

## Disc brake installation and operation manual

### mechanical disc brake (compatible for bicycles)

## TWINS DA series

Lanxi Jieke Sports Apparatus Manufacturing Corporation Ltd.

### Installation Instruction

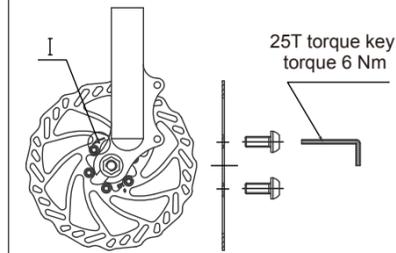
The calipers and rotors of the front and rear of the bicycle are the same. The only difference between front and rear disc brakes is the adapter. All caliper adapters are designed to fit international standard. All caliper adapters have to work with compatible rotors. Appropriate caliper adapters and installation tools are needed to install calipers.

#### 1. Disc rotor installation (Fig. 1)

(1) Remove the front wheel from the front fork of the bicycle. Use 6 rotor screws (25T torque key, torque 6 Nm) to tighten the rotor onto the disc hub.

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(2) When assembling, the specification marks on the rotor must face outwards. And the rotor must be installed with the rotation arrow label pointing in the same direction as the forward rotation of the wheel.  
\*Warning: Safety problems may occur if the disc is reversed.



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#### Caliper installation (Fig. 2)

(1) Select the appropriate caliper adapter according to the size of the rotor. Fix the caliper to the caliper adapter with 2 included M6X20 hex socket screws and 2 6 flat washers (or 2 M6X28 hex socket screws and 4 6 flat washers). Please only pre-tighten at this moment.

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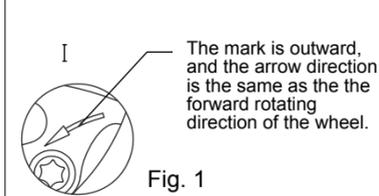


Fig. 1

(2) Install the calipers with the fixed adapters to the front fork or seat stay through the fixing holes of the rotor by using two M6X18 hex socket screws and flat washers (the screws may vary depending on the frame size). Please tighten the screws up (torque 8-10 Nm).

(3) Complete the following step 3 After the brake cable is installed, pull the brake lever to its tightest position, and then alternatively tighten the M6X20 (or M6X28) hex socket head cap screws on the caliper (torque 8-10 Nm). Then release the brake lever to make sure the disc is between the 2 brake pads. Then spin the wheel to make sure the disc is clear to disc pads.

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#### Brake inner cable installation

1. Thread the brake inner cable through the adjusting screw on the caliper force arm.  
2. Continue to thread the brake inner cable through the waterproof case.  
3. Continue to thread the brake inner cable through the cable pressing plate of the pull rod on the caliper. The pull rod is pulled forward for 3-7 degrees for pre-tightening, and then tighten the cable pressing screw (torque 8-10 Nm).  
4. The tension of the brake cable can be adjusted by the adjusting screw on the force arm or the adjusting screw on the brake lever. If everything works well, then cover the adjusting screw of the caliper arm by the waterproof case.

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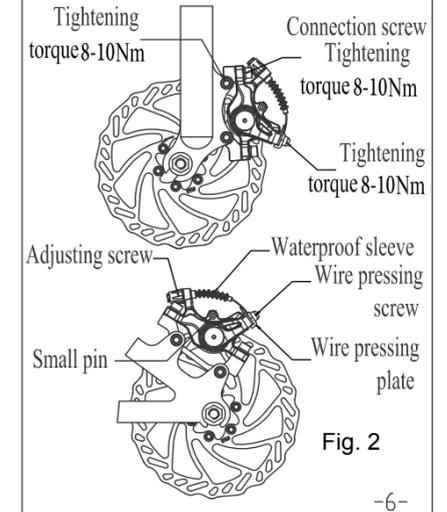


Fig. 2

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\*Warning: The length of the tail end of the brake inner cable must be no more than 20 mm, in case of danger caused by the brake inner cable accidentally caught into the disc.

3. Disc pads adjustment and replacement  
The clearance between rotor and brake pads is 0.3 mm for each side. When the brake pads are worn, both clearances have to be adjusted to be equal in case of losing the safety braking force.

#### 1. Disc pad adjustment

(a) A gap: When A gap is too large, for the models without adjusting turn-knob (Fig. 3a), insert a 2.5 mm Allen key into the hex socket of adjusting bolt M5 in the caliper. Then turn the adjusting bolt

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slowly in a clockwise direction to adjust the clearance between the brake pads to 0.3 mm. The normal screwing range of the adjusting bolt M5 is 0.1-0.5 mm.

☆ It is forbidden to remove the bolt.

Once the bolt is found to be loose during adjustment (it feels light when rotating), the same type of bolt must be replaced (the bolt must be resistant to falling and loosening). For the model equipped with adjusting turn-knob (Fig. 3b), turn the knob in a clockwise direction to adjust the clearance between the brake pads to 0.3 mm.

(b) B gap: When B gap is too large, the connection screws have to be loosened (Fig. 2). A 2.5 mm Allen key is used to

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slowly turn the adjustment bolt in a clockwise direction, until the clearance between rotor and brake pad is 0.3 mm for each side. Then repeat the caliper installation steps mentioned in Step 3.

#### 2. Brake pads replacement

The brake pads need to be replaced immediately if the brake pads are worn to a total thickness of less than 2.7 mm or any other necessary reasons.

When replacing disc pads:

(a) Loosen the connection screws (Fig. 2), unscrew the adjusting bolt M5 in the caliper (Fig. 3). Then loosen and remove the small guide post, and pull out the brake pads and the springs between the pads. Reinsert new brake pads and springs, make sure the rotor is between brake pads. Repeat the caliper installation mentioned in Step 3.

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reinstall and readjust the caliper.

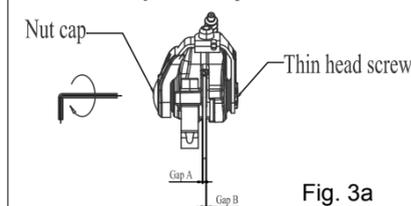


Fig. 3a

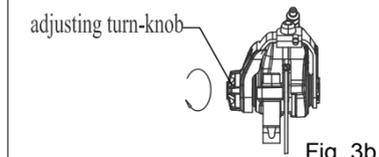


Fig. 3b

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#### Notes:

(a) In order to facilitate the pad replacement and prevent the flange from falling out when the brake pads are pulled out, there is a steel cable ring between the top rod and the flange. Unscrew the adjusting bolt (or adjusting bolt M5 for models without turn-knob) (Fig. 4).

the brake pads will not be retracted by the top rod. When the brake pads need to be pulled out, please insert the rotor between the brake pads, pull the pull rod to compress the disc and loosen it to complete the adjustment.

(b) For the calipers with adjusting knob, attention must be paid during the pad replacement that the entire tail cap

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cannot be taken out of the knob groove when the adjusting bolt is unscrewed (Fig. 5a). If it accidentally uncrowed, make sure to align the bolt head with the knob groove when re-threading.

\*Warning:

(a) When the brake pads are worn too thin, the manner to compensate the wear by tightening the inner cable is not allowed in case of affecting the normal

brake operation (If the inner cable is inappropriately over-tightened, the pull rod will be too close to the caliper force arm, and the pull rod will lose the motion range required for normal braking, and thereby fails the braking function shown in) (Fig. 6).

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(b) Before riding the bicycle, please check the thickness of the brake pads. When the wear of the brake pads exceeds 0.8 mm, the replacement of the pad is recommended. When the total thickness of the worn brake pad is less than 2.7 mm, the pads must be replaced to ensure the safety riding (Fig. 7).

(c) Do not use the manner of tightening the brake inner cable only or replacing the brake pads of different specifications to solve the wear issue in case of interference between disc and pads.

☆ (e) Please replace the rotor when it is worn, cracked or deformed. If the thickness of brake rotor wear to 1.5 mm, be sure to replace the rotor with a new one

☆ suggests the important notification.

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When pulling the brake lever tightly, the gap between the pull rod and the force arm is at least 10 mm under the normal state.

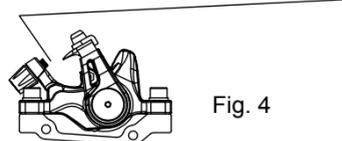


Fig. 4

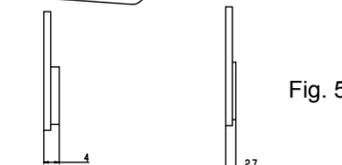


Fig. 5

Standard thickness (new brake pad) 2.7  
Worn to the minimum (needs replacing) 0.8

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#### Notes:

1. The thin-headed screw is non-adjustable. Users are not allowed to screw the thin head screw to avoid damaging the calipers.

2. After it has been frequently used for a long time or not used for at least one month, the disc brake must be checked whether it works normally, whether the wear of the brake pads is within normal range and the rotor is worn deformed or not (when the deformation deflection exceeds 0.2mm, the rotor must be replaced).

3. Be careful not to allow any oil or grease to get onto the brake pads. If the pads become contaminated, they should be replaced to make sure the safe riding.

4. When users use the brake during riding, there may be slight noise caused by the friction of the brake pads and the disc. It is normal and no need to worry about.

5. It is critical to completely understand the operation of bicycle braking system. Any

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improper use of brakes may lead to a loss of control or even an accident and possible severe injury. Make sure to learn the proper braking technique and operation of bicycles because each bicycle may handle differently. Please consult professional bicycle dealer or the manual for a assistance and improve the riding and braking technique.

6. Before each ride, please check whether the disc brakes can work normally. If abnormal occurrence, such as poor braking feeling, insufficient braking force, or brake failure happens, please consult professional technician in bicycle dealers for inspection and tune-up.  
7. When replacing the incoming film, please make sure that the replaced one is the same as the original one. Unanimous. If the inconsistent incoming film is replaced, it may cause safety problems.

8. In order to avoid the hidden danger of loosening of the screws due to damage to the

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anti-loosening glue, all the loose screws that have been disassembled during the maintenance and repair process must be replaced with new anti-loosening screws.

9. When riding a bicycle for the first time, it is normal to have a light disc brake rub or insufficient braking force. Both issues would be automatically eliminated after a certain distance of riding.

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#### Product warranty

1. During the warranty period, if damage occurs under normal use according to the instruction and operation manual, our company will provide professional after-sale service, but there are exceptions; the warranty last 12 months from the sale of the disc brake but the brake pads are not warranted.

2. If damage is caused by the following listed reasons, it will not be covered by the warranty during the warranty period. However, the company is still happy to serve you by charging parts and service fees.

The followings are not covered by the warranty:

- Failure to perform proper maintenance according to the manual
- Arbitrary disassembly and assembly or not using original parts
- Damage caused by collision due to external force
- Abnormal or improper use
- Damage occurs due to force majeure
- Self-modified or repaired by dealers unauthorized by the company

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