

ATTENTION

Statements in these instructions that are preceded by the following words are of special significance:

Warning

This means there is the possibility of injury to yourself or others.

Caution

This means there is the possibility of damage to the motorcycle.

Note

Information of particular importance has been placed in italics.

Important Notice

- Before installing a caliper or rotor kit, read through these instructions completely; this will familiarize you with the way in which the parts fit together and the tools needed to complete the job.
- In the course of installing these kits you will be replacing the stock brake caliper(s) and/or rotor(s) with a high-performance brake caliper(s) and/or rotor(s). Please pay special attention to the section of the instructions dealing with the centering of the caliper over the brake rotor.
- PM products are design to use both DOT 4 and DOT 5 brake fluid, please use the manufactures suggested brake fluid. Never reuse brake fluid, Never mix DOT 4 and DOT 5 brake fluid, don't use brake fluid that you are not sure is new and clean. This installation should only be attempted by a mechanic with a thorough understanding of and experience with motorcycle hydraulic systems.
- If you plan on using the stock brake line/hose that runs between the master cylinder and the caliper, then you will be just switching the the line at the caliper's banjo fitting. We recommend that you do not disconnect the line from the stock caliper until you have the new caliper bolted in place and are ready to bleed the brake system. This way the brake fluid will not run completely out of the master cylinder before you have the new caliper connected up to it.



WARRANTY

Performance Machine Inc. warrants to the original purchaser that the parts of this Brake Kit to be free of manufacturing defects in materials and workmanship for a period of one (1) year from the date of purchase. In the event warranty service is required, you must call Performance Machine immediately with a description of the problem.

If it is deemed necessary for Performance Machine to make an evaluation to determine whether the part is defective, [a return authorization number will be given by Performance Machine]. The parts must be packaged properly so as to not cause further damage and returned prepaid to Performance Machine with a copy of the original invoice of purchase and a detailed letter outlining the nature of the problem. If after the evaluation by Performance Machine the part was found to be defective it will be repaired or replaced at no cost to you. If we replace it, we may replace it with a reconditioned one of the same design.

Performance Machine shall not be held liable for any consequential or incidental damages resulting from the failure of a Performance Machine part.

Performance Machine shall have no obligation if a part becomes defective as a result of improper installation, modification or abuse.

Disclaimer

These Performance Machine parts are designed for high performance motorcycle applications and are intended for the very experienced rider only. The installation of these Performance Machine parts may adversely affect or void your factory warranty.

Caliper Finish

Caliper kits are available in a standard clear anodized, polished or chrome finish. Make sure that your caliper kit has the correct finish on it before you start to install it; you cannot return it for incorrect finish once it has been installed.

Preparation

Before starting to assemble a PM caliper kit on your motorcycle, check the packing list to make sure that the kit you received is the correct one for your model motorcycle.

Have a new bottle of manufacturer's suggested brake fluid on hand.



PM 4 PISTON CALIPER AND EARLY FLH (1973 TO 1983) BRACKET. AVAILABLE FOR USE WITH STOCK 10" DISC OR PM 11.5" DISC.

Modify Early FLH Fork Leg



Installation of PM brake system on early FLH requires extensive modification of the fork leg and may require tools and skills you do not have! For best results, please consider having a professional complete this installation.

Remove Fork Leg

Remove front wheel and OEM brake system. Drain fork oil and remove left fork leg from bike.

Remove OEM Bracket

The factory brake caliper bracket must be cut off of the fork leg to allow clearance for the PM caliper bracket. We used a band saw to do the job, but other saw types will also work (do not use a torch!) see Photo 2. Once the bulk of the old bracket has been cut away see Photo 3, use a belt sander or similar tool to smooth out the remaining imperfections.



An improper cut could irreparably damage your fork leg. If you are not comfortable removing the OEM bracket, please have a professional do the job.



PHOTO 1



PHOTO 2



PHOTO 3



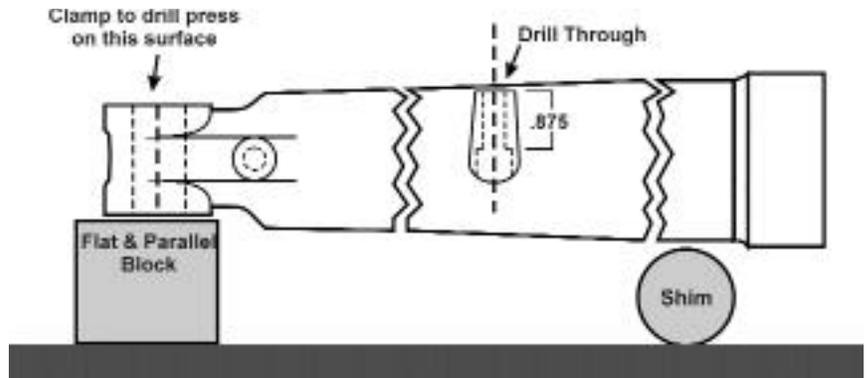
PHOTO 4



PHOTO 5

Modifying Fork Leg (Continued)

Using a drill press and a flat surface, clamp fork leg using parallel block and shim, see Illustration. Drill completely through fender tabs with 5/16" bit. Rotate leg 180° and re-clamp to drill press. Counter bore as shown for 5/16" allen head cap screw. see Photos 4 and 5.



Bracket Installation

Re-install fork leg, fender and right side front fender bolts. see Photo 6.

Using supplied hardware and spacers, slide 5/16" allen head cap screws through fender mount (from outside) and place spacers over bolts, trapping fender between fork leg and spacer see Photo 7. Slide PM caliper bracket over spacers (it floats on spacers) see Photo 8 and use supplied lock washers and Nylock nuts to secure the assembly. Torque specs: 5/16" bolts 16-19 ft.lbs. *If you are using chrome plated hardware, put a drop of Loctite #242 (blue) on the bolt threads to keep them from galling the threads in the bracket or lock-nuts.*



PHOTO 6



PHOTO 7

Install disc to front wheel. PM recommends checking flatness of disc prior to installation, as older discs tend to warp over time and will adversely effect braking performance. If your disc is warped or grooved, replace with OEM 10", PM 10" or for best braking performance PM 11.5" disc.

Original wheel spacers must also be re-installed at this point.



PHOTO 8





PHOTO 10

Installing The Front Wheel

Center front wheel assembly between fork legs. Install supplied axle spacer between PM bracket and fork leg see Photo 11 and insert axle through fork legs and wheel. Tighten to factory specifications.



PHOTO 11

Installing The Caliper

Slide the caliper down over the rotor and attach it to the mount with two 3/8-16 x 1 1/8" socket head cap screws, two 3/8" lock washers and two 3/8" flat washer. Tighten these screws finger tight at this time, see Photo 3.



PHOTO 12

Centering The Caliper

After you have installed the new PM brake caliper onto your motorcycle you must align its center to the center of the brake rotor; otherwise you will not get maximum brake performance or brake pad wear. The center line of the caliper is where the two halves of the caliper are joined together, see Photo 12. Look down from the top of the caliper onto the rotor; if it is off-set to the outside then you will need to install mounting bolt shims. The caliper shim kit that is included in the caliper kit contains 6 shims: 2ea. .016", 2ea .032" and 2ea .062". These shims are to be inserted between the mounting boss on the fork slider/rear caliper mount and the caliper's mounting boss to position the caliper so that its center line is over the rotor's center line. To install the shims, remove the caliper mounting bolt, slip the shim into place and replace the mounting bolt. Check the caliper for centering at both ends; on most installations the same thickness of shim will be needed behind each mounting boss.

After the caliper is centered over the rotor, install the lock washers from the kit and torque the caliper mounting bolts to 22 ft. lbs.



PHOTO 13

Warning

Failure to center the brake caliper over the brake rotor will impede the performance of the brakes. Rotate wheel slowly and with wheel raised, check for possible interference between caliper, wheel and disc assembly. After brake is bled, check for free rotation before and after master cylinder is activated.

Completing The Brake Installation

Attaching The Brake Line

First tape handle bar master lever 1/2 way closed. This will prevent fluid from free flowing from hose. Remove the end of the brake line from the stock caliper; you will need a 3/8" 12 point socket wrench or box end wrench to remove the banjo bolt from the stock caliper. Working rapidly, so that an excessive amount of brake fluid does not run out of the end of the brake hose, attach the end of the brake line to the new PM caliper using the PM supplied seal washers, one washer goes on each side of the banjo fitting; see Photo 13.

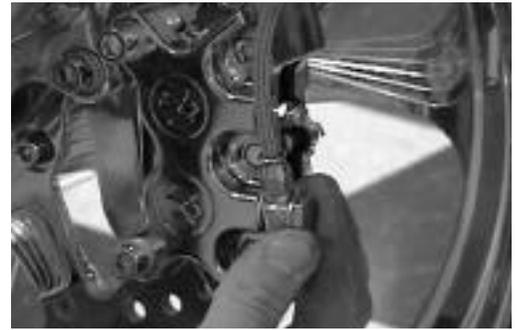


PHOTO 13

_____ Note _____

Position the banjo fitting so that the brake hose does not rub on the front fender or other part of the motorcycle.

Tighten banjo bolt to 10 ft. lbs. of torque.



PHOTO 14

Bleeding The Brake System

You will find it is easier to bleed the brake system if you have a helper. First, fill the master cylinder with the manufactures suggested brake fluid and put the cover back on the master cylinder. Attach a short length of rubber hose to the bleeder screw on the brake caliper, see Photo 14; put the other end of the hose into a coffee can or other suitable catch can. Have your helper pull in on the front brake lever or push down on the rear brake pedal 5 times, see Photo 15. At the end of the 5th stroke, have your helper hold the brake lever in or pedal down. While the helper holds the lever/pedal, open the bleeder fitting on the caliper, you will need a 1/4" end wrench for this. Air and brake fluid should come out of the end of the hose that is connected to the bleeder fitting. After the air and brake fluid have stopped coming out of the hose, close the bleeder fitting; your helper can now release the brake lever/pedal. This action will force the air that is trapped in the brake system out the bleeder screw, because the brake system can contain more air than you can expel in one bleeding; you will need to repeat this procedure more than once. Check the fluid level in the master cylinder after each bleeding, don't let the master cylinder run dry as this will push air back into the brake system which will require the bleeding procedure to be started over again.



PHOTO 15

_____ Note _____

Do not over tighten the bleeder screw.

Warning

Failing to bleed all the air out of the brake system will impede the performance of the brakes.



COMPLETED FRONT BRAKE CALIPER INSTALLATION