

Flashback to London in the late 1980s. No Ultra Low Emission Zone – no Low Emission Zone either for that matter – no Direct Vision Standard, and nobody from Extinction Rebellion blocking the streets. CO₂, NO_x and particulate output had yet to become overwhelming concerns, although one prominent Londoner had just started to alert the world to the dangers of climate change.

In a succession of prophetic speeches culminating in one made to the United Nations General Assembly on 8 November 1989, the then UK prime minister, Margaret Thatcher, expressed deep concern about the damage being done to the environment by mankind. A former research chemist and a member of the Royal Society, she talked about the impact of forests being cut down, mountainsides being laid bare, fossil fuels being burned and the rivers and seas becoming polluted.

“The result is that change in future is likely to be more fundamental and more widespread than anything we have known hitherto,” she warned delegates.

It was against this background that a Dennis Eagle Delta fitted with a Phoenix 18 body in service with contractors BFI began collecting refuse in the Royal Borough of Kensington and Chelsea. Delivered in the same year as Thatcher’s UN speech, and prior to the introduction of Euro I, it would typically have generated 47.632 tonnes of CO₂ for every 12,000 miles it covered. “An RCV will typically travel 12,000 miles annually on single-shift urban collection rounds,” says Dennis Eagle aftermarket director, Geoff Rigg. The Delta also produced significant quantities of NO_x, particulates, carbon monoxide and unburnt hydrocarbons. Powered by a 177bhp Perkins Phaser diesel married to an Eaton 4106 six-speed manual gearbox, and running on drum brakes, its fuel consumption was just 3mpg.



THEN AND

Steve Banner takes a trip down memory lane in a Dennis Eagle Delta refuse collection vehicle (RCV), comparing it to modern equivalents

This compares with the 4.5mpg returned by Dennis Eagle’s latest Volvo MD8 diesel-powered Euro VI Elite 6 with up to 316bhp on tap. CO₂ emissions are 31.755 tonnes per 12,000 miles, and uses an electronic accelerator with an idle validation interlock, compared with Delta’s simple cable linkage.

“Their carrying capacity is pretty similar, though,” Rigg observes.

The London Delta eventually ended up abandoned in a quarry in Devon. Rescued and completely restored by Dennis Eagle, it stands in marked contrast to the manufacturer’s new battery-electric eCollect with a 200kW electric motor. On that, Rigg says: “The eCollect doesn’t have hub motors, but its successor probably will.”

The Delta is a 16.8-tonner 4x2 fitted with a third axle which allows its gross weight to increase to 21.3 tonnes. The Elite and eCollect are both 6x2 rear steers grossing at 26 and 27 tonnes.

The days of manual gearboxes in RCVs are long gone. Elite gets an

Allison 3000 six-speed automatic transmission while eCollect gets a reduction gearbox.

BOXING CLEVER

Rigg goes out of his way to praise the Allison box, which certainly gives the driver a much easier life on stop-start big-city collection rounds than the Eaton box ever could: “A seamless gear-change means quicker acceleration, and the shift points adapt in real time to suit operating conditions, which improves fuel economy,” he says. “What is more, the torque converter can give up to double the torque output from the engine on drive uptake, making it ideal for stop/start work.”

As well as being quieter – way quieter in eCollect’s case – both of Delta’s heirs enjoy a level of equipment and comfort that would have astonished the bin wagon crews of 30 years ago.

They boast disc brakes plus EBS (electronic braking systems), ESP (electronic stability programme) and



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AEBS (advanced emergency braking system). Their cabs are air-conditioned – “all the Delta had was a fan,” remarks Rigg – their drivers’ seats are air-suspended, they can be fitted with telematics packages, and all-round camera systems help ensure the safety of other road users.

And all the seats have seat belts. In trucks like Delta that was not a requirement until 1991, Rigg points out, and Delta has a bench seat for the crew rather than individual seats.

Fully adjustable steering column? Electric windows? Electronic headlight levelling? Kerb and forward-facing mirrors? Electronically-controlled air suspension with the ability to raise and lower the height of the chassis? ASR traction control? Low-entry cab? Lane departure warning? Speed limiter? So far as Delta is concerned it’s a ‘no’ in all cases. Nor did it have retarder or exhaust brake, but the 6x4 version that was available did have diff locks as standard.

The emission standards the three trucks meet are an eye-opener. For pre-Euro-I models, CO₂ output was



4.5g/kWh, NO_x was 8g/kWh, HC (hydrocarbons) was 1.1g/kWh while PM (particulate matter) was 0.612/kWh, points out Dennis Eagle. Euro VI saw these figures tumble to 1.5g, 0.4g, 0.13g, and 0.01g respectively, while for eCollect, they have all declined to zero.

One perhaps surprising difference between Delta and Elite is that the older truck is happy with only an annual oil drain. “Elite has to have its oil changed four times a year, however, because of EGR,” Rigg observes. “Delta doesn’t require all that much servicing.”

So why resurrect a Delta? Because Dennis Eagle wanted to illustrate the progress it has made over the past 30 years, says Rigg, who orchestrated the project. More specifically, it has been used to celebrate the company’s relocation from Falkirk, which opened in 1989, to a new service centre in Cumbernauld for Scottish customers.

The old-timer has also generated plenty of interest among fleet managers. “I’m talking about guys in their forties, fifties and sixties who remember working on trucks like Delta when they were apprentices,” he says.

Delta’s third axle referred to earlier is a Granning mid-lift. “A load sensor on its airbags causes it to lower as the truck’s payload increases,” says Rigg. The other two axles solely employ steel suspension. The hydraulics fitted encompass a front-mounted engine PTO driving a vane pump.

“In those days, crews picked up a lot more bagged rubbish than they do today, so the Phoenix 18 body comes with a big 2.8m² rear-mounted hopper,” he says.

It also comes with an inlet in the roof that fire crews can push a hose through if they need to. “Fires in RCV bodies were quite a common occurrence 30 years or so ago,” Rigg recalls. Far more people had coal fires, the ashes were tipped into steel dustbins – plastic wheelie-bins and bin lifts had yet to be universally adopted in the late 1980s – and ended up in the RCV’s body with all the other waste as a potential source of ignition.

Progress comes with a price. An Elite 6 will set you back around £200,000; Delta would have cost you roughly the equivalent in its day, Rigg reckons, while eCollect carries an eye-watering £400,000 price-tag. However, “it requires 20% to 30% less maintenance than modern diesel models do, and it is likely to remain in operation for longer; nine or ten years rather than seven years,” Rigg observes. Furthermore, the cost of electricity means that fuel bills are a fraction of those incurred by diesels.

“We calculate that an eCollect starts to pay you back after seven or eight years,” says Rigg. “The change it represents is as significant as the switch from steam to diesel.” **TE**