



STEWART ENGINEERING

THE SUNBEAM SPECIALISTS

Data Sheet No. 8

Subject: **Fault-finding - VALVE TIMING**

Date: **June 1992**

VALVE TIMING

Poor all-round general running and performance, overheating, kicking-back, bad starting, etc..

Checking to see if the valves are correctly timed is very simple, and so is correcting the timing if wrong.

The engine can only be timed correctly on **No. 2 cylinder**, but as the handbook's references are very confusing on this point, many engines get timed on No. 1 cylinder, which puts them **OUT** as the sketches (*overleaf*) indicate.

To check the timing, remove the distributor and the clutch inspection cover (the *OVAL* cover at the top of the bellhousing).

Through this clutch cover can be seen the clutch plates, and just behind them, with its edge just showing, the flywheel. TDC is actually stamped on this showing edge of the flywheel in a position **DIRECTLY** above one of the clutch plate securing nuts.

As there are only 6 nuts, there are only 6 positions to look for, so turn the kickstart lever down by hand, *gently*, watching above each nut in turn until you find it ... and for future reference it pays to blob a little white paint on that particular nut! ... and set it upright, directly below the top gearbox stud.

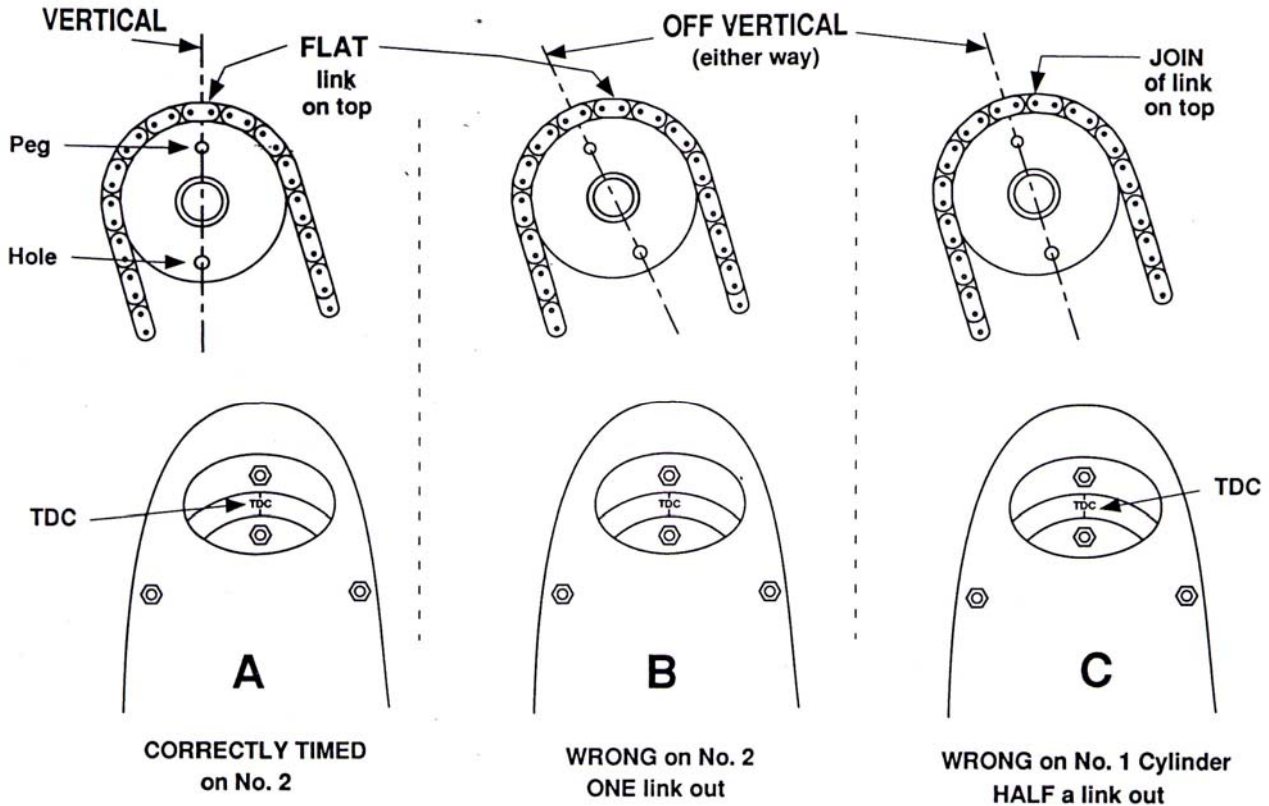
If the bike is actually running, and you know the timing is somewhere near right, you can tell approximately where it will be on the flywheel by turning the engine until the top sprocket has its hole at the bottom, then by looking at the flywheel ... the drawing *overleaf* will explain why.



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With TDC on the flywheel set at the top ... the position of the top sprocket will then be one of the three positions below:



B, which is in fact A with the sprocket put in the wrong link of the chain is easily rectified by merely removing the top sprocket bolt ... and moving the sprocket round one link.

C, on the other hand, which is timed on the wrong cylinder, cannot be corrected by merely moving the sprocket round, as it only puts it out the other way !

To correct this . . . turn flywheel on a fraction to bring the top sprocket vertical as in A, then remove the top sprocket bolt, and replace it with a screwdriver, pulling sprocket clear of camshaft and leave it sitting on the screwdriver.

Now, turn the flywheel round **ONE** turn to TDC again. The sprocket is now **UPSIDE DOWN**. Holding the chain up with two "hookers" of bent wire, turn the sprocket round in the chain. It will now go on the camshaft dead vertical, and the timing is correct.

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