

# LOW RIDERS

**A demand for more cargo space combined with a low loading height has prompted the rise of a new breed of front-wheel drive 3.5-tonners with roomy Luton bodies, finds Steve Banner**

Produced by bodybuilders such as Maxi-Low, MaxiMover, Trucksmith and Doyle's, and based either on platform cabs or chassis cabs with skeletal chassis, these chassis cabs are shouldering some of the burden that used to be handled by 7.5-tonners.

While anybody who passed their car test prior to 1 January 1997 has a 7.5-tonne entitlement on their category B licence, drivers who passed their test after that date have to take a separate test before they can get behind the wheel of anything heavier than a 3.5-tonner. Licence category C1 allows a driver to tackle a truck up to 7.5t gvw and a trailer up to 750kg. For that reason, 7.5-tonner drivers are in increasingly short supply.

The parcel van built by Cartwright on a 3.5-tonne Vauxhall Movano platform cab displayed at the Commercial Vehicle Show back in April (main picture) is an example of a product that is growing in popularity. One of 244 similar vehicles produced for Hermes, it has a body constructed using

Cartwright's own honeycomb core sandwich panels, a 1.2-tonne payload capacity and a 22m<sup>3</sup> load area. The biggest current factory-built, front-wheel drive integral Movano van offers no more than 14.8m<sup>3</sup>, although its payload capacity is higher, at over 1.3 tonnes. The biggest current rear-wheel drive integral Movano 3.5-tonner provides 17m<sup>3</sup>, but carries barely more than a tonne.

Leicester-based bodybuilder Doyle's builds some 200 to 250 high-load-cube vans annually, almost all at 3.5 tonnes. "We'll build a vehicle heavier than that perhaps once a month," says strategic project manager, Joseph Fieldstaff-Hughes. It produces a tandem-axle 5.0-tonner under the Aduro XL banner with a 30m<sup>3</sup> body and a 2.2-tonne payload capability. Fifty per cent of the plant's output is based on skeletal chassis Ford Transits while the balance is based on platform cabs - usually either Renault Masters or Fiat Professional Ducatos.

A key reason why Transit is a popular

choice, he says, is the Ford badge; an indicator of healthy residual values, as far as UK customers are concerned. "At 3.5 tonnes and with our 23m<sup>3</sup> body, the Transit can carry a payload of approximately 1.35 tonnes," he says. "That's around 50kg to 60kg more than the platform cabs can carry."

The skeletal chassis offers a 200kg weight saving over the more robustly constructed standard Transit front-wheel drive chassis cab, partly because it has an open-backed cab which allows the driver to walk in and out of the load area without leaving the vehicle. Transit skeletal comes with a choice of three different wheelbase lengths with a wide-track rear axle for the longest variant. It is offered as an option on the two shorter models.

However, vehicles based on the skeletal chassis are around 3% to 5% more expensive than their platform cab equivalents, Fieldstaff-Hughes says, and the bodies take some eight to ten hours longer to construct. "That's because the runners and bearers have to be fabricated," he explains.

Turning to the loading height, at a typical 550mm above the ground, there is little difference between the two





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types of vehicle. That height is on a par with that of a factory-built, front-wheel drive panel van. Such a low loading height might suggest that customers will not bother to have a tail-lift fitted. Some do, however, says Fieldstaff-Hughes, especially if they are using the vehicle to transport heavy individual items that cannot easily be manhandled.

A tail-lift adds weight to a vehicle that needs to save as many kilos as it can to remain within the 3.5-tonne envelope while still offering a useful payload capability. As a consequence, the tail-lift platform typically doubles as the rear closure, says Fieldstaff-Hughes, with a flap often used to bridge the cab between the body’s roof and the edge of the tail-lift platform when it is stowed in its vertical travelling position.

That saves the weight of a roller-shutter door – the most popular choice if a tail-lift is not fitted – or twin barn-type doors. “We make our own barn doors and can produce them in a week rather than the five or six weeks it can take to get them built by an outside supplier,” he remarks.

Saving weight is an aim shared

by other bodybuilders in the sector. Loughborough, Leicestershire-based Maxi-Low has come up with the Slimbo (pictured, left). With a 24m<sup>3</sup> load bay, able to shift over 1.3 tonnes, and built on a Renault Master or Vauxhall Movano 3.5-tonne platform – they are well nigh identical – it has a body glued together with strong adhesive, including double-sided adhesive tape. The latter requires 20kg of pressure to bond, and the exercise is a worthwhile one because it saves the use of 20kg to 30kg of mechanical fixings.

Doyle’s bodies for 3.5-tonners are bonded together, too, with no mechanical fixings. It makes extensive use of plastic, says Fieldstaff-Hughes, with a rigid plastic sub-frame and plastic side rails. The body is constructed using panels with 1.3mm inner and outer GRP skins with a 15mm foam core.

**A DIMINISHING COMMODITY**

The rear door frame is made from aluminium, as are the sub-frame’s outrigger brackets, but otherwise its use has been all but abandoned on cost grounds. “We’ve seen aluminium prices increase again and again, and chassis prices keep going up, too,” he observes. Relying more heavily on plastic has helped the company keep its prices stable, he says. “In our view it’s the most cost-effective solution,” he comments.

Bodybuilders that need a cab with a skeletal chassis attached do not have to rely on complete packages from vehicle

manufacturers. Instead, they can order a fully-trimmed, front-wheel drive cab inclusive of its engine, gearbox, wheels and suspension, and arrange for a chassis built to customer specifications to be bolted to it.

For example, AL-KO Kober builds around 5,000 skeletal chassis annually at a plant in Southam, Warwickshire, says UK marketing manager Paul Jones. Made from galvanised mild steel, it is more lightly constructed than a standard chassis with its top-hat sections, since the C-section-type chassis can have as many or as few cross-members as the customer specifies, to save weight. “We can bolt it to the cab at a point that is often 200mm lower than that of an ordinary chassis to reduce the loading height,” he says.

Factory-built chassis usually represent a compromise, and may be mounted at a height that offers more ground clearance than some operators servicing niche industries require. Independent swing arm and torsion bar suspension is installed along with 15-in or 16-in wheels with disc brakes. Chassis platforms are more likely to employ single leaf springs.

“We fit either single or tandem axles and can go up to 5.0 tonnes with the latter configuration,” Jones says. “Our chassis are mainly for horseboxes, motor caravans and other leisure vehicles,” he adds. “However, around 1,000 of them are for light commercials, with a lot going to firms in the removals business – and demand is growing.” **TE**