

## Ignition coil/ condenser tester

We had an enquiry recently from a reader asking for an ignition coil/condenser tester. While it might appear that our circuit for the Jacob's Ladder, as featured in the September 1995 issue and based on a standard ignition coil, would do the job, it is not so. The high voltage transistor does not exactly simulate the action of the points and it does not use a shunt

capacitor, or condenser, as it is called in automotive parlance.

To simulate the switching action of the points, we have used a 12V relay with 10-amp 240VAC contacts. The heavy duty contacts are necessary to reliably switch the coil current. The high voltage capacitor (0.47µF 250VAC) shunting the relay contacts does the same job as the condenser shunting the points inside the distributor in a Kettering ignition system. To test a condenser, install it in

place of the suggested capacitor.

The 555 timer pulses the relay at around 10Hz which is about the maximum rate at which the relay will reliably switch on and off. When the contacts are closed current builds up in the coil. When the relay contacts open the field collapses and a spark will occur at the secondary.

Before you apply power to the coil, you must provide a safe spark gap otherwise it may flash over inside and be permanently damaged. The gap can be made with a wire paper clip extended to provide a hook at each end. Fit one end into the EHT socket on the coil and bend the other end so that it is less than 5mm from the negative primary connection of the coil. This becomes the spark gap.

If the spark won't jump across this gap, the coil or the condenser is defective.

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