Background surrounding the Thunderbolt and Railton Special

Captain George Eyston, tall and thin made his name as a racing and record driver before he tackled the top record of them all. When he moved on to the World Land Speed Record stage in 1937, there began a second series of duels between Eyston and then world famous race car driver John Cobb.

Eyston was probably best known to the public as a Brooklands driver of very fast Magnette cars. It was in fact the chassis of one of his Magnette cars which formed the basis of the late Goldie Gardner's "Magic Midget" which achieved 207.37mph from a ten horse-power (1100 cc.) engine.

So George Eyston was no novice when he turned his skill and experience to the new task, which was to beat the 301.13mph established by British driver Sir Malcolm Campbell. Eyston designed his own car, the Thunderbolt, which had many original features. His design and theories proved to be sound, for on his first try on November 19, 1937, Eyston put the record up to 312mph exactly on the Bonneville Salt Flats.

The following year Cobb was on the scene too in his Railton Special. Eyston modified and lightened the Thunderbolt this season and went out to beat his own top speed. He achieved a dazzling 374mph in one direction. However, actual dazzle (light scattering) from his unpainted polished aluminum body shell, upset the electronic eye timing mechanism, and he failed to register the necessary two-way improvement. The electronic eye was an early form of radar and couldn’t “see” his car.

Eyston overcame this dazzle problem by painting the Thunderbolt black, and on August 27 upped his own speed record to 345.50mph. Within a week or so Cobb & his Railton replied with 350.20mph, but Eyston's last word was 357.50mph.

Eyston's car weighed seven tons. This was more than twice as much as Cobb's Railton, but he had about two-and-a-half times as much power. Eyston, the experienced record-breaker, knew all the problems involved when he joined in the fastest-on-wheels battle.

One of them was that Sir Malcolm Campbell, who had already used the most powerful engine available at the time, the Rolls-Royce type R racing engine designed for aircraft use. He solved this one by using two of these engines, with a theoretical output of 4600 horsepower.

The next problem was in finding a way of transmitting it without too much wheel-spin. Eyston tackled this one by using an eight-wheeled car, four steering wheels at the front and four driving wheels at the rear. The car was built in seven months at the old Bean works at Tipton, Staffordshire. The two engines with a 73 liter total capacity sat side by side driving through a common shaft, with Eyston sitting in front of them.

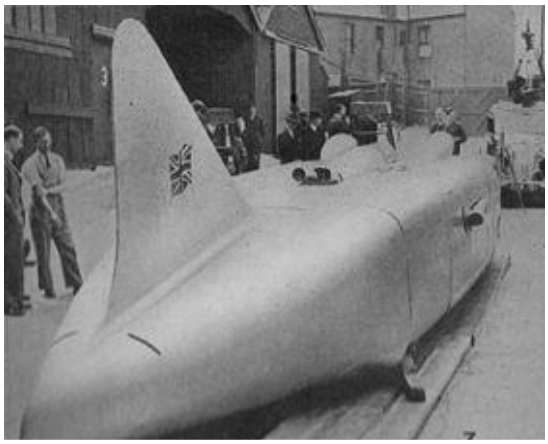
The clutch gave trouble at first and was modified, then the old enemy wheel-spin set in, and Eyston scrapped the leaf springs and tried coils. The body shape was improved in detail and the driver shut in completely in his cockpit.

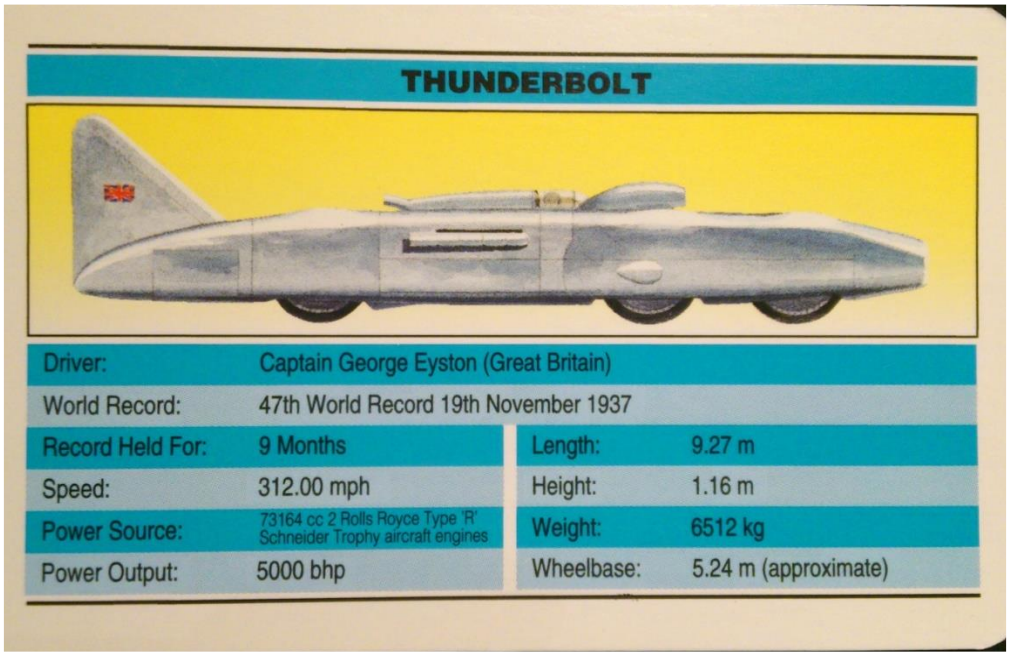
These changes did the trick, and as can be evidenced by his inclusion on the Unique Cars & Parts World Land Speed Record list, he succeeded.

Thunderbolt was a British Land Speed Record holder of the 1930s, driven by Captain George E.T. Eyston.

It competed against the Thunderbolt.

Thunderbolt	
1937/1938	
Country:	
Engine:	Twin 12 cyl. Rolls-Royce Merlin Aero
Capacity:	73,164 cc
Power:	5000 bhp
Weight:	7+ Tons
Length:	30ft 5"
Height:	3ft 10"
Width:	7fr 1.5"
Top Speed:	312.00/345.50/357.50 mph

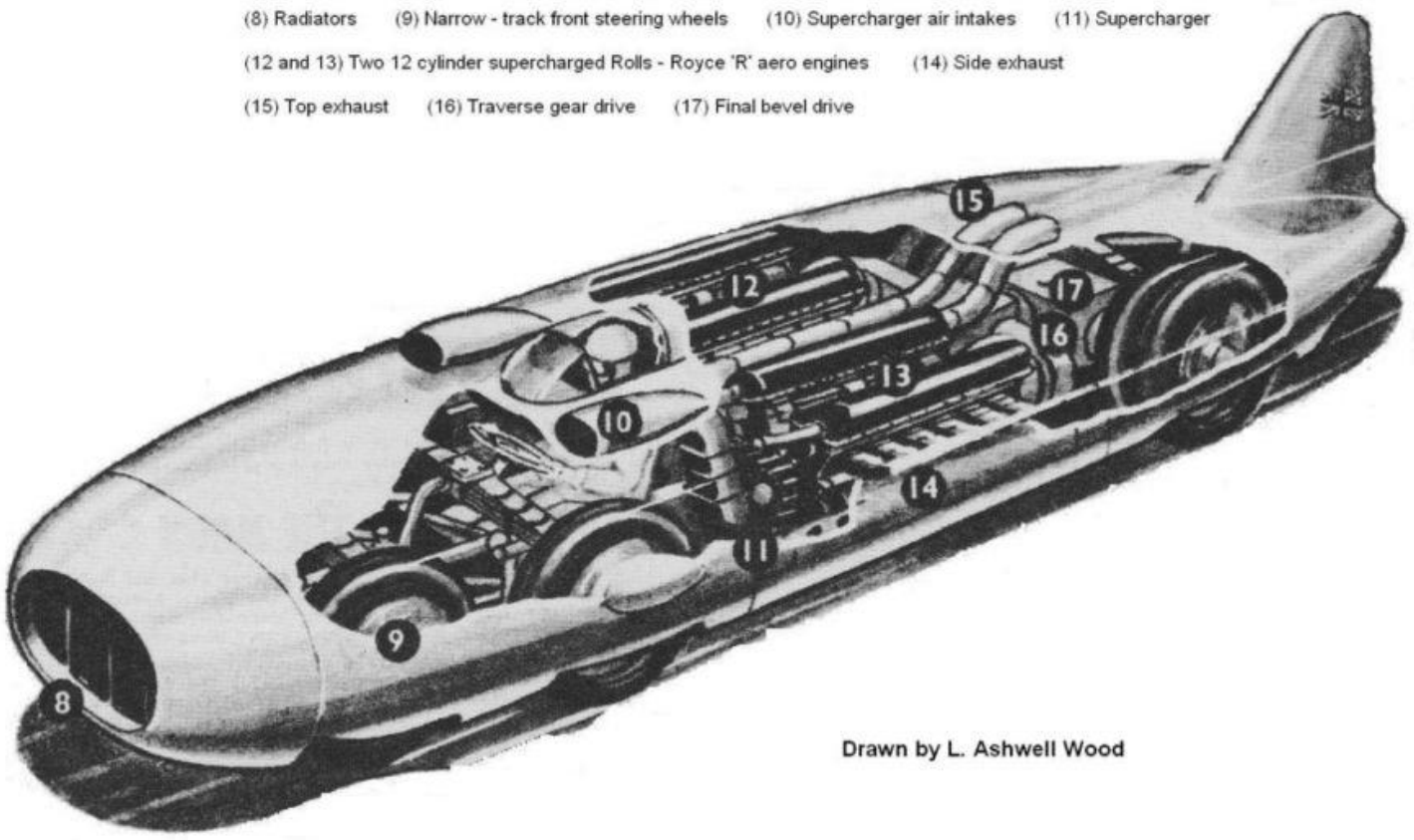




(8) Radiators (9) Narrow - track front steering wheels (10) Supercharger air intakes (11) Supercharger

(12 and 13) Two 12 cylinder supercharged Rolls - Royce 'R' aero engines (14) Side exhaust

(15) Top exhaust (16) Traverse gear drive (17) Final bevel drive



Drawn by L. Ashwell Wood

Below for comparison the Railton, which held the record for all of a single day but still beat the Thunderbolt!

RAILTON "Mobil" SPECIAL was a Land Speed Record contender driven by John Cobb. It raced against the Thunderbolt.

The ***Railton Special***, later rebuilt as the ***Railton Mobil Special***, is a one-off motor vehicle designed by Reid Railton and built for John Cobb's successful attempts at the land speed record in 1938.

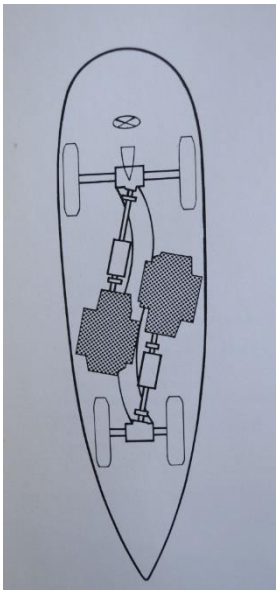
It is currently on display at Thinktank, Birmingham Science Museum, England.[1]

The vehicle was powered by two supercharged Napier Lion VIID (WD) W-12 aircraft engines.[2] These engines were the gift of Marion 'Joe' Carstairs, who had previously used them in her powerboat *Estelle V*.[3]Multiple engines was not a new technique, having already been used by the triple-engined White Triplex and the *Railton Special*'s contemporary rival, Captain Eyston's twin-engined *Thunderbolt*. With the huge powers thus available, the limitation was in finding a transmission and tyres that could cope. Reid Railton found a simple and ingenious solution to this by simply splitting the drive from each engine to a separate axle, giving four wheel drive.

The vehicle weighed over 3 tonnes and was 28 ft 8 in (8.74 m) long, 8 ft (2.4 m) wide and 4 ft 3 in (1.30 m) high. The front wheels were 5 ft 6 in (1.68 m) apart and the rear 3 ft 6 in (1.07 m). The National Physical Laboratory's wind tunnel was used for testing models of the body.

Land speed record

On 15 September 1938, the *Railton Special* took the land speed record from *Thunderbolt* at 353.30 mph (568.58 km/h), also being the first to break the 350 mph (560 km/h) barrier. Eyston re-took the record within 24 hours (357.50 mph / 575.34 km/h), holding it again until Cobb took it a year later on 23 August 1939 at a speed of 369.70 mph (594.97 km/h).



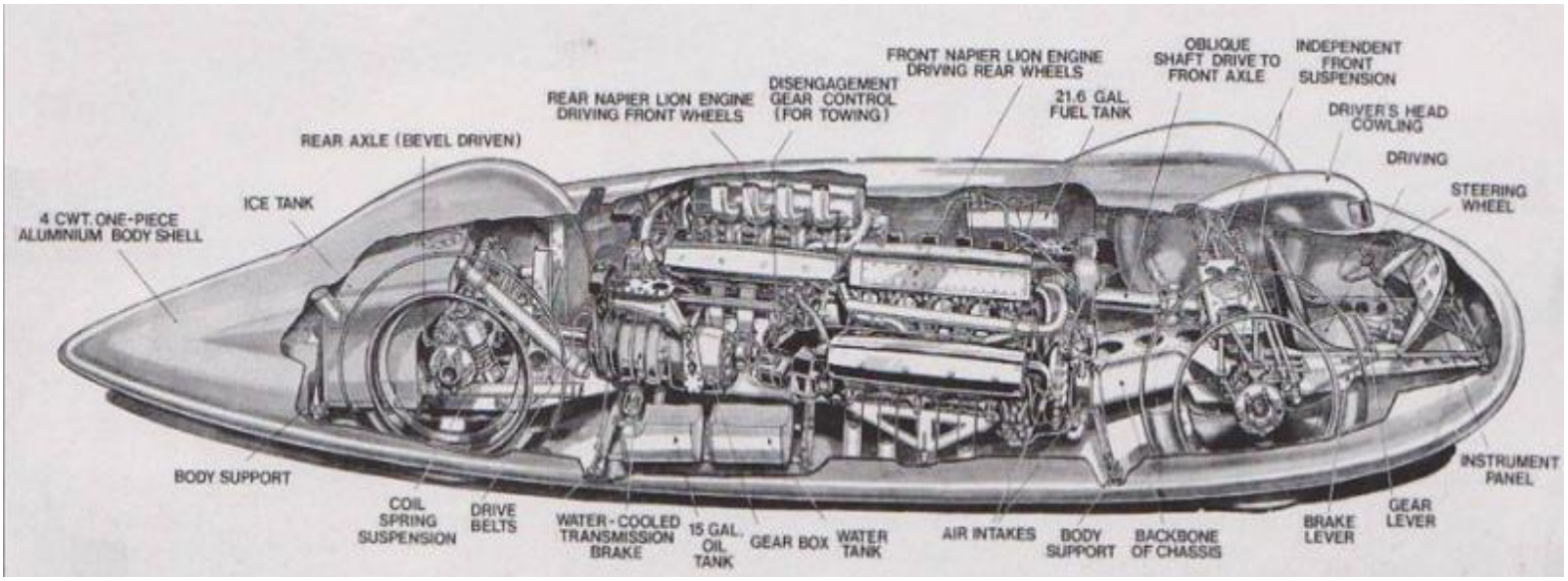
Further development

After the Second World War further development and sponsorship by Mobil Oil led to renaming as the **Railton Mobil Special**. It was the first ground vehicle to break 400 mph (640 km/h) in a measured test. On 16 September 1947 John Cobb averaged 394.19 mph (634.39 km/h) (385.6 & 403.1) over the measured mile in both directions to take the world land speed record.

Railton Special, later the *Railton Mobil Special*

The *Railton Mobil Special* on display at the Thinktank Museum, Birmingham.

Overview	
Production	1
Designer	Reid Railton
Body and chassis	
Body style	streamlined fully enclosed "turtle shell"
Powertrain	
Engine	Twin Napier Lion W-12 aero engines
Transmission	Separate drives to front and rear axles
Dimensions	
Length	28 ft 8 in (8.74 m)
Width	8 ft (2.4 m)
Height	4 ft 3 in (1.30 m)
Curb weight	over 3 tonnes



JOHN COBB'S
RAILTON "Mobil" SPECIAL

DRAWN BY
HAROLD PRATLEY

COPYRIGHT OF
MODEL CARS
THE AERODROME, STANBRIDGE, NR. LEIGHTON BUZZARD, BEDS

2/6