ALL COMERS *Welcome*

They are responsible for delivering cars the length and breadth of the country and beyond, so car transporters have to be carefully engineered and maintained. John Challen finds out why no two are the same

With ever-growing variants of passenger cars available on the UK market, the demands placed on those that build and operate car transporters are continually increasing. What's more, from an engineering point of view, transporter manufacturers must, to a large degree, play by each vehicle manufacturer's rules – which can cause issues around the detail of vehicle specification, assembly movements, loading sequences and, of course, maintenance.

For Martyn Wood, technical director at car transporter builder Transporter, it is a case of being adaptable, while staying within the Road Vehicles (Construction and Use) Regulations, as administered by VOSA (the Vehicle and Operator Services Agency).

"With a regular semi-trailer, you have standard pallet sizes, so their manufacture is based on getting the maximum number [of pallets] on board. But we can carry everything from a Fiat 500 to the latest Range Rover and in any mix," he says, revealing the scale of load variability. "So we try to make our transporters as flexible as possible, so that your customers can get the maximum number of each model on the vehicle."

A 'typical' large car transporter can carry up to 12 vehicles, but, quite apart from the obvious weight distribution, ramp movement tolerances and packaging issues that come from loading different models in different sequences, Wood says that the trends in car design can also be challenging. Why? "The manufacturers obviously don't consult us [when developing new models], so, when Jaguar Land Rover invites us to see the new, heavily disguised Range Rover, which is now bigger and wider, they expect us to make sure their new cars will still fit on our transporters."

That might not seem like a big deal for the vehicle

manufacturers, but what about the transporter operator? Larger vehicles and different shapes of vehicle can have knock-on effects, in terms of carrying capacity, flexibility and the efficiency of operations. “Our customers still expect to carry the maximum number of vehicles and also to load them in a way that suits their drop order sequences as well. They don’t want to take 10 cars off, in order to deliver just one.”

For car transporter manufacturers, versatility is key and especially important when faced with growing sizes of vehicles. Safety, maintenance and weight distribution are other priorities to take into consideration

But it’s not just about headaches caused by new designs from the manufacturers. Transporter, and other bodybuilders like it, are all up against regulatory restrictions. For example, these vehicles are limited in length to 18.75m, with a width of 2.550m. “We’ve got relaxations on the width of our handrail systems, because you have to protect people when they are working at height and you’ve still got to be able to open car doors,” explains Wood. “Also, the handrail systems must be fixed: if a man falls when a handrail is folded back, you could end up in court.”

Size does matter

And it doesn’t stop there. Recently, for example, another safety addition landed Transporter in hot water. “VOSA pulled some drivers up over our vehicle lengths, for something that we believed was a safety device [so exempt] – a wheel-stop over the driver’s cab,” recalls Wood. He explains that, for transporter operators to be able to maximise the 18.75m available, the entire length of the trailer, and beyond, must be used. “So, to prevent vehicles falling off, we added a wheel stop. However, VOSA includes this in the overall length.”

Despite such rulings, Wood is determined to maximise versatility, so that his vehicles can accommodate 11 or even 12 cars, if they are small enough. “To do that, our designs are constantly being updated,” he states. “Each transporter is an evolution over the last. So if a customer buys 10 vehicles from us now, and wants to buy 10 more later in the year, unless he specifically asks us to make them exactly the same, they won’t be. We are constantly modifying and tweaking them to get them that little bit more flexible.”

Alterations can involve anything, including the deck shapes and the degree to which they can articulate down or kick up – especially important when dealing with lower profile cars or others with long, protruding bonnets. And then there are the ramps themselves. Wood: “Driving some cars onto the transporter can be a problem. You don’t want the front end to hit the loading ramp. So sometimes there are three or four angles in a loading ramp just to help ease that car type onto the transporter.”

And it’s not just about loading. “Everything is a lot lower to the ground for us, which can cause other problems. For example, the transporter decks aren’t flat, but you end up with a wheel at one end and one at the other. With ramps being raised in the middle, you have to be careful about ensuring underbody clearances.”

Moving maintenance

That said, there’s also more to these vehicles than surfaces, shapes, dimensions and tolerances. In operation, car transporters also have many moving parts that need to be considered. “That means repair garages have to be properly trained on where, what and how to lubricate, and what to keep an eye out for,” says Wood. “The workshop instructions are considerable. For example, there are nearly 100 grease nipples on a transporter, because anything that moves needs one.”

Then there is the complexity of operating the articulating assemblies. “Each ramp is generally controlled by a hydraulic lever – we don’t use any computers, because each space needs to be flexible enough to accommodate anything from a Renault Espace to a Mazda MX-5. So you can’t have any setting presets: everything has to be done manually by eye. So the driver training is quite immense.”

And finally, the devil is in the detail. As much as he aims for uniformity, where possible, Wood says that each customer’s specification is different. “For example, some customers want ladders on the front to tie cars to, some don’t,” he explains. “Tie-down requirements are the biggest variable, because each company has its own policy. Some will want two wheel chocks and two straps; others ask for four straps and one wheel chock.”

Clearly, it’s difficult to make a standard transporter. “I wish we could – production-wise it would be great – but unfortunately we can’t.” TE