DIGITAL SPEEDOMETER INSTALLATION

OVERVIEW

The electronic programmable speedometer uses a sensor to read vehicle speed.

The sensor included is a hall effect sensor which produces a small electric current when a ferrous or magnetic body is passed by in close proximity. By positioning the sensor such that it is triggered by the fasteners connecting the prop shaft to the differential electric pulses are generated at a frequency proportional to prop shaft speed.

This signal is read by the speedometer which calculates and displays vehicle speed and distance covered.

SPEDOMETER INSTALLATION

Refer to the manufactures installation instructions supplied with the kit.

SENSOR INSTALLATION

Fit 2x nuts of opposing bolts of the prop shaft mounting flange. The nuts should not full engage, leaving pockets into which the small magnets can be nested (one in each nut). If necessary washers can be used to space the nuts out, and magnets may be retained with adhesive. See FIGURE 1: ADDITIONAL NUT AND NESTED MAGNET

Figure 1: Additional nut and nested magnet

Note

It is important that only 2 nuts are fitted because the bolts are not equally spaced around the PCD of the flange. Using all 4 nuts will cause an uneven signal and cause inaccurate readings / stop the speedometer from operating correctly.

With the nuts fitted the sensor can be assembled into the mounting bracket and trial fitted. See FIGURE 2: SENSOR AND BRACKET

Figure 2: Sensor and bracket

The bracket locates onto the side of the web, under the differential, and should be placed such that the end of the sensor is just in contact with the nuts / magnets on the prop shaft flange.

With the bracket held in place the centre of the slot should be marked with a centre punch, giving adjustment fore and aft. The bracket can now be removed and the differential web drilled to clear the M6 bolt.

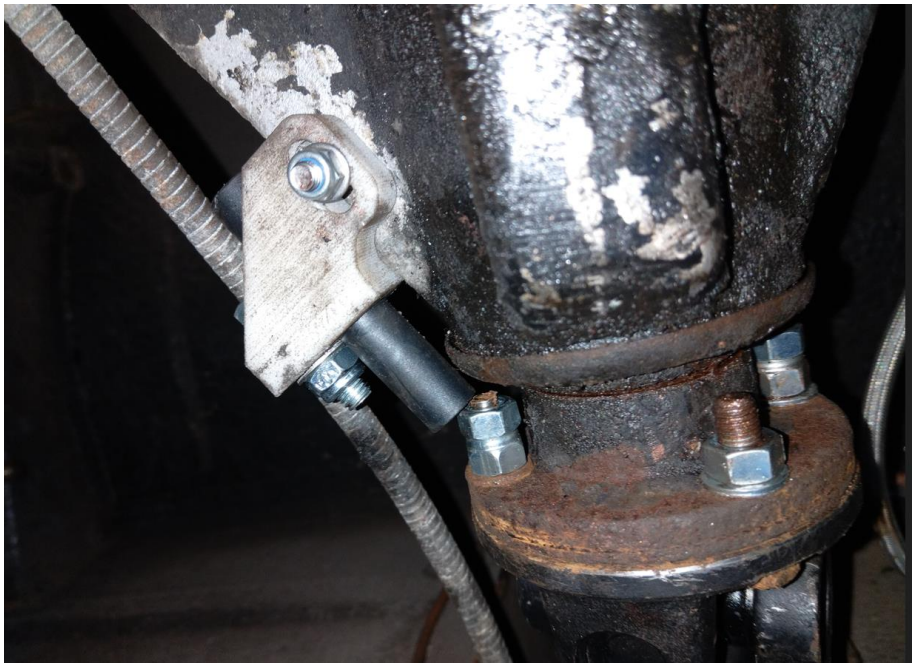

Figure 3: Bracket and sensor installed

The sensor can now be installed and the position of the backet adjusted. A gap of 0.5 – 1mm is ideal. Check the propshaft can be rotated 360 degrees without rubbing / knocking the sensor before final tightening.

SENSOR WIRING

The speed sensor must be wired to the speedometer as per the manufacturer's instructions. A suitable socket and crimp terminals are included which should be crimpled onto a harness made to suit the car (not included)

Sensor output

Pin 1	Signal (+ve)	(White/Black, pin 6 on speedometer)
Pin 2	GND (-ve)	(Red/Blue, pin 7 on speedometer)

SPARES

Part Numbers:

Connector Socket	282189-1 (TE Connectivity Junior Power Timer)
Crimp Terminal	1-927771-1

Sensor	89BF6C315AC (Ford Crank Angle)

CALIBRATION

The simplest way to calibrate the speedometer is to input the pulses per unit distance (PPU). The PPU is input into the speedometer following the manufactures instructions.

Digital Speedometer Pulses Per Unit (PPU)

Diff Ratio			Tyre Size								
			145R13	520-13	155/70R13	165/70R13	175/70R13	145/80R13	185/60R13	165/65R14	175/70R14
	9 / 41	**4.56**	8145	7992	8530	8317	8103	8305	8468	8203	7753
	9 / 38	**4.22**	7549	7407	7905	7708	7510	7697	7848	7603	7186
	10 / 39	**3.90**	6973	6842	7302	7120	6937	7110	7249	7023	6637
	11 / 41	**3.73**	6664	6539	6979	6805	6630	6795	6928	6712	6343
	11 / 39	**3.55**	6339	6220	6638	6473	6306	6463	6590	6384	6034