# SAILPLANE AND GLIDER

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*Official Organ of the British Gliding Association*

EDITED BY ALAN E. SLATER



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# THE SAILPLANE *and* GLIDER

*Official Organ of The British Gliding Association*

Editorial Offices: 13, VICTORIA STREET, LONDON, S.W.1 Telephone: ABBey 2615

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## Those Troop-carrying Gliders

A SURVEY of some dozens of press cuttings about troop-carrying gliders leaves us with a feeling of satisfaction. Because someone has at last found a "practical use" for gliders? Not at all. Our satisfaction comes from realising that nobody has yet been able to find a "use" for soaring flight.

It must be emphasized that the practice of motorless flight has spread and developed for one reason only, which is that gliders have been proved capable of soaring. This has no connection whatever with their use as troop-carriers. The subject is, therefore, strictly outside the scope of this journal, and if we run through our collection of pronouncements by Press "experts," it is only because of their entertainment value to readers.

True, a "Correspondent" in *Reynold's* imagines that the troops "would glide in the clouds for an hour or even more after the departure of the visiting craft" (the towing aeroplane), "and alight in lonely spots." But no other writer expects any soaring to be done. The *Daily Mail* "Services Correspondent," though, has another use for "currents," evidently thinking that they are the only means of directional control, for he writes that, after being "loosened," the gliders "are then at the mercy of the air currents, but in skilled hands these can be turned to advantage and the glider may descend within reasonable distance of its objective." Don't ask him to define his "reasonable distance"; it probably depends on the amount of "mercy" available.

Few other writers dare to commit themselves on the subject of spot landings, though Air Commodore L. E. O. Charlton, who has a well-informed article in the *Daily Herald*, reveals that a glider pilot can, within limits, land wherever he wants to. But *The Times* Aeronautical Correspondent was surely off his guard when he wrote that, "having no motor, they have to land where the elements dictate." for he certainly knows better.

When it comes to gliding angles, we are given a variety to choose from, of which 1 in 10 seems to be the most popular; even *Flight* can specify nothing better than a lift/drag ratio of "at least 10." But this angle is too good for the *Sunday Times* Air Correspondent, who is so overcome by his boldness in suggesting a mere 12,000 feet for starting height, that he has to throw in "a favourable wind" as well.

The prize for the flattest descent goes, at first sight, to "An ex-R.A.F. pilot" in the *Star* with a glide of 25 miles from an altitude of 6,000 feet. But one finds, on reading further, that he thinks this is the best a sailplane can do *with* up-currents, for he says that these "cease when the air blows out to sea," and then reasons that it is, therefore, "not practical" for the sailplanes to start from the Continent with sufficient height to glide across. So he wants them released "near the British coast," evidently sure that a gliding angle of about 1 in 1 will strain nobody's credulity. Some other writers conceal their ignorance of gliding angles by placing the release directly overhead of the landing point, thus missing the whole "advantage" of gliders over parachute troops.

On the question of materials, "Our Military Correspondent" of the Newcastle *Journal & Mail* leaves the rest nowhere when he tells us of "the raw materials for a glider—in which bamboo and canvas are used— . . ." The same writer explains vividly that, if attacked, "the plight of troops in gliders would be pitiable"; but there are others who point out that you can shoot ever so many holes in a glider without stopping it from gliding.

As for towing more than one glider at a time, the usual practice is for them to be splayed out fanwise, each on a separate cable from the aeroplane; but none of the writers has ever heard of this, all being hypnotized by the "train" idea. We have only once seen a photograph of a "train," and would imagine the arrangement to be highly unstable, even without going to extremes like the *Daily Mail's* artist, who shows only a few feet of cable between one glider and the next. Imagine what would happen if the rearmost pilot started pump-handling!

Mr. F. N. Slingsby favours the "train" arrangement, but with hundred-yard intervals, in the *Illustrated London News*, where he writes with more authority than all the rest put together. In fact, his ideas, as depicted by that paper's artist, have been used in an Air Ministry poster just issued, according to *Everybody's Weekly*, which reproduces it.

Mr. Slingsby gives, as approximate figures for a glider carrying eight fully-armed men, a span of 85 ft., wing loading 7 lbs. per square foot, stalling speed 42 m.p.h. (36 m.p.h. with flaps down), best flying speed 48 to 50 m.p.h., with sinking speed 4 ft. per second, which gives a gliding angle of 1 in 18 or 19. An interesting estimate by *Flight* is that a glider with 10 men would only add 11.4 per cent. to the drag of a "Ju 52" aeroplane carrying 20 men.

And now let us leave this irrelevant subject and return to soaring.

# From Here and There

**Flying Flat.**—The aviation group of the Technical College at Stuttgart has built a sailplane in which the pilot can lie prone. Experiments in a centrifuge have shown that a pilot in this position can endure accelerations of 10 to 11*g* for several minutes without "blacking out," and this was to be put to a practical test in the sailplane, which was given a high safety factor for the purpose. (Article on the physiology of acceleration, by Dr. Siegfried Ruff in *Luftwissen*, quoted by *Aeronautics*.)

* * *

**More Prohibitions.**—On July 5th an Order was published forbidding any person to fly balloons (fixed or free) or kites over the United Kingdom except by permit granted by the Air Council or some authorised person. A month later the Air Ministry announced that the flying of model aeroplanes and gliders with a span of over 7 feet is prohibited. To judge by the trouble which arose over the flying of full-sized gliders this spring, we should guess that the Air Ministry does not regard the Fighter Command as coming within the category of "some authorised person."

* * *

**Weather Reports.**—The Air Ministry's Daily Weather Reports, which, after the war began, were issued to subscribers a fortnight late so as to conceal our weather from the Germans, ceased altogether after last October. Subscribers are now informed that "if and when it is possible to recommence the issue of copies of the Daily Weather Reports for periods subsequent to the outbreak of war, a notification to that effect will be sent to you."

Meanwhile the Germans are countering this by sending out aeroplanes regularly over the Irish Sea and the Atlantic for reconnaissance and weather observation, according to the *News Chronicle* Air Correspondent, who says they take off from the west coast of France.

* * *

**First Launch.**—An almost human story of a gull's first take-off, related by B. Gooch in "The Quiet World of Nature" (published by John Lane), has been sent us by Mrs. M. A. Fox. "Herbert," a tame gull reared by Mr. and Mrs. Gooch till nearly adult, had never attempted to fly. One day they were "sitting in the heather on the highest point of our garden, over 1,000 feet up and steep enough to launch a glider." The air was clear and there was a little breeze. "Herbert" sat on Mrs. Gooch's knee as usual, and when she got up to go home she put him on the ground, expecting him to follow. But "To our complete astonishment we saw him run quickly down the slope and gaining his wings to rise high in the air. We called and called, and I believe he tried to come to us, for at the sound of our voices he swerved violently in his flight. But it was useless. Either from inexperience he could not, or intoxicated by his first flight he would not come back. We stood and watched him growing smaller and smaller in the sky, dazed, and with heavy hearts." About a fortnight later the bird was brought back by a farmer into whose house he had insisted on being admitted.

**R.A.F. Glider Training.**—The experiment at a Sussex aerodrome of teaching R.A.F. men to glide before taking to aeroplanes, which we described in the March/April issue, was discontinued in May owing to Air Ministry prohibition of gliding.

* * *

**"Flight Without Power."**—This up-to-date textbook by Lewin Barringer and other experts, which we reviewed in the last issue, is published at $3.50 by the Pitman Publishing Corporation of New York. Sir Isaac Pitman & Sons, Ltd., Parker Street, W.C.2, inform us that it will probably be ready for sale by them at the end of September at about 10s. 6d.

* * *

**Polar Thermals.**—Facts of interest to soaring pilots may turn up in the most unexpected places. Reading *Antarctica*, by J. Gordon Hayes (1928), we came upon this passage: "If Antarctica be compared, latitude for latitude, with the Arctic, it is found to be colder, especially in summer. This is due partly to the small amount of exposed rock, that warms Polar air to a surprising extent." We all know about thermals from exposed rock, but here it is changing the whole climate of a region enormously greater than the area of the rock.

* * *

**Producing a Cold Front.**—A book published this year (*Country Lawyer*, by Bellamy Partridge) recalls a meteorological lawsuit at Dayton, Ohio, nearly 50 years ago. To relieve a prolonged drought the Presbyterian minister of Phelps organised a collective prayer for rain. Prayer was offered up at noon, and, says the author: "By one o'clock there were small clouds in the sky, by two a gusty wind had begun to blow, by three the temperature had dropped almost 20 degrees, and by four a thunderstorm of cyclonic proportions swept through the township, drenching the parched countryside with nearly two inches of rain . . . . and igniting with a bolt of lightning the largest key-barn of Mr. Phineas Dodd, which burned to the ground with its contents." Whereupon Mr. Dodd sued the minister for $5,000 damages. Arguments were both theological and meteorological, but the latter won the day and the case was dismissed.

* * *

**Harm from Aeroplane Noise.**—A strong argument for flying without an engine may be derived from an article in *Nature* for August 17th, by Dr. T. S. Littler, of Manchester University. He writes: "It has been found that, after flights of one hour in modern types of aircraft, pilots show a severe hearing loss to frequencies in the upper register above 2,000 cycles" (i.e., about 3 octaves above middle C) "if the ears are not protected in any way. This deafness is temporary and the subject recovers to normal after a certain period of rest, but if flying is continued for long periods without protection to the ears the deafness becomes permanent. The pilot is not always aware of the disability owing to the high frequencies involved affecting the clarity rather than the apparent loudness of speech received, but an audiometer test demonstrates the defect quite clearly." Full details of this research were published in the *Journal of Laryngology and Otology*, Vol. 44, No. 9 (1939).

# The "Horten III" All-Wing Sailplane

*By* A. H. YATES, B.Sc., A.F.R.Ae.S.

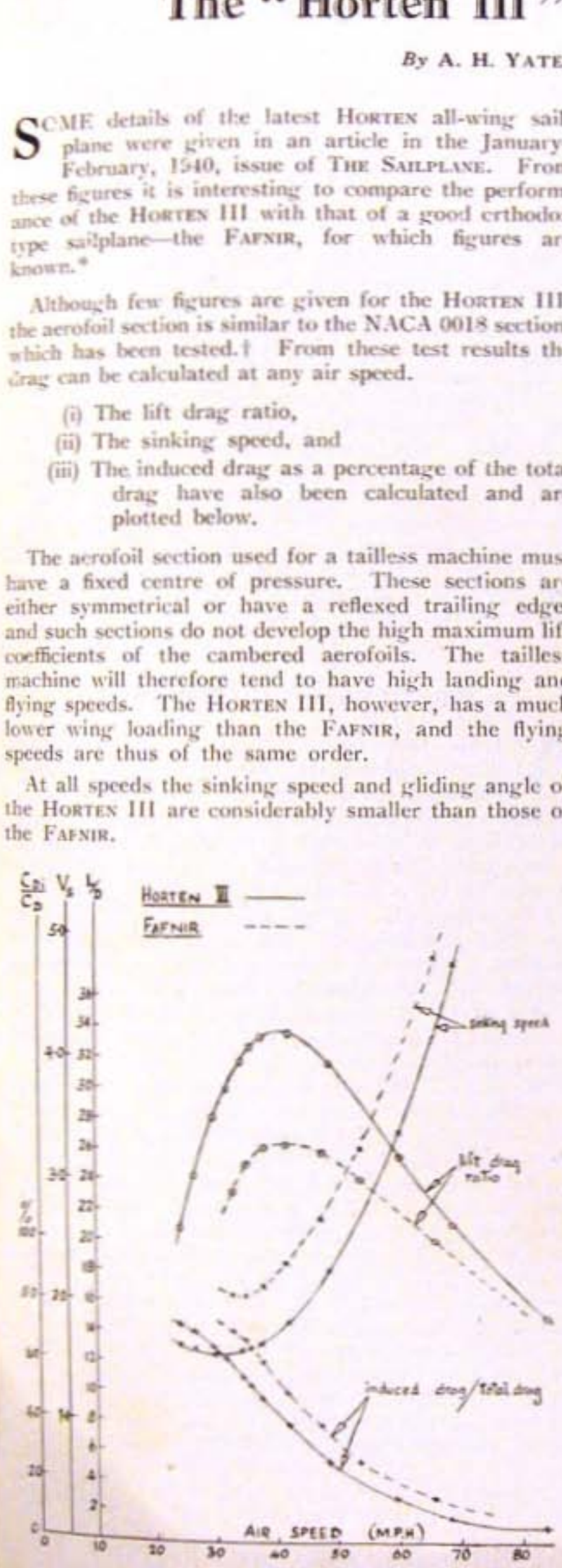
SOME details of the latest HORTEN all-wing sailplane were given in an article in the January-February, 1940, issue of THE SAILPLANE. From these figures it is interesting to compare the performance of the HORTEN III with that of a good orthodox type sailplane—the FAFNIR, for which figures are known.*

Although few figures are given for the HORTEN III, the aerofoil section is similar to the NACA 0018 section, which has been tested.† From these test results the drag can be calculated at any air speed.

(i) The lift drag ratio,
(ii) The sinking speed, and
(iii) The induced drag as a percentage of the total drag have also been calculated and are plotted below.

The aerofoil section used for a tailless machine must have a fixed centre of pressure. These sections are either symmetrical or have a reflexed trailing edge, and such sections do not develop the high maximum lift coefficients of the cambered aerofoils. The tailless machine will therefore tend to have high landing and flying speeds. The HORTEN III, however, has a much lower wing loading than the FAFNIR, and the flying speeds are thus of the same order.

At all speeds the sinking speed and gliding angle of the HORTEN III are considerably smaller than those of the FAFNIR.




The Horten brothers do not believe in high aspect ratios because an increase in aspect ratio reduces only the induced drag which, they say, is a small percentage of the total drag of a tailless glider. It is seen from the curves plotted that the induced drag of the HORTEN III forms only 5% of the whole at 85 m.p.h., but it forms 43% of the whole at 40 m.p.h. (best gliding angle), and 65% of the whole at 30 m.p.h. (minimum sinking speed). We can thus afford to reduce aspect ratios if we intend to fly at high speed, but if we ever intend to use the best gliding angle or minimum sinking speed a good aspect ratio is still of primary importance.

The Horten brothers have developed a series of all-wing sailplanes of very high performance with which some excellent flights have been made at the Rhön competitions. Whether the stability and control are sufficiently good for the general adoption of the type only further tests can show.

| | HORTEN III. | FAFNIR |
|---|---|---|
| Flying Weight (lb.) ... | 694 | 840 |
| Wing Area (sq. ft.) ... | 390 | 189 |
| Wing Loading (lb./sq. ft.) | 1.78 | 4.45 |
| Span (ft.) ... ... ... | 65 | 62 |
| Aspect Ratio ... ... | 11.0 | 20.4 |
| Minimum Sinking Speed (ft./sec.) ... ... ... | 1.64 at 30 m.p.h. | 2.06 at 35 m.p.h. |
| Maximum Lift/Drag ratio | 32 at 40 m.p.h. | 26 at 41 m.p.h. |

* "Some sailplane design data and information from German sources." B. S. Shenstone. Journal R.Ae.S. August, 1938.
† N.A.C.A. Report No. 669, Fig. 33.

# Glider Towing Forces

THE results of some experiments on gliders in towed flight made by the Soaring Society of America in 1937 have recently been published.*

The cable tension and direction were photographically recorded together with a record of the velocity and acceleration of the glider in auto-towed and aero-towed flights, which included deliberate "porpoising" and yawing. The cable tension did not exceed 1.6 × gross weight of the glider, and the recorded accelerations ranged from $3g$ to $-1g$.

The cable tension did not exceed 200 lb. during normal auto-launches to 700 ft., and on one occasion an auto-launch to 300 ft. was made with the pilot holding the upper end of the tow cable in his hand! The aero-towing force at about 60 m.p.h. averaged 65 lb., with a maximum peak of 130 lb.

These tests show that under normal conditions the towing cable tensions are not greater than the gross weight of the machine, and that a weak link failing at twice the gross weight would be satisfactory.

A.H.Y.

* N.A.C.A. Technical Note No. 753: "Measurement of the forces acting on gliders in towed flight," by W. B. Klemperer. February, 1940.

# Motorless Flight in Norway

*[This report on Norwegian gliding, sent to us by Mr. G. L. Bell, was given him in Norway last year by Mr. Omholt-Jensen, secretary of the Norsk Aero Klubb.]*

IN Norway motorless flying is no novelty, for in 1928 some naval air pilots designed and built a glider, but little flying was done with it.

Not until 1932 were there systematic efforts to establish gliding. On June 4th one of the biggest newspapers offered a trophy and a prize of 500 crowns for the first Norwegian who should soar for half an hour on a Norwegian-built machine. On June 18th the same newspaper arranged a demonstration near Oslo with the co-operation of Robert Kronfeld. He brought the AUSTRIA (the world's biggest sailplane), the WIEN, and a two-seater from Germany. More than 10,000 spectators attended this exhibition.

The Norsk Aero Club took up motorless flying in the same year. An ANFANGER primary and a HOLS DER TEUFEL were bought in Germany, and that autumn the first course for beginners was held near Oslo.

In winter, 1933 (i.e., the beginning of the year), winch launching was tried on frozen lakes. At Easter, soaring was tried among the mountains, and Lieut. Hans G. Lund soared for 15 minutes at 300 metres above the starting point, about 1,500 metres (5,000 ft.) above sea level. Later, he made a distance flight of 10 km. The Norsk Aero Club organised a special gliding group in Oslo, which arranged a big camp in the summer of 1933. Meanwhile a GRUNAU 9 had been built, and about 30 pupils underwent training with the three aircraft. Winching was used for the first time for training.

In winter, 1934, more training was done, and at Easter six Swedish pilots joined in a camp among the mountains with a GRÜNE POST machine (a type corresponding to an American "Utility"). In the summer the Norsk Aero Club arranged a large camp for model, glider, and aeroplane pilots in which about 50 took part. The club's three machines were all crashed during this year, and although the GRUNAU 9 was rebuilt during 1935, it was not until 1936 that gliding activities were resumed.

In summer, 1936, a large gliding camp was arranged by the Norsk Aero Club on Heramb, near Lillehammer, with German aircraft and instructors. The Aero Club of Germany sent an expedition of five sailplanes with transport vehicles and a Packard winch, and Herren Küttner, Dümcke, and Schmidt as instructors. Nineteen pilots were trained with bungy, winch and aerotowed launches. The first Norwegian "C" certificate by thermal soaring was taken there, and Herr Dümcke soared a GRUNAU BABY II for 2 hrs. 7 mins. The Norsk Aero Club bought this machine. Two of the new pilots were invited to Grunau by the German Aero Club. This big camp had the greatest influence on the development of sailflying in Norway.

At this period all Norwegian flying clubs were collected into one national organisation under the Norsk Aero Club. The situation of these clubs and gliders built by them, were: Oslo (GRUNAU 9), Aal (HOLS DER TEUFEL and GRÜNE POST), Trondheim Technical College (HOLS and GRUNAU BABY II), Jelöy (HOLS and H-17), Stavanger (ANFANGER), Sarpsborg (GRUNAU 9), Bergen (GRUNAU 9), Lillehammer (GRUNAU 9), Hamar and Horten, the leading club for model gliders (GRUNAU 9).

In 1937 and 1938 the Norsk Aero Club arranged large national camps, and in the last two years about 100 new "A" and "B" certificates resulted. Many more machines have been built, and the Norsk Aero Club now has four sailplanes and 10 training machines.

In the autumn of 1938 W. W. Bulukin soared for 2½ hours in a GRUNAU BABY II and won the newspaper prize. A Norwegian engineer modified a GRUNAU 9 and soared it for an hour.

Up to the present about 200 "A," 100 "B," and 10 "C" certificates have been gained in Norway. Nine have taken their "Official C" in ordinary type.

In the winter of 1939 the Norsk Aero Club found a very good soaring site near Ringerike, and the pilots Bjarne Carlén, Kristian Nyerröd and Olav Bakke Stene have made several flights of up to eight hours. In the summer the Air Force took over the towing aeroplanes and the soaring pilots are already practising thermal flights for the Olympic Games.

# Thermals at Dunkirk

AMONG those who got away safely from Dunkirk at the beginning of June was Charles J. Wingfield, 2nd Lieut. in the K.S.L.I., member of the Midland, Cambridge, and other clubs, and owner of a KIRBY KITE sailplane called GRACIAS. He escaped in a large motor launch with about 5 officers and 35 other ranks, and as he had navigated a sailplane, and none of the others had ever navigated anything, they appointed him Skipper. Whereupon he justified their confidence by taking them out of danger on a course of 295° Mag. by prismatic compass.

At Dunkirk a welcome distraction was provided by the artificial thermals, and this is what Mr. Wingfield writes about them:—

"I can now give a foolproof way of prolonging distance flights when thermals run out. A new map is required giving all oil storage tanks clearly marked. On running out of *Aufwind* the pilot carefully drops a special 'tank-piercing' incendiary bomb on to the oil tank—and awaits a kick in the pants. If his tank is big enough, it will keep him busy for a week!

"I refer, of course, to the burning oil tanks at Dunkirk. It was terrific. At Ramsgate the smoke extended from horizon to horizon. At Dunkirk it blotted out the whole western sky—unfortunately the wind was easterly, or we'd have had a perfect smoke screen. As a cumulus it was awe-inspiring. The smoke must have reached to 15,000 ft. or more, and as high as one could see there the smoke was in tremendous agitation. Philip Wills's cloud last summer wasn't in it. You could follow great surges upward and downward for thousands of feet—at thousands of feet a minute. I think the two Air Forces gave it a good berth, unless some pilot listed as missing is still being carried up by it!"

# Sailflying in France

As in so many other countries, soaring flight in France went through a short-lived period of interest in 1922 and 1923, followed by several barren years and then a resuscitation which led to an organised movement being set up on a firm basis.

Following the first soaring flights in Germany, a meeting was held on the Puy de Combegrasse in Auvergne in the summer of 1922, but no one could keep up for more than a few minutes. However, one of the machines, a PEYRET tandem monoplane, came over to the English meeting shortly afterwards, and in it Maneyrol put up a world's record by soaring over Firle Beacon for three hours 21 minutes. In the following January he raised the record to 8 hours 5 minutes at Vauville in the same machine.

The Vauville site, near Cherbourg, consists of a line of west-facing coastal cliffs; landings on the shore below can only be made at low tide. During the next few years some national meetings were held there, but a flight of five miles, made from the site in 1923, remained the French distance record for nine years. At the 1925 meeting a Belgian, Massaux, raised the world's duration record to 10½ hours, and in 1928 a German team took part and secured all the chief prizes. (Kronfeld did the same when he attended the contest in 1931.)

By this time enthusiasm for soaring had got under way again in France. Two French pilots, Auger and Abrial, went to the Wasserkuppe in 1927, making many friends there, and brought a sailplane to the Rhön meeting of that year. In 1929 the University Aeronautical Club of Paris, which soon afterwards changed its name to L'Avia, launched a national gliding organisation and produced a limited number of standard glider and sailplane designs for use throughout the country. These included three primary types, two secondary, one high performance and a two-seater.

A subsidy of a million francs for gliding was offered by the French Government in 1931. The "Avia" organisation secured just over half of it, one-third was earmarked "for subventions and subsidising of projects," and the remaining 100,000 francs went to the National Aeronautical Federation "for the purchase of aircraft." The Secretary-General of the Air Ministry had the responsibility of apportioning the subsidy, and the Inspector-General of Civil Aviation supervised the spending of it.

At the same time Vauville was abandoned as the unofficial national soaring centre and a new one was developed at the Banne d'Ordanche, in Auvergne. This site is on the border of the mountainous district south of Clermont-Ferrand, and includes an excellent soaring slope facing flat country to the west, two less easy slopes facing north and south-east, and a large bare plateau with gentle slopes for training. Over a million francs were spent on a road leading to the site, buildings were erected, and the first instruction courses were held in the summer of 1932.

Since 1932 a large proportion of the gliding training in France has been done by winch-launching, and the development of advanced soaring also dates from that year, when a thunderstorm flight of 20 miles was made by Bouvier and aero-towing was introduced by Abrial. The first French pilot to hold the "Silver C" certificate was Eric Nessler, who earned it in 1934. At that time, and frequently since, he has held all three national records—duration, height, and distance. For two years he remained the only "Silver C" pilot in France.

Since 1936 a state-subsidised scheme has been in operation which has trained young people in aviation in three stages, in the same manner as in Germany: from 9 to 14 years of age they were encouraged to build models, from 14 to 17 gliding was provided for, and from 18 to 21 power flying.

The following are the present French gliding records (previous records in brackets):—

DISTANCE.—Eric Nessler, 248 miles in AVIA 41-P, Beynes-Thiverval (near Paris) to La Rochelle (west coast), April 18th, 1938. Winch launch from flat ground. (Nessler, 215 miles, 10.4.38.)

ALTITUDE.—Eric Nessler, 11,800 ft. in MINIMOA, above Vosges Mountains, June 30th, 1938. Winch launch from flat ground. (Lamort, 6,100 ft., 1938.)

DURATION.—Maudeach, 16 hrs. 30 mins., 1939. (Nessler, 16 hrs. 5 mins., 1935.)

TWO-SEATER DISTANCE.—Colin and Melleton, 131 miles in CASTEL 24-S, Etampes to Bar-sur-Aube, April 23rd, 1939. (Spire and Poirot, 57 miles, 1938.)

TWO-SEATER ALTITUDE.—3,609 ft., 1938.

FEMININE DISTANCE AND ALTITUDE.—Mme. Jarlaud, 52 miles and 3,885 ft. in AVIA 40-P, Beynes to Chateaudun, April 18th, 1938.

By July, 1939, France had 45 "Silver C" pilots.

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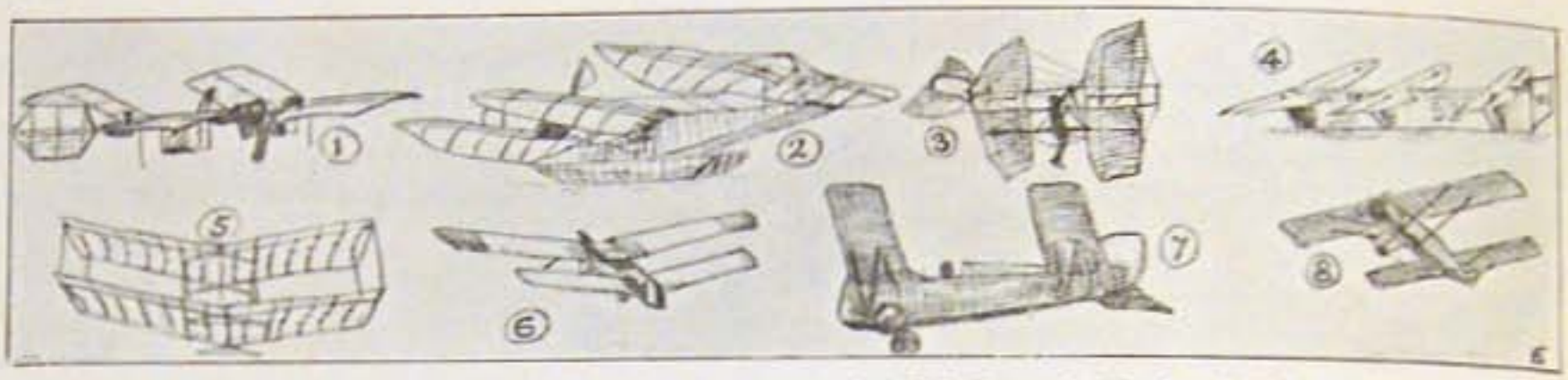
**Ten Years of "The Sailplane."**—This issue completes the tenth year of publication of THE SAILPLANE AND GLIDER, the first number of which appeared on September 6th, 1930. Our birthday is therefore due for celebration in the next issue. By coincidence we have just run across Thurstan James, the founder and first editor of the paper. For many years on the editorial staff of *The Aeroplane*, he transferred last year to a business career, but is at present in the Ministry of Aircraft Production, working hard.

* * *

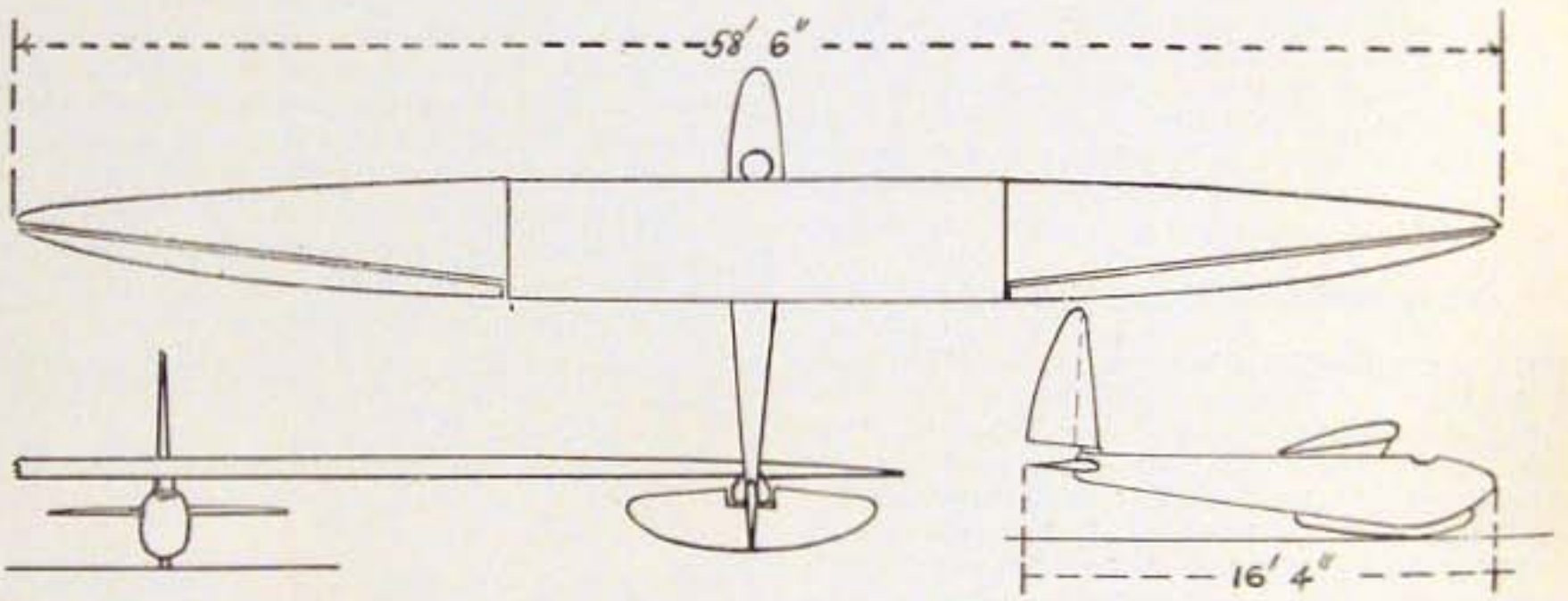
**American Contests.**—We are considerably heartened to receive a postcard from the Eleventh National Soaring Contest at Elmira, N.Y., which was held from June 29th to July 14th. It is signed by:

R. S. Barnaby
Randall Chapman
A. Dawydoff
"Chet" Decker
Udo Fischer
R. E. Franklin
Hans Groenhoff
Don Lawrence
Emil Lehecka
H. McHenry
E. Mehlhose
Helen Montgomery
L. D. Montgomery
John Nowak
R. Pasold
Gus Scheurer
Wally Setz
Alan Smith
Bob Stanley
Floyd J. Sweet
George Raw

# Sailflying in France




A French pilot, Maneyrol, secured the world's soaring duration record at Firle Beacon in October, 1922, in a tandem monoplane glider designed by Louis Peyret. The bottom row of the above drawings shows some of Peyret's designs: (5) A model of 10 ft. span built by him and Louis Paulhan in 1904. (6) The "Libellule" in which Blériot first flew in 1907. (7) The glider which put up a world's record of 3 hrs. 21 mins. in 1922 and raised it to 8 hours the next year. (8) A light aeroplane derived from the glider in 1930. In the top row, further tandem designs: (1) Langley's "aerodrome," 1896. (2) Wilhelm Kress's water-plane, 1901. (3) Montgomery's glider which was launched from a balloon, 1905. (4) The MAIKÄFER glider at the Rhön Contests, 1923.




General arrangement drawings of the RAPACE, a French sailplane built for the Vauville contests of 1928 but first soared in 1930. The general design was by Georges Abrial and detail by Louise Peyret. Span 52 ft. 6 ins. (shown incorrectly); area 172 sq. ft.; weight, empty, 254 lbs.; wing loading, 2.44 lbs. per sq. ft. Construction is conventional, with single spar. The wing section is a plano-convex one developed by Abrial, and the same section is maintained to the tips without wash-out.



The CHAPEAUX CH. 23, built by Messrs. Emile Chapeaux at Villefranche and first flown in 1933. Span 60 ft. 8 ins.; area, 205 sq. ft.; weight, empty, 406 lbs.; wing loading, 2.85 lbs. per sq. ft.; sinking speed, 2 ft. 0 ins.



A group of French sailplane pilots who visited the London Gliding Club in April, 1937. On the right is E. Spire, "Silver C" pilot and formerly joint holder of the French two-seater distance record.

# Ten Years Ago



A photograph taken on August 2nd, 1930, from the top of Ivinghoe Beacon, showing at the foot of the hill the first camp ever held by the London Gliding Club.



This group includes the British party who visited the Wasserkuppe during the Rhön Contests of August, 1930. Mr. Gordon England and Capt. Latimer-Needham are the only faces easily recognisable. In front is Oskar Ursinus, father of soaring flight, wearing his famous hat which, like the German gliding movement, was then ten years old. To his right is Professor Georgii, and just behind, Mlle. Suzi Lippens, of Belgium.



The Duke of Windsor, then Prince of Wales, visits Ivinghoe Beacon to see a demonstration of soaring. From left to right are Robert Kronfeld, J. R. Ashwell-Cooke, the Prince, and E. C. Gordon England. Mr. Kronfeld, after demonstrating a down-wind up-hill landing in a PRÜFLING, soared his famous WIEN (seen in the photo). But the real fun came when members of the Prince's party were flung off the top in open primaries.

# Gliding Instruction II

## NOTES AND PATTER FOR INSTRUCTORS

*[Last year the Surrey Gliding Club obtained more certificates for its members (excluding Cadets) than any other British club except London. So this series of articles, explaining in detail the system of training used by the club, should prove valuable in many parts of the world to which* THE SAILPLANE AND GLIDER *circulates, especially where training is carried on without the help of experienced instructors.*—ED.]

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THIS patter is not intended to be used word for word, provided the necessary points are made clearly to the pupil. The principle on which this method goes is to give the pupil as much chance as possible to use his initiative and skill (or lack of it) under safe supervision. The psychology of each instructor and each pupil is different, and this variable factor makes it impossible to produce any one patter to suit all cases.

Winch training has become by far the best method of training glider pilots, so these notes are based on this method of training and should not be used for bungy training unless altered. It is also, of necessity, suited more to the Surrey Gliding Club's site, but slight variations to suit other sites can easily be made by the instructor.

It has been found very satisfactory both from the instructor's and pupil's point of view to divide up the entire training into definite stages, in order that no part of the training shall be inadvertently left out, due to the pupil having been absent for several weeks or other causes, and so that all instructors will use a standard method.

The stages are as follows:—

Stage

0. Pre-flight instruction.
1. Slides.
2. Slidehops.
3. Straights at *x* ft.
4. Climb and release. (Appendix 1: Stalls, spins, and correction.)
5. "A" straights.
6. Turns. (Appendix 2: Drift landings.)
7. Circuits and figure 8's. (Appendix 3: Steep turns.)
8. Sideslips.
9. "C" class soaring.

### Stage 0.—Pre-Flight Instruction

#### USE OF CONTROLS

INSTRUCTOR'S NOTES.—The pupil should thoroughly understand the uses of controls before being sent on his first slide, and should have had enough "rocking" to enable him to operate the stick and rudder automatically.

It is advisable to give this instruction with the pupil in the seat, as then control movements can be demonstrated with less talk.

A pupil should be told as little theory as possible in the early stages to avoid muddling him, and to this end some of this patter may seem a little unorthodox.

PATTER.—On a glider there are three controls, two operated by the stick, by hand, and one by the feet.

The rudder is the vertical surface on the tail and is operated by the feet with the rudder bar (pedals). The object of this is to keep straight directionally, or to turn. It is very simple, for left turn push left foot. For right turn, right foot.

Therefore, if the machine is turning away to the right and you want to turn back again to the left, you press left foot.

The ailerons are the control surfaces on the wing tips and are operated by sideways movements of the stick. They are there to keep the machine on an even keel and to bank it over from side to side. You will notice that as one control surface goes up, so the other goes down. The air-flow passing over the wings pushes against the ailerons and so banks the machine (demonstrate here with flat hand against down aileron and so push wing up). This also works very simply.

To bank over to the left, put the stick to the left; and so, right bank, right stick. An easy way to remember this is: always try and keep yourself upright; if the left wing drops, then lean over to the right and bring the stick over with you.

The elevators are the horizontal surface on the tailplane, the object of which is to make the machine fly faster or slower. If you pull the stick back towards you, the nose will rise and the machine get slower and finally stall. If you put the stick forward, the nose will drop and you will fly faster.

But you will not use this control until you have done a few slides.

#### ROCKING

The instructor should stand at one wing-tip, holding the wings level while giving patter on use of controls, and should move the machine to demonstrate any movement necessary. When the pupil seems certain of the uses of the stick and rudder, the instructor should move the wings fairly rapidly, up and down, and turn the machine from side to side with the pupil trying to correct these motions.

The pupil should be encouraged to look as far ahead as possible *all* the time, as otherwise he may get into the habit of looking at his wings or the ground, which will get worse when he gets on to straights. He should also be encouraged, at this stage, to make definite, even coarse, movements with the stick and rudder.

When the instructor is satisfied that the pupil is quite clear as to what he has to do, he should be given his first slide as soon afterwards as possible.

### Stage 1.—Slides

INSTRUCTOR'S NOTES.—At least four slides should be given before the pupil leaves the ground, to make certain that he is happy and really sure of what he is doing. The weather should be calm and peaceful.

Patter.—Keep the stick hard forward and try to keep your wings level and keep straight to the winch. If a wing drops, correct as soon as possible and do not wait until it touches the ground. (If the machine continuously tries to turn to one side, it will be due to the machine weather-cocking into wind, so if this happens keep on opposite rudder to counteract it, but only if this is likely to happen.)

Look as far ahead as possible and hold the seat with your left hand to steady yourself. Do not put your feet on the ground unless certain that the slide is finished. It will be more comfortable if the harness is done up tightly.

Winch Driver's Notes.—Winch to be driven just at flying speed of aircraft, making allowances for wind strength.

Try and keep cable straight and not curving out to one side; violent swinging can be checked by slowing down as the swing starts and picking up as the nose passes centre on the following reverse swing. If swinging gets really bad, it is advisable to stop entirely or slow right down until all traces of it have stopped, and then gently pick up again, if certain that the wing will not get damaged if down and also that the pilot has not put his feet on the ground.

Checks for flying speed of the aircraft: (1) If the tailplane is visible above the wings during a slide on level ground, then the speed is too *high*. (2) If the ailerons seem very slow in functioning and one wing remains low although that aileron is down, then the speed is not great enough.

*Always make certain who is in the machine before launching.*

Never give a first slide unless certain that the pupil has been given the necessary pre-flight instruction.

## Stage 2.—Slidehops

Instructor's Notes.—This stage can be given as soon as the pupil is good at slides, even after his fourth run.

Patter.—This time you will be able to try the elevator control, which when the stick is eased back makes the nose rise, and when put forward makes the nose drop. It is a much more fierce control than either the rudder or ailerons.

So, on your next run, start off as a *slide* in the ordinary way, and when going absolutely straight, ease the stick back a little and wait. If nothing happens, ease it back a little more and wait again. Go on gently like this until the machine leaves the ground. If the stick is pulled back too much at first the machine will suddenly shoot up in the air, so be as gentle as possible with it.

Having got off the ground, wait again. If the machine seems to be getting higher and higher, then ease the stick forward very gently. If the machine drops back on the ground again immediately, then the stick may need to come further back. Try and fly along, keeping just off the ground and not forgetting that the other controls must still be used as well.

If you get too high *don't* try and dive back on to the ground or put the stick forward at all fiercely. The winch driver can always bring you down safely, if you get too high, but cannot stop you diving into the ground.

Try and avoid pump-handling with the stick, and look well ahead.

Winch Driver's Notes.—Winch to be driven at flying speed of aircraft. Be ready to correct for height and direction. If the machine gets too high, decrease speed a little until the machine is sinking on an even keel. Then at required height, give enough speed to continue the flight or to land the machine. While sinking the machine, the winch driver must on no account allow much slack to develop in the cable, as this will delay the pick-up.

Nothing can effectively be done to stop the machine diving into the ground. A decrease in speed, however, may tend to make the elevator controls less fierce, but it is doubtful if any advantage will be gained by doing this.

## Stage 3.—Hops at *X* Feet

Instructor's Notes.—Only in lightish winds. Make certain the pupil is not flying towards low sun or in dazzling conditions. Glider is still firmly attached to cable for whole of flight.

Patter.—Put stick a little forward of central before starting. Take machine off ground by easing stick back and climb to *x* (5, 10, 15, 20) feet; level off by easing stick gently forward until machine is no longer gaining height; look well ahead and try to fly straight at winch, correcting with a little rudder for any side wind or drift. Avoid pump-handling and try to remain at same height in spite of gusts. When power is shut off, ease down into a definte glide (the machine flies at too great an angle of incidence when given power by winch and will stall if left in this attitude when winch stops) and flatten out for landing; in other words, when down to six inches try and remain at six inches by easing the stick back gently enough to prevent you rising again.

Winch Driver's Notes.—Winch driver should correct still for height and direction. At the end of the flight cut off power sharply so that pilot will feel the change, but keep pace with machine with the cable in order to correct any faults, as for Stage 2.

A.C.E.

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# Ducks Use a Thermal

Mr. J. H. Saffery thus describes how, watching through glasses from the shore of Lough Neagh, he saw two ducks circling in a thermal:—

"I first spotted them at, I suppose, about 400 ft., flying very close together. It had never occurred to me that such an apparently heavily loaded bird as a duck would use a thermal, but these two went round and round in right-handed circles until they were just specks. They were flapping lightly when I saw them first and I watched them do eighteen complete circles. The flapping gradually got less, with longer parts of each successive circle being flown with wings still, until after about the fifteenth they did not flap any more. The circles started at about 18 seconds and increased to 25 seconds or so. Incidentally this was at 6 p.m. in a clear patch of sky, although there were cumuli about. I think they must have been 2,000 ft. up when I lost them, still circling, and never more than a few feet apart."

# Reviews

**Cage Birds.** By H. E. Hervey. Penguin Books, Harmondsworth, Middlesex, 1940. Price 6d.

A "Nieuport Scout" of the last war had not the gliding angle of the sailplanes flown by Mr. Hervey during his recent tenure of office as Manager and Chief Instructor of the London Gliding Club. So when, on April 8th, 1917, the engine of his "Nieuport" was put out of action by an anti-aircraft shell near Arras, his attempt to stretch the glide back to the British side of the line resulted only in his lunching as the guest of the German battery commander.

The remainder of the war was spent by the author and his companions in trying to escape from various German prison camps. All the exciting details are in this book, and anyone who starts on it is likely to carry on to the end at one sitting, even at the expense of half a night's sleep. But it would be a pity to give away any of the story here.

Two pages before the end comes "the almost unbelievable news of the Armistice." The camp gates were open at last, and, says the author: "Neither the soldiers nor civilians encountered on our walks showed us any animosity, they were one and all sick of war, and felt only relief at its ending."

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**Blackwood's Magazine.** July, 1940. Wm. Blackwood & Sons, Ltd., Edinburgh and London. Price 2s. 6d.

This number of *Blackwood's* includes an article "Gliding with the Germans," by Mary de Bunsen, who describes how she took a course at the Grunau gliding school in the late summer of last year. Power pilots in Germany are evidently excused the routine of the "A" and "B" certificates, for, being one, she was put straight into the "C" class, with the incidental advantage of having to get up at only six in the morning instead of at four.

The author progresses from her first glide ("I subsided on the grass by the machine with a singing heart. What was a mere 100 hours of motor flying? I had flown like the birds, engineless, for perhaps 30 seconds.")—through the intermediate stage ("I soon acquired the calm indifference to minor mishaps which characterises gliding people as distinct from 'power' pilots")—to the final "C," when, true to type, a really hearty soaring wind didn't arrive till the last day.

Among the pupils was a girl of sixteen who wanted the "B" so that she might run her own gliding club of schoolgirls, which had already saved half the £50 required to buy a primary. This suggests that small primary groups in Germany receive no subsidy, which all goes to the schools.

Besides a description of the flying, there is much in the article about the physical and mental constitution of the other pupils, of particular interest at that moment. The author concludes with a plea to the R.A.F. to adopt gliding in order to "keep hundreds of young men from eating their hearts out before ever they reach the flying schools."

# News from the Clubs

## Australian Gliding Association

The association's latest circular describes the efforts being made to gain support from Federal Members of Parliament for continuance of the subsidy. Senator W. J. Cooper made representations to the Federal Treasurer and received the following unfavourable reply, dated April 15th:—

"I have examined the representations of the Australian Gliding Association forwarded under cover of your letter of April 2nd. The object of the association is to have restored the amount of £600 which was previously contributed from funds under the control of the Minister for Civil Aviation. In the past the Commonwealth has been sympathetic to requests of this and kindred bodies but, as pointed out to the association recently, further contributions are not possible while the present state of national emergency exists. I regret that the many and varied demands being made for Commonwealth assistance compel me to endorse the views already conveyed to the association."

The expenses of the association for nine months ending May 2nd were £2 14s. 3d., accounted for by stamps and stationery.

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## Royal New Zealand Aero Club

The secretary, Mr. T. G. Hull, writes:—

I look forward to receiving your paper but unfortunately the mails to this side of the world are somewhat erratic just now.

At the present time the aero clubs, who were the bodies principally interested in gliding, have gone into retirement as far as all aerial activities are concerned, but we have the Government's assurance that, as far as possible, everything will be done to assist us when we can take up our flying again.

The address of the club is now: P.O. Box 1527, Wellington.

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## Imperial College Gliding Club

News of several former members of the club is given in a letter from J. B. Keeble, who writes thus from an aircraft works in a south-western town:—

At the —— Co. there are altogether six of us now: Turner from Cambridge, and Wigg, Holt, Hebden, Barnes, and myself from the Imperial College Club. Wynne of the Midland Club was here to within the last week or so, down in the flight sheds; he has now joined the navy in some form or other, and when I last saw him was hoping to do some auxiliary yachting for the Fleet.

Turner is in the stress office and so is Hebden; Wigg and Holt are down in the engine works; Barnes is on the works inspection staff, whilst I am on the staff of the Resident Technical Officer.

Another I.C.G.C. member who puts in an appearance is J. H. Payne, who was captain of the club in its early days and designed the Incredible. He is now on the staff of the Ministry of Aircraft Production.

Jackson, who was the first treasurer of the I.C.G.C., is working for British Overseas Airways.

## Surrey Gliding Club

Our 'planes were all taken to a near-by aerodrome when the war started, and are stored for the duration in a properly warmed and dry hangar. But, owing to petrol restrictions, it was not possible to take the same care of the winches and retrieving car, which had to be left in the open at Buckland. The result was that they have since been at the mercy of weather and hooligans, and they are now in use as anti-aircraft obstacles in an adjacent field. The only inhabitants of the club hangar are rabbits—many of them.

**What they are doing.**—H. C. Adams, R.E., was last heard of in the B.E.F. in France in March. Angold is in the Dorking L.D.V.'s. A. H. Gibb is training for the R.A.F.V.R. All these three took their "C" tickets on almost our last day of gliding. Reynolds is also training for the R.A.F.V.R. on the south coast. Bevington has completed an instruction course on the Link Trainer, and is now teaching blind flying somewhere in Gloucestershire. Blackmore has been seen gracing the uniform of the Metropolitan Police Reserve.

Clatworthy, in the Redhill L.D.V.'s while waiting to be called up, was found one Sunday flying model 'planes over our field, trying to make them avoid the aforesaid obstacles. Franklin, home on leave from a strenuous time on patrols off the Cornish coast, is in fine fettle. Maurice Houdret has seen much active service with the R.A.S.C. in France, and managed to get back from Dunkirk after four days without sleep or food. [We heard that, on the outbreak of war, he shaved off his beard, joined the army, and got engaged, all on the same day.—Ed.]

Our quondam engineer, Knott, is helping to build power aircraft; he is very scornful of these, and contrasts them with the poetic beauty of sailplanes. Perkins, when last heard of, was undergoing an intensive course in signals, and Turpin, in the R.A.F.V.R., was flying some of the bigger aircraft at a training base in Wales. Betty Matthews is nursing at a big hospital in Bedfordshire, and Anne Matthews, a F.A.N.Y., driving an important personage about a south-eastern town.

Colonel Murray, of the Royal Tank Regiment, says of himself: "I, as usual, do as I am told." Of his daughters, Molly is driving an ambulance in Dorset, and Bobby (Sybil) is a probationer in Middlesex Hospital. Mrs. Murray is expecting to take some children to Canada and would like to hear of any others to take charge of. Another R.T.R. officer, Vaux, spent a week behind the German lines before finding his way back. O'Neil is undergoing a R.A.F. course of training in instrument making and repairing.

The above news comes from the club secretary, A. Dukinfield Jones, who is busy with his local L.D.V.'s. In addition, there is news from Ann and Graham Douglas, who have had to migrate to north-west England, where Graham runs an Elementary Flying Training School as before. It wasn't long before their interest in clouds (nephophilia?) got them into trouble with the police. One day they drove to Hartside, on the Pennines, set up their movie camera on a tripod, and began photographing the Helm Wave clouds. Next morning they were called on by two detectives and asked to explain a report that they had been seen signalling with lamps across the Vale of Eden. Some weeks later, Ann was arrested while photographing a cumulus cloud; the soldier marched her down to the aerodrome, delivered her camera to the C.O., who was her own husband, and reported her to him as a "doubtful person!"

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## London Gliding Club

The month of June was spent in executing what, in up-to-date parlance, would be called "a temporary withdrawal to prepared positions."

While "positions" were being sought in the surrounding countryside, the week-end of June 8th and 9th was spent in taking everything down from the roof girders, which had been supporting most of the club fleet and several unfinished or unrepaired private owners' machines, not to mention a "Drone" light aeroplane and other junk. Owners of machines kept in trailers had been warned, and several turned up: Furlong to remove his Viking, Cooper the Rhönsperber, and Read the Green Wren. Williams tried to remove the Tern, but nobody's trailer would hold the fuselage with its wide wing stumps.

A week later, on July 15th, Copeland and Hatcher came in one of their huge lorries, with umpteen gears; Furlong and Hiscox brought their empty trailers, and these three vehicles, making repeated journeys, removed all the aircraft, raw materials, bedsteads and other furniture, and everything else movable, to an enormous barn in Dagnall, the village at the foot of the Downs which marks the limit of normal slope-soaring. Thus all the eggs are now in one basket, and we counted 54 wings, 8 open fuselages, 4 nacelles, 10 closed fuselages, and 4 more fuselages in trailers.

Throughout this period our faithful "Johnnie" Walker, club steward since 1932 and still going strong, worked overtime getting everything cleared up and ready to take away in good order; his work was much hampered by the predatory habits of the outside labour called in (not by us) to make alterations.

**Clubhouse as Usual.**—Our first idea was to take a house in Dunstable where club members could gather, and where furniture could be stored. But while various negotiations were falling through, Walker hit upon by far the best solution of the problem. One of our old wooden hangars is now at Tottenhoe, where Mr. Turvey used it as a barn, but since the war it has housed several private owners' sailplanes in trailers. Walker has converted one end of this building into an excellent clubhouse, and here the faithful gather at week-ends.

In the words of the latest club circular, "It is like the old original clubhouse, only better. There you may still acquire your favourite beverage, and other refreshment. Fellow members will be very glad to meet you, so drop in whenever you can." In addition to the bar and Mrs. Turvey's catering, we have the dartboard and piano, a *real* stove, and armchairs in which to sit round it. Through the windows is a magnificent view of the whole range of Dunstable Downs and Ivinghoe Beacon; one gazes upon it and tries to conjure up visions of past glories.

To find this, our latest clubhouse, take the road which crosses the fields to Totternhoe. Just before you reach the village, our wooden hangar is seen in a small field on the left. The clubhouse entrance is at the far end of the right-hand wall. Mind the kittens and step right in.

**What They Are Doing.**—Congratulations to Squadron-Leader W. B. (Bill) Murray, who has been awarded the Distinguished Flying Cross "for gallantry and devotion to duty in the execution of air operations," in the words of the official announcement published on July 24th. He was already in the R.A.F. when he joined the club in 1932. Then, after a spell in India, he came back and has since distinguished himself twice as co-pilot in breaking the official International Two-seater Duration Record; the first time as a member of the British team in the International Contest.

On reading that the commander of the Canadian destroyer "St. Laurent," which rescued survivors from the "Arandora Star," was Commander H. G. de Wolf, we identified him as a club member who used to attend regularly in 1937, when he got all three gliding certificates.

We are very sorry to record that two of our members have been posted as "missing" during the recent intensive air fighting: Pilot Officer H. L. N. Davis and Acting Flight-Lieut. L. C. Withall. Laurie Davis, believed to be flying "Blenheims," once had a share in a SCUD II with his younger brother Peter. Carr Withall, a "Spitfire" pilot, received the "Silver C" in June last year; he has been one of our most skilful pilots, and did some masterly thermal work on May 5th, the last day of flying at the club. In the absence of further news at present, we can only hope for the best.

We were delighted to see G. H. Briggs on June 14th, after his escape from Dunkirk without a scratch. He called for his KITE.

D. F. Greig, too far west for involvement in Dunkirk, got away later from Bordeaux, also unscathed.

A. W. Lacey has been accepted for the R.A.F. as a fitter, with rank A.C.2. D. A. ("Big") Smith has also just gone into the R.A.F. Wilbur has been sent to an overseas training school. Anne Wakefield, W.A.A.F., has received a commission.

T. T. Davies, after some months as an air gunner, has been transferred to a less hectic job as Defence Officer, somewhere in East Anglia.

J. S. Sproule has migrated to De Havilland's.

Manning is leaving Parnall's for the R.A.F.

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## Newcastle Gliding Club

The writing of these notes is becoming more difficult with each issue of THE SAILPLANE, and there has been less activity in the club during the past two months than any previous months since the war.

The attendances of members at the Park have now dwindled to one, and after all the efforts that have been made we now reluctantly leave matters as they are, until the darker evenings, when we hope to resume social activities in the Park Club Room. Perhaps some members have kept away during the light evenings in case they had no excuse for dodging constructional work. They need have no fears, as an excuse is provided by the club because we cannot obtain material.

Maurice is still employed by us, but he has had to shelve work on the KADET, through lack of material. He is at present repairing the spare GRUNAU BABY wings. This is just to keep him busy, as the fuselage, etc., of this machine was plastered around a tree at Hepburn Moor about two years ago.

Most of the reserved members who are still in this district are now members of the "Home Guard." Alex Bell has been promoted to a section leader, and Phil Taylor complains that he is in a rut as a despatch rider. From the way in which he has successfully avoided ruts when flying, he is sure to get himself out of this one.

**Members in H.M. Forces.**—Two more members have to be added to the ever-growing list of those serving in H.M. Forces. They are John Allan and John Whittaker, who are both in the Armoured Corps.

Lionel Tate is now back in England after escaping from Arras without a scratch. He had many thrilling stories to tell us recently when on his 48 hours' leave.

Mr. O'Grady has been in the south for some time now, and spent two days in Newcastle at the beginning of this month. A small party met him at the Grand Hotel, and this meeting started like an unofficial committee meeting, and finished with "ex glider pilot now gardener," Ken Wood, describing his cucumbers as though he was at an anglers' meeting.

It is nearly six months since Geo. Coates wrote to the club, and we would like his new address, now that we understand he is with a squadron. This address business also applies to Mac, Mau, Savage, and Bill Thompson.

C. R. Besley, who has recently been reported as imprisoned in a tower in unoccupied France, after escaping from Germany, was a committee member of this club in its early days. He left to join the Territorials.

A circular will shortly be issued to all current members, advising them of our winter programme—which is not yet planned, and reminding them that their war-time subscription (a mere 5s.) becomes due on August 31st.

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## Derbyshire and Lancashire Gliding Club

Most of the club house and hangar were taken over by refugees on July 7th. But, though they have taken over all the locks, we are pleased to report that the club is retaining control of all the stocks and barrels, as the Vicar of Higher Winchum persuaded the committee that the club had an obligation to look after the moral welfare of the refugees during their sojourn on our premises.

The only other news of importance is that the flying ground has been made into one of the finest spot-landing grounds in Europe, and it is inadvisable for anyone without plenty of flying experience and much local knowledge to attempt to land there at present.

We had Ray Hancock to see us on July 14th; he was on sick leave from the R.A.F. after scarlet fever, but will be back at the job of hotting up "Spitfires" very shortly.

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## Other Gliding Clubs

K. Lingford (Yorkshire Club) has become test pilot at Blackburn's in succession to H. Bailey (also a club member) who, we regret to learn, was accidentally killed some months ago.

We are glad to hear that A. J. Deane-Drummond (Bristol and Yorkshire) got away safely from Dunkirk.

E. Lavington (Surrey and London) joined the R.A.F. in July with the rank of Pilot Officer, but will be engaged on technical matters and doesn't expect to fly.

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## RECOMMENDED GLIDING CLUBS

### London Gliding Club

*(Affiliated to the B.G.A.)*

Address:—Tring Road, Dunstable, Beds. (Tel.: Dunstable 418.) Flying ground, Dunstable Downs (1¼ miles S.W. of Dunstable). Primary training and soaring. Clubhouse and hangar; sleeping accommodation; 20 gliders and sailplanes for members' use. Subscription, 3 guineas p.a. (country member, 2 guineas); entrance fee, 2 guineas. Associate member, 2 guineas p.a.; no entrance fees. Flying charges, from 3s. per day. Resident full-time instructors. Flying on Sundays and every week-day except Thursday. London Secretary: Arthur Sweet, F.C.A., 11, Bow Churchyard, E.C.4. (Tel.: City 5097-8.)

### Derbyshire and Lancashire Gliding Club

*(Affiliated to the B.G.A.)*

Address:—"Camphill," Great Hucklow, Near Buxton. The perfect hill soaring site, wind direction of no consequence. Evening thermals to 5,000 ft. a speciality. Comfortable club-house with sleeping accommodation. Hangar, full flying equipment, workshop and ground staff. Subscription, flying members, £3 3s. p.a., associate members, £1 1s. p.a. Flying charges from 6d. per flight, soaring 7s. 6d. per hour. Secretary, C. A. Kaye.

### Southdown Gliding Club

*(Affiliated to the B.G.A.)*

Secretary:—S. G. Stevens, "Southerlea," Meadow Close, Hove. (Tel.: Preston 3284.) Soaring at Devil's Dyke and Ditchling Beacon. One of the finest Primary and Secondary training sites in England. Clubhouse and hangar ¼-mile S.S.W. of Devil's Dyke Station. Subscription, 2 guineas and 1 guinea entrance. Auto towing and winch launching facilities. Very moderate flying fees and expert tuition.

### Oxford University and City Gliding Club

*(Affiliated to the B.G.A.)*

Secretary:—Miss B. M. Nicklin, 532, Banbury Road, Oxford. (Tel.: 58300.) Primary training and soaring site at the Lambert Arms, Aston Rowant, Oxon, 15 miles E.S.E. of Oxford on the Oxford-High Wycombe-London road and 39 miles from London. Resident full-time Instructor: R. Kronfeld, A.F.R.Ae.S. Flying every day except Mondays. Subscription, 3 guineas p.a. Entrance fee, 1 guinea. Flying charges, 1s. to 2s. per winch launch. Temporary (course) members, entrance fee, 1 guinea. Subscription, 1 guinea per week. Flying charges, 1s. to 2s. per launch.

### Scottish Gliding Union

*(Affiliated to the B.G.A.)*

Patron: Lord Weir. President: Hon. A. R. Boyle. Secretary and Treasurer: R. B. Rogerson, 20, Blythswood Street, Glasgow, C.2. (Tel.: Central 4209 and Shettleston 1328.) Main training and soaring site and clubhouse: Feal Farm, Bishop Hill, Lochleven, Kinross; also other training sites in other parts of Scotland. Primary training and soaring. Full residential accommodation, including rooms for married couples. Flying and training every week-end, together with organised camps. Flying charges from 6d. per flight. Soaring flight from 2s. 6d. Subscription, £3 3s. flying member per annum. Associate, £1 1s. per annum. Entrance fee, £2 2s. Full range of machines for members' use. Large hangar accommodation.



*With acknowledgments to* SAILPLANE, *Dec., 1937:—*

**TAILPIECE**—One of our members was tackled by an acquaintance who had read in a newspaper of a cross-country flight of forty miles. Like this:—

"Did you say he was launched by catapult . . . ?"
"Yes."
". . . and he went forty miles?"
"Yes."
"Gosh! What a catapult!"

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# PUBLISHER'S NOTICE

Whilst every endeavour will be made to continue the publication of SAILPLANE AND GLIDER at regular intervals, circumstances may arise in the near future which will prevent this being done. It is hoped that, should such a condition arise, subscribers and regular readers will give every helpful consideration to those responsible for the publication. At the same time it is the sincere desire of the publisher to revert, as soon as possible, to a regular monthly date of issue.

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