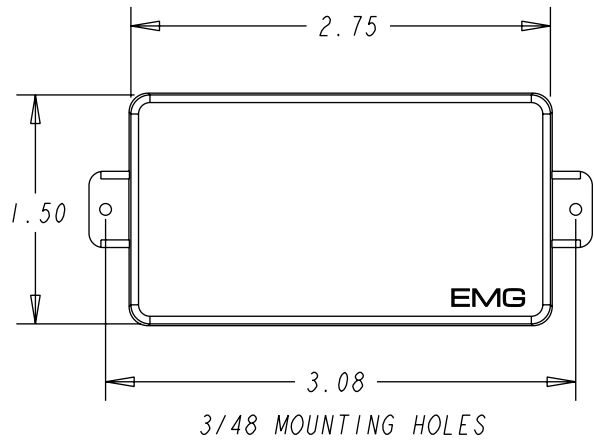


# EMG

P.O. BOX 4394  
SANTA ROSA, CA  
95402 U.S.A.  
PH (707) 525-9941  
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www.emgpickups.com



## INSTALLATION INFORMATION

**EMG Model: EMG-ZW**

### SPECIFICATIONS:

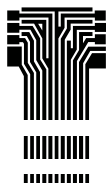
### MODEL:

	81	85
Preferred Pickup Placement	Bridge	Neck
Logo Color	Silver	Gold
Magnet Type	C/S	Alnico
Resonant Frequency (KHz)	2.00	2.45
Output Voltage (String)	2.0	2.1
Output Voltage (Strum)	4.5	4.5
Output Noise@ 60Hz	-91	-89
Output Impedance (Kohm)	10	10
Current@ 9V (Microamps) (System)	160	
Battery Life (Hours) (System)	1500	
Maximum Supply (Volts DC)	27	

Note: Magnet Type: A (Alnico)  
C/S (Ceramic/Steel)

### IMPORTANT INSTALLATION NOTES:

- Only one battery is required for the pickups, and any active accessories such as the SPC, RPC, EXG, AB, PA-2, and Pi-2.**
- Use an Alkaline or Lithium battery for longest life.
- The controls included with EMG Systems are 25K Ohm, Audio Taper. This value of control is required for the system to work correctly.
- When installing EMG Active Pickups, **DO NOT** connect the bridge ground wire. This wire is usually soldered to a volume or tone control casing and goes to the bridge. This wire grounds the strings and uses them and your body as a shield against hum and buzz. It also creates a shock hazard. EMG Pickups are shielded internally and **DO NOT** require string grounding. This greatly reduces the possibility of reverse polarity shock from microphones and other equipment
- EMG Active Pickups have very little magnetism compared to passive pickups. We recommend you adjust the pickups as close to the strings as possible. Sustain and string movement will not be inhibited by close adjustment.
- If your installation is different from the diagrams in these instructions or you need additional diagrams visit our website: [emgpickups.com](http://emgpickups.com) for a complete listing of available diagrams.



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### Warranty:

All EMG Pickups and accessories are warranted for a period of two years. This warranty does not cover failure due to improper installation, abuse or damage. If at any time a pickup fails to work, return it postage prepaid with proof of purchase. If upon examination the pickup is determined to be defective, a replacement will be made at no charge. Warranty replacement products are covered by this same warranty. This warranty covers only those pickups and accessories sold by authorized EMG Dealers. This warranty is not transferable.

**Installation Procedures for Models:  
EMG Model: EMG-ZW Set, EMG-81/EMG-85**

The ZW Model is designed as a direct replacement into Gibson Les Paul Guitars. LPGuitars manufactured after April of 1975 require long shaft pots. Inside the control cavity the existing electronics are mounted to a metal control plate, which will be removed as a whole unit, and will not be reused. If your Les Paul was manufactured before April of 1975 or is an import model it will not require long shaft pots. Both pot types have been included with this system. Refer to other diagrams included on this sheet for reference.

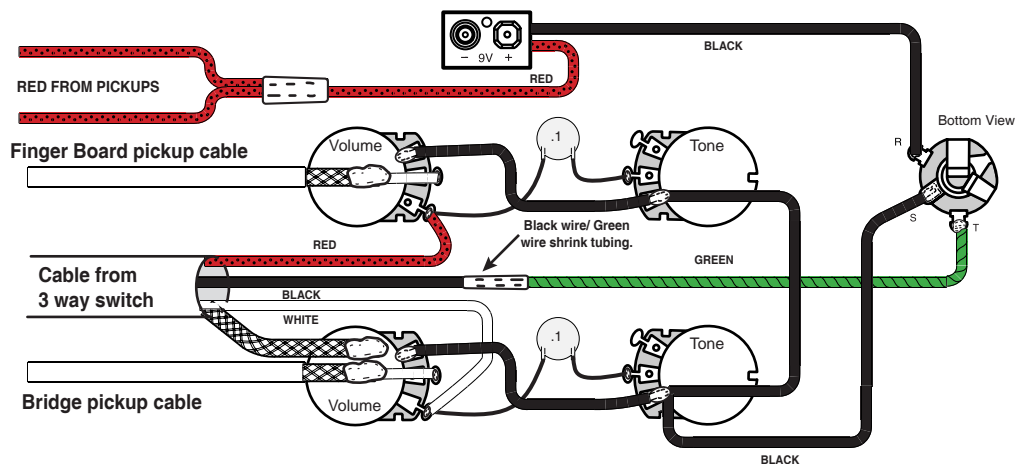
Diagram 1 shows the installation for the Gibson Les Paul Guitar (after 1975) which uses the long shaft pots. Start by removing the strings and loosening the pickup mounting screws.

- 1) Remove the control cavity cover (4 screws) and unscrew the screw(s) that fasten the shielding can.
- 2) Unsolder the pickup cables that go to the casing of the volume controls and the center terminal of the volume controls. Remove the pickups from the guitar. Set the guitar aside and mount the EMG Pickups into the pickup mounting rings using the screws and springs supplied and set them aside.
- 3) Unsolder the following wires coming from the selection switch cable.
  - a) Red wire at the rhythm pickup volume control
  - b) White wire at the bridge pickup volume control
  - c) Black wire at the solder lug terminal in the center of the control plate
  - d) Braid (shield) at the solder lug terminal in the center of the control plate
  - e) Bridge ground wire soldered to the volume control casing (Do not reconnect during installation)
- 4) Remove the knobs and hex nuts from the pots and the output jack as well. Remove the whole plate as a single unit. It will not be reused.
- 5) Mount the volume and tone control sets included with the EMG-ZW as shown in the diagram. Extra hex nuts are provided to set the height of each control so the knobs fit nicely on the top of the guitar.
- 6) Install the pickups in the guitar routing the pickup cables into the control cavity. Solder the braid (shield) to the control casing and white wire to the center terminal of each volume control. Set the red wires aside for now.
- 7) Solder the Red wire of the switch cable to the outside terminal of the rhythm pickup volume control.
- 8) Solder the White wire of the switch cable to the outside terminal of the bridge pickup volume control.
- 9) Solder the Braid (shield) wire of the switch cable to the casing of the rhythm pickup volume control
- 10) Install the Output jack/Battery clip set included and fasten the output jack securely to the jack plate.
- 11) Solder the Black wire of the switch cable to the Green wire of the output jack and cover the connection with the shrink tubing provided.
- 12) Solder the Black wire of the Output jack to the casing of the rhythm tone control
- 13) There is a small black wire included with the System to ground the two volume control casings together, Solder one end of this wire to the rhythm pickup volume control casing and the other end to the bridge pickup volume control casing.
- 14) Solder the red wires of the pickups to the red wire of the battery clip, cover the connection with the heat shrink tubing provided.
- 15) This completes the installation. Before stringing up the guitar, install a 9 Volt battery, plug in the guitar and test it through an amp. Tap on the pickups lightly with a small screwdriver and check the operation of the volume and tone controls. Wrap the battery in some of the packaging foam provided to insulate from the controls and reassemble the guitar.
- 16) String it up and Boogie down Broadway.

**Be sure to unplug your guitar when not in use to avoid current drain on the battery!**

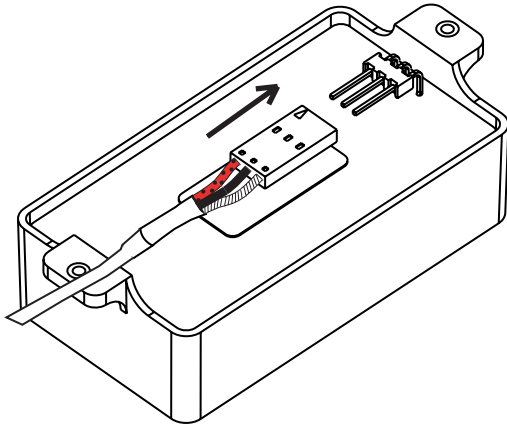
Diagram 1

(Gibson Les Paul  
April 1975 and later)



The diagrams shown are for EMG Active Pickups only. All diagrams show the Red Wire coming from the pickups connected to the battery. If you are installing EMG-HZ Passive Pickups refer to those diagrams. The Red Wire of the HZ Pickup is NOT for battery power, it is a coil wire.

We recommend you make a simple diagram of your current wiring scheme and follow it when rewiring with the EMG 25K Controls.

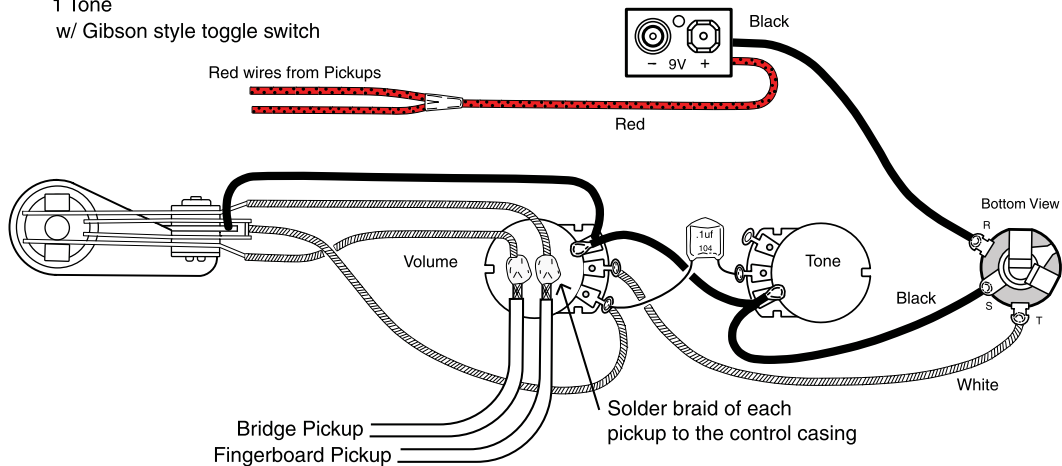


For all other installations:  
Refer to the following diagrams. Find the diagram of the volume, tone, and switch type you have in your guitar and follow that diagram. It is recommended that if you plan to install other EMG Products, that you do the installation per the diagram on this sheet and get the system functioning before adding any accessories.

- 1) Disconnect the existing pickup from its volume and tone control.
- 2) Disconnect any existing selection switch wire(s) from its volume and tone control.
- 3) Remove the pickup and the volume and tone control. Place the EMG Volume and Tone Control in the instrument. Mount the pickup in the mounting ring and install it routing the cable to the control cavity.
- 4) Connect the pickup to the volume control as shown in the diagram, and connect the switch wires as shown.
- 5) For two-pickup guitars, follow steps 1-4 before continuing.
- 6) Remove the existing output jack and replace it with the EMG Output Jack. Solder the output wire to the jack as shown in the diagram.
- 7) Solder the RED wire(s) of the pickup(s) to the RED wire of the battery clip and cover the connection with the heat-shrink tubing provided.
- 8) Use some of the packaging foam that comes with the pickup and surround the battery to insulate it. Place the battery in the control cavity.
- 9) We suggest you test the guitar before closing up the control cavity to make sure everything is working.

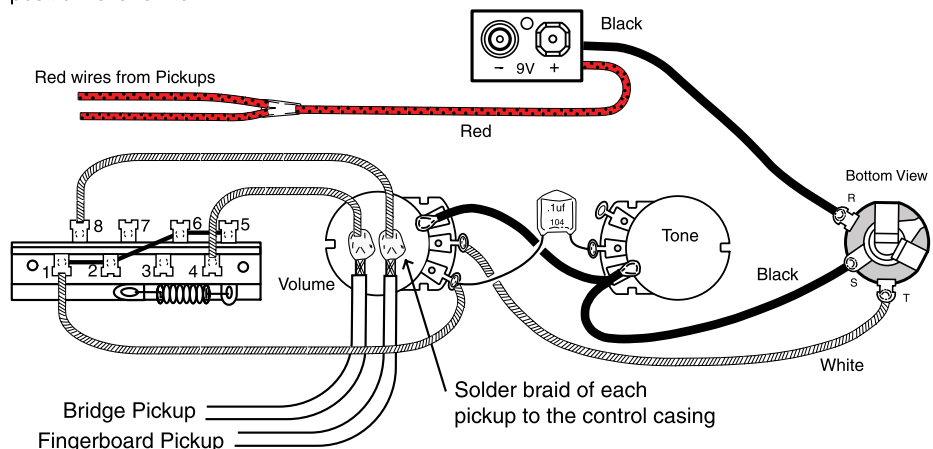
**Diagram 2**

1 Volume,  
1 Tone  
w/ Gibson style toggle switch



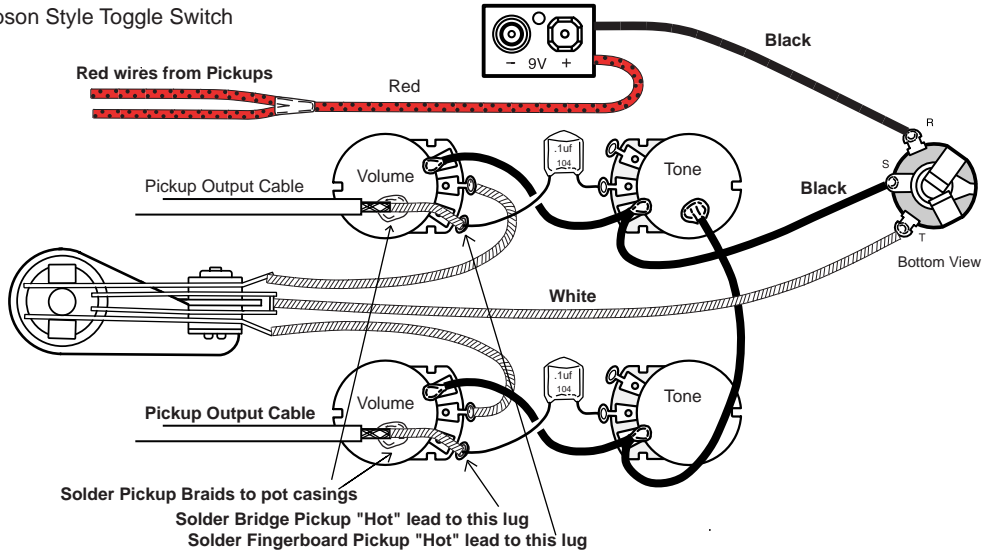
**Diagram 3**

1 Volume,  
1 Tone  
w/ 3 position lever switch



**Diagram 4**

2 Volume (Either volume will act as master)  
w/ selection switch in middle position  
2 Tone  
w/ Gibson Style Toggle Switch



**Diagram 5**

2 Volume (Independent)  
2 Tone  
w/ Gibson Style Toggle Switch

