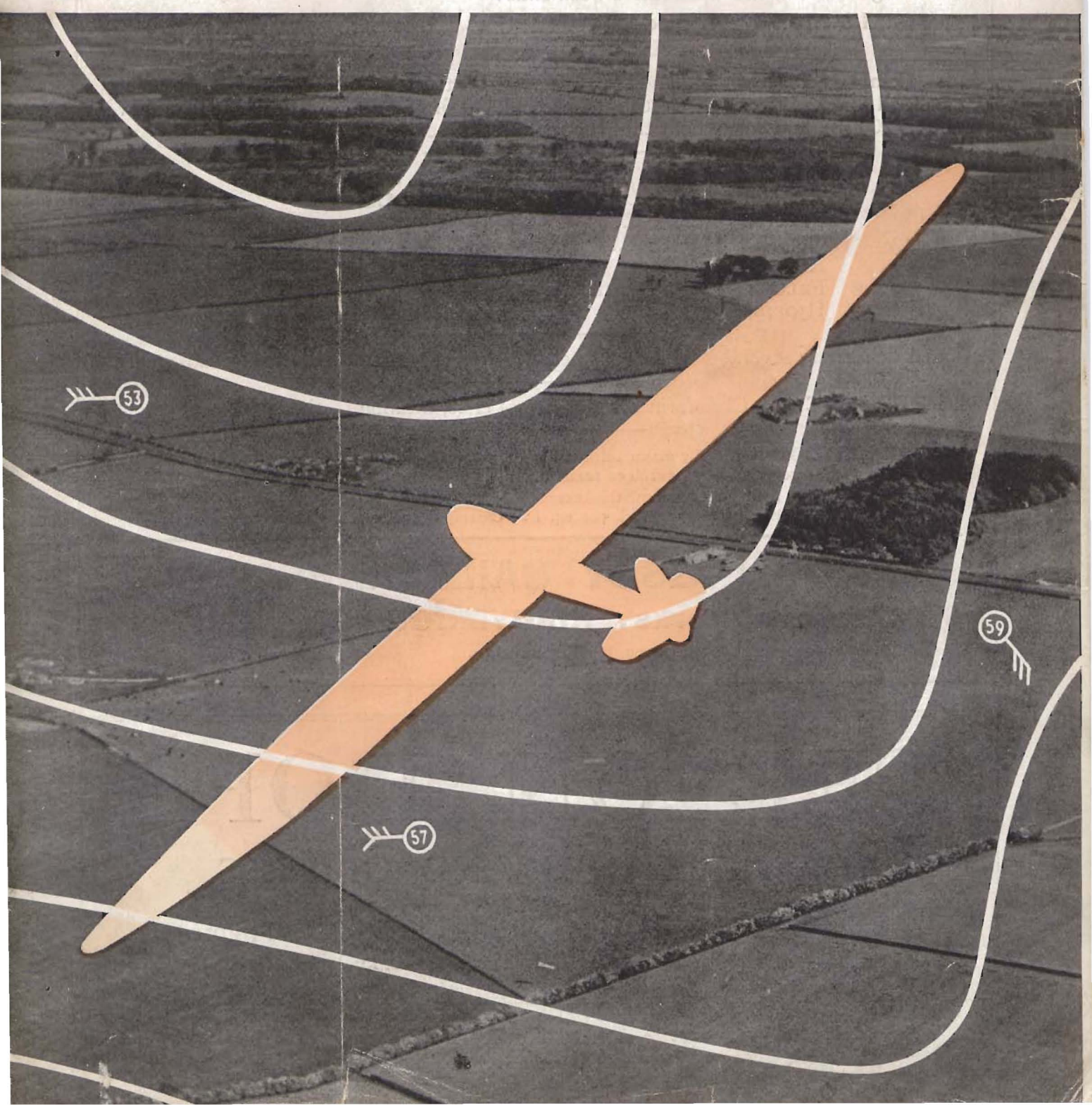
AUGUST
1936
Vol. 7 No. 8

SAILPLANE AND GLIDER

PUBLISHED
MONTHLY
Editorial Offices:
13, Victoria St., S.W.1

Official Organ of the British Gliding Association

EDITED BY ALAN E. SLATER



SLINGSBY SAILPLANES

RECENT RESULTS!

Using our full range of training machines: Primary, Kadet, Falcon I, and Falcon III side-by-side dual two-seater, the Midland Gliding Club secured the following results in two consecutive week-ends:—

14 members qualified for "C" Certificates; and 9 for "B" Certificates.

Using a Slingsby Sailplane, Flight-Lieut. Watt, of the Yorkshire Gliding Club, qualified for the Silver "C" Certificate, with a flight of 45 miles (maximum height above start 5,200 ft.), and carried out the 5 hours duration test two days later.

PRIMARY	**£52 10s.**	With C. of A. Ex Works
KIRBY KADET	**£85 0s.**	
FALCON I	**£130 0s.**	
G.B. TYPE	**£125 0s.**	
KIRBY KITE....	**£145 0s.**	
FALCON III (Two-seater)....	**£200 0s.**	
HJORDIS	**£190 0s.**	

Quick deliveries; several machines in stock; large stocks of materials, fittings and spares.

FREE ADVICE on Club formation, choice of sites, training methods and equipment.

AERO PLYWOOD—Specially manufactured with damp resisting cement film, and to give maximum torsional strength. Both surfaces sanded to a high finish.
1.0 mm. and 1.5 mm. thicknesses, 4½d. per sq. ft.
2.0 mm. thickness, 4¾d. per sq. ft. Carriage forward. Write for samples.

SLINGSBY SAILPLANES

Office and Works: KIRBYMOORSIDE, YORKS.

Telegrams: Sailplanes, Kirbymoorside. Telephone: 5.

CELLON DOPE

for SAILPLANES AND GLIDERS

Cellon Ltd., Upper Ham Road, Kingston-on-Thames

Phone No.: KINGSTON 6061 Telegrams: "AJAWB, PHONE, KINGSTON-ON-THAMES"

THE SAILPLANE *and* GLIDER

Official Organ of The British Gliding Association

Editorial Offices: 13, VICTORIA STREET, LONDON, S.W.1 Telephone: ABBey 2615-6-7

Vol. 7 No. 8 AUGUST, 1936 Published Monthly

The Yorkshire Competitions

THAT the Yorkshire Gliding Club feel justified in holding a nine days' meeting at Sutton Bank, without the fear of interfering with the National Competitions to be held later in Derbyshire, is a sign of the times. In previous years various gliding clubs have held inter-club gatherings in addition to the usual annual national meeting, but they have mostly been no more than "long week-end" affairs. Of late, however, the gliding movement in this country has been making enormous strides, both in the skill of pilots and in the number of hours flown. In so far as this is due to the stimulus given by the Government subsidy (as it undoubtedly is to a considerable extent), it says much for the way in which that subsidy has been used.

In Germany, the country where soaring flight first developed, all the large gliding centres have their regular annual competitions; in this case, however, it must be remembered that entries to the German national gliding meeting have to be severely restricted nowadays, leaving out a large number of moderately skilled pilots who have perforce to indulge their competitive instincts elsewhere. We have not yet come to that pass here, but the time is evidently approaching when most of the larger clubs will be holding regularly their own annual competitions, irrespective of whether their sites are chosen for the national meeting or not. It is to be hoped that the pioneer effort of the Yorkshire Club in this direction will prove to have been justified.

That "Youth" Business

WE have always looked with some suspicion on those who use the catch phrase "getting the Youth of the Country into the air," no matter in what language it is uttered. We hold that the cause of progress in soaring flight is an end in itself, well worthy of the best efforts that its devotees can give to its pursuit. To use these efforts as pawns in some quite different game is an offence, and attempts to do so can only tend to bring the wrong sort of people into the movement. This has happened, for instance, to some extent in Germany, where the amount of military business introduced into gliding has disgusted some of the old pioneers, though they may not say so in public.

On July 3rd, at the Congress of the Aeronautical Federation of France, held at Le Touquet, the Minister for Air, M. Pierre Cot, outlined rather a startling scheme for making the "Youth of the Country" air-minded. According to Reuter, he proposed a programme for schools which is to be divided into three stages:—

(1) "Pre-aerial instruction" for children between 9 and 14;

(2) Training in gliding from 14 to 17;

(3) Piloting training from 18 to 21.

(Note the subtle distinction between "gliding" and "piloting.")

Many flying men will remember a time when, very young and suffering from acute "air-mindedness," they were denied any opportunity for its outlet. They will naturally, if they have a sense of altruism, want to provide for others in that position the opportunities they themselves had missed. Since this motive is entirely unconnected with any political theory, it has always seemed to us rather a pity that such efforts are made almost entirely by political groups of the so-called "right wing," and it will be interesting to see what the French "Popular Front" Government can do. The idea, according to report, is that "the system of premiums and subsidies to a small number of privileged people must be replaced by a scheme of popular aviation"; and M. Cot added: "I am sure this programme, which will provide a better means of recruiting for civil and military aviation, will meet with the approval of French youth."

Many newspapers commented on the scheme at the time, and all assumed that a full 100 per cent. of French boys were going to be forced to glide. "Gliding centres would be set up throughout the country," said the report. But it also added: "The number of examinations and tests it was proposed to carry out would ensure the necessary sifting of pupils."

How wide will the mesh be? In the June issue we outlined the scheme of the German Air Sport Union, whereby all schoolboys can receive instruction in the building of model sailplanes, sometimes of huge size. But how many avail themselves of the privilege at the schools where it is provided? Not more than 10 per cent., according to our information, and often less. The fact is, most people grossly over-estimate the proportion of boys and young men who are bitten by the aeronautic bug. They should seek information at first hand before making speeches about it.

Sutton Bank Annual Competitions

15th—23rd AUGUST, 1936

Cups and Trophies

The following cups and trophies will be offered for competition :—

THE YORKSHIRE CUP (to be held for one year; winner will receive small cup to keep): for the greatest distance achieved from Sutton Bank from 1st September, 1935, to noon, 23rd August, 1936.

THE HARTNESS CUP (to be held for one year; winner will receive small cup to keep): for the greatest height attained above starting point from Sutton Bank during the period 1st September, 1935, to noon, 23rd August, 1936.

THE CHAIRMAN'S CUP: to be won outright for an out and home flight, particulars of which will be announced by the Contest Committee during the Meeting.

SAILPLANE TROPHY: for the greatest duration for a single flight during the Meeting.

SAILPLANE TROPHY: for the greatest aggregate duration compiled during the Meeting by a pilot who had not before 1st January, 1935, qualified for his "C" gliding certificate or any power licence.

SAILPLANE TROPHY: for the greatest aggregate duration compiled by any pilot during the Meeting.

SAILPLANE TROPHY: for a spot-landing competition to be held on one day only during the Meeting at the discretion of the Contest Committee.

Other Sailplane Trophies will be offered for daily prizes.

No competitor can win more than one prize. Any competitor qualifying for more than one prize shall have the choice as to which one he will take.

The Yorkshire Gliding Club will welcome all visiting pilots and machines to Sutton Bank for these competitions. Competing pilots must have qualified for their "C" certificate, and all machines must have a current Certificate of Airworthiness and be adequately covered for third party insurance.

All visiting pilots will be made honorary members of the club for the period of the Meeting. There will be ample hangar accommodation for visiting machines. Hangarage, meals and complete sleeping accommodation will be available throughout the Meeting at members' rates. Winch launches will be free to all visiting pilots.

Aero-Towing

It is hoped to arrange for aero-towing facilities on adjacent ground throughout the Meeting, so that experienced private owners may have aero-towed starts for competition flying, and less experienced pilots may perhaps receive instruction in aero-towing.

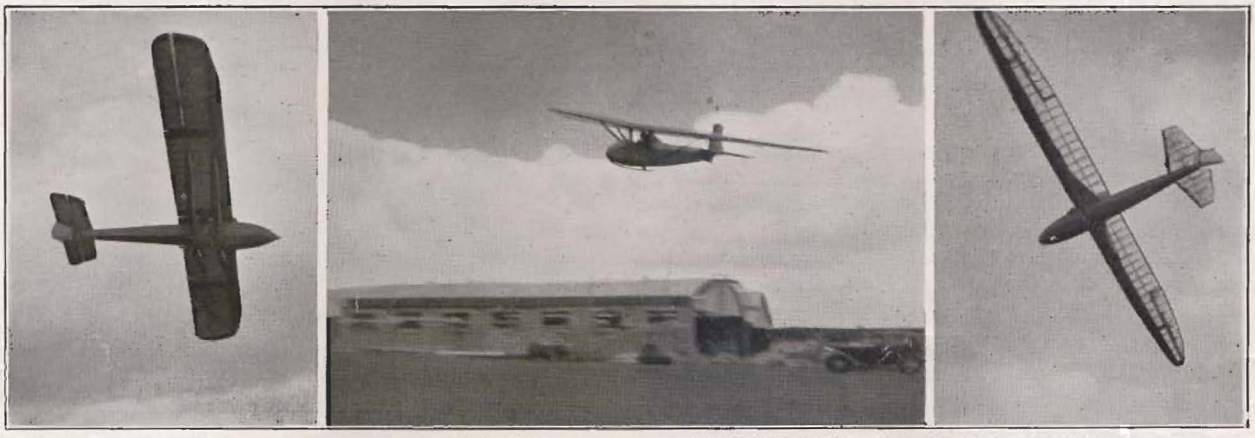
Arrangements are not yet complete at the time of going to press, but there is at least an excellent chance of these facilities being available.

We therefore advise private owners who wish to use these facilities to see that their machines have their C. of A. endorsed for aero-towing in readiness.

Yorkshire's Air-minded Cow.—Notice seen at Great Yorkshire Show: "Have you seen our cow stall?" This presumably refers to the flight of the cow that jumped over the moon.



Some of the cups and trophies offered for competition at the August meeting at Sutton Bank, Yorkshire. From left to right: the Yorkshire Cup, a Sailplane Trophy, and the Hartness Cup.



Three Yorkshire Gliding Club machines flying at Sutton Bank. From left to right: the "City of Leeds" two-seater, designed and built by R. F. Stedman: the "Falcon I" landing in front of the new hangar; and the "Grunau Baby II" which was recently flown 37 miles from Sutton Bank to Hunmanby, as described below.

[Photos by J. W. Smith.

Sutton Bank to Hunmanby

[A distance of 37 miles from Sutton Bank was recently achieved by Mr. J. S. Sproule, of Slingsby Sailplanes, Kirbymoorside, on his first cross-country soaring flight. Having already done a 5 hours' duration flight, he has now only to climb to a height of 3,280 feet before qualifying for the international "Silver C" certificate. The flight was made by using thermal currents, and we have asked the pilot for a detailed account of it for the benefit of those who have yet to undergo their cross-country baptism.—ED.]

ON Wednesday, July 8th, I asked for the day off and dashed up to Sutton. The day was perfect, and the wind was right into the bowl and about 18 m.p.h.

I took off at 1.45 in the club GRUNAU BABY II., and was soon soaring at 800 feet, taking a great interest in the variometer.

After about 20 minutes I caught a Big One in which I decided (in the immortal words of Bergel) that the great day had come at last. At about 2,000 feet I left it, as I was not getting there quick enough, and made for Helmsley. Here, strictly according to text book, I got another Big One over the market place, and after endless circling found myself over Kirbymoorside and the works where the machine was built.

The white hangar at Welburn had been my guide as to direction until now, so feeling rather lost I followed the cloud shadows. I tried to fly to the south of them a little, as Slingsby had told me to keep south of Scarborough, the coast there being less than 30 miles away. [At least 31 miles are necessary for the "Silver C" certificate.—ED.]

I picked up a thermal over Pickering which I again left at 2,000 feet in my impatience to be as far away as possible. This one had to last a long time, and soon I found myself *very low* over a farmhouse. With one eye on the variometer and the other on a likely field and several upturned faces, I made for some ploughed fields. They *may* have had something to do with it, but it worked, and the farm and its faces grew smaller and drifted astern.

The coast had been in sight for some time now, and after some more circling Scarborough was about 2,000 feet below.

I was now compelled to turn right and follow the coast, flying across wind. I picked up several good thermals about a mile inland, but had to leave them, as I did not relish the idea of being over the sea with a wind off the coast. It *would* have been interesting to have seen how far out they lasted, but I wasn't feeling very scientific at that moment.

I passed over Filey at about 1,500 feet, and, as the cross-wind stuff was not quick enough for me, glided to the beach and landed at Hunmanby Gap. The landing was at 3.15 and the distance was 37 miles; maximum height 2,000 feet, and duration 1½ hours.

The lessons I learned appear to be these:—

It is better to leave the hill in a GRUNAU BABY that you know, than in a CONDOR that you have never flown before. When height was rather necessary, I circled on the slightest indication of rise on the variometer (a Collins, by the way). The thermals seemed to develop into top notches the higher one got. There is always *some* hope evidently down to about 400 feet: e.g. the farmhouse episode! Thermals, by the way, seemed much easier to get once one was over flat country, than over the hill. And, lastly, when you are in a good thermal be patient and circle in it until you have got the 3,280 feet!

J. S. SPROULE.

A Yorkshire Engagement.—The wedding takes place in York on Wednesday, August 26th, 1936, of Miss E. M. Forster and Mr. H. T. Blakeston. Mr. Blakeston is Assistant Hon. Secretary of the Yorkshire Gliding Club, and in his spare time is a Solicitor in practice at Driffield, Yorks. Miss Forster is also a member of the Yorkshire Gliding Club, and the happy couple actually first met at Sutton Bank.

A British Distance Record

[A new British Distance Record for motorless flight was set up on Sunday, July 5th, by Mr. P. A. Wills, who flew his sailplane "Hjordis" from Dunstable Downs, the London Gliding Club's site, to Pakefield, on the Suffolk coast near Lowestoft, a distance of 104 miles. In the following article Mr. Wills describes his flight in detail.]

CONDITIONS on the morning of July 5th at Dunstable were so poor that there was some hesitation as to whether it was worth the trouble of rigging HJORDIS, which was in her trailer.

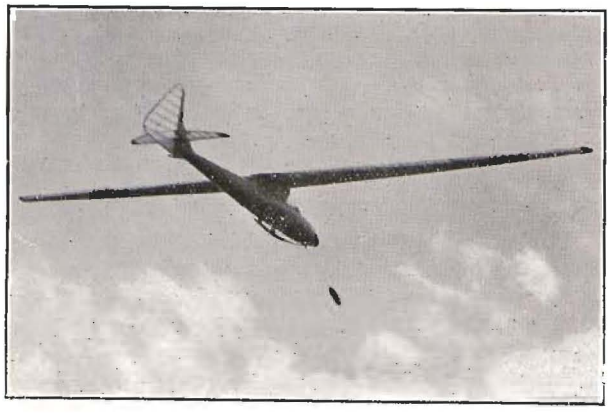
The sky was completely overcast, and the wind S.W., almost along the hill. However, finally I rigged and by force of habit set my barograph. At 12.15 we were winch-launched from the bottom and joined the merry party chasing each other's tails in the Bowl. The beat was only a few hundred yards, and seldom have I been more grateful for the few extra feet which HJORDIS provides, which others haven't got.

About 1 o'clock I was just thinking of coming in to lunch when a minor thermal took me to 700 feet with much wriggling, and I saw a chance for a little change of scenery by making off to the Bowl at Whipsnade and the slope beyond, into which the wind was blowing rather more fairly.

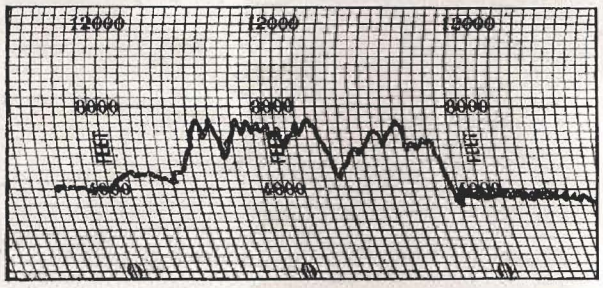
As I got there the sun came out, and almost immediately the sky burst into a rash of cumulus. However, it was some ten minutes before I could get high enough to be able to circle fairly, and at no time during the whole flight were conditions more than mediocre. The biggest lift I found was only 5 feet/sec., and often I was forced to circle in a hesitant 1 to 2 feet/sec. The biggest difficulty was that the cloud base was less than 3,000 feet at Dunstable, and, contrary to usual practice, it never lifted, so that over the flat ground I had 3,600 feet as a steady ceiling. The barograph chart shows how remarkably constant this was.

My batteries were down, so I had no blind-flying instruments and kept firmly out of clouds.

The first thermal took me to 2,900 feet, at which height the earth started to fade away, so I put her nose down and scalded at 55 m.p.h. to Luton. The clouds



The "Hjordis."



A reproduction of the barograph record of Mr. Wills's flight. (The figures show the scale, not the actual height; the level tracings at either end were made before and after the flight.)

were in the form of short streets, a mile or two long, and staggered in relation to each other.

Some years ago, in common no doubt with other pilots, I had drawn a circle of 100 miles radius centred on Dunstable, so I knew that a flight of over 100 miles from there was rather in the nature of a goal-flight, and accordingly held a compass course north of the wind direction when not circling.

The trouble was that I could never afford to lose much height. From 3,600 feet to 2,500 feet took no time, and by then I had to be hard on the look-out for more lift, and had to dally and waste endless time circling in small patches of gently rising air. The chart shows 18 separate peaks, each of which involved numerous circles, and each successive one required increased determination.

For quite soon it became apparent that designers have paid too much attention to aerodynamic form, and far too little to the shape of the human behind and the needs of the human frame. The sun beating into the cockpit through the minute talc roof soon gave me a splitting headache. Constant circling and hard work rapidly transformed this into a sick headache. Then came a thirst like the Sahara, closely followed by cramp.

In this state considerable effort was needed to circle patiently in minute up-currents, making practically no ground; since by the cloud-shadows the wind at that height seemed almost negligible. Occasionally came blessed moments of relief when, in a cool grey haze which sheltered one from the glare of the sun, we snorted along our course, nose down, and holding our height at a brisk 55 m.p.h. But all too soon we would be out in the sun in front of the nose of the street, battering at 40 m.p.h. through a mild down-current towards the next most northerly street. Once or twice, an experience I have long hoped for, we soared along one edge of a street. It was exactly like upside-down hill-soaring: the edge of the hill above instead of beneath, the up-current blowing into it instead of up it.

Duxford aerodrome on my left gave me my position, and shortly after came the worst moment of the flight. A long glide failed to find any more lift, and the altimeter showed only 400 feet above the launch: at the most 800 feet above the land at that point. Worse, I could not see a single gilt-edge field, and was feeling far from tackling a tricky approach.



Dunstable Downs on July 5th: a photograph taken on the day P. A. Wills soared from the site to the Suffolk coast, setting up a new British distance record. The primary training and landing ground is seen below, while above is J. S. Fox soaring his "Kirby Kite" in the up-current over the slopes. The photographer is not responsible for the re-touching of the clouds, which in the original photograph were of interest in that Mr. Wills used cloud currents for his cross-country flight.

[Photo by H. L. Richardson.

Suddenly, a miracle; lift, slight but sufficient. Headache or no headache, though paper bags should beckon, circle we must. A quarter of an hour later, feeling biliously triumphant, we had achieved 2,000 feet, and the situation was saved.

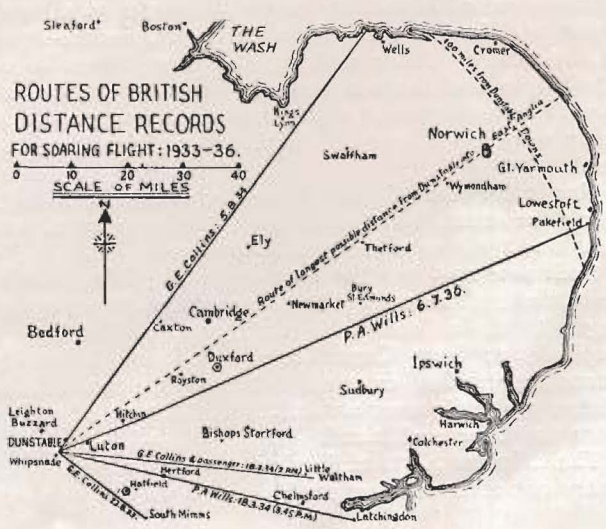
From now on little excitement. The clouds looked as if dissolving, quite inactive; from the ground I should have said there was no lift in the sky. Yet we continued to find mild lift, and about two miles from the sea, where a south-easterly sea-breeze met the south-westerly wind, was quite a bank of cumulus running parallel to the coast. Some way to the south I saw an estuary which seemed horribly familiar. Could it be the Blackwater, visited two years ago in the PROFESSOR, and was all this sweat simply to be a repetition of a two-years'-old flight? Or were we to believe our five-bob compass?

We were, and if we were where we ought to be, by turning north along the coast, we should make about a mile further from Dunstable for every five miles we flew. (Oh, for a map.)

But this gearing was too low for my headache. We went out to sea, and at 600 feet, flying along a beautiful beach backed by a low red cliff about 60 feet high, found enough lift to keep going until a fair-sized seaside town turned up. This involved slope-soaring along the Marine Parade, or landing. I picked the latter, found a huge field at the top of the cliff, and landed at 4.25 p.m.

As I burst thickly out of HJORDIS I got the best moment of the whole trip: the fresh cool smell of the sea.

P. A. WILLS.



Soaring Over African Desert



Members of the Swakopmund Glider Club returning from an expedition into the Namib Desert, complete with camping kit and a "Grunau Baby" fully rigged.

AT Walfish Bay, in South-West Africa, the desert comes down to the sea. Its border is marked by a line of sand dunes stretching fifteen miles northward to Swakopmund, and here, as readers of THE SAILPLANE already know, a flourishing gliding club has been established. For Walfish Bay has a large German colony, and wherever a number of Germans are gathered together, there will be found a proportion of gliding enthusiasts among them. Likewise, wherever there is sand in quantity, the wind will blow it up into dunes, which not only make good soaring ridges, but are ideal for primary training--loose sand is soft sand.

The dunes of Walfish Bay are, according to report, from 30 to 130 feet high. A narrow gauge railway runs along the shore at the bottom. Thus flying is done between the desert and the deep sea, and both have their perils, as is evident from an account of the club's activities recently published in *Popular Flying*. One young pupil, a girl in her 'teens, appears to have stalled while making a turn out over the sea, and fell into the water. Before her rescuers arrived she had to spend an energetic twenty minutes splashing about to keep off the sharks.

On another occasion a pilot who was trying for a distance record is said to have got caught in a sandstorm and landed miles from anywhere, in the heart of the desert. After walking for three hours in an attempt to find the sea and get his bearings, he fell in with an encampment of bushmen and was saved. A party went back later to disinter the glider from the sand.

Nor is it necessarily safe to confine oneself to soaring along the coast, for a pilot once caught sight of two lions and their cubs directly below him.

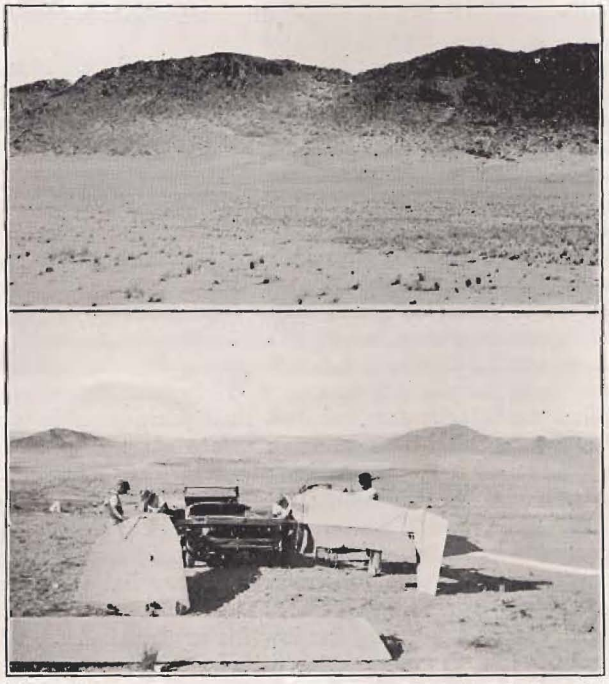
Such progress has the Swakopmund gliding centre been making, according to this account, that it has begun to do business with other parts of the Union. Pupils come from Cape Town and from Durban to attend instruction courses, while in the workshops gliders and sailplanes are built in fulfilment of orders from the Cape and Natal.

The sailplane pilots of Swakopmund are now anxious to try out other soaring grounds, and we are indebted to Mr. M. Leuner for an account of an expedition recently made by them into the desert, and for the photographs taken on the occasion which are reproduced herewith.

Mr. Leuner writes:--

"Following two very successful exhibitions in Cape Town given by our instructor, Herr Harald von Arnim, at the air port during March in our GRUNAU BABY II., the club prepared for an expedition for its more advanced pupils.

"On May 31st nine members set out in the club's car to the Rössing Mountains in the Namib desert, 20 miles from Swakopmund. Transport of the GRUNAU BABY was on the specially fitted 'Paige 6.' The machine was mounted fully rigged, and was thus



Above: Rössing Western Comb which rises to 1,200 feet, facing west. Below: Repairs on the slope, looking east.

transported during the nine days' work of the party. It was brought up the slope of the mountain to the foot of the Comb for each start.

"Four days brought good soaring weather, and 12½ hours' flying time was put up. The club gained four 'C's,' bringing the total to six since the commencement of instruction in December, 1935, under the German instructor, Mr. von Arnim. Two flights are worthy of mention. On one, Mrs. Boehlke became the first woman in South Africa to gain her 'C,' with a flight of 40 minutes. The other was by Dittar Kratzenstein, a young German of 14½, who passed with a flight of 67 minutes.

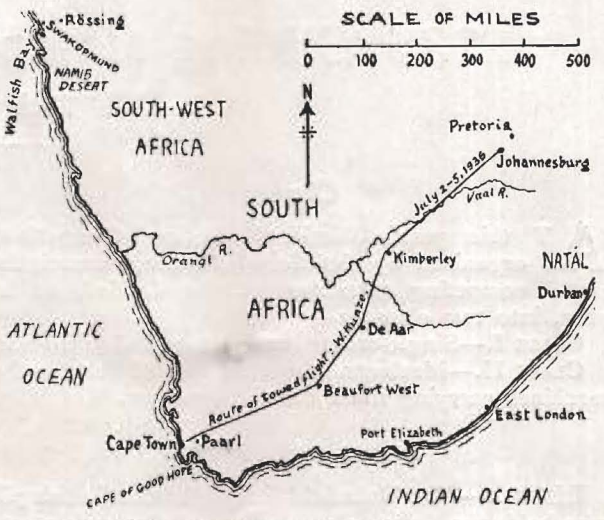
"Our instructor returned to Germany on the 19th of June, and the schooling has been taken over by Mr. G. Ott and myself.

"The Swakopmund Glider Club introduced into the Union, through Mr. von Arnim's visit, aeroplane towing, auto-towing, and a general impetus to the movement recently started. Though our own history dates back to 1927, when our first machines were built, not till last year did we really make a proper start. The club now owns: two GRUNAU 9's, one PRÜFLING, one PROFESSOR, one EISENLOHR, and the GRUNAU BABY II. recently imported. The first five were locally constructed.

"Our membership is some 40 to 50, and all funds have been collected and subscribed locally. Profits from exhibitions figure roughly £100 nett. We are the first body to pass out 'C' members without previous flying experience. (The Rand Club recently gained some 'C's' among the Air Force officers.)"

Finally, our correspondent sends "Greetings from South Africa's Soarers."

A Long Tow.—W. Kunze, a German member of the Rand Gliding Club, South Africa, was aero-towed 1,000 miles in a sailplane from Cape Town to Johannesburg early in July. Towed by a "Wapiti" of the Union Air Force, he left Cape Town on Thursday, July 2nd, and arrived at Johannesburg on Sunday, July 6th, having made overnight halts at Beaufort West, De Aar and Kimberley, with, it it reported, two forced landings near De Aar. Last January, as already reported in THE SAILPLANE, Mr. Kunze set up a local duration record of 5 hours 10 minutes at Pretoria.



A map showing places mentioned in this month's news from South Africa. Further news will be found on p. 163.

The 1936 "Wolf"

THE WOLF general purpose sailplane, produced by Sport-Flugzeugbau Göppingen, Württemberg, has already been described in our issue of last October. This was the original 1935 model, of which an example is being taken round this country by Mrs. Price (Joan Meakin) as part of C. W. A. Scott's Air Display.

The type has now undergone several improvements, and has been licensed by the *Prüfstelle für Luftfahrzeuge*, Berlin. (It is, in fact, the first sailplane to be so licensed since the new regulations came into force on January 1st this year.) The ailerons are wider towards the wing tips; the size of the rudder has been increased; the wings are set with one degree of dihedral; the wing struts, of streamline steel tubing, have become lighter, and the total weight has decreased by 18 lbs.

The machine has been put through its official flying tests (*Prüfbericht-Flugeigenschaftsprüfung*) by Ludwig Hofmann, who has reported extremely favourably on its flying qualities, including aerobatics.

The price is, as before, £110 at factory to British customers.



Twenty miles into the desert: a panoramic view showing part of an eight-mile soaring ridge suitable for east winds. Down on the left is the gliders' encampment and repair station.

1936 Gliding Competitions, Bradwell Edge

AUGUST 29th to SEPTEMBER 6th

Classes

AT this year's National Gliding Competitions organised by the British Gliding Association, competing machines will be divided, as last year, into two classes:—

CLASS I.—Single-seater machines of unlimited span.

CLASS II.—Machines of span up to 47 feet, and all machines carrying more than one person.

Prizes and Awards

Distance.—The Wakefield Trophy to the British pilot who holds the British distance record obtained between September 1st, 1935, and September 6th, 1936.

CLASS I.—£5 5s. for the longest distance flight during the Competitions. £2 2s. for the second longest.

CLASS II.—£4 4s. for the longest distance flight during the Competitions.

Height.—The De Haviland Cup to the British pilot who holds the British height record obtained between September 1st, 1935, and September 6th, 1936.

CLASS I.—£5 5s. for the greatest height attained during the Competitions. £2 2s. for the second best.

CLASS II.—£4 4s. for the greatest height attained during the Competitions.

Duration.—The Volk Cup to the British pilot holding the British duration record obtained between September 1st, 1935, and September 6th, 1936.

£4 in addition to the pilot (if any) who beats the existing record by the biggest margin during the Meeting.

Out and Return.—The Manio Cup and £2 2s. for the best Out and Return flight. £2 2s. for the best by a Class II. machine.

Goal Flight.—£100 is offered by the Manchester *Daily Dispatch* for the first flight to Blackpool; or, failing that, to within a radius of 20 miles from Blackpool.

Constructor's Prize.—£25 is offered by the *Daily Dispatch* for the best flight made by an owner-constructor in his machine.

Full details of the last two prizes can be obtained direct from the *Daily Dispatch*, "Glider Competition," Withy Grove, Manchester, 4. (Particulars were also published in THE SAILPLANE AND GLIDER for November and December last year, pages 179 and 196 respectively.)

Notes

1.—The competitions will be held in accordance with the Rules and Regulations of the B.G.A.

2.—All competing pilots must hold a competitor's licence; all machines must have a current C. of A., and must be covered against third party risks to a minimum of **£2,000.** (Note that a special cover for competition flying is necessary, and that the minimum cover has been increased to £2,000 in view of the possibility of the new Air Navigation Bill coming into force before the date of the competitions.)

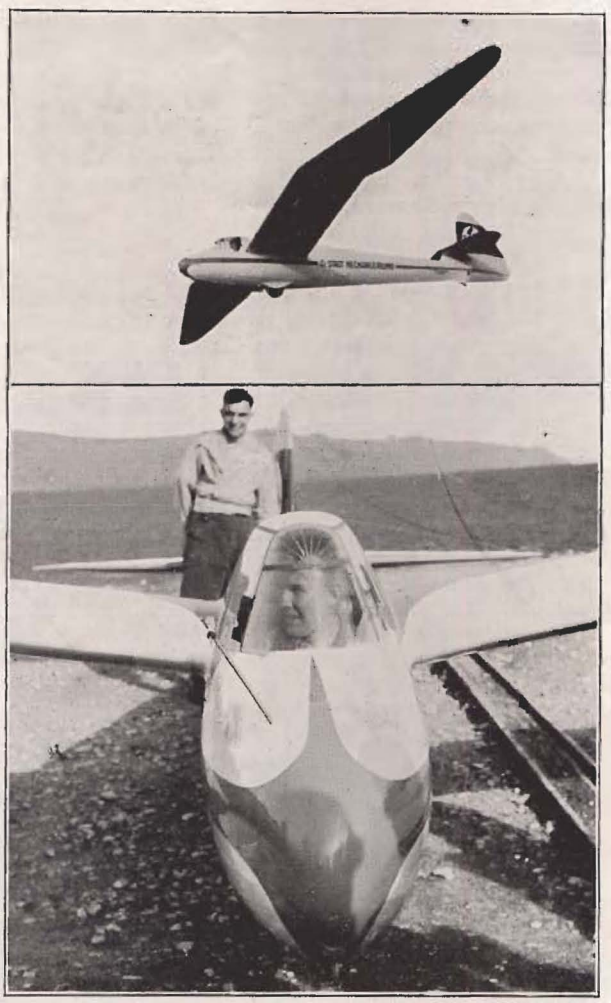
3.—Class II. machines can enter for both classes if desired. In the event of insufficient machines being entered in either class to make the division into two classes desirable, the Association reserve the right to hold the Competitions on the basis of one class only, and to adjust the prizes accordingly.

4.—No distance flight of less than 20 miles or height of less than 2,500 feet will qualify for a prize. No flight shall win more than one cash prize.

5.—It is hoped to award, in addition to the above, daily prizes, details of which will be announced each morning.

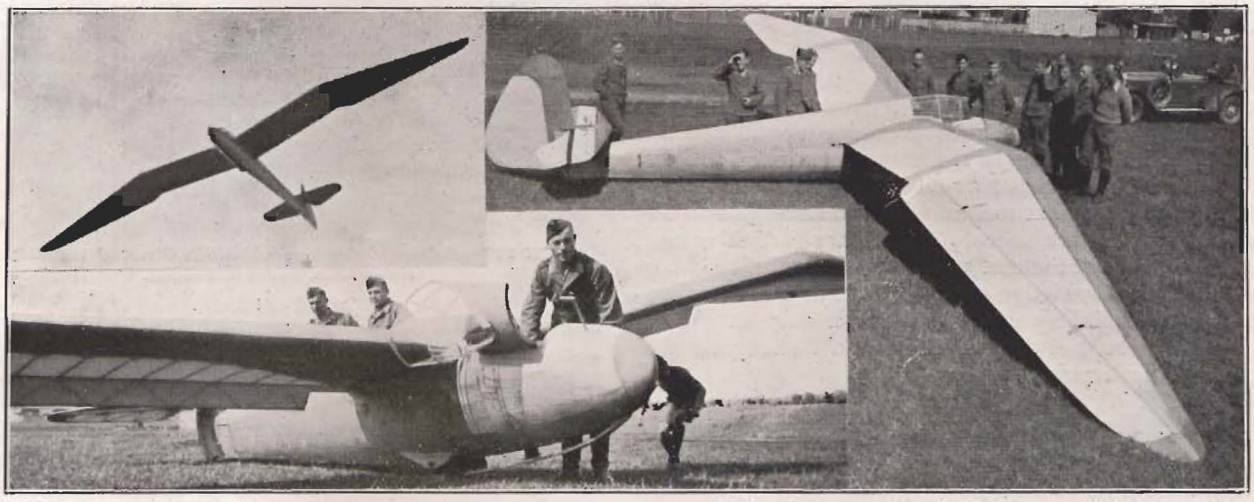
6.—Competitors are required to bring their own barographs, which must have been calibrated by some competent authority during the current year.

7.—After a cross-country flight, pilots must immediately telephone their whereabouts to TIDESWELL 46. This number is marked on all competitors' licences. Failure to comply with this rule will involve automatic disqualification from further flying in the competitions.



Photographs of the 1936 "Minimoa" described on the opposite page: showing the new position of the cockpit cover.

The Latest "Minimoa"



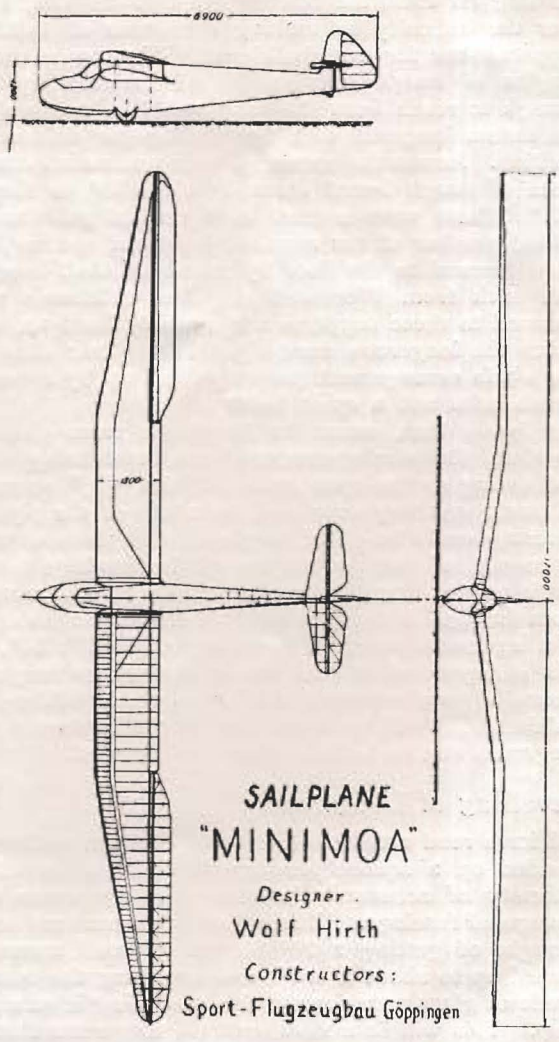
These pictures show the new features incorporated into the latest version of the high-performance sailplane "Minimoa." In the lower photo the split flaps are seen in the open position.

THE most striking change in the latest model of the MINIMOA, the high-performance sailplane designed and flown last year by Wolf Hirth, is the adoption of the "middlewing" arrangement, wherein the wings sprout from the sides of the fuselage. The resulting appearance is well shown in the accompanying photographs and plan, which have been sent by Martin Schempp, of the Sport-Flugzeugbau Göppingen, the firm which builds the machine.

The original MINIMOA was described in our issue of October, 1935, and last March we gave a description of the split flaps which have been incorporated in the trailing edge of the wing to reduce landing speed. These are retained in the new model, as is also the one-wheel landing gear. Special new features are a larger rudder, a hinged cockpit cover, better arrangement of the seat and of the pedals, and unusually good visibility due to the pilot's head being above the wing.

The data are: Span, 17 m. (55 ft. 9 ins.); length, 6.9 m. (22 ft. 8 ins.); wing area, 19 sq. m. (205 sq. ft.); aspect ratio, 15.2; wing loading, 15.8 kg. per sq. m. (3.24 lbs. per sq. ft.); weight empty, 200 kg. (441 lbs.); additional load, 100 kg.; gliding angle, 1 in 26; sinking speed, 0.65 m. (2 ft. 1½ ins.) per second.

Last month the MINIMOA was licensed under the new regulations, so it is now possible to quote a price, which is £248 to British customers, at works. Two sailplanes of the type have just been sold to U.S.A. buyers. Three more will be taking part in the forthcoming Rhön Competitions in Germany.



Wolf Hirth's Recovery.—Martin Schempp writes that Hirth's condition is "improving some," but that, of course, an injured back means a slow recovery, and the patient will have to stay in hospital for another two months at least. Readers of THE SAILPLANE will look forward to the time when he can fly again.

Problems in Sailplane Construction

By B. H. T. OLVER

BEFORE getting down to the serious business of building a sailplane I read up all I could find in the way of constructional articles in THE SAILPLANE and books on the subject; but when I actually commenced building, I found that I was continually up against little problems about which I could find no reference in the above mentioned articles.

The experts who have written these excellent articles will probably say that mention of such small points was omitted as they are so very elementary (as, of course, they are). Nevertheless, as there are probably others with as little knowledge of the subject as I had contemplating the building of a machine, it may save them a certain amount of time and trouble if I briefly mention a few of such points.

Fuselage Jig

Most articles will briefly say that the fuselage bulkheads should be located in a jig until all the longerons are fitted and the plywood panels and/or diagonal bracing in place as far as is feasible.

Not wishing to go to the trouble and expense of building an elaborate box jig for this purpose, I got over the difficulty by making a number of bulkhead supports (one for each bulkhead). These were simply lengths of rough board of $6'' \times 1''$ section by long enough to reach from the floor to a few inches above the datum longeron with the fuselage in an inverted position. Across the bottom of each was nailed another piece of rough board about $1'' \times 2'' \times 18''$ to form a "T." These were erected in a vertical position one behind another at the required bulkhead spacing, and were screwed to the floor by means of shelf brackets (3d. each from Woolworths). The bulkheads were clamped to these supports and roughly lined up, after which the longerons were slipped into their slots and the whole arrangement properly lined up by means of plumb bobs and a spirit level.

I found that, once the longerons were glued in position, the whole structure was remarkably rigid, and owing to the open nature of the "jig" access to all parts was very easy and the whole of the plywood covering could be glued in place, with the exception, of course, of that on the top of the fuselage (underneath at the time), before the fuselage was removed from the jig. If the nose block is screwed to the centre of a horizontal length of wood about $3'' \times 2'' \times 24''$, and this is supported at each end at the proper height by means of two supports similar to those holding the bulkheads, it will be found that all the laminated nose longerons can be built in place and covered.

Bevelling of Longerons

I have read articles which state that the author had decided on a square fuselage in order to avoid the difficulty of accurately bevelling the longerons of a hexagonal fuselage. This rather frightened me until I thought of getting a $24''$ length of wood accurately planed up to about $2'' \times 1''$, and wrapping the coarsest grade of glass paper round this and using it as a long rasp. This will lie across both the longerons that are to be bevelled in the same plane, and does the job accurately and quickly.



An "H 17" sailplane of the type which Mr. Olver, of the Midland Gliding Club, has been building.

Building Bulkheads

It is probably the usual practice for a "one off" job to build bulkheads in the following manner, but as I have not seen it described it may be worth mentioning:

The bulkheads are drawn out full size on a piece of plywood and the bulkheads are built up on this, thus avoiding the necessity of taking any further measurements once the drawing has been made.

Clamps for Gluing

While the usual "C" cramp is the best thing for the majority of gluing jobs, I found that a few feet of light catapult elastic stretched and bound round the job being glued was unequalled for certain jobs. This particularly applies to the insertion of filling blocks and certain longeron splices. It is surprising what a useful pressure can be built up in this manner.

Scarfing Plywood

I have never seen a description of the best way to carry out this rather ticklish operation. I found it quite simple if the sheet was tacked down on a length of board with the edge to be feathered flush with the edge of the board. The scarfing is then quite a simple matter with a plane or spokeshave. (I prefer the spokeshave.)

Plywood Leading Edge

When fitting thick ply to the torsion-resisting leading edge of a single spar wing it very much simplifies matters if the sheets are cut to size a few days before they are required. They should then be damped on the outer face and bent round so that the two edges meet, and these edges held together with clamps. Later, when the clamps are removed, it will be found that the sheet has taken a permanent curve which very much facilitates matters.

Incidentally this is a small point—I have never seen any mention of what I believe is the standard method of preventing parts from sticking to their clamping strips—namely, a piece of newspaper between.

In conclusion, may I apologise to those experienced in the ways of sailplane construction, and explain, lest I should be accused of trying to teach my grandmother to suck eggs, that this article is not for them. I hope, therefore, that it may be of interest to those for whom it is intended.

Gliding Certificates

"A" Certificates

No.	*Name.*	*Club.*	*Date.*
513	B. P. Griffin	Cambridge Univ.	3.11.35
514	M. Scott McMurdo	Ryedale	4.1.36
515	H. Blackmore	London	21.7.35
516	H. Basset Collins	London	25.9.32
517	R. A. Goodwin	Southdown	16.2.36
518	O. A. Riley	Midland	27.4.35
519	R. H. Macdonald	London	1.3.36
521	J. F. Crosfield	Cambridge Univ.	7.3.36
522	H. Pfister	London	23.2.36
523	W. Adcock	London	15.3.36
524	R. H. Bolton	London	15.3.36
525	C. F. Pagnamenta	London	18.8.35
526	T. A. Potter	Kent	8.3.36
527	M. M. Thomas	London	6.4.36
528	J. A. Neilan	Yorkshire	18.8.36
529	K. Wilks	London	19.4.36
530	J. W. Woolcock	Yorkshire	22.3.36
531	D. G. R. Reid	Cambridge Univ.	3.12.35
532	W. L. Hatcher	Southdown	16.2.36
533	H. Adcock	London	18.4.36
535	L. C. Withall	London	6.4.36
536	J. Whiting	London	26.4.36
537	S. D. Dickson	Derby & Lancs.	3.5.36
538	W. C. Leech	Derby & Lancs.	3.5.36
539	L. W. Buckle	Derby & Lancs.	3.5.36
540	F. J. Hardy	Derby & Lancs.	3.5.36
542	L. J. Fisher	Yorkshire	3.5.36
543	C. Forman	Derby & Lancs.	10.5.36
545	W. E. Hick	Yorkshire	10.5.36
546	N. S. Austin	London	26.4.36
549	A. C. Pick	Yorkshire	3.5.36
550	Miss B. M. Goldney	London	31.5.36
551	F. Charles	Furness	10.5.36
552	A. G. Shepard	Derby & Lancs.	5.6.36
553	F. R. Russell	London	7.6.36
554	D. Upton	Derby & Lancs.	3.6.36
555	K. G. Ferguson	Derby & Lancs.	5.6.36
556	K. G. Wilkinson	Imperial Coll.	6.4.36
557	A. Q. Cooper	London	14.6.36
558	K. M. Chirgwin	Imperial Coll.	9.5.36
559	E. F. Briscoe	London	9.6.34
560	G. M. Thompson	Imperial Coll.	3.6.36
561	Miss E. Arland	London	27.6.36
562	J. F. Copeland	Southdown	17.5.36
563	F. A. Cooper	London	24.6.36
564	D. E. Stanford	Midland	11.7.36
565	H. Leeson	Derby & Lancs.	5.7.36
566	D. A. Hannay	Midland	5.7.36
567	P. G. Everall	Midland	11.7.36

"B" Certificates

No.	*Name.*	*Club.*	*Date.*
161	J. W. Smith	Yorkshire	1.6.36
270	L. C. Dugdale	Midland	6.6.36
390	L. R. Robertson	Imperial Coll.	23.2.36
410	R. A. B. Williams	Midland	7.8.35
436	W. Fisher	Ryedale	1.3.36
438	L. Bullwinkle	London	26.7.35
484	H. Booth	Derby & Lancs.	31.5.36
502	G. H. Stephenson	London	23.2.36
504	R. A. C. Evans	London	1.3.36
510	J. E. Simpson	Cambridge Univ.	11.1.36
513	B. P. Griffin	Cambridge Univ.	7.3.36
521	J. F. Crosfield	Cambridge Univ.	8.3.36
523	W. Adcock	London	13.5.36
525	C. F. Pagnamenta	London	29.9.35
528	J. A. Neilan	Yorkshire	5.4.36
530	J. W. Woolcock	Yorkshire	19.4.36
535	L. C. Withall	London	19.4.36
536	J. Whiting	London	10.5.36
537	S. D. Dickson	Derby & Lancs.	31.5.36
538	W. C. Leech	Derby & Lancs.	1.6.36
539	L. W. Buckle	Derby & Lancs.	31.5.36
540	F. J. Hardy	Derby & Lancs.	16.6.36
543	C. Forman	Derby & Lancs.	1.6.36
545	W. E. Hick	Yorkshire	17.5.36
551	F. Charles	Furness	10.5.36
556	K. G. Wilkinson	Imperial Coll.	19.4.36
558	K. M. Chirgwin	Imperial Coll.	30.5.36
559	E. F. Briscoe	London	20.10.35

"C" Certificates

No.	*Name.*	*Club.*	*Date.*
379	A. E. Shelton	Dorset	29.8.34
424	J. G. Healey	Midland	19.4.36
425	H. T. Edmunds	London	19.4.36
436	W. Fisher	Ryedale	14.7.36
438	L. Bullwinkle	London	11.7.36
453	A. Davis	Derby & Lancs.	28.3.36
469	P. Brown	London	15.3.36
477	R. E. Garner	Derby & Lancs.	28.3.36
480	C. A. Kaye	Derby & Lancs.	29.3.36
484	H. Booth	Derby & Lancs.	5.7.36
486	E. Thomas	Derby & Lancs.	19.4.36
523	W. Adcock	London	11.7.36
528	J. A. Neilan	Yorkshire	19.4.36
530	J. W. Woolcock	Yorkshire	19.4.36
534	H. Adcock	London	14.6.36
535	L. C. Withall	London	29.5.36
538	W. C. Leech	Derby & Lancs.	6.6.36
542	L. J. Fisher	Yorkshire	12.7.36
549	A. C. Pick	Yorkshire	5.7.36
559	E. F. Briscoe	London	6.6.36
560	G. M. Thompson	Derby & Lancs.	24.6.36

The above list shows gliding certificates granted by the Royal Aero Club subsequent to those we published last February.

When THE SAILPLANE AND GLIDER first started publication in 1930, lists of gliding certificates were given regularly; the custom then lapsed, but was resumed in 1933. Since then, lists of certificates have been published as follows:—

Vol. 4 (1933), pages 110, 122, 226.

Vol. 5 (1934), pages 2, 50 (note: J. M. Noble is No 311), 95, 124.

Vol. 6 (1935), page 87.

Vol. 7 (1936), pages 24 and 25. (Note: J. W. S. Pringle, No. 364, should have been listed under "C" Certificates, not "B.")

These lists, together with that appearing on this page, include all certificates granted during and since 1933, with the following omissions:—

93 J. B. L. H. Cordes, London: "B," 7.8.33; "C," 8.8.33.
197 W. Stevens, Furness: "C," 9.5.33.
211 J. C. Redshaw, Furness: "C," 3.3.34.
282 R. C. Rainey, Imperial College: "B," 28.5.33. (Since got "C.")
296 T. G. Armstrong, London: "C," 4.2.34.
328 H. Gross, Furness: "B," 28.5.33.
333 R. A. Nightingale, Kent: "A," 1.1.33; "B," 23.4.33.
334 C. Nicholson, London: "A," 13.4.33; "B," 15.4.33; "C," 27.6.33.
335 J. Chadwick, Accrington: "A," 2.7.33.
342 H. C. Bergel, London: "B," 3.9.33. (Since got "C.")
346 F. Yates, London: "B," 4.3.34.
353 R. Somerset, London: "B," 25.2.34; "C," 18.3.34.
372 O. J. O'Brien, London: "B," 2.6.34; "C," 15.7.34.
381 R. A. Restall, London: "B," 12.1.35. (Since got "C.")
387 R. W. Hamden, London: "A," 13.10.34. (Since got "B.")
388 E. Coope, London: "A" and "B" in Austria; "C," 14.10.34.
389 B. A. N. Goldman, London: "A," 12.8.34; "B," 19.8.34. (Since got "C.")
390 L. R. Robertson, Imperial College: "A," 16.7.34. (Since got "B.")
395 E. E. H. Collins, London: "B," 12.1.35. (Since got "C.")
398 C. Armer, Furness: "A," 10.6.34; "B," 16.6.34.
399 J. Hunter, Furness: "A," 10.6.34.
412 A. Robertson, London: "B," 24.3.35. (Since got "C.")

News from the Clubs

Yorkshire Gliding Club

June 24th.—Wind W., 0-10 m.p.h. Watt and Neilan soared GRUNAU for half an hour each during the afternoon. Unfortunately the soaring wind which had lasted all day petered out at the arrival of various other pilots in the evening. However, Sproule persuaded GRUNAU to stay up for 4 minutes, and later on Heath did the same. Wordsworth, Neilan and Hastwell also circuited.

June 27th.—Wind E. Stedman and Heath were bitten by a desire for circuits, so GRUNAU was brought out and circuited by them continuously throughout the afternoon and evening. They allowed Holdsworth to perform once.

June 28th.—Wind still E. GRUNAU was again circuited throughout the day, Neilan, Heath, Holdsworth and Stedman trying in vain to connect with a really substantial thermal. Several times something promising was met, but either the pilot lost it or its promise was not fulfilled. Wordsworth circuited FALCON I., which was later hopped by Watson, Jowett, Miss Horsley and Alderson.

July 3rd.—Sproule tried unsuccessfully to soar GRUNAU in unfavourable conditions.

July 4th.—Wind S.S.W., light. Wordsworth, having arrived overnight, led the way with a flight of 1 hour 25 minutes in FALCON I. in the morning. He was followed by Holdsworth in the same machine and for the same time.

In the afternoon Sharpe (three times) and Heath (once) gave dual instruction on Sharpe's FALCON III. GRUNAU was circuited by Stedman and Sproule, and later the latter took her up for an hour. Stedman gave Fisher (Joe) half an hour dual in CITY OF LEEDS, and Pick (A. O.) circuited FALCON I. To end the day Heath had a short flight in GRUNAU.

Flying time for the day, 6 hours 20 minutes.

July 5th.—Wind S.W., moderate to strong. An ideal day and a very hectic one for all who attended. Only four machines were available: Sharpe's FALCON III., GRUNAU, FALCON I. and CITY OF LEEDS—but between them a total time of 23 hours 44 minutes was flown.

Members were roused at 6.30 a.m. and the first machine was in the air by 7 a.m. All four machines were in the air before 9 a.m. Nobody had time to get any breakfast. What a day!

GRUNAU was taken aloft by Sproule at 7 a.m. for his five hours' duration, at the end of which he threw two loops in celebration. Wordsworth took FALCON I. up with the intention of staying up as long as he felt comfortable, which turned out to be just over three hours. Later A. O. Pick obtained his "C" on this machine with a flight of 45 minutes.

Sharpe's FALCON III. was piloted throughout the day by its owner, who put in eight flights of half an hour each. Holdsworth took this machine up once with one of the hangar workmen as passenger, and at the end of the day Watt flew her for the first time. Sharpe reached maximum height in her for the day at 1,150 ft.

CITY OF LEEDS was piloted by Stedman on seven occasions, carrying passengers and giving dual instruction. In addition Lingford soared FALCON I. for over the hour on two occasions, and Pick (A. O.) and Wordsworth also had another flight each in this machine.

GRUNAU was flown by Hastwell three times for a total of over 2½ hours, and Sproule had another flight in her, throwing his now customary loops.

We regret the departure of J. C. Neilan for Northern Ireland. We expect that our loss is the Ulster Club's gain, and hope to read of his exploits in the Ulster Club's notes.

July 8th.—Wind S.W., 20 m.p.h. A good attendance put in over 6½ hours' flying during the late afternoon and evening. Watt with a passenger soared Sharpe's FALCON III. higher than any two-seater sailplane had previously been in the United Kingdom. In a flight of 40 minutes he toured the district, going up-wind to Thirsk and visiting Kilburn on the return journey, reaching a height of 4,500 ft. in the process.

Sproule in GRUNAU stayed in the immediate vicinity of the Bank until he reached a height of 2,000 ft., and then departed for regions unknown, eventually landing at Hummanby, a distance of 38 miles. Unfortunately he failed to get the necessary height for his "Silver C," as most of the flight was done at between 1,000 and 2,000 ft., and on one or two occasions he was reduced to 400 ft. or so.

Meanwhile, at the Bank, Wordsworth and Holdsworth were taking turns soaring FALCON I., Heath piloted Sharpe's FALCON III. for 20 minutes, and Slingsby flew his FALCON III. twice for a total of 1 hour 37 minutes, reaching 2,200 ft.

July 11th.—Wind N.W. to S.W., 10-20 m.p.h. Lingford flew FALCON I. for 45 minutes, and was followed by Bailey, who achieved maximum height for the day at just over 1,000 ft. Stedman in GRUNAU shortly afterwards could only reach 700 ft., and thereafter 500 ft. was the average height. FALCON I. was also flown by Wordsworth, Woolcock and A. O. Pick. Hastwell had two flights in GRUNAU, and Sharpe piloted his FALCON III. once for half an hour. Heath and Bailey later went up together in this machine, and afterwards Heath took up another passenger. Stedman had half an hour flying in his CITY OF LEEDS. Holdsworth tested the new HOLS, and Locke procured an "A" with its help.

Flying time, 4 hours 34 minutes.

July 12th.—Wind S.S.W. to S.E., light. Wordsworth in FALCON I., and Stedman flying solo in CITY OF LEEDS both went up to do their five hours' duration. They both attained a good height at first, Stedman touching 1,200 ft. and Wordsworth 1,000 ft. However, the light wind became lighter and more southerly, and Alderson in HOLS II. added himself to the traffic on the shortened beat, so after 2½ hours, of which the last hour and a half were spent perilously low, they both landed, leaving Alderson in undisputed possession. Alderson went on to break our HOLS duration record by staying up for 1½ hours.

GRUNAU was taken up by Hastwell for an hour, but the best height he could get was only 600 ft. Later, GRUNAU was flown by Heath, A. O. Pick and Stedman, the latter trying her out over the White Horse when the wind had gone round to S.E.

Sharpe had his FALCON III. up on four occasions giving dual instruction. On one occasion he was well below the edge but managed to regain height over Whitestone Cliff, eventually finishing up with 400 ft. in hand.

Lingford flew FALCON I. for an hour and 40 minutes, and Slingsby had 20 minutes in his FALCON III. Fisher (Joe) qualified for his "C" on HOLS II. with a very steady flight of 23 minutes, and later Watson took this machine up for a quarter of an hour. Fisher (W. T.), Hick and Locke later circuited HOLS II.

July 13th.—Wind S.W., moderate. Fisher (W. T.) and Sproule came up from Kirbymoorside. Fisher had HOLS II. out and qualified for his "C" with a nice flight of 15 minutes, and later, after Sproule had flown GRUNAU for 15 minutes and landed a mile away, Fisher again took up HOLS II., this time for just under the hour.

July 14th.—Wind S.W., 10 m.p.h. Jowett took HOLS II. up for 20 minutes, and Watson also had a short flight in this machine. Hastwell soared FALCON I. for a quarter of an hour.

July 15th.—Wind S.W., 25 m.p.h. Lingford had his first flight in GRUNAU, staying in the air for 2¼ hours. Slingsby soared twice in FALCON III. for a total of 1½ hours.

Furness Gliding Club

Sunday, June 7th.—Wind N.W., strong and steady. Charles was launched about noon and made off to a point about 7 miles north of the site, returning at a tremendous height; he then flew away south to Roose. His flight over the outskirts of Barrow was watched by hundreds of people, who saw him eventually land the KIRBY KITE in a cornfield near his home. This was Charles' fourth trip home from our site.

Monday, June 8th.—Wind west. Clouds looked good. An expedition to Black Combe was undertaken by Charles and his party with the KIRBY KITE. On arrival there conditions were disappointing, yet he made a long delayed descent and landed at a point about 4 miles away. Returning to Ireleth the party were again disappointed, the launch from here resulting in a mere glide to the Askam Beach.

Wednesday, June 10th.—Wind W. to S.W., moderate strength. During one hour of soaring Charles made several visits to Kirby-in-Furness and back to site, landing on the hill top.

Sunday, June 14th.—Wet. The secretary (flying) and committeeman W. Smith put in a valuable day's work on the launching car. They had the pleasure of a visit by Coltman, the owner of the ALBATROSS.

Thursday, June 18th.—Slingsby delivered a brand new KIRBY KADET, which was demonstrated by Mr. Sproule. The machine is lovely to look at, and we trust delightful to know and handle.



Three stages in the launch of Frank Charles, speedway rider, in his "Kirby Kite" at the Furness Club's ground.
[Photos by L. Redshaw.

Sunday, June 21st.—Dead calm and so hot. More work on car by the usual *workers*.

Tuesday, June 23rd.—A gentle south-west wind tempted Stevens to arrange a try-out of the KADET. He made a nice steady trip to the beach in 4½ minutes.

Thursday, June 25th.—A busy evening on the site, W. Smith having completed a good day's work transporting a secondary machine from Accrington. Someone has named this machine SCHWARZER TEUFEL ("Black Devil"), and she certainly needed a spring clean.

Sunday, June 28th.—Wind south and very hot. Redshaw and Smith had a useful day with the primary. Armer and Charles also had hops. Stevens demonstrated the TEUFEL and she pleased everybody present. Charles also hopped his KIRBY KITE, while McConnell did a nice flight from the Knoll.

Tuesday, June 30th.—A return visit of the "Hindenburg" over Barrow gave us all a thrill and a sight which we shall long remember as she slid through what looked like healthy cumuli. However, when Charles was launched in the KITE he could not reach the thermals.

Sunday, July 5th.—Wind light, S.S.W. Stevens flew the KADET down to the railway. Charles had three hops in the TEUFEL and made her sit on her tail for a few minutes. But to make any forward speed her nose needs to be well down. We now know that she will soar.

Midland Gliding Club

Saturday, July 4th.—The wind was too southerly to allow soaring over the main ridge, but at 4 p.m. Olver sampled the lift over Asterton Gully in FALCON I. He had to make a series of short figure eights over the limited beat, and put up a delightful show, but it could not go on indefinitely and soon he slid in to land.

Meeke following in FALCON I. as the wind had veered more westerly, but he was unable to gain height. He soon circled in to land but misjudged his position by about a foot and stuck the starboard wing-tip into the rear window of Horrell's car! We don't so much mind about the car, but how we miss that FALKE! To console himself, Horrell took a KADET to the bottom.

Testar took FALCON II. for a short flight and Olver followed, after which Bowley, Williams and Reilly took turns in the machine until closing time. FALCON III. was cruised for a while with Hardwick and Olver at the helm.

Total flying time for the day, 4 hours 47 minutes.

Sunday, July 5th.—Wind west, between 12 and 15 m.p.h. A start was made at 9.30 a.m. by Wynne taking FALCON II. up to 2,300 ft. by circling under clouds. Williams, Olver and Reilly followed.

Thomas (Dr.) spent most of the day picking buttercups at the hill bottom after taking off in KADET B in too light a breeze (the penalty of enthusiasm)! The problem of rapidly retrieving fallen angels has still to be solved.

Meanwhile, Wynne gave James, Stanford and Hannay dual instruction in FALCON III. Testar relieved Wynne from this arduous work in the afternoon, and gave several other men baptism in soaring flight.

Hannay then took off in FALCON II. for his "A," and paddled round for 22 minutes. Very good steady flying, but what a climb off the hand launch! We hope we *never* see another like it. Then Hardwick took Wilson, a new member from the Pwllheli Club, in the two-seater as an introduction to the joys of soaring.

Thwaite had 5s. 6d. worth of going to the bottom. This must work out at something like £3 per hour, and although we suppose it comes to all of us in good time, we still hope not. In any case the practice is not to be encouraged, as on a good day the club may lose as much as £1 flying money, due to the machine being out of commission, etc.

Swann had 20 minutes in FALCON II., and Davies 35 minutes in KADET A. These flights were made in the light evening breeze, which just goes to show what can be done.

Total flying time for the day, 7 hours 21 minutes.

Friday, July 10th.—There being a soarable wind, a small party turned up at the Mynd in the evening. Bowley and Davies flew FALCON II., while Testar put Stanford and Everall Jr. through their paces in the two-seater. Total flying time, 1 hour 20 minutes.

Saturday, July 11th.—Flying from early afternoon to late evening. All machines in operation, including the club's newly acquired KIRBY KITE. Several certificates were gained, details of which appear in the final notes for the month. Total flying time, 9 hours 15 minutes.

Monday, July 13th.—Those who were present at the camp were able to gain some experience soaring in a strong wind. Wind was between 25 and 30 m.p.h. at surface. W. Edwards took the opportunity to get the second leg to his "B," the "B" and "C" certificates. Total flying time, 5 hours 3 minutes.

Wednesday, July 15th.—Again a party came out from Birmingham for an evening's flying. Hannay and Everall did their pre-"B" flights. Total flying time, 3 hours 26 minutes.

Sunday, July 19th.—This being the last day of our camp, we were grateful for a soarable westerly wind. In spite of a poor attendance, due to the unpromising appearance of the weather, 33 flights were made, making a total flying time of 16 hours 30 minutes. Several certificate and qualifying flights were made.

We were particularly pleased that Sharples, who came to us from the Harrogate Club, for the second week of the camp, was able to make the certificate flights before leaving. Undoubtedly the Long Mynd site is unequalled for this purpose. Sharples not only gained all his certificates but put up a useful 1¾ hours' solo flying in the process.

Saturday, July 25th.—In spite of a late start at 5.30 p.m. some useful flying was put in. K. A. Edwards, Stanford and P. Everall took their "C" certificates. Total flying time, 4 hours 11 minutes.

Sunday, July 26th.—Flying from noon onwards in a good breeze. The two-seater was busy all day, piloted by Wynne and Testar. Flying members too numerous to mention individually had dual instruction. Our Hon. Sec. very nobly gave his place in the two-seater to his wife, and Mrs. Felton thoroughly enjoyed her flight. We think the DUNSTABLE DEVIL will have to be modified in consequence. Jepson took his "B" and "C" certificates. Total flying time, 13 hours 24 minutes.

Summary for July.—During the month we have put in a total of 66 hours' flying, and the following certificates have been gained :—

"A," "B" and "C": Hannay, W. Edwards, P. Everall, Stanford, Sharples.

"B" and "C": Jepson, K. A. Edwards.

Total certificate flights: 5 "A," 12 pre-"B," 7 "B," 7 "C."

Austin Section.

Much progress has been made at Northfield, where, with the aid of a 20 h.p. lorry, about 1,000 launches have been made since flying started there last March. The field, or aerodrome, is, of course, flat, which makes mechanical launching necessary; but this has been no disadvantage during the past few months when east winds have been general.

There are 22 members, of which number two have secured "C" certificates and one has obtained an "A" by soaring for 20 minutes at the Long Mynd. Several other members are awaiting a favourable opportunity to try for "A's" at the Mynd. It is very difficult to obtain even an "A" at Northfield, as the space is limited for the purpose. The nacelled DAGLING from Handsworth has been transferred to us during the hay season, and this is operated by auto-towing in conjunction with a quick release.

Mr. Nyborg, an enthusiast who will be known to a large number of soaring men, has just joined the Midland Club, and has brought his own machine to our hangar. He designed and built this revolutionary sailplane about six years ago, but several alterations have been made since. It will be remembered that the late G. E. Collins ground-hopped this machine at Dunstable, whilst short flights have been made by others. We understand that the owner is prepared to give the machine to the first man to soar it! We are unable to vouch for this offer, but we cannot help feeling that Nyborg himself is the only man in the running for the prize at the moment. When the machine was brought to Northfield, those present enjoyed the novelty of seeing the wings driven into position by the application of a mallet at the wing tips!

The Construction Section is now busily engaged on a spare pair of primary wings under the able guidance of Mr. Frank Warren, who built his first glider in 1910. Members of this section are looking forward to the time when they have completed the necessary number of hours' work to make them full flying members.

[All honour to Mr. Warren, with his quarter of a century's experience. But Mr. Nyborg can go one better with a third of a century, having built his first glider in 1903.—ED.]

Hereford Branch.

Approximately 115 flights have been made during June.

Sunday, May 31st.—The wind was again unfavourable, but the usual flat flying practice was carried out.

This day was marked by two special achievements. James, from Chester, successfully flew into two Hereford bullocks and got away with it! No damage—except to the dignity of the bullocks. Later in the evening a member, who shall be nameless, very neatly stalled our R.F.D. over a hedge composed of 20-ft. trees, then dived the machine well and truly into it. He came to rest with a wing-tip showing out each side and the tail stuck out of the top of the trees, the unfortunate pilot being located somewhere in the depth of the foliage. Total damage: one cracked watch glass and one wing pierced by a twig. The glider went on flying after an hour spent in extricating it.

The following week-end was spent in removing some of the offending hedge, to the great relief of many members.

A challenge trophy in the shape of a very old and battered pewter hot-water jug, properly mounted and engraved, was offered on June 14th by W. Picker for presentation to a club member for any original or outstanding performance. The first winner was Dugdale for his "C" flight at the Long Mynd. The second winner was "Toreador" James for his very original bullock act; and the third winner the tree-minded pilot who shall be nameless.

The week-ends of June 21st and 28th were confined to flat practice flying. N. Weston, a new member, made satisfactory progress.

A syndicate of five members have acquired a SCUD I.

During **July**, in spite of the bad weather, which entirely stopped any flying on one Sunday, the club managed to get in about 105 launches.

Mr. Gerald Edwards, of Leominster, obtained his "A," "B" and "C" certificates during one week-end at the Long Mynd soaring ground. One flight is particularly worth mentioning, as he took off in a FALCON in a gust of wind without a launch.

Sunday, the 19th, was the best and worst day since the club started, as the first two "A" certificates were obtained on the Haywood ground, but the last flight of the day resulted in an unfortunate accident. L. C. Dugdale, the club instructor, was taking off in a SCUD I., and had barely got off the launch rope when he suddenly nose-dived from a height of about 20 ft. The plane was badly damaged, and Mr. Dugdale had both thighs broken and minor head injuries. He is now making satisfactory progress in Hereford General Hospital.

London Gliding Club

In four weeks of July there were 684 launches, including instructional ground-hops. The total flying time was 124 hours 49¼ minutes, excluding the ground-hops. If the latter be included, the total should be well over 125 hours. The previous record for a four-weeks period was 115 hours between March 24th to April 19th last year.

Faced with all this material, the most we have room for is a summary in tabular form, preceded by a few comments on particular occasions.

Sunday, July 5th.—Wind S.W. at first, but not much of it. In spite of the promising-looking cumulus clouds, hardly anybody could get more than one or two hundred feet above the hill. The only exceptions were Dewsbery in the RHÖNSPERBER, who reached about 700 ft., and even got wisps of thermals up to 600 ft. as late as 6 p.m.; and Wills in the HJORDIS, who struggled hard for some time until at last a thermal took him into cloudland and off he went. Estimates of how far he had got increased as the day wore on without further news, and a new British distance record was regarded as a certainty long before it was confirmed by a telephone message from Pakefield on the Suffolk coast.

The RHÖNSPERBER surprised everyone by suddenly spinning down from 500 ft. into one of the hollows, out of which it zoomed under perfect control once again, to go on flying for another hour or more. But its wing-tip had missed the Downs by a foot or two.

There was a galaxy of visitors. In addition to our Dutch friend of the previous week, we had an Esthonian Editor, a Polish Count, and an Indian Rajah.

Mr. Andres Joasalu edits the daily paper, *Uus Esti*, in Tallinn, and in his spare time has managed to collect a "B" gliding certificate.

Count Czarkowski Golejewski, of Lwow, can go one better, for he sports a "C" badge. He is, in fact, a leading light in Polish gliding, and persuaded us that English pupils could get gliding instruction in Poland cheaper than in Germany.

The Rajah of Aundh was taken for a ride by Humphries in the FALCON III., off a winch launch. He enjoyed it enormously, waving to the people as the machine flitted along less than 100 ft. above the hill, away to the Zoo as far as the Polar bears, round the chalk lion, and back again. During 20 minutes' flight his pilot learned that he rules a small Hindu state (population 60,000) in the Bombay Presidency south of Poona, that he boasts that it is up-to-date, and has abolished the caste system, that he is pro-Gandhi, and that his hobby is deep breathing—the sort generally known as "Yogi." We do get the most delightful people dropping in to see us.

Wednesday, July 8th.—The chief events of the day were that Dewsbery took the RHÖNSPERBER to 4,000 ft. and looped the loop, and that Bergel polished off his "Silver C" by doing 5¼ hours, including a tour of the countryside during which he visited Ivinghoe and Leighton Buzzard (or somewhere near).

Monday, July 13th.—Unusually for a Monday, many people turned up and flew the FALCON and PRÜFLING, in a stiff wind. The latter was hovering with its nose well down, and once descended vertically to a spot, landing like a lift.

Wednesday, July 15th.—The WHITE WREN made its first appearance after having been blown over by the wind some time ago.

Saturday, July 25th.—The RHÖNADLER, formerly the property of the late Eric Collins, was brought along by Vigers, its new owner. The first trial flight was made by Sproule, who was down from Yorkshire for the week-end. He took off the lid of the cockpit and went up on the winch, with the most unexpected results. The rudder waggled violently from side to side and refused to keep still. The obvious explanation was a burble set up by the absence of the cockpit roof. The first German RHÖNADLER of 1932, however, had no roof and was flown a lot by Peter Riedel; it is still in use at the Gaisberg in Austria. But there were slight differences in the design.

Sunday, July 26th.—Sproule took up the RHÖNADLER again—this time with the lid on—and stayed up for over an hour, getting to 1,200 ft. in thermals and finishing with an aerobatic landing reminiscent of its previous owner. Bergel also took the machine up for 40 minutes, and Vigers had two hops in it.

It was a tremendous day. Thermals and cloud currents were all over the place. The wind blew at the hill rather obliquely from between S.W. and S.S.W., giving a ridge-soaring height of 150 or 200 ft., until late in the day it chose to back suddenly

a little more and blow along and slightly down the hill. There was a spectacular *débâcle*. Estimates of the number of machines up at the time vary between eight and ten; but however many there were, they all "fell out of the sky," and had to land in a hurry. It was thoroughly exciting. Machines were coming in to land from all directions, while others already down were being trundled home across the ground. Three people thought better of it, and landed elsewhere—at least, they said that was why.

Wills took the HJORDIS up to 5,600 ft., of which nearly 2,000 ft. was flying blind in cloud—the result of a recent blind-flying lesson at Heston. He went all over the place, visiting Water End, Markyate, Dunstable, Luton, nearly to Hitchin, back over Mrs. Buzzard's easterly site (an alternative to Dunstable for east winds, tried out early this year), then the Duchess of Bedford's estate, nearly to Leighton Buzzard, Ivinghoe, Totternhoe, and home.

Hiscox went off across country in his KITE. According to three different correspondents, he landed at Hitchin, Hatfield and Henlow respectively.

Humphries in the Slingsby GRUNAU worked at the technique of catching thermals without a variometer but *with* a wristlet altimeter, and got to 1,500 ft. off a winch launch. The trick is to fly slowly and wait for the machine to twitch vigorously; note height on wristlet, watch carefully, and as soon as the hand moves, circle. You then gain height. When the machine feels as if she is flying in thick soup, you are going down. Up-currents are made of soda-water, down-currents of ditch-water. As for circling: sit a little sideways, facing depressed wing-tip, *which watch*, thus getting constant speed of rotation and constant bank; with forward ear listen for air-speed. The country beyond the lower wing-tip should then stream *forward* past it quietly. When you have developed your powers of observation by thermalling without a variometer and without looking at the air-speed indicator, then you get full advantage from a variometer when you start to use one.

Robert Kronfeld, flying a "Drone," called in for tea.

Summary of Flying.

Date (July)	Machines in use	Ground-hops	Winch launches	Hilltop launches	Flying Time h.	m.	s.
1 Wednesday	—	50	2	—	—	7	0
3 Friday ...	—	—	2	—	—	8	30
4 Saturday ...	—	28	24	—	6	7	0
5 Sunday ...	15	53	—	53	7	33	40
8 Wednesday	9	25	—	14	14	30	0
10 Friday ...	1	—	—	1	—	15	0
11 Saturday ...	10	—	—	42	19	16	57
12 Sunday ...	—	2	17		7	24	18
13 Monday ...	2	—	—	7	4	37	0
15 Wednesday	6	—	—	27	4	6	46
16 Thursday ...	1	—	—	1	—	18	0
19 Sunday ...	—	15	28	13	20	50	25
20 Monday ...	5	—	—	25	3	1	0
21 Tuesday ...	5	—	—	32	1	43	0
22 Wednesday	2	33	—	5	—	4	30
25 Saturday ...	6	40	26	6	6	4	0
26 Sunday ...	9	55	19	22	15	23	0

Totals.

Week ending	Launches	Flying Time	Certificates
July 5th	229	27 hrs. 15 mins.	4
July 12th	101	41 hrs. 26 mins.	7
July 19th	91	29 hrs. 52 mins.	–
July 26th	263	26 hrs. 15½ mins.	3

Certificate Flights.

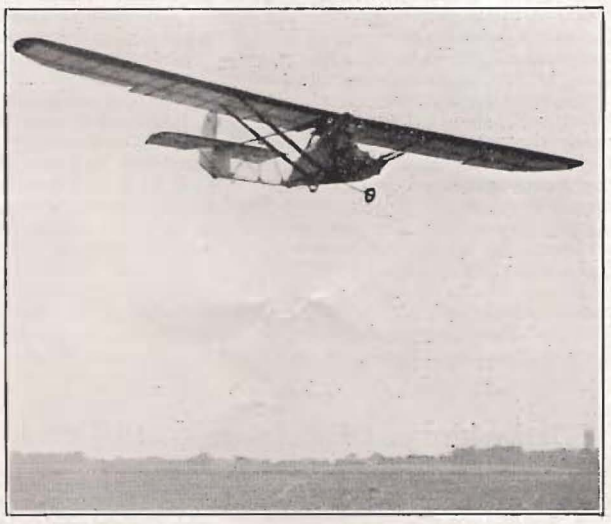
July 5th.—Graham, "A"; Hugenholz, "A"; Cohen, "B"; Gardner, "B."

July 8th.—Bergel, "Silver C."

July 11th.—Saffery, "B"; Blackmore, "B"; Gardiner, "C"; Bullwinkle, "C"; Himmelreich, "C"; W. Adcock, "C."

July 22nd.—Lloyd, "A"; Greenshields, "A"; Miss Searle, "A."

Hull Gliding Club



The Hull Gliding Club's secondary machine. The front part of its nacelle is temporarily in hospital.

Our contributions to THE SAILPLANE as well as our training came to an abrupt end on December 7th last year following a stall at 50 ft. on the secondary. The winter passed with the club engaged in building a new starboard wing and repairing fractures of the tail unit, but May 16th saw the machine ready for its trials. Lawson, our instructor, made seven test flights in a strong wind with all controls working overtime, but he pronounced everything satisfactory, so we decided to call it a day.

May 17th saw the commencement of training and most members proved that they had not forgotten the hard-earned lessons of six months previous. Our new Chrysler towing-car (stripped to a bare shadow of its former magnificent self, and fitted with bucket seats facing aft) is ideal for our method of launching, and when the wind is blowing down-field it is possible to get up to the full height of the 600 ft. cable. [We are informed that the instructor sits facing aft, and has an auxiliary throttle control at his left hand, which he works as he watches the glider.—ED.]

On **June 26th** Lawson made three flights of **72, 75,** and **78** seconds' duration, thus proving it is possible for us to get our "B's" at this site.

Training has progressed so steadily that there is little to report, but there has been no dearth of thrills. We have all had our hectic moments, but we seem to have passed this stage and most are making good glides. Up to the time of going to press we have had **243** launches since May, and considering that only one machine is in operation (although a new primary is on the stocks), this cannot be considered to be a bad record.

Kent Gliding Club

Although a report of club news has not been submitted during the past few months this does not indicate stagnation (either of the club or the writer), but it is due to a series of the most —— (adjective omitted) week-end weather conditions.

We have never favoured a detailed report of training hops, but instruction has continued whenever possible, and new members are making good progress under Brunning's able tuition. Of the older members, Potter (our light-weight) has taken his "A" on COLUMBUS, but the others are eagerly waiting for the re-appearance of the B.A.C. I. with its new and improved wings. As soon as this machine is in commission a crop of "A's" and "B's" should be forthcoming.

Increased and improved equipment is the result of hard work by the constructional side, led by Sanguinetti, with Brunning and Draper in support. COLUMBUS (B.G.101) has been re-conditioned, and so has the B.A.C. I. nacelled fuselage. The new wings for this machine will, when finished, also be available for use on the B.A.C. VI. auto-tow fuselage. Work on the new taper wings for the B.A.C. IV. has been held up owing to maintenance work, but they will be put in hand at the first opportunity. At the Annual General Meeting the Chairman was able to report that "the club is now better equipped than at any other time in its history."

We have had recent visitors from the Essex, London, Midland, Nottingham and Southdown Clubs, but we should like to make special mention of Mr. Bergel, who spent a day with us examining our prospective sites and giving us much valuable information and advice. We should like to take this opportunity of thanking him for his help, which we much appreciated.

We were very sorry to hear of Dugdale's accident at Hereford. "Duggie" is one of our oldest members, and having seen him safely through his "A" and "B" we were glad to hear that he had got his "C" at the Mynd. (He deserved this long ago, but the Fates have been unkind to him.) Now he has a long and weary time ahead of him, and we wish him wholeheartedly a complete recovery. The writer was able to see him recently, and was glad to find him very cheerful and, according to official information, "doing splendidly."

At the Annual General Meeting the following elections were made:—Chairman, Mr. Sanguinetti; Vice-Chairman, Mr. Triggs-Herbert; Hon. Secretary—Treasurer, Miss Sinclair; Committee: Messrs. Brunning, Clarke, Court, Draper, Kirby and Walker.

Derbyshire and Lancashire Gliding Club

Sunday, June 28th.—Wind east, 10 m.p.h. Winch training all day at Camphill with the NACELLE and PRIMARY, Ferguson getting both the 45-second flights for his "B." The GOLDEN WREN flew at Mam Tor, but conditions were poor and it landed at the bottom.

Wednesday, July 1st.—Wind S.S.W., 5 to 10 m.p.h. Ferguson completed his "B" with a semi-soaring flight of 1 minute 40 seconds over the south slope, while others did circuits.

Saturday, July 4th.—Wind west, 15 to 20 m.p.h. Leech and Booth soared the NACELLE, the latter taking his "C" like a veteran. Ferguson was launched for his "C" in the NACELLE, but the wind was rather strong for his experience, and he got blown back behind the lift, crashing rather badly, fortunately without injury to himself. In the meantime Smith got the GOLDEN WREN up to cloud base, but this was only at 1,900 ft. (2,000 odd ft. above sea level).

Day's flying time, approximately 2 hours.

Sunday, July 5th.—Wind west, 15 to 20 m.p.h. A grand day. Nice soaring wind, not too strong for secondary training. Of the trainees, Leeson took his "A," while Upton did one "45" towards his "B." Slater and Smith soared the KADET for the first time, both giving Slingsby full marks for a very charming machine. Coleman, Slater and Smith also flew the BLACK DIAMOND (GRUNAU), this also being voted a lovely machine. (The GOLDEN WREN is not for sale yet, however.)

Day's flying time, approximately 6 hours.

Wednesday, July 8th.—Wind west, 5 m.p.h. Circuits and winch training with the NACELLE, KADET and HOBSON GRUNAU, Davies flying the KADET for the first time, and Godson the GRUNAU.

Sunday, July 12th.—Wind S.W., 15 m.p.h. Rain most of the day, but some training and half an hour in the GOLDEN WREN was squeezed in between times.

Wednesday, July 15th.—Wind west, 15 to 20 m.p.h. Robertson and Slater flew the GOLDEN WREN, while Davies soared the KADET. Winch training for the more advanced trainees.

Sunday, July 19th.—Wind west, 30 m.p.h. Too strong for any training or for the NACELLE at all. Smith and Robertson flew the GOLDEN WREN, and Davies the KADET. All had sticky moments when landing, thereby justifying the decision of keeping the NACELLE in the hangar.

Tuesday, July 21st.—Wind west, 25 to 30 m.p.h., gradually dying. Garner and Brown soared the NACELLE, the latter below the top, his taste for speed apparently extending even to secondary gliders. Robertson flew the GOLDEN WREN, and later Garner had another flight in the NACELLE, winch training and circuits proceeding in the meantime.

Wednesday, July 22nd.—Wind west, 15 to 20 m.p.h. More training, during which S. Hobson did both "45's" towards his "B." Garner soared the NACELLE for 10 minutes, and late in the evening Thompson took his "C" in the same machine, his time of 6 minutes being due to the rapidly approaching darkness.

Newcastle Gliding Club

Sunday, June 7th.—The C. of A. for CRAMCRAFT (P.4) had not arrived, and the open primary was just a little the worse for wear after Coates had done some excavating, followed by an inverted landing, down wind and up hill, on the previous Sunday.

So we made tracks for the Simonside Hills with the MERLIN, in order to make good use of the N.E. wind. By 4.30 p.m. the machine was finally rigged and ready to fly, after we had chased the wind from N.E. to S. At precisely 4.31 p.m. MERLIN was lying 400 ft. below in the marsh—without an aileron, without a skid, and with a gaping hole in its side. The poor thing was rolled up, packed on the trailer, and taken back to the workshop.

Sunday, June 14th.—Having run out of machines we decided to work hard and get them all ready in time for the race week holiday. Hogarth fixed new roofing material to the club room roof, kindly presented to the club by himself.

Sunday, June 21st.—The new dope having arrived, the day was spent in finishing off the wings of the CRAMCRAFT (P.1.). Incidentally, this dope was made up for us by Messrs. J. A. Dent, cellulose manufacturers, of Martin's Bank Chambers, Redcar, at 12s. 6d. per gallon, carriage free. As most of our constructional members are very sceptical about a dope which is not made by one of the well-known firms, we are pleased to report that we have this time arrived at a dope at a reasonable price which has satisfied our most stout devotees to expensive material, and which we are only too ready to recommend to other clubs. The manufacturer guarantees it to tighten thoroughly and proof in two coats. We were agreeably surprised to find that it fulfilled this claim. Messrs. Dent claim the dope to be non-poisonous, but, having no "dope-tasters," we are taking their word for that.

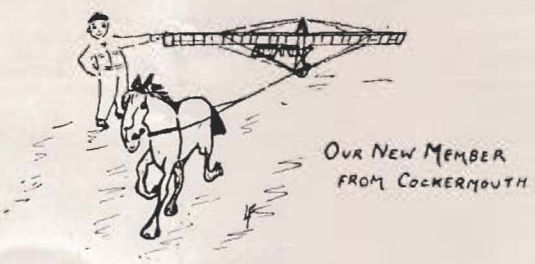
The Annual General Meeting was held in the Church Institute, Newcastle, on July 17th. The following officials were appointed: Chairman, John Bell, A.R.Ae.S.I., F.R.S.T.; Vice-Chairman, Alex. H. Bell; General Secretary and Manager, Alfred P. Miller; Ground Engineer, Alex. H. Bell; Chief Instructor, Prof. S. C. O'Grady (Flt.-Lieut.); Committee: G. L. Coates, A. C. Burningham, W. E. Hick, J. A. Allan, W. M. Taylor.

Sunday, July 19th.—A splendid day with the exception of the wind, which was puffing along at about 40 m.p.h. The 57 ft. span JALLAN had been towed from Newcastle, and in the late evening, when the wind had dropped a little, it was given a winch launch. But, like Hick, Allan must have a failing for weak skids, and he damaged this and the bottom of the fuselage. Better luck next time.

Workington and West Cumberland Gliding and Flying Club

April 26th.—First meeting on the new site at "The Hay," Cockermouth, and several flights were made from the hill. This site has been kindly lent by Lord Leconfield for an experimental period, and as it promises to make an excellent soaring site we hope to make it our permanent flying ground.

R. Lawson qualified for his "A" certificate with an excellent flight of 32 seconds; Vingo just failed to qualify with 24 seconds. During later ground-hops, one member unfortunately made a bad drift landing resulting in a broken king-post.



June 14th.—The primary in order again with a new fuselage from Slingsby. Flying abandoned on account of heavy rain. The shed in Cockermouth was taken over to house the machine.

June 28th.—Perfect day for primary training, and although the slight wind was behind the hill, one 45-second flight was obtained from the top. Ground-hopping for the rest of the day.

July 5th.—Wind west and gusty; ground-hopping on the landing field. Great excitement when Earl was lifted by a gust rather higher than he considered comfortable so nose-dived into the ground, fortunately without damage. Neil showed his preference for vertical rather than horizontal flight, but landed safely if not comfortably.

A nacelled DAGLING is now under construction at Slingsby's works, and should be available in a week or so. It is hoped that attendance will improve.

W.L.F.

Jersey Gliding Club

Weather and wind conditions for the last few months have been so bad that we have only been able to carry on with training flights.

An extension has been built to the hangar, which is now 40 ft. × 30 ft. Even with the four machines (two DAGLINGS and two SCUD I.) fully rigged, there is enough spare room for three towing cars.

Sunday, July 19th.—A strong W.S.W. wind of 25 m.p.h. looked good, and we rigged the club's SCUD I., which had been repaired. After a trial flight from the gully, Carter was launched from the top, and carried on soaring at 500 ft. for half an hour, making a beat for a mile along the hills. This is the first time this SCUD, which we purchased from Guernsey, has done any soaring, which, when the wind is right, is very easy at the low speed of 25 m.p.h.

In the afternoon the wind veered to W.N.W., making soaring impossible, to the great disappointment of Wagstaffe and Glassford, who are now ready for this.

Sunday, July 26th.—A S.W. breeze again, but not enough for soaring. A good day's sport was had with the DAGLING.

Cornwall Gliding Club

June 21st.—This was our first visit to Rosenannon Downs, which is by far the best site we have found yet. It has a fine slope facing south, and though not extremely steep it is 300 ft. high, and should produce soaring conditions. It is entirely free from obstruction, which we appreciate, having been hemmed in by Cornish hedges up till now. The day produced our first flight of 30 seconds.

June 28th.—Another excellent day for most members. Williams, who had crushed the seat in a heavy landing, later put up 30 seconds, but Salton raised the club record to 65 seconds with a straight flight from a little below the crest.

There were ground hops on the following Sunday, and continuous rain the Sunday after.

July 19th.—Mr. Sheffield, from the Midland Club, had a look at the Rosenannon site, and expressed a wish that his own club had one like it. We think we'd swop it for the Mynd.

We have been given two pairs of Avro wings in very fair condition, and hope to have one or two more primaries as a result before long.

Note for B.G.A.—We cannot find who owns the Downs. Must we wait 12 years to obtain a "squatter's" title before we can claim any subsidy?

South African Gliding Association

This Association has now been formed, and has begun the publication of a quarterly news sheet called *Gliding*, of which the first two issues have been sent us by the Hon. Secretary. From these the following information is extracted.

The South African Gliding Association exists "to encourage and control gliding throughout the Union," and has been authorised by the Civil Air Board to act on their behalf in all matters concerning gliding within the South African Union. It is purely an association of clubs, the cost of club affiliation being £1 1s. entrance fee on affiliation, with a levy of 1s. per member payable at the end of each year.

The present officers of the Association are: Chairman, W. G. Fishburne; Hon. Treasurer, F. B. Haswell; Hon. Secretary, H. G. Horrell (British "C"). Other members of the Council are: S. W. Vine, W. H. Pidsley (British "C"), R. F. Casperutheus (German "C"), H. G. von Stein and W. Kunze (German "C").

The Association's address is P.O. Box 1,489, Johannesburg.

Machines for Club Use.—The Association have made extensive investigations to find out the most suitable machines for use in South Africa, and now recommend type GRUNAU 9 as a primary training glider, and GRUNAU BABY II. as an intermediate sailplane. The Department for Defence have offered to issue free of charge, to approved constructors, working drawings of the GRUNAU 9, a machine which can also be used for soaring if fitted with a nacelle.

Government Subsidy.—The Union Government have set aside £500 for the gliding movement in the 1936 Civil Aviation grants. They have also intimated that any grant made to the movement during 1937 need by no means be limited to the same amount. The method of its distribution has, however, not yet been made known.

In the view of the Association, the ideal state of affairs upon which to build a strong national movement would appear to be the establishment of four or five clubs in the first instance, each possessing an equipped site. Where sufficient support is forthcoming, and distance is prohibitive, branches of such clubs could be formed which would only provide ground-hopping facilities, the members getting their more advanced training at holiday camps arranged by the parent club.

Many useful members have already left the movement through getting too little flying in return for the amount of hard work put in; the remedies for this are, firstly, the avoidance of crashes due to inferior instruction (a holiday camp for instructors is being held this year); and, secondly, the equipment of sites with mechanical retrieving gear, workshop facilities, and hangar accommodation.

Gliding Certificates.—Negotiations are being carried on with the Royal Aero Club to enable gliding certificates of international standing to be issued throughout the Union; the usual "gull" badges will include the nationality letters ZS. Meanwhile the following provisional certificates have been issued to those who have passed the prescribed tests:—

"A" Certificates.

No.	*Name.*	*Club.*	*Date.*
1.	G. J. Ward	Rand	1.9.35
2.	R. L. Davey	Rand	1.9.35
3.	W. Diemer	Transvaal Pioneer	13.10.35
4.	S. Melville	Rand	17.12.35
5.	G. E. D. Beresford	Rand	5.1.36
6.	K. Tanner	Rand	5.1.36
7.	H. G. von Stein	Rand	8.3.36
8.	L. A. Jenkins	Rand	8.3.36

"B" Certificates.

1.	S. Melville	Rand	23.12.35
2.	G. J. Ward	Rand	5.1.36
3.	W. Diemer	Transvaal Pioneer	5.1.36

"C" Certificates.

4.	S. Melville	Rand	5.1.36

Rand Gliding Club.—Since the beginning of the year membership has been doubled and is now nearing the century mark. The club will shortly possess five machines. It has already the AVIS sailplane; an imported GRUNAU 9 primary was expected in April; a primary is nearing completion at Roberts Heights, and another to be given to the club is almost finished; in addition, a GRUNAU BABY II. has been ordered by certain members, who will give the club the option to take it if funds are available.

Previous news of the club's activities were given in THE SAILPLANE last March (p. 46). Since then ground-hopping has been carried on practically all the week-ends, and a camp was arranged for the Easter holidays.

Transvaal Pioneer Gliding Club.—This is the new name of the former German Gliding Club, which had an arrangement with the Rand Club that has now been terminated. It has a training machine, and now, through the generosity of Dr. Hans Merensky, a GRUNAU BABY II. is on its way to South Africa, complete with instruments and parachute. Mr. Kunze, who flew the AVIS for five hours on January 6th, crashed it on the 23rd.

A gathering was held at the German Club of Pretoria to form a branch there.

Cape Gliding Club.—The club's first machine, a GRUNAU 9 primary, arrived in February. The club funds and membership (now 50) were considerably increased as the result of a visit by Mr. von Arnim, of the Swakopmund Club, with his own GRUNAU BABY. On March 21st, at Wynbery Aerodrome, von Arnim was aero-towed to 5,000 ft. and gave an aerobatic display. On March 22nd he soared for 4 hours, and on the 29th did another long flight.

Paarl Gliding and Sailplaning School.—The FALCON, which has taken three years to build, is now ready to fly, and it is intended to start on the construction of a primary.

Other Gliding Clubs.—Attempts are being made to form clubs at Durban and Port Elizabeth; also (according to the East London *Daily Dispatch*) at East London.

NOTE.—The next issue of "The Sailplane" will be published in time for the B.G.A. Competitions, and no Club News later than August 16th can be included. It should be sent in immediately after that date.

Out and Return

At the American soaring competitions held at Elmira in July, Mr. Richard Dupont, of Wilmington, Delaware, soared 37 miles from his point of departure to a set mark, and back again to the starting place.

No doubt we shall hear later such important particulars as wind direction and strength. But meanwhile, this feat—undoubtedly a world's record for an out-and-return flight—is a reminder that there is one side of cross-country soaring technique which has always been rather neglected, owing to the prevailing passion of sailplane pilots for getting as far as they can, without intending to fly back again.

It is true that several long soaring flights have been made in a direction at right angles to that of the wind. The technique of making progress directly into wind cannot be very different—at least in light winds. As for strong winds, they favour the formation of long "cloud streets" parallel to the wind, under which it is sometimes possible to soar at great speed. And if this can be done in one direction, it can be done in the other. But first of all our meteorologists must get down seriously to an intensive study of cloud streets. Instead of looking at the clouds at the specified six-hourly intervals, they will have to sit and watch them all day. It will be a novel experience.

MIDLAND GLIDING CLUB
LONG MYND, CHURCH STRETTON

CAMP arranged for September 12th to 20th inclusive, at a special inclusive fee of £6 6s. (owing to late season), including all meals and flying fees. Visitors may bring own sailplane by arrangement with the Secretary in advance.

Applications to Lt.-Cdr. R. A. B WILLIAMS, ASTERTON, Salop.

GLIDERS!

This publication is the only journal to give exclusive news of the Clubs and details of the sport of Sailplaning and Gliding. The Publisher wants to make the issues *fatter*. More subscribers are first needed to increase circulation.

DO WHAT YOU CAN!

H. O. DAVIES 13, Victoria St., London, S.W.1

PIONEERS 10 YEARS AGO

Right from the earliest days of Civil Aviation, Manufacturers, Operators and Owners of Aircraft realised the necessity of Insurance protection.

In 1924 this organization was formed to specialise solely in AVIATION INSURANCE and to meet the vital demand for adequate and reliable Insurance cover of British needs the world over.

Valuable pioneer work was carried out, and now it is recognised that the security of sound insurance has contributed a very great deal to achieve the stability that the British Aircraft Industry now enjoys.

The British Aviation Insurance Co., Ltd., after over 10 years of successful operation, can justly proclaim

RECOGNISED LEADERSHIP TO-DAY

Over 90% of the leading British Aircraft Manufacturing and Air Line operating Companies entrust their Insurance business to the Company.

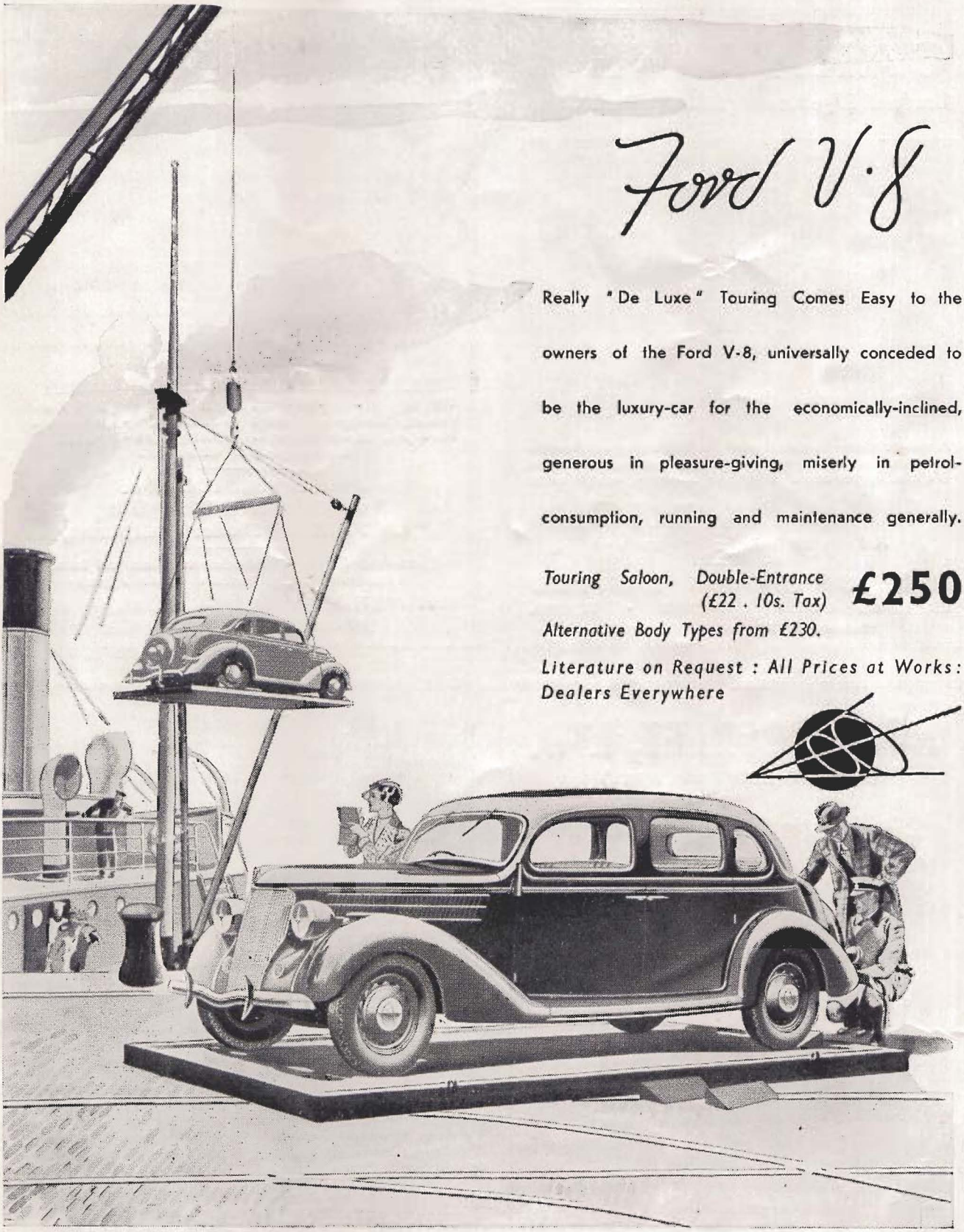
In ever increasing numbers, private owners and those hiring Aircraft are realising the advantages of the sound Policies and technical appreciation of their needs.

Experience counts—the pioneer work of yesterday has been the foundation on which has been built the unrivalled leadership achieved by the Company in the Aviation World to-day.

THE
BRITISH AVIATION INSURANCE CO., LTD.

3-4, LIME STREET, LONDON, E.C.3.

Telegrams: Aviacoy, Lime, London. *Telephone:* MANsion House 0444 (5 lines). *Underwriter and Principal Surveyor:* CAPT. A. G. LAMPLUGH, F.R.Ae.S., M.I.Ae.E., F.R.G.S.



Ford V·8

Really "De Luxe" Touring Comes Easy to the owners of the Ford V-8, universally conceded to be the luxury-car for the economically-inclined, generous in pleasure-giving, miserly in petrol-consumption, running and maintenance generally.

Touring Saloon, Double-Entrance (£22 . 10s. Tax) **£250**

Alternative Body Types from £230.

Literature on Request : All Prices at Works: Dealers Everywhere

FORD MOTOR COMPANY LIMITED, DAGENHAM, ESSEX. LONDON SHOWROOMS: 88 REGENT ST., W.1

CARAVANS *for*

Bradwell Edge Meeting & Sutton Bank Camp



A two or three berth caravan provides really comfortable quarters, just the food you like and when you want it, at a cost of about 30/- per week. A day's gliding demands a night's rest

HIRE A RICE

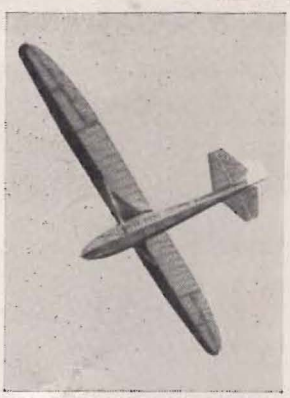
And take the family for a pleasant week

RICE CARAVANS, LIMITED

26, GARGRAVE · SKIPTON · YORKS.

Makers of TRAILER COMPONENTS

GRUNAU BABY II



THE WORLD'S MOST WIDELY FLOWN SAILPLANE.

Weight - -	125 kg.	Span - -	13.50 m.
Loading capacity -	90 kg.	Total length -	5.975 m.
Max. speed on tow	75 m.p.h.	Gliding angle -	1.18
Sinking speed -	0.85 m/sec.		

Primary GRUNAU 9

Two-Seater GRUNAU 8

"LA FALDA" Motor Sailplane

Quotations for these and other machines and board instruments through exclusive Export Agent:

WALTER EXNER, ALA ANZEIGEN A.G.

BERLIN W 35, GERMANY.

DART AIRCRAFT, LTD.

(Formerly ZANDER & WEYL)

29, High Street North

Dunstable, Beds.

TELEPHONE 429

□

MANUFACTURERS

of

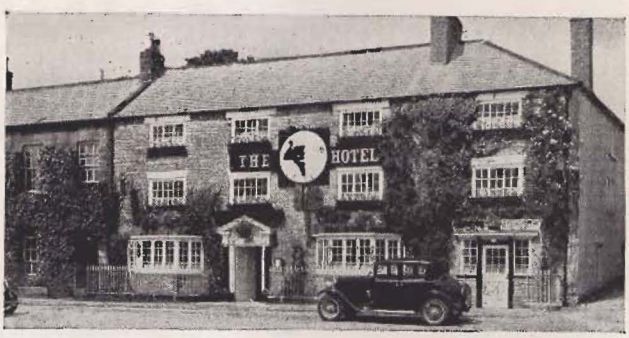
LIGHT AIRCRAFT

□

Cambridge Sailplanes

Totternhoe Secondary Sailplanes

TRAILERS



At home to Gliders

THE BLACK SWAN HOTEL is at Helmsley—only seven miles from Sutton Bank. It is a Trust House, which means comfort, good food and quick service. And we are happy to say that we have made special arrangements for gliders. You can have a 3/6 or 4/6 dinner—or bacon and eggs at odd hours if you prefer. Bed, bath and breakfast cost 9/- a day. We will gladly take phone messages from cross-country gliders—ring up Helmsley 3. We can accommodate cars and trailers. You may have parcels and things sent here to await your arrival. If you can think of any other special services—tell us and we will arrange them if we can.

THE BLACK SWAN

HELMSLEY

Proprietors - Trust Houses Ltd., 53, Short's Gardens, London, W.C.2

KING'S CUP AIR RACE

SATURDAY, JULY 11

WON BY

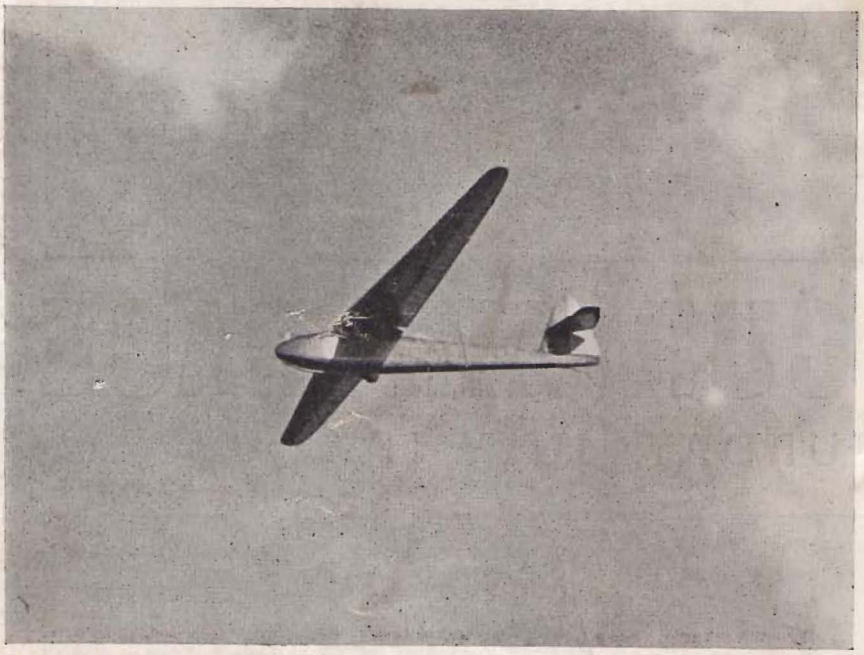
C. Gardner

PERCIVAL VEGA GULL
(GIPSY ENGINE)

USING

WAKEFIELD PATENT Castrol XXL

C. C. WAKEFIELD & CO. LTD., *All-British* Firm Wakefield House, Cheapside, London, E.C.2



THE CARDEN-BAYNES AUXILIARY
(Engine Retracted)

Patents applied for

SCUD II

The most successful sailplane in the 1933 and 1934 B.G.A. annual contests, and holder of British altitude record of 8,323 ft. A light and efficient 40 ft. span sailplane designed for the private owner. Easy to erect and launch.

Price £125, at Works

SCUD III

A new highly efficient design of greater span and refinement. Even easier to erect and operate. Quickly detachable cantilever wings and tail planes. Wheel undercarriage to assist take off and ground handling. Ball-bearing controls. The most practical sailplane ever designed.

Price £175, at Works

CARDEN-BAYNES AUXILIARY

Identical with Scud III but fitted with a small retractable auxiliary motor to enable the machine to operate from aerodromes or flat fields and climb to sufficient altitude for thermal or cloud soaring. Engine or air-screw may then be retracted into the neck of the fuselage; restoring the gliding angle to that of Scud III.

Provisional Price £250

TRAILERS PARTS MATERIALS

ABBOTT-BAYNES SAILPLANES

(Branch of E. D. ABBOTT, LTD.) FARNHAM, SURREY Phone—Farnham, Surrey 682, 683

FIRST AGAIN

On April 18, 1936, A. L. SLATER flew from Gt. Hucklow to Gosberton, a distance of approximately

75 MILES

and thus obtained the

DISTANCE RECORD

for a British Sailplane (height 4,500 ft.)

THE MACHINE USED WAS A HOME-BUILT "WREN," THE IDEAL SAILPLANE FOR AMATEUR CONSTRUCTION

Constructional Drawings of the "KESTREL" or Improved "WREN," £6 6s. 0d., obtainable from:

THE DUNSTABLE SAILPLANE CO.
LUTON AERODROME, BARTON, BEDS.

"MALLITE" AND "APPCO"

GLIDER

PLYWOOD

RECOGNISED THROUGHOUT THE WORLD AS BEING

THE BEST OBTAINABLE

Manufactured by the

AERONAUTICAL & PANEL PLYWOOD CO., LTD.

218-226, KINGSLAND ROAD, LONDON, E.2.

TELEPHONE — BISHOPSGATE 5641

ELLIS' HANGAR



(No. A7)—*As supplied to Gliding Clubs for the housing of Sailplanes, Gliders & Small Airplanes. Carr. paid within 100 miles of works. Easy terms arranged.*

£99/17/6

SPECIFICATION 50 ft. long, 30 ft. wide, 8 ft. to eaves, 15 ft. 6 in. to ridge. In complete sections for easy erection. Walls ¾ in. T. & G. Stormlock weatherboards on 3 in. x 2 in. framing. Iron-bound roof principals 7 in. x 3 in. on 5 in. loose studs. Iron tie rods and brackets 10 ft. apart. Purlins 4 in. x 2 in. covered ⅜ in. T. & G. matching one-ply bitumen roofing felt, finished barge boards. Three windows each side 21 oz. glass. Each end single hinged doors. Light removable shutters. Two 5 in. x 4 in. raking struts as wind braces. *At reasonable extra cost the Ellis Hangar can be covered with "PLYBESTOS" unbreakable fireproof board which will revolutionize sectional buildings.*

The 'RAINHAM'

Strong framing with 1 in. weather-boards to strin course. Upper portion of asbestos sheets with broad wood overlays. Roof framed of principals and purlins with covering of Italian Pattern Galvanised Iron. Half glass doors strongly framed and braced. Despatched in sections, all nuts and bolts supplied.

From £11/15/0



12'x 8'x6'x 8' £11 15 0 | 16'x 9'x7'x 9' £16 17 6
14'x 8'x6'x 8' £13 2 6 | 20'x10'x7'x10' £21 5 0

Available on Easy Terms.
Carriage paid in England and Wales.



STANDARD GREENHOUSE M.110.C

Complete sections for erection on framework—double corner posts—wood base ¾ in. 'V' jointed boards—roof framed in complete sections—21 oz. glass cut to size.

7' x 5' x 7' x 4' £6 10 9
9' x 6' x 7½' x 4' £8 12 6

Send for FREE CATALOGUE

G. ELLIS & CO. Coombe Wharf, Gainsborough Road — London, E.9

Published by H. O. Davies, 13, Victoria Street, London, S.W.1, and Printed by Hicks, Wilkinson & Sears, 4, Dorset Buildings, Salisbury Square, E.C.4.