

Before you start, **read these instructions first** to understand what you need to do to install this product. These installation instructions are for our upgrade product designed specifically for a JMJ Road Worn Mustang Bass instrument that produces one pickup tone. This simple upgrade will give you four pickup tones.

Assumptions

This **Pickup Switch Upgrade™** product is designed to use one Volume and one Tone potentiometer to control all of your instrument's pickups. Your instrument will have 2 magnetic pickup coils with two separate wires attached to each pickup coil.

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
- Drill bits: 1/16" (1.6mm), 5/16" (7.9mm)
- Small Phillips & straight slot screwdriver (a 4-way screwdriver can be used as a deep-well socket to tighten switch mounting nuts)
- Ohmmeter to measure electrical continuity
- Soldering iron (25/30 watt max.) with fine tip, rosin-core solder .022" diameter

Preamble

This **Pickup Switch Upgrade™** installation will have you cutting existing wires on your instrument. You will also make wire connections to increase the length of existing wires, and drill holes in your pickguard, control plate or instrument body.

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

See the **Figure 1 – Typical Stock Wiring** on a later page of this document. Use a pencil to draw the original circuit of your instrument before you proceed. When you document where the wires on our 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).

Note: If either of your pickup wires uses a shielded / braided cable, you will need to solder the black wire to the shield cable because the green terminal strip (J1) does not directly accept shielded cable.

Product Variants

This document contains installation instructions that are for our JMJ Road Worn Mustang Bass Upgrade. Other products that we produce contain their own installation instructions and are available on our website's **Document Library** at:

www.AweSome-Guitars.com

1. JMJ ROAD WORN MUSTANG BASS INSTALLATION INSTRUCTIONS

You are installing a factory assembled and tested upgrade that contains our T2P-Switch. This upgrade is for a JMJ Road Worn Mustang Bass or similar clone instrument with two magnetic coil-wound pickups.

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

- Headstock decal, wire decals
- A 12" (30.4cm) length each of Black and Red insulated wire to lengthen pickup wires
- 5 yellow/clear connectors (UY2) to extend pickup wires

1. Preparation

If applicable, remove your strings for easy access to all components. Remove all pickguard screws and carefully remove the pickguard. While viewing the back of the pickguard, document the existing wiring *before* anything is disconnected. Your instrument should be similar to that shown in *Figure 1 – Typical Stock Wiring* in this document. If not, use this figure to document your instrument wiring.

2. Making Wiring Revisions

Refer to *Figure 2 – Upgrade Wiring Revisions* while completing these wire revision steps.

Note: Item “C” and “D” of Figure 2 is Not applicable to this installation

1. As described in item “A” of Figure 2, cut the pickup jumper wire that connects one pickup to the other so there is an equal amount of wire coming from each pickup. Do not strip either of the wire ends that are connected to the pickups.
2. As described in item “B” of Figure 2, cut each pickup wire 6” (15.2cm) from each pickup. Do not strip either of the wire ends that are connected to the pickup.
3. Using a UY2 connector, insert one end of a 6” black wire into the connector. Insert one end of the Neck pickup wire into the UY2 connector. Visually confirm that both wires are “bottomed” in the connector. Use pliers to press on the yellow button of the UY2 connector so it is flush with the clear body.
4. Using a UY2 connector, insert one end of a 6” red wire into the connector. Insert one end of the other Neck pickup wire into the UY2 connector. Visually confirm that both wires are “bottomed”. Use pliers to press on the yellow button of the UY2 connector so it is flush with the clear body.
5. Repeat steps #3 and #4 for the Bridge pickup.
6. Use an ohmmeter to confirm continuity for each pickup coil pair (*you will read some resistance*). If you read an open circuit, try pressing down more firmly on each of the UY2 connectors to produce continuity. If you cannot confirm continuity, you may need to snip out the UY2 connectors and solder the wires together. Make sure the solder joints are insulated to prevent shorting issues.

3. Installing the Upgrade

Terminal Strip

To attach wires to the **green** terminal strip (J1) on the T2P-Switch product, use a small screwdriver or writing pen tip 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. Refer to *Figure 3 – T2P-Switch Green Terminal Strip Designation* for more detail.

T2P-Switch (with 6-hole terminal strip): [GND] [VOL] [+]NECK[-] [+]BRDG[-]

Caution: Do not insert hard items in the wire holes because it will decrease reliable electrical connection. Doing so will void your product warranty.

4. Connecting Your Wires

Refer to *Figure 5 – Final Upgrade Wiring* while completing these wire revision steps.

There is no industry standard for pickup wire lead colors. More common color pairs are red/black, red/white, black/white and white/shield. 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 applicable [+] and [-] green terminal strip connector on our T2P-Switch. If one of the pickup wire connections is a shielded lead, always connect the shield to a BLACK [-] wire to be inserted in the green terminal strip on our switching system.

WARNING: If your pickups have a metal bottom and if either pickup coil wire is grounded to this housing (use an ohmmeter to check each wire to body), make sure your instrument's body cavity is not lined with grounded metal shielding and the pickup housing does not have a separate grounding wire.

Reason: This will cause the pickup to “short” to ground when the pickup switch is put into the regular/reverse phase. To fix this, isolate the pickup housing from the body cavity shielding with soft foam or tape.

Strip off 3/16” (4.7mm) insulation from the end of each pickup wire and twist the exposed wire strands so they are tightly bound. If desired, use a soldering iron to lightly tin the exposed wires. Insert the wires of each pickup pair into the correct location on the green terminal strip (J1) using the process described in the above “Terminal Strip” topic.

Note: If you have a ground wire coming from the bridge (*and maybe from body cavity shielding*), use a UY2 connector to attach them to the provided black wire attached to the ground lead of the output jack.

Connecting your two pickup coils to our T2P-Switch product

Connect your **NECK** pickup coil wire pair to the [+]NECK [-] connections on the green terminal strip
Connect your **BRIDGE** pickup coil wire pair to the [+]BRDG [-] connections on the green terminal strip

T2P-Switch Product Identification and Use Summary

Here is a summary of switch use for this product (see *Figure 4 – T2P-Switch Orientation* for switch identification and orientation).

SW3 is an ON-ON switch that changes the pickups from normal phase to reverse phase

SW5 is an ON-ON switch that changes the pickups from *Parallel* to *Series* connectivity

For a Right-Handed Instrument:

SW3 puts on the **bridge** and **neck** pickup coils either in normal phase (down), or reverse phase (up).

SW5 When this switch is **down** (see Figure 4), the pickups are in a *Parallel* circuit.

When this switch is **up** it puts the **bridge** and **neck** pickups in a *Series* circuit.

Validating

Connect your instrument to an amplified source with the volume set to low. In turn, put the switches in the Up/Down combinations as described in “*Switch Identification and Use Summary*” topic while gently tapping the magnet of the pickup coils with a small screwdriver to confirm pickup response. Also confirm the correct operation of the Volume and Tone controls.

If you receive the stated results, reinstall the pickguard with the screws. Next, install a new set of strings. Welcome to the *Grand Canyon Wide* range of AweSome pickup tones. Install the JMJ upgrade.

This product will give your instrument a wider spectrum of unique pickup sounds that you cannot get with your stock instrument. No batteries or sensitive electronics to go dead.

SWITCH COMBINATIONS USED BY T2P-SWITCH

<u>##</u>	<u>SW5</u>	<u>SW3</u>
1.	D	D
2.	D	U
3.	U	D
4.	U	U

Your Description of the pickup sound

1. _____
2. _____
3. _____
4. _____

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Figure 1 – Typical Stock Wiring

Here is a *typical* P-Bass stock wiring example for reference.

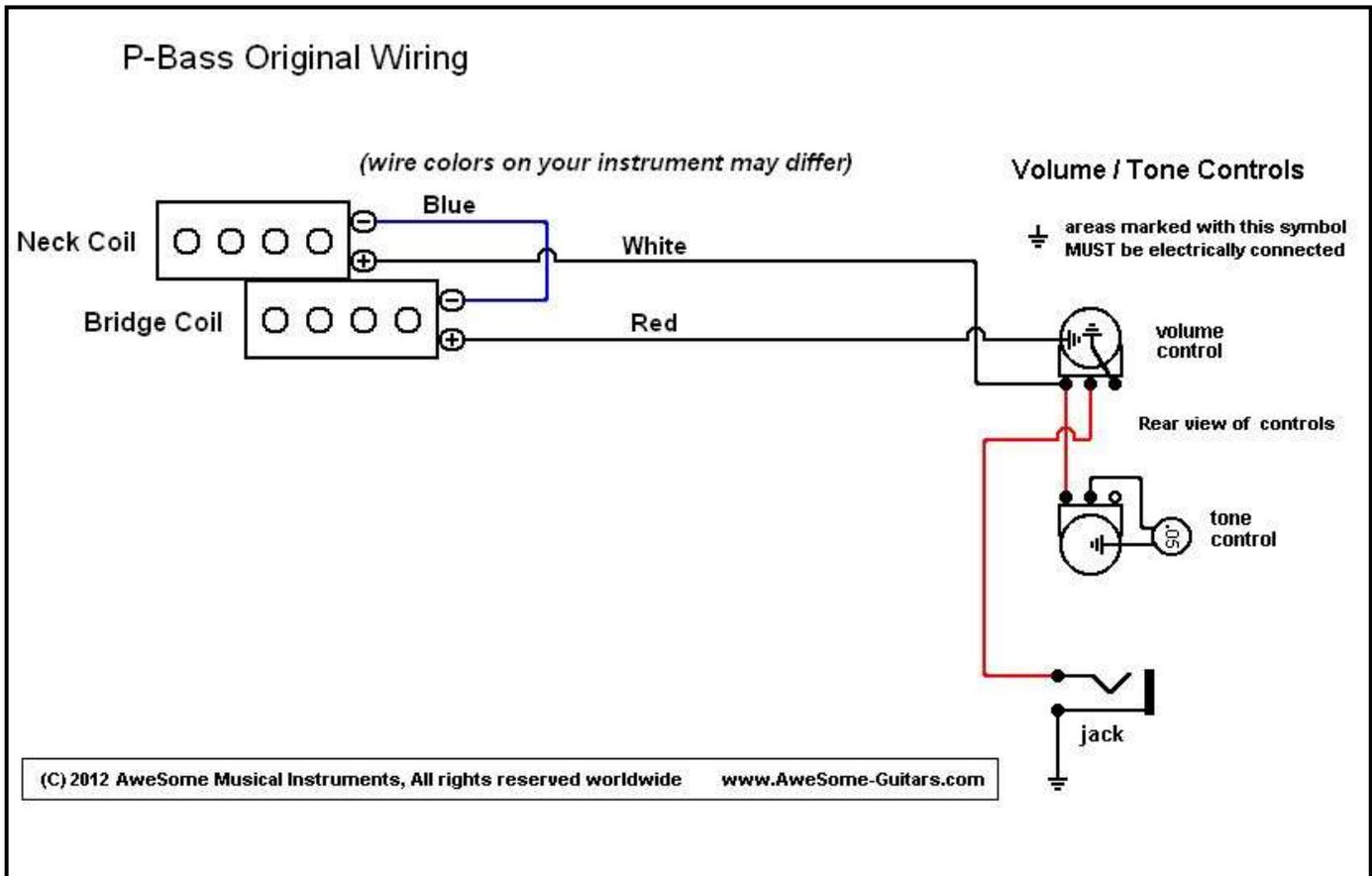
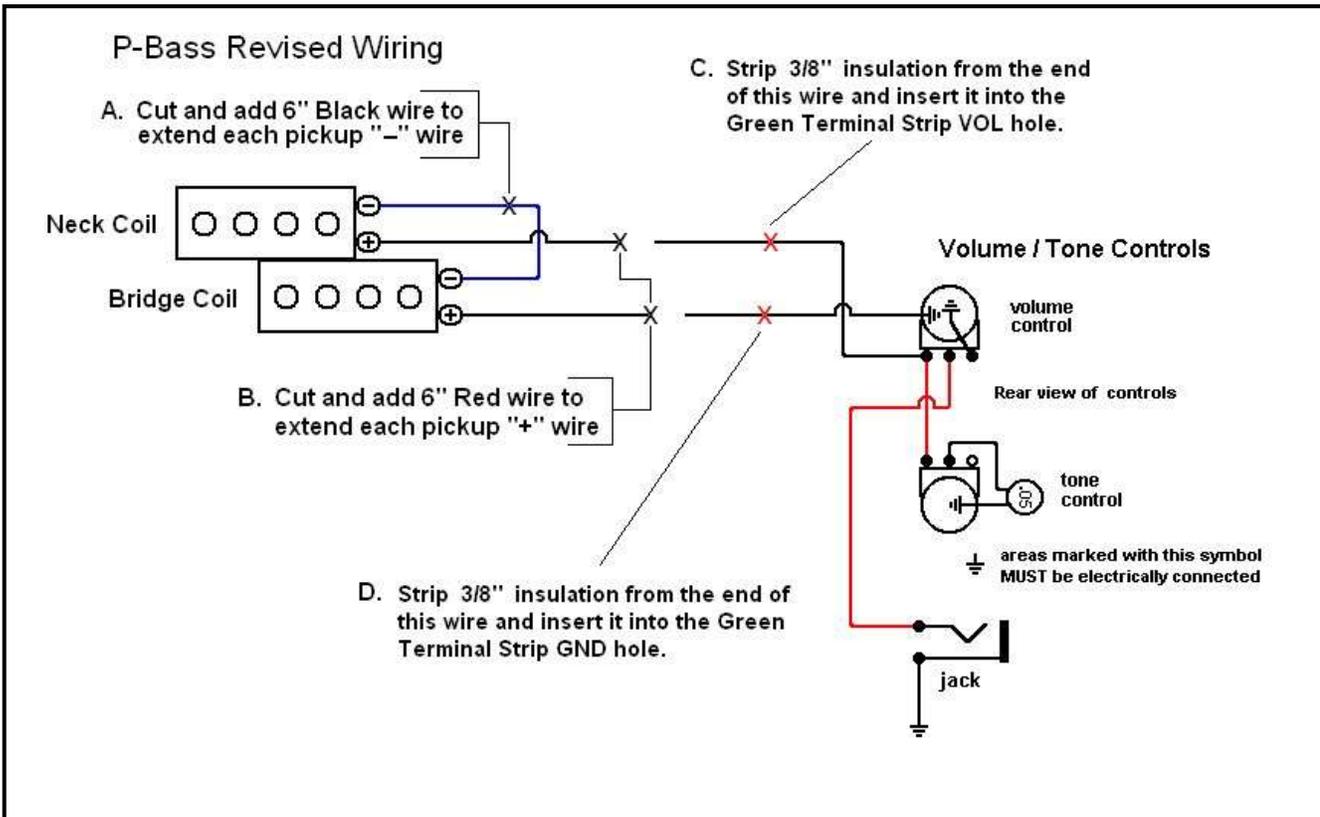


Figure 2 – Upgrade Wiring Revisions

Here are the general wiring revisions you must make to install our T2P-Switch upgrade product. The wire colors in the below figure may *not* match the wire colors of your instrument.



For complete upgrades, only the "A" and "B" items need to be revised. The "C" and "D" items are already done on the upgrade you received.

Figure 3 – T2P-Switch Green Terminal Strip Designation

Here is where to connect the Neck and Bridge pickup wires.

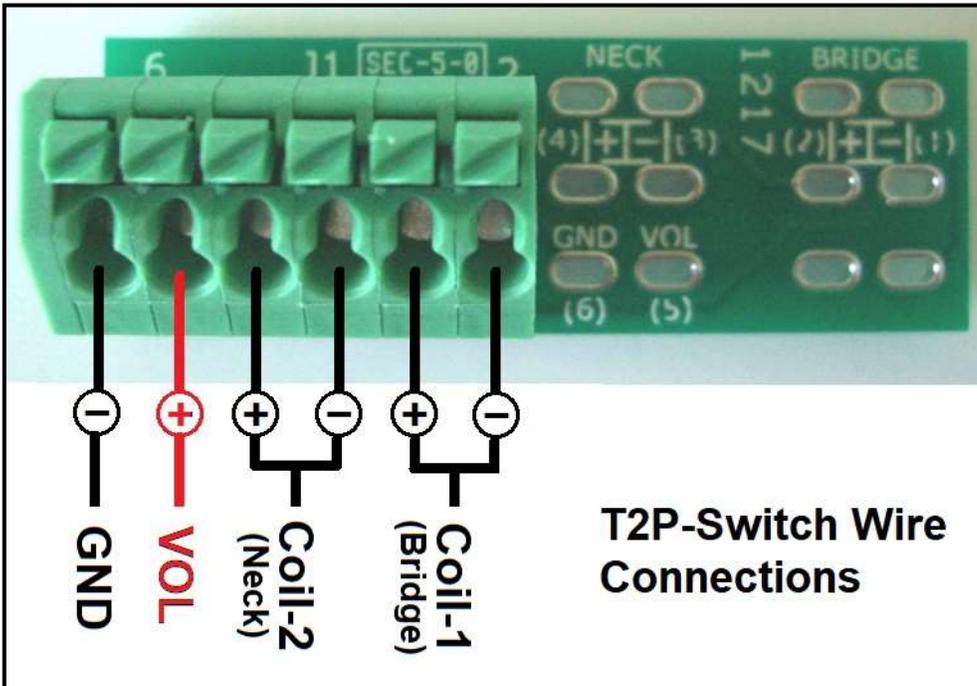
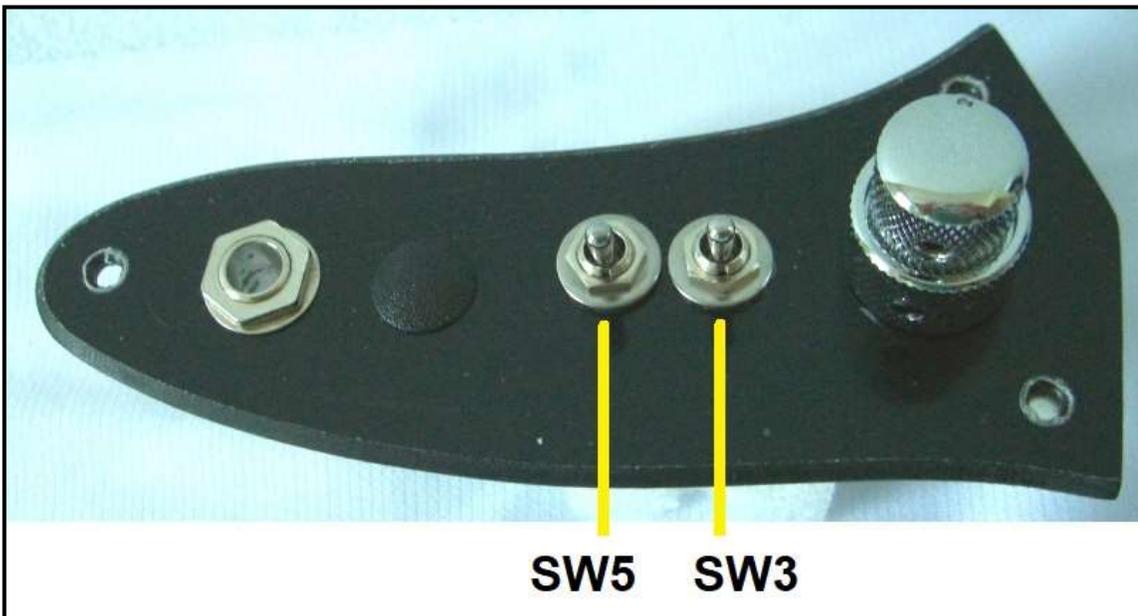


Figure 4 – T2P-Switch Orientation

Here are the switches that you can use.



SW5 is an ON-ON switch used to put the two pickup coils in either a Parallel connection or Series Connection. Down is Parallel connection, and Up is Series connection.

SW3 is an ON-ON switch used to change the phasing of the two pickup coils (i.e., coil-1 and coil-2). Down puts the coils in *normal-phase* and Up position puts the pickups in *reverse-phase*.

Figure 5 – Final Upgrade Wiring

This general illustration shows you how everything gets wired together.

