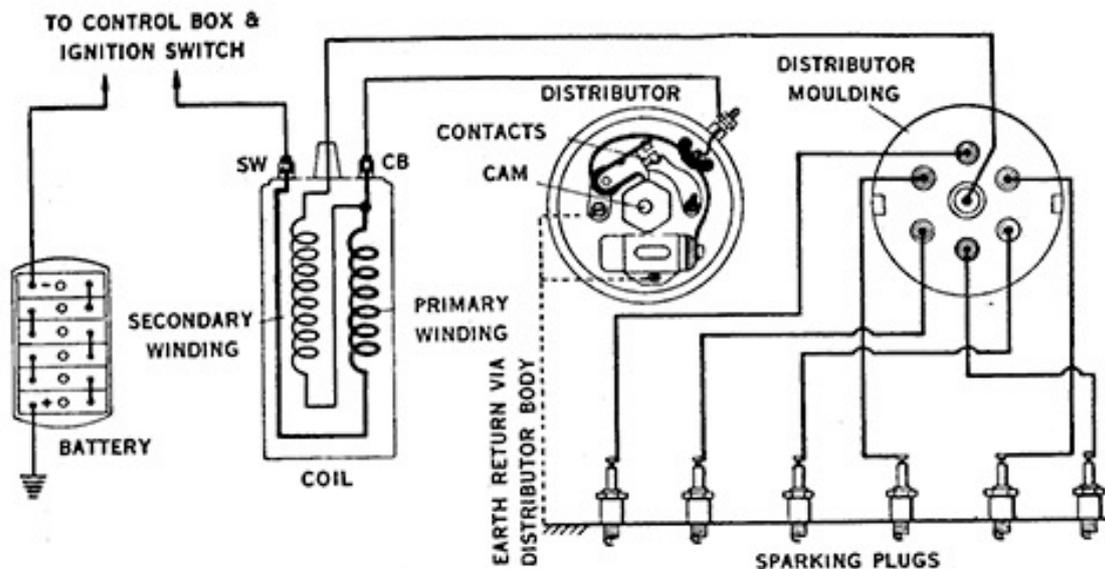


# Get to know your condenser

By Len Fox

Recently a couple of us were talking about a fellow member who had taken his MGB for a hood down run on a pleasant afternoon when the engine "stopped dead" and refused to restart. The RACV serviceman arrived and reportedly replaced the condenser in the distributor. The conversation then turned to - what happened? What does the condenser do anyway? Well OK. But to understand the condenser, we first need to think about a couple of other bits.

The "coil" is actually two coils of wire. one wound over the other. The outer coil, the "primary coil" is wound over the inner coil, the "secondary coil". When the ignition switch is on, current flows through the primary coil and on through the contact breaker "points" to earth. The contact breaker is simply a mechanically operated switch which switches on and off (about 100 times per second at 3000 engine RPM).



*Diagram of the complete layout for the coil ignition system of a 6-cylinder car.*

When current flows through the primary coil, a magnetic field is created around it. When current is switched off by the points opening, the magnetic field collapses. the collapsing field causes the secondary coil to do its thing, It generates a high voltage causing a spark to jump the spark plug gap. This is a good thing. However the collapsing field also creates a smaller voltage in the primary coil which causes a spark to jump the points gap. This is a bad thing.

It's bad because the spark takes a minute amount of metal from one point and deposits it on the other one. The condenser is a device for storing an electrical charge. It is connected across the points. When the undesirable

charge is created in the primary coil, the condenser absorbs most of it. The energy available to cause a spark is minimised, as is pitting and build up on the points. With the condenser working normally, erosion and build up occurs slowly. If the condenser fails, the rate of build up increases and the points gap decreases.

Eventually the gap becomes so small that the primary current is not switched off for long enough for the coil to function correctly. Then, (probably after some power loss and a few complaining backfires) the engine stops. Not having heard the whole story I can only suspect our RACV serviceman filed and reset, if not replaced, the points in addition to replacing the condenser. All of this potential heartache with points and condenser can be avoided these days by fitting an electronic ignition conversion. There are various systems available and you could spend hundreds of dollars. However for \$99.95 ex Moss USA you can buy a Pertronix Ignitor module. This replaces the points and condenser and is as easy as fitting a new set of points. Also the original appearance is retained as the changed parts are under the distributor cap. I don't know why it should, but it seems like the car starts more easily as well!