Pickup Switch Upgrade™ KIT Testing Instructions

Before you start, **read these instructions first** to understand what you need to do to test this product.
These testing instructions are for our assembled T2-Switch, T3-Switch and T4-Switch products.
Perform this test *after* you have assembled the KIT version of our **Pickup Switch Upgrade™** product.

REQUIRED TOOLS

You need the following tools to test your assembled Switch product.

- Wire cutters / Wire strippers
- Small straight slot screwdriver
- Ohmmeter with alligator (or other gripping) clips on probe tips to measure electrical continuity

Note: When you are using an ohmmeter, the following definitions apply.
> open-circuit = no electrical continuity
> close-circuit = electrical continuity (typically 0.7 ohms or less)

PREAMBLE

This document contains the functional test procedure to confirm that the assembled **Pickup Switch Upgrade™** Kit product functions correctly *before* you install it into your instrument.

To perform this test you will use a standard ohmmeter that measures electrical resistance/continuity and also use several small jumper wires. Your Switch Kit contained a length of **blue** insulated stranded wire. Using wire cutters / wire strippers, cut this wire into four, five or six 1.5" (3.81cm) long pieces. Strip 3/16" (4.76mm) insulation from each end of all wires and twist the wire strands at each end so that they are tightly bundled. You can optionally "tin" the wire ends with a soldering iron and solder.

HOW TO ATTACH WIRES TO THE PCB TERMINAL STRIP

Here is how to attach wires to the **green** Terminal Strip. Using a small screwdriver or writing pen tip, press down on each square *release button* located above the corresponding wire hole. While holding the button down, insert the stripped wire 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 and names each of the terminal strip wire holes from left to right.

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T2-Board  (6-hole terminal strip): [GND] [VOL] [+]NECK[-] [+]BRDG[-]
T3-Board  (8-hole terminal strip): [GND] [VOL] [+]Coil-3^{-} [+]Coil-2^{-} [+]Coil-1^{-}
T4-Board (10-hole terminal strip): [GND] [VOL] [+]Coil-4^{-} [+]Coil-3^{-} [+]Coil-2^{-} [+]Coil-1^{-}
```

Warning: Do <u>not</u> insert hard implements into any of the wire connection holes – especially if the *release button* is not pressed down. Doing so will deform and weaken the gripping spring and decrease reliable electrical connection. We do not warranty Terminal Strip damage caused by this behavior.

This document contains separate test procedures for the T2-Switch (for 2-pickup coils), T3-Switch (for 3-pickup coils) and T4-Switch (for 4-pickup coils). Go to the applicable test procedure for your purchased board version.

T2-SWITCH: 2-PICKUP COIL PRODUCT TEST

Use this test procedure to validate correct operation of your assembled T2-Switch (or *KIT-T2*) product.

Use each of two 1.5" (3.81cm) long blue wires to jumper between the **"+"** to **"–"** hole locations on the green Terminal Strip for the **[+]NECK[–]** and **[+]BRDG[–]** pickup coils. Confirm that the ends of the wire are firmly gripped by the terminal strip by gently pulling on each wire. These temporary jumpers are used to "simulate" pickups being connected to the T2-Switch product.

Insert each of two 1.5" (3.81cm) blue wires, one wire into the **[GND]** hole location, and the other wire into the **[VOL]** hole location on the green Terminal Strip. Confirm that they are firmly gripped by the terminal strip by gently pulling on each wire. Connect the ohmmeter leads to the **[GND]** and **[VOL]** wires that are attached to the Terminal Strip.
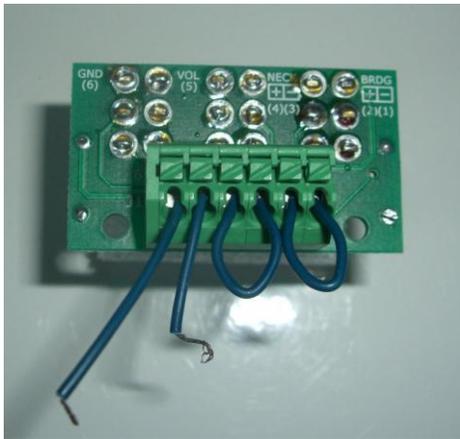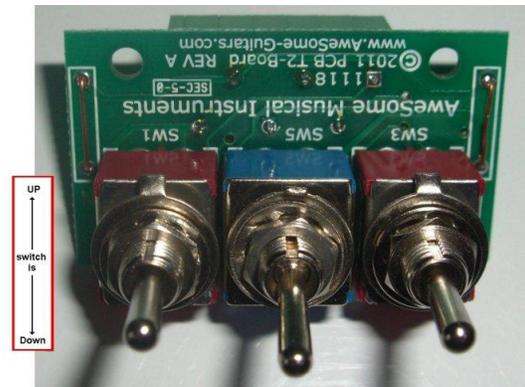

Here is what the T2-Switch product looks like with the wires attached.

For this test, the following switch positions are referred to as the **Start Position**.

Set mini switches SW1 and SW3 to off   (center) position
Set mini switches SW5 to *Parallel*   (down) position

Note: open-circuit = no electrical connection,
          close-circuit = electrical continuity (typically 0.7 ohms or less).

Shows which way is UP/DOWN with reference to the board

Note: If you see a high resistance during testing for the "open circuit" state (e.g., in excess of 1 megohm) this is of no consequence. Your **Pickup Switch Upgrade™** product will perform as stated.

Place all switches into **Start Position**.   Meter reads open-circuit.
Move switch SW1 up. Meter reads close-circuit. Move SW1 down. Meter reads close-circuit. Move SW1 to center.
Move switch SW3 up. Meter reads close-circuit. Move SW3 down. Meter reads close-circuit. Move SW3 to center.

Place all switches into **Start Position**.   Meter reads open-circuit.
Move switch SW4 up to *Series* position. Meter reads open-circuit.
Move switch SW1 and SW2 up. Meter reads close-circuit.

This completes the 2-pickup coil **Pickup Switch Upgrade™** product test. If you received the stated meter results, remove the jumper wires from the green Terminal Strip and proceed to the **Pickup Switch Upgrade Installation Instructions**.

If you did not get the stated meter results, see the "Troubleshooting" section on the last page.

T3-SWITCH: 3-PICKUP COIL PRODUCT TEST

Use this test procedure to validate correct operation of assembled T3-Switch (or *KIT-T3*) product.

Use each of three 1.5" (3.81cm) blue wires to jumper the **"+"** to the **"–"** hole locations on the green Terminal Strip for the `[+]Coil-3[–]`, `[+]Coil-2[–]` and `[+]Coil-1[–]` pickup connections. Confirm the wire ends are firmly gripped in the terminal strip by gently pulling on each wire. These temporary jumpers "simulate" pickups being connected to the T3-Switch product.

Insert each of two 1.5" (3.81cm) long blue wires, one wire into the `[GND]` hole location, and the other wire into the `[VOL]` hole location on the green Terminal Strip. Confirm that they are firmly gripped by the terminal strip by gently pulling on each wire. Connect the ohmmeter leads to the `[GND]` and `[VOL]` wires that are attached to the Terminal Strip.
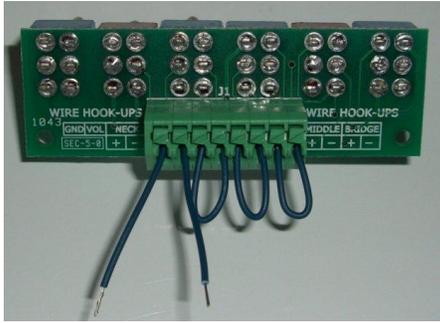
Here is what the T3-Switch product looks like with the wires attached.

For this test, the following switch positions are referred to as the **Start Position**.
Set switches SW1, SW2 and SW3 to off   (center) position
Set switches SW4, SW5 and SW6 to *Parallel*   (down) position

Note: open-circuit = no electrical connection,
close-circuit = electrical continuity (typically 0.7 ohms or less).

Shows which way is UP/DOWN with reference to the board.

Note: If you see a high resistance during testing for the "open circuit" state (e.g., in excess of 1 megohm) this is of no consequence. Your **Pickup Switch Upgrade**™ product will perform as stated.

Place all switches into **Start Position**.   Meter reads open-circuit.
Move switch SW1 up. Meter reads close-circuit. Move SW1 down. Meter reads close-circuit. Move SW1 to center.
Move switch SW2 up. Meter reads close-circuit. Move SW2 down. Meter reads close-circuit. Move SW2 to center.
Move switch SW3 up. Meter reads close-circuit. Move SW3 down. Meter reads close-circuit. Move SW3 to center.

Place all switches into **Start Position**. Meter reads open-circuit.
Move switch SW4 up to *Series* position. Meter reads open-circuit.
Move switch SW1 and SW2 up. Meter reads close-circuit.

Place all switches into **Start Position**.   Meter reads open-circuit.
Move switch SW5 up to *Series* position. Meter reads open-circuit.
Move switch SW1 and SW3 up. Meter reads close-circuit.

Place all switches into **Start Position**.   Meter reads open-circuit.
Move switch SW6 up to *Series* position. Meter reads open-circuit.
Move switch SW2 and SW3 up. Meter reads close-circuit.

Place all switches into **Start Position**.   Meter reads open-circuit.
Move switch SW4 and SW6 up to *Series* position. Meter reads open-circuit.
Move switch SW1, SW2 and SW3 up. Meter reads close-circuit.

This completes the 3-pickup coil **Pickup Switch Upgrade**™ product test. If you received the stated meter results, remove all the wires from the green Terminal Strip and proceed to the **Pickup Switch Upgrade Installation Instructions**.

If you did not get the stated meter results, see the "Troubleshooting" section on the last page.

          Board Testing Instructions   Awesome-Guitars.com

T4-SWITCH: 4-PICKUP COIL PRODUCT TEST

Use this test procedure to validate correct operation of your assembled T4-Switch (*KIT-T4*) product.

Use four 1.5" (3.81cm) long blue wires to jumper the **"+"** to **"–"** hole locations on the green Terminal Strip for the `[+]Coil-4[–]`, `[+]Coil-3[–]`, `[+]Coil-2[–]` and `[+]Coil-1[–]` pickup coils. Confirm that the ends of the wire are firmly gripped by the terminal strip by gently pulling on each wire. These temporary jumpers "simulate" pickups connected to the T4-Switch product.

Insert each of two 1.5" (3.81cm) blue wires, one wire into the `[GND]` hole location, and the other wire into the `[VOL]` hole location on the green Terminal Strip. Confirm that they are firmly gripped by the terminal strip by gently pulling on each wire. Connect the ohmmeter leads to the `[GND]` and `[VOL]` wires that are attached to the Terminal Strip.
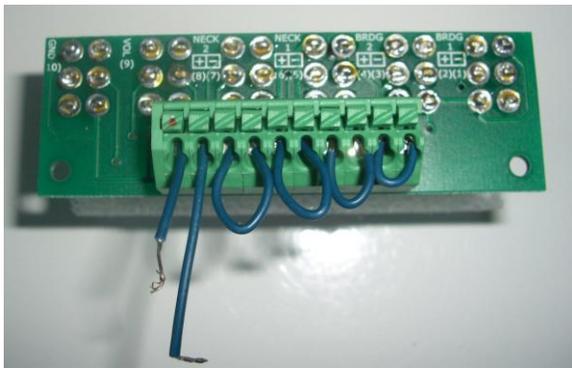
Here is what the T4-Switch product looks like with the wires attached.

For this test, putting all the mini toggle switches into the following positions are referred to as the **Start Position**.

Set switches SW1, SW2, SW3, and SW4 to off   (center) position
Set switches S5B and S5N to *Parallel*   (down) position

Note: open-circuit = no electrical connection,
close-circuit = electrical continuity (typically 0.7 ohms or less).

Shows which way is UP/DOWN with reference to the board.

Note: If you see a high resistance during testing for the "open circuit" state (e.g., in excess of 1 megohm) this is of no consequence. Your **Pickup Switch Upgrade™** product will perform as stated.

Place all switches into **Start Position**.   Meter reads open-circuit.
Move switch SW4 up. Meter reads close-circuit. Move SW4 down. Meter reads close-circuit. Move SW4 to center.
Move switch SW3 up. Meter reads close-circuit. Move SW3 down. Meter reads close-circuit. Move SW# to center.
Move switch S5N up to *Series* position. Move both SW4 and SW4 up. Meter reads close-circuit.

Place all switches into **Start Position**.   Meter reads open-circuit.
Move switch SW2 up. Meter reads close-circuit. Move SW2 down. Meter reads close-circuit. Move SW2 to center.
Move switch SW1 up. Meter reads close-circuit. Move SW1 down. Meter reads close-circuit. Move SW1 to center.
Move switch S5B up to *Series* position. Move both SW2 and SW1 up. Meter reads close-circuit.

This completes the 4-pickup coil **Pickup Switch Upgrade™** product test. If you received the stated meter results, all the wires from the green Terminal Strip and proceed to the **Pickup Switch Upgrade Installation Instructions**.

If you did not get the stated meter results, see the "Troubleshooting" section on the last page.

TROUBLESHOOTING

General Information

Note: If you did not get the stated meter results, inspect your wiring and identify any incorrect connections to the Terminal Strip. Confirm that the test jumper wires are actually connected (being firmly gripped) inside the Terminal Strip. Also inspect the printed circuit board solder connections to verify there are no "cold" or unsoldered connections. If everything appears to be correct, a switch is defective. Replace the switch with another. The switch is commonly available at Radio Shack and elsewhere. We only warranty and replace defective switches that have not been soldered. Checking switches prior to assembly is required prior to kit assembly and is specified in the assembly instructions on page 2 under "Switch Testing".

T2-Switch Help

(to be added at a future date)

T3-Switch Help

(to be added at a future date)

T4-Switch Help

(to be added at a future date)

General Help

High resistance reading where it should read open-circuit:
Quickly cycle switches several dozen times. This may reduce resistance issue. High resistance is frequently caused by using excessive solder and excessive heat. Solder flux is able to migrate into the switch body causing this issue. When the switch is cycled repeatedly, the issue will generally subside or disappear. If you see a high resistance during testing for the "open circuit" state (e.g., in excess of 1 megohm) this is of no consequence. Your **Pickup Switch Upgrade**™ product will perform as stated.