

WHAT A MOVER

If you want the ultimate in versatility, you'll be hard pressed to beat a tridem configuration. Brian Tinham talks to some early adopters and discovers why they are so enthusiastic

Yes, tridems (trucks with two or three steering axles and a triple rear bogie) are eight-wheelers but, no, they don't behave like them. They're far more manoeuvrable even than standard units with rear steers. That's because of their much shorter (typically 3,700 but up to 5,600mm) wheelbases and the electro-hydraulically steered axle(s).

In fact, operators running these remarkably rare beasts (in the UK, that is) argue they knock spots off compact six-wheelers, too - including in terms of payload capacity. At 32 tonnes gvw, 21–22 tonnes capacity is realistic on, say, aggregate work, while 19 tonnes is there or thereabouts for bulk blowers.

Put together, that means better productivity and opportunities to win

specialist business that operators limited to traditional trucks will find challenging. What's more, tridems are rugged and practical. Ground clearance is excellent and variable, thanks to rear (or all-round) air suspension. Also, if you specify double drive, you've got to be unlucky to get stuck. No one I spoke to ever has.

Bodybuilders taking on tridem projects agree they can tackle almost anything standard eight-wheelers can. Indeed, they reckon tridems' versatility - with their choices of drive, steer and lift axle configurations - is second to none. And that goes for all the main manufacturers' variants, whether DAF, Iveco, MAN, Mercedes-Benz, Renault, Scania or Volvo.

So why isn't the industry falling over itself for tridems? Well, price tag is one obvious answer. At around £4,000–£6,000 more (list) than a comparable eight-wheeler chassis cab, you need to look at your operation and do your sums - although £2,000 differentials are the norm after negotiation. Additionally, on construction work some tridems need mild steel subframes for stability and strength - meaning more on-cost and some weight penalty.



Recent improvements largely solve the latter issue, but there may still be some cost arising from, for example, chassis flitching and air trunking. Meanwhile, you may also need to rethink payload distribution, given that tridems typically handle 9–10 tonnes on the front and 24 on the rear, compared to 16 on the front and 19 on the rear for a standard eight-wheeler.

However, many transport engineers concede that another reason they don't consider tridems is plain unfamiliarity. Unlike in continental Europe, we're just not used to them, and it's a case of better the devil you know. So let's take a look at some operators from a range of very different industry sectors that have taken the plunge and are now enthusiastic advocates.

BEST MONEY CAN BUY

Somerset plant hire firm Lance Purchase Construction replaced an ageing platform-bodied Volvo FH-520 6x2 rear steer with a new FH-500 steered tag-axle tridem in October last year, to haul plant and machinery. The 7m plant bodywork is unique (more later) but director Lance Purchase says he chose





Mitchell and Mayle went for a Volvo FM-420 8x2 with sleeper cab and the single drive, front and rear steer/lift tridem chassis, mounted with a Whale Tankers body

the tridem concept having witnessed its capabilities on a neighbour's hookloader. "We did our research online and it was clearly capable of getting into tight spaces," he says. "Also, the rear bogie has a 24-tonne capacity, which is good for us."

So the chassis spec was put together with dealer Truck and Bus Wales & West, based on a 32-tonner with double drive. "We went for air suspension on the rear bogie but steels on front. In hindsight, air on the front would have been good for improving tilt for the loading ramps. But it's a great truck. It turns much sharper than a six-wheeler. Also, clearance is good wherever we go and the double drive gives us plenty of traction on fields and farm tracks."

Purchase agrees the truck wasn't cheap but insists it was worth it, stating that not only is it the most versatile truck money can buy, but also it's virtually impossible to overload an axle. That matters for him, given that the truck is now used for hauling everything from construction plant to straw bales. "We can take 35 bales on our farm contracts." And he's seeing up to 14 mpg.

As for that bodywork, Purchase went

for the Globetrotter cab with full aerodynamic kit and side skirts by Tor Trucks, but the clever bit concerns the patent-pending plant loading arrangement. Purchase's truck was designed with two rear hydraulic rams, supported either side on 25mm steel plates. These push two-stage ramps rearwards and downwards on to heavy-duty legs, extending to 3.6m for a low approach angle. The beauty of that: no uneven weight on the back of the truck until plant is loaded on the body, and no upright stowed ramps or space-limiting beavertails. The ramps simply retract into the rear body, secured by two hydraulic locking pins. There's neat.

Back on tridem technology, Isleham-based sewage and drainage firm Mitchell and Mayle went for a Volvo FM-420 8x2 with sleeper cab and the single drive, front and rear steer/lift tridem chassis, mounted with a Whale Tankers body. Director Steve Mayle says he needed the manoeuvrability of a six-wheeler but man enough to carry the vacuum jetting equipment and 4,300-gallon stainless steel tank body. Having seen the tridem concept on Volvo Trucks' UK YouTube channel, he was convinced.

"We empty domestic tanks and, with a conventional eight-wheeler, we do struggle on some sites. So we decided to try the tridem," explains Mayle. It was a first for Whale Tankers, too, but the bodybuilder was on top of WVTA (whole vehicle type approval), he says, and readily adapted the tank body to suit Mitchell and Mayle's chassis - as well as its requirements in terms of rear accessible controls and equipment.

PHENOMENAL ACCESS

"The vehicle looks phenomenal," enthuses Mayle, pointing to the paint job and its eye-catching spread of steering and lifting axles. "The driver can now get into places where our eight-wheelers might have taken, say, eight shunts. So productivity is definitely much better." And he adds that this vehicle can also use tip site access bays hitherto reserved for six-wheelers.

Mayle's only caveat: be aware of the rear overhang - particularly when the rear axle is lifted. "We got Volvo to fit rear marker lights so our driver can see the back end as it swings out." Beyond that, he has nothing but praise for his new tridem. "It's a real smart truck and it

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Lance Purchase

should pay for itself very quickly."

So far, so good, but what about general and specialist haulage? David Watson Transport runs a 100-strong fleet – most drawbars and the rest tractors, including STGO CAT 2 65-tonne gcw units. Managing director David Watson explains that the vast majority of his six- and eight-wheelers are equipped with 45–50 tonne-metre front- or rear-mounted cranes, capable of handling anything from factory machinery to generator sets and site accommodation.

Last year, he bought 20 new trucks, including 12 Volvos as a mix of FHs and FMs, as well as his first FM 420 tridem rigid – a drawbar spec, high chassis with Globetrotter cab, having pusher and tag steer axles. "I went to Sweden to test drive the FM and saw the tridem," he recalls, adding that he was impressed.

Watson explains that his problem concerns the trade-off between accessibility and payload, particularly on London sites. "Six-wheelers with cranes can get in, but with limited payload. But when you step up to an eight-wheeler you lose manoeuvrability. A tridem offers the best of both worlds."



With nine months of running the new vehicle under his belt, what does he think? His answer spells out one limiting factor. "When I ordered the tridem, the intention was to mount a largish crane on the back, because we knew the three rear axles would take it. But the longest wheelbase was 5,600mm, so the body would have been too short to carry our range of plant. So, instead, we specified a 48 tonne-metre Fassi crane on the front, and Colliers [the bodybuilder] built us a hydraulic extending platform at the rear to support longer loads."

That said, Watson states that, teething troubles aside (he experienced software problems with one of the rear steer

axles), the vehicle is achieving everything he hoped for. "With three steering axles, it's very good; our driver loves it; and there have been no maintenance issues to date. I will order more tridems once this vehicle has proved itself as reliable as the rest of our Volvo fleet."

His advice: the on-cost is easily justifiable and the benefits are real. "Brick and block companies, for example, would certainly benefit because of the ease of site access, particularly in city centres. You really do get the manoeuvrability of a six-wheeler but with a good four tonnes' additional payload."

Shephed, Leicestershire-based GLW Feeds' transport manager Andy

Driver's perception

Neil Plant is one of the original drivers on GLW Feeds' bulk blower tipper tridems, and has nothing but praise for them – his only caveat being that they take some getting used to. "I wouldn't want to go back to a conventional eight-wheeler now. The turning circle is unbelievable and she follows the steering line just like a car, kissing the kerb with the front nearside wheel and the back with the rear steer axle down... But when the tag axle lifts, there's a lot of overhang so you have to be a little bit careful."

What about the air suspension? "We've got air on the tridem bogie and springs on the front, and it's very stable, similar to a standard eight-wheeler. In fact, you'd think it was on springs." And he adds that ground clearance is good, while the front super singles make steering on farm tracks easy. Traction is excellent, too, he says, pointing to the double drive and three-way air dump valve, designed to shift weight to your choice of axles.

"It's very impressive in the wet," says Plant. "You've got to do something pretty stupid to get one stuck. We do a lot of work in the Yorkshire Dales and

we've had no problems, even in mud and snow. It's maybe a little light on the steering, but that's just about loading to the front."

Beyond that, he also mentions reduced tyre wear. "We're always going to get cuts, because of the nature of our work, but tyres on the tridems don't wear like they do on conventional eight-wheelers. We've had them lasting 18 months, which is amazing... You can turn a tridem on hard lock and the scrub is minimal. On a normal eight-wheeler, you quickly hear the rubber ripping."

What about fuel economy? "We're getting an average of 8.5 mpg, which is good for our kind of work. It's a very hilly and unforgiving environment and we're running at 18.6 tonnes payload with a heavy body. Anyone in aggregates could get the body weight down to 10–10.5 tonnes. So the extra payload and manoeuvrability would pay for itself in no time."



"If you operate a six-wheeler fleet because of access restrictions, you should try a tridem. It will go anywhere your existing vehicles go, plus you get the extra payload"

Andy Andrews



Andrews agrees. He inherited a fleet of seven bulk blower/tippers on Volvo tridems from predecessor Neale Jones (now with bodybuilder Muldoon), and has since bought two more Euro 6 versions. His view: "If you operate a six-wheeler fleet because of access restrictions, you should try a tridem. It will go anywhere your existing vehicles go, plus you get the extra payload."

Jones was instrumental in specifying

GLW's first tridems with bodybuilder Priden Engineering back in 2011 - their challenge being to design a vehicle capable of improving the efficiency of delivering bulk feed to farm sites. That they easily accomplished with a double-drive, single rear steer (and lift) tag axle tridem on an FM 410 with a day cab. It delivered an impressive turning circle of 12.5m (compared to a conventional eight-wheeler's 21m) and an 18.6 tonne payload, instead of a six-wheeler's 15 tonnes.

Andrews' latest FM 410 8x4 rigids closely follow Jones' original specification - although with bodybuilding unsurprisingly moved to Muldoon. The tridem bogie has

standard height air suspension with double drive and the single steer tag axle. He also went for the Globetrotter sleeper cab, but with the 4,100mm wheelbase variant (the original was 3,700mm), and the 12-speed I-Shift AMT (automated manual transmission) completes the driveline.

For him, tridems are a no-brainer. "Even operators working on pallet networks could benefit because they'd gain the manoeuvrability and the payload," he says. What about the additional up-front cost? "They're about £12,000 more than comparable six-wheelers and £7,000 over eight-wheelers, but it's not difficult to see the payback potential." [TE](#)

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