Air Intake System Repair-GS850G

by BassCliff

We will be replacing the carb intake boots and O-rings, as well as the airbox boots. This involves removing the airbox and carburetor rack. It's a good idea to replace those funky old phillips head bolts with new hex fasteners from our friend Robert Barr at <u>http://cycleorings.com</u>. He also sells "the kind" intake boot O-rings and carburetor O-ring sets for rebuilding your carbs. Please check the service manual for your motorcycle for part numbers and procedures specific to your motorcycle. These are the parts I used for my 1980 Suzuki GS850GT:

Carb Intake Boots:

13110-45100 - PIPE, INTAKE RH, 2 required

13120-45100 - PIPE, INTAKE LH, 2 required

Carb Intake Boot Clamps:

09402-52306 - CLAMP, 4 required

Carb Intake Boot O-rings:

09280-38003 - O RING, 4 required

Airbox Boots:

13881-45030 - HOSE, RH, 2 required

13882-45030 - HOSE, LH, 2 required

Airbox Boot Clamps:

09402-58205 - CLAMP, 4 required

Here are the intake boots, clamps, fasteners, etc, ready for installation:



Remove the airbox by taking off the two 10mm hex bolts at the top of the assembly and the 4 clamps on the airbox hoses. This is the right side:



This is the airbox bolt and clamps as seen from the left side on cylinders #1 and #2:



Notice above how the boot is starting to separate from the carb. This can cause air leaks, make your bike run funny, and make it impossible to tune properly.

Here you see the clamps are loose and the airbox bolts are being removed with a 10mm hex socket.





When everything is loose the airbox should practically fall off. If you haven't already, remove the air breather hose. Tuck the vent hoses, fuel hose, vacuum hose, and wiring out of the way.

Be careful as you remove the airbox, from the right side of the bike, so as not to break the snorkel or snag any wiring.





Here's the airbox, ready for those fresh boots and clamps. A previous owner or mechanic had used some sealant around the boots to try to stop air leaks. Using new boots is the best solution to air leaks. We'll revisit the airbox later.



Back to the carburetors and intake boots. Here you see the naked end of the carbs:



Now loosen the clamps on the carburetor intake boots.

Once the clamps are loose, the carbs should separate with little effort.





The next part of the procedure will take a little dexterity. Once you have the carbs pulled about halfway out of the right side of the bike, you should disconnect the throttle cable and the choke cable. Here's the adjustment assembly for the throttle cable. I loosened only the bottom nut so as to keep the cable somewhat close to its original adjustment.





In this picture, just to the right of the throttle is the choke assembly.

After the lock nut is loose, manipulate the linkage with your thumb so that you can pull out the ball end of the cable from its holder.



While you're in there, manipulate the choke linkage and remove the ball end of the cable from its holder.





Then loosen the choke cable clamp and remove it from the linkage assembly. Now the carb rack can be completely removed from the right side of the bike.

Here's an old boot with flat, hard, possibly leaking O-ring. A previous owner or hack mechanic had replaced the vacuum port screw with some kind of wood screw and stripped the threads. I have been unable to vacuum sync this carburetor and had to put some RTV on the screw to stop any air leak.



But I'm getting a little ahead of myself. Let's get those old intake boots off so that we can install new boots and O-rings. Get out your trusty impact driver for those lousy phillips head bolts. Use a good fitting head in your impact driver.



So far, so good. The first boot is off. But there's not much room for the impact driver on those middle cylinders. Don't forget where the clutch cable clip goes as you reassemble later.





These two lower inside bolts had me worried. But they came off much more easily than I thought they would.

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I took my hammer and gave the #2 boot a little tap in the "lefty-loosey" direction, it came loose and turned all the way down. Then the bolt was then loose enough to remove with a regular screwdriver. The #3 boot couldn't turn quite as far but it was far enough to make the bolt extraction much easier.





Here is a shot of the head with the boots removed. Clean the intakes so there is no grease, dirt, or grime in the way when we install new boots and O-rings.

Oh boy! Fresh rubber! Here is a new boot with a new O-ring ready for installation. The vacuum port is pointing toward you.



There are 2 right-hand boots and 2 left-hand boots. Install the boots with the vacuum ports pointing down and to the outside of the bike.

Those hex head fasteners sure make this job a lot easier. Thank you Robert Barr (cycleorings.com)!





Here the boots are attached and torqued. You remembered to reinstall the clip for the clutch cable, between #1 and #2 cylinders, right?

A close up of the clutch cable clip. What great looking hex fasteners! Use a lubricant like silicone spray to make the carbs slide in easier.



Slide the carb rack part ways in from the right side of the bike. Set them on the crankcase and reattach the throttle and choke cables.





Wow! Those carbs practically jump into those fresh boots. Set the bottom lips of the carbs on the boots, lift and push them into the boots. They will pop right in.

Tighten the clamps, tuck the hoses out of the way, and we are ready for the airbox. Make sure you reinstall all of the hoses before you connect the carbs to the intake boots.



OK, back to the airbox. Go ahead and remove the air filter and the old boots, clean up as necessary.

I had to remove some sealant from around the output ports and clean some debris from the inside. Make sure the tube for the breather hose is clear.



When installing the new airbox boots, you'll notice ridges. Insert just the first ridge into the airbox. The next ridge is a little higher and should remain on the outside of the box. Then take your fingers and run them around the inside edge of the boot to make sure the entire circumference is tight between the boot and the edge of the airbox holes.



Here's the airbox with fresh rubber.





Put the clamps in place and slide the airbox in from the right side of the bike. Be careful not to break the snorkel or snag any wiring. Take your time. This part takes some wiggling and jiggling.

In order to hold the airbox and boots in place, I used a little help when I was tightening the clamps and upper bolts.



Then I installed a clean air filter and put new weatherstripping on the airbox cover. If you haven't done this for your airbox covers you probably have large air leaks.





And here is our finished product. All hoses and cables connected, boots in place, clamps and bolts torqued, ready to intake some air.



And just in case, here are a couple of close-ups of the clips holding the clutch cable, one above on the #1 intake boot and one below on the carb rack.



Please visit us at The GS Resources (<u>http://www.thegsresources.com</u>) and join the forum to meet a bunch of great guys who really know these classic Suzuki GS series motorcycles.

- BassCliff (<u>http://members.dslextreme.com/users/bikecliff</u>)