RIGHT TIME,

What's involved in the re-engineering of trucks to meet the requirements of the emerging CLOCS standard? Brian Tinham talks to low-entry cab specialist Dennis Eagle

While the steadily growing clout of the CLOCS (Construction Logistics and Cyclist Safety) standard is doubtless being seen as a threat by some truck manufacturers, given their longstanding cab-over configurations, to others it is a serious opportunity. And while Mercedes-Benz – with its hugely successful Econic low-entry cab – has been stealing the limelight, there is a serious British manufacturer.

That worthy contender is Dennis Eagle, which launched its first urban skiploader at the London CLOCS Progress seminar back in March. New for the construction industry, yes, but this chassis is certainly no newcomer, being founded on the firm's low-entry Elite 6 4x2, already popular in the RCV (refuse collection vehicle) sector. And that's the point: indeed, Dennis Eagle's heritage in low-entry cabs (which is what matters here) goes back to 1992, six years prior to Mercedes' Econic.

SPREADING ITS WINGS

So what is this company doing to move its established brand beyond RCVs, but also specifically to equip it for CLOCS compatibility? Chief engineer Jon Sayers says many of the basics were already in place. He cites excellent driver vision, including to the nearside front, thanks to the cab's panoramic windows, and narrow A and B pillars, as well as its low driver seating position.

The latter is clearly important, but he also makes the point that the vast majority of Dennis Eagle's output is on-road N3, not the construction industry's hitherto preferred off-road N3G. That means its vehicles run some 100mm lower, so further improving driver vision. And, like the Econic, because of their (mostly) all-round air suspension – which allows ride height to be raised 65–70mm at up to 15kph – off-road approach and departure angles aren't overly compromised.

"Admittedly, our vehicles haven't been designed for building sites, but they have been engineered for landfill locations," insists Sayers. "Many of our vehicles are 6x4s with both rear axles driven, and inter- and cross-axle diff locks, meaning you can lock the drive to all four rear doubles. Also, with air suspension, we can enhance stability by dropping air to reduce roll on uneven ground." And he adds that other off-road credentials include sump and transmission guards, fly screens for radiator cooling and off-road tyres.

But there's more. On the subject of drive variants, Sayers says that, following trends in the RCV sector for 6x2 rear steers and midlifts, Dennis Eagle's vehicles are already equipped for today's manoeuvrability and fuel-saving requirements. "We also offer tag and pusher configurations, as well as mid-steer and also front two-steer variants on our 8x4/2 chassis. And again, dropping air here can enhance traction with, say, all power put down to the middle drive wheels."

In fact, he explains that the firm's 8x4 is configured as a tridem, with mid steer and rear double-drive – although rear steer "would not be a major engineering exercise". No surprise, then, that tippers are the next development – and indeed, as we go to press, the firm has now built its first. The only limit is Dennis Eagle's preferred powertrains, which are Volvo or Cummins engines up to 320bhp driving through Allison automatics.

"Anything can be changed," counters Sayers. "If the market wants an AMT [automated manual transmission] and a more powerful engine, we can work on that – although there are challenges,

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RIGHT PLACE

given the packaging for low-entry cabs."

So much for the chassis. Apart from also tweaking cab side windows and improving mirrors, Sayers says much of the engineering effort is currently focused on options aimed at making drivers even more aware of vulnerable road users down the nearside, as well as reducing the impact of accidents when they do happen.

Dennis Eagle's first skiploader – now in trial operation with London-based FORS Gold accredited waste operator Powerday – was fitted with a four-way CCTV safety system with the Cyclear warning display, from Innovative Safety Systems (ISS).

"We're currently benchmarking several camera devices. There are several systems, ranging from basic units that warn cyclists of left turning vehicles, to more sophisticated options with ultrasonic sensors and/or cameras looking for 'targets' along the nearside. Our team is testing the latter, in particular for their robustness in terms of not generating false positives of cyclists in the danger zone."

Moving on to mechanical safeguards, Dennis Eagle's demo skiploader uses Dawes Highway Safety's DawesGuard underrun prevention system, with fully fared-in side skirts. However, Sayers says the firm is assessing various alternatives.

"Historically, the industry demanded only minimally compliant equipment, which on sideguards just requires horizontal beams with no sharp edges," he says. "But that can leave substantial gaps between the beams – certainly large enough to allow entry under the vehicle. So we're working on systems that will exceed requirements for protecting vulnerable road users."

For the future, Sayers indicates that Dennis Eagle has several ideas. Among them could be its Hi-UCV (urban commercial vehicle) four-wheel steered 4x2 concept, as shown at the 2014 IAA show, in Germany. The value of this approach is in the fact that the rear wheels more closely follow the front, so reducing swing out and cut-in – and making it harder to run over cyclists.

LEFT AND RIGHT

Another could steal from the firm's successful street-cleaning trucks range, which features an option that switches driving position right and left sides. "We've sold hundreds in Australia where single driver operation is common on RCVs, which use bin grabs on the nearside. Vehicles are driven out to their location in right-hand drive, but switch to left-hand operation on arrival." The point: nearside vision would be improved in urban environments.

Beyond these, Sayers says the firm is also investigating crew-operated emergency stops. "We already have similar systems for our RCV compaction bodies, but nothing to automatically shut down the vehicles themselves. Our understanding is that it is currently not legal to homologate a button that would force a vehicle stop, so we've challenged our homologation partner to establish what we need to do."

One thing is certain: with a pedigree like Dennis Eagle's (including its Alexander Dennis and Eagle Engineering bespoke vehicles heritage), when it comes to CLOCS, this company is one to watch. TE