Rear Wheel Removal (by BassCliff)

Hello to my GS riding friends!

After picking up a nail in my rear tire (while on the freeway at 75mph!) I thought I would take a few pictures to help illustrate the rear wheel removal/installation on these GS shaftys. This procedure is explained in the GS850 Suzuki Shop Manual, which you are encouraged to reference as well. The following procedure varies just a little from the shop manual so I will point out the differences. One more thing, keep track of where all the washers go.

Let's start with your bike on the center stand. You'll have more room to work if you remove the seat and side covers before proceeding. Since we will be removing a wheel, we don't want the bike to fall off the center stand. There is a locking mechanism we can use to keep the bike on the center stand. Insert a screwdriver through the holes that secure the center stand to the frame while in the upright position. Since I forgot to take a picture, here's a shot from the Suzuki Shop Manual.





My bike has a luggage carrier which uses the rear chassis bolts (#1 – usually the rear turn signal mounts). I completely remove these rear bolts and luggage carrier because that allows the back half of the rear fender to move up and down, giving me more room to remove and replace the tire under there. #2 is the top shock mount bolt. #3 is the rear caliper torque bolt.



On bikes without the extra hardware, just remove the top shock mount bolt and take the top of the shock off of the mount stud.



You may have to use an open end wrench to loosen the lower shock bolt to allow enough wiggle room for removing the top shock mount.

The yellow circle points out the support bolt for the rear brake line. Remove this bolt in order to hang the caliper from the top shock mount stud after removing the shocks.



After the top shock bolts are removed, the top ends of the shocks are removed from their mount studs and left hanging forward. Then lift the swingarm and put a screwdriver in the support hole (next to the rear foot peg) to hold the swingarm up while you are removing the caliper, shocks and axle.



Here is a closer view of the swingarm lock holes.



I didn't use this part of the procedure as I had borrowed my neighbor's lift. You'll see a picture later in the procedure. For now, let's go ahead and remove the lower shock bolts and the shocks themselves...

Right side:

#1 is the caliper torque bolt.

#2 is the brake line support bolt.





Left side:

There's a lot less hardware on this side.

At this point we can remove the caliper torque bolt, the rear brake line support bolt, and the axle bolt. Here is a picture with my lovely assistant removing the rear axle bolt cotter pin. You can also see the borrowed lift.



Here we are removing the cotter pin on the rear caliper torque bolt. If you like, you can remove the brake line support bolt, then hang the caliper on the top shock mount stud.





My lovely assistant is holding the bolt while I loosen the nut on the rear caliper assembly.

This time I didn't actually hang the caliper on the shock mount. Instead, I left the brake line support bolt in place and just hung the caliper from the chassis using a piece of twine. Now that I've done it both ways, I think it is easier to hang the caliper from the shock mount. It's more out of the way plus you can put the shock bolt on (loosely) to hold the caliper in place while you are jiggling and wiggling the wheel out from under the fender. When you remove the rear caliper, a couple of spacers will fall out. Don't worry too much if you didn't notice which way they were installed. I have a couple of pictures to show you during reassembly.

I'm using my big Crescent wrench to remove the axle bolt. I had to buy this wrench just for this job. The first time I replaced the rear tire, this bolt would not budge with any of my smaller wrenches.



Once the bolt is off, you can tap the axle out. If it's really stuck, be sure to use a piece of wood between your hammer and the axle so that the thread end is not

damaged.



Look at that! It's the other end of the axle.



You might want to put a couple of blocks of wood or something under the wheel before your grab that axle and pull it out, just in case.



Once the axle is clear, you can wiggle and jiggle the wheel away from the final drive unit and let it drop to the floor. Watch your toes.



Here you see my naked pumpkin (final drive unit) with the rear caliper assembly hanging on a string.



This is the flat tire and wheel just before I loaded it on my truck to take to my local bike shop.



Cycle Rider in Montclair, CA offers free mounting and balancing for tires purchased there. I can buy a set of tires online for \$10 less. But, by the time

you add shipping, then pay for mounting and balancing, it's a pretty good deal for me. And I don't have to hassle wrestling with wheels and tires and breaking beads. I'm too old for that sort of thing.



With new rubber on my wheel, we are back at my garage. Notice in this picture the rear fender is hanging lower than usual because the rear chassis bolts have been removed. This allows a little more wiggle room to get the wheel in and out. If these bolts are not removed, you may need help getting the wheel under the fender.



Before reassembly, we should make sure the hub and splines are well lubricated. I'm using a lithium-based marine grease. But the common consensus on the GSR forums is to use Honda Moly 60 paste or similar.



Looks pretty gross, doesn't it? I wiped off the excess and applied some fresh grease. Check the label on your grease. A lot of greases warn that the old stuff should be completely removed before applying a different product. I also applied fresh grease to the splines in the wheel hub. Use a moly-based grease, 60% or better for best results. Loc-tite also makes a good product.



Lubricating your hub and spline gear is important. Below are a couple of pictures from fellow members Mr. Redman and Mr. Focus Frenzy. They show what can happen if you don't lube.





At this point, if you've put a screwdriver in the swingarm lock holes, you may wish to let it loose so that the swingarm can be manipulated more easily while mounting the wheel. Once you have the hub splines lined up and the wheel somewhat near its final position, you can raise the swingarm again and begin inserting the axle. I'm lucky, it's a little easier with a lift.



I like to put a thin layer of grease on the axle to make it go in more smoothly. Insert the axle just far enough to get the threaded end even with the other side



of the hub. Now we'll talk about those spacers. During disassembly, you *did* catch them before they rolled away, right? Below is the spacer that goes between the wheel and caliper. It's an oddly mushroom shaped spacer. Put the wider side next to the wheel hub.



The other spacer looks like a big, thick washer. It goes between the caliper and the chassis.

When you have the axle even with the brake rotor side of the hub, hold the mushroom spacer in place while you slide the axle through. Then put the caliper in place and slide the axle through it until it's even with the other side of the caliper assembly.



To insert the spacer between the chassis and the brake caliper assembly, you may need to use a little persuasion. In my case, this took the form of a big screwdriver used to pry apart the chassis and brake caliper to make room for the spacer.



With the last spacer in place, the axle should slide all the way through with a little more coercion. Now we can reattach the caliper assembly to the torque arm and attach the lower end of the shocks.



Leave the bottom shock bolts a little loose and tighten them after final assembly. Once the axle bolt is tightened, the cotter pin inserted and the lower end of the shocks are attached, we can lower the swingarm and pop the top of the shocks back on the studs. Torque everything to spec according to your manual, pick up your tools, wash your hands, and you're done!

My most difficult part of reassembly was reinstalling the fender bolts on the rear of the chassis. It's a tight fit.





And here's the new tire ready to go. Don't forget to take it easy on new tires for at least the first hundred miles. They have a slick coating that must be scrubbed off before you really start pushing hard on the twisty roads.

Come visit us at <u>The GS</u> <u>Resources website</u>.

Tell them BassCliff sent you!

Addendum:

A note from Mr. Steve: "My wife's '82 850L does not seem to have the screwdriver holes in the center stand. An alternative safety device is a tie-down strap connecting the crossbar of the centerstand to a forward engine mount bolt or footpeg."