

# COUNTING THE KILOS

**Light-weighting vans and LCVs is big business, as operators increasingly demand higher payloads from lower gwv rated vehicles. Steve Banner reports on what works and what doesn't**

**O**ver the past quarter of a century, light commercials have become safer and more generously equipped, with everything from airbags to sat-nav and air conditioning now commonplace. Unfortunately, such extras have resulted in one drawback: reduced payloads. That's a problem likely to be exacerbated with the arrival of Euro 6 for vans come 2015 and 2016.

SCR (selective catalytic reduction) looks set to be the means by which the new engine emissions standard will be achieved, if what Mercedes-Benz has done with its latest Euro 6 Sprinter is anything to go by. And the 18-litre AdBlue tank alone weighs 30kg when full, quite apart from the heavier exhaust.

So how can unladen weights be reduced and payloads improved? By using different materials and a more intelligent approach to design, say bodybuilders. That is especially important when it comes to building tippers, because operators that buy them want all the payload they can get.

## Steel or aluminium?

VFS, for example, has moved to high-strength steel, instead of cold rolled mild steel, since less of the former is required for its all-steel tipper bodies. "So we can offer a 1,130kg payload on a 3.5-tonne chassis – and a more rigid body – as opposed to the 1,050kg we offered previously," says Ashley Morris, marketing manager at the firm, which is owned by Italian bodybuilder Scattolini. Nor has the policy resulted in anything more than a modest price increase, he insists.

Switch to an all-aluminium tipper body on your 3.5-tonner and an even higher payload can be achieved. But the bill is likely to be higher, too – although that isn't putting off buyers, according to Tipmaster director Matthew Terry. Some 75% of the 450 tipper bodies on 3.5- and 7.5-tonne chassis made at its Leyton factory annually are aluminium.



"We use aluminium sheet for the floor and headboard, and aluminium planks for the sides and tailboard," he explains. "That makes the bodies 23% lighter than our traditional offerings, which use alloy sides and tailboard but steel for everything else." Terry concedes that it also makes them 20% more expensive, but adds that they won't corrode, don't require painting and the weight saving cuts fuel consumption when running unladen. The floor is also strong enough to withstand the hammering it is likely to receive in service, he asserts.

Indeed, the benefits that going all-alloy at 7.5-tonnes can bring are well illustrated by the body Tipmaster fits to the Fuso Canter. "It enables the

**Maxi-Low bodies (here on a Vauxhall Movano 3.5-tonne platform cab) use a polypropylene honeycomb, delivering a 1,510kg payload on a 20m<sup>3</sup> body**



**Tipmaster uses aluminium sheet for tipper floors and headboards, and aluminium planks for the sides and tailboard, making bodies 23% lighter**

vehicle to carry a 4-tonne payload," states Terry.

"Payload is the first thing many of our customers ask about," agrees Roy Shelton, business development manager at bodybuilder Bevan Group, perhaps best known for its aerodynamic Icon Luton body. "If they can get a 5–10% payload advantage, then price pretty much goes out of the window." That is especially the case with the growing number of operators deploying 3.5-tonners on work once handled by 7.5-tonners, he adds.

Cutting weight can involve using aluminium bearers and runners to support a body's floor, rather than steel, advises Shelton. And he adds: "Something else that can be specified is punched-hole alloy flooring of the sort used on car transporters. We're seeing that being asked for by operators ordering dropsides. Some of them are also opting for a dropside body with a tilt cover, rather than a curtainsider body, because again you can obtain some weight saving."

Savings can also be made by thinking about the construction of the body. For example, the Maxi-Low Luton body produced by Leicester-based Maxi-Low on Vauxhall Movano 3.5-tonne platform cabs makes extensive use of a recyclable polypropylene honeycomb. That helps the vehicle to deliver a 1,510kg payload when offered with a 20m<sup>3</sup> body.

All sorts of other initiatives are out there, if you really want to cut weight, suggests Iveco UK product director Martin Flach. "Do away with the spare wheel, carrier and jack and you can save yourself 50kg. Get rid of the passenger seat and you can save at least 20kg."

Either could cause problems, if you end up with a flat tyre or need to carry a driver's mate. But several vans now carry inflator/sealers, instead of spares (although they're of little use if you suffer a major gash in the tyre sidewall) and many operators also instruct drivers to summon roadside assistance rather than deal with problems themselves. Further,

some fleets discourage drivers from carrying passengers. Many others may benefit from using the space vacated to transport fragile items, if, for instance, they're on parcels work.

"Something you can certainly do is look at the use made of the body you specify, and see whether a smaller body might make sense," continues Flach. "At present, we're seeing many customers switching from 4.5m to 4.2m bodies on shorter wheelbases."

Additionally, most bodies have front panels, while cabs have rear panels. Do away with one or other, marrying the body seamlessly to the cab, and you are bound to save a few kilos, points out Flach. And you might make the vehicle look more stylish.

### Tricks of the trade

What about doors? "If you're going to specify a tail-lift on a box or Luton body, you can use the platform as the rear closure," suggests Shelton. "That way, you've saved the weight of a roller-shutter door." And there are similar gains to be made with cages. "We build 3.5-tonne caged tippers and one of the things we can look at is an alloy cage, instead of a steel one," comments VFS's Morris. "It's half the weight and the on-cost is modest."

Furthermore, a well-designed racking system invariably cuts weight, not least because it prevents tools and parts being strewn all over the cargo bed. Racking also allows drivers to see what they've got and discard what they don't need.

That said, no one should attempt to save weight simply by specifying lighter-gauge steel for a tipper. The body will start to fall apart, warns Terry, and the price of putting problems right will far outweigh that of a decent alloy body. Something equally unwise is to go back to basics and strip out the extras that drivers like. Fail to specify air conditioning in your latest vans and they will rapidly become the most unpopular on the fleet – and those most likely to be off the road, thanks to 'accidental' bangs. **TE**