Husaberg 70° TPS Adjustment

I thought I'd do a quick how-to on adjusting your TPS sensor. I've read some write-ups about measuring the voltage at the TPS, even some using a 5v power supply to measure the TPS signal. I don't agree that using an external power supply to adjust the TPS provides any practical benefit other than confirming the TPS sensor is working. It's inaccurate because it doesn't measure what the ECU is actually seeing on the bike, through the bike harness. Poor grounds or corroded terminals will cause high resistance in the TPS circuit and will cause the ECU to see a lower voltage than what is measured at the TPS itself. The only way to know what the ECU is actually seeing is to measure the TPS voltage at the ECU with the signal returning through all the connectors and grounds on the bike. Plus, it's easy and you don't have to build anything! To measure the signal return at the ECU I used two metal sewing needles. I passed each needle through the connector at the ECU plug without disconnecting the plug. I didn't pierce any wires so there is no future corrosion issue. Simply pass the needles past the insulator and into the connector at the ECU. The signal wire from the TPS is a yellow wire, number #5 at the ECU plug. The ground wire for the TPS (and other sensors) is a black wire; pin number #24. Both easily found on the ECU. Whole procedure should take about 5mins.

1. Remove (or just loosen) the plastic cover over the ECU and slide the ECU out to the side where you can get to the connector.

2. Slide your needles into the back of the connector on pin #5 (yellow) and pin#24 (black), DONT LET THEM TOUCH! There is only one solid yellow and one solid black wire on the ECU so you can't get the wrong wires.

3. Measure resistance to ground (negative battery terminal) on the black wire in ohms to make sure you have a good low resistance connection, if it's fairly high then you'll want to clean your ground connections for the harness and at the battery.

4. Connect your multimeter to the needles, red on the yellow wire (pin #5) and black on the black wire (pin #24).

5. Jump pins #5 & 6 on the diagnostic port (black/white and brown wires). This will power on the bike. You will hear the fuel pump prime and the headlight will turn on while these pins are umpired. I used a high tech paperclip for this.

6. Your multimeter will read out the voltage across the two pins.

7. Adjust the TPS idle voltage by loosening the torx screw and rotating the sensor. Counter-clockwise to increase the TPS voltage, clockwise to reduce TPS voltage. Shoot for .64v with the throttle closed (idle position). It takes a little messing to get it perfect. When satisfied, tighten the torx screw.

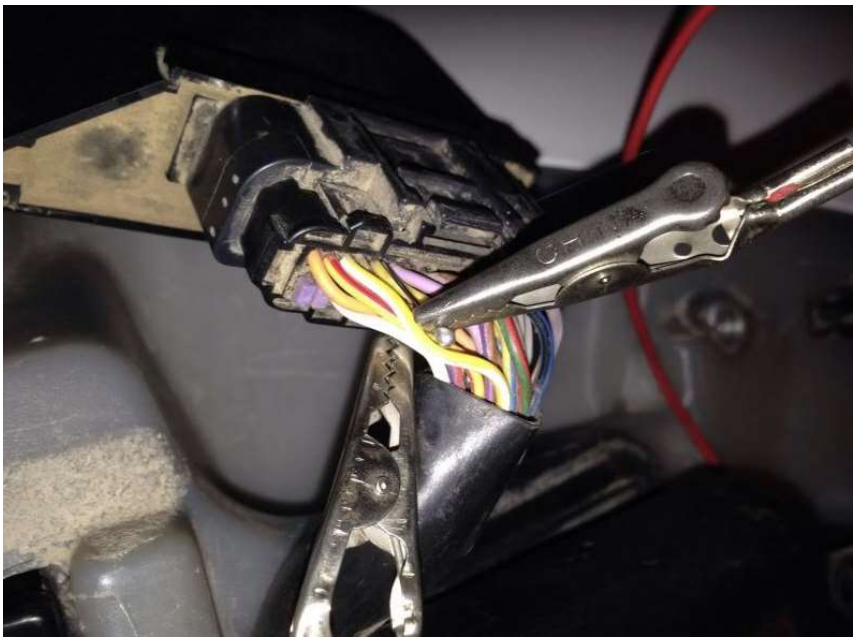
8. Hold the throttle wide open (engine should be OFF) and check max output voltage signal from the TPS.

9. Disconnect the wires, remove the pins, remove paperclip from diagnostic connector and start the bike up and let it idle for 5mins to calibrate. Not sure if this is actually necessary, but it's all over the boards...

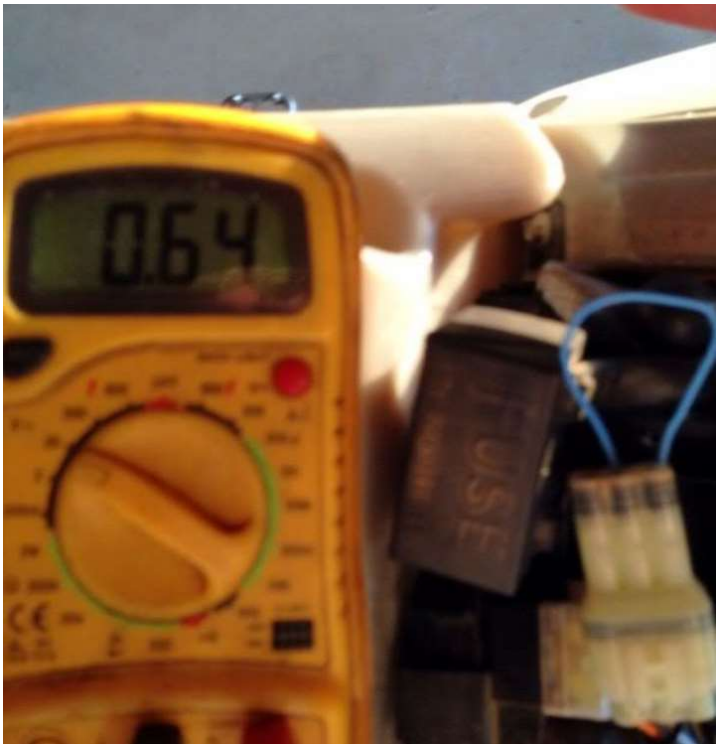
From my research on the web, I found very little about measuring the TPS voltage on a Berg, but many KTM articles. In the KTM articles they mention .64 for the proper TPS return voltage at idle, I do not know exactly what Husaberg recommends this setting to be.

When I measured my bike it was lean measuring .58v

Close up of the pins at the ECU



Adjusted TPS to .64v (note blue paper clip)



Wide open throttle measurement