



# SERVICE KIT INSTRUCTIONS

## MX-1 Mechanical Disc Brake Installation

45-15216

### Safety Info

This brake has been designed for use on a single person bicycle. The use on any other vehicle or device not approved by Hayes Disc Brake will void the warranty and can cause serious injury.

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.

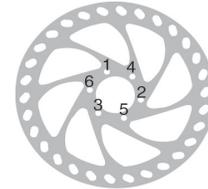
### Installation

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 Torque wrench (0-110 in-lbs)  
Allen drivers: 3mm, 4mm and 5mm 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.

1. Clean the disc and the hub mounting surface with isopropyl alcohol. **Warning :** Do not use disc brake cleaners.
2. 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.
3. Using a Torx® T25 driver, install, tighten, and torque the disc screws to 55 in-lbs (6.2 Nm), in a star pattern sequence as shown.



Torquing Sequence

**C. Mounting the Brake to the Frame or Fork :**

1. Remove the wheel(s).
2. 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).
3. 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.
4. Re-install the front wheel.
5. Set lever reach adjustment per the lever manufacturers instructions. Doing this first prevents this adjustment from affecting other adjustments.
6. Turn the fixed inner pad adjuster **counter clockwise** until it stops, leaving the pad adjustment area at its maximum gap. Proceed to turn the fixed inner pad adjuster **clockwise** ¼ of a turn.

*Note: There are two ways to adjust the fix pad adjuster on the MX-1 mechanical brake system.*

1. A "Tool Free" inner pad adjuster dial (PHOTO), OR 2. Remove the center cap and use a 3mm Allen wrench. (PHOTO)

7. String the cable through the brake lever and spin the lever adjusting barrel down tight to the closed position.
8. String the cable through the cable housing and through the cable anchor screw and washer.
9. Seat the cable housing snugly at the brake lever and the brake.
10. Pull the cable wire tight and tighten the cable anchor screw to 55 in-lbs of torque.

*Note: You may need to rotate the lever arm forward until there is a 015"-.020" (.38-.50mm) gap. (PHOTO)*

11. Trim the excess cable and crimp a cable end cap on the end of the trimmed cable.
12. 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.
13. Turn the fixed pad adjuster counter clockwise 1/8 of a turn until there is a .015 - .020 inch (.38-.50 mm) gap.
14. Adjust the amount of lever travel by turning the adjuster barrel at your lever.

*Note: With the MX-1 you may use the adjuster barrel on the caliper to adjust lever travel.*

15. 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.*

16. When the gaps are equal and wheel spins freely (without drag) torque the mounting bolts to 110 in-lbs (12.43 Nm).
17. Repeat the procedure for the other wheel.

### 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.

1. Remove the wheel.
2. 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.
3. 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...

4. 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.
5. Now repeat the procedure for the other pad.
6. Install the wheel.

ITEM	TORQUE
Disc Screws	50 in-lbs +/- 5 in-lbs
Cable Anchor Screw	55 in-lbs +/- 5 in-lbs
Caliper Bridge Bolts	130 in-lbs +/- 10 in-lbs.
Caliper Mount Bolts	110 in-lbs +/- 10 in-lbs.

### Warranty

Any Hayes Disc Brake found by the factory to be defective in materials and/or workmanship within two years from the date of purchase will be repaired or replaced at the option of the manufacturer, free of charge, when received at the factory with proof of purchase, freight prepaid. Any other warranty claims not included in this statement are void. This includes assembly costs (for instance by the dealer), which shall not be covered by Hayes Disc Brake. This warranty does not cover breakage, bending, or damage that may result from crashes or falls. This warranty does not cover any defects or damage caused by alterations or modifications of new Hayes Disc Brakes or parts or by normal wear, accidents, improper maintenance, damages caused by the use of parts of different manufactures, improper use or abuse of the product, or failure to follow the instructions contained in an instruction manual for Hayes Disc Brake. Any modifications made by the user will render the warranty null and void. The cost of normal maintenance or replacement of service items, which are not defective, shall be paid for by the original purchaser. This warranty is expressly in lieu of all other warranties, and any implied are limited in duration to the same duration as the expressed warranty herein. Hayes Disc Brake shall not be liable for any incidental or consequential damages.

If for any reason warranty work is necessary, return the brake to the place of purchase. In the USA, contact Hayes Disc Brake for a return authorization number (RA#) at (888) 686-3472. At that time, instructions for repair, return, or replacement shall be given. Customers in countries other than USA should contact their dealer or local Hayes Disc Brake distributor.



Step C6



Step C6



Step C7



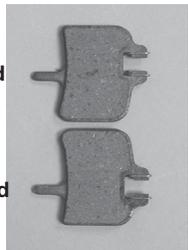
Step C14



Step B2

Inner Pad

Outer Pad



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

Technical Assistance Line 1-888-686-3472

www.hayesdiscbrake.com