

Health SCAN

Diagnostic systems may not have replaced technicians' spanners, but there's no doubting the fact that they have become an essential part of their toolkits.

Toby Clark reviews developments



Diagnostic kit is essential for modern technicians. As one industry figure put it: "The diagnostic machine is the modern spanner." But, as vehicles and their systems become ever more sophisticated, diagnostic devices – particularly multi-brand systems – run the risk of becoming commensurately complex. Which is why some of the latest developments concentrate on making diagnostic information easier to understand.

Car diagnostic systems have become almost commodity items: code readers for the EOBD (European On-Board Diagnostics) standard or OBD II (the US equivalent), for example, are sold for just £10 on eBay. And truck diagnostics may be heading the same way: Hong Kong eBay dealers claim to offer truck systems for little more than £100.

However, the sheer complexity and variety of truck specifications makes this less believable. Respected mainstream supplier Eclipse Automotive Technology, for instance, boasts that the latest update to its Jaltest software covers around 5,000 variants of vehicles.

Then there is the point that truck

manufacturers have not standardised on a single interface socket. The car market standardised on OBD-II about 10 years ago. But, as Delphi UK marketing manager Julian Goulding puts it: "We would expect the same thing to happen in the truck market, but there's no guarantee." That said, his colleague Gail Flint (UK category manager for service and fuel injection) adds: "It doesn't make a big difference. We're talking about one, or maybe two, per key manufacturer."

MIXED FLEET

Delphi is one of the world's largest OEM suppliers of vehicle electronics and injection systems, and offers its own multi-brand diagnostics system. "Our product for the UK is the DS150 diagnostic tool," explains Goulding. "There's one piece of hardware, and we offer different software versions: one for car and LCV, and one for LCV, truck and trailer. We also sell the VTI [Vehicle Technical Information] package, which provides guidance so that once you've diagnosed the problem, you can go about fixing it."

The hardware is called VCI (Vehicle Communication Interface). It plugs into

the diagnostic socket on the vehicle, with a Bluetooth connection to the PC. A workshop has the choice of whether to use their own PC, or one of Delphi's own hardware platforms.

Although VTI uses data from HaynesPro, it is not available separately. "The way it's integrated, you have to be using the diagnostic tool to access the features and functions of the VTI," comments Flint.

As for pricing, that's simple. Delphi's DS150 retails at £1,249, or a kit is available with popular truck cables for £2,145. The software costs £595 for a one-year licence, or £1,475 for three years. "We've benchmarked against our main competitors," says Goulding, adding that discounts can be offered for large workshops.

One feature that technicians find particularly useful is data logging. Dubbed the flight recorder function, this allows them to save component performance over a period of time to a memory card. "You can go for a drive and monitor a specific area of a vehicle during that time," explains Goulding. "When you get back to the workshop, you can identify any component that

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Julian Goulding

has failed, or is performing outside its specification.” This feature is particularly helpful for tracing intermittent faults. A driver reports the problem, but workshop staff can’t replicate it. Being able to take the truck out on the road to replicate the conditions offers a powerful problem-solving approach.

Another point: Goulding isn’t convinced that workshops are that interested in diagnostics systems’ outputs. “Their main concern is getting the vehicle working. People then like to have something that shows what the workshop has done. So within the tool we have the ability to create reports and share the data – which faults were on the vehicle when it came in, and proof that there are no faults now.”

One consequence of commoditisation and competition is that diagnostics systems from different manufacturers are now being sold by multi-brand retailers such as Hickleys, Autocraft and AP Tech. They offer systems from big hitters, such as Texa, Bosch and Delphi, as well as lesser-known makes including Brain Bee.

Which to choose? One useful way to differentiate between systems is to examine their learning curves and available training support. The largest diagnostics equipment manufacturers have their own training schemes, but retailers are increasingly in on the act. Hickleys’ training academy is based at its Taunton HQ, while AP Tech offers Andrew Page Auto Education courses at several venues.

What about so-called Pass-Thru technology, which allows diagnostics operators to reprogram ECUs with official OEM updates? Vehicle manufacturers have to make certain information available, and workshops need a tool that then links the vehicle to the manufacturer’s website. OEMs allow workshops to subscribe to system updates, but then charge for the service. That said, Pass-Thru regulations



J2534 and ISO22900 define standard reprogramming interfaces, and these are required for commercial vehicles from Euro 6 onwards.

“It’s still quite a specialist area,” concedes Goulding, “but we expect [adoption] to increase significantly.” Delphi’s Pass-Thru system uses separate hardware from the standard diagnostics kit. “It’s also known as a VCI, but it’s slightly different. We’ve taken the decision to separate it out because a lot of the reprogramming takes many hours, and people don’t want to tie up their diagnostic tools to reflash an ECU.”

PASS-THRU PROTOCOLS

However, other diagnostic devices do support Pass-Thru protocols. One is Texa’s Navigator TXTs, a VCI that, again, communicates via Bluetooth with a PC or tablet. Incidentally, Texa’s own Axone Nemo tablet has a 12-inch screen, is completely waterproof and can even float. And the company has another trick up its sleeve: expansion modules attach magnetically to give extra interfaces (such as Ethernet and USB) and functions. These even include a thermal imaging

camera to identify truck hot spots.

But there remain limits. One development in car diagnostics yet to come to heavy commercials is cloud-based diagnostics, as offered by MECH 5. This uses a VCI (the unit costs £150) designed to connect to a Windows PC/tablet or Android device. It then communicates with cloud-based servers to provide the diagnostic analysis.

The benefit: such systems are always up to date and store data history (fault codes and live data) for each vehicle according to its VIN number, accessible via a web browser. MECH 5’s full service costs £30 per month, although a ‘freemium’ service – which just interprets fault codes – is available at no cost.

Another development on the car side is tools for calibrating ADAS (advanced driver assistance systems) such as lane guidance, parking assistance, adaptive headlights and emergency braking assistance. These systems usually rely on video cameras that can be calibrated using dedicated tools. However, Texa offers a calibration kit (with targets designed for specific makes) that can be used with its diagnostic tools. [TE](#)