

Watch your engine speed with a rev counter

A rev counter is more than just a sporty gimmick. Used properly, it shows you when your engine is running at its most economical, when to change up for the maximum possible acceleration, or when you are over-stressing the engine.

Gauge designs

The traditional round gauge comes in 52mm and 80mm sizes, and can be bought in a special pod for fitting on top of the dash, or as a unit for fitting in a bracket or in the dash itself.

Buy a gauge with a scale that most closely matches that of your car's rev range: 0-8000 is normally best. Some rev counters feature a digital display. You can even buy the rev counter with a built-in clock so you can choose revs or time.

The latest type of rev counter uses the sort of display found in dashboards on some top-of-the-range cars. This takes the form of a bar graph that rises and falls in time with engine speed. The bars change

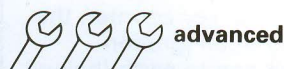
colour from green to amber and then red as you approach the maximum safe engine speed.

Points to watch

Make sure the rev counter you buy is suitable for your car's engine. Most rev counters can be adjusted to suit four, six or eight cylinder engines, but a few are built specifically for one type. The specification is marked on the gauge dial, or on the rear casing.

Some cars have electronic ignition systems that are incompatible with rev counters. You may be able to buy a special adapter kit to fit a rev counter – contact the ignition manufacturer for advice.

It is very important that the needle on the gauge never enters the red sector when you rev the engine, because that means you're putting the engine under too much stress. To remind you, some rev counters are fitted with an adjustable needle that you can set to the safe maximum. Your dealer will know the figure for your car.



Tools and materials

- Rev counter
- Wiring
- Spanners and screwdrivers
- Pliers
- Drill and drill bits
- Scotchlok connectors
- Electronic ignition adapter, if necessary

Analogue or digital?

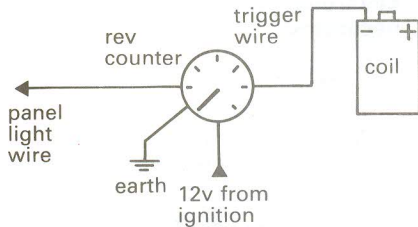
Rev counters A, B, C, D and E are analogue (moving pointer) types. All have scales of 0-8000rpm except E which goes up to 6000rpm. Types C and E come in their own pod ready to fit. The others can be mounted in a pod or bracket or else in the dash. All come with black bezels, except for A which has a choice of chrome or black bezel H.

Rev counters F and G are digital types – the display illuminates only with the ignition turned on.



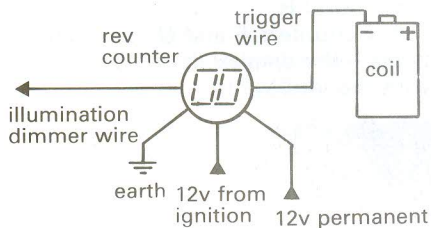
Conventional circuit

On a conventional rev counter, the gauge is wired to an ignition-controlled feed and to earth (below). A trigger wire runs from the rev counter to the terminal on the coil connected to the distributor. For a negative earth car it is the negative (-) terminal, and for a positive earth one it is the positive (+) terminal. For other coil markings, see *Projects 8*.



Digital circuit

On a digital rev counter fitted with a clock, the wiring is the same except that you must run one extra wire to a permanently live source (below). This powers the memory on the clock so that it keeps time even when the ignition is switched off.

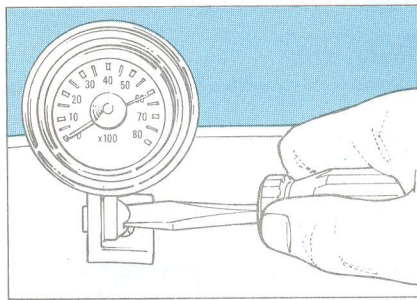


Using a rev counter

A rev counter can be a useful driving aid since it stops you over-revving the engine and lets you see when the engine is running most efficiently – that is, when it is running at the revs that produce maximum torque (pulling power).

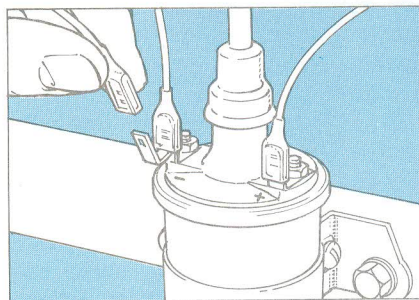
This torque figure is usually given at a certain rpm. Look in your car handbook or ask your dealer. If you aim to keep the engine running at that speed you should get the best compromise of speed and fuel economy.

Finally, a rev counter is useful when tuning the car – checking the timing stroboscopically has to be done at a specific engine speed. Any deviation could throw the timing out.



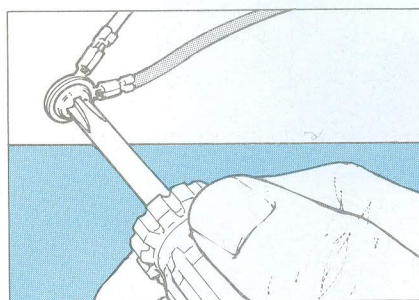
1 Mount the gauge

Try the gauge in several positions on the dash until you find one where you can read it easily. Mount the gauge in its pod, bracket or the dash (see *Projects 12*). If your rev counter is built into a pod, mark the positions of the screw holes on the dash, drill them and fit the gauge.



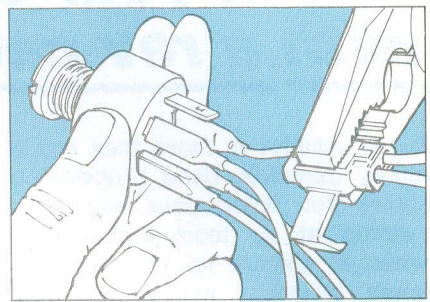
3 Wire trigger to coil

Run the trigger wire from the rev counter to the coil. Where it passes through the bulkhead, ensure that it is protected by a grommet. Tape the loose wire to the wiring loom. Connect the trigger wire to the terminal on the coil which goes to the distributor (- on negative earth and + on positive earth).



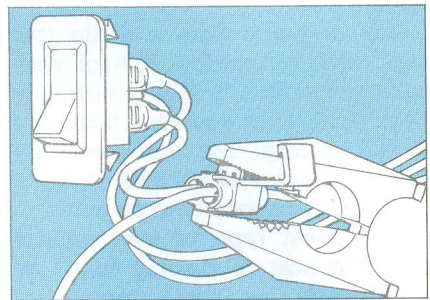
5 Connect to earth

Run a wire from the rev counter earth terminal (- on a negative earth car, + on a positive earth one) to a nearby earth point. If there is none convenient, drill your own. Run the panel light earth wire down to the same point and connect both wires to the earth using tag connectors.



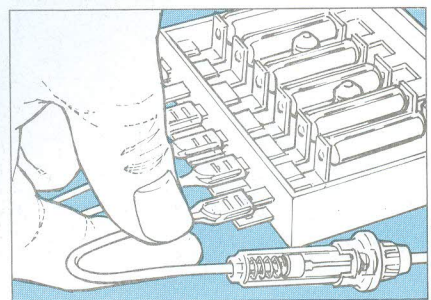
2 Wire to ignition feed

The rev counter must be wired to a feed point that is live only with the ignition on, such as the power wire to the heater fan, ignition switch or fusebox. Run the power wire from the rev counter to this wire (+ on a negative earth car, - on a positive earth one). Use a Scotchlok connector to splice in.



4 Wire panel light

The rev counter illumination light is wired into the sidelight circuit at a convenient point. Where the car has separate instruments, you can tap into one of their panel light wires with a Scotchlok. Where the instruments are in a cluster, it is easier to tap in at the sidelight switch.



6 Wire to live feed

If your rev counter is digital and incorporates a clock, you must wire it to a feed point that is live all the time, or the clock won't keep time. Run the live wire from the rev counter to a point such as the battery live terminal or the ignition switch input terminal and connect it up.