

## **SpeedoHealer Installation Guide for Harley Davidson**

April, 2004 by Neville S.

### **1. The History, Problem and the Solution**

I have a Harley Davidson which was converted from an Electra Glide to a Road King by the previous owner. This conversion involved replacing the original mechanical speedo with an OEM electronic one which is now situated on the tank. The section in the gearbox for the OEM pickup has never been machined out, so a Thunderheart pickup had been fitted to the rear wheel.

The problem that I have inherited is the electronic OEM speedo will not display a speed greater than 10 MPH as the rear wheel pickup, which generates a pulse from the pulley bolts, does not produce enough pulses. I have tried different calibration units but these are designed for minor adjustments only.

Then I ordered a SpeedoHealer V2 custom model, and now I have a perfectly working speedo.

My custom model multiplies the pickup's pulses up to 29.9 times and can be adjusted in 0.1 steps. In other words, it allows great latitude for future changes on the bike and can be programmed in very fine steps.

### **2. Overview**

When converting from a mechanical speedo to an electronic OEM speedo with no pickup from the gearbox it is necessary to use a rear wheel sensor to provide pulses to the speedo head. This creates a problem as the rear wheel cannot provide enough pulses to drive the OEM speedo. By using a customised version of the Speedohealer it is possible to multiply the pulses from the rear wheel thereby generating adequate pulses to drive the OEM speedo.

### **3. Step by Step instructions**

a) Locate the three wire Deutsche connector that is situated behind the left hand side panel as viewed from the rear of the bike. This is normally grey in colour, and the wires are coloured red, white and black. This connector connects the rear wheel sensor to the electronic speedo head.



OEM Connector

b) The table below shows the function of each wire

<b>Colour</b>	<b>Function</b>
Red	+ve volts
White	Signal to Speedo
Black	GND
Green	Signal from Rear Pickup

The +ve volts red wire should be between 8 and 12 volts, typically it is only 8 volts which is on the limit of the Speedohealer range and it is necessary to source an alternative 12 volts supply e.g. from the fuse box. I used a feed from the accessory supply which is an Orange/White wire (You need a switched +12V so don't use the battery positive terminal.)

c) Tap into the wires from the rear wheel pick and solder the Speedo healer ensuring to use the provided heat shrink cable to cover the finished work.



Wiring loom

Note the red wire is not used from the connector. The green wire is the feed from the rear wheel sensor which is connected to the input wire (white or yellow) of the Speedohealer. The output of the Speedohealer which is the blue wire is connected to the white wire which goes to the Harley speedo.

d) Get the power from the fuse box



Alternative 12 volt from fuse box



Alternative 12 volt from fuse box closeup

e) A suitable location for the Speedohealer is on the side of the battery box. It can be fixed by using a cable tie.



Fitted to battery box

f) Finally this is the OEM electronic speedo (as seen from the front and rear) and the rear wheel pickup.

