

# HAYES™ radar



## MASTER CYLINDER SERVICE

This manual is intended to provide the information necessary for maintenance and service of the Hayes Radar disc brake master cylinder. These instructions can be downloaded from the Hayes Disc Brake website at [www.hayesbicycle.com](http://www.hayesbicycle.com).

### SAFETY INFORMATION

As a serious rider you are 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.

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

**Warning:** Wear safety glasses when working with compressed air.

**Warning:** This brake has been designed for use on a single person mountain bike. The use on any other vehicle or device will void the warranty and can cause serious injury.

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

**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:** Do not adjust the caliper while the wheel is spinning.

**Warning:** Do not adjust the caliper while the caliper is hot.

**Warning:** If your bike is involved in a fall or crash it is recommended your brakes are checked by a qualified mechanic before riding to ensure they are functioning properly. The following checks should be performed: Check that all components are securely mounted to the handlebar, frame, fork, or wheel; check for proper pad installation and retention; check that the brake builds and holds pressure; check hose and fittings for kinks or leaks; check master cylinder body and caliper for damage. Always have a qualified bike mechanic check your brakes if you suspect damage.



FIG. 1

### HOSE REMOVAL & ASSEMBLY

#### Tools Required

- 8mm Open End Wrench
- Hydraulic Hose Cutter
- Torque Wrench
- Hayes Radar Bleed Kit
- Safety Glasses

#### Hose Removal

1. Using an 8mm open end wrench, loosen and remove the hose nut from the master cylinder. Slide it down the hose. (FIG. 1)
2. Pull the hose out of the master cylinder. There will be residual fluid in the master cylinder body. Be careful to avoid spilling the fluid.
3. A new hose insert/compression bushing combination will be needed each time the hose is re-installed. Remove the old hose insert by cutting the hose next to it. The cut needs to be clean with no frayed ends.

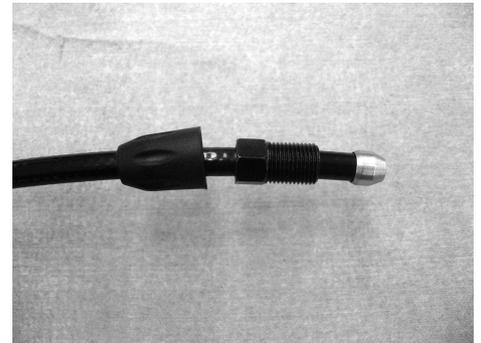


FIG. 2

#### Hose Assembly

1. Cut the hose to desired length using hose or cable cutters. The cut end must be clean and perpendicular to itself.
2. Slide the hose nut onto the hose.
3. Push the end of the barbed hose insert into the end of the hose. Be sure it is inserted completely so the stop surface is flush with the end of the hose. Always use a new hose insert/compression bushing. (FIG. 2)
4. Slide the hose into the master cylinder and install the hose nut. Be sure that the hose is inserted completely into the master cylinder. Be sure that the hose remains inserted while tightening the hose nut down.
5. Using an 8mm open-end wrench, torque the hose nut to  $70 \pm 5$  in/lb. [ $7.9 \pm 0.5$  Nm]
6. Bleed the system. (NOTE: See Bleed Instructions)

**Limited Lifetime Leakproof Warranty:** <http://www.hayesdiscbrake.com/support/lifetime/>

#### WARRANTY INFORMATION

Any Hayes Bicycle Group component 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 Bicycle Group. 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 Bicycle Group 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 the specific component. 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 Bicycle Group shall not be liable for any incidental or consequential damages. If for any reason warranty work is necessary, return the component to the place of purchase. In the USA, contact Hayes Bicycle Group 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 Bicycle Group distributor.

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