

## **ZOOM MTB Mechanical Disc brakes and how to adjust them.**

These calipers are fitted to both 140mm and 160mm diameter mountain bike discs and are interchangeable. They are simple to adjust. 2.5, 4 and 5mm Allen (hex) keys and maybe a small flat bladed screwdriver will be required. The required bolt tightening torques are marked on the caliper. Do not overtighten any screws as it is easy to strip the threads. Use nut lock compound such as Loctite 242 on the caliper fixing bolts and also the Upper and Lower caliper securing screws. The slightest amount on the tip of the screw threads is required.

If you have removed the wheel, from the bike, it will be necessary to re-locate the brake caliper, so that it aligns with the wheel.

You do not need to remove the brake cable, nor the brake clamp (that is bolted to the bike fork), just the brake calliper. You can simply loosen the screws and move the calliper, but it makes sense to remove it and check the brake pads at the same time.

### **Caliper Screws**



The objective is to adjust them so that the brake disc is situated centrally in the caliper slot.

To achieve this the caliper screws on the side of the caliper are loosened with use of a 5mm Allen key.

This enables the caliper to be pushed sideways.

Try spinning the wheel, and check that the brake pads do not touch the brake disc.

Once the correct position has been found the clamping screws are retightened (torque 8Nm).

Spin the wheel and ensure the pads do not contact the wheel adjusting as necessary but always tighten the Lower caliper screw before you tighten the Upper caliper screw.

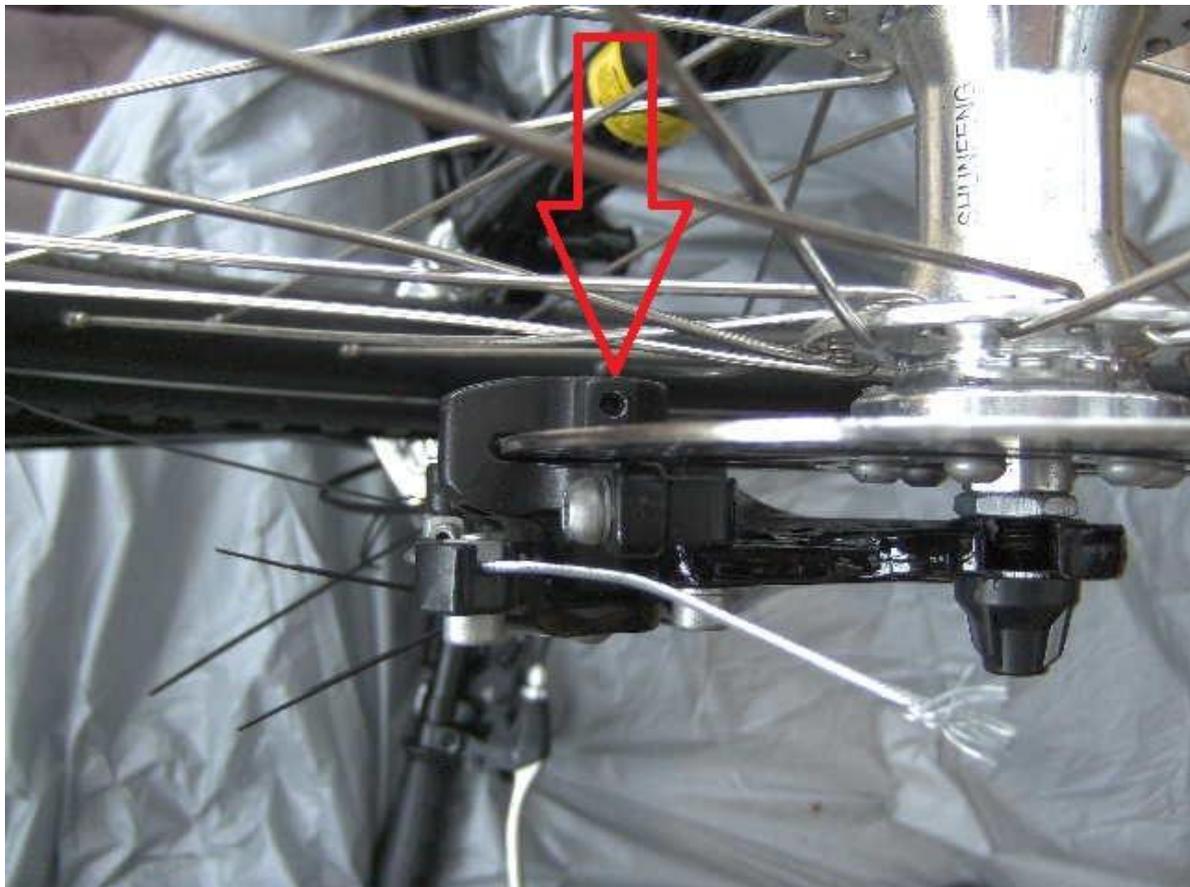
With the calliper removed you can check the brake pads. The rear pad is fixed, whilst the front pad is closed when the brake handle is pressed.

So check that the rear pad has material standing proud of the calliper, so that the pad touches the disc, as you do not want the disc to scrape against the calliper body.

#### **To adjust the rear pad.**

With bike upside down, slacken the Fixed Pad Lock Screw with your 2.5mm Allen key by three turns on the underside of the caliper. Once you have finished the adjustment is secured by tightening the lock screw (torque 4Nm).

#### **Fixed Pad Lock Screw**



Now you need to adjust the Fixed Pad Adjustment Bolt to close up the gap between the pad and the disc so that it just fits next to the disc with the slightest clearance. You want just to be able to see daylight between the pad and the disc. The distance between the inner pad and the disc should be kept to a minimum and the disc should not rub.

Note the Fixed Pad Adjustment Bolt adjusts the total clearance available between the pads and the disc. The closer you can adjust this then the less lever travel you will require to operate the brake.

### **Fixed Pad Adjustment Bolt**



Looking through the wheel, you can see the Fixed Pad Adjustment Bolt.

After turning the Bolt, so that it just touches the disc, slacken it off slightly, spin the wheel to check, then tighten the Lock Screw.

Check by spinning the wheel again, as the lock screw can move the Bolt.

The next step is the adjustment of the outer brake pad. The adjustment is that of the brake cable. To provide the minimum clearance between the pad and the disc the Cable Clamping Screw should be loosened with a 5mm Allen key and the cable moved. The clamping screw should then be retightened (torque 6Nm).

Small adjustments can be carried out by means of the tension adjustment screw/barrel, when the pads wear.



Cable tension adjustment screw /barrel.

Cable Clamp Screw

The pads are held within the brake caliper when it is assembled to the disc. If you need to **replace the pads** then you simply unbolt the caliper from the forks and lift the pads from their magnetic seats in the caliper. You need to align the small tab with the slot in the caliper on re-assembly.

The rear pad (closest to the wheel) is fixed to the caliper and does not move. When you operate the brake the outside pad presses against the disc forcing the disc to deflect against the inside pad. The greater the brake lever force then the greater the braking force. Disc brakes take time to bed in hence gain effectiveness as the pad wears to the exact surface profile of the disc.