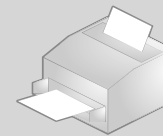


FITTING & CALIBRATION

Guidelines for the installation and calibration of instruments and gauges

Speedometers



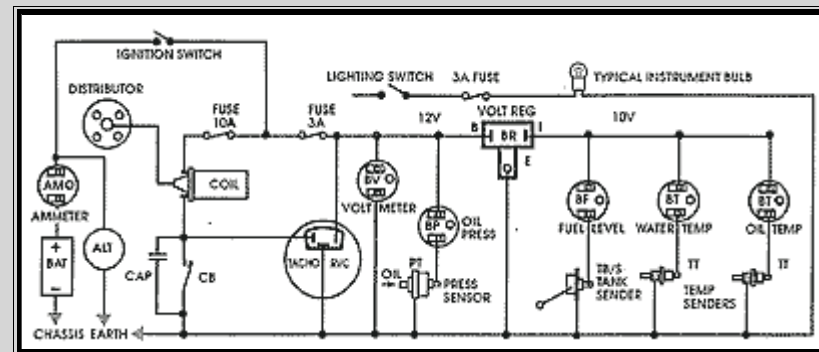
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INSTALLATION

Ensure the connections on the speedometer match the connections on the speedometer cable. There are three possible connections on the reverse of the speedometer:

- (1) A trigger/snap-on connector (as featured on the 100mm Smiths Classic Speedometer)
- (2) An SAE cable connection (as featured on the 80mm Smiths Classic and AC Cobra Speedometers)
- (3) A mini thread connection.

Connections are not interchangeable. It is far easier and cheaper to change your Speedo cable to match the back of the instrument than the other way round. We can have new Speedo cables made up for you at a competitive price.



CALIBRATION

Speedometers cannot just be changed from one vehicle to another. They only read accurately when used on the unmodified vehicle for which they were originally calibrated.

Even when used on the original vehicle, any changes that may have been made to the wheels, tyres, gearbox or other related components will affect the speedometer reading. It is important that the vehicle is fitted with the correct OVA (Overspeed Vehicle Adjustment) to ensure accurate readings.

related parts can seriously affect the speedometer readings to the extent that the vehicle will fail to pass an SVA test or may result in a speeding fine. In this case, the speedometer will need to be re-calibrated.

**To ensure that your speedometer reads accurately when fitted to your particular vehicle, we will need to calculate the required "revolutions per mile" >>>>**

For calibration of a new instrument, or re-calibration of an existing instrument, we will need you to provide the following information from your vehicle...

(1) Take the measurement from the centre of the hub of a drive wheel to the ground, with the tyre pumped to normal pressure.

ANSWER:(1) \_\_\_\_\_ distance in Inches

(2) Put a chalk mark at the bottom of the measured wheel also marking on the ground where it meets. Push the vehicle forward one revolution of the chalk mark and record the distance travelled

Answer:(2) \_\_\_\_\_ distance in Inches

(3) Now disconnect the speedometer and place a cardboard arrow on the end of the protruding inner speedometer cable.

Put a chalk mark at the bottom of the measured wheel and then push the car straight forward (with gear in neutral), counting exactly 6 revolutions of the wheel, whilst a partner counts the number of times that the arrow on the cable revolves.

ANSWER:(3) \_\_\_\_\_ number of turns of the cable. (N.B. include parts of a turn e.g. seven and a quarter turns)



**\* DO NOT DO THIS BY JACKING UP THE WHEEL AS THIS GIVES COMPLETELY FALSE RESULTS \***

Now send us the values that you recorded for Answer(1), Answer(2) and Answer(3) above.



#### Service Charge

We make a charge from £55.00 (plus carriage and V.A.T.) for this overhaul/calibration service.

It requires a skilled instrument mechanic and the use of specialised instrumentation to calibrate the many types of speedometers which we receive from our clients.

An accurate calibration always relies heavily on the accuracy of the above measurements, which we ask you to provide with the instrument.

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## Tachometers (Rev Counters)

New tachometers are now switchable for the number of cylinders and so they will work with any ignition system, including electronic ones. We can convert your existing electronic tachometer for use with an electronic system/sports coils. We would require the gauge to be sent in with confirmation of number of cylinders, once upgraded, the tachometer can be used with the existing points system or a new electronic system/sports coils, which you may fit at a later date. The charge for this service is from £65.00 plus carriage and VAT.

## Fitting Calibration & of Minor Gauges

### Mechanical Temperature Gauge

The instrument has a capillary with a bulb on the end that contains ether. The hole in the engine block must be sufficiently large so the bulb can be immersed in the liquid as far as possible. All rebuilds will have new bulb and capillaries fitted as standard.

### Mechanical Oil Pressure Gauges

The instrument is fitted with a connection known as a gas pipe fitting. In order to transmit oil pressure to the instrument you will require an oil pressure pipe with end fittings (see catalogue for part number HF22000etc.). In some instances you may require to operate an oil pressure warning light in addition to your mechanical oil gauge. In this case, you will require a tee piece, which screws into the engine block and enables the fitting of a pressure switch on one branch of the tee and the oil pressure pipe on the other. We have many more tee pieces than catalogued and can usually sort you out. Providing us with as much detail as you can about the engine is a big help.

### Sensor Units

Minor electrical gauges have either bi-metal (will require a voltage stabiliser) or air-core (voltage stabiliser not required) movements and require dedicated sensor units. Adapters may be required to go between the thread on the engine block and the thread on the end of the sensor unit. We have many more adapters than we had the time to catalogue. Call stating threads or the engine and we will try to help you.

### Voltage Regulators

Some minor electrical gauges (prefixed with a "B" e.g. BT2240-00C) require a regulated voltage supply and at least one voltage regulator is required per three gauges. The voltage regulator must be earthed.

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