



SECRETS of success

The dividing line between vehicle assembly and bespoke manufacturing can get blurred, particularly with serious truck production. Ian Norwell reports from Lancashire's famous Leyland DAF plant

The truck plant at Leyland is steeped in history. A quarter of a century ago, it was the heart of a major manufacturing operation, with a brand exported the world over. Now, it's an assembly plant for owner Paccar, still adding significant value to much of what it bolts together.

Leyland's proud independence suffered the ignominy of falling into government ownership in the mid 1980s. That could have spelled the end but, in 1987, DAF acquired Leyland – then losing £2 million a week – with £680 million debt written off. The new Leyland DAF retained a loyal UK customer base, but the following years saw shrinking military contracts, and a recession in 1989–1991, which caused the truck market to contract by 54%. This and huge calls on cash for new models led to the collapse of DAF in 1993, a bail-out by the Dutch government, and acquisition by Paccar three years later.

Twenty-four hours after DAF had stunned the world by calling in the receivers, Dutch haulier Peter Stoof took an advertisement in the financial daily *Algameen Dagblad* urging his countrymen to keep buying DAF products. The ad appeared at the bottom of the obituary column.

That DAF, and hence Leyland, is alive today owes as much to a pair of gifted UK administrators from consultancy Arthur Andersen as it does to Paccar. They orchestrated a series of management buyouts for parts, van and axle divisions, etc, despite knowing virtually nothing about the truck business. Since then, DAF has not looked back and its market leadership in the UK has provided a solid base for international expansion.

So much for the history: the

Leyland plant now plays a central part in Paccar's European and global operations. It has sole responsibility for design and production of the LF light truck range and the 18-tonne version of the CF mid-weight. In addition, all UK-registered DAFs are built there, from LFs to XF tractor units.

Leyland Trucks' managing director Ron Augustyn – a former graduate of Ford Motor Company in his home town, Detroit – has been in the post for two years. "Leyland is firmly embedded in the Paccar global quality process, and scores highly among its overseas peers," he says. "We operate much as other Paccar plants do, servicing appropriate markets. The range takes us from CKD [completely knock down] production for export to Turkey, to the supply of LFs for the US, where they're marketed under the Peterbilt brand."

Customer-driven

In line with the rest of the UK, production is climbing back from recessionary lows – although not quite up to 2008's near-25,000 record. Last year saw 15,553 trucks built at Leyland and the current rate is 50 per day. That success is clearly customer-driven, and Leyland's chief engineer Denis Culloty (who reports to Augustyn, not Ron Borsboom, DAF's chief engineer in Eindhoven) says it cuts both ways.

On the one hand, he says: "Customer feedback is vital to product renewal, and our R&M data [contracts can run for seven years] is vigorously mined and acted upon... It helps us to make the right decisions for product replacement." But on the other, he points to the range of production around the plant. And not only does Leyland successfully build for 13 overseas markets, but it also combines standard product assembly with an impressive tailoring facility. Indeed, small production runs and chassis re-engineering projects – possibly seen as

DAF LF Euro 6
bespoke for Fagan
& Whalley





uneconomic elsewhere – are meat and drink here.

An LF 220 sweeper chassis for customer Johnstons provides a good example. The firm needs its chassis cleared of as much metal as possible, and built ready to accommodate sweeping bodywork from the likes of Scarab, without further modification. With Euro 6 after-treatment taking up more space, DAF and the designers at Leyland relocated the emissions treatment system behind the cab and sent the diesel tank rearwards to squat between the chassis rails. Problem solved.

Other examples of bespoke engineering include a 28-tonne, low chassis height tractor for DHL's Trade Team (in this case for brewery deliveries) and a 6x4 for an unnamed customer that needs more chassis space, which now has the SCR (selective catalytic reduction) equipment built around a vertical exhaust stack behind the cab.

Other custom production projects are all around the plant, with Royal Mail's LF 7.5-tonner among the most impressive for its scale. With a simple chassis specification, these are bodied on the production line, but also painted, liveried, pre-delivery inspected, registered, taxed and then sent direct to the appropriate Royal Mail depot. For sure, a customer this size can call the shots, but more modest fleets get the full treatment, too.

That includes handling complex body specifications. "When it comes to bodywork, many customers know exactly what they want and they're not shy about asking for it," says Culotty. At present, a variety of dry box bodies and curtainsiders are produced, he explains, with ancillaries like tail-lifts also fitted. "Volumes were slow to get going, but we did 1,500 last year, and the numbers are still climbing."

Leyland's own AeroBody on the LF is also doing well, and Culotty is keen to underscore its single-entity nature. "Our bodywork is stress-tested in the

same way as the chassis. Customers get a complete truck, built by people who feel responsible for the whole affair."

All of which takes serious design engineering capability. But the LF and CF at 18 tonnes are created here, so the Leyland design centre uses CAD/CAE (computer aided design/engineering) tools. That means they can design chassis in virtual space before making expensive pressings, and much the same with ongoing modifications – with a 3D theatre allowing all stakeholders, from production to component suppliers and the customer, to get involved.

Any part of an entire 40-stage build (proposed or existing) can be examined in far more detail and clarity than when faced with the metal. At one extreme, suspension dynamics can be modelled using spring deflection data supplied by the



manufacturer. At the other, whole test tracks can be brought in-house to aid development. The Belgian paved section of DAF's test track in Eindhoven was laser mapped for the latest LF design project, and then embedded in the Leyland virtual design centre.

Each individual component can be extracted, magnified and viewed, while the detail positioning of the engine, for example, can be examined to assess any issues with components clashing or wiring looms snagging. The installation and maintenance of beefed up components, such as alternators and starter motors, can also be handled here, so avoiding experimentation with spanners. And assembly teams can rehearse new chassis builds in 3D, well ahead of the launch date.

All of which saves time and frayed nerves, but also delivers on customer expectations. And that, after all, is the key to success, whatever the industry. **TE**

Willshe's Euro 6 LF: Leyland DAF prides itself on custom production

