

Opel CIH: Ignition System

The Opel ignition timing is designed to be set at TDC (Top Dead Center).

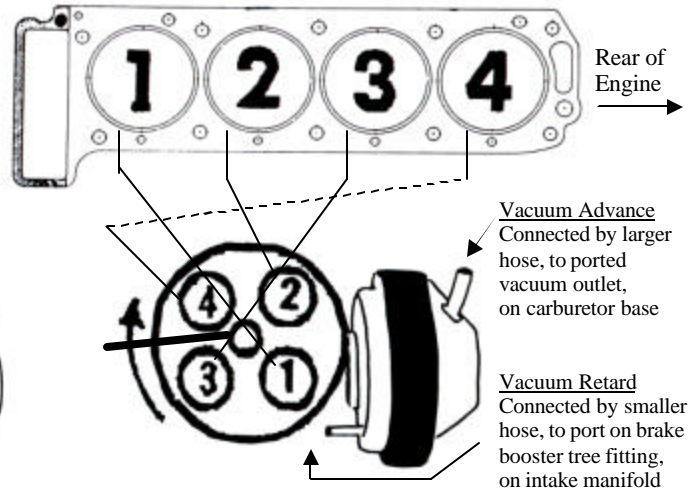
Adjustments are made to the point gap (.018" on most), and operation is checked at idle with a dwell Meter. Dwell is to be set to 50 degrees + or- 2 degrees. This test is to be performed with the distributor vacuum hoses disconnected and plugged.

Firing Order is 1-3-4-2.

Opel 1.9 Engine
Firing Order:
1-3-4-2



Lower Front Crank Pulley
Can be rotated clockwise with a 19mm wrench on bolt, to align timing marks



Opel CIH Distributor (1970-73 type vacuum canister shown)
Internal Shaft & Rotor rotates clockwise when engine turns

(1) How to Verify #1 TDC Camshaft Sprocket Timing

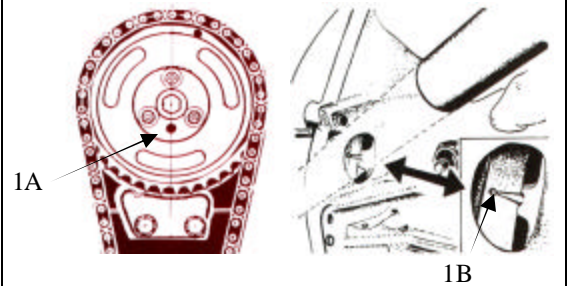
Generally, if an engine ran (without backfiring) prior to a tune-up, it can be presumed the timing marks are probably in alignment. If the engine doesn't run, or backfires on cranking, or is low on power, then there is a chance it may be caused by cam timing being off. To inspect timing marks for #1 TDC alignment, the camshaft dowel pin needs to be in the lower-center "6 o'clock" position (1A), at the same time that the small ball marker on the flywheel is lined up with the pin in a window, on the lower passenger-side rear of engine (1B). Note: this is not how to align the cam timing but it is how to verify if you are aligned for #1 cylinder firing position. Cam timing is always done on #4 TDC, see below.

To view the camshaft dowel pin, either remove the valve cover, or remove the triangular plate (held with three 10mm bolts) on front of the cylinder head. Use a flashlight, and consider the angle from which you are viewing, to determine correct "6 o'clock" position of the camshaft sprocket.

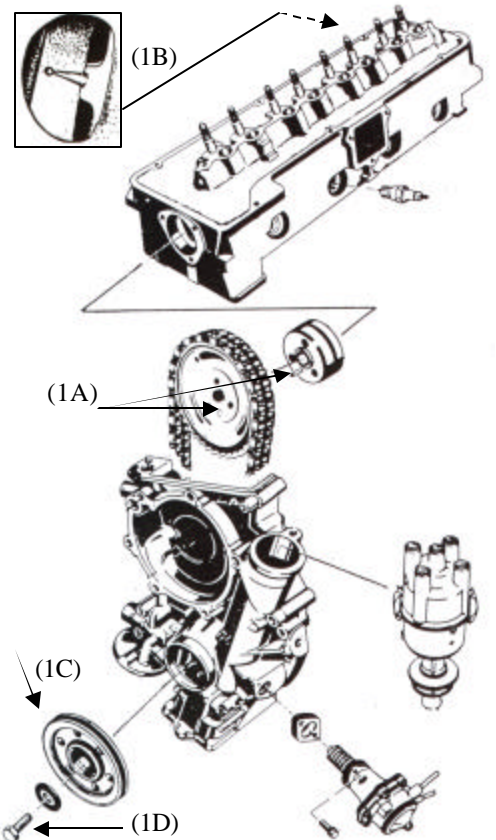
To view the window where the flywheel ball becomes visible, look below the manifold (near the oil pressure sender unit), until the ball rotates into place (when the crank pulley on the front of the engine is turned with a 19mm wrench, preferably done with the spark plugs removed) (1C) (1D).

Because Opel didn't put a timing mark on the lower crank pulley until 1975 (and later European) models, the marks on the front of the timing cover won't help you.

Correct #1TDC



(1A) Camshaft Dowel Pin at "6 o'clock" bottom - and - Flywheel ball mark (1B) lines up with pin



#4 TDC:

— Cam dowel pin at "12 o'clock"

— Also ball mark on edge aligns through center of sprocket (not just vertically), with slot in support plate

#4 TDC is correct for Opel engine assembly, but then the crank pulley needs to be rotated 360 degrees (one full turn) to line up cam sprocket for correct timing at #1 TDC.



Avoid This Common Mistake when assembling an Opel engine:

A common error is when Opel engines are assembled in the #4 TDC position, but not rotated to #1 TDC position before installing distributor.

This is because of mistakes in the service manuals, and confusion caused because the crank pulley groove and crank keyway (& flywheel ball/pin) align at "12 o'clock" when the engine is at both #1 and #4 TDC. (Crank turns twice, to every 1 camshaft rotation).

Sometimes, uninformed mechanics install distributors 180 degrees off.

Therefore, the only mark location that really counts, is the camshaft dowel pin.