Tail-lift manufacturers are working hard to cut the weight of their products and so reduce their impact on carrying capacity – particularly with Euro 6 vehicles. Steve Banner reports

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Tail-lift manufacturers are engaged in a constant battle to save weight. Why? A column lift capable of raising 500kg typically tips the scales at 125–140kg, so if you fit one to a 3.5-tonner, you take a big slice off its carrying capacity. You also saddle it with a permanent burden that burns more fuel.

Some 60% of the tail-lifts sold by DEL Equipment are for 3.5-tonne vans, says managing director Martin Saint. “That’s why we’re developing a 500kg capacity lift that makes extensive use of composite materials, particularly for the platform.” This unit will be some 40% lighter than conventional models, he reports. “We should have it finished by the fourth quarter and plan to exhibit it at the CV Show in 2015,” he adds.

Using composites is likely to bump up the price, isn’t it? “Too early to say, but we hope to match the price of our existing lifts,” Saint replies. “And reliability tends to be more important than front-end cost.”

Other manufacturers are also putting tail-lifts on a diet. Penny Hydraulics, too, has been contemplating composites, says sales director Richard Short. For the most part, however, its weight reduction involves using high-tensile steel wherever possible. “That allows us to reduce section sizes,” he says. “So the tail-lifts we supply to ATS Euromaster – to help its mobile technicians handle heavy truck wheels and tyres – now weigh 60kg, rather than 110kg.” And he adds that, while high-tensile steel does not come cheap, you need less of it. “Market forces mean we cannot increase our prices,” he advises.

Paying painstaking attention to design engineering, not just materials, in the fight to cut kilos can also pay dividends. DEL managed to chop 58kg out of its 1,000kg-capacity DA1000MP tuck-under lift, primarily by redesigning the lift arm. That project reduced the lift’s total installed weight to a comparatively modest 282kg.

So much for column lifts. They still dominate the market, not least because of their weight advantages, compared, for example, to cantilever equivalents. A 500kg capacity cantilever tail-lift, for instance, could mean an additional burden of 260kg for a vehicle. However, while some cantilevers remain heavy, manufacturers are doing all they can to make them almost as svelte as column lifts.

Cantilever developments

Fitted with a 1,290mm aluminium platform, Zepro’s 500kg-capacity ZV 50-85, for example, which is designed for vans, comes in at a respectable 163kg. The company has also introduced a 600kg capacity ZHZ 600 van lift, which allows access through one of the vehicle’s rear doors, even when the foldable aluminium half-platform is stowed in the upright travelling position. The remaining half can be opened out to a full-width platform in seconds, Zepro claims.

So far, so good. But with the reality of additional weight imposed by Euro 6 engines on new vehicles over 3.5 tonnes, we can expect tail-lift manufacturers to be redoubling their efforts. Expect to see even more excess pounds shaved off, consistent with the diktats of durability and fitness for purpose.

Baer Cargolift, for example, has already introduced

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its BAplan2 platform, initially for the BC 1000 S2 (twin cylinder) and S4 (four cylinder) 1,000kg cantilever lifts. The depth of the platform's aluminium planks has been increased to 45mm (from 40mm), to improve stability, but with the width also up by 128mm, so reducing the number required per platform size. The net result, says the firm, is that the platform's weight has been cut by 10kg. It looks better too, the company contends, because the extrusion profile of the new support box now has no visible weld points.

But increasing use of aluminium platforms is not due solely to weight-saving advantages. Aluminium does not require painting and won't be disfigured with unsightly rust. Those are important considerations, given that platforms are regularly employed as rear closures instead of doors.

Incidentally, if used in such a way they must be designed to remain in place should a load shift while the vehicle is in motion. To this end, many cantilever lift platforms have to be secured with hooks mounted at roof level – which have hitherto been fiddly and time consuming to release. However, Dhollandia has come up with an optional module, which allows the whole exercise to be carried out automatically.

Another development from Dhollandia concerns steel mesh platforms, as used on lifts fitted to flatbeds – to cut wind resistance when the platform is in the vertical travelling position. The firm now offers optional steel mesh on cantilever lifts with a capacity up to 1,500kg. Such lifts tend to be used in construction, where mesh has the added advantage of being less prone to becoming caked in slippery mud. The mesh can be galvanised, but standard finishes tend to be KTL (cathodic dip coated), as favoured by Ratcliff Palfinger, among others.

Health and safety

What about health and safety? Tumble off a tail-lift and you may end up seriously injured. That's why manufacturers willingly supply safety rails – although they are not always deployed by the driver.

The answer is to specify rails that deploy automatically. Dhollandia's DH-VOCS column lift, for instance, is optionally available with automatic folding rails mounted on the left- and right-hand side lift runners, and permanently attached to the platform.

"Remember that construction sites will not allow vehicles to unload using a tail-lift if it isn't fitted with safety gates," warns Saint. "It is only a matter of time before they become mandatory across industries."

One tail-lift that comes with automatic safety rails as standard is Anteo's F3 CO 10 B. Capable of lifting 1,000kg and intended for vehicles grossing at more than 7.0 tonnes, this unit was designed for firms transporting bottled gas. It uses aluminium columns and an aluminium platform, and tips the scales at 335–355kg, depending on model. TE

Legal reminder

Don't forget that tail-lifts are covered by PUWER (Provision and Use of Work Equipment Regulations 1998) and LOLER (Lifting Operations and Lifting Equipment Regulations 1998).

PUWER obliges operators using a tail-lift to ensure that it is in good working order, maintained and, if necessary, repaired by suitably-trained technicians.

LOLER requires them to have tail-lifts subjected to periodic thorough examination by a competent person. Findings must be fully recorded and any remedial work recommended carried out. Examiners will focus particularly, but not exclusively, on the lift and its mountings, checking that they remain strong enough and serviceable for the task being undertaken.

Fail to heed the regulations and follow their requirements, and you are committing criminal offences. You are also laying yourself open to hefty claims for compensation if someone is injured.