



TIPPING POINT

Nowhere is weight contested as fiercely as in the tipper market, where payload is almost always king. However, with issues around Euro 6, safety and type approval, there are other factors to consider. Steve Banner reports

Eight-wheeler tippers' permitted gross weights should be increased from 32 to 33 tonnes to compensate for the extra burden imposed by Euro 6 exhaust emission technology and additional safety equipment. So says Trevor Marshall, managing director of tipper builder Aliweld. "For Euro 6, we're looking at up to 300kg extra, depending on the manufacturer," he observes. "And extra safety equipment can mean up to another 200kg."

With operators often paid per tonne, rather than per load, and tippers running six or seven trips a day, that's a lot of carrying capacity and revenue to lose. Marshall also makes the point that eight-wheelers are engineered to operate at higher gross weights than currently permitted in the UK, so their braking systems would easily handle the extra weight, without incurring technical difficulties. "This would make a massive difference to the users," he says.

It could, of course, be argued that, since the maximum burden being added is unlikely to exceed 500kg, it makes more sense to boost the gross to 32.5 tonnes. However, moving up to 33 tonnes, and thus increasing payload and earnings, would give tipper owners more opportunity to recoup some of the higher prices associated with modern tippers, goes the argument.

"You could be talking about an additional £2,000-£3,000 on safety equipment alone," estimates Marshall. That figure is echoed by Dick

Woods, a consultant to tipper builder Abba Commercials. And it's on top of the considerably higher price of a Euro 6 chassis, compared with the closest Euro 5 equivalent, plus costs incurred by tipper bodybuilders in complying with the dictates of European Community Whole Vehicle Type Approval. "We reckon type approval will cost us around £30,000," reveals Marshall. "We also suspect it will result in a narrower choice of specifications and a lot more standardisation."

FORS for good

What's more, there's no getting away from the additional safety kit, which is being driven by the requirements of giant construction projects such as Crossrail in London. Other high-profile drivers include Transport for London's FORS (Fleet Operator Recognition Scheme), under which TfL intends to ban trucks that do not meet its sideguard and mirror requirements. And there are also initiatives like the Standard for Construction Logistics. All are forcing tipper firms to fit sideguards, cameras, devices that sound a warning if a cyclist or a pedestrian has entered the driver's blind spot, more mirrors, Fresnel lenses and cycle signs.

And these aren't just impacting tippers in the capital. "The influence of FORS is spreading way beyond London," Woods remarks. So, while tipper bodybuilders have long been engaged in the battle to reduce the weight of their products, an unintended

consequence of legislation and standards is higher prices and more weight.

Countering some of that, Aliweld has come up with a new alloy monocoque body for the Mercedes-Benz Arocs Euro 6 eight-wheeler. "It can achieve a 20-tonne payload, but to get to that figure we've had to design a new tie bar, back plate and one-piece top rail," explains Marshall. "But we've now reached the stage where we cannot take any more weight out."

For some operators on payload-sensitive work, the answer may be to switch away from eight-wheelers and consider running tipper semi-trailers instead. "We can offer 71 cubic yard [54m³] alloy tipper semi-trailers, with 8mm floors and 6mm sides that weigh no more than 6.5 tonnes. We can reduce this to 6 tonnes, if need be, by using alloy cross-members in the chassis, for example," says Schmitz Cargobull's UK managing director Paul Avery. "As for the construction industry, we can supply a 43 cubic yard [33m³] half-pipe tipping semi-trailer that weighs approximately 8.5 tonnes and makes extensive use of high-strength steel."

But there's another point: Fruehauf chief engineer John Howard points out that aiming for maximum payload can involve a trade-off against fuel consumption. "If you want as much payload as possible, you can't beat a U-shaped, bath-tub-type aluminium tipper trailer body with rolled sides and extruded ribs. However, it won't be all that aerodynamic and it won't be easy to clean either," he observes. "If you want something that is a bit more slippery through the air and isn't so difficult to keep clean, then you can go for one with alloy plank sides instead, but you lose around 150kg of carrying capacity." Against that, you get a trailer that is easier to sign-write.

So, which to choose? While eight-wheel tippers may only offer two-thirds of the payload of a tipper semi-trailer running at 44 tonnes, they undeniably have the advantages of better traction and greater manoeuvrability. Advocates add that they provide more stable tipping platforms, too – although Howard, among others, disputes that. He argues that, while the wider use of high-strength steel in truck chassis has brought weight advantages, the thin I-sections flex more than is acceptable when a body is elevated. That can lead to instability, if the vehicle is on uneven ground.

Do you really want to be tipping on potentially unstable terrain anyway, with the possibility that it may cause the entire vehicle to topple over? More businesses are concluding that it is an inherently dangerous practice so are switching to moving-floor trailers. They cost around £5,000 more than a tipping trailer and are heavier but safer, and can carry more bulk, with capacities of up to 145 cubic yards (110m³) available. Hence, they are steadily displacing ejector trailers, which offer less space and are up to 4 tonnes heavier. **TE**

Tipping gear and ancillaries

Tipping gear manufacturers have certainly played their part in the fight to shed kilos. Launched four years ago and aimed at eight-wheeler operators, Edbro's CX14 front-end gear, for example, weighs a modest 449kg, including oil, but still offers a nominal lift capacity of 25 tonnes. Admittedly, that is less than the longer-established CX15, which can hoist up to 32 tonnes, but tips the scales at 535kg wet.

"CX14 has a smaller nest of cylinders, so comes with a smaller oil reservoir," explains Edbro's UK business development manager Danny Broomfield. He also comments on the swing away from underfloor tipping gear in favour of front-end, for its weight saving. "You can save 500–600kg," he says. "Underfloor gear is heavier and the body also has to be reinforced to cope with the extra stress." That said, underfloor has to be specified if a grab is fitted, simply because it gets in the way of front-end gear.

Even sheeting systems have a part to play, points out Harsh UK managing director Carl Hinds. At last year's Tip-ex show, his company launched a fully-electric version of its Roll N Go sheeting system, which weighs just over 157kg fitted to an eight-wheeler, compared with 250kg for its hydraulic version. Weight was not the sole motivation for going electric, however, he says. "Some operators worried that having a hydraulic power pack inside the sheeting system's dome might result in an oil leak that could contaminate a load," he observes.

Manual sheeting systems remain available and can be operated from ground level – although that is not viewed as safe practice in some cases, says Hinds. "With the manual version of Roll N Go, you have to use a long pole to wind it forwards and back, and that can involve standing 10–12ft behind the vehicle," he explains. "Some firms view this as a risk, because they worry that whoever is standing there could be hit by another driver who may not see them."

