Washer 7L (Gray) |
| | Y34R85000 | Non-turn Washer 8L (Dark Green) |
| 31 | Y0FM24000 | Sprocket Wheel 24T (CS-C7000) |
| | Y0FM01000 | Sprocket Wheel 27T (CS-C7000) |
| | Y0FM30000 | Sprocket Wheel 30T (CS-C7000) |
| 32 | Y7ZP04000 | Snap Ring |
| 33 | Y78U00022 | Motor Unit Seal |
| 34 | Y707000Y0 | Lock Nut |

Spare parts list

## NEXUS 5-speed Internal Hub

# SG-C7050-5R / SG-C7050-5V




| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 1 | Y3FD98010 | Internal Assembly (Axle Length 187 mm) |
| 2 | Y3FF49000 | Stop Ring Diameter (12 mm / 1.3 mm) |
| 3 | Y3FF98020 | Carrier Unit |
| 4 | Y38X98050 | Ball Retainer O (3/16" x 26) |
| 5 | Y3FD98020 | Hub Axle Unit (Axle Length 187 mm) |
| 6 | Y3FF98040 | Driver Unit |
| 7 | Y3FF98050 | Ball Retainer A (7/32" x 13) |
| 8 | Y3FF98060 | Right Hand Cone w/Seal |
| 9 | Y37S07000 | Drive Plate |
| 10 | Y37S98050 | Lock Washer |
| 11 | Y38F17000 | Right Hand Lock Nut Washer |
| 12 | Y38F16000 | Right Hand Lock Nut (3.7 mm) |
| 13 | Y34R98100 | Left Hand Dust Cap Unit |
| 14 | Y31Z06030 | Lock Nut for Left Hand Cone |
| 15 | Y35J90000 | Left Hand Cone w/Dust Cap |
| 16 | Y34R98070 | Ball Retainer P (3/16" x 13) |
| 17 | Y37G98080 | Right Hand Dust Cap A w/Seal |
| 18 | Y3FF47000 | Right Hand Dust Cap C |
| 19 | Y20W10000 | TL-SGE1 1st Gear Set Tool |
| 20 | Y13098022 | TL-S702 Right Hand Cone Installation Tool |

| ITEM NO. | SHIMANO CODE NO. | DESCRIPTION |
|---|---|---|
| 21 | Y70821000 | TL-C7001 Right Hand Cone Removal Tool |
| 22 | Y04130100 | Internal Hub Grease (Net. 100g) |
| 23 | Y00298010 | WB maintenance oil set |
| 24 | Y00201000 | WB maintenance oil (1L) |
| 25 | Y00201100 | Bottle |
| 26 | Y31414010 | Cap Nut (3/8") |
| 27 | Y33Z20500 | Non-turn Washer 5R (Yellow) |
| | Y33M39600 | Non-turn Washer 6R (Silver) |
| | Y33M39700 | Non-turn Washer 7R (Black) |
| | Y34R85010 | Non-turn Washer 8R (Dark Blue) |
| 28 | Y33M39510 | Non-turn Washer 5L (Brown) |
| | Y33M39610 | Non-turn Washer 6L (White) |
| | Y33M39710 | Non-turn Washer 7L (Gray) |
| | Y34R85000 | Non-turn Washer 8L (Dark Green) |
| 29 | Y0FM24000 | Sprocket Wheel 24T (CS-C7000) |
| | Y0FM01000 | Sprocket Wheel 27T (CS-C7000) |
| | Y0FM30000 | Sprocket Wheel 30T (CS-C7000) |
| 30 | Y7ZP04000 | Snap Ring |
| 31 | Y78U00022 | Motor Unit Seal |
| 32 | Y707000Y0 | Lock Nut |