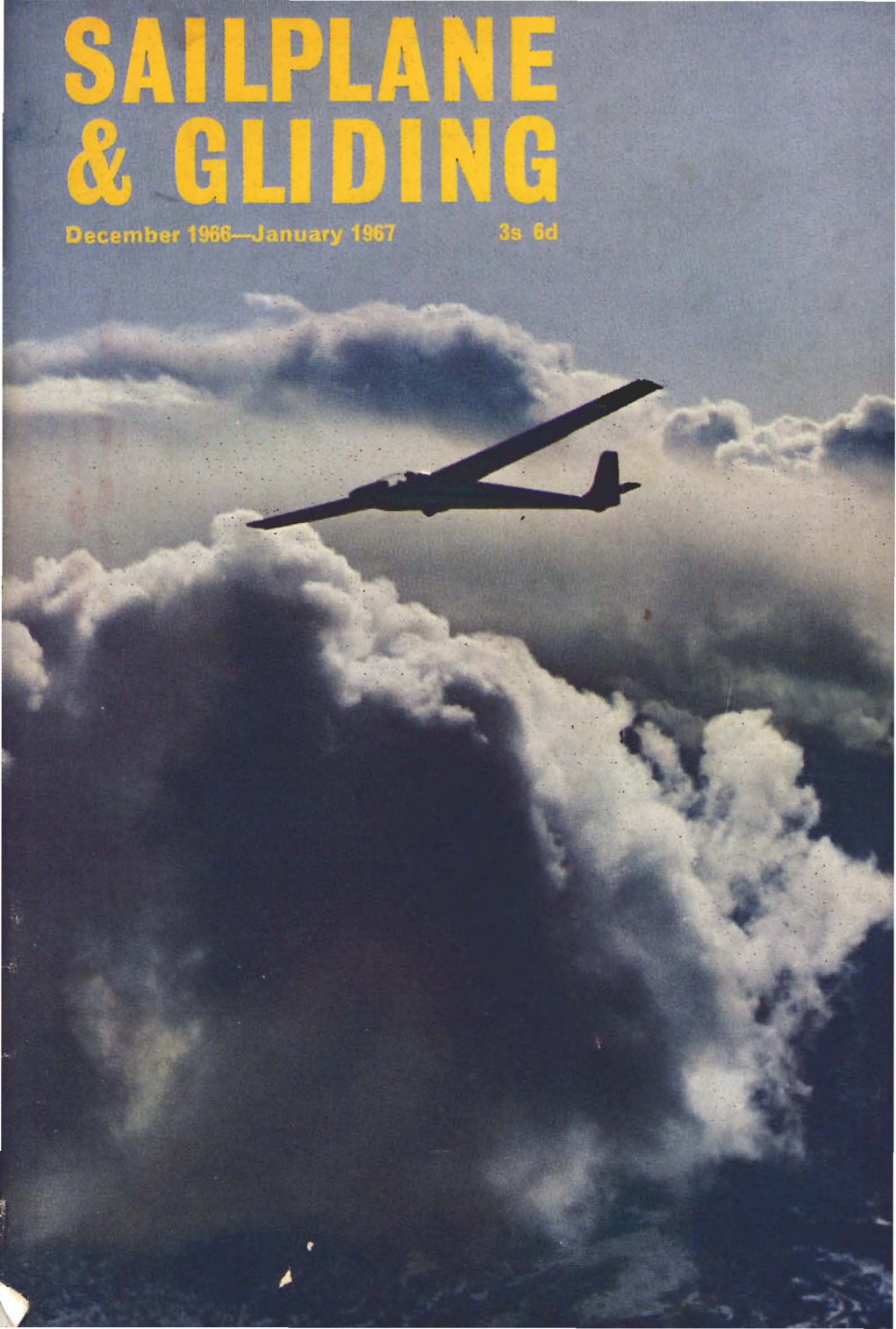
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December 1966—January 1967 3s 6d





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Cover Photograph: Dart 15 returning from wave at Colorado Springs, piloted by the last survivor of Rhoen pioneers, Peter Riedel. *Photograph Alex Aldott.* *(All rights reserved.)*

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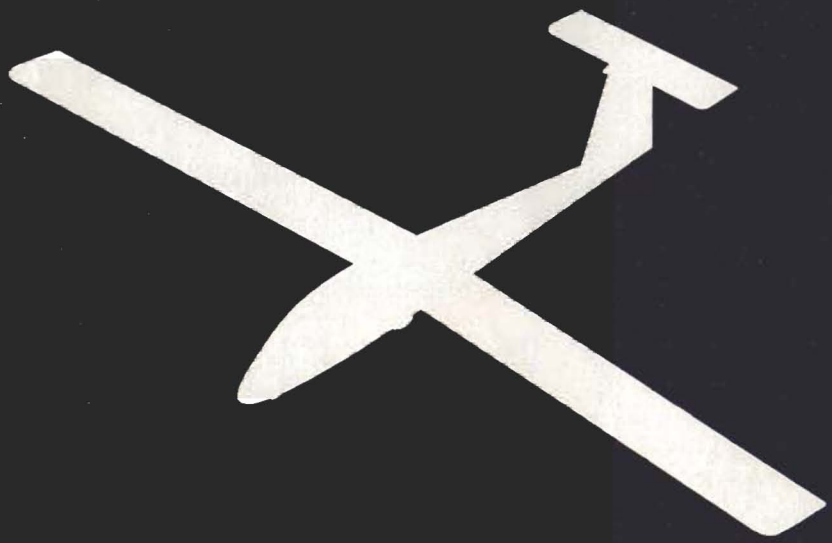
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FOR DELIVERY 1967

WRITE FOR DETAILS

1966—1967

IT'S been a heavy year for us in the British Gliding Association. I expect the figures will show that flying hours and club membership have continued to increase, and that's what really matters. But the amount of associated paperwork seems to increase to a much larger extent, and as in other fields of British life, shows signs of getting out of hand.

In September Frances Leighton retired as B.G.A. Secretary, after a five years' stint, and Inge Deen took over. Only then did the vast volume of work which the Office had been getting through under Frances become really obvious; poor Inge practically disappeared under piles of paper for about a month. Then the top of her head just came into view, and now we can just see what a nice looking lady she is. Good luck to her, and all the staff at Bang-bang Mansions who fend for us.

Now to what it is all about—the actual flying. We all took a big leap forward this year with the re-equipment of the top brass, mostly with Dart 17R's. Skylark 3's and 4's and 419's are now definitely in the second line. But now it seems clear that high-performance sailplanes are taking a further jump ahead, albeit at frightful cost—to reach the stars now looks like costing £3,000 for the bare machine alone—ten times what I paid for my Super Minimoa in 1937. Santa's sack will have to have elastic sides in future.

As for 1967—help! What is the Squeeze going to do to us? And Selective Employment Tax? And the Prices and Incomes Freeze? To blazes with them—the sun, when it comes out, will still stir up the air and we will still be able to get away from it all for a priceless few hours, to get our sense of proportion and our values into focus again. The World is still a beautiful and exciting scene from 4,000 ft. under a nice fat cumulus cloud.

And every two months Doc Slater and Rika will send just on 6,000 of us all over the world a nice fat S. & G. to give us something more inspiring to read about than strikes, squeezes, wars and taxes.

So, once again, to all our readers, all over the world,

a happy Christmas and a brave New Year



AN INNOCUOUS 100-km. TRIANGLE

By PHILIP WILLS

IN the last issue of SAILPLANE & GLIDING I promised to write up one or two of the particularly fascinating flights I experienced during the 1966 Italian Nationals at Rieti, one of which was amongst the half dozen most interesting and exciting flights I have ever made. I will start on this one first, because to try and get it across involves a rather minute description of the geography involved: once I have that out of the way, the other flights will be easier to describe.

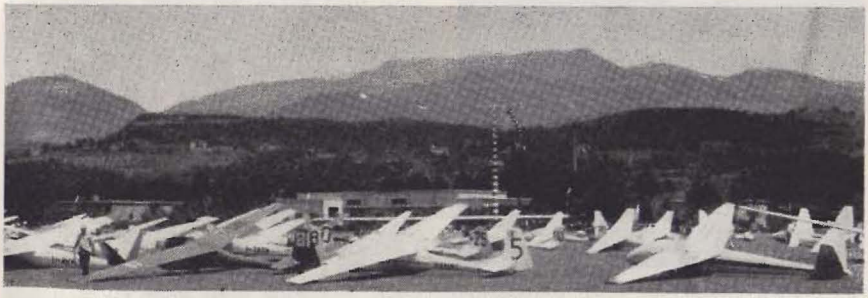
It was the sixth task set, a seemingly innocuous 101-km. triangle over a well-beaten course: Rieti—Piedi Paterno—Poggia Azzuono—Rieti. It was probably set as a kind of semi-holiday after the ardours of Free Distance, which we had flown two days before and spent the whole of the next 24 hours in getting back from. I had myself flown over the various legs during the previous week in practice or in different tasks. The weather forecast was the usual—hot blue sun, thermals up to 9,000 ft by 14.00 hours, a few Cu over mountain tops, surface wind light N.W., upper wind 20 kts. at 10,000 ft. After Task 4 I had been in the lead; now I was a few points behind Giorgio Orsi in his SHK. This was the day.

Now let me try and set the scene—a nearly impossible task for those who have never seen the almost absurdly dramatic geography of the Italian Appenines. (See photograph opposite.)

Rieti is at the southerly point of a green, flattish circular valley, about 10 miles across, surrounded by mountains. The easterly wall starts with Monte Terminillo (a fashionable Roman ski-resort), 7,000 ft., and this range runs north, with spurs running out into the plain, until you come to the precipitous gorge of the Val Neroni, running east and then north-east from Terni. The Val Neroni is nearly 3,000 ft. deep, and at its bottom only a hundred-or-two yards wide. This area is more than fully occupied by a mountain stream, a road, a railway, and a few occasional tiny fields. For perhaps 15 miles it is one of the literally unlandable bits of the local countryside.

From the turning-point in the Val Neroni, the course runs south-west over the containing wall of the valley, into the Perugian plain at its southernmost edge, where Spoleto huddles round its medieval fortress and cathedral, under shadow of the mountains to the south. Flying along this north-facing series of mountains, the course now crosses a narrow valley running south to Terni out of the south-west corner of the plain, over the south-west mountains to the second turning-point in the valley of the Tiber, then south-east over Terni (another large and unlandable area, occupied largely by power wires and steel works) over the final range of mountains and back into the Rieti bowl.

It sounds frightful—in standard August



Lined up for the start: Mt. Terminillo in the background.

conditions it is a piece of cake.

But the organisers had an Idea. It was one that lost me whatever chance I had of winning, but I bear them no malice whatever, for it gave me, as I have said, one of the most exciting and instructive flights I have ever had. And I was later told that the poor chaps had only been given three days in which to run up the whole organisation, so they performed miracles in doing what they did.

Instead of using the previous turning-point, they had found a new one—a television reflector on top of one of the mountains hedging the Val Neroni. Now one of the rules was that each competitor must photograph the signal displayed at each turning-point, so it was jolly important to know exactly where this was to be displayed.

An aerial photograph was put up, and a lot of Italian went on, but from what I could understand, the photo did not seem to line up with the map. The photo seemed to mean that the point must be on one of the mountains on the east side of the valley, but the organisers insisted that actually it was the west. So, to make sure, after briefing was over, I went up and got one of the chiefs to mark the actual point on my map.



"*. . . each competitor must photograph the signal at each turning point.*"

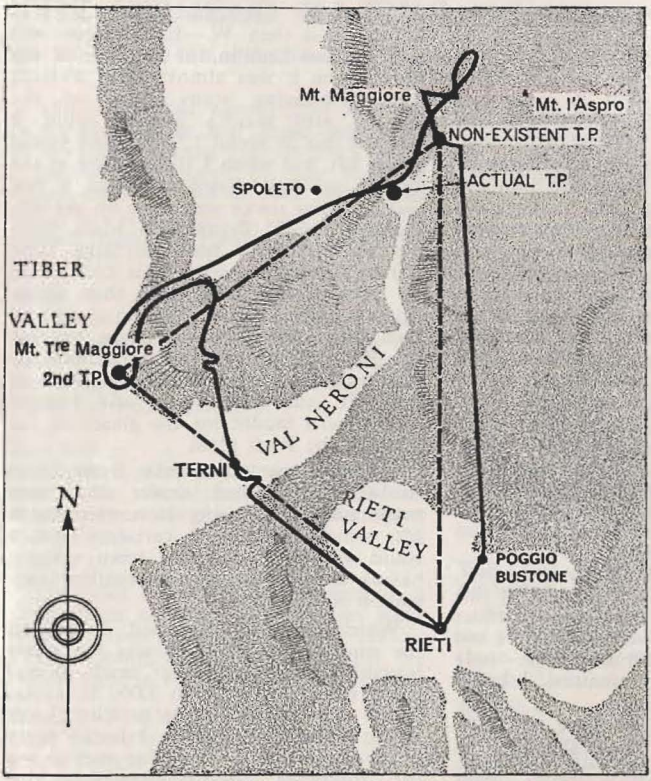
Take-off was at 2.30, thermal over Rieti took me to 3,000 ft., a sniff at the mountain walls of Terminillo to 5,000 ft., back to dive across the start-line at 3,100 ft. and 120 knots, north-east to Poggio Bustoni, clinging to its mountain wall like a host of limpets, straight into 5 knots up to 7,000 ft., an exhilarating dash along the first leg, a sniff of 5 up over the mountains on Val Neroni opposite the turning-point, and straight as a dart over the valley to the dot on my map.

No television mast—no ground signal.

At this point, as I discovered much later, the field split up into various well-defined sections. There were those, mostly locals, who knew where the darned thing was anyway, and had not even listened to the briefing. Amongst these, Manzoni dashed round to claim an Italian record, only to find that the 101-km. course had shrunk in the wash to 98 kms. Hard cheese. There were others who had a general lie of the land in their heads and after around 10 minutes' searching found it. There were some brave spirits who, after scratching around for anything up to half an hour, photographed the point they had been given and set off on the second leg—which then took them within sight of the blooming mast. And there was me.

I reasoned that the mast was likely to be on the highest point in the vicinity—4,700 ft. Monte Maggiore, to the north. (It was actually 4 kms. south on a much lower one.) I just had height to get there and see that it displayed no signals area, then fell away—on the east side, into the Val Neroni. The N.W. wind coming over Maggiore then ensured I was swept down to a level making it impossible to get out. The problem of beating Giorgio's time round the course faded into insignificance—I *had* to get out, if it took the rest of the day.

The analysis didn't take very long. In the absence of a tunnel-boring machine I couldn't go east or west. There was no chance of getting lift in the valley, because any wind must blow along it and there were no spurs running out from its



Courtesy of "Flight"

walls to obstruct its flow and make it rise. I couldn't fly south along it; that way was unlandable for at least 25 kilometres. But I had some 2,500 ft. in hand, and the map showed that if I flew about 8 kilometres north, the valley split into two, and at that point any winds coming down the two forks must meet, and in their conflict, produce lift. The $64,000 question was whether there *were* any winds all that way below, but when I got there, there were, and they did. But it took an hour; I wasn't going to hurry things, particularly as, in the fork, I had spotted a FIELD! (It would have been an interesting retrieve for Kitty. Motoring up the Val Neroni, looking for a glider, would have given her the jim-jams.)

Anyway, an hour later the onlooker at Spoleto would have seen me lift over the skyline again, and now I decided to set course for the second turning-point, and damn the consequences. Ten minutes later, of course, I passed over the first one, but it whisked by too fast for me to photograph it—if they hadn't observed me after that, it would be too bad.

The day was now virtually over, it was around 18.00 hours and lift was dying. To hell with it, I *would* get round.

The southern rim of the Perugian plain is hedged by north-facing mountains, so in the N.W. wind lift was not too hard to find, but it was not going very high. However, Spoleto landing field was for most of the time in range, and I caught up with one unfortunate who, being lower than me yet still airborne, put heart into me in the uncharitable way it always does.

I crossed the valley running N-S to Rieti out of the S.W. corner of the plain;

now I had to get across the west wall of mountains out to the turning-point at their far foot—in a field near the foot of a range running exactly up and down the north-west wind. How on earth was I to keep going then? The only thing was to suck it and see.

The wind blowing down the Perugian plain was, of course, funnelled into the narrow valley running south to Rieti, so there was no problem in getting enough height to cross the westerly range, and then I found a little tree-covered spur running out across the wind which gave me a beat of perhaps 200 yards to its summit at 1,500 ft. From this I managed to dash out to the turning-point, which I rounded at 1,000 ft., and flew back to my spur like a yo-yo, observing as I did a couple of gliders landed in a field whose hedges were so near their wing-tips and tails that they looked as if they must have been planted after the aircraft had landed. The gliders looked gift-wrapped, like one of those Christmas boxes of handkerchiefs.

I plodded up and down my little spur, pondering the next leg. The straight line clearly wasn't on. It took one 10 miles over flat valley to Terni, power wires and all, and all thermal lift was gone—only sun-assisted slope lift remained. I badly needed an Idea myself.

An extra heave of lift gave me 2,000 ft., 500 ft. above my spur, and I got it. I cut back on my tracks over the range, into the Spoleto-Terni valley, and turned south. At its southernmost point a 3,500-ft. L-shaped mountain (also called Mt. Maggiore) obstructed its exit to the Terni valley, and I flew into its embracing arms with the near certitude that this was my way home. But there were still problems to overcome. The "L" ran N.—S., and then W.—E. The sun was now so low that in the shadow of the N.—S. arm it was almost dark, whereas the north-facing stony slope of the W.—E. arm was a glowing gold. I reached this at about 1,500 ft. and found gentle lift, but when I turned west at the end of my beat, flying, as usual, a few feet from the rocky wall, now on my left, I found myself flying at a black mass which could have been anything from 200 to 500 yards away. This constricted my area of operation more than somewhat, because the beat was so short and each turn away from the slope lost me lift. But patience did it, and perhaps 20 minutes later I topped my mountain at 3,000 ft. and saw Terni, and beyond its southern mountains the gleam of the lakes in the Rieti plain.

More, I saw the smoke from Terni steelworks, huddled under the next mountain walls, rising in unmistakable lift, which made it a certainty that I could adventure over the town without having to risk a nearly impossible landing on its outskirts.

Which is what happened. I reached the smoke at 1,500 ft. It was the nicest horrible smell I have ever smelt. It was going up. It took me to 3,000 ft. again, and a last fast final glide to Rieti, landing at 19.30 hours. There I found Kitty hitched up and waiting for my phone call. Everyone else had been down for an hour and a half. An aeroplane had been sent out to locate the missing turning-point, and its pilot came up to tell me where it really was. I told him I had found out, the hard way.

But it was a wonderful day.

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THE REVISED RATING SCHEME

For entry to any National Championships held in 1968

COUNCIL has agreed that the following Rules will come into force to produce a Rating List for 1968.

(NOTE: For entry to any National Championships held in 1968 the following Rules will apply in their entirety to contest flying in 1966 (retrospectively) and 1967.)

RULE 1

All scores, and *only* scores, in any B.G.A.-approved contest held within two years of January 1st of the year in which the Championships are to be held *will* count for rating purposes.

RULE 2

Before a pilot may have a rating he must have a minimum of *three* contest days (not necessarily from the same contest).

RULE 3

The pilot of any glider entered in a competition who has achieved no score will be given a zero unless the B.G.A. Flying Committee is satisfied with the reason for the withdrawal of the aircraft.

RULE 4—DEVALUATION

(a) "CONTEST" DEVALUATION:

League 1	—	100%
League 2	—	80%
All Regionals	—	65%

(b) "DAYS" DEVALUATION:

Total No. of days in the two years	*Devaluation to*
3	60%
4	70%
5	80%
6	90%
7	95%
8 and over	100%

(c) "TIME" DEVALUATION: There will be no time devaluation.

RULE 5

The Rating Figure is arrived at as follows:

(a) "Contest" devaluation will be applied to a pilot's scores.

(b) The scores will be added together and "days" devaluation will be applied.

(c) The result will be divided by the top possible scores actually made on the days when the pilot flew, multiplied by 1,000.

RULE 6—QUALIFYING REGIONALS

In 1967:—

(a) No pilot who has entered the National Championships may also enter any Qualifying Regional held *prior* to the Nationals, except that he may fly *hors concours*.

(b) No pilot who, in 1967, has competed in League 1 or who has a total of eight or more contest days and has finished in the top ten places of League 2, may enter any Qualifying Regional Championship held *after* the Nationals, except that he may fly *hors concours*.

RULE 7—TEAM ENTRIES TO LEAGUE 2

All pilots must have a rating. The rating of the team will be taken to be the mean of the individual ratings of its members.

RULE 8

The B.G.A. Council may, on the recommendation of the Flying Committee, depart from these Rules in exceptional circumstances.

(The background to the new Rating Scheme is discussed on page 448.)

ROGER BARRETT,
Chairman, Flying Committee.

LONDON REGIONALS

Experienced organisation, friendly company, comfortable Clubhouse—August 5th to 13th. The main competition will be under the new B.G.A. Rating Rules, but Nationals pilots will be welcome as usual and will qualify for other awards including a special "Class" prize to be awarded to the best Skylark III or IV competing.

LONDON GLIDING CLUB

Dunstable, Beds.

THIRTY YEARS AGO

EVENTS in 1936 will have to be recounted from memory, as our 1936 volume of SAILPLANE & GLIDER has mislaid itself while moving house.

The first big event in England was the opening flying meeting of the Derbyshire and Lancashire Club at Camphill during Easter. Most launches were made from Mam Tor, as a north-easterly wind persisted. The longest flight was by H. L. Richardson in his White Wren, in advance of a cold front storm. He landed on a farm outside the Stafford-Crewe main line and announced his whereabouts by a telegram which went astray, so the Camphill people began to organise an aerial search of the moors, to begin at dawn next day.

The same storm enveloped the hill-top, and John Furlong, who was hill-soaring, continued to soar in the snow below cloudbase. But Bill Liddell, while still immersed in cloud, suddenly saw a sheep in front of him; his flight terminated a few moments after.

Later in the year, the National Contests were held at Camphill for the first time. The weather was poor, and the longest flight was 48 miles by Philip Wills in his Hjordis, also done by using a cold front.

In Germany it was the year of the Olympic Games in Berlin, and there was much propaganda by the gliding people to try to get gliding included in the next Olympics. At the National Contests on the Wasserkuppe, every sailplane had the five interlocking Olympic rings painted on its fuselage.

In August Louis Rotter, Hungary's first Silver C pilot, set up a world record for goal flight by flying 336 km. from Berlin to Kiel in his home-designed and home-built Nemere sailplane. His son came to England in 1957 and now flies with the Midland Gliding Club.

FORTY YEARS AGO

In 1926 came the first evidence that gliders need not be confined to soaring over hills. On 12th August Max Kegel, a policeman, flying over the Wasserkuppe during the National Contest, got lifted into a passing thunderstorm. Others saw it coming and landed; but Kegel had delayed his launch while waiting in vain for a promised altimeter. He turned downwind to escape from the storm, but remained in the cloud, sometimes undergoing violent changes of airspeed—he claims to have done a tail-slide at one point. But, he said, he never lost his sense of lateral balance. At last, turning towards a brighter patch in the cloud, he came out to find himself 5,000 or 6,000 ft. above ground. He continued downwind to a landing at Gumpertshausen near Coburg, 55.3 km. from the start—a world's distance record.

Previous record: 24.4 km. by Johannes Nehring (German) while on a visit to Koktebel in the Crimea, in 1925.

FIFTY YEARS AGO

Friedrich Harth, of Bamberg, who had taken on 15-year-old Willi Messerschmitt as assistant in 1914, had to go to the war but left his design for a glider with Messerschmitt, who built it and had it ready for Harth to fly when he came back on leave in 1916. Flights were made on the Heidelstein, near the Wasserkuppe. In 1921, at the same place, Harth put up a world's duration record of 21 minutes, made almost entirely by taking energy from gusts with a variable-incidence wing.

ONE HUNDRED YEARS AGO

THIS year (1966) there occurred the centenary of the birth of H. G. Wells, who furnished some of his romances with many fantastic flying vehicles, not excepting space-ships; but it is not always remembered that gliders were included among them. Before the end of the last century his imagination was stimulated by a visit from J. W. Dunne, famous once for tailless gliders and aeroplanes and later for a theory about Time and Immortality. Dunne was about to go out to the South African war as a Captain and wanted to ensure that his aeronautical ideas would not become lost to posterity, so he entrusted them to the safe keeping of H. G. Wells. The pair of them spent a happy afternoon watching little paper models fluttering about Wells's garden at Sandgate.

An obvious portrait of J. W. Dunne is the Captain Douglas in Wells's novel "Bealby", published in 1915. There is a memorable scene when a horrified house-party discovers the Captain in a lonely

dell "playing with little bits of paper—oh! like a kitten plays with dead leaves".

Considering that H. G. Wells had probably never been up in a glider at all and certainly not before 1909, the year "Tono-Bungay" was published, his description in that novel of a flight down Crest Hill in an experimental glider is astonishingly realistic:

"For ten seconds or so, as I swept down, the air flattened on my infernal framework and with the wind in my eyes, the rush of the ground beneath me filled me with sick and helpless terror; I felt as though some violent oscillatory current was throbbing in my brain and backbone, and I groaned aloud. I set my teeth and groaned. It was a groan wrung out of me in spite of myself. My sensations of terror swooped to a climax.

"And then, you know they ended.

"Suddenly my terror was over and done with. I was soaring through the air right way up, steadily and no mischance had happened. I felt intensely alive, and my nerves were strung like a bow. I shifted a limb, swerved and shouted between fear and triumph as I recovered from the swerve and heeled the other way and steadied myself.

"I thought I was going to hit a rook that was flying athwart me—it was queer with what projectile silence that jumped upon me out of nothingness and I yelled helplessly, 'Get out of the way!' The bird doubled itself up like a partly inverted V, flapped, went up to the right abruptly and vanished from my circle of interest. Then I saw the shadow of my own aeroplane keeping a fixed distance before me and very steady, and the turf as it seemed streaming out behind it. The turf!—it wasn't after all streaming so impossibly fast . . .

"When I came gliding down to the safe spread of level green I had chosen, I was as cool and ready as a city clerk who drops off an omnibus in motion, and I had learnt much more than soaring. I tilted up her nose at the right moment, levelled again and grounded like a snowflake on a windless day."

In addition the inevitable Little Engine, the next stage in these experiments by the supposed writer, George Ponderevo, included a contractile gas-bag, whose specific gravity could be increased at will by compressing it with a fine-meshed silk net. However, the net tore open, the balloon oozed out through the holes and burst, and the pilot was precipitated into the beech trees on Farthing Down.

DONCASTER



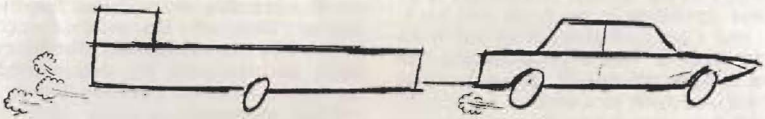
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This contractile gas-bag idea, which Wells seems to have got from the swim-bladder of fishes, was first mooted by him in 1902 in "Anticipations", the book in which he earned ridicule by forecasting the coming of the aeroplane "very probably before 1950". In this book he imagined an extraordinary flying machine which was, in fact, a glider that could glide upwards as well as downwards. In addition to wings, it was to have a row of contractile balloons hung over its fuselage from front to rear. Thus the machine could not only be made alternatively lighter or heavier than air, but the balloons could be differentially contracted to make it slant upwards or downwards. In the heavy condition it would glide down and meanwhile be steered in any desired direction; then it would be once more lightened, pointed upwards and glided back into the sky. Who will bring this ingenious scheme to fruition?

Nine months after Wells's death in August, 1946, when visiting a second-hand bookseller in a Streatham basement, we found he had acquired Wells's private collection of aeronautical photographs—no doubt for resale to some wealthy collector. There was one of S. P. Langley's model in flight, signed by the inventor; but the most astonishing was a photo of Otto Lilienthal about to cross a street in Berlin, carrying his glider on his shoulder, all rolled up like an outsize umbrella.

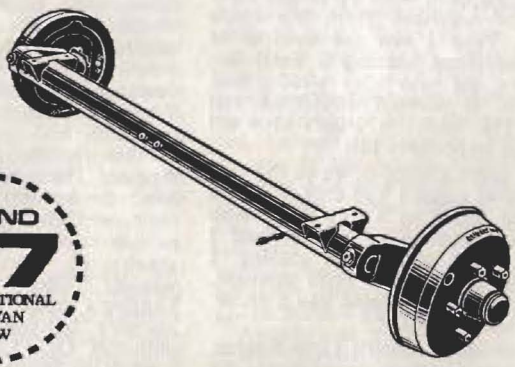
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GLIDING AND CONTROLLED AIRSPACE

By NICHOLAS GOODHART (Chairman, B.G.A. Airspace Committee)

IT has been suggested that the British Gliding Association's attitude to controlled airspace is neither understood nor supported by other airspace users; the aim of this paper is to set out the background to the B.G.A.'s attitude so that at least it may be understood; for if it is understood we are certain it will be well supported. Acceptance of the general philosophy would, we are confident, be enormously advantageous to all branches of aviation, not only to the gliding movement.

Collision Risk

It is generally accepted that the only valid reason (in this context)* for making use of airspace conditional is the belief that, were conditions not to be applied, there would be an unacceptable collision risk.

There may well be airspace users who will wish to have a control system, in order to achieve an orderly and expeditious flow of traffic, which will provide a degree of control additional to that necessary to ensure that the collision risk is held down to the acceptable level. In this event there is, however, no reason why such additional control should be made applicable to those who do not wish to use the airfield or navigation facility to which it is applicable.

In other words, control must not be confused with controlled airspace; the two can and should have entirely separate purposes.

The Acceptable Level

It is not the purpose of this paper to determine the acceptable level of collision. The aim is simply to establish that there must be *some level* at which the benefits which would flow from the increased safety are outweighed by the penalties involved in achieving the increase.

The best example of this principle lies in the airworthiness field. Aero-structures are designed on the general principle that a catastrophic failure will not occur more often than 1 in 10,000,000 hours of flight or, in the case of equipment used on a per flight basis, once in 10,000,000 flights. This is based on a general acceptance of the idea that the increased cost and weight necessary to improve on this figure would be more disadvantageous than the reduction in catastrophic failures.

The determination of the appropriate level of safety applicable to any particular risk must take many factors into account. Amongst these can be listed:

(*a*) What is the current overall risk? The size a particular risk can reach before becoming unacceptable is clearly related to the overall risk. Indeed, it would seem that acceptable risk figures should be relative to the overall risk rather than in absolute terms.

(*b*) What are the benefits which will derive from reducing the risk?

(*c*) What steps can be taken to reduce the risk?

(*d*) What will be the penalties involved in taking these steps?

In the particular case of the use of controlled airspace to reduce collision risk, the B.G.A. believes that no proper attempt has been made to weigh these factors.

This applies especially to factor (*d*) above, the analysis of the penalties involved. There are several examples of pieces of airspace where, had any analysis of penalties been made and compared with benefits, control would not have been enforced, or would by now have been abandoned.

A good example of this is the stub of controlled airspace west of the London Control Zone with a base of 1,500 ft. out to west of Reading and 3,000 ft. out to Compton. This airspace is never now used by controlled aircraft below about 4,000 ft. (and higher to the west) and yet the low base levels contribute significantly to risk in the FIR by forcing FIR aircraft into a narrow height band

* Other valid reasons are security and noise or danger to people or things on the ground, but these are not relevant to this discussion.

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with consequent increased collision risk. It is not unreasonable to attribute the FIR collision which occurred south of Reading (Auster/Chipmunk) at least in part to increased risk deriving from the existence of this piece of controlled airspace.

This is to underline simply that there are two sides to the question of the application of control to any piece of airspace which need to be weighed. They are not properly weighed at present.

Airspace Users

There are two conflicting classes of airspace users:

A. Those who want a control system to provide them with an acceptable standard of safety as well as an orderly and expeditious traffic flow;

B. Those who do not want control and are prepared to accept the standard of safety that derives from randomness, see-and-be-seen and quadrantal separation.

Some aircraft may belong to one class at one time and the other at another.

Control and Controlled Airspace

In meeting the requirements of group A—those who want control—the first and most important point is the difference between control and controlled airspace.

Control can perfectly well be made available to group A in the interests of an orderly and expeditious traffic flow without the application of controlled airspace. The fact that control is being applied in group A in most cases automatically provides a significant reduction in collision risk since all A/A collisions are eliminated (except those due to human error or defect of the apparatus of control). Note that this is not, and can never be, zero. This leaves A/B collisions and B/B collisions to be considered.

B/B collisions are of no concern to group A but A/B collisions are. It is the reduction of these A/B collisions to an acceptable level that provides the only proper and valid reason for the application of controlled airspace.

Thus any proposal for controlled airspace should be based on an assessment of the A and B traffic and an estimate of the likely collision risk in the absence of controlled airspace. If this is shown to be above the acceptable level, then some measure of control of group B traffic is called for; this means controlled airspace.

When it is shown that controlled airspace needs to be applied in a particular area, care must be taken to ensure that the degree of control (of group B traffic) is only that necessary to reduce the risk in group A traffic to the acceptable level.

An important point that needs to be considered in any decision to apply controlled airspace is its effect on the B/B risk rate. Group B traffic depends on randomness to a large extent to achieve an acceptable (to group B) level of safety; the introduction of controlled airspace seriously reduces this randomness by forcing the group B traffic into ever narrower routes and height bands, thus rapidly raising the B/B risk rate.

The Application of Controlled Airspace to Gliders

Gliders provide a special case which needs separate consideration in planning controlled airspace. They are inevitably group B traffic, in that they are not amenable to control in the sense that they cannot maintain a heading, speed and height. (Note: gliders are amenable to control in the sense that they can and do avoid flying into airspace which is prohibited to them.) The application to them of controlled airspace limitations is a severe penalty as the track followed is frequently defined by weather and cannot be varied to suit the requirements of controlled airspace; i.e., a flight may have to be prematurely terminated if controlled airspace spans the weather-defined route.

On the other hand, gliders move extremely slowly and their pilots have a "fish bowl" visibility; both of these fac-



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tors tend to increase the effectiveness of see-and-be-seen.

Glider flight paths are totally random relative to aircraft flight paths, as they are defined by an entirely separate set of parameters. Gliders on cross-country flight are also extremely rare, there being on average one glider airborne in the whole U.K. airspace by day and with none at night. These two factors enable an assessment to be made of collision risk in any particular area.

The Acceptable Level of Collision with Gliders

After the risk has been determined in any particular area, it has then to be compared with the acceptable level. As has been pointed out in para. seven, the acceptable level depends in part on the penalties to gliding of lowering the acceptable level.

This brings us to a very basic question. We submit that gliding as a sport provides a rare combination of physical effort, manual and mental skills and competition; it generates tenacity, determination, initiative, air-mindedness; and it is all spiced with a trace of danger. Do we want this for our young people? If we do, it is essential that it is not controlled to the point where it ceases to provide the challenge which is so glaringly missing in much that is offered to young people today.

It is also material to point out here that the U.K. is amongst the leading gliding nations in the world, and that over 35% of British glider production is exported.

The penalty every country has to pay for permitting gliding to continue is that sooner or later there may be a glider/aeroplane collision. Would one collision every 1,000 years or so be too high a price to pay? What about one collision in every 100 years? Or one every 10 years? What is the acceptable level?

Any level can be selected and the necessary controlled airspace provided to achieve it, but if the level accepted leans too much towards safety (in the theoretical sense of the word), gliding will no longer be the challenge it must be, and will surely die.

So far N.A.T.C.S. has failed to select any level at all, and is simply making controlled airspace applications, largely influenced by the pressures of various vested interests.

The B.G.A. attitude

The B.G.A. thus fully supports the introduction of controlled airspace wherever it is shown, or there is reason to believe, that an unacceptable level of collision risk exists.

In the particular case of gliders, it is relatively easy to establish the actual level of collision risk posed to other traffic by gliders, and it is thus possible to make calculated and reasonable applications of controlled airspace regulations to gliders such as will ensure the maintenance of the acceptable level appropriate to other traffic.

The gliding fraternity not only accepts controlled airspace applied in accordance with this principle, but actively supports such action.

The B.G.A. is proud of its record of responsibility in the fields of airworthiness and piloting standards, and wishes to maintain a similar record in the air traffic control field. In many (if not most) other countries the making of nonsensi-

cal A.T.C. regulations has already led to a breakdown of responsibility. The regulations are neither obeyed by many categories of pilots, nor are they even seriously expected to be obeyed; they are there simply to provide a let-out for bureaucracy.

Surely we do not wish to go this way in Britain. We are perilously close to it, but there is still time to head towards sensible A.T.C. for all classes of air-user. If we do this, we will not only ensure the respect of the British pilots for the law, but we will show the world a way out of a situation which is strangling much of aviation's potential.

Beneficial Effect on Other Branches of Aviation

This paper is, of course, primarily devoted to the problem of gliding in relation to Controlled Airspace, but the approach to the problem which we have evolved as a result of a great deal of study is one which we are entirely convinced would, if accepted, be enormously helpful to all classes of aviation.

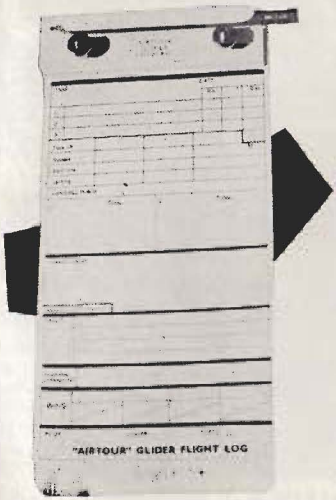
We are simply asking for the hazard of aerial collision to be handled in the logical and rational manner which has been applied with notable success to the other manifold hazards of aviation. In A.T.C. there is a much stronger reason why this should be done than in any other field, and this is one which cannot be too strongly underlined.

The success of A.T.C. depends very largely on the self-discipline of those who are being controlled—the pilots. Self-discipline will be exercised only by those who believe in the necessity of the regulations they are being told to observe. These regulations must therefore not only be, but be seen to be, reasonable and necessary. So long as the system carries the confidence of all concerned, it will ensure a high standard of safety for all. When it fails to do this, it will provide safety only for the bureaucrats who impose it.

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FOUR MEN IN A BALLOON

By ROGER BARRETT

AT 1,000 ft. over Buckingham there was a distinctly ominous sound of rending wickerwork. It wouldn't have bothered me so much except that it came from *my* corner of the basket.

No one said anything. Tim Matthews (from the B.B.C.) and I, who were being introduced to the delights of ballooning, looked apprehensively at each other, then at the bottom of the basket. That gap between the side and the floor which our Captain had assured us wasn't worth worrying about *was*, quite definitely, getting wider. We both turned to Skipper Smith and his experienced co-balloonist, Malcolm Brighton . . . and there they were, each of them with one arm outstretched—reaching up above their heads for the wooden ring that remains firmly anchored to the gas envelope, whatever happens to your basket!

Tim and I decided that this idea of the Skipper being the last to abandon his craft can be carried too far. Smith remained unruffled, however. He did murmur that an "immediate" landing might not be a very good idea—four balloonatics standing on the bottom of their basket in some Buckinghamshire field watching the wickerwork sides being carried up and away without them would have been too much to live down.

The story really starts a few years ago when I picked up a copy of *Throw out Two Hands* by one Anthony Smith. After a few pages it was obvious that this man was able to communicate his passion for ballooning in a quite extraordinary way. Here was the Philip Wills of ballooning—someone who could conjure out of the printed page a whole new silent world of flight. The only question that remained was how I could get myself up in a balloon.

In retrospect there are probably easier ways of doing it than volunteering to help organise an Air Display. However, that was my way. It had involved spending a lot of time in Fleet Street and bashing away at a typewriter. But all that was behind me. At 5 p.m. on Sunday, 29th August, 1966, I was in Jambo's basket at the end of the first day of the Dunstable Air Display with the sun warming the brilliant orange gasbag and a gentle south-easterly blowing. It looked an almost perfect evening for an introduction to the rarest sport in the world.

The "Hands Off!" command was just being given to the willing helpers whose fingers on the basket sides were our only link with *terra firma*, when an eagle-eyed



Vickers "Gunbus" flying over the crowds at the display. Photo Tony Marshall.

club member pointed to my corner of the basket where the sides joined the floor. He was quite right; there *was* a hole there, with grass showing through quite clearly. The few seconds it took for a close inspection to be made went by very slowly. Thank the Lord that balloonists haven't got around to C's of A yet! "Just keep your weight on the right foot," the Skipper commanded. It wasn't very comfortable, but never mind —we were off!

They tell me the start—launch?—lift-off?—is always fairly chaotic. The moment of truth comes when the ground drops away and there is complete quiet apart from the occasional command "One hand," at which No. 2 i/c—the Mate?—Sandman?—throws out just one handful from his sandbag. Our flight didn't quite live up to this, however. For the first five minutes or so we were being buzzed by a helicopter with an *Express* photographer on board — he thought we were giving him a friendly wave too!

Eventually we were on our own. As the balloon and the wind are one and the same there was *absolute* silence. It is difficult to appreciate what this means because earthly mortals, and even glider pilots, almost never experience this sensation. Either the wind is blowing, the birds are cheeping, there is distant traffic noise or the bed springs are playing up. But here we were, silently approaching Leighton Buzzard with 1,000 ft. on the altimeter (Jambo's instrument panel was two altimeters wrapped in sponge and slung on the side of the basket). "Too high," said Smith; "the fun in ballooning comes in drifting along at just a few hundred feet." So down we went, levelling out at around 400-500 ft.

There was now a difference. We could hear—quite distinctly— geese cackling, a dog bark and sheep getting frantic as our shadow passed over. We could also carry on a conversation with earthmen.

"Where have you come from?" was the usual question. That was easy. "Where are you going?" was more difficult to answer. Cars screeched to a halt, doors were flung open and the time of day was passed. On the A.41 there was a minor traffic jam as our orange sphere floated by. But the English have a tradition of minding their own business. As



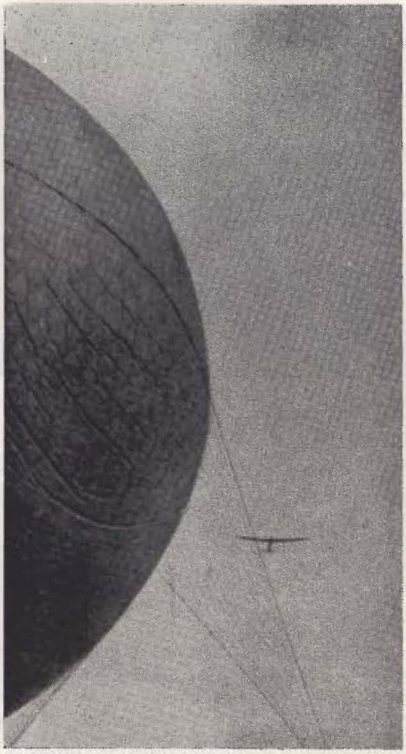
The Montgolfier balloon. Photo Sally Thompson.

we approached a son of the soil toiling in his field, who obviously had not noticed us, we yelled down a greeting. He lifted his head, saw us leaning out of the basket just a couple of hundred feet above him—and went straight on with what he was doing. Not so much as a wave! We reckoned he didn't believe in Flying Saucers either.

By now I was getting used to being permanently on the approach. Unfriendly megawatt pylon wires went by a few hundred yards away—at just about our height. But there are advantages in staying low.

Our retrieve vehicles had no difficulty in keeping up with us. The technique is slightly different from glider retrieving. The navigator in the balloon carries the Esso road map; the VW mini-bus drives ahead of the balloon and waits at a road junction on track. As the balloon goes over, the navigator aloft points to the road the retrieve should take, and off they go again to await further instructions. I have to admit that we were cheating just a little in Jambo as we also had a radio link—mainly to tell the crowd at the Display just what we were up to, but also to talk to retrieve-chief Peter Langford.

Scraping in gliders does come in useful, I discovered. Relatively small changes in our rate of ascent/descent seemed to be transmitted through my feet more quickly than to the others. Of course, one of my feet was that much



Is this the only known photograph showing a balloon and a glider together? Photo Godfrey Harwood.

closer to the air than any of theirs! At one stage a piece of cirrus cut off some of the warmth of the sun and we started to lose height. The trouble with balloons is that once they gather momentum it is very difficult to stop them. Over-correction is hard to avoid, so that a slow descent at, say, 100 ft. changes to a levelling out and then to an ascent of maybe a few thousand feet. This I had read about. When we were down to below tree-top height over a not very friendly field our sandman was encouraged to deposit more than a handful or two of ballast and, sure enough, up we went—to level off at 2,500 ft.! Getting away from 20 ft.? There's nothing to it, old boy . . .

It was during our climb that we had our traumatic experience with the bottom of the basket—the trouble was that I had got cramp through having all my weight on one foot for an hour, and I had to shift my position. That gap was now big enough to take our empty champagne bottle. Ah well—it stirred up the adrenalin juices, I suppose.

By this time the B.B.C. man had taped an interview with Anthony and we were down to our cruising altitude again. Tony spotted a manor house approaching and there in a deckchair on the lawn, snoozing in the warmth of the setting sun, were the owner, his dog and his cat. A truly idyllic scene. At the moment we passed directly overhead Tony shouted down a balloonist's greeting. This caused the dog to set off after its own tail, the cat to cower in a flower bed and the man to leap out of his deckchair. Only he didn't look up! Our laughter didn't help matters either. Eventually, after he had called his wife out of the house and they had looked in vain over the fence, they spotted us. To cries of "Read the *Daily Express*" we disappeared from their view—four men in a balloon.

Tim Matthews wanted Tony to do a running commentary of the landing on to his tape machine. We had been promised a quiet arrival to make up for the pandemonium of the start. The wind seemed to be carrying us along at about 12 kts. and our height was 150 ft. or so. Our Skipper was about to let go our trail rope and anchor, had picked a likely field, and was asking if anyone could see power or telephone wires running along the road that bordered it. I couldn't even see the road! It then dawned that Jambo's glide angle is not quite the same at that of the Dart, and I discovered the road immediately beneath the balloon. No wires that anyone could see, so one heave on the valve rope released a hiss of hydrogen and down we came—almost vertically.

They say that any balloon arrival is a controlled accident. All we had to remember was that at all costs we must stay inside the basket—otherwise Jambo would find itself up at 5,000 ft. and the errant crew member would find himself blacked for ever by the Balloonists' Federation.

We did bounce—twice, in fact—before we hit a single-wire electric fence and

the four of us collapsed in a heap at the bottom of the basket. Luckily Mr. Matthews is built more for comfort than speed, so my landing, and that of Tony Smith, was softened considerably by the British Broadcasting Corporation. It says something for the sheer professionalism of the man that he went on talking into his microphone with all of 25 stone lying on top of him.

The retrieve crew were with us is less than a minute—dragging us into the centre of the field, where Jambo's rip cord was pulled and £200-worth of hydrogen was released into the Warwickshire sky.

Two hours and forty minutes earlier we had left Dunstable. We had made Silver C distance and life will never be quite the same again.

QUIBBLING WITH THE PUNDITS

By D. O. BURNS

SOME recent articles in SAILPLANE & GLIDING and *Soaring*, and certain glider matters being hatched up, move me to put pen to paper regarding:

SCHREDER VERSUS DEANE-DRUMMOND

The American thinks handicapping an anathema and the Briton is all for it. Surely the point is that if the object of competitions is to find the best pilot, a pilot desirous of proving himself, that man should enter the Standard Class. I agree entirely with the American; handicapping a National Championship would be the death of competitive design in that country. In any case, why does not the weather figure in handicapping? In other words—on a spanking day a BJ-2-like configuration merits a really crushing handicap, but on a very weak day, such as A. J. Stone favours, it should be handicapped less than a Petrel-like configuration in order to achieve the "best pilot" object. This means that the task-setters will have to adjust the handicaps according to the weather forecast. Has the gallant General absolutely no consideration for the ulcers (*loc. cit.*) of the task-setters?

Surely the B.G.A. has enough on its hands to figure out an equitable rating scheme without taking on this dubious handicapping proposal?

PIGGOTT ABOUT SWINGING ON TAKE-OFF, ETC.

I read this article with extreme interest. As usual with any Piggott effort it is full of merit. However, I was surprised to see that on take-off he advises positioning the glider upwind of the track line through the tug. Is he quite sure of this? Anne and I had some mortifying experiences on this score with our old Austria S.

Originally our "S" had a swivelling tail skid, and what with its very small resolved vertical rudder area it was a neat little beast to highlight Piggott's remarks.

We had hardly taken delivery of it before we took it abroad and then found how difficult it was in cross-winds. As I remember it, as soon as the wing-tip man lets go, the wind merely blows the tail round despite anything one might try to counteract this, and a quick release was essential. I thought we alleviated this by placing the glider downwind of the tug! The real cure was to fit a fixed tail wheel. On a gripping surface the glider then runs along its initially pointed direction quite happily, and what one does with the rudder at the commencement of the take-off is of little moment. The disadvantage of this is that, on

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landing, if you want to turn the glider on the ground towards the end of the run in light winds, it is impossible unless you are prepared to dig a wing in.

Appertaining to Spinning

There have been some very odd articles floating about in *Soaring* on this matter, and I remember an extremely baffling conversation with a very experienced C.F.I. at Kimberley some years ago. However, *I* am sticking to the conventional recovery drill, namely:

"Full opposite rudder; stick fully forward; wait until the rotation ceases; centralise controls immediately and pull out gently."

Is this or is it not correct? I can quite imagine that if the controls are *not* centralised immediately the rotation ceases, the glider may well go into a spin in the opposite direction.

Your readers may be happy to know that a glider like the Austria S, with a potentially stable spinning characteristic, can be stopped from rotating and safely extracted from the spin by using the quoted drill.

Experience also teaches that the mode of entry into the spin also determines the stability of the auto-rotation. Thus I was never worried (much) with the "S" in the gentle zephyrs of English thermals, but found the rugged N.E. Cape variety were another matter altogether. On several occasions on pulling tightly into cores in South Africa, the "S" would start to spin out, but immediate corrective action prevented a full-blooded spin developing although the time lag in the recovery was somewhat disturbing.

Above all, of course, one should stick to manufacturers' C.G. limits, using disposable ballast if necessary.

If there are any doubts on these matters, perhaps U.S.A. sources could elucidate in *Soaring*, because it is there that the incidents with "S" occur.

Project Sigma

We are told that the terms of reference for this are to see that "a glider or gliders are constructed that will win the next World Championship". May I suggest that these terms of reference are fatuous in the extreme. For example, if the next World Championships are to be, say, in Kimberley or Odessa (Texas, not Russia), clearly we must have something like the BJ-3. On the other hand, if they are to be, say, in Holland I would say a BJ-3-like device would be a liability. If you don't believe me, look where Boet Dommisse came in the Cerney championships!

Surely Sigma might be a little generous and aim at a design that might have a little more universal appeal and could in fact be made in England and sold abroad. The Germans, for example, are clearly going to town with glass fibre; Martin Schempp himself has said that the future lies in this direction.

Moreover, carbon fibre, if you can credit the pundits responsible, is even more attractive than glass fibre, and I am told that UK sources are in the lead in this field.

The real question is, do we want a metal Sigma with complicated flappery costing the earth to produce next year, or an AS-12 equivalent (reported to be sold off production for $7,000 or thereabouts) in about five years' time? I assume the majority of the movement would opt for the latter.

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* * *

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FLYING TALK

By ROGER BARRETT

THE Editor has kindly agreed that the Flying Committee may have an occasional column in SAILPLANE & GLIDING to discuss flying matters of general interest. By this means we hope to be able to give background information regarding current Committee activities. Reactions to this column will be welcomed: by letter to the Flying Committee, c/o B.G.A., or in the correspondence columns of this magazine.

Current Topics

1966 may not have been a very good year for gliding weather but it was certainly a vintage one for gliding committees. Ann Welch's Competition Committee completed its work and produced a very full report on all aspects of contest organisation which the B.G.A. Council then considered in detail.

The Flying Committee has found this report to be extremely valuable. One of the most useful contributions it made was to encourage a number of pilots who fly in competitions to stop and think some rather basic thoughts.

From this emerged an important conclusion—that the present structure of gliding competitions (about 300 pilots struggling for a place in one National Championship) is not necessarily the best way to give the most people the most enjoyment.

We are making a start by tackling an old problem: many pilots want to fly competitively without getting involved in too much of a "rat-race" and too much expense. Details of how a *B.G.A. Annual National Ladder* competition could be organised will be found on page 478.

It is the aim of the Flying Committee to decentralise its various activities as much as possible. But are Clubs willing to take a more active part in sharing the work-load? This remains an unanswered question at present. The embryo National Ladder provides an excellent test case. Here is an example of a *National* event which does *not* have to be run from the B.G.A. in London. If all the pilots who would like to take part make their voices heard in their own clubs, a National Ladder can be put into operation very quickly *and it can be run entirely by clubs.* So . . . over to you!

The New Rating Scheme (see page 433 for rules).

The Competitions Committee started from the principle that the main purpose of the Nationals is to find the best British pilot in the year of the contest. They recommended that the Nationals should be open *primarily* to pilots who have shown their worth in *recent* competition flying and who are endeavouring to work their way to the top. The existing Rating Scheme gave too much weight to performance put up more than two years ago, and the *rate* of interchange between Regionals/Nationals was too slow.

Council, in discussing the Competitions Committee's report, agreed a set of requirements that any new Rating Scheme should meet. One of these requirements was that entry to the Nationals should be based on a system that used only a pilot's recent competition performance.

The new Rating Scheme is a compromise. It tries to be as fair as possible to all the "special interest" groups: e.g., team pilots; Service pilots; exceptionally good, young pilots who should be able to do battle with the giants as soon as possible; sitting tenants who, if they drop out of the Nationals after one bad performance, should be able to bounce back in again, *if* they are good enough, etc.

Of course, the new scheme is not perfect—we claim that it does have a number of merits, however:

(a) It is relatively simple. (Eight possible schemes were examined in detail and most were very much more complicated than this one.)

(b) Only recent competition performance (within the last two years) *is* taken into account.

(c) Rule 1 is simply an extension of the principle which is already accepted: that, for rating purposes, it is unreasonable to allow a pilot to use only his best days. Why, then, should he be allowed to choose his best contest(s), or why should the "system" choose the best contest(s) for him (i.e., by using only the "highest rated" contests)? The new rule means that (subject to Rules 2

and 6) *any* contest flight within two years of the Championships year *must* count for rating.

(d) The "Contest" devaluation rule (4a) does away with the widespread complaint that pilots never knew the devaluation factor for a Regional until they received the list of competitors. All Regionals are now devalued to the same figure (65%). This means that in future it is very important that the standard of organisation in all Regionals is *uniformly* high and that the spread of pilot ability is as evenly distributed as possible. (Pilots will soon realise that they stand to gain by entering a Regional Championship which may not have attracted many top-rate competitors—so the distribution of talent should be self-sorting.)

(e) The "Days" devaluation rule will allow pilots who have only competed in one year to get a rating figure. However, it does not give pilots the benefit of the doubt if they can only produce a small sample of days as evidence of their ability.

(f) "Time" devaluation was only necessary when contests more than two years ago had to be considered.

(g) The new Rating Scheme is flexible. The principles can be applied to any new structure of competition organisation that may be introduced.

This brings us to John Brenner who, on behalf of the Flying Committee, has been taking a new look at handicapping.

* * * *

HANDICAPPING V. CLASSES

By JOHN BRENNER (Chairman, Handicapping Sub-Committee)

YOU will see, on page 459 of this issue, details of the new handicapping system approved by the B.G.A. Council for use in League 2 and Regional Competitions in 1967. Handicapping is a controversial subject, as recent issues of SAILPLANE & GLIDING show, and we would like to explain some of the thinking behind these regulations.

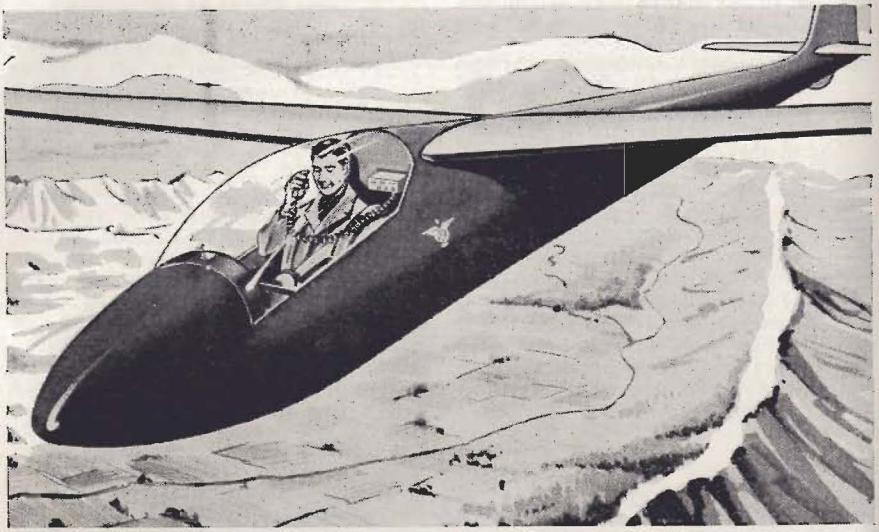
Our competition scoring and rating system is primarily concerned with assessing pilot performance. Clearly the aircraft plays an important part in the achievement of this performance, so it is only reasonable to take this into account at some stage. The method of doing so has in the past been handicapping (except in League 1). The handicapping list used in 1966 had the shortcoming that it recognised no improvements in sailplane performance beyond the Skylark 3.

We must recognise that there are certain objections to handicapping in gliding competitions, both in principle and on points of practical detail.

1. All handicapping systems overlook certain factors which have a major effect upon glider performance. The two which are particularly difficult to deal with are the differences due to weather conditions and task-setting.
2. Available performance data are often inadequate to serve as a basis for handicapping.
3. Universal handicapping would probably restrict highly desirable developments in sailplane performance.
4. There is a risk that a really effective handicapping system, even if it were possible, would defeat its own object and introduce an element of unfairness. In too many sports success depends to a large degree upon one's ability to beat the handicappers.

Despite these limitations, handicapping must be considered if we are to continue to fly aircraft of widely differing performance in the same competitions. These differences in performance are now becoming so marked that it is more than ever necessary to consider the possibility of separating gliders into different classes.

In the past, competition aircraft have not differed greatly from those in common use. Today a new generation of expensive and highly specialised racing sailplanes is being developed. Despite their probable supremacy in Open com-



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petitions, most of us do not wish to buy such "hot ships". We require practical sailplanes, giving a good performance at a reasonable cost, and we also require competitions where such aircraft can compete fairly.

The Flying Committee feels that there are many advantages in organising competitions in some kind of "Class" structure. There should be Open competitions for the "hot ships" and any others who care to join them, and competitions where the more usual kind of sailplanes can compete together. This should lead to far keener and more effective competition in the separate groups, encouraging in each the development of sailplanes best suited to its own different requirements.

This does not necessarily mean adopting the Open and Standard Classes as now defined, although it is one of the possibilities. It may indeed be better to have several Classes. We are going to explore some of these possibilities during 1967:

1. *Single type Competitions:* One Regional Championship will definitely be for Olympia 460 series only, and another could be organised for Skylark 3 and 4's. The winners of these competitions may be called "The 460 Champion", etc. The majority of Regionals will, however, remain Open competitions.
2. *Handicapping* will be retained in League 2 of the Nationals and in Regionals, using a revised scale of handicaps. While handicapping is not entirely satisfactory, it is better than no handicapping. League 1 will continue to remain an Open competition.
3. Provision will be made within League 1 for a *Standard Class* Championship. Details of this are given on page 459 of this issue.

The new handicapping list is to some extent based on the figures put forward by Tony Deane-Drummond (SAILPLANE & GLIDING Aug.-Sept., 1966, page 260). In setting the scale of handicaps we have been fairly cautious, so that it is unlikely that an aircraft lower down the performance scale would gain any substantial advantage over one higher up. This, together with leaving League 1 unhandicapped, should avoid some of the worst anomalies of handicapped contest results.

Handicaps are graded in 5% jumps, as it is felt that the previous 10% grades were too coarse. Grading by still smaller steps is not really practical because of the difficulty in determining the relative performance of aircraft with the requisite accuracy. To assist scorers and to make it easier to add new aircraft to the list, handicaps are expressed as 95%, 100%, 105%, etc.

OBITUARY

L. L. IRVIN

AMONG the estimated quarter-of-a-million lives saved by Leslie Irvin's "Irving" parachutes are those of several glider pilots, though it is uncertain how many of them applied for membership of his Caterpillar Club, or whether the first glider pilot to have to jump for it actually used an Irvin product. He was Rudi Pätz (Germany), who jumped from a Professor in 1932, not because it broke up, but because turbulence in a thunderstorm was so violent as to fling him out through the side of the cockpit.

The first jump in Britain was early in the Second World War, from a two-seater Viking II, which developed wing flutter in a dive during secret experiments, probably concerning radar. First to jump was the passenger, an R.A.F. man whose name is unrecorded. The pilot, A. B. Wilkinson, of Imperial College Club, quickly followed.

Leslie Irvin's first jump was as a small boy at a Los Angeles circus (according to a friend writing in *The Times*). He had turned up every day to watch a certain Captain descend from a hot-air balloon holding an umbrella. One day the Captain fell ill, and the small boy's offer to replace him was accepted (with Father's consent).

The additional "g" to his name was due to mis-spelling when his first company was registered, and he had not enough money to get it legally changed. His British company, Irving Air Chute of Great Britain Ltd., was founded at Letchworth in 1926. He spent the whole of the last war in this country. He died on 9th October at his home in Los Angeles, where he was born 71 years ago.

THE STORY OF THE BS-1

By HELLI LASCH

I HAD some work to do in Berlin during March, 1962, and when the weekend came up I flew over to Braunschweig to visit the Akaflieg of their University to look at the SB-6, of which I had seen an account in a technical paper, and this bird intrigued me very much. The boys of the Akaflieg showed me the plane and it was clear to me that something new was afoot because of its clean lines and great simplicity.

They suggested that I should meet the father of the thought, Björn Stender. This was the first time that I heard his name. So we went off to find him, and I spent a happy day sitting with him at the local pub on the airport, talking and sketching on paper napkins the type of plane one should make. This is how the BS-1 was conceived.

When evening came, I had to get back to Berlin to be on the job next morning, and after having spent the hours with Björn it was clear to me that here was the most unusual young man—in fact, a budding genius.

I rang him up the next day and said: "Björn, you will have finished your studies in a month or two. Consider building the plane we have discussed; I will finance the project; think about it carefully and I will call you in a week and then you can give me your answer."

I called Björn after a week and the answer is—the BS-1.

Björn passed his exams with distinction and moved to Reutlingen, where a friend lent him an old disused house which was to be pulled down, and here he set up his headquarters—that is to say, his design office and his bedroom. The design office was furnished with a good drawing-board, a second-hand calculating machine, and an old typewriter. His bedroom-cum-kitchen furnishings consisted of an iron bedstead and a primus cooker. Here design began in earnest on the BS-1.

Before Björn left Braunschweig, Hans Boettcher had also approached him about a new sailplane, and before leaving for Africa I met Björn again with Hans Boettcher. Boettcher also ordered a plane, and we therefore discussed on broad lines the financial arrangements to be made.

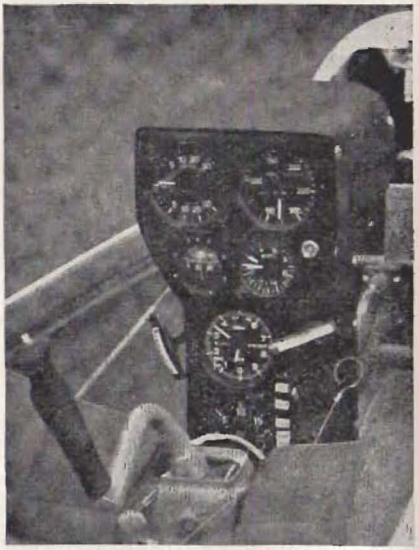
I was back in Europe during September of the same year and saw Björn, who had finished the design as well as most of the fuselage.

He had engaged three young men to help build the plane, apart from doing much work on it himself.

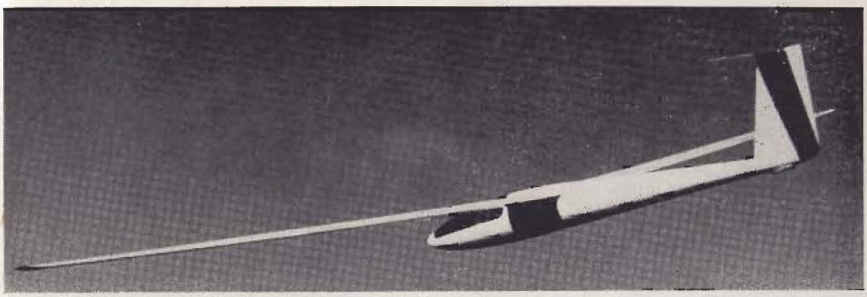
Björn's idea was to build an automatic flap which would adjust itself to the correct position at any relative speed, and this idea will one day be realised. Unfortunately this did not work, as the materials available are not sufficiently developed to achieve a sufficiently rigid flap at the high-speed end.

The BS-1 was rolled out on 23rd December into snow and flew very nicely as a Christmas present for Christmas Eve, 1962.

What followed now were many flight tests and many flights during the spring; the 300-km. triangle record was broken



A BS-1 cockpit lay-out.



and a little later the Regional Championships were won hands down by Björn.

To anyone who saw the BS-1 in the air, it was quite clear that a new epoch had started for sailplanes, and after these successes a multitude of orders arrived which decided Björn to become a maker of sailplanes.

I got back to Europe during August, 1963, and on the 16th my first flight in the BS-1 was certainly one of my greatest experiences of flying in sailplanes.

It was a Sunday and I was lucky with the weather. It was a fine day with good cumulus clouds, cloud base being about 1,500 metres above ground (5,000 ft.).

The first time you install yourself in a cockpit where you lie on your back is a strange sensation. Your visibility is much better than people think when they see you lying there, and once you lift off the ground, visibility becomes really very good. I think it is just the new perspective of looking over one's bottom eyelid which is the thing to get used to. The same applies for approach; one's judgment of height relative to ground is somewhat changed, but after a little time one is accustomed to this, and as far as physical comfort is concerned, it is very much less tiring to fly lying down instead of in a sitting position. I personally now prefer to fly lying rather than sitting.

I released at about 200 metres and, not being used to an all-flying tail, as well as having a very direct stick-elevator ratio, I found her a handful to fly, and I used the first hour staying up and acclimatising myself to the bird.

The second hour I began to try her through her speed range, her rate of roll as well as behaviour and performance with various flap positions.

The third hour I flew a very nice 100-km. triangle, and one becomes quite intoxicated by the long flat glides which almost seem supersonic. Although the sky was still full of lift, after three hours' flying without headrest and trim, I was quite frankly exhausted and decided to come in.

As the flying angle is so flat you can no longer see your point of touchdown as you can in an ordinary plane, you have to check on altimeter your height above ground, and guide yourself this way to the correct height for final glide path. Then you release your brakechute, and your angle of approach, not only being better than with ordinary air brakes, seems quite alarming after having been flying for some time with so little sink.

I had two more flights in Europe and then prepared her for shipment and was really looking forward to having her at home in the African skies.

I was in Milan early October when the frightful message of Björn's death reached me. I was absolutely stunned. What a terrible waste, this brilliant young man—a great loss to all those who pursue this sport of gliding.

The plane arrived early December in South Africa, and the following four months I had some unbelievable flying.

The BS-1 was fitted with an automatic Tost tow-hook, and unfortunately the tow rope pulled out because of catching a little grass tuft, and this forced me to land in tall grass, resulting in a ground loop which caused the undercarriage to collapse sideways; this in turn started a tear in the fuselage, resulting in a very

large crack. I am convinced that an ordinary plane would have been destroyed under such circumstances, but the strength of fibreglass construction is quite incredible, as well as the ease with which this material can be repaired. While reparing the fuselage we took the opportunity to debug the BS-1.

The main changes improving her flying characteristics were to install a trim, to change the ratio of stick to rudder, and to disconnect the coupling of aileron with flap. Since I have done this, the plane is infinitely more manoeuvrable and easier to fly, and it will be interesting to make comparison flights with the new production model to see which version has the better performance and which handles more easily.

I got back into the air early 1964 and had again wonderful flying. Speaking of comparisons, the sailplanes we have at our base are:

Standard Austria
Phoebus
BJ-2.

It is impossible to evaluate a direct comparison between these planes and the BS-1, as the BS-1 is just so much better. To remain with the other planes in level flight, it is necessary to fly a circle every few minutes to let them catch up.

This winter we have perfected the plane still further by building in an additional two brake parachutes which can not only be deployed but also jettisoned. The original arrangement of having one non-detachable brake parachute handicapped one for cloud flying, as, should one go out of control, one would be able to deploy one's brakechute to remain within permissible speed limits, but this, of course, would force one to land wherever one was, in good or bad territory.

The other point: when coming into land, under windy conditions and in a strange field, one would be able to see the direction of the wind but not its strength, and having brakechutes which can be jettisoned, it is a simple matter when under-shooting to release one to fly on and put out the second to sit down. The brakechutes used on the HKS

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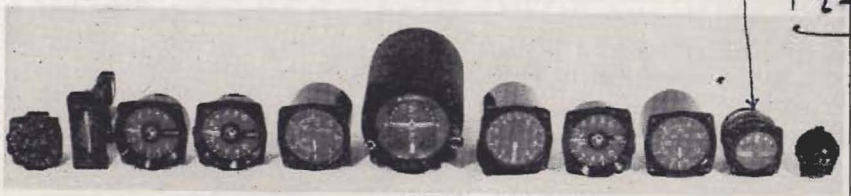
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planes and also on the Polish Zefir which could be reefed, theoretically is the answer to the problem of having a brake which should be used and re-used again; but unfortunately in practice these brake-chutes have proved extremely unreliable.

I myself prefer the braking effect of a brakechute to a normal air-brake, but, of course, one has the disadvantage of not being able to control one's approach. The other alteration which has been made is the building into the tail of a small wheel with a pneumatic tyre. Klaus Keim is the inventor of this set-up. In place of a skid or a small hard rubber tail-wheel, this type of wheel has a great advantage for straight tracking on take-off in a cross-wind; also the ground-handling with this wheel is a matter of great ease instead of producing the usual symptom of four broken vertebrae in one's back.

Every time I fly the BS-1, I come back quite intoxicated with her performance. The long straight glides seem to go on and on. When I'm flying across country and am 100 km. from base and it is time to return before nightfall, I try to get 2,000 metres altitude and just fly straight home. So far I have always got back with ease in these long straight glides, and this seems to confirm that the BS-1 does fly somewhere around her glide angle, which is quoted as 46 to 1.

This year the new BS-1's are flying, and I am not surprised that one has won the German Championships, and I am sure that this will be the forerunner of many more victories.

It is hard to believe, looking at this sailplane, that further improvement can be made. Without any doubt Björn Stender started a new generation of sail-planes, and clear signs of this are the D-36, and AS-12.

It is in the nature of man to develop and perfect his technical tools and imple-ments, but I believe that much time will pass until this monument of Björn Sten-der's of beauty and improved perform-ance will be superseded.

The tragic death of Björn Stender brings back to one's mind the old saying in flying: *"Opfer müssen gebracht wer-den"* (sacrifices have to be made).

WIND, SAND, AND WIVES

By ELENA KLEIN (Redwood City, California)

WE found the turn-off after the second try. It was marked by a red rag which was quite invisible until our car lights touched it. We eased down the little grade, the trailer groaning and booming hollowly behind us until we were on the powdery white alkali flat. We took a heading on Pea Vine, which loomed black under the great starry sky, and set out across the dry lake bed.

It seemed a good five minutes of nothingness until we reached the other side where the tough short grass, like a neglected lawn, sprouted under the beam of our headlights. There were rabbits, dozens of them, hopping frantically ahead of us, scattering into the silence when we coasted to a stop and turned off the ignition. Sherb flicked off the lights and we sat in the utter stillness and blackness of the desert night. As our eyes adjusted, the blackness gradually took form and we could see the great humps of the ridges, the dim posts of the cattle fence, the fringe of grass along the lake's edge. It was the right place. Over to our left we recognised the outline of a pile of old tyres that we had seen on previous trips.

We were the first arrivals, but before Sherb had driven home the last tent-stake we saw the specks of light that heralded another car's approach across the white luminiscence of the lake. All night as we huddled in our sleeping bags we heard the cars, the peculiar hollow thuds of the sailplanes on their trailers, and in the cool white dawn light we could count half-a-dozen tents, campers, cars and trucks. The "birds", like great butterflies fresh out of the chrysalis, wings folded along their long abdomens, lay gleaming on their wheeled carriages. The glider rendezvous had begun.

The Dry Lake (which may have some other name—we never knew) is a saucer two miles in diameter lying among the dinosaur ridges of the Nevada desert 15 miles north of Reno (near the site of the 1966 U.S. Nationals). No campers' paradise, it boasts no comfort stations, no bubbling creek, no singing pines, no barbecue pits, no nothin'.

All summer long the dust devils spiral up off the powdery surface of the alkali bed and the Cu's pile and tumble over the surrounding mountains. The wind whips great clouds of the white dust into the colony of campers, and layers of it whiten the cars and powder the hair. The



View of the Dry Lake. Lower left, gliders at the launch point.

glider pilots welcome it all. The women grit their teeth and fight it with more or less good nature. It is their "vacation" and they are stuck with it.

Vi and Ed Blalock provide the mess—at cost. As soon as the crust of the lake's surface hardens sufficiently, they bring out a great black butane cooking range, an enormous ice-box, and a portable toilet. Tables, folding chairs, wind-breaks of tarp, and the shining clean garbage cans that hold the water supply of the colony. These and dozens of jugs are filled at the gas station-bar a couple of miles up the highway.

Vi, an ex-fishing-boat captain and expert restaurateuse, immediately makes gallons of lemonade. The pilots dig the pit for the portable "gents". The wives change the babies, set the kids loose and gather to exchange news and views of this outrageous way to spend a week-end. They will all agree that by far the best thing about it is no meal-planning and no cooking. Vi will do it all three times a day if the rest of the women will share in the dish-washing. The worst of it is that the fleshpots and gay night life of Reno, scant miles away, might as well be on the moon. The nearest thing to it is a few slot machines and a drink or two at the little bar where the water cans are filled.

The children love it. They catch snakes, spiders and lizards. They climb the rocky paths up the ridge. They never have to wash—water is too dear for that. They can't get lost. They can see and be seen for miles. Some even have bicycles. There are hotcakes for breakfast and apple pies for dinner. And cold lemonade all day.

There are other dry lakes on the other side of the ridges but they are smaller. One had been christened Hoag's Lake. Lyl Hoag got caught low in the Ames Club 1-26 and squeezed into it with inches to spare. The girls had watched him working the dust devils until he was a glint in the great blue sky. He had "got away", they decided. Hours later he came limping into camp to report an off-the-field landing ten miles away. Several of the other fellows went with him on the retrieve. Hoag's Lake, they reported, was the absolute minimum in an emergency landing field, and he had miraculously avoided the rocks and sage brush that dotted it.

That night around the oil drum that contained the bonfire and heated a five-foot radius of the chill night air, they discussed the probability of "downs" on the other side of the ridge and the importance of gaining sufficient altitude before venturing across that stretch of desert. All were fore-warned.

Not many weeks later we drove up again from the San Francisco Peninsula, a five-hour drive over the Sierra Nevada Mountains. There were 25 or so people at the Dry Lake, a dozen or so gliders, and darling Vi with her portable restaurant. The sun was hot, the shade (under a parachute awning) was cool, and the wind gusty and dusty. When the dust devils began to swirl at the east end of the lake, the boys straggled out to the line and debated the feasibility of making a cross-country. Not too good.

Dick Cooke's old Lincoln was doing the tows. It was Sherb's turn in the Club ship. We watched him take off into the wind, saw the tow-rope snake down with its little parachute slowing its descent, and watched him gain altitude in an invisible thermal. Minutes later he was a couple of thousand feet over the ridge and we settled down to discussing the dust and where we would like to go for fun that evening if the boys were willing. The wind died down a little and the sun glared heatedly. It was getting hotter. We made ourselves as comfortable as possible in folding chairs under the drooping white parachute.

Toward sundown we rounded up the children for dinner and the men straggled in. Most of the birds were in now and resting tipsily on the edge of the white lake in the slanting sunlight. Mrs Mike wondered where Sherb was. The boys speculated. The girls worried.

Mike noticed it first. Far across the lake a moving dot wavered and advanced until we suddenly realised it was a man. Was he drunk? Was he a desert rat coming out of his hermitage? Or was it—could it be Sherb? Quick, get a car started, hurry, pick him up before he walks another step in this monstrous heat!

Yes, it was Sherb. Where was the 1-26? On Hoag's Lake! Ten miles away over a winding dirt road. Fortunately there was a spring a couple of miles up



Our "night out". *Photos by Gene Martz.*

the road. Fortunately Sherb had had a thermos in the ship. He had been able to fill it at the spring. But was he tired! No trip into Reno for the girls that night.

The next morning, after a hearty breakfast, they started out in Dick's Lincoln with the trailer, Sherb, John, Dick and Don Brockhurst, I think. The road was adequate and they were able to get within a very few feet of the grounded bird. It had coasted up to but not into a good-sized boulder. They disassembled it and put it on the trailer. Sweaty and dusty, they piled into the car.

Dick stepped on the starter. The engine popped and suddenly smoke poured out from under the hood. It was on fire! They raised the hood and saw the flames licking around the distributor. Fire in the desert—on a dry lake in the burning sun. Quick, unhitch the trailer, save the glider! They stood there in utter consternation watching the fiercely burning engine until John said, "We'd better throw sand on it."

Sand, of course. They shovelled it up in their hands or in their caps and threw it on the flames. The fire was soon out. But they were still ten miles over that winding dusty road from the camp.

Again it was John, Sherb's oldest boy, who had a suggestion. He'd walk back and get Ed while the rest waited with the glider. He started out trotting and the older men shook their heads. He'd never make it that way, they thought.

Well, he didn't have to. He met a couple of hunters a mile or two up the road and got a ride back to camp. Darling Vi packed up sandwiches and a bucket of lemonade, and Ed took off to the rescue in his pick-up truck. They all jounced back into camp about three hours later, the truck towing the Buick and the 1-26. Needless to say, the girls' plans for the evening on the town were postponed. There were many hours of work needed to get the car back in shape for her job of towing the gliders.

After dinner the girls decided to go to the gas station for water. It was a chance to sit at the bar and have a drink and drop a few quarters in the one-armed bandits. They took along their toothbrushes and curlers. They would all have a wash in the tiny lavatory and put up their hair before coming back to crawl into their sleeping bags in their flapping tents. The wind was up and it would be a cold draughty night. It might even rain, and if it did, some tents would surely leak. Sometimes they blew down and engulfed the occupants and terrified the smaller children. But by tomorrow afternoon they would be on their way home, thank God, if they didn't have to go on a long retrieve first.

Would they come again? Oh, yes. Some of the glider pilots' wives have even been heard to say that they like the Dry Lake. Anyway, it's better than staying home with the kids. And maybe next time they'll get to go into Reno for a night on the town.

B.G.A. NEWS

Annual General Meeting

The British Gliding Association's Annual General Meeting will be on 11th March, 1967.

The place of venue will be announced later.

Nationals 1967

The National Championships will be held at Lasham from 20th to 29th May, 1967.

British National Record Homologated

300-km. Triangle, Two-seater: B. J. Willson and G. H. Daniels for flight on 15th May, 1966, in Blanik. Total distance 306½ km. Speed 55.55 km./h.

U.K. Records Homologated

300-km. Triangle, Two-seater: B. J. Willson and G. H. Daniels. Details as for British National Record shown above.

100-km. Triangle: G. E. Burton for flight on 3rd July, 1966, in Dart 17R. Total distance 113 km. Speed 82.4 km./h.

Women's 300-km. Triangle. Anne Burns for flight on 28th April, 1966, in Austria SHK. Total distance 301.6 km. Speed 60.2 km./h.

The Churchill Gliding Award for 1967

The B.G.A. has been given the money for this award by a most generous donor, who wishes to commemorate Sir Winston Churchill in the form of an annual award involving "initiative, flying and hard work, undertaken in that gaiety of spirit Churchill epitomised". The donor wishes to remain anonymous.

The award, which will be of the order of £50 a year, will be given to assist some project organised and carried out by an individual glider pilot (not a firm). The 1966 Churchill Award was made to Keith Chard of the Surrey Gliding Club for flight-testing the Osprey.

Eligible projects, which should always include flying, would include meteorological research and explorations by glider of sea-breeze fronts or mountain waves, invention or development of glider instruments including flight testing, research on improved training or soaring techniques, or exploration of or investigation into some quite new aspect associated with gliding. Applications would have to be from British subjects, resident in Britain, but the project work would not be confined to this country.

Carrying out the project would involve a full preparatory statement giving a description and details of how the work would be carried out, a time scale, estimate of costs, and other information such as possible assistants, etc., and a full final report. Winners will be given an Award Certificate.

Applications should be submitted to the Secretary of the B.G.A. by 31st March, 1967. Should anyone be doubtful whether their application contains the right material, it is suggested that a brief outline of the work should be submitted to the Secretary as soon as possible so that an opinion may be given.

R C. BARNETT,
Member, Flying Committee.

Handicapping Regulations for 1967

Handicapping will apply in League 2 of the National Championships and in Regional Championships. Handicapping will *not* apply in League 1 of the Nationals. The Official Handicap List is as follows:

95% Austria SHK, Dart 17 series.
100% Dart 15, Foka, Ka-6CR, Ka-6E, Olympia 403, 419, 465, Osprey, Skylark 3 and 4, Standard Austria.
105% Blanik, Olympia 463.
110% Bocian, Eagle, Jaskolka, Mucha, Olympia 401, Skylark 2.
115% Ka-7, Sky, Weihe.
120% Capstan, Gull 4, Meise, Olympia 2, SF-26, Swallow.
125% Gull 3, Kite 2.

Note: Two -seaters have the same handicap whether flown solo or two-up.

Any pilot wishing to enter a glider not listed above in a competition where handicapping applies, should write to the B.G.A.

Classes in the 1967 Nationals

In addition to the normal results for Leagues 1 and 2, placing lists of those who flew Open Class gliders, and of those who flew Standard Class gliders will also be produced. If there are six or more Standard Class gliders in League 1, and the top pilot has gained at least 50% of the winner's points, he shall be declared Standard Class Champion.

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1967 Regional Championships

Clubs shown below have advised the B.G.A. that they wish to hold Regional Championships (qualifying for rating purposes) in 1967. A final list of "qualifying" contests will be published early in the New Year.

ENTRIES:—All enquiries regarding entries should be addressed to the Competitions Secretary at the Club concerned.

B.G.A. requirements regarding entries include the following:

(a) Entrants must have Silver C, valid F.A.I./B.G.A. Competitor's Licence and be in current flying practice.

(b) Organising clubs must accept entries in order of application, except that:

(i) No pilot who, in 1967, has competed in League 1 or who has a total of eight or more contest days and has finished in the top ten places of League 2, may enter any Qualifying Regional Championship held *after* the Nationals, except that he may fly *hors concours*.

(ii) Priority must be given to entrants who have not flown in the 1967 Nationals, nor in any other rated competition in the same year, but who have some other competition experience.

Competition Licences

The only type of F.A.I. Competitor's Licence that is valid in 1967 has F.A.I. stamps affixed to it to cover the year in question. Organisers of B.G.A.-recognised contests in 1967 will not accept entrants unless they can produce a valid licence. Out-of-date licences should be sent to the B.G.A. together with the renewal fee of 7s. 6d.

Photographic Evidence Regulations

Photographic evidence of correctly rounding turning points in contests is now acceptable to the B.G.A. Full details of the regulations which will apply are available from the B.G.A. They include:

(i) The only acceptable camera is the Kodak Instamatic 25 (retail price: 53s. 1d.).

(ii) Black and white Verichrome Pan film must be used.

(iii) Cameras may be fixed to the glider or hand-held.

(iv) There is no limitation on height at turning-points.

(v) It is entirely the responsibility of the pilot to provide the organisers with evidence to prove that a turning-point has been rounded correctly.

The regulations will be printed in full in the 1967 B.G.A. General Regulations.

Glider Trailers—Speed Limits

The speed limits for glider trailers have at last, as from 14th August, 1966, been raised from 30 to 40 m.p.h. (The Motor Vehicles (Variation of Speed Limit) (Amendment) Regulations, 1966)—1966 S.I. No. 981, Regulation 2(3)(iii). Please note:

1. The limit of 40 m.p.h. applies on motorways as well as ordinary roads.
2. The maximum *unladen* weight of the trailer is 10 cwt.
3. The maximum length of the trailer *excluding* the towbar is 33 feet.
4. The prime mover must be a car or dual-purpose vehicle (which includes estate cars and Land Rovers, but not vans or trucks).

In all other cases the limit is still 30 m.p.h. (40 m.p.h. on motorways).

LIONEL ALEXANDER,
Chairman, Sites Committee.

Organising Club	*Site*	*Contest Dates*	*Entry Fee*	*Closing Date*
Midland	Long Mynd	Jun. 3-11	£15*	Apr. 1
Bristol	Nympsfield	Jun. 17-25	£25	Apr. 1
Derby & Lancs.	Camphill	Jul. 1- 9	N/K	N/K
Surrey	Lasham	Mid-Jul.†	N/K	N/K
Coventry	Husb. Bosworth	Jul. 15-23	£21	May 22
London	Dunstable	Aug. 5-13	£22	Jun. 19
Airways	Booker	Aug. 19-28	N/K	N/K

Remarks: The Midland Contest is restricted to the Olympia 460 series.
*No aero-tow launches. †Provisional date. N/K Not known.

RHODESIAN CHAMPIONSHIPS—October 1966

By TED PEARSON

THE Rhodesian Annual Championships have always been a very pleasant affair, and this year four machines from Johannesburg went up to join in the fun.

Boet Dommisse, with his wife as crew, took the BJ-2. Chick Brydges, who can make an Austria travel faster than most, had his "S", and Klaus Keim the Zugvogel 3. I had been commanded by the Salisbury types to bring back the SH-1 together with the silverware it accumulated last year.

Chick developed a radiator leak just outside Johannesburg and boiled merrily along at 30-odd miles an hour for the next 800 miles. "Don't worry," said Alf Thompson when persuading Chick to come, "there's no petrol problem." There wasn't either, but it was water that bothered Chick.

Just before Fort Victoria, Daphne and I called in at Zimbabwe to let the children see for the first time these mystery shrouded ruins that inspired some of Rider Haggard's most romantic tales. Boet was there also. He had seen 200 miles of solid bush, mountains and ranching country south of Fort Victoria where even the vultures can't land. I had to reassure him that further north was agricultural terrain to stop him from turning back there and then.

By ten o'clock that night we had all arrived and Rhodesian organisation had fixed us up with accommodation, radios, maps where we had none, and repairs for Chick's radiator. The bar stocks at the club's Warren Hills airstrip had been seriously diminished and plans for nobbling the SH-1 were well advanced.

Early, we thought, next morning we went out to rig. Too late! "Krafty Klaus Keim", with his usual ruthless efficiency, had already rigged and parked his Zugvogel, car, trailer, chaise-longue and himself in the shade of the only decent tree on the airstrip.

In a quick survey of the opposition we saw John Saunders's Austria-S, flown by Alf Thompson who had just brought it back from a 1,700-mile round trip to Johannesburg for a C. of A. and modifications by Klaus.

Jimmy Arnett's Vasama, still bearing its 1963 Argentine competition number 42, had been cleaned up and faired in, with wings brought to a superb profile finish. James was obviously out for blood and looked as though he might get it. Bob Moore was flying another Vasama, and the Salisbury Ka-6 was entered by John Colban.

Other Rhodesian clubs were there. Viv Pemberthy flying a Skylark in his first competition. Jimmy Harrold was once again flying his Olympia 463 from Marandellas, although he should get something faster to demonstrate what a good pilot he really is. Ray Smith was bringing his Dart from Bindura, but the retractable gear collapsed on landing a few days before the Contest, with too much damage to repair in time. Bad luck, Ray!

Down from Zambia had come Karen Martin with the Sagitta together with Vic Brierley and Geoff Hammond who sportingly entered the Air-100 in the Open Class although it was generally considered only a limited class machine.

And so we embarked on two weeks' flying conducted in a wonderful spirit, tight competition, and weather which, not so good as last year, was real contest stuff that pulled the last ounce out of everybody.

We were all a little surprised after the first day's 100-km. triangle. The rough thermals in an almost blue sky had not seemed particularly good—around 4 m/s. to 7,000 ft. above ground (12,000 ft. a.s.l.), yet the speeds turned in were well above 100 km./h. (109 km./h. for the SH-1) and set new Rhodesian Open and National records. The Vasama had already shown its teeth at 103.5 km./h. and would have to be watched carefully, as would the BJ-2 with its 105 km./h.

Boet Dommisse had already decided, and maintained to the end of the contest, that Rhodesian thermals were different. He said they were like an octopus with waving legs but no centre. Most people

agreed with him when, time and time again, they would slide in a few hundred feet under, or over, another pilot who was obviously in 4-5 metre lift, yet all they could find was sink no matter where they looked.

During the 300-km. triangle for Task 2, Klaus nearly came unstuck in discovering the old story that bush fires give sink more often than lift. This task has a seemingly endless middle leg which runs up the formidable Umvukwes range and nearly to the Zambesi escarpment. Don't ever miss the turning-point at Umvukwes or you'll disappear into darkest Portuguese East Africa. Only after landing did I realise that my speed of 99.2 km./h. exactly equalled the British National record set by Alf Warminger at Kimberley this year. Watch it next time, Alfred!

From now on Glidermanship, particularly on the radio, became very involved. Crafty characters would make their flying start over the line then surreptitiously sneak around the back door for a second or third start. Others would join the poker school circling upstairs waiting for the faint-hearted to make a start and mark the thermals. As the good stuff started cooking only about 12.30 and normally faded sharply around 3.30 or 4 o'clock, this was an aerial version of Russian roulette.

Jimmy Arnett trained his gang to call me over to join 5 metres—forgetting to mention that it was sink, not lift. Whenever I tried to elicit his whereabouts or start time, the air would go strangely silent, particularly as his total score got closer to mine.

Alf Thompson in an Austria operated as a sort of combined communications satellite and information bureau. Everybody who was lost, landed, in sink, or just lonely, called Alf. He was justifiably apoplectic, therefore, when he landed out on Task 10 and the whole field sailed by him without responding to his plaintive calls to have his position relayed back to base. No gratitude!

Boet was now cooking up new techniques to cope with the main problem arising from variable geometry ships in our conditions. Nothing will touch the BJ-2 or BJ-3 in an inter-thermal glide, with flaps retracted and high wing-loading, at 200 to 250 km./h. In theory he then hits



All the contestants in the 1966 *Rhodesian Nationals. L to R*:—*B. Moore (Rhod.); E. Dommisse (S.A.); K. Klein (Ger.); E. Pearson (S.A.); J. Arnett (Rhod.); C. Brydges (S.A.); A. Thompson (Rhod.); J. Colham (Rhod.); J. Harrold (Rhod.). Kneeling*:— *V. Brierly (Zambia); G. Hammond (Zambia); V. Pemberthy (Rhod.).*

the thermal, pushes out Fowler flaps and circles slow and tight with a nice low wing-loading. The problem, however, is one of interception. Our thermals are tight, oddly shaped and in a large area of surrounding sink. At the speed he is travelling he has to anticipate the thermal well in advance, kill off speed, wind down flaps, then search frantically in downdraught for the lift that isn't there any more. Which is where the SH-1 could manoeuvre more quickly, climb faster and often out-point the faster aircraft.

Boet was unlucky on Task 4. He made the fastest time around the 213-km. triangle then discovered there was no film in the new automatic camera he had been using. For once, also, nobody had observed him at the actual turn-points. The rules penalised him 500 points, which would otherwise have brought the BJ-2 into second overall place. If that can happen to Boet, who is normally so meticulous in these things, it can happen to anybody. Others take care!

On most tasks, when we thought we were going pretty fast, we would inevitably have demoralising sight of Viv Pemberthy in the Skylark sticking with us like a limpet right up to and often past the turning-points.

What a difference in the weather when we did the 300-km. triangle again for Task 5! In the middle of the long second leg, the air went chilly, the inversion took on a solid look and the wisps of cloud disappeared from the blue sky. Early starters were home and dry like Boet with the best speed of the day, 80.8 km./h. We who were slower or later, piled up over Umvukwes and scratched. Above all, we had to get high and stay high if we were to reach home. An away landing would be disastrous as we were using the Argentine World Championships scoring system, although the speed formula was made a little less stringent. In the 90-km. trek between the two mountain ranges from Umvukwes we worked every conceivable kind of lift and recalculated our final glide prospects with every few hundred feet gained.

The two Vasamas found a two-metre thermal and worked it joyously (and quietly) to enough height to take them home. Most sailplanes finally crept in to Warren, but the Ka-6, Skylark, Air-100 and Olympia 463 had to be retrieved. During the entire contest the majority of competitors had no crew, but within minutes of any landing notification a trailer would be on its way, manned by Salisbury members or pilots who had got back successfully. Another of the nice things about the Rhodesian Championships.

Klaus rejoiced in Task 7's out-and-return, when he left me struggling for height at the turning-point. Half way back to Warren the SH-1 went by him so rapidly that he inadvertently had his microphone button pressed as he made an improper comment about my probable lack of birth certificate.

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What a pity we didn't make Task 8 a 300-mile triangle. The 5 m/s. thermals to cloudbase 12,000 ft. a.s.l. would have made mincemeat out of Alf Warminger's record.

Boet out-manoeuvred me on Task 9. Knowing that I never could turn left, whereas his camera bracket is set up for a left-hand triangle, he persuaded the task-setter to go the other way round my favourite 100-km. milk-run. What a disaster! In the 30-knot wind and no visibility I felt lucky to finish at all. Chick Brydges made an incredible 98 km./h. and, in conditions where it should theoretically stand still, the Air-100 with Vic Brierley aboard went round at better than 70 km./h.

Task 10 had originally been set as a 500-km. out-and-return, but was shortened to 268 km. when met. told us of a convergence zone on track that would close in rapidly. After twice battling back against the 25-knot wind from 20 kms. down track I got away to a good but very late start. Just before the turning-point I caught up with some of the field including Jimmy Arnett's Vasama. For once we condescended to acknowledge each other by radio, and suggested leaving immediately to get round the turning-point, now in rain, before it was completely clamped in. Actually I wanted to have an observer around the turning-point and preferred not to continue marking our nice 5-metre thermal when I could see the BJ-2 coming back from the bridge after taking his photographs.

A depressed Alf Thompson, further back, listened to our story of gloom at the bridge and figured he would be lucky to get round the point and home again. His pessimism was justified and he landed.

Jimmy Arnett just couldn't make the next cloud as the lift faded rapidly on the return leg of Task 11. He landed, but, of course, kept it quiet, hoping I would try to push too hard and go down also. 30 kms. from Warren I caught up with the BJ-2 in weak lift under a scrappy cloud. We only had 3,000 ft. and needed twice as much to reach home. Not knowing that Jimmy was down, I gambled and pushed off into the blue. After getting down to 1,800 ft., up came a glorious 5-metre thermal, which took me home in a flash.

At the prize-giving ceremony, Boet expressed our feelings very well when he spoke for the visitors and said: "Until now we, in South Africa, have considered ourselves tops at running competitions in the very best gliding spirit. Now we realise how much we can still learn from the Rhodesians."

Summary of Tasks

3rd Oct.: 103-km. Triangle; 4th Oct.: 312-km. Triangle; 5th Oct.: 103-km. Triangle; 7th Oct.: 213-km. Triangle; 8th Oct.: 312-km. Triangle; 9th Oct.: 103-km. Triangle; 10th Oct.: 234-km. Out-and-Return; 11th Oct.: 250-km. Out-and-Return; 12th Oct.: 103-km. Triangle; 13th Oct.: 268-km. Out-and-Return; 14th Oct.: 234-km. Out-and-Return.

Final Leading Results (Total 12 pilots): Pearson, S.A., Austria SH-1, 10,450 points; Arnett (National Champion), Vasama, 9,524 points; Keim, S.A., Zugvogel 3, 9,297 points; Dommisse, S.A., BJ-2, 9,191 points; Brydges, S.A., Austria-S, 8,850 points; Moore, Rhod., Vasama, 7,366 points.

COMPACT

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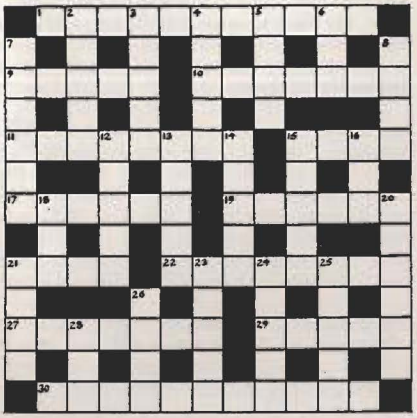
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CLUES ACROSS

1. Venue of 1965 World Gliding Championships (5, 6)
9. Device for detecting airspeed (5)
10. Source of electrical power (7)
11. Upside down in flight (8)
15. Alone in flight (4)
17. Accessory, perhaps in the private owner's cockpit (6)
19. See 13 Down
21. Adhesive (4)
22. Solo talk confused at a final scrutiny (4, 4)
27. Not much lift in this condition! (7)
29. Rolls at ground level! (5)
30. Connection between sailplane and powered 'planes (7, 4)

CLUES DOWN

2. Gliding's brief international technical organisation (5)
3. Slingsby single-seat trainer (5)
4. Stranded, on the launch! (5)
5. Basic mechanism of turn indicators (4)
6. Woman of the night before? (3)
7. Seasonal mechanism (6)
8. See 5 Down
12. High performance Slingsby two-seater (5)
13. Compensation for "stick lift" (5, 6)
14. Fights to get instruction on the two-seater? (5)
15. A fitting material (5)
16. Delay in insulating an instrument? (3)
18. This much out to be launched (3)
20. Peasants (6)
21. Sharp fluctuation in wind velocity (4)
23. Listen to this variometer! (5)
24. Air Traffic Control building (5)
25. Flying as 15 Across, and proudly climbing at, say, 100 f.p.m. (3, 2)
26. Meteorological prefix, sung in a high voice? (4)
28. Regulation accessory at the winch (3)

CLASS WAR

By MARTIN SIMONS

READERS of SAILPLANE & GLIDING will already be familiar with the handicapping scheme proposed by Tony Deane-Drummond in the August issue, and will have seen other references to it in letters from Peter Scott and Wally Kahn in the last edition. Few of us would deny the need for some rationalisation in gliding contests.

As a contribution to the discussion we need to make an important distinction that Peter and Wally have not mentioned. In their letters they refer to *Class Competitions* for Darts, Ka-6's, Skylarks, etc., but what they seem to be proposing is not Class competitions at all, but *one-design* competitions, a very different thing. In a one-design competition all pilots fly exactly the same type of glider. The contest is a test of pilot skill alone; all entrants, except for the little bit of luck, are on the same footing, and the best man wins.

Wally is certainly quite right when he says that in choosing our international teams we must make as sure as we possibly can that we find, not the richest or luckiest pilots, but the most skilful and determined. It should not matter to the selectors whether a pilot flies a Dart, SHK or humble Swallow at weekends. The handicapping scheme is an attempt to remove the glider-variability factor from the results, and it would indeed be interesting to apply Deane-Drummond's calculations to the National Championship results during the last few years. We might find it illuminating. Unfortunately any scheme of handicapping based on

performance estimates or measurements must suffer from the fact that such measurements are seldom accurate within a few per cent, and the scores in contests often differ by much less than that. Small errors by the handicappers could thus cause large changes in the composition of our team for the World Championship. This, and a worse, long-term danger leads me to believe that handicapping must not be adopted for important competitions. Where it will find a splendid application is in small, informal contests, club task days and club ladder competitions. The long-term danger will be mentioned later.

The idea of one-design competitions is excellent for the selection of the best pilots. This has been recognised, not only in 1938 by the Olympic Games Committee, who were responsible for the first real "one-design" proposal, but by the Poles, whose Nationals for years now have been run on this basis. Last year and this year everyone flew Fokas, and although Zefirs were present they were *hors de combat*. We saw at South Cerney what this means in terms of winning potential. It seems absolutely right that the Nationals here, too, should be one-design contests. Strangely enough, neither Wally or Peter seem to want this. They continue to speak of the *Open* title as being the most coveted, carrying the National Championship award and, presumably, the highest selection rating. If we continue with the Nationals as the most important meeting of the calendar, all others being rated down, it is manifestly absurd that they should be open to all kinds of glider from Gull 4 to Zefir 3 or even, in future, Sigmas. If we take this business seriously it seems very clear indeed that the Nationals should be one-design contests.

Which type of glider the entrants actually flew would depend on what was available in quantity. Skylark 3's might be used, or Dart 17R's if there are enough. The B.G.A. would have to make sure that every entrant could either buy, borrow or hire a glider of the selected type for the necessary time, and might in some cases have to provide financial backing if a promising pilot normally flying only club aircraft, or owning the wrong type, could not afford to hire. This might be hard to arrange, but it could be done if we were really serious about the matter.

After the Nationals it would be necessary to provide the selected team with the best possible equipment, Sigmas presumably, and make sure the pilots had sufficient practice to familiarise themselves with the new super-ship. That is how to win the World Championship. Do we care enough to make the required effort against nations where all this has been accepted for years and is financed by the state? If not, by all means let us bumble along as we are, but don't be surprised when we lose.

So far, so good. But I believe it would be disastrous to apply the one-design principle to any other important competitions. What would the effect be? For those who owned, or could beg, borrow or steal a glider of the particular type chosen for a contest, all would be well. Peter Scott, however, would find he never had a chance to fly his HP-14 in competition. He might be able to have two gliders, or sell his rare type, but the comparatively impoverished pilot owning, say, a Skylark 2 or a Dart of the wrong wingspan, would not be able to enter at all. To have a lot of one-design competitions would thus leave some very good gliders, like the HP-14, the Olympia 419, the Foka, and some very good pilots, on the ground. It is no answer to say that Open meetings could still be held. Of course they could, but then we should be back where we began. If the Open meetings didn't count, they would be of little interest to anyone. If they did count, they would be dominated by the super-ships as now.

Worse follows in the long run. If most

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important meetings were one-design competitions, glider pilots would increasingly tend to buy the gliders that were popular enough to justify their being selected for such contests. If the Ka-6, Dart 17, Olympia 463 and Skylark 3 were catered for, they would be bought more often and, as Peter Scott admits, more of the older designs might actually be built. Why should anyone pay all that money for an HP-14 if he can't find any competition for it? For pleasant Sunday afternoon waffling he could use an Olympia 463 (what better?). If contests were provided for this type, why should he ever seek a hot ship, and, above all, why should the manufacturer ever design something new? The same long-term danger arises with the handicapping scheme. If you could enter a contest with a £600 Olympia 2B and, by virtue of your handicap, be on equal footing with Wally's Dart 17, why buy a Dart? This supposes the handicappers were superhumanly fair—but if they couldn't and can't be perfectly fair, why have handicapping in important contests at all?

Adoption of one-design competitions, or handicapping, for regional contests thus leads to design stagnation and to other injustices. Class competitions, however, while not preventing all injustice, are a much better proposition. Gliders can be classified objectively without reference to their performance curves, by measuring such things as wing span, weight, wing loading, wing thickness, and taking into account the presence or absence of flaps or other area and camber changing devices, retractable wheels, and so on. We already have the Standard Class glider which illustrates this kind of thing in action. When the Class was first proposed, it was intended to produce handy, knockabout club gliders; but the designers, faced with a challenge, worked so hard that the result now is the Foka, the Phoebus, the Finnish UTU, and so on. These may not be knockabout club machines, but they were all designed to a rigid and simple formula which has resulted in progress from the Skylark 2 to the *small, flapless, fixed-wheel* high-performance glider of today.

Now it is perfectly true that a competition for Standard Class gliders would find machines of differing performance flying against one another, so the test would be of machine-plus-pilot, not of pilot skill alone. Nonetheless, while an entrant with a Skylark 2 would probably not win against a Foka or Dart 15, he would at least not find himself up against HP-14's, SHK's or Sigmas. He would also realise that a Standard Class glider, being free of the more expensive features, lighter to handle on the ground and generally easier to manage, is inherently cheaper than a large glider with all the complications. Even a poor man can reasonably aim at getting himself into a Standard Class syndicate for a modern machine. By establishing a Class contest, then, some improvement in the glider variability factor is achieved, while at the same time manufacturers would know that a new, better, glider built to the Class formula would be marketable.

In Britain we have never taken the Standard Class seriously. The result has been that the Gull 4 grew to the Sky, the Skylark 2 to the 3, the Olympia 4 to the 419, and the Dart 15 to the 17. So it could go on. It is relatively easy for a designer to improve the performance of his machine by making the span bigger, adding flaps and retracting wheels, and so on, always making the glider heavier, more complex and more expensive. We should not be blinded by the fact that there are some Standard Class gliders now that are better than some of the older, large ones. This is progress, and to get it in perspective we should compare like with like, the Foka 4 with the Zefir 3, the Standard Austria with the SHK, the Phoebus with the AS-12. Of course, the Foka is faster than the Olympia 419; there is a deal of development between the two.

There is much to be said, therefore, for a real Class contest system, based, not necessarily on the Standard Class alone, but on a number of different Classes based on existing gliders. A scheme for this is outlined below, and might form a suitable basis for experiment. The main feature of the scheme is that there is a recognisable Class difference between small and large gliders and between complex and simple gliders. Three extra Classes, however, are added to permit the owners of old gliders to have a bit of competition too, and to provide a junior league for the inexperienced.

A Class system for Championship flying

THE NATIONAL CHAMPIONSHIPS

A one-design competition, the type flown to be selected by the organisers. The top "*n*" pilots of each of the Class competitions below be allowed to enter. The winner would be National Champion, the top "*n*" to be the International team.

CLASS 1 COMPETITIONS

Restricted to gliders that do not fall within any of the other Classes (Zefir 3, AS-12, etc.).

CLASS 2 COMPETITIONS

Restricted to gliders up to 17 metres span. No other restrictions. (HP-14, BJ-3, etc.) A Skylark could enter but would be at an obvious disadvantage.

CLASS 3 COMPETITIONS

Restricted to gliders up to 19 metres span, without flaps, camber or area-changing devices (other than ailerons), and fitted with air brakes re-usable in flight (i.e., no "one shot" tail parachute).

Again smaller gliders like the Skylark 2 could enter but at a disadvantage. Normally, this would be the place for a Dart 17, SHK or Skylark 3.

CLASS 4 COMPETITIONS

Restricted to gliders with up to 15 metres span. No other restrictions.

No popular design in this Class yet. An opportunity for designers to produce small, flapped and fast machines.

CLASS 5 COMPETITIONS

The present Standard Class (Ka-6E, Phoebus, Dart 15, etc.). Air brakes must be re-usable in flight.

JUNIOR CLASS COMPETITIONS

Not counted for rating. Gliders to be up to 15 metres span, wing loading at maximum all-up weight not to exceed 24 kg. per sq. metre, wing thickness at root not less than 18%, no flaps, fixed wheel. (Most Standard Class gliders could enter, but not the Austria, for example.)

No pilot who has entered any of the senior Class contests permitted to enter this one.

VINTAGE CLASS COMPETITIONS

Restricted to gliders designed and built before 1950, or genuine replicas. Not counted for rating.



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cruises 110 m.p.h.; Range 400 miles plus.

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Glide 1 in 20; Sink 4 feet/sec. at 48 Kts.

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Ideal for exploring wave and remote or mountain regions.

Also for Competition practice (simulate the performance you wish).

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FOURTH GERMAN MOTOR GLIDER RALLY

23rd—25th September

By PETER ROSS (Photographs by Peter Jeffers)

FORTY-FIVE miles from Cologne in our hired Volkswagen we reached the top of a plateau in the picturesque Eifel region of Germany, and there, in the distance, was the new hangar and control tower of Dahlemer-Binz.

Dahlemer-Binz airstrip is a combined gliding and power field, and like so many Continental clubs there is only one runway. Power and gliding are separated by a strip of neutral ground and co-habit without friction. It was interesting to see that the gliding circuit was completely surrounded by trees whilst power had the clear approach. There must be a moral here somewhere!

This was arrivals day, and already the Works Scheibe Motorfalke was engaged on one of its many demonstration flights, circling high above the rolling hills and wooded slopes of the Eifel. The Motorfalke was fitted with the optional outrigger wheels which permit taxying and take-off without external assistance, although turning through sharp angles awaits the fitting of a steerable tail wheel, which is a planned improvement. Scheibe are considering the use of a more powerful engine in the Motorfalke for those wishing to use it primarily for training. The Motorfalke started life as a side-by-side training glider—but no one in Germany would buy it.

"Will we see the Fauvel?" I asked Herr Scheibe, and in reply he pointed to the south. There, a rapidly growing speck in the sky, was the AV-221 which M. Fauvel had flown from Cannes to attend the Rally. He had done the trip in easy stages, dropping in on gliding clubs on the way up.

The AV-221 is a two-seater (side-by-side) and is currently fitted with a 45 h.p. Rectimo engine (converted Volkswagen), the same as is fitted to the Turbulent. M. Fauvel announced that he was well advanced with the construction of a new engine: the Survol-De Courcy type Pigmée designed specifically for powered gliders and ultra-light aircraft. It is a four-cylinder four-stroke side-valve air-cooled engine of 900 c.c., develops 40 h.p. at 5,500 r.p.m., and incorporates a 2:1 reduction gear and a 6-volt starter and dynamo for a total weight of only 88 lb. It will be fitted to production versions of the AV-221 and may be installed in the Turbulent.

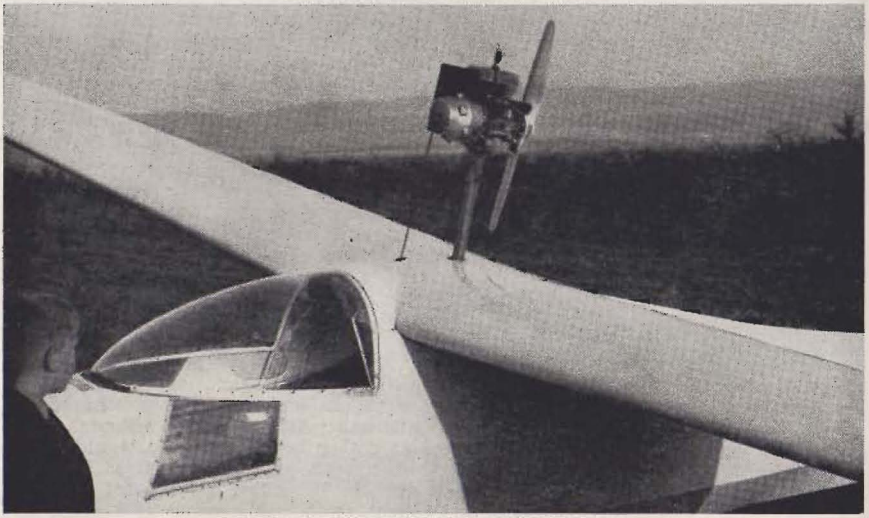
Previous stability problems associated with the AV-36 glider seem to have been overcome, and the AV-221 behaved like any other light aircraft, although looking rather larger than one would expect when seen at close quarters. It is not possible to restart the present motor in flight, so its performance as a glider was



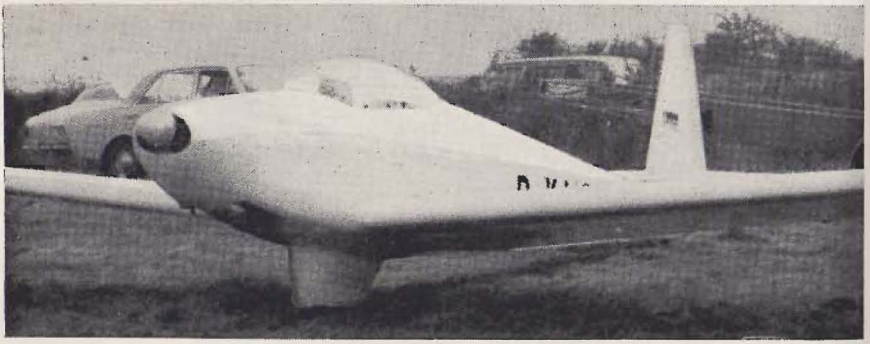
The Fauvel AV-221



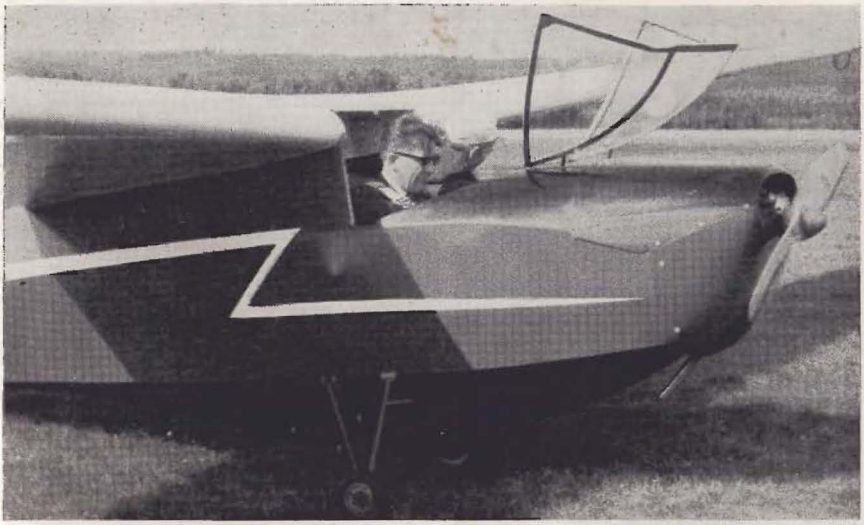
Scheibe SF-27 "Herschwalbe"



Schleicher K-8 with 65 h.p. Stihl engine.



The Schleicher K-11.



The Scheibe Motorfalke, showing the outrigger wheels.

SELF-LAUNCHING SAILPLANES FAUVEL

Power turned off these are

TRUE SAILPLANES

– AV221 Two seaters

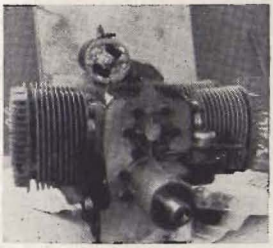
Max. Glide: 1:26 min. sink 2.9 ft/s

– AV45 Single seater

Max. Glide: 1:28 min. sink 2.62 ft/s



Two seater 221



"PYGMEE" Engine

"PYGMEE" ENGINE

for SAILPLANES (light planes, rotor craft . . .)

40 h.p. 85 lbs. including:

electric starter, generator coils, spark plugs

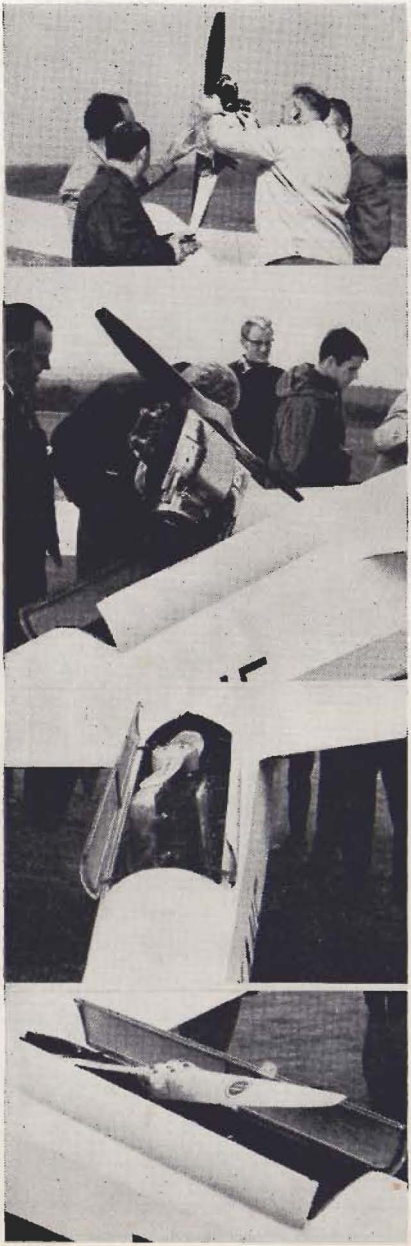
GEARED ½ Length 17.3 in.

Width 17.8 in. Height 13.4 in.

"SURVOL" S.A.R.L.

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06 CANNES-LA BOCCA A.M. FRANCE



hard to judge.

Although there were only a few more arrivals by air, the airstrip was rapidly filling up with Alpavia Fournier RF-3's which were being wheeled out of the Pützer hangar. The new Pützer factory at the edge of the airstrip is nearly complete, and the new RF-4 single-seater and RF-5 two-seater will soon be in full production at a rate of 100 per year.

The RF-4 is similar to the RF-3 but has a fillet between wing and fuselage, a rounded bottom to the rear fuselage, Frise ailerons, and is fully aerobatic in France (but not in Germany). There were six RF-3's and two RF-4's at the rally, and the French-registered RF-4 put up an impressive display of aerobatics.

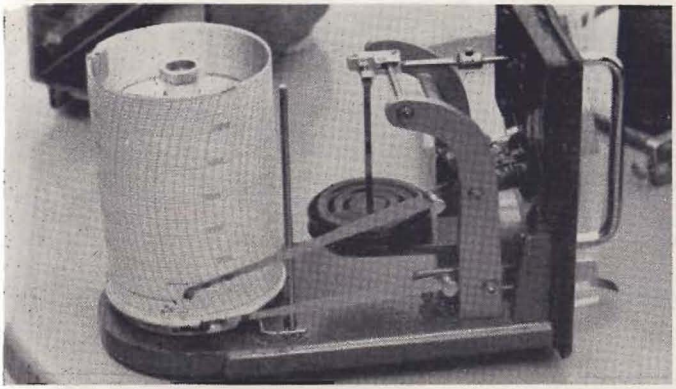
Highlight of the rally was undoubtedly the powered Scheibe SF-27 "Illerschwalbe", an auxiliary-powered version of the successful Standard Class sailplane that many must have seen at South Cerney where it was entered in the OSTIV design competition. One of them finished 12th in the Standard Class of the 1966 German Nationals, having been 2nd on one contest day.

Taking advantage of the steel tube fuselage, the designer has installed the same 26 h.p. Hirth two-stroke engine as fitted to the Motorfalke on a completely retractable mounting just aft of the wing trailing edge. To reduce the depth of the engine, the reduction gear has been eliminated and the propeller driven direct. Fuel pipe, throttle and choke cable, ignition wire and starter cable pass up through the cantilever tube mounting, and a pair of doors completely covers the mechanism when retracted.

To ensure that the propeller is vertical before retraction, a lady's handmirror was stowed in the cockpit so that the pilot could look over his shoulder, and, by inching the motor over using the kick starter cable, the propeller could be aligned.

This smooth little ship took off and climbed away smartly from the 1,500-ft-high grass strip, and will shortly be going into production. It will be only the second single-seater with retractable engine to go into production, the first being the Scud III in 1935.

Left: the SF-27, showing various stages of retracting the engine.



Winter barograph with second needle to record engine running time

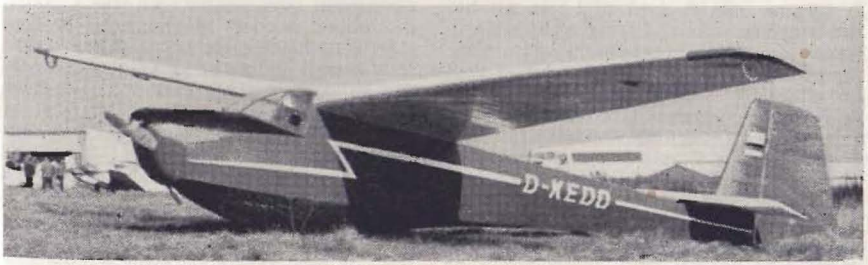
Last to arrive was the neat little Schleicher K-11, fitted on an equally neat open trailer. German motor gliders have registration letters which start D-K . . ., and an understanding licensing department has allowed them to choose whichever combination of letters they prefer. Thus we had KILO, KIDY, KANE and KIKI, whilst Kaiser's design was appropriately D-KAIS. This led the designer of the Illerschwalbe to suggest that, since the authorities couldn't decide whether he had a glider or an aeroplane, he should perhaps paint on the side of his fuselage the word KAMEL!

The K-11, with the same Hirth engine very neatly cowled, is very light and manoeuvrable, and has excellent visibility for the pilot.

A true powered glider was the K-8 fitted with a 6.5 h.p. 95 c.c. Stihl buzz-saw engine mounted above the wing centre section, and capable of rapid attachment and removal. Following a winch launch or aero-tow, the motor is started and will maintain the glider in level flight until lift is found. Self-launching is not possible.

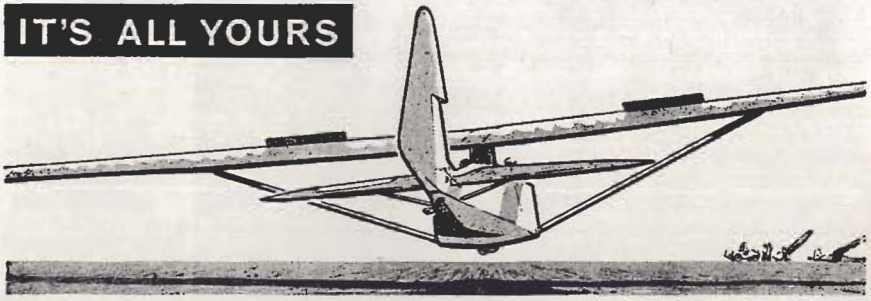
The meeting held on the second evening, to discuss motor-glider progress, showed that there were strongly conflicting views on the certifying of the aircraft, the licensing of pilots, and the use of motor-gliders for training. We were shown a method of recording engine running time on a normal barograph trace which should make height and duration claims on motor-gliders acceptable for badges and records, and a formula was put forward to allow motor-gliders of different types to take part in competitions together. The first contest is planned for next year.

It was an enjoyable rally which stimulated a lot of thought. We hope to be back next year in the Motorfalke which we have ordered.



The Scheibe Motorfalke.

IT'S ALL YOURS



THERE was once a time when it was not too difficult to find a new C.F.I. if one was needed; he could be discovered among instructors already in the club. Sometimes he might actually want the job, or at least he would be willing to take over. Now it is different: clubs find extreme difficulty in replacing retiring C.F.I.s. Not infrequently they have to resort to advertising—a situation unheard of 10 years ago, when members would have resisted the idea of an outsider, even one who was going to give up his time for their benefit.

There are many reasons for the change.

1. Recent years have produced an enormous growth in private ownership. Solo flying is easier to get, and the flying itself is more interesting. Although private-owner soaring pilots may well be prepared to do their share of instructing, they are understandably reluctant to devote the time necessary to be C.F.I., and thus virtually end their own flying.

2. The size and complexity of the job is greater than it used to be in all but the smallest clubs. Flying ranges from basic dual to cross-country training; aero-towing has to be supervised as well as winching; "local" soaring in high-performance gliders requires stricter supervision; faster, heavier gliders cause errors to have more serious results; pupils are more demanding, and more easily frustrated.

3. Each pupil has to be taught more in order to become a safe pilot. It is not possible to cope with so many pupils at any one time as it perhaps once was. Committees hate the idea of losing vital revenue, so too often add to instructional difficulties by accepting too many. At the same time higher flying charges make it difficult to give value for money on marginal days. The C.F.I. is at the receiving end of any complaints.

4. New assistant instructors can no longer be just built into the system to find out as they go along. The job requires that they should have formal training if they are not to be a source of pupil accidents. Such training is difficult to fit in with club flying, and so the C.F.I. has to arrange for instructors' courses.

5. The time which the C.F.I. needs to spend at his club is greater than is acceptable to most families. In small clubs, where there may not even be another instructor, let alone an experienced one, the C.F.I. not only works intolerably hard, but carries heavy responsibilities.

6. There is a further problem in small or new clubs. The C.F.I. is sometimes the only experienced pilot, and he has to put over, on his own, the essential disciplines needed in flying to achieve safety, to his friends or neighbours who only regard gliding as an enjoyable weekend relaxation. This makes his position a lonely one.

C.F.I.s give their clubs good value. Although this is recognised by some clubs who rightly cosset them, there are others who expect the C.F.I. to look after numerous extra jobs, such as maintaining the winch and collecting flying fees, or who niggle over his having any free flying at all even if it is only to

check the pupils' solo aircraft. There are committees who, with insufficient experience, interfere with the C.F.I.'s policies or decisions.

On the other hand, there are, unfortunately, a very few C.F.I.s who add to the difficulties of their club by turning up less and less until they are C.F.I.s in name alone. The club does nothing, hoping for a return, and the C.F.I. obviously cannot face up to resigning. After some months of absence, however, the consequences become apparent. Another instructor, sometimes suitable and sometimes not, but invariably hard-working, finds himself carrying the responsibility of C.F.I. but without the authority. In turn club members find that standards and discipline increasingly lack enforcement, the newer members sometimes not even knowing that certain rules exist. Operations become less safe, because there is no authority, and the job of eventual successor is a tough one.

There is no easy answer to the shortage of C.F.Is. However, in clubs where the C.F.I. is a volunteer, the club committee must either back him and help him to the full—or else sack him. It must not sit back and leave him to fight his own battles at the end of a long flying day. It must ensure that he gets time and opportunity for solo flying, even if pupils occasionally do not fly, and it must find other people to keep the log or repair the cable.

If the C.F.I. is a professional—and in a club which operates on summer weekdays or does more than 5,000 launches a year, he ought to be—the committee must accept that it will get a good man only if it pays him properly, and does not expect him to run the entire club, bar, char and all.

The whole of British gliding operations revolves round the C.F.I. He is the most essential man in the club. But unlike the dodo he must continue to exist.

ANN WELCH.

AIR TRAFFIC CONTROL

IN the October issue of Swiss *Aero Revue* is a somewhat nerve-racking report of a Swissair pilot (who is also a glider pilot) who on 17th April, whilst climbing his Metropolitan out from Zurich, within the space of two minutes saw two gliders in the airway climbing into and emerging from cumulus. He very properly filed two Airmiss Reports.

Swiss A.T.C. regulations regarding gliders are somewhat more restrictive than our own, but far less so than many other countries, where gliding simply continues only by widespread unobservance of regulations.

The dividing line between an A.T.C. code which carries sufficient conviction to maintain an adequate standard of self-discipline on the part of all pilots, and one which is so restrictive as to cause pilots, who intend to go on flying as long as they can, to ignore it, is a most indefinite thing.

In this country we are still on the right side of this line, and are battling to stay on it. We rely on all glider pilots to help us to do so. Only in this way may we hope to retain a system designed primarily to protect air traffic from collision, rather than one designed to protect burreaucrats from responsibility.

NICHOLAS GOODHART.
PHILIP WILLS.

LASHAM

FOR WEEKLY WINTER GLIDING COURSES

Details from:
The Course Secretary,
Lasham Gliding Society Ltd.
Alton, Hants.
Telephone: Herriard 270

CORRECTION : Bicester Easter Rally

Page 386 Oct.-Nov. issue — Williamson, Meddings and Kearon received 870 points each *not* 970 as stated.

FLYING FOR FUN—CLUB "LADDER" COMPETITION

"LADDERS" of various kinds have been run by several clubs for some years. They set out to encourage cross-country flying at all times of the year by pilots of all standards—from the man chasing his Silver C to the National Champion.

The B.G.A. Flying Committee feels that there may now be enough clubs and pilots interested in the idea for an annual National Ladder to be organised. As a first step, therefore, we are publishing a set of rules (as few as possible!) which all interested clubs can use in 1967. If clubs are prepared to take turns, on an annual basis, to run the "National" Ladder (i.e. to amalgamate the scores into one National list and to circulate this), the rules given below can easily be adapted to apply to a National competition. This could be run quite cheaply. The cost of typing, duplicating and postage to clubs can be paid for by a nominal levy on all pilots or clubs taking part.

A National Ladder would provide a framework of rules for those pilots who want to fly competitively but do not necessarily wish to enter Regional/National Championships. Undoubtedly it would also help to raise the general standard of cross-country flying and—perhaps most important of all—it would encourage more pilots to get more fun from their time in the air. *Whether or not a National Ladder is organised, however, entirely depends on the interest shown by clubs.*

RULES

1. Any pilot who has permission to go cross-country is entitled to take part.
2. Flights may be made anywhere in the U.K., in any glider and at any time *except* that only two flights in any competitions for which entry forms have been required may count. Points will only be awarded to the P1 in a two-seat glider.
3. The B.G.A. Handicapping List will apply to Distance and Speed scores only (Rule 8a and b).
4. The Ladder will start on 1st January,

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offers YOU a complete gliding service

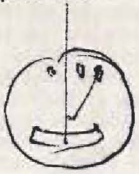
Our workshops guarantee first class C's. of A. and repairs carried out by a highly skilled team under ideal conditions.

Our gliding shop now carries a complete range of the best instruments and equipment, as well as all the "bits and pieces" you are bound to want—and it's open at weekends.

Our experts are always ready to help solve your problem.

Call in, write or phone—

KEN FRIPP
Southdown Aero Services Ltd.
Lasham Airfield, Alton, Hants.
Telephone Herriard 359



478 Phedice T+S
REGISTRAR Pullin — 2-10-0, Kalvin 5-0-0

1967, and end on 31st December, 1967. Points will be valid for one year only.

5. Total points on the Ladder will be the sum of the four best flights scored as detailed in Rule 8. If less than four Ladder flights have been made, all the scores will be taken.
6. (a) Barograph traces will be required for all flights.
   (b) A pilot's word will be taken for rounding turning-points and for flight times.
7. Distance flights must be of at least 50 km. to count.
8. Points will be awarded as follows:

(a) **Distance Flights**

(see Rule 7)	*points per km.*
Free Distance	1
Pilot-declared Goal	1½
Out-and-Return (declared)	2
Out-and-Return (undeclared), *Note* 1	1½
Triangle (declared), *Note* 2	2½
Triangle (undeclared), *Notes* 1 & 2	1½
Uncompleted Pilot-declared Goal	1
Uncompleted declared Out-and-Return, *Note* 3	1½
Uncompleted declared Triangle, *Note* 3	1¾

Notes:

(1) Uncompleted undeclared tasks count as Free Distance.

(2) No side of a triangle may have a length of less than 28% of the distance.

(3) Applies only if the task is more than half-completed. If less than half-completed, count as Free Distance.

(b) **Speed Tasks**

(i) Tasks must be declared before the flight.

(ii) Points will be awarded as distance task *plus* the following speed points:

$$\text{Pilot-declared Goal: } \frac{d \times v^2}{5000}$$

$$\text{Closed circuit: } \frac{d \times v^2}{2000}$$

d = Distance in km.
v = Speed in km./hr.

(iii) The boundary of the airfield will constitute the start and finish lines unless otherwise specified in the declaration. Pilots are required to time their own flights to the nearest minute.

(c) **Height Points**

(i) For a gain of height of more than 5,000 ft., the following points may be claimed:

$$\frac{\text{(Gain of height} - 5000)}{15}$$

(ii) In a given flight, points may be claimed for *either* height *or* distance/speed but not both.

(iii) Points will *not* be awarded for flights of more than an absolute height of 15,000 feet unless oxygen is carried.

(d) **Bonuses**

(i) *Silver C legs bonus*
Distance: 250
Height: 200

(ii) *Records bonus*
U.K. Records—add 15%
International Record — add 30%.

(These bonuses only apply for B.G.A.-ratified Silver C legs and records.)

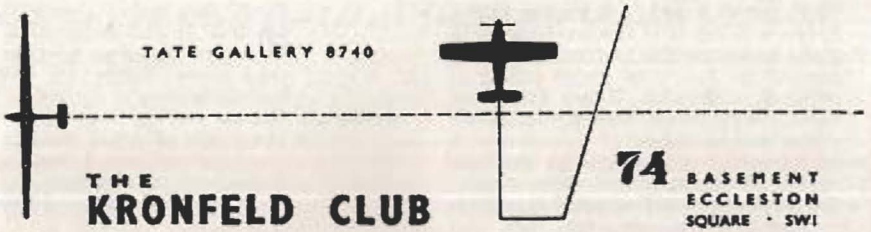
Clubs are advised to appoint a "Ladder Steward" or small "Ladder Committee" to operate the Ladder Competition. All claims for Ladder flights should be made in writing (sample forms are available from the B.G.A. Flying Committee) and these claims should be available for inspection by any club member.

It is, of course, extremely easy for pilots to cheat by rounding a turning-point short or by submitting incorrect times. Nothing very much will be gained by doing this, however, and clubs which have operated Ladder contests on a "trust" basis have found that pilots have not abused the licence given to them.

So that the B.G.A. can judge whether it is worth putting a National Ladder into operation, clubs that intend running a Ladder in 1967 are requested to inform the Flying Committee, c/o B.G.A., as soon as possible.

(Acknowledgements are made to the Cambridge and Bristol Clubs, whose Ladder Rules have been used as a basis for this scheme.)

ROGER BARRETT,
Chairman, Flying Committee.



THE Annual General Meeting of the Club took place on Wednesday, 26th October. The Honorary Secretary reported a loss over the year due to increased costs and a drop in subscription revenue. Cliff Tippett said that no rise in subscription rates was recommended, but the position would have to be watched. He called for members to pay their 1967 subscriptions due on the 1st January promptly and asked them to encourage their friends to support the Club and become members. He also said that the Committee was still anxious to get better utilisation of the club premises on the evenings other than Wednesdays and stressed that rooms could be hired out for meetings, parties, etc., at very reasonable rates. Jill Walker, who had been Committee Secretary almost since the Club began, retired and was thanked for her untiring efforts.

Officers and Committee members for the year 1966-67 were elected as follows: Hugo Trotter, Chairman; Cliff Tippett, Hon. Secretary; Diana Thomas-Ellam, Treasurer; Ron Willbie, Chairman Wine Committee; David Scallon, Publicity and News Letter; Mae Marven, Lecture Organiser; Mary Overton, Membership Secretary; Nicky Stothard, Committee Secretary; Eddy Pollard; Yvonne Bonham, Art Society Representative.

Over 50 members attended the Club's Wine and Cheese Party held on 5th October. There was a choice of three wines and 28 different cheeses. The next big social event is the Christmas Supper Party on Wednesday, 21st December. There will be raffles, dancing and a special auction of paintings; tickets are 10s. each, at the door.

Y. C. B.

Diary of Lectures and Film Shows
Wednesdays at 8 p.m.

Nov.	30.	Space and Aviation Films, Presented by Soviet Embassy.
Dec.	7.	"Pandora and the Flying Dutchman", with James Mason and Ava Gardner. Seats bookable.
„	14.	Talk by Howard Best-Devereux of the Experimental Aircraft Assn.
„	21.	Christmas Supper Party.
„	28.	No Lecture.
Jan.	4.	"First of the Few", with Leslie Howard, David Niven, etc.
„	11.	"Supersonic Thunderbirds" & "Quick-span" (Films).
„	18.	Gliding in Italy; Philip Wills.
„	25.	See posters.
Feb.	1.	"Love Happy", a Marx Brothers epic.

AVIATION ART PRIZEWINNERS

A FULL report of the Annual Exhibition of the Kronfeld Aviation Art Society will appear in the next issue.

SECTION 1—**Oils, Professional**
1st, K. McDonough; 2nd, G. Coulson; Commended, R. Steel.

Non-Professional
1st, Margaret Kahn; 2nd, N. Hoad; 3rd, D. E. Hammond; Commended, C. Miller.

SECTION 2—**Water Colours, Acrylic, etc.. Professional**
1st, F. Munger; equal 2nd, M. Turner and A. Sturgess; Commended, J. Young.

Non-Professional
1st, B. Withams; 2nd, J. Palmer.

Best First Entry: F. N. Slingsby.

EAST AFRICAN SAFARI

By JACK HARRISON

THE Aden Services Gliding Club had a most successful visit to Kenya in September. We were guests of the East African Gliding Association for a fortnight, flying from their airfield at Lanet, near Nakuru, some 90 miles north-west of Nairobi. It would not have been possible to have been made more welcome. Members of the Gliding Club and the Nakuru Aero Club provided the accommodation for the dozen or so visitors. If it is possible to single out any particular thanks, then it must go to Brian and Joyce Hopkins. At one time, estimates put the number of people staying in their house at about 14, although not even the Hopkins themselves really knew just how many wives, children and assorted camp followers were staying with them.

The expedition had been planned and dreamt about for months. Thanks to Chairman Don Spottiswood's efforts, the gliders were flown to Kenya on an opportunity basis in locally based Argosies and Beverleys. So we were fortunate to be able to get the Swallow and the Olympia 401 to Kenya in good time for the arrival of the pilots on Friday, 9th September, at Nairobi, where we were met by the C.F.I. of the E.A.G.A., Tony Hyde.

Lanet Airfield is situated about six miles to the south-west of Nakuru town, and about three miles to the north-east of Lake Nakuru. It is at the bottom of the Rift Valley, with the Aberdares on one side and the Mau Hills on the other.

The first few days at Nakuru brought the heaviest unseasonal rains for years.

The morning would start promising a good day, but by mid-morning the clouds had built up too much, and it was a case of hoping to get a soaring trip before the overdevelopment and storms. Lift was surprisingly poor on these occasions, being in the order of 2-3 kts. No doubt a launch at the right moment into the storm would have produced more impressive results, but tropical thunderstorms are rather different from the temperate variety, and we didn't like to risk being caught in conditions of rapidly lowering cloudbase and poor visibility, especially as there were 10,000 ft. hills near by.

We also learnt one other lesson about Rift Valley storms. Shortly before the duty cu-nim came drifting up the valley on the second flying day, the wind dropped to practically nothing. An attempted launch at this time left the Olympia at one end of the airfield, the Swallow at the other, and the local Tutor returning after a soaring trip in yet another part. Then, of course, the wind blew, and the rain started. Rain is hardly the word. Imagine standing under a shower bath which sprays the whole world, not just a few square feet. There was nothing else but to strip off (the more modest among us kept our underpants on) and rush around from glider to glider to re-position them each time the wind changed. To an outsider, no doubt it must have been an amusing sight to see half a dozen naked and semi-naked individuals charging around in a Land Rover (Japanese version) to all corners of the airfield, running around like maniacs for a few seconds at each stopping place, and then charging off again at high speed. We thought differently. Our carefully protected clothes had somehow become as wet as if they, too, had been exposed to the elements.

The Tuesday brought a change of weather. No rain, beautiful soaring conditions, but no wind. A launch at an altitude of 6,000 feet proved impossible. The Cadet did manage to get enough height to prove what we all knew. It *was* soarable. It must have been launched in a thermal on this occasion, because after the one decent trip, even the Cadet couldn't get enough height to get back to the launch point.

The next morning looked like being no better, so Jack Harrison suggested that we look at some of the local roads to see if we could find a long enough stretch from which to launch. Unfortunately examination of "Harrison's Airfield" showed one side to be bordered by electricity pylons and the other by telegraph wires.





AIR CHUTES IRVIN

LIGHTWEIGHT GLIDER PARACHUTE ASSEMBLY TYPE EB 62

A compact parachute assembly designed especially for use by pilots of British and continental gliders and suitable for canvas or pan type seats. Weight 18 lbs. For full details write to SERVICE MANAGER:

IRVING AIR CHUTE of G.B. LTD.
LETCHWORTH · HERTS · Tel 6262 · Telex 82198

Actually, when we got to the airfield, the windsock was showing signs of life, and from then on never ceased to indicate a steady 8-10 knots every day until the afternoon storm arrived. The East African Club uses a home-made winch for launching, and while this gave admirable launches, it was a little slow in use, and suffered from the usual snarling troubles of all winches that use piano wire. So although the launch height was less, we decided that the increased launch rate we could achieve with our tow car more than compensated. It was amazing to us sea level types that the altitude could make such a difference. The ground-runs necessary to get airborne were fantastic, and 200 yards was not uncommon, by which time the poor tow car was doing 50 m.p.h. Even so, launch heights in the Olympia were normally between 900 and 1,200 feet, which gave at least 300 feet of searching.

The weather soon developed in a pattern. The mornings would begin brilliantly clear and sunny. The temperature would rise very rapidly, and from shivering in sweaters at 9 a.m., it was shirtsleeve weather before 11 a.m. By about 10.30 a.m. cloud would be forming over the hills. The first thermals over the valley were usually found about 11 a.m. The valley would remain clear of cloud until mid-afternoon, when the spread-out cumulus and alto-cu would drift westwards from the hills, effectively ending soaring for the day, although on one occasion the cloud lift was used to over 15,000 feet, the height being limited by lack of oxygen. By remaining high below cloud, it was possible to stay airborne fairly late, but even so the latest landing was just after 5 p.m. This meant a pretty tight schedule for Silver C duration, and it was only managed on one occasion. Needless to say, like all gliding sites, some 20 miles to the west conditions remained superb day after day from about 10.30 a.m. to 5.30 p.m. But whoever heard of the ideally situated gliding site?

Valleys are always tricky soaring sites and Lanet is no exception. With a definite descent of air into the valley, the thermals were far apart often with vicious sink in between. Frequently there was a distinct lid on the thermals over the valley, and sometimes when we

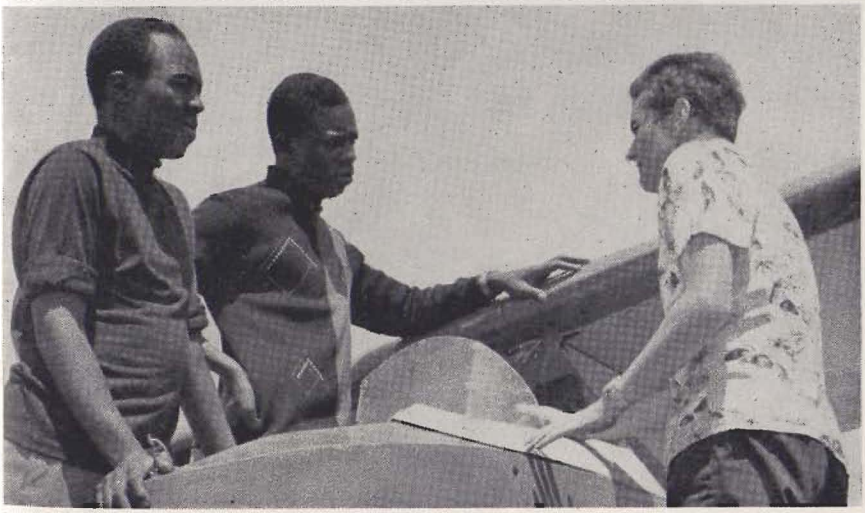
thought we were well away at 9,000 feet, we would fly into an 8-knot sink, until arrested by the ground. This was, of course, bad flying, but even so, being on the ground within four minutes of being comfortably 3,000 feet above it does give some excuse for not finding the bit that was going up. At other times lift would continue to 11,000 feet and occasionally 13,500 feet. Lift strengths varied from just useable at less than one knot, to off the clock.

Silver heights should have been ten a penny, and although, as always happens, those who didn't need them made countless climbs over 1,000 metres, we are only able to submit two Silver height claims. One of these it must be admitted looks quite absurd by the standards we are used to—max. height 12,500 feet! Unfortunately, no Silver distances were achieved, and the only attempt made was into wind for a total distance of about 20 kms. The telephone message after landing caused a minor stir. The African gentleman at the other end had obviously never seen or even heard of gliders, and kept saying that he thought the aircraft must be damaged as the pilot kept saying he needed a Land Rover.

Two Kenya Air Force pilots joined the expedition, and went solo with no trouble. They are the first Africans to get their A and B in Kenya. They left full of enthusiasm, hoping that one day it might be possible to provide Service gliding in Kenya on the lines of the R.A.F.G.S.A. But perhaps the most instructive exercise during their training was provided by a member of the host club. The dangers of low turns had been stressed, but no doubt like most new glider pilots, they thought such advice was a case of rules for the sake of rules. When the Tutor did a 360 degree turn at 400 feet at the end of a down-wind leg and subsequently had to dive to be able to hop over the telegraph wires, it was felt that no finer demonstration was possible.

I risk being a complete bore to all those not directly involved, but no doubt I will be banished to the tow-car if I don't mention that P.P. did his five hours, R.H. and S.H. did Silver height, M.M. completed his Bronze, T. H. his C, and T.O., F.O. and W.M. went solo. I.S. terrified us all with his aerobatic displays, K.R. earned such a reputation as a hog that tow-car drivers were threatening to give him poor launches, D.S. couldn't soar, J.H. increased bar profits to a new level and C.D. fell in love.

Thank you, Nakuru.



Briefing the two Kenyan pilots who went solo.

A SLINGSBY METAL TWO-SEATER

THE Slingsby Type 53 is a new two-seater training aircraft now in an advanced stage of development. Prototype first flights are scheduled for the end of December, 1966, and jigs are being established for the delivery of series production aircraft in February-March, 1967.

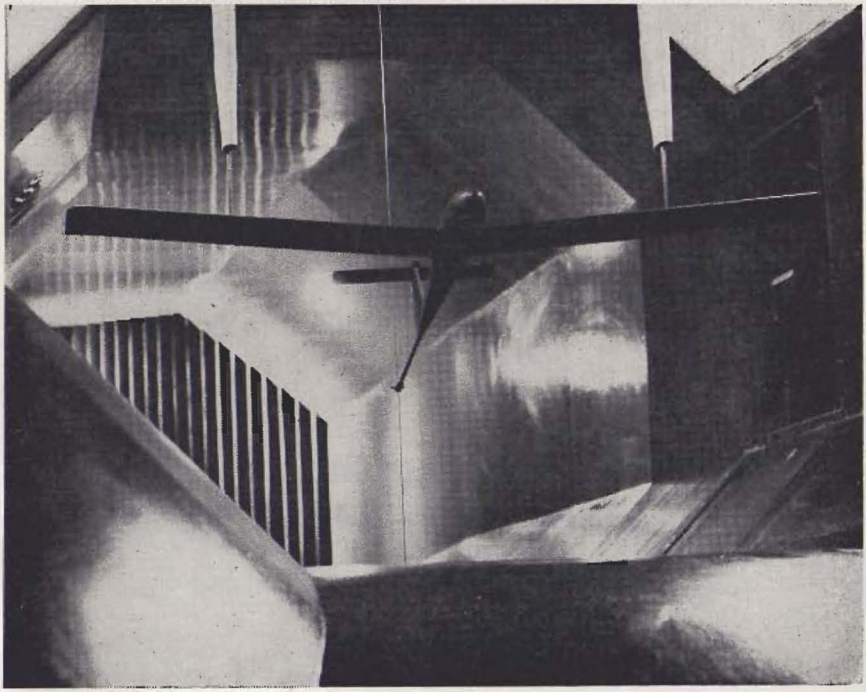
The Capstan two-seater is the only trainer currently in production with side-by-side seating, and consequently tandem seating has been chosen for the T-53. The pilots' seating position results from extensive full-scale mock-ups and tests, and gives the rear pilot exceptional visibility. Provision is made for a rear instrument panel, but the front pilot's panel is visible from the rear cockpit.

The 55 feet span parallel chord wing permits constructional simplification without affecting performance or handling, and is swept forward to place the rear pilot near the tare c.g., and also meet visibility requirements.

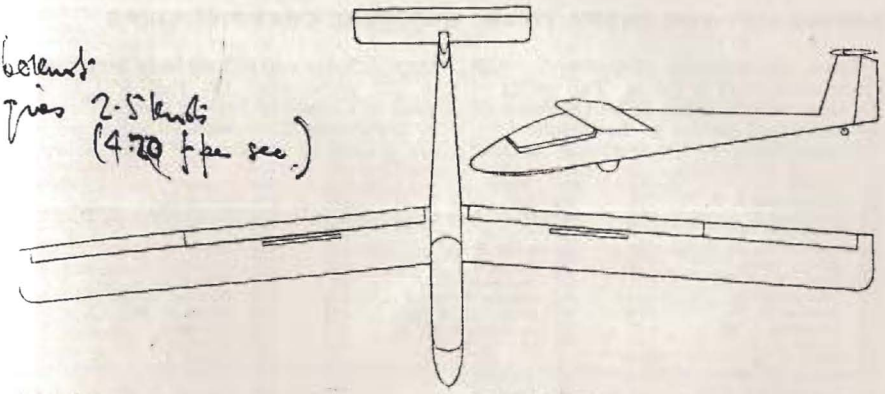
An all-moving tail with servo anti-balance tabs in the T-tail configuration was chosen for aerodynamic efficiency and structural reasons. It also makes rigging easier and reduces danger from damage in cornfield landings.

A wind-tunnel model is currently at the Imperial College of Science and Technology, where a thorough investigation into the geometric relationship of the wing and tail is being carried out.

Throughout the development of the glider, ease of maintenance and the capacity to withstand intensive utilisation over long periods have been constantly borne in mind. The entire control system can be removed in under four hours and all moving parts have grease nipples for



Wind tunnel test.

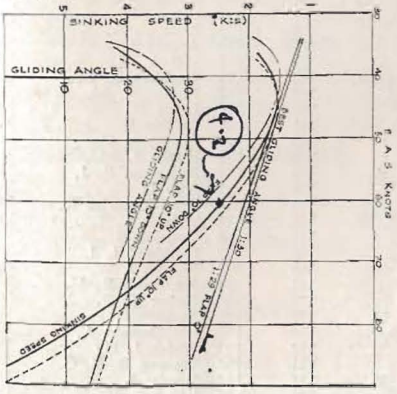


lubricating or sealed-for-life bearings.

The performance of the glider, superior to all other two-seat aircraft currently in production, is achieved by its clean lines, aspect ratio, low structure weight and the use of the new Wortmann sections in conjunction with flaps.

The aircraft can be simply and quickly rigged and de-rigged, each wing is attached by three pins, two of which are co-axial. Control connections are all by fixed self-locking pins.

Metal was chosen for the structure of the T-53 and has resulted in major reduction in production costs, compared with a conventional wooden structure. The price of the aircraft for delivery in March, 1967, is £1,725 without flaps, £1,760 with flaps.


SINKING SPEED (KTS)
GLIDING ANGLE
FLAPS UP
FLAPS DOWN
BEST GLIDING SPEED
BEST GLIDING ANGLE
FLAPS DOWN
FLAPS UP
BEST GLIDING SPEED

RATING LIST FOR ENTRY TO 1967 NATIONAL CHAMPIONSHIPS

TEAM ENTRIES TO LEAGUE 2:—All pilots must have a rating. The rating of the team will be taken to be the mean of the individual ratings of its members.

CORRECTIONS TO PROVISIONAL RATING LIST:—Some corrections have been made to the provisional list that was circulated to Clubs and Private Owner Groups in September. The amended rating points are quoted in the list published below.

No.	*Name*	*Rating*
1	Williamson J. S.	779
2	Delafield J.	733
3	Burton G. E.	729
4	Carrow D. D.	728
5	Burns, Anne	724
6	Dunn R. A. E.	705
7	Hanneman P.	683
8	Kearon N. W.	678
9	Strachan I. W.	677
10	Stone A. J.	674
11	Wills P. A.	668
12	Gough A. W.	660
13	Spottiswood J. D.	657
14	Cardiff J.	655
15	Scott P. M.	646
16	Dawson P.	638
17	Fielden J. S.	629
18	Smith M. J.	625
19	Innes D. S.	625
20	Goodhart H. C. N.	620
21	Warminger A. H.	616
22	Donald C. C.	607
23	Garrod M. P.	603
24	Bird M.	600
25	Pennycuick C. J.	591
26	Dimock H. R.	584
27	Deane-Drummond A. J.	584
28	Jerzycki E. B.	580
29	Kahn W. A. H.	571
30	James D. B.	566
31	Collins G. T.	564
32	Jones J. D.	562
33	Neaves R. A.	562
34	Bentson C. W.	559
35	Meddings E. J.	558
36	Fitchett B.	557
37	Fairman M. C.	550
38	Burgess P. G.	549
39	Wills S. F. E.	545
40	Redman S. J.	540
41	Wheeler J. H.	539
42	Waller R. S.	522
43	Barnett R. C.	517
44	Kaye D. M.	516
45	Riddell J. C.	511
46	Snodgrass D. C.	508
47	Ince D. H. G.	506
48	Wills C.	505
49	Smith D. A.	503
50	Mann R. A.	498
51	Ellis C. A. P.	497
52	Croshaw J. G.	487
53	Neilson P. J.	487
54	Aldridge K. R.	486
55	Shephard E. G.	481
56	Jefferson J. B.	479
57	Piggott A. D.	476
58	Goldney L. P.	474
59	Carr V. C.	473
60	McMullin T. A.	471
61	Greaves C. M.	470
62	Stark E.	465
63	Simpson C. R.	464
64	Harwood, Rika	460
65	Smith N. W.	458
66	Stephenson G. H.	456
67	Richardson C.	454
68	Findon J. A.	447
69	Lane P. D.	446
70	Shepard F. W. L.	446
71	Neumann G. S.	441
72	Martin P. A.	438
73	Jeffrey C. P. A.	437
74	Seth-Smith M. P.	434
75	Willbie R. T.	434
76	Cretney F. D.	434
77	Rutherford R.	433
78	Jones R.	432
79	Purnell A. D.	428
80	Minton P.	428
81	Doughty A. W.	428
82	Riddell D. M. R.	427
83	Mettam H. S.	427
84	Dorman C. G.	426
85	Irving F. G.	423
86	Tull V.	423
87	Wilkinson K. G.	422
88	Sandford R. A.	421
89	Stevenson J. N.	417
90	Foot R. A.	417
91	Scallon D. S.	416
92	Hood L. S.	412
93	Barrell G.	410
94	Paul I.	408
95	Hurst C. R.	406
96	Hunt M. S.	404
97	Mackworth-Young G. W.	404
98	Brenner J. B.	403
99	Camp G. W.	401
100	Philpot P. R.	401
101	Kerridge D. C.	400
102	Morison S. M.	397
103	Daniell J. C. B.	394
104	Cornell G.	393
105	Coatsworth G. A.	391
106	Griffiths J. P.	381
107	Davey B. J.	378
108	Bridson D. S.	378
109	Bacon G. McA.	373
110	Cunningham D. J.	372
111	Tonkyn W. N.	369
112	Procter R. G.	366
113	Malpas W. E.	361
114	Wilson B. J.	360
115	Fitzroy K. C.	359
116	Wilkinson N. A.	358
117	Stanley J. N.	358
118	Ismail A. D.	353
119	Edwards A. F. W.	350
120	Pozerskis P.	347
121	Evans J. A.	346
122	Zealley T. S.	346
123	Reilly F. B.	342
124	Gregg H. N.	339
125	Midwood H. U.	339
126	Sutcliffe A. O.	338
127	Pick R. C.	332
128	Kevan P. D.	331
129	Stubbings D. H.	325
130	Morgan K. C.	324
131	Green C.	323
132	Duthy-James C. D.	322
133	Loveland A. S.	322
134	Bayley J. L.	318
135	Anstin D. C.	317
136	Wilson M. J. C.	316
137	Dickson R. D.	315
138	James R. W.	315
139	Tarver R. I.	313
140	Whiffen A. H.	312
141	Costin J.	307
142	Crabb D. J.	306
143	Corrick D. W.	306
144	Williams P. M.	306
145	Tanner L. E. N.	303
146	Tarnow A.	295
147	Newholm K.	293
148	Marpole D.	292
149	Przewlocki J.	283
150	Smoker J. L.	282
151	Collier P. E.	281
152	Newall R. W. B.	280
153	Blake K. W.	279
154	Morris F. G.	277
155	Thomas B.	275
156	Somerville A.	274
157	Gaze F. A. O.	271
158	Gildea C. J. S.	270
159	Holding D. F.	269
160	Trott R. R.	261
161	St. Pierre A.	258
162	Whitfield G. R.	256
163	Adams J.	255
164	Alexander A. L. L.	252
165	Jeffries J. R.	252
166	Perrott R. H.	251
167	Tomlin S. R.	248
168	Hearne P. A.	245
169	Ibberson J. M.	242
170	Ramsden J. B.	241
171	Lapham A. J.	235
172	Orme H.	230
173	Ross G. A.	230
174	Argent J.	226
175	Hill A. D.	220
176	Stoddart R. C.	220
177	Phipps A. M.	217
178	Lowe D.	216
179	Collins J.	215
180	Browning H.	214
181	Hands J. M.	213
182	Robinson E. J.	213
183	Alty D.	211
184	Brett-Knowles R.	210
185	Wilson A. T.	210
186	Cousins R.	208
187	Goddard J. J.	205
188	Pickles J. W.	205
189	Prestwich R. H.	204
190	Fisher T. F.	202
191	Tweedy J.	198
192	MacDonald A.	196
193	Welsh J. H.	196
194	Watson B. B. C.	192
195	Everitt J.	191
196	Mead S. B.	191

No.	Name	Rating
197	Glennie G. A.	181
198	Docherty T. P.	181
199	Harwood J. E. G.	179
200	Mitchell S.	176
201	Knipe F. H.	173
202	Chubb R. G.	171
203	Dodd S. R.	171
204	Chandler J. R.	168
205	Mackenzie J. K.	168
206	Caiger M. T.	167
207	Wills S. B.	166
208	Stafford Allen R. C.	166
209	Kay B.	162
210	Swift R. B.	162
211	Kurylowicz L.	159
212	Hancock J. M.	158
213	Inglesby J. V.	157
214	Blackmore J. H.	156
215	Roberts D. W. H.	155
216	Sheppard T. W.	154

No.	Name	Rating
217	Baynes A. H.	153
218	Tee H. S.	146
219	Marriott H. S. C.	145
220	Scarfe D. H.	136
221	Keogh B.	134
222	Booth L. C.	131
223	Hiscox D. G. O.	127
224	Mansell K. R.	126
225	Darb'shire D. H.	121
226	Gee M. I.	121
227	Chubb E. J.	120
228	Prince J. T.	119
229	Redshaw L.	117
230	Cunningham E. A.	114
231	Eldridge M. E.	111
232	Wilkin R.	108
233	Bailey	107
234	Grime P. V.	107
235	Fay F. W.	102
236	Walker R. A.	99

No.	Name	Rating
237	Johnson D.	93
238	Tarr J.	89
239	Watson A. J.	88
240	Webster J. W. A.	87
241	Brown K. R.	83
242	Bagnall M.	82
243	Neep R.	68
244	Holmes, Patricia	64
245	Thorburn A. J.	64
246	Phillips N. J. M.	56
247	Bower J.	56
248	O'Riley K.	47
249	Warwick-Fleming S.	41
250	Reussner J.	40
251	Moseley K.	35
252	Gunter B.	30
253	Schmidt, Anita	28
254	Glover L. A. G.	0

GLIDING CERTIFICATES

DIAMOND DISTANCE

No.	Name	Club	1966
1/14	M. S. Hunt	South Africa	2.1

DIAMOND GAIN OF HEIGHT

No.	Name	Club	1966
3/50	J. R. Barrows	Surrey	10.6

DIAMOND GOAL

No.	Name	Club	1966
2/215	R. H. Powell	Bicester	3.7
2/216	M. S. Hunt	South Africa	1.1
2/217	D. P. W. Johnson	Surrey	10.8
2/218	R. McLuckie	Moonrakers	3.7
2/219	E. A. Hales	Moonrakers	28.4

GOLD C COMPLETE

No.	Name	Club	1966
163	M. S. Hunt	South Africa	2.1
164	D. P. W. Johnson	Surrey	10.8
165	J. Wills	Surrey	10.6
166	R. A. Foot	Heron	18.6

GOLD C GAIN OF HEIGHT

Name	Club	1966
E. C. Neighbour	Derby & Lancs.	20.3
M. S. Hunt	South Africa	2.1
A. C. Price	R.A.F. Germany	2.1
J. S. Wade	Surrey	14.7
J. R. Barrows	Surrey	10.6

GOLD C DISTANCE

Name	Club	1966
R. H. Powell	Bicester	3.7
D. P. W. Johnson	Surrey	10.8
E. A. Hales	Moonrakers	28.4

SILVER C COMPLETE

No.	Name	Club	1966
1838	K. M. Phipps	Dorset	3.7
1839	P. A. Bartle	Essex	3.7
1840	P. Hutchings	Bannerdown	18.6
1841	E. J. F. Hall	Surrey	3.7
1842	R. Tarling	Dorset	3.7
1843	D. H. Roberts	South Wales	10.5
1844	P. E. W. Marsch	Midland	2.7
1845	J. D. F. Melrose	Scottish	9.5
1846	C. A. Boyle	Clevelands	2.7
1847	L. C. S. Yates	Southern Command	11.6
1848	M. T. Hill	Midland	11.7
1849	J. S. Wade	Surrey	1.7
1850	T. E. Ruffell	Northumbria	17.7
1851	A. T. C. Gurney	Thames Valley	30.6
1852	A. A. Winter	Dumfries	3.7
1853	K. A. Barrow	644 G.S.	21.7
1854	C. J. H. Seely	Surrey	3.7
1855	H. C. A. Dale	Cambridge	6.7
1856	E. M. Kelly	Southdown	18.7
1857	P. E. Browne	Surrey	30.6

1967 NATIONAL CHAMPIONSHIPS

Organised by the British Gliding Association in conjunction with The Lasham Gliding Society from 20th – 29th May inclusive

at Lasham Airfield

Entries must be received by the B.G.A. on or before 27th January, 1967

No late entries will be accepted

Team entries will be accepted in League 2 but not in League 1

Entry forms are available from the British Gliding Association

THE R.A.F. AND INTER SERVICE JUNIOR COMPETITION

Bicester 20—29th August

By IAN STRACHAN

FORTY-THREE gliders took part, and were divided into two Leagues, the lower performance gliders forming League 2. The Meeting was opened by the Commander-in-Chief, Maintenance Command, Air Marshal M. K. D. Porter, C.B., C.B.E.

The Royal Navy flew a team of six pilots and the Army a team of nine. One entry came from the No. 2 Gliding School, and the R.A.F.G.S.A. was also very pleased to welcome for the first time a representative from the R.A.F. College, Cranwell.

The Organisers were honoured in having the World Standard Class Champion, Lt. François-Louis Henry (French Air Force), and Lt. Maurice Delvigne (French Air Force) flying *hors concours* in the competition. They were invited earlier this year by the President of the R.A.F.G.S.A., Air Marshal Sir Patrick Dunn, K.B.E., C.B., D.F.C., as a contribution to the Franco-British Society's 900th anniversary celebrations of the 1066 invasion.

The members of the 1966 R.A.F. team provided the basis of the organisation. The rules for the competition followed those of the National Championships, except that as a trial, and for the first time in this country, photographic evidence of turning-points was used. Special procedures to cover this new development were devised in consultation with the B.G.A. and by and large the trial was successful and proved that the system could be used in the future, albeit with a few minor modifications.

A record number of contest days was achieved in both Leagues. This was due to a high-pressure centre which remained to the North of England throughout most of the event. Even so, conditions were by no means easy. An account of the flying follows.

SATURDAY, 20TH AUGUST.—Wind: Light and variable. Cloud 3-6/8 cumulus, base 4,000 ft., occasional tops to 12,000 ft. Conditions: very variable—weak near the Thames Valley, but strong at times in other areas. Navigation was made difficult by haze, which reduced visibility to 2 n.m. at times.

TASK FOR BOTH LEAGUES: Out-and-Return, Upavon airfield, total distance 168 km.

This proved a difficult task because of the inconsistent thermal conditions and the poor visibility. Only four League 1 pilots completed the course.

		km./h.
Henry (France)	Edelweiss	59
Greaves	Olympia 419	55
Bridson	Ka-6	46
Stevenson	Skylark 4	42

League 2, made up of the slower gliders, was won by McLuckie, who

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JOHN MURRAY

reached Marlborough on the return leg, followed by Morris and Oulds, all three flying Olympia 2B's.

SUNDAY, 21ST AUGUST.—Wind: 040/10 kt. Cloud: 8/8 altostratus for most of the day. Light drizzle at 14.00 hrs. A clearance came at 15.00 hrs. and 3/8 cumulus developed, base 3,000, tops 6,000 ft. This was short-lived, however, and soon became 8/8 cover again. Conditions: strong in the short period of clearance, but becoming weak once 8/8 cover returned. League 1's task was cancelled.

LEAGUE 2 TASK: Race to South Cerney airfield, 60 km.

Most gliders were able to contact lift but once away from Bicester conditions became difficult, and no one completed the course. First, McLuckie. Second, Ross, both flying Olympia 2B's. Third was Hale, who actually achieved the best distance to just short of Cirencester, but carried a 10% handicap instead of 20% for the Olympias.

MONDAY, 22ND AUGUST.—Wind: 040/10 kt. Cloud: 8/8 strato-cumulus until 15.00 hrs., when a limited amount of cumulus developed, base 3,000, tops 5,000 ft. The period of real convection was short, and further patches of 8/8 cover returned but were interspersed with occasional breaks which provided convection. Conditions: generally weak due to limited ground heating, but occasionally lift in cloud was moderate.

LEAGUE 1 TASK: Out-and-Return, Honeybourne airfield, total distance 104 km.

No one completed the course because of the late start and weak lift, but five pilots rounded the turning-point. Bridson was the winner, landing near Moreton-in-Marsh on the return leg. Tanner was second and Greaves third. The day was devalued to 436 points for the winner.

LEAGUE 2 TASK: Race to Aston Down airfield, 73 km.

This League was launched after League 1, and as there was a reasonable downwind component along their route they also managed a contest, although like the other League the day had to be devalued.

TUESDAY, 23RD AUGUST.—Wind: 040/10 kt. Cloud: 3-7/8 cumulus, base 4,000, tops 6,000 ft. Conditions: strong, but moderate thermals under patches of 7/8 cloud.

LEAGUE 1 TASK: Out-and-Return, Droitwich Motorway Flyover, total distance 159 kms.

Once thermals developed, conditions were fairly easy as long as pilots did not get "bogged down" by the overdeveloped patches of cloud. The majority completed the course.

Best Speeds		*km./h.*
Henry (France)	Edelweiss	68
Willson	Ka-6	61
Somerville	Dart 17	58

LEAGUE 2 TASK: Out-and-Return, Honeybourne airfield, total distance 104 km.

The patches of overdeveloped cumulus caught out more pilots in this League than in the other, only ten pilots returning to Bicester. Ian Strachan and Andy Gough flew two Blaniks round the course in good times, while giving instruction in cross-country flying to their second pilots.

Best Speeds		*km./h.*
Hale	Skylark 2	44
Brett-Knowles	Skylark 2	39
Strachan/Staines	(H.C.)	61
Gough/Powell	(H.C.)	46

WEDNESDAY, 24TH AUGUST.—Wind: 360/10 kt. becoming 20 kt. in the north and east. Cloud: 3/8 cumulus at first, base 4,000, tops 7,000 ft. becoming 7-8/8 later. Conditions: strong at first but moderate and weak later.

LEAGUE 1 TASK: 300-km. Triangle, Debden, Rearsby, Bicester, total distance 305 km.

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The forecast turned out to be far too optimistic. No one completed the task, but five pilots covered over 200 km. and rounded Rearsby. Henry, as befitted a World Champion, was again in the lead, having reached some distance down the last leg. Greaves was not far behind followed closely by Willson and Wilkinson.

LEAGUE 2 TASK: Out-and-Return, Rearsby, total distance 180 km.

Only Hale managed to round the turning-point to win the day. The wind, which was much stronger than anticipated, made it difficult for pilots to penetrate into the wind, and apart from Hale and Ross most pilots were well back on the first leg.

THURSDAY, 25TH AUGUST.—Wind: 090/20 kt. Cloud: 4-7/8 cumulus, base 4,000, tops 7,000 ft. Thermals: moderate.

LEAGUE 1 TASK: Out-and-Return, South Marston airfield, total distance 120 km.

This proved a punishing task due to the wind and the lack of strong thermals. Only three pilots completed the course. Stevenson, 51; Henry, 47; and Greaves with 38 km./h.

LEAGUE 2 TASK: Race to Upavon, 84 km.

This was specifically set to be a relatively easy task after the hard task of yesterday. Even so, only five pilots reached the goal, the fastest being once again Hale, who had by this time built up a good overall lead. Second was Orme (but first on points, owing to handicap); he started as late as 17.45 hrs. from a re-light. Third, Brett-Knowles, followed by Bobbin and Tee. Speeds varied from 65 to 50 km./h.

SPEEDWELL SAILPLANES

Shepley Lane, Hawk Green,
Marple, Cheshire.

FRIDAY, 26TH AUGUST.—League 1's task was cancelled, and League 2 became a No contest.

SATURDAY, 27TH AUGUST. — Wind: 090/20 kt. Cloud: 3-7/8 cumulus, base 3,000, tops 6,000 ft. Thermals moderate.

LEAGUE 1 TASK: Race to Aston Down airfield via Long Marston Sheds, total distance 103 km.

Half the number of pilots completed this task; the French visitors were well to the fore.

Best Speeds		*km./h.*
Henry (France)	Edelweiss	61
Delvigne (France)	Edelweiss	55
Newall	Skylark 3	49
Wilkinson	Olympia 419	48
Greaves	Olympia 419	48

LEAGUE 2 TASK: Race to Aston Down airfield, 73 km.

This proved to be more difficult than expected, due to a large patch of over-developed cumulus and strato-cumulus. Only two pilots reached the goal, Orme and McLuckie, but Andy Gough/Staines put up a good speed in the Blanik flying *hors concours.*

SUNDAY, 28TH AUGUST.—Wind: 110/20 kt. Cloud: 3-6/8 cumulus, base 3,000, tops 7,000 ft. Thermals: weak at first but strong later.

LEAGUE 1 TASK: Out-and-Return, South Cerney airfield, total distance 120 km.

This was set as a moderately difficult task, but conditions became quite good and half the field returned to Bicester.

Best Speeds		*km./h.*
Henry (France)	Edelweiss -	59
Greaves	Olympia 419	52
Newall	Skylark 3	47
Willson	Ka-6	46
Stevenson	Skylark 4	45

LEAGUE 2 TASK: Race to South Cerney airfield, 60 km.

This was not as easy as perhaps the short distance indicates, because the wind was well across track. About half the number of pilots completed the task, and Andy Gough/McKenna led again in the Blanik flying *hors concours.*

Best Speeds		*km./h.*
Hale	Skylark 2	46
Elliott	Olympia 2B	42
McLuckie	Olympia 2B	37
Orme	Olympia 2B	37
Phipps	Olympia 2B	33
Gough/McKenna	(H.C.)	64

MONDAY, 29TH AUGUST.—A low-pressure area with associated embedded thunderstorms was moving across the area. No tasks were set, and this allowed competitors to leave in good time.

The competition had been marked by a very high standard of flying, especially in League 1. Greaves achieved no less than 95% of the maximum possible points, and he and several other pilots should have a rating high enough to enter the 1967 Nationals.

LEAGUE 1 *Pilot(s)*	20th 1	22nd 2	23rd 3	24th 4	25th 5	26th 6	27th 7	*Total Points*	*Sailplane*
C. M. Greaves	1000	387	848	1000	910	973	1000	6118	Olympia 419
J. N. Stevenson,	915	—	268	—	1000	—	870	5238=	Skylark 4
J. H. Stanley	—	387	—	971	—	827	—		
D. S. Bridson	944	436	672	942	593	854	797	5238=	Ka-6
G. R. Barrell	760	387	882	632	584	958	699	4902	Skylark 4
L. E. N. Tanner	478	392	906	969	600	406	794	4545	Ka-6
B. J. Wilson	0	232	1000	992	388	841	890	4343	Ka-6
N. A. Wilkinson	597	44	903	483	432	976	840	4275	Olympia 419
R. W. B. Newall	527	—	739	623	468	1000	905	4262	Skylark 3
K. C. Morgan	690	155	628	596	416	394	755	3634	Ka-6
P. W. Williams	573	77	683	598	124	802	718	3575	Skylark 3
T. H. Williams	346	80	687	848	437	707	388	3493	Ka-6
D. J. Marpole	744	354	623	759	412	27	442	3361	Skylark 3
S. Mitchell	400	38	530	596	528	751	356	3199	Olympia 463
C. J. Gildea	346	83	568	632	504	935	0	3068	Olympia 463
A. Somerville	346	155	920	747	320	49	472	3009	Dart 17
A. Whitaker	400	155	592	848	560	212	0	2767	Ka-6
E. J. Robinson	379	155	115	795	468	142	650	2704	Skylark 3
H. S. C. Marriott	392	0	139	682	528	0	100	1841	Olympia 463
Naomi Christy,	—	127	—	51	—	85	—	1524	Skylark 3
D. H. Scarfe	287	—	103	—	389	—	482		
H. W. Maltby	65	64	110	305	452	358	0	1354	SF-26
N. Gould,	—	6	—	598	—	0	—	947	Olympia 463
T. Colvert	0	—	23	—	320	—	0		
W. Robotham	0	0	55	0	320	0	0	375	Olympia 463
Hors Concours Above 1									
F. L. Henry (France)	1037	354	1177	1017	964	1272	1141	6962	Edelweiss
Above 9 M. Delvigne (France)	640	155	109	721	676	1122	825	4248	Edelweiss

LEAGUE 2 *Pilot(s)*	*H/C*	20th 1	21st 2	22nd 3	23rd 4	24th 5	25th 6	26th 7	27th 8	*Total Points*	*Sailplane*
R. J. Hale	10%	597	709	97	1000	1000	980	88	1000	5471	Skylark 2
R. McLuckie	20%	1000	748	248	433	344	364	615	893	4645	Olympia 2B
G. A. Ross	20%	475	733	154	799	743	600	318	698	4520	Olympia 2B
H. Orme,	20%	832	—	—	534	—	1000	624	893	4378	Olympia 2B
R. W. Curwen		—	334	134	—	27	—	—	—		
J. F. Morris	20%	964	500	326	933	0	671	52	695	4141	Olympia 2B
R. Brett-Knowles	10%	884	305	0	913	111	919	151	655	3938	Skylark 2
A. M. Phipps	20%	880	374	0	971	50	364	313	822	3774	Olympia 2B
C. R. Elliott	20%	856	2	189	930	181	420	39	997	3614	Olympia 2B
H. S. Tee	20%	475	0	0	829	181	949	148	756	3338	Olympia 2B
T. Oulds	20%	897	503	163	958	202	549	—	—	3272	Olympia 2B
J. G. Wild	20%	832	503	180	545	168	588	178	142	3136	Olympia 2B
T. G. Bobbin	20%	506	199	0	417	229	959	9	231	2550	Olympia 2B
R. J. Lyndon	20%	555	503	0	178	226	678	52	231	2423	Olympia 2B
D. A. Donnelly	20%	537	148	0	482	181	90	87	84	1609	Olympia 2B
T. J. Thomas	20%	832	0	77	124	0	157	113	204	1507	Olympia 2B
A. McMillan	20%	832	0	248	276	0	—	—	—	1356	Olympia 2B
H. D. Campbell	20%	0	487	0	117	226	364	126	21	1341	Olympia 2B
E. A. North	10%	55	305	0	258	120	151	132	272	1293	Skylark 2
P. J. Bullivant	20%	536	0	0	242	0	112	48	0	938	Swallow

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BOOK REVIEW

Know the Weather, by C. E. WALLINGTON and D. E. PEDGLEY. Published by Educational Productions Ltd., East Ardsley, Wakefield, Yorks. Price 3s. 6d. Obtainable from B.G.A., 4s. 0d. postage included.

FOR a brochure-type booklet of 48 pages, this publication is extraordinarily comprehensive. An unexpected feature is a page-and-a-half giving the kind of weather produced in the British Isles by wind streams from various sources. A wealth of diagrams makes up for the comparative paucity of cloud photos, though these include the satellite photo of cumulus over England once reproduced in S. & G. (June, 1963); but the solar halo in Dick Scorer's photograph is hardly distinguishable. Anyway, the visible outer edge of a halo is always masked in a photograph by much ultra-violet light; even the legendary G. A. Clarke didn't succeed with it.

In spite of the two authors' identity, gliding is not mentioned, but a lot of gliding meteorology is included. Quotation from page 17: "Whereas a small cumulus cloud fades out in the evening for lack of fuel, the thundery cumulonimbus can keep going until well into the evening and sometimes all night". The first half of this sentence, obviously drafted to contrast with the second, might give the impression that a small cumulus lasts all day, if the reader has forgotten the statement, two pages back, that thermal bubbles only last about 20 minutes. It is interesting that the persistence of thundery cunims, after the supply of thermals has been cut off, is now attributed to the interaction of warm updraughts with cold downdraughts below them, rather than to the latent heat of condensation, which gets no mention.

Other interesting points are that May is the best month for anticyclones (hence our "National High" at the Championships), and that long-range forecasting is more successful in winter than in summer.

This is an excellent introduction to meteorology for glider pilots.

A. E. S.

The Anatomy of the Aeroplane, by DARROL STINTON; 237 pp. plus 6 appendices and index (321 pp. total). Published by G. T. Foulis & Co., London, 1966. Price 63s.

THIS book is admirably conceived, well produced, elegantly illustrated and obviously the product of a great deal of work. The jacket blurb calls it ". . . a physical textbook, for students of aeronautics, that bridges the apparent gulf which many feel exists between their understanding of aeronautical principles and the practical world of the many-purposed aeroplane". It is intended to be all-embracing, and the text is divided into five parts entitled "Environment", "Requirements", "Aerodynamic Shape", "Ground and Water Operations" and "Structural Shape".

This reviewer does not feel himself competent to comment on all the topics covered, but a fair amount of the material does lie within his professional orbit. Undeterred by the author's expectation that ". . . the book will probably make some enemies among those who cherish a professional mystique behind which to hide", I must sadly record that, in my own fields, the text is riddled with over-simplifications, misconceptions and errors.

It would be tedious to record them at length, but a few bear mention:

The temperature and speed-of-sound scales on the standard atmosphere diagram are displaced so that, for example, the sea-level temperature appears as 170°C.

The r.m.s. molecular velocity of a gas is not the same as the speed of sound.

Range is not directly proportional to fuel carried.

The "incompressible" form of Bernoulli's equation cannot be applied at high speeds.

The diagram of the flow about a supersonic aerofoil is incorrect.

These are just a few random examples: they occur at the rate of about one per page.

Gliders are mentioned with approval in the Preface, but the wrong page is quoted in the Index. The only other mention is in the context of wing sections: the shape shown looks very pre-war.

The Appendices are devoted to various different types of design projects, some of them real (e.g., Concorde), others still-born (Avro 730), and still others quite mythical (various Cranfield student projects). Much of this material is very interesting, particularly as an illustration of how imaginative are the Cranfield studies.

This book aims to do for the aeroplane as a whole what O. G. Sutton did for some aspects of aerodynamics in his excellent "Science of Flight" (Pelican). It is a pity that it falls so far short of Sutton's standard.

F. G. IRVING.

CORRESPONDENCE

PARACHUTES SHOULD BE WORN

Dear Sir,

With, the increase in the number of gliders in the country and in soaring skill, thermals are becoming steadily more overcrowded.

No matter how many precautions are taken the risk of collision is becoming greater year by year.

Is it not, therefore, time that there was a mandatory requirement for parachutes to be carried at all times in all gliders before we have yet another "stable-door" regulation?

I admit I do not know of any fatal accident where the pilot would have survived if he had had a parachute, but I think an accident of this sort is almost certain to happen in the near future.

Doncaster. M. C. USHERWOOD.

FOR FUN OR NOT FOR FUN

Dear Sir,

I am not in the habit of writing to editors, but I feel I must make one lonely complaint before being trampled under the stampede of rating hunters and would-be National Champions. In recent issues of your magazine I see letters hotly advocating new systems of advancement to the National Championships, new suggestions for compulsory class competitions, new beautiful mathematical formulae for assessing glider handicaps and calculating contest scoring. Trusts are set up to raise umpteen thousand pounds to build a British world-beating glider. I don't suppose there are many Silver C standard glider pilots in this country who do not hold strong views on what the "ideal" rating should be based. At a recent count of hands at a Regional Competition, it transpired that only one competitor was flying purely for fun (in spite of this, he was well placed). The rest were using Regional Contests as stepping stones to "ultimate success".

In your October issue, the last straw came in a letter from Wally Kahn (of all people). I think he was writing with tongue in cheek, but I'll assume he wasn't and take the bait. I quote . . .

"If we are to win the World Championships, we must breed more pilots determined to win rather than the large number of pilots who enter the National Championships because they are fun. Fun no longer seems to play a part in International sport, and the sooner we realise this in our own sport, the better."

Perhaps we should have an extra line in the National Championships entry form; "I declare that I am entering the contest with the intention of *winning*, and on no account do I intend, either whilst airborne or on the ground, to have any fun." Anyone caught laughing over anything other than a fellow competitor's misfortune could be subject to instant de-rating.

Well, well, so Great Britain didn't win the World Gliding Championships last year. British pilots came 6th and 7th in the Open Class, and 5th and 9th in the Standard Class. This was a very good result, could have been a little better—but

might have been a lot worse. Perhaps international prestige is the reason for this desperation to win, but I haven't noticed a tremendous influx of Edelweiss's, Fokas and D-36's as a result of their success. The current World Champions *happen* to be a Pole and a Frenchman, they flew brilliantly and good luck to them, but the *real* prestige lies in the fact that a first-class meeting was laid on by the organisers, enabling a lot of *fun* to be had.

The current flag-waving nonsense associated with World Gliding Championships is having an unwelcome influence right down to the most modest Regional Contests —since, unless the latter conform to B.G.A. rulings re task-setting, scoring, acceptability both of organisers and competitors, their contests become "non rateable" and they lose their entries. If we try hard enough, perhaps we can degenerate the World Gliding Championships into just another aspect of the Cold War.

In the past few years, I have entered several National Gliding Championships, have enjoyed them all, and refuse to feel guilty about possibly having prevented an unknown fanatic from becoming National Champion.

Doesn't anybody enjoy his gliding any more?

Welwyn Garden City, Herts. MICHAEL G. FAIRMAN.

PAIR-FLYING PHILOSOPHY

Dear Sir,

With just a little bit of the feeling of David bearding Goliath, I would like to comment on Mr. Philip Wills's remarks in the Oct.-Nov. letters column concerning pair-flying. In a way, Mr. Wills seems to be saying, "Here is an advantage the state-sponsored professionals have, which we do not. This is a serious threat to our sport, so let's outlaw it!" It might be just as appropriate for members of, say, the Indian, Israeli or Icelandic World teams to say: "Mr. Wills and his compatriots are citizens of a country with an advanced technology, including a glider manufactory, and, furthermore, have the benefits which come from a highly organised gliding movement. They have up-to-date equipment in every respect, adequate opportunities to fly, high standards and a high level of competition, which we do not. This is a serious threat to our sport, so let's outlaw it!"

Things just aren't equal, the Preamble to our American Declaration of Independence notwithstanding. We're always going to have less than somebody, but more than somebody else. That's just the way things are. And anyone can practise pair-flying, state-sponsored professional or enthusiastic week-end amateur—if he chooses to.

Mr. Wills's second point relates to individual pilot initiative, and he would have us believe that the winners are using less of it than the losers, which hardly seems likely. Do two lions display less initiative when they hunt together, or two loggers when they use a cross-cut saw to fell a redwood? Does Pablo Casals show less initiative when he sits down with Thibaud and Cortot to play the Archduke? Hardly! These are simply instances—as pair-flying is—of individuals using their energy, intelligence and imagination co-operatively. Without this sort of co-operation we would have precious little glider building, no contest organisation of any sort (let alone something as superb as the recent World Championships), nor a fine magazine like SAILPLANE & GLIDING in which to air our views.

Pair- and team-flying, although a departure from traditional soaring practices, deserve to be widely exploited by those who feel that they might extend the horizon a little bit further, or broaden the scope of that sport to which, I know, Mr. Wills is dedicated with all his heart.

Santa Monica, California. RICHARD MILLER.

CAN VULTURES SMELL THERMALS?

Dear Sir,

The letters in SAILPLANE & GLIDING on whether Vultures can smell thermals tempts me to add my views as on several occasions I have taken advantage of strange smells at height and have immediately found a strong thermal and gained height.

On the 9th June, 1937, while I was flying the King Kite at Heston Aerodrome I suddenly got a very sickly smell of chocolate and started to circle at 1,500 feet and rose rapidly to 3,900 feet to cloud base, where I quickly broke away as I had a horror of black clouds. Then I saw the large chocolate factory beneath me.

Again at Cranfield in July, 1948, when Phil Cooper, Kit Nicholson and I took the Rhonbuzzard there, I was flying along and found a very strong sulphur smell which coincided with a juicy thermal which took me up to 3,700 feet from which height I went on a cross country flight to Tempsford aerodrome. It was clear that this thermal came from one of many brickworks near Cranfield.

From 1934 to 1936 when flying in Sir Alan Cobham's Air Display and with C. W. A. Scott's, I was encouraged to demonstrate the art of Soaring as well as aerobatics on good thermal days and on several of these flights I was helped by strange smells such as pigs or smoke, more particularly when flying in Ireland.

From this one might deduce that Vultures are led by smell to thermals, although nature, no doubt, has granted to birds a sense alien to humans, which makes the locating of lift a simple natural act.

Lyndhurst, Hants. JOAN PRICE (*née* MEAKIN).

PROFESSIONALISM

Dear Sir,

Golly! Mr. Carey in his letter in your last issue has the weirdest idea of what the B.G.A. is and can do. "Its primary function is to provide the solo pilot with the essential facilities he requires . . ." "The B.G.A. has within its power, by withholding C's of A. from member clubs, the means to enforce a square deal for the solo pilot." If it tried, at the very next Council Meeting the member Clubs *who control it* would sack its Chairman and start again.

The B.G.A.'s primary function is to do what its member clubs tell it to do. From Artillery Mansions it can fight the never-ending battle for airspace, issue Licenses and C's of A. to standards agreed by its members and any relevant Ministries, and a thousand and one such paperwork chores. It can't "provide essential facilities"—if by that Mr. Carey means gliders, winches, clubhouses, and so forth. The people in the club, on the spot, must do that. It jolly well can't bully the clubs—it is the clubs' central voice and administration.

If Mr. Carey doesn't like the deal he gets from his club, let him get on its committee and help organise it to give him and his fellow members a squarer one. Then get it to appoint him as their Council member and persuade the other clubs to follow suit. The B.G.A. will do what they tell it to do, to the limit of its powers.

PHILIP WILLS.

MORE PROFESSIONALISM

Dear Sir,

I would like to add my little voice to the call for more professionalism.

For some years I have been trying to "Go Gliding" and have met with only sporadic success. I began as an A.T.C. cadet in the days of Cadets and groundslides. The advent of the T-21 led me to circuits and a B, on the Tutor. An A.T.C. Flying Scholarship got me a P.P.L. and three years in the R.A.F.V.R. boosted my hours to 300 and introduced me to aerobatics, instrument flying, etc.

After National Service I began U/T instructing at my old A.T.C. school, taking cadets right through to pre-solo check standard. The school later disbanded, by which time I had 25 hours' gliding in about 450 launches, obviously mostly training circuits.

Since that time I have joined the ranks of those who can't glide because I can't afford to spend all day, from dawn till dusk, in order to do a couple of circuits. I am now a staid old married man of 34 years; the lawn grows too fast for me; the guttering needs clearing; the shed needs a bench; the garage door needs fixing; and by the time you read this I'll be a dad! But I wish I could "Go Gliding".

I can fly power easily. Just book a trip and go flying. But how can I glide?

I lived in the South for a while and joined the nearest gliding Club. Cost about £12. What did I get? Two five-minute scrapes on the ridge with an anxious instructor who snatched the controls of the T-21 away from me for the landing. Total cost? Over £1 a minute!

That cured me for several years until I learned that the R.A.F.G.S.A. had a club at Wattisham. I joined as a civilian member and did about 5 hours' pleasurable soaring in the Olympia and Grunau, the best value I have had, until this club disbanded.

When the bug bit again, I travelled north about 35 miles to join another club which gladly accepted my £10 entrance/subscription fees.

I couldn't fly the Swallow until I had flown the Tutor which was never rigged, thus most of the joy I got was from 600-ft. circuits, dual, in the T-21. Eventually the Tutor came out and I flew it, but the C.F.I. was never available to give me a check for the Swallow. The Swallow "gang" were a tight little clique. There rarely were enough of them around to rig the T-21 but always enough to make it worth rigging the Swallow. Consequently the few who required the latter spent much of their time launching the former.

What did I gain here? A total of 21 launches and 90 minutes' gliding. Still about £7 per hour!

Brassed off with this, I travelled to a club 50 miles to the west. Here I was checked out immediately for Swallow and Olympia with one trip in the T-21, but I couldn't fly either as there was a long queue for each and both were airborne for hours. I decided to join the smaller queue for aero-tow checks on the K-7. Just as my turn came, a well known pundit arrived with his girl-friend and took the K-7 (complete with girl) for a 1½-hour trip round the clouds! I just managed to get in the last tero-tow of the day in the Ka-7. No soaring, of course.

The next weekend I also waited six hours for the last trip of the day, and this decided me that it wasn't worth driving 50 miles for.

In August, 1966, I spent five days of my holiday as a visitor at one of the clubs with a ridge. Every day the wind blew from the wrong direction and bad visibility prevented aero-tows, except when the tug was wanted for the bods on an instructors' course. The one evening when aero-towing would have been perfect practice there was only one instructor available who obviously couldn't fly the tug and the two-seater. But I think I was just unlucky here. I was checked out straight away to fly the Swallow and, had the weather been good, I think I should have had plenty of flying.

Anyway, you can see just how expensive gliding can be. I put it at about ten times the cost of power flying for me, and about one hundred times less convenient.

What I need—and there must be thousands like me—is a big club or organisation. A professional one if you like. Then perhaps I could arrange to spend, say, a morning gliding, knowing that I shall get some time in and have value for my money. I don't want to be a mad enthusiast. I want to be able to get my hands on a glider for an hour or so without having to race the deadly roads and spend hours on the ground for the slimmest chance of getting a launch.

I have found another club, which is nearer home, and could be tempting. But they only have one glider (although there is the wreckage of another in the back of the hangar which appears to have come to a sticky end), and I wonder how much gliding I should get here for my entrance fee and subscription?

Previous experience causes me second thoughts.

My latest decision is that I shall wait until I have won the football pools. Then I shall get Slingsby to make me a really hot HP-14 with all the gear so that I can fly when I want to—like all those other private owners! And I reckon I stand a better chance of winning the pools than I do of getting value for money from a club.

In the meantime, I'm afraid it's back to the lawn, the guttering, the shed, the garage, and "Oh! no Dear! Not another load of nappies?"—with a little bit of pleasure from reading about how other people enjoy gliding in SAILPLANE & GLIDING.

Ipswich PETER M. WARREN.

CHAMPIONSHIPS AND HANDICAPPING

Dear Sir,

May I answer the interesting letters from Peter Scott and Wally Kahn, and also comment on Anthony Edward's article on "A Rating System", See Oct.-Nov.

Much of the driving force behind the improvement of both gliders and pilots comes from the genuine desire of many of us to take part in the maximum number of competitions. For most people this means one gliding holiday a year plus weekends. The holiday may be the Nationals or a Regional, but is unlikely to be both.

The idea of one-class glider competitions is an old one. There is no doubt that it is the only really fair way of selecting a team, but it does not line up with the facts of life. The status of a two-glider family has fortunately not yet arrived, nor has the amount of spare time to fly them that this would imply. There are far too many different types and these are scattered all over the country. This is a pity because I am sure that Slingsby's would welcome producing one type in quantity. Class flying is therefore out in the U.K.

In the past, the performance of most good gliders could be grouped within plus or minus 2%. As the pilot factor might be worth, say, 25%, it was quite practical for everybody to compete on more or less even terms. The advent of the SHK in particular, and the Dart 17R, gives at least a 10% lead to those pilots flying these machines. The HP-14 may be a further 5% better again, whilst the AS-12 and the projected Sigma may be 25% better than the present types. None of these gliders will be produced in quantity because of their high price, and all are likely to be flown by League 1 pilots. Some form of handicapping is the only answer, if the lucky pilots of these gliders are going to be stretched at all.

The system I suggested in the Aug./Sept. issue produced a one-figure handicap, which was partially self-compensating for different thermal strengths and therefore tasks. The method divided the handicap into two equal parts; the sink/air speed at thermal-soaring air speed and the sink at a higher air speed. The longer time spent climbing on a weak thermal day is balanced by the longer time spent gliding at a slower air speed to the next thermal. This produced an order of merit of gliders according to their ability to fly efficiently across country under different conditions.

The latest B.G.A. circular giving handicaps for next year's League 2 and Regionals is interesting. It follows fairly closely my suggested list, except for the two best types, the SHK and the Dart 17. These are only given a 5% advantage. As both these gliders require experienced pilots to extract their theoretical performance, perhaps this under-rating is intended to encourage the purchase of these machines and to allow for moderate pilots.

I will be interested to see how the top people's opinions will change when one of their number starts flying a Sigma — let alone a mere SHK or HP-14. The cry will go up, "It isn't fair!" It isn't fair now.

Bulford, Wilts. TONY DEANE-DRUMMOND.

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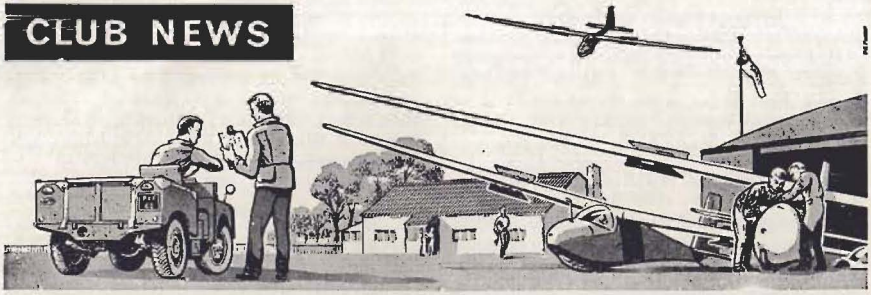
NEW ZEALAND "Gliding Kiwi". Official Gliding Magazine of the N.Z. Gliding Association. Printed October and alternate months. Write N.Z. Gliding Kiwi, P.O. Box 487, Tauranga, New Zealand. £1.0.0 Sterling for year's subscription (inclusive of postage).

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CLUB NEWS



ON the whole, 1966 has not been an outstanding year for soaring achievements, but in many cases flying statistics are up on last year's, showing that there is still a great demand for circuit-bashing.

Club News contributors in general are getting better at sending in their news on time, but may we *please* have your name and address clearly indicated on your letters, etc. — it is surprising how many arrive omitting to give their source of origin, which makes life very difficult in case of query!

News for the February-March issue should reach me by Wednesday, 7th December, and that for the April-May issue will be needed by the 15th February, 1967, to be sent to 14 Little Brownings, London, S.E.23.

Wishing you all a very merry Christmas and happy landings for 1967.

19*th October*, 1966

YVONNE BONHAM (MRS.)
Club News Editor

ALBATROSS

DURING the Plymouth Air Show on 9th July, our one and only glider, the T-31, aroused great interest. Our stand sold a gross of Come Gliding badges, and handed out a great deal of literature to enquirers, who, unfortunately for us, all seemed to be visitors to the Plymouth area. We hope that some *other* Clubs may benefit from our display.

We took this opportunity to move the T-31, after the display, to our new cliff-soaring site near Salcombe, South Devon (O.S. Map Ref. 708375) and commenced flying the next day, but unfortunately it started to rain after only 10 flights had been carried out.

Met. records show that we should experience ideal wind conditions for 47% of the year at this new site. However, the next seven week-ends proved an exception straight away. Not that this interim period was wasted. Valuable circuit training and airfield familiarisation was carried out, and David Windebank, one of the Club's stalwarts, was the first to qualify for his A and B and complete his ab-initio training at our new site.

It was not until 9th September that conditions were again such to encourage our ridge to work again. That day — our most memorable flying day to date — coincided with the arrival of Ray Stafford Allen at the club, on a technical visit. Ray had brought his T-49 along, and in a light, but prevailing wind, we rigged and launched. Five launches and 2¼ hours later, we realised that we indeed had a ridge worth writing about. Ray's explorations proved that smooth ridge lift existed along a 4½-mile beat of the coastline from Bolt Head to Bolt Tail, we shall always be grateful to Ray for assisting us in achieving these pioneer flights.

The future of the Club, particularly the line of its development, is under careful consideration. We have brought gliding to the Plymouth area entirely by the efforts, interest and finance of the present members. If our application for grant aid is refused, we may well decide to re-constitute the Club to cater solely for private-owner groups.

The ridge should be soarable in S.W. wind conditions, and we shall be pleased to offer launching facilities to visiting gliders.

F. C. S.

BATH AND WILTS.

CONSIDERABLE discussion has taken place in committee concerning aircraft policy. The Grunau is written off after a mishap from which a club member emerged with a red face, damaged ankle and severe shaking. The problem is what to buy as a replacement. Shall we sell the Kranich which is now just beginning to earn its keep and with the combined cash buy a higher performance single-seater? This will leave us with only one two-seater; what happens if . . .? Can we afford . . .? and so the discussion waxes!

How many times must this situation have arisen with young clubs. Perhaps we can draw consolation from this.

It has been noticeable this year that with members gaining experience and confidence more cross-countries have taken place, most of them in attempts on Silver or Gold legs but quite a few by the "fly for fun" characters.

Ron Lynch had an extremely hectic two or three hours when he landed with the 463 in a very small field behind a housing site of inverse proportions at Evercreech. Add to the multitude of "nippers" all the workers of the nearby factory just disgorging its complement, and a nightmarish picture presents itself. When his wife, Joy, arrived with the trailer Ron was still trying to fight off the hordes and Joy has reproduced the scene which confronted her in cartoon form to be kept in the clubhouse as a permanent reminder not to land near a housing estate (see next page).

Our president, Viscount Long of Wraxall, deserted gliding for a ride in a helicopter during one week-end when our airfield was used for an exercise which stopped us flying. His Lordship, who is in his 73rd year, was quite impressed until they dropped him some considerable distance from his car. Obviously not up to the spot landing to which he is accustomed!

We welcome Group Captain Barrett, who has recently taken over command at R.A.F. Colerne and under whose jurisdiction we operate. He admitted recently that he had never experienced silent flight. We hope he will accept our invitation to have the first one on us.

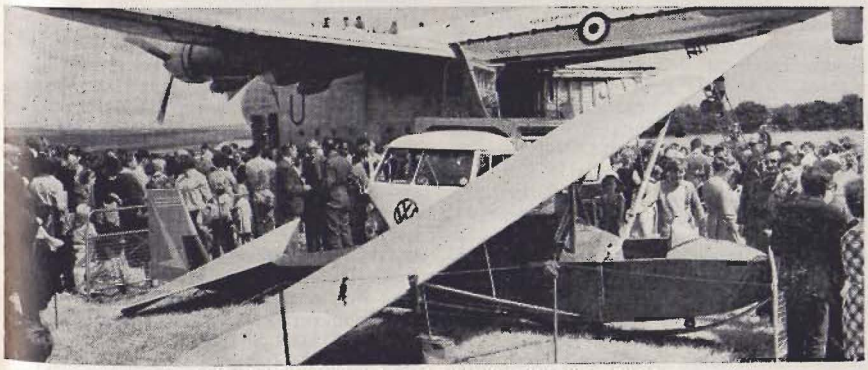
K. N. S.

COTSWOLD

OUR absence from these pages in recent issues denotes how active the Club has been during the brief summer, although I must say that we at Long Newton have had some excellent thermal weather.

We now enter our third year with Roger Bunker in the Chair, yours truly as Hon. Secretary and Arthur Crop, our financial wizard, was re-elected Treasurer for a third year. Steve Warwick-Fleming takes over as C.F.I. from Jim Deane, who has done untiring work for the club and, I am sure, deserves a rest.

Ray Stafford Allen and his Capstan, on a recent visit, gave our members a real taste of cross-country and cloud flying, not to mention landing at Nymps-



The Albatross Club's T-31 at the Air Display.



field for lunch. On that particular day, we obtained three Bronze C legs in the Olympia, which have since been completed.

We have the famous Red Arrows based at Kemble three miles away, and it is not unusual on early mornings to see this famous team doing its work out on the perimeter of the airfield. I could have sworn I saw our T-21 doing the Bomb Burst at No. 6! Must get new glasses.

We hope to purchase another single-seater quite soon, which will bring our fleet to four, including the Olympia, for the use of which the club is indebted to the syndicate. P. F. M.

COVENTRY

WE are moving inexorably towards full-time operation at Husbands Bosworth and if any experienced categorised Instructor, preferably with tug-pilot rating, is at a loose end next summer, we would be pleased to hear from **him.**

A recent new member, whom we are pleased to welcome, but not an ab-initio, is Shelley Curtis from the Mynd who, having moved into the area has come to us with a lot of gliding and managerial experience, and he has already shown great enthusiasm in his new appointment as Assistant C.F.I. The Mynd's loss must surely be our gain.

Flying-wise training continues apace, but cross-country flying has been dogged by indifferent weather. The bright spot in this bad patch was Lou Frank's Gold C out-and-return to Bristol-Whitchurch in the Skylark 3B, when he landed out a short way from the airfield, and missed his Diamond by three miles.

On 19th September a French registered light aircraft descended out of the overcast to land at our site. An innocent spectator on the road who was the only one to know a few words of French, was dragged over the fence, and we learned they were mislaid on a flight

from Liverpool back to Laval in France. We accorded them what we hoped was a typical gliding welcome and packed them off next day under better conditions, and we hope to visit them at Laval when opportunity permits.

DERBYSHIRE & LANCASHIRE

WE are glad to report that at the time of writing, Mick Kaye and his pupil, Mike Bowden, who were involved in a recent accident in the Capstan and are still in hospital, are progressing very well indeed.

Deprived of our C.F.I. and two-seater, has made life a little hectic on the instructional side, but as with most things in the gliding world, we managed.

Apart from the Northern Regionals, this year has seen no great amount of cross-country flying from Camphill, although our pilots have gone from here to do battle in several of the competitions.

A new Dart 17 now resides on the site, bought to replace the Kaye, Birkett syndicate Dart 15.

Our winter programme is mapped out and our new social committee, Chairman, Frazer Scott, are hard at it. The annual Dinner Dance at Buxton in early December is the high spot, when we hope to see many faces old and new.

Visitors from Leicester, Coventry, Doncaster and the forming Leeds club have been along to fly and see us recently. E. R. B.

DUMFRIES AND DISTRICT

WE are enjoying our *new* T-21, the last of the line so Slingsby's tell us. Time in the air has already doubled and our membership has also increased due to this machine.

Alf Winter completed the first Silver C, flown entirely from our home site, with a flight of 5½ hours in thermals.

We are still providing facilities for the Edinburgh University's Eagle 3, launching them regularly to 1,200 ft. on our Wild winches fitted with piano wire.

We take this opportunity of wishing other Clubs a Merry Christmas and a Happy New Year. G. P.

KENT

THE Club's fortunes, flying-wise, continue and we have experienced good soaring conditions well into the Autumn. We have purchased a Swallow from one of our syndicates and our fleet also includes two T-21B's, a Capstan and an Olympia.

A new diesel winch, built on a coach chassis, has recently been put into commission, which means that three lines are available, and usually aero-tows as well.

Our first full season of holiday courses proved so successful that last minute arrangements were made for two extra weeks to cope with the demand.

We congratulate Ron Cousins in obtaining a place on the rating list. This is the club's first one for some time — but others are on the way!

The barbecue, mentioned in our last report, was a huge success (but then our social occasions always are!) a children's party is being planned for December.

During the summer we have been pleased to welcome gliding types from home and abroad and we hope that any readers who find themselves near us will take the opportunity to visit our site at Squids Gate, Challock, nr. Ashford, Kent. R. W.

LAKES

OUR courses this year have been quite successful and the kudos must go to our C.F.I. David Millett, who shouldered all responsibility for organisation and instruction. As a result he can point to several first solos, a C in the Tutor, a number of Bronze C qualifying flights in the Olympia, and one or two conversions to Olympia standard. We were interested to learn that one course member had joined with the intention of obtaining material for a thesis which she is to submit in her final examination for a diploma in Physical Training.

Our Autumn Buffet Dance was enlivened by a party from the Clevelands Club, R.A.F. Leeming. No doubt their Ka-7 on its open trailer must have looked strange to the uninitiated in the staid surroundings at Warton Grange, but it provided a new and much appreciated experience to our members when it took to its native element at

Walney on the following two days. We must here record our thanks to Gerry Kemp and his party for so generously contributing to our flying experience and to express the hope that relations between the clubs will prosper to our mutual benefit. F. G. R.

LAND'S END

WITH our second season behind us, perhaps the main feeling is one of consolidation. Our membership is now well established in the familiar pattern — a hard core of hard-working regulars with a penumbra of more light-hearted "casuals" who enjoy themselves, but naturally progress more slowly.

An extremely successful course season ensures our future development in this sector, and our plans for expanding activity in 1967 are already well matured. An additional full-time instructor for the ab-initio courses will permit the Blanik and Skylark being used under the supervision of C.F.I. Brian Pritchard for progressive courses offering aero-towing, blind flying, aerobatics, and other more advanced exercises.

A very pleasant memory of the 1966 season is that of many visitors, with and without gliders, who have come, stayed awhile, and left — we hope — also with pleasant memories. Well — mostly! A regret is that no one has yet arrived by air except with fans in front. But we suppose that the present-day emphasis on closed-circuit flying puts us a little too far off the beaten track.

An encouraging statistic is that our members have soared as *often* in thermals as on the ridge since April, although the thermal hours are somewhat less. We continue to explore the cliffs, and Alan Davie tried the south-east sector between Mousehole and Lamorna from an aero-tow. Having found the cliff soarable, he was able to get back with plenty of height in hand. If the south-facing sector from Porthcurno to Land's End also proves its worth — and there is no reason to think it won't — it will only leave the quadrant between north and east with no cliff-soaring prospect. We have no five-hour problems at all . . .

Heigh-ho for 1967 — and, of course, the Season's greetings to one and all.

W. D. T.

LONDON

LATE August and early September produced some better weather as compared with mid-summer, and the site-bound (10-mile radius) pundits managed to get out and about once more. Terry McMullin made the best flight with an out-and-return in a Skylark 3 of over 160 miles. This was a few miles better than Chuck Bentson's effort earlier in the season. The Collector's Plate also started its travels again, having resided at Lasham for two months, but at the time of writing is back there again. One interesting day was 17th September, when man-made thermals made local soaring possible until quite late. The sun could only produce 2 knot thermals, but owing to farmers burning off stubble one could find 6 knots in dense smoke and blackened straw.

We will establish a local record this year in our operations. Launches up to the end of August were over 14,000, while hours flown were approaching 3,500. This has not been due to exceptional weather, but to the increased efficiency on the field and generally higher utilisation of our equipment.

Our annual Air Display, sponsored by the *Daily Express*, was our most ambitious show to date. It featured gliders, powered aircraft, parachuting, hydrogen and hot air balloons. The first day was very successful, particularly the ballooning section, but the second day was somewhat marred by the weather. The gods must have been on our side, as the following day there was a solid overcast at 300 feet and an inch of rain. Just 24 hours made a difference of several thousand pounds to our profit and loss account!

Now that winter is upon us we have our usual programme of lectures, films and social events every Saturday. The main event is our Christmas party on 17th December, and we would particularly welcome visitors from other Clubs on this festive occasion. M. P. G.

MIDLAND

DURING late August and early September there were several days which produced good wave conditions.

On one of these days, Tony Maitland achieved a Gold C height gain.

A Pye "Cambridge" has been installed in the clubhouse. It operates on both channels and has the call-sign "Long Mynd".

The Club's social programme for the winter months includes the usual Trog Party in November and the Christmas lunch on the 18th December. Instead of the Dinner-Dance held in previous years, it is intended to hold a Dance in December and a Dinner in February.

Effective from the 1st December are changes in the Club's week-end operations which are aimed at improving the use made of winch launching facilities. It is hoped that these changes will be particularly effective on those non-"barn door" days when launches are at a premium. At the same time, greater efforts are to be made to encourage new members to avail themselves of week-day courses for their ab-initio training.

During 1967, two competitions will be held on the Mynd. The Easter Rally (which being only five days cannot be "qualifying") will take place as a "fun" competition. A full-scale qualifying competition will be held from the 3rd to 11th June. Application forms from Competition Sec., Midland G.C., Long Mynd, Church Stretton, Shropshire.

NEWCASTLE AND TEESSIDE

ACCORDING to the calendar, the thermal season is now well and truly over until next year, but several of our members who missed the one or two moderate soaring days are still wondering when it will begin!

Very few cross-country flights have been made this year from our site, due to the poor weather conditions, and those that have been made cannot be called outstanding. However, one or two appetites have been whetted, and next year ...

It should not be thought though, that the weather has stopped us flying altogether. Our year end statistics show that we did almost as many launches as last year, but not surprisingly, our average flight time fell slightly. We have had our usual crop of first solos and A, B and C certificates, together with quite a number of conversions to the Oly. In the private owner's sector, the Dart and Skylark 4 have been busy visiting other sites and taking part in the Nympsfield and Dunstable comps respectively.

On the ground, some progress has also been made. We now have an almost completed workshop, work is in hand on the construction of a new winch, and our second tractor has been overhauled. However, perhaps the greatest achievement lies in the progress of our site development. Considerable further levelling has been carried out, and two additional large areas have been grassed. If the weather has not favoured flying, it does seem to have helped our grass project and at last it seems that our efforts are meeting with success in this connection.

Finally, we wish all our friends in the gliding movement a Merry Christmas, and a very soarable New Year.

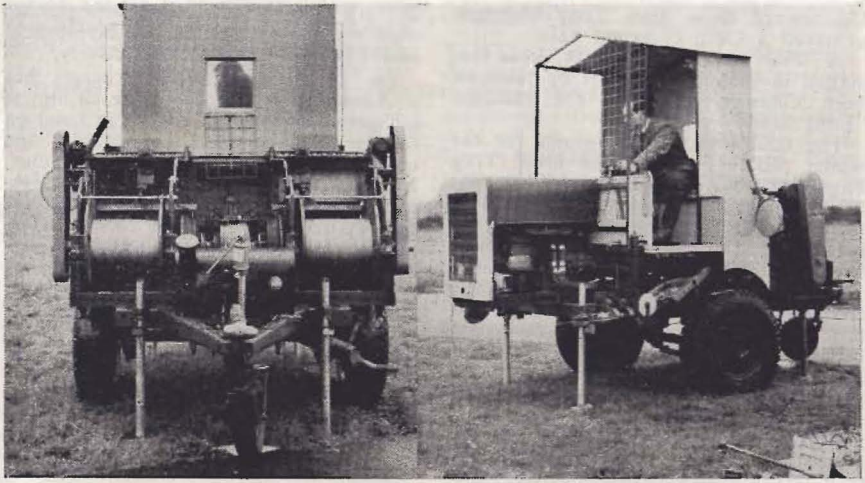
B. W. B.

OXFORD

THE old winch at last stands at the back of the hangar earning a well deserved rest following 70,000 launches. The new winch has commenced full-time operations having clocked its first century, not however, without the inevitable teething troubles, some attributable to the inexperienced drivers eager to be converted. One great advantage is the redundancy of the human cable layer necessary for the second drum of 'old faithful'. All pilots agree the launch feels more positive with better initial acceleration.

Statistics show this year that up to the beginning of October the number of winch launches totalled 2,204 compared with 2,550 for the same period last year but with the loyal attendance of the Auster, aero-tows were up by nearly 200%, which gave us an extra 100 hours flying in spite of poor week-end weather. Ray Stafford Allen and his Capstan was again most welcome in September, when numerous members without aero-towing experience enjoyed the excitement of crossing the upwind boundary at 200 feet to leave the circuit for a time.

On calm evenings recently we assisted an R.A.F. Abingdon syndicate with their new bright red Piccard hot air balloon,



Two views of the new Oxford winch.

the size of a church tower. During one late afternoon session, time was spent adjusting the powerful propane gas burners before filling the envelope. Keith Plummer in the Skylark 3F was quick to notice this and was able to zero his sink speed for what seemed ages. With the usual end of season crop of solos and conversions to the Olympia, attention turns to the warmth of the workshop and refurbishing in anticipation of a better year for all who seek exhileration in the silent skies of 1967.

C. J. T.

STAFFORDSHIRE

MEIR produced sufficient thermals on the 20th August for two Silver C duration flights to be carried out. Roger Larkinson and Alistair Wright, both flying Olympias, had sticky moments at low altitude but managed to clamber back up to complete the time. This caused an epidemic of "five hour fever" and a few days later four pilots attempted this task, but conditions did not last and 2¼ hours was the best effort. On 3rd September the second intentional cross-country this season came to a halt when the Olympia landed after 17 miles near Thorpe in Dovedale. The season's worst luck can be claimed by P. Galvin, who, while attempting Silver C duration on 8th September, did 4 hrs. 35 mins. before the lift ran out on him. It was a short summer, but we used it.

Club members have visited Lasham, Sutton Bank and Camphill recently. The Lasham party had the good fortune to sample the sea-breeze front and one member had a good flight in it.

A. W. H. L. W.

SURREY

THERE has not been much to report from Lasham in the last two months. The weather has, as everywhere, been rather mediocre, and pilots have not been inspired to higher things.

There have, however, been three expeditions to Portmoak and one to the Mynd. At one of the Portmoak expeditions, there was much thermal soaring! However, during another Portmoak expedition, two height Diamonds were obtained, by John Wilks and Bill Dean. It has taken Bill approximately three years from ab-initio to Gold C with two diamonds, which is a creditable effort. Our bag of height diamonds for the year is now four, all done in the British Isles.

It is usual for the club fleet of Skylark 3 and 4's to be de-insured during

the winter months. This winter, however, one Skylark 3 will be insured and available for expeditions and other flying.

A. I. R.

SWINDON

THIS year has been a very busy one for the club. With the purchase of a F-100 we have solved our launch problems and we look forward to making next year a record one. Achievements include six Silver C's. Eleven solos and a considerable number of hours logged. The club's social calendar has included many parties and the annual Dinner and Dance was a truly spectacular event. The proposed two-seater competition which had to be cancelled, was a great disappointment to all concerned. So many people put a lot of hard work into preparing this event. We are hoping to try again in 1967, with better results. Private ownership has enlarged the number of gliders now accommodated, at week-ends it is not uncommon to see a Skylark 4, Dart 17, T-21, Kite II and Grunau busy trying to out-soar each other. The club's Oly has had one of its most hard worked seasons. A club task week produced some excellent flying, with very professional results.

Although our fortunes this year have been at their lowest, the enthusiasm of club members has carried us through the year in leaps and bounds and we look forward to 1967 with high Diamond hopes.

TRENT VALLEY (Sturgate)

DESPITE the poor weather we've had this summer, we were fortunate in getting ideal conditions for our week's flying course. Most of the members took advantage of the course giving us three C's, three solos and the majority of others are now on the verge of solo or conversion.

After much hard work we now have quite a presentable clubroom with kitchen and also a building to house the aircraft. A generator for heating and lighting is in the process of installation to replace the calor gas.

Our Fordson Major tractor winch has been given a face lift by the addition of a protective cage and a new feeding-on gear.

R. P.

UNIVERSITIES OF GLASGOW

THIS Club was formed at a meeting of 42 students and staff at the Universities of Glasgow and Strathclyde on 20th October. Membership is open to all graduates, staff, undergraduates and employees of the two Universities and members of the Services serving with Universities' units.

E. K.

* * *

SERVICE NEWS

BANNERDOWN

APART from the surprising weather mixture we enjoy in this country, probably the most significant variable is met in site conditions. Portmoak, Mynd, Sutton Bank, Dunstable, Nympsfield and Perranporth, for example, have unique and occasionally exciting experience to offer and sometimes our rather featureless environment makes us look at the grass that's greener elsewhere. Hence we were astonished recently when on two separate occasions enthusiasts with aircraft visited us to sample our thermals (and they didn't do too badly either!) And even greater surprise when we motored to Bicester twice to find that fully equipped and expert unit unable to aviate at all owing to a blanket of fog which seemed to cover Oxfordshire and nowhere else. However, we read "Sling's" story of California's visible thermals and the Gaffer's *pilotes de montagne* at Rieti and then we *are* all green with envy. Sure we missed the Bicester fogs but they were on weekdays and our weather during the period has been generally poor with the odd superlapse that makes us forgive all. Bill Bailey flew 250 km. of a 300 km. triangle attempt and the Blanik had another record essay but no more than 130 km. were on. John Cummings and Bob Clare have soloed for A and B certs.

Groundwork has kept pace with events and red Barge 286 looks very clean and tidy after a Coutts major. Air testing confirmed much improved handling and there is a plot on to provide green

windows and red goggles for instrument flying — which, it is hoped, will provide both diversion and valuable practice for graduates during the winter months.

Another most useful mod. has taken place in and on our mobile clubroom. It is difficult to ascertain who was responsible but a fair body of men — and women — recently descended on the bus, revamped the office arrangements and provided a new four-eyed signalling device. On trial this seemed in need of lots of watts but probably an extended hood will produce the necessary laser to compete with the sun. P. H.

CISAVIA

AT the A.G.M. on 29th September, the Chairman's Report revealed a steady growth. The formation of the London and District Civil Service Aero Club now provides gliding facilities for all Civil Service staff, other than G.P.O. personnel, who normally join the Post Office Flying Club (also an affiliate of CISAVIA).

These facilities are at the Wycombe Gliding Centre, Booker Airfield, near Marlow-on-Thames, which is operated by the Airways Aero Association.

Also in September the Lapwing (Civil Service) Flying Group included in its successful Air Display at Denham aerodrome a few loops and chandelles by a Skylark 3B.

The CISAVIA Kranich is now being operated by the newly-formed R.P.E. (Rocket Propulsion Establishment) Gliding Club at Westcott, Bucks.

J. E. G. H.

FENLAND

OUR brand new Bocian has arrived at last and is well liked by club members, except when it comes to humping.

Postings have taken their toll again and two more changes of committee have taken place. Colin Elliott has taken over from Tony Phipps as deputy C.F.I. and Dave Keech is our new Air Member vice Geoff Dodd, who is on his way to Malta.

One of our hard worked winches finally blew its top recently, but fortunately sufficient funds were available for the purchase of a new 5.7 diesel, which was quickly fitted and "run in".

Once again our future at Feltwell is in doubt, but at the time of writing no details are available of a departure date or the whereabouts of our new site.

R. G. J.

WREKIN

THE Wrekin Club is going from strength to strength — by September we had achieved 4,400 launches and 385 hours, and this since our formation in March.

Rose Couchman became our first lady to go solo, and Jim Pignot, our indefatigable aircraft member, flew the club's first non-pundit cross-country to Derby for his Silver distance. This flight was in the SF-26, recently acquired from our good friends at Benson.

A second T-21, with a canopy, has improved our two-seater availability — this was in exchange for the T-31.

The club now boasts a bar, as a result of much hard work, and with the help and encouragement of our Chairman. Any gliding friends in the area will be most welcome — our Christmas party is planned for the 17th December.

Two more categorised instructors, Tony Phipps and Simon Morrison, have eased the load for the C.F.I., several members have ambitions to try for assistant categories in the next few months. H. F. O.

NIMBUS
(Geilenkirchen, Germany)

SINCE our last newsletter some of the departing faces have been replaced by new, notably Mike Baker who arrived from Four Counties to inject a little sparkle and wit into Club activities, to be deputy C.F.I. and eventually to become C.F.I. when Al Whiffen departs next year. We shall also be sorry to lose "Yorky" Kitchener, one of our diminishing number of instructors, and Andy Price, our hard working secretary.

At the beginning of August two weeks were spent with all our aircraft at a Dutch airfield, Zuid-Limburg, near Beek,

in Southern Holland, the idea being lots of flights and a few cross-country's during the period, as we can fly only at week-ends at Geilenkirchen. We were lucky enough to have a few aero-tows from the Dutch Air Force from which Simon Wheeler graduated to solo aerotow in the Ka-8.

Our fleet has been further enlarged by the addition of a Röhnlerche which now looks resplendent in its new colours. We also expect another Swallow with the reshaped hood at the end of October.

On the 24th September we set a new R.A.F. Germany record by completing 160 launches in one day. This was on the first day of our system using two winches and cable retrieve cars on opposite sides of the airfield. Some people say it is because we have seven solo lady pilots and we want to keep well away from them. M. J. W.

OVERSEAS NEWS



We would be pleased to receive news for this section from every country in the world where soaring is done.—A. E. SLATER, *Overseas News Editor.*

AUSTRALIA

NATIONAL CHAMPIONSHIPS.—These will be held at Narromine, N.S.W., from 27th December to 12th January, preceded by a practice week. Participants have a choice of hotels, private houses, caravans and tents. Several visitors are expected from New Zealand, and the Swiss Aero Club has written that Marcus Ritzi is interested. The Gliding Federation of Australia decided at its last Annual Meeting to allow only two pilots per aircraft, but the South Australian G.A. is asking for the number to be increased to three "in view of the shortage of high-performance aircraft".

Australian Gliding

AUSTRIA

IN the Decentralized Competition for 1966, leading places at the end of August were: J. Fritz (Nationals winner), 55,400 pts.; E. Gehrer, 46,288; H. Wödl, 41,880; Dr. A. Schubert, 41,480; E. Schraffl, 40,792. *Austroflug*

BELGIUM

A Regional Contest at Gand (Ghent), held on St. Denis aerodrome is described as "de qualité internationale". Participants numbered 33, of which 10 were foreigners, including Van Bree of Holland, Gross of Germany, and Vaneecke and Lemaire of France. Four tasks were flown on consecutive days from 12th to 15th August.

The first task, a 138 km. Triangle, was won by Gross in 3 h. 23 min.; only six completed it, as an 18-knot wind at 5,000 ft. made it difficult. A Mucha pilot lost a wing on take-off: a conical bolt had not been fully inserted.

The second task, a 125 km. triangle, was not completed; André Litt of Belgium did best with 75 km. and took the overall lead. Next day a 125 km. triangle was won by M. Cartigny of Belgium in 1 h. 4 min. Litt still led overall. On the last day, a "spectaculaire" Triangle of 142 km. via Chievres and Wevelgem was flown. Weather was anticyclonic, with thermals of 5 or 6

m./sec. at times, and the short course was set to get people back in good time; 29 completed it and Gross went round twice. Dekkers of Holland, aged 50, won with 2 h. 11 min. Leading final results:—

Litt (Bel.)	Ka-6E	3239
Lemaire (Fra.)	Edelweiss	3021
Gross (Ger.)	Ka-6E	2454
Van Bree (Hol.)	Ka-6CR	2422

Conquête de l'Air

CANADA

AS this is being written, the season is rapidly drawing to a close, and quite a season it has been too. Looking back to it, more prominent subjects appear to be the Air Cadet training course at Penhold, Alberta, and the Nationals at Regina, Saskatchewan. The former may help to induce the Air Force to recognize gliding as an approved sport for service personnel, as the Dept. of National Defence are reported to be quite impressed with the results.

Later in the season two clubs held long week-end contests on what is known here as Labour Day week-end, that is 3rd, 4th and 5th of September. In one case, with the Queen's Gliding Club (Kingston, Ont.), the week-end was dampened down by water from Heaven — or might it be from the other place? The other club, the Cu-Nim Gliding Club at Calgary, Alberta, seem to have fared better, with their week-end at Cowley. At least they enjoyed three days of flying, and some interesting flights. Another part of their members flew at Pincher Creek, in front of the cameras of the National Film Board.

The Montreal Soaring Council, who lost their clubhouse in a fire last December, have replaced it with a new one, designed by one of their members who just happened to be an architect, and built by another member who just happened to be a building contractor. The new one is probably the best soaring clubhouse in the North American continent, being specially designed by someone who knows what is necessary.

A new clubhouse is also being built by the Southern Ontario Soaring Association at their new site near Sheffield and Rockton, some 40 miles west of Toronto. This is a somewhat less ambitious project, as the club has recently bought the land for the airport, built a runway, and built a hangar.

On the flying side, a new absolute altitude record has been set by this year's champion Wolf Mix, who climbed to just short of 32,000 ft. at Pincher

How to get "SAILPLANE AND GLIDING"

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OVERSEAS AGENTS

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Creek, Alberta — and all that in a borrowed ship! The climb also gives him the altitude-gain record. At the time of writing the records are not yet officially confirmed.

A few of the other boys also have had good wave flights, and some more claims may result. Pilots from west of the Ontario-Manitoba border have done their wave flying at Pincher Creek, while the ones to the east of that line have gone just across the border to Vermont, U.S.A., for their flights. The latter group have found only mediocre conditions, seldom climbing to more than 10 or 12 thousand. The American climate seems to say, "Canuck go home."

ONTAERO

CZECHOSLOVAKIA

FEMININE CONTEST.—The account of this event in *Letectvi* is headed by a cartoon showing two witches on broomsticks circling round each other just below cloudbase. Held at Rana, it comprised five tasks: 1st: Out-and-return Melnik, 104 km., won by Svobodova; 2nd: 339 km., won by Hudcova; 3rd: Jicin via Terezin, 114 km., won by Malkova; 4th: Out-and-return Mlada Boleslav, 164 km., won by Hudcova; 5th: 104 km. triangle via Slany and Zahorany, won by Pausova. The overall winner, Hudcova, also won last year's feminine contest in East Germany. Final results for 16 competitors are listed; the leading scores were:—

1.	Vera Hudcova	4004
2.	Ludmila Svobodova ...	3688
3.	Ludmila Orlitova	3409
4.	Marie Kyzivatova	2425
5.	Jindra Pausova ml.	3251

(Re the last figure, there are other discrepancies further down the list, possibly due to some form of handicapping.)

Letectvi

NEW SAILPLANE.—The Vega, the prototype of which has flown recently, is a fairly conventional machine of 18.5 metres span (60 ft. 11 in.) and 8 m. length. The pilot is semi-recumbent. Air brakes are at 65% chord and there is also a tail parachute. Claimed performances, at an all-up weight of 380 kg. (838 lb.), are: gliding ratio 40, min. sink 0.55 m. (1 ft. 9¼ in.) per sec. Speed limit 240 km./h. (130 kts.).

Air et Cosmos

DENMARK

FIRST Danish pilots to add all three Diamonds to their Gold C badge, and the numbers now allotted to them on the international list by the F.A.I., are:

Aage Dyhr Thomsen ...	No. 475
Ib Braes	No. 476

Flyv

EAST GERMANY

A contest held at Schwerin from 12th to 26th June, divided into a Standard Class (upper age limit 26) for non-laminar machines and an Open Class for laminar, was called a "Vergleichswettkampf" (comparison contest), presumably because nearly all competitors flew either the non-laminar Libelle or the Libelle-Laminär. A Hungarian visitor, Nandor Opitz, flew in Class A (laminar). Tasks were set on eight days, providing six contest days for Class A and five for Class B.

Tasks flown were: 100 km. triangle (7 pilots completed it, best speeds 36.9 km./h. laminar *but* 45.0 km./h. non-laminar); 315 km. out-and-return (uncompleted, best 274 km. laminar, 242 km. non-laminar); 136 km. out-and-return (best 74.3 km./h. lam., 59.1 non-lam.); 100 km. triangle (best 86.5 km./h. lam., 73.9 non-lam.); 200 km. triangle (uncompleted, best distance 138 km. lam. *but* 172 km. non-lam.).

In Class A, with 16 competitors, Elke won in a Foka with 3807 pts., Opitz of Hungary was 2nd with 3777, flying a Libelle-Laminär. In Class B, Leistrer, of Dresden, won with a Libelle, and the only other type was a Jaskolka which came 5th out of 13 competitors.

Aerosport

The minimum age for glider pilots in East Germany is 14; for parachutists, 16.

Aviasport

FRANCE

NATIONAL CHAMPIONSHIPS.—This event, held at Blois from 30th July to 7th August, was won jointly by J. P. Cartry and J. C. Penaud with the same aggregate score, and on every contest day there were at least five groups of 2 to 5 competitors with the same score. This may be partly due to the fact that only 14 of the 42 competitors had radio and

consequently many flew in groups of two or three. F. Henry kept company with Cartry and Penaud every day except one. Of the 14 Edelweiss sailplanes flown, 12 finished among the top 13 places. Other types present are not stated.

First task: stated in both journals to be an 11-km. triangle, probably a misprint for 111, as 18 pilots took from 1 hr. 56 min. to 3 h. 8 min. and the 19th went 108 km. without completing the course. Winner, Ragat. The trio Henry-Cartry-Penaud took 2 h. 5 min. and shared 4th place.

Second: 152 km. triangle, won jointly by Henry, Cartry, Penaud, J. Girard and Mercier with 2 h. 9 min. each.

Third: 115 km. triangle: only Mercier, J. Mattern and J. Girard got round; Cartry, Penaud and Henry shared 8th place with 80 km. and 425 points each.

Fourth: 156 km. triangle. Only Penaud and Cartry got round, taking 3 h. 57 min. each. This was the day Henry flew on his own; he finished 5th with 73 km. and 234 points.

Fifth and last: task not stated, but 21 completed it and the 22nd made 94 km. J. Mattern won in 2 h. 21 min. and the C-P-H trio shared 5th place with Mercier and J. Girard.

Leading final results: Cartry and Penaud, 4287 each; 3rd J. Girard, 4172; 4th Mercier, 4128; 5th J. Mattern, 3982; 6th Gavillet, 3609; 7th Henry, 3521; 8th Vaneecke, 3282. (There was another Mattern and another Girard competing.)

EDELWEISS SALES.—As at 1st October, the Siren firm had received 40 orders for the C-30s Edelweiss, of which 22 had already been sold. Before the end of this year, production will have been stepped up from 1½ to 2 per month.

MOUNTAIN SOARING COURSES.—These annual courses at Gap-Tallard have produced 5,033 hours' flying since they started in 1958. At this year's course, organized by the Cercle Aéronautique Pierre-Issy, from mid-July to the end of August, 88 pilots from the Cercle and other clubs had 14 gliders available and flew 1,172¾ hours from 664 aero-tows. Cross-countries totalled 1,700 km., and two flights lasted over 9 hours.

Aviasport and *Air et Cosmos*

ICELAND

THE Aero Club of Iceland has been celebrating its 30th anniversary. It has one power-flying and four gliding clubs, and about 500 members; these include 215 private pilots — one per 900 inhabitants. Agnar Kofoed-Hansen, the Director of Air Transport, is an active power and glider pilot, and introduced parachuting to Iceland by making the first jump.

Sviffugelag Islands, which is the largest and oldest gliding club, also celebrated its 30th anniversary. It has about 100 members and their field is on Sandskeid platsen, a lava ground about 1 km. S.E. of the capital. They fly on a hill which is over 5 km. long.

When the wind is in the north, there is a chance of good waves. Thermals are increasingly used, but cross-country flights are hazarded by the low cloudbase, 2,600 to 3,000 ft., combined with the necessity of getting safely over hills and other areas where landing is impossible. While originally waves were mostly used for cross-countries, thermals are now used, since they have aircraft of better performance. The local distance record is, however, only 126 km. (in a northerly direction), but the dream of 300 km. to S.E. Iceland past Vatnajökull will perhaps one day be realized.

The aerodrome has a 780 m. gravel runway for power flying, and a gliding area where, after much trouble, they have got quite a good grass cover. There are two hangars, which hold, besides some "museum pieces", a Rhönlerche, Grunau Baby, Ka-8, Ka-6 and Vasama, and a Blanik has just been bought. Nearly all aircraft have radio (Shorrock and Bayside), and use two frequencies.

Translated from Flyv by
ANN-MARI NEUMANN

INDIA

EVEREST PROJECT.—The following extract from an Indian newspaper, sent to Roy Procter by a friend in India, has been forwarded by Ann Procter:

"If all goes well, three men and a young woman from Delhi will make a daring attempt to glide over Everest next August-September in an Indian craft. The four-member expedition will include Mr. Vishwa Bandhu Gupta,

Secretary of the Delhi Gliding Club, his younger brother, Prem Gupta, a gliding instructor, Mr. R. K. Wason, and Miss Raj Mitroo, winner of several gliding prizes . . .

"The hazards of gliding over Everest cannot be underestimated. Precautions must also be taken against violating Chinese air space. The dividing line between Nepalese air space and Chinese air space is rather thin and uncertain . . .

"The first of a series of pre-Everest flights were made by members of the expedition at Srinagar airport recently. Although a thunderstorm lashed the airport from the south side, gliders ascended up to 14,000 feet above sea level with the aid of currents of two metres per second. The Kashmir Chief Minister, Mr. G. M. Sadiq, and senior officers of the Defence Services watched the flights.

"The journey to Srinagar itself was eventful. Members of the expedition left Delhi in the first week of September. Two gliders were loaded on a trailer. The trailer and a winch were towed by jeeps to Srinagar. The caravan had just reached the Bannihal tunnel when it was virtually swamped by a torrential shower accompanied by a big gale. Suddenly the joint between the winch and the trailer gave way. The winch had to be left at the tunnel. It was discovered later that vital glider pins and the tool kit were also left behind. On September 10, a three-tonner despatched from Srinagar brought the winch to the airport.

"The weather cleared on September 13 and the gliders were primed for launching. An Army jeep was pressed into service for an auto-launch, but it failed to lift the glider even six inches from the ground."

Further news of this expedition is given in *Aerosport* and *Luftsport*. Mr. Gupta, the leader, is 38 years of age. One of the two sailplanes, the "Kartik", of 15 metres span, was produced by the Indian Aviation Research and Design Centre. The other is a Bocian, accepted nine years ago by the late President Nehru as a gift from Poland.

The first trial flights will be made over the southern slopes of the Himalayas to assess the meteorological conditions. Mr. Gupta is reported as saying: "We hope to reach an altitude of 18,000 m. (59,000 ft.) in the Mount Everest region. It should then be possible for an experienced sailplane pilot, by using the west-to-east windstream, to fly down the entire northern frontier of India from Amritsar to Assam. Thereby the existing free distance record should be doubled." Gupta intends to invite Paul Bikle (present world altitude record holder) and other American sailplane pilots to take part in the expedition.

Two airfields at altitudes of 5,000 and 6,900 ft. will serve as support points.

ITALY

NEW STANDARD CLASS SAILPLANE.—Three examples of the M-300, designed by M. and P. Morelli, are on the stocks at Turin Polytechnic. A striking feature is its big aspect ratio of 25. The inner two-thirds of each wing are rectangular, with a constant thickness of 17.3%; only the tapered outer third includes the aileron. Airbrakes are divided into six separate portions each side, each with its own slot. An original feature is two alternative sets of trailing edges with different curvatures, which can be rapidly exchanged, to suit the expected meteorological conditions. Wing profile is Eppler 266. The tail is T-type.

The machine is designed for low cost and moderate weight. Principal data are: Span, 15 metres; wing area 9 sq. m.; projected empty weight, 160-170 kg. (353-375 lb.); maximum all-up weight, 300 kg. (661 lb.); wing loading, 26-33.3 kg/sq. m. (5.33-6.81 lb/sq. ft.); projected maximum speed, 257 km/h. (139 kts.); expected best gliding angle, 1:40. *Volo a Vela* and *Air et Cosmos*

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POLAND

EDWARD MAKULA has been awarded the Lilienthal Medal for 1966 and so becomes the third Pole to receive this coveted award. Makula is being given the medal in recognition of his outstanding record in championship soaring which includes a first (Junin, 1963) and placings in the top five of the last four World Championships.

SOVIET UNION

THE 28th Russian Nationals were held at Orel, during June. The weather was so bad that only two tasks were set. The period of the contest was therefore prolonged three days and there were two more tasks. Of the 57 competitors, more than a third were women, who were in a separate class. The tasks were:

1. A 107-km. triangle race. 50 pilots completed the course and the fastest time was done by Malyutin who finished in 1 hr. 34 min.
2. Free distance via two turning-points. The furthest distances were 201 km. for the men and 168 km. for the women.
3. A 102-km. goal race. 28 pilots completed this task.
4. An Out-and-Return race of 126 km. 36 pilots completed this task.

In the women's class, 1st was Manafova, 2nd Garmutye, 3rd Anaxova.

In the men's class, 1st Suslov, 2nd Chuvikov, 3rd Rudenski. There was no mention of the types of machine flown.

INTERNATIONAL COMPETITION. — This was held at Orel early in July, and teams from Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, the Soviet Union and Yugoslavia were competing. Originally each country was to be represented by an Open Class and a Standard Class pilot, and a woman, who would fly in the Open Class. Also, the Soviet Union was to have been represented by two teams (6 pilots). This did not happen as Poland had 3 pilots in the Open Class as well as Kempka in the Standard Class. The East Germans, Nolte and Blauert, were both in the Standard Class, flying Foka 4's. Four Russian pilots were mentioned in the Open Class (two of them being women) and one pilot in the Standard Class. During the evening before the contest, sullen clouds rolled over the airfield and rain drummed on the roofs. However, the 3rd July dawned fine. The opening ceremony was held under a dazzling sky of cumuli and was watched by thousands of people.

At 11.10 a.m., the 36 competitors were launched to 2,600 ft. in less than half an hour. Thus started, with the launch of Kempka's Foka 4, one of the most successful gliding competitions that have been held in Russia during recent years.

The tasks set during a ten-day period were:

1. An Out-and-Return race of 146 km. Fastest time 1 hr. 47 mins.
2. A 300-km. triangle. Fastest time 4 hrs. 10 mins.
3. A 200-km. triangle. Fastest time 2 hrs. 25 mins.
4. A 100-km. triangle. Fastest time 1 hr. 40 mins.
5. Free Distance through two turning-points. Best distance 144 km.
6. Twice round a 105-km. triangle. Fastest time 3 hrs. 31 mins.
7. A 500-km. triangle.

The winners were, in the Open Class: 1st Krolikovski, Poland (Zefir 2); 2nd Wroblewski, Poland (Zefir 2), 3rd Chuvikov, U.S.S.R. (A-15). In the Standard Class, 1st Kempka, Poland (Foka 4); 2nd Nolte, East Germany, 3rd Blauert, East Germany, both in Foka 4's.

Among the women, 1st was Africanova, U.S.S.R. (A-15); 2nd Majewska, Poland (Zefir 2); 3rd Garmutye, U.S.S.R. (A-15).

In spite of what seems to have been a considerable Polish victory, the Poles did not have their way all the time. The Soviet women flew well, putting up performances comparable to those of the men. Regina Garmutye, who is a technical designer from Lithuania, was leading until the 5th task and was often first away. In the Standard Class, the Soviet pilot Malyutin, flying a KAI-14, was only mentioned once, during the 3rd task, when he finished 1 minute 23 seconds behind the leader (in third place). The East Germans, in the Standard Class, won the first four tasks. In the Open Class, the Soviet pilot Chuvikov had his moment of glory, during the 2nd task, the 300-km. triangle. He completed the task in 4 hours 10 minutes, finishing 7 minutes before Krolikovski. They, alone, got home. Pilipchuk,

U.S.S.R., won the 4th task. The 6th task was won by the Yugoslavian, Marosh, in the Meteor.

The Soviet team seems to have been reasonably satisfied with its efforts, in spite of the absence of the National Champion and the legendary KAI-19 sailplane.

The weather started off good, then deteriorated, and then became good again. The 500-km. triangle was set on the last day of the meeting. The first take-off was at 11 a.m. After 5 hours, it was heard over the radio that 30 gliders had passed the second turning-point, and that the weather was deteriorating. The pilots, in spite of the keenness of the struggle, began to help each other. At last, at between 70 and 80 km. from the finish, there were no more clouds ahead. Only to the left and right could be seen some very small clouds. Chuvikov, Pilipchuk, Svoboda (Czechoslovakia), Krolikovski and others all went to the right. Wroblewski alone went to the left, and got home. The others landed at between 14 and 20 km. short.

Translated and summarised from Krilya Rodiny by C. WILLS

SWEDEN

A VISIT to Terlet in Holland gave Klaus Mengelbier-Hinze the idea of organizing a visit to Switzerland by a group of members of his gliding club in Stockholm. They were offered the choice of Samedan or Schänis, and decided that the latter would be more suitable for pilots accustomed only to soaring over flat country.

The party set out on 1st July this year, and after one day's cautious flying, spent the next few days of bad weather in getting advice about soaring in Switzerland. Then the first good day brought flights of five and four hours and several of over three hours. The second week brought more bad weather, and when it cleared, a low inversion prevented the visitors making the cross-country flights they had planned and entered on their maps.

(This is claimed to be the first Swedish gliding camp held abroad, but actually a party of Swedish gliding enthusiasts visited the Wasserkuppe in 1923 and some of them obtained the recently-introduced gliding licences for flights of 30 seconds. One of them, O. Aspegren, was a familiar figure in British gliding from 1930-32.—ED.)

Swiss Aero Revue

SWITZERLAND

DIAMANT NEWS. — The Flug und Fahrzeugwerke A.G., Altenrhein (Switzerland), makers of the beautiful all-fibreglass Diamant sailplane, announce that two new wing variations will become available in 1967. One of 16.5 m. span will give the Diamant an L/D of 42 and a min. sink of 1.8 ft./sec. For those who want the best, there will be an 18 m. wing for an L/D of 45 and a min. sink of 1.7 ft./sec. Both variations will have a Wortmann airfoil and camber flaps. Supply of the present 15 m. wing (L/D 39) will continue. All three types of wings will fit the same fuselage, but fitting adjustment will have to be made at the factory.

RENE COMTE

UNITED STATES

NEXT NATIONALS.—The 1967 National Championships will be held from 4th to 14th July at Presidio County Airport, Marfa, Texas. Entries will be limited to 80.

FEMININE RECORD.—A national feminine single-seater goal-flight record is claimed by Miss Helen R. Dick, of San Diego, Calif., who flew 225 miles from El Mirage, Calif., northwards to her goal at Benton Station, about 30 miles north of Bishop, in a Zugvogel 3B on 20th August, taking 6 h. 15 mins. There was a 15 knot crosswind. The previous record, 96.4 miles, was set up by Dorothy Jean Arnold in 1958 in a 1-26. World record is held in Poland with 391 miles.

REGIONAL CONTESTS.—The Mid-Atlantic Regionals were held at the Philadelphia Glider Council's Gliderport at Milltown, Pa., with 32 sailplanes and 43 competitors. Three tasks were flown between 28th May and 1st June. The first task was to and fro between base and Alexandria, N.J., 21 miles away; George Moffatt won with 176 miles but then had to leave. The second was a 67 mile triangle, won by Gleb Derujinsky at 41.02 m.p.h. in a Sisu 1A. Next day, a

no-contest day, Derujinsky landed on a farm and ate a hearty lunch, preceded by a prayer in which his host thanked the Lord "for our visitor, who came to us in such a strange way." The last task, Hershey and return plus free distance westwards, was won in a Standard Austria by Ed Byars, who also won the whole contest with 2,746 points. Derujinsky was 2nd with 2,668, and Bernard Rigazio, a visitor from Paris flying a borrowed Edelweiss, 3rd with 2,323.

Richland was the site for the North-west Regionals, in which two glassfibre Libelles headed the list in the final results. In one, Carroll Klein (United Airlines pilot) won the first task, distance under an overcast sky, 105.5 miles at 20 m.p.h. average including a tailwind. Ed McClanahan won the other two, a 190 mile out-and-return at 43.5 m.p.h., and an out-and-return plus distance with 255 miles, including a slope-soar along the Kickitat River Canyon around sunset. Klein won overall with 2,738 points and McClanahan scored 2,511.

A Skylark 4 was flown by Bob Smith, winner of the Eastern Open Soaring Championships at Harris Hill, Elmira, with 4,824 points. He won the two triangle speed tasks, and Walter Cannon (total 4,228 pts. with a 1-23H-15) a goal-and-return and speed to a goal; both tied in a distance task with 195 miles each. *Soaring*

Southern California Regional Contest, Part 1, held at California City during three days at the end of May, was won by Graham Thomson with a Libelle. Mears won the first task, an 86 mile triangle, at 46.19 m.p.h. Thomson won the other two — speed to a 115 mile goal at 54.85 m.p.h., and 312 miles on a 75 mile out-and-return plus free distance. Part 2 was due to be held in September. *The Thermal*

SAILPLANE FOR MET. RESEARCH.—Kim Schribner has taken delivery of a Schweizer 2-32 fitted with a wide range of equipment for research into clear-air turbulence and other high-altitude phenomena. Co-operating with the project is the Explorers' Research Corporation (set up by the Explorers' Club of New York City), also N.A.S.A. and other research organizations. Later, a pressurized suit will be added for flights above 40,000 ft.

SLICED-OFF THERMALS.—On 15th July, over Kansas, the wind was south below 5,000 ft. and north above. Hal Lattimore in a Ka-6 climbed to the apparent top of a thermal, then turned south and, 15 seconds later, contacted the sheared-off upper portion of the same thermal and climbed to 8,500 ft. Later he repeated the manoeuvre, reaching cloud-base at 9,100 ft. Some buzzards, having also climbed to the shear line, were not sufficiently clued-up to follow him.

HIGH C.—Rudolf Schuette earned his C badge at the U.S.A.F. Academy at Colerado Springs with a climb of 18,400 ft. to an absolute altitude of 30,540 ft. *Soaring*

WEST GERMANY

WOLF HIRTH MEMORIAL.—A fly-in by aeroplanes, "motor sailplanes", sailplanes and a helicopter marked the beginning of this gathering on 6th August to honour the memory of Wolf Hirth, the gliding pioneer, at Teck, where he first soared in 1929, established a sailplane factory, and finally died during a sailplane flight on 29th July, 1959. Overlooking the site is a hill (with a castle on top where the late Queen Mary — "Princess Mary of Teck" — spent much of her youth—ED.), and near the foot of this hill a memorial stone was unveiled next day in the presence of many distinguished people in German private aviation and visitors from Austria, Switzerland, France and England.

The stone is of Jura marble and, except for the plaque in front, is carved in the shape of a cumulus cloud.

A competition for the fly-in was held; in the gliding section Otto Schäuble won with 319.5 points for a flight in a Ka-6 from Hahnweide via Hornberg and Donaueschingen and back to Teck.

Frau Hirth opened an exhibition of documents and other relics in the Rathaus at Nabern. The aerial visitors flew off in the afternoon of 7th August.

Aerokurier, Adler, Luftsport and *Aero Revue*

PAST RECALLED.—Dr. Ernst Steinhoff, one of the four pilots who jointly set up a world's record of 504 km. from the Wasserkuppe to Brno in 1935, has com-

pleted his 3-Diamond badge with a climb of 5,790 m. to 8,840 m. absolute in the U.S. His 300-km. goal flight was from Almogordo to Corona (New Mexico) in 1965.

Der Flieger

LIBELLE AND BS-1. — Eugen Hänle writes that his Glasflügel firm, which is having success in many countries with his glass-fibre Libelle, is undertaking to produce the BS-1, but will not start delivery until the beginning of 1968. The production model will be like BS-1 outwardly and Libelle inwardly, with certain improvements. The price is expected to be around DM33,000 (£2,930) or, fully instrumented with radio and oxygen, about DM40,000.

* * *

"MOTORIZED SAILPLANES"

A DETAILED comparison of costs (in France) between operating a modern two-seater sailplane and tug on the one hand, and the Fauvel AV-221 motorised two-seater tailless machine on the other, is published in *Aviasport* for October. Three cases are considered, and the summarised conclusions are:

1. Ignoring first costs but allowing for depreciation, plus fuel at full price: the glider and tug cost 50% more than the AV-221 for 1,000 launches.

2. Club operation, including subsidy for first cost and tax allowance on fuel: again the sailplane-plus-tug costs 50% more.

3. Operation in Germany: sailplane-plus-tug costs 45% more.

It is pointed out elsewhere that a machine like the AV-221 can take off and land on aerodromes where gliding operations are forbidden.

Interviewed by *Aerokurier*, Seff Kunz said one could feel so comfortable in a motor-sailplane, even on a good soaring day, as to mistake it for an aeroplane, and much thought must be given to means of preventing this false development. Herr Carthaus, who has been running instruction courses with a Motorfalke, said that eliminating the winch makes for greater comfort and the instructor is less distracted during the launch.

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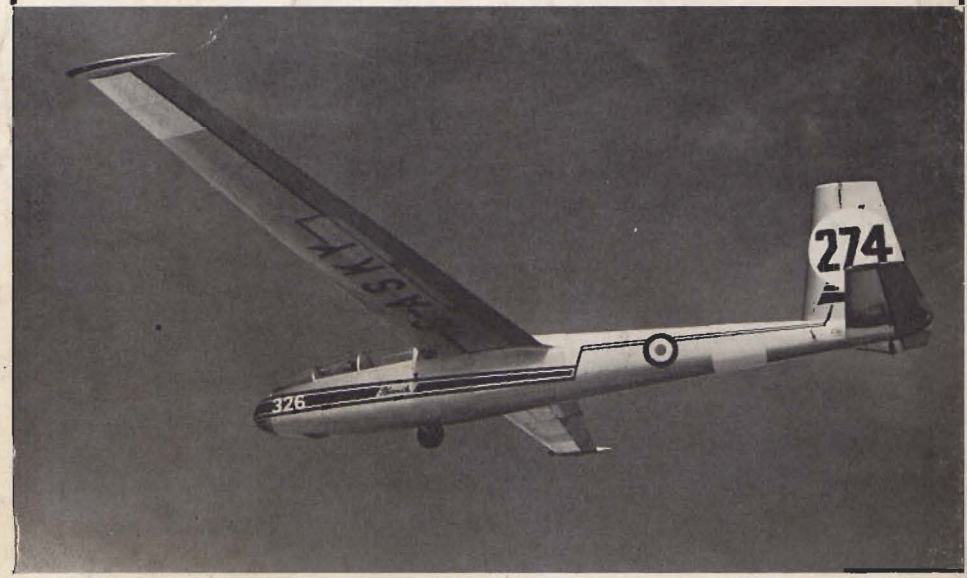
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