

Frank's Chummy suddenly developed very rough running of the engine. It was irregularly missing a beat every half a second or so. It had done it before, but was seemingly cured by changing the spark plugs, but not this time. I used the great benefit of the HA7C, and rang for help from the Tech Advisor. This is the steps I took:

Step One: Drain Petrol, in case it is denatured. Disconnect fuel pipe at carburettor end, and drain petrol through tubing into can. Don't disconnect at petrol tank end, as this is a weak soldered joint. Put in fresh E5 petrol

Step 2 Check Carb float is in right position



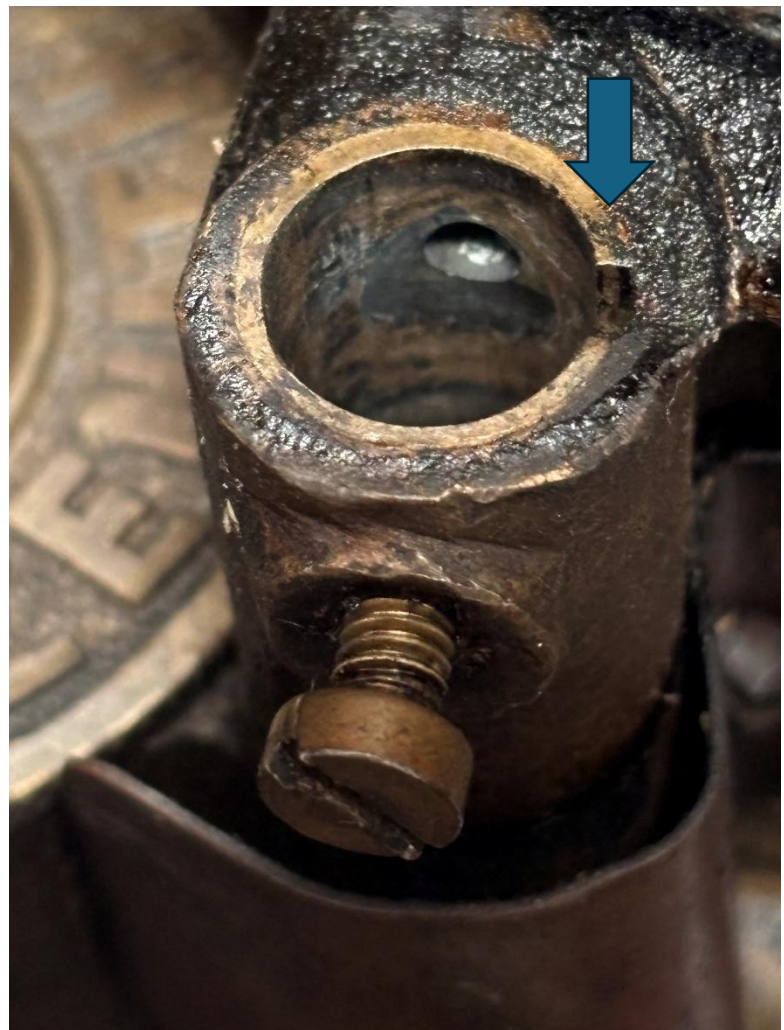
Step 3. Clean all three jets in Zenith carb. This should be done with air blasting, although I hear some use a very fine wire, such as from a wire brush.

The mixture jet is accessed by taking out the slow running device. Undo the screw on its side (*left*), and then it lifts out.



Use a 4BA spanner and pliers wrapped in padding to take the mixture jet off from its tube.

After cleaning, note that the lug at the top of the slow running device fits into a recess (arrowed) in the carb body.

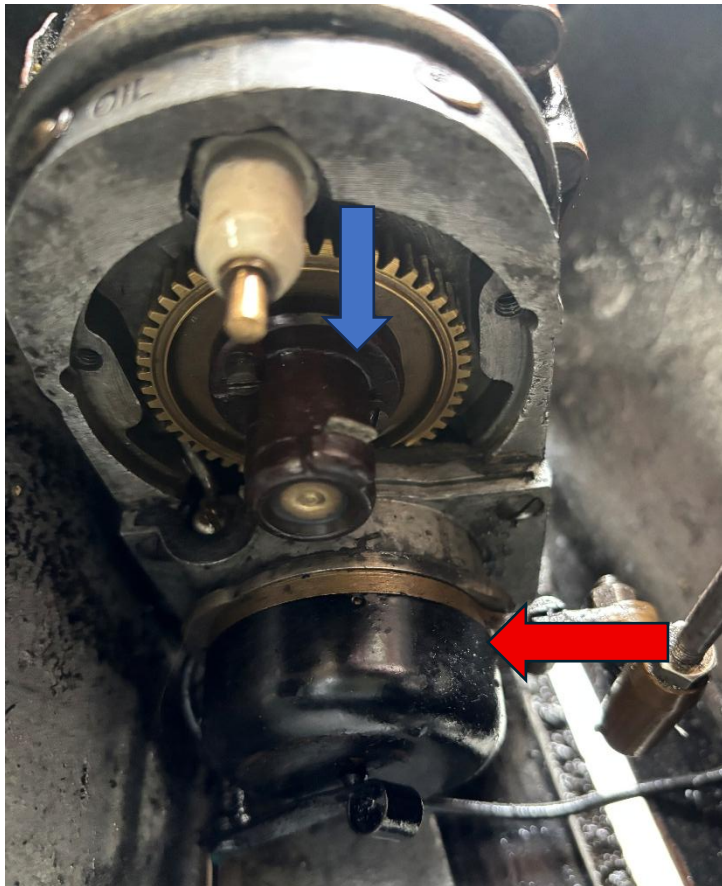
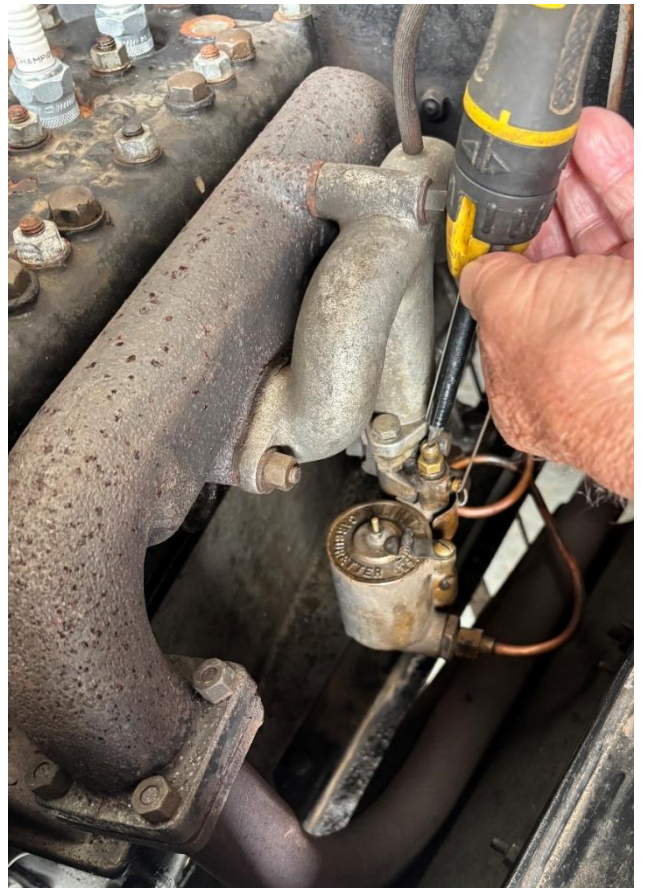


The mixture screw will usually need to be adjusted after refitting.

Roly Alcock also told me to check the Studs on the inlet manifold in case they were loose, allowing excess air to enter the mixture.

IGNITION

Step 4 Clean spark plugs with wire brush, and check gap (Champion D16s are 25 thou)



Step 5 Take distributor cap off magneto, and clean the rotor arm(blue arrow), the 4 points in the cap, and also the connection from the magneto to the cap

Red arrow is contact breaker unit

Step 6 With multimeter, check resistance in all four High Tension leads from the distributor to the spark plug. It should be less than 0.5 Ohm, and should reach that low level quickly. If higher, then change the leads (Auto Electrical Supplies Tenbury supply the parts)



Step 7 Remove the contact breaker: on a BLIC (Birmingham Lighting and Ignition Company) Magneto, this is the lower black case at the rear, and slides off. This is necessary as the contacts are inaccessible whilst in the car. Clean the contacts with wet and dry paper, and then check the gap is about 15 thou.



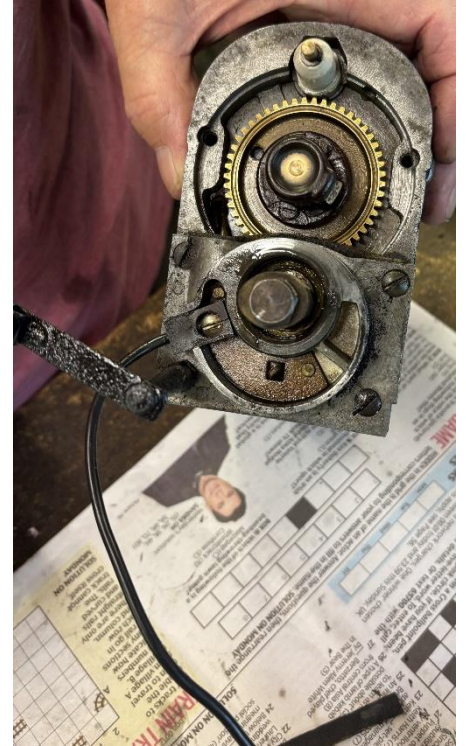
If you want to remove the magneto, then mark the alignment of the 2 brass couplings, and the intervening rubber vernier, so that the timing is not disturbed. I did this, but when I put it back in, the engine would not run at all. Eddie advised, and Ray Moses confirmed, that the Mag needed to be disconnected from the engine drive, and turned one complete turn, as there is a 2 to 1 reduction inside the Mag. This got it running again.

The contacts slid off the magneto. The arm on the right is attached to the ignition advance retard lever, and rotates about 45°



Right:

Inside rear end of magneto, with distributor cap and contacts removed. The thin wire on left is earth, to stop the magneto sparking when the ignition is turned off.



Left: Inside magneto, with front at the bottom of the photo. This shows the coil that generates the electrical voltage, the condenser at the bottom

Disconnect earthing wire connected to the dashboard, in case this wire was intermittently contacted earth and stopping the magneto.

I tested the engine after each step, nothing corrected it. We left the magneto to last, as it is the most expensive to sort out. I put in a borrowed coil conversion for an Austin Heavy 12, and this cured the problem. As a result I bought a coil conversion from Austin Reproduction Parts, costing almost £600.

After setting the timing (see next article), the engine

now runs well.