

## 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 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. No brake lines are included in this kit, you must order the brake lines separately, the Performance Machine Catalog has a complete listing of stainless steel brake line parts to choose from.
- 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.
- 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 motorcycle's battery to eliminate any possibility of damage to the electrical system due to a short circuit.



## 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.

## Preparation

Before starting to assemble this forward kit on your motorcycle check the packing list to make sure that the kit you received is the correct one for your model motorcycle.

To install this forward control kit it will be necessary 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 kickstand and shift controls from your motorcycle down to the mounting lug that is welded on to the frame's left side, see **Photo 1**.

Install 3/8" x 2" hex head bolt and 3/8" aluminum washer from back of the shift control plate. This **MUST** be done **before** installing shift control plate on the bike! see **Photo 2**.

Using two 3/8" x 5/8" (1999 and earlier use three 3/8" x 5/8") socket head cap screws and a drop of Threadlock applied to the bolts threads mount the shift control plate to the motorcycle frame (do not tighten, yet), see **Photo 3**.

### Note

Before torquing the shift control mounting bolts down, tighten them snug and look behind the shift control mounting plate to where it contacts the mounting lug on the frame. Make sure it fits squarely to the lug before proceeding further.

Torque the 3/8" shift control mounting bolts down to 25 ft-lb.

Attach the kickstand bracket using two 5/16" x 1 1/4" (1999 and earlier use four 5/16" x 1 1/4") socket head cap screws with 5/16" aluminum washers (small outside diameter). Secure the screws with 5/16" aluminum washers and 5/16" lock nuts on the rear side of the shift mounting plate. On 2000 and newer bikes install a 3/8" x 1 1/4" socket head cap screw with aluminum washer in the upper/forward kickstand bracket mount hole and torque to 25 ft-lb.



PHOTO 1



PHOTO 2

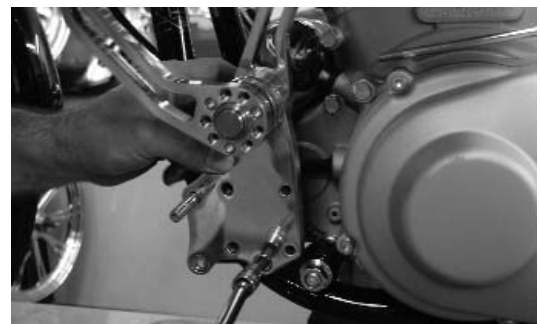
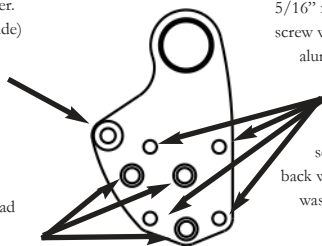


PHOTO 3

### 84-99 BACKING PLATE

3/8" x 2" Hex-head bolts and aluminum wash-er. (inserted from backside)



3/8" x 5/8" Socket head cap screws.

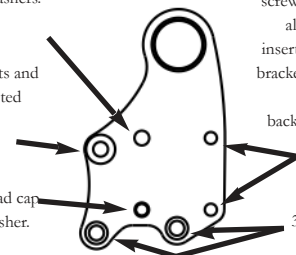
5/16" x 1 1/4" socket head cap screw with aluminum washers inserts through kickstand bracket and are secured from the back with aluminum washers and 5/16" locknuts.

### 2000 AND NEWER BACKING PLATE

5/16" x 1 1/4" socket head cap screw with aluminum washers.

3/8" x 2" Hex-head bolts and aluminum washer. (inserted from backside)

5/16" x 3/4" Socket head cap screw and aluminum washer.



5/16" x 1 1/4" socket head cap screw with aluminum washers inserts through kick-stand bracket and are secured from the back with aluminum washers and 5/16" locknuts.

3/8" x 5/8" Socket head cap screws



PHOTO 5

## Completing the Shift Control

Install kickstand into bottom of kickstand bracket. Before bolting on kickstand stop, rotate kickstand forward and connect stock spring to both kickstand and kickstand bracket (some models came with a frame mounted spring tab that is no longer used). Rotate kickstand back and install kickstand stop. **see Photo 5**



PHOTO 6

Thread the 5/16" jam nut and the 5/16" ball rod end onto the transmission shift rod and attach it on the inside of the arm of the shift control linkage using a 5/16" x 1" socket head screw and a low profile locking nut, **see Photo 6**. 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 Threadlock on it **see Photo 7**.



PHOTO 7

Adjust the transmission shift linkage and secure it with the jam nut.

Apply a drop of Threadlock to the threads under the jam nut before tightening.

## Install Foot Peg

Slide foot peg spacer over peg bolt (with beveled edge out) **see Photo 8**. Tighten the bolt while holding the foot peg pivot so that its hinge is lined up in a 45° rear facing angle. See page 6 for foot peg installation and adjustment.



PHOTO 8

## Positioning Shift Arm

The PM Contour Forward Controls employ a unique system to adjust the height of the shift arm to suit your riding style and body position. By removing the three socket head cap screws that mount the shift arm to the control assembly, the arm can be re-positioned in one of three different locations, **see Photo 9**. Re-install the shift arm (we recommend doing this with the bike on the ground and rider astride to check for best position) tighten the 3 socket head cap screws with a drop of Threadlock, **see Photo 10**.

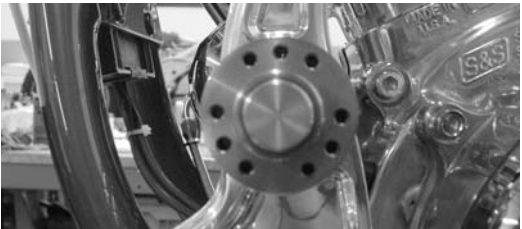


PHOTO 9

If one of these 3 positions is not satisfactory, the shift arm pivot can be re-locked to create another 3 positions (half spaces between the initial 3 points). Remove both shift arms (3 cap screws on outer arm and single pinch bolt on inner). Carefully knock the locator pin out of the pivot shaft **see Photo 11** and press back into the opposing hole in the shaft. Re-install the inner and outer shift arms as described above.



PHOTO 10

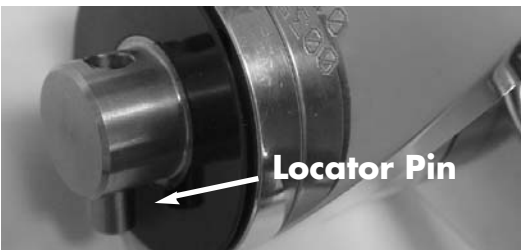
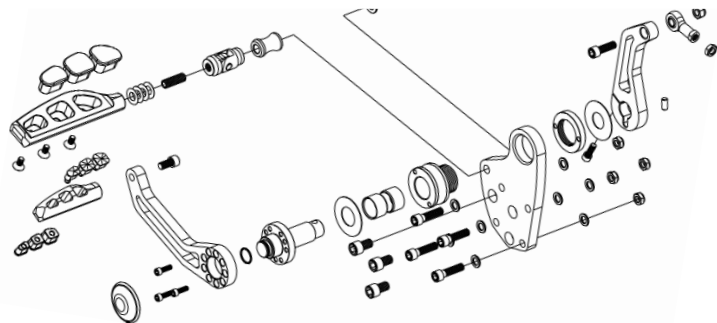


PHOTO 11

Do **not** install shift arm cap at this point. Final adjustments may require re-positioning of shift arm.

## Installing The Brake Control

Remove the existing brake controls from your motorcycle down to the control mounting lug that is welded on to the frame's right side, see **Photo 12**.

### \_\_\_\_\_ Note \_\_\_\_\_

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

Install 3/8" x 2" hex head bolt and 3/8" aluminum washer from back of the brake control plate. This **MUST** be done **before** installing brake control plate on the bike! See **Photo 13**.

On the back side of Performance Machine brake control, remove the temporary assembly nut that secures the brake pedal pivot bolt. Put a drop of Threadlock on the brake pedal pivot bolt "**A**", fit the brake control to the mounting lug on the frame and screw the brake pedal pivot bolt into the lower mounting hole (install the bolt finger tight at this time), see **Photo 14**. Next put a drop of Threadlock on the 3/8" x 5/8" socket head cap screw and install it through the counter bored hole at "**B**" in the brake control mounting plate and screw it into the upper hole in the mounting lug on the frame (on 2000 and newer bikes, add a 2nd 3/8" x 5/8" socket head cap screw at C)

### \_\_\_\_\_ Note \_\_\_\_\_

Before torquing the brake control mounting bolts down, tighten them snug and look behind the brake control mounting plate to where it contacts the mounting lug on the frame. Make sure it fits squarely to the lug before proceeding further.

Torque the two brake control mounting bolts down to 25 ft-lb.

Slide a 3/8" x 3/4" socket head cap screw and aluminum washer into the forward most hole of the brakeside plate (from the back), see **Photo 15**.

Install the master cylinder by sliding it over the 3/8" x 2" peg bolt that you installed earlier. Apply a drop of Threadlock to the bolt threads and screw the footpeg pivot onto the bolt. Put a drop of Threadlock on the threads of the 3/8" x 3/4" bolt as well and screw it into the master cylinder, torque the bolts down to 20 ft-lb.

### \_\_\_\_\_ Note \_\_\_\_\_

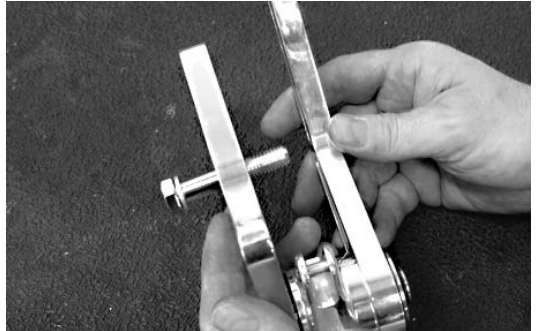
Remember to hold the footpeg pivot so that its hinge is at a 45° rear facing angle while the mounting bolt is tightened.

Install pedal in same manner as shown in shift control section.

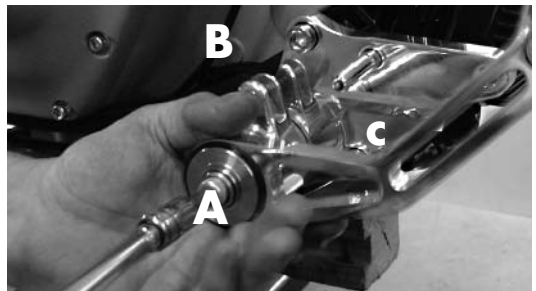
See page 6 for proper footpeg installation and adjustment.



**PHOTO 12**



**PHOTO 13**



**PHOTO 14**



**PHOTO 15**



**PHOTO 17**

## Installing & Adjusting Brake Linkage

The master cylinder pushrod adjustment controls the position of the brake arm and pedal. To raise or lower the arm to fit your riding style and body position, install the pushrod pin **see Photo 17** (do not install C-clip at this time) and check fitment. Remove pin and tighten or loosen the ball rod end to raise or lower the shift arm. Once you are satisfied with the locations of the brake pedal, apply a dab of Threadlock to the pushrod threads and tighten the jam nut while holding the pushrod, **see Photo 18**. Install C-clip to push rod pin.



**PHOTO 18**

## Installing Banjo Bolt

Attach the brake line to the master cylinder with the supplied banjo bolt and copper washers, **see Photo 19**. Fill the master cylinder with the manufactures suggested brake fluid and set the cover back on the master cylinder.



**PHOTO 19**

## Bleeding The Brake System

Attach a short length of rubber hose to the bleeder screw on the brake caliper, **see Photo 20**. Pump the brake pedal 5 times, **see Photo 21**. At the end of the 5 th. 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 20** 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 start-ed over again.



**PHOTO 20**

### Warning

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



**PHOTO 21**

## Aligning the Footpegs

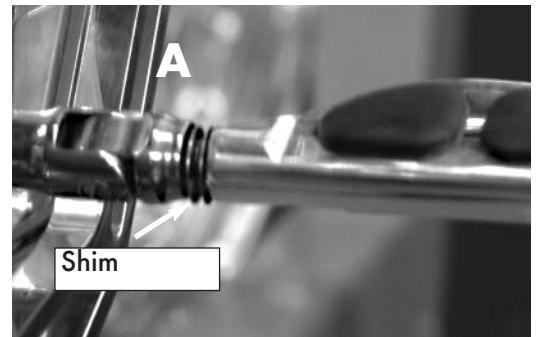
After you have assembled the shift & brake controls onto your motorcycle you must align the footpegs. The folding footpeg assembly uses a blind stud to attach the footpeg to the footpeg pivot. Shim washers (3/8" x .015") are used on the stud between the foot-peg and the pivot, see **Photo 22**, so that the top surface of the foot-peg is correctly aligned for your foot when it is tightened down on the pivot. This is done by setting shim washers on the footpeg mounting stud "A" and then screwing the footpeg onto the mounting stud, if the footpeg is rotated too 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 footpeg, disassemble the footpeg and put a drop of Threadlock on both ends of the stud and reassemble the footpegs.

## Install Contour Caps

The final step in installing PM Contour Forward Controls involves the shift and brake arm caps. These caps are held to their respective shafts with a rubber o-ring. Press the cap squarely onto the shaft and twist while applying pressure until the o-ring seats in the groove on inside of cap. Once installed properly, the cap will sit flush against the arm and should spin with only a small amount of resistance. see **Photo 23**.

Should it be necessary to remove one of the caps, it must be done with great care to avoid marking the aluminum. Place a soft cloth on the ground immediately in front of the cap (to catch it!). Insert small screw drivers in each of the divots and gently pry out. See **Photo 24**.



**PHOTO 22**



**PHOTO 23**



**PHOTO 24**