

Untitled

Roger Hulett

Joined: 31 May 2004

Posts: 140

Location: South West France

Posted: Wed Jun 25, 2008 1:12 pm Post subject: T.D.C. tool

I have just obtained a TDC tool. It has no makers name on it. It consists of two parts, a 14mm threaded sleeve and a hexagonal bar that slides inside the sleeve. This bar is marked off 1 to 4, with 10 increments between.

Question...Is this tool suitable for timing a Scott and if so what do the measurements indicate ??

Thanks Roger Hulett

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efr215

Joined: 06 Nov 2004

Posts: 216

Location: Leigh-on-sea, Essex

Posted: Wed Jun 25, 2008 4:05 pm Post subject:

Roger,

You don't specify the physical size of the graduations, could they be in inches, cubits, rods, poles, perches, fathoms or even the evil millimetre? whatever they are I'd say that the tool, effectively a depth gauge, would be very useful particularly given the axial orientation of the plug threads.

The only down side is that you will have to do a bit of trig as the position of the piston in the bore at ignition is dependent on connecting rod length, engine stroke and chosen ignition advance. For all practical purposes it is then just a matter of noting the point on the gauge at tdc and then setting the ignition points with the piston down the bore by the calculated figure.

The up-side is the removing at a stroke the need for mole like peering at an oily flywheel inconveniently and darkly buried somewhere in the middle of the brute.

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Roger Moss

Joined: 31 May 2004

Posts: 369

Location: Leicester UK

Posted: Wed Jun 25, 2008 7:55 pm Post subject: Timing adjustment

I use the following method, but you can use the tool you describe also. If you try to locate TDC, the vertical movement of the piston at the top of the stroke is very small for a reasonably large rotation of the flywheel. Now consider the situation at mid stroke. The vertical movement of the piston is large for each degree of crankshaft rotation.

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I use a body from a detachable type sparking plug and have tapped the bore and put a long threaded screw down the centre.

I screw the whole affair into the spark plug thread and adjust the centre screw until when I rotate the flywheel, the piston hits the screw at about 20 degrees before TDC.

Fix up a pointer from a bent piece of wire with its end at right angles to the edge of the flywheel. Now mark the flywheel at this position.

Rotate the flywheel in the opposite direction until the piston again hits the screw and make another mark.

Now take a flexible metal rule and holding it close on the outside rim of the flywheel, measure the distance between the marks and make a third mark at a point midway between the two original marks. This is TDC.

You will have realised that if you use the tool you describe and put a mark, both in clockwise and anticlockwise rotation at the same point on the sliding scale, you will have the same effect. Timing is now easy as with a standard flywheel with a nine inch diameter, then every two millimetres around the circumference is equal to one degree of crank rotation. Where a customer does not want a fancy engraved flywheel with a matching zero plate, I find that there is a piece of crankcase that is convenient. Just beneath the RH transfer port cover, the edge of the crankcase runs at right angles to the flywheel towards the carburettor.

You can either sight along this face and put marks on the flywheel by sight, or use a small square and use this to help define the correct position quite precisely. For a standard DPY or Flyer without gas flow mods I use about 32 degrees BTDC ie 64mm from the centre mark AT FULL MAG ADVANCE. For a mildly tuned engine 28 degrees BTDC. More developed engines as per the work done. To recap, establish your TDC point by using two positions with the piston some way down the bore, not rocking over TDC, it will be far more accurate. If you can use a datum you can leave in situ, you can mark the periphery of the flywheel with your chosen value and next time you have no need to find TDC again.

I use cigarette paper between the points with mag full advanced and pulling lightly on the paper, I turn the flywheel until the paper just becomes free. Be sure to check it a second time after you tighten the nut holding the mag sprocket, as they often move during final tightening.

If I have been telling you how to suck eggs, do not be annoyed as I should have been working on my own work, so we have both suffered.

Me and my big mouth!

Rebuilding and upgrading of Scott and Silk power and transmission units. New enhanced replica Scott engines. Special manufacture Scott technical info at our website www.mossengineering.co.uk

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chris wastell

Joined: 31 May 2004

Posts: 68

Location: Wiltshire

Posted: Thu Jun 26, 2008 5:59 am Post subject:

Thank you Roger. My flywheel has always had the three marks on it but I have never worked out where to line them up against. I'll try your point on the casing.

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eyeguy

Joined: 27 Aug 2006

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Posts: 49

Location: London and IOW

Posted: Thu Jun 26, 2008 8:27 am Post subject:

Hi Chris

Roger marked my flywheel and crankcase up in exactly this way and it's perfect. If you'd like a photo, please E mail me.

ATG

Paul

1948 Shipley and silk Scott special

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chris wastell

Joined: 31 May 2004

Posts: 68

Location: Wiltshire

Posted: Sat Jun 28, 2008 10:00 pm Post subject:

Thanks Paul. The problem is that I have no idea what the person who made the marks was using as his datum. Without that knowledge they are useless. At the moment the engine is in pieces having run a big end and both little ends so I suppose this is the time to experiment and mark my own datum.