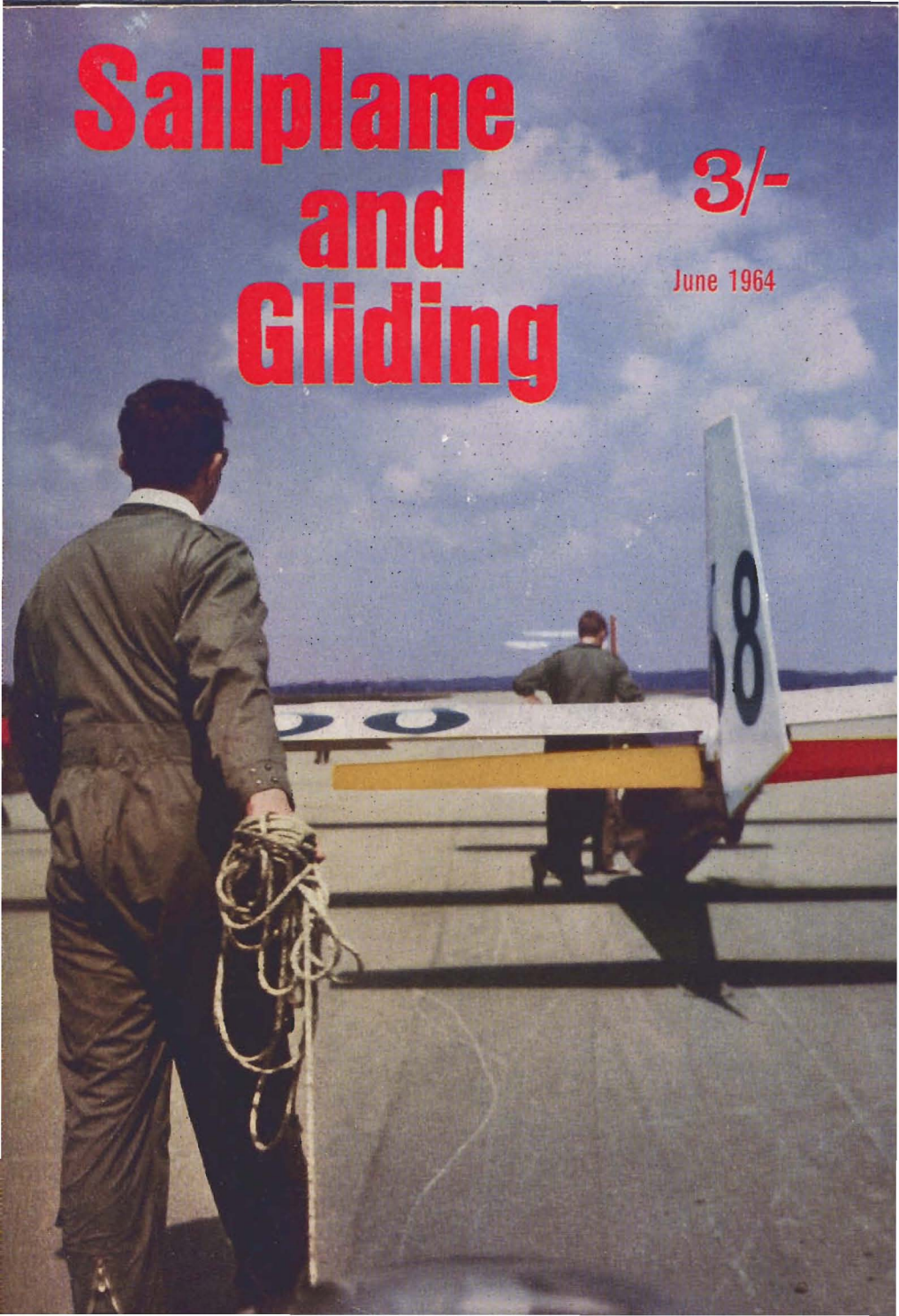
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National Championships 1964

THE 1964 Championships are being held at Lasham from 16th-24th May. Because Whitsun falls early, the public holiday will be on the first instead of the last Monday, and so the meeting will last 9 instead of 10 days. In order to make the best use of the time, the first Saturday will be a full flying day for both Leagues, weather permitting. The Championships will be opened by Nicholas Goodhart, who is unfortunately not able to compete this year.

The Competitors will be divided into two Leagues as previously, with a maximum of 40 gliders in each. All pilots must have competition ratings, the 40 entrants with the highest ratings composing League 1.

In addition to the rated pilots, the B.G.A. Capstan two-seater will be competing, giving competition experience to instructors, and there will be a guest team from Italy. Giorgio and Adele Orsi are well known as enthusiastic private owners, who have done a great deal for gliding, particularly at Varese, and we wish them an enjoyable stay with us.

Although superficially similar to previous Championships at Lasham, the 1964 event will be used in several ways as a research and training ground for the 1965 World Championships to be held at South Cerney in Gloucestershire. For example, it will be necessary to increase the number of experienced turning-point observers, instead of relying on the stalwart few that we have in the past.

In order to give a slight breathing space to our regular voluntary helpers, before the 1965 marathon, competitors will be asked to offer up one of their crew members for a single day to help. It is an interesting statistic that if, in fact, each pilot gave up one crew member on only one day throughout the entire contest period this would provide enough people to man the start and finish lines, all the retrieve telephones, and to do the timekeeping. If we continue to have plenty of competition opportunity in the form of both Nationals and Regionals, there will have to be more competitor participation in the running of them. Since this can be fun without hardship, there is little reason why it should not happen. Conveniently, on the occasions when a pilot needs his full crew, such as for Distance tasks, fewer helpers are required, as there are no start lines or turning points.

As well, attempts will be made to try to reduce still more the interval between launches. We know that we can run at a steady interval of just under a minute a launch at Lasham. But it is not easy to reduce this by much owing to the existence of runways, and the fairly narrow grass area parallel to the main runway on the north side. At South Cerney there are no complications of runways, or narrow strips, and it is expected to be able to launch at a satisfactorily fast rate. On suitable occasions in this year's Nationals some experiments in Layout will be tried.

The new Slingsby 15-metre, the Dart, will be flown by several top pilots, and it is sincerely hoped that the weather will provide opportunity of trying it out competitively in both weak and strong conditions. This was not possible during the Easter meetings, when the weather was appreciably colder than at Christmas!

A further baptism is taking place at Lasham in time for the Championship (we hope). This is the opening of the new clubhouse, where everyone will be able to drink, eat, and have showers in a shiny modern building. After the years of bursting at the seams in a wartime erection, the sense of luxury will be wonderful.

ANN WELCH

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Soviet Team for the World Championships

by BORIS OLSHEVSKY

Master of Sport; Sports Correspondent of the Novosti Press Agency.

THE U.S.S.R. Aeronautical Federation has applied for participation in the World Gliding Championship to be held in Britain in May-June, 1965. After an unsuccessful debut in such competitions six years ago, Soviet glider pilots drew the proper lesson from the defeat and began to train harder and take part more frequently in international competitions, often being placed among prizewinners. For instance, in 1962 Vladimir Chuvyakov won the first-ever race along a 500-km. triangular route, held in Poland, and last year, in Rumania, Oleg Suslov was placed third in the combined event.

Soviet glider pilots hold four world records, among them the eleven-year-old record of Viktor Ilchenko, who flew 829.822 km. in a straight line. For 25 years no one has been able to improve upon Olga Klepikova's record of 749.203 km. also straight.*

"In the World Championship in Britain we shall meet with the very experienced sportsmen of Poland, Yugoslavia, Britain, the German Federal Republic and Argentina," says Leonid Petryanov, senior coach of the Soviet team. "We hope that this time we shall perform better than in 1958. Our fliers are training hard for the championship."

Last summer an open nation-wide tournament was held at which candidates for the national team were selected. At the end of April, in Dniepropetrovsk (Ukraine), qualifying competitions will be staged to determine the composition of the national team, which will consist of four leading fliers and two substitutes. These six will concentrate on the World Championship programme.

Next June our glider pilots will take part in international friendly competitions in Czechoslovakia, and in July the National Championship will be staged. In August and September the strongest Soviet glider pilots will perform high-altitude flights on the air wave and carry out various tactical tasks. In the spring of 1965 they will have a dress rehearsal and go to Britain to contest the world crown.

They will perform in two classes, Open and Standard. In the open class they will fly the KAI-19 and in the standard class, the KAI-14.

The KAI-19 is a new glider designed by young engineers, with Pyotr Kamyshev, Georgy Vorobyov, Mikhail Simonov and Alexei Sorokin at the head. Its wing span is 20 metres (65 ft. 7½ in.) and wing area 14 sq. m. (150.7 sq. ft.). The fuselage length is 7.96 m. (27 ft. 11 in.), width 0.64 m. (2 ft. 1 in.), and height 0.73 m. (2 ft. 5 in.). The flying weight is 414 kg. (913 lb.) and maximum speed 250 km/h. (135 knots).

Those who, in Leonid Petryanov's

*This record was beaten in 1951 by R. H. Johnson (United States) but is still the world distance record for women.—ED.

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opinion, are most likely to make up the team, are Mikhail Veretennikov, Albert Durnov, Anatoly Kurilo, Vladimir Chuvikov and Jozas Jarusiavicius.

Mikhail Veretennikov, repeated champion and record holder of the Soviet Union and ex-holder of a world record, is one of the most experienced Soviet fliers. He stands out for the flexibility of tactics. He is 40 years old.

Vladimir Chuvikov, a worker from Serpukhov (a town near Moscow), aged 33, is also a many-time national champion. His results are stable and go on improving.

Jozas Jarusavicius, 30, head of a glider pilots' club in Vilnius (Vilna), the Lithuanian capital, last year became an all-round champion of the U.S.S.R. He holds the record of flying on the air wave at an altitude of 6,896 metres (22,625 ft.). He has been in the national team since 1960.

The other candidates became glider pilots comparatively recently. Albert Durnov, teacher of a children's sports school in Lvov (Ukraine), is a Master of Sport in acrobatics. He took up glider flying as a pastime and developed into a skilful pilot. In last year's National Championship Albert took two gold medals, winning the 200-km. race along a triangular route and the goal-and-return flight. He is 33 years old.

Anatoly Kurilo, 31, a worker from the Zaporozhye Iron and Steel Plant in the Ukraine, is the U.S.S.R. champion in the 100-km. speed race. In his five years of flying he has been placed repeatedly among the prizewinners of National and Ukrainian Championships.

We do not have a periodical devoted exclusively to glider flying. This sport is covered by the DOSAAF monthly *Krilya Rodiny* (DOSAAF is a sports society uniting enthusiasts of motor-racing, flying and other such sports). This magazine prints scientific, instructional, historical and methodological articles, reviews, reports and stories devoted to the sport of glider flying and glider pilots.

A Blind Tow Through Clouds

by ADAM ZIENTEK

Mr. Zientek, a test pilot at Bielsko, Poland, was the sailplane pilot concerned in this story.

A short time ago, a sailplane in tow of a 240-h.p. tug was brought safely to earth in thick weather by means of the precision-landing radar at Warsaw.

Soon after the start on a cross-country flight, the two pilots lost touch with the ground through the surprisingly quick build-up of a cloud layer close to the ground. They flew on above the clouds for some two hours without finding a single gap in the cloud sheet. The tug pilot announced through the U.K.W. installation that he only had an ordinary air-driven turn indicator. For want of proper communication he was unaware that the sailplane was unfit for blind flying owing to unserviceability of its electrical turn indicator.

Considering the very low cloud base (less than 100 metres) and very poor visibility (a few hundred metres only), an uncontrolled penetration of the cloud layer seemed too risky. So it was decided to try to lead the tug down to a landing by radar, on the assumption that the "blind" sailplane pilot would just let himself be towed.

The position of the tug and glider was determined by A.C.C. radar scanner and the tug pilot was given directions for entering the leading-in sector of the precision-landing radar. For this he received a short "training course" in the procedure for such a landing. To the accompaniment of nervous tension on both sides, the descent through the 600-metre thick cloud layer (2,000 ft.) was initiated. It succeeded, in spite of the tug disappearing from the view of the sailplane pilot owing to the fog and icing-up of his canopy, so that he could only orientate himself by watching the tow cable.

Arachnida, The Aboriginal Aeronauts

by RICHARD MILLER

SCHOPENHAUER, whose name does not turn up too often in soaring literature, once remarked that an imitator of Kant's, Fichte, imagined that in going further than Kant he had surpassed him. This hardly makes Fichte unique. All of us are subject to the same superb arrogance. Our God is the only God and we are the Chosen People. A first step into the wilderness awakens the whole world to adventure. The end of each maidenhead is the beginning of all the world's love. And as a rule we have not finished centring our first thermal before we have, in our estimation, surpassed the abilities of every other creature that ever flew.

But it wouldn't hurt us to come down to earth for a moment and take a short look at those who have come before us, and gone beyond us, in the art of flying. First of all we must acknowledge that there are varieties of lizard, squirrel, lemur and even a species of frog (with large webbed feet) which are known to possess some ability to glide. There is even some curious evidence about the flying fish, that he can go further upwind than down, that makes us wonder about him.

But gliding, as we all know, is not soaring. When we begin compiling our list of soaring organisms, which begins with the dandelion plume and ends with man, we find that it must be expanded to include insects (aphids, locusts, butterflies), arachnida (spiders), a mammal (the bat) and, posthumously, a reptile (the pterodactyl).

The question arises as to who are the happenstance and who are the deliberate soarers. Because the distribution of aphids (a plant louse) in the lower atmosphere is determined by the degree of convective activity, because swarms of locusts are frequently found occupying entire thermals (with some isolated groups at altitudes as high as 10,000 feet), can we assume that they are there on purpose? On the other hand, can we assume that they are *not* there on purpose?

In the other insects cited above, we are on firmer ground — or in greener air. A Javanese bat with a wing span of five feet (the "kalong" or "flying fox") is known to soar quite deliberately. The pterodactyl *had* to soar. His span (20 feet) and weight (estimated at about 30 pounds) put him in the same class as those large birds, notably the albatross (11 ft., 18 lb.) and the condor (19 ft., 20 lb.), which are absolutely dependent on soaring conditions for their survival. And the spider? Well, he has some surprises for you!

If you would like to watch nature's aboriginal aeronaut at his trades, gather up your hand glass and make a trip to the meadow some warm, not too windy day in spring, or in the fall. If you have to wait for this kind of weather — and who among us does not? — you can take some consolation in the fact that the spider, or rather the newly hatched spiderlings, are waiting as well, protected by little tents of gossamer or tucked safely away in holes. But the appearance of the sun energizes their little bodies. By mid-morning, if the wind has not blown up unduly, they make their preparations to go soaring. Some of them will go higher than you or I ever will — to the stratosphere — and others will cross continents and oceans to settle, or resettle, on distant oceanic islands or bits of rocks hundreds or thousands of miles from the nearest land.

With an insistence that would do credit to the keenest tactical warrior, the busy spiderling seeks the high ground. This is his launching spot. It may be the tip of a blade of grass, a high twig, a clod of earth or a fence post. He'll use the tip of your finger as readily as not. When he can get no higher, he goes into action. With his head down, and into the wind, and with his abdomen extended skyward, he begins to spin out his gossamer. His "balloon" may be a single thread or a series of parallel threads. Some spiders are known to attach a small, flocculent mass, somewhat like the dandelion-plume, for added buoyancy. When the pull on the threads

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is great enough, he loosens his grip and allows himself to be drawn away.

Once he is airborne, the spiderling, like the sailplane pilot, is dependent on "conditions". If they are not good, he will have to return for another tow. But he is by no means simply a victim of circumstances. Energetic entomologists have dashed headlong across hill and dale, hand-glass held aloft, gathering what information they could before, after runs of fifty or a hundred feet, their subjects rose out of sight. They have observed that the spiders take measures to control their flight during this time. Some climb to the centre of their sail-thread, others vary the length, and one spider was seen to be collecting some of his streamers into a ball of silk which was accumulated near his mouth as he slowly sank to earth. Perhaps this one had spotted a local cu-nim.

Those soaring spiders who do not manage to evade giant systems of lift go high, stay long and travel far. Specimens (nominally an Italian astronaut!) have been taken in aerial traps five miles above the earth, and there was even a sighting, as indicated earlier, in the stratosphere. Spiders have been found at the 22,000-foot mark on Mount Everest, making them the highest known earth-dwellers. In distance their feats are no less remarkable. Darwin found "vast numbers of small spiders, about one-tenth of an inch in length," in the rigging of the ship *Beagle* (c. 1839) while still 60 miles from the coast of South America, and he surmised that it was by just soaring techniques as these that spiders had come to inhabit such far-off places as St. Paul's Rocks and the Cocos Islands. Another observer found spiders in the rigging of a ship 200 miles at sea and noted that after a brief stay the intrepid little fellows set sail again!

It should perhaps be pointed out that the purpose of this "ballooning", as it is commonly known, is dispersal of the young, and that nearly all spiders emigrate when young. The exceptions are very primitive types with excessively complicated names. These non-ballooners *do not* appear on oceanic islands as do the emigrating species. You may also be interested in learning that the spider can spin a line only one-millionth of an inch thick, although most gossamer is 10 to 20 times that thick. This silk (which probably began as an excretion and ended as a secretion) has a 20% coefficient of elasticity and an extraordinary tensile strength.

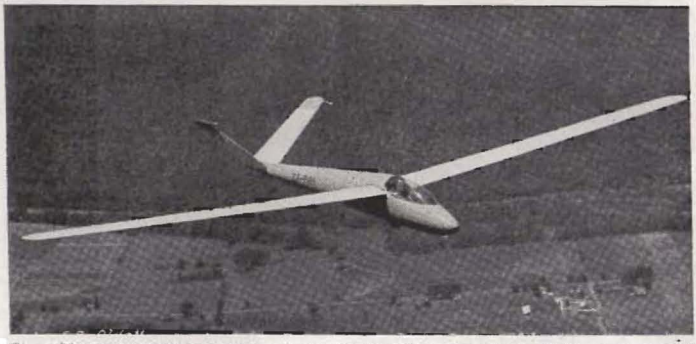
How purposeful is the spider in his airborne adventures? Is he quite deliberate in selecting just the right conditions for soaring flight? Or do some spiders inevitably succeed in such astounding journeys simply because incalculable numbers set out? I firmly believe that the spider is a most intentional soaring pilot and that there is very little element of chance in his endeavour to find and utilize lift. If the ant can navigate by the sun (which he can) and birds migrate by the stars (which they do); if the bat can locate a moth by sonar (which he does) and if the moth can intercept the signal and take evasive action (he can); if a swarm of bees can decide on a new nesting spot by a process of democratic debate, and on evidence danced before them by scouts (it can) — why doubt the abilities of the spider? Besides, the evidence on his behalf is considerable. Take, for example, his weather sense.

It should be no surprise that the majority of entomologists should be unfamiliar with the thermal as we know it. Many of those who have written about ballooning have spoken of the spider being "carried off by the wind" when they probably meant "carried off by a thermal". Others have insisted that ballooning only takes place on windless days, yet mention how the spider is carried along by the wind a sentence or two later. Anyone familiar with wind gradients could have told the spider watcher why he, with his nose amid the grass roots, felt no wind despite the fact that clouds might be drifting overhead at 10 or 15 m.p.h.

But there are exceptions. John Compton in his book "The Spider" mentions that "there is a steady upward current from the warmed ground", which is perhaps going a little too far in the other direction. By all odds the most remarkable observation comes from a little flat red book called "Spiders" by Cecil Warburton. It should be pointed out that this book was published in the year 1921, the year before soaring began in the Rhön Mountains and almost a decade before Kronfeld and Hirth began thermal soaring:

"Very likely it was not obvious to the reader why he was recommended to select a particularly calm, sunny autumn day for his study of spider aeronautics; a strong steady breeze might well appear more suitable for the purpose. Yet he would find these operations at a standstill on a windy day, and the best possible conditions are a still warm morning *after a spell of cooler weather* (emphasis mine) when the increase in temperature causes an upward draught which rapidly carries the spider to a useful height where it sails gently away."

This, I believe, can hardy leave us with any doubt as to the spider's impeccable judgment in the matter of weather. Long before you and I came to similar conclusions (and by long I mean one or two hundred *million* years), the spider was waiting for a sunny day in spring or autumn, preferably one following a frontal passage, to go soaring! The relationship between certain kinds of weather and spider soaring has not gone wholly unappreciated, however. Channel pilots on the Calais-Dover run, c.



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1827, were wont to predict a spell of settled weather from the presence of gossamer in the rigging.

Jean Henri Fabre (1823-1915) was a Frenchman and an entomologist almost without peer in the entire history of that science. Like many other investigators he was fascinated by the spider; unlike most others he brought a blend of genius and geniality to his works which assured their immortality. When we note the thoroughness and imaginativeness of his investigations into the life of the spider, and particularly the feat of ballooning, we will see why he was so highly thought of and why his contemporary, Maurice Maeterlinck (himself an eminent amateur entomologist), called Fabre "the insect's Homer".

After a great deal of work in the field, Fabre came to the conclusion that the out-of-doors was too vast and unpredictable a place to study a creature as small as the spider. Accordingly he gathered a small boxful of spiderlings from a nearby yucca plant and took it to his study, where he set up operations "two feet from the open window". Being mindful of the absolute insistency with which spiderlings sought high places, he provided his little charges with a bundle of twigs about a foot and a half in height.

True to form, the spiderlings clambered upward. In a few minutes they had contact, by thread, with the window casement and shortly afterwards were seen to be escaping in sizeable numbers. It so happened that during these observations Fabre was smoking a pipe. It was the smoke from his pipe that showed him how the spiders were getting out of the window. They were simply using a draught between an open door nearby and the open window.

The next step was obvious: close the door and the window. That done, flying ceased — for a while. Then Fabre noticed that many of the spiderlings were sailing out of the box and right up to the ceiling! At this point, when a lesser man would have allowed that spiders truly possessed some supernatural powers, Fabre (perhaps assisted by that pipe of his) made an elementary discovery. By correlating the effect of "the hot sun beating on a certain part of the floor" and circulation which permitted the gossamer spinning spiderlings to gain the ceiling, he discovered, in miniature form, the thermal.

The next morning, after another trip to the yucca, Fabre was back at his post again. Now, however, he had every aperture of the room blocked and all direct sunlight shut out. His tools were a chafing-dish, placed at the foot of the table on which he was experimenting, and a dandelion-plume. With his hand held at the level of the table, Fabre was unable to detect any warmth from the chafing-dish; but his dandelion-plume, lightened by having its seed pod removed, proved that there was indeed a rising current. And so did the spiders, most of whom were soon on the ceiling.

To conclude his work, Fabre now opened the window, thus liberating all his helpers. The current from the chafing-dish quickly found its way out of the window, bearing the dandelion-plume with it. The spiderlings, sensing a new opportunity, were not long in following. Fabre watched them all leave. "Let us wish them a prosperous journey," he said.

Easter Regionals

LONG MYND

ONLY one day, Good Friday, was good enough for cross-countries; for the rest of the time the sky was overcast with no sign of lift, though on one or two occasions the sun shone weakly through thin cloud for a few minutes.

Visitors came from Coventry, Derbyshire and Lancashire, Kent, R.A.F. Moonrakers, Royal Navy, South Wales, Swindon and Yorkshire Clubs, and the total entry was 29 pilots with 15 sailplanes, to which the Midland Club contributed 9 pilots and 4 machines.

Five pilots got away on Friday, 27th March, but none reached the 30 miles needed to make a contest. They were:

Ivor Shattock (S. Wales) 24 miles to Morda (Oswestry) in Swallow.

Harry Midwood (Derby. & Lancs.) 20 miles to Sleapford in Olympia 460.

Brian Jefferson (Derby. & Lancs.) 16 miles to Leighton in Skylark 3B.

Keith Mansell (Midland) 12 miles to Condover in Skylark 2.

David Hill (Yorkshire) 9 miles to Acton Burnell in Skylark 4.

An approaching warm front covered the sky with 6/8 cirrus, and when cumulus had increased from 1/8 to 3/8 in the afternoon, Shattock set off in a wind shadow thermal from the west face in a S.E. wind, getting 4 knots up to cloud base at 3,000 ft. His course was 12 miles N.W. to the Long Mountain overlooking Welshpool, where he regained cloud base, then north. Wind shadow thermals were used by other pilots, too, and were evidently the best source of lift.

After breakfast on Tuesday, everyone went home, Ivor Shattock taking the Mynd Cup with him. A. E. S.

SWANTON MORLEY

HEADLINE: "Coldest Easter for ten years". Met. report: "Freezing level 600 feet". After a very promising day before the competition started, the weather clamped on the opening day. Mike Backstone, our tame meteorologist who very kindly gave up his Easter vacation to forecast for us, produced an exciting chart with the Perranporth High that we had all been hoping for just nicely in position, but unfortunately a Low to the south of it fed in cold, damp air which remained the picture for the rest of the competition.

Alf Warminger, producer of ideas various, entertained us with brains trusts, lectures, teas at local places of interest and his incurable optimism, and generally the gliding fraternity enjoyed themselves, if only to see faces they had missed for a year or so. The general opinion, most encouraging to the organisers, was that everyone wanted to persevere and come again to the magnificent grass airfield in the middle of Norfolk.

The consolation to this is that had the spirit amongst the competitors that was evident on the ground been projected into the air this would have undoubtedly been a very pleasant competition, and we hope to see them again next year. P. D. K.

R.A.F. BICESTER

SEVENTEEN pilots and crews from all three services hopefully assembled at R.A.F. Bicester on 21st March. The usual Easter weather prevailed, and only one task was completed by the close of the meeting, on the 30th March. The successful day was Thursday, 26th, and details of flights are below.

WEATHER: Wind 330°/20 kts. at operating altitudes. Cloud nil at first; cu development starting 1.30 p.m.; by 3 o'clock was 2-3/8, base 4,000, tops 4,500 ft. Thermals: weak at first, moderate later.

TASK.—Race, Bicester-Thruxton-Lasham, 76 miles. X=20.

Conditions were difficult at first, gliders being carried off track by weak thermals over a very wet area S.E. of Bicester, but in most cases track was regained later as conditions improved. On the second leg, despite the forecast moderate crosswind, conditions were reported as quite good. Nine pilots completed the course, and Pete Dawson won with a speed of 42 m.p.h. Pete Kevan landed just short of Lasham in the SF-26, a German machine which looks rather like a single-seat Ka-7, and seems to perform like a Skylark 2. John Delafield, flying the prototype Dart, tried to push too fast and landed at Andover. Pilots who scored were as follows:—

Pilot	*Sailplane*	*Speed m.p.h.*	*Pts.*
P. Dawson	Skylark 4	42 6	1000
A. W. Gough	Oly. 419	38.3	902
N. W. Kearon	Oly. 419	36.5	864
E. Stark	Oly. 419	36.1	850
P. Hanneman	Oly. 463	34.4	815
E. J. Meddings	Oly. 463	32.8	787
A. S. Loveland	Oly. 463	32.6	784
D. F. Innes	Ka-6	30.2	738
J. G. Croshaw	Skylark 3B	29.5	725
		Miles Scoring	
P. D. Kevan	SF-26	46.4	428
J. Delafield	Dart	34.8	288
D. Marpole	Skylark 2	25.4	234
J. A. Evans	Skylark 3F	27.6	231
D. G. Alty	Skylark 2	13.8	127
B. G. Gunter	Skylark 2	5.6	52

Two pilots did not score. SF-26 and Skylark 2 pilots had 10% bonus.

I. W. S.

A Guide to Cloud Flying

by D. BRENNIG JAMES

CLOUD flying is not always an important technique for competition flying—in fact, the last two Nationals could have been won without ever entering cloud—but it is the most exciting and satisfying experience in gliding and a skill well worth mastering.

Most people do not do much cloud-flying until they have obtained their Silver C, which is quite sensible, since many accessory skills are required before you enter cloud, and many cloud flights may entail an involuntary landing-out. Naturally you don't start on large cu-nims but get your first experience on fair-weather cumulus, preferably with a good high cloud-base and good visibility.

Pre-flight Preparation

Your machine must be an approved type for cloud flying (see placard in cockpit), so it will be suitably stressed and have speed-limiting dive-brakes. You must have a parachute and suitable instruments, including compass (preferably a Cook compass), turn-and-slip (electric), and preferably an electric artificial horizon. A sealed smoked barograph should be carried as a routine, and when oxygen is fitted the main cock should be turned fully on before take-off. All your equipment should be checked firstly as part of a normal D.I. and secondly as a cockpit check. When instruments or batteries are changed, polarities are sometimes reversed, so the aircraft should be yawed on the ground by someone on the wingtip to ensure that the movement of the turn-and-slip needle is in the correct sense.

Always carry a suitable map with control zones marked. Get a met. forecast, since upper winds may be strong and from an unexpected direction and you may inadvertently get lost or get blown into controlled air-space. All compasses should be correctly boxed, or you should know the error, since a 30° inaccuracy is not unusual.

When Airborne

When you pick a cloud you should be reasonably sure that there is no-one already in it. When you are more than five miles away from the nearest gliding club it is reasonable to assume that a cloud is empty unless you have evidence to the contrary, and in these circumstances it is safe to enter from the side; but when within a five-mile radius you should approach it from at least 500 feet below and be sure that no-one else has entered it before you. The cloud "belongs" to the first person to get up to cloud-base, and all others should leave it to him. If someone outclimbs you and gets in first—hard luck, you cannot follow.

Centring in lift is much harder in cloud than out, so make sure you get the best bit before you enter cloud. Switch on your blind-flying instruments well in advance, and check that they work correctly before entering cloud. When dealing with a large cloud or large bank of clouds, usually the best lift is found towards the centre, which may entail flying quite a long way to get under it.

Before entering cloud, have some sort of plan about getting out again, since escaping is often easier said than done. You should therefore know (a) the heading which will take you out to the nearest edge of the cloud, (b) the direction of the nearest controlled air-space, and (c) the direction up-wind; if you need more height when in cloud, flying straight up-wind often brings you into a new up-current. Generally speaking, the longer you hang onto lift and therefore the higher you climb, the easier it is to get out of cloud at the top.

Circling with an artificial horizon is easy; fly with 30° bank and 10–15 knots above the stall. Circling with turn-and-slip is difficult, particularly if the air is rough or extensive centring is required. When you circle in clear air you always hold off a bit, as the inner wing, having a slower air speed, produces less lift; when in cloud you are more conscious of stick position and forces and don't hold off enough. The tendency is then to circle with steadily increasing bank until you start doing a series of stalls in a 90° bank (circular phugoids). If you

therefore concentrate on keeping your rate of turn down to a reasonable figure by liberal use of opposite aileron, you should not encounter trouble.

Centring should be done by levelling out briskly as the lift improves; count two, three, then smartly back onto the same rate of turn as before. By this means the new circle overlaps the old by about one radius, so that you won't circle yourself out of lift in too much of a hurry. Centring is best not attempted until you are proficient and confident; if you have centred carefully before entering cloud, and circle reasonably cleanly, you should get somewhere near the top without further effort. Usually rapid rates of climb are not attained until you have climbed well into cloud.

When there are very high clouds about, don't attempt a climb without oxygen, as breaking off a climb is often easier said than done.

React to A.S.I. movements rather than A.S.I. position: stick forward gently for a falling airspeed, stick gently back for a rising airspeed. As you approach 10,000 ft. you will find that the machine gets nose-heavy; this is due to the difference in Reynolds Numbers between wing and tail plane which makes itself felt as the air gets thinner, so don t be surprised to find yourself at 15,000 ft. trimmed fully back and heaving on the pole.

If you do much cloud flying, sooner or later you will spin, either from a stall or more likely from turning too steeply. The turn-and-slip needles will point in opposite ways and the airspeed reads suspiciously low, mainly because there is a large position error due to yaw and stall. Usually, with a machine you are familiar with, a small control movement brings you out; but when in doubt, full opposite rudder, pause, stick slowly forward. The machine is now out of the spin and begins to scream blue murder because you are in a steep dive and the wings are no longer stalled; also, as the position error is gone, the airspeed reading will be high. The machine will naturally come up to a normal attitude, but unless you ease the stick forward as the speed falls, you will execute a steep stall and the whole business begins again. In general, recovery from a spin is less





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difficult than the subsequent regain of a normal attitude. If you are still in lift, carry on climbing, but if not, get onto your escape compass course; whether it is up-wind or to the nearest clear air, etc., you should have decided previously.

If you cannot regain control, it is quite safe to spin out of the bottom of the cloud before recovery, provided that the airspeed does not build up excessively, when dive-brakes should be opened. If the glider should break up, abandon ship; if you cannot get the canopy open, go out through it as it is usually only about 1 mm. thick. Whatever you do, don't pull the ripcord until you are out of cloud; with the chute open, you fall at about 20 ft./sec.; since up-currents of 100 ft./sec. can be found in cloud, the result could be (and has been) fatal.

Half-way through the depth of the cloud the lift will be maximal, and can easily be five times what it was at cloud-base. The air current will naturally get narrower as it accelerates, so do not get unduly worried if you cannot centre perfectly, as by now the jet may be narrower than your circle.

Towards the top the lift falls off and becomes rough; however, don't leave it just because it falls to 400 ft./min.; in 20 minutes' time you may be grateful for 100 ft./min. at 500 ft. If you hold on to the last, you will probably come out about 100 feet below from the top of the cloud into brilliant sunshine, avoiding the need to plug on dismally for a long time in layer cloud.

When you emerge, you must expect to be faced with a difficult navigational problem, as your cockpit canopy may be iced up and you may be over layer cloud. When you look at your watch, you may be amazed to discover that you have been 30 minutes in cloud, so when in doubt fly head-into-wind until you have cancelled your downwind drift. With ice on your wings, your gliding angle may only be one in ten to one in fifteen. I think you will get the most out of the machine if you fly at the same speed as you did when the ice was formed, since you will keep it in the stagnation zone on the leading edge. Once your ice is off and your navigational problems are solved, carry on with your task as normal.

On landing, don't forget to switch off all your instruments and put your batteries on charge. Finally, turn your oxygen main cock off, otherwise the cylinder will be empty when you next need to use it.

B.G.A. Annual Ball and Prize Giving





Above: Humphry Dimock receives the De Havilland Cup from Mrs. Norman Ryder.

Left: Air Vice-Marshal Chacksfield makes the speech of the evening.



Above: the trophy winners and their deputies. Below: some of the 270 people at the dinner and dance.



A look at the Maintenance Requirements for Light Aircraft including Gliders after more than 50 years of Powered Flight

by R. B. STRATTON, A.F.R.Ae.S.

THE maintenance of aircraft which achieve only limited utilisation per year (say 300 hours) requires a different approach to that of the scheduled airliners, which achieve 3,000 hours per annum. At the same time, a constant review is necessary of the increase in reliability that has been achieved with new techniques, new protective treatments, backed by considerable operating experience on the type. It is in this "area" that reduction in maintenance costs should be sought.

What is the relationship between Maintenance and Airworthiness? There is sensibly only one category of airworthiness, the non-killer kind, but it is important to differentiate between that work which is necessary to maintain airworthiness, and that work which is necessary to maintain the second-hand value of the aeroplane. All too often these two are booked as one item!

It is also important to appreciate that accidents due to lack of, or faulty, maintenance are very rare. On the other hand, it is worth considering what the chances are of decreasing reliability by fiddling about with something that is working perfectly correctly (e.g. radio, instruments, etc.).

Accidents due to contaminated fuel or oil, or even to very rare structural failures, should not be debited against "maintenance", provided that the sensible maintenance work has been carried out to prevent them. The failure of a component such as a crankshaft is normally a design fault, and only limited maintenance precautions can be taken against such occurrencies.

The establishment by design and experience of safe "lives" for components is an attempt to define a usefully reliable period of operating. Clearly it is unwise to treat lightly any such life affecting a fatigable component such as a wing-spar, a metal propeller, or even a crankshaft, etc.; but equally it is unrealistic to apply limitations in hours, or calendar time, to a component whose malfunction merely causes inconvenience — e.g. starter-motors, generators, tachometers, etc. We often forget that the instrument more likely to bring us down in a hurry is the oil pressure gauge rather than the A.S.I., both of which can be checked in situ!

It is obviously important, economics-wise, to continually review the safe lives allotted to components, and to ensure that nothing is included which should have been excluded.

The maintenance work required on aeroplanes arises from two well-defined sources. (a) EXPOSURE to neglect, climatic conditions, lack of protective treatments, good or bad hangarage, etc., and from (b) WEAR AND TEAR arising from operating hours, operating conditions, and operating rôles (training, agricultural, etc.).

Modifications, repairs and rectifications cannot reasonably be costed against "maintenance", since they are of an unscheduled and unpredictable nature.

The owner/operator of a powered aircraft or glider can obviously do a

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very great deal for himself, to prevent excessive arisings from either sources, by cleaning, polishing, lubricating and preserving his machine, and by careful operation. After all, it is unwise to drive your car over rough ground at full-bore all the time, and to neglect to maintain it or to remove rust and corrosion as they arise. The aeroplane differs little in these respects, except that it is a less rugged animal, because of its inherent need to defy gravity!

It is surely luxurious to employ skilled labour to do to an aeroplane what you can do yourself, to it or to your car, so far as preserving the generally good condition of both.

Now we come to the *pièce de resistance* of aircraft engineers, the renewal of the Certificate of Airworthiness, whether it be at one year, two years (A.B.A.C.) or three years (Royal Aero Club) intervals. It is obviously a sensible investment to carry out preventive inspections and maintenance at (say) every 50 hours' flying or three-monthly intervals, even on a one year C. of A. in the Private category, as operated by some private owners and all gliders, for whom there are no maintenance requirements between C. of A. renewals.

If useful work is done at these intervals, and properly recorded in the Log Books, then the C. of A. renewal should only be undertaken after a considered estimate has been made of the work likely to be necessary from the hours flown (wear and tear) and the degree of exposure involved, taking into account the maintenance work carried out during the period. There is an established tradition that every aeroplane must necessarily be torn apart on the occasion of its C. of A. renewal, with a total disregard for the Log Book evidence of condition that can be obtained by intelligent "sampling" by inspection. It is most important, at this time also, to separate items affecting airworthiness from items affecting the second-hand value of the aeroplane! It is also worth remembering that there may be part-worn parts which have a great deal of useful safe life left in them, which also should not automatically be replaced on this occasion, but should be considered on their merit in the prevailing circumstances, and in the light of when

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the next servicing opportunity will arise to replace them, against the predicted utilisation of the aeroplane. These items can often be very expensive, and you will seldom get credit for the worn parts removed.

The most curious anomalies arise in the gliding world, where annual renewal costs something like 20s. per launch may be incurred by a sailplane which does 40 flights and 80 hours' flying in a poor season. At this rate the cost of gliding can be very high indeed, and obviously the remedy lies in changing the whole philosophy of maintenance, particularly by introducing a scheme of periodic maintenance (at, say, every 50 hours, three months or 1,000 launches), with a C. of A. renewal every two years.

In conclusion, it would seem to be that the cost of flying, which is closely tied to the cost of overall maintenance, can be reduced only by overthrowing the traditional approach, and by substituting a "new look" based on a sound technical analysis of what airworthiness really constitutes, the nature of the operations, the state of development of the machine and its components, and by sensibly cashing-in on the standards of reliability (and therefore airworthiness) which the manufacturer has to achieve to sell his product in a highly competitive market, in which his reputation for safety at low cost is his best sales feature!

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Road Vehicles Lighting (Long Vehicles and Trailers) Regulations 1962 : A Correction

WHEN I circularised information about these regulations some time ago, I seem to have caused a certain amount of confusion by stating that glider trailers drawn by private or dual-purpose vehicles did not need to carry front corner marker lamps as defined in the regulations.

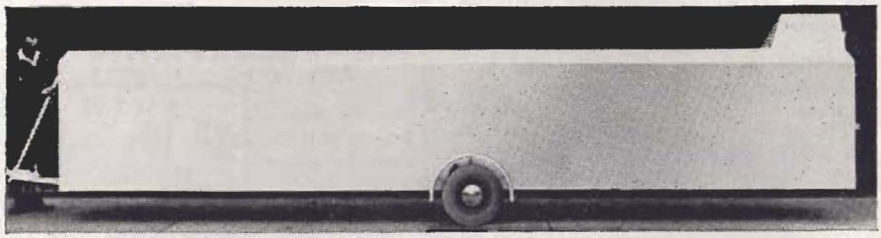
This is, unfortunately, only true if the length of the combination does not exceed 40 ft. It is therefore the case that *all* glider trailers being towed at night by commercial vehicles must carry front corner marker lamps and that the same is true where the total length of the combination exceeds 40 ft., even if the trailer is being drawn by a private car.

Briefly, these lamps must be mounted at the extremities of the front or at the front of the side of the trailer; they must not be more than 5 ft. from the ground and each lamp must have a power of not more than 7 watts.

I will deal with any questions of detail if anyone cares to apply to me at the B.G.A.

I am extremely sorry if confusion has been caused.

LIONEL ALEXANDER

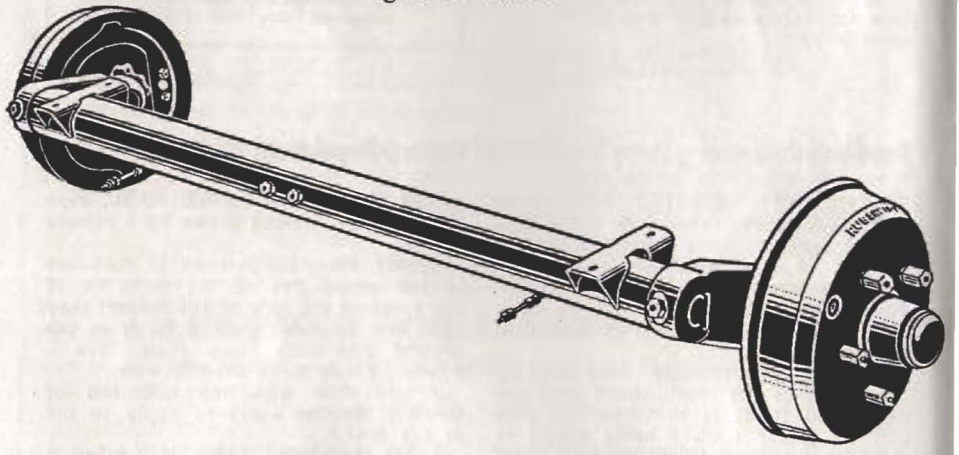


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C CERTIFICATES

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Calculating Points for Speed Tasks

by E. DOMMISSE

AS the frequency with which "speed" tasks are flown during competitions increases, it becomes imperative that a generally accepted and watertight formula should be found to work out the points fairly and satisfactorily. The present lack of such a formula is perhaps one cause for some misgiving among pilots whenever a speed-task is announced.

A successful formula must reflect the success of the set task as a race under all conceivable variations of circumstances and award fair points for distance and speed accordingly. If most competitors complete the task the value of speed points over those for distance must rise. If most fail to finish and achieve a low average distance, the task fails as a speed task and the value of distance points must rise, until at a certain point they will be equal in value to the combined value of points for distance plus speed. If some finish and the rest land short near the finish, the task approaches a successful speed task and the value of speed points must rise proportionately.

The formula which we propose contains all these advantages plus the following important points:—

1. A single competitor completing the task cannot alter the basic value of his speed points no matter what his speed is.
2. The pilots who gain speed points,

no matter how slow their speed may be in relation to the speed of the winner, will always score a little more than those who land just short.

3. The pilots who have fast speeds will gain a proportional advantage if the average speeds are low; similarly, pilots who attain good distance will gain an advantage if average distances are low.

A disadvantage of the formula is that the calculation, though straightforward, takes a great deal of time. This is solved if an electric calculating machine is used.

If none of the competitors complete the task then the usual formula $\frac{d \times 1000}{D}$ should be used (where d=competitor's distance and D=best or winner's distance).

In our proposed new formula we use T for time and not the usual V for speed.

It does not matter what units are used in the formula. D can be in miles or km. and T in decimals of an hour, minutes or seconds.

In a speed formula there are the following variables:—

The number of competitors flying the task — N.

The number who finish the task — n.

The distance of the task — D.

The distance of each competitor — D1.

The fastest (or winner's) time — T.

The time of each competitor — T1.

To reconcile D and T (and at the same time get rid of N and n) we will, and must, work with average distance and time.

$$\text{The average time (t)} = \frac{\text{times of n competitors}}{N}$$

$$\text{The average distance (d)} = \frac{\text{distances of N competitors}}{N}$$

Competitors who fail to start on a task will naturally be left out of N. Those who start, but do less than the minimum distance to score, could be left in.

Our formula becomes $P = \frac{D}{d} + \frac{t}{T}$

In order that this shall be equal to 1,000 when the winner's time and distance is substituted, it becomes:—

$$P = \frac{D1 \times 1000}{d\left(\frac{D}{d} + \frac{t}{T}\right)} + \frac{t \times 1000}{T1\left(\frac{D}{d} + \frac{t}{T}\right)}$$

If the winner's D1 and T1 is substituted in the formula, P will always be found to equal 1,000.

Example:— N = 40
n = 26

Task distance D = 113 km.

Average distance d = say 101.3 km.

Winner's time T = 1 hour 41 minutes 26 seconds = 6086 sec.

Total time of 26 pilots who finish (n) = 57 hours 52 minutes.

Therefore, average time (t) $= \frac{57.52.00}{40}$ =5208 seconds.

If time of pilot to come 2nd is 6160 seconds, his T1 = 6160.

If distance of pilot to land short is 112 km., his D1 = 112.

Then:— For the winner (whose T1 = 6086 and D1 = 113) P =

$$\frac{113 \times 1000}{101.3\left(\frac{113}{101.3} + \frac{5208}{6086}\right)} + \frac{5208 \times 1000}{6086\left(\frac{113}{101.3} + \frac{5208}{6086}\right)}$$

This will = 1000. If we call the distance ratio (a) and the speed ratio (b), then (a) must first be calculated for the winner, because it is a basic distance ratio added to the speed ratio of all others who complete the task at a slower speed (or longer time). If (a) is subtracted from 1,000, (b) will be found.

For the pilot who comes 2nd with a T1 = 6160,

$$P = (a) + \frac{5208 \times 1000}{6160\left(\frac{113}{101.3} + \frac{5208}{6080}\right)}$$

For the pilot who lands at 112 km., D1 = 112,

$$P = \frac{112 \times 1000}{101.3\left(\frac{113}{101.3} + \frac{5208}{6086}\right)} + 0; \text{ etc.}$$

Substituting the actual figures in a few known past events where different formulas were used could be quite an eye-opener and will, we hope, arouse sufficient enthusiasm to use this new formula for the future.

'DUAL' TO FAYENCE

R.I.H.Longman

JOHN WILSON and I left Victoria by the Azur Express on Saturday, 22nd February, having secured places as "stagiares" at the Centre of the Association Aéronautique Regionale de Fayence, to commence Monday, 24th February.

With seats and couchettes reserved, the journey via Dover, Calais and Paris to Cannes was easy. Two points here:— it saves the trouble and expense of continually engaging porters if you "register" your heavy baggage (other than hand luggage) from Victoria to destination at a cost of 2s.; secondly, meals on French trains, although good, are very expensive, and if we did the journey again we would take flasks and eatables with us. However, we "met up with" some pleasant company.

On going to the dining car for dinner, John asked if I would sit beside him or opposite — I chose "opposite" so as to see and talk to him the better. That was a mistake; John, tallish and slimish, should have been *à coté* — for the vacant seat at my side was taken by an



enormous Frenchman, with about a 64-inch chest and arms in proportion, who "oversailed" his allotted seat and managed to capsize my soup spoon from time to time. He and a fellow-countryman had seen the international rugger match in Paris that day and volunteered to us as a plausible reason why England won — "The Frenchmen see their girls *avant* the match, the English *après*." (We could not follow the reasoning.)

We were approached — no! we did *not* do the approaching — by a young girl from a Commonwealth country who was travelling to the South of France for the first time and who felt she wanted to talk English to somebody as her own compartment was full of Frenchwomen, none of whom could speak her tongue. She showed us a note-book with some phrases, questions and answers written for her by a friend in this country, just to "help her on her way" — the first was:—

Question; *"Voulez-vous dormez avec moi?"*

Answer; *"NON"* — (unless you fancy him!)

(John and I are saving up to buy a brooch bearing letter "X" of the international code of one-letter flag signals to present to her.)

Well, eventually to Cannes — we should have saved a few shillings by booking to St. Raphael only, but we wanted to see Cannes anyway; besides, if you do not have a car at Cannes, there is a good bus service from that city to Fayence via Grasse, but not from St. Raphael.

08.30 on a Sunday morning is not the best time to arrive at a French railway station to claim the car you have reserved and paid for! The fact that the car was actually in the station yard, its keys and a police permit were lying on the counter, we had receipted papers plastered with rubber stamps, gladly supplied information as to driving licence, place of birth, reason for being in France, passport number, etc., etc.,



. . . made not the slightest difference

made not the slightest difference to the *employé* who then happened to be on duty. It was necessary for him to telephone to Paris (at our expense, but we haven't finished with that yet).

Eventually we were away in our 750 c.c. Renault, John driving and muttering to himself for the first twenty kilometres "Keep right, keep right, keep right!" We parked for a few minutes in the centre of Grasse to enjoy a panoramic view — which we couldn't see anyway because of the mist — thence away to Fayence, where we had reserved rooms at the Hotel de France— rather primitive, but clean, with *monsieur le patron* and *madame* friendly and obliging. Next a visit to the airfield (about 2 km. from the town) where some local flying was taking place by club members but "stagiares" were not flying. We had a look around the airfield. The tugs were three French-built Fieseler Storchs (metal wings) and among the gliders we saw were:— one Castel 25s (locally known as the "potato bomba"); one Ka-7, one AV-22 (u.s. at the time of our visit) and 12 solo machines: one Ka-6, 1958 vintage, recently purchased by the Centre; Breguet 900; Breguet 901; Foka; Ka-8; Lis (Polish); two Meise; one Castel 310; one N/1300 (French Grunau Baby); an Emouchet SA/104, and one Weihe. We also noticed a Skylark 3, owned by Norman Gregg, Coventry Club — making his fourth visit to glide in the South of France — and half-a-dozen Ka-6's, trailed from Germany. Fayence is very popular with the Germans, some of



. . . popular with the Germans

whom go back year after year, and about 30 were there when we arrived.

As there was no flying for us that day, we set off down the most tortuous road I have ever driven on to have a look at Frejus (rebuilding now practically completed after the dam disaster) and St. Raphael.

We were due to report as "stagiares" on the morning of Monday, but we had gone all that way to find — yes! *rain*!! — buckets and buckets of it. However, we met the two instructors, MM. Bretagnon and Connet, and signed in, handed in our log books and spent some time in "Control", having a look at circuit procedure etc., and then splashed our way through the mud to do a "ground reccy" of the airfield. As flying was definitely "out" for that day, we had a look around the bunkhouses, which are to a very good standard, complete with central heating and *some* "mod. cons" but not *all*, then made ourselves known at the canteen, where the company was jolly, the food excellent and the cost only 10 francs a day, exclusive of wine. After lunch, a drive of a few kilometres on Alpine roads took us to the Hotel de France at Seillans, about 5 km. from Fayence. This is a good hotel, which can be recommended.



. . . a good hotel

Tuesday was even more unflyable than Monday so, after lunch in the canteen, we took a different route to Seillans and for many miles were driving in comparatively clear air above cloud.

If my pen wrote in blue instead of black, I might find words to describe Wednesday's weather — just about the *plus unflyable* — so once again we set off for an Alpine tour, this time to inspect the grottoes at St. Cézaire, only to read at the entrance:—

LES GROTTOES

LES VISITES SONT SUSPENDUES PAR LA JOURNEE EN RAISON DES TRES FORTES INFILTRATIONS.

However, that was only one of the "tasks for the day"; another was to make a return visit to Grasse and seek out Janette at Molinard's Perfumery; solely, you understand, because she speaks English and told us we should receive 20% discount (off perfumery purchases) if we paid by traveller's cheques. That 20% off traveller's cheques worked for purchases in other shops and is worth remembering.

By Thursday John and I had been present at the making of a local "record"

— not for ages had it rained solidly for four days in succession — so, again, no flying. The airfield was so flooded



. . . so flooded

that sheep, entering from the eastern side to graze, swam away from the western side as seals! We helped Norman Gregg put his Skylark 3 into his trailer and he and his wife were then soon away in their "Jag".

Oh! A note of warning to men pilots visiting the canteen — *guardez vos cravattes;* if you do not, they'll be whipped off in no time at all and hung in a line over the bar; lady pilots? *Je ne sais pas*! In the afternoon of that day John and I visited St. Maxime and St. Tropez.

FRIDAY.—*At last* the weather seemed better, so away to the airfield bright and early, but the promise was not fulfilled. John and I were listed on the daily flight programmes for a "controle" flight in Ka-7 with M. Ardoin, who started gliding in 1931. Subject to checks being all right, we were promised an afternoon with "Lis", but although checks were o.k., we were just beaten to "Lis" by a young Frenchman, who told us he found her very attractive (to fly). Then came rain again — *toujours confiture demain —mais aujourdhi jamais*! A note here as to the check flight. All launching is by aero-tow and for the "controle" you are pulled around with continuous change of direction — just to ensure that you can cope with aero-tow in mistral conditions.



. . . no flying

The next day we were told there would be no flying, as once more the airfield was nearly under water, so we set off for Nice (Hotel Massinet, in rue Massinet, is reasonable), thence to Menton, on the Italian frontier, via Villefranche and Beaulieu, returning to Nice by the lower Corniche.

SUNDAY.—The Sun!! So away to Antibes, Juan les Pins, Cannes (boat to the Lerin Isles) and St. Raphael before heading north for Fayence.

Believe it or not, we *did* fly on Monday. John took Lis and I had a Meise, but the weather soon failed us again and visibility was bad, so all machines were on the ground by about 16.00 hrs. And that was our flying! Circuits were possible the following morning, but no soaring, so we gave it up and made for Cannes, catching our train for Paris and London that evening.

To sum up, although gliding was literally washed-out, we were well received at the Centre; they have plenty of aircraft for flying when conditions are suitable, but most of the pilots visited for longer than a week — many of the Germans were down for three or four weeks. Language is no great problem, though when I was getting into the Ka-7 I started with my usual opening gambit— "*Parlez-vous anglais, monsieur*?" only to hear M. Ardoin reply — "*Non! Ici nous parlons français seulement!*" However, if you know just a little more than "*Avez-vous vu la plume de ma tante*?" you can get by very well. As you will have gathered from the above, Fayence is a very good centre for touring!



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Throw away the Winch

By CHRISTOPHER SIMPSON

ANN WELCH'S plea for the abolition of the launch rate treadmill, contained in the February 1964 SAILPLANE AND GLIDING, questions many of the assumptions upon which sporting gliding is organized in this country, and, as such, is bound to arouse a good deal of controversy.

In this context I should like to describe the experiences of the East Midlands Gliding Club (Leicester) in abandoning winch launching in favour of aero-towing. Although the experiment has not been in operation long enough for any really firm conclusions to be drawn, the results to date are certainly encouraging.

The Club was formed in 1960 and started to operate using a T-21B purchased with the founder-members' subscriptions and some interest-free loans. Launches were given by a winch constructed, with much hard work, by the members. The site is a relatively small grass airfield owned by Beagle-Auster Aircraft Limited and adjoining their works at Rearsby near Leicester. Thanks to the generosity of Austers in allowing us to use the airfield at week-ends, we have no site problem, and, due to the kindness of the Auster Flying Club, we have the use of a clubhouse. However, we have no hangarage and have to live out of trailers.

The Club made good progress, and with the aid of a loan from the Private Flying Loan Fund we purchased an Olympia 2B in July 1961. Since that date various syndicates have been formed and the summer of 1963 saw us well established with a membership of approximately 70 and having a Club fleet of the T-21B and Olympia, together with syndicates operating a Grunau Baby (with closed cockpit) an Olympia 1 and a Skylark 4.

Our membership fees at that date were —and still are—an entrance fee of £3 3s. and an annual subscription of £7 7s., though there are reductions for students and for members' wives. Our flying fees were 4s. 6d. per winch launch and soaring fees of 1s. 6d. for every five minutes, after the first five, in either of the Club aircraft. Aero-tows were spasmodically available and these were charged at 16s. 6d. to 2,000 ft., though the first ten minutes' soaring time was free.

Such, then, was the position last summer, and like other clubs we had had our share of winch troubles and other fumbles.

Our declared aim as a Club has always been to give as much flying to Club members as possible consonant with the state of our finances. We have tried to steer clear of expansion for its own sake and this, I think, involves the avoidance of courses.

Some of us, appalled not only by the waste of money but more so by the waste of immense personal effort necessitated to keep up a high winch launch rate and keep an obsolete winch running, felt that the time must come when our launching would be solely by aero-tow. We saw, however, that to adopt such a policy would involve considerable opposition both on the alleged grounds of expense and of a decline in the launch rate.

Meanwhile, with a certain amount of prudence (or luck?), we had in June 1962

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ordered a Capstan to replace the T-21B. Delivery of this aircraft was, with the aid of the Private Flying Loan Fund, arranged for October 1963. It so happened that at about the same time Cumberland Aviation Services Ltd. started to run a flying school from Rearsby, and it was felt by all concerned that to have a flying school and winch launching on a small airfield might lead to difficulty. In consequence, with the arrival of the Capstan and the flying school we turned to full-time aero-towing.

Towing is carried out by a Tiger Moth and a Terrier, but these are not both necessarily available at the same time. The Terrier, in fact, is run by Cumberland Aviation Services, and forms part of their flying school. We use it on a contract basis. Two tugs seem adequate to cater for six aircraft, a syndicate Swallow having joined us in October.

From the outset we were determined that the tugs should look after themselves financially, while members' subscriptions and soaring fees for the Club aircraft would look after the running expenses of the Club. Each flight in a Club glider is charged a soaring fee at the rate of 1s. 6d. for each five minutes or fraction of five minutes it spends in the air. The charges for the aero-tow comprise a standing charge of 4s., to which is added 1s. 4d. for every minute which the tug spends in the air; though for administrative convenience, the charge is rounded off to the nearest sixpence. This system of aero-tow charges was adopted since it was felt that a tug could be used most efficiently in a variety of roles if the user paid a fair charge. For instance, on a day when cloud base is low there is no difficulty in assessing the appropriate charge, thus eliminating the difficulty caused by the traditional standard charge in this country to 2,000 ft.

Our new system compares very favourably with our earlier rates, as the following examples will show. In the case of the Olympia being towed to 2,000 ft. and not soaring, its usual time in the air is 15 minutes, and the tug is airborne for 7 or 8 minutes. Under our old system the pilot paid 18s. He now pays 18s. or 19s.

A typical training launch to approximately 2,000 ft. involves the Capstan being airborne for 15 minutes and the tug for 8 or 9 minutes, involving a cost of 19s. or 20s. 6d. Under our old system 15 minutes of training time would have cost 18s., since a launch averaged 4 minutes, high winch launches being precluded by the airfield's size.

In terms of flying time our members are now forced to pay on average 10% more for their flying, but for this they obtain the following advantages:

1. More time in the air. Our membership has increased slightly but there is a significant increase in the hourage achieved by our two-seater and the Olympia.
2. Hill and wave soaring are now possible. An aero-tow to the ridge at Harby near Melton Mowbray (the tug is airborne for 25 minutes) has resulted in two 5-hour legs, although a field landing is inevitable. Wave soaring has taken place over the site, but this is not possible without aero-towing.
3. Marginal thermal days will undoubtedly produce more soaring.
4. Our devoted Transport Committee no longer spend a great deal of their time repairing and maintaining winches and towing vehicles. They can fly instead.
5. The fumbles associated with winches have disappeared.
6. Improved training methods. We believe we may produce safer and better pilots who are competent to soar. As yet we have not produced any pilots to first solo standard, though one or two are already in the offing.

It is, of course, only fair to point out the disadvantages:

1. We are prevented on more days than previously from flying by high winds and bad visibility.
2. We do not as yet have enough tug pilots.

On balance, we feel that our new arrangements are a vast improvement on the old.

We are now established on a basis which enables us to provide proper facilities for soaring and for training soaring pilots by up-to-date methods. One result has been a marked increase in the enthusiasm of our members.

I would suggest we forget the launch-rate bogey and, instead, aim to give our Club members more flying and less frustration. Throw away the winch!

Throw away the Winch (2)

I am convinced that aero-towing is a "good thing", and if its cost could be reduced we could afford to throw all the old winches and tow-cars away (cries of "shame" from confirmed M.T. bashers—we'll go join a motor club!).

I am equally convinced that the aeroplanes in use today in the U.K. are inefficient for towing, as only about 15 of the 140 h.p. of the engine ever reach the glider. If the weight of the tow-plane were reduced (only necessary to carry one person, not four) and be designed for climb at 55 knots (not cruise at 80 knots), and have the best propelller efficiency obtainable at the design climb speed, then we could have a smaller engine and still have 15 or more horses reaching the glider.

One of the main deterrents in aero-towing is the cost of "fumbling". The actual tow is not too expensive with present aircraft, but the pilot who makes a large circuit instead of a tight one, or who taxis about all over the field, is costing his club 1s. 6d. a minute, or more. Tow costs have to be loaded to cover a proportion of pilot error. I have satisfied myself by experiment that efficiency in airfield layout and competent pilots can reduce tug times for a given height of tow by as much as 30%. The smaller engine might reduce "fumble cost" to 1s. a minute, or less.

I therefore suggest that a single-seater tug with a modern 60 to 100 h.p. engine could be developed that would give a better towing performance than present tugs at a significantly lower cost. The design aim should be "10s. to 2,000 ft. including fumble factor". I believe the gliding movement is nearing the size where the development of such an aircraft is a practicable proposition, possibly from an existing design.

This letter is written to see if there is interest in such a project. If people with constructive ideas on the design and operation requirements would care to let me have their views, I would be glad to try to correlate them as a first step towards more efficient aero-tow launches.

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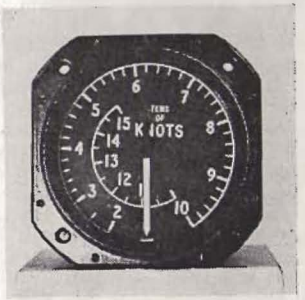
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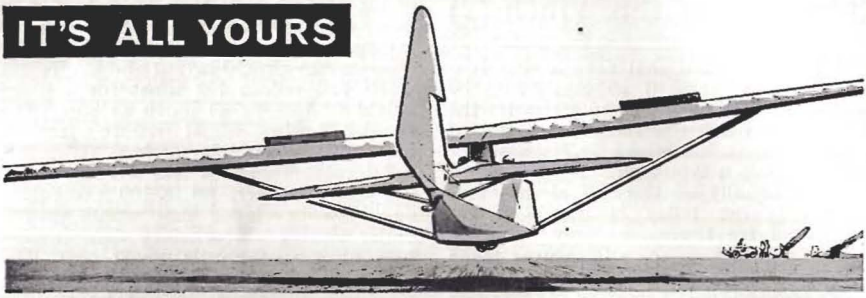
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THE INSTRUCTORS' CONFERENCE, 1964

THIS was well attended, as usual, and discussion ranged over a variety of subjects. Talks were given by Frank Irving on aircraft strength aspects of aerobatics, Derrick Goddard on aerotowing, including twin towing, John Everitt on Coach and Capstan operations, and E. J. Furlong on last year's accidents.

All these aspects of gliding showed the need for improved standards if incidents were to be avoided, particularly now that pilots were able to get on to high-performance aircraft with relatively little experience.

The Conference made several recommendations, which will be put to the B.G.A. Council for consideration.

1. AEROBATICS.—It was proposed that pilots should not be allowed to do aerobatics without first having been taught them dual, and that both the two-seater used, and the aircraft on which the first solo aerobatics were carried out, should be fitted with an accelerometer.

2. C CERTIFICATE.—It was proposed that the standard of the C should be raised, so that it meant more in terms of pilot proficiency. It was also proposed that the Air Law paper now associated with the C should be moved to the B Certificate, and a new general paper should be attached to the C.

3.—It was felt that all air-brake levers should have, in addition to the geometric lock, visual indication of locking.

4.—It was proposed that in the late autumn, a week-end conference for C.F.I.'s should be arranged at a gliding club, at which the Capstan should also be available so that delegates could get some flying.

* * *

STARTING A GLIDING CLUB

THERE is something fascinating about the idea of starting a gliding club. In the long winter evenings of thinking about it, visions of flying frequently and freely in the summer sky loom large. Sadly, the truth is far from this. This article will not deal with administration, membership, or the many other real problems, but simply with the factors which enable the new club's flying operations to be effective.

As an irreducible minimum the club must have:

A SITE
A TWO-SEATER
A LAUNCHING MECHANISM
AN INSTRUCTOR

These, in some form, are not unduly difficult to obtain, but experience has shown, and a few minutes' thought will continue to show, that unless the four ingredients are suitable for the job, or are of reasonable quality, the new club will find it difficult to get established and almost impossible to progress. Its members will put in a vast amount of work, and risk ultimately being defeated.

The four essential ingredients do not need to be of uniformly high quality to achieve success, but taken together should add up to a workable total. For example; a really first-class instructor can manage with poor equipment and a marginal site (except that he will get ulcers sooner), or alternatively an

extremely large and easy site can tolerate a less experienced instructor.

If, however, all four ingredients are marginal, of low quality, or poor suitability, then the club must accept the fact that it is going to find life difficult, even dangerous, with progress unlikely. It would be much wiser to put off starting at all until it can get going with a more effective team.

Looking briefly at the ingredients:—

The INSTRUCTOR is the most important. If he is extremely able, he will know what minimum standard is acceptable in the other three ingredients, and if he thinks it is too low, he can refuse to run flying until improvements are made. If the other ingredients are only just adequate, he will be able to make the best of them.

If, on the other hand, the instructor is inexperienced, the club may not make much progress, even if the other ingredients are all quite good.

The AIRCRAFT, too, is important, and any old two-seater just will not do. If a club is to get anywhere today, and turn out good pilots, it must teach on aircraft with modern handling characteristics, for two reasons: (1) its future fleet will probably include high-performance aircraft; (2) if it does not, some of the club members will go off and buy themselves one, and it is the club's responsibility to have taught them how to fly properly. (NOTE: We have left the Wright Bros. era.)

The LAUNCHING MECHANISM can be winch, car, or tug, but it must do two things: (1) remain serviceable so that flying can take place when required, and (2) launch the glider to sufficient height to allow proper training flights to be carried out on the two-seater employed.

A temporary device which will fling the glider to a mere 600 ft. or so only when it feels like it is death to any club spirit or enthusiasm.

Finally, the SITE. The biggest problem here is usually finding anything at all, and what is required is often somewhat overlaid by a mixture of slope-soaring tradition and disused concrete. There is no doubt that gliding will have to attempt to use sites which are more economical in land if clubs are to have a real home of their own. To help rationalize site requirements, the following paper has been produced, and is available from the B.G.A.

* * *

GLIDING SITES

THE following recommended minimum requirements for gliding fields have been produced to help clubs looking for new sites.

1. In the long run the safety of gliding club operations depends on a number of complementary factors — pilot skill, aircraft characteristics, launching methods, weather, and the site. Experience has shown that it is unrealistic to pretend that exceptionally high qualities in one, or several, of these aspects can always be achieved; so in order to obtain an acceptable accident rate the quality of all these factors in combination must be above a certain level.

2. Although operations from a site which does not come up to the minimum requirements might well remain

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safe for a considerable period, it will only require the slightest lack of vigilance on the part of the instructor, or a small error of judgment by an inexperienced pilot, to result in an accident.

3. The purpose of this paper is to define the *minimum* physical requirements of a site where it is proposed that gliding by inexperienced pilots will take place.

4. Ideally a club should be sited on the largest, flattest, and least obstructed field in the chosen area. This, however, is rarely possible and the club has to make a safe site out of whatever land it can get. The proposed area should be considered in a number of different ways. These are listed below with the minimum standards of practicability. If the minima are only barely met in several respects, the site will be marginal. If any aspect is below the minimum standard, the site should be regarded as unsuitable.

5. It should be realised that the following schedule of requirements amount to a MINIMUM site, suitable only for small-scale operations. If the club intends future expansion, it should obtain a site which is appreciably larger.

6. Some existing clubs have sites which do not come up to the minimum specification. Some of these clubs, through a large background of experience, have learnt to live with their disadvantages. This is no reason for new unsuitable sites to be brought into use, particularly as gliders are becoming faster and heavier.

A. Size

The absolute minimum which will allow winch launching and aero-towing operations is 600 *yds. by* 100 *yds.* The direction of the runs should best use the most prevalent wind (preferably W.S.W. — E.N.E.). The field should, if possible, be larger than 600 yds. by 100 yds., but this area is regarded as, and will be termed, the BASIC FIELD, when considering all further points. It should be marked on the planning map, and other criteria checked or measured from it.

Operating from the runway of a disused airfield may be acceptable even if the runway is bordered with fences,

and is narrower than the 100 yds. specified, provided (a) that the fences are light enough to fail without injury to the pilot in the event of his running into them, and (b) that it is possible to make emergency landings safely outside the fence.

B. Slope

Gentle undulations of the field need not make it unsuitable, although they may cause inconvenience in use. The field is better to be slightly saucer-shaped rather than hog-backed, but no slope should be such that a glider without a wheelbrake is likely to move of its own accord.

From a centre line drawn along the BASIC FIELD *600 yds. in length, the general slope both longitudinally and laterally must not be steeper than* 1:40. Small local slopes should if possible not be steeper than 1:30. One end of the BASIC FIELD should not be more than 45 ft. higher than the other.

C. Surface

This should obviously be free from potholes or boulders. It should also be free of large quantities of loose stones or flints, unless continuous clearing will be carried out as fresh stones reach the surface. It should be drained, or drain well enough, to make winter operations practical. The surface crop (grass, short heather, etc.) should have tough enough roots to resist being cut up easily.

It should be possible to drive a Land-rover over every part of the BASIC FIELD *at not less than 20 m.p.h. without undue discomfort.*

D. Surroundings

The area up to half a mile in any direction from the BASIC FIELD should be reasonably unobstructed and in other ways suitable to permit an emergency return to the landing area, or to allow an outlanding by an inexperienced pilot without undue hazard or difficulty.

Exceptions to this requirement are (a) the proximity of a proved and effective soaring slope, and (b) in some cases the club premises or other isolated building.

Regardless of the size of the gliding field, there shall be no power wires within 200 yds. of its boundaries.

E. The Approaches

Each Approach Area shall be defined as that area bounded by (a) the end of the field, (b) and (c) two lines drawn 30° outwards from the prolongation of the BASIC FIELD and (d) an arc of a circle of radius 600 yds. drawn from the centre line of the basic strip at its end.

The Approach Area at each end of the BASIC FIELD *shall be completely clear of any obstructions above an angle of* 1:30.

The Approaches need to be satisfactory for gliders landing, and also for aero-tow take-offs. In this respect it should be realised that it should be possible for the combination to climb along a path of 1:30, without making turns of a smaller radius than 600 yds.

Method of Assessing the Site

1. Obtain the largest possible scale map, and from a survey of the site mark on it the BASIC FIELD 600 yds. by 100 yds., aligned in the most suitable direction.

2. Check all other requirements from this basic area as described above, using both the map information and site inspection.

3. It is preferable to measure the approach angle at 1:30 with a theodolite, but if this is not available, a simple sighting device can be constructed using a long carpenter's level. A backsight should be fitted to one end of the level, and a vertical marker at the other. The height of this marker should be 1/30 the length of the level. The device should be levelled on a suitable platform on the ground and the gradient observed by sighting from the backsight to the foresight marker. Anything showing above the marker and in the defined approach area is an obstruction which is outside the prescribed limits.

ANN WELCH

STRANGE ACCIDENT

AN unusual cause of a crash is reported in *Soaring* for March. Leslie Howard, aged 29, was flying a Schweizer 1-26 at Elsinore, California, when he was seen to spiral down and crash on a ridge to west of the town. An autopsy revealed that he "had choked to death trying to avoid vomiting after becoming airsick while flying."

NATIONAL CHAMPIONSHIPS 1964

Entries in LEAGUE ONE

Contest No.	*Pilot(s)*	*Glider*	*Entrant or Owner*
1	P A. Wills	Skylark 4	Private Owner
4	W. A. H. Kahn	Skylark 3B	Private Owner
9	C. A. P. Ellis	Skylark 3	London G.C.
10	P. M. Scott	Olympia 419	Private Owner
13	G. W. Mackworth-Young	Skylark 3G	Private Owner
16	P. Dawson	Skylark 4	R.A.F.
20	D. D. Carrow	Skylark 3B	Private Owner
24	P. Hanneman	Olympia 460	R.A.F.
36	R. A. Mann	Skylark 4	Private Owner
42	D. A. Smith	Skylark 3B	Private Owner
44	A. H. Warminger	Olympia 419	Private Owner
58	A. J. Deane-Drummond	Dart	Army G. Association
72	E. Stark	Olympia 419	Army G. Association
75	J. D. Spottiswood	Olympia 419	R.A.F.
86	N. W. Kearon	Olympia 419	R.A.F.
139	P. G. Burgess	Skylark 3G	Private Owner
147	D. C. Kerridge, A. D. Purnell	Skylark 3F	Surrey G.C.
155	J. B. Jefferson	Skylark 3F	Private Owner
160	D. B. James	Skylark 3	Surrey G.C.
175	D. F. Innes	Ka-6 CR	R.A.F.
177	M. C. Fairman	Skylark 3	Private Owner
180	J. D. Jones	Skylark 3F	Private Owner
190	E. G. Shephard, F. W. L. Shepard	Skylark 3F	Army G. Association
193	C. P. A. Jeffrey	M-100S	A. MacDonald & Ptns.
200	J. S. Fielden	Skylark 3	Private Owner
205	A. W. Gough	Olympia 419	R.A.F.
210	F. A.O. Gaze	Std. Austria	Private Owner
211	Anne Burns	Ka-6	Private Owner
214	M. Bird	Skylark 3	D. Robson & Ptns.
228	H. R. Dimock	Skylark 4	Private Owner
233	I. W. Strachan	Skylark 4	R.A.F.
258	R. A. E. Dunn	Skylark 4	R.A.F.
266	F. G. Irving	Skylark 4	Private Owner
296	W. N. Tonkyn	Skylark 4	Imperial College G.C.
334	J. Delafield	Dart	R.A.F.
335	J. S. Williamson	Dart	R.A.F.
361	C. W. Bentson	Skylark 4	Private Owner
367	G. E. Burton	Dart	Private Owner
411	A. J. Stone	Skylark 4	Private Owner
460	M. P. Garrod	Olympia 460	H.C.G. Buckingham

NATIONAL CHAMPIONSHIPS 1964

Entries in LEAGUE TWO

Contest No.	*Pilot(s)*	*Glider*	*Entrant or Owner*
2	I. Paul	Skylark 2	Private Owner
12	C. G. Dorman, A. Somerville	Olympia 460	Army G. Association
22	T. S. Zealley	Ka-6	Private Owner
33	G. F. Fisher, K. R. Brown	Skylark 2c	Private Owner
34	R. D. Dickson	Gull 4	Private Owner
41	R. Rutherford	Skylark 4	Private Owner
48	J. A. Findon, R. I. Tarver	Olympia 460	Private Owner
52	J. A. Evans	Skylark 3F	Army G. Association
57	K. R. Aldridge, D. W. Corrick	Std. Austria	Private Owners
64	G. W. Camp	Sky	London G.C.
65	H. S. Mettam, Rika Harwood	Skylark 3B	Private Owners
68	R. T. Willbie	Skylark 3B	Private Owners
70	H. N. Gregg, C. D. Duthy-James	Skylark 3B	Private Owners
73	J. G. Croshaw	Skylark 3	R.A.F.
90	G. A. Coatesworth	Olympia 403	R.A.F.
91	A. W. Doughty	Skylark 3F	Private Owner
95	J. C. Riddell	Skylark 3F	Private Owner
96	B. J. Davey	Eagle	Imperial College G.C.
98	S. M. Morison, R. C. Pick	Skylark 4	Private Owners
108	V. C. Carr	Skylark 4	Private Owner
118	K. C. Fitzroy	Ka-6	R.A.F.
125	C. J. Pennycuick, R. S. Waller	Ka-6 CR	Private Owners
131	A. S. Loveland, D. C. Austin	Olympia 460	R.A.F.
161	C. G. Richardson	Skylark 3F	Private Owner
169	C. R. Hurst, J. L. Smoker	Skylark 4	Private Owner
171	G. T. Collins	Skylark 4	Private Owner
173	D. M. R. Riddell	Skylark 3F	Private Owner
189	D. C. Snodgrass	Skylark 4	Private Owner
196	R. G. Proctor, D. J. Crabb	Bocian	M. R. Fountain
239	P. Minton	Skylark 4	D. Crabb & Ptns.
240	M. S. Hunt, M. J. Smith	Skylark 4	Private Owners
242	R. A. Sandford	Olympia 2	Private Owner
270	A. O. Sutcliffe	Ka-6 CR	Private Owner
280	P. D. Kevan, S. Mead	S.F.26	R.A.F.
301	H. U. Midwood	Olympia 460	Peak Sailplanes
303	E. B. Jerzycki	Skylark 4	Polish Air Force Ass.
317	G. S. Neumann	Skylark 3F	Private Owner
327	P. W. James	Skylark 4	Surrey G.C.
328	D. P. L. Scallon	Skylark 4	Surrey G.C.
333	R. C. Stafford Allen	Capstan	Private Owner
6	J. C. Everitt	Capstan	B.G.A.
Hors Concours			
I-PATA	G. and A. Orsi	Skylark 4	Private Owner

INTERNATIONAL GLIDING RECORDS

Single-seaters

DISTANCE	R. Lindner (W. Germany), 544.312 miles (2.6.63).
(joint holders)	O. Schäuble (W. Germany, 544.312 miles (2.6.63).
	K. Bezler (W. Germany), 544.312 miles (2.6.63).
HEIGHT GAIN	P. F. Bikle (U.S.A.), 42, 303.15 ft. (25.2.61).
ABSOLUTE ALTITUDE	P. F. Bikle (U.S.A.), 46,266.4 ft. (25.2.61).
GOAL FLIGHT	A. H. Parker (U.S.A.), 487.241 miles (27.8.63).
GOAL AND RETURN	M. Jackson (S.A.), 434,363 miles (8.1.64).
100-KM. TRIANGLE	G. B. Moffat (U.S.A.), 79.77 m.p.h. (16.8.62).
200-KM. TRIANGLE	R. Schreder (U.S.A.), 67.002 m.p.h. (6.8.59).
300-KM. TRIANGLE	G. B. Moffat (U.S.A.), 67.18 m.p.h. (19.8.62).
500-KM. TRIANGLE	E. Dommisse (S.A.). 66.561 m.p.h. (25.12.63).

Two-seaters

DISTANCE	V. Ilchenko & G. Petchnikov (U.S.S.R.), 515.6 miles (26.5.53).
HEIGHT GAIN	L. E. Edgar & H. E. Klieforth (U.S.A.), 34,425.85 ft. (19.3.52).
ABSOLUTE ALTITUDE	L. E. Edgar & H. E. Klieforth (U.S.A.), 44,255.25 ft. (19.3.52).
GOAL FLIGHT	F. Kepka Jr. & E. Lopato (Poland), 395.56 miles (8.8.62).
GOAL AND RETURN	S. Ratusinski & S. Maciejewski (Poland), 337.715 miles (29.7.62).
100-KM. TRIANGLE	A. Kouchirko & P. Barkov (U.S.S.R.), 62.335 m.p.h. (27.7.63).
200-KM. TRIANGLE	D. Barbera & S. Robert (France), 52.538 m.p.h. (17.8.62).
300-KM. TRIANGLE	H. C. Ross & P. E. Wilson (U.S.A.), 51.169 m.p.h. (13.8.58).
500-KM. TRIANGLE	

BRITISH NATIONAL RECORDS

British National records can be set up by citizens of the United Kingdom in any country.

Single-seaters

DISTANCE	P. Lane (Germany), 460.5 miles (1.6.62).
HEIGHT GAIN	G. J. Rondel (U.K.), 29,100 ft. (18.6.60).
ABSOLUTE ALTITUDE	H. C. N. Goodhart (U.S.A.), 37,050 ft. (12.5.55).
GOAL FLIGHT	H. C. N. Goodhart (U.K.), 360 miles (10.5.59).
GOAL AND RETURN	D. O. Burns (S.A.), 351 miles (10.1.61).
100-KM. TRIANGLE	Anne Burns (S.A.), 52.20 m.p.h. (12.1.63).
200-KM. TRIANGLE	Anne Burns (S.A.), 49.09 m.p.h. (11.1.61).
300-KM. TRIANGLE	Anne Burns (S.A.), 53.84 m.p.h. (5.1.64).
500-KM. TRIANGLE	Anne Burns (S.A.), 64.2 m.p.h. (25.12.63).

Two-seaters

DISTANCE	L. Welch & F. G. Irving (U.K.), 254 miles (14.5.55).
HEIGHT GAIN	C. Morgan & L. G. Stanbridge (Austria), 16,453 ft. (5.11.62).
ABSOLUTE ALTITUDE	C. Morgan & L. G. Stanbridge (Austria), 19,658 ft. (5.11.62).
GOAL FLIGHT	W. A. H. Kahn & J. S. Williamson (U.K.), 194 miles (12.4.58).
GOAL AND RETURN	F. A. O. Gaze & Rosemary Storey (U.K.), 170 miles (7.8.59).
100-KM. TRIANGLE	D. B. James & D. Marshall (U.K.), 35 m.p.h. (13.5.57).
200-KM. TRIANGLE	F. A. O. Gaze & Rosemary Storey (U.K.), 27.03 m.p.h. (30.4.60).
300-KM. TRIANGLE	W. A. H. Kahn & B. J. Davey (U.K.), 30.08 m.p.h. (27.7.63).

UNITED KINGDOM RECORDS

United Kingdom records can be set up by pilots of any nationality with flights starting from the U.K. All the following holders are U.K. citizens:

Single-seaters

DISTANCE	H. C. N. Goodhart. 360 miles, Skylark 3 (10.5.59)
HEIGHT GAIN	G. J. Rondel, 29,100 ft., Olympia 2B (18.6.60)

Absolute Altitude	G. J. Rondel, 30,580 ft., Olympia 2B (18.6.60)
Goal Flight	H. C. N. Goodhart, 360 miles, Skylark 3 (10.5.59)
Goal and Return	A. D. Purnell, 242.8 miles, Skylark 3F (27.7.63)
100-km. Triangle	F. Foster, 46.3 m.p.h., Skylark 2 (23.6.57)
200-km. Triangle	A. J. Stone, 40.54 m.p.h., Skylark 3B (31.5.60)
300-km. Triangle	H. C. N. Goodhart, 41.2 m p.h., Skylark 3 (25.6.57)
100-km. Goal	M. Bird, 71.09 m.p.h., Skylark 3F (4.8.62)
200-km. Goal	I. W. Strachan, 71.1 m.p.h., Skylark 4 (2.6.63)
300-km. Goal	E. A. Moore, 57.4 m.p.h., Skylark 2 (27.5.57)
500-km. Goal	H. C. N. Goodhart, 56.4 m.p.h., Skylark 3 (10.5.59)

Two-seaters

Distance	L. Welch & F. G. Irving, 254 miles, Eagle (14.5.55)
Height Gain	A. D. Piggott & B. Whateley, 15,240 ft., T-21 (27.6.53)
Absolute Altitude	(not claimed)
Goal Flight	W. A. H. Kahn & J. S. Williamson, 194 miles, Eagle (12.4.58)
Goal and Return	F. A. O. Gaze & Rosemary Storey, 170 miles, Eagle (7.8.59)
100-km. Triangle	D. B. James & D. Marshall, 35 m.p.h., Gull 2 (31.5.57)
200-km. Triangle	F. A. O. Gaze & Rosemary Storey, 27.03 m.p.h., Eagle (30.4 60)
300-km. Triangle	W. A. H. Kahn & B. J. Davey, 30.08 m.p.h., Eagle (27.7.63)
100-km. Goal	D. B. James & K. O'Riley, 60 m.p.h., Gull 2 (27.5.57)
200-km. Goal	J. S. Williamson & D. Kerridge, 34.9 m.p.h., Eagle (9.4.55)
300-km. Goal	W. A. H. Kahn & J. S. Williamson, 43 m.p.h., Eagle (12.4.58)

WOMEN'S GLIDING RECORDS

INTERNATIONAL — Single-seaters

Distance	Olga Klepikova (U.S.S.R.), 465.53 miles (6.7.39)
Height Gain	Anne Burns (Gt. B.), 29,917 ft. (13.1.61)
Absolute Altitude	Betsy Woodward (U.S.A.), 39,993 ft. (14.4.55)
Goal Flight	Pelagia Majewska (Poland), 349.583 miles (30.8.59)
Goal and Return	Pelagia Majewska (Poland), 283.9665 miles (3.7.63)
100-km. Triangle	Anna Samossadova (U.S.S.R.), 57.85 m.p.h. (27.7.60)
200-km. Triangle	Anne Burns (Gt. B.), 49.09 m.p.h. (11.1.61)
300-km. Triangle	Anne Burns (Gt. B.), 53.84 m.p.h. (5.1.64)
500-km. Triangle	Anne Burns (Gt. B.), 64.2 m.p.h. (25.12.63)

BRITISH NATIONAL — Single-seaters

Distance	Anne Burns (S.A.), 326 56 miles (3.1.61)
Height Gain	Anne Burns (S.A.), 29.917 miles (13.1.61)
Absolute Altitude	Anne Burns (S.A.), 34.590 miles (13.1.61)
Goal Flight	Ann Welch (Poland), 328 miles (20.6.61)
Goal and Return	Anne Burns (S.A.), 268 miles (9.1.61)
100-km. Triangle	Anne Burns (S.A.), 52.2 m.p.h. (12.1.63)
200-km. Triangle	Anne Burns (S A.), 49.09 m.p.h. (11.1.61)
300-km. Triangle	Anne Burns (S.A.), 53.84 m.p.h. (5.1.64)
500-km. Triangle	Anne Burns (S.A.), 64.2 m.p.h. (25.12.63)

UNITED KINGDOM — Single-seaters

Distance	Anne Burns, 282 miles, Skylark 3 (10.5.59)
Height Gain	Anne Burns, 16,750 ft., Skylark 3 (10.5.59)
Absolute Altitude	Anne Burns, 18,400 ft., Skylark 3 (10.5.59)
Goal Flight	Anne Burns, 192 miles, Skylark 3 (12.4.58)
Goal and Return	Anne Burns, 134 miles, Olympia 419 (26.5.63)
100-km. Triangle	Anne Burns, 37.3 m.p.h., Skylark 3 (25.7.59)
200-km. Triangle	Anne Burns, 32.6 m.p.h., Skylark 3 (19.7.59)
300-km. Triangle	Anne Burns, 27.6 m.p.h., Skylark 3 (1.6.60)
100-km. Goal	Rika Harwood, 51.6 m.p.h., Olympia 2 (27.5.57)
200-km. Goal	Anne Burns, 53.2 m.p.h., Olympia 419 (2.6.63)
300-km. Goal	Anne Burns, 39.7 m.p.h., Skylark 3 (12.4.58)

"'Tis the Battery Once Again"

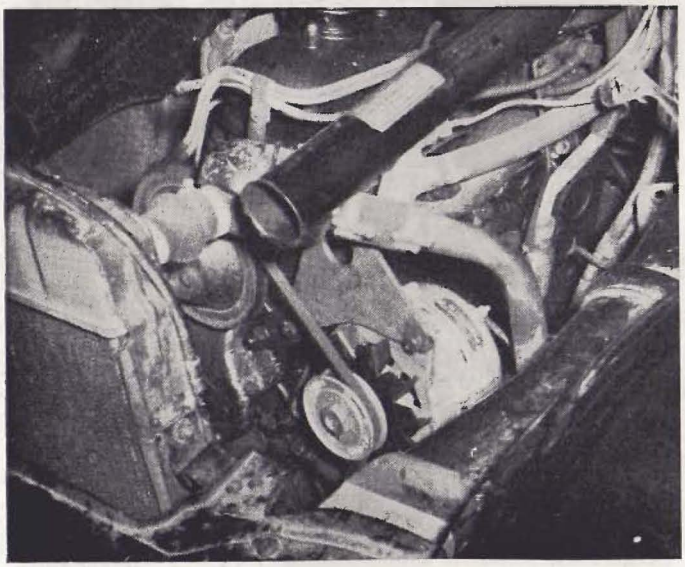
(Shakespeare, Henry IV)

by R. BRETT-KNOWLES
B.G.A. Co-ordinator, Instrument Development

In this article, Lieut. Cmdr. Brett-Knowles describes not so much the battery, but a new means of charging it. He reports on an Alternator which has just recently been imported for sale in this country.

NOW that we are fitting radio to our gliders and cars as the accepted thing rather than the exception, it may be found with the older non-transistorised car sets that the drain on the battery is excessive. The Prestolite Alternator is designed to overcome the failure of the conventional D.C. generator to produce output in sufficient quantity to run these extras at idling revs. At normal engine speeds, the power output of most D.C. generators is quite adequate to take care of the electrical load imposed by a radio or alternatively trailer lights, and there is nothing to be gained by changing either to a bigger battery or dynamo, and certainly no point in installing one of the British 60 amp. alternators previously available, as these alternators have no current-regulating circuit, and will give the full output into the battery if its voltage should be low. As their manufacturer says, the alternator is self protecting, but he does not offer any advice on how the battery will fare during this treatment (since he also makes the battery, presumably he is on to a good thing if you do install one to charge a small battery). The sample of Prestolite Alternator offered to the author to test has a maximum output irrespective of engine speed (due to internal rectance) of 35 amps, and if you attempt to take more, its voltage will fall till only 35 amps can be drawn, according to the law of the late German doctor.*

* Georg Simon Ohm, who was born some time between 1781 and 1789, propounded a law which connected the voltage and current in a circuit.



The Alternator mounted in place of a D.C. generator. Photo by Brian Pritchard

Constructional Differences

How does the Alternator differ from the usual generator, and why has it only been produced lately? In a D.C. generator, the movement of a coil through a magnetic field produces a voltage, but only during movement. It is not easy to produce a continuous movement through a field, which would make a steady voltage such as a battery needs to charge it, and so the coil is rotated to pass fast through the field one way, then slow down and pass back again through the same field, but travelling in the opposite direction. This makes the voltage die away and then reverse, which would disagree with the battery's digestion, and so a mechanical switch is used to change over the connections from the coil to the battery each time the voltage changes direction. So the coils which make the heavy current needed to charge the battery rotate, and a coil which only needs a little current to supply the magnetic field, is stationary.

The Alternator reverses this order, and rotates a magnet inside a heavy current coil, from which the alternating output voltage is taken. This has been done for many years in cycle dynamos and also in motor-cycles, where the dynamo only feeds lights and no battery is charged. The big advantage is that current to the moving magnet is small and is fed through slip rings rather than the reversing switch of the D.C. machine. but the output of the Alternator is A.C. and must be changed to D.C. for the battery. Within the last few years electronic switches have been made which do this job silently, cheaply and reliably, so efficiently that a cut-out is not needed, but may be fitted to prevent destruction of the device should the battery inadvertently be connected the wrong way round. Although the rotating part does not carry a large current, the magnetic field strength can be made very large, and, more important, more poles can be used, so that fewer revs are needed for the same voltage.

Regulation of the voltage is done in the same way as the D.C. dynamo, by using a relay to disconnect the field coil when the voltage rises above the normal. The field collapses and so does the voltage; the relay notices this and reconnects the field when the cycle repeats itself, so that the mean voltage stays correct. When the maximum output current is reached, the Alternator itself fails to deliver any higher voltage, even though the field is connected by the relay all the time, and so no current coil is needed in the regulator. A D.C. generator has to have a current coil as no such automatic regulation takes place (disregarding the obsolete three-brush generator which did produce a constant current irrespective of system needs, but had no voltage control), and if the battery voltage should be on the low side, too much current would be made, with overheating of the windings and sparking at the switch (called the commutator in the jargon).

Trials report

A Prestolite 51/37 Alternator was loaned me for trial by the importers (it is made in Canada or Ireland), and fitted to my car. Immediately a snag cropped up, for my car has the negative side of the battery earthed, which is not common practice in Britain, and the Alternator was arranged for positive earth. It would have been a matter of perhaps half an hour's work to change the Alternator, but the importers did not wish this to be done, and so the change had to be made the other way. If the Alternator had been put in without any change, no damage would have been done, as the regulator unit supplied had a polarity-detecting relay which would never have connected the battery to the Alternator. To make the change to the Alternator merely involves dismantling it and interchanging three pairs of silicon diodes.

The actual installation took the whole of a rainy forenoon at Lasham; this time was largely consumed in making a distance piece to tension the belt, and in many cars no such work would be involved. The electrical side was very easy, apart from the polarity change, one additional wire was needed from the regulator to the ignition switch, as the residual magnetism of the rotor is so low that the Alternator will not commence charging unless the field is connected to the battery, which would involve a continuous drain of 2 to 3 amps. whether the engine was running or not. This additional connection is arranged so that switching off the ignition also stops the field supply to the Alternator.



LAYOUT OF BUILDINGS AT SOUTH CERNEY, CIRENCESTER, SITE OF 1965 WORLD CHAMPIONSHIPS

One point to watch is that there is adequate wrap round of the generator belt, as a considerable amount of mechanical power must be delivered to the Alternator if it is being asked to deliver a large electrical power (the maximum power is over 400 watts as compared to the 240 watts which most D.C. generators give). This capability also means that the dynamo belt must be tight to avoid slip, which would soon cause belt failure, beside lack of output. A pulley ratio of 2.4 step up from engine to Alternator is suggested by the makers, and direction of rotation is immaterial.

On test, it still managed to cope with all the electrical load that it was possible to apply, namely headlamps and radio on send, with fast tick-over on the Mercédès 180 D, which has a slow-running engine. Radio interference was undetectable. At cruising revs, the voltage rose to 13.8 and stayed there irrespective of actual speed or electrical load.

Heating of the Alternator, which as the picture shows is fan-cooled, was negligible, until belt slip started, when the pulley heated and the output dropped so that no charge occurred. Tightening up the belt cured the trouble.

Suppliers

The Prestolite 51/37 and its bigger brothers 51/4 (40 amp.) and 51/5 (55 amp.) are distributed in Britain by Air Sea Rescue Apparatus Maintenance Ltd., Boundary Road, The Docks, Southampton. For all types a regulator is required, which is not interchangeable with the type of regulator and cut-out on D.C. generators; ASRAM supply regulators and adaptor brackets should they be required to mount the Alternator in place of a standard D.C. generator.

EDITORIAL NOTE. — Lieut.-Cmdr. Brett-Knowles informs us that he has left H.M.S. Collingwood, and letters to him should in future be addressed c/o the British Gliding Association and should contain a stamped addressed envelope.

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FRED FUMBLE



EXTRACT FROM "LAWS AND RULES"

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THE
KRONFELD CLUB

THE club's renovated premises were opened officially on Wednesday, 29th April by F. Gough, M.P., the Chairman of the Royal Aero Club, and Philip Wills. The opening was followed later by a most successful open evening for members and their friends.

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

May 6. "Thoughts on being an Inventor" by full-time inventor John Oram.
„ 13. "Memphis Belle", the story of the Flying Fortress.
„ 20. Films: "Jet Lift", the development of the Flying Bedstead.
„ 27. Flying at Biggin Hill, by Peter Towlson.
June 3. Talks by the winners of the 1964 Gliding Championships.
„ 10. Alpine Ballooning, by Anthony Smith, with slides.
„ 17. Light-plane Aerobatics, by James Gilbert, of the Tiger Club.
„ 24. "Rigid Airships", talk by Peter Brooks, previously postponed.
July 1. Light plane building, Arthur Ord-Hume.
„ 8. "The Air Scouts", by Air Vice-Marshal B. A. Chacksfield.
„ 15. The Klemperer Monoplane at Itford Hill, by John Jeyes.
„ 22. Stunt Flying, by John Crewsson, of Film Aviation.

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Pilots' Rating Scheme

THE Council has discussed the Rating Scheme on many occasions and during February held a Special Meeting to finalise the basic principles of the Pilots' Rating Scheme to be used at the end of 1964 to produce the Pilots' Rating List for 1965. The Flying Committee discussed the Council's firm proposals, and with one or two amendments and clarifications presented the following Scheme to Council, which was accepted at their meeting on 11th March.

It must be emphasised that this Scheme is now unalterable in so far as it will be used to prepare the 1965 Pilots' Rating List. Any further suggestions for modifications or alterations for the preparation of the 1966 List must be received by the Flying Committee no later than September, 1964, so that any amendments agreed by the Flying Committee and Council may be used during 1965.

Definition

The Rating Scheme is required to produce an ordered list of competitors most likely to do well in competition flying, based on pilots' achievements in competitions, which may be used to decide who can and who cannot fly in the National Championships.

Rating Scheme to operate in 1964 to produce a List for 1965

The Scheme should ensure a rate of flow throughout the list which can be adjusted in the light of experience to prevent stagnation by (a) devaluing competitions from the 100% basis of League 1 for the different classes of competition, and (b) by devaluing for previous years.

1. Before a pilot may have a rating he must have at least five competition days.
2. A pilot's rating must be obtained from at least two competitions.
3. In the competitions which need to be considered, the scores of *all the days* on which a pilot flew must be counted.
4. The competitions to be taken from the highest valued to the lowest.
5. A competition is one as defined in the B.G.A. Rules.
6. Team Entries. 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.
7. The rating figure is arrived at as follows: all the scores including zeros for a pilot, as in 1 to 5 above, will be added together, divided by the total of the top possible scores on those days, multiplied by 1,000.
8. The pilot of any aircraft entered in a competition who has achieved no score, will be given a zero unless it is established that the aircraft was properly withdrawn.

In the case of a team entry, the top rated pilot will be responsible for ensuring that the zeros, if any, are correctly allocated, failing which they will be placed against his own name.

Value of 1964 Competitions for 1965 Rating

	Code	
Nationals League 1	Y—	100%
Nationals League 2	Y—	80%
Qualifying Regional Competitions: according to the top pilot flying:		
Top-rated pilot 480 and above	Y—	70%
Top-rated pilot 420 to 479	Y—	60%
Top-rated pilot below 419	Y—	50%

Value of Competitions prior to 1964 for 1965 Rating

1963 Competitions devalued 10%.

1962 Competitions devalued 10%, plus further 15%.

1961 Competitions devalued 10%, plus 15%, plus 20%.

It has been agreed that Competitions will be devalued at an accelerating rate: 10% for the first year, further 15% the following year, further 20% the next year, and so on.

In the following table, final column gives value of original score for 1965 Rating List.

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Competitions	*Code*	*Value*
1963 COMPETITIONS		
Nationals League 1	ZD	90%
Nationals League 2	ZE	72%
Norfolk Easter Rally	ZF	63%
Dunstable Regional	ZH	63%
Northern Regional (Sutton Bank)	ZL	63%
Bicester Easter Rally	ZB	59%
Dunkeswell Regional	ZJ	54%
Midland Easter Rally	ZA	45%
E. Midlands Spring Rally	ZC	45%
Scottish Gliding Union	ZG	45%
Venlo (RAF Germany)	ZI	45%
Bicester August Rally	ZK	45%
R.N.G.S.A. Lasham	ZM	45%
1962 COMPETITIONS		
Nationals League 1	V	76%
Nationals League 2	W	61%
Lasham Spring Rally	N	53%
Norfolk Easter Rally	O	53%
Bicester Easter Rally	P	53%
Midland Easter Rally	Q	53%
Dunkeswell Regional	T	53%
Northern Regional (Derby and Lancs.)	S	46%
Western Regional (Nympsfield)	R	38%
Bicester Olympia Novices' Rally	U	38%
Geilenkirchen (RAF Germany)	X	38%
1961 COMPETITIONS		
Nationals League 1	E	61%
Nationals League 2	G	49%
Bicester	M	42%
Northern Regional (Derby and Lancs.)	H	37%
1960 COMPETITIONS		
Inter-Services	C	31%
RAF Inter-Command	K	31%
Cornish Gliding Week	I	31%
London Gliding Week	D	31%
Coventry Gliding Week	L	23%

1959 COMPETITIONS

Nationals League 1	A 32%
Nationals League 2	B 26%

JOHN FURLONG
Chairman, Flying Committee
March, 1964

EDITORIAL NOTE.—This is the final version of the Rating Scheme and should not be confused with that outlined in the April issue on p. 119.

PILOTS' RATING LIST

Order	*Pilot*		*Rating*	*League in 1963*
1.	Williamson, J. S.		555	1
2.	Wills, P. A.		548	1
3.	Scott, P. M.		543	1
4.	Goodhart, H. C. N.		538	–
5.	Stone, A. J.		523	1
6.	Burton, G. E.		519	1
7.	Delafield, J.		510	1
8.	Piggot, A. D.		504	1
9.	James, D. B.		503	1
10.	Stephenson, G. H.		502	1
11.	Deane-Drummond, A. J.		501	–
12.	Kahn, W. A. H.		498	1
13.	Mann, R. A.		495	1
14.	Burgess, P. G.	=⎫	491	1
	Strachan, I. W.	=⎭	491	1
16.	Dimock, H. R.		490	1
17.	Ince, D. H. G.		488	1
18.	Spottiswood, J. D.		485	1
19.	Bentson, C. W.		474	1
20.	Burns, Anne		471	1
21.	Shephard, E. G.		470	1
22.	Dunn, R. A. E.	=⎫	464	1
	Gough, A. W.	=⎭	464	1
24.	Warminger, A. H.		461	1
25.	Fielden, J. S.		457	1
26.	Cretney, F. D.		456	–
27.	Mackworth-Young, W. C.		454	1
28.	Jones, J. D.		453	1
29.	Kearon, N. W.		450	1
30.	Carrow, D. D.		445	1
31.	Smith, D. A.		444	1
32.	Jefferson, J. B.		440	1
33.	Irving, F. G.		431	1
34.	Jeffrey, C. P. A.		429	1
35.	Ellis, C. A. P.		426	1
36.	Fairman, M. C.		424	1
37.	Stark, E.		418	1
38.	Kaye, D. M.		409	–
39.	Innes, D. F.		408	2
40.	Garrod, M. P.		407	2
41.	Dawson, P.		401	2

Order	Pilot		Rating	League in 1963
42.	Bird, M.	=	399	1
	Tonkyn, W. N.	=	399	1
44.	Hanneman, P.	=	396	2
	Kerridge, D. C.	=	396	2
46.	Gaze, F. A. O.		394	1
47.	Davey, B. J.		392	2
48.	Coatesworth, G. A.		391	–
49.	Snodgrass, D. C.	=	390	1
	Aldridge, K. R.	=	390	2
51.	Paul, I.	=	389	1
	Carr, V. C.	=	389	2
53.	Findon, J. A.	=	378	2
	Bacon, G. McA.	=	378	–
	Croshaw, J. G.	=	378	1
56.	Collins, G. T.	=	370	2
	Dickson, R. D.	=	370	2
58.	Bayley, J. L.		367	2
59.	Mettam, H. S.		361	2
60.	Rutherford, R.		360	–
61.	Riddell, D. M. R.		359	–
62.	Purnell, A. D.		357	2
63.	Green, C.		351	2
64.	Newholme, K.		350	–
65.	Doughty, A. W.	=	348	2
	Hunt, M. S.	=	348	2
67.	Fitzroy, K. C.	=	347	2
	Jerzycki, E. B.	=	347	2
69.	Minton, P.		343	2
70.	Wills, C.		341	–
71.	Shepard, F. W. L.		340	2
72.	Loveland, A. S.		337	–
73.	Neumann, G. S.		334	2
74.	Collier, P.		326	2
75.	Gregg, H. M.		325	–
76.	Cunningham, D. J.	=	322	2
	Sutcliffe, A. O.	=	322	2
78.	Thomas, B.		316	2
79.	Corbett, D. J.	=	312	–
	Sandford, R. A.	=	312	–
81.	Jeffries, J. R.		311	2
82.	Corrick, D. W.		310	2
83.	Coulson, A.		309	–
84.	James, P. W.		308	–
85.	Morison, S. M.		307	2
86.	Pennycuick, C. J.		304	2
87.	Scallon, D. P.		301	2
88.	Kevan, P. D.		299	2
89.	Marshall, R.		298	–
90.	Fisher, G. F.		297	2
91.	Evans, J. A.	=	294	2
	Stafford Allen, R. C.	=	294	2
93.	Willbie, R. T.		292	2
94.	Harwood, Rika		289	2
95.	Procter, R. G.		285	1
96.	McMullin, T. A.	=	283	2
	Camp, G. W.	=	283	–
98.	Richardson, C. G.	=	280	–
	Tarver, R. I.	=	280	2
100.	Riddell, J. C.	=	275	–
	Whitfield, G. R.	=	275	2
	Zealley, T. S.	=	275	–
103.	Hurst, C. R.	=	273	2
	Midwood, H. U.	=	273	2
105.	Ware, E. T.		270	–
106.	Dorman, C. G.	=	268	2
	Goldney, L. P.	=	268	–
108.	Browning, H.		265	–
109.	Lane, P.		264	–
110.	Blake, K. W.		261	2
111.	Alexander, A. L. L.		260	2
112.	Pick, R. C.		255	2
113.	Pozerski, P.	=	252	–
	Perrot, R. H.	=	252	2
115.	Hands, J. N.	=	251	–
	Glennie, G. A.	=	251	2
	Philpot, P. R.	=	251	2
118.	Tarnow, A. F. W.		244	–
119.	Goodhart, G. A. J.		238	–
120.	Stowe, D. W.		234	–
121.	Pickles, A.		231	2
122.	Chandler, J. T.	=	229	–
	Neaves, R. A.	=	229	2
124.	Goddard, J. J.		227	–
125.	Redman, S.		222	–
126.	Tweedy, J.	=	220	2
	Everitt, J. C.	=	220	2
128.	Kurylowicz, L.		215	2
129.	Somerville, A.		214	–
130.	Swift, R. B.	=	213	–
	Baynes, A. H.	=	213	–
132.	Greenaway, H. J.		212	–
133.	Daniell, J. G. B.		209	–
134.	Costin, J.	=	204	–
	Smith, M.	=	204	–
	Martin, P. A.	=	204	–
137.	Seth-Smith, M. P.		201	–
138.	Grime, P. V.	=	197	–
	Waller, R. S.	=	197	–
	Dodd, S. R.	=	197	–
141.	St. Pierre, A. H. G.		183	–
142.	Hiscox, D. G. O.		182	–
143.	Blackmore, J. H.	=	180	–
	Meddings, E. J.	=	180	–
145.	MacDonald, A.		178	–
146.	Caiger, M. T.		176	–
147.	Goddard, D. G.	=	175	–
	Watson, B. B. C.	=	175	2
	Welch, L.	=	175	–
150.	Smoker, J.		173	2
151.	Torode, J. E.		171	–
152.	Eldridge, M. E.	=	170	–
	Smith, E. F. R.	=	170	–
154.	Inglesby, J. T.		169	–

Order	Pilot		League Rating	in 1963	
155.	White, J. K.		168	–	
156.	Goddard, J. T.		166	–	
157.	Stothard, R. E.	=	162	–	
	Welsh, J. H.	=	162	–	
	Docherty, T. P.	=	162	–	
160.	Chubb, E. B.	=	160	–	
	Martlew, D. L.	=	160	–	
162.	Berriman, P. E.	=	156	–	
	Lee, G. H.	=	156	–	
	Tanner, L. E. N.	=	156	–	
165.	Russell, M. C.		154	–	
166.	Gee, M. I.		151	–	
167.	Thompson, A.		150	–	
168.	Wilson, M. J. C.		148	–	
169.	Barnett, R.	=	147	–	
	Barrell, G.	=	147	–	
171.	Hill,		143	–	
172.	Brown, K. R.		142	–	
173.	Mead, S. B.		140	–	
174.	Masters, B.		138	–	
175.	Argent, J.		137	–	
176.	Redshaw, L.		135	–	
177.	Prestwich, R. H.		134	–	
178.	Griffiths, J. P.		132	–	
179.	Wilkinson, K. G.		130	–	
180.	Boyer, C.	=	126	–	
	Duthy-James, C. D.	=	126	–	
182.	Stubbings, G. H.		124	–	
183.	Austin, D. C.	=	122	–	
	Prince, J. T.	=	122	–	
	Reiley, F. B.	=	122	–	
186.	Trott, R.		117	–	
187.	Brenner, J. B.	=	116	–	
	Hilditch, H. P.	=	116	–	
189.	Neilson, P. J.		112	–	
190.	Hellewell, R. A.		111	–	
191.	Evans, T. W.		106	2	
192.	Provins, J.		101	–	
193.	Crabb, D. J.	=	100	–	
	Griffiths, R.	=	100	–	
195.	Adam, J.	=	99	–	
	Stevenson, J. N.	=	99	–	
197.	Feakes, R.		98	–	
198.	Holding, D. F.	=	96	–	
	Reeves, E. E.	=	96	–	
200.	Bignall, K. J.		94	–	
201.	Lapham, A. J.		91	–	
202.	Brett-Knowles, R.		89	–	
203.	Ismail, A. R.		88	–	
204.	Wilkin, R.		87	–	
205.	Roberts, D. W. H.	=	85	–	
	Tarr, J.	=	85	–	
207.	Corbett, T. W. E.	=	84	–	
	Harwood, J. E. G.	=	84	–	
	Ibberson, P.	=	84	–	
210.	Rondel, G.		83	–	
211.	Morgan, C.		82	–	
212.	Whiffen, A. H.	=	78	–	
	Cousins, R.	=	78	–	
214.	Verpraet, E.		76	–	
215.	Parkinson, R. M. F.		75	–	
216.	Newall, R. W. B.		71	–	
217.	Head, S. B.	=	70	–	
	Thorburn, A. J.	=	70	–	
219.	Ramsden, P.		68	–	
220.	O'Riley, K.		66	–	
221.	Robinson,		65	–	
222.	Alty, D. G.	=	64	–	
	Furseman, S.	=	64	–	
224.	Shepard, T. W.		61	–	
225.	Whittingham-Jones,	=	59	–	
	Tomlin, S.	=	59	–	
227.	Eccles,	=	58	–	
	Thomson, G. H.	=	58	–	
229.	Wilkinson, N.	=	56	–	
	May, W.	=	56	–	
231.	Mitchells,	=	55	–	
	Collinsplatt, G.	=	55	–	
233.	Darbishire, D. H.		53	–	
234.	Lastowski, B.		52	–	
235.	O'Donald, P.		51	–	
236.	Wass, G.	=	49	–	
	Lowe, D. R.	=	49	–	
238.	Morgan, A. J.		48	–	
239.	Aspinal, M.		46	–	
240.	Brooke, D. J.		44	–	
241.	Williams, P.		40	–	
242.	Parry, D. F.		39	–	
243.	Gildea, C.	=	38	–	
	Erskine, A. W. F.	=	38	–	
	Schmidt, Anita	=	38	–	
246.	Moseley, K.		37	–	
247.	Boyce, A. C.		36	–	
248.	Glover, L.	=	35	–	
	Ludgate, R. G.	=	35	–	
	Rae, J.	=	35	–	
251.	Matheson, J.	=	33	–	
	Cornell, G. A.	=	33	–	
253.	Cunningham, A.		32	–	
254.	Brett, N. E.		30	–	
255.	Somes, S. T.		29	–	
256.	Seymour, L. N. C.		27	–	
257.	Sharman, B. B.	=	26	–	
	Waters,	=	26	–	
259.	Wildbur, P.		23	–	
260.	Bagnell, M. J. F.	=	22	–	
	Gunter, B. G.	=	22	–	
262.	Iceton, J.		21	–	
263.	Jones, H. V.		20	–	
264.	Reussner, J. C.		19	–	
265.	Owen, K. N.		18	–	
266.	Neap, R.		17	–	
267.	Walker,		16	–	
268.	Petrie, A.		15	–	
269.	Owens, W.		12	–	

O.S.T.I.V. Standard Class Prize

by ALAN YATES

SINCE there has been some misunderstanding about the purpose of this prize, it may be a good idea to recall its history.

At Saint Yan in 1956, the F.A.I. Gliding Committee decided to establish the Standard Class and asked OSTIV to advise on the best formula for this class. The aim was, of course, to encourage the design and construction of sailplanes which, while having a good performance, would be cheap to build and maintain and simple to rig and derig and thus be a good Club machine. The OSTIV investigation soon showed that the main factors leading to high cost were large span, retractable undercarriage and flaps. It was realised, of course, that even if these were prohibited, costs would vary widely, but it was quite impossible for a Committee accepting championship entries to assess the cost of any glider. The F.A.I. Gliding Committee therefore accepted the OSTIV suggestion that the class should consist of sailplanes with a span not more than 15 metres with fixed undercarriage and without flaps, and this simple formula defined the Standard Class which first flew in the 1958 Championships at Leszno.

OSTIV realised that it was quite possible within these simple restrictions to build a very exotic sailplane with, perhaps, a very expensive structural design and with a very small fuselage which would make it unsuitable for Club use. Such a sailplane, while meeting the Championship entrance requirements, would be quite out of the spirit of the Standard Class. It was quite possible that such a sailplane might win the Standard Class Championship and the designer receive glory in this way, although he had not produced a sailplane in the spirit of the Standard Class.

OSTIV decided, therefore, to award an OSTIV Standard Class prize to the sailplane entered* in the World Championships which appeared to an international jury to be most in the spirit of the Standard Class, whether it had won the Championship or not. The OSTIV jury of eminent pilots and designers has now met three times and awarded the prize as follows:—

1958 Leszno Ka-6.
1960 Cologne Standard Austria.
1963 Junin Vasama.

On each occasion the members of the jury have devoted a great deal of time to examining the sailplanes entered on the ground, watching them rigged and derigged and flying them in handling tests. Performance tests, which take a great deal of time, are, of course, out of the question.

There seemed to be general agreement that the choice of the Ka-6 was well merited, and this sailplane has since proved to be tremendously successful all over the world. There was criticism in some quarters of the choice of the Standard Austria in 1960, largely because it did not immediately go into mass production, and the choice of the Vasama in 1963 has been criticised on several grounds, all of which seem to me to be illogical. The jury reported that, "While the Foka possessed many outstanding characteristics . . . it was not fully in accordance with the spirit of the Standard Class recommendations". The jury unanimously awarded the prize to the Vasama.

In SAILPLANE AND GLIDING of August, 1963, an article from *Aviasport* was translated making several criticisms of the OSTIV prize. "It was clear," the article said, "that at each championship, the prize should have been awarded to the Ka-6." It is true that OSTIV assumed that each two years would be likely to see a sailplane of improved characteristics and that a previous prizewinner would not normally be eligible. OSTIV now realises that it may well be that a sailplane which has previously won the award will remain the best Standard Class sailplane and OSTIV has now decided to reframe its rules to allow an award to be made to a previous winner.

The *Aviasport* article criticised the Austria because "its construction is tricky", and criticised the award to Vasama on the ground that the M-100 was a better sailplane but "an accidental

*Later modified to "present on the site of the Championships".

rigging defect lost it the award". Whether construction is tricky is surely a matter of opinion on which the expert designers of the OSTIV jury have as much right to theirs as their critics. It seems equally pointless to complain because the designer had submitted a poor specimen of his production line for assessment (it is rather like complaining about the result of a race because your horse ran badly). Quite apart from these criticisms, the Ka-6 was not entered in either 1960 or 1963 and you cannot award a prize to a sailplane which is not entered.

The next OSTIV prize will be awarded at South Cerney in 1965, and when the regulations are announced OSTIV will make it clear that previous winners may re-enter for the 1965 prize. It may well be that the Ka-6 will again be declared the winner, but it is unlikely that an OSTIV jury will ever be able to please everybody.

* * *

O.S.T.I.V. Board Meeting

THE OSTIV Board (Organisation Scientifique et Technique Internationale du Vol à Voile) met from 25th to 27th February, 1964, under the chairmanship of L. A. de Lange (Holland) in Zurich. It was decided to have the tenth OSTIV Congress from 5th to 13th June, 1965, on the occasion of the World Sailplane Competitions in South Cerney, England. The scientific evaluation of barographically-recorded flight results from the Junin 1963 World Competitions will be progressed further.

There is to be a permanent weather station in Varese, which, with Italian co-operation, will be in the charge of Plinio Rovesti. During the coming summer the results of the work done at last year's technical course on the evaluation of two-seaters and training problems will be published as a joint effort by OSTIV and *Flugwissenschaftlichen Forschungsanstalt*. An OSTIV Training Development Panel will also be organised within the coming year. Finally it was decided that the future form of arrangements for the OSTIV Prize for Standard Class sailplanes on the occasions of World Championships should now be put forward before member Aero Clubs for consideration and advice.

* * *

Three O.S.T.I.V. Events

AOSTA WAVE PROJECT

EXPERT soaring pilots, preferably with wave-flying experience, are invited to join this project, which runs from 20th August to 3rd September, 1964, inclusive (arrive 19th Aug., depart 4th Sept.), and is under the direction of A. H. Yates and R. Vitelli on behalf of OSTIV.

The Aero Club of Aosta will make available four sailplanes (two two-seaters and two single-seaters), fully equipped with oxygen and radio, and it is hoped that some participants may be able to bring other fully equipped sailplanes, as the number of participants who can be accepted will depend on the total number of sailplanes available. Launching will be by aero-tow.

Cost.—OSTIV registration fee, $40. Towing, 150 lire per minute. Use of Aosta club sailplanes, 1,500 lire per hour. Simple sleeping accommodation is free, and meals are available at 1,200 lire per day (£1=approx. 1,700 lire at present). So the total cost should be about $150-$180, depending on amount of flying.

STANDARD CLASS SAILPLANE INVESTIGATION COURSE

The object of this course is to compare performances and handling characteristics of a variety of Standard Class

Soaring Instruments

Compact Electric Varios 17 gns.
Matching Audio Unit 12 gns.
Bendix J8 and Sperry H3 miniature artificial horizons £25
Transistor Inverters for all horizons £10

G. E. BURTON,
235, PARK AVE., BUSHEY, HERTS.

sailplanes. It will be held at Aeroporto "Paolo Contri", Calcinate del Pesce, near Varese, Italy, under the direction of Dipl.-Ing. H. Zacher and P. Rovesti, from 6th to 18th September, 1964, inclusive (arrive 5th September, depart 19th September).

Experienced pilots are invited to this course. For those without test-flying experience, lectures and practical instruction will be arranged. If there are enough participants, separate courses will be organized for qualified test-pilots and for pilots without test-flying experience.

A variety of Standard Class types and some two-seaters for instruction in investigation will be available. Launching is by aero-tow.

The total fee for the course, with accommodation and board, is $180, including all flying but not personal insurance. Of this amount $50 must be paid before 15th May and the rest on arrival. The $50 registration fee is not returnable if the application is accepted.

Applications for either course, together with registration fee, must be sent before 15th May, 1964, to: O.S.T.I.V., N.L.M. Atoomgebouw, Schiphol Airport, nr. Amsterdam, Netherlands. The fee is not returnable if the application is accepted.

Intending participants must understand and speak English, French or German, and are asked to send name and address, age, flying experience (gliding and/or power), photo-copies of gliding licence and up-to-date medical certificate of physical fitness, and, in the case of Aosta, to say whether they are bringing a sailplane.

Those accepted will be notified and sent further information during June. Those not accepted will be notified, and the registration fee returned, before 15th June.

COMPARATIVE FLIGHT TESTS

As in former years, comparative flight tests on sailplanes will again take place from 10th to 19th August, 1964, at Braunschweig Airport, using sailplanes belonging to the Academic Flying Group. This time the tests take place under the auspices of OSTIV because, for the first time, foreign scientific groups will take part.

The programme is intended to cover: theoretical and practical introduction to the technical testing of sailplanes; testing the flying characteristics; comparing the flight performance; and discussing the results and possibilities for improvements. With a view to developing an OSTIV Mini-Standard Class, sailplanes of 12 to 13 m. span will be available for special attention. The organization will be handled by the Braunschweig Academic Flying Group with the technical and scientific collaboration of Dipl.-Ing. Hans Zacher, Member of the Board of OSTIV, who has carried out earlier comparative flight tests in Braunschweig.

Three Diamonds

PREVIOUS lists of pilots who have been awarded all three Diamonds (for 500 km. distance, 300 km. goal flight and 5,000 m. height gain) were published in the following issues:

February, 1958, p. 19, Nos. 1 to 80.
February, 1960, p. 36, Nos. 81 to 107.
April, 1960, p. 105, Nos. 108 to 139.
October, 1961, p. 310, Nos. 140 to 164.
August, 1963, p. 283-5, Nos. 165 to 305.

In the latest list, given below, Sweden (306 and 334), India (321) and Rumania (343) are represented for the first time.

No.	*Name*	*Country*
306	Bengt Söderholm	Sweden
307	Eugeniusz Fuchs	Poland
308	Miroslaw Berner	Poland
309	Stanislaw Sojka	Poland
310	Henryk Muszczynski	Poland
311	Zygmunt Znaniecki	Poland
312	Robert R. Clifford	S. Africa
313	Heinrich von Michaelis	S. Africa
314	Kazimierz Gorzkiewicz	Poland
315	Wieslaw Zarycki	Poland
316	Leonardo Brigliadori	Italy
317	Marijnus Backe	Belgium
318	Carlin Brinkman	United States
319	Harald Tandefelt	Finland
320	Jack Arkovich	United States
321	I. S. Loughran	India

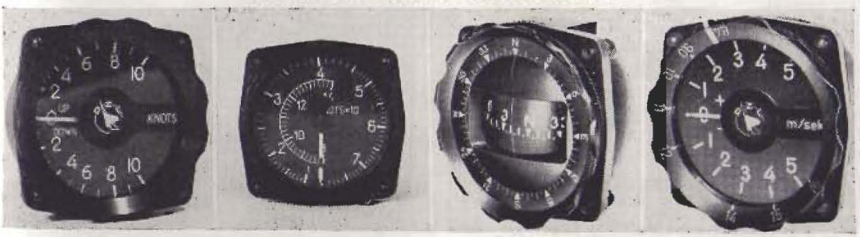
322	Ross Grady	Canada
323	Kai Gertsen	United States
324	Benjamin Green	United States
325	Karl Pummer	W. Germany
326	Alfred Röhm	W. Germany
327	Otto Schäffner	W. Germany
328	Karl Weihenmüller	W. Germany
329	Hans-Joachim Rödel	W. Germany
330	Helmet Broch	W. Germany
331	Georg Imhoff	W. Germany
332	George Arents	United States
333	Wylie Mullen	United States
334	Olle Berg	Sweden
335	Jerry Robertson	United States
336	Erich Vergens	W. Germany
337	Rolf Hatlapa	W. Germany
338	Walter Schneider	W. Germany
339	Friedhelm Portmann	W. Germany
340	Bernd Nolte	E. Germany
341	Manfred Warstadt	E. Germany
342	Othmar Fahrafellner	Austria
343	Mircea Finescu	Rumania
344	J. D. S. Cooper	New Zealand
345	Przemyslaw Bronikowski	Poland
346	Jan Kleka	Poland
347	Franciszek Olejniczak	Poland
348	Michal Siekierzynski	Poland
349	Zbigniew Sienkiewicz	Poland
350	Jan Szade	Poland
351	Wilhelm Scheucher	Austria
352	David Webb	Canada
353	Henri Givord	France
354	Marcel Georges	France

Totals for each country are:—

Poland	104
France	93
W. Germany	49
United States	29
Czechoslovakia	12
E. Germany	9
Great Britain and Austria (each)	8
Switzerland and Yugoslavia (each)	6
South Africa	5
Belgium and Holland (each) ...	4
Canada and New Zealand (each)	3
Argentina, Finland, Italy and Sweden (each)	2
Hungary, India and Rumania (each)	1

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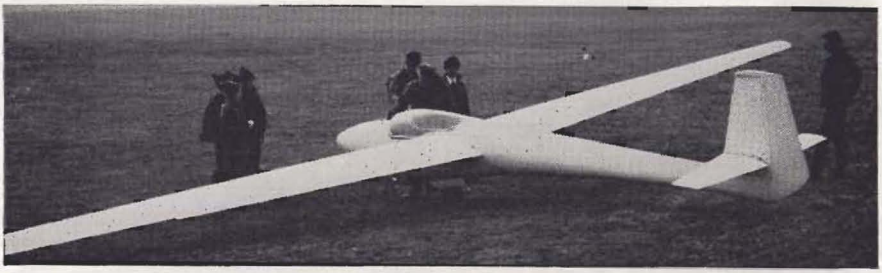
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The H-301 "Libelle"

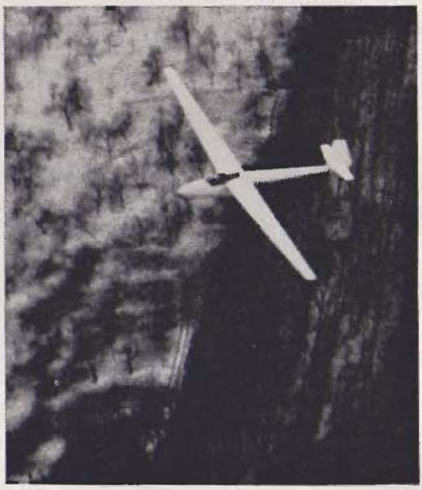
by EUGEN HANLE

THE all-glass-fibre sailplane Libelle (Type H-301, derived from the H-30 GFK described in SAILPLANE AND GLIDING for February, p. 23) is being test-flown at the Kirchheim-Teck site. This type has a span of 15 metres and aspect ratio of 23.8, with the same wing-section as before. It weighs 170 kg. in flying condition (375 lb.) and maximum permitted all-up weight is 300 kg. (661 lb.). As soon as the test flights are over, it will go into series production, when the empty weight will be reduced to 155 kg. (342 lb.), made up of 47 kg. for each wing, 57 kg. fuselage and 4 kg. horizontal tail surfaces. At present it will have flaps and a retractable wheel, but later it will conform to the Standard Class. Already there is a long waiting list for it.

Further particulars are :— The outer surface of the wings are of fibreglass-reinforced plastic, 0.5 mm. thick. There is a compartment for water ballast. The ailerons are connected differentially with the flaps. All control surfaces are mass-balanced.

The fuselage is of fibreglass monococque construction without balsawood. The seat has an adjustable back and knee cushion, and the pedals are adjustable over a range of 7.1 inches; all three adjustments can be made in flight. Space is provided for radio and oxygen. A wheel brake is fitted.

Maximum permitted speed is 155 m.p.h.; in rough air, 99; aero-tow, 93; winch launch, 75. The makers claim a best gliding angle of 1 in 40 at 53 m.p.h. and the minimum sink of 1 ft. 8 in. per second at 45 m.p.h. Wing-loading, 5.12 lb./sq. ft.; maximum, 5.9 lb./sq. ft. Ultimate load factor, 9.5.



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A Plaque for Kitty Hawk

Capt. Ralph Barnaby, the American gliding pioneer, who is also a sculptor in his spare time, is here seen with his plaque of Wilbur and Orville Wright, which was presented by the Soaring Society of America to the Kitty Hawk First Flight Memorial Park, where it was unveiled on the 60th anniversary of the world's first aeroplane flight.

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Obituary

DAVID E. COOKE

THE Ulster and Shorts Gliding Club has suffered grievous loss in the tragic death of David Cooke, who was C.F.I. He was flying from Newtownards in a Turbulent light aeroplane because unsuitable wind conditions precluded gliding at Long Kesh, where only one runway is available.

David, a Silver C pilot, came to reside in Northern Ireland in 1960. Previously he was a member of the London Gliding Club, and C.F.I. to an R.A.F. gliding club. I believe he also flew gliders at Cranfield, and had much experience of gliding in Germany. His service with the R.A.F. included flying in every available type of aircraft, from Tiger Moths to Sunderlands, and instructing pupil aeroplane pilots.

Gliding in Ulster has lost a great friend to whom it could always turn for counsel and help at all times. The successful merger between the Ulster and Shorts Gliding Clubs has been much helped by his fine understanding, his great charm, and his ever-present friendliness.

C. A. BECK.

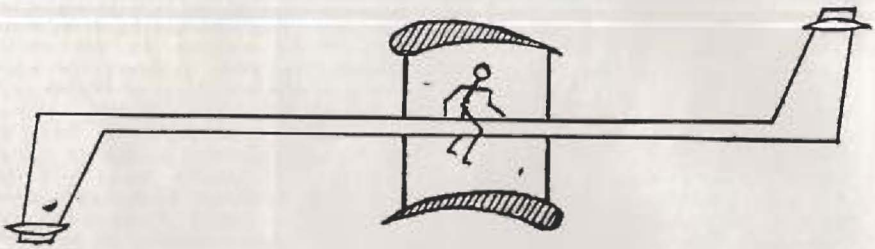
CORRESPONDENCE

WHAT LEONARDO DA VINCI SAID

Dear Sir,

Poor Leonardo seems to have given a fair description of dynamic soaring in a wind gradient (SAILPLANE AND GLIDING, February, p. 11).

How about this for an Atlantic crossing?



The major ploblem is: which way does the pilot face?

Physics Dept., Brookhaven National Laboratory, N.Y. J. L. LLOYD

A LETTER OF THANKS

Sir,

Having recently very gratefully accepted the technical help of Lt.-Commander Brett-Knowles, one of the many enthusiastic officers of the B.G.A., a train of thought developed which initiated this letter.

Each year we read the reports of the various Committees in the end-of-year booklet and take most of it for granted; but I, for one, would now like to make my thanks public. We are indeed lucky to have such an active body of experts both inside, and radiating from, Artillery Mansions, and in consequence each Club owes them a debt of co-operation and responsive enthusiasm.

Clubs can repay this debt, with profit to themselves as well, by inculcating this outlook into all members and by ensuring more self-discipline both on the flying field and in the Committee rooms. I am sure that this would be adequate reward for our central administration and serve to remind everyone that we appreciate our relative freedom from restrictive rules and unnecessary licences. Now that many younger pilots and Club officers are taking responsible positions within their own Clubs, it is to them that we look to protect the administration along the lines that have allowed us to preserve the freedom of our sport, and to work with this central body in every possible way.

Cornish Gliding Club. GEORGE COLLINS

IN PRAISE OF COLD FRONTS

Dear Sir,

The account in the February issue of SAILPLANE AND GLIDING of Paul Bikle's record flight of 556.9 miles at an average speed of 82.5 m.p.h., flown for the most part along the van of a thunderstorm front, reopens in a startling manner thoughts about the soaring potential of the Cold Front in our own country. I have not heard any further details of this flight but presume that Bikle was able to fly, *pied à terre* and possibly without the need to circle, in a wave of air being heaved up by the advancing wedge of cold air.

Predicted Cold Fronts have been crossing the British Isles in hundreds since Mungo Buxton made his historic flight along one of them in the mid-thirties in his Scud II, but I cannot recall one single instance since, when a specifically planned

Cold Front flight has been made in this country. Admittedly this phenomenon has been encountered and utilized fortuitously in the course of several cross-country flights—but not always knowingly—in subsequent years. The fearsome sight of the approaching wall of black cloud has usually been the signal for recall of those airborne and for the firm closing of hangar doors—if, indeed, the lull in wind up the hillside and the disappearance of any thermals there may have been hitherto, which usually seems to precede the storm, has not already precipitated forced landings.

The advent of the aero-tow removed the possibility of this latter hazard and conferred upon us a width of choice as to where best to join the frontal lift.

Now most Cold Fronts cross our country from west to east, so that by selecting one having a good north to south speed component along the N.N.W.-S.S.E. axis of the country, it appears that it should be possible to fly very fast from the North of Scotland to the South of England with a fair degree of predictable reliability on many occasions. Awaiting the arrival of the next Cold Front having a northward-moving component to it, our exultant new record-holder would then fly back to Scotland. Need I add that the ground speed along track on flights of this nature would equal the sum of the speed component along track of the Front and of the glider along it, and that, in the powerful continuous upcurrents normally associated with Cold Fronts, would frequently be very high.

I do appreciate that it isn't as easy as all that: there are Fronts and Fronts, and one has to select one with a good pre-frontal clearance of cloud and must make allowances for it getting snagged and held up by mountains in its path. And then, of course, it must be a well-developed specimen. This is where our meteorologists could help us, and it would be enlightening and profitable for us to have a comprehensive lesson from them on the relevant features of our Cold Fronts in the context of planned flights of this nature.

It does appear that a Cold Front Camp would be more likely to succeed than a Wave Camp, and it would give one great pleasure to see Buxton's enterprising effort repeated here in modern conditions. Where are all the Front Flights gone?

Hereford. PAT MOORE.

[Air Cmdre. Moore, and anyone else interested, will find a full account of Paul Bikle's flight in the September 1963 issue of *Soaring*.—ED.]

Collision Risk Calculations : An Appreciation

THE following letter has been received by the Chairman of the British Gliding Association from Mr. R. E. Hardingham, F.R.Ae.S., Secretary and Chief Executive of the Air Registration Board:—

"I was very interested to read in the February issue of SAILPLANE AND GLIDING the article on "Collision Risks and Gliders" by H. C. N. Goodhart, although this, of course, is not strictly in my line.

"I found the figures for current accident rates in commercial aircraft broadly correct and I thought the 'allowable' collision risk of 1×10^{-8} not unreasonable. I do not know enough to say whether the calculated collision risk of 8.5×10^{-9} if gliders were not controlled is right, but as there are so few gliders I am sure it is correct.

"Perhaps other considerations (e.g. pilots complaining about near misses) if gliders were not controlled are more significant than actual risks?

"I note the figure of 4,248 hours is given for *all* cross-country gliders in 1962. This is roughly the same as *only one* well-used commercial aeroplane, so it is not surprising that the collision risk is very small."

That Entry List.—"Hardly worth winning the Nationals this year with all these people out of it."—*Heard in the Kronfeld Club Bar (from Club Newsletter).*

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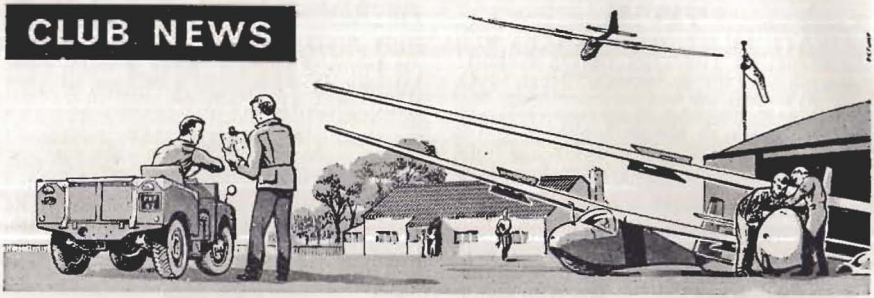
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CLUB NEWS



ON page 243 is an interesting idea for a holiday in Ireland. In the April issue we published a report from the West Wales Gliding Club inferring that the Swansea Gliding Club had closed down. I have now heard that the club is far from closed and that they anticipate being airborne this summer. — Sorry Swansea.

Copy for inclusion in the August issue should reach me at 14 Little Brownings, London, S.E.23, not later than 10th June.
25th March.

YVONNE BONHAM, *Club News Editor.*

CORNISH

DURING January and February some members were complaining that they had more thermal minutes in their log books than cliff soaring time with the T-21 being wound up to 3,000 ft. on occasion — most unseasonable.

The easterly winds finally gave way to westerlies on 15th March, and while those living in harsher climates were reported to be suffering from snow and floods, five of our members, the Rev. Brian Measures, Arthur Webb, Peter Quilter, Joe Ratcliffe and Frank Brown flew their C's.

It was one of those delightful days when the hangar was empty and the entire fleet was airborne, logging more than thirty hours before dusk spoilt it.

After a year in which the club continued to progress and expand Pip Phillips has resigned as acting C.F.I. and Tony Lapham has been appointed C.F.I. Tony's appointment marks the club's coming of age as he is a home grown product, who started his flying ab-initio with the club soon after its formation. His enthusiasm is enormous and rubs off on all who come into contact with him.

We are arranging some expeditions for the forthcoming season and camps will be held at Davidstow Moor at Easter and Whitsun. As we now have a trailer for the T-21 it is hoped that some of the less experienced pilots will be able to join in the fun with Olympia, Swallow and syndicate pilots.

J. E. K.

DEVON AND SOMERSET

OUR record for 1963 shows we achieved 6,419 launches, not quite equalling 1962, but our competition cross-country mileage totalled a very creditable 3,841 miles.

With the rapid expansion of our club and increasing membership we have engaged Fred Breeze from Perranporth as full time Course Instructor and Ground Engineer, so we will be really self-contained now.

As all our launches are by a new winch we have employed John Dalton full time to drive this splendid machine, his wife will now organise our catering, so easing the work of the "few". A vote of thanks to Mary Fielden, who has fed thermal hungry pilots for some time past with great gusto.

Our A.G.M. was held recently and very well attended, important topics such as purchase of our airfield were discussed. We look forward to the delivery of a new T-49 Capstan, which will greatly assist more advanced instruction. Our Tiger continues to be very busy with aero-tows and with the advent of the T-49 will be quite an asset.

N. P. H.

EAST MIDLANDS
(Leicester)

THE season started with a bang this year. On 7th March Chris Simpson took the Skylark 4 about 206 miles to Cornwall to gain Gold C distance. He landed only 14 miles short from his pre-declared goal, which would have given him a Diamond as well. From Bristol onwards the flight was made entirely in blue thermals. This surely must be one of the earliest Gold Distance flights on record.

On the same day the Grunau Baby went 40 miles with Ivan Vesty, and Bernard Fitchett took the Swallow the same distance to achieve Silver Distance.

The club Olympia and Capstan both landed out inadvertently. Unfortunately we haven't a mobile trailer for the Capstan and it was quite a sight to see the fuselage being wheeled about 2 miles along the main road back to the aerodrome.

Congratulations to Quentin Worley on achieving his C. He made sure there was no doubt by staying up for 50 minutes.

Our thanks to Fred and Bernard Fitchett for refettling the Olympia trailer and the whole outfit is now ready for the summer.

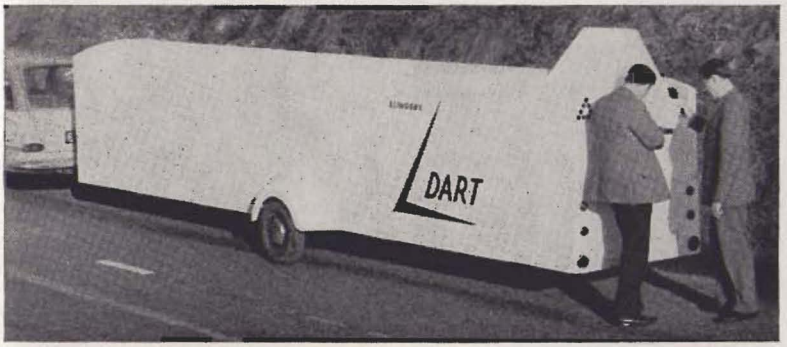
J. R. F.

LONDON

DURING March our depleted staff was reinforced with Howard Brunt, who came to instruct for a few weeks before taking up a similar task at the Luton Flying Club. Mike Till continues, as resident instructor, but since there is no full-time manager at present (though we have John Barrow as honorary manager) Mike is often confined to the office. However, Jim Wingett, who returned to us from Perranporth at Easter, will be instructing throughout the course season.

Our first cross-country of the year was achieved on Saturday, 7th March by Gordon Camp in the club's Skylark 3; he was attempting to reach Lasham and claim the "Collectors Plate" trophy,

The Dart trailer:—



This trailer has been especially developed for the T.51 "Dart". It is light (650 lbs. empty weight), strong and stable. Rubery Owen 10 cwt capacity torsion bar suspension is used. The drawbar pivots for unloading operations. Exterior grade AX.100 ply is used in the construction.

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but having delayed his departure until 2.30, covered only 38 miles of the journey. The retrieve took 27 hours and is another story, but while a party of amateur mechanics equipped with professional apparatus like John Argent and oxy-acetylene torches were returning the following day to repair the abandoned trailer, John Cardiff was making for Lasham in his Standard Austria, and after a noble cross-wind struggle round the Control Zone reached the "(br) other place" in time for lunch.

After a prolonged rest in the rafters, John Jeffries' vintage Scud 2 is flying once again, and we are hoping for more feats by John similar to his 132-mile flight in a Cadet four years ago.

We wish all pilots luck in the Nationals, though especially Dunstable pilots. We also wish Geoff Kerr luck; he's getting married soon. G. C.

MIDLAND

OUR Trogs Party, deferred from last November, was held on the 21st March and was heartily enjoyed by all except perhaps for Peter Clay, who was crowned as King Trog.

On the following day we held our Annual General Meeting. The accounts showed a most satisfactory financial result which we hope will set a pattern for the future. The officials of the club were re-elected and the vacancy on the committee was filled by Bob Swift.

A new Skylark 4 has been acquired by Messrs. Prestwich, Wills, Corbett and Briscoe. Two syndicates on the Mynd expect early delivery of the new Dart. The first one to arrive should be that of Messrs. Green and Benson and the other will be shared (or fought over) by Messrs. O'Donald, Randle, Swift and Mansell.

It is hoped that Club aircraft will be seen at more competitions this year. At the time of writing entries are planned for Nympsfield, Rearsby and Dunkeswell.

Our Treasurer, Wilbur Wright, is to be married on the 30th May and we take this opportunity of wishing him and Jennifer every happiness for the future. K. R. M.

NEWCASTLE

THE relatively mild winter has given us a much better start to the year than we had in 1963, even though almost continuous easterly winds in late February and early March brought more than our usual quota of low cloud. However, much of the bad weather coincided with the grounding of the T-31 and the Tutor for spar modifications, thus minimising our losses in this respect.

The Annual General Meeting was held in February and our treasurer, Adam Dodds, used slides to show where the money went in 1963. The alarmingly high cost to the club of each launch, and the way in which small economies and money making schemes could easily have reduced this figure were well demonstrated. The A.G.M. produced no change in the officers of the club for the coming year.

In addition to the members' courses already arranged, it is hoped, if there is sufficient demand, to fly on Wednesday evenings in the summer months principally for ab-initio members. Several members will be taking part in a Capstan course at Portmoak, and we hope that this will result in an increase in the number of categorised instructors. It is unfortunate that the Capstan will not be visiting our site this year, but after last year's complete fiasco we can't really blame John Everitt for not wanting to sample more of the "Carlton Clamp".

Another group of members are planning an expedition to the Long Mynd in August, and will be taking the recently refurbished Kite I with them.

The end of the long winter evenings was celebrated by a film show and

buffet supper in the local village hall. Some interesting and amusing sequences of members' own films were shown in addition to some very good professional film. The clicking of camera shutters is becoming quite deafening at Carlton!

B. W. B.

NORTHAMPTONSHIRE

THE A.G.M. of the club was held at Podington on 21st March and a new committee was elected. Gordon Grant remains chairman, E. Underwood relinquishes the position of general secretary but remains on the committee, and his place is taken by Dennis Jones. Other members of the committee are — P. Bisgood, C.F.I.; F. Rowell, Treasurer; J. France, Social Secretary; R. N. W. Kay, Membership Secretary and P.R.O.; J. Swain, Flying Secretary; D. Wilcox, Ground Engineer; and M. Miller.

The main topic of discussion at the A.G.M. was the possibility of our staying at Podington. Unfortunately our worst fears have materialised and it now appears that we will be unable to get a lease. The College of Aeronautics at Cranfield have, however, agreed, thanks to the efforts by the C.F.I., to let us share their airfield and this alternative is now being explored.

The club annual dance, organised by E. Clarke and D. Woodford, was held on 14th February and was a great success.

There were practically no flying days in February and March, which was very fortunate, as it had been decided to completely overhaul the winch. This work has now been completed.

The club is transferring its activities over the Easter holiday to Edgehill, where it is hoped some hill soaring will be possible.

R. N. W. K.

NORTHUMBRIA

THE recent grounding of Tutors and T-31's has been a great disappointment, coming as it did just as we were rejoicing at the mild winter and even signs of convective conditions. This virtually stopped Club flying, although the syndicate Swallow and Kite have kept going strong. However, thanks to the very hard work of several members under trying conditions the T-31 should have made many flights by the time these words appear. At the last committee meeting a special vote of thanks to Dav. Wilson, Tom Ruffell and Harry Anderson was unanimously carried. They have also done much to get the Cadet ready. The Club have recently acquired a Tutor and we hope to have this flying in the not too distant future.

Meanwhile, others, under the lead of the two Alans (Cawthorn and Brown), have been very busy on the tractor, petrol winch and the two-drum diesel winch; the latter is nearly ready for commissioning.

Those who are off to the Long Mynd next month are busy making their preparations and hoping for good soaring conditions, while the syndicate formed last August have been deep in negotiations and with a little bit of luck we should soon be able to report their aircraft flying at Hedley.

At the end of February over forty members and friends spent an enjoyable evening in Wickham watching gliding films, drinking, eating and chatting.

D. R. B. W.

OXFORD

DESPITE a winter less severe than in 1963, a number of factors, only some of which were beyond our control, have combined to keep the club almost grounded for the first three months of the year.

We flew on only 5 of 24 available days and the T-21B made only one flight before its protracted C. of A.

The Capstan paid us a chilly visit to provide category tests for Fred Rawlings and an opportunity for John Everitt to evaluate some of our instructional team and whilst they shared the Coach's enthusiasm for his aircraft, we do not envy his recurring task of extracting and inserting the aircraft into its trailer.

It could be that the aircraft was naturally reluctant to emerge into the Oxford snow after its warm retirement at Kirbymoorside or it may just have been frozen finger fumble, but we found the job more difficult than when we met it 18 months ago and it is a pity that the value of Coach or Capstan should be reduced by what should be simple ground work.

The greatest activity has been shown

by our Ground Equipment team, led by an untiring Keith Plummer, in the task of replacing our work-weary winch by a smaller and more youthful version. Small pieces are now joining into an interesting whole.

By and large all systems are set to go and if Wally Wallington and his weather men can be persuaded to produce a better brew than of late we should be able to turn a poor beginning into a most successful year. L. A. S.

PERKINS

WE are now nearly established at Spanhoe Aerodrome, which is about 15 miles west of Peterborough, after having dismantled and moved from Westwood our old semi-circular hangar in the last two months. We are at Spanhoe by the kindness of Sir Roger Conant, who is well-known in gliding circles, and who will be flying with the club. After seeing pulley launching at Dunkeswell, we are making the necessary equipment, and we hope to cut out a lot of wasted time by this method of launching. We expect to fly for the first time at Spanhoe on 4th April.

C. C. D.

SCOTTISH GLIDING UNION

THE first of our new advanced two-seaters arrived on the airfield late in March, this being a Ka-7 and is owned by Roger Pears, who is generously placing the aircraft under club control when not required by him. Early in May a Capstan should appear as our second advanced two-seater and thus make possible certain modifications to our training schedule.

The Treasurer has launched an annual ground improvement programme and, aided by our resident staff, is ferrying large quantities of ash to the airfield. In parallel with this, levelling of the S.W. end is being carried out by friends of the club.

The winter programme of parties and lectures organised by Mabel Ritchie has proved very popular, these have been supplemented by impromptu if not sporadic parties in the Kinnesswood, Wellburn and Larch Cabin areas. One private Skylark group has cornered the market in home brewed beer and naturally, the lead in these parties is taken by this group.

Summer courses are again finding increasing support and fortunately we are able to meet this; long may this continue.

W. A. S.

SOUTHDOWN

THE early months of this year proved little better, from a flying point of view, than the previous year, with low cloud, rain or strong winds or all three. North-easters have been rare this year but the week-end of the 7th March proved exceptionally good, with a strong north-east wind and equally strong first thermals of the year. The wind was too strong for the Tutor on the Saturday but Ron Catten did his 5 hours in the Swallow and on the Sunday Les Allard, our Chairman, also completed his 5 hours. Chris Hughes, a member of the 463 syndicate, took the 463 "round the hills" to Eastbourne and back.

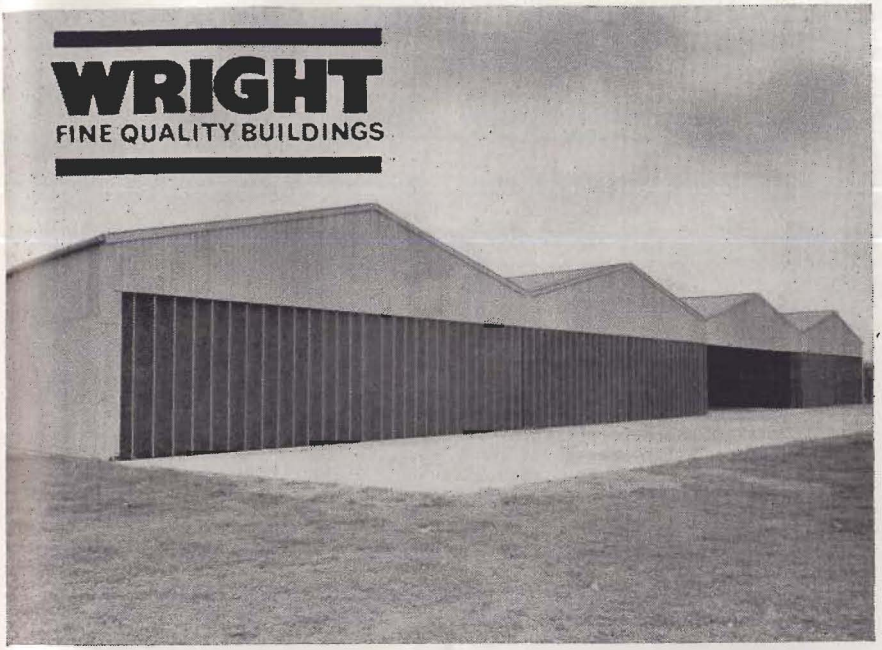
An expedition was organised to the Pyrenees during the middle of February comprising Derek Holland and three of the syndicate members with their aircraft. Everyone had some interesting wave flying but Derek was probably the nearest to getting his gold height with a maximum of 9,600 ft. above the site (15,300 ft. a.s.l.) in the French club's canopied Grunau. An exhausted oxygen bottle prevented him getting higher.

P. W.

SOUTH WALES

OUR long lapse from these pages does not mean we have been idle. Flying-wise the weather hasn't been helpful but work on aircraft and trailers has proceeded apace. The C. of A. on the T-31 was completed without losing one flying day. The wing mod. we hope to finish by Easter, again without losing flyable days.

When it *was* possible to fly, we managed to chalk up two "firsts" for the club. The Bungey was used successfully in November by J. Hughes, D. Roberts and I. Shattock, heights of 1,500 feet being attained. The other first was a cross-country flight to Bridgend by Ivor in "Kiwi", which is the Swallow addition to the fleet — we now have four



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aircraft, the Club T-31 and Tutor, the syndicate Swallow "Kiwi" from Bristol G.C. and the syndicate Kite which is ex-London G.C. We look forward to the Kite outsoaring the rest. Talking of soaring, Ivor tells us he cross-countried in an 8-knot thermal to 3,000 ft. — in March. Let's hope he takes a few of these thermals with him to the Mynd on the Easter rally.

Danny Roberts and Ieuan Lewis (pronounced Yiyan) have the honour of towing the rebuilt club trailer during the Easter rally (incidentally, complete with 1,500 pop rivets). More about that in the next issue.

STAFFORDSHIRE

NOT much to report from Meir. The twelve members who were still on the flying list when the T-31 was grounded have soldiered on in very indifferent weather mainly. Some mild soaring was possible over the week-end 7-8th March and some quite reasonable durations were obtained.

The difficulty lately has been mustering enough people to make flying possible and most week-ends have seen only one afternoon's operations. However, our T-31 is due back any moment and two more training courses have been organised to commence as soon as it returns. There is also a long waiting list of people who were due for conversion checks before the loss of the two-seater.

The end of the first year's flying is now in sight and our total launches are now in the 1,700 region. Several pilots other than instructors have had more than 100 launches and one has even had 160. It just shows what regular attendance can achieve. A. W. H. L. W.

WORCESTERSHIRE

AT our A.G.M. on 13th February Eric Rolph was re-elected Chairman; Tom Mantle, Secretary, and Bill Macham, Treasurer, the remainder of the Committee was re-elected *en bloc* with one addition, Ron Freeman.

We are pressing on with our site development programme, work has commenced on the culvert necessary to "dehazardise" the drainage ditch that runs across our runway, this has necessitated temporary daming of the stream, one member of the working party has already discovered that the water behind the dam is quite deep and that a pair of 17" gumboots will not cope with 30" of water.

A small lighting plant has been installed in the hangar, and a solid fuel stove fitted in the temporary clubhouse, in the end of the building. Negotiations are in progress which, we hope, will lead to us acquiring a second winch to be mounted on the rear of an ex-Govt. Bedford truck.

T. M.

SERVICE NEWS

EAGLE

(Detmold, Germany)

IN the last two months we have been involved with C's. of A. The T-21 is finished and the Swallow is nearing completion. We hope to have it ready in the near future.

Our first soaring flights of the season have been made. Wally Lombard and Ted Shephard, flying the T-21 managed to stay up for 35 minutes and Ken Ward, flying the T-21 solo, contacted a wave and reached 2,000 feet before leaving the 10 f.p.s. lift and landing after 29 minutes.

Our instructor position has improved considerably with the arrival of John Welsh; Bryan Middleton has recently returned from R.A.F. Bicester with a C category.

The local German club have very generously agreed to give us the use of their Grunau Baby for early solo flying. We are very grateful to them for this. H. B. E. M.

OVERSEAS NEWS

ARGENTINA

RUDOLFO HOSSINGER won the 1964 Argentine National Championship held at Cordoba from 12th-26th January with 6,871 points, flying a Standard Austria. This was over 2,300 points more than the second place pilot

earned, in spite of a handicap system that rated his sailplane at 0.83 and the Ka-8B at 1.1. He was the only one to complete all of the six speed tasks, at speeds of from 27 to 61 m.p.h., and he went the farthest on the one distance task. José Ortner finished 9th in another Standard Austria, with 2,878 points. There were 21 in the Open Class and 19 in a separate Standard Class, which was not handicapped. The weather was poor, with weak thermals, much low cloudiness and rain.—SOARING.

AUSTRALIA

DEPARTMENT of Civil Aviation policy was still to remove gliders from all Government and Licensed aerodromes, the G.F.A. Council was told by David Rees, the airfields and airspace officer. Nevertheless at Camden combined operations (gliding and power flying) have been proceeding with great success and he was optimistic that D.C.A. would soon appreciate that gliding could be carried on safely in combination with powered operations in this country, as it was throughout the rest of the world.

It was hoped that when the Department gained confidence in combined operation its policy of overall segregation of gliding and power would disappear altogether. He felt that satisfactory progress had been made throughout the past year towards this goal.

Four new national records were set up during 1963. Three were for two-seaters, all in the Kookaburra type:—14,000 ft. absolute altitude and 13,000 ft. height gain by V. Schoithe and R. Webster, of Sunraysia G.C., and 76 miles goal flight by Max Howland and Marjorie Pegler, of Kingaroy G C. M. Jinks, of Waikerie G.C., flew 236 miles goal-and-return in a Ka-6. M. Gill exceeded Harry Schneider's 392-mile distance record by too small a margin for recognition.—AUSTRALIAN GLIDING.

AUSTRIA

IN the 1963 decentralized national contest, Harro Wödl won with 50,788 points, Franz Ulbing was second with 34,172, and Othmar Fahrafellner 3rd with 28,992. At the head of the 1964 seeding list are Wödl, Ulbing and Fritz, all of whom flew in the last World Championships in Argentina.

On 27th January, 1964, seeing good waves over Wiener Neustadt (25 miles S. of Vienna, at the eastern end of the Alps), Johann Weber got a launch from there in a Standard Austria at 13.29 after some trouble in finding a tug pilot. He had reached 3,800 m. (12,470 ft.) when darkness came on and he had to break off the climb while still going up at 2 m./sec.; otherwise he is sure he could have climbed 3,000 m. above release, which was at 2,000 m.—AUSTROFLUG.

(This was apparently the first flight in this wave, and by coincidence it happened on the 31st anniversary of the first "gliding mail" flight by Robert Kronfeld. He flew from Vienna to Semmering in his Austria II, mostly on tow, casting off 15 km. from his destination. But four days later, on 31st January, 1933, he cast off over Wiener Neustadt, slope-soared to Semmering, and delivered the mail.—ED.)

FINLAND

THE Vasama (Pik 16), which won last year's OSTIV Standard Class Prize, is being produced in series by the Finnish Aeronautical Association at Jämi Flying School.—AVIASPORT.

FRANCE

WASSMER Aviation Company has offered a cup, the "Coupe-Challenge Bijave", for annual competition among pilots of the Bijave (Wa-30), for the fastest circuit round a closed course of at least 300 km. during each calendar year. The fastest circuit yet done in the machine is 55.324 km./h. (34.4 m.p.h.) over 302 km. by Biagi and Lessertisseur from La Ferté. A prize of 1,000 F goes with the cup, and if the machine is flown two-up, the pilot-in-charge gets both cup and prize. The cup is retained by anyone winning it three times running.

The cup is open for international competition. Particulars will soon be available from the Aéro-Club de France, which will control the competition.

Wassmer are considering producing a new sailplane with Wa-23 type wings of

18 m. span and aspect ratio 22, with an entirely new fuselage in which the pilot is semi-recumbent.

The French Armée de l'Air held its first gliding competition in 1963 with 17 competitors. It is now offering 254 bursaries for training to C standard, and 99 to Silver C standard, for young people under 18 years of age. They will make use of civilian gliding centres.

Bursaries of 300 F, to pay for 30 flights, are being offered by the Service de la Formation Aéronautique to young people of under 21 who have already reached the C stage.

A regional eliminating contest for the Nationals will be held by the Union of Aero Clubs of Ile-de-France at Moret-Epsy aerodrome near Paris from 16th-18th June. There will be two classes: Restricted, for pilots under 21 flying the Nord-2000 (equivalent to Olympia), and Open.—AIR ET COSMOS.

EAST GERMANY

CROSS-COUNTRY flying totalled 140,000 km. (87,000 miles) in 1963.

The decentralized national contest runs from 15th March to 30th September, 1964; competitors must have the Silver C, and the three best flights are counted. Free distance earns 1,000 points for 200 km. and thereafter 10 pts. per km. Goal flights earn 10 pts. per km. plus 5 pts. for each 0.1 km./h. above 70 km./h. (43.5 m.p.h.). Triangles and goal-and-returns earn 10 pts. per km. plus 10 pts. per 0.1 km./h. above 45 km./h. (28 m.p.h.).

This year's National Championships will be held at Schönhagen, near Berlin, from 13th to 28th June. Pilots taking part must either carry the title of German gliding champion 1960, or have been placed 1st, 2nd or 3rd in the 1963 trials (Vergleichungswettkampfen), or have earned over 12,000 points in the 1963 decentralized contest.

Adolf Daumann, of Schwerin, holds the East German records for free distance and goal flight (665 km. = 432 miles to Lublin) and 500-km. triangle (66.7 km./h. = 41.4 m.p.h.). Joachim Bauch, with a flight made at Schönhagen on 5th December, 1961, set up the present records for absolute altitude, 8,500 m., and height gain, 7,150 m. (27,887 and 23,458 ft.).—AERO SPORT.

WEST GERMANY

AT this year's National Champs. (16th-31st May at Roth aerodrome near Nürnberg) both classes, Open and Standard, will be allowed radio.

The 1964 Decentralized Contest runs from 27th March to 28th September. In the individual competition there will be a winner in each age group — over and under 25 years on the last competition day; in the team competition the three best flights, each by a different member of the same gliding association (Verein) will count. Basic score is 1 point per km.; bonuses 50% for goal flight, 75% for goal-and-return, and 100% for triangle. In the lower age group both occupants of a two-seater must be under 25.

An estimate of the equipment due for annual overhaul this year is: 2,800 sailplanes (of which about 500 are over 10 years old), 60 "motor sailplanes", 750 winches, 600 parachutes and 1,500 trailers.

The Delphin V-2 is a conventional sailplane of 13 metres span (42 ft. 8 in.) except that the boundary layer is automatically sucked away at the junction between wing and aileron, and the sucked-in air emerges through a slit along the wing-tip on the upper wing surface. The aileron chord is only 100 mm. (3.94 inches); but in spite of this the machine can be rolled with very little stick force at 30° per second. The producer is Ahrens Sportflugzeugbau, of Krefeld (Hulser Strasse 398).—AERO KURIER.

Hans-Werner Grosse has flown 70 km. (43½ miles) across the Baltic from Lübeck to Copenhagen in 3 hrs. 40 min. AERO-SPORT claims this to be the first glider flight across the Baltic, but Dick Schreder, of U.S.A., did so during the 1960 World Championships, when he lost the way to Fehmarn and landed in East Germany. Grosse's course would have been over alternating land and sea, the longest necessary sea crossing being 12 miles, from Fehmarn to Lolland.—ED.

HOLLAND

THE last week of the Issoire Safari gave one day of reasonable wave. P. W. Scholte, J. v. d. Berg, E. A.

Bierdrager, and W. de Zoete reached Gold C heights on 17th February. A very poor result, however, of an event lasting 12 weeks with 6 groups of at least 6 people involved.

In New Zealand, our emigrated countryman Eric van Notten did better in his Sagitta. He reached 31,000 feet a.s.l., setting up a new Dutch National record.

As a complement to the gliding section in *Avia*, the magazine of the Royal Netherlands Aero Club, we have started an offset-printed gliding quarterly (later to become bi-monthly) called *Thermiek*. The first number was a very good start and everybody is looking forward to the next issue. It is sent free to every member of all Dutch gliding clubs.

In Suriname (Neth. Guiana) the AKKA gliding club is developing very well. They plan to buy some new machines.

J. Th. v. E.

IRELAND
(Clonmel, Co. Tipperary)

FACING its second year in full operation, the Clonmel Gliding Club possesses its own site (donated by founder member Count de la Poer), a Rhönlerche 2, V-8 engined launching winch, hangar, field telephone system, tractor and other necessary equipment.

The site is situated 7 miles S.E. of Clonmel (pop. 11,000) in the foothills of the beautiful Comeragh Mountains. At 1,300 ft. a.s.l. the heath-covered club grounds are overlooked by a "made-to-measure" ridge on which some of our Dublin friends had little difficulty in getting their 5-hour Silver C duration when they visited us.

To make more use of the facilities available, our C.F.I., Martin Mulhall, who flies his own Ka-8, has put forward the following suggestion, with the Committee's approval :—

An invitation is extended to members of gliding clubs in Britain (and elsewhere) to form groups and enjoy a holiday in this area. Groups are to consist of not less than five and should include an instructor with a B.G.A. rating. They will have full use of the Club's equipment during their stay, and will operate with only occasional assistance from the Clonmel members.

The area has much to offer as well as gliding — fishing, shooting, pony-trekking, golf and great scenic charm.

For full particulars, contact Jim Phelan, 13 O'Connell Street, Clonmel, Co. Tipperary, Ireland.

ITALY

TOTAL flying for 1963 at the gliding centres was 14,205 hrs. 22 mins., from 17,797 launches. New national records set up during the year were: Free Distance, 542 km. (337 miles); feminine Free Distance and Goal Flight, 316 km. (197 miles); feminine Goal-and-Return, 172.8 km. (107.2 miles); new records for 100- and 300-km. and feminine 100-km. Triangles. There are 97 single-seater and 39 two-seater sailplanes in the country — total, 136.—VOLO A VELA.

SWEDEN

FLYING in the wave at Saint Auban, France, in a Breguet-901, Ulf G. Ax, a visitor from Sweden, beat the Swedish national height record on 23rd March. He reached 8,600 m. (28,215 ft.) absolute altitude, with 7,500 m. (24,606 ft.) gain of height.—AIR ET COSMOS.

A Swedish pilot, Per-Axel Persson, set up a world height record on 12th July, 1947, by reaching 8,200 m. (26,903 ft.) from a 600 m. launch, flying a Weihe in a thunderstorm. This remained the world record till Paul MacCready beat it on 31st December, 1948, with 29,500 ft. in the Bishop Wave in California.—ED.

UNITED STATES

MR. LLOYD LICHER, who has combined the editorship of *Soaring* with the office of Executive Secretary of the Soaring Society of America, is finding the latter post taking up more and more of his time. So *Soaring* is now to have a full-time editor, Mr. Alex Dawydoff, who has been in aviation journalism for many years, with a special interest in gliding.

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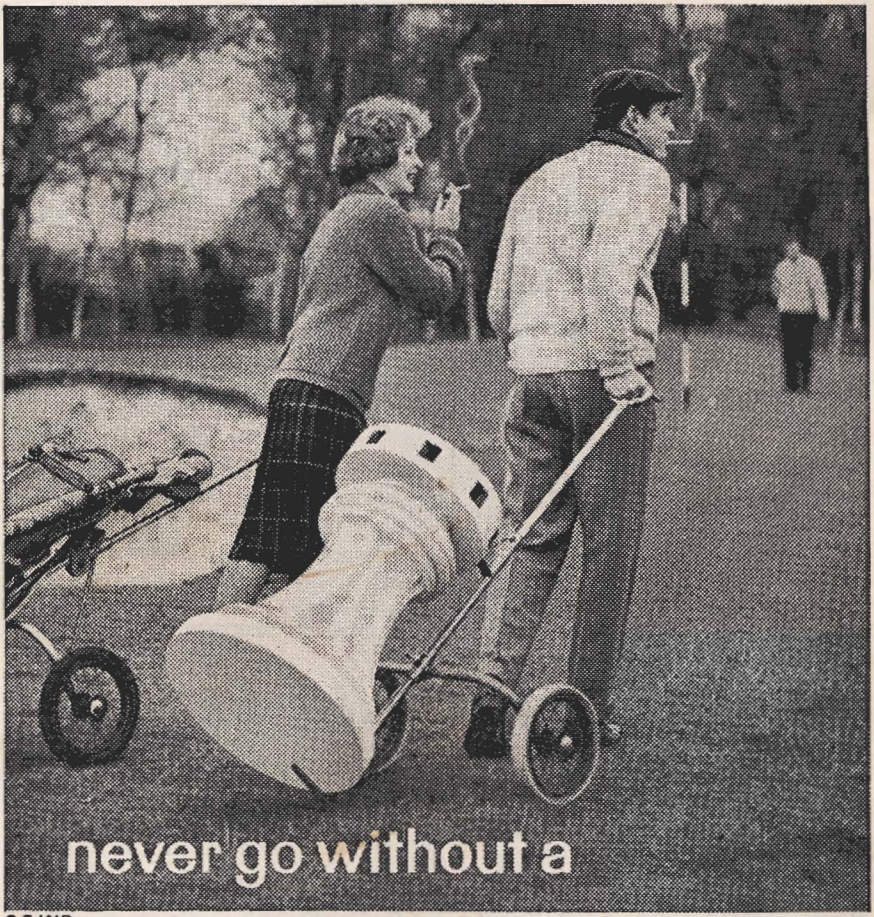
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