

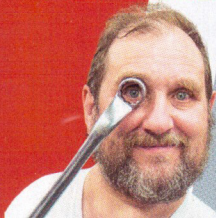
cmm

Tool of the month

with

BIKER'S

TOOLBOX



Ralph Ferrand works with tools all day long – he sells them too at bikerstoolbox.co.uk so he knows what works.



My elderly laptop sat on my ZRX1200R reading the intake vacuum. No, you don't need some uber-posh, whizz-bang PC for this job. I upgraded mine to Windows 10, but it will run on Windows 7.

That synching feeling!

Classic multi-cylinder bikes need their carbs or throttle bodies balanced or synchronised from time to time, lest one wants to ride a bike that sounds like a bag o' spanners and feels rough.

I believe that some of the very modern whizz-bang, computer-controlled, two-

wheeled spaceships have built-in intake vacuum measurement sensors, but that sort of wizardry is not to be found on any bikes entering my workshop.

In the good old days the best way to balance the carbs on a multi-cylinder (more than one) engine was by attaching some rubber pipes to the intakes

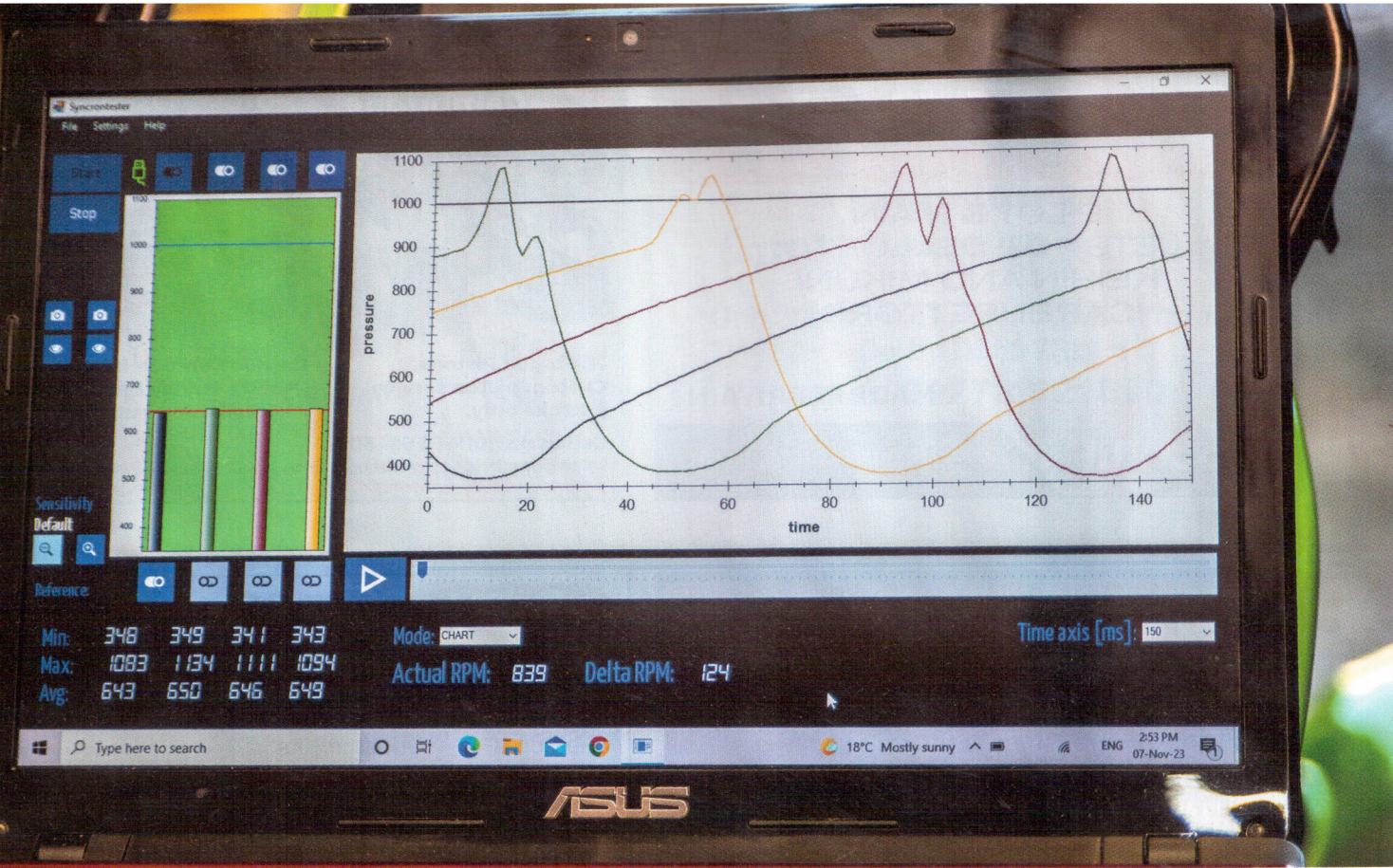
connected to some glass tubes full of mercury, but the nanny state will not let us have mercury manometers anymore, even though mercury cannot be absorbed through the skin unless you have a cut or are stupid enough to drink it.

The remaining options were bourdon gauges to measure the pressure. The problem is that you need very expensive gauges for any reliable precision and they require regular calibration. Eventually some clever chaps designed electronic tools that measured the vacuum on the inlets and were able display what they called dynamic vacuum as well in a standalone tool such as TecMate's VacuumMate which is a superb tool, but they are massively expensive and well beyond the pocket of most classic bike enthusiasts who aren't paying the bills from their hobby.

Recently a company in Hungary, Pro Moto Tools, designed a product that plugs into a laptop PC and were extremely keen



The actual Dsync2 unit is very compact.



This display of my ZRX1200R tells me that the bearings in the carburettor butterfly shaft on 1 and 3 may be on their way out, but the engine is healthy. It wasn't balanced properly, but is now.

for me to try one. As anyone knows I am a sucker for a new toy to try.

I have now used the Dsynch2 on a number of classic bikes and found it to be pretty bloody impressive! The software runs on a standard Windows PC and shows a huge amount of data gleaned from intake vacuum measurements.

It displays the average vacuum on a bar chart for carb/throttle body balancing, but also plots the vacuum on a graph against time from which you can detect issues such as leaking inlet rubbers as well as poor seating of exhaust and inlet valves.

If you really read up on the significance of the graph traces you can identify more complex issues with the carbs/throttle bodies.

Each cylinder is given a colour: No. 1 Black, 2 Green, 3 Red and 4 Yellow, making it easier to distinguish between the graph traces. The software is easy to use and provides a plethora of data including minimum and maximum vacuum for each inlet as well as average figures. One can switch on and off inputs in the software to get a clearer look at individual cylinders.

The software will record a diagnostic session which can be played back at any time for reappraisal or just to impress your mates down the pub. The recorded session can be played back as though it were a master video with full functionality, i.e., you can turn on and off channels, zoom in, etc.

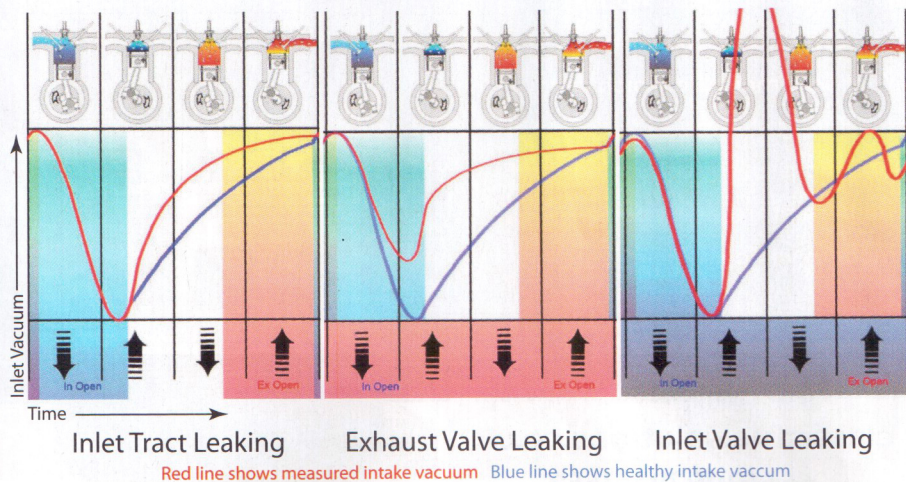
For simply balancing carburettors or throttle bodies it makes life very easy. As with any vacuum analysing tool, you connect the pipes to the intake outlets which are sometimes on the carbs or little stub pipes on the inlet rubbers as in the case of Kawasaki's Z1 series bikes. The little black box is then plugged into the USB port of your PC/Windows laptop and the software is easily downloaded from the website and installed.

I am very reluctant and impatient when it comes to learning new software, but fortunately this is so easy to use I find a bit of poking here and there with a mouse and all is working without resorting to a manual. When balancing carbs/throttle bodies, the bar graph background turns green when they are well within tolerance, which makes it so easy.

The Dsynch2 is supplied in a plastic case and my only criticism is that the tool is simply in the box with no padding, but to be fair it made it all the way from Hungary here and still works a treat.

The Dsynch2 is available directly from Pro Moto Tools (promototools.com) for \$252 plus carriage and customs charges. However, I was so impressed with this tool that Biker's Toolbox is now stocking it for £238.80 which I consider to be a bargain for such a sophisticated diagnostic tool.

I paid way over £500 for my VacuumMate which is nowhere near as sophisticated in its data display as the Dsynch2 and its only edge being I don't need a laptop, but it does need a 12-volt feed. **cmm**



These graphs show a few issues that can be easily diagnosed with the Dsynch2 tool.