

Fault finding

While computers are essential to saving operators time and money on truck maintenance, they can be fallible. So how far can technicians trust diagnostics? Dan Gilkes finds out

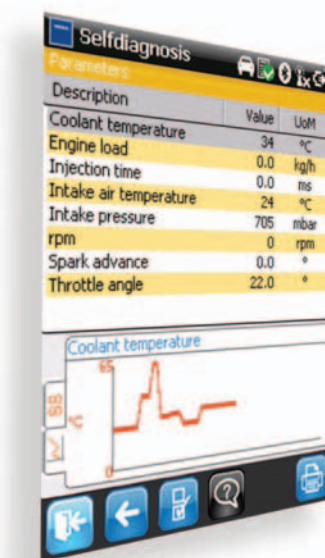
Maintaining a mixed fleet of trucks, whether as the operator of that fleet or as an independent garage, requires experienced technicians conversant with a range of equipment, systems and techniques. It also requires diagnostic systems that can cope with multiple vehicle brands.

As reported last year (Transport Engineer, diagnostic update, September 2010, page 26), all of the manufacturers can supply diagnostics software and hardware to fleets, offering in-depth fault-finding functions, and even more of the technology to their own dealers. But, when it comes to mixed fleets, most of the manufacturers aren't too keen on transport engineers loading up alternative truck makes on their systems.

In some cases, managers have been faced with needing separate PCs to run each manufacturer's diagnostic programmes. Alternatively, multi-brand fleets or garages can buy multi-brand diagnostic equipment, such as the Info Data Centre offered by Italian specialist Texa.

Texa has recently upgraded this software, now called IDC4, to streamline some of the operations and make diagnostics even easier for technicians in the workshop and at the side of the road.

The software itself comes in three flavours: IDC4 Light, Plus and Plus Info. IDC4 Light covers diagnostic and self-diagnostic resources, emissions analysis, technical bulletins, wiring diagrams for engine and ABS, and mechanical data. IDC4 Plus adds wiring diagrams for all systems, maintenance information, electronics information on auxiliary systems, timing belt/chain information, and technical data for heating and air conditioning systems. IDC4 Plus Info has the same level of



information, but no diagnostic capability.

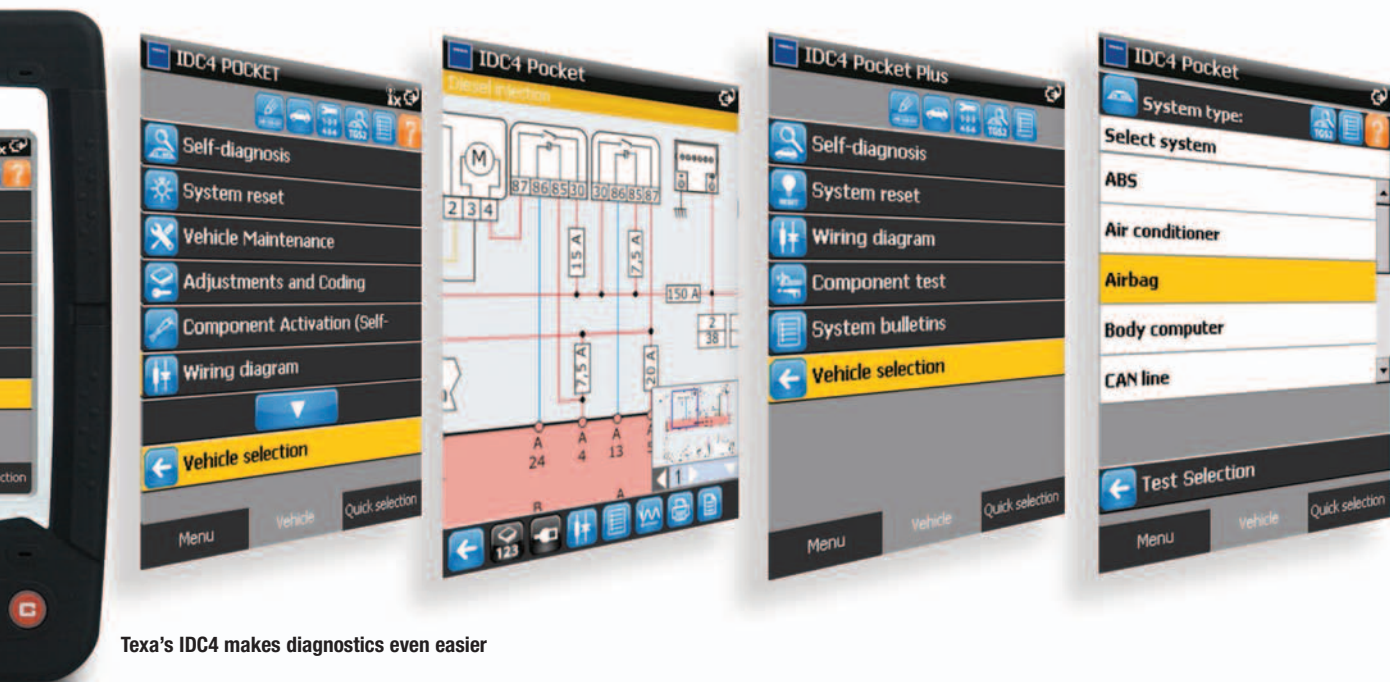
By signing up for the truck system, for example, you get diagnostics for every conceivable make of truck, van, trailer, industrial engine and bus, as part of the package. It even includes information on the chassis of truck-mounted cranes from the likes of Terex and Liebherr.

The last piece of the jigsaw is a method of communicating with the vehicle, for which Texa offers the Navigator range of auto-diagnostic interfaces. Navigator TXT is required, if you want to 'talk' to a truck or trailer, although you also need the right cable to link to each make. Despite pan-European diagnostic agreements, all the truck manufacturers have their own plugs and connectors.

Ultimate navigation

Back to the Navigator, and it has a Bluetooth connection to a PC or laptop, allowing the technician to plug his or her specified truck cable into the diagnostic port in the cab and leave the computer itself outside on a bench or the back of the truck. The system even has videos to show the technician where exactly on the truck the diagnostic port is and how to connect the Navigator unit. Indeed, this degree of simplification is typical of this and other systems, which effectively walk technicians through the diagnostic process, ticking off tasks as they are completed.

In Texa's case, the technician initially defines the vehicle make and model, with the software offering options, such as engine type and power. Then, once the vehicle has been correctly identified, the user has several choices, from running manufacturer service schedules to firing up more in-depth diagnostics and wiring diagrams. Equally, through Texa's global scan (TGS2) software, the system



Texa's IDC4 makes diagnostics even easier

retrieves saved fault codes from within the truck's ECU, also erasing those codes once the problem has been rectified.

The technician can choose simply to scan one system, in the case of a known fault, or scan all truck systems for errors. In each case, the software uses a traffic light graphic to communicate that it has made contact and the scan has been made – showing red or amber for faults and green once those faults have been rectified or cleared.

The one thing that IDC4 doesn't do is alter key settings within the truck's ECU, so a technician can't play with speed limiters or power settings, for instance. "We don't get involved with tachographs or speed limiters, or any of the legal parameters," explains Texa's training manager Steve Ball.

With maintenance complete, technicians running the system from a PC can then save service and diagnostic data for use in fleet management programmes. The hand-held Axone pad does not have this feature, so is more suitable for service vans and mobile engineers.

As for the other details, the diagnostics software is updated three times a year, and Texa also provides technical bulletins concerning common problems and failures on vehicles. Moreover, IDC4 contains interactive wiring diagrams for every system on the truck and trailer. You can even read and store operating parameters from, for example, a trailer ECU and then download these onto a new ECU, when fitted, via the software.

It all sounds like the answer to a fleet engineer's dreams – a single source of information and diagnostic capability that gets a truck back on the road in no time. But take care: "As with any system, it has limitations," concedes Ball, "but we can do more than most people would ever use it for."

The point, however, is that, as with any manufacturer's own diagnostics, IDC4 is only as good as the technician using it. If he or she isn't fully conversant with vehicle repair and fault-finding procedures, then no amount of information from the software will help them to do a good job. Likewise, if they input the wrong vehicle information, the hardware won't know and may show a fault that is not there.

"Each ECU speaks its own language, so you have to identify the vehicle and the ECU properly," explains Ball, adding that it is also important for technicians to recognise faults themselves. For instance, a broken tooth on an ABS brake ring can be shown up as a faulty wheel sensor, because the reading will stop and start. Rather than simply fitting a new sensor and discovering that the problem has not gone away, technicians need to be able to strip assemblies down and visually inspect them. Diagnostic equipment should simply be pointing to where the fault may lie.

"The ECU only knows as far as the pins in the connector," continues Ball. "It can't see the vehicle or the wiring, so you've still got to do the basic checks and searches. It's only ever as good as the guy that's using it... We get lots of faults with common rail fuel injection and people instantly fit new pumps. But it can be a simple supply problem. All diagnostic equipment is just another tool in your tool box."

As long as diagnostic equipment is approached sensibly, as an aid to a qualified technician's expertise, it can be incredibly useful. Texa isn't the only supplier of multi-brand diagnostic equipment. But it certainly seems to offer one of the most comprehensive electronic maintenance packages on the market. **TE**