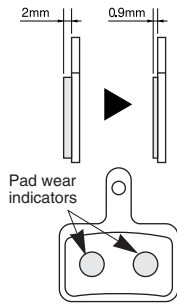


## ⚠ WARNING

- The calipers and rotor will become hot when the brakes are operated, so do not touch them while riding or immediately after dismounting from the bicycle, otherwise you may get burned. Check that the brake components have cooled down sufficiently before attempting to adjust the brakes.
- Before riding the bicycle, be sure to depress the brake levers to check that the brakes are working normally.
- Before riding the bicycle, check that the pad thicknesses are 0.9 mm or more.
- If noise occurs when the brakes are operated, it may indicate that the brake pads have worn down to their usage limit. After checking that the brake system has cooled down sufficiently, check the brake pad thicknesses. Replace the brake pads if the pad wear indicators are visible.
- Check that the quick release lever is on the right side (the opposite side to the rotor). If the quick release lever is on the same side as the rotor, there is the danger that it may interfere with the rotor, so check that it does not interfere.
- It is important to completely understand the operation of your bicycle's brake system. Improper use of your bicycle's brake system may result in a loss of control or an accident, which could lead to severe injury. Because each bicycle may handle differently, be sure to learn the proper braking technique (including brake lever pressure and bicycle control characteristics) and operation of your bicycle. This can be done by consulting your professional bicycle dealer and the bicycle's owners manual, and by practicing your riding and braking technique.
- The M515 disc brakes are designed for optimum performance when used in combination with the BR-M515 (calipers), BL-M510/ST-M510 (brake lever), SM-RT60 (rotor) and Shimano pad unit. The brake lever used should be a two-finger lever for V-brakes, such as the BL-M510/ST-M510. If using in combination with 4-finger levers such as the BL-T400/ST-T400, the braking force will be higher. Accordingly, under some conditions such as certain riding positions or overall weight, the bicycle may fall over and injury may result if proper care is not taken.
- Be sure to use in combination with the power modulator (SM-PM40), otherwise the stroke will be too short, and this will result in a lower braking force.
- Obtain, read and carefully service instructions when installing parts. A loose, worn, or damaged parts may cause injury to the rider. We strongly recommend that only genuine Shimano replacement parts be used.

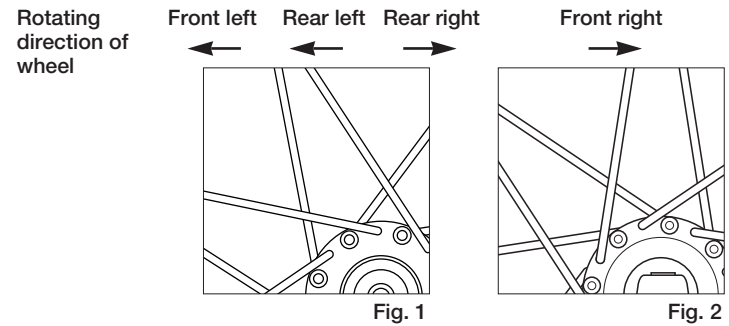


## Installation

### ■ Wheel spoke lacing

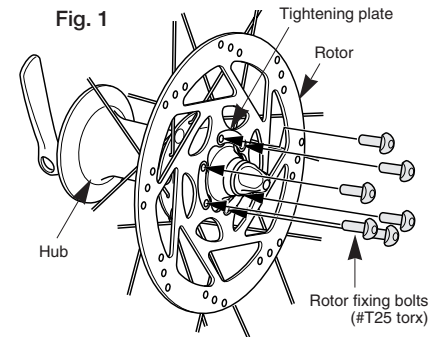
Check that the spokes have been laced as shown in the illustration. A radial assembly cannot be used.

Lace the spokes as shown in Figure 1 below for the left side of the front wheel (the side where the rotor is installed), and the left and right sides of the rear wheel, and as shown in Figure 2 below for the right side of the front wheel.



### ■ Installation of the rotor (SM-RT60)

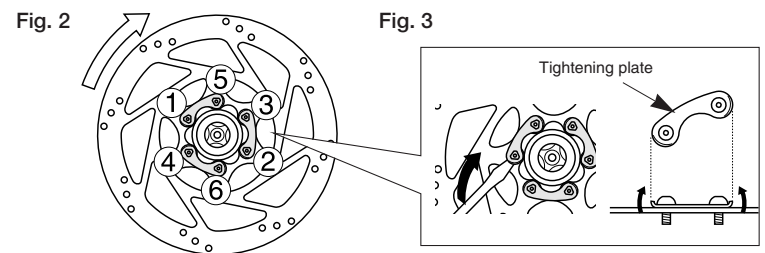
Install the rotor and the rotor tightening plate to the hub, and then install and tighten the bolts as shown in Fig. 1.



While wearing gloves, apply a force to the rotor to turn it in a clockwise direction as shown in Fig. 2. While doing this, tighten the rotor fixing bolts in the order shown in the illustration.

**Tightening torque:**  
2 - 4 Nm {18 - 35 in. lbs.}

Use a flat-tipped screwdriver or similar tool to bend the edges of the tightening plate over the heads of the bolts as shown in Fig. 3.

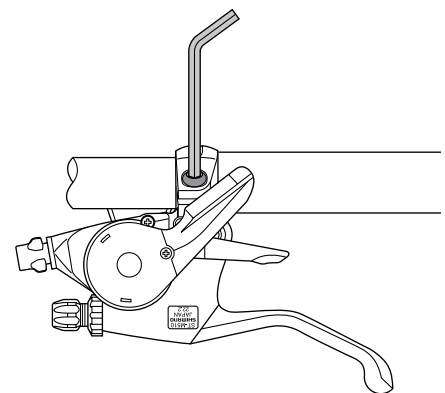


### ■ Installation of the brake lever

Use a 5 mm Allen key to install.

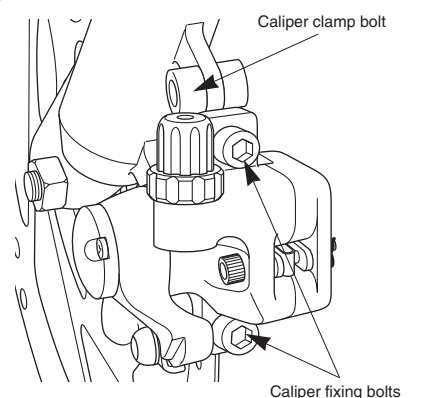
Use a handlebar grip with a maximum outer diameter of 32 mm.

**Tightening torque:**  
6 - 8 Nm {53 - 69 in. lbs.}



### ■ Installing the calipers

1. Install the bicycle wheel. Loosen the caliper fixing bolts, and then install the calipers to the frame so that the calipers work at the left and right.




## SERVICE INSTRUCTIONS

SI-8B60B

# Disc Brake System (For Cross-Country)

Before use, read these instructions carefully, and follow them for correct use.

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

Caliper	BR-M515
Brake Lever	BL-M510/ST-M510
Rotor	SM-RT60
Brake cable	

## ⚠ CAUTION

- Disc brakes have a burn-in period, and the braking force will gradually increase as the burn-in period progresses. Make sure that you are aware of any such increases in braking force when using the brakes during the burn-in period. The same thing will happen when the brake pads or rotor are replaced.

## Note

- For maximum performance we highly recommend Shimano lubricants and maintenance products.

This service instruction explains how to use and maintain the Shimano bicycle parts which have been used on your new bicycle. For any questions regarding your bicycle or other matters which are not related to Shimano parts, please contact the place of purchase or the bicycle manufacturer.

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