

Before you start, **read these instructions first** to understand what you need to do to install this product. This document describes how to install the two upgrades that are available for your Mustang Bass PJ instrument. The **T2 version** will give you six pickup tones and the **T3PJ version** will give you 21 pickup tones.

Assumptions

These upgrade products use our VT-1 stacked Volume-Tone control. The top (*smaller*) knob controls the Tone and the bottom (*larger*) knob controls the Volume. Your instrument will have a PJ pickup configuration.

Note: Active or *Pizeo* pickups are not supported.

Tools Needed

You *may* need one or more of the following tools (*not included with purchase*) to install this product.

- Wire cutters / strippers, regular pliers
- Small Phillips & straight slot screwdrivers
- Ohmmeter to measure electrical continuity
- Soldering iron (25/30 watt max.) with fine tip, rosin-core solder .022" diameter

Preamble

This upgrade will have you cutting existing wires on your instrument. You may also need to increase the length of existing wires.

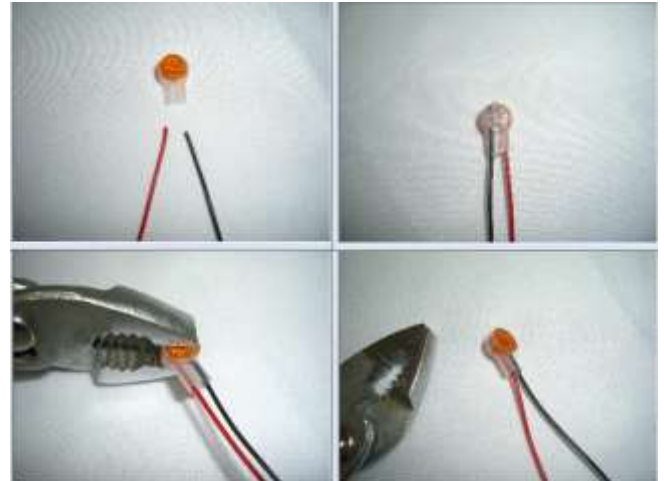
Because you will make changes to your instrument, you need to have a plan to install this **Pickup Switch Upgrade™** product.

See the **Reference Drawing** on page 8 of this document. If needed, use a pencil to draw the original circuit of your instrument **before** you proceed. When you document where the wires on your instrument (*and the colors of these wires*) were connected, you will have a way to restore it to its original condition should it become necessary. Since there is a large variation of wiring schematics that spans 50 years, you need to draw the circuit that is specific to your own instrument.

Adding Extra Wire

After cutting the pickup wires (*described later*), the pickup wires will be too short to reach the specified connection of the Green terminal strip (J1) on the **Pickup Switch Upgrade™** product. You will cut the RED and BLACK wires that are in the included **PARTS BAG** into shorter lengths and electrically connect them together to permit the wire to reach the Green terminal strip connections. You will use the provided 2-wire UY2 yellow/clear connector.

Use pliers to firmly squeeze the UY2 connector top yellow button so it is flush with the clear body to create a permanent electrical connection. After extending the wires, verify electrical continuity between the two pickup wires using an ohmmeter (*some coil resistance will be present*).



Product Variants

This document has instructions for two versions of our Mustang Bass PJ Upgrade. The **T2 version** (*has three mini toggle switches*) and **T3PJ version** (*has five mini toggle switches*). Separate sections of this document describe the installation of each version.

A. MUSTANG BASS PJ UPGRADE – T2 VERSION

This upgrade is for a Mustang Bass PJ or similar clone instrument with a PJ pickup configuration. This section describes the **T2 version** that gives you six pickup tones. It contains our T2-Switch, one stacked volume and tone control with knobs. No soldering is needed to install this product. You will use your own pickups.

This upgrade includes a **PARTS BAG** with the following items used for installation.

- An equal length each of black and red insulated wire (to lengthen pickup and input jack wire if needed)
- Several yellow/clear connectors (UY2) to extend wire connections if needed
- One grey wire nut (71B) to connect your bridge ground wire and (*if it exists*) body cavity ground wire to the ground wire on this upgrade

A1. Preparation

If needed, remove your strings. Remove your existing control plate attaching screws. Document your existing wiring (see *Preamble* on page 1) *before* you start.

Cut the pickup wires where they are connected so all pickup wires are of maximum length.

Temporarily stow pickup wires in the body cavity.

Confirm the Mustang Bass PJ upgrade will lay completely flat and within the body cavity with no interference by the wood body. If the product doesn't lay down flush on your instrument, identify and remove the necessary amount of wood from your body in the interference area to provide the needed clearance. This must be done before you can proceed.

A2. Pickup Wires

There is no industry standard for pickup wire lead colors. More common color pairs are red/black, red/white and black/white. You are advised to use consistency when connecting *your* pickup wire color pairs to the **[+]** and **[-]** pickup connections on the green terminal strip (J1).

Determine which wire color for each pickup coil will be attached to the **[+]** and **[-]** green terminal strip connector on our Jazz Bass upgrade. **We use Black for the ground (-) wire and Red for the hot (+) wire.**

Determine if there is enough wire length from each pickup coil to *comfortably* reach the corresponding connectors on the green terminal strip on the **Pickup Switch Upgrade™** circuit board. If not, refer to the “*Adding Extra Wire*” topic (page 1).

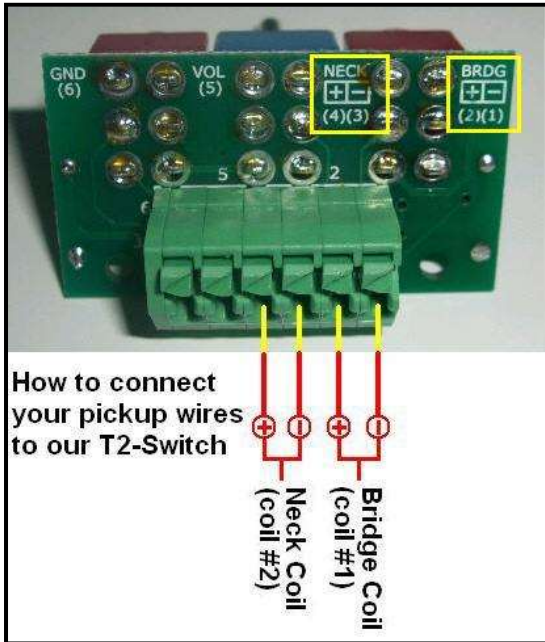
Strip off 3/16” (4.76mm) insulation from the end of each pickup wire then twist the exposed wire strands so they are tightly bound. Insert the wires of each pickup pair into the correct location on the green terminal strip (J1) using the process described in the below “*Terminal Strip*” topic.

Note: If you have a ground wire coming from the bridge (*and maybe from body cavity shielding*), connect them to ground lead on the output jack using the provided grey wire nut.

A3. Terminal Strip

How to attach wires to the **green** terminal strip (J1) that is on the upgrade circuit board. Use a small screwdriver and press down on the square *release button* located directly above the wire hole. Hold the button down and insert the stripped wire completely into the wire connection hole and then release the button. Lightly tug on the wire to confirm it is firmly gripped by the Terminal Strip. A legend is printed on the circuit board with the name of each terminal strip wire hole from left to right. Attach each wire to the correct terminal strip hole.

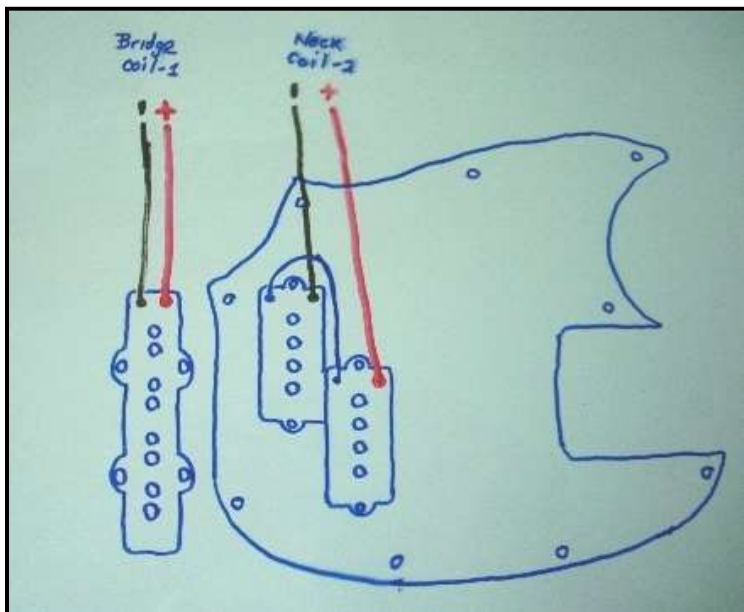
T2-Switch (6-hole terminal strip): [GND] [VOL] [+]Coil-2[-] [+]Coil-1[-]



A4. Connecting your pickups to our T2-Switch

Connect your **NECK PJ** pickup coil to
Connect your **BRIDGE** pickup coil to

[+]Coil-2[-] connections on the green terminal strip
[+]Coil-1[-] connections on the green terminal strip



A5. T2-Switch Identification and Use Summary

Here is a summary of how the switches are used for this product.

SW1 and SW3 are ON-OFF-ON switches that turn on individual pickups in normal or reverse phase
SW5 is an ON-ON switch that changes the pickups from *Parallel* to *Series* connectivity

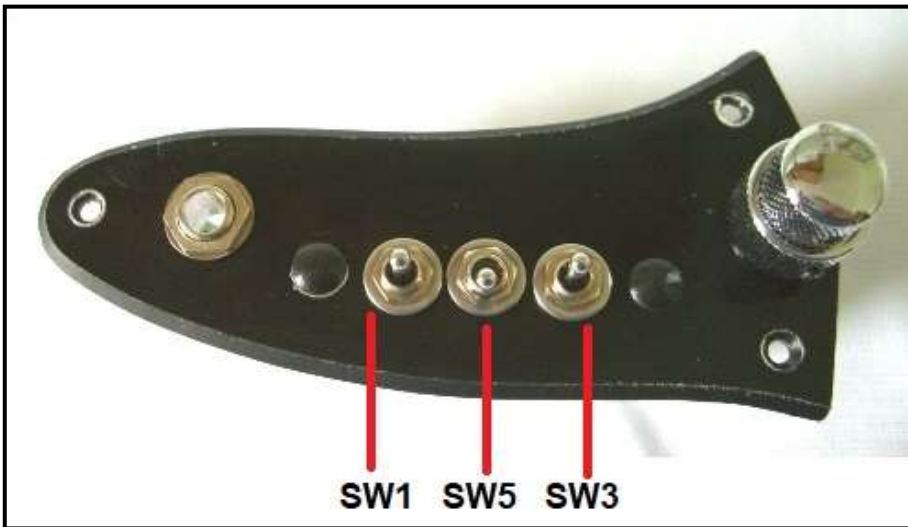
SW1 turns on the **bridge** pickup, either in normal phase (down), or reverse phase (up).

SW3 turns on the **neck** pickup, either in normal phase (down), or reverse phase (up).

SW5 When this switch is **down**, the pickups will be in a *Parallel* circuit.

When this switch is **up** it puts the **bridge** and **neck** pickups in a *Series* circuit. Both pickups must be on, either in normal phase(down) or reverse phase (up).

Document #A will let you “map” the pickup tones you get from the T2-Switch. It is available for download from our website’s Document Library at <http://www.AweSome-Guitars.com>



A6. Validating

Connect your instrument to an amplified source with the volume set to low. Turn the switches on and off as described in “*T2-Switch Identification and Use Summary*” topic while gently tapping the magnet of the pickup coil that should be “on” with a small screwdriver to confirm pickup response. Also confirm the correct operation of the Volume and Tone controls.

Our VT-1 stacked pot control is only available as right-hand audio taper item. Because only the larger diameter knob of the VT-1 control supports reliable “pinky” swells, the suggested wiring is presented for Volume swells.

If you receive the stated results, install the pickguard screws. Next, install a new set of strings. This product will produce a wide spectrum of unique pickup sounds that you cannot get from your stock instrument.

B. MUSTANG BASS PJ UPGRADE – T3PJ VERSION

This upgrade is for a Mustang Bass PJ or similar clone instrument with a PJ pickup configuration. This section describes the **T3PJ version** that gives you six pickup tones. It contains our T3PJ-Switch, one stacked volume and tone control with knobs. No soldering is needed to install this product. You will use your own pickups.

This upgrade includes a **PARTS BAG** with the following items used for installation.

- An equal length each of black and red insulated wire (to lengthen pickup and input jack wire if needed)
- Several yellow/clear connectors (UY2) to extend wire connections if needed
- One grey wire nut (71B) to connect your bridge ground wire and (*if it exists*) body cavity ground wire to the ground wire on this upgrade

B1. Preparation

If needed, remove your strings. Remove your existing control plate attaching screws. Document your existing wiring (see *Preamble* on page 1) *before* you start.

Cut the pickup wires where they are connected so all pickup wires are of maximum length.

Temporarily stow pickup wires in the body cavity.

Confirm the Mustang Bass PJ upgrade will lay completely flat and within the body cavity with no interference by the wood body. If the product doesn't lay down flush on your instrument, identify and remove the necessary amount of wood from your body in the interference area to provide the needed clearance. This must be done before you can proceed.

B2. Pickup Wires

There is no industry standard for pickup wire lead colors. More common color pairs are red/black, red/white and black/white. You are advised to use consistency when connecting *your* pickup wire color pairs to the **[+]** and **[-]** pickup connections on the green terminal strip (J1).

Determine which wire color for each pickup coil will be attached to the **[+]** and **[-]** green terminal strip connector on our Jazz Bass upgrade. **We use Black for the ground (-) wire and Red for the hot (+) wire.**

Determine if there is enough wire length from each pickup coil to *comfortably* reach the corresponding connectors on the green terminal strip on the **Pickup Switch Upgrade™** circuit board. If not, refer to the “*Adding Extra Wire*” topic (page 1).

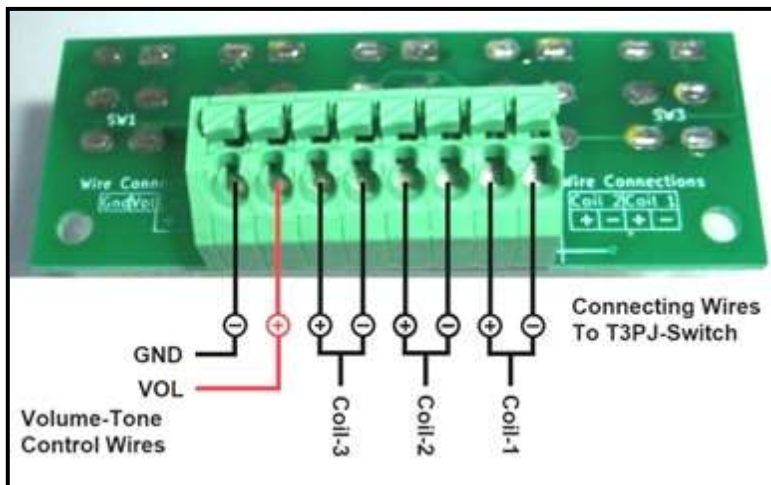
Strip off 3/16” (4.76mm) insulation from the end of each pickup wire then twist the exposed wire strands so they are tightly bound. Insert the wires of each pickup pair into the correct location on the green terminal strip (J1) using the process described in the below “*Terminal Strip*” topic.

Note: If you have a ground wire coming from the bridge (*and maybe from body cavity shielding*), connect them to ground lead on the output jack using the provided grey wire nut.

B3. Terminal Strip

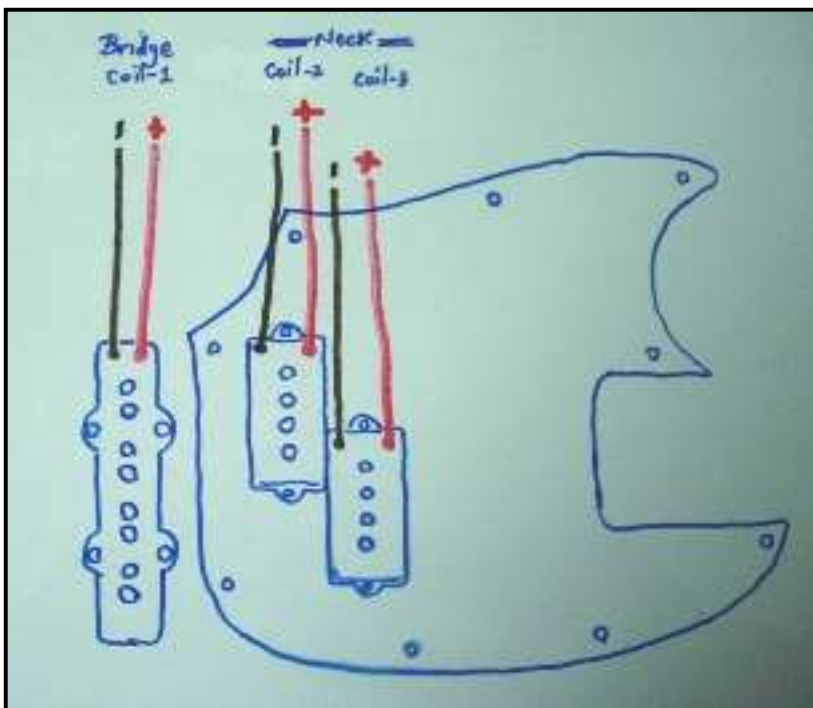
How to attach wires to the **green** terminal strip (J1) that is on the upgrade circuit board. Use a small screwdriver and press down on the square *release button* located directly above the wire hole. Hold the button down and insert the stripped wire completely into the wire connection hole and then release the button. Lightly tug on the wire to confirm it is firmly gripped by the Terminal Strip. A legend is printed on the circuit board with the name of each terminal strip wire hole from left to right. Attach each wire to the correct terminal strip hole.

T3PJ-Switch (8-hole terminal strip): [GND] [VOL] [+]Coil-3[-] [+]Coil-2[-] [+]Coil-1[-]



B4. Connecting your pickups to our T3PJ-Switch

Connect your **NECK** pickup coil to [+]Coil-3[-] connections on the green terminal strip
Connect your **MIDDLE** pickup coil to [+]Coil-2[-] connections on the green terminal strip
Connect your **BRIDGE** pickup coil to [+]Coil-1[-] connections on the green terminal strip



B5. T3PJ-Switch Identification and Use Summary

The T3PJ-Switch contains five mini-toggle switches (from rear-to-front): (SW1, SW4, SW2, SW5, SW3). SW1 and SW2 are ON-OFF-ON switches; SW4, SW5 and SW3 are ON-ON switches. Here is a summary of switch use for this product.

SW1 is an ON-OFF-ON switch used to turn the Bridge "J" (Jazz Bass) pickup coil-1 Off and On. The middle position of this switch is Off. The Down position turns the pickup On (in *normal-phase*) and the Up position turns the pickup on (in *reverse-phase*).

SW4 is an ON-ON switch used to put the Bridge "J" and "P" pickup coils in either a Parallel connection or Series Connection. Down is Parallel, and Up is Series. When Down, the "J" pickup (*coil-1*) or the "P" pickup coils (*coil-2 and coil-3*) can be turned On either separately or together. When Up, both PJ pickup coils **MUST** be in an On position (*see SW1 and SW2*) or no sound will be produced.

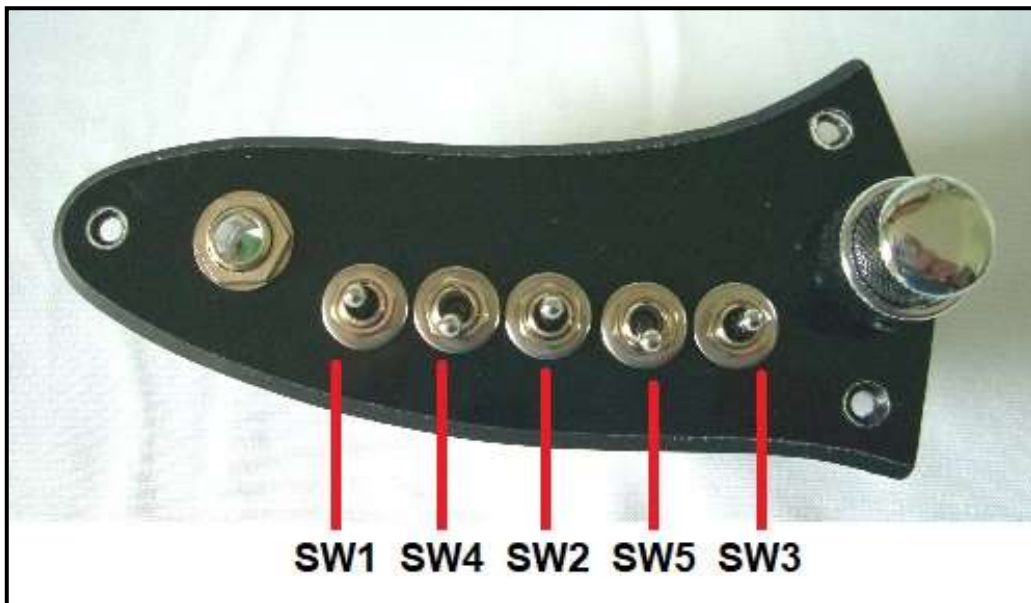
SW2 is an ON-OFF-ON switch used to put the "P" pickup coils (*coil-2 and coil-3*) On. The middle position of this switch is Off. The Down position turns the "P" pickup coils On. When Down, the "P" pickup coils can be further controlled by SW5 and SW3 using the rules described for these switches.

Note: The Up position of SW2 is non-functional. (*if SW4 is Up, this switch must be On*).

SW5 is an ON-ON switch used to put the "P" pickup coils (*i.e., coil-2 and coil-3*) in Parallel connection or Series Connection. When Down, the two coils are in Parallel connection. When Up, the two coils are in Series connection.

SW3 is an ON-ON switch used to change the phasing of the "P" pickup coils (*i.e., coil-2 and coil-3*). Down puts the coils in *normal-phase* and Up position puts the pickup in *reverse-phase*.

You get 21 pickup tones with this upgrade.



Document #D will let you “map” the pickup tones you get from the T3PJ-Switch. It is available for download from our website’s Document Library at <http://www.AweSome-Guitars.com>

B6. Validating

Connect your instrument to an amplified source with the volume set to low. Turn the switches on and off as described in “*T3PJ-Switch Identification and Use Summary*” topic while gently tapping the magnet of the pickup coil that should be “on” with a small screwdriver to confirm pickup response. Also confirm the correct operation of the Volume and Tone controls.

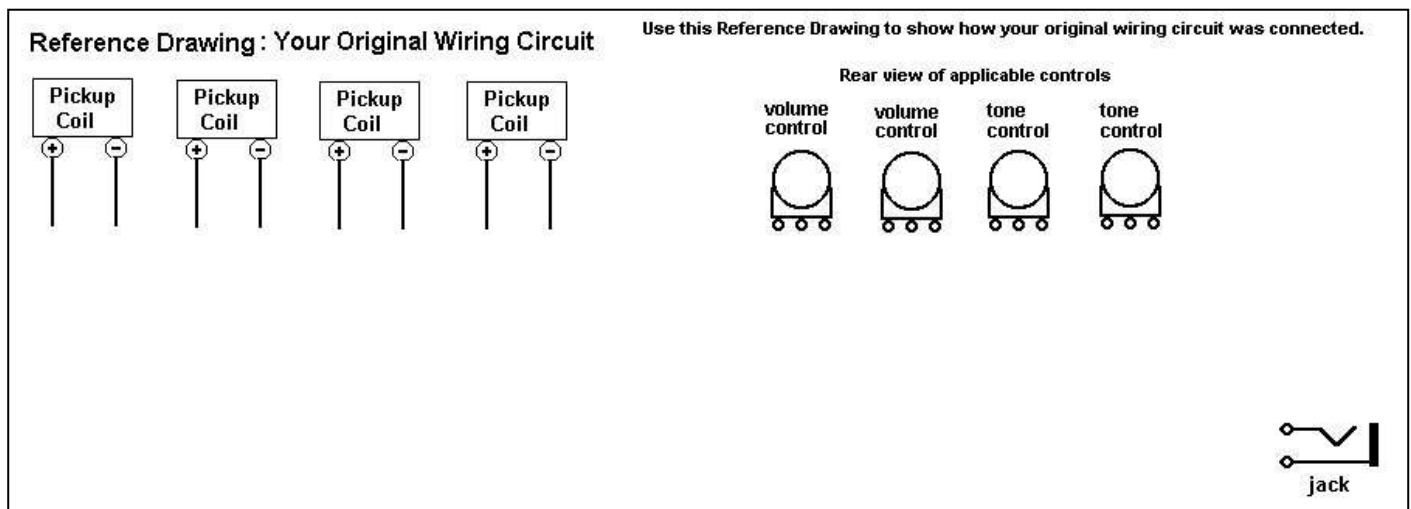
Our VT-1 stacked pot control is only available as right-hand audio taper item. Because only the larger diameter knob of the VT-1 control supports reliable “pinky” swells, the suggested wiring is presented for Volume swells.

If you receive the stated results, install the pickguard screws. Next, install a new set of strings. This product will produce a wide spectrum of unique pickup sounds that you cannot get from your stock instrument.

C. ADDITIONAL SUPPORT ITEMS

C1. Reference Drawing

Use this drawing to document your instrument’s original wiring. Add components as needed.



C2. Wire Connections

The following drawing shows how to connect this upgrade product. It identifies how our VT-1 Volume and Tone control is connected. Our VT-1 product is only available in Right-Hand audio taper.

