

## "MERCURY" MAKES GOOD

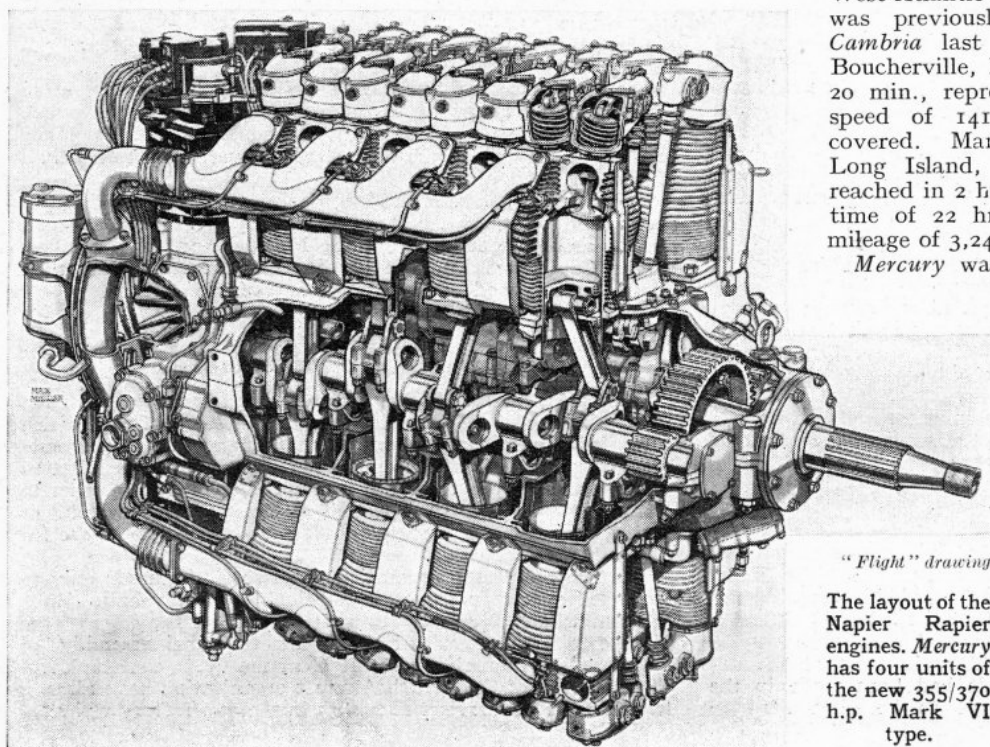
*Upper Component's Crossing in Record Time Gives Mayo-Composite Scheme its First Commercial Vindication*

WITH *Mercury's* record-breaking flight from Foynes Harbour, Ireland, to Montreal and New York, Imperial Airways, in conjunction with the Air Ministry (not forgetting the makers of the machine and engines), have achieved a second and most interesting step towards making transatlantic aviation a commercial proposition.

*Mercury*, Rapier-engined upper component of the Short-Mayo composite aircraft, was launched at normal all-up weight of 20,800 lb., including 600 lb. of freight—newsreels, Press photographs, and so forth. The separation from *Maia* was accomplished at 19.58 hours on Thursday, July 21. By passing over Cape Bauld, Newfoundland, 13 hr. 29 min. later, *Mercury* had made the fastest East-West Atlantic crossing on record (the best time was previously made by the Short boat *Cambria* last August, in 14 hr. 24 min.). Boucherville, Montreal, was reached in 20 hr. 20 min., representing an average "ground" speed of 141 m.p.h. for the 2,860 miles covered. Manhasset Bay, Port Washington, Long Island, was the next stop, and was reached in 2 hr. 11 min., making a total flying time of 22 hr. 31 min. for an approximate mileage of 3,240.

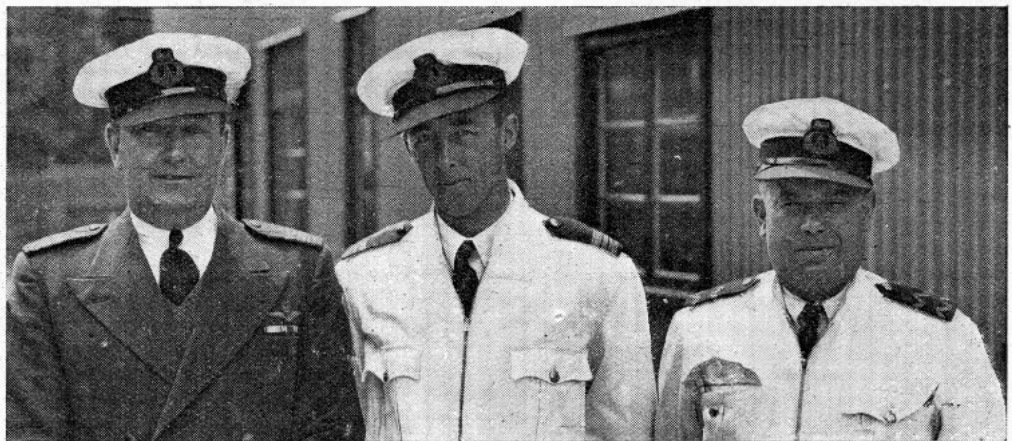
*Mercury* was piloted by Captain D. C. T. Bennett, who was accompanied by W/O. A. J. Coster. Capt. Bennett's report is not yet available, but it appears from meteorological data that they encountered an average headwind of approximately 25 m.p.h. Several long stretches were covered against winds considerably in excess of this speed. The flight was made for the most part at altitudes varying between 5,000ft. and 11,000ft.

Interest centres, of course, on the 2,860-mile leg of the flight from Foynes to Boucherville, Montreal. *Mer-*



"Flight" drawing  
The layout of the Napier Rapier engines. *Mercury* has four units of the new 355/370 h.p. Mark VI type.

The men: Capt. D. C. T. Bennett (centre), who flew *Mercury*, accompanied by W/O. A. T. Cosier (right). On the left is Capt. A. S. Wilcockson, who was at the controls of *Maia*.



*Mercury's* time of 20 hr. 20 min. for this stretch represents a ground speed of 141 m.p.h. Taking into consideration the headwinds, it would appear that the average air speed for the actual Atlantic crossing was in the region of 177 m.p.h. On arrival at Montreal there were 80 gallons of fuel left in the tanks. The fuel consumption on this flight had been at the extraordinarily low rate of 54 gall./hr., at which figure it would have been possible to continue for at least an additional 250 miles and still leave a reasonable margin for safe landing circuits.

This economical fuel consumption, coupled with *Mercury's* high cruising speed, gives some indication of the efficiency of the four 355/370 Napier Rapier Mark VI engines. The range and speed are a long way in excess of the original requirements. The guaranteed performance was 2,350 miles to be covered against a 40 m.p.h. headwind at an air speed of 140 m.p.h. when carrying 500 lb. of mail. Actually, the pay-load of *Mercury* has proved to be 1,000 lb. for this distance. In fact, she has proved that she could do considerably more than the 2,000-mile Atlantic crossing against a 60 m.p.h. headwind.

Looking back for a moment to the broad principles of the Short-Mayo scheme, it is interesting to remember that *Mercury's* C. of A. for an unassisted take-off allows only 14,000 lb. maximum weight, whereas when launched in the air by *Maia* the permissible weight is 20,800 lb.—a difference of 6,800 lb., the whole of which is available for additional fuel and pay-load.

A feature of the composite which is sometimes overlooked is that the lower component, when not required for launching, can be utilised for normal flying purposes, and in this connection *Maia* carried ten passengers with luggage on the flight from Southampton to Foynes immediately prior to *Mercury's* departure on the record flight.

### Final Gliding Contest Results

THE final award of points in the Open Contest at the National Gliding Contests had to await the examination of the last day's barograph records, so that points for height might be added to the provisional figures already given in *Flight*. The Rhönsperber sailplane, flown by C. Nicholson and J. P. Dewsbury, comes out top with 464 points; next in order are King Kite (Sqn. Ldr. P. M. Watt), 459½ points; Rhönadler (J. S. Fox and P. B. N. Davis), 413 points; and Minimoa (P. A. Wills), 332½ points.

### Clean Hands—Without Water

SOLD in an attractive leather pouch at the modest price of 2s., a new hand-cleanser known as "Palpak" is claimed to clean dirty or greasy hands efficiently without the use of soap or water. The pouch contains a large tube of the preparation and a supply of paper towels.

We have tried a sample, and the inventor's claims appear to be fully justified. "Palpak" is obtainable at the principal London stores and from leading garages.

### Air League A.G.M.

LORD MOTTISTONE, presiding, on July 20, at the annual general meeting of the Air League of the British Empire in the absence of the Duke of Sutherland, said, in proposing the adoption of the report for 1937-38, that the League had had a very successful year. The 1938 Empire Air Day had been a greater success than any previous Day in spite of the unfavourable weather, and new records had been made in the total attendance and in the amount to be distributed to charities.

The Short-Mayo composite aircraft was fully described in *Flight* of February 17, 1938, since when, with one important exception, few changes have been made. The Napier Rapier Mark V sixteen-cylinder H-type air-cooled engines originally fitted to the upper component have been replaced by a more powerful version of the same type—the new Mark VI, which has a normal output of 355/370 h.p. at 3,650 r.p.m. and 4,750ft. The maximum power rating is 380/395 h.p. at 4,000 r.p.m. at 6,000ft. Two-bladed wooden airscrews are employed.

### CONTRIBUTORS TO SUCCESS

Among the components of *Mercury*, and of *Maia*, the Bristol Pegasus-engined mother-ship which launched her on her successful voyage, were the following:—

Airscrews, v.p. and wooden, by De Havilland and Airscrews, Ltd., respectively; Rotax magnetos and Lucas electrical equipment; K.L.G. plugs with BR90 resistor elbows; cables by British Insulated Cables and Cables; smaller electrical details, D.H. Bonnella; Salter springs; Britannia batteries; copper tubing by Birmingham Battery and Metal Co.

Instruments, general, by Smith's Aircraft Instruments; Marconi radio—AD 67A transmitter, AD 6872B receiver and 5062E D/F. receiver; Sperry auto pilot and artificial horizons; controls by Exactor, Arens and Bowden.

Constructional materials by British Aluminium Co.; Sterling Metals; Phosphor Bronze Co.; J. J. Habershon; Firth-Vickers; Northern Aluminium Co.; L. Cameron and Co.; High Duty Alloys, Ltd.; Jas. Booth and Co.; Reynolds Tube Co.; Eccles and Pollock; F. A. Hughes.

Jointings by Cork Mfg. Co.; rivets by S. and R. J. Everett and by De Bergue's patents; rubber sections by Expanded Rubber Co.; alloy spinnings by Cornercroft, Ltd.; window and door fittings by Beckett, Laycock and Watkins; Bakelite sheets by Bakelite, Ltd.

A.G.S. parts by Rubery, Owen and Co., and by Vickers (Aviation), Ltd.; special machined parts by S. E. Opperman; Simmonds elastic stop-nuts; upholstery and decorations by Rumbold.

Shell fuel and Intava Red Band oil.

Twelve units of the Air Defence Cadet Corps had already been formed, and if all went well at least fifty of the two hundred units aimed at would be established by the middle of next year.

The committee had approved a policy of closer co-operation with the Navy League, and this policy had been made public in a letter signed by Lords Lloyd and Beatty of the Navy League, and by the Duke of Sutherland and himself on behalf of the Air League.

In conclusion, Lord Mottistone declared that the need for an active and vigorous Air League was as great now as ever, and he assured members that the President and the members of the Committee would never for one moment relax their efforts for the good of the League and of the country.

The report was adopted unanimously.

### Expansion at Hanworth

GENERAL AIRCRAFT have concluded arrangements for the purchase of the buildings, plant and stock of the British Aircraft Manufacturing Company at Hanworth Aerodrome. The reorganisation of the existing equipment and installation of new machinery is to be put in hand immediately in order to relieve pressure on the General Aircraft works, which, of course, are adjacent, and to provide further factory space for new sub-contract work.

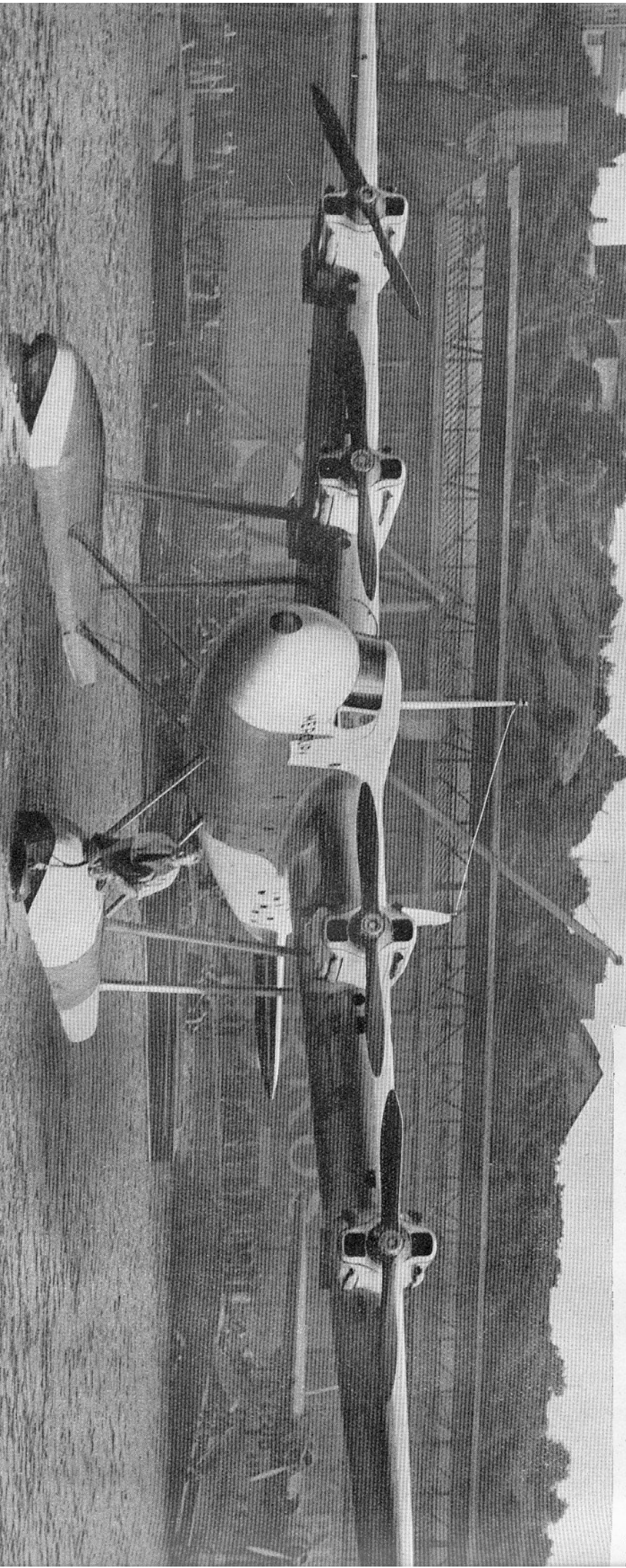
The concreted area separating the two works needs only to be roofed over to provide an additional assembly hall. This, in turn, will lead directly to another hall on the edge of the aerodrome and provide facilities for the final assembly of larger military or civil aircraft than are yet contemplated. The key men of the British Aircraft organisation have already transferred their services and work in the new factory will start immediately.



RELIABILITY WITH ECONOMY

## NAPIER ENGINES

ENABLED "MERCURY" TO CAPTURE  
THE WORLD'S LONG DISTANCE RECORD  
FOR SEAPLANES—6,045 MILES IN 42 HOURS  
NON-STOP DUNDEE — ORANGE RIVER



**Mercury** — upper component of the **Short Mayo**  
Composite Aircraft  
is fitted with

**FOUR NAPIER RAPIER VI ENGINES**