

Caliper Service Instructions

This Manual is intended to provide the information necessary for normal maintenance and service of the Hayes Dyno Caliper. Although the steps and procedures are relatively simple, they should not be attempted until you are thoroughly familiar with the entire set of procedures. Images have been provided to help you in the steps and procedures. Complete Service instructions can be downloaded from the Hayes Disc Brake Website at www.hayesbicycle.com.

Within this manual are specifically labeled comments intended to bring special attention to a general procedure or detailed step. Be aware of, and understand, the meaning of these labels.

Warning: Means that there is the possibility of personal injury to you or to others.

Caution: Means that there is the possibility of damaging the brake or the bike.

Note: Provides general information.

Hint: Provides information that can help you properly complete a specific procedure.

Piston(s) Pumped Out

If the brake lever is stroked without the disc between the pads (and this is possible when brake pads are being changed or the bike is being transported with the wheels off), the self-adjusting feature will allow the pads to push out. The caliper pistons will be pumped out of their bore. This would cause excessive drag on the disc when the wheel and disc are reinstalled, or even make it impossible to install the wheel and disc.

To fix this problem

1. Remove the brake pads from the caliper if they are not already removed.
- Hint:** If the pads are pushed together tight, slide the travel spacer between the pads and enlarge the gap until it is large enough to pull the pads out.
2. With the pads removed, push the pistons all the way back into the bore using the box end of an 10mm wrench. Walk the piston back and forth until the piston is all the way back in the bore. Do the same thing on the other side.
- Caution:** Don't push the edge of the pistons as they may crack or chip.
3. When the pistons are back into their bores, install the pads.

Caliper Hose Removal/Installation

Removal

1. Remove the hose nut from the caliper using an 8mm open end wrench. (FIG. 1)
2. Pull the hose out of the caliper.
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.

Installation

1. If shortening the hose, 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 caliper and install the hose nut. Be sure that the hose is inserted completely into the caliper. 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 ± 5 in/lb. [7.9 ± 0.5 Nm]
6. Bleed the system. (NOTE: See Bleed Instructions)

Caliper Service

To repair the caliper, it must be removed from the bike and disassembled.

Piston Removal

1. Remove the caliper from the bike by removing the two M6x1.0 x 18.4mm mounting bolts. Remove the pads.
2. If there is nothing wrong with the hose and the hose fitting, completely remove the caliper hose assembly.

See hose removal

3. Remove the two bridge bolts - with a 5mm Allen wrench (FIG. 3) When you remove the two bridge bolts, the caliper will come apart into two pieces. There will be an inner and an outer caliper half and an O-ring between.
4. Take the O-ring out and inspect it for any cuts or debris. The o-ring may be reused when the caliper is put back together. (FIG. 4)

Caution: Do not scratch O-ring groove when removing the O-ring, as this could cause the O-ring to leak.

5. Remove the pistons from the caliper with pressurized air.

Avoid chipping the piston. Blow it onto a clean, lint free rag or other soft surface.

Warning: Wear safety glasses

6. With your finger tip sealing off the bleeder hole, angle the caliper so the piston is facing downward, then direct pressurized air thru the hole that connects the 2 halves together. This will force the piston out of the caliper. (FIG. 5)
7. Carefully remove the square seal from inside the piston bore. The replacement kit will consist of a new piston and square seal.
- Caution:** Do not scratch the groove in the piston bore. This can cause leakage. Use a sharpened wood or plastic stick.
8. Remove the piston and square seal from the opposing caliper half in the same way.
9. Clean all of the parts. Then rinse each part with isopropyl alcohol. Be sure to clean the caliper through all of the holes.
10. Wipe down each part to remove the residue. Then use compressed air to blow dry and remove all of the remaining dirt, etc. For both caliper halves, be sure to blow compressed air through both the bleeder hole and the transfer port, and all around the square seal groove.

Note: Take extra care to get the square seal grooves free of any hair, dirt, scratches, etc. that could cause the caliper to leak.

Piston Assembly

1. Begin re-assembly of the caliper by lightly lubricating the new square seals with DOT 3, DOT 4 or DOT 5.1 brake fluid and installing the new seals in the caliper halves.
2. Carefully push the square seal into its seal groove - making sure that the seal is worked into the groove all of the way around - and that it is pushed all of the way to the back of the seal groove. (FIG. 7)
3. Put a coating of DOT 3, DOT 4 or DOT 5.1 brake fluid all around the piston as a lubricant, and carefully push the piston into the bore, (FIG. 8) past the seal, until it seats at the bottom of the bore. (FIG. 9)

Note: The piston should push in easily, if it doesn't, take the piston out and again push the square seal all of the way to the back of the groove and then try again.

Caliper Assembly

1. Place the Transfer port o-ring into the o-ring seat in the outer caliper half.
2. Put the two caliper halves together and install the bridge bolts.
3. Torque the bridge bolts to (Steel 190 in.-lbs +/- 5 in.-lbs = 21.5 Nm +/- 0.5 Nm)
4. Reattach the hose to the caliper.
5. Bleed the system (see bleed instructions).



FIG. 1

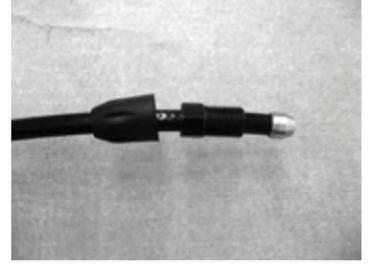


FIG. 2



FIG. 3



FIG. 4



FIG. 5



FIG. 6



FIG. 7



FIG. 8



FIG. 9

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.