

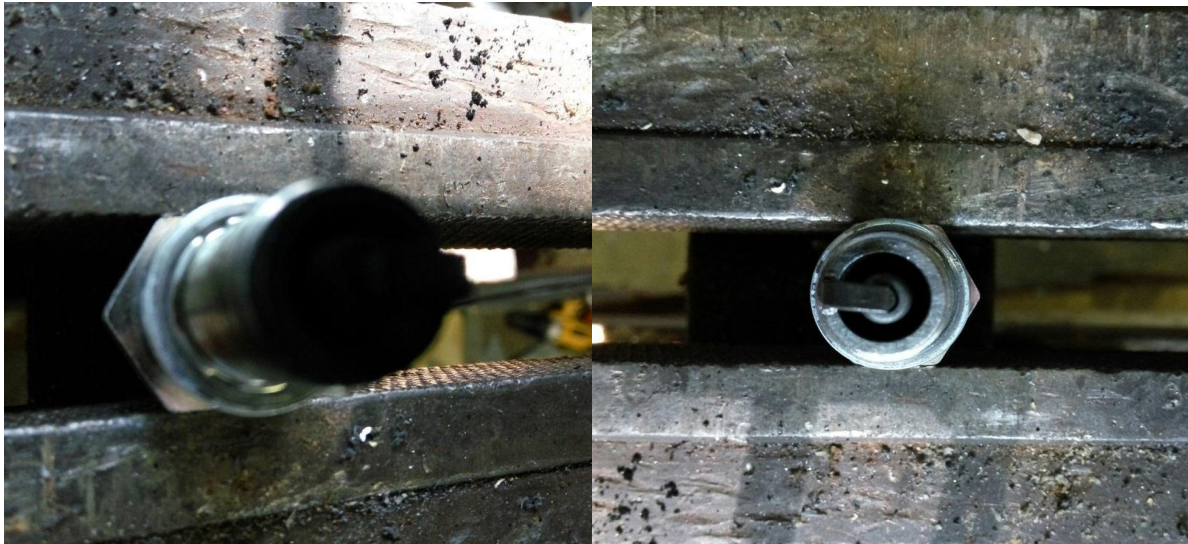
The Dreaded Back Fire - Rover P4 100 (Part 2)

By John Booth

On Saturday night knowing that I had sorted out the back fire problem I drove my friend's daughter and her partner to their Matric dance at Curro HCA Hillcrest. This was again stop start traffic for about a half an hour and all went well I even had the chicken in the boot to appease the Gods just in case. Again there was heavy rain and again all went well until it was time to come home. As I pulled out of the school gates the Rover started to backfire and had no power. I managed to drive the 3km home with it missing and back firing. The next morning the car would not start at all. So there are more problems here that just spark plugs.

I again phoned Clyde. He reckoned the problem lay with Hedgehogs. They climb up the exhaust pipe and make their nests out of leaves. When the leaves get hot from the exhaust gases they make a popping noise. Thinking this is a reasonable explanation and remembering an explanation by John Wheaton on the 10 laws of Thermodynamics (10 laws?) I went to have a look. The exhaust pipe looked clean so no Hedgehogs, but then I thought hang on do we have Hedgehogs in this province, Porcupines maybe but no hedgehogs Sometimes I think these dudes may have a quill loose or maybe the words taking the mickey might be apt.

The first thing I checked were the spark plugs. These were all black with carbon, after cleaning the difference can be seen. So we have a situation where the plugs are carbonising up. The two main reasons for this are rich mixture at the Carburettor and or a poor ignition spark at the plugs. I changed the coil and the engine fired up immediately. So the coil had failed. The number one reason for coil failure is resistance along its delivery or end path. If this resistance becomes too great then the wiring within the coil fails.



This is what the plug looked like, black with carbon. Then cleaned up.

I decided to move backwards towards the coil. I cleaned up the spark plugs so they were sorted. Next I stripped and cleaned up the plug caps. Now here was a problem. These were dirty and the contact point a bit corroded. These would build up resistance to the flow of current to the plugs. I cleaned these up so, up to this point we all ok.

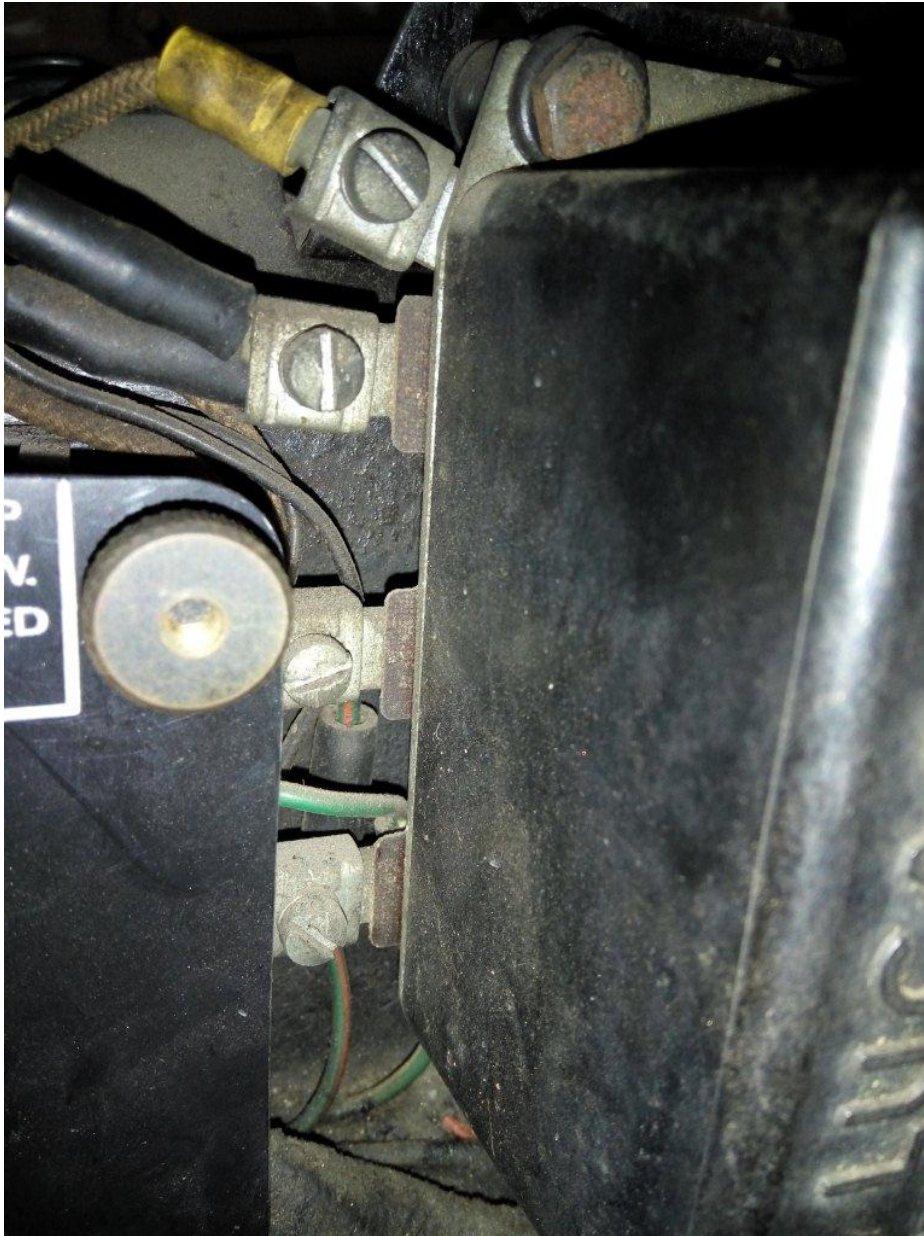


The next thing I looked at was the carburettor. Just maybe the plugs are carbonising up because the mixture may very well be rich. On close inspection I

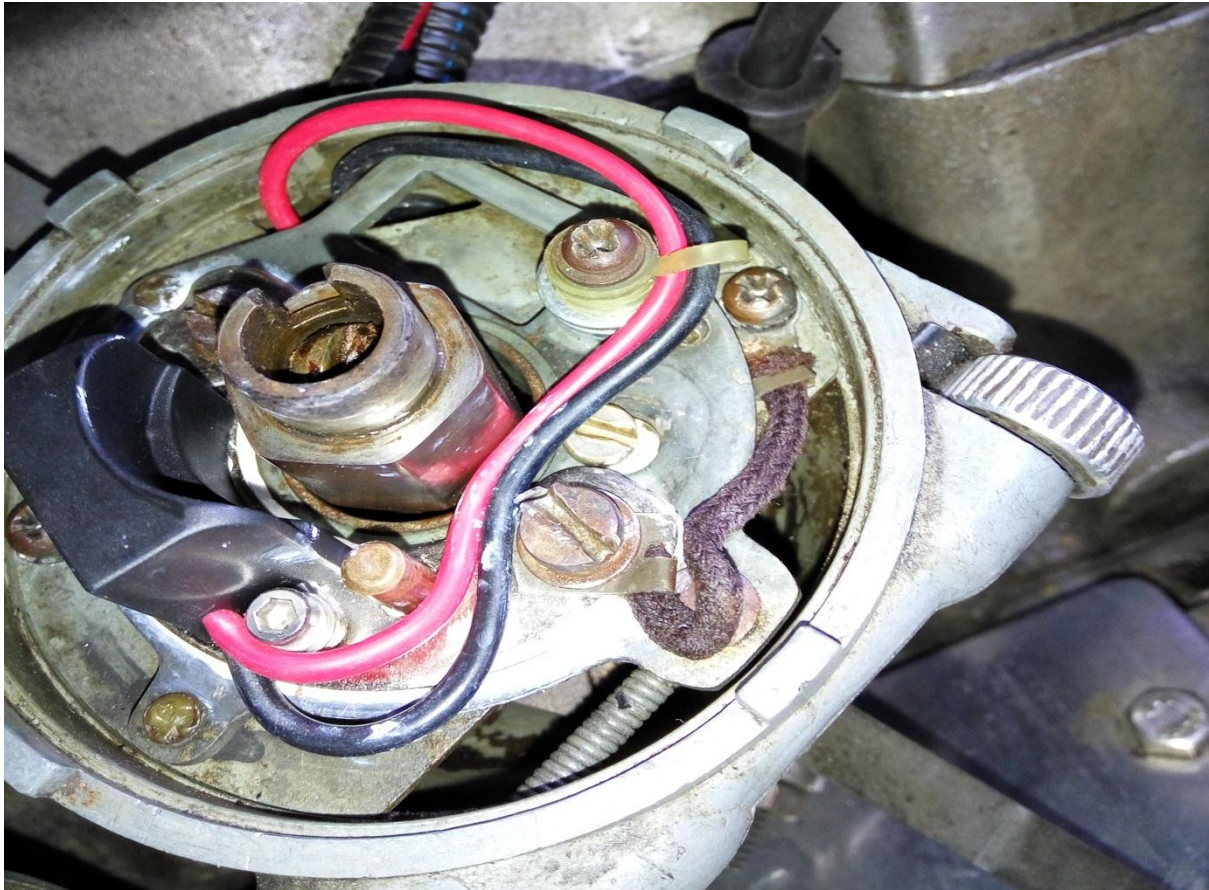
found that the rich mixture control valve was seized in its housing, and seized on rich.



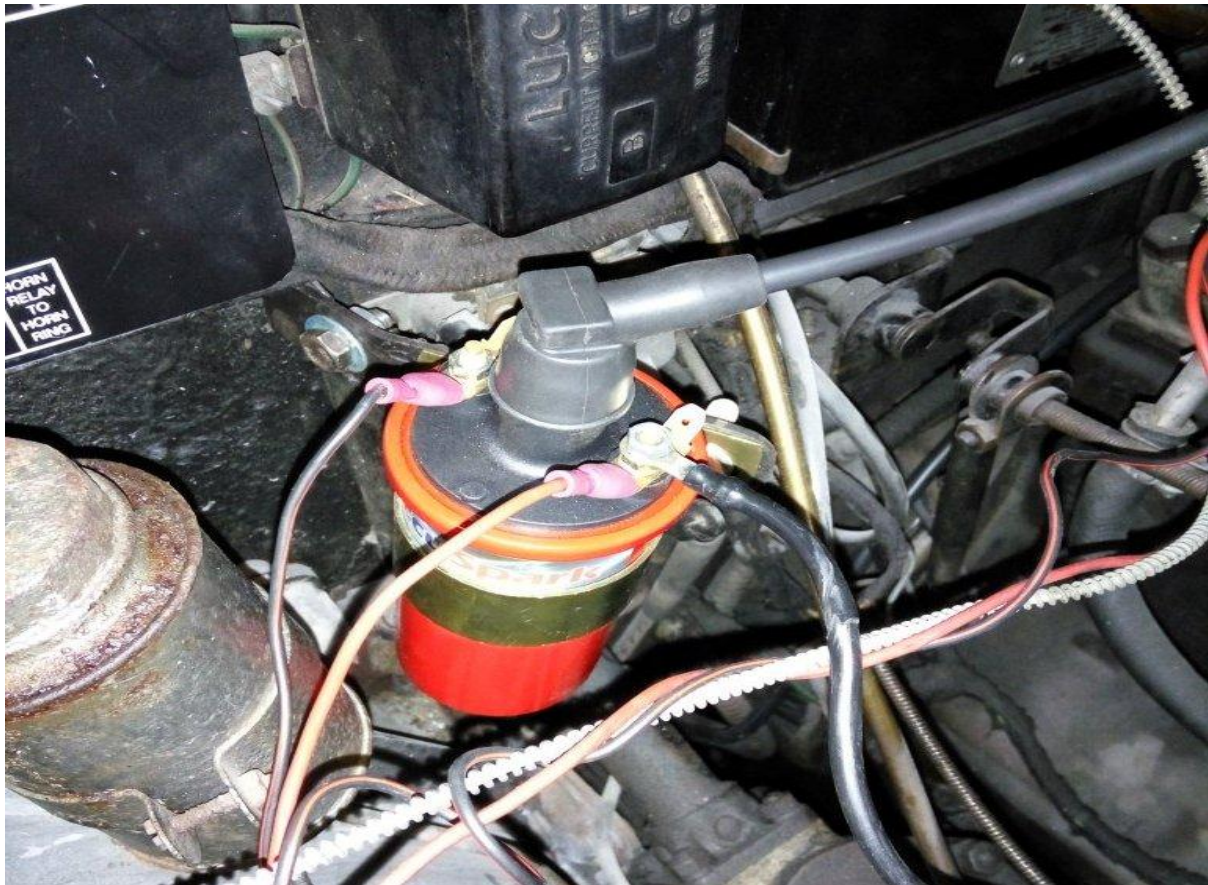
I removed the carburettor, stripped it and freed this up. At this point I decided to fit an electronic ignition. The kit I had bought was a negative earth system, so I needed to reverse the polarity of the car.



This is done by flashing the F and the B terminals on the regulator. Bearing in mind I am not an expert on 1950's electronics but at the same time not scared to try. Once this is done the petrol pump and the amp meter wires need to be reversed. The battery terminals can now be swopped over. Doing this there are several advantages like being able to fit a modern radio or cell phone charger. I hear the purists gasp!!!



The electronic ignition system is relatively easy to fit. There are two parts. There is a module and trigger ring. The old points and condenser are removed. The module is fixed to the base plate and comes with some heat sink paste. The trigger ring goes on. Then the existing rotor goes on top of the trigger ring.



The wiring to the new electronic coil is also very simple. Please note if you look at this photo you will see I have moved the coil away from the engine and located it near the voltage regulator. This is to get it away from the engine heat. The old copper HT leads must be replaced with silicon leads. I used a set from a Ford V6 and they seem to work fine.

In summary we had the carburettor mixture valve jammed on rich, the plug caps were corroded. Added to this the car was operated in heavy rain in stop start traffic. This led to coil failure. With the new electronic ignition system the carburettor now sorted I have to admit what a big difference to the running of the car. Just don't want any more animals up the exhaust pipe. I let the chicken in the boot go free, don't think the Gods like chicken!!