

Made to measure



Type approval changes may not be the stuff that sets pulses racing, but, like it or not, they will affect practically every vehicle on the road over the next five years, writes John Kendall

As type approval is principally concerned with ensuring that vehicles meet the required emissions and safety standards, the same vehicle fitted with the same engine and cab should ideally be able to satisfy the requirements, regardless of body type. Alternatively, the same body, built to the same consistent standards, should be able to satisfy the regulations, regardless of the vehicle to which it is fitted.

The best way to guarantee either scenario is to make certain that the parts that are used to build the vehicle or body are built to the same standard, using processes that deliver the same quality, no matter how many times they are repeated. That means there must be adequate quality control systems in place.

Approval details

Then, if all the component parts are made to a consistent standard, using consistent methods, it should be possible to ensure that the finished products meet the required regulations – and that one finished vehicle behaves in the same way as any other of its type. If so, any production model should behave the same way in testing as another.

That's the theory and, hence, the new type approval system should simplify the whole procedure. However, there remain some issues. Where, for example, a manufacturer opts for

European Community Whole Vehicle Type Approval (ECWVTA), it should ensure that, once a vehicle has been tested for conformity in one EU member state, it should automatically comply in all other member states, without re-testing.

Although the legislation matters most to vehicle constructors and importers, vehicles that do not conform, or do not have the correct documentation, will not pass VOSA (the Vehicle and Operator Services Agency) testing. So buyers and sellers need to be aware of the requirements.

And they need to get cracking. From 29 April 2009, any vehicle has been admissible for submission for ECWVTA on a voluntary basis, ahead of the mandatory dates. The first vehicles to be covered by the subsequent legislation will be minibuses, buses and coaches, from 29 October this year. Other vehicle types are then being phased in until 2014.

The approvals system recognises that different approaches are needed, depending on production volume and intended vehicle use. Consequently, there will be three separate routes to type approval: ECWVTA, National Small Series Type Approval (NSSTA) and Individual Vehicle Approval (IVA), which replaced Single Vehicle Approval (SVA) from April 2009.

It is fair to say that ECWVTA will be the most comprehensive, aimed at series production vehicles sold across the EU. We have outlined the process

29 April 2009

Voluntary type approval available for any vehicle



29 October 2010

Minibuses, buses and coaches (one-stage build or first stage of multi-stage build)



29 October 2011

Light vans and trucks (one-stage build or first stage of multi-stage build. Minibuses, buses and coaches (multiple stage build))



already. The vehicle must be built from parts and systems whose quality can be assured. The processes involved in manufacture must conform to the approved specification. Assessing conformity of production (CoP) is an integral part of the approvals process. Companies that have already achieved quality standards, such as ISO 9001 or ISO/TS 16949, may need a less rigorous inspection of systems and processes.

The type approvals issuing body for the UK will be the Vehicle Certification Agency (VCA) and, if it grants approval to any vehicle or bodywork under ECWVTA, it can indeed be sold anywhere in the European Union without further testing.

NSSTA has been designed essentially for small production volume vehicles. To that end, some of the technical requirements will not be as demanding as for ECWVTA and the CoP requirements will be tailored according to the scale of the operation. Consequently, NSSTA will be cheaper. Inevitably, there will be a trade-off and, in return, production will be restricted to between 75 and 500 vehicles a year, depending on type. NSSTA, as the name suggests, is intended as a national type approval scheme, principally designed for vehicles that will be sold in the member state where the vehicle has gained approval.

IVA differs from the other two schemes, in that it is not really type approval at all. Approval is given to individual vehicles and could involve a detailed physical inspection of up to 55 areas of the vehicle. The manufacturer must demonstrate that the vehicle generally complies with the Recast Framework Directive 2007/46/EC. IVA inspections in the UK also need to be carried out by an examiner at an approved site, involving either VOSA on the UK mainland or the DVA in Northern Ireland. As in the case of NSSTA, IVA approval is designed for vehicles that will only be sold in that EU member state. At present, only five IVA sites are under consideration across the UK.

Most LGVs are built in stages. They could consist of a chassis-cab (stage one), onto which

a body is fitted (stage two) and the chassis might also be further modified with equipment, such as a lift axle or tail lift (stage three). The chassis manufacturer needs to know if bodywork fitted, or other modifications, will affect the approval given to the chassis. The body builder or converter also needs to know if fitting the body or conversion to the chassis will affect the approval given to either.

Stage managed operations

If stage one carries ECWVTA, stage two could also carry ECWVTA, NSSTA or IVA. But, if stage one carries NSSTA or IVA, stage two and any subsequent stages cannot carry ECWVTA.

But what about PCVs? Since bus and coach manufacturers fall under the same scheme from October this year, they have already been getting to grips with the system, as Paul Chapman, product manager for bus and coach at Scania GB, explains. "If we take incomplete vehicles, which probably the majority of our sales are, all our approvals are in place, because they're EC-approved chassis. The issues that we've got are how we get the systems to function in the different markets."

Chapman says Scania is trying to find a common software system that will work across all European states. But he continues: "Most of the bus body builders are fairly switched onto it, because they've been building to Directive 2001/85 for a number of years now. There's not going to be an issue for European bodybuilders and the advantage for British body builders is that [type approval] will actually make it a level playing field for them – and an easier playing field. In the past, they have had to comply with local legislation."

However, Martin Flach, Iveco UK's product director, has a slightly different take on developments, noting that, although it hasn't happened yet, ECWVTA will force change. "Because of the voluntary nature of whole vehicle type approval, we thought we would start to see some pull from the market, requiring vehicles to

29 April 2012

Special purpose passenger vehicles (ie motor caravan, ambulance, hearse, armoured car)



May 2010 Transport Engineer

29 October 2012

Medium/heavy vans, trucks and trailers (one-stage build or first stage of multi-stage build)



29 April 2013

Light vans and trucks (multiple stage build)



have whole vehicle type approval. But that hasn't happened," he says. "Will we start to see people asking for it this year? Maybe yes. As we start to get the market coming back again, it's more likely that people will add other 'nice-to-haves' on to their requirements."

Meantime, whereas Iveco used to provide ready-bodied light CVs on the Daily chassis, for example, "whole vehicle type approval is one of the drivers that will push us back into completed vehicles, without a doubt," observes Flach. "Clearly, for us, that's not a major issue, because we already certify all the individual systems to all of the directives. The elements we don't do at the moment are largely those finishing bits that the bodybuilder does. For instance, we have lighting and signalling approvals. The bodybuilder puts marker lamps and side marker lamps onto the vehicle, which would mean we would have to have an approval to include those. It's something that would not phase us for one moment."

How does he expect ECWVTA to affect the end user? "What it should do is take away some of the vagaries of the body builders. They will have to get their act together to determine where they are going to fit things and then always stick them in that place. It will tend to consolidate the body building industry in probably fewer, larger, better facilitated companies. The risk against that is that people will do post-registration conversions. I was recently in a meeting with various government departments where we discussed the need to, as far as is possible, address the post-registration loophole. I think we will get it addressed, but I think it may take a while."

In-house body building

DAF is the only manufacturer currently offering an in-house body building facility for box bodies and curtainsiders. Even so, the company is not planning to restrict its dealings with body builders. According to product marketing manager Phil Moon, only a handful of body builders are currently seeking information on whole vehicle type approval.

"As the deadline approaches, we obviously

expect numbers to go up considerably," comments Moon. "One of the projects underway at the moment in Eindhoven is a web access point, so that body builders who want to look at our base vehicle approvals, find out where our lights are fitted or find out about things that affect them, will have a reference library, as well as existing body builder guidelines. Alongside the technical requirements, we'll have an approval requirements section for body builders to access data."

Moon thinks that the new system will force the whole industry to consider approval in the same way as they currently consider the rest of the build process. "Who's going to have responsibility for that approval? Is there an approval in place? If there isn't, who's going to take responsibility for getting the vehicle tested and inspected, and how long is that going to take? That may have an impact on an operator, because he may feel pushed into a route where there is an existing approval in place."

How do the body builders themselves feel they are getting to grips with the new system? Richard Owens, marketing manager at Don-Bur, says that his company has been trying to get hold of information, but without much success, "We've made various requests to clarify certain requirements. We've made enquiries of VOSA and various other bodies to see what their interpretation of it is, and still there remain a lot of unanswered questions. So, to a certain degree, we are aware of the principles and we are aware of a lot of the methodology and certainly the paperwork and admin that will fall in around it."

"But on the very specific requirements of NSSTA, which we will be going for, it's very, very difficult to put your finger on what those requirements are at this stage. If a customer were to come to us and say, 'We want NSSTA now', it would be very difficult. Not from the point of view of us being able to do it, but from us knowing what we have to do. Fortunately, NSSTA isn't as in-depth as ECWVTA. We already do much of the paperwork as part of the testing processes. The only difference will be the way that information is managed and the way it is presented." TE

29 Oct 2013

Trailers (multiple stage build)



29 Oct 2014

Medium and heavy trucks (multiple stage build), and other special purpose vehicles (ie mobile cranes, trailer caravans)

