

# VSSPlus Installation and adjustment guide

## Wiring Details:

### 4 Wire 22 AWG Cable

- Red = 12v switched power <0.5a
- Green = 0V / ground
- Black = ECU VSS input / Cluster VSS input – Usually green with a yellow stripe This can be attached at the ECU or the cluster, as they are linked by the same wire that carries the VSS signal.
- White = ECU ground (Near ECU or ECU Ground)

### 2 Wire 22 AWG Cable

- Black = Speed Sensor 1
- Red/White = Speed Sensor 2

## Installation

You can mount the box anywhere that is convenient inside the car (near the ECU is recommended). A length of wire is supplied in order to reach the ABS sensor wire anywhere from the wheel to the ABS Control Module. Feel free to tap into the ABS Wheel Speed wire pair anywhere along the path and adjust length as needed (Near ABS Controls Module is recommended). Make sure the shield is cut and not exposed and does not touch any connection or ground.

Prior to permanently mounting the unit, you might want to calibrate your speed using a small flat screw driver as well as an accurate speed device (usually a GPS).

The unit is calibrated on quality control bench but varying tire sizes can make a few Mph/Kph difference. You can adjust the unit at a mid-level speed for accuracy. Something in the range of 50 Mph/80 Kph would be best.

Open the top of the box. On the board there is a potentiometer with a brass adjustment screw on the top.

Use a helper to drive and get out on some open level highway where you can check GPS accurately, preferably with the cruise on and/or a very steady speed. Let the GPS settle down to an accurate and stable speed reading. Make small adjustments with the screwdriver and give it 1 second to fully update the average speed (speed is updated approximately 10+ times per second). Adjust until you are happy that speed is accurate.

You will see that it is not perfectly accurate at all speeds but can be averaged to +/-1 mph across the range of the entire speed. This is not due to a signal processing error, it is that the signal is slightly non-linear based on the behaviour of tires at low/high speed. (The circumference changes in a non-linear manner as you go faster.) The VSSPlus is actually far exceeding the accuracy of the stock geared VSS system, which is closer to +/-3 percent!