de HAVILLAND

DH71 TIGER MOTH

AIRCRAFT OVERVIEW

21st century technology reconstructs a 1920's aircraft

Designed and built in utmost secrecy at Stag Lane during spring 1927, the DH71 Tiger Moth was an experimental racing machine, in which de Havilland Aircraft Company saw an opportunity of carrying out high-speed research at a reasonable cost.

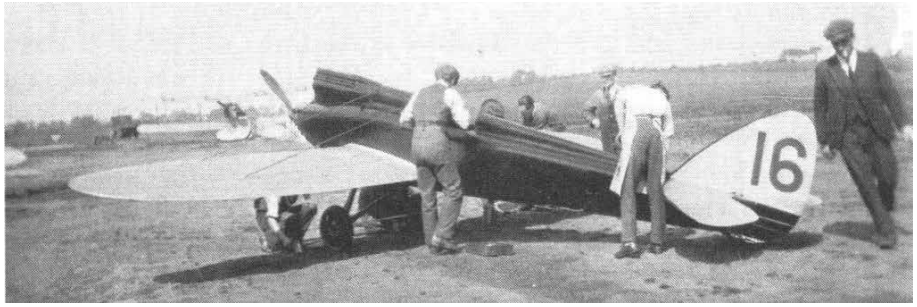
As reliable information on high speed aircraft could only be obtained by full scale trials since model tests were difficult to make representative, and required much interpretation. For that reason, the only two ever built DH71 were used as a flying testbed for Major Halford's newly designed Gipsy engine. One of the tasks was to confirm suitability of air cooling of the in-line 4-cylinder engine at high speed. The results were most satisfactory and it opened the door to further development of Gipsy engines.

The first flight of the Tiger Moth (G-EBQU) took place on 24 June 1927, followed by the second Tiger Moth (G-EBRV) on 28th July. Both machines were originally fitted with ADC Cirrus Mk.2 engines but after successful test flights, G-EBQU was fitted with the new Gipsy engine. It was suggested to Sir Charles Wakefield, that the new 'Tiger Moth' would be a suitable machine to carry his colours in the 1927 King's Cup Race. He accepted the offer and suggested that a second machine (G-EBQU) should be entered in Lady Wakefield's name. Although the Certificate of Airworthiness for the new engine was issued on 29 July, G-EBQU was withdrawn from the race and instead tuned for record breaking purposes. Only 'RV' (starting number 17) piloted by H. S. Broad entered the race on 30 July in Hucknall but the aeroplane was withdrawn after the first circuit due to adverse weather conditions.

On 24 August 2017, H. S. Broad set up a world's record in Light Aeroplane Category Class III, covering 100km closed circuit at an average speed of 186.47mph. Few days later, on 29 August, an attempt was made on the world's altitude record in the same category. 'QU' reached 19,191ft. in 17 minutes, but Broad had to give up at that level due to lack of oxygen. The machine, at 20,000ft was still climbing at the rate of about 1,000ft per minute.

The record-breaking Tiger Moth G-EBQU kept flying until 1930 when it was sold and shipped to Australia. Sadly, on 17 September 1930, the machine crashed during the air race practice, killing its pilot. The second Tiger Moth G-EBRV was withdrawn from active flying in 1928 and went to storage in Stag Lane. In 1933, it was displayed outside the new Hatfield factory as an advertisement for that year's King's Cup Race. After that, the airframe was hoisted into the rafters of the flight shed at the de Havilland factory at Hatfield, just above the DH88 Comet that was being prepared for the MacRobertson Speed Race. It stayed there until destroyed by a Junkers Ju 88 during a bomb raid on the factory on 3 October 1940.





PERFORMANCE:

SPEED - MPH

0 250 500 750 1000

186.47

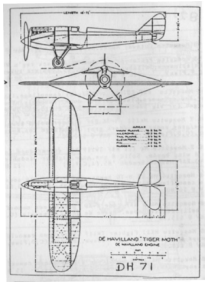
MAX ALTITUDE - FT

0 10,000 20,000 30,000 40,000

19,191

WING SPAN 22ft 6in
WING AREA 76.5sq ft
LENGTH 18ft 7in
WEIGHT EMPTY 618lb
WEIGHT TOTAL LOADED 905lb





ON DISPLAY AT THE MUSEUM

The de Havilland Aircraft Museum is building a replica of G-EBRV that used to be on display in Hatfield and shared the same work shed as the England-Australia race winning DH88 Comet.

As there are no surviving records of the original DH71 design, a painstaking research of articles in the period journals has been carried out to determine the most probable design and building techniques used during the construction of this machine. The gathered information is then verified by modelling the structure in 3D CAD system and printed in scale on 3D printer.

de HAVILLAND AIRCRAFT MUSEUM