

## **Fuse Block Upgrade and Soldering "How To"**

(by Space Captian J. Ross Womble IV Esq.)

Face it, you haven't done enough stuff to your GS yet.

Glass fuses don't handle shock very well, and they're just kinda crappy. That's why they were replaced with spade fuses in the first place: something better came along.

So why settle for less than the best (because anything less than the best is a felony) for your GS? It treats you well (sometimes) so you should return the favor and upgrade to a spade terminal fuse box.

The work was done on a 1981 GS550L. There can't be too many differences between the models, so we'll assume for now that if your set up it isn't exactly like mine, it'll be pretty close.

### Parts:

1. A Spade Fuse Block and appropriate fuses.
2. Whatever flavor of terminals are necessary to hook up to your new fuse block. (I used female spade terminals.)
3. Wire
4. Heat Shrink Tubing is nice, but electrical tape will do.
5. Some crimp butt splices or a soldering iron and rosin core solder.
6. Spade terminals
7. Write nuts for testing.
8. Wiring diagram (just in case...)
9. In line fuse if your new fuse block has one common hot lead.

### 1) Safety First

Disconnect the battery from the bike, offer a bit of knuckle skin and Sea Foam to the GS gods as a burnt sacrifice. Pray that they bless your work.

### 2) Remove the offender

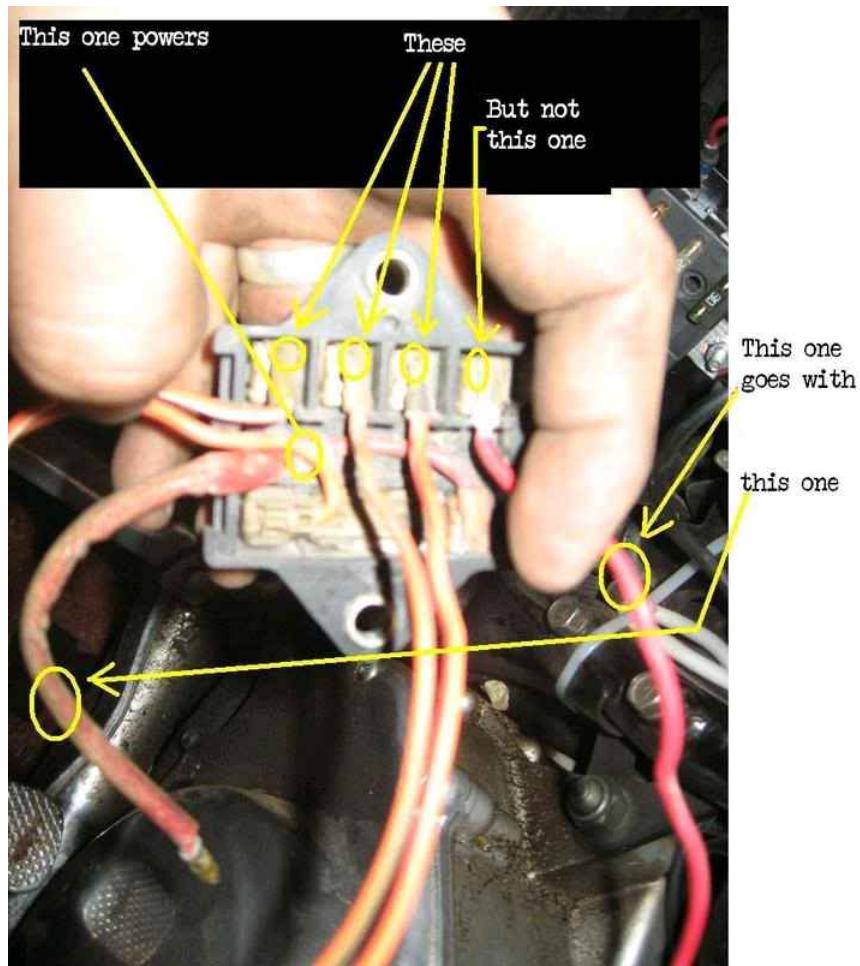
Take off the old block. Not a big deal. It'll be held on with a couple of screws on the right hand side of the airbox. Unplug it from everything.

Keep in mind what goes where. It might sound hard to do, but if you keep your old glass fuse block laying right next to you, it's not complicated at all.

There is a pigtail connector with 4 orange wires (solid orange, orange/red, orange/green, orange/white) and two other red wires to concern yourself with. One red wire comes off of the starter relay, the other comes from the wire harness.



Now that you've got the old fuse block sitting in your lap, pop the back the back cover off:



At first glance, it might seem like all of the wires are powered by that one red wire, but that's not the case. The two red wires run their own circuit and are independent from the orange ones.

### 3) Don't forget to write.

Take a piece of paper and jot down the amperage of each fuse and its corresponding wire. For instance:

Orange/Red: 15

Orange/White: 10

Orange/ Green: 10

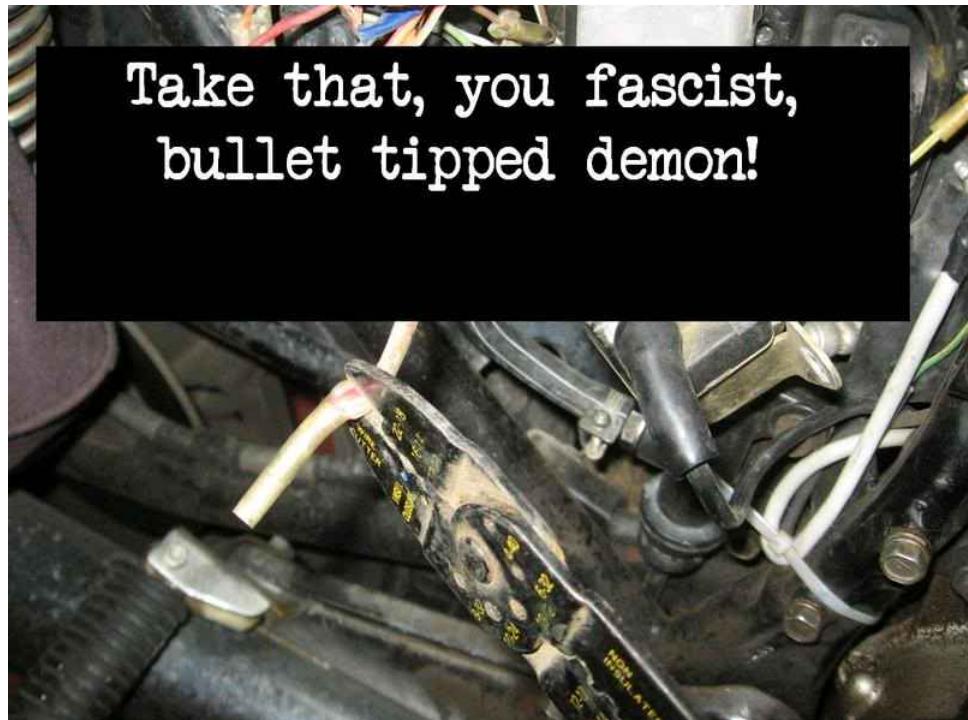
(These numbers are for demonstration purposes only. Refer to your manual for proper amperage, as a PO might've installed an improper fuse.)

### 4) Snip Snip

Now you'll have to prepare your wires for connection to your fuse block.

You can start by getting rid of that bullet-tipped connection.

Take that, you fascist,  
bullet tipped demon!

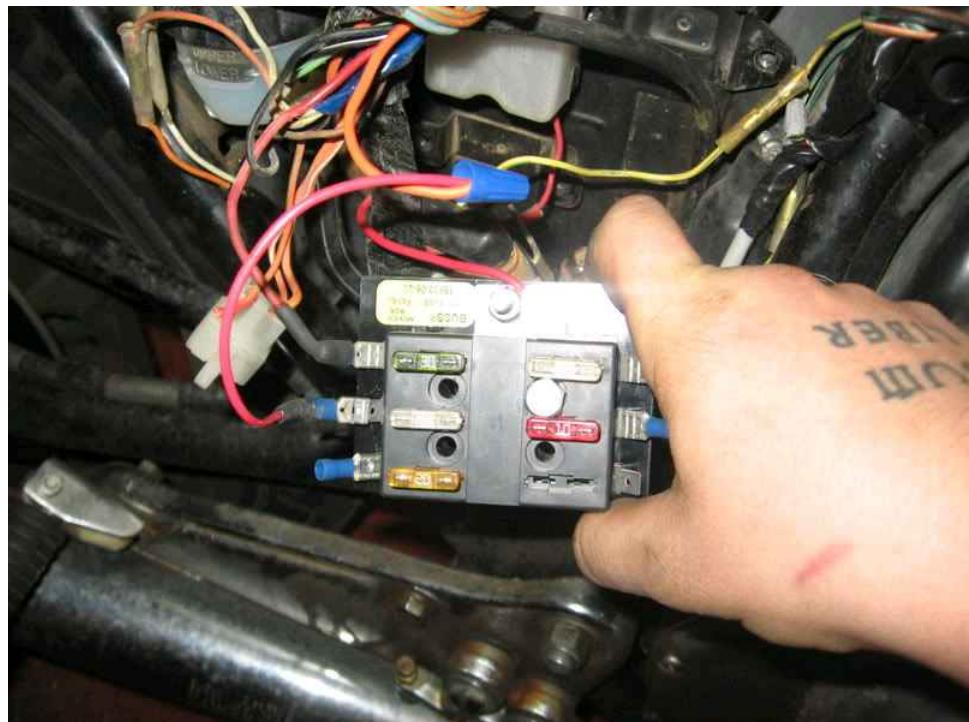


Clip and strip all of the other wires coming off of the bike. Leave enough room on the back of that 4 connection pigtail to be hooked back up later if you, for some reason, decide to use it again.

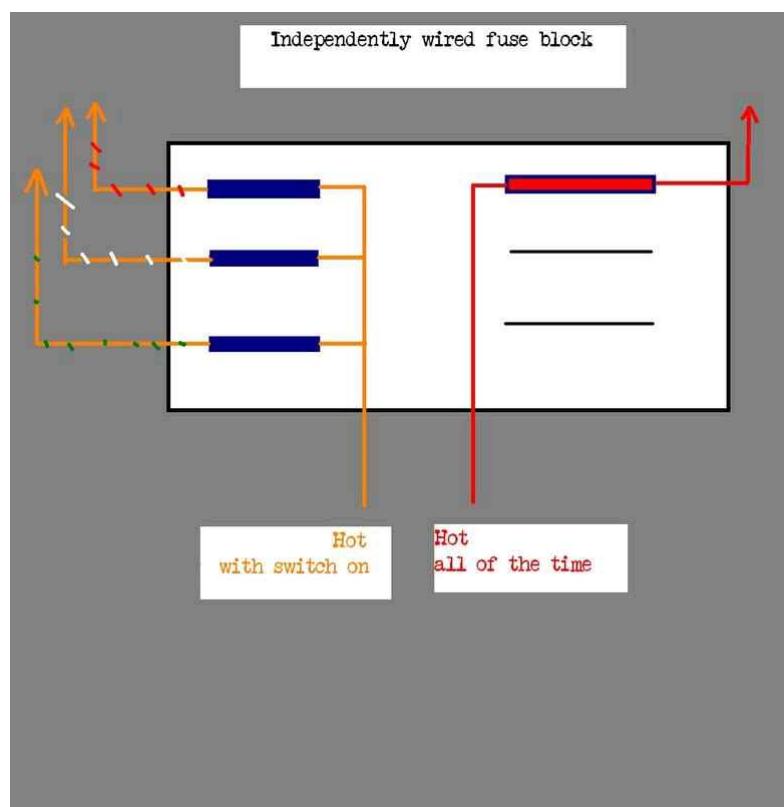
If you have a fuseblock with all of the fuses being powered by one common lead, then you'll have to have a separate in-line fuse for that starter solenoid. You'll only be able to power the orange wires from the fuse block.

If you don't run the red wires separately try to power all of the fuses with the red wire from the harness, then your indicator lights (neutral, oil pressure) will be on all of the time. The bike will start and run and the lights will come on, but you'll be jumping around the switch, and you don't want to do that.

In other words, you don't want it to look like this:



If you were fortunate enough to find a fuse block with independent in-and-out slots for each fuse, then all of your fuses can be run from this block. You'll have to link three of the hot sides together for that solid orange wire and the red for its own circuit.

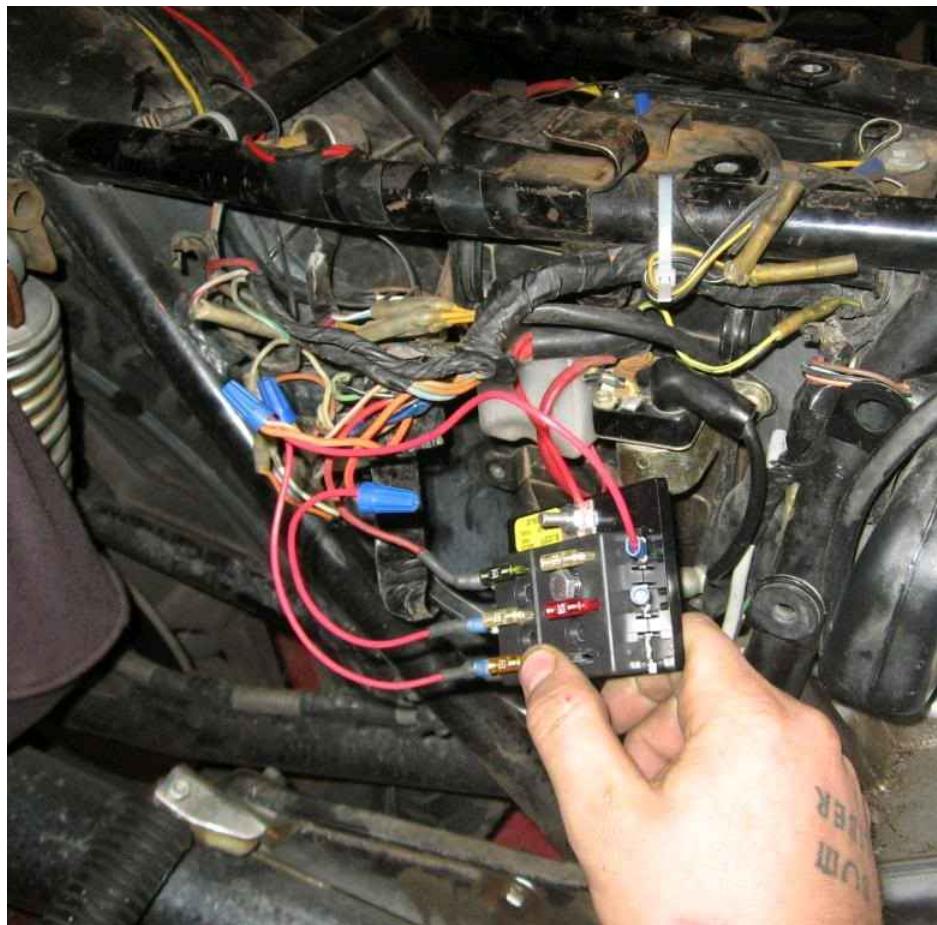


I didn't have one of those, so I ran the orange ones off of the fuse block, and put an in line fuse in for the starter solenoid (red wires). If you're doing the coil relay mod and your fuse block is powered off of one common lead rather than each circuit having its own supply, you'll need another inline fuse for the relay mod. There are other, better tutorials for the coil relay mod. I'll not go into detail with that here.

### 5) Get Crazy With the Wire Nuts

Cut a half foot or so section of wire for each of the outgoing sides of the fuses. Crimp a spade terminal on one end heat shrink each of those half foot sections. Go ahead and connect one end of each of these wires to the fuse block, and wire nut the other end to the corresponding orange wire. Put them on in any order you please, so long as the amperage is correct. That's why you wrote it all down, right? The wire nuts are for testing purposes and aren't permanent.

(I had it wired wrong,  
so ignore where the  
wires are going, just  
notice that they're wire  
nutted.)



## 6) In Liners

If you had to run an in line fuse for the starter solenoid (if you had a fuse block with one common lead) then now is the time to hook that up. Find a nice safe place for it to go, put the red wire from the harness into one side of the fuse and the red to the starter solenoid in the other side. Wire nut the connections together for testing purposes.

## 7) Testing

Re-connect the battery and turn on the bike. Let it set for a second.

No smoke or fire? Good.

Start it.

Make sure all of the lights work.

Turn your bike off and disconnect the battery.

## 8 )Solder On

Solder your connections.

Rough mount your fuse block wherever you want it to go. Mine (amazingly) mounted up just fine. Most won't be so lucky. You'll have to figure out what will work for you, but mine fit right back where the old one came from.

One at a time, undo the wire nuts, cut the wire to the appropriate length, put a piece of heat shrink tubing on one side of the wire and then solder it.

Do this with each wire, mount the block.

## 9) Go For a Ride

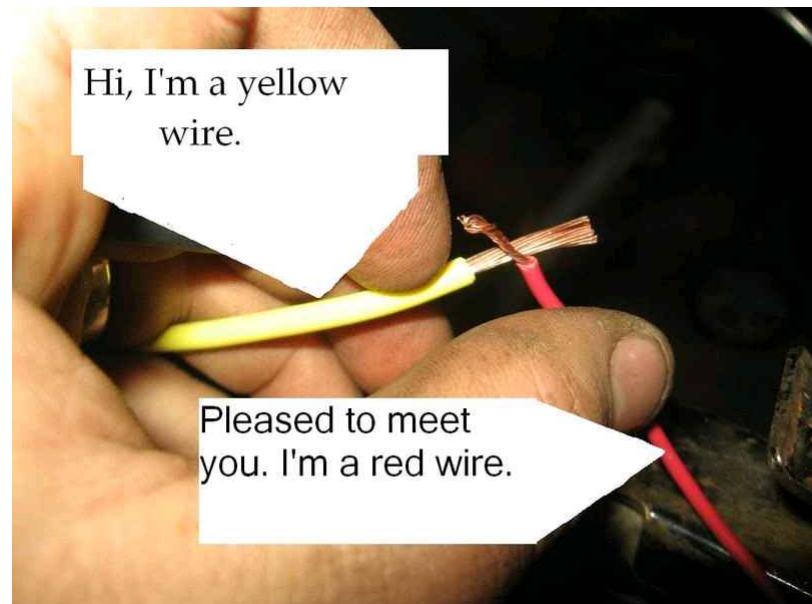
### **Addendum:**

Not know how to solder? It ain't hard.

You'll need a soldering iron and some rosin core wire. You won't need much solder, but once you get the hang of it, you'll be soldering everything in sight.

If you're just making a connection between two wires, strip  $\frac{3}{4}$  an inch or more on either side, slide a piece of heat shrink tubing over one half, and perform the following:

Introduce the wires:



Now make them hug:



Make a soldering Iron Sandwich. (Kinda hard to take pictures of this, so use your imagination.)

You're going to want to heat the wire, not the solder. Hold the roll of solder in one hand (probably your non-dominant one). Roll a bit of it out so the roll looks like a number 6. Lay the solder you pulled off of the roll on top of the wire and hold the iron on the bottom side. You want the wires to get hot enough to melt the solder. It might take a little bit, but when it happens, it happens quick. Don't let it drip on you or your wife's carpet. Solder should flow through the connection. When it cools, it will be as though the two wires were one. Pull the heat shrink tubing up over the connection, and shrinkify it.

You just soldered a connection. Pat yourself on the back. But put the soldering iron down first.