

THE BIG

LIGHTWEIGHT

The $\frac{3}{4}$ -ton truck – ultimately an unsuccessful mid-1960s private venture by Rover to create a replacement for the British Army's 109in... This is its story

LRM CLASSICS

THIS year the V8-powered 101in Forward Control is celebrating its 50th birthday, but if Rover's product planners had got their way, the vehicle could have looked very different indeed. Instead of the familiar, boxy shape of the 101, the British Army might have been driving the vehicle you see here, the 3.0-litre $\frac{3}{4}$ -ton Land Rover nicknamed the Big Lightweight, for fairly obvious reasons. To my eyes, it is one of the ugliest Land Rovers ever made.

The earliest record of it that I can find is an internal Rover document dated 18 November 1965, which summarises the planners' perspectives on what was required. 'The current War Department long-wheelbase Land Rover is due for replacement during the next few years', it reads. 'Its successor is required to have better mobility, increased power and generally fill a wider role'.

The proposed specification called for a vehicle weighing no more than 3400lb so that it could be lifted by the helicopters in service at the time; a towing capability of 3500lb; a payload of one ton plus driver and passenger, and 9.00 x 16 tyres. The engine would be an adapted version of the Rover 3.0-litre six-cylinder sloping head saloon car engine, 'fully adjusted to meet Land Rover and the Fighting Vehicles Research



VXC100F is the first of three prototypes built, and now resides at Dunsfold



Styling is very obviously inspired by the Half-Ton Lightweight



Bonnet bulge to accommodate Zenith downdraught carb



Familiar Half-Ton Lightweight-inspired rear wheelarches

and Development Establishment requirements', generating 110bhp at 4500rpm and 150lb-ft of torque at 2000 rpm. The vehicle planners believed a gearbox and transfer box to a new design would be required, 'strengthened to transmit the greater torque and giving a wider spread of ratios'.

The ENV axles fitted to the Series IIA Forward Control were proposed because they were stronger than the standard military axles and also gave a wider track. The chassis would be a 109-inch unit modified to take the wider axles and the 3.0-litre engine and slightly shortened to improve the departure angle. The military 34-ton would also be 'fitted with the facility to drive powered trailers'.

The intention was to ensure the vehicle could be 'constructed on conventional Land Rover lines to minimise development and construction problems', and therefore the body would be 'similar to the Lightweight 88-inch but with wider bodywork to accommodate the larger tyres'. Just like the 88, it would be capable of being stripped down to a 'stark vehicle' because demountable bodywork was the only way the target airlift weight could be achieved. A couple of design sketches were also included in the report, and the completed prototypes are very similar to the initial sketches.

A second report dated 4 January 1966 has also survived, but in this document the vehicle is referred to as the War Department 1-ton 110 and the width had grown from 69 inches to 72 inches. This was clearly a concern, because a series of handwritten notes on the report explore how the wheels could be moved inwards by one and a half inches on each side in order to restore the original width of 69 inches. A 4x2 gearbox is also mentioned 'to be specially produced by



Additional width is very evident from the front

Transmissions Section'.

Another handwritten note on the 1966 report is dated October 1968 and refers to a series of modifications that should be made to the vehicle 'if revived', which would suggest that by the autumn of 1968 the project had been cancelled.

It is regularly stated in Land Rover books and online, as recently as July this year, that only two prototypes were built, and in fact two vehicles have survived, one in private hands and one at Dunsfold. Philip Bashall believes there were three prototypes, and we will return to this important part of the story later.

Another mystery surrounding the Big Lightweight is whether it was designed specifically to be a gun tractor, a theory that Dunsfold has also subscribed to in the past. There are many references in Land Rover books and online to the vehicle having been conceived to haul the British Army's upcoming new L118 105mm light gun, although it is interesting that neither of the two Rover company documents make any reference to the vehicle needing to tow this weapon, and no period photographs of a Big Lightweight towing the 105mm light gun have been found.

Furthermore, although the development of the L118 Light Gun was approved in 1965, the first prototypes were not available for testing until 1968, by which time the Big Lightweight project was pretty much dead. On balance, it therefore seems more likely that Rover's thinking was focused on a straightforward replacement for the military's long-wheelbase 109 Land Rovers, together with the evaluation of the powered trailer drive, rather than specifically tailored towards a requirement to tow a new light gun.

Two prototype Big Lightweights certainly underwent evaluation and testing by the



Big Lightweight is over a foot wider than a Half-Ton Lightweight



Instrument binnacle above the steering wheel rather than on the centre of the dash



VXC 100F during Land Rover's ownership

"Number one was put to good use at the Solihull factory site towing a gang mower"

FVRDE, together with Rubery-Owen powered-axle trailers, and photographs exist of two identifiable vehicles with service numbers 02SP52 and 02SP53 carrying FVRDE Wing Numbers 7360 and 7341 respectively. The trailers carried service numbers 02SP00 and 02SP01, with the SP letters indicating that both the trailers and the vehicles were experimental special projects.

The photos are believed to have been taken at Hankley Common in Surrey. From the available images, it appears that comparisons were being made between a vehicle and trailer combination fitted with standard 9.00 x 16 tyres and one fitted with Terra-tyres. Given the Army Leyland Martian recovery truck that appears in some of the photographs, we can assume that the authorities were highly confident the vehicles would get bogged down, as indeed proved to be the case.

In 1966 a Big Lightweight was displayed at the British Military Vehicles & Equipment Exhibition at Chertsey and was described in the exhibition catalogue as, 'Truck, Cargo (Rover 3/4-ton for Power Trailers) a private venture experimental model produced by the Rover Company Limited' that was undergoing 'performance assessment trials'. The detailed specification referred to the vehicle's 'power drive transfer for trailed loads allowing optional choice of 6x6, 6x4 or 6x2-wheel drive', which was 'being assessed for possible incorporation in the next generation of 3/4-ton trucks'.

The Big Lightweight illustrated in the catalogue for the BMVEE is chassis number 110/1 and this is the vehicle now in Dunsfold's care. In fact, it has been part of the Collection twice.

When Rover terminated the 3/4-ton truck project, Number One was put to good use at the

Solihull factory site towing a gang mower, but around 1972 it was replaced by something more suitable for cutting the grass and sent for scrap. Land Rover's Tom Barton contacted Brian Bashall and offered it to Dunsfold.

Richard Beddall remembers that he and Brian pooled their resources and came up with the required £15 to buy it, and Richard went to collect it. Luckily Tom Barton had arranged for the tank to be filled. Richard recalls driving down the A40 leaving behind a trail of wind-blown grass clippings! The vehicle did not carry its registration plates, and no paperwork was provided, so it was driven back to Dunsfold on trade plates.

What happened next is rather hazy, thanks to fading memories and the sad fact that Brian is no longer with us, but it seems the vehicle was traded or swapped for something else in the late 1970s. By 1983 the Big Lightweight was owned by Gloucester main dealer M J Fewes, because in that year it was photographed at Eastnor Castle during the event to mark the launch of the One Ten. The vehicle still had the bespoke truck cab that had been fitted at the factory for its grass-cutting duties and had also been fitted with a 4.0-litre Perkins diesel engine, although when this was done is not known.

Perhaps to prepare it for sale, M J Fewes applied to register it for the road. The DVLA issued the number Q675 FAD in November 1985, and the vehicle was acquired by Christopher Heath in June 1987. It eventually found its way back to M J Fewes and was advertised for sale.

"I bought from them in late 1990 and that was how the Big Lightweight came to Dunsfold for the second time," Philip tells me. "We carried out a full restoration and were able to save the chassis although the rear crossmember had



Original design sketch dates from November 1965



On display at Solihull in 1990 at the Range Rover CSK launch

rotted out, probably from all those damp grass clippings. We had to remake the tailgate, which had been lost during its days as a mower, together with the left-hand front wing because it was damaged beyond saving. We replaced the diesel with a prototype 3.0-litre six that we happened to have in store, so although it isn't the original engine, it is at least the correct type.

"This is coupled to an ENV five-speed commercial vehicle gearbox, which has an extra-low crawler gear. Behind the gearbox are two transfer boxes, one piggy-backing the other. The first is used to select high or low ratio and also drives the front propshaft. The second box is coupled to the first and is locked in high ratio – it's the first box that determines whether it's being driven in high or low – and it drives the rear propshaft and trailer coupling. Holes in the chassis show that at least three positions were tried for the rear box.

"Engine and gearbox aside, the rest of the Big Lightweight is a real mix of parts. On 110/1, the steering box seems to be a modified car unit, and it sticks out of the front panel. The rear leaf springs are One Tonne heavy-duty items, but the fronts are parabolic and wider. The axles are ENV narrow-track Forward Control but with a lower diff ratio of 5.57:1. On the right-hand side is a large vacuum tank for the trailer brakes.

"Wheels are the wide Forward Control type. There's a mount on the bonnet to locate a spare, but you'd never be able to lift the bonnet if one was fitted! And it would be impossible to do so now because the bonnet has a raised wedge on its upper surface to clear the Zenith carburettor that was used on the original engine. It ran with an SU carb at first, but that had problems with flooding during the off-road trials, so a downdraught Zenith 36 IV was installed,



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Prototype 110/2 was fitted with Terra-tyres during military trials

110/1 at an AWDC event in early 1970s



At a military vehicle show in 1975



110/1: No military service number issued. Pictured in the 1966 BMVEE catalogue. Registered as VXC 100F in November 1967 to owner Rover Triumph, Lode Lane, Solihull. Acquired by Dunsfold around 1972. Sold or traded in the mid-'70s. Owned by M J Fewes Ltd by 1983, when it took part in the One Ten launch event at Eastnor Castle. Registered Q675 FAD in November 1985. Acquired by Christopher Heath, Tuffley, Gloucestershire in June 1987. Subsequently returned to M J Fewes Ltd, possibly in a part-exchange. Reacquired in 1990 by Dunsfold. Original registration number VXC 100F reissued by DVLA in 2004. Restored.

110/2: Service number 02SP53, FVRDE wing number 7341. Took part in the military trials. Sold at Ruddington MOD sale in 1971. Registered with Hampshire number ROU 198M in November 1973. Acquired in May 1976 by Robin Curtels, Boughton Monchelsea, Maidstone. Acquired March 1996 by Chris Ball, Gloucestershire. Patina restoration underway.

110/3: Service number 02SP52, FVRDE wing number 7360. Period photos show 7360 with chassis number 100/3 painted on the front chassis rail, twin batteries and 24v FFR. Took part in military trials. Nothing further known.



Chassis number 110/3 is clearly readable on the original of this official photograph



110/3 was 24V FFR, as seen in this image



Tailgate is unique to the Big Lightweight and was missing when Dunsfold first acquired the vehicle. This is a replica



110/1 has a unique front bumper mounting bracket; note the steering box protruding under the front panel



Recessed door hinges identify this vehicle as prototype 110/1

which meant the bonnet had to be reshaped to clear the air pipe feeding it.

"We also discovered from contacts at Solihull that the vehicle had originally been registered VXC 100F. With the help of a copy of the factory Company Vehicles Ledger entry, in 2004 the DVLA agreed to return the original number."

Philip suggests that with 110/1 being retained by the factory and appearing in the Chertsey show catalogue in 1966, it is unlikely that it was one of the two vehicles tested by the FVRDE, and this is supported by the detail differences between the vehicles evident from close examination of the period photographs.

"110/1 has recessed door hinges that are a different shape to the triangular fishtail hinges on the two military registered vehicles," Philip points out. "My guess is the recessed hinges were designed to maintain the flattest possible sides for loading into aircraft. 110/1 also has a different front bumper installation and a unique rear crossmember. One of the trials vehicles, 02SP52, was fitted for radio with 24-volt electrics. All of which is compelling evidence to support the suggestion that three prototypes were built rather than two."

Philip agrees with me that the Big Lightweight is not a good-looking Land Rover. "And not only is it ugly," he tells me, "it's also not at all pleasant to drive. The suspension set-up means that it feels like it's bouncing along, and the throttle is very sensitive, so every little bump causes the engine to surge. It's almost impossible to keep it in a straight line and it wanders all over the road. It has to be the worst Land Rover I've ever driven."

As for the Army's gun tractor, by the late 1960s it had sketched out its own design, made models and a full-size mock-up, showed them to Rover and asked the company to build it. Which is exactly what Rover did, and the 101 Forward Control was the result.