



# Mechanical Disc Brake Installation

## Safety Info

As a serious rider you are probably well aware of the need to practice safety in all aspects of the sport. This includes service and maintenance practices as well as riding practices. Before each ride, always check your brakes for proper function and the brake pads for wear. When you ride, always wear a helmet.

## Installation

When you need to install any of the disc brake components, the installation work should be done by a qualified technician with the proper tools. Improper installation could cause severe or fatal injuries.

### A. Tools Required

Screwdrivers: Torx® T25 driver  
Allen drivers: 4mm and 5mm  
Torque wrench (0-110 in-lbs)  
Cable cutters

### B. Mounting the Disc to the Hub

*Note:* Mounting the brake disc to the wheel is a simple matter, but one that requires care. If the wheel has to be rebuilt, have it done by a qualified technician using a 3 cross spoke pattern. We recommend the use of steel, quick release skewers only.

- Clean the disc and the hub mounting surface with isopropyl alcohol (not disc brake cleaners).
- Place the disc on the hub mounting surface. Be sure that the arrow on the disc is pointing in the same direction of the forward wheel rotation.
- Using a Torx® T25 driver, install, tighten, and torque the disc screws to 55 in-lbs (6.2 Nm), in a star pattern sequence.

### C. Mounting the Brake to the Frame or Fork

- Remove the wheel(s).
- For some installations it will be necessary to mount a bracket to the fork to accept the Hayes Mechanical Disc Brake. For the front brake, mount the fork adapters to the fork using (2) M6 x 1.0 x 18.4mm long mount bolts. Torque the bolts to 110 in-lb (12.43Nm).
- Mount the caliper to the frame or fork adapter using (2) M6 x 1.0 x 18.4mm long mount bolts and (2) mount washers. Snug the bolts, but leave them loose enough so that the mechanical disc brake will move on its slots.
- Re-install the front wheel.
- Set lever reach adjustment per the lever manufacturers instructions. Doing this first prevents this adjustment from affecting other adjustments.
- String the cable through the brake lever and spin the lever adjusting barrel down tight to the closed position.
- String the cable through the cable housing and through the cable anchor screw and washer.
- Seat the cable housing snugly at the brake lever and the brake.
- Pull the cable wire tight and tighten the cable anchor screw to 55 in-lbs of torque.
- Trim the excess cable and crimp a cable end cap on the end of the trimmed cable.
- Squeeze and hold the brake lever. While holding the brake lever, shake the mechanical brake to position it in its natural centered position over the disc. While still squeezing the lever, tighten the mounting bolts.
- With a 4mm Allen wrench, turn the fixed pad adjuster counter clockwise 1/8 of a turn until there is a .015 - .020 inch (.38-.50 mm) gap.
- Adjust the amount of lever travel by turning the adjuster barrel at your lever.
- Spin the wheel. Check that it spins freely and that the gaps, between the pad and the disc, are equal. If the gaps are unequal, or if there is drag, readjust the caliper position by loosening the mounting bolts and adjusting the caliper as needed. *Hint:* A white piece of paper can be used as a background to help sight down the disc looking for equal clearance between the pads and the disc.
- When the gaps are equal and wheel spins freely (without drag) torque the mounting bolts to 110 in-lbs (12.43 Nm). *Note:* The Hayes system uses a long life sintered metallic friction pad. These pads requiresome use to "burnish" themselves in. During this process the power gradually increases. Your optimum adjustment will be after the burnish is complete (approximately 30 complete stops).
- Repeat the procedure for the other wheel.



Step B - 3  
Torqueing Sequence



Step C-2  
Fork Adapter



Step C-7  
Stringing Cable



Step C-14  
Checking Gaps

## Starting Out

**Burnish:** Disc brakes require a special burnishing period to achieve maximum braking power. This burnishing period lasts for about 30-40 stops. During this period some noise may occur.

## Maintenance

### A. Cleaning and Care

The brake disc and pads should only be cleaned with isopropyl alcohol (not disc brake cleaner).

### B. Brake Pad Change

Due to wear, contamination, or damage, the brake pads will, on occasion have to be replaced. The following procedure is to be followed for that change of brake pads.

- Remove the wheel.
- Using the tab in the center of the pad backing plate, pull the pad toward the center of the caliper and out. There is a spring that holds them in place. That spring snaps on to the post at the center of the piston.
- Repeat the steps for the other side pad.

*Note :* There are two different brake pads, an inner and an outer - or a right and a left. On the outer pad the tab is offset. On the inner pad the tab is in the center.

To replace the pads...

- Put the outer pad in first. Use the tab in the center of the pad backing plate to push the new pads into place. angle the pad slightly so the post is towards the center of the caliper and push the pad until it snaps into place. Check that the pad is locked into position.
- now repeat the procedure for the outer pad.
- Install the wheel.

### C. Torque Chart

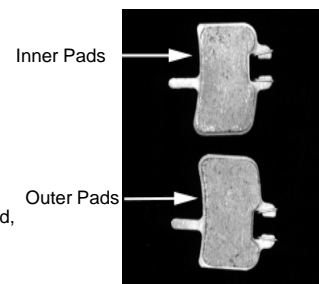
ITEM	TORQUE
Disc Screws	50 in-lbs +/-5 in-lbs
Cable Anchor Screw	55 in-lbs +/-5 in-lbs
Caliper Bridge Bolts	190 in-lbs +/-10 in-lbs.
Caliper Mount Bolts	110 in-lbs +/-10 in-lbs.

### D. Warranty

Parts are warranteed for a period of 1 year to be free from defects in material and workmanship, and this express warranty is in lieu of all other warranties, expressed or implied by law or otherwise. Claimed defective parts may be returned to us for determination of defectiveness during the normal service period and will be replaced, credited or repaired at our option without charge. Every claim on account of defective material or workmanship or any other cause must be made in writing or deemed waived by the customer.



Step B - 2  
Removing Pads



Inner and Outer Pads

Hayes Disc Brake, LLC. 5800 W. Donges Bay Rd., Mequon, WI 53092

Technical Assistance Phone Line 1-888-686-3472

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