

# ELECTRONIC IGNITION AND MG TACHOMETERS

**QUESTION.** I have recently fitted an electronic ignition conversion to my 1970 MGB and since my rev counter has only intermittently given the occasional twitch of its needle when the ignition is switched on. I have checked the wiring connections and the green wire in the back of the rev counter does have power when the ignition is switched on. What could be causing this problem as the rev counter was working normally before the ignition change?

**Answer.** This is a problem that has a very long history and it is a subject that does need to be revisited periodically as its profile tends to sink out of sight so that new owners coming in after the last reference are blind to the problem.

Essentially ever since the electronic ignition was first introduced in the 1970s there has been a general incompatibility between these and the RVI type of electronic tachometer (rev counter) fitted to MGs between approximately 1964 and 1972, after which the tachometer changed to a more reliable RVC type. Identification is primarily confirmed by reading the very small print on the lower half of the face of the tachometer where these letters will precede a series of number that identify the specific tachometer as seen in image 1.

The problem is simply that the RVI



1. Face of an RVI series tachometer showing where to read the tachometer identity

series tachometer operates by sensing the impulses of the coil being switched on and off within the power feed wire that feeds power from the ignition switch to the coil. It achieves this by having this feed wire run through a loop, rather like a funfair roller coaster doing a loop de loop, within a sensor 'shoe'.

This loop is mounted externally on the earlier tachometers and is shown in image 2, whilst the later RVI tachometer has an internal loop and a male and female bullet connector on the outside of the tachometer rear as seen in image 3. This male and female configuration ensures that the current flow direction is correct otherwise the tachometer can't work.



2. Rear of early RVI type tachometer with the external sensor loop and separate spade connection for tachometer power



3. Rear of later RVI series tachometer with internal sensor loop and a male and female external bullet connectors, plus the separate spade connection for tachometer power feed

When electronic ignition is added this masks the signal and the RVI tachometers end up either not operating, or only intermittently operating, and when it does work what is displayed is usually wildly inaccurate.

This issue is pretty universal for all electronic ignition conversions and as I mentioned has been around for decades, as has the cure. This is to replace the RVI tachometer with an RVC type, as long as the car has negative earth, which now has a wire connected direct between the negative side of the coil and a single bullet connection on the rear of the tachometer as

seen in image 4. The ignition switched power supply to run the tachometer, earthing and internal illumination is the same as the RVI tachometer.

To convert a car from RVI to RVC tachometer



4. Rear of an RVC tachometer showing just a single male bullet connection and separate spade connection for the tachometer power feed. This particular tachometer has a separate earth spade connection whilst most simply earth through the fixings between tachometer and dashboard

requires a minor wiring change in addition to the change of tachometer. A new wire has to be fitted to the car to connect the negative terminal of the coil to the single bullet connector on the back of the tachometer. Then the original white coil power feed that previously went through the RVI tachometer is disconnected and the two ends coming out of the car's wiring loom joined up to keep that power supply to the coil.

There are quite a number of specialists able to actually convert the RVI tachometer to RVC operation or to buy replacement circuit boards to carry out home conversions.

The connections found with these conversions may differ from what I describe above, but suppliers will provide an instruction leaflet to cater for any differences in connectors, but they will all work in the same way.

Physical fitting of the tachometer into the dashboard is the same for both tachometer types.

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