

FINDING TOP DEAD CENTRE IN YOUR DODGE BROTHERS FOUR.

Whenever you need to check the spark timing on your Dodge Four its essential to know when the engine is exactly at top dead centre (TDC). No need to remove the head, just follow these tips which are for course, medium and fine adjustment.

Take out No.1 spark plug and with thumb over plug hole turn crank till you feel the compression building. Note position of crank handle when the pressure stops building. Rotate crank again if necessary a bit less than two revolutions till you think the piston is at the top of the bore.

Take out the crank handle and look into crank hole. The pin through the crankshaft should be perfectly horizontal (Figure 1). If not put crank back in and either turn it a bit more or if you have gone too far turn it a bit less than two complete revolutions.

Take out floor board and remove clutch inspection plate. At top dead centre one of the six main clutch drive pins should be perfectly centred in the groove through which the throw-out bearing lubrication tube fits.



Figure 1 Crank Handle hole showing horizontal position of crankshaft pin at TDC.

TIMING YOUR DODGE BROTHERS FOUR (IE HOW TO MAKE IT GO LIKE A HAIRY GOAT)

To make this adjustment accurately you will need a 12V timing light.

The correct spark setting for cars with the North East Distributor is 20° before top dead centre (BTDC) utilising the manual lever adjustment. The weights in the distributor drive advance the spark up to a further 25° (total of 45° BTDC) under full load.

Of course the hand adjusting lever must be connected to the distributor such that when put in the retarded position the engine is at TDC. This is the start position to prevent the engine kicking back. Then after it starts the manual lever should be moved to the advance position so that the spark is firing 20° BTDC at idle speed.

STEP 1 – position engine at TDC and with manual lever on steering column in roughly the retarded position, make adjustment to distributor linkage so that points are just opening and rotor is at No 1 lead.

Check this using the Timing Light

Connect timing light wires to the battery and induction pick-up to No1 high tension lead (Figures 1 & 2).

Put dab of white paint on main clutch pin that was centred at top of clutch inspection hole. Place similar dab of white paint on centre of clutch yolk or on clutch bell housing (Figure 4).

STEP 2 - Start engine and with it idling aim timing light at the dabs of paint. With the timing light energised the moving spot of paint on the pin and the one on the bell housing should appear together. If not adjust manual hand level until they are together. Mark the position of manual lever on the steering column as "START POSITION".

STEP 3 – Jack up one of the back wheels and with the gear stick in top turn the wheel so that the engine is being rotated backwards.

There are six clutch drive pins on the fly wheel, one every 60°. As we wish to set the distributor at 20° BTDC using the manual control lever after the engine starts, put a dab of white paint on the edge of one of the main drive clutch plates 1/3 of the way back to the next main pin (Figure 4).



Figure 2 Connect timing light to battery



Figure 3 Connect induction pick-up to No. 1 lead,

Start engine and with it idling aim timing light at the dabs of paint. With the timing light energised move the manual lever on the steering column towards the advance position until the dab of paint just put on the clutch plate (1/3 of way around between the pins) and the one on the bell-housing align. Mark the position of manual lever on the steering column as "RUN POSITION".

To check the correct operation of the weights in the distributor drive, repeat STEP 3 but put a dab of paint ¾ of the way round to the previous clutch pin (45° BTDC) (Figure 4). With the manual lever in the "RUN POSITION" and the engine at about 2000 revs, this spot should line up with the fixed spot on the bell- housing.

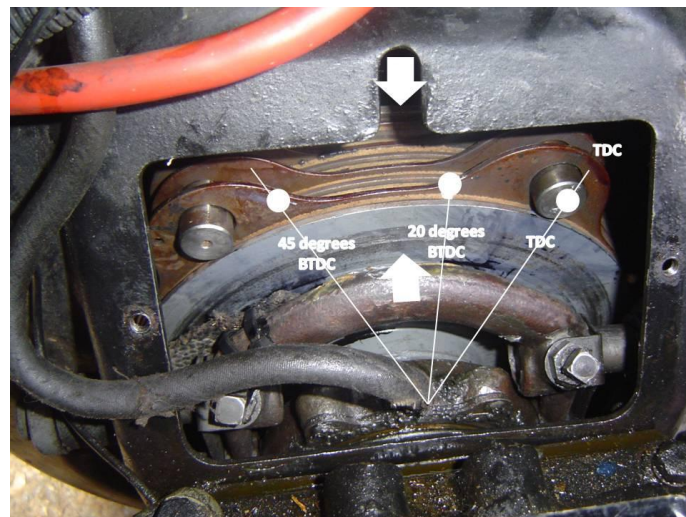


Figure 4 Clutch plates with markings for TDC, 20 degrees BTDC and 45 degrees BTDC