



Whatever you

Disrupting truck production lines with special vehicles for heavy haulage can be a nightmare. Ian Norwell reports from Mercedes-Benz in Molsheim, Alsace, on how it handles custom trucks

When you run the largest truck factory in the world, turning out 100,000 vehicles a year, it takes some organisation. And, while delays cost money, it would be unwise to sacrifice flexibility for volume. So, prior to 2000, Mercedes-Benz used specialist subcontractors to satisfy custom truck demand, with heavy haulage tractors going to Titan, in Stuttgart.

However, at the turn of the century – when it became apparent that, taken together, niche vehicles accounted for significant volumes – Mercedes set up Custom Tailored Trucks (CTT), in Molsheim. Taking truck modifications back in-house not only gave the firm control over aspects such as quality, but also added a useful 150,000 vehicles to its balance sheet over the last 16 years.

This plant is no stranger to customisation work. Mercedes cars had been sent there from the Sindelfingen factory for modification since 1967 – for the same production flow reasons. Nowadays, the decision to send a special to CTT is based on the cumulative effect of the production run and the number of hours' work required. Sometimes, though, a niche model becomes so successful that it 'graduates' back to the line at Wörth.

As far as the heavy haulage SLT range is concerned, global key account manager Georg Staskiewicz says that,

with volumes for civil versions at around 150–170 a year, Molsheim will remain its home. "Wörth will continue to build the regular truck, and Molsheim CTT will conduct the transformation."

It's all about adding value. The heavy haulage SLT Actros and Arocs chassis I saw at Molsheim had already been earmarked at Wörth for special treatment. Fitting fillets and flitches to the chassis frame was easily done, as was loading a double-drive hub-reduction bogie. And Staskiewicz says that stress analysis on the frame rails avoids the extra weight of a full length flitch. "We've been able to put the extra strength exactly where it's needed."

ZERO WASTE

Such chassis rail preparation also avoids any partial disassembly at Molsheim. Only unwelded longitudinal frame members are used for strength and longevity. The Arocs-based chassis uses a 9.5mm frame, with a 744mm width to go with steels on the rear axles. The Actros then rides on air with an 8mm frame and the width upped to 834mm. Both chassis take fillets and flitches of 5mm at designated stress points, and these are all bolted.

Axle configurations are pretty comprehensive with Actros and Arocs available as 6x4 or 8x4/4, with additional drive from further Arocs models offering 6x6, 8x6/4 or 8x8/4. That said, there's only one engine – the 15.6-litre in-line

six-cylinder OM473 – although with three outputs of 517bhp (2,600Nm), 578bhp (2,800Nm) and 625bhp (3,000Nm), it covers a useful range.

Creativity gets into its stride when it comes to chassis packaging. With three or four axles to accommodate, including all-wheel drive variants, as well as Euro 6 aftertreatment equipment to accommodate, it's crowded. Hence the design of Mercedes' cooling towers, to meet requirements for the engine and turbo retarder clutch (TRC), etc. These are essentially stacks of components in a frame behind the cab, each bespoke.

With an eye to keeping weight down, the 900-litre aluminium fuel tank sits below this, while other equipment is arranged above and around. Extra cooling, for example, is needed for the engine brake, which has a capacity up to 475kW (646bhp). AdBlue tanks are squeezed in, and the heat exchanger and cooling system for the TRC, (*Transport Engineer*, July 2014, page 18) also need space. As do air reservoirs and hydraulic tanks for trailers. That's a sizeable pile, and Mercedes' tower fits them all in. Even after all this custom work, there's still a job for aftermarket suppliers such as SB Components.

The SLT reaches world markets, including China, which is still a big buyer, despite its slowing economy. In Europe, we get the über-clean Euro 6 version with sharp-dressing MP4 cabs, but it's a multi-speed market on

want

"We've been able to put the extra strength exactly where it's needed, without unnecessary weight gain"

Georg Staskiewicz



Arocs 4163S

Taking a chassis destined for UK operations, I looked at a right-hand-drive Arocs 4163S 8x4 tractor. After final bespoke modifications at Priden Engineering, in Wisbech – for various lockers and sub-assemblies, and some of the usual driver-specific additions in the cab – this one is destined for JRL Plant and Logistics, operating out of Sandy, Bedfordshire.

The UK Mercedes-Benz dealer responsible for supplying the truck is Intercounty Truck & Van, in Wellingborough. Franchise director Steve Hunt says the firm relies on sales engineering at Mercedes-Benz' Milton Keynes headquarters, where the real expertise lies for getting this kind of chassis right.

"We took a brief from JRL on the truck's role, and it all came into shape when we met with Kevin Storey and his colleagues at Mercedes-Benz," he explains.

Hunt says it's not all about additions either. Deleting a front towing mounting saved £6,000 on the build. He was also able to specify all pre-wiring preparation at Molsheim for much of the ancillary electrical equipment that he knew would follow – such as beacons and extra lighting.

"This type of chassis is essentially bespoke. So it wouldn't make sense for any production facility – even a specialist unit such as Molsheim – to include all the finishing touches. Just make sure you choose a quality finisher like Priden Engineering."

the remaining 30%." But it seems that balance may yet change. Beyond Europe's shores this sector is being driven by demand for all-wheel-drive, with 8x8 and 6x6 chassis on steel suspension. That means more Arocs.

And another thing: these trucks have only been in the market since mid-2014, but an interesting picture is already emerging on residual values. Mercedes naturally claims they are strong but, as with the heavy recovery sector, it seems that clean one- or two-year-olds can command as much as the original price. It's simple supply and demand, and, with long lead times, heavy haulage specialists often keep an old timer on the fleet to defend themselves against breakdowns or new contracts. With a first life of typically 10 years, the used market writes its own rules.

Back at Molsheim, the atmosphere is one of calm and quiet competence. Unlike the mothership up the Rhine, there's no assembly line here. Instead, specialist teams work in bays on individual vehicles, and there's not a robot to be seen. Even heavy-duty front and rear couplings are fabricated close by, and come to the truck for fitting. They're not waiting in a JIT buffer for the chassis to drift by. [TE](#)



emissions. So an MP3 Actros 4061 8x8 SLT, with a V8 Euro 4 power plant destined for China was also on view. Others bound for a Peruvian mining operation were Euro 3.

Max Schlichter, head of marketing and sales at CTT, says the market for super-heavy transport is stable. "In Europe, the Actros accounts for 70% of SLT volumes, with the Arocs taking