

## Hall Effect Sensor test for K 100

We are indebted to Dana Hager for his excellent article on Oilhead Hall Effect Sensor testing and fixing. Ask Brian for the link on the MAC PAC site. Our classic K's, at least the K100 2v, use the same HES as Oilheads. ( Honeywell 2AV54, available from [www.newark.com](http://www.newark.com) for around 15 bucks each, if you're into removing and replacing rivets.) However, the mounting plate is different, and the wire colors from sensor to male plug maintain the classic red – green – black that comes from the HES manufacturer.

### Part I – Which wire does what on the K bikes?

#### HES lead scheme

Red = positive

Black (sw) = negative

Green (gn) = trigger switch

#### The Haynes diagram shows

Red = positive

Brown = negative

Black (sw) = lower trigger

Orange (or) = upper trigger

There's no way of seeing how the colors transition from r-sw -gn - to r-br-sw-o because the pigtail from the HES plate on our K bikes is sealed. But, the female socket which leads to the ICU carries the Haynes colors, the same colors as the Oilhead. HOWEVER, testing a dismantled HES pigtail, we find that the colors do not correspond. I. E...

#### Male plug going down to HES scheme

In the DOS diagram below, you are looking into the male plug that comes up from the HES, with the single shielding terminal at the bottom. The wires go out the back. You can see which wire does what so the testing will make sense.

red +

Black -

lower trigger

upper trigger

Shield

## Part II Testing Device

If you have an old harness, you can easily make a testing device that looks like this, but without the pixilation. The black connector at the center was cut from the HES lead that comes off the Ignition Control Unit. Hence, the red, brown, orange black wires.



Battery red split into two circuits.

1) to HES red or upper left terminal.

2) to LED then to top lead which will alternately hook into the trigger circuits

3) battery black to black Or upper right terminal

4)Orange, lower left terminal, plug into (2)when testing lower trigger

5.) Brown, lower right terminal. Plug into (1) when testing upper trigger.

#%\*! Pixilation courtesy of CorelDraw

If you have no old harness, hook up some female spade connectors to mimic the socket coming down from the ICU.

Note: 1/8" spade connectors are too wide so they will contact each other in the socket. Use some of those small female spades that Beaver Jim sends with his Hitachi connectors. Some Radio Shacks carry them. Or, recycle the innards from that old computer.



### Part III The Test

Orange lead (4) plugged into red lead (1). The light comes on.



Insert a thin bit of steel to interrupt the field. Don't tell SWMBO I used the butter knife. Light goes off. Upper trigger is good at room temperature. Test it later after heating with a hair dryer. If it lights up when uninterrupted, and goes out when interrupted, it's good. If not, failure under heat. No good.



