

When Henry O'Neal de Hane Segrave boarded the *RMS Majestic* at Southampton on 31 January 1929, he had rather more luggage with him than the average first-class transatlantic passenger.

A Grand Prix driver and wartime Royal Flying Corps fighter pilot, Segrave was already famous as a record breaker. Three years earlier, he had set a world land speed record of 152mph on Southport beach, and he followed that up at Daytona by becoming the first man to break the 200mph barrier on land, in a bright red, twin-engined Sunbeam. But that record had quickly fallen, first to his rival Malcolm Campbell, and then to American driver Ray Keech. Segrave was on his way, with a new car, to claim it back.

Safely struck down in the White Star liner's hold, Segrave's 'Irving-Napier Special' was dubbed the *Golden Arrow*. It is still regarded by many as the

The Lion's last roar

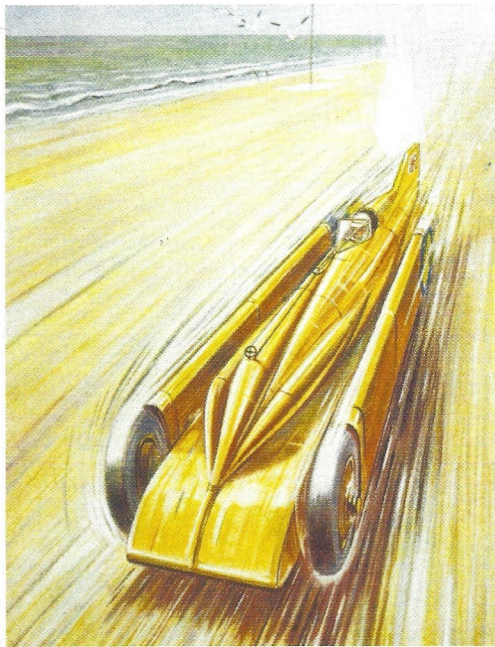
IN THE HANDS OF GENTLEMAN DAREDEVILS
AND DASHING PILOTS, ONE ENGINE CONQUERED
ALL – BUT BY 1929, ITS GLORY WAS FADING

Words • Alan Harper



most beautiful of all the record breakers. "It is one of the finest and fastest-looking cars that has ever been built," exclaimed *Autocar* magazine. "The most wonderful machine of its type ever created," echoed *The Motor*. "The deeper one digs into the actual construction so gracefully hidden by the curving body, the more is found at which to marvel."

But the *Golden Arrow* was not Segrave's only item of excess baggage. The 32-year-old major, born of an Irish father and American mother, and educated at Eton and Sandhurst, was a recent convert to powerboating. Packed alongside the car in another large crate was *Miss England*, a racing hydroplane designed by Fred Cooper and built by Hubert Scott-Paine's British Power Boat Co in Hythe, Southampton. Segrave was new to fast boats, but he had met the great American driver Gar Wood on a previous trip to Florida and had



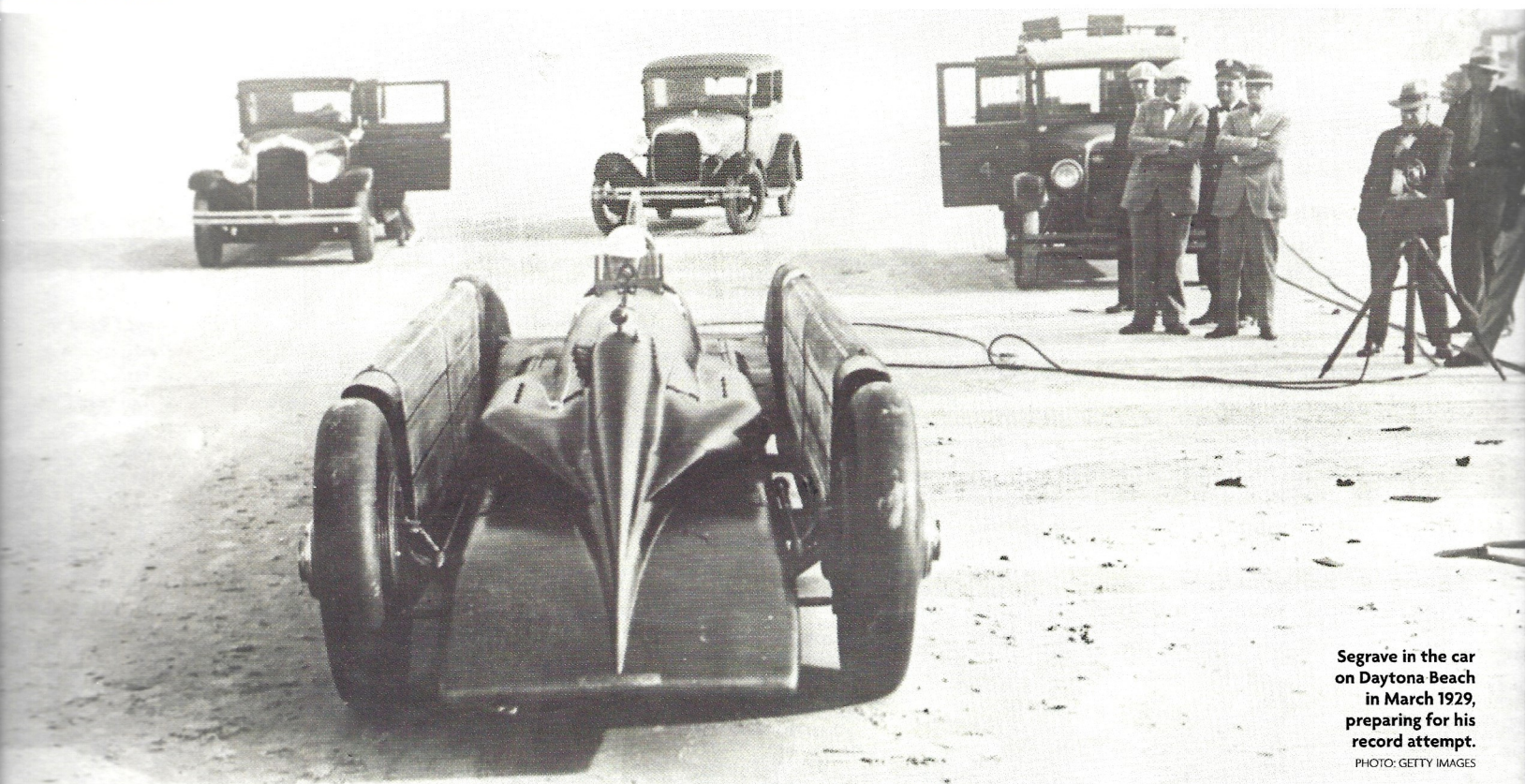
clearly been impressed. Wood had not been beaten on the hydroplane racing circuit for nine years, and along with his world championship crown he also held the world water speed record of 92.83mph. Segrave, fearsomely competitive on the track, had the title and the record in his sights.

Financed by Castrol millionaire Sir Charles Wakefield, both car and boat were powered by what was still widely regarded as the finest power plant of the era, even though its design dated back to the end of the war: the Napier Lion aero engine. A 12-cylinder, 23.9-litre unit with three parallel banks of four cylinders, it entered production in naturally-aspirated form producing 450hp at 1,950rpm. Thousands were built to power scores of different aircraft types, which set altitude records (30,500ft in an Airco DH9 in 1918) endurance records (England to India non-stop, 4,130 miles >



The Supermarine S.5 racing seaplane, winner of the 1927 Schneider Trophy, powered by a 900hp Napier Lion. Above: Henry Segrave's Napier-powered *Golden Arrow* car.

PHOTO: COURTESY OF AEROPLANE MAGAZINE.



Segrave in the car on Daytona Beach in March 1929, preparing for his record attempt.

PHOTO: GETTY IMAGES

in a Fairey monoplane in 1929) and speed records (319.57mph in a Supermarine S.5, 1928). The Lion had also powered Britain's victorious Schneider Trophy racing seaplanes in 1922 and 1927.

The Mark VIIA Lions installed in the front of Segrave's car and in the stern of *Miss England* were high compression-ratio racing variants, designed to run on a special 25:75 petrol:benzol fuel mix with a tetra-ethyl-lead additive. Power output was 900hp at 3,300rpm. The car was designed to achieve 81mph in first gear, 166mph in second, and 240mph in third.

The boat had been displayed in the Rootes showroom in London by its publicity-conscious builder, but it had not been sea-trialled before being crated and loaded aboard ship. Nevertheless, *The Motor Boat* declared that it would be capable of over 80mph.

Daytona beach, "twenty-three miles long, almost dead straight, absolutely level and as hard as concrete", as Segrave described it, had become the world's centre of land speed record attempts since his success in the Sunbeam two years before. On March 11 1929, with each end of the course marked out by a 50ft, illuminated pylon, an excited crowd watched the *Golden Arrow* take a four-mile run-up as its daring driver worked through the gears, changing into top at exactly 3,200rpm. The car needed just one run in each direction, punctuated by a one-minute tyre change, and the crown was Segrave's: 231.36mph. Ray Keech's *White Triplex* record was broken by more than 20mph.

"The car never reached its maximum," Segrave told *Autocar* by telephone. "I think some four to five miles per hour could be added to the present average. But I shan't go again unless the record is beaten by the *White Triplex* very shortly." He had a tight schedule. "My plans are to leave in two days' time to attempt the boat record, and then to sail for England on April the sixth." Keech's 'car' was Neanderthal: a truck chassis with three Liberty aero



DAYTONA BEACH, MARCH 11, 1929, MAJ. SIR HENRY SEGRAVE, IRVING-NAPIER SPECIAL "GOLDEN ARROW" BREAKING WORLD'S RECORD FOR 1 MILE AT 231.36 M.P.H.

engines. No-one wanted to drive it until a mechanic named Lee Bible volunteered. He was killed.

Segrave had an appointment with Gar Wood at the Miami Beach Yacht Club Regatta. It was a lively two-day meet for all racing classes, but the highlight was the two-heat duel between the two unlimited hydroplanes. The locals were sceptical. Wood's *Miss America VII* had two Packard aero engines and more than twice the horsepower of *Miss England*, and held the world water speed record. His opponent was a novice in an untried boat.

Nevertheless, with new propellers machined from solid steel recently sent over from the British Power Boat Co, the British team set to work preparing their boat. First efforts produced a top speed of 78mph, and then with a change of propeller the boat managed over 82mph. Within days Segrave had recorded 88.7mph, and at the start of the first race the lightweight *Miss England's*



At the wheel. The car is preserved at the National Motor Museum, Beaulieu.

PHOTO: MOTORING PICTURE LIBRARY



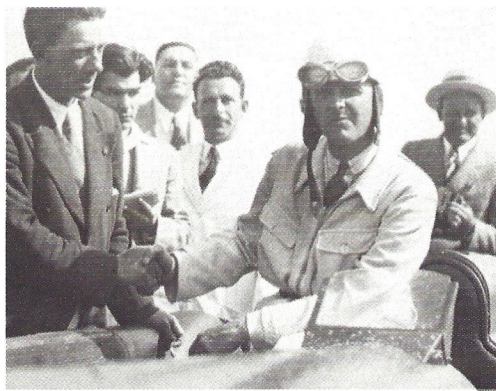
Miss England on the Thames at Chiswick in June 1929. The boat now resides in London's Science Museum.

superior acceleration allowed him to take an early lead. The American boat's power advantage soon began to tell – but then its steering quadrant broke. Wood was forced to accept a tow, Segrave finished alone, and the first heat went to Great Britain.

In the second heat all Segrave had to do was complete the course, which he duly did – albeit after plodding around at less than 50mph, nursing a leaking hull. With a first and a second place, and just ten days after setting a world land speed record, he had beaten Wood on his home turf, and claimed the trophy for the 'Motor Boat Championship of the World'.

The water speed record continued to elude him. He talked of building a bigger, twin-engined boat for 1930, capable of 100mph, but he spent the summer of 1929 back in Europe honing *Miss England's* performance. He was awarded a knighthood for his land speed success – while Sir Charles, the man with the money, became Lord

Days after setting a world land speed record, he had beaten Wood on his home turf, and won the 'Championship of the World' trophy



Above: the 231mph world land speed record needed just two runs along Daytona Beach.

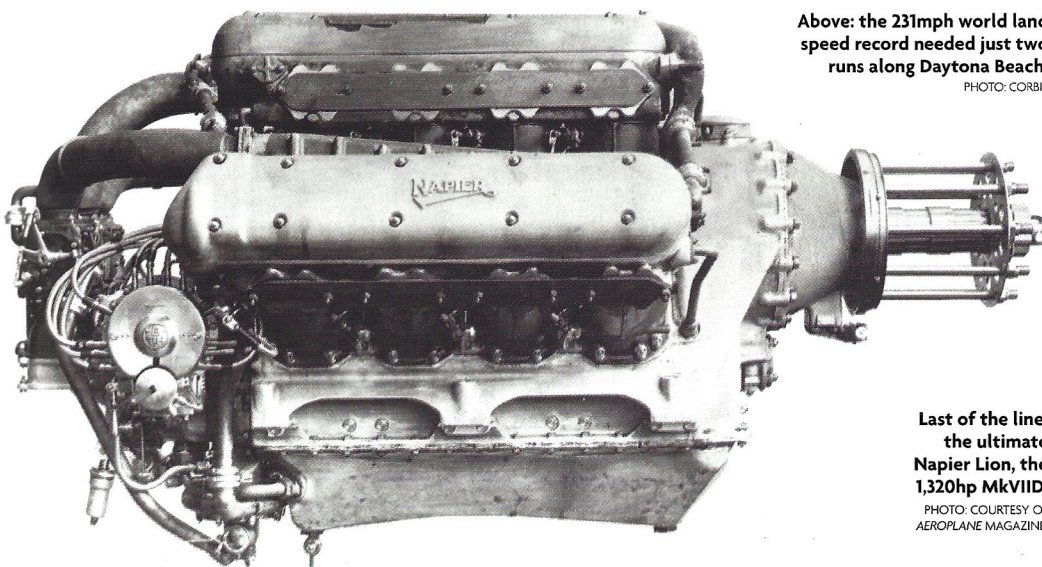
PHOTO: CORBIS

Wakefield. At Berlin in June, an itinerant C.S. Forester, writing for *The Motor Boat*, watched *Miss England* win an apparently close-fought international race – “although I strongly suspect Sir Henry of a good bit of timing, by which he contrived a very close finish for the crowd to enthuse about,” confided the ‘Hornblower’ novelist. “If so, more power to Sir Henry’s elbow.” At the Duke of York’s Trophy meeting at Chiswick at the end of the month, the gallant knight amazed the crowds with demonstration runs down to Hammersmith and back, roaring under London’s bridges at more than 80mph.

Then came the international meeting at Venice in September, a five-day festival fielding 75 entries. Gar Wood had sent over two boats. *Miss Americas VII* and *V*, to be driven by his brother Phil and the Italian enthusiast Prince Ruspoli – whose 3,000hp *Savoia* was damaged and could not take part. After a summer of testing, it was clear from her win in the unlimited race that *Miss England* was a far faster boat than she had been in Florida six months before.

On 12 September came the measured mile event: Segrave’s best chance yet at the record. After their meeting in Miami in March, Gar Wood had raised the bar by a fraction, to 93.12mph, and after six remarkably consistent runs on the Venice course – just one second separated his fastest and slowest times – Segrave clocked an average of 92.85mph. Close – but not enough. It was, however, by some margin, the fastest speed ever achieved by a single-engined boat.

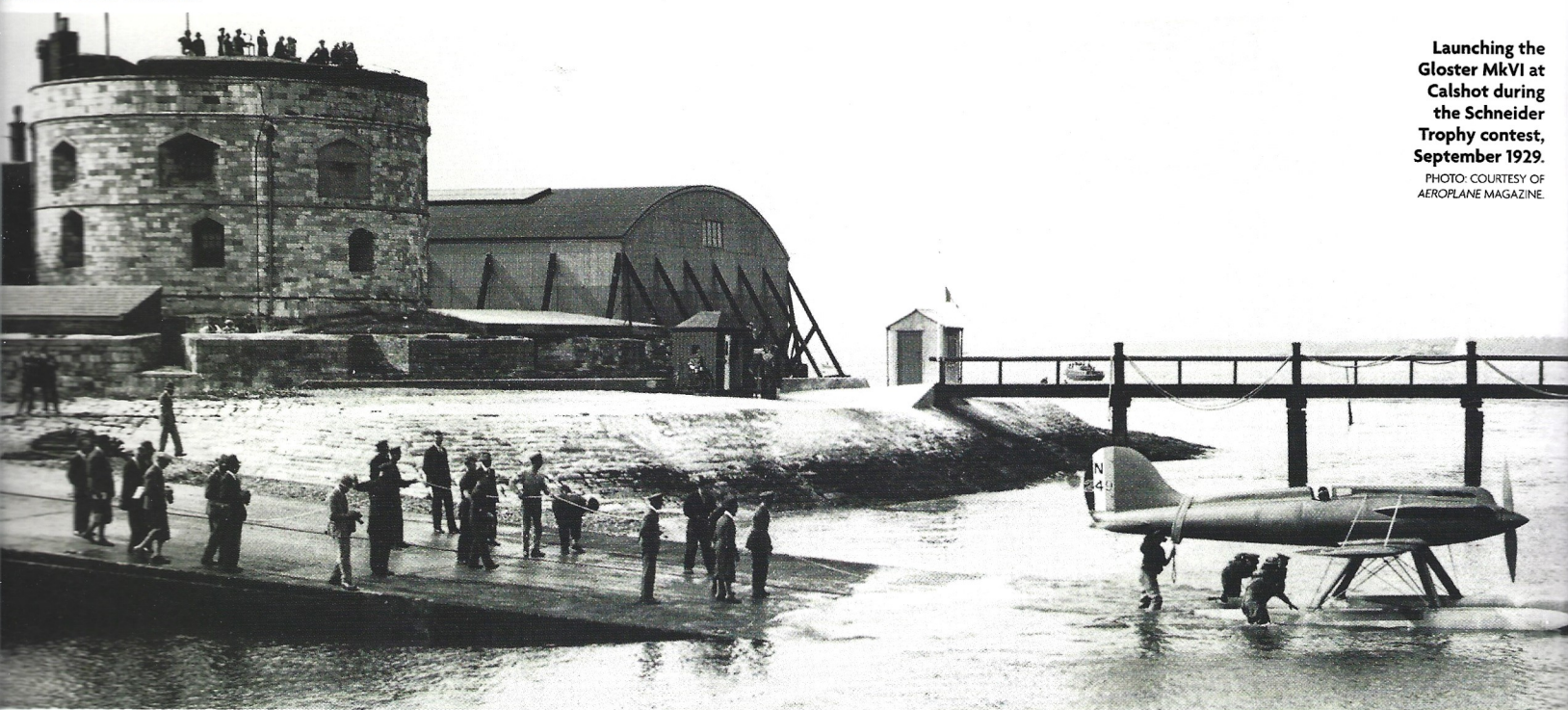
Meanwhile, on England’s south coast, further record-breaking dramas were starting to unfold. The 1929 Schneider Trophy competition was the >



Last of the line: the ultimate Napier Lion, the 1,320hp MkVIID.

PHOTO: COURTESY OF AEROPLANE MAGAZINE

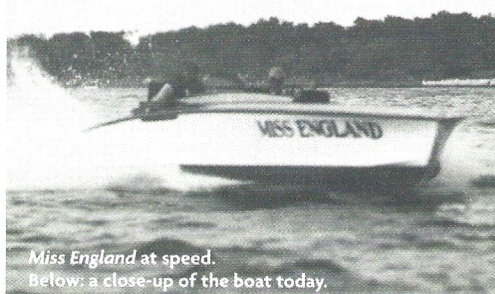
Launching the
Gloster MkVI at
Calshot during
the Schneider
Trophy contest,
September 1929.
PHOTO: COURTESY OF
AEROPLANE MAGAZINE.



greatest competitive spectacle of the year. Segrave himself had been spotted at Calshot the week before, observing preparations, by the editor of *The Aeroplane*. The Royal Air Force 'high speed flight' fielded a strong team of aircraft against the Italians: a pair of Rolls-Royce powered Supermarine S.6s, two Gloster seaplanes, and in reserve a Napier-powered S.5 from the victorious 1927 team.

Painted blue and gold, the diminutive Gloster MkVI had already been nicknamed the *Golden Arrow*. If the motoring press had competed for superlatives in describing Segrave's *Golden Arrow* car, the aviation papers were positively ecstatic at the sight of designer Henry Folland's beautiful little seaplane. Even *The Times's* man was moved to remark upon "that perfect shape of which every designer dreams", while to the *Morning Post* it was simply "the most beautiful example of aeronautical workmanship ever seen".

If the Schneider Trophy had been awarded on looks alone Gloster would have been handed a walkover. But although the Glosters could boast the very latest, supercharged version of the Napier



Miss England at speed.
Below: a close-up of the boat today.



Lion, which developed 1,320hp, the new Supermarine S.6 had a secret weapon.

Henry Royce had seen in 1927 that the all-conquering Napier Lion was reaching the peak of its potential, and pressed ahead with the development of a new 36.7-litre Rolls-Royce V-12 called the Buzzard. This huge power plant would later become the formidable Griffon, but in 1929 it formed the basis of a new racing engine known simply as the 'R', which could produce 1,900hp. Here was the future.

While Gloster and Napier engineers struggled with persistent fuel-starvation problems in the two Mk VIs, Sqn Ldr Orlebar and his high speed flight put the Rolls-Royce Supermarines through their paces. A blanket of government secrecy surrounded the Schneider aircraft, but it was clear even to outside observers that something extraordinary was afoot. "When certain engines are in the air, notably the racing Napier of 1927, the high pitched note, rising to a shriek, increases the impression of speed," remarked *Flight's* correspondent. "But the geared and supercharged Rolls-Royce has a much

Pound for pound

LAND Irving-Napier 'Golden Arrow'

Length	27ft 6.5in (8.39m)
Width	6ft 1in (1.85m)
Height	3ft 2in (0.96m)
Wheelbase	14ft 0in (4.27m)
Weight	7,385lb (3,350kg)
Fuel capacity	20gal (91 lt)
Engine	Napier Lion Mk VIIA
Cylinder capacity	23.9 lt, W-12
Compression ratio	10:1
Power output	900bhp @ 3,300rpm
Designer/builders	J.S. Irving/ Robin Hood Engineering Works

World speed record 231.36mph
Daytona Beach, 11.3.29

SEA Miss England

Length	26ft 0in (7.92m)
Beam	7ft 6in (2.29m)
Draught (at speed)	1ft 1in (0.33m)
Weight	4,230lb (1,919kg)
Fuel capacity	65 gal (295 lt)
Engine	Napier Lion VIIA
Cylinder capacity	23.9 lt, W-12
Compression ratio	10:1
Horsepower	900bhp @ 3,300rpm
Propeller speed	6,600rpm
Designer/builder	F. Cooper/ British Power Boat Co

World single-engine speed record 92.85mph
Venice, 12.9.29

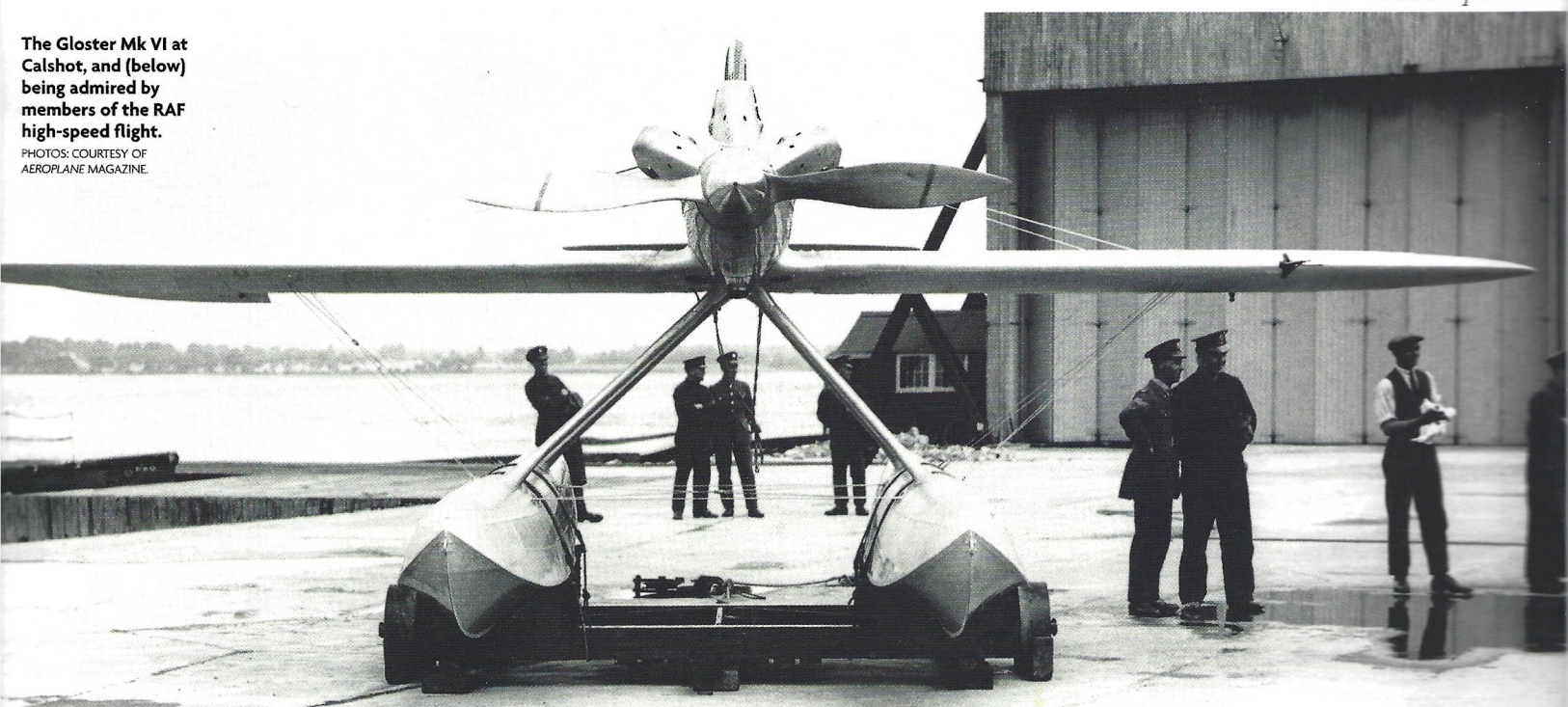
AIR Gloster Mk VI 'Golden Arrow'

Length	27ft 0in (8.23m)
Wingspan	26ft 0in (7.92m)
Height	10ft 9.5in (3.29m)
Float length	22ft 2in (6.76m)
Weight	2,284lb (1,036kg)
Fuel capacity	162gal (736 lt)
Engine	Napier Lion VIID
Cylinder capacity	23.9 lt, W-12, supercharged
Compression ratio	10:1
Power output	1,320bhp @ 3,600rpm
Designers/builder	H.P. Folland & H.E. Preston/ Gloster Aircraft Co

World speed record 336.30mph
Solent, 10.9.29

The Gloster Mk VI at Calshot, and (below) being admired by members of the RAF high-speed flight.

PHOTOS: COURTESY OF AEROPLANE MAGAZINE.



less ear-splitting tone... estimates must be sheer guesswork. But I got the impression that I had never seen anything travelling so fast before." He hadn't.

In spite of working frantically for three days and two nights non-stop, Gloster and Napier ground crews could not solve their problem in time for the race. The Rolls-Royce S.6s and the Napier S.5 were selected, and Flg Officer Waghorn duly won the event for Britain by completing his seven laps of the diamond-shaped course over the eastern Solent more than 40mph faster than the Italian Macchi M.52.

Then the following day, on 10 September, with the trophy in the bag and the Italians packing to go home, the engineers finally cured the problem on one of the Gloster MkVIs. Flt Lt Stainforth took off in murky conditions to attack the world record. The best of his four laps was recorded at 351.3mph, and his average was 336.3 – a new absolute speed record.

It was the Lion's last great triumph in the air. Glosters held their consolation prize for a matter of hours. Once Stainforth had landed, and with

Stainforth's speed in the Gloster was 336.3mph – a new absolute speed record. It was the Lion's last great triumph in the air

visibility improving, Sqn Ldr Orlebar took off in the winning Supermarine S.6. In four runs on the straight-line, three-kilometre course, he pushed the official record to over 355mph. Two days later – 12 September, the same day Segrave was setting his single-engine record with *Miss England* in Venice – Orlebar took the Supermarine up again and raised the record to 357.7mph.

The mighty Lion's reign was drawing to a close. The Rolls-Royce 'R' engine went on to power Supermarine aircraft to their 1931 Schneider

Trophy victory, and break the 400mph barrier. The land speed record also fell that year, to Malcolm Campbell, and then again in 1932. His *Bluebird* was powered by a Napier, but he was back in 1933 with a Rolls-Royce R mounted in a rebuilt car to begin a campaign of successive records that breached 300mph by 1935. When he then turned his energies towards the water speed record, he put the R engine into the Fred Cooper-designed *Bluebird K3*.

As for Segrave, he did get his world water speed record. The year after his 1929 triumphs on land and sea he took to the water again in the larger and more powerful *Miss England II*. It was still funded by Lord Wakefield, and again designed by Fred Cooper, but – the designer having fallen out with the ebullient Scott-Paine – the boat was built by Saunders-Roe in Cowes. Somehow the Castrol millionaire had persuaded Rolls-Royce to build him a pair of the still-secret 'R' engines, which gave the single-step 36-footer a total of 3,832hp.

On 13 June, 1930 – a Friday – Segrave motored out onto Windermere at about three o'clock in the afternoon, headed for the southern end of the measured mile laid out in the middle of the lake, lined the boat up and let her go. His first run was timed at just over 96mph, and the return at over 100mph, producing an average – and official new world water speed record – of 98.76mph. The confident Segrave had said that he intended to make two runs, sufficient just to break the record, and then bring the boat in for inspection before another go. But he seemed to change his mind. "The boat appeared to be going splendidly," wrote the *The Motor Boat's* correspondent, "when about half-way down the course it slowed up suddenly, and seemed to somersault in a tremendous cloud of spray..."

Segrave had hit a piece of wood which ripped the bottom out of the step and up-ended *Miss England II*. The Rolls-Royce engineer on board, Victor Halliwell, was killed. Michael Wilcox, the mechanic, was rescued. Segrave was hauled out of the water, mortally wounded. "How are the lads?" he asked. "Did we do it?"

