



No-cost humbucker modifications

what DO THESE COLORED WIRES DO?

Erick Coleman, December 8, 2011



Seth Lover

was the Gibson engineer who created the hum-canceling

pickup back in 1955. Lover's dual-coil **"Patent Applied For" (PAF)** design had one output wire, wrapped in a braided shield that provided a ground connection. This delivered the classic sound of both coils connected in series.

The replacement pickup market was jump-started in the early 70s when NYC

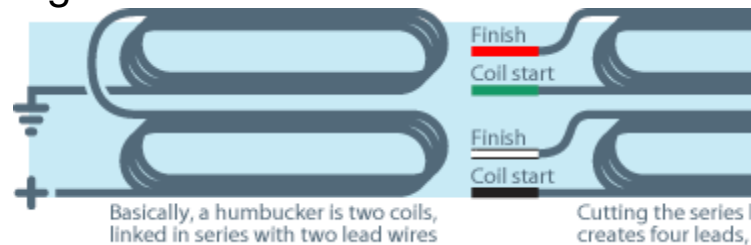
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*Golden Age
Parsons Street
Humbuckers*

luthier **Charlie LoBoue** handed a young shop helper, **Larry DiMarzio**, a box of old pickups to see if he could repair them. Studying these old pickups laid the groundwork for Larry's first model, the **Super Distortion**.

The first DiMarzios provided access to the series link between the two humbucker coils, using a 3-conductor lead wire. This created the option of cutting out one coil for single coil operation. Soon, DiMarzio added more flexibility by using a 4-conductor lead wire, like this drawing:



This new design separated the start and finish wraps of each coil with tidy little colored lead wires, plus a separate ground wire and shield. 4-conductor pickups were a hit, and nearly every pickup maker started offering this option. You can wire them to be **in/out of phase** to get that funky “nasal” sound, or you can create a **series/parallel** option for noticeably more



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output. Creating a **coil cut** gives you both humbucker and single-coil sounds from the same pickup.

three cool coil-cutting tips:

Today I'm going to show some cool coil cutting tricks you can do **with the pickups and parts you've already got**. None of these simple mods require changing any parts! Let's start with what those little color-coded wires connect to. The picture below shows the color code we use on our Golden Age Humbuckers, but your pickup might use a different color scheme. Check out [the electronics section](#) in the **free info** pages of **stewmac.com** for a list of other manufacturers' color codes so you can translate this to your pickup.

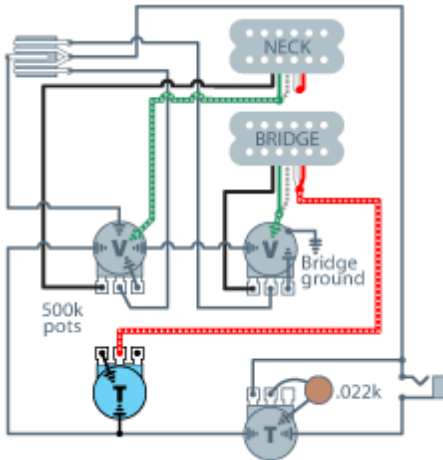


a pot-controlled coil-cut:



A customer brought me this yellow Les Paul made by Gibson's Custom Shop, asking for a coil cut on the bridge pickup. He wanted the option of cutting the coil for a single-coil

sound, but he didn't want to add any switches or different pots. (*No hole-drilling!*)



We rewired this guitar to be similar to a Flying V, with two independent **volume controls** and one master tone. That left one tone pot unused, which we wired up as the coil cut. When that pot's cranked to 10, you get the full humbucker; as you dial it down it gradually cuts the coil.

HALF neck & HALF bridge:



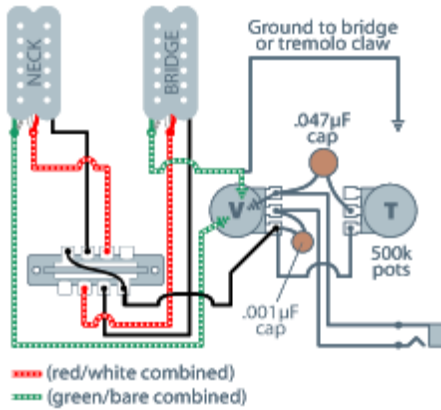
This collection of parts belongs to me. I can't honestly call it a Strat; let's say it's a Strat-shaped object.



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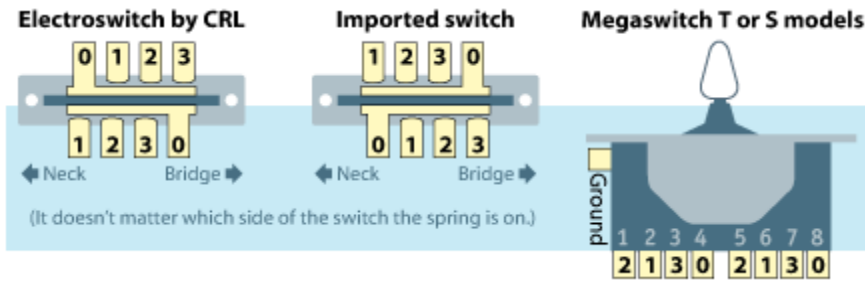
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For years I've used this modified wiring: the middle switch position combines the cut coils in the neck and bridge humbuckers. I use a **3-way CRL switch**: a design that's stayed pretty much unchanged for over 50 years.



If your guitar doesn't have a CRL switch, the lugs may be arranged differently from mine. Below is a lug map to translate the lug setup between the CRL switch and some other kinds:



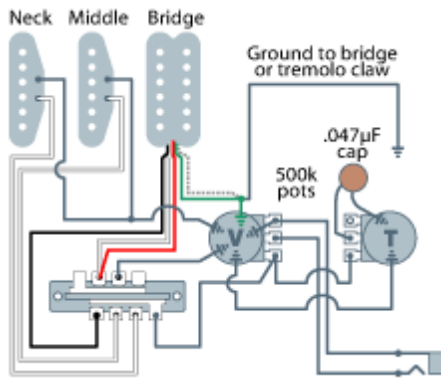
 These little wiring diagrams are bigger in this album on our Facebook photos page!



 easy, switchable coil-cut:



My pal Jim is having me refurbish this husk of an 80's Charvel. Cool huh?!



I wired up new **Golden Age pickups** so that Position 4 (middle/bridge) cuts one of the humbucker coils for single coil operation — an easy job!



Golden Age Humbuckers



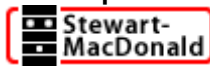
These coil-cutting mods expand the tonal possibilities of your guitar with the components the factory gave you. So grab your soldering iron and have at it!

Crick

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