

The Blue Guitar

Donald Brosnac's Guitar Electronics

Overview

This book (self-published in 1980) collected information about electric guitars, pickups and wiring harnesses from various sources. I believe that a later edition was released by one of the larger publishing houses. Don had been involved with Schector as a technical writer so he devoted many pages to wiring harnesses using the long-obsolete Omni-Pots custom mfg'd for Schector by A/B. While the book includes the stock wiring harnesses for the typical pre-1980 Fender and Gibson guitars, one of the most commonly requested schematic is the Schector Superrock wiring harness for the Les Paul using 4 Omni-pots for coil cut, phase reversal and series/parallel switching. I suspect that the Jimmy Page model Les Paul uses a similar strategy, but with the currently available DPDT push-pull pots. I drew up a modern version using standard p-p pots, but you will need to route out the control cavity of your LP since I know of no source for the long-bushing pots used in LP's. (The All Parts # EP4486 is a SPST long-bushing p-p pot which would work for the Lead Tone control, but none of the other 3 controls.)

Another commonly requested schematic is for the 6 position 4 pole rotary switch which is mainly used for the two humbuckers on a Les Paul (replacing the 3 way switch) although it can also be used for two single coil pickups or the two coils within a single humbucker.

Steve Ahola

December 18, 1998

(Revised 12/20/98)

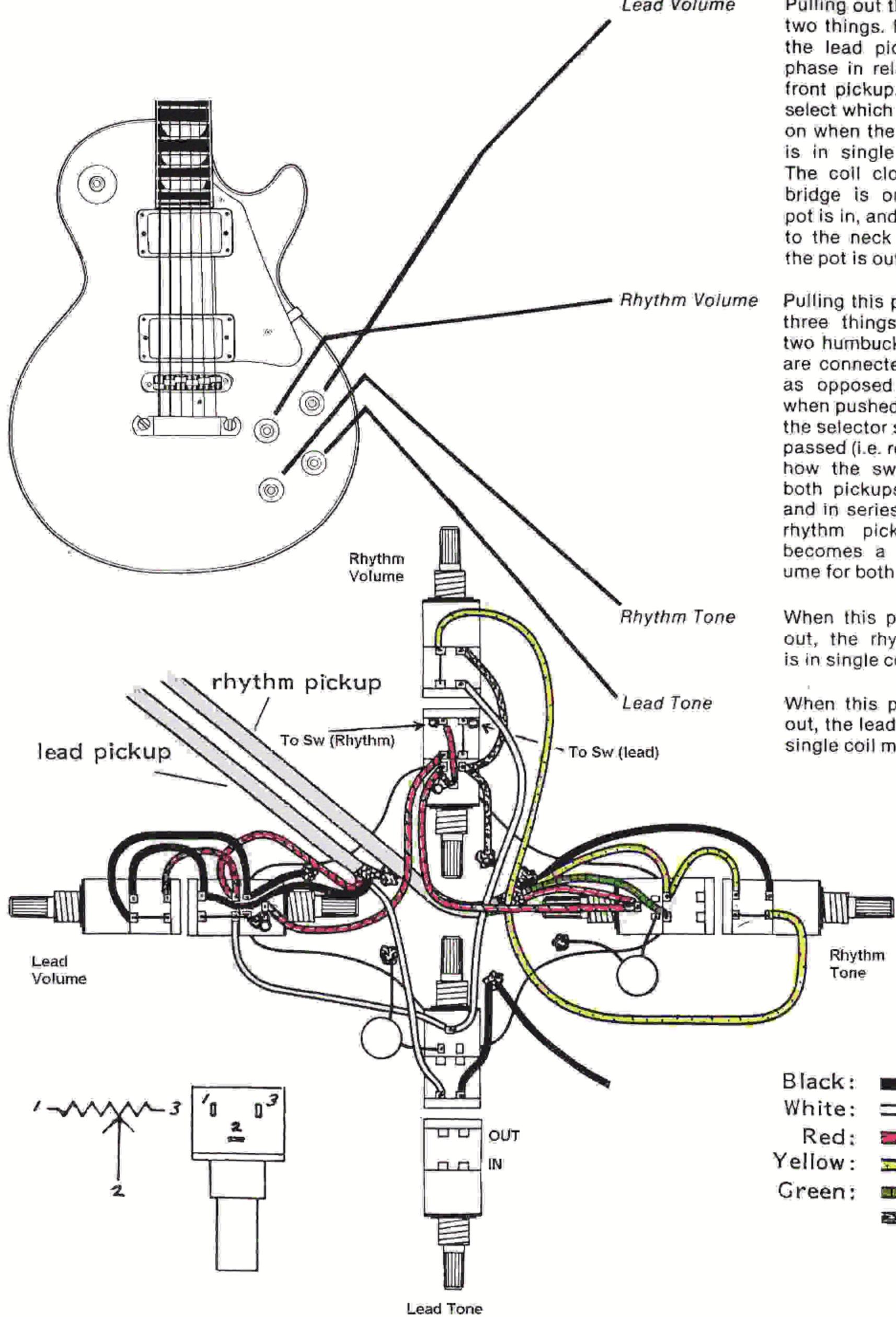
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<http://www.techaccessinc.com/blueguitar>

The Drawings:

- Page 2: Schector Superrock harness scan (w/ corrections)
- Page 3: Modern version of the Superrock harness w/ DPDT p-p pots
- Page 4: Explanation of obsolete Schector Omni Pots
- Page 5 & 6: 4 pole 6 position rotary switch for Les Paul (w/ corrections)

FUNCTIONS OF SUPEROCK ASSEMBLY



Lead Volume

Pulling out this pot does two things. First, it puts the lead pickup out of phase in relation to the front pickup. It also will select which coil remains on when the lead pickup is in single coil mode. The coil closest to the bridge is on when the pot is in, and coil closest to the neck is on when the pot is out.

Rhythm Volume

Pulling this pot out does three things. First, the two humbucking pickups are connected in series, as opposed to parallel when pushed in. Second, the selector switch is bypassed (i.e. regardless of how the switch is set, both pickups will be on and in series). Third, the rhythm pickup volume becomes a master volume for both pickups.

Rhythm Tone

When this pot is pulled out, the rhythm pickup is in single coil mode.

Lead Tone

When this pot is pulled out, the lead pickup is in single coil mode.

- Black: Ground
- White: Tap (lead)
- Red: Hot (+)
- Yellow: Gnd (1st coil)
- Green: Hot (2nd coil)
- Shield

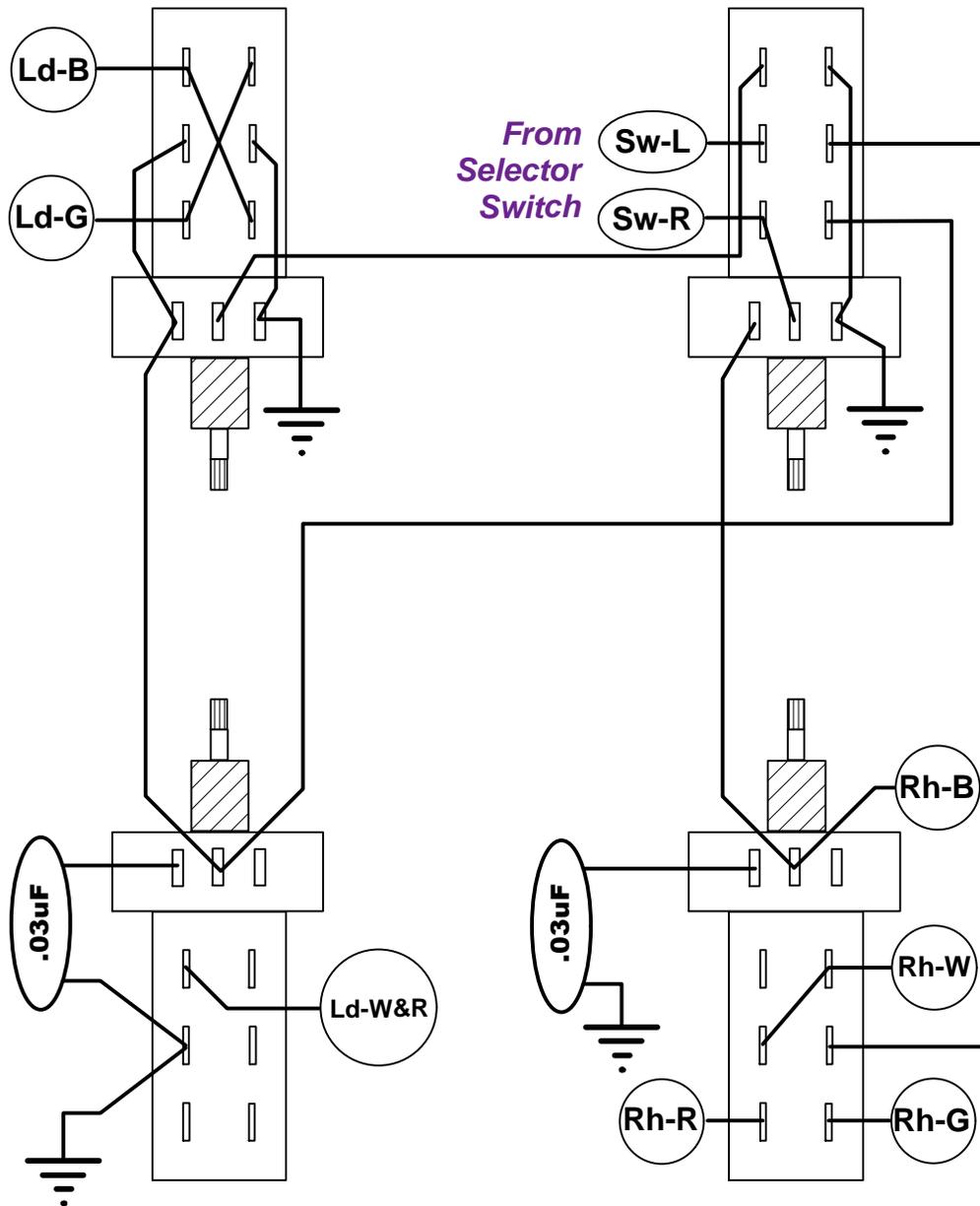
Lead Tone

Schector Superrock Harness

(updated for modern p-p pots)

Lead Volume
(Pull for Out-of-Phase)

Rhythm Volume
(Pull for Series link)



Lead Tone
(Pull for Coil Cut)

Rhythm Tone
(Pull for Coil Cut)

Pickup wiring shown with
Seymour Duncan color codes

- B = Black [Hot]
- W = White
- R = Red
- G = Green [Gnd]

Drawn by Steve Ahola
December 1998

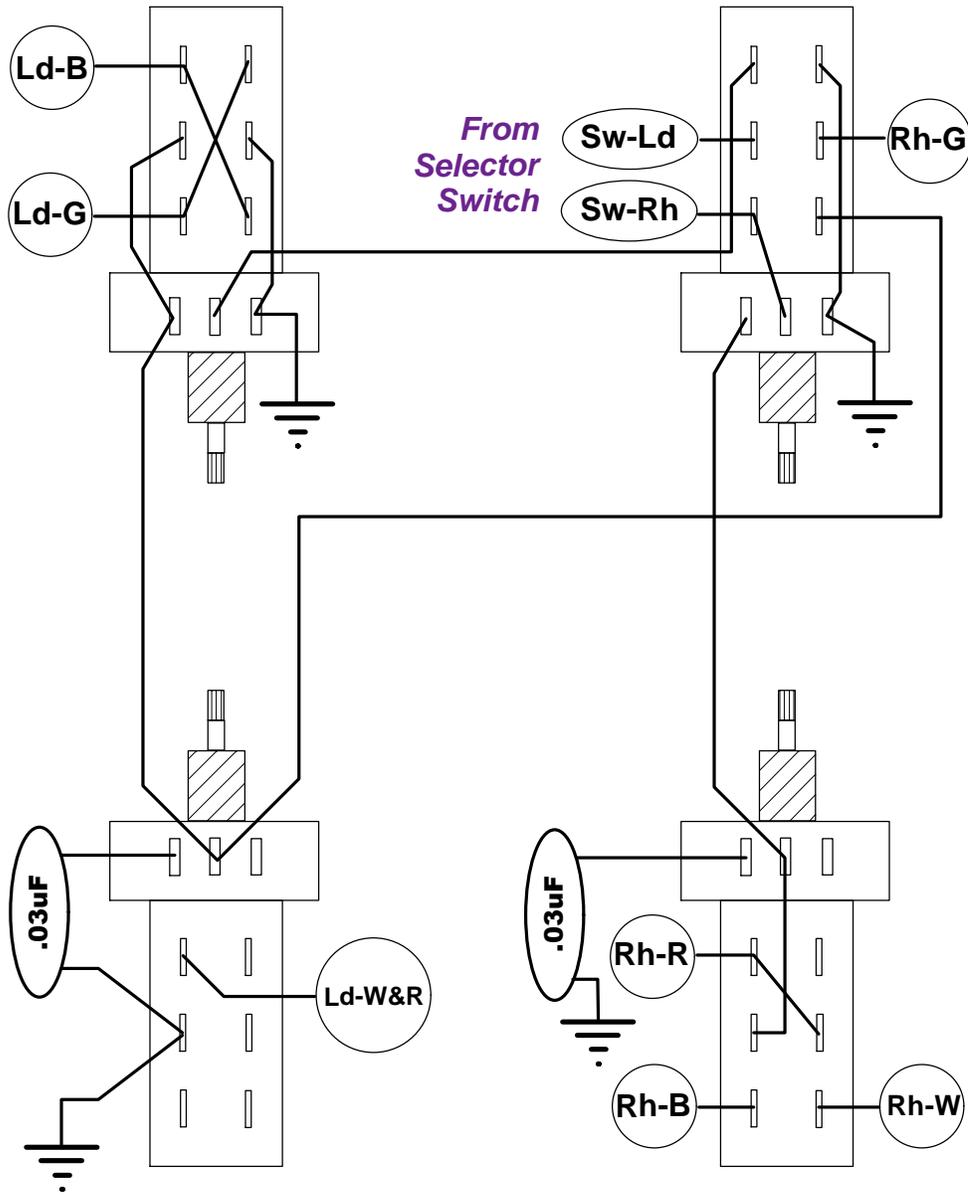
Schector Superrock Harness

(updated for modern p-p pots)

With Hum-Cancelling S.C. Linkages

Lead Volume
(Pull for Out-of-Phase)

Rhythm Volume
(Pull for Series link)



Lead Tone
(Pull for Coil Cut)

Rhythm Tone
(Pull for Coil Cut)

Pickup wiring shown with
Seymour Duncan color codes

- B = Black [Hot]
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December 1998
(revised 06/05/99)

And have this without resorting to drilling even one hole in your prized guitar? You can have all of this with Schecter Omni Pots.

The Omni Pot is a sophisticated, yet simple, electronic device specially made to Schecter demands. It is a combination of two elements: a finely crafted sealed and lubricated potentiometer, joined together with a versatile switch. Just the switch itself equals four simple toggle units or one double pole double throw switch. It is able to create exotic wiring selections simply.

The shaft that holds the knob is a two-way control. Pull the knob on a shaft and one of the switch positions is selected, push the knob/shaft in and the other switch selection is achieved. Now turn the knob. The shaft rotates the pot elements controlling either volume or tone. The turning (pot motion) and the push-pull (switch motion) are completely independent of each other.

The pot section is totally sealed in a block of non-conductive polymer. Most common pots are round. They have three in-line tabs. The center tab connects to the wiper in the pot. On an Omni Pot the wiper is located separate from the two tabs for the ends of the resistance paths. It is located a little bit closer to the shaft and it is positioned at an angle 90° from the other two tabs.

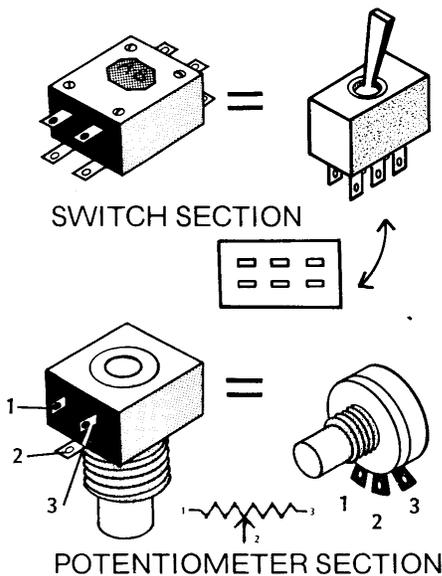


Fig. 241 Omni Pot construction features.

Omni Pots come in two configurations: the first (MO43), has a 3/8 inch threaded section for installation onto pickguards. The shaft is solid on this unit and it is perfect for accepting dome knobs and other set-key knobs. The second (MO47), has a 1/2 inch long threaded section for mounting through the thicker tops of Les Paul type instruments. This unit also has a knurled (fluted) shaft for mating with Gibson speed knobs.

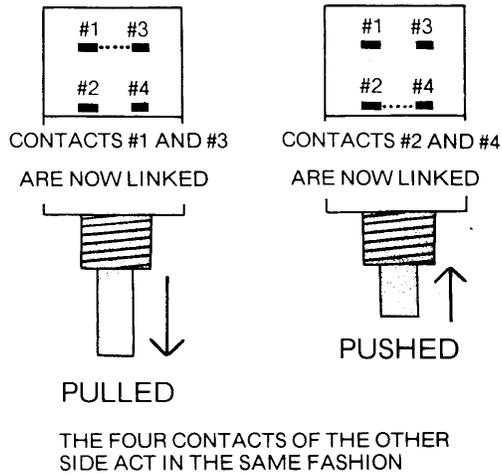


Fig. 242 Omni Pot switch function.

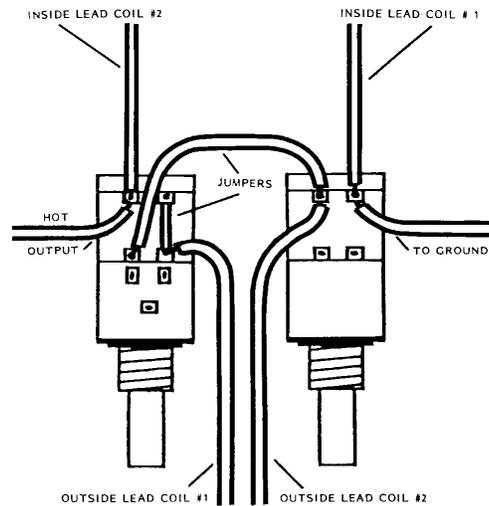


Fig. 243 Omni Pot used as a series/parallel switch.

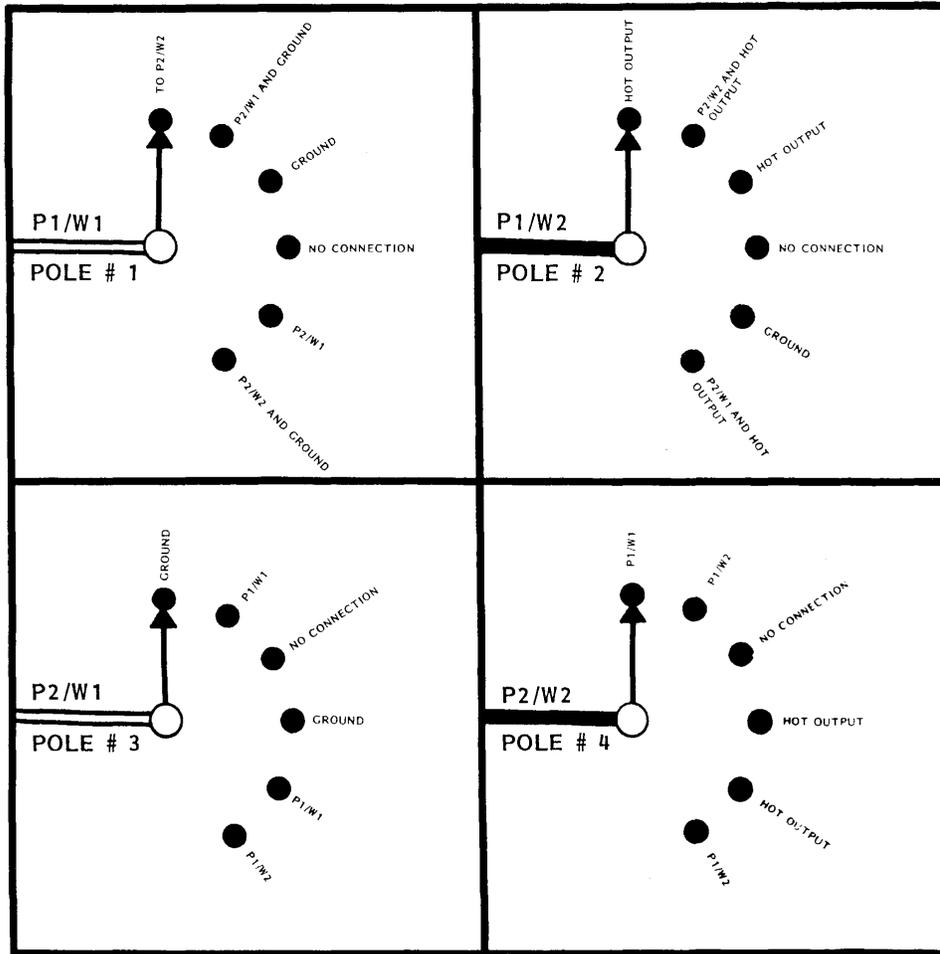
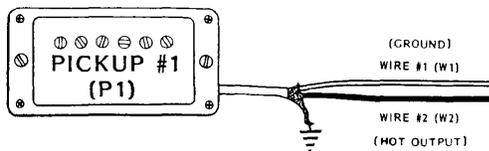


Fig. 225 Six selection switching for use with two pickups (humbuckers are shown).



This switching system uses two single coil pickups or two humbucking pickups. The choices are: pickup one, pickup two, both in series, both in parallel, both linked out-of-phase parallel, or both linked out-of-phase series.

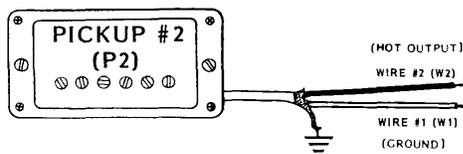
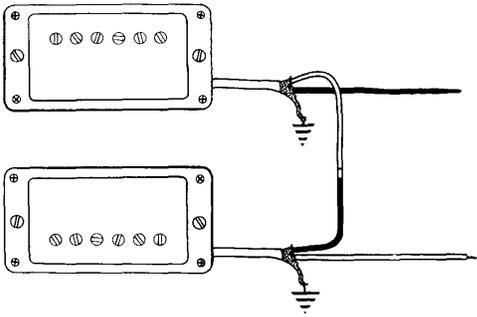


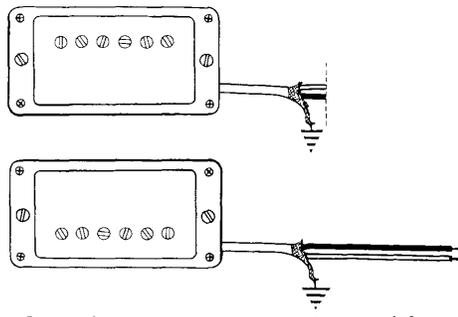
Fig. 226 Selectable linkages.

POSITION # 1



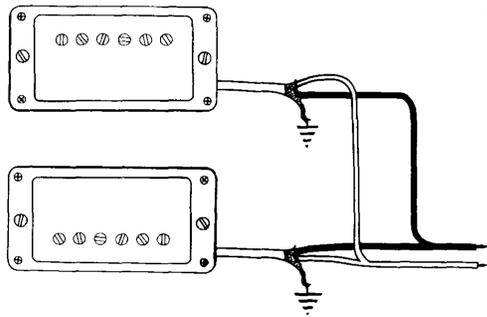
Two pickups linked in series, in-phase.

POSITION # 4



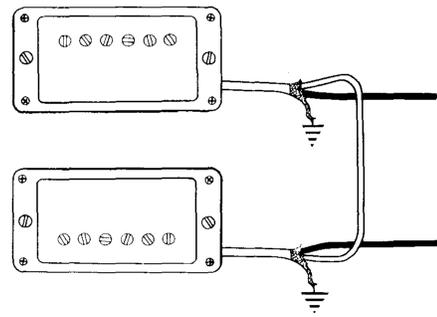
Two pickups linked together with only pickup #2 working.

POSITION # 2



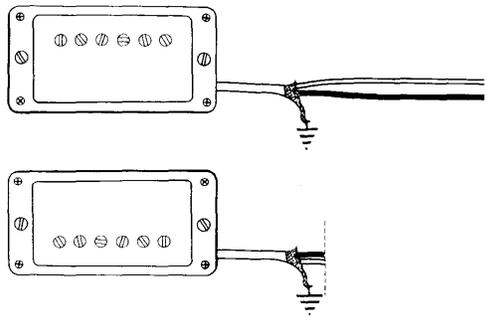
Two pickups linked in parallel, in-phase.

POSITION # 5



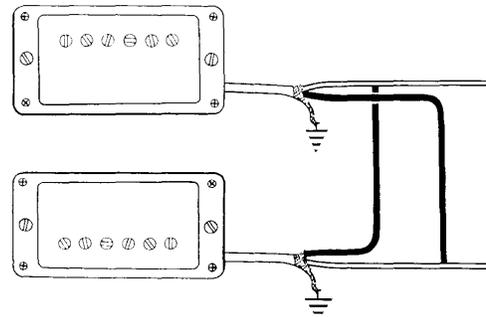
Two pickups linked together in series out-of-phase.

POSITION # 3



Two pickups linked together with only pickup #1 working.

POSITION # 6



Two pickups linked together in parallel out-of-phase.