

BETTER and BETTER

Speakers from Arriva, Tower Transit, Rygor Commercials, Jost and OEMs Volvo, DAF, Iveco and Don-Bur offered advice and solutions to help operators improve compliance and efficiency. Brian Tinham reports

The transport sector faces huge competition when it comes to recruiting and retaining staff and, in particular, technicians. But, while focusing on females, for example, as a relatively untapped resource may counter the skills shortage – with organisations reaching out to schools and colleges to transform students’ and parents’ understanding of transport engineering as a career – that’s for the long haul.

So said Arriva engineering development manager Lloyd Mason (main picture), kicking off the conference’s afternoon ‘operations’ session. He added, however, that the IRTE’s voluntary licence for technicians who maintain and repair commercial vehicles is already helping with the here and now.

“irtec is now widely recognised as an international standard that independently verifies the safety and competence of technicians by assessing their theoretical and practical knowledge,” he asserted. “And because irtec is configured as four benchmark levels that reflect workshop roles and experience, it also assists with career development, as well as offering a tool for staff recruitment and retention.”

Reminding delegates that irtec comes in several flavours, from inspection to master technician – as well as a new commercial tyre assessment developed with Bridgestone – he explained that Arriva itself has successfully used the assessment specifically to attract technicians. “Arriva London has been recruiting engineers from sectors including heavy and light vehicle backgrounds, and offering [good] applicants employment conditional on them achieving service maintenance or advanced technician levels after a six-week familiarisation

programme. That has significantly bolstered our acquisition of good engineers.”

John Keogh (right), dealer principal with Mercedes-Benz dealership Rygor Commercials, agreed – stating that its irtec programme delivers “a great tool” to talk to and develop new and existing employees. “It offers our technicians a career path, which helps us with recruiting and retaining staff, and gives them pride in what they do. But at the same time, it’s improving their skill sets and also mindsets in terms of compliance to standards.”

So much so that Rygor now runs biannual technician conferences founded on irtec and designed to encourage experience sharing and hence further elevate standards. This is helping Rygor as a business, insisted Keogh. Noting that the organisation has grown considerably, he said irtec is helping to ensure consistency company-wide in terms of workshop processes and compliance. As a result, irtec is also delivering competitive edge. “Customers want to know that their vehicles are safe and compliant, and that competent and enthused technicians are looking after them. irtec delivers that, proving we are committed to the highest standards.”

His plea: more companies, including those offering agency technicians, need to adopt irtec. “We would like to see a push from the major agencies to take up irtec. We want irtec to become a mandatory qualification.”

Indeed, adherence to irtec quality standards is a common theme among enlightened businesses’ senior people. Satnam Cheema, engineering director at bus company Tower Transit and newly crowned IRTE fleet engineer of the year 2017 (pictured p28), says that irtec – and the IRTE’s



Workshop Accreditation programme – are central to the firm’s goal to become “the most respected transport provider in all major cities around the world”.

The company – which has seen meteoric growth, culminating last year in its successful tender for a significant operation in Singapore, running 380 buses – chose irtec because it “would confirm that our technicians meet the internationally recognised competency standard”. For Cheema, too, irtec not only delivers an independent assessment of its technicians, but a mechanism for identifying and rectifying training gaps and for demonstrating a commitment to professional development and excellence.

“That gives us a competitive edge, while our technicians get a clear career progression path, which certainly helps with recruitment and

FACT

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retention,” he confirmed. “Specifically in Singapore, irtec also raised the standing of our technicians, who didn’t previously get much recognition. With irtec, they are now seen as important to the business. It has also definitely improved vehicle reliability and workshop efficiency.”

What about Workshop Accreditation, the independent scheme designed by IRTE to measure workshop processes against standards set by the transport industry itself? Cheema said Tower Transit chose this programme precisely because it would provide an independent audit of all workshop processes, equipment and safety systems. That review, he said, has helped to improve and streamline workshop operations. And it is convincing customers and the authorities that the firm meets international standards.

“All our UK workshops are now IRTE Workshop

Accredited, as is our Singapore base [the first in SE Asia to be accredited], which we achieved within six months. In fact, Workshop Accreditation is now written into our SLAs [service level agreements], meaning we would look to introduce the standard to any new businesses. As a result, we believe we now have a good foundation and also an additional competitive edge when it comes to recruiting and retaining technicians.”

TIPPERS AND TIPPING

Next, the discussion moved on to consider tipper types and tipping systems. Introducing the subject, Edbro’s Nicholas Sandbrook observed that operators need to consider why and what they are tipping to improve equipment selections. “They might, for example, consider alternatives to conventional tippers, such as walking floors and

ejector trailers,” he stated, reminding delegates that these offer inherently safer solutions.

His contention: each has its place, but ultimately tippers are very efficient, not least because they harness gravity to eject the load. “Tippers are characterised by low capital cost, light weights and high tipping speeds. And, because they depend on well-known technology, they are also easy to maintain.”

That said, when it comes to equipment specification, operators need to consider not just the body type and chassis cab, but also the tipping cylinder duty cycle. “On a conventional front-end unit, as a cylinder goes through the lifting stages, the tubes telescope and get smaller,” explained Sandbrook. “That means hydraulic pressure increases – even though the effort required to tip the load reduces as its centre of gravity

moves towards the hinge." As a result, cylinders experience peak pressure not only at the start of the lifting cycle, but also in the final stages.

It's a similar story with under-body hoists, depending on the configuration. "But, although pressure is again high at the start of the cycle – because of the tipping angle – it then reduces, without exhibiting the end-stage peak. So the limiting factor determining payload is the system's capability to deliver that starting pressure," he said.

However, when it comes to selecting products there's more to it. "The main operational difference between front-end and under-body gear is that with the latter you can fit a crane. Against that, your cylinders will see greater mechanical stresses. Also stability is reduced – although you can specify framed systems to help. Meanwhile, front-end designs are more stable and run with lower pressures, meaning potentially smaller and lighter tubes to lift the load."

Looking specifically at front-end tipper, Sandbrook advised that there are two main types – outer cover and eye-end. "Outer cover designs offer significantly greater cylinder strength as well as benefits for bodybuilders, in terms of straightforward construction. But you pay more and there is a weight penalty." So that means reduced payload.

As for the cylinders themselves, capacity is constrained by three main parameters, depending on application – buckling, pressure and mechanical



Left to right: Martin Flach, IVECO; John Comer, Volvo; Phillip Moon, DAF; Richard Owens, Don-Bur

stress. Sandbrook explained that the former is a concern for longer cylinders, such as those on tipping trailers, with strokes up to 10m. "Ways to increase strength include adding an outer cover or increasing tube diameter." As for pressure, it's about ensuring adequate cylinder strength and hydraulic packs capable of delivering. Finally, in terms of mechanical stress, designers need to understand peak pressure.

"Once you know all that and the geometry of your trailer or tipper body, you can determine what size tubes to put into your cylinders and then optimise to keep weight and cost down," said Sandbrook.



SPECIFYING RIGIDS

Finally, chair Brian Tinham (pictured, p29), moved the conference to rigids, and the contention that, if operators want to maximise operational efficiency, when it comes to ordering new units they shouldn't automatically go for like-for-like replacements. Richard Owens, marketing manager at Don-Bur, kicked off the session by pointing to the sheer range of options.

"You can have curtainsiders, box vans, aerodynamic variants, multi-decks and drawbar combinations to maximise carrying capacity. You might also want to add flexibility with a demount capability. In fact, with rigids, you can have pretty much whatever you like. We and other bodybuilders offer light 7.2-tonners with 3.5-tonne payload right up to 15.56m maximum body length, 4.9m height units with 150m³ capacity."

So, how do you decide? Owens observed that too many operators concern themselves first with the chassis cab or bodywork. But, while accepting that plating, aerodynamics profiles, the engine and gearing ratios are all as critical as the bodywork, he suggested that payload should be the primary consideration.

"Think about what's going in it and how you want to get it in and out," he urged. "Is your operation dock to dock, or dock to final destination? Is the rear closure suitable for docking? What about multiple drops – in which case you need to consider diminishing load calculations? Do you need tail-lifts? Which type? Is our rigid big enough? Or small enough?" Then there are urban areas, where operators need to think about quiet operations, clean emissions and

FACT**The vast majority of the 7.5-tonne market has moved to 3.5 tonnes**

trucks that are vulnerable-road-user-friendly.

So far, so good. What part can today's truck manufacturers play in helping operators through this maze? DAF Trucks marketing manager Phil Moon rose to the challenge. He explained: "At DAF, we've changed the specification process such that salespeople now ask 15 questions about the operation. The process of asking them prompts an open-minded approach to new vehicle specification that encourages innovative thinking. And that, in turn, offers operators an opportunity to improve their transport efficiency."

Beyond this, Moon suggested that the industry has developed more powerful software tools that not only assist customers in making optimum choices – taking into account modern technology – but also allow bodybuilders to be part of that process. Does it work? Well yes, he said, citing examples such as the relatively new breed of four-axle trucks with rear-steer, which are enabling 26-tonners to manoeuvre around places hitherto restricted to three-axle 18-tonners.

IVECO technical director Martin Flach agreed, adding that similar developments are changing the face of the lighter end of rigids between 3.5 and 7.5 tonnes gwv. He said: "Two developments have driven an explosion of 3.5-tonners. First, since 1997 car licences have restricted drivers to 3.5 tonnes. Today's drivers need C licences to run 7.5-tonners – but then want to drive 32-tonners because they get paid more. So the vast majority of the 7.5-tonne market has moved to 3.5 tonnes. Then secondly, internet shopping has reinforced that, with 3.5-tonners being the rigid of choice."

That said, Flach asserted that designing and building useful 3.5-tonne vans is becoming increasingly challenging. That's because the equipment required to meet stringent emissions legislation – as well as the alternative fuel variants designed to improve air quality, reduce reliance on fossil fuels and cut costs – all impact unladen weight.

"So it's very pleasing to see the government finally looking at a derogation for car licence holders to drive low-emission delivery vehicles up to 4.25 tonnes," he explained. "When that happens, OEMs will be able to offer high-tech vans capable of delivering competitive payloads."

John Comer, product marketing manager at

Volvo, summed up by urging operators to take advantage of both new truck and body offerings, and advanced selection tools – the point being to get vehicles right first time. That's important with rigids, given their typically long operational lives. As for other improvements, he pointed to today's networked vehicle systems, based on CAN-Bus, which mean it's no longer necessary to add banks of Smiths switches for ancillary equipment. "We can now integrate such system data right into the dashboard displays."

Similarly, the link between truck OEMs and bodybuilders need no longer be paper based. "We can now transmit CAD drawings to bodybuilders. That's the code direct from our quote – so the bodybuilder has the same data we have. If they have capacity, they can even look at pre-building your body."

Comer then turned to recent developments in four-axle technology that exemplify the power of new thinking. "Traditional eight-wheelers have been fantastic for load capability because, with 17 tonnes on the front axle and 19 on the back you get good weight distribution. Now the world is looking at tridem, which can work, particularly if you specify nine- or 10-tonne front axles. With 24 tonnes on the rear triple bogie, that allows for good load distribution and excellent manoeuvrability. We see these as 6x4/2 rigids with rear steer, which gives you the best of both

words – increased payload and a tight turning circle." Adding one or two lifting axles with drive decoupling makes for even more efficiency.

The session turned finally to aerodynamics and urban, high-vision cabs. On the former, Owens said it's all about being pragmatic. That means not simply heeding received wisdom, which suggests that aerodynamics makes sense for trunking, but not for urban deliveries. Rigid mileages tend to be way down on tractors, so even with motorway driving, saving a few percent may not add up to much. And, if you're considering side skirts, be aware that forklift damage can write off savings in an instant. Better to think about frontal area and right-sizing the truck.

As for urban rigids, the panel agreed that low-entry cabs are not the only game in town. As Moon put it: "Modern cab designs help, and upcoming changes to European masses and dimensions legislation [2021] will also provide opportunities to improve vision." Just as important, he predicted, would be the next stage of the General Safety Regulations that is likely to include improvements to truck cab vision.

"But there are also lots of developments with passive and active sensing systems. We shouldn't underestimate the value of those. Remember, a driver can only look in one direction at a time. These systems can cover the entire vehicle all the time."

In summary, much food for thought. ■

