Wiring a guitar... (single pickup)

These notes, and the associated drawing will show the general method of wiring a guitar with a single pickup. This is NOT a set of 'exactly how to do it' instructions - not all guitars are the same in layout. Use the notes and the drawing to help you to make your own 'how to' plan. If you find any errors in the notes or the drawing please let me know so that I can correct them for the benefit of others. Use the notes and drawing at your own risk - I can not take responsibility for your work! If you have specific questions please post them on the steel builders forum and I or someone will try to help.

The Pickup...
The pickup will have either a screened cable or two separate wires leading from it. (a humbucker may have more wires - 2 or 3 - see manufacturers notes for this) The connection to the PU is delicate and should be treated with care. If your PU has two wires, and, if they are not too thick and stiff, you can gently twist them together. This provides a small amount of hum reduction. (every little helps!)

Cavity screening...
You have two basic options here. Conductive paint or copper foil. My own feeling is that the paint is easier to apply but that copper foil makes a better job - your choice. If you chose the copper option you will need to ensure that the different sections of copper used are connected electrically. The easiest way to do this inside the cavities is with a small solder bridge. In the event that you have more than one cavity it may be necessary to link them using a wire. If the mounting plate for the controls and/or the pickup is plastic then the underside of that needs to be lined or painted also. The cavity screen and the panel screen can be connected by taking the cavity screen over on to the face of the guitar at a point where one of the fixing screws will cause the two screens to come together.

The control potentiometers...
The outer case of the volume pot is generally used as the common ground for the entire system. The volume control is wired as a potentiometer and all three connections will be used while the tone control works as a variable resistor and only two connections should be used. The third connection is left floating. For conventional systems the volume control will be a logarithmic or 'log' pot (known as an 'A' taper in the US) while the tone control will be a linear pot ('B' taper in the US). Some players prefer a 'log' pot for the tone control also to allow for making a 'wah-wah' sound while playing by 'swinging the pot' with a finger.   Component values should be decided by reference to the PU manufacturers literature.

The bridge or tailpiece...
One or other of these needs to be connected to the common ground (NOT both). This can be done by trapping a wire under the metal and leading it to the volume pot common ground. Note that some of these fittings come with a connection point for a ground wire. If it is there, use it.

The capacitor...
This is the part of the tone circuit that shunts some of the high frequencies to ground and thus reduces the treble content of the signal giving a more bass sound to the guitar. Again, refer to the PU makers literature for suitable values. Just a personal note here - I don't like tone controls on my own

instruments, I prefer to use the amplifier controls, so I frequently just leave them out or remove them as appropriate.

The connector...
Ensure that this wired the correct way around or all that has gone before will have no value as far as noise reduction is concerned.

NOTE: More and more manufacturers and builders are moving over to using the newer style of potentiometers. These are sometimes called 'Bournes Pots' (the main manufacturer). These components are not suitable for use in the same way detailed above regarding the common ground connection as the bodies of the units are made from plastic. In this case a small screw can be used, along with a solder tag, attached through the screening paint/copper foil to provide this function. Alternatively, the sleeve connection at the connector may serve although this is not always readily accessible.

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