



# SERVICE KIT INSTRUCTIONS

## Master Cylinder Repair

45-18052w

The Following procedures cover the installation of Hayes Disc Brakes items purchased as an aftermarket item. When you need to install any of the disc brake components, a qualified technician with the proper tools should do that installation work. Improper installation could cause severe or fatal injuries.

**Warning:** When following any of the procedures below, be sure to keep your hands and fingers from getting caught in the disc. **Failure to do so could result in injury.**

**Warning:** With use, disc brake components may become very hot. Always allow components to cool before attempting to service your bike.

The right hand and left hand master cylinders are identical and will be rebuilt in the same manner. Rebuilding must be done with the master cylinder removed from the bike.

NOTE: The Power Adjustment Dial is a non-serviceable item. DO NOT try to repair or replace the assembly.

### A. Master Cylinder Hose Removal

1. To take the hose off of the master cylinder end, slide the nose cone down the hose.
2. Using a 8mm box wrench, remove the hose nut and slide it all the way down the hose.  
Note: sometimes it is best to first cut the hose and use the box end of the 8mm wrench to better grab the 8mm hose nut.
3. Slide the hose out of the end of the master cylinder. There will be some residual fluid in the hose and master cylinder / caliper. Be careful to avoid spilling that fluid.
4. A new hose insert/compression bushing combination will be needed each time the hose is re-installed.  
Remove the old compression bushing and hose insert by cutting the hose next to the compression bushing. The cut needs to be clean with no frayed ends.

### B. Lever Blade Removal

1. Remove the lever blade by first removing the two 2.5mm Allen head bolts on each side of the master cylinder.
2. Remove the two plastic bushings that fit between the sides of the lever and the body.
3. Firmly grab and pull the "push rod reach adjustment knob" and remove it from the push rod.
4. Using a 2.5mm Allen wrench, turn the push rod clockwise until it is removed from the adjuster bushing and the thread retention bushings.

### C. Lever Blade Assembly

1. Put the adjuster bushing and thread retention bushings into the hole in the lever. Using a 2.5mm Allen wrench, thread the push rod through the hole in the bushing.
2. Firmly push the reach adjustment knob onto the end of the push rod. Note: Be sure it securely snaps over the retaining ring.
3. Put both plastic lever bushings into the lever, and then slide the lever into place. Line up the washers with the hole in the lever and the holes in the master cylinder body.
4. Drop the pivot pin through the body, lever bushings, and lever hole. Tighten the 2.5mm Allen heads bolts until tight.

### D. Master Cylinder Piston

Note: it is not necessary to remove the hose from the master cylinder

1. Remove the lever blade. (Note: see instructions)
2. Remove the push rod, master cylinder piston, and spring by removing the snap ring and washer using a snap ring tool.  
DO NOT attempt to take the rubber seals off of the master cylinder piston.

Warning: Always wear safety glasses when removing a snap ring.

3. Clean and inspect the inside of the master cylinder and all parts. Replace those parts that are damaged with new service parts. Thoroughly clean all of the parts by spraying them with isopropyl alcohol and wiping them with a clean rag.
4. Begin reassembly by dropping the spring and master cylinder assembly into the lever body.
5. Place a small amount of the yellow Versilube onto the ball end of the pushrod.
6. Install the ball end of the threaded push rod into the master cylinder piston.  
Push on the threaded push rod to assure that all parts are properly in place.
7. Place the retaining washer over the threaded end of the push rod.
8. Using a snap ring tool, install the snap ring into the snap ring groove on the inside of the master cylinder body. Push on the threaded push rod to assure that all parts are properly in place.
9. Install Lever Blade (Note: see instructions)
10. Put the completed master cylinder back onto the handlebars.
11. Bleed the system.

Note : Complete bleed instructions can be found at [www.hayesdiscbrake.com](http://www.hayesdiscbrake.com)

### E. Master Cylinder Reservoir Cap and Bladder Service

Note: The reservoir is located in the clamp of the master cylinder body.

You will need to remove the master cylinder assembly from the handlebar to perform the below service.

Note: When you remove the bladder assembly from the master cylinder body, there is no need to remove the hose from the end of the master cylinder.

1. Remove the Master Cylinder from the handlebar.
2. Remove the reservoir cap by removing the two T-10 Torx screws holding the reservoir cap onto the body.
3. Using a needle nose pliers, Carefully remove the bladder from inside the master cylinder body.

Caution: If you pull too hard on the bladder, you may tear it.

4. Clean and inspect the area of bladder and cap assembly.  
Replace those parts that are damaged with new service parts.  
Thoroughly clean all parts by spraying them with isopropyl alcohol and wiping with a clean rag.

5. Place the bladder into the master cylinder body.  
Be sure that it is seated properly.
6. Install reservoir cap and secure with the two T-10 Torx bolts.  
(Torque to 2.5 +/- .5 in.-lb. (.28 +/- .05 Nm)

7. Install master cylinder assembly back on to the handlebar.
8. Bleed the System.

Note : Complete bleed instructions can be found at [www.hayesdiscbrake.com](http://www.hayesdiscbrake.com)

No.	Part
1	Nose Cone
2	Hose Nut
3	Insert/Compression Bushing
4	Bleed Screw
5	Bleed Screw O-ring
6	Lever Pivot Pin
7	Lever Pivot Pin Bushings
8	Lever Blade
9	Push Rod Adjuster
10	Washer
11	Snap Ring
12	Push Rod
13	Master Cylinder Piston
14	Return Spring
15	Adjuster Bushing Bushing
16	Adjuster Bushing
17	Clamp Screws
18	Clamp
19	Reservoir Cap Screws
20	Reservoir Cap
21	Bladder
22	Master Cylinder Body

