

Tipping

Some would argue that they are the hardest working vehicles on a fleet, but how are tippers being improved to help operators? John Challen examines recent developments

Designed for some of the harshest conditions, and asked to handle some tough payloads, there are many pressures on tippers and their components. But as well as the trucks' obvious durability and performance attributes, Scott Burton, director at tipper truck bodybuilder Thompsons, says one of the greatest demands coming from his customers relates to legislation and, to a larger degree, health and safety.

"That is the main driver at the moment – an example being vehicles we've built for Balfour Beatty, which has a 'zero harm' policy," explains Burton. "Their whole ethos is to cut workplace accidents, so they want a 32-tonne tipper grab vehicle, but have specific requirements relating to



manual handling and access to the vehicle. We then have to come up with the solutions."

One of the biggest stumbling blocks for the latter project was, he says, the addition of a trench compactor, which Balfour Beatty didn't want fixed to the side of the vehicle. "We came up with a trench compactor carrier that operates hydraulically," he explains. "It comes down to the ground and also moves away from the vehicle when it does so, which means there is very little lifting to get the compactor onto the carrier."

There are more specific requirements in relation to legislation. "Many operators, such as councils,



have approached us about conspicuity markings," reveals Burton. "We have customers saying to us that they don't want the markings on their vehicles, because they would get damaged. Once we've explained to them that, by law, they are required to have them, we devise solutions, such as the integration of a recess in the bodywork to protect the tape while the vehicle is in operation."

Simple, yet effective solutions maybe, but matching the requirements of the humble tipper bodybuilder's customer. Yet it is not just conspicuity markings that are challenging tipper builders. "A lot of our customers have to put sideguides on their vehicles – for which tippers are exempt – and cyclist warning systems," explains the Thompsons man. "TfL [Transport for London] stipulates these items, particularly for the current CrossRail project, and unfortunately there have been a few cyclists knocked over by tippers in recent months."

The Euro 6 effect

Like tractor unit manufacturers, companies such as Thompsons face challenges of Euro 6 engine emissions standards, asserts Burton. "Euro 6 is going to cause a big problem for everyone, including us bodybuilders, because no one will want a Euro 6 vehicle," he reasons, adding that the design changes to new vehicles will cause packaging issues, at least.

the balance

“From what we’ve seen of the vehicle manufacturers, it is going to be very difficult to fit equipment on the trucks, because there is very little spare space on the side. We build a lot of vehicles that incorporate a crane behind the cab and it is going to be very challenging to put a piece of kit like that on a Euro 6 truck, let alone any other parts that a manufacturer would want on the truck.”

Another headache for tipper manufacturers is the ongoing drive to save weight – a desire that is becoming easier said than done. Typically cast in steel or aluminium, tippers don’t offer much material choice to reduce mass, but Burton reveals that the company has dabbled with alternatives, with varying degrees of success. “A number of years ago, we looked at a plastic tipper body and we’re now looking at that again, but that would be for a smaller vehicle in the 3.5- to 7.5-tonne range,” he states.

“I know the work our tippers do and what our customers put them through, and a plastic body

looking to make the products lighter,” says Smith.

“A couple of years ago, we introduced the CX14 for the 8x4 tipper market in the UK and we managed to cut 60kg from the weight of its predecessor.”

Edbro now offers two gear choices on the 8x4: one is the aforementioned CX14, the Superlight gear; and the other is the CX15. “CX14 is targeting operators that are working to legislation within body and payload and vehicle weights, and is designed to lift around 22 tonnes body payload,” explains Smith. “CX15 has a lifting capacity of 32 tonnes, with safety ladders on top of that. CX15 is the biggest seller, but CX14 is catching up fast.”

The cylinder conundrum

With CX14, Smith believes that the ‘bigger is better’ mantra held by many operators may have to be rewritten. “I think there is also a concern amongst some operators that, if they go lighter, they must be compromising on durability or performance. But CX14 was on field trials for 18 months prior to launching into the market and this year it will have been two years in mass production. So it has more than proved itself,” he insists.

Beyond the cylinder, though, Smith says there is growing demand for other tipping gear components, like Thompsons, in response to health and safety-related demands. “Items we have added to our product range in the last couple of years are high voltage alert systems to protect against overhead power cables and inclinometers,” he explains.

“The alert systems are proving popular, because operators don’t want the health and safety risks of hitting overhead lines,” he states. Meanwhile, with inclinometers, he says Edbro has found that the most recent load weighing systems have integrated them, but truck operators are still favouring standalone units.

That said, the future, says Smith, will see more weight being shaved off the cylinders – but probably in smaller increments. “While we’ve got some further weight-saving ideas, trying to find another 50–60kg is very hard work,” he says. “If you look at a tipping trailer, the cylinder weighs around 230kg, so it is difficult to find any weight to lose, let alone 60kg.

“As we try to take more weight out, it is hard to still offer a ‘bulletproof’ solution,” he adds. “There are things we could do, assuming people treat the vehicle perfectly and use it on even ground within the payloads. But they operate in the real world, not laboratory conditions.” **TE**

Getting improvements from tippers and tipper gear isn’t easy, but even small steps can have a major impact



today wouldn’t last in that line of work,” agrees Burton. “Our core business is in steel muckaway multi-wheelers and no way would a different material cope with what those tippers have to. At the moment, it’s just not practical or possible, but maybe in the next five years.”

One area that most certainly couldn’t consider plastic in its makeup is tipping gear, not least the cylinders. However, as Peter Smith, head of sales and marketing at Edbro, explains, recent weight loss programmes for these components have borne fruit.

“Without compromising safety and durability, the key driver for us is always weight. We are always

