

CAM AM SPYDER 2007 MODIFICATIONS FOR AMPUTEE OR PARAPLEGIC RIDER by Bernie Floto

I have completed the mounting of the Kliktronic shifter, modified the brake system to a handlebar mounted master cylinder and nearly completed the self fabbed floor boards.

Kliktronic Shifter:

I wanted to stay with the Kliktronic shifter mounting plate supplied, as it had a nice swivel joint on it and the clamp. Playing with different angles and mounts, I went with mounting the unit directly below and ahead of the riders left foot peg. This I found was my personal best location, easy access, cool and protected from elements....to a point. A challenge I ran into was clearance room from the movement of the parking brake lever. Removing the entire bracket assembly, I simply hacked off the leading round edge of the parking brake lever with a hand hack saw. This allowed for more of a rear mounting location for the shifter, and still full use of the parking brake.

The design for mounting is a simply 'clamp mount' using raw stock steel bar, cutting it to size, drilling holes thru it and the Kliktronic plate. I used a rubber liner between the mounting plate and that of the Spyder's bracket, to help absorb any vibrations. As steel and aluminum hate living together, I painted the steel and used stainless bolts, washer and nyloc nuts.

Welded a 1/8" by 3/4" 'L' shaped tang onto the original shifter lever, and configured it to meet with the Kliktronic's plain of engagement, then moved the Kliktronic to and fro, until I had the full amount of stroke travel for both up and down shifting. I wanted to leave the original shifter usable, as then a 'walkie' could still drive the bike, and I could easily find Neutral, to simply roll the Spyder around in my shop.

Then placed the control box in the tiny space above the Spyder's battery, mounted the handle bar shift controller and ran all the wiring. The ignition power source, was used from the....get this, the passenger weight sensor. Yes, there's ignition 12 volts to this sensor, so I tapped into it.

Brakes:

I found that I had too small of a master cylinder, from an 850 VFR...only 14mm bore. The Spyder I found out, uses a 20mm bore master cylinder. My choice became the Z-14 Kawi Radial master cylinder, which I have on order at this time.

A shop local to my office, made me a 60" braided stainless steel flex line with direct banjo fittings on either end. From a local bike wrecker, I obtained a manifold rail from an old Wing, the one that fits under the steering head, which takes the single line and puts out two lines to either front rotor....to make this fit, I ground out a small portion of the Spyder's heat shield that allowed enough clearance to install my manifold rail.

Take off the two steel brake lines (one at time) from the original Spyder master cylinder and mount them to the manifold rail, using a double banjo bolt at the front end, which combines the stainless steel flex line from the handle bar mounted master cylinder and the original steel brake lines. It will come natural, once you see the photos.

If you are good, or lucky like me, you can bleed the lines at the point of the manifold rail. Be patient and burp as much air up thru your handle bar master cylinder reservoir.

Be sure NOT to push any air into the ABS module.....BRP told me that doing a full bleed job, would require a laptop and their software!!!

Floorboards:

Ok, no magic here.....except that would normally be 6' 6" and have a size 14 shoe.....great. So, I had to make my floorboard big enough, but not too big to take away from the bike. I used 1/4" checker plate aluminum and used a 5" length of 3/16" by 1 and a 1/2" raw stock steel bar underneath.....why, cause some clown somewhere when I am not around will try and get onto my bike, and break off the plate aluminum. I decide to make my own boards to start with, easy to do and cheap, did I mention cheap. I made up aluminum spacer blocks and was able to mount my boards using the same 8mm pins and clips that came with the Spyder. Nice, neat and functional.....I only to to weld on a 2" gate around the outer front edge, so my feet do NOT come out during a bump or a spasm.

My self made floor board is about an 1" lower than the normal foot peg, giving my long legs more room and an ergonomic position relative to my feet. This angle of floor board mounting will hopefully allow for more hours of enjoyment, without cramping up.

My last challenge will be mounting my wheelchair. I have plans of machining out a block of aluminum, and making a clamp design that would grab the rear passenger hand rail. I want to have hooks coming out so that I could hang my wheelchair. Along with that, make up a tray to hold in place a wheel of the chair, so to keep is secure when folded up and NOT swing in the breeze....more to come when I get there.

I do hope my progress report helps spur the minds of others and helps those that are challenged.. Any comments would be appreciated.

Barnie Floto
Agilent Technologies
Barnie_floto@agilent.com