

Emma gets a Lucas 45D4 Distributer:

Amongst the parts waiting reconditioning for Muffin (the TA) rebuild is a choice of two engines neither of which has a decent distributor. Some time ago I noticed new original Lucas 45D4 distributors (complete with a new clamp, points, rotor arm and distributor cap) for sale on eBay at a reasonable price so I purchased one and put it in Muffin's box of restoration bits.

I have never been happy with Emma's 43D4 distributor which is sans vacuum advance and retard mechanism, hence more suited to the higher rpm range use; i.e. a track car, so I raided Muffin's box and after adjusting the points to 15 thou** (0.015") I fitted the 45D4 to Emma.

Note.

My data book gives 16 thou as a point's gap but I find that tightening the grub screw tends to slacken the points off a tad.

If you have had your distributor out you'll know it's impossible to put it back in wrong as the spindle drive dog is offset to one side. However it is possible to have the body in a different position, which of course will alter your timing.

I never checked the distributor before taking it out, just removed it and put the new one in with the vacuum unit in the normal position. When fitting it I put an old rotor arm on the end of the spindle then checked the position of the 'D' shaped drive dog, lining it up with the female drive dog in the engine block. Now you can push the distributor in until you feel contact then gently rotate the rotor arm until you can feel the pin on the distributor shaft start to enter the drive dog, now push the distributor in the rest of the way and loosely tighten the clamp bolt.

After removing the oil filler cap I could observe number one cylinder valve springs; that allowed me to set the crankshaft pulley in the correct firing position for number one cylinder; i.e. both springs extended.

Static timing the ignition:

First disconnect and block the vacuum advance and retard pipe then set the crankshaft pulley at the correct timing mark (10 degrees before TDC for my engine) turn the distributor body anti-clockwise until the points are closed.

My engine has a very small notch in the crankshaft pulley. When the notch is set against the most clockwise pointer on the engine timing cover number one piston is at TDC on its compression or exhaust stroke. Working anti clockwise the other pointers are; 5, 10, 15 and 20 degrees before TDC. It helps to see them better if you paint the mark in the pulley with Tippex etc.

After setting the pulley to the correct marks for my particular engine (10° before TDC) I set up the static timing using a test lamp connected between the coil + and earth, (vici-verci) on positive earth cars). Now switch on the ignition and rotate the distributor body very slowly clockwise, the test lamp will light up as the points start to open.

Now turn off the ignition, disconnect the lamp, and nip up the distributor base clamp a little more, but don't fully tighten it at this stage. Next using a felt tip pen put a mark anywhere it is easily seen across the distributor body and the base plate (this could come in useful if you muck everything up)

With the rotor arm fitted I held the cap in place to determine number 1 plug lead position and fitted the longest plug lead from that position in the cap to number 1 plug, identifying it with a red cable tie. The firing order is 1342 in an anti clockwise direction so after comparing the leads for length I connected them as neatly as I could.

Dynamic timing the Ignition:

After disconnecting and plugging the vacuum pipe I started the engine, warmed it up and set the revs to 600 rpm using the tachometer in my dwell meter. My engine setting is 13 degrees before TDC (Top Dead Centre) so with the timing light connected I rotated the distributor body until the timing marks lined up. With the dynamic timing adjusted you can fully tighten the distributor clamp and refit the vacuum pipe.

Summary:

A simple enough job involving £60 of your hard earned shekles and around an hour's labour. To be honest I cannot notice much difference with the 45D4 but Emma will probably appreciate it when she gets used to it. Only problem now is to part with another £60 to top up Muffin's parts box.