

# Hydraulic Disc Brake



User's manuals in other languages are available at : <http://si.shimano.com>

## IMPORTANT NOTICE

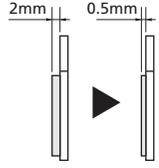
- Contact the place of purchase or a bicycle dealer for information on installation and adjustment of the products which are not found in the user's manual. A dealer's manual for professional and experienced bicycle mechanics is available on our website (<http://si.shimano.com>).
- Do not disassemble or alter this product.

**For safety, be sure to read this user's manual thoroughly before use, and follow them for correct use.**

## Important Safety Information

Guidelines that require replacement, contact the place of purchase or a bicycle dealer.

### WARNING

- The 203 mm and 180 mm disc brake rotors provide a higher braking force than the 160 mm disc brake rotors. Make sure that you have a complete feel for the braking characteristics before using the brakes.
- Please use extra caution to keep your fingers away from the rotating disc brake rotor. The disc brake rotor is sharp enough to inflict severe injury to your fingers if caught within the openings of moving rotor. 
- The calipers and disc brake 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.
- Be careful not to allow any oil or grease to get onto the disc brake rotor and brake pads, otherwise the brakes may not work correctly.
- If any oil or grease does get on the pads, you should consult a dealer or an agency. There is the danger that the brakes may not work correctly.
- If noise occurs during brake operation, the pads may have been worn down to the usable limit. Check that the brake system temperature has been cooled down sufficiently, and then check that the thickness of each pad is 0.5 mm or more. Or, consult a dealer or an agency. 

- If the disc brake rotor is cracked or deformed, immediately stop using the brakes and consult a dealer or an agency.
- If the disc brake rotor becomes worn down to a thickness of 1.5 mm, immediately stop using the brakes and consult a dealer or an agency. The disc brake rotor may break, and you may fall off the bicycle. For an Ice-Technologies rotor, if the aluminum surface becomes visible, immediately stop using the brakes as well.
- Vapor lock may occur if the brakes are applied continuously. To relieve this condition, momentarily release the lever.

Vapor lock is a phenomenon in which the oil inside the brake system becomes heated, which causes any water or air bubbles inside the brake system to expand. This can then result in a sudden increase in the brake lever stroke.

- The disc brake is not designed to work with the bicycle upside down. If the bicycle is turned upside down or on its side, the brake may not work correctly, and a serious accident could occur. Before riding the bicycle, be sure to operate the brake lever a few times to check that the brakes operate normally. If the brakes do not operate normally, stop using the brakes and consult a dealer or an agency.
- If you feel no resistance when depressing the brake lever, immediately stop using the brakes and consult a dealer or an agency.
- If fluid leaks occur, immediately stop using the brakes and consult a dealer or an agency.
- 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 a fall, 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.
- If the front brake is applied too strongly, the wheel may lock and the bicycle may fall forward, and serious injury may result.
- Always make sure that the front and rear brakes are working correctly before you ride the bicycle.
- The required braking distance will be longer during wet weather. Reduce your speed and apply the brakes early and gently.
- If the road surface is wet, the tires will skid more easily. If the tires skid, you may fall off the bicycle. To avoid this, reduce your speed and apply the brakes early and gently.
- After reading the user's manual carefully, keep it in a safe place for later reference.

### For use with the dual control lever hydraulic disc brake type

- This hydraulic brake system has different braking characteristics from those of the rim brake type, demonstrating relatively high braking force at the beginning of braking (higher than the rim brake type); familiarize yourself sufficiently with the braking characteristics before using it. If you ride the bicycle without becoming sufficiently familiar with the braking characteristics, braking may cause you to fall off the bicycle, potentially causing serious injury or a fatal accident. 

- Do not use 203 mm and 180 mm disc brake rotors. The braking force increases excessively and goes out of control.
- The 160 mm disc brake rotors provide a higher braking force than the 140 mm disc brake rotors. Make sure that you have a complete feel for the braking characteristics before using the brakes.

### CAUTION

#### ■ Cautions on the mineral oil

- Contact with eyes may result in irritation. In the event of eye contact, flush with fresh water and seek medical assistance immediately.
- Contact with skin may cause a rash and discomfort. In the event of skin contact, wash well with soap and water.
- Inhalation of mineral oil mist or vapors may cause nausea. Cover nose and mouth with a respirator type mask and use in a well ventilated area. If mineral oil 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.

#### ■ Burn-in period

- 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 disc brake rotor are replaced.

### Note

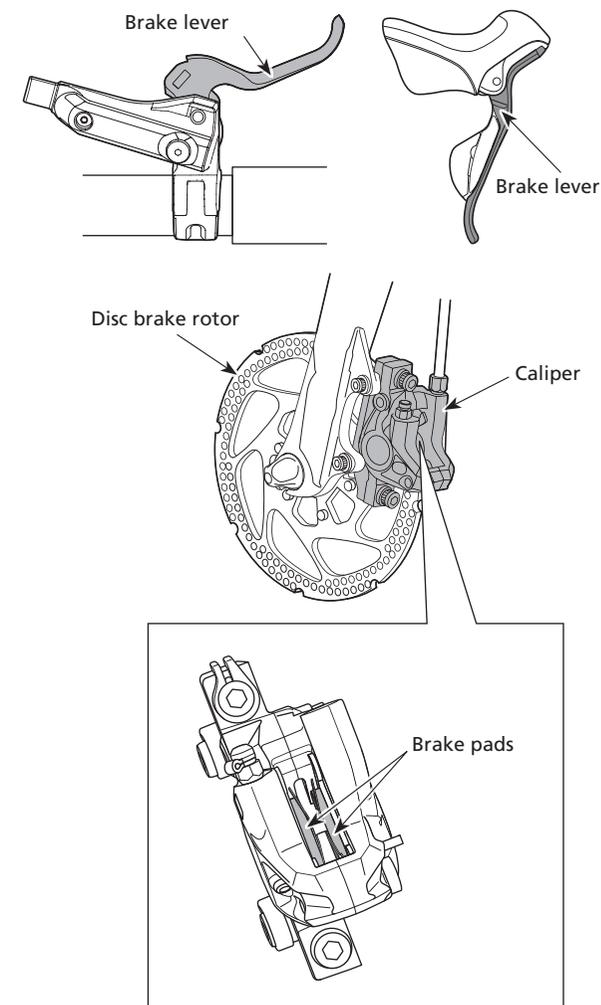
- When the bicycle wheel has been removed, it is recommended that pad spacers should be installed. Do not depress the brake lever while the wheel is removed. If the brake lever is depressed without the pad spacers installed, the pistons will protrude further than is normal. If that happens, consult a dealer.
- Use soapy water or a dry cloth when carrying out cleaning and maintenance of the brake system. Do not use commercially-available brake cleansers or silencing agents, as they can cause damage to parts such as seals.
- Products are not guaranteed against natural wear and deterioration from normal use and aging.
- For maximum performance we highly recommend Shimano lubricants and maintenance products.

## Regular inspections before riding the bicycle

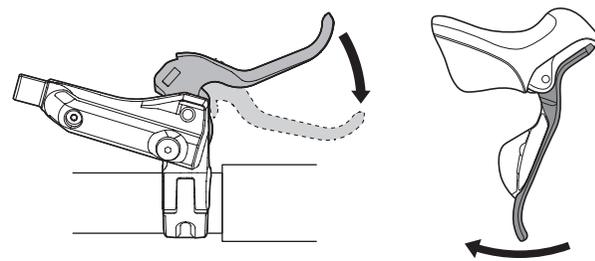
Before riding the bicycle, check the following items. If any problems are found with the following items, contact the place of purchase or a bicycle dealer.

- Is the brake oil leaking?
- Do the front and rear brakes work correctly?
- Does each pad have a thickness of 0.5 mm or more?
- Is the disc brake rotor cracked or deformed?
- Are there any abnormal noises?

## Names of parts



## Operation

This product is equipped with a reach adjustment function. If you feel that the brake lever is far and difficult to use, consult a dealer or an agency. 

## SHIMANO

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

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

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

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

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