

# Vintage SG 3 Pickup Kit (Complete)

**Please Read All Instructions Before Beginning.**

## **Tools you will need:**

- Soldering Iron (35 watt preferably)
- Solder
- Wet Sponge
- Wire Clippers
- 3/8 Drill Bit
- 5/32 Drill Bit
- 1/2" Drill Bit
- Variable Speed Dremel Rotary Tool
- Fine surfaced, Cone Shaped Rotary Stone bit. **NOTE: a variable speed Drill and step drill bit can be used in place of the Rotary Tool and Stone bit.**
- Phillips Screwdriver
- Pliers
- Cloth (an old T-shirt will work fine)
- 1/2 nut driver, socket or wrench
- Electrical or masking tape
- Small bowl to hold screws and knobs

**ATTENTION:** At the very least basic soldering skills are needed to install this kit. If you do not have these skills or are not confident enough in your skills to install this kit than please take it to someone who does such as a certified guitar technician.

## **Soldering tips:**

Remember to clean the tip of your soldering iron before soldering each connection, a dirty or bad solder joint can add excessive noise into your guitar, especially when using distortion. Be sure to apply a small amount of solder to your iron before trying to heat a connection, this will help your iron transfer heat better and the solder will flow faster

## **Removing Current Wiring:**

**Step 1.** Place your guitar face down on a firm yet soft surface (a couple of bath towels will do) to keep the face of your guitar from getting scratched.

**Step 2.** With the Phillips screwdriver remove the two cavity covers on the back of your guitar and place the screws in a small bowl so they will not get lost. You should see something similar to fig. 1.

**Step 3.** Identify the bridge and neck pickup wires coming into the control cavity (in fig. 2) the bridge is the black wire that connects to the bridge volume pot circled in green and the neck is the red wire that connects to the neck volume pot circled in yellow.) Take a piece of tape and wrap it around the bridge pickup wire so that you will not become confused which is which when they are disconnected. With your soldering Iron Heat these connections till the solder flows and then remove them from the pots.

**Step 4.** Locate the bridge ground, it is usually soldered on the back of a pot (see fig. 2 the ground is circled in blue). The wire is usually yellow or bare and may come through the body cavity from somewhere other than the rest of the wires. Heat the solder till it flows and then remove the wire from the pot.

**Step 5.** With the cloth remove the knobs on the guitar. Work the cloth under knob and then wrap it completely around the base of the knob and pull up. (see fig. 3 a Les Paul is shown in this photo)

**Step 6.** You should now be able to remove the old wire assembly from the control cavity (see fig. 4).

### **Modifications before Installation**

**Step 7.** Some modifications must be made for the new parts to fit in your guitar. First you need to make the pot holes the jack hole and the switch hole larger. Remove 1 of the washers from one of the pots on your new wire assembly. This will be your guide and your safety net while modifying these holes without damaging your finish. Center the washer over one of the pot holes, then take your electrical tape and tape it securely to the body of your guitar (see fig. 5).

Now take your Rotary tool and carefully widen the face of the hole. BE CAREFUL AND TAKE YOUR TIME or you will chip your finish. I prefer the fine stone bit and rotary tool because it makes a smooth cut and is less likely to grab and chip the finish. As you widen the hole you will hear it start to hit the washer and you will know that you have gone far enough. You are only trying to open up enough to get past the finish, do not attempt to go all the way through with the stone bit. If you are using a drill and step bit do not tape the washer to the guitar because the bit may grab the washer and scratch your finish. Use the drill free hand but be slow and careful, taking 5 to 15 minutes to do this step right will save you many days of disgust for your impatience and lots of money to repair your finish (see fig. 5).

Now take a 3/8 drill bit and turn it by hand to finish widening the hole all the way through. I do this instead of using a drill motor to keep the inside of the cavity from chipping (see fig. 5).

Repeat this step to the other 3 holes and the jack hole. Once again take your time so you do not damage your finish and it should come out looking fine.

**Step 8.** Repeat step 7 for the switch jack but instead of using a 3/8 bit by hand use a 1/2 bit. You may also need to widen the hole just slightly more with the rotary tool. Use the deep threaded ring from the switch to check the hole for clearance. There should be enough room that the ring will be able to turn freely in the hole so that you will be able to thread it onto the switch without difficulty. Since there is no washer for the switch hole leave the switch plate on the face of the guitar and use this as a guide. Place electrical tape over the face of the plate to protect it from accidental scratching. BE CAREFUL because the plastic will get eaten away quickly when touched with the rotary tool and could be easily destroyed by a step drill.

**Step 9.** Now take the cap off of your old 3-way toggle switch and with the 5/32 drill bit widen the hole by hand until it is deep enough for it to fit on the new 3-way switch snugly (see fig. 6). You will want to make it deep enough that you need to twist it on at the end so that it will cut some threads into the cap. The alternative is that you can purchase a cap that matches the color of your old cap and will fit the Switchcraft switch.

### **Installing Your New Kit:**

**Step 10.** Remove the new wire assembly from the assembly plate (Note: you may have 2 threaded nuts on the switch or 1 on the switch and a second one in your bag. Use whichever is needed but you will not need both of them). Use the 1/2 wrench to remove the nuts and washers, place it against a flat, solid surface with the components and wires facing up and then push down on the board to remove the components from the board (see fig. 7 a Les Paul kit is used in this photo).

**Step 11.** Place the locking washers from the pots over the pot holes on the inside of the control cavity and then place the assembly into the control cavity of the guitar (Fig. 8). Be careful as you push the kit through the new holes so you do not chip the finish on the

outside. Now put the washers and nuts back onto the pots, jack and switch then tighten them down. You will need to hold each component in place in the cavity with your fingers as you tighten the nuts so they do not change their facing position drastically. **DO NOT OVER TIGHTEN THE NUTS!** You can crack your finish if you tighten the nuts too much.

**Step 12.** Soldering points. You are now ready to solder your pickups to the pots. Please refer to Fig. 9 to see the locations of the numbers in this step.

**NOTE:** When soldering to the back of the pot first put a small bead of solder on the pot, then place the tinned wire on top of the bead of solder, and then using the tip of the iron heat both the wire and the bead of solder at the same time until the solder flows together and covers the wire. Remove the iron and hold the wire in place until the solder cools and hardens (feel free to blow on it). This will make it quick and hassle free to attach the wire to the pot. You do not want the iron on the components for too long or you will burn up the pot.

**NOTE:** Notice that the pins of the pots (points 2b & 3b) are covered in solder. When attaching wires to these points place the tip of the wire against the soldering point, touch the soldering iron to the wire and soldering point at the same time and push gently. When the solder heats up and flows the tip of the wire will push through the hole of the soldering point, remove the soldering iron quickly and the solder will cover the pin and wire and make a solid connection. If you hold the heat too long than the solder will run down the pin and you will need to apply more solder. Once the solder is cooled and the wire is held in place make sure that the wire coming out of the pin is not touching any other connection, trim with wire clippers if necessary.

- Solder the bridge ground wire to point 1 located on the neck tone pot.
- Take the neck pickup wire and solder the bare ground to point 2b and the hot lead to point 2a.
- Take the bridge pickup wire and solder the bare ground to point 3b and the hot lead to point 3a.

Your connections are now finished.

**Step 13.** Replace all the cavity covers and screw them down. Now plug it in and take it for a spin. If something is not working properly go over the instructions and your connections again carefully and see if you can find the problem. If you cannot find the problem email us at [customerservice@bcsguitars.com](mailto:customerservice@bcsguitars.com) and we will get a technician to call you as soon as they are available and try to help you trouble shoot the problem.

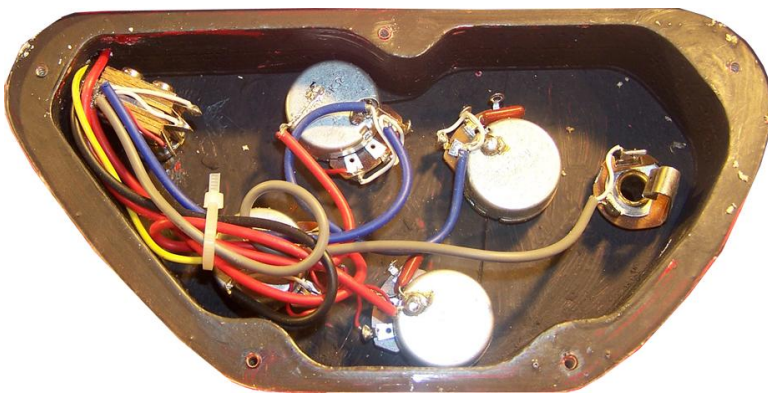


Fig.1 Control Cavity

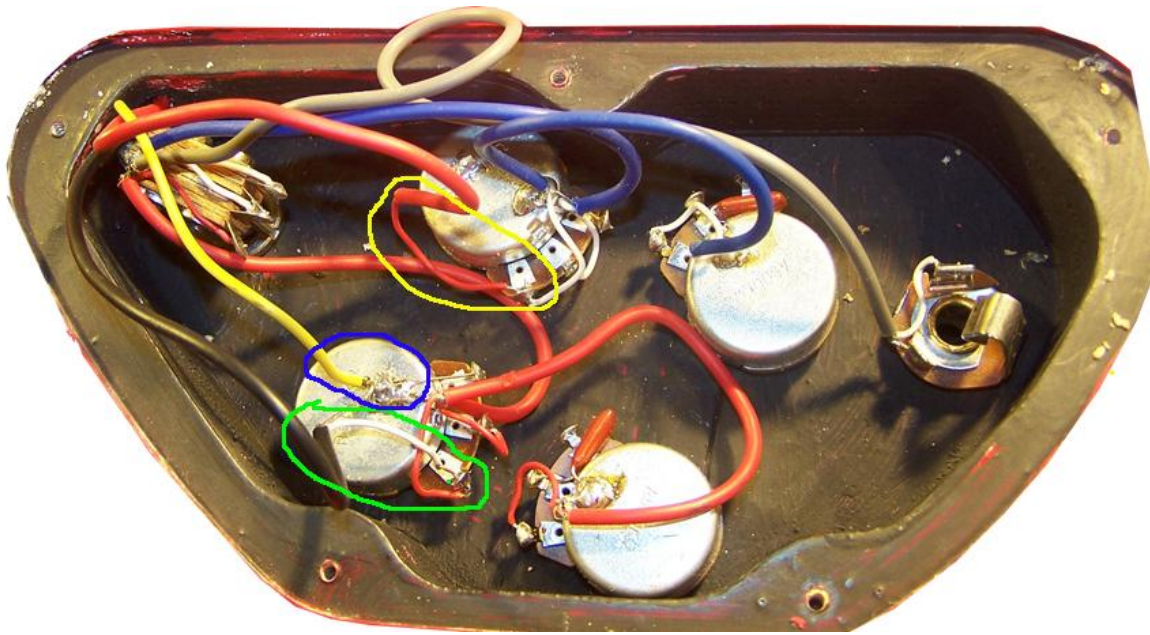


Fig. 2 Tracing the pickup & bridge wires. The bridge is in the green circle, the neck is in the yellow and the ground is in the blue.



Fig. 3 Removing the knobs.



Fig.4 Old wiring removed.

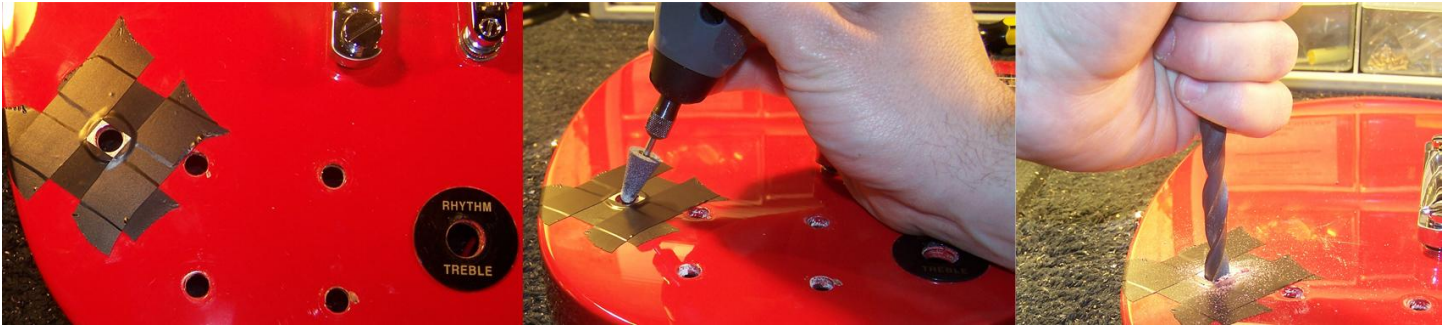


Fig. 5 Use a washer as your guide

Widen the top of the hole

3/8 drill bit by hand to finish



Fig. 6 Modify your old switch cap or buy a new one



Fig. 7 Remove the wire assembly from the assembly board

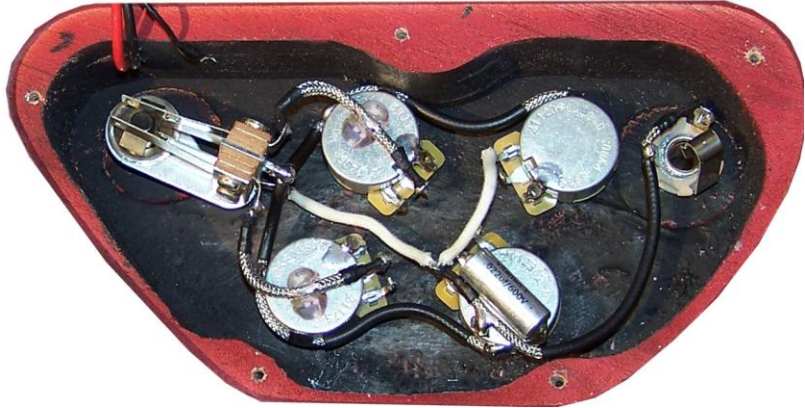


Fig. 8 Insert the new wire assembly

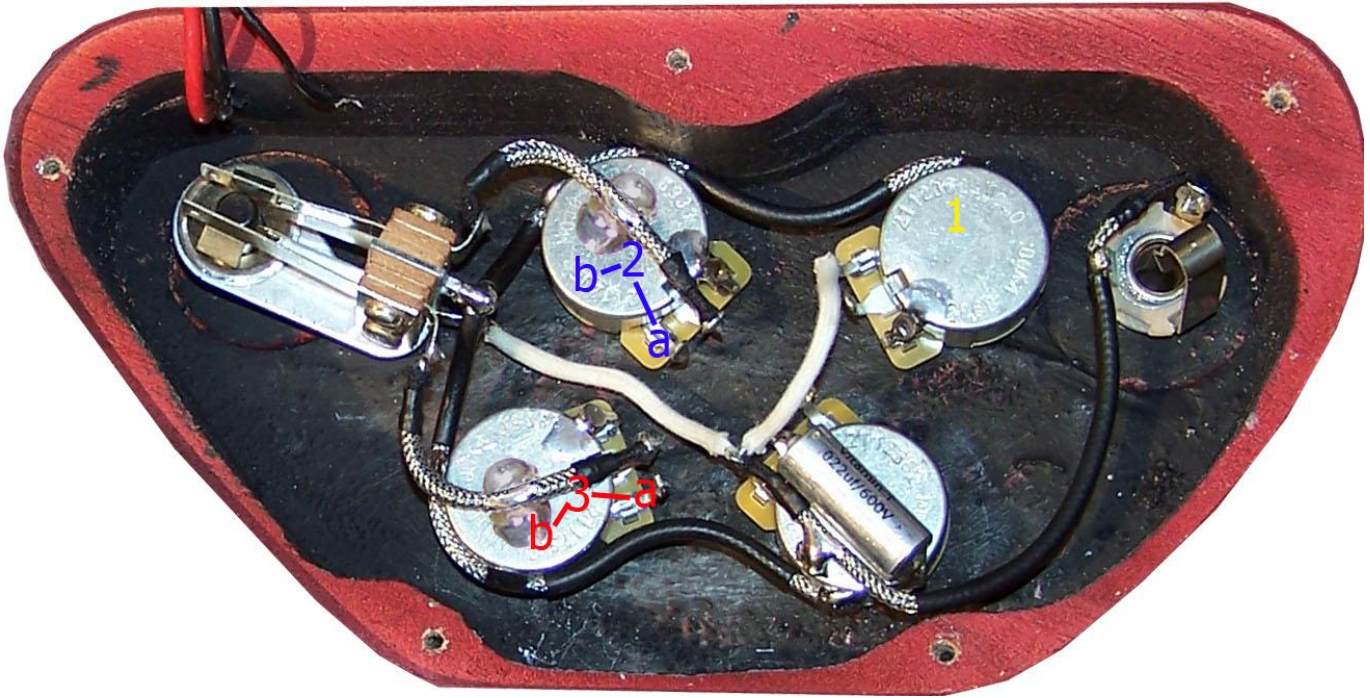


Fig. 9 Soldering points