

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.

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.

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 this kit you will be replacing the stock brake caliper with a high-performance brake caliper. 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.
- The PM Drive Side Brake System requires a matched PM wheel, PM Disc and PM Pulley to operate correctly. We do not recommend use of other manufacturers components with this system. An aftermarket brake line will also be required as the stock line is not long enough. The PM Drive Side Brake System requires welding tabs to your swing arm, it is strongly recommend that this be done by a certified welder.



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.

Fitment

This Performance Machine Drive Side Brake System is designed to fit all 1984 and later Harley-Davidson® Softails®.

Preparation

Before starting to mount this caliper, please check the packing list to make sure that the caliper you received is the correct one for your model motorcycle. Have a new bottle of the manufacturer's suggested brake fluid on hand. The PM Drive Side Brake System requires welding tabs to your swing arm, it is strongly recommended that this be done by a certified welder.

Installing a rear caliper requires the removal of the rear wheel. Using a suitable lift, raise the motorcycle high enough off the ground to allow you to remove the rear wheel assembly.

Warning

Center the motorcycle on the lift so that it will not fall while you are working on it.

Removing The Stock Components

Although the PM Drive Side Brake System can be installed with the swing arm bolted to the frame, we recommend removing it for better access as well as repainting. Begin by removing rear wheel, stock brake components and belt guard from swing arm.

Photo #1 Using supplied 3/4 x 2" bolt, position Drive Side Brake Assembly on swing arm. Slide assembly to center position of tab and axle spans. Making sure brake mounting tabs are flush with swing arm, snug 3/4 x 2" bolt to hold assembly and mark swing arm area to be ground **Photo #2**. Remove entire assembly from swing arm and thoroughly grind paint away from marked areas **Photo #3**.

Photo #4 Re-mount assembly to swing arm and slide to rear-most position of both axle and brake mounting tabs. Confirm that brake tabs are flush with swing arm and parallel to each other. Snug 3/4 x 2" bolt and 5/16" socket head cap screws in tabs to hold assembly during welding process.



Drive Side Caliper Kit



Photo #1



Photo #2



Photo #3



Photo #4



Photo #5

Welding Tabs to Swing Arm

———— Note ————

PM recommends all welding be done by a certified welder.

Photo #5 Tack weld rear of tabs to swing arm. Avoid excessive welding near brake assembly as heat can mar finish. Loosen socket head cap screws and 3/4" bolt, Slide entire assembly to forward most position and re tighten bolts **Photo #6**(movement should require minimal effort if tabs are aligned properly) and tack front of tabs to swing arm.



Photo #6

Remove brake assembly from swing arm. Weld tabs to swing arm. Verify alignment of tabs, as they must remain parallel to each other. Repaint swing arm and re-install on bike to factory torque specs.

Installing Brake Assembly

Remove primary bracket from tower assembly (this allows bracket to be installed without having to line up caliper on disc) by removing the three 5/16" socket head cap screws (commonly called allen bolts).



Photo #7

Photo #7 Mount rear tire and bolt pulley to rear wheel. Place disassembled bracket against pulley using smaller of two supplied spacers between bracket and pulley. Slide wheel/brake assembly into swing arm. Place large spacer on right side and slide axle in.

Do not tighten axle at this point.



Photo #8 Slide caliper/tower assembly over disc and install 5/16"x 1" socket head cap screw in center hole to position assembly **Photo #9**. Snug, but do not tighten bolt at this point.



Photo #8



Photo #9

Installing Brake Assembly

Photo #10. Install remaining socket head cap screws (5/16" x 1.5") through tabs into brake assembly. Do not tighten at this point. Adjust belt tension, center wheel and torque rear axle to factory specifications. Slowly rotate wheel to check for proper clearance between bracket/pulley and caliper/wheel, shim if necessary.

Photo #11 Remove center 5/16" socket head cap screw and apply drop of Loctite #242 (blue) to threads. Re-install bolt and torque to 20 ft.lbs.

Remove outer 5/16" socket head cap screws and repeat process. Once again, slowly rotate wheel to check for proper clearance between bracket/pulley and caliper/wheel.

A new brake line will have to be created and caution taken when routing it around belt and wheel. Firmly secure brake line to frame.

Attach the end of the brake line to the new PM caliper using the PM supplied banjo bolt and copper washers, one washer goes on each side of the banjo fitting. Using a 9/16" socket, tighten the new banjo bolt to 15 foot pounds of torque. Attach the other end to your existing master cylinder.



Photo #10



Photo #11

Bleeding The Brake System

Fill the master cylinder with DOT 5 brake fluid and set the cover back on the master cylinder. Attach a short length of rubber hose to the bleeder screw on the brake caliper. Pump the brake pedal several times, see Photo 12. On the final stroke of pumping the brake pedal hold the brake pedal down and open the bleeder fitting on the caliper, after the air and brake fluid have stopped coming out of the hose attached to the bleeder screw it closed, you can now release the brake pedal. This action will force the air that is trapped in the brake system into the caliper and opening the bleeder screw lets the air out of the system. Because the brake system was empty, you will need to repeat the bleeding 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 #12

Warning

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