

High-performance brainstorm

By Joseph Aldridge

A Tauranga mechanic has developed a diagnostic tool which could become the new standard for high-performance tuning around the world.

Dave Heerdegen owns Dtech Motorsport, a performance tuning workshop in Tauriko specialising in race cars. He is also the official technical delegate to the V8 SuperTourers where he plays a similar role to an Olympic drug tester in that he tests each of the 21 cars before each round to see if any teams have modified their engines in unregulated ways.

Assessing the capability of a vehicle's fuel system is a regular part of Mr Heerdegen's work and it was his frustration with the limitations of the technology used to test fuel systems that led him to develop his own.

"I started off with one idea for myself... it's sort of evolved itself in many ways."

Dave Heerdegen, mechanic

The standard tool for assessing fuel flow is an analogue system which uses a needle gauge and a ball in a bourbon tube, Mr Heerdegen said. Its use is limited to a workshop with a dynamometer (like a treadmill for vehicles), it has to be transferred from one side of the car to the other, and it has the potential to be dangerous, he said.

Mr Heerdegen has created a digital fuel flow monitor which can be plugged into a vehicle anywhere, including on a road test, and gives a printout of all the test results.

He created the device for his own use but started seeing the commercial possibilities when other mechanics began asking him if they could buy one.

"I went to a training seminar in Australia a couple of months back and there was, like, 20 of us in a room and they all wanted to buy



CLEVER MACHINE: Mechanic Dave Heerdegen has developed product that tests fuel system efficiency.

one, and that was one little meeting, and that's when I started realising that I needed to start pushing this a lot further and faster."

Bio-fuels are increasingly being used by race cars and Mr Heerdegen found the ethanol pre-

sent in the bio-fuels was corrosive to fuel flow testing equipment (his own and the standard tool). This discovery led him to source flow sensors which are resistant to ethanol and strong chemicals, inadvertently creating a technology that could be used to control and

measure the flow of any number of liquids.

"I started off with one idea for myself and once we started doing it guys were like 'we could do that with it', 'we could do this', so it's sort of evolved itself in many ways."

Called Flow Lab, the product will primarily be used by high-performance mechanics to diagnose driveability faults and fuel consumption problems.

The product could also be a money saver for big fuel users, such as power plants or trucking

companies, which could use it to assess if engines were burning too much fuel.

Mr Heerdegen was also working on a more advanced version of the product but planned to hold it back until Flow Lab had established itself in the market.