



LIFESTYLE

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A Step-by-Step Guide to Changing a Pickup

IT'S YOUR GUITAR; DON'T BE AFRAID TO WORK ON IT.

While there are definitely things best left to the pros—major neck adjusting, nut work, and fret dressing are a few things that definitely warrant a trip to the shop—swapping out pickups is not one of them. It is a quick, easy procedure. Why, even a drummer could do it!

Here is a careful and thorough, step-by-step lesson on how to change a pickup. Take your time and refer to the photos and you should have no trouble at all.

You Will Need:

- A screwdriver for removing the pickup and backplate
- A wire stripper for preparing the leads on the new pickup
- Soldering iron and rosin core solder



An Epiphone Les Paul will be used as an example throughout the process of removing and installing a new treble pickup.

Identify Controls

Remove the strings, bridge, and tailpiece.



Flip the guitar over and remove the backplate behind the control knobs. (Leave the smaller, round plate alone. That is for the toggle switch.)

Basic Soldering

Soldering is defined as "the joining of metals by a fusion of alloys which have relatively low melting points". Basically, soldering is like gluing with molten metal. You heat the parts with the soldering iron and touch the solder to the parts and it melts and flows to make the connection. Let's look at soldering in a bit more detail.

Equipment

In order to solder you need a soldering iron and solder. For most guitar work, an iron between 15 and 45 watts will work. For making connections to the lugs on pots, 15 watts should be fine, if you need to solder to the back of a pot 45 watts will be better. Be sure to keep the tip of the iron clean and shiny with solder. Keep a damp kitchen sponge handy to clean the tip of the iron. Be sure to only use *rosin core* solder not acid core. It is better to use a thinner solder (0.75mm or so) that melts easily rather than thicker solder that requires a larger iron. For safety, work in a well ventilated area and wear safety glasses. You can keep a small fan nearby to blow the solder fumes away. If you need to unsolder you can use a solder sucker or solder braid which will wick away excess solder.

Surface preparation

All surfaces to be soldered should be clean and dry. You can use a small steel brush or steel wool to clean parts to bare metal. This step is usually not necessary when only replacing a pickup. If you are replacing a pot, the back may have a coating that needs to be removed to bare metal before soldering.

Component placement

Place wires to be connected through the lug holes on the pot and bend the ends slightly to hold them in place. When soldering to the back of a pot you may need to hold the wire in place with pliers or the tip of a screwdriver.

Apply Heat

Apply a small amount of solder to the tip of the iron. This helps conduct heat to the parts to be soldered. Touch the tip to the components to be soldered and allow a few seconds for them to heat up.

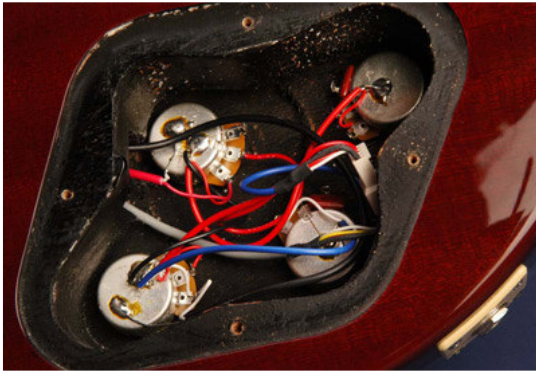
Apply Solder and remove heat

Then add enough solder to flow around the joint. Don't add so



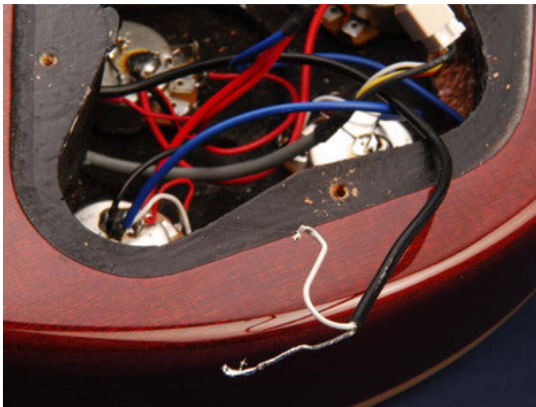
much that it makes a blob. Gently remove the iron and keep the joint still until the solder cools. The joint should be clean and shiny. If it is dull and grainy, reheat and reflow the solder. If you add too much solder, use the solder removal tools listed above.

The two pots on the left control the volume. The top is for the neck pickup and the bottom is for the bridge pickup. The two pots on the right control the tone. The top is for the neck pickup and the bottom is for the bridge pickup.



TIP: If you have a digital camera, snap a few shots of the controls. If not, make a good sketch of what you see.

There is a thick black wire coming from the pickup cavity to the treble volume pot. Two thinner wires extend from the end of the black wire at the volume pot. One of these thinner wires will be soldered to the back of the pot. This is the ground wire for the treble pickup. The other thinner wire will be soldered to the lowest lug on the side of the pot. This is the hot wire for the treble pickup. In the photo, the ground wire is bare and the hot wire is white.



Removing Old Pickup

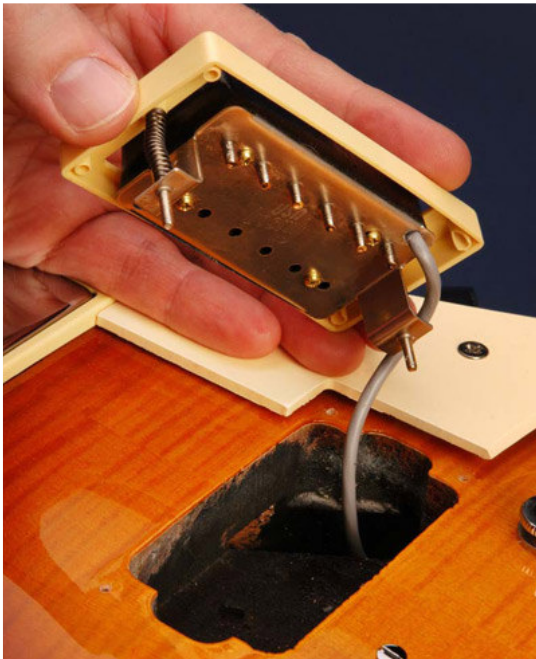
2. Be sure that your soldering iron is hot and clean (see sidebar for basic soldering tips). Lightly touch the tip of the hot soldering iron to the solder that holds the ground wire to the back of the volume pot. It should come loose almost instantly. Do the same to detach the hot wire from the lug. You have disconnected the pickup from the controls.

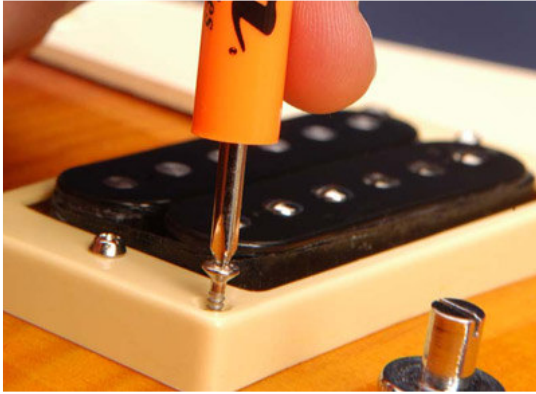


3. Flip the guitar over and remove the four screws from the pickup bezel and lift the entire pickup assembly out, carefully pulling the wire through the channel in the body. Now that the pickup is clear of the guitar, remove the two screws that hold the pickup in the bezel and use them to attach the bezel to the new Gibson pickup you have chosen. It can be a little tricky at first to screw the pickup to the bezel because of the spring tension.



4. Gently thread the wire of the new pickup through the body channel and into the control cavity, coiling any extra wire length neatly into the cavity. Fasten the pickup back onto the guitar using the four screws of the bezel.





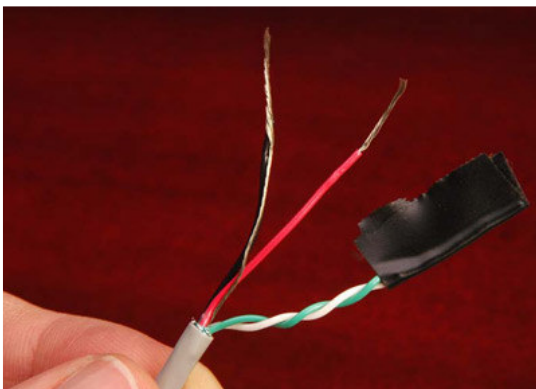
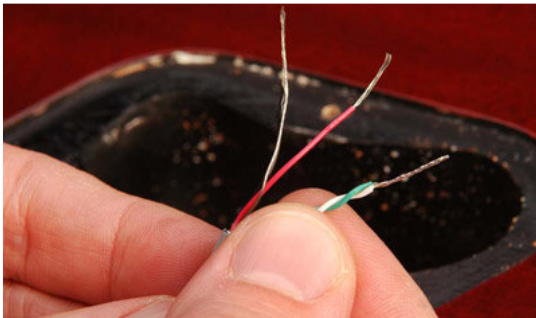
Installing New Pickup

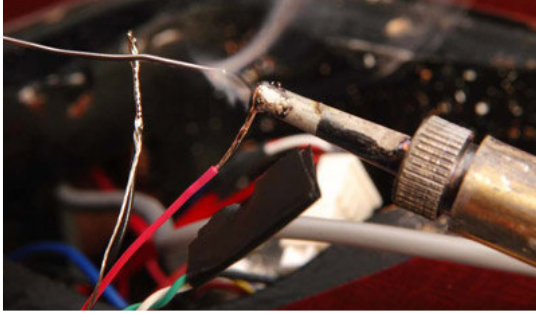
Vintage two-conductor wiring

If you are installing a vintage-style pickup, like the '57 Classic, Burstbucker, P-90, or P-94, it really couldn't be easier.

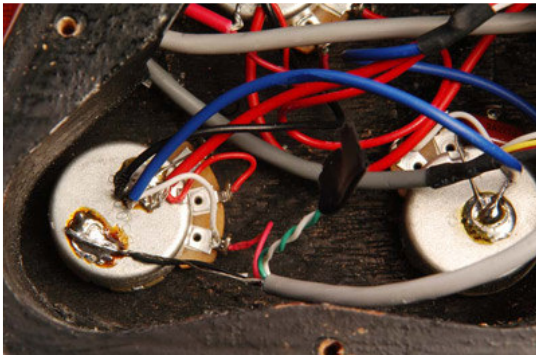


Strip back the shield (wire mesh) to reveal the hot lead wire. Strip the end of the wire back 1/8" using your wire stripper or a razor blade. "Tin" the wire by touching the tip of the soldering iron to the exposed lead and applying a little solder to soak in between the strands. This will make the rest of the installation a lot easier.





Solder a small portion of the shield wire to the back of the volume pot by heating the pot with the iron and using a flathead screwdriver to hold the wire down while adding solder. If there is already a decent-sized blob of solder left from the old pickup, that should be plenty to reattach the ground wire of the new pickup. If you add more, you may have too much solder on the pot. Give the solder a few seconds to cool, then gently pull on the wire to make sure you have made a strong connection.



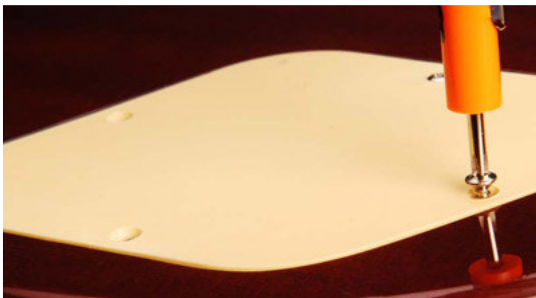
Solder the hot lead to the same lug on the terminal that the old pickup's hot wire was attached to: Slip the end of the lead wire through the hole in the lug, touch the iron to the lug, and melt a drop of solder onto the lug to attach the wire. Again, when the solder cools, gently tug on the wire to be sure the connection is secure.

Modern four-lead wiring

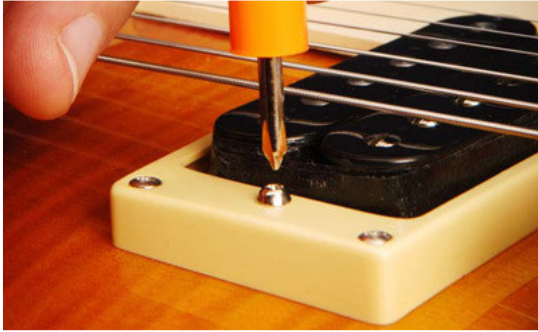
If you are installing a modern pickup like the Tony Iommi, Dirty Fingers, or 500T, there is one extra step. Modern pickups have four lead wires instead of two, in order to enable coil splitting (the use of only one of the humbucker's two coils for more of a—you guessed it—*singlecoil* sound. Coil splitting is for another lesson, so for now all you have to do is twist the green and white wires together, tape them off, and forget about them. Twist the black wire and the bare wire together, tin the end, and solder to the back of the volume pot. Solder the hot wire to the lug just as described in the two-conductor wiring instructions.

You have just installed a new pickup!

Before closing the back plate, plug the guitar into the amp and lightly tap on the pickup with your screwdriver. If installed correctly, you will hear your tapping through the amp.



Close up the backplate, restring your guitar, tune, and play. Adjust the height of the pickup to find the sweet spot, the height that sounds best to your ears. If the pickup is too close to the strings, it will sound muddy and distorted (in a bad way). If it is far away from the strings, it will sound weak and you will lose tone. Take your time and use your ears.



Congratulations on a job well done.



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