Fit for purpose

Contrary to initial appearances, there is no such thing as a standard trailer. Indeed, specifying the optimum unit for your operations is a specialist business. Brian Tinham reports

"We try to establish what the customer needs, in terms of type of load and the transport operation." Talk to just about any reputable trailer manufacturer and that's what you'll hear in answer to the question: what's the starting point for specifying a trailer? Surprising? No, of course not. Yet the industry is awash with tales of operators' purchasing people either buying on price alone and/or simply submitting 'specifications' that amount to nothing more than: "the same again please".

While the latter approach might be fine for rental fleets, and contract and retail operators trunking between hubs and DCs with the same cargoes on similar routes day-in, day-out, even then there are assumptions. First, that the buyer got it right last time and, secondly, that no design or construction improvements have since been made. Improvements that might impact performance both on the move and during loading and unloading, as well as in terms of longevity, stability, safety and resale value. Given the current scale of developments with semi-trailers, as with other commercials, that is patently absurd.

A moment's thought about recent work on trailer weight reduction – through engineering design revisions around the chassis and running gear, in concert with smarter material choices – makes the point. And there are clear resulting advantages, in terms of fuel consumption, load capacity, maintenance and stability. Look at Schmitz Cargobull's achievements with its ROTOS hub, which is sealed for life and offers improved thermal insulation to the bearing: this is not just about the disc versus drum debate (more on this next month). Equally, there is the high-profile and ongoing work on aerodynamics, as originally spearheaded by Don-Bur with its Teardrop shape, but since extended by that company and

others with new side skirts (such as Wabco's Optiflow) and rear 'boat tails' (like AT Dynamics' TrailerTail, being promoted in the UK by SDC Trailers).

Furthermore, there have been equivalent, if less well publicised, advances involving everything from axles, suspensions and steer systems to bulkhead, pillar, roof-beam, rave and load restraint configurations (particularly on curtainsiders in view of VOSA's recent clampdown, and the focus on EN 12642-L and -XL standards and pillar-less trailers). Similarly, look at some of the newer sliding roof designs, floors – even box panel materials and their bonded construction methods.

Then at the macro level, there are the newer double-deck trailer designs, typically carrying 44 pallets instead of the usual 26, so enabling a huge increase in efficiency where feasibile. Choices include hydraulic- or pulley-operated floor decks, swan necks, three-quarter moving decks, aerodynamics front and rear etc. And there are increasing numbers of innovative specials, such as Arla's recent tanker-trailer combination development. The list goes on. And each advance has the potential to impact profitability, total cost of ownership and your green credentials, according to the duty.

No standards

"There is no such thing as a standard trailer," states Darren Maybury, technical sales manager at Cartwright – although conceding that, when it comes to second-life vehicles, choices are more limited. He makes the point that the only standards are height, length, width, and distance between the kingpin and first axle on a semi-trailer. Type approval is imposing limits, in terms of the financial viability of specials, he agrees, but within the permitted space envelope, everything else is up for grabs. It is down to the fleet manager to identify the requirements, and the trailer manufacturer's people to use their experience to suggest configurations best engineered to suit the detail of the application, within calculated financial constraints.

Adding value, he says, is about asking pertinent questions about freight types, weights and packaging – and, if necessary, visiting site to observe issues to do with, for example, loading bay heights, and the associated equipment and practices.

"The trailer ride height, for example, might not marry up to the loading deck. So, if it's a single-deck trailer, we can fit high-rise bags to lift the trailer on its air suspension. Similarly, if it's a double-deck, we might want to stop the second deck at a particular height. But we'll also look at the forklifts being used – which have a bearing on the floor construction and door or shutter configuration – and the tightness of the loading bay guides. Too close and there will be no point in suggesting aerodynamic side skirts, because the operator will spend more money repairing them than they'll save in fuel."

For Maybury, this is all part of the process of arriving at a trailer that not only passes muster from the basic axle weights, load distribution and capacity perspectives, but is also

Asda's choice

Since its original choice of Cheetah curtainside moving double-deck trailers from Cartwright Group, back in 2010, Asda has taken delivery of some 300 units, all with air management side-skirts and profiled roofs. Graham Brooks, Asda's fleet contracts manager, explains that these trailers were built to a new specification, aimed at allowing Asda to deliver ambient food to its stores more effectively.

"We chose Cartwright because they were able to offer a number of specification options, which were key for this project. The majority of previous double-deck purchases have been for internal depot-to-depot trunking, whereas this was our first significant step into using the fleet within our store operations," he explains.

"The new specification includes a hydraulically-operated direct-drive moving deck, which provides for higher volume and allows greater flexibility in loading through the rear and from the side. It also allows Asda to deliver ambient food products to its stores more effectively, with the ability to load roll-cages on either deck area. In addition, the moving deck in its lowered position gives us the flexibility to transport high-cube products in back-haul operation, meaning more options to fully utilise this fleet."

Brooks emphasises that both the increased flexibility and aerodynamic design of its innovative double-deck semi-trailers are also part of Asda's drive to cut CO_2 emissions and reduce road miles.

optimised in terms of functionality, robustness and lowest cost of ownership – not just list price. And where it goes well, the operator gets an engineered solution; where the discussion is curtailed by custom and practice, the fleet loses out.

One big success story has been Asda's latest aerodynamic trailers (see above). "We've built 300-plus Cheetah moving deck, double-deck trailers for Asda, with a perfect 1,850mm loading height top and bottom," comments Maybury. That, he says, was due to the partnership approach and rigorous attention to detail. But it's a different story elsewhere. "Asda gets far greater 'fillage' than just about anyone, certainly better than the vast majority of other operators' 4.2m single-deck trailers, which are never filled to the roof. If parcel carriers, for example, dropped their box trailer roof heights to 4.0m, they would save significant money on fuel, without impacting their operations at all."

Andy Dodge, sales director with Lawrence David, agrees. "One of the keys to keeping costs down is bearing down on empty running, and that includes minimising the fresh air space above the load. Very few operators stack pallets on top of each other, so do they really need 4.2m?" Dropping height is all part of the push to improve trailer aerodynamics, he agrees, adding that considering tractor units' air kit is just as important.

"We've done extensive tests that show a 4.0—4.1m high trailer married to the right tractor with the right air flow kit is the best combination," he says, adding that thereafter it's about trailer roof profiles, rear air scoops, flush door-locking gear, side skirts etc. "But we have to be practical with this kit. Side skirts

Eurovision's choice

Domestic and European freight outfit Eurovision Logistics has taken delivery of its first box van trailers from Schmitz Cargobull. The four S.KO Express dry freight box vans were designed to transport high-value goods and replace trailers previously supplied on hire. And the firm has also bought a further nine S.CS sliding-roof curtainsiders.

The Hull-based operator's choice of Schmitz Cargobull was, in large part, due to its modularity, according to Dominic Yeardley, managing director of Eurovision Logistics. "Their bolted construction offers us added flexibility, as we can make quick repairs in the event of trailer damage, which reduces downtime and keeps our fleet looking pristine," he says. "It removes the need for costly welding or paint repairs."

Beyond that, he specified the box vans for load security, with Schmitz Cargobull's Ferroplast steel-skinned side panels and a reinforced rear door-locking mechanism, backed by satellite tracking which is standard across the fleet.

As for the curtainsiders, these have been equipped with anti-vandal curtains, incorporating a mesh frame to protect against cutting. Also, a tarpaulin sliding roof system maximises internal trailer height, for the all-important load carrying flexibility, while enabling loading through the roof on Continental operations.

Inside, the specification includes a specialist strapping system that matches Eurovision's loading preference. This, says Yeardley, helps to reduce the use of individual ratchet straps, making loading easier for the driver, while still guaranteeing that pallets don't move in transit.

won't work with drop-and-swap operations, because of the damage and repair costs." For him, they're generally best limited to dedicated or smaller fleet operations.

But beyond that and the basics (chassis, running gear, roof, floor, load restraints etc), key aspects that ought to be on fleet engineers' radar, says Dodge, include 10m urban trailers, double-decks and longer units. "We're seeing a big increase in 10m urban trailer enquiries – curtains, boxes and some fridges," Why? Because prices of 26-tonne chassis cabs are on the rise. "A typical rigid chassis cost around £60–70,000 and there's not much on rental. So, if it breaks down you're in trouble, while, if a tractor goes down, you can get another."

His point: a 10m urban trailer carrying 20 pallets – two more than the equivalent rigid – and costing £20,000 with a command-steer on the back axle for manoeuvrability, makes a lot of sense. "Also, it's going to last 10 years comfortably on daily deliveries, and at night the tractor can go off on long-haul

Mallinson's choice

Ken Mallinson & Sons, based in Barnsley and Fife, has added 30 high-volume curtainsiders to its fleet, which, says the firm, will enable it to virtually double utilisation, reduce load miles and save on fuel on construction, retail and environmental haulage.

The new Profi Liners, from Krone Trailers UK, have been designed with adjustable-height sliding roofs, enabling crane loading through the top and haulage of high- and low-cube cargoes. "They run at 4.562m, which is 23.8cm less than the standard 4.8m trailers used for the same high-cube work, but still allows 3.1m side loading access," explains Ian Egan, Mallinson's business development manager.

"We can take concrete product in one direction, for crane offload, and high volume palletised goods in the other, which effectively gives us two trailers in one."

And he adds that, because of the trailers' low ride height, Mallinson expects to see a reduction in aerodynamic drag of up to 5%, which, in turn, should see a fuel saving of between 2% and 4.2%, depending on roof height.

The Profi Liners also feature automatic lift axles for tyre life saving and drag reduction, plus automatic safety braking to assist during vehicle coupling. "Safety is a key consideration for us, and these trailers also come with EN 12642 code XL certification," states Egan. "This not only means they're built to the highest loading and structural standards, but it also means we are able to do business [in Europe], which is not always possible without it."

with a double-height trailer."

As for double-decks and longer trailers (within the DfT's 10-year trial licence), the argument is all about improving efficiency and cutting operational costs on high-cube haulage. Dodge refers to the big green 15.65m double-deck trailer at the CV Show. That was built under the low-carbon initiative for John Lewis, with government funding, and is now being operated by Lenham Storage, in Kent. "That's got a full aerodynamic kit with side skits and the whole under-chassis is enclosed. It's also got a wide front radius, a roof-line and chassis tapering to the rear and a rear roof scoop."

That trailer was also re-engineered for weight reduction, with the air tanks, side raves, cross bearers, wheels, roof and the second deck all in aluminium. Not cheap, but the result is a semi-trailer 15.65 metres long and weighing in at 9,600kg gvw – much the same as a modern 13.65m unit, despite the steer axle and two-metre extended length.