



**Performance  
Machine · Inc**  
DISC BRAKES AND WHEELS

# Installation Instructions Forward Control Kit For Sportster®

## 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 this forward control 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 rear brake master-cylinder assembly and the brake line that runs from the master-cylinder to the brake light switch junction and then on to the rear brake caliper.
- 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 Harley-Davidson® brake system
- To install this kit you will be changing the shift pedal assembly. It is highly advised to also obtain the appropriate service manual for your motorcycle for detailed instructions regarding the transmission shift linkage.
- Before performing any installation steps, disconnect the motor-cycles battery to eliminate any possibility of damage to the electrical system due to a short circuit.

### Warning

Several models of aftermarket pipes interfere with PM Forward Controls. It is strongly recommended you test fit before beginning installation. PM Forward Controls will not fit 1999 and newer Sportsters with factory for-ward controls (switching to traditional motor plate will allow installation)

## 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.

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## Preparation

Before starting to assemble this forward control kit on your motorcycle check the packing list to make sure that the kit you received is the correct one for your model motorcycle and that the foot pegs are the style you ordered ( billet or ISO pegs). Check the master cylinder part number, if you are installing this kit on a motorcycle with a single caliper the 5/8" bore master cylinder P.N.0065 2603 is recommended, for a dual caliper installation then the 3/4" bore master cylinder P.N.0065-2703 should be used. Next check the contents of the hardware kit against the packing list for completeness.

To install this forward control kit it will be desirable to raise the motorcycle off the ground on a suitable lift.

### Warning

Be sure to center the motorcycle on the lift so that it does not fall over when you raise it up or when you are working on it.

## Installing The Shift Control

Remove the stock shifter and foot peg from your motorcycle. Install supplied 5/16" X 3" socket head cap screws and 5/16" AL flat washers with a dab of **Loctite #242** (blue) into foot pegs holes. Photo 2

Remove upper and lower motor plate bolts (those connecting motor plate to frame), save factory nuts. Photo 3

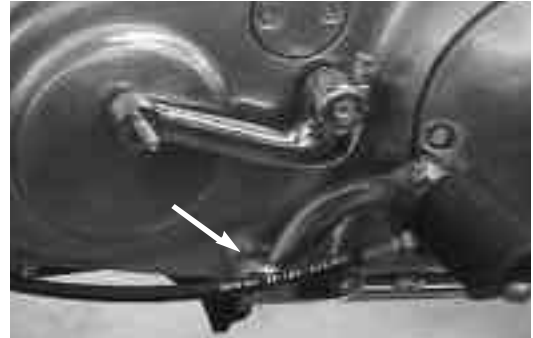
Remove shipping nuts from Forward Control Assembly.

Install Shift Side Forward Control Assembly through frame/motor plate holes, dab threads with **Loctite #242** (blue) and tighten down using OEM hardware to 25 ft-lb. Photo 4

Using a 3/8" X 2" hex head bolt supplied spacer with a lock and flat washer put a drop of **Loctite #242** (blue) on the threads and insert the bolt through the rear of the control mounting plate and attach the footpeg pivot to it. Tighten the bolt while holding the footpeg pivot so that its hinge is lined up in a 45° rear facing angle.



**FORWARD CONTROL KIT**



**STOCK SHIFTER AND PEG**



**PHOTO 2**



**PHOTO 3**



**PHOTO 4**



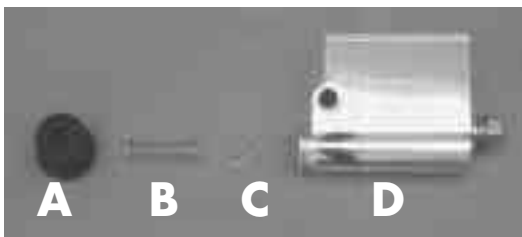
**PHOTO 5**



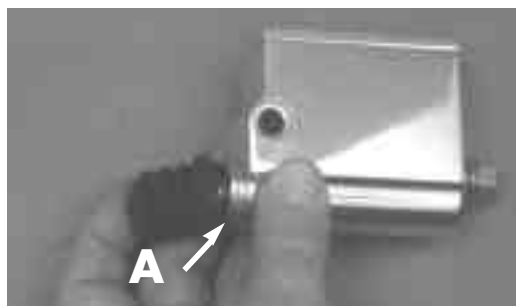
**PHOTO 6**



**PHOTO 7**



**PHOTO 8**



**PHOTO 9**

## Completing the Shift Control

Mount the shift pedal to the other end of the shift arm using a 5/16" X 1" socket head screw with a drop of **Loctite #242** ( blue ) on it.

Attach shift rod to the inside of the arm of the shift control linkage using supplied clevis pin and secure with cotter pin. Photo 5

Install shift arm to transmission in vertical position and secure .

Attach shift rod to arm using supplied clevis pin and secure with cotter pin. Photo 6

### Note

*Both forward control shift arm and transmission shift arm should be in vertical position. Shift rod and timing of Forward Control shift arm may have to be adjusted for optimal position.*

## Aligning the Footpegs

After you have assembled the shift control onto your motorcycle you must align the footpeg. The folding footpeg assembly uses a blind stud to attach the footpeg to the footpeg pivot. Shim washers (3/8" x .015") are used on the stud between the footpeg and the pivot, see Photo 7, so that the top surface of the footpeg is correctly aligned for your foot when it is tightened down on the pivot. This is done by setting a couple of shim washers on the footpeg mounting stud "A" and then screwing the footpeg onto the mounting stud, if the footpeg is rotated to far forward then add another shim washer, if not far enough then remove a shim washer.

After you have selected the correct number of shims for your foot-peg, disassemble the footpeg and put a drop of **Loctite #271** (red) on both ends of the stud and reassemble the footpeg. This will also need to be done on the brake control footpeg.

## Setting Up the Master Cylinder

The master cylinder pushrod return spring and pushrod boot must be installed on the master cylinder before it is assembled on to the forward control mount. The parts are shown in Photo 8: pushrod boot (A), pushrod spring (B), spring seat washer (C), and master cylinder (d). Place the return spring seat washer into bore of master cylinder so that it sits on top of the piston retaining snap ring. Next set the pushrod return spring on the seat washer and slide the pushrod boot over the return spring now slip the big end of the boot over the flange on the master cylinder so that the ridge on the inside of the boot fits into groove "A" that is machined into the end of the master cylinder flange, see Photo 9.

## Installing The Brake Control

Remove the existing brake controls, master cylinder and foot peg.  
Remove motor plate bolts and save OEM nuts. Photo 10

### Note

*For complete brake system removal instructions and precautions refer to the appropriate service manual for your year and model motorcycle.*

Install the master cylinder by slipping the end of the brake pedal pushrod through the hole in the end of the master cylinder boot and into the recess in the piston. Align the rear mounting hole on the master cylinder up with the rear hole on the brake control plate and install peg through master cylinder and backing plate. Snug, but do not tighten. Insert 3/8"x 1" socket head cap screw with a lock and flat washer insert it through the front mounting hole, (from back of plate) and screw it into the master cylinder, snug, but do not tighten.

Photos 11-12

Remove two shipping nuts from backing plate towers and install Brake Side Forward Control Assembly through frame/motor plate holes, dab threads with **Loctite #242** (blue) and tighten down using OEM hardware to 25 ft-lb. Photo 13

### Warning

Several Models of aftermarket pipes interfere with PM Forward Controls, preventing proper installation.

Align peg pivot to rear facing 45° and tighten to 25 ft-lb. Tighten Master Cylinder bolt to 25 ft-lb, also.

Adjust peg and stall pedal per instruction on page 3. Photo 14

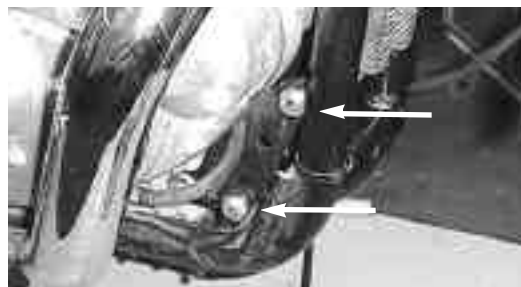


PHOTO 10



PHOTO 11



PHOTO 12



PHOTO 13



PHOTO 14



PHOTO 15

## Adjusting The Brake Linkage

The master cylinder pushrod must be adjusted after the master cylinder is attached to the brake control mounting plate. To do this you must slide the pushrod boot back from the pedal end of the pushrod to expose the pushrod jam nut. Loosen the jam nut and adjust the pushrod until the brake pedal has 1/8" free play, that means that the brake pedal moves down 1/8" before the pushrod contacts the master cylinder piston. Once the pushrod is correctly adjusted apply a dab of **Loctite #242** (blue) to the pushrod threads and tighten the jam nut while holding the pushrod. After adjusting the pushrod recheck the brake pedal's free play, see Photo 15.

### Warning

Failing to correctly adjust the brake pedal free play could cause the caliper to lockup on the brake rotor.

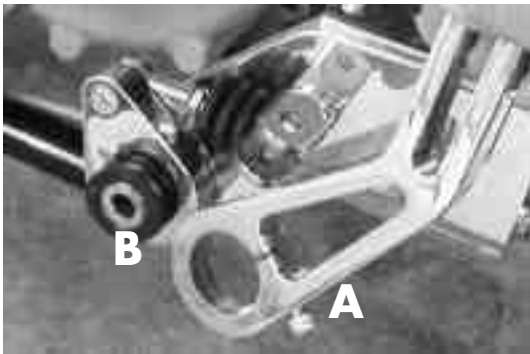


PHOTO 16

## Adjusting The Brake & Shift Pedals

If you find that the brake pedal adjustment is not to your liking, you can adjust it. You first remove the brake pedal pivot bolt, then remove the brake pedal pinch bolt, "A" in Photo 16. Next slide the brake pedal off the spline shaft, "B" of the master cylinder bell crank. Now realign the brake pedal to the position you want and slip it on the spline shaft and install its mounting bolts. Recheck the brake pedal's free play.



PHOTO 17

## Bleeding The Brake System

Attach the brake line to the master cylinder with the supplied banjo bolt and copper washers, see Photo 17. Thread brake line through OEM loops and connect to rear caliper. Fill the master cylinder with manufactures suggested brake fluid and set the cover back on the master cylinder.



PHOTO 18

Attach a short length of rubber hose to the bleeder screw on the brake caliper, see Photo 19. Pump the brake pedal 5 times, see Photo 18. At the end of the 5th 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, Photo 19 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.

### Note

*Do not over tighten bleeder screw.*

### Warning

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



PHOTO 19