

So your horn is not working properly ? (By "gertduprez")

First I will try to explain the default setup on your bike, so that you know how it is working now (well, how it should be working, or how it has worked some time ago).

In the normal setup, there is a green wire traveling a long long way through the electric jungle of your bike before arriving to 'horn terminal 1' (supposing that your horn has two terminals, like this one).



(the terminals on the horn are interchangeable, so it doesn't matter what terminal you call '1' or '2').

This green wire going to 'horn terminal 1' is actually the original power wire to the horn. It should be 'hot' whenever the ignition key is ON. We'll explain later on how to test this wire.

The other horn terminal is grounded via the horn button on the handlebar. If you press the horn button, then there is a switch that grounds the wire (and thus completes the electric circuit: from battery via electric jungle to terminal 1, through horn making sound, via terminal 2 to handlebar and via the pressed horn button grounded onto handlebars), which would normally activate your horn. If you have a poor ground at the switch, then take the switch apart to clean the contacts and assure that the switch housing assembly is making good contact with the handlebar. We are assuming that the handlebar is firmly clamped to the bike, completing the ground circuit.

The problem with this default setup is that – and you will have read a more precise explanation on the forum I'd suspect – this old electric setup degrades over time, so there is a bit of resistance, which lowers the voltage available at the horn.

By using the so-called 'relay setup', you can shorten the current path, use newer, larger wire, and assure full voltage to the horn directly from the battery.

But...before taking off...

Try to eliminate as many unknowns as possible. Test the horn to make sure it works before going through all the effort to wire it up then wonder why it doesn't work (or immediately buy a new and upgraded version of the old stock one). Might be wiring, might be battery, might be relay, might be

horn, might be ..., you get the idea. Eliminate as many unknowns as possible. Does the horn have one or two terminals? To test the horn, just hold one terminal to a battery post, use a short section of wire to connect the other terminal to the other battery post. If the horn has only one terminal, just hold the mounting post to a battery terminal and use the jumper wire to connect the single terminal to the other battery post.

Test the existing circuit. The test equipment that I used (in lack of a tester light or a meter that some of you will have) was quickly made.

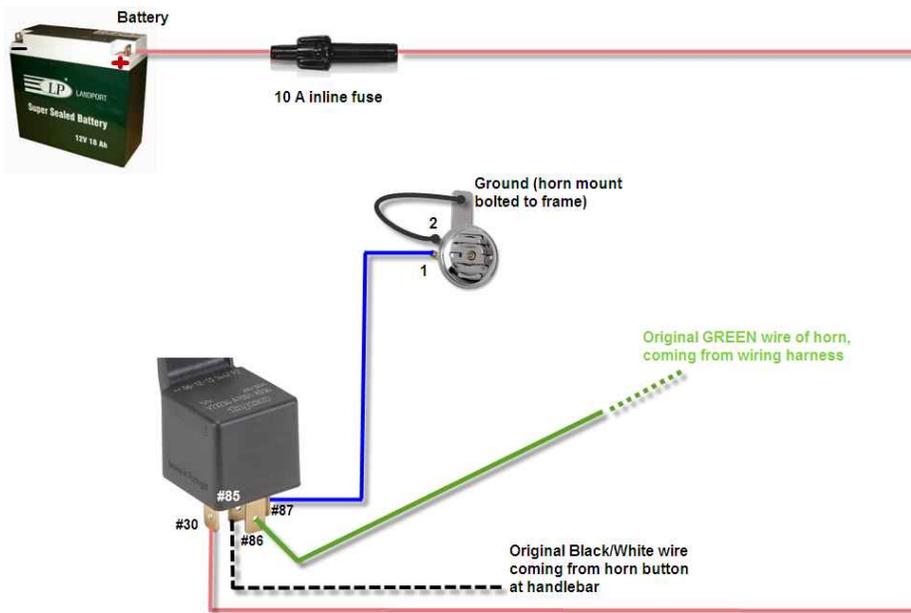
Picture of tester light:



To make your own TEST-light, get a 12V rear tail light and solder a 50cm wire (20") to the positive (+) and a 50 cm (20") wire to the negative (-) terminal of the lamp.

- 1) Testing the lamp first: connect the two wires to the battery. The light should come ON. The lamp is OK.
- 2) Connect one wire to any ground point (battery negative terminal, chassis bolt, engine fin, etc.), put the other wire into the 'hot' terminal for the horn. Turn the key ON, the test light should be ON.
- 3) Now, to check the ground function of the horn switch, move one wire to the positive battery terminal. Put the other wire of the tester lamp in the switched terminal for the horn. Press the horn button, the light should come ON (the key does not have to be on for this test as you are taking current directly from the battery and not from the GREEN wire which would only have current when ignition is ON).

If these tests are OK, go ahead and install the relay. By running the somewhat considerable load of the horns through the newer, larger wire, you will be reducing the load on the already strained stock wiring. This, alone, will increase the sound from the horn, but will not fix the possible existing problem of a poorly-grounding horn switch.



So, when the:

1) ignition is OFF: there is voltage to #30 as it is connected to battery. This means that the relay is under constant power even though the ignition is OFF.

2) ignition is ON: there is voltage to #30 as it is connected to battery.

There is also power on the GREEN wire, so to #86 on the relay. This means that the relay is still (always) under constant power instead of the horn (which was the case in the old setup when ignition was 'ON'). Nothing happens, as the horn button is not pressed.

If the horn button gets pressed, then the #85 wire gets grounded through the horn button switch, activating a current from the battery (#30) to the horn via #87. That is how the relay works...The current from the #87 is fed via #30 directly from the battery, which is a better (more amps) solution than using the degraded, long, resistant green wire (which is now only used to activate the relay). The sound of the horn will normally be louder as well, as more current is now provided to the horn, making the horn blade oscillating more (creating a louder sound).