TYPE CASTING

Converting chassis cabs has always been a costly business, but with the advent of ECWVTA, life is becoming a lot tougher – to the extent of stifling innovation. Steve Banner explains

Tighter European regulations have made it more difficult and more expensive to convert an unregistered van into a minibus than ever. "In 2012 alone, we spent £300,000 on the necessary testing," comments Gary Stephenson, engineering manager at O&H Vehicle Conversions. Admittedly not all of that cash was spent on minibuses. The Goole, East Yorkshire-based firm produces a variety of vehicles, from ambulances to taxis. But you get the point.

The relevant legislation comes under the banner of European Community Whole Vehicle Type Approval (ECWVTA). Introduced in stages starting in April 2009 and scheduled to be fully in force by October 2014, it applies to all types of commercial vehicle – from trucks and trailers to vans, minibuses, buses and coaches. Most important, it means that it is not just the base vehicle or chassis that must comply with type approval rules. **Any body building or conversion work carried out prior to registration also has to be compliant. If not, the vehicle cannot be registered.**

All the components have to meet the requirements of the VCA (Vehicle Certification Agency) or an equivalent body. Measures such as lengthening or shortening the chassis have to be approved, too, and crash testing may be required. "A crash test costs £7,000–£8,000 plus the cost of the test sled," Stephenson observes. "The number of tests we've conducted since ECWVTA began is now well into double figures, so we've been carrying out computerised simulations."

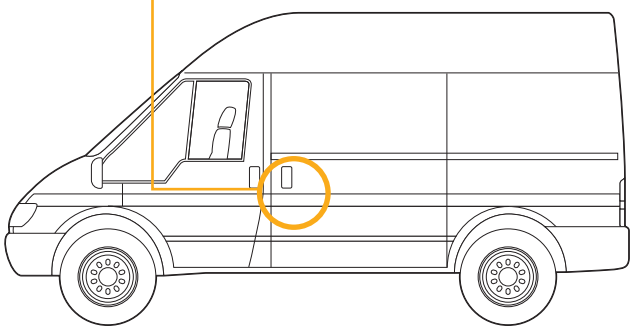
These cut costs and help minimise the risk of failure when tests are conducted for real. However, all O&H's conversions have to be tested, with separate processes required for each model variant. Both the front- and the rear-wheel-drive versions of a van, for example, must undergo their own tests.

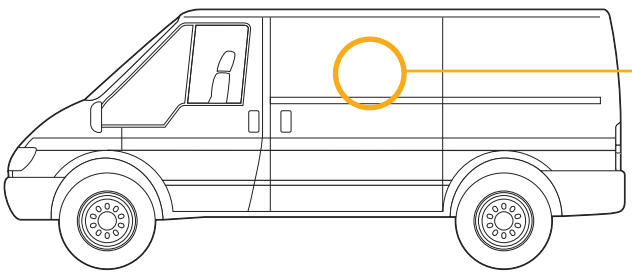
"You may require separate type approval for eight types of Ford Transit," observes Tony Soper, Millbrook Proving Ground's principal engineer. "As far as testing is concerned, the strength of the seats and the way they are attached has to be subjected to a 20g sled pulse," he continues. "All the seats in a minibus must also be forward-facing and fitted with belts, while the seat belt anchorages have to undergo a static pull test at defined loads, depending on whether it is an M1 or an M2 vehicle."

Flooring matters

A panel van's load area will not have suitable seat or seat belt anchorage points, so what usually happens, says Soper, is that a floor equipped with such points is either bonded or bolted into the vehicle. Manufacturers of such flooring include Unwin, with its Innotrax flooring system.

In the UK, tests can be conducted at Millbrook in Bedfordshire and MIRA in Warwickshire, or – at least





in theory – by equivalent bodies in other European countries. But Stephenson warns that it doesn't always go smoothly. "We had some of our testing conducted by a reputable test house in Sweden, but persuading the VCA to recognise its findings was a real challenge."

That said, virtually everything O&H produces meets ECWVTA, which means its vehicles can be sold throughout the EU. But there are two other approval routes: National Small Series Type Approval (NSSTA) and Individual Vehicle Approval (IVA). "We've done all three so we've got all bases covered, although we think ECWVTA is the best way to go," advises Stephenson.

NSSTA, which is designed for converters that produce small batches of the same vehicles (fewer than 250 of an M2 vehicle annually) is slightly less onerous than ECWVTA. However, the saving has to be balanced against the fact that NSSTA-compliant vehicles cannot be sold in other EU countries.

Meanwhile, IVA is aimed at one-off conversions and involves an examination by VOSA (Vehicle and Operator Services Agency), making it less onerous still. **"The vehicle has to be fitted with tested seats and a tested passenger saloon floor nevertheless,"** says Stephenson. Additionally, some converters are voicing concerns that the ATFs (Authorised Testing Facilities), which are steadily replacing VOSA's own test stations, may not be able to carry out IVA inspections. Customers sometimes face a wait of several weeks before their vehicles can be examined prior to going into operation.

Has wholehearted compliance with the new approvals regime benefited O&H or its operator customers? "It's probably given us a competitive edge over certain rivals and it means that some of the smaller converters may have to shut down," replies Stephenson. "Not because they are doing anything wrong, but because they cannot afford the investment that type approval requires. However, I don't think it has made our vehicles any safer."

What it has done, he believes, is hinder innovation. Why? Because converters have become wary about trying anything new, in case it fails the approvals process. Further, innovation costs money and, in some cases, funding that might have been allocated to development has been swallowed by the ceaseless round of testing and documentation.

"If you need ECWVTA because you want to convert a van into a minibus and you are starting from scratch, it will cost you £15,000," advises Geoff Hudson, chairman of the Low Volume Manufacturers' Group at the SMMT (Society of Motor Manufacturers and Traders) and a consultant to Rochdale-based bus producer Mellor Coachcraft. "If you want to go further and carry out significant alterations to the base vehicle's specifications, then you could be looking at £120,000 to £130,000."

But there's another point: converters are classed as second-stage builders. Every time a first-stage manufacturer, which makes the base vehicle, updates its approval, the converter has to update his. So it's important that they have a close working relationship. And that's not always the case – with some converters accusing vehicle manufacturers of being unhelpful, in terms of delivering information, at least in the early days of ECWVTA.

Worrying loophole?

And one more: there is also a major loophole in the whole ECWVTA/NSSTA/IVA set-up. While light commercial chassis cabs are classed as incomplete vehicles and cannot be registered, there is nothing to stop someone buying a van, registering it, then converting it into a minibus without worrying unduly about type approval compliance. That horrifies Stephenson. "It's a non-engineered solution," he points out. And it is also one that is increasingly unacceptable to major fleets, he adds. "We're seeing public sector fleets in particular stipulating that vehicles must meet ECWVTA," he contends. "Tender documents are certainly heading in that direction."

"If a conversion is carried out post-registration then the DVLA [Driver and Vehicle Licensing Agency] must be informed," adds Soper. "Further, a COIF [Certificate of Initial Fitness] must be obtained, if the vehicle is going to be used on hire or reward work. And that means it must be inspected by VOSA."

One way for operators to address the complications may be to acquire an off-the-shelf minibus that is part of a manufacturer's approved conversion programme. Most light commercial manufacturers have them readily available. These only offer limited scope for bespoke modifications, however – something a fleet that has specific requirements of its own needs to bear in mind. TE