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Frank Thorpe

Buses lead the charge

Electric bus maintenance requires entirely different skills than repairing buses fitted with internal combustion engines.

John Challen learns how operators have tooled up

The UK now has more electric buses in operation than any other country – 18% of continental Europe’s share, the next biggest market being the Netherlands, which accounts for around 10%.

Many recent additions to London’s electric bus fleet have come courtesy of the Chinese-UK collaboration between BYD and bus maker Alexander Dennis, the latest facet of which (pictured), 23 single-deckers measuring 10.8m long for Go-Ahead, was announced in July.

BYD’s UK country manager Frank Thorpe maintains that electric drivelines pose a learning curve for all those involved in the upkeep of the buses, but, by providing the right training, BYD is doing its utmost to ensure things run smoothly. “The biggest challenge for the technicians who are tasked with maintaining electric buses is the awareness of the safety issues of dealing with high voltage,” he explains. “But these are not seen as problems, as long as proper procedures are followed. Another challenge is that the maintenance has obviously shifted from a more mechanical bias to one which has a software and electrical predominance.”

One of the main operators of electric and hybrid buses in the UK is Arriva. The North West was one of the first areas where Arriva took hybrid maintenance



in-house, according to Lloyd Mason, Arriva engineering development manager. He recalls: “When we bought a fleet of buses for that region, from day one the intention was to do the work within Arriva. To prepare the engineers for that, the manufacturer training was done well in advance. They needed to learn the skills to work on the high voltage electrical systems.”

For diesel-electric hybrids in London, again the manufacturers were initially involved, but as time has gone on, Arriva has taken responsibility for this. The IMI now provides accredited training, allowing engineers to learn how to safely decommission the high voltage systems before starting to do any work.

Mason adds: “The critical aspect is to safely shut those systems down before working on any other components.” That procedure might sound straightforward, but he says it shouldn’t be underestimated.

“There is a specific process to go through, and it is safety related. A double-lock setup ensures that, until certain procedures are carried out, no other technicians can work on that vehicle or interact with the high voltage system,” he says.

While the training covers all bases for the engineers and technicians working on hybrid and electric buses, new challenges come along all the time, he points out. “We are still on a learning curve, so there is now a need to use more advanced diagnostic tools to identify faults. In terms of the training, it is all about getting engineers used to working with the information they get from this equipment.” **TE**

FURTHER INFORMATION

Enviro200 EV – <https://is.gd/mogoka>

BAE’s HybriDrive – <https://is.gd/zawaxe>

Bus and Coach Tyre Maintenance (IRTE Best Practice Guide) – <https://is.gd/ukisap>