

How to set the Ignition Timing on Classic Cars

1

Begin by setting the ignition timing to the figure given in the vehicle owner's handbook, and mark the distributor at the base to record its original position before commencing adjustment. Set the carburettor(s) to achieve a reasonably smooth idle. Remove the distributor vacuum advance and plug the end of the hose to prevent weak running. It is a wise idea to use a gas tester or Colortune kit to ensure that the optimum amount of fuel is entering the cylinders at this point.

2

When satisfied that the carburettor(s) are in reasonably good order, slacken the pinch-bolt and rotate the distributor body in a clockwise direction. It is useful to have a strobe-timing light for this job. Advance the timing by 1 degree and mark the distributor body again in its new position. The two marks side-by-side provide a visual scale denoting one increment. This may be useful at a later stage during fine tuning.

3

Advance the ignition further. As the timing is advanced, the engine should settle down to a smoother idle. At this stage, it may be necessary to increase the engine idle speed at the carburettor(s) to prevent stalling or labouring: 800-900 rpm is an ideal speed for discerning a change in engine smoothness. After advancing the ignition far enough, the engine should become less smooth again. At this point, mark the distributor body once again. The three marks will show the range over which the engine's timing may be advanced whilst maintaining a smooth idle, including one increment of that scale.

4

When this scale is ascertained, rotate the distributor back until the timing is set at midway between the two extremes of the scale

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Check the richness of the carburettor(s) again with a Colortune or gas tester kit, and take the car on a test run. Accelerate through all of the gears, and assess the engine's willingness to pull the car forwards. If performance is sluggish, it is indicative that the timing may be advanced further. Slow the car down in each gear until the engine speed is around 1000rpm. Accelerate firmly without flooring the throttle and listen for any metallic 'ringing' or 'pinking' noises coming from the engine. Built the road speed up, and accelerate from around 2000rpm in top gear, listening for the same. This metallic ringing, often referred to as 'pinking', is a sound caused by burning fuel pushing back against the head of the piston before it has reached the top of its stroke, and is indicative that the timing is too far advanced. Pinking can cause wear to piston rings, valves and big-end bearings. Over a sustained period, it may lead to compression loss, and if left unrectified can lead to engine failure.

6

If no problems occur and pinking cannot be heard, advance the ignition further by one increment (or one degree if a strobing light is at hand) and repeat the test. After advancing the timing one degree at a time and repeating the test a number of times, pinking will eventually become detectable under hard acceleration. At this point, retard the timing by one degree. Run the engine for a week or two in all road conditions, testing for performance, economy and smoothness. If pinking is detectable at any point, or the engine seems to be noticeably down on power (and it is clear that this is not due to carburetion), retard the ignition by a further degree and run for another week.

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When satisfied with the engine's performance, make a note of the timing position for future reference and set the carburettor(s) up properly, following the tutorial in the Step-by-Step guide.