



Feel 'R Gauge (Caliper Alignment Tool)

The purpose of the **Feel 'R Gauge** is to aid in the installation and centering of the disc brake caliper over the rotor, and to help check the brake for function of the brake after service (e.g. bleed, hose replacement, caliper and/or master cylinder rebuild).

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

Caution: Insure that the **Feel 'R Gauge** is clean and free of debris/contaminants. Any fluids must be cleaned off of the brake track surface as well as the feeler gauges to insure that the pads remain free of any fluids that could degrade brake performance.

Caution: Clean the **Feel 'R Gauge** using only a 70% or better solution of isopropyl alcohol and a clean shop towel. No other cleaner can be trusted to leave the surface free of contaminants, nor can any other cleaners be trusted not to leave behind a residue that may contaminate the pads.

Warning: If you get any brake fluid on the brake pads, discard them and replace with new pads. If you get any brake fluid on the disc, clean it thoroughly with isopropyl alcohol.

Warning: DOT 4 and DOT 3 brake fluid can be an irritant when it comes into contact with human tissue. For skin contact, brake fluid should be washed off in flowing water. For eye contact, the eye area should be irrigated with flowing water immediately and continuously for 15 minutes. Consult with medical personnel. If effects occur from inhaling brake fluid fumes, move to an area with fresh air. Consult a physician. If brake fluid is ingested, induce vomiting and consult medical personnel. Used brake fluid should be disposed of in accordance with local laws.

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

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.

A. Installing and centering the caliper

1. Mount the caliper to the brake mount on the frame/fork or to the mount bracket (if one is required). Keep the mount bolts holding the caliper to the mount loose enough that the caliper can slide easily from side-to-side. Pull the lever four times to set the pad gap.
2. Insert the feeler gauges into the caliper slot so the feeler gauges sit between the pads and the rotor. (Fig 2)
3. With the feeler gauges between the pads and the rotor, actuate and hold the brake lever tightly.
4. While squeezing brake lever, tighten the caliper mount bolts. Alternate tightening the screws until full torque is reached. Tighten the mount bolts to 80 +/- 5 in-lbs (9.0 +/- 0.5Nm) for a caliper mounted on a post mount fork and 110 +/- 10 in-lbs (12.42 +/- 1.1 Nm) for calipers using a mount bracket. (Fig 3)
5. Release the lever and remove the feeler gauge tool. Pump the lever a few times and spin the wheel to test the centering of the caliper.

B. Testing brake function

1. After required repair/service has been performed, clean the brake thoroughly using isopropyl alcohol.
2. Install the brake pads. Take the **Feel 'R Gauge** and install the brake track surface between the pads with the feeler gauges outside of the caliper (Fig 4)
3. Engage the brake lever four times and check for lever feel. If the lever feel is firm, proceed to Step 4. If the lever is soft, bleed the system according to the bleed instructions. Complete bleed and service instructions can be found at www.hayesdiscbrake.com.
4. To check for pad retraction, remove the **Feel 'R Gauge** and insert the thicker side of the tool between the pads. The thick side of the **Feel 'R Gauge** should fit easily between the pads. (Fig. 5)
5. If the **Feel 'R Gauge** doesn't fit easily between the pads, the likely problem is an over filled system. Remove the brake pads, set the master cylinder into the proper bleed position, and reattach overflow bottle of bleed kit to the master cylinder assembly. Push the caliper pistons into their bores according to the models instructions. This will purge the excess fluid out of the system and insure that no air is drawn back into the master cylinder assembly. Complete bleed and service instructions can be found at www.hayesdiscbrake.com.
6. Repeat steps 2 through 4 to check for pad retraction.
7. After the pad retraction test is completed, set the brake up according to the owner's manual, and center the caliper according to the instructions in part A of this manual.
8. Once the brake is centered and mounted, go out and ride! (Fig. 6)



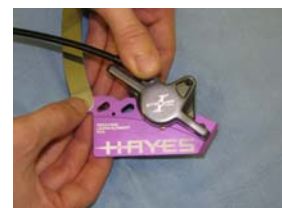
(Fig 1) Components of the Feel 'R Gauge tool.



(Fig 2) Inserting Feel 'R gauges between pads and rotor



(Fig. 3) Centering the caliper with Feel 'R Gauge in place



(Fig. 4) Testing brake using Feel 'R Gauge brake track.



(Fig. 5) Testing for proper caliper retraction using the thick edge of the tool.



(Fig. 6) All set and ready to ride!

